00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ROCHESTER-AVON F15 TOWNSHIPS

3) WATERCOURSE: SARGENT CREEK

4) DOCUMENT TYPE: ~~10-YR~~ MULTIPLE PROFILE NATURAL

00BREAK00

ROCHESTER-AVON FIS
J&A FILE NO. 5850-01,07-1

SARGENT CREEK

10-50-100-500 YEAR FLOODS
DNR SUBMITTAL
3/79

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*****************************************
 HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
 ERROR CORR -  01,02
 MODIFICATION -  50,51,52,53
*****************************************

C
T1      AVON TWP. - ROCHESTER FIS J&A 5850-01,07-1
T2      10 YEAR FLOOD
T3      SARGENT CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     O         WSEL      FQ
       0.       2.       0.        0.   0.000000     0.00      0.0       0.   763.050    1.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IT        CHNIM     ITRACE
     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC     .048      .041      .038      .300      .500      0.000     0.000     0.000     0.000     0.000
NT    4.000   535.000   840.000   980.000  1410.000     0.000     0.000     0.000     0.000     0.000

X1    0.000    10.000    47.000   103.000     0.000     0.000     0.000     0.000    -4.000     0.000
GR  773.200     0.000   773.500    47.000   763.800    61.000   763.200    67.000   763.900    73.000
GR  770.500   103.000   769.900   133.000   772.300   171.000   773.100   200.000   776.700   240.000

                VALLEY SECTION NO. 1                          SECT. A

X1  310.000    10.000    47.000   103.000   310.000   310.000   510.000     0.000     0.000     0.000
GR  773.200     0.000   773.500    47.000   763.800    61.000   763.200    67.000   763.900    73.000
GR  770.500   103.000   769.900   133.000   772.300   171.000   773.100   200.000   776.700   240.000

X1  330.000    90.000    37.600    96.200    20.000    20.000    20.000     0.000     -.400     0.000
GR  773.600     0.000   773.600     1.200   773.600     2.500   773.700     3.800   773.700     5.100
GR  773.700     6.400   773.700     7.700   773.700     9.000   773.700    10.300   773.700    11.600
GR  773.700    12.900   773.700    14.200   773.700    15.500   773.700    16.800   773.700    18.100
GR  773.800    19.400   773.800    20.700   773.800    22.000   773.800    23.300   773.800    24.600
GR  773.800    25.900   773.800    27.200   773.800    28.500   773.800    29.800   773.800    31.100
GR  773.800    32.400   773.800    33.700   773.900    35.000   773.900    36.300   773.900    37.600
GR  772.700    39.500   771.500    41.500   770.200    43.400   769.000    45.400   767.800    47.300
GR  765.500    49.300   765.400    51.200   764.600    53.200   764.300    55.100   764.000    57.100
GR  763.300    59.000   763.700    61.000   763.700    62.900   763.900    64.900   764.200    66.800
GR  764.600    68.500   765.100    70.800   767.600    72.700   767.900    74.700   768.200    76.600
GR  768.400    78.600   768.700    80.500   769.000    82.500   769.300    84.400   769.600    86.400
GR  769.900    88.300   770.100    90.300   770.400    92.200   770.700    94.200   771.000    96.200
GR  770.800   100.900   770.500   105.600   770.600   110.300   770.500   115.000   770.500   119.700
GR  770.400   124.400   770.500   129.100   770.800   133.900   771.000   138.600   771.300   143.300
GR  771.500   148.000   771.800   152.700   772.100   157.400   772.300   162.100   772.600   166.800
GR  772.700   171.600   772.800   176.300   772.900   181.000   773.100   185.700   773.200   190.400
GR  773.400   195.100   773.800   199.800   774.200   204.600   774.600   209.300   775.000   214.000
GR  775.400   218.700   775.800   223.400   776.200   228.100   776.600   232.800   777.000   237.600

X1  340.000     0.000     0.000     0.000    10.000    10.000    10.000     0.000      .100     0.000
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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X1 | 350.000 | 90.000 | 28.200 | 89.400 | 10.000 | 10.000 | 10.000 | 0.000 | -.300 | 0.000 |
| GR | 774.100 | 0.000 | 774.100 | .900 | 774.100 | 1.900 | 774.100 | 2.900 | 774.100 | 3.800 |
| GR | 774.100 | 4.800 | 774.100 | 5.800 | 774.200 | 6.800 | 774.200 | 7.700 | 774.200 | 8.700 |
| GR | 774.200 | 9.700 | 774.200 | 10.600 | 774.200 | 11.600 | 774.200 | 12.600 | 774.200 | 13.600 |
| GR | 774.200 | 14.500 | 774.200 | 15.500 | 774.200 | 16.500 | 774.200 | 17.500 | 774.200 | 18.400 |
| GR | 774.200 | 19.400 | 774.200 | 20.400 | 774.200 | 21.300 | 774.300 | 22.300 | 774.300 | 23.300 |
| GR | 774.300 | 24.300 | 774.300 | 25.200 | 774.300 | 26.200 | 774.300 | 27.200 | 774.300 | 28.200 |
| GR | 773.200 | 30.200 | 772.000 | 32.200 | 770.900 | 34.300 | 769.800 | 36.300 | 768.700 | 38.300 |
| GR | 767.500 | 40.400 | 766.400 | 42.400 | 765.600 | 44.500 | 765.200 | 46.500 | 764.700 | 48.500 |
| GR | 764.300 | 50.600 | 764.000 | 52.600 | 763.800 | 54.700 | 763.900 | 56.700 | 764.100 | 58.700 |
| GR | 764.400 | 60.800 | 765.200 | 62.800 | 769.700 | 64.900 | 769.800 | 66.900 | 770.000 | 68.900 |
| GR | 770.100 | 71.000 | 770.300 | 73.000 | 770.400 | 75.100 | 770.600 | 77.100 | 770.800 | 79.100 |
| GR | 770.900 | 81.200 | 771.100 | 83.200 | 771.200 | 85.300 | 771.400 | 87.300 | 771.500 | 89.400 |
| GR | 771.200 | 94.200 | 771.000 | 99.100 | 771.000 | 103.900 | 771.000 | 108.800 | 771.000 | 113.600 |
| GR | 771.000 | 118.500 | 771.100 | 123.400 | 771.300 | 128.200 | 771.500 | 133.100 | 771.700 | 137.900 |
| GR | 772.000 | 142.800 | 772.200 | 147.700 | 772.400 | 152.500 | 772.600 | 157.400 | 772.900 | 162.200 |
| GR | 773.000 | 167.100 | 773.100 | 172.000 | 773.200 | 176.900 | 773.400 | 181.700 | 773.500 | 186.500 |
| GR | 773.700 | 191.400 | 774.200 | 196.300 | 774.700 | 201.100 | 775.100 | 205.900 | 775.500 | 210.800 |
| GR | 775.900 | 215.700 | 776.300 | 220.600 | 776.700 | 225.400 | 777.100 | 230.300 | 777.500 | 235.200 |
| X1 | 360.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .100 | 0.000 |
| X1 | 370.000 | 90.000 | 16.800 | 82.600 | 10.000 | 10.000 | 10.000 | 0.000 | -.300 | 0.000 |
| GR | 774.600 | 0.000 | 774.600 | .600 | 774.600 | 1.200 | 774.600 | 1.900 | 774.600 | 2.500 |
| GR | 774.600 | 3.200 | 774.600 | 3.800 | 774.600 | 4.500 | 774.600 | 5.100 | 774.600 | 5.800 |
| GR | 774.600 | 6.400 | 774.600 | 7.100 | 774.600 | 7.700 | 774.600 | 8.400 | 774.600 | 9.000 |
| GR | 774.700 | 9.700 | 774.700 | 10.300 | 774.700 | 11.000 | 774.700 | 11.600 | 774.700 | 12.300 |
| GR | 774.700 | 12.900 | 774.700 | 13.600 | 774.700 | 14.200 | 774.700 | 14.900 | 774.700 | 15.500 |
| GR | 774.700 | 16.200 | 774.700 | 16.800 | 774.700 | 17.500 | 774.700 | 18.100 | 774.700 | 18.800 |
| GR | 773.700 | 20.900 | 772.600 | 23.000 | 771.600 | 25.100 | 770.500 | 27.300 | 769.500 | 29.400 |
| GR | 768.500 | 31.500 | 767.400 | 33.600 | 765.500 | 35.800 | 766.000 | 37.900 | 765.400 | 40.000 |
| GR | 764.300 | 42.100 | 764.300 | 44.300 | 763.900 | 46.400 | 763.900 | 48.500 | 764.000 | 50.600 |
| GR | 764.300 | 52.800 | 765.200 | 54.900 | 771.600 | 57.000 | 771.800 | 59.200 | 771.800 | 61.300 |
| GR | 771.800 | 63.400 | 771.900 | 65.500 | 771.900 | 67.700 | 771.900 | 69.800 | 771.900 | 71.900 |
| GR | 772.000 | 74.000 | 772.000 | 76.200 | 772.000 | 78.300 | 772.000 | 80.400 | 772.100 | 82.600 |
| GR | 771.600 | 87.600 | 771.400 | 92.600 | 771.400 | 97.600 | 771.400 | 102.600 | 771.500 | 107.600 |
| GR | 771.500 | 112.600 | 771.500 | 117.600 | 771.600 | 122.600 | 772.000 | 127.600 | 772.200 | 132.600 |
| GR | 772.400 | 137.600 | 772.600 | 142.600 | 772.500 | 147.600 | 773.000 | 152.600 | 773.200 | 157.600 |
| GR | 773.300 | 162.700 | 773.400 | 167.700 | 773.500 | 172.700 | 773.700 | 177.700 | 773.800 | 182.700 |
| GR | 774.000 | 187.700 | 774.600 | 192.700 | 775.100 | 197.700 | 775.600 | 202.700 | 775.900 | 207.700 |
| GR | 776.300 | 212.700 | 776.700 | 217.700 | 777.100 | 222.700 | 777.500 | 227.700 | 777.900 | 232.800 |
| X1 | 380.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .100 | 0.000 |
| X1 | 393.000 | 0.000 | 0.000 | 0.000 | 13.000 | 13.000 | 13.000 | 0.000 | .100 | 0.000 |
| X1 | 395.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X1 | 398.000 | 0.000 | 0.000 | 0.000 | 3.000 | 3.000 | 3.000 | 0.000 | 0.000 | 0.000 |
| X1 | 400.000 | 90.000 | 4.100 | 72.400 | 2.000 | 2.000 | 2.000 | 0.000 | -.100 | 0.000 |
| GR | 775.300 | 0.000 | 775.300 | .100 | 775.300 | .300 | 775.300 | .400 | 775.300 | .600 |
| GR | 775.300 | .800 | 775.300 | .900 | 775.300 | 1.100 | 775.300 | 1.200 | 775.300 | 1.400 |
| GR | 775.300 | 1.600 | 775.300 | 1.700 | 775.300 | 1.900 | 775.300 | 2.100 | 775.300 | 2.200 |
| GR | 775.300 | 2.400 | 775.300 | 2.500 | 775.300 | 2.700 | 775.300 | 2.900 | 775.300 | 3.000 |
| GR | 775.300 | 3.200 | 775.300 | 3.400 | 775.300 | 3.500 | 775.300 | 3.700 | 775.300 | 3.800 |
| GR | 775.300 | 4.000 | 775.300 | 4.200 | 775.300 | 4.300 | 775.300 | 4.500 | 775.300 | 4.700 |
| GR | 774.400 | 6.900 | 773.500 | 9.200 | 772.600 | 11.400 | 771.600 | 13.700 | 770.700 | 15.900 |

PRINTED IN U.S.A.
FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS

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|---|---|---|---|---|---|---|---|---|---|---|
| GR | 765.600 | 29.500 | 764.800 | 33.700 | 763.900 | 34.000 | 763.900 | 36.200 | 763.900 | 38.500 |
| GR | 764.000 | 40.800 | 765.300 | 43.000 | 774.800 | 45.300 | 774.700 | 47.500 | 774.500 | 49.800 |
| GR | 774.300 | 52.000 | 774.200 | 54.300 | 774.000 | 56.600 | 773.800 | 58.800 | 773.700 | 61.100 |
| GR | 773.500 | 63.300 | 773.300 | 65.600 | 773.200 | 67.800 | 773.000 | 70.100 | 772.900 | 72.400 |
| GR | 772.300 | 77.600 | 771.900 | 82.800 | 772.000 | 88.000 | 772.100 | 93.300 | 772.200 | 98.500 |
| GR | 772.300 | 103.700 | 772.400 | 108.900 | 772.600 | 114.200 | 772.700 | 119.400 | 772.900 | 124.600 |
| GR | 773.000 | 129.800 | 773.200 | 135.100 | 773.300 | 140.300 | 773.400 | 145.500 | 773.500 | 150.700 |
| GR | 773.700 | 156.000 | 773.800 | 161.200 | 773.900 | 166.400 | 774.100 | 171.700 | 774.200 | 176.900 |
| GR | 774.500 | 182.100 | 775.200 | 187.300 | 775.800 | 192.500 | 776.200 | 197.800 | 776.600 | 203.000 |
| GR | 777.000 | 208.200 | 777.300 | 213.500 | 777.700 | 218.700 | 778.100 | 223.900 | 778.500 | 229.200 |

VALLEY SECTION NO. 1.1 SECT. 8

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 410.000 | 11.000 | 0.000 | 59.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| GR | 775.600 | 0.000 | 766.100 | 25.000 | 764.000 | 30.000 | 763.900 | 34.000 | 764.100 | 39.000 |
| GR | 776.100 | 40.000 | 773.200 | 69.000 | 772.100 | 73.000 | 774.500 | 178.000 | 776.300 | 193.000 |
| GR | 778.700 | 228.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 412.000 | 0.000 | 0.000 | 0.000 | 6.000 | 6.000 | 6.000 | 0.000 | .100 | 0.000 |
| X1 | 417.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 418.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 419.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 421.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X1 | 432.000 | 61.000 | 0.000 | 68.600 | 11.000 | 11.000 | 11.000 | 0.000 | .100 | 0.000 |
| GR | 775.600 | 0.000 | 774.700 | 2.200 | 773.800 | 4.500 | 773.000 | 6.800 | 772.100 | 9.100 |
| GR | 771.300 | 11.400 | 770.400 | 13.700 | 769.500 | 16.000 | 768.700 | 18.300 | 767.800 | 20.500 |
| GR | 766.900 | 22.800 | 766.000 | 25.100 | 765.100 | 27.400 | 764.100 | 29.700 | 764.000 | 32.000 |
| GR | 763.900 | 34.300 | 764.000 | 36.600 | 765.300 | 38.900 | 775.600 | 41.100 | 775.500 | 43.400 |
| GR | 775.200 | 45.700 | 775.100 | 48.000 | 774.900 | 50.300 | 774.700 | 52.600 | 774.500 | 54.900 |
| GR | 774.300 | 57.200 | 774.100 | 59.500 | 773.900 | 61.700 | 773.700 | 64.000 | 773.500 | 66.300 |
| GR | 773.300 | 68.600 | 772.700 | 73.800 | 772.300 | 78.900 | 772.400 | 84.100 | 772.500 | 89.200 |
| GR | 772.600 | 94.400 | 772.800 | 99.500 | 772.900 | 104.700 | 773.000 | 109.800 | 773.200 | 115.000 |
| GR | 773.300 | 120.100 | 773.400 | 125.200 | 773.500 | 130.400 | 773.600 | 135.600 | 773.800 | 140.700 |
| GR | 773.900 | 145.900 | 774.000 | 151.000 | 774.100 | 156.200 | 774.200 | 161.300 | 774.400 | 166.500 |
| GR | 774.500 | 171.600 | 774.900 | 176.800 | 775.500 | 181.900 | 776.100 | 187.100 | 776.500 | 192.200 |
| GR | 776.900 | 197.400 | 777.200 | 202.500 | 777.600 | 207.700 | 777.900 | 212.800 | 778.300 | 218.000 |
| GR | 778.700 | 223.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 454.000 | 61.000 | 0.000 | 65.500 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 775.600 | 0.000 | 774.800 | 2.200 | 773.900 | 4.500 | 773.100 | 6.800 | 772.200 | 9.100 |
| GR | 771.300 | 11.300 | 770.500 | 13.600 | 769.600 | 15.900 | 768.700 | 18.200 | 767.900 | 20.400 |
| GR | 767.000 | 22.700 | 766.200 | 25.000 | 765.200 | 27.300 | 764.200 | 29.600 | 764.000 | 31.800 |
| GR | 764.000 | 34.100 | 764.100 | 36.400 | 765.400 | 38.700 | 775.300 | 40.900 | 775.200 | 43.200 |
| GR | 775.000 | 45.500 | 774.900 | 47.800 | 774.700 | 50.100 | 774.600 | 52.300 | 774.400 | 54.600 |
| GR | 774.300 | 56.900 | 774.100 | 59.200 | 773.900 | 61.400 | 773.800 | 63.700 | 773.600 | 66.000 |
| GR | 773.500 | 68.300 | 772.800 | 73.300 | 772.500 | 78.300 | 772.600 | 83.300 | 772.700 | 88.300 |
| GR | 772.800 | 93.300 | 772.900 | 98.300 | 773.100 | 103.300 | 773.200 | 108.300 | 773.300 | 113.300 |
| GR | 773.400 | 118.300 | 773.600 | 123.300 | 773.700 | 128.300 | 773.800 | 133.300 | 773.900 | 138.300 |
| GR | 774.000 | 143.300 | 774.100 | 148.300 | 774.300 | 153.300 | 774.400 | 158.300 | 774.500 | 163.300 |
| GR | 774.600 | 168.300 | 775.000 | 173.300 | 775.600 | 178.300 | 776.100 | 183.300 | 776.600 | 188.300 |
| GR | 776.900 | 193.300 | 777.300 | 198.300 | 777.600 | 203.300 | 777.900 | 208.300 | 778.300 | 213.300 |
| GR | 778.700 | 218.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

PRINTED IN U.S.A.
FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 476.000 | 61.000 | 0.000 | 67.900 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 775.700 | 0.000 | 774.800 | 2.200 | 773.900 | 4.500 | 773.100 | 6.700 | 772.300 | 9.000 |
| GR | 771.400 | 11.300 | 770.600 | 13.500 | 769.700 | 15.800 | 768.800 | 18.100 | 768.000 | 20.300 |
| GR | 767.100 | 22.600 | 766.300 | 24.900 | 765.400 | 27.100 | 764.300 | 29.400 | 764.100 | 31.700 |
| GR | 764.100 | 33.900 | 764.100 | 36.200 | 765.400 | 38.500 | 775.000 | 40.700 | 775.000 | 43.000 |
| GR | 774.900 | 45.300 | 774.800 | 47.500 | 774.600 | 49.800 | 774.500 | 52.100 | 774.400 | 54.300 |
| GR | 774.300 | 56.600 | 774.100 | 58.900 | 774.000 | 61.100 | 773.900 | 63.400 | 773.700 | 65.700 |
| GR | 773.600 | 67.900 | 773.000 | 72.300 | 772.700 | 77.600 | 772.800 | 82.500 | 772.900 | 87.300 |
| GR | 773.000 | 92.200 | 773.100 | 97.000 | 773.200 | 101.900 | 773.300 | 106.700 | 773.500 | 111.600 |
| GR | 773.600 | 116.400 | 773.700 | 121.300 | 773.800 | 126.200 | 773.900 | 131.000 | 774.100 | 135.900 |
| GR | 774.200 | 140.700 | 774.300 | 145.600 | 774.400 | 150.400 | 774.500 | 155.300 | 774.600 | 160.100 |
| GR | 774.800 | 165.000 | 775.100 | 169.800 | 775.700 | 174.700 | 776.200 | 179.500 | 776.600 | 184.400 |
| GR | 777.000 | 189.200 | 777.300 | 194.100 | 777.600 | 198.900 | 777.900 | 203.800 | 778.300 | 208.600 |
| GR | 778.700 | 213.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 498.000 | 61.000 | 0.000 | 67.600 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 775.700 | 0.000 | 774.900 | 2.200 | 774.000 | 4.500 | 773.200 | 6.700 | 772.300 | 9.000 |
| GR | 771.500 | 11.200 | 770.600 | 13.500 | 769.800 | 15.700 | 768.900 | 18.000 | 768.100 | 20.200 |
| GR | 767.200 | 22.500 | 766.400 | 24.900 | 765.500 | 27.000 | 764.400 | 29.300 | 764.200 | 31.500 |
| GR | 764.200 | 33.800 | 764.200 | 36.000 | 765.500 | 38.300 | 774.700 | 40.500 | 774.800 | 42.800 |
| GR | 774.700 | 45.000 | 774.600 | 47.300 | 774.500 | 49.600 | 774.400 | 51.800 | 774.300 | 54.100 |
| GR | 774.300 | 56.300 | 774.100 | 58.600 | 774.000 | 60.800 | 774.000 | 63.100 | 773.800 | 65.300 |
| GR | 773.800 | 67.600 | 773.200 | 72.300 | 772.900 | 77.000 | 773.000 | 81.700 | 773.100 | 86.400 |
| GR | 773.200 | 91.100 | 773.300 | 95.800 | 773.400 | 100.500 | 773.500 | 105.200 | 773.700 | 109.900 |
| GR | 773.800 | 114.600 | 773.900 | 119.300 | 774.000 | 124.000 | 774.100 | 128.700 | 774.200 | 133.400 |
| GR | 774.300 | 138.100 | 774.400 | 142.800 | 774.500 | 147.500 | 774.600 | 152.200 | 774.700 | 156.900 |
| GR | 774.900 | 161.600 | 775.200 | 166.300 | 775.800 | 171.000 | 776.300 | 175.800 | 776.700 | 180.500 |
| GR | 777.000 | 185.200 | 777.300 | 189.900 | 777.600 | 194.600 | 777.900 | 199.300 | 778.300 | 204.000 |
| GR | 778.700 | 208.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 520.000 | 61.000 | 0.000 | 67.300 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 775.800 | 0.000 | 775.000 | 2.200 | 774.100 | 4.400 | 773.300 | 6.700 | 772.500 | 8.900 |
| GR | 771.600 | 11.200 | 770.800 | 13.400 | 769.900 | 15.700 | 769.100 | 17.900 | 768.300 | 20.100 |
| GR | 767.400 | 22.400 | 766.600 | 24.600 | 765.700 | 26.900 | 764.500 | 29.100 | 764.300 | 31.400 |
| GR | 764.300 | 33.600 | 764.300 | 35.900 | 765.400 | 38.100 | 774.500 | 40.300 | 774.600 | 42.600 |
| GR | 774.500 | 44.800 | 774.500 | 47.100 | 774.400 | 49.300 | 774.400 | 51.600 | 774.300 | 53.800 |
| GR | 774.300 | 56.100 | 774.200 | 58.300 | 774.100 | 60.500 | 774.100 | 62.800 | 774.000 | 65.000 |
| GR | 774.000 | 67.300 | 773.400 | 71.800 | 773.100 | 76.400 | 773.200 | 80.900 | 773.300 | 85.500 |
| GR | 773.400 | 90.100 | 773.500 | 94.600 | 773.600 | 99.200 | 773.700 | 103.700 | 773.900 | 108.300 |
| GR | 774.000 | 112.800 | 774.100 | 117.400 | 774.200 | 121.900 | 774.300 | 126.500 | 774.400 | 131.000 |
| GR | 774.500 | 135.600 | 774.600 | 140.100 | 774.700 | 144.700 | 774.800 | 149.300 | 774.900 | 153.800 |
| GR | 775.100 | 158.400 | 775.400 | 162.900 | 775.900 | 167.500 | 776.400 | 172.000 | 776.800 | 176.600 |
| GR | 777.100 | 181.100 | 777.400 | 185.700 | 777.700 | 190.200 | 778.000 | 194.800 | 778.300 | 199.300 |
| GR | 778.700 | 203.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 630.000 | 61.000 | 0.000 | 65.600 | 110.000 | 110.000 | 110.000 | 0.000 | .200 | 0.000 |
| GR | 775.100 | 0.000 | 775.300 | 2.100 | 774.500 | 4.300 | 773.700 | 6.500 | 772.900 | 8.700 |
| GR | 772.100 | 10.900 | 771.300 | 13.100 | 770.400 | 15.300 | 769.600 | 17.500 | 768.800 | 19.600 |
| GR | 768.000 | 21.600 | 767.200 | 24.000 | 765.400 | 26.200 | 765.100 | 28.400 | 764.700 | 30.600 |
| GR | 764.600 | 32.800 | 764.700 | 35.000 | 765.600 | 37.200 | 773.000 | 39.300 | 773.500 | 41.500 |
| GR | 773.600 | 43.700 | 773.700 | 45.900 | 773.900 | 48.100 | 774.000 | 50.300 | 774.100 | 52.500 |
| GR | 774.200 | 54.700 | 774.300 | 56.900 | 774.400 | 59.000 | 774.600 | 61.200 | 774.700 | 63.400 |
| GR | 774.800 | 65.600 | 774.400 | 69.400 | 774.100 | 73.200 | 774.200 | 77.000 | 774.300 | 80.800 |
| GR | 774.400 | 84.700 | 774.500 | 88.500 | 774.500 | 92.300 | 774.600 | 96.100 | 774.700 | 99.900 |
| GR | 774.800 | 103.700 | 774.900 | 107.500 | 775.000 | 111.300 | 775.100 | 115.100 | 775.200 | 118.900 |
| GR | 775.300 | 122.700 | 775.400 | 126.500 | 775.500 | 130.300 | 775.600 | 134.200 | 775.600 | 138.000 |
| GR | 775.700 | 141.800 | 776.000 | 145.600 | 776.400 | 149.400 | 776.800 | 153.200 | 777.200 | 157.000 |
| GR | 777.400 | 160.800 | 777.700 | 164.600 | 777.900 | 168.400 | 778.200 | 172.200 | 778.400 | 176.000 |
| GR | 778.700 | 179.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 740.000 | 61.000 | 0.000 | 66.000 | 110.000 | 110.000 | 110.000 | 0.000 | .300 | [illegible] |
| GR | 776.400 | 0.000 | 775.600 | 2.100 | 774.800 | 4.200 | 774.000 | 6.300 | 773.300 | 8.500 |
| GR | 772.500 | 10.600 | 771.700 | 12.700 | 771.000 | 14.900 | 770.200 | 17.000 | 769.400 | 19.100 |
| GR | 768.600 | 21.300 | 767.900 | 23.400 | 767.000 | 25.500 | 765.600 | 27.700 | 765.100 | 29.800 |
| GR | 765.000 | 31.900 | 765.100 | 34.100 | 765.800 | 36.200 | 771.600 | 38.300 | 772.400 | 40.500 |
| GR | 772.700 | 42.600 | 773.000 | 44.700 | 773.300 | 46.900 | 773.600 | 49.000 | 773.900 | 51.100 |
| GR | 774.200 | 53.300 | 774.500 | 55.400 | 774.700 | 57.500 | 775.000 | 59.700 | 775.300 | [illegible] |
| GR | 775.600 | 64.000 | 775.300 | 67.000 | 775.100 | 70.100 | 775.200 | 73.100 | 775.200 | 76.200 |
| GR | 775.300 | 78.300 | 775.400 | 82.300 | 775.500 | 85.400 | 775.500 | 88.500 | 775.600 | 91.500 |
| GR | 775.700 | 94.600 | 775.800 | 97.700 | 775.800 | 100.700 | 775.900 | 103.800 | 776.000 | 106.900 |
| GR | 776.000 | 109.900 | 776.100 | 113.000 | 776.200 | 116.100 | 776.30[illegible] | 119.100 | 776.300 | 122.200 |
| GR | 776.400 | 125.300 | 776.600 | 128.300 | 776.500 | 131.400 | 777.300 | 134.500 | 777.500 | 137.500 |
| GR | 777.200 | 140.600 | 777.900 | 143.700 | 778.100 | 146.700 | 778.300 | 149.800 | 778.500 | 152.900 |
| GR | 778.700 | 156.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 850.000 | 51.000 | 0.000 | 62.300 | 110.000 | 110.000 | 110.000 | 0.000 | .300 | 0.000 |
| GR | 776.600 | 0.000 | 775.900 | 2.000 | 775.100 | 4.100 | 774.400 | 6.200 | 773.700 | 8.300 |
| GR | 772.900 | 10.300 | 772.200 | 12.400 | 771.500 | 14.500 | 770.700 | 16.600 | 770.000 | 18.900 |
| GR | 769.200 | 20.700 | 768.500 | 22.800 | 767.700 | 24.900 | 766.200 | 27.000 | 765.400 | 29.000 |
| GR | 765.400 | 31.100 | 765.400 | 33.200 | 766.000 | 35.300 | 770.200 | 37.300 | 771.400 | 39.400 |
| GR | 771.800 | 41.500 | 772.300 | 43.600 | 772.700 | 45.700 | 773.200 | 47.700 | 773.700 | 49.800 |
| GR | 774.100 | 51.900 | 774.600 | 54.000 | 775.000 | 56.000 | 775.500 | 58.100 | 776.000 | 60.200 |
| GR | 776.400 | 62.300 | 776.200 | 64.500 | 776.100 | 66.500 | 776.100 | 69.200 | 776.200 | 71.600 |
| GR | 776.300 | 73.900 | 776.300 | 76.200 | 776.400 | 78.500 | 776.400 | 80.800 | 776.500 | 83.200 |
| GR | 776.500 | 85.500 | 776.600 | 87.800 | 776.600 | 90.100 | 776.700 | 92.400 | 776.800 | 94.800 |
| GR | 776.800 | 97.100 | 776.900 | 99.400 | 776.900 | 101.700 | 777.000 | 104.100 | 777.000 | 106.400 |
| GR | 777.100 | 108.700 | 777.200 | 111.000 | 777.400 | 113.300 | 777.700 | 115.700 | 777.800 | 118.000 |
| GR | 778.000 | 120.300 | 778.100 | 122.600 | 778.200 | 124.900 | 778.400 | 127.300 | 778.500 | 129.600 |
| GR | 778.700 | 131.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .048 | .041 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 1.2 SECT. C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 960.000 | 8.000 | 0.000 | 59.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 777.200 | 0.000 | 766.700 | 25.000 | 766.300 | 25.000 | 766.200 | 31.000 | 766.500 | 35.000 |
| GR | 768.700 | 34.000 | 778.100 | 59.000 | 778.700 | 84.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 1.3 SECT. D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1150.000 | 9.000 | 0.000 | 112.000 | 190.000 | 190.000 | 190.000 | 0.000 | 0.000 | 0.000 |
| GR | 776.000 | 0.000 | 770.700 | 52.000 | 768.700 | 71.000 | 767.400 | 72.000 | 767.300 | 74.000 |
| GR | 767.300 | 77.000 | 769.300 | 81.000 | 780.000 | 112.000 | 782.400 | 150.000 | 0.000 | 0.000 |
| X1 | 1372.000 | 13.000 | 173.000 | 208.000 | 275.000 | 150.000 | 222.000 | 0.000 | 0.000 | 0.000 |
| GR | 785.200 | 0.000 | 778.900 | 73.000 | 775.700 | 110.000 | 773.300 | 173.000 | 772.900 | 173.000 |
| GR | 768.600 | 181.000 | 768.000 | 187.000 | 768.600 | 192.000 | 772.500 | 200.000 | 772.900 | 208.000 |
| GR | 774.000 | 280.000 | 775.900 | 298.000 | 782.100 | 373.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .032 | .032 | .042 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1373.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | .032 | .032 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SS | 0.000 | 1.590 | 2.900 | 0.000 | 11.000 | 0.000 | 74.000 | 0.000 | 768.000 | 768.000 |

BRIDGE SECTION NO. 1-8 SECT. E

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1380.000 | 0.000 | 0.000 | 0.000 | 7.000 | 7.000 | 7.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 774.700 | 774.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 9.000 | 0.000 | 785.200 | 0.000 | 73.000 | 778.900 | 0.000 | 173.000 | 774.700 | 774.700 |
| BT | 173.000 | 774.700 | 773.300 | 208.000 | 774.400 | 772.900 | 208.000 | 774.400 | 774.400 | 273.000 |
| BT | 775.300 | 0.000 | 298.000 | 775.900 | 0.000 | 373.000 | 782.100 | 0.000 | 0.000 | 0.000 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | [illegible] | [illegible] | .030 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| X1 | 1381.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 50.000 | 78.000 | 0.000 | 0.000 | 0.000 |
| GR | 788.500 | [illegible] | 780.100 | 17.000 | 779.100 | 67.000 | 775.500 | 85.000 | 773.500 | 125.000 |
| GR | 769.200 | [illegible] | 769.200 | 142.000 | 772.000 | 148.000 | 775.200 | 225.000 | 779.500 | 273.000 |
| GR | 780.100 | 325.000 | 782.700 | 360.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .030 | .030 | .032 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1460.000 | 12.000 | 125.000 | 148.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 788.500 | 0.000 | 780.100 | 17.000 | 779.100 | 67.000 | 775.500 | 85.000 | 773.500 | 125.000 |
| GR | 772.200 | 126.000 | 772.200 | 147.000 | 772.900 | 148.000 | 775.200 | 225.000 | 779.500 | 273.000 |
| GR | 780.100 | 325.000 | 782.700 | 360.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

WEIR SECTION NO. 1-A SECT. F

BRIDGE OVER DAM NOT CONSIDERED BECAUSE OF SMALL SIZE

AND POOR CONDITION OF DECK

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1461.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| NC | .032 | .032 | .030 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

D/S EDGE OF GOLF COURSE LAKE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1462.000 | 10.000 | 67.000 | 273.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 788.500 | 0.000 | 780.100 | 17.000 | 779.100 | 67.000 | 775.500 | 85.000 | 769.200 | 115.000 |
| GR | 769.200 | 165.000 | 775.200 | 225.000 | 779.500 | 273.000 | 780.100 | 325.000 | 782.700 | 360.000 |

U/S EDGE OF GOLF COURSE LAKE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1684.000 | 0.000 | 0.000 | 0.000 | 222.000 | 222.000 | 222.000 | 0.000 | 1.700 | 0.000 |
| NC | .036 | .036 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

CHANNEL SECTION 1' U/S OF EDGE OF LAKE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1685.000 | 17.000 | 193.000 | 220.000 | 1.000 | 1.000 | 1.000 | 0.000 | -1.100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 152.000 | 0.000 | 284.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.700 | 0.000 | 781.000 | 53.000 | 779.800 | 68.000 | 778.800 | 108.000 | 777.400 | 166.000 |
| GR | 776.400 | 193.000 | 776.200 | 197.000 | 772.200 | 203.000 | 772.100 | 206.500 | 772.000 | 210.000 |
| GR | 775.800 | 216.000 | 776.400 | 220.000 | 776.800 | 238.000 | 777.400 | 295.000 | 778.800 | 330.000 |
| GR | 781.300 | 366.000 | 787.100 | 393.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1686.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 151.000 | 0.000 | 285.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1687.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | .100 | 0.000 |
| X3 | [illegible].000 | 0.000 | 0.000 | 152.000 | 0.000 | 283.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1688.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 152.000 | 0.000 | 290.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1691.000 | 0.000 | 0.000 | 0.000 | 3.000 | 3.000 | 3.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 137.000 | 0.000 | 281.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1693.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 137.000 | 0.000 | 285.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1701.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 140.000 | 0.000 | 304.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1710.000 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 138.000 | 0.000 | 306.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1719.000 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 142.000 | 0.000 | 306.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1722.000 | 0.000 | 0.000 | 0.000 | 3.000 | 3.000 | 3.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 142.000 | 0.000 | 304.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1724.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 137.000 | 0.000 | 298.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1728.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 142.000 | 0.000 | 301.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1736.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 137.000 | 0.000 | 292.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1744.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 141.000 | 0.000 | 292.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1753.000 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 145.000 | 0.000 | 292.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1787.000 | 0.000 | 0.000 | 0.000 | 34.000 | 34.000 | 34.000 | 0.000 | .200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 147.000 | 0.000 | 277.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1791.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 146.000 | 0.000 | 274.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1793.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 147.000 | 0.000 | 274.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1795.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 148.000 | 0.000 | 274.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1796.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 148.000 | 0.000 | 274.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1797.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 148.000 | 0.000 | 273.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 0.000 | 0.000 | 0.000 | 165.000 | 0.000 | 270.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1803.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 147.000 | 0.000 | 270.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1815.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 148.000 | 0.000 | 266.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1820.000 | 23.000 | 195.000 | 220.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 151.000 | 0.000 | 263.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.700 | 0.000 | 781.000 | 53.000 | 779.800 | 68.000 | 777.000 | 110.000 | 776.700 | 153.000 |
| GR | 776.600 | 166.000 | 776.400 | 190.000 | 776.400 | 190.500 | 776.400 | 193.000 | 776.200 | 197.000 |
| GR | 772.200 | 203.000 | 772.100 | 206.500 | 772.000 | 210.000 | 775.800 | 216.000 | 776.400 | 220.000 |
| GR | 776.400 | 222.500 | 776.400 | 223.000 | 776.500 | 238.000 | 776.600 | 261.000 | 777.000 | 320.000 |
| GR | 778.300 | 338.000 | 781.300 | 366.000 | 787.100 | 393.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .036 | .036 | .040 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1821.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 151.000 | 0.000 | 263.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .036 | .036 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.500 | 2.900 | 0.000 | 15.100 | 0.000 | 77.000 | 0.000 | 772.000 | 772.000 |

BRIDGE SECTION NO. 2-B SECT. G

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1829.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 777.100 | 777.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 153.000 | 0.000 | 261.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 13.000 | 153.000 | 777.700 | 0.000 | 166.000 | 777.400 | 0.000 | 190.000 | 778.100 | 0.000 |
| BT | 190.500 | 778.600 | 0.000 | 193.000 | 778.700 | 776.400 | 193.000 | 778.700 | 777.000 | 206.500 |
| BT | 778.800 | 777.100 | 220.000 | 778.400 | 776.700 | 220.000 | 778.400 | 776.400 | 222.500 | 778.400 |
| BT | 0.000 | 223.000 | 777.900 | 0.000 | 238.000 | 776.800 | 0.000 | 261.000 | 777.100 | 0.000 |
| NC | .036 | .036 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1830.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 153.000 | 0.000 | 261.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1845.000 | 90.000 | 191.700 | 220.600 | 15.000 | 15.000 | 15.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 156.000 | 0.000 | 256.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.600 | 0.000 | 789.400 | 6.600 | 788.200 | 13.200 | 787.000 | 19.800 | 785.900 | 26.400 |
| GR | 784.700 | 33.000 | 783.500 | 39.600 | 782.300 | 46.200 | 781.100 | 52.800 | 780.600 | 59.500 |
| GR | 780.100 | 66.100 | 779.700 | 72.700 | 779.300 | 79.300 | 778.900 | 85.900 | 778.500 | 92.500 |
| GR | 778.100 | 99.100 | 777.700 | 105.700 | 777.500 | 112.300 | 777.400 | 119.000 | 777.300 | 125.600 |
| GR | 777.300 | 132.200 | 777.200 | 138.800 | 777.100 | 145.400 | 777.100 | 152.000 | 777.000 | 158.600 |
| GR | 776.900 | 165.200 | 776.800 | 171.900 | 776.800 | 178.500 | 776.700 | 185.100 | 776.600 | 191.700 |
| GR | 776.500 | 192.700 | 776.500 | 193.600 | 776.400 | 194.600 | 776.300 | 195.500 | 776.000 | 196.500 |
| GR | 775.400 | 197.500 | 774.800 | 198.400 | 774.200 | 199.400 | 773.600 | 200.300 | 773.000 | 201.300 |
| GR | 772.400 | 202.300 | 772.300 | 203.200 | 772.300 | 204.200 | 772.200 | 205.200 | 772.100 | 206.100 |
| GR | 772.200 | 207.100 | 772.100 | 208.000 | 772.200 | 209.000 | 772.200 | 210.000 | 772.800 | 210.900 |
| GR | 773.400 | 211.900 | 773.900 | 212.900 | 774.500 | 213.800 | 775.100 | 214.800 | 775.600 | 215.700 |
| GR | 776.000 | 216.700 | 776.200 | 217.700 | 776.300 | 218.600 | 776.500 | 219.600 | 776.600 | 220.600 |
| GR | 776.700 | 225.200 | 776.700 | 231.900 | 776.600 | 237.500 | 776.800 | 243.100 | 776.900 | 248.700 |
| GR | 776.900 | 254.300 | 777.000 | 260.000 | 777.000 | 265.600 | 777.100 | 271.200 | 777.100 | 276.900 |
| GR | 777.200 | 282.500 | 777.200 | 288.100 | 777.300 | 293.800 | 777.300 | 299.400 | 777.400 | 305.000 |
| GR | 777.400 | 310.700 | 777.500 | 316.300 | 777.800 | 321.900 | 778.300 | 327.600 | 778.800 | 333.200 |
| GR | 779.300 | 338.800 | 779.800 | 344.500 | 780.300 | 350.100 | 780.800 | 355.700 | 781.300 | 361.400 |
| GR | 782.300 | 367.000 | 783.500 | 372.600 | 784.700 | 378.300 | 785.900 | 383.900 | 787.100 | 389.600 |

PRINTED IN U.S.A.
FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 161.000 | 0.000 | 252.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.600 | 0.000 | 789.400 | 6.500 | 788.300 | 13.100 | 787.100 | 19.700 | 785.900 | 26.200 |
| GR | 784.700 | 32.800 | 783.600 | 39.400 | 782.400 | 45.900 | 781.300 | 52.500 | 780.800 | 59.100 |
| GR | 780.300 | 65.600 | 779.900 | 72.200 | 779.600 | 78.800 | 779.200 | 85.300 | 778.900 | 91.900 |
| GR | 778.500 | 98.500 | 778.200 | 105.000 | 778.000 | 111.600 | 777.900 | 118.200 | 777.800 | 124.700 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 144.500 | 777.500 | 151.000 | [illegible] | [illegible] |
| GR | 777.300 | [illegible] | 777.200 | 170.700 | 777.100 | 177.300 | 777.000 | 183.900 | 776.900 | [illegible] |
| GR | 776.800 | [illegible] | 776.700 | 192.500 | 776.600 | 193.500 | 776.500 | 194.500 | 776.100 | [illegible] |
| GR | 775.600 | 196.600 | 775.000 | 197.600 | 774.400 | 198.600 | 773.800 | 199.600 | 773.200 | 200.700 |
| GR | 772.600 | 201.700 | 772.500 | 202.700 | 772.400 | 203.700 | 772.300 | 204.300 | 772.200 | 205.800 |
| GR | 772.300 | 206.800 | 772.300 | 207.800 | 772.300 | 205.900 | 772.400 | 209.900 | 773.000 | 210.900 |
| GR | 773.600 | [illegible] | 774.100 | 213.000 | 774.200 | 214.000 | 775.300 | 215.000 | 775.800 | [illegible] |
| GR | 776.200 | 217.100 | 776.400 | 218.100 | 776.600 | 219.100 | 776.800 | 220.100 | 777.000 | [illegible] |
| GR | 777.000 | [illegible] | 777.100 | 232.100 | 777.200 | 237.600 | 777.200 | 243.100 | 777.300 | [illegible] |
| GR | 777.300 | 254.100 | 777.400 | 259.600 | 777.400 | 265.100 | 777.500 | 270.600 | 777.500 | 276.100 |
| GR | 777.600 | 281.600 | 777.600 | 287.100 | 777.700 | 292.600 | 777.800 | 298.100 | 777.900 | 303.600 |
| GR | 777.900 | 309.100 | 778.000 | 314.600 | 778.300 | 320.100 | 778.700 | 325.600 | 779.200 | 331.100 |
| GR | 779.600 | [illegible] | 780.100 | 342.100 | 780.600 | 347.600 | 781.000 | 353.100 | 781.600 | [illegible] |
| GR | 782.500 | 364.100 | 783.600 | 369.600 | 784.800 | 375.100 | 785.900 | 380.600 | 787.100 | [illegible] |
| X1 | 1867.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 162.000 | 0.000 | 250.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1872.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 163.000 | 0.000 | 249.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1878.000 | [illegible] | 139.200 | 221.800 | 6.000 | 6.000 | 6.000 | 0.000 | .200 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 165.000 | 0.000 | 248.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| GR | 790.600 | 0.000 | 789.400 | 6.500 | 788.300 | 13.000 | 787.100 | 19.500 | 786.000 | [illegible] |
| GR | 784.800 | 32.600 | 783.700 | 39.100 | 782.600 | 45.600 | 781.400 | 52.100 | 781.000 | 58.700 |
| GR | 780.500 | 65.200 | 780.200 | 71.700 | 779.900 | 78.200 | 779.600 | 84.800 | 779.300 | 91.300 |
| GR | 779.000 | 97.800 | 778.700 | 104.300 | 778.500 | 110.900 | 778.400 | 117.400 | 778.300 | 123.900 |
| GR | 778.200 | 130.400 | 778.100 | 137.000 | 778.000 | 143.500 | 777.900 | 150.000 | 777.800 | [illegible] |
| GR | 777.700 | 163.100 | 777.500 | 169.600 | 777.400 | 176.100 | 777.300 | 182.600 | 777.100 | [illegible] |
| GR | 777.000 | 190.300 | 776.900 | 191.300 | 776.800 | 192.400 | 776.600 | 193.500 | 776.300 | [illegible] |
| GR | 775.700 | 195.700 | 775.100 | 196.800 | 774.500 | 197.900 | 774.000 | 198.900 | 773.400 | 200.000 |
| GR | 772.800 | 201.100 | 772.600 | 202.200 | 772.500 | 203.300 | 772.500 | 204.400 | 772.300 | 205.500 |
| GR | 772.400 | 206.500 | 772.500 | 207.600 | 772.500 | 208.700 | 772.600 | 209.800 | 773.200 | 210.900 |
| GR | 773.000 | 212.000 | 774.300 | 213.100 | 774.900 | 214.100 | 775.500 | 215.200 | 776.100 | [illegible] |
| GR | 776.400 | 217.400 | 776.700 | 218.500 | 776.800 | 219.600 | 777.000 | 220.700 | 777.200 | [illegible] |
| GR | 777.300 | 227.100 | 777.400 | 232.500 | 777.500 | 237.800 | 777.500 | 243.200 | 777.600 | [illegible] |
| GR | 777.700 | 253.900 | 777.800 | 259.300 | 777.800 | 264.700 | 777.900 | 270.000 | 777.900 | 275.400 |
| GR | 778.000 | 280.800 | 778.000 | 286.100 | 778.200 | 291.500 | 778.200 | 296.900 | 778.400 | 302.200 |
| GR | 778.400 | 307.600 | 778.600 | 313.000 | 778.800 | 318.300 | 779.100 | 323.700 | 779.500 | 329.100 |
| GR | 779.900 | 334.400 | 780.300 | 339.800 | 780.800 | 345.200 | 781.300 | 350.500 | 781.800 | [illegible] |
| GR | 782.700 | 361.300 | 783.800 | 366.600 | 784.900 | 372.000 | 786.000 | 377.400 | 787.100 | [illegible] |
| X1 | 1879.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 165.000 | 0.000 | 246.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1880.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 165.000 | 0.000 | 247.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1881.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 165.000 | 0.000 | 247.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1883.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 166.000 | 0.000 | 247.000 | 0.000 | 0.000 | 0.000 | 0.000 |

PRINTED IN U.S.A.
FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1889.000 | 0.000 | 0.000 | 0.000 | 6.000 | 6.000 | 6.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 167.000 | 0.000 | 245.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1896.000 | 0.000 | 187.000 | 0.000 | 6.000 | 6.000 | 6.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 168.000 | 0.000 | 243.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.600 | 0.000 | 789.400 | 6.400 | 788.300 | 12.900 | 787.200 | 19.400 | 786.100 | 25.900 |
| GR | 784.900 | 32.400 | 783.800 | 38.800 | 782.700 | 45.300 | 781.600 | 51.800 | 781.200 | 58.300 |
| GR | 780.700 | 64.800 | 780.400 | 71.200 | 780.200 | 77.700 | 779.900 | 84.200 | 779.700 | 90.700 |
| GR | 779.400 | 97.200 | 779.200 | 103.700 | 779.000 | 110.100 | 778.900 | 116.600 | 778.800 | 123.100 |
| GR | 779.300 | 129.600 | 778.500 | 136.100 | 778.400 | 142.500 | 778.300 | 149.000 | 778.200 | 155.500 |
| GR | 778.100 | 162.000 | 777.900 | 168.500 | 777.700 | 174.900 | 777.600 | 181.400 | 777.400 | 187.900 |
| GR | 777.200 | 189.100 | 777.100 | 190.200 | 777.000 | 191.400 | 776.800 | 192.500 | 776.500 | 193.600 |
| GR | 775.900 | 194.800 | 775.300 | 195.900 | 774.700 | 197.100 | 774.200 | 195.200 | 773.600 | 199.400 |
| GR | 773.000 | 200.500 | 772.800 | 201.700 | 772.700 | 202.800 | 772.600 | 204.000 | 772.400 | 205.100 |
| GR | 772.500 | 206.300 | 772.600 | 207.400 | 772.700 | 208.600 | 772.800 | 209.700 | 773.400 | 210.900 |
| GR | 774.000 | 212.000 | 774.600 | 213.200 | 775.100 | 214.300 | 775.700 | 215.500 | 776.300 | 216.600 |
| GR | 776.700 | 217.800 | 776.900 | 218.900 | 777.100 | 220.100 | 777.300 | 221.200 | 777.500 | 222.400 |
| GR | 777.600 | 227.600 | 777.700 | 232.800 | 777.900 | 238.000 | 777.900 | 243.300 | 778.000 | 248.500 |
| GR | 778.100 | 253.700 | 778.200 | 259.000 | 778.200 | 264.200 | 778.300 | 269.400 | 778.300 | 274.700 |
| GR | 778.400 | 279.900 | 778.400 | 285.100 | 778.600 | 290.400 | 778.700 | 295.600 | 778.900 | 300.800 |
| GR | 778.900 | 306.100 | 779.100 | 311.300 | 779.300 | 316.500 | 779.500 | 321.800 | 779.800 | 327.000 |
| GR | 780.200 | 332.200 | 780.600 | 337.500 | 781.100 | 342.700 | 781.500 | 347.900 | 782.000 | 353.200 |
| GR | 782.900 | 358.400 | 783.900 | 363.600 | 785.000 | 368.900 | 786.000 | 374.100 | 787.100 | 379.400 |
| X1 | 1900.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 169.000 | 0.000 | 242.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1905.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 171.000 | 0.000 | 241.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1911.000 | 90.000 | 186.700 | 223.000 | 6.000 | 6.000 | 6.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 172.000 | 0.000 | 239.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.600 | 0.000 | 789.500 | 6.400 | 788.400 | 12.800 | 787.300 | 19.300 | 786.200 | 25.700 |
| GR | 785.100 | 32.100 | 784.000 | 38.600 | 782.900 | 45.000 | 781.800 | 51.500 | 781.400 | 57.900 |
| GR | 780.900 | 64.300 | 780.700 | 70.800 | 780.500 | 77.200 | 780.300 | 83.700 | 780.100 | 90.100 |
| GR | 779.900 | 96.500 | 779.800 | 103.000 | 779.600 | 109.400 | 779.400 | 115.900 | 779.300 | 122.300 |
| GR | 779.200 | 128.700 | 779.000 | 135.200 | 778.900 | 141.600 | 778.800 | 148.100 | 778.600 | 154.500 |
| GR | 778.500 | 160.900 | 778.300 | 167.400 | 778.100 | 173.800 | 777.900 | 180.300 | 777.700 | 186.700 |
| GR | 777.500 | 187.900 | 777.400 | 189.100 | 777.200 | 190.300 | 777.000 | 191.500 | 776.700 | 192.700 |
| GR | 776.100 | 194.000 | 775.500 | 195.200 | 774.900 | 196.400 | 774.400 | 197.600 | 773.800 | 198.800 |
| GR | 773.200 | 200.000 | 773.000 | 201.200 | 772.900 | 202.400 | 772.800 | 203.600 | 772.500 | 204.800 |
| GR | 772.700 | 206.000 | 772.800 | 207.200 | 772.900 | 209.400 | 773.100 | 209.700 | 773.700 | 210.900 |
| GR | 774.200 | 212.100 | 774.800 | 213.300 | 775.400 | 214.500 | 775.900 | 215.700 | 776.300 | 216.900 |
| GR | 776.900 | 218.100 | 777.200 | 219.300 | 777.400 | 220.500 | 777.600 | 221.700 | 777.900 | 223.000 |
| GR | 778.000 | 228.100 | 778.100 | 233.200 | 778.300 | 238.200 | 778.300 | 243.300 | 778.400 | 248.400 |
| GR | 778.500 | 253.500 | 778.600 | 258.600 | 778.600 | 263.700 | 778.700 | 268.800 | 778.800 | 273.900 |
| GR | 778.900 | 279.000 | 778.900 | 284.100 | 779.100 | 289.200 | 779.200 | 294.300 | 779.400 | 299.400 |
| GR | 779.500 | 304.500 | 779.700 | 309.600 | 779.900 | 314.700 | 780.000 | 319.800 | 780.200 | 324.900 |
| GR | 780.500 | 330.000 | 780.900 | 335.100 | 781.400 | 340.200 | 781.800 | 345.300 | 782.300 | 350.400 |
| GR | 783.100 | 355.500 | 784.100 | 360.600 | 785.100 | 365.700 | 786.100 | 370.800 | 787.200 | 376.000 |
| X1 | 1931.000 | 0.000 | 0.000 | 0.000 | 25.000 | 25.000 | 25.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 178.000 | 0.000 | 232.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1962.000 | 90.000 | 189.500 | 224.000 | 25.000 | 25.000 | 25.000 | 0.000 | .400 | 0.000 |
| GR | 790.500 | 0.000 | 789.500 | 6.200 | 788.500 | 12.400 | 787.600 | 18.600 | 786.600 | 24.800 |
| GR | 785.600 | 31.100 | 784.600 | 37.300 | 783.600 | 43.500 | 782.700 | 49.700 | 782.300 | 56.000 |
| GR | 781.900 | 62.200 | 781.700 | 68.400 | 781.500 | 74.600 | 781.300 | 80.900 | 781.100 | 87.100 |

PRINTED IN U.S.A.
FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 780.900 | [illegible] | 786.600 | 99.500 | [illegible] | 103.800 | [illegible] | 112.000 | 780.300 | [illegible] |
| GR | 780.200 | 124.400 | 780.100 | 130.200 | 780.000 | 136.900 | 779.800 | 143.100 | 779.700 | 149.300 |
| GR | 779.600 | 155.600 | 779.500 | 161.800 | 779.300 | 168.000 | 779.200 | 174.200 | 779.000 | 180.500 |
| GR | 778.700 | 182.000 | 778.500 | 183.500 | 778.200 | 185.000 | 777.900 | 186.500 | 777.500 | 188.000 |
| GR | 777.000 | 189.600 | 776.400 | 191.100 | 775.900 | 192.600 | 775.300 | 194.100 | 774.800 | 195.600 |
| GR | 774.200 | 197.100 | 773.900 | 198.600 | 773.700 | 200.200 | 773.400 | 201.700 | 772.900 | 203.200 |
| GR | 773.600 | 206.700 | 773.700 | 206.200 | 773.900 | 207.700 | 774.200 | 209.300 | 774.500 | 210.800 |
| GR | 775.300 | 212.300 | 775.900 | 213.800 | 776.500 | 215.300 | 777.000 | 216.800 | 777.600 | 218.400 |
| GR | 778.000 | 219.900 | 778.400 | 221.400 | 778.700 | 222.900 | 779.100 | 224.400 | 779.400 | 226.000 |
| GR | 779.500 | 230.400 | 779.600 | 234.800 | 779.800 | 239.200 | 779.900 | 243.700 | 780.000 | 248.100 |
| GR | 780.000 | 252.500 | 780.100 | 257.000 | 780.200 | 261.400 | 780.300 | 265.500 | 780.400 | 270.300 |
| GR | 780.500 | 274.700 | 780.600 | 279.100 | 780.700 | 283.600 | 780.800 | 288.000 | 781.000 | 292.400 |
| GR | 781.100 | 296.900 | 781.300 | 301.300 | 781.400 | 305.700 | 781.600 | 310.200 | 781.700 | 314.600 |
| GR | 782.000 | 319.000 | 782.300 | 323.500 | 782.700 | 327.900 | 783.100 | 332.300 | 783.500 | 336.800 |
| GR | 784.200 | 341.200 | 784.900 | 345.600 | 785.700 | 350.100 | 786.500 | 354.500 | 787.300 | 359.000 |
| X1 | 1988.000 | 90.000 | 174.200 | 229.000 | 26.000 | 26.000 | 26.000 | 0.000 | .300 | 0.000 |
| GR | 790.400 | 0.000 | 789.600 | 6.000 | 788.700 | 12.000 | 787.800 | 18.000 | 787.000 | 24.000 |
| GR | 786.100 | 30.000 | 785.300 | 36.000 | 784.400 | 42.000 | 783.600 | 48.000 | 783.300 | 54.000 |
| GR | 783.000 | 60.000 | 782.800 | 66.000 | 782.500 | 72.100 | 782.300 | 78.100 | 782.100 | 84.100 |
| GR | 781.900 | 90.100 | 781.700 | 96.100 | 781.500 | 102.100 | 781.400 | 108.100 | 781.300 | 114.100 |
| GR | 781.200 | 120.100 | 781.100 | 126.100 | 781.100 | 132.100 | 781.000 | 138.100 | 780.900 | 144.200 |
| GR | 780.800 | 150.200 | 780.700 | 156.200 | 780.600 | 162.200 | 780.400 | 168.200 | 780.300 | 174.200 |
| GR | 779.900 | 176.900 | 779.600 | 177.900 | 779.200 | 179.700 | 778.800 | 181.500 | 778.400 | 183.300 |
| GR | 777.800 | 185.200 | 777.300 | 187.000 | 776.800 | 188.800 | 776.300 | 190.600 | 775.800 | 192.300 |
| GR | 775.200 | 194.300 | 774.900 | 196.100 | 774.500 | 197.900 | 774.100 | 199.700 | 773.300 | 201.600 |
| GR | 774.100 | 203.400 | 774.500 | 205.200 | 774.900 | 207.000 | 775.300 | 208.900 | 775.900 | 210.700 |
| GR | 776.400 | 212.500 | 777.000 | 214.300 | 777.500 | 216.200 | 778.100 | 218.000 | 778.600 | 219.800 |
| GR | 779.100 | 221.600 | 779.600 | 223.500 | 780.000 | 225.300 | 780.500 | 227.100 | 780.900 | 229.000 |
| GR | 781.000 | 232.700 | 781.200 | 236.500 | 781.300 | 240.200 | 781.400 | 244.000 | 781.500 | 247.800 |
| GR | 781.600 | 251.500 | 781.700 | 255.300 | 781.800 | 259.100 | 781.900 | 262.800 | 782.000 | 266.600 |
| GR | 782.100 | 270.400 | 782.200 | 274.100 | 782.300 | 277.900 | 782.500 | 281.700 | 782.600 | 285.400 |
| GR | 782.700 | 289.200 | 782.900 | 293.000 | 783.000 | 296.700 | 783.100 | 300.500 | 783.300 | 304.300 |
| GR | 783.500 | 308.000 | 783.700 | 311.800 | 784.000 | 315.600 | 784.400 | 319.300 | 784.700 | 323.100 |
| GR | 785.200 | 326.900 | 785.800 | 330.600 | 786.300 | 334.400 | 786.800 | 338.200 | 787.400 | 342.000 |
| X1 | 2000.000 | 11.000 | 168.000 | 232.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.400 | 0.000 | 784.500 | 45.000 | 782.500 | 100.000 | 781.700 | 168.000 | 774.800 | 198.000 |
| GR | 773.800 | 199.500 | 773.800 | 201.000 | 774.800 | 202.000 | 782.500 | 232.000 | 785.100 | 300.000 |
| GR | 787.500 | 325.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 0.000 | 612.000 | 721.000 | 861.000 | 1295.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

D/S FACE UNDERGROUND PIPE #1

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 2009.000 | 6.000 | 0.000 | 325.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.400 | 0.000 | 784.500 | 46.000 | 782.500 | 100.000 | 781.500 | 200.000 | 783.100 | 300.000 |
| GR | 787.500 | 325.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

BRIDGE SECTION NO. 2 SECT. H

U/S FACE UNDERGROUND PIPE #1

262' OF 48" CONCRETE PIPE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 2271.000 | 0.000 | 0.000 | 0.000 | 262.000 | 262.000 | 262.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 0.000 | 335.000 | 849.000 | 980.000 | 1410.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 2272.000 | 11.000 | 168.000 | 232.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 790.400 | 0.000 | 784.500 | 46.000 | 782.500 | 100.000 | 781.700 | 168.000 | 775.400 | 198.000 |
| GR | 774.400 | 199.500 | 774.400 | 201.000 | 775.400 | 202.000 | 782.500 | 232.000 | 785.100 | 300.000 |

VALLEY SECTION NO. 2-A SECT. I

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 2521.000 | 10.000 | 146.000 | 165.000 | 275.000 | 225.000 | 249.000 | 0.000 | 0.000 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 146.000 | 777.700 | [illegible] |
| GR | 777.400 | [illegible] | 777.000 | 160.000 | 788.700 | 165.000 | 784.200 | 224.000 | 789.000 | 265.000 |
| NC | .045 | .045 | .040 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 2655.000 | 90.000 | 140.200 | 158.800 | 134.000 | 134.000 | 134.000 | 0.000 | 0.000 | 0.000 |
| GR | 791.800 | 0.000 | 791.700 | 4.800 | 791.400 | 9.000 | 791.200 | 14.500 | 789.900 | 19.300 |
| GR | 789.400 | 24.100 | 789.300 | 29.000 | 789.000 | 33.800 | 788.700 | 38.600 | 788.400 | 43.300 |
| GR | 788.100 | 48.300 | 787.800 | 53.100 | 787.500 | 58.000 | 787.200 | 62.800 | 787.000 | 67.700 |
| GR | 786.800 | 72.500 | 786.600 | 77.300 | 786.400 | 82.200 | 786.200 | 87.000 | 786.000 | 91.800 |
| GR | 785.800 | 96.700 | 785.600 | 101.500 | 785.400 | 106.300 | 785.200 | 111.200 | 785.000 | 116.000 |
| GR | 784.800 | 120.900 | 784.500 | 125.700 | 783.700 | 130.500 | 782.800 | 135.400 | 782.000 | 140.200 |
| GR | 781.300 | 144.800 | 781.000 | 141.400 | 780.500 | 142.100 | 779.900 | 142.700 | 779.400 | 143.300 |
| GR | 778.900 | 143.900 | 778.700 | 144.500 | 778.600 | 145.200 | 778.500 | 145.800 | 778.400 | 146.400 |
| GR | 778.300 | 147.000 | 778.200 | 147.600 | 778.200 | 148.300 | 778.100 | 148.900 | 778.100 | 149.500 |
| GR | 778.200 | 150.100 | 778.200 | 150.800 | 778.200 | 151.400 | 778.300 | 152.000 | 778.300 | 152.600 |
| GR | 778.400 | 153.200 | 778.400 | 153.900 | 778.800 | 154.500 | 779.200 | 155.100 | 779.600 | 155.700 |
| GR | 780.000 | 156.300 | 780.500 | 157.000 | 780.900 | 157.600 | 781.300 | 158.200 | 781.700 | 158.800 |
| GR | 781.900 | 165.000 | 782.200 | 167.200 | 782.400 | 171.400 | 782.600 | 175.600 | 782.900 | 179.700 |
| GR | 783.200 | 183.900 | 783.500 | 188.100 | 783.700 | 192.300 | 784.000 | 196.500 | 784.200 | 200.700 |
| GR | 784.500 | 204.800 | 784.700 | 209.000 | 785.000 | 213.200 | 785.200 | 217.400 | 785.300 | 221.600 |
| GR | 785.300 | 225.800 | 785.400 | 229.900 | 785.500 | 234.100 | 785.800 | 238.300 | 786.200 | 242.500 |
| GR | 786.600 | 246.700 | 786.900 | 250.900 | 787.300 | 255.000 | 787.700 | 259.200 | 788.100 | 263.400 |
| GR | 788.400 | 267.600 | 788.800 | 271.800 | 789.200 | 276.000 | 789.700 | 280.100 | 790.200 | 284.300 |
| X1 | 2788.000 | 90.000 | 134.500 | 152.700 | 133.000 | 133.000 | 133.000 | 0.000 | -.100 | 0.000 |
| GR | 791.500 | 0.000 | 791.500 | 4.600 | 791.200 | 9.200 | 791.000 | 13.900 | 790.700 | 18.500 |
| GR | 790.400 | 23.100 | 790.100 | 27.800 | 789.900 | 32.400 | 789.600 | 37.100 | 789.300 | 41.700 |
| GR | 789.000 | 46.300 | 788.700 | 51.000 | 788.400 | 55.600 | 788.100 | 60.200 | 787.900 | 64.900 |
| GR | 787.800 | 69.500 | 787.400 | 74.200 | 787.200 | 78.800 | 787.000 | 83.400 | 786.800 | [illegible] |
| GR | 786.400 | 92.700 | 786.400 | 97.300 | 786.200 | 102.000 | 786.000 | 106.600 | 785.700 | [illegible] |
| GR | 785.300 | 115.900 | 785.200 | 120.500 | 784.500 | 125.200 | 783.700 | 129.800 | 783.000 | [illegible] |
| GR | 782.500 | 135.100 | 782.000 | 135.700 | 781.500 | 136.300 | 781.000 | 136.900 | 780.500 | 137.500 |
| GR | 780.000 | 138.100 | 779.700 | 138.700 | 779.600 | 139.300 | 779.500 | 139.900 | 779.400 | 140.500 |
| GR | 779.300 | 141.100 | 779.200 | 141.700 | 779.100 | 142.400 | 779.100 | 143.000 | 779.100 | 143.600 |
| GR | 779.100 | 144.200 | 779.100 | 144.800 | 779.100 | 145.400 | 779.200 | 146.000 | 779.200 | [illegible] |
| GR | 779.300 | 147.200 | 779.300 | 147.800 | 779.700 | 148.400 | 780.100 | 149.000 | 780.600 | [illegible] |
| GR | 781.000 | 150.300 | 781.500 | 150.900 | 781.900 | 151.500 | 782.300 | 152.100 | 782.800 | [illegible] |
| GR | 783.000 | 157.700 | 783.300 | 162.800 | 783.600 | 167.800 | 783.900 | 172.800 | 784.200 | 177.900 |
| GR | 784.500 | 182.900 | 784.900 | 187.900 | 785.300 | 193.000 | 785.600 | 198.000 | 785.900 | 203.000 |
| GR | 786.200 | 208.100 | 786.500 | 213.100 | 786.800 | 218.100 | 787.000 | 223.200 | 786.900 | 228.200 |
| GR | 786.800 | 233.200 | 786.700 | 238.300 | 786.700 | 243.300 | 787.000 | 248.300 | 787.300 | [illegible] |
| GR | 787.700 | 258.400 | 788.000 | 263.400 | 788.400 | 268.500 | 788.800 | 273.500 | 789.100 | [illegible] |
| GR | 789.500 | 283.600 | 789.800 | 288.600 | 790.200 | 293.600 | 790.600 | 298.700 | 791.400 | [illegible] |
| DT | 4.000 | 515.000 | 305.000 | 935.000 | 1325.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 2922.000 | 90.000 | 128.700 | 146.600 | 134.000 | 134.000 | 134.000 | 0.000 | -.100 | 0.000 |
| GR | 792.600 | 0.000 | 792.300 | 4.400 | 792.000 | 8.800 | 791.800 | 13.300 | 791.500 | 17.700 |
| GR | 791.200 | 22.100 | 791.000 | 26.600 | 790.700 | 31.000 | 790.400 | 35.500 | 790.100 | 39.900 |
| GR | 789.800 | 44.300 | 789.500 | 48.800 | 789.200 | 53.200 | 788.900 | 57.700 | 788.700 | 62.100 |
| GR | 788.500 | 66.500 | 788.300 | 71.000 | 788.000 | 75.400 | 787.800 | 79.900 | 787.600 | 84.300 |
| GR | 787.400 | 88.700 | 787.100 | 93.200 | 786.900 | 97.600 | 786.700 | 102.100 | 786.500 | 106.500 |
| GR | 786.200 | 110.900 | 785.900 | 115.400 | 785.300 | 119.800 | 784.600 | 124.300 | 783.900 | [illegible] |
| GR | 783.400 | 129.300 | 783.000 | 129.900 | 782.500 | 130.500 | 782.000 | 131.100 | 781.500 | [illegible] |
| GR | 781.100 | 132.300 | 780.800 | 132.900 | 780.600 | 133.500 | 780.400 | 134.100 | 780.300 | [illegible] |
| GR | 780.200 | 135.300 | 780.200 | 135.800 | 780.100 | 136.400 | 780.000 | 137.000 | 780.000 | 137.600 |
| GR | 780.000 | 138.200 | 780.000 | 138.800 | 780.000 | 139.400 | 780.100 | 140.000 | 780.100 | 140.600 |
| GR | 780.200 | 141.200 | 780.200 | 141.800 | 780.600 | 142.400 | 781.000 | 143.000 | 781.500 | 143.600 |

PRINTED IN U.S.A.
FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 784.100 | 157.500 | 784.400 | 158.300 | 784.800 | 164.200 | 785.100 | 170.100 | 785.500 | 176.000 |
| GR | 785.900 | 181.900 | 786.300 | 187.800 | 786.800 | 193.600 | 787.100 | 199.500 | 787.500 | 205.400 |
| GR | 787.800 | 211.300 | 788.200 | 217.200 | 788.500 | 223.100 | 788.800 | 228.900 | 788.500 | 234.800 |
| GR | 788.300 | 240.700 | 788.000 | 246.600 | 787.800 | 252.500 | 788.100 | 258.400 | 788.500 | 264.200 |
| GR | 788.800 | 270.100 | 789.100 | 276.000 | 789.500 | 281.900 | 789.800 | 287.800 | 790.200 | 293.700 |
| GR | 790.500 | [illegible] | 790.900 | 303.400 | 791.200 | 311.300 | 791.900 | 317.200 | 792.600 | [illegible] |
| X1 | 2989.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .500 | 0.000 |
| X1 | 3056.000 | 90.000 | 123.000 | 140.500 | 67.000 | 67.000 | 67.000 | 0.000 | -.100 | 0.000 |
| GR | 793.400 | 0.000 | 793.100 | 4.200 | 792.800 | 8.400 | 792.600 | 12.700 | 792.300 | 16.900 |
| GR | 792.100 | 21.200 | 791.800 | 25.400 | 791.600 | 29.600 | 791.300 | 33.900 | 791.000 | 38.100 |
| GR | 790.700 | 42.400 | 790.400 | 46.600 | 790.100 | 50.800 | 789.800 | 55.100 | 789.600 | 59.300 |
| GR | 789.300 | 63.600 | 789.100 | 67.800 | 788.900 | 72.100 | 788.600 | 76.300 | 788.400 | 80.500 |
| GR | 788.100 | 84.800 | 787.900 | 89.000 | 787.700 | 93.300 | 787.400 | 97.500 | 787.200 | 101.700 |
| GR | 787.000 | 106.000 | 786.700 | 110.200 | 786.100 | 114.500 | 785.500 | 118.700 | 784.900 | 123.000 |
| GR | 784.400 | 123.900 | 783.900 | 124.100 | 783.500 | 124.700 | 783.000 | 125.300 | 782.600 | 125.900 |
| GR | 782.100 | 126.400 | 781.900 | 127.000 | 781.600 | 127.600 | 781.400 | 128.200 | 781.300 | 128.800 |
| GR | 781.200 | 129.400 | 781.100 | 129.900 | 781.000 | 130.500 | 781.000 | 131.100 | 780.900 | 131.700 |
| GR | 780.900 | 132.300 | 780.900 | 132.900 | 780.900 | 133.400 | 781.000 | 134.000 | 781.000 | 134.600 |
| GR | 781.100 | 135.200 | 781.100 | 135.800 | 781.500 | 136.400 | 782.000 | 136.900 | 782.500 | 137.500 |
| GR | 782.900 | 138.100 | 783.400 | 138.700 | 783.900 | 139.300 | 784.400 | 139.900 | 784.900 | 140.500 |
| GR | 785.200 | 147.200 | 785.600 | 153.900 | 785.900 | 160.600 | 786.300 | 167.400 | 786.700 | 174.100 |
| GR | 787.300 | 180.800 | 787.800 | 187.600 | 788.300 | 194.300 | 788.700 | 201.000 | 789.300 | 207.800 |
| GR | 789.500 | 214.500 | 789.900 | 221.200 | 790.300 | 228.000 | 790.500 | 234.700 | 790.200 | 241.400 |
| GR | 789.800 | 248.200 | 789.400 | 254.900 | 789.000 | 261.600 | 789.300 | 268.400 | 789.600 | 275.100 |
| GR | 789.900 | 281.800 | 790.200 | 288.600 | 790.600 | 295.300 | 790.900 | 302.000 | 791.200 | 308.800 |
| GR | 791.600 | 315.500 | 791.900 | 322.200 | 792.200 | 329.000 | 793.000 | 335.700 | 793.800 | 342.500 |
| X1 | 3123.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .500 | 0.000 |
| X1 | 3190.000 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .500 | 0.000 |
| X1 | 3189.000 | 90.000 | 117.200 | 134.300 | 33.000 | 33.000 | 33.000 | 0.000 | 0.000 | 0.000 |
| GR | 794.100 | 0.000 | 793.900 | 4.000 | 793.600 | 8.000 | 793.400 | 12.100 | 793.200 | 16.100 |
| GR | 792.900 | 20.200 | 792.700 | 24.200 | 792.400 | 28.300 | 792.100 | 32.300 | 791.900 | 36.300 |
| GR | 791.800 | 40.400 | 791.500 | 44.400 | 791.000 | 48.500 | 790.700 | 52.500 | 790.400 | 56.600 |
| GR | 790.200 | 60.600 | 789.900 | 64.600 | 789.700 | 68.700 | 789.400 | 72.700 | 789.200 | 76.800 |
| GR | 788.900 | 80.800 | 788.700 | 84.900 | 788.400 | 88.900 | 788.200 | 92.900 | 787.900 | 97.000 |
| GR | 787.700 | 101.000 | 787.400 | 105.100 | 786.800 | 109.100 | 786.300 | 113.200 | 785.800 | 117.200 |
| GR | 785.400 | 117.800 | 784.900 | 118.300 | 784.500 | 118.900 | 784.100 | 119.500 | 783.700 | 120.100 |
| GR | 783.200 | 120.600 | 782.900 | 121.200 | 782.700 | 121.800 | 782.400 | 122.300 | 782.300 | 122.900 |
| GR | 782.200 | 123.500 | 782.100 | 124.000 | 782.000 | 124.600 | 781.900 | 125.200 | 781.900 | 125.800 |
| GR | 781.800 | 126.300 | 781.800 | 126.900 | 781.800 | 127.500 | 781.900 | 128.000 | 781.900 | 128.600 |
| GR | 782.000 | 129.200 | 782.000 | 129.800 | 782.400 | 130.300 | 782.900 | 130.900 | 783.400 | 131.500 |
| GR | 783.900 | 132.000 | 784.400 | 132.600 | 784.900 | 133.200 | 785.400 | 133.800 | 786.000 | 134.300 |
| GR | 786.300 | 141.900 | 786.700 | 149.500 | 787.100 | 157.100 | 787.500 | 164.700 | 788.000 | 172.200 |
| GR | 789.600 | 179.800 | 789.200 | 187.400 | 789.800 | 195.000 | 790.300 | 202.600 | 790.700 | 210.200 |
| GR | 791.200 | 217.700 | 791.600 | 225.300 | 792.100 | 232.900 | 792.500 | 240.500 | 791.800 | 248.100 |
| GR | 791.300 | 255.700 | 790.700 | 263.200 | 790.200 | 270.800 | 790.400 | 278.400 | 790.700 | 286.000 |
| GR | 791.000 | 293.600 | 791.300 | 301.200 | 791.700 | 308.700 | 792.000 | 316.300 | 792.300 | 323.900 |
| GR | 792.600 | 331.500 | 792.900 | 339.100 | 793.200 | 346.700 | 794.100 | 354.200 | 795.000 | 361.800 |
| X1 | 3256.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .500 | 0.000 |
| X1 | 3323.000 | 90.000 | 111.500 | 128.200 | 67.000 | 67.000 | 67.000 | 0.000 | 0.000 | 0.000 |
| GR | 794.900 | 0.000 | 794.700 | 3.800 | 794.400 | 7.600 | 794.200 | 11.500 | 794.000 | 15.300 |
| GR | 793.700 | 19.200 | 793.500 | 23.000 | 793.300 | 26.900 | 793.000 | 30.700 | 792.700 | 34.600 |

FORM 1411.08-PRINTED BY ROTARY MANIFOLD FORMS
PRINTED IN U.S.A.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 791.000 | [illegible] | [illegible] | [illegible] | [illegible] | 65.300 | 790.200 | 69.200 | 790.000 | 73.000 |
| GR | 789.700 | 76.800 | 789.400 | 80.700 | 789.200 | 84.500 | 788.900 | 88.400 | 788.600 | 92.200 |
| GR | 788.400 | 96.100 | 788.100 | 99.900 | 787.600 | 103.800 | 787.200 | 107.600 | 786.800 | 111.500 |
| GR | 786.300 | 112.000 | 785.900 | 112.600 | 785.500 | 113.100 | 785.100 | 113.700 | 784.700 | 114.200 |
| GR | 784.300 | 114.800 | 784.000 | 115.400 | 783.700 | 115.900 | 783.400 | 116.500 | 783.200 | 117.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 119.300 | 782.800 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 120.900 | 782.700 | 121.500 | 782.600 | 122.100 | 782.800 | [illegible] |
| GR | 782.700 | [illegible] | 782.900 | 123.700 | 783.300 | 124.300 | 783.800 | 124.800 | 784.300 | 125.400 |
| GR | 784.900 | 126.000 | 785.400 | 126.500 | 785.900 | 127.100 | 786.500 | 127.600 | 787.000 | 128.200 |
| GR | 787.400 | 136.600 | 787.800 | 145.100 | 788.300 | 153.500 | 788.700 | 161.900 | 789.300 | 170.400 |
| GR | 790.000 | 178.800 | 790.600 | 187.200 | 791.300 | 195.700 | 791.800 | 204.100 | 792.300 | 212.500 |
| GR | 792.800 | [illegible] | 793.300 | [illegible] | 793.800 | 237.800 | 794.100 | 246.300 | 793.400 | 254.700 |
| GR | 792.900 | [illegible] | 792.100 | 271.600 | 791.400 | 280.000 | 791.600 | 288.400 | 791.900 | 296.900 |
| GR | 792.200 | [illegible] | 792.500 | 313.700 | 792.700 | 322.200 | 793.000 | 330.600 | 793.300 | [illegible] |
| GR | 793.600 | 347.500 | 793.900 | 355.900 | 794.200 | 364.300 | 795.200 | 372.800 | 796.200 | 381.200 |
| X1 | 3390.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .500 | [illegible] |
| X1 | 3423.000 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .200 | 0.000 |
| X1 | 3456.000 | [illegible] | 105.700 | 122.100 | 33.000 | 33.000 | 33.000 | 0.000 | 0.000 | [illegible] |
| GR | 795.700 | 0.000 | 795.500 | 3.600 | 795.200 | 7.200 | 795.000 | 10.900 | 794.800 | [illegible] |
| GR | 794.600 | [illegible] | 794.400 | 21.800 | 794.100 | 25.500 | 793.900 | 29.100 | 793.600 | [illegible] |
| GR | 793.300 | 36.400 | 793.000 | 40.100 | 792.700 | 43.700 | 792.400 | 47.400 | 792.100 | 51.000 |
| GR | 791.900 | 54.600 | 791.600 | 58.300 | 791.300 | 61.900 | 791.000 | 65.600 | 790.800 | 69.200 |
| GR | 790.500 | 72.900 | 790.200 | 76.500 | 789.900 | 80.200 | 789.600 | 83.800 | 789.400 | 87.500 |
| GR | 789.100 | [illegible] | 788.800 | 94.800 | 788.400 | 98.400 | 788.100 | 102.100 | 787.700 | [illegible] |
| GR | 787.300 | [illegible] | 786.900 | 106.800 | 786.500 | 107.300 | 786.200 | 107.900 | 785.800 | [illegible] |
| GR | 785.400 | 109.000 | 785.000 | 109.500 | 784.700 | 110.100 | 784.400 | 110.600 | 784.200 | [illegible] |
| GR | 784.100 | 111.700 | 784.000 | 112.200 | 783.900 | 112.800 | 783.800 | 113.300 | 783.700 | 113.900 |
| GR | 783.600 | 114.400 | 783.600 | 115.000 | 783.600 | 115.500 | 783.700 | 116.100 | 783.700 | 116.600 |
| GR | 783.800 | 117.200 | 783.800 | 117.700 | 784.200 | 118.300 | 784.700 | 118.800 | 785.300 | 119.300 |
| GR | 785.800 | 119.900 | 786.400 | 120.400 | 787.000 | 121.000 | 787.500 | 121.500 | 788.100 | [illegible] |
| GR | 788.500 | 131.400 | 789.000 | 140.600 | 789.400 | 149.900 | 789.900 | 159.200 | 790.600 | [illegible] |
| GR | 791.300 | 177.800 | 792.100 | 187.100 | 792.800 | 196.300 | 793.400 | 205.600 | 794.000 | [illegible] |
| GR | 794.500 | 224.200 | 795.000 | 233.500 | 795.600 | 242.500 | 795.900 | 252.000 | 795.100 | 261.300 |
| GR | 794.200 | 270.600 | 793.400 | 279.900 | 792.600 | 289.200 | 792.700 | 298.500 | 793.000 | 307.700 |
| GR | 793.300 | 317.000 | 793.600 | 326.300 | 793.600 | 335.600 | 794.100 | 344.900 | 794.400 | 354.200 |
| GR | 794.700 | 363.400 | 795.000 | 372.700 | 795.200 | 382.000 | 796.300 | 391.300 | 797.600 | [illegible] |
| X1 | 3523.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .500 | 0.000 |
| X1 | 3556.000 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .200 | [illegible] |

VALLEY SECTION NO. 3 SECT. J

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 3590.000 | 13.000 | 100.000 | 110.000 | 34.000 | 34.000 | 34.000 | 0.000 | 0.000 | 0.000 |
| GR | 796.500 | 0.000 | 795.000 | 25.000 | 788.700 | 100.000 | 785.300 | 105.000 | 784.500 | 109.000 |
| GR | 784.800 | 112.000 | 789.200 | 116.000 | 791.200 | 158.000 | 794.600 | 200.000 | 797.900 | 256.000 |
| GR | 793.700 | 300.000 | 796.300 | 400.000 | 798.600 | 420.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 3827.000 | 0.000 | 0.000 | 0.000 | 237.000 | 237.000 | 237.000 | 0.000 | 1.600 | 0.000 |
| X1 | 4064.000 | 17.000 | 398.500 | 406.500 | 237.000 | 237.000 | 237.000 | 0.000 | 0.000 | 0.000 |
| GR | 803.200 | 0.000 | 799.000 | 100.000 | 796.400 | 200.000 | 795.700 | 300.000 | 795.700 | 342.000 |
| GR | 788.900 | 398.500 | 788.200 | 399.000 | 787.900 | 400.000 | 787.700 | 404.000 | 787.900 | 406.000 |
| GR | 788.600 | 406.500 | 795.200 | 450.000 | 794.000 | 500.000 | 795.700 | 600.000 | 797.000 | 700.000 |

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .036 | .036 | .035 | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| OT | 4.000 | 399.000 | 695.000 | [illegible] | 1220.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

D/S FACE UNDERGROUND PIPE #2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4065.000 | 12.000 | 0.000 | 878.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 314.000 | 0.000 | 562.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 803.200 | 0.000 | 799.000 | 100.000 | 796.400 | 200.000 | 795.700 | 300.000 | 795.600 | 398.500 |
| GR | 795.600 | 406.000 | 794.900 | 500.000 | 795.700 | 600.000 | 797.000 | 700.000 | 798.900 | 800.000 |
| GR | 803.000 | 878.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

BRIDGE SECTION NO. 3-A SECT. K

U/S FACE UNDERGROUND PIPE #2

194' OF 36" CONCRETE PIPE (2)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4259.000 | 0.000 | 0.000 | 0.000 | 194.000 | 194.000 | 194.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 364.000 | 0.000 | 515.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| OT | 4.000 | 515.000 | 515.000 | 515.000 | 515.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4268.000 | 12.000 | 310.000 | 420.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 289.000 | 0.000 | 440.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 803.200 | 0.000 | 799.000 | 100.000 | 796.400 | 200.000 | 795.600 | 310.000 | 789.200 | 355.000 |
| GR | 789.200 | 406.000 | 794.200 | 420.000 | 794.900 | 500.000 | 795.700 | 600.000 | 797.000 | 700.000 |
| GR | 798.900 | 800.000 | 803.000 | 878.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4418.000 | 14.000 | 238.000 | 325.000 | 158.000 | 158.000 | 158.000 | 0.000 | 0.000 | 0.000 |
| GR | 806.600 | 0.000 | 803.500 | 100.000 | 802.000 | 200.000 | 801.600 | 238.000 | 789.500 | 270.000 |
| GR | 789.300 | 312.000 | 799.200 | 325.000 | 799.700 | 400.000 | 800.300 | 500.000 | 803.500 | 562.000 |
| GR | 803.500 | 600.000 | 803.000 | 700.000 | 802.800 | 765.000 | 807.900 | 825.000 | 0.000 | 0.000 |
| OT | 4.000 | 603.000 | 694.000 | 823.000 | 1214.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

U/S FACE UNDERGROUND PIPE #3

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4419.000 | 12.000 | 0.000 | 825.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 806.000 | 0.000 | 803.500 | 100.000 | 802.000 | 200.000 | 800.300 | 298.500 | 800.300 | 305.500 |
| GR | 799.700 | 400.000 | 800.300 | 500.000 | 803.500 | 562.000 | 803.500 | 600.000 | 803.000 | 700.000 |
| GR | 802.800 | 765.000 | 807.900 | 825.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EY | 0.000 | 6.100 | 6.100 | 6.100 | 8.100 | 334.000 | 490.000 | 301.000 | 523.000 | 0.000 |

BRIDGE SECTION NO. 4 SECT. L

U/S FACE UNDERGROUND PIPE #3

362' OF 36" CONCRETE PIPE (2)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4781.000 | 0.000 | 0.000 | 0.000 | 362.000 | 362.000 | 362.000 | 0.000 | 0.000 | 0.000 |
| NC | .041 | .041 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EY | 0.000 | 6.100 | 6.100 | 6.100 | 8.100 | 34.000 | 190.000 | 1.000 | 223.000 | 0.000 |
| OT | 4.000 | 515.000 | 805.000 | 935.000 | 1325.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4782.000 | 10.000 | 100.000 | 123.000 | 1.000 | 1.000 | 1.000 | 0.000 | -3.700 | 0.000 |
| GR | 805.000 | 0.000 | 805.100 | 71.000 | 800.300 | 100.000 | 795.000 | 110.000 | 794.800 | 118.000 |
| GR | 795.000 | 118.000 | 798.900 | 123.000 | 802.200 | 200.000 | 805.200 | 300.000 | 807.500 | 400.000 |
| EY | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 90.000 | 137.000 | 0.000 | 0.000 | 0.000 |

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TARGET SECTION NO. 3 SECT. N

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5000.000 | 10.000 | 100.000 | 123.000 | 218.000 | 218.000 | 218.000 | 0.000 | 0.000 | 0.000 |
| GR | 805.800 | 0.000 | 805.100 | 71.000 | 800.300 | 100.000 | 795.000 | 110.000 | 794.800 | 114.000 |
| GR | 795.000 | 118.000 | 798.900 | 123.000 | 802.200 | 200.000 | 805.200 | 300.000 | 807.500 | 400.000 |
| NC | .045 | .045 | .041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 97.000 | 128.000 | 0.000 | 0.000 | 0.000 |
| X1 | 5031.000 | 0.000 | 0.000 | 0.000 | 31.000 | 31.000 | 31.000 | 0.000 | .600 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 100.000 | 123.000 | 0.000 | 0.000 | 0.000 |
| X1 | 5046.000 | 0.000 | 0.000 | 0.000 | 15.000 | 15.000 | 15.000 | 0.000 | .300 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 102.000 | 121.000 | 0.000 | 0.000 | 0.000 |
| X1 | 5054.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | .200 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 308.400 | 323.600 | 0.000 | 0.000 | 0.000 |
| X1 | 5062.000 | 20.000 | 308.600 | 323.400 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| GR | 811.400 | 0.000 | 808.100 | 16.000 | 806.100 | 116.000 | 806.700 | 216.000 | 806.600 | 255.000 |
| GR | 798.600 | 308.600 | 797.600 | 308.800 | 796.800 | 310.000 | 796.300 | 312.000 | 796.100 | 315.000 |
| GR | 796.100 | 317.000 | 796.300 | 320.000 | 796.800 | 322.000 | 797.600 | 323.200 | 798.600 | [illegible] |
| GR | 805.700 | 377.000 | 805.300 | 416.000 | 804.700 | 516.000 | 805.800 | 616.000 | 808.100 | [illegible] |
| NC | .040 | .040 | .032 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 308.400 | 323.600 | 0.000 | 0.000 | 0.000 |
| X1 | 5063.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | [illegible] |
| SB | 0.000 | 2.240 | 5.100 | 0.000 | 12.200 | 0.000 | 110.000 | 0.000 | 796.500 | [illegible] |

BRIDGE SECTION NO. 6 LIVERNOIS ROAD SECT. N

14"10" X 9"1" MULTI-PLATE ARCH

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5137.000 | 20.000 | 308.600 | 323.400 | 74.000 | 74.000 | 74.000 | 0.000 | 0.000 | [illegible] |
| X2 | 0.000 | 0.000 | 1.000 | 805.500 | 805.550 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 804.000 | 804.000 | 0.000 |
| BT | 20.000 | 0.000 | 811.400 | 0.000 | 16.000 | 808.100 | 0.000 | 116.000 | 806.100 | 0.000 |
| BT | 216.000 | 806.700 | 0.000 | 283.000 | 506.600 | 0.000 | 308.600 | 806.000 | 799.000 | [illegible] |
| BT | 806.600 | 860.000 | 310.000 | 806.600 | 802.500 | 312.000 | 806.600 | 804.500 | 315.000 | [illegible] |
| BT | 865.500 | 317.000 | 806.600 | 805.500 | 320.000 | 806.600 | 804.500 | 322.000 | 806.600 | [illegible] |
| BT | 323.200 | 800.600 | 800.000 | 323.400 | 806.600 | 799.000 | 349.000 | 806.200 | 0.000 | 416.000 |
| BT | 805.300 | 0.000 | 516.000 | 804.700 | 0.000 | 616.000 | 805.800 | 0.000 | 687.000 | 808.100 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 811.400 | 0.000 | 808.100 | 16.000 | 806.100 | 116.000 | 806.700 | 216.000 | 806.600 | [illegible] |
| GR | 799.000 | 308.600 | 798.000 | 308.800 | 797.200 | 310.000 | 796.700 | 312.000 | 796.500 | [illegible] |
| GR | 796.500 | 317.000 | 796.700 | 320.000 | 797.200 | 322.000 | 798.000 | 323.200 | 799.000 | 323.400 |
| GR | 806.000 | 361.000 | 805.300 | 416.000 | 804.700 | 516.000 | 805.800 | 616.000 | 808.100 | 687.000 |
| NC | .065 | .065 | .046 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

"N" VALUE HIGHER IN CHANNEL TO ACCOUNT FOR SEVERE BEND LOSS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5130.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 804.000 | 804.000 | 0.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 103.000 | 122.000 | 0.000 | 0.000 | 0.000 |
| X1 | 5140.000 | 10.000 | 100.000 | 123.000 | 2.000 | 2.000 | 2.000 | 0.000 | 1.700 | [illegible] |
| GR | 805.800 | 0.000 | 805.100 | 71.000 | 800.300 | 100.000 | 795.000 | 110.000 | 794.800 | 114.000 |
| GR | 795.000 | 118.000 | 798.900 | 123.000 | 802.200 | 200.000 | 805.200 | 300.000 | 807.500 | 400.000 |
| ET | 0.000 | 6.100 | 6.100 | 6.100 | 0.000 | 82.000 | 195.000 | 0.000 | 0.000 | 0.000 |

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5187.000 | 0.000 | 0.000 | 0.000 | 47.000 | 47.000 | 47.000 | 0.000 | .200 | 0.000 |
| NC | .065 | .065 | .041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 150 SECT. 0

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5580.000 | 11.000 | 176.000 | 214.000 | 450.000 | 300.000 | 393.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.600 | 0.000 | 801.400 | 40.000 | 801.400 | 152.000 | 802.100 | 170.000 | 801.700 | 174.000 |
| GR | 799.600 | 183.000 | 798.800 | 186.000 | 798.700 | 194.000 | 802.000 | 198.000 | 804.400 | 214.000 |
| GR | 809.100 | 242.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 0 SECT. 0

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 5930.000 | 13.000 | 226.000 | 239.000 | 200.000 | 400.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 181.000 | 0.000 | 326.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 807.600 | 0.000 | 804.200 | 101.000 | 804.400 | 133.600 | 803.200 | 183.000 | 803.000 | 224.000 |
| GR | 801.400 | 230.000 | 801.100 | 233.000 | 801.300 | 236.000 | 802.800 | 239.000 | 804.000 | 243.000 |
| GR | 804.300 | 333.000 | 806.400 | 383.000 | 807.800 | 433.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 75 SECT. 0

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6005.000 | 13.000 | 85.000 | 105.000 | 75.000 | 75.000 | 75.000 | 0.000 | 0.000 | 0.000 |
| GR | 808.000 | 0.000 | 806.200 | 25.000 | 805.200 | 35.000 | 804.200 | 44.000 | 803.600 | 85.000 |
| GR | 801.600 | 89.000 | 801.600 | 97.000 | 803.600 | 99.000 | 804.200 | 105.000 | 803.300 | 133.000 |
| GR | 804.200 | 153.000 | 805.500 | 168.000 | 808.000 | 200.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6040.000 | 90.000 | 133.500 | 132.500 | 35.000 | 35.000 | 35.000 | 0.000 | .100 | 0.000 |
| GR | 808.500 | 0.000 | 808.400 | 3.800 | 808.200 | 7.600 | 808.000 | 11.500 | 807.800 | 15.300 |
| GR | 807.600 | 19.200 | 807.400 | 23.000 | 807.200 | 26.900 | 807.000 | 30.700 | 806.700 | 34.600 |
| GR | 806.400 | 38.400 | 806.000 | 42.200 | 805.700 | 46.100 | 805.400 | 49.900 | 805.000 | 53.800 |
| GR | 804.700 | 57.600 | 804.600 | 61.500 | 804.400 | 65.300 | 804.300 | 69.200 | 804.300 | 73.000 |
| GR | 804.400 | 76.900 | 804.300 | 80.700 | 804.300 | 84.500 | 804.200 | 88.400 | 804.200 | 92.200 |
| GR | 804.100 | 96.100 | 804.100 | 99.900 | 804.000 | 103.800 | 804.000 | 107.600 | 804.000 | 111.500 |
| GR | 803.600 | 112.100 | 803.200 | 112.800 | 802.900 | 113.500 | 802.500 | 114.200 | 802.200 | 114.900 |
| GR | 801.800 | 115.600 | 801.800 | 116.300 | 801.800 | 117.000 | 801.800 | 117.700 | 801.800 | 118.400 |
| GR | 801.800 | 119.100 | 801.800 | 119.800 | 801.900 | 120.500 | 802.000 | 121.200 | 802.000 | 121.900 |
| GR | 802.100 | 122.600 | 802.200 | 123.300 | 802.200 | 124.000 | 802.300 | 124.700 | 802.400 | 125.400 |
| GR | 804.000 | 126.100 | 804.000 | 126.800 | 804.100 | 127.500 | 804.200 | 128.200 | 804.300 | 128.900 |
| GR | 804.300 | 129.600 | 804.400 | 130.300 | 804.500 | 131.000 | 804.600 | 131.700 | 804.600 | 132.400 |
| GR | 804.600 | 136.400 | 804.500 | 140.300 | 804.500 | 144.200 | 804.400 | 148.100 | 804.400 | 152.000 |
| GR | 804.300 | 155.900 | 804.300 | 159.900 | 804.300 | 163.800 | 804.300 | 167.700 | 804.400 | 171.600 |
| GR | 804.600 | 175.500 | 804.800 | 179.400 | 805.000 | 183.400 | 805.200 | 187.300 | 805.400 | 191.200 |
| GR | 805.600 | 195.100 | 805.900 | 199.000 | 806.200 | 202.900 | 806.500 | 206.900 | 806.800 | 210.800 |
| GR | 807.000 | 214.700 | 807.300 | 218.600 | 807.400 | 222.500 | 807.500 | 226.400 | 807.600 | 230.400 |
| GR | 807.800 | 234.300 | 807.900 | 238.200 | 808.000 | 242.100 | 808.100 | 246.000 | 808.200 | 250.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6075.000 | 90.000 | 138.000 | 160.000 | 35.000 | 35.000 | 35.000 | 0.000 | 0.000 | 0.000 |
| GR | 809.200 | 0.000 | 809.000 | 4.700 | 808.800 | 9.500 | 808.600 | 14.200 | 808.500 | 19.000 |
| GR | 808.300 | 23.700 | 808.100 | 28.500 | 807.900 | 33.300 | 807.700 | 38.000 | 807.400 | 42.800 |
| GR | 807.000 | 47.500 | 806.700 | 52.300 | 806.300 | 57.100 | 806.000 | 61.800 | 805.600 | 66.600 |
| GR | 805.200 | 71.300 | 805.100 | 76.100 | 805.100 | 80.800 | 805.000 | 85.600 | 804.900 | 90.400 |
| GR | 804.900 | 95.100 | 804.800 | 99.900 | 804.700 | 104.600 | 804.700 | 109.400 | 804.600 | 114.200 |
| GR | 804.600 | 118.900 | 804.500 | 123.700 | 804.500 | 128.400 | 804.400 | 133.200 | 804.400 | 138.000 |
| GR | 804.000 | 138.700 | 803.600 | 139.400 | 803.200 | 140.100 | 802.900 | 140.900 | 802.500 | 141.600 |
| GR | 802.100 | 142.300 | 802.100 | 143.100 | 802.100 | 143.800 | 802.100 | 144.500 | 802.100 | 145.300 |
| GR | 802.100 | 146.000 | 802.100 | 146.700 | 802.300 | 147.500 | 802.400 | 148.200 | 802.500 | 148.900 |
| GR | 802.700 | 149.700 | 802.800 | 150.400 | 802.900 | 151.100 | 803.400 | 151.900 | 803.900 | 152.600 |
| GR | 804.400 | 153.300 | 804.500 | 154.100 | 804.500 | 154.800 | 804.600 | 155.500 | 804.700 | 156.300 |
| GR | 804.800 | 157.000 | 804.900 | 157.700 | 804.900 | 158.500 | 805.000 | 159.200 | 805.100 | 160.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 805.100 | 187.000 | 805.200 | 192.[illegible] | 805.200 | 197.300 | 805.300 | 201.900 | 805.400 | 206.600 |
| GR | 805.600 | 211.300 | 805.900 | 215.900 | 806.100 | 220.600 | 806.400 | 225.300 | 806.600 | 229.900 |
| GR | 806.900 | 234.600 | 807.200 | 239.300 | 807.500 | 243.900 | 807.800 | 248.600 | 808.100 | 253.300 |
| GR | 808.300 | 257.900 | 808.600 | 262.600 | 808.600 | 267.300 | 808.600 | 271.900 | 808.600 | 276.600 |
| GR | 808.500 | 281.300 | 808.500 | 285.900 | 808.500 | 290.600 | 808.500 | 295.300 | 808.500 | 300.000 |
| X1 | 6110.000 | [illegible] | [illegible] | [illegible] | 35.000 | 35.000 | 35.000 | 0.000 | .100 | 0.000 |
| GR | 809.800 | 0.000 | 809.700 | 5.600 | 809.500 | 11.300 | 809.300 | 17.000 | 809.100 | 22.800 |
| GR | 809.000 | 28.300 | 808.800 | 34.000 | 808.600 | 39.700 | 808.400 | 45.300 | 808.000 | 51.000 |
| GR | 807.700 | 56.700 | 807.300 | 62.300 | 806.900 | 68.000 | 806.500 | 73.700 | 806.200 | 79.400 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 96.400 | 805.500 | 102.100 | 805.400 | [illegible] |
| GR | 805.300 | [illegible] | 805.300 | 119.100 | 805.200 | 124.700 | 805.100 | 130.400 | 805.000 | 136.100 |
| GR | 805.000 | [illegible] | 804.900 | 147.400 | 804.900 | 153.100 | 804.800 | 158.800 | 804.800 | 164.500 |
| GR | 804.400 | 165.200 | 804.000 | 166.000 | 803.600 | 166.700 | 803.200 | 167.500 | 802.800 | 168.300 |
| GR | 802.400 | 169.000 | 802.300 | 169.800 | 802.300 | 170.600 | 802.300 | 171.300 | 802.300 | 172.100 |
| GR | 802.300 | 172.900 | 802.400 | 173.600 | 802.600 | 174.400 | 802.800 | 175.200 | 803.000 | 175.900 |
| GR | 803.200 | [illegible] | 803.400 | 177.500 | 803.600 | 178.200 | 804.000 | 179.000 | 804.400 | [illegible] |
| GR | 804.800 | [illegible] | 804.900 | 181.300 | 805.000 | 182.100 | 805.100 | 182.800 | 805.100 | [illegible] |
| GR | 805.200 | [illegible] | 805.300 | 185.100 | 805.400 | 185.900 | 805.500 | 186.700 | 805.600 | [illegible] |
| GR | 805.600 | 192.900 | 805.700 | 198.300 | 805.700 | 203.700 | 805.800 | 209.100 | 805.800 | 214.500 |
| GR | 805.900 | 219.900 | 806.000 | 225.400 | 806.100 | 230.800 | 806.300 | 236.200 | 806.400 | 241.600 |
| GR | 806.700 | 247.000 | 807.000 | 252.400 | 807.200 | 257.900 | 807.500 | 263.300 | 807.800 | 268.700 |
| GR | 808.100 | [illegible] | 808.400 | 279.500 | 808.700 | 284.900 | 809.000 | 290.400 | 809.400 | [illegible] |
| GR | 809.700 | [illegible] | 809.900 | 306.600 | 809.800 | 312.000 | 809.600 | 317.400 | 809.500 | [illegible] |
| GR | 809.300 | [illegible] | 809.200 | 333.700 | 809.100 | 339.100 | 808.900 | 344.500 | 808.800 | [illegible] |

VALLEY SECTION NO. 215 SECT. R

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6145.000 | 15.000 | 191.000 | 215.000 | 35.000 | 35.000 | 35.000 | 0.000 | 0.000 | [illegible] |
| GR | 810.500 | 0.000 | 809.300 | 50.000 | 808.300 | 100.000 | 805.600 | 150.000 | 805.200 | [illegible] |
| GR | 802.600 | 196.000 | 802.600 | 200.000 | 804.200 | 205.000 | 805.300 | 208.000 | 806.100 | 215.000 |
| GR | 806.600 | 248.000 | 807.600 | 280.000 | 808.700 | 300.000 | 811.300 | 350.000 | 809.100 | 400.000 |
| NC | .070 | .058 | .040 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 690 SECT. S

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6620.000 | 16.000 | 190.000 | 204.000 | 550.000 | 400.000 | 475.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 141.000 | 0.000 | 254.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 816.[illegible] | 0.000 | 813.400 | 50.000 | 811.800 | 100.000 | 810.300 | 150.000 | 810.200 | [illegible] |
| GR | 807.100 | 197.000 | 805.700 | 199.000 | 805.700 | 201.000 | 806.300 | 202.000 | 808.400 | [illegible] |
| GR | 809.600 | 252.000 | 809.600 | 255.000 | 810.600 | 270.000 | 811.700 | 300.000 | 811.400 | [illegible] |
| GR | 811.400 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 6660.000 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | .300 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 151.000 | 0.000 | 244.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| X1 | 6700.000 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 1o1.000 | 0.000 | 234.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 850 SECT. T

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6780.000 | 15.000 | 185.000 | 205.000 | 50.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| X3 | .000 | 0.000 | 0.000 | 179.000 | 0.000 | 212.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 813.100 | 0.000 | 810.800 | 50.000 | 810.900 | 100.000 | 811.200 | 150.000 | 810.300 | [illegible] |
| GR | 810.200 | 189.000 | 807.300 | 197.000 | 806.900 | 200.000 | 807.200 | 202.000 | 808.200 | [illegible] |
| GR | 808.500 | [illegible] | 808.900 | 228.000 | 809.500 | 250.000 | 810.400 | 300.000 | 813.900 | [illegible] |
| GR | 813.700 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .040 | .040 | .031 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6786.000 | [illegible] | [illegible] | | 6.000 | 6.000 | [illegible] | 1.500 | .100 | [illegible] |
| X3 | 10.000 | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 813.900 | 813.900 | 0.000 |
| SB | 0.000 | 1.840 | 3.100 | 0.000 | 30.000 | 0.000 | 168.000 | 0.000 | 807.800 | 807.000 |

VALLEY SECTION NO. 850 PRIVATE BRIDGE SECT. U

30' x 5.4' BOX CULVERT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6824.000 | 6.000 | 185.000 | 215.000 | 38.000 | 38.000 | 38.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 812.600 | 814.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 814.000 | 814.000 | [illegible] |
| BT | 4.000 | [illegible] | 813.900 | 0.000 | 150.000 | 813.900 | 0.000 | 185.000 | 813.900 | [illegible] |
| BT | 215.000 | [illegible] | [illegible] | 250.000 | 813.900 | 0.000 | 400.000 | 813.900 | 0.000 | [illegible] |
| GR | 813.900 | 0.000 | 813.900 | 150.000 | 807.000 | 185.000 | 807.000 | 215.000 | 813.900 | 250.000 |
| GR | 813.900 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .100 | .070 | .041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 6825.000 | [illegible] | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | [illegible] |
| QT | 4.000 | 390.000 | 615.000 | 710.000 | 1015.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 900 SECT. V

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6830.000 | [illegible] | 189.000 | 205.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 176.000 | 0.000 | 213.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 813.200 | 0.000 | 811.200 | 50.000 | 811.300 | 100.000 | 811.600 | 150.000 | 810.700 | 185.000 |
| GR | 810.600 | 189.000 | 807.700 | 197.000 | 807.300 | 200.000 | 807.600 | 202.000 | 808.600 | 205.000 |
| GR | 808.900 | 215.000 | 809.300 | 225.000 | 809.900 | 250.000 | 810.800 | 300.000 | 814.300 | [illegible] |
| GR | 814.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| NC | .085 | .085 | .041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 1190 SECT. W

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 7120.000 | 12.000 | 184.000 | 206.000 | 290.000 | 290.000 | 290.000 | 0.000 | 0.000 | [illegible] |
| GR | 814.700 | 0.000 | 814.000 | 50.000 | 813.900 | 100.000 | 813.100 | 150.000 | 812.600 | [illegible] |
| GR | 810.800 | 190.000 | 808.800 | 195.000 | 809.000 | 204.000 | 811.600 | 208.000 | 812.000 | 275.000 |
| GR | 813.500 | 300.000 | 814.700 | 350.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 7370.000 | 0.000 | 0.000 | 0.000 | 150.000 | 475.000 | 250.000 | 0.000 | .600 | [illegible] |

VALLEY SECTION NO. 1690 SECT. X

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 7620.000 | 13.000 | 195.000 | 207.000 | 150.000 | 475.000 | 250.000 | 0.000 | 0.000 | [illegible] |
| GR | 810.600 | 0.000 | 810.200 | 50.000 | 810.600 | 100.000 | 815.000 | 150.000 | 813.300 | [illegible] |
| GR | 811.600 | 197.000 | 810.000 | 200.000 | 811.500 | 204.000 | 813.700 | 207.000 | 812.500 | [illegible] |
| GR | 814.200 | 300.000 | 814.600 | 350.000 | 818.500 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 7720.000 | 0.000 | 0.000 | 0.000 | 120.000 | 80.000 | 100.000 | 0.000 | .800 | 0.000 |
| X1 | 7820.000 | 0.000 | 0.000 | 0.000 | 120.000 | 80.000 | 100.000 | 0.000 | .800 | 0.000 |
| X1 | [illegible] | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .500 | 0.000 |
| NC | .000 | .000 | .043 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 2190 SECT. Y

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 820.700 | [illegible] | [illegible] | [illegible] | [illegible] | 100.000 | 816.900 | 145.000 | 814.700 | 147.000 |
| GR | 814.100 | 150.000 | [illegible] | [illegible] | [illegible] | 155.000 | 817.900 | 200.000 | 819.000 | 250.000 |
| GR | 819.400 | 300.000 | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| X1 | 8262.000 | 0.000 | 0.000 | 0.000 | 71.000 | 71.000 | 71.000 | 0.000 | .700 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 55.000 | 0.000 | 228.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8333.000 | [illegible] | [illegible] | [illegible] | 71.000 | 71.000 | 71.000 | 0.000 | .600 | [illegible] |
| X3 | 0.000 | [illegible] | [illegible] | [illegible] | 0.000 | 220.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| X1 | 8353.000 | 0.000 | 0.000 | 0.000 | 20.000 | 20.000 | 20.000 | 0.000 | .200 | 0.000 |
| X3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 214.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| X1 | 8373.000 | 0.000 | 0.000 | 0.000 | 20.000 | 20.000 | 20.000 | 0.000 | .200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 93.000 | 0.000 | 210.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8392.000 | [illegible] | [illegible] | 326.000 | 9.000 | 9.000 | 9.000 | 0.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 822.500 | 200.000 | 822.200 | 250.000 | [illegible] | [illegible] |
| GR | 816.600 | 304.200 | 820.600 | 304.200 | 820.600 | 304.500 | 816.600 | 304.500 | 816.600 | 308.100 |
| GR | 820.600 | 308.100 | 820.600 | 308.400 | 816.600 | 308.400 | 816.600 | 312.900 | 820.600 | 312.900 |
| GR | 820.600 | 313.500 | 816.500 | 313.500 | 816.500 | 317.800 | 820.500 | 317.800 | 820.500 | 318.100 |
| GR | [illegible] | [illegible] | [illegible] | 321.500 | 828.500 | 321.500 | 820.500 | 321.800 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 376.000 | 822.800 | 400.000 | 823.700 | 500.000 | 824.200 | [illegible] |
| GR | 824.700 | [illegible] | [illegible] | 800.000 | 825.400 | 900.000 | 828.100 | 933.000 | 0.000 | [illegible] |
| NC | .055 | .055 | .020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8383.000 | [illegible] | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | [illegible] |
| SB | 0.000 | [illegible] | 3.030 | 0.000 | 24.200 | 0.000 | 99.200 | 0.000 | 816.500 | [illegible] |

BRIDGE SECTION NO. 7 SHAGBARK DRIVE SECT. Z

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| X1 | 8416.000 | [illegible] | [illegible] | 326.000 | 35.000 | 35.000 | 35.000 | 0.000 | 0.000 | [illegible] |
| X2 | 0.000 | 1.000 | 820.600 | 821.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 262.000 | 0.000 | 366.000 | 0.000 | 821.800 | 821.800 | 0.000 |
| BT | 6.000 | 262.000 | 822.100 | 0.000 | 300.000 | 821.800 | 820.600 | 312.900 | 821.800 | 820.600 |
| BT | [illegible] | [illegible] | [illegible] | 326.000 | 821.800 | 820.500 | 366.000 | 822.300 | 0.000 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 100.000 | 822.500 | 200.000 | 822.200 | 250.000 | 816.600 | [illegible] |
| GR | 816.600 | [illegible] | 820.600 | 304.200 | 820.600 | 304.500 | 816.600 | 304.500 | 816.600 | [illegible] |
| GR | 820.600 | 308.100 | 820.600 | 308.400 | 816.600 | 308.400 | 816.600 | 312.900 | 820.600 | 312.900 |
| GR | 820.600 | 313.500 | 816.500 | 313.500 | 816.500 | 317.800 | 820.500 | 317.800 | 820.500 | 318.100 |
| GR | 816.500 | 318.100 | 816.500 | 321.500 | 820.500 | 321.500 | 820.500 | 321.500 | 816.500 | 321.800 |
| GR | 816.500 | [illegible] | 822.500 | 376.000 | 822.800 | 400.000 | 823.700 | 500.000 | 824.200 | [illegible] |
| GR | 824.700 | 700.000 | 824.900 | 800.000 | 825.400 | 900.000 | 828.100 | 933.000 | 0.000 | 0.000 |
| NC | .035 | .035 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8419.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 262.000 | 0.000 | 366.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 8 SECT. AA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 8500.000 | 0.000 | 7.000 | 67.000 | 81.000 | 81.000 | 81.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| GR | 823.700 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 822.400 | 67.000 | 823.500 | 107.000 | 826.300 | 105.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8564.000 | 0.000 | 0.000 | 0.000 | 64.000 | 64.000 | 64.000 | 0.000 | .500 | 0.000 |
| X1 | 8614.000 | 0.000 | 45.000 | 67.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 850.000 | 0.000 | 850.000 | 0.000 | 0.000 | 0.000 |
| GR | 823.800 | 0.000 | 823.300 | 31.000 | 820.200 | 45.000 | 816.900 | 45.000 | 816.600 | 67.000 |
| GR | 820.200 | 67.000 | 823.000 | 83.000 | 823.600 | 95.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 5.000 | 3.100 | 0.000 | .010 | 0.000 | .010 | 0.000 | 819.700 | 816.600 |
| BAR SECTION NO. 9 | | | | | | SECT. AB | | | | |
| X1 | 8615.000 | 8.000 | 45.000 | 67.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 819.700 | 820.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 850.000 | 0.000 | 850.000 | 0.000 | 0.000 | 0.000 |
| BT | 6.000 | 0.000 | 823.000 | 0.000 | 33.000 | 823.300 | 0.000 | 45.000 | 820.200 | 41[illegible] |
| BT | 67.000 | 820.200 | 823.000 | 83.000 | 823.000 | 0.000 | 95.000 | 823.600 | 0.000 | 0.000 |
| GR | 823.800 | 0.000 | 823.300 | 31.000 | 820.200 | 45.000 | 819.700 | 45.000 | 819.000 | 67.000 |
| GR | 820.200 | 67.000 | 823.000 | 83.000 | 823.600 | 95.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .046 | .048 | .042 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | high for pond | | | | | | | |
| X1 | 9035.000 | 10.000 | 150.000 | 171.000 | 0.000 | 0.000 | 0.000 | 0.000 | -1.000 | 0.000 |
| X5 | 1.000 | 0.000 | 0.000 | 324.450 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 833.800 | 0.000 | 832.900 | 50.000 | 826.800 | 150.000 | 822.500 | 159.000 | 822.100 | 104.000 |
| GR | 822.700 | 169.000 | 827.800 | 171.000 | 829.400 | 250.000 | 829.800 | 350.000 | 833.900 | 450.000 |
| X1 | 9087.000 | 0.000 | 0.000 | 0.000 | 32.000 | 32.000 | 32.000 | 0.000 | .200 | 0.000 |
| X1 | 9120.000 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .300 | 0.000 |
| X1 | 9185.000 | 0.000 | 0.000 | 0.000 | 65.000 | 65.000 | 65.000 | 0.000 | .500 | 0.000 |
| X1 | 9250.000 | 0.000 | 0.000 | 0.000 | 65.000 | 65.000 | 65.000 | 0.000 | .400 | 0.000 |
| VALLEY SECTION NO. 10 | | | | | | SECT. AC | | | | |
| X1 | 9315.000 | 10.000 | 150.000 | 171.000 | 65.000 | 65.000 | 65.000 | 0.000 | 0.000 | 0.000 |
| GR | 833.800 | 0.000 | 832.900 | 50.000 | 826.800 | 150.000 | 822.500 | 159.000 | 822.100 | 164.000 |
| GR | 822.700 | 169.000 | 827.800 | 171.000 | 829.400 | 250.000 | 829.800 | 350.000 | 833.900 | 450.000 |
| X1 | 9354.000 | 13.000 | 150.000 | 190.000 | 49.000 | 49.000 | 49.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 131.000 | 0.000 | 194.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 833.900 | 0.000 | 833.000 | 50.000 | 829.300 | 125.000 | 827.400 | 150.000 | 826.000 | 159.000 |
| GR | 826.300 | 169.000 | 823.000 | 153.000 | 823.400 | 165.000 | 824.500 | 174.000 | 827.400 | 190.000 |
| GR | 829.500 | 250.000 | 829.900 | 350.000 | 834.000 | 450.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .025 | .025 | .070 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 9355.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 131.000 | 0.000 | 194.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.500 | 2.900 | 0.000 | 11.900 | 0.000 | 60.500 | 0.000 | 823.400 | 823.400 |
| BRIDGE SECTION NO. 10-A PRIVATE BRIDGE | | | | | | SECT. AD | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | [illegible] | [illegible] | [illegible] | 0.000 | 195.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 6.000 | 136.000 | 828.800 | 0.000 | 150.000 | 828.100 | 827.400 | 159.000 | 828.900 | 828.200 |
| BT | 160.000 | 828.900 | 828.200 | 174.000 | 829.200 | 828.500 | 188.000 | 829.300 | 0.000 | 0.000 |
| GR | 833.900 | 0.000 | 833.000 | 50.000 | 828.100 | 150.000 | 827.400 | 150.000 | 826.000 | 159.000 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| BR | [illegible] | [illegible] | [illegible] | [illegible] | 829.300 | 250.000 | 829.900 | 350.000 | 834.000 | [illegible] |
| BC | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 9361.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 195.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 9410.000 | 10.000 | 150.000 | 171.000 | 49.000 | 49.000 | 49.000 | 0.000 | 2.400 | 0.000 |
| GR | 833.800 | 0.000 | 832.900 | 50.000 | 826.800 | 150.000 | 822.500 | 159.000 | 822.100 | 164.000 |
| GR | 822.700 | 169.000 | 827.800 | 171.000 | 829.400 | 250.000 | 829.800 | 350.000 | 833.900 | 450.000 |
| X1 | 9495.000 | 90.000 | 156.600 | 177.500 | 85.000 | 85.000 | 85.000 | 0.000 | 0.000 | 0.000 |
| GR | 836.700 | 0.000 | 836.700 | 5.400 | 836.600 | 10.800 | 836.500 | 16.200 | 836.400 | 21.600 |
| GR | 836.300 | 27.000 | 836.200 | 32.400 | 836.100 | 37.800 | 836.000 | 43.200 | 835.900 | 48.600 |
| GR | 835.800 | 54.000 | 835.500 | 59.400 | 835.200 | 64.800 | 834.900 | 70.200 | 834.700 | 75.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 833.900 | 91.800 | 833.600 | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 113.400 | 832.700 | 118.800 | 832.500 | 124.200 | 832.200 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 831.400 | 145.800 | 831.100 | 151.200 | [illegible] | [illegible] |
| GR | 830.000 | 157.200 | 829.700 | 157.900 | 829.400 | 158.600 | 829.100 | 159.300 | 828.800 | 160.000 |
| GR | 828.600 | 160.700 | 828.300 | 161.400 | 828.000 | 162.100 | 827.700 | 162.800 | 827.400 | 163.500 |
| GR | 827.200 | 164.200 | 826.900 | 164.900 | 826.600 | 165.600 | 826.600 | 166.300 | 826.600 | 167.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 169.200 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | 826.500 | 172.800 | 826.500 | 172.700 | 826.600 | 173.400 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 175.500 | 828.100 | 176.200 | 829.600 | 176.900 | 831.600 | [illegible] |
| GR | 831.700 | 185.900 | 831.900 | 194.200 | 832.000 | 202.600 | 832.200 | 211.000 | 832.400 | 219.400 |
| GR | 832.500 | 227.800 | 832.700 | 236.200 | 832.800 | 244.600 | 832.900 | 252.900 | 832.900 | 261.300 |
| GR | 833.000 | 269.700 | 833.000 | 278.100 | 833.000 | 286.500 | 833.000 | 294.900 | 833.100 | 303.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 362.000 | [illegible] | 370.400 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 403.900 | 836.300 | 412.300 | 836.700 | [illegible] | [illegible] | [illegible] |
| X1 | 9580.000 | 90.000 | 163.300 | 183.900 | 85.000 | 85.000 | 85.000 | 0.000 | 0.000 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | 5.600 | [illegible] | 11.200 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 33.700 | [illegible] | 39.400 | 836.700 | 45.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 61.900 | 835.900 | 67.500 | 835.700 | 73.200 | [illegible] | [illegible] |
| GR | 835.200 | 84.400 | 835.000 | 90.100 | 834.800 | 95.700 | 834.600 | 101.300 | 834.500 | 107.000 |
| GR | 834.300 | 112.600 | 834.200 | 118.200 | 834.000 | 123.800 | 833.900 | 129.500 | 833.700 | 135.100 |
| GR | 833.500 | 140.700 | 833.200 | 146.400 | 832.900 | 152.000 | 832.600 | 157.600 | 832.200 | 163.300 |
| GR | [illegible] | [illegible] | [illegible] | 164.400 | 830.600 | 165.100 | 830.400 | 165.900 | 830.200 | [illegible] |
| GR | 830.000 | [illegible] | 829.800 | 168.000 | 829.500 | 168.700 | 829.300 | 169.400 | 829.100 | [illegible] |
| GR | 828.900 | 170.600 | 828.600 | 171.500 | 828.400 | 172.200 | 828.400 | 172.900 | 828.400 | [illegible] |
| GR | 828.300 | 174.300 | 828.300 | 175.000 | 828.300 | 175.700 | 828.200 | 176.400 | 828.200 | 177.100 |
| GR | 828.200 | 177.800 | 828.300 | 178.500 | 828.300 | 179.200 | 828.400 | 179.900 | 828.500 | 180.700 |
| GR | 828.500 | 181.400 | 828.600 | 182.100 | 828.600 | 182.800 | 830.800 | 183.500 | 833.000 | 183.900 |
| GR | 833.100 | 191.400 | 833.300 | 198.900 | 833.400 | 206.400 | 833.500 | 213.900 | 833.600 | [illegible] |
| GR | 833.700 | 228.800 | 833.800 | 236.300 | 834.000 | 243.800 | 834.000 | 251.300 | 834.100 | [illegible] |
| GR | 834.100 | 266.200 | 834.100 | 273.700 | 834.100 | 281.200 | 834.100 | 288.700 | 834.100 | [illegible] |
| GR | 834.200 | 303.500 | 834.200 | 311.100 | 834.300 | 313.600 | 834.300 | 326.000 | 834.500 | 333.500 |
| GR | 834.800 | 341.000 | 835.000 | 348.500 | 835.300 | 356.000 | 835.600 | 363.400 | 836.000 | 370.900 |
| GR | 836.300 | 378.400 | 836.700 | 385.900 | 837.100 | 393.400 | 837.500 | 400.800 | 838.000 | 408.300 |
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | 85.000 | 85.000 | 85.000 | 0.000 | 0.000 | 0.000 |
| GR | 837.900 | 0.000 | 837.800 | 5.800 | 837.600 | 11.700 | 837.800 | 17.500 | 837.700 | 23.400 |
| GR | 837.600 | 29.300 | 837.500 | 35.100 | 837.400 | 41.000 | 837.300 | 46.800 | 837.200 | 52.700 |
| GR | 837.100 | 58.600 | [illegible] | [illegible] | 836.900 | 70.300 | [illegible] | 76.200 | 836.200 | [illegible] |

FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS
PRINTED IN U.S.A.

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|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 835.500 | 117.200 | 835.500 | [illegible] | [illegible] | 128.100 | [illegible] | [illegible] | 835.200 | [illegible] |
| GR | 835.000 | 146.500 | 834.800 | 15[illegible].00 | 834.500 | 158.200 | 834.200 | 164.100 | 833.800 | 170.100 |
| GR | 832.200 | 170.300 | 832.100 | 171.000 | 831.900 | 171.700 | 831.700 | 172.400 | 831.600 | 173.100 |
| GR | 831.400 | 173.800 | 831.200 | 174.500 | 831.100 | 175.200 | 830.900 | 176.000 | 830.700 | 176.700 |
| GR | 830.600 | 177.400 | 830.400 | 178.100 | 830.200 | 178.800 | 830.200 | 179.500 | 830.200 | 180.200 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 830.100 | [illegible] | 830.100 | 185.100 | 830.200 | 185.900 | 830.200 | 186.600 | 830.300 | [illegible] |
| GR | 830.300 | [illegible] | 830.300 | 188.700 | 831.100 | 189.400 | 832.000 | 190.100 | 834.300 | [illegible] |
| GR | 834.500 | 197.000 | 834.600 | 203.600 | 834.700 | 210.100 | 834.800 | 216.700 | 834.900 | 223.300 |
| GR | 835.000 | 229.800 | 835.000 | 236.400 | 835.100 | 243.000 | 835.200 | 249.500 | 835.200 | 256.100 |
| GR | 835.200 | 262.700 | 835.200 | 269.200 | 835.200 | 275.800 | 835.200 | 282.400 | 835.200 | 288.900 |
| GR | [illegible] | [illegible] | [illegible] | 302.100 | 835.300 | 308.800 | 835.400 | 315.200 | 835.500 | [illegible] |
| GR | 835.700 | [illegible] | 835.900 | 334.900 | 836.200 | 341.500 | 836.400 | 348.000 | 836.800 | 354.600 |
| GR | 837.100 | [illegible] | 837.500 | 367.700 | 837.900 | 374.300 | 838.300 | 380.900 | 838.900 | [illegible] |
| X1 | 9686.000 | 90.000 | 171.600 | 192.100 | 21.000 | 21.000 | 21.000 | 0.000 | .100 | 0.000 |
| GR | [illegible] | [illegible] | 837.900 | [illegible] | 837.900 | 11.800 | 837.900 | 17.700 | 837.800 | [illegible] |
| GR | 837.700 | [illegible] | 837.600 | 35.500 | 837.500 | 41.400 | 837.400 | 47.300 | 837.300 | [illegible] |
| GR | 837.200 | [illegible] | 837.000 | 65.100 | 836.700 | 71.000 | 836.600 | 76.900 | 836.300 | [illegible] |
| GR | 836.100 | 88.700 | 836.100 | 94.700 | 835.900 | 100.600 | 835.900 | 106.500 | 835.800 | 112.400 |
| GR | 835.800 | 118.300 | 835.700 | 124.200 | 835.700 | 130.200 | 835.600 | 136.100 | 835.500 | 142.000 |
| GR | 835.300 | 147.900 | 835.100 | 153.800 | 834.800 | 159.800 | 834.500 | 165.700 | 834.100 | 171.600 |
| GR | [illegible] | [illegible] | [illegible] | 173.000 | 832.100 | 174.000 | 831.900 | 176.000 | 831.800 | [illegible] |
| GR | 831.400 | 175.700 | 831.300 | 176.400 | 831.400 | 177.100 | 831.200 | 177.700 | 831.100 | [illegible] |
| GR | 830.900 | [illegible] | 830.800 | 179.800 | 830.600 | 180.500 | 830.600 | 181.200 | 830.600 | [illegible] |
| GR | 830.600 | 182.500 | 830.500 | 183.200 | 830.500 | 183.900 | 830.500 | 184.600 | 830.500 | 185.200 |
| GR | 830.500 | 185.900 | 830.500 | 186.600 | 830.600 | 187.300 | 830.600 | 188.000 | 830.700 | 188.700 |
| GR | 830.700 | 189.300 | 830.700 | 190.000 | 831.100 | 190.700 | 831.900 | 191.400 | 834.800 | 192.100 |
| GR | [illegible] | [illegible] | [illegible] | 204.800 | 835.000 | 211.100 | 835.100 | 217.400 | [illegible] | [illegible] |
| GR | 835.300 | [illegible] | 835.300 | 234.400 | 835.400 | 242.800 | 835.400 | 249.100 | [illegible] | [illegible] |
| GR | 835.400 | [illegible] | 835.400 | 268.100 | 835.400 | 274.500 | 835.400 | 280.800 | [illegible] | [illegible] |
| GR | 835.500 | 293.500 | 835.500 | 299.800 | 835.500 | 306.200 | 835.600 | 312.500 | 835.700 | 318.800 |
| GR | 835.900 | 325.200 | 836.100 | 331.500 | 836.400 | 337.900 | 836.600 | 344.200 | 837.000 | 350.500 |
| GR | 837.300 | 356.900 | 837.700 | 363.200 | 838.000 | 369.500 | 838.500 | 375.900 | 839.000 | 382.200 |
| X1 | 9707.000 | [illegible] | 173.300 | 193.700 | 21.000 | 21.000 | 21.000 | 0.000 | 0.000 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 145.000 | 0.000 | 220.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.100 | 0.000 | 838.000 | 5.900 | 838.100 | 11.900 | 838.100 | 17.900 | 838.000 | 23.900 |
| GR | 837.900 | 29.800 | 837.800 | 35.800 | 837.700 | 41.800 | 837.600 | 47.800 | 837.500 | 53.700 |
| GR | [illegible] | [illegible] | 837.200 | 83.700 | 836.900 | 71.700 | 836.800 | 77.600 | 836.300 | [illegible] |
| GR | 836.300 | [illegible] | 836.300 | 95.600 | 836.200 | 101.500 | 836.100 | 107.500 | 836.100 | [illegible] |
| GR | [illegible] | [illegible] | 836.000 | [illegible] | 836.000 | 131.400 | 835.900 | 137.400 | 835.900 | [illegible] |
| GR | 835.700 | 149.300 | 835.500 | 155.300 | 835.200 | 161.300 | 834.900 | 167.300 | 834.500 | 173.300 |
| GR | 832.700 | 173.900 | 832.600 | 174.600 | 832.400 | 175.300 | 832.300 | 176.000 | 832.100 | 176.700 |
| GR | 832.000 | 177.300 | 831.900 | 178.000 | 831.700 | 178.700 | 831.600 | 179.400 | 831.500 | 180.100 |
| GR | [illegible] | [illegible] | 831.200 | 181.400 | 831.100 | 182.100 | 831.100 | 182.800 | 831.100 | [illegible] |
| GR | 831.000 | [illegible] | 831.000 | 184.800 | 831.000 | 185.500 | 831.000 | 186.200 | 831.000 | [illegible] |
| GR | 831.000 | 187.600 | 831.000 | 188.200 | 831.000 | 188.900 | 831.100 | 189.600 | 831.100 | 190.300 |
| GR | 831.200 | 191.000 | 831.200 | 191.700 | 831.500 | 192.300 | 832.200 | 193.000 | 835.200 | 193.700 |
| GR | 835.200 | 199.800 | 835.300 | 205.900 | 835.300 | 212.000 | 835.400 | 218.100 | 835.500 | 224.200 |
| GR | 835.600 | 230.400 | 835.600 | 236.500 | 835.700 | 242.600 | 835.700 | 248.700 | 835.700 | 254.800 |
| GR | 835.700 | 260.900 | 835.700 | 267.000 | 835.700 | 273.100 | 835.700 | 279.200 | 835.700 | 285.300 |
| GR | 835.800 | 291.500 | 835.800 | 297.600 | 835.800 | 303.700 | 835.900 | 309.800 | 836.000 | 315.900 |
| GR | 836.200 | 322.000 | 836.400 | 328.100 | 836.600 | 334.200 | 836.800 | 340.300 | 837.200 | 346.400 |
| GR | 837.500 | 352.600 | 837.900 | 359.700 | 838.200 | 364.800 | 838.700 | 370.900 | 839.300 | 377.000 |
| X1 | 9728.000 | [illegible] | 174.900 | 195.300 | 21.000 | 21.000 | 21.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 154.000 | 0.000 | 268.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.200 | 0.000 | 838.200 | 6.000 | 838.200 | 12.000 | 838.300 | 18.000 | 838.200 | [illegible] |
| GR | 838.100 | 30.100 | 838.000 | 36.100 | 837.900 | 42.200 | 837.800 | 48.200 | 837.700 | 54.200 |
| GR | 837.500 | 60.300 | 837.400 | 66.300 | 837.200 | 72.300 | 837.000 | 78.400 | 836.700 | 84.400 |
| GR | 836.500 | 90.400 | 836.500 | 96.500 | 836.400 | 102.500 | 836.400 | 108.500 | 836.400 | 114.600 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 833.900 | [illegible] | [illegible] | [illegible] | 833.700 | 181.000 | [illegible] | 182.600 | 833.500 | 183.300 |
| GR | 833.400 | 183.900 | [illegible] | [illegible] | 833.300 | 185.500 | 833.200 | 186.000 | 833.100 | 186.600 |
| GR | 833.100 | 187.300 | 832.900 | 188.000 | 832.900 | 188.700 | 832.900 | 189.300 | 832.900 | 190.000 |
| GR | 832.900 | 190.700 | 832.900 | 191.400 | 832.900 | 192.000 | 832.900 | 192.700 | 832.900 | 193.400 |
| GR | 832.900 | 194.100 | 832.900 | 194.700 | 832.900 | 195.400 | 832.900 | 196.100 | 832.900 | 196.800 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 836.400 | [illegible] | 836.600 | [illegible] | 836.600 | 215.700 | 836.700 | 220.900 | 836.700 | [illegible] |
| GR | [illegible] | [illegible] | 836.800 | 236.500 | 836.800 | 241.700 | 836.800 | 246.900 | 836.800 | [illegible] |
| GR | 836.800 | 257.300 | 836.800 | 262.500 | 836.800 | 267.700 | 836.800 | 272.900 | 836.800 | 278.100 |
| GR | 836.800 | 283.300 | 836.900 | 288.500 | 836.900 | 293.700 | 836.900 | 298.900 | 837.000 | 304.100 |
| GR | 837.200 | 309.300 | 837.300 | 314.500 | 837.400 | 319.700 | 837.700 | 324.900 | 838.000 | 330.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 839.000 | 345.700 | 839.400 | 350.900 | 840.100 | [illegible] |
| X1 | 9513.000 | 90.000 | 181.600 | 201.800 | 21.000 | 21.000 | 21.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.800 | 0.000 | 838.800 | 6.200 | 838.900 | 12.500 | 838.900 | 18.700 | 838.800 | 25.000 |
| GR | 838.700 | 31.300 | 838.600 | 37.500 | 838.500 | 43.800 | 838.400 | 50.100 | 838.300 | 56.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 837.900 | 75.100 | 837.700 | 81.400 | 837.300 | [illegible] |
| GR | 837.400 | [illegible] | 837.300 | 100.200 | 837.300 | 106.400 | 837.400 | 112.700 | 837.500 | [illegible] |
| GR | 837.600 | [illegible] | 837.600 | 131.500 | 837.700 | 137.700 | 837.800 | 144.000 | 837.800 | [illegible] |
| GR | 837.700 | 156.500 | 837.400 | 162.800 | 837.200 | 169.000 | 836.900 | 175.300 | 836.500 | 181.600 |
| GR | 834.200 | 182.200 | 834.100 | 182.900 | 834.000 | 183.600 | 833.900 | 184.300 | 833.800 | 184.900 |
| GR | 833.800 | 185.600 | 833.700 | 186.300 | 833.700 | 187.000 | 833.600 | 187.600 | 833.500 | 188.300 |
| GR | [illegible] | [illegible] | 833.400 | 189.600 | 833.300 | 190.300 | 833.300 | 191.000 | 833.300 | [illegible] |
| GR | 833.300 | 192.300 | 833.300 | 193.000 | 833.300 | 193.700 | 833.300 | 194.400 | 833.300 | [illegible] |
| GR | 833.300 | [illegible] | 833.300 | 196.400 | 833.300 | 197.000 | 833.300 | 197.700 | 833.300 | [illegible] |
| GR | 833.300 | 199.100 | 833.400 | 199.700 | 833.500 | 200.400 | 833.800 | 201.100 | 836.900 | 201.800 |
| GR | 836.900 | 206.700 | 836.900 | 211.700 | 837.000 | 216.700 | 837.000 | 221.600 | 837.000 | 226.600 |
| GR | 837.000 | 231.600 | 837.100 | 236.600 | 837.100 | 241.500 | 837.100 | 246.500 | 837.100 | 251.500 |
| GR | [illegible] | [illegible] | 837.100 | 261.600 | 837.100 | 266.600 | 837.100 | 271.600 | 837.100 | [illegible] |
| GR | [illegible] | [illegible] | 837.100 | 286.600 | 837.200 | 291.500 | 837.200 | 296.200 | 837.300 | [illegible] |
| GR | 837.400 | [illegible] | 837.500 | 311.200 | 837.600 | 316.100 | 837.900 | 321.100 | 838.100 | [illegible] |
| GR | 838.600 | 331.100 | 838.800 | 335.000 | 839.200 | 341.000 | 839.600 | 346.000 | 840.300 | 351.000 |
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | 43.000 | 43.000 | 43.000 | 0.000 | [illegible] | [illegible] |
| GR | [illegible] | 0.000 | 839.100 | 6.300 | 839.200 | 12.700 | 839.200 | 19.100 | 839.100 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 38.200 | 838.800 | 44.600 | 838.700 | 51.000 | 838.600 | [illegible] |
| GR | 838.500 | 63.700 | 838.300 | 70.100 | 838.200 | 76.500 | 838.000 | 82.900 | 837.900 | 89.200 |
| GR | 837.800 | 95.600 | 837.800 | 102.000 | 837.800 | 108.400 | 837.900 | 114.800 | 838.000 | 121.100 |
| GR | 838.200 | 127.500 | 838.300 | 133.900 | 838.400 | 140.300 | 838.500 | 146.700 | 838.500 | 153.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 838.100 | 172.200 | 837.800 | 178.500 | 837.300 | [illegible] |
| GR | [illegible] | [illegible] | 834.700 | 186.100 | 834.600 | 186.800 | 834.600 | 187.500 | 834.600 | [illegible] |
| GR | [illegible] | [illegible] | 834.500 | 189.500 | 834.500 | 190.200 | 834.400 | 190.900 | 834.400 | [illegible] |
| GR | 834.400 | 192.200 | 834.300 | 192.900 | 834.200 | 193.600 | 834.200 | 194.300 | 834.200 | 195.000 |
| GR | 834.200 | 195.600 | 834.200 | 196.300 | 834.200 | 197.000 | 834.200 | 197.700 | 834.200 | 198.400 |
| GR | 834.200 | 199.000 | 834.200 | 199.700 | 834.200 | 200.400 | 834.200 | 201.100 | 834.200 | 201.800 |
| GR | [illegible] | [illegible] | 834.300 | 203.100 | 834.300 | 203.800 | 834.300 | 204.500 | 837.600 | [illegible] |
| GR | 837.600 | [illegible] | 837.600 | 214.000 | 837.700 | 218.800 | 837.700 | 223.100 | 837.700 | [illegible] |
| GR | 837.700 | 232.100 | 837.700 | 236.600 | 837.700 | 241.100 | 837.700 | 245.700 | 837.700 | [illegible] |
| GR | 837.600 | 254.700 | 837.600 | 259.200 | 837.600 | 263.700 | 837.600 | 268.300 | 837.600 | 272.800 |
| GR | 837.600 | 277.300 | 837.600 | 281.800 | 837.700 | 286.300 | 837.700 | 290.300 | 837.800 | 295.400 |
| GR | 837.900 | 299.900 | 838.000 | 304.400 | 838.100 | 308.900 | 838.300 | 313.400 | 838.600 | 318.000 |
| GR | 839.000 | 322.500 | 839.300 | 327.000 | 839.600 | 331.500 | 840.100 | 336.000 | 840.800 | 340.000 |
| X1 | 9877.000 | 90.000 | 186.600 | 206.700 | 21.000 | 21.000 | 21.000 | 0.000 | 0.000 | 0.000 |
| GR | 839.300 | 0.000 | 839.300 | 6.400 | 839.400 | 12.800 | 839.400 | 19.300 | 839.300 | 25.700 |
| GR | 839.200 | 32.100 | 839.100 | 38.600 | 839.000 | 45.000 | 838.900 | 51.400 | 838.800 | 57.900 |
| GR | [illegible] | 64.300 | [illegible] | [illegible] | 838.400 | 77.200 | 838.200 | 83.600 | 838.100 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 838.000 | 109.400 | 838.200 | 115.800 | 838.300 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 135.100 | 838.700 | 141.500 | 838.900 | 148.000 | 838.900 | [illegible] |
| GR | 838.800 | 160.900 | 838.700 | 167.300 | 838.500 | 173.700 | 838.200 | 180.200 | 837.700 | 186.600 |
| GR | 835.100 | 186.900 | 835.000 | 187.600 | 835.000 | 188.300 | 835.000 | 189.000 | 834.900 | 189.700 |
| GR | 834.900 | 190.400 | 834.900 | 191.100 | 834.900 | 191.800 | 834.800 | 192.500 | 834.800 | 193.200 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 198.700 | [illegible] | 199.400 | 834.200 | [illegible] |
| GR | 834.700 | [illegible] | 834.700 | [illegible] | 834.700 | 202.200 | 834.700 | 202.900 | 834.700 | 203.500 |
| GR | 834.700 | 204.200 | 834.800 | 204.900 | 834.800 | 205.600 | 834.900 | 206.300 | 838.000 | 206.700 |
| GR | 838.000 | 210.900 | 838.000 | 215.200 | 838.000 | 219.500 | 838.000 | 223.800 | 838.000 | 228.100 |
| GR | 838.000 | 232.400 | 838.000 | 236.700 | 838.000 | 241.000 | 838.000 | 245.300 | 838.000 | 249.500 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 839.200 | 318.200 | 839.500 | 322.500 | 839.800 | 326.800 | 840.300 | 331.100 | 841.000 | 335.400 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12.900 | 839.600 | 19.400 | 839.500 | 25.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 45.400 | 839.100 | 51.900 | [illegible] | [illegible] |
| GR | 838.900 | [illegible] | 838.700 | 71.400 | 838.600 | 77.900 | 838.400 | 84.400 | 838.300 | 90.900 |
| GR | 838.200 | 97.400 | 838.300 | 103.900 | 838.300 | 110.300 | 838.400 | 116.800 | 838.600 | 123.300 |
| GR | 838.800 | 129.800 | 838.900 | 136.300 | 839.100 | 142.800 | 839.200 | 149.300 | 839.300 | 155.800 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 175.300 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 189.800 | 835.300 | 190.500 | 835.300 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 193.400 | 835.200 | 194.500 | 835.200 | [illegible] |
| GR | 835.200 | 195.500 | 835.200 | 196.200 | 835.200 | 196.900 | 835.200 | 197.600 | 835.200 | 198.300 |
| GR | 835.200 | 199.000 | 835.200 | 199.700 | 835.200 | 200.400 | 835.200 | 201.100 | 835.200 | 201.800 |
| GR | 835.200 | 202.500 | 835.200 | 203.200 | 835.200 | 203.900 | 835.200 | 204.600 | 835.200 | 205.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 835.200 | 217.400 | 835.300 | 218.100 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 838.400 | 220.500 | 838.300 | 224.500 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 838.300 | 240.800 | 838.300 | 244.900 | [illegible] | [illegible] |
| GR | 838.200 | 253.000 | 838.200 | 257.000 | 838.200 | 261.100 | 838.200 | 265.200 | 838.200 | 269.200 |
| GR | 838.200 | 273.300 | 838.200 | 277.300 | 838.300 | 281.400 | 838.300 | 285.500 | 838.400 | 289.500 |
| GR | 838.400 | 293.600 | 838.500 | 297.700 | 838.500 | 301.700 | 838.700 | 305.800 | 839.000 | 309.800 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 840.000 | 322.000 | 840.500 | 326.100 | 841.400 | [illegible] |

VALLEY SECTION NO. 1200 SECT. AE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 9920.000 | 17.000 | 190.000 | 210.000 | 22.000 | 22.000 | 22.000 | 0.000 | 0.000 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | 20.000 | 839.400 | 45.000 | 839.800 | 70.000 | 838.500 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 145.000 | 839.800 | 160.000 | 839.200 | 182.000 | 839.500 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 210.000 | 838.800 | 210.000 | 838.500 | 260.000 | 838.800 | [illegible] |
| GR | 840.500 | 320.000 | 841.500 | 325.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

[illegible] 1000 SECT. AF

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | 68.000 | 200.000 | 200.000 | 200.000 | 0.000 | [illegible] | [illegible] |
| GR | 844.700 | 0.000 | 844.000 | 1.000 | 843.300 | 8.000 | 841.200 | 39.000 | 840.500 | 42.000 |
| GR | 838.000 | 45.000 | 838.000 | 63.000 | 839.900 | 68.000 | 840.700 | 104.000 | 840.800 | 115.000 |
| GR | 839.700 | 152.000 | 839.100 | 183.000 | 839.000 | 210.000 | 840.300 | 254.000 | 850.000 | 334.000 |
| X1 | 10220.000 | [illegible] | 0.000 | 0.000 | 100.000 | 100.000 | 100.000 | 0.000 | 1.300 | [illegible] |

VALLEY SECTION NO. 800 SECT. AC

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10320.000 | [illegible] | 122.000 | 140.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | [illegible] |
| GR | 844.000 | [illegible] | [illegible] | 5.000 | 842.800 | 18.000 | 842.300 | 40.000 | 842.000 | [illegible] |
| GR | 842.000 | 122.000 | 841.700 | 125.000 | 840.500 | 125.000 | 840.500 | 135.000 | 841.500 | 135.000 |
| GR | 842.400 | 140.000 | 843.500 | 165.000 | 843.900 | 180.000 | 844.000 | 205.000 | 844.500 | 255.000 |
| GR | 845.900 | 300.000 | 846.000 | 330.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

[illegible] SECT. AH

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10520.000 | [illegible] | [illegible] | 205.000 | 200.000 | 200.000 | 200.000 | 0.000 | .800 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 100.000 | 842.200 | 150.000 | 841.800 | 195.000 |

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VALLEY SECTION NO. 400 SECT. AI

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10920.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 |
| GR | 853.500 | [illegible] | 852.400 | 2.000 | 852.200 | 15.000 | 851.000 | 35.000 | 849.500 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 95.000 | 845.000 | 115.000 | 844.000 | 120.000 | 842.000 | [illegible] |
| GR | 842.000 | 130.000 | 844.900 | 132.000 | 844.800 | 178.000 | 844.900 | 200.000 | 844.800 | 230.000 |
| GR | 845.000 | 260.000 | 846.400 | 306.000 | 847.500 | 325.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 200 SECT. AJ

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10920.000 | 15.000 | 150.000 | 160.000 | 200.000 | 200.000 | 200.000 | 0.000 | 0.000 | 0.000 |
| GR | 852.800 | 0.000 | 852.100 | 2.000 | 850.500 | 32.000 | 850.100 | 53.000 | 849.500 | 65.000 |
| GR | 847.200 | 100.000 | 846.100 | 120.000 | 845.000 | 150.000 | 843.700 | 150.000 | 843.500 | 160.000 |
| GR | [illegible] | [illegible] | [illegible] | 205.000 | 846.400 | 255.000 | 847.000 | 305.000 | [illegible] | [illegible] |

VALLEY SECTION NO. 000 SECT. AK

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11120.000 | 17.000 | 190.000 | 203.000 | 200.000 | 200.000 | 200.000 | 0.000 | 0.000 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 40.000 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 848.500 | 165.000 | 848.000 | 190.000 | 847.500 | 195.000 | 845.500 | 196.000 | 845.500 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 215.000 | [illegible] | 258.000 | 851.800 | 330.000 | [illegible] | [illegible] |
| GR | 852.500 | 380.000 | 852.000 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .038 | .038 | .036 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11319.000 | [illegible] | 355.000 | 365.000 | 199.000 | 199.000 | 199.000 | 0.000 | [illegible] | [illegible] |
| X3 | 0.000 | [illegible] | 0.000 | 194.000 | 0.000 | 0.000 | 0.000 | 0.000 | [illegible] | [illegible] |
| GR | 852.000 | 0.000 | 851.000 | 30.000 | 850.600 | 40.000 | 852.000 | 95.000 | 852.400 | 110.000 |
| GR | 852.200 | 132.000 | 851.000 | 160.000 | 851.200 | 180.000 | 851.000 | 210.000 | 850.300 | 235.000 |
| GR | 849.500 | 250.000 | 849.400 | 260.000 | 849.900 | 288.000 | 850.000 | 300.000 | 849.500 | 352.000 |
| GR | [illegible] | [illegible] | [illegible] | 355.000 | [illegible] | 365.000 | 849.200 | [illegible] | [illegible] | [illegible] |
| GR | 852.500 | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| NC | .038 | .038 | .025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11320.000 | 23.000 | 355.000 | 365.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 194.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 20.000 | 0.000 | 852.000 | 0.000 | 30.000 | 851.000 | 0.000 | 40.000 | 850.600 | [illegible] |
| BT | 96.000 | 852.000 | 0.000 | 110.000 | 852.400 | 0.000 | 132.000 | 852.200 | 0.000 | [illegible] |
| BT | 851.000 | 0.000 | 180.000 | 851.200 | 0.000 | 210.000 | 851.000 | 0.000 | 235.000 | 850.300 |
| BT | 0.000 | 250.000 | 849.500 | 0.000 | 260.000 | 849.400 | 0.000 | 288.000 | 849.900 | 0.000 |
| BT | 300.000 | 850.000 | 0.000 | 330.000 | 849.700 | 0.000 | 355.000 | 851.500 | 850.500 | 365.000 |
| BT | [illegible] | [illegible] | 390.000 | 850.400 | 0.000 | 410.000 | 852.000 | 0.000 | 427.000 | [illegible] |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 852.000 | 0.000 | 851.000 | 30.000 | 850.600 | 40.000 | 852.000 | 95.000 | 852.400 | 110.000 |
| GR | 852.200 | 132.000 | 851.000 | 160.000 | 851.200 | 180.000 | 851.000 | 210.000 | 850.300 | 235.000 |
| GR | 849.500 | 250.000 | 849.400 | 260.000 | 849.900 | 288.000 | 850.000 | 300.000 | 849.700 | 350.000 |
| GR | 851.500 | 355.000 | 849.000 | 355.000 | 848.000 | 355.000 | 848.000 | 365.000 | 851.500 | 365.000 |
| GR | 850.400 | 390.000 | 852.000 | 410.000 | 852.500 | 427.000 | 0.000 | 0.000 | 0.000 | 0.000 |

GOLF COURSE BRIDGE NO. 1 SECT. AL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11325.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 194.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .038 | .038 | .036 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11326.000 | 21.000 | 355.000 | 365.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 852.000 | [illegible] | [illegible] | [illegible] | [illegible] | 40.000 | 852.000 | 95.000 | 852.400 | 110.000 |
| GR | 852.200 | 132.000 | 85[illegible].000 | 16[illegible].000 | 51.200 | 180.000 | 851.000 | 210.000 | 850.300 | 235.000 |
| GR | 849.500 | 250.000 | 849.400 | 260.000 | 849.900 | 288.000 | 850.000 | 300.000 | 849.500 | 352.000 |
| GR | 849.000 | 355.000 | 848.000 | 355.000 | 848.000 | 365.000 | 849.200 | 366.000 | 852.000 | 423.000 |
| GR | 852.500 | 427.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11519.000 | [illegible] | 192.000 | 213.000 | 158.000 | 350.000 | 193.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 140.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 852.000 | 0.000 | 851.000 | 30.000 | 850.600 | 40.000 | 852.000 | 95.000 | 852.400 | 110.000 |
| GR | 852.200 | 132.000 | 852.700 | 188.000 | 852.500 | 192.000 | 848.500 | 195.000 | 848.500 | 206.000 |
| GR | 852.500 | [illegible] | [illegible] | [illegible] | 850.300 | 298.000 | 859.500 | 308.000 | 0.000 | 0.000 |
| NC | .038 | .038 | .025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11520.000 | 15.000 | 195.000 | 206.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 140.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 13.000 | [illegible] | 852.000 | [illegible] | 30.000 | 851.000 | [illegible] | 40.000 | 850.000 | [illegible] |
| BT | 95.000 | 852.000 | [illegible] | 110.000 | 852.400 | 0.000 | 132.000 | 852.200 | 0.000 | 170.000 |
| BT | 852.600 | [illegible] | 195.000 | 854.500 | 853.500 | 206.000 | 854.500 | 853.500 | 231.000 | 852.400 |
| BT | 0.000 | 242.000 | 854.200 | 0.000 | 298.000 | 858.300 | 0.000 | 308.000 | 859.500 | 0.000 |
| GR | 852.000 | 0.000 | 851.000 | 30.000 | 850.600 | 40.000 | 852.000 | 95.000 | 852.400 | 110.000 |
| GR | 852.200 | 132.000 | 852.600 | 170.000 | 854.500 | 195.000 | 848.500 | 195.000 | 848.600 | 206.000 |
| GR | 854.500 | [illegible] | 853.400 | 231.000 | 854.200 | 242.000 | 858.300 | 298.000 | 859.500 | 308.000 |

GOLF COURSE BRIDGE NO. 2 SECT. AM

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11525.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 140.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .038 | .038 | .036 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11526.000 | 14.000 | 192.000 | 213.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 140.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 852.000 | 0.000 | 851.000 | 30.000 | 850.600 | 40.000 | 852.000 | 95.000 | 852.400 | [illegible] |
| GR | 852.200 | 132.000 | 852.700 | 188.000 | 852.500 | 192.000 | 848.500 | 195.000 | 848.500 | [illegible] |
| GR | 852.500 | 213.000 | 854.200 | 242.000 | 858.300 | 298.000 | 859.500 | 308.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11595.000 | 18.000 | 190.000 | 214.000 | 71.000 | 71.000 | 71.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 27.000 | 0.000 | 280.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 855.500 | 0.000 | 851.000 | 40.000 | 850.900 | 50.000 | 852.000 | 100.000 | 852.300 | [illegible] |
| GR | 852.200 | 145.000 | 853.000 | 176.000 | 853.000 | 190.000 | 852.600 | 195.000 | 849.700 | 197.000 |
| GR | 849.400 | 200.000 | 849.600 | 205.000 | 851.000 | 210.000 | 851.700 | 214.000 | 852.200 | 231.000 |
| GR | 852.500 | 260.000 | 853.500 | 350.000 | 855.500 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. -600 SECT. AN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11720.000 | 18.000 | 190.000 | 214.000 | 125.000 | 125.000 | 125.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 51.000 | 0.000 | 366.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 855.500 | 0.000 | 851.000 | 40.000 | 850.900 | 50.000 | 852.000 | 100.000 | 852.300 | 115.000 |
| GR | 852.200 | 145.000 | 853.000 | 176.000 | 853.000 | 190.000 | 852.600 | 195.000 | 849.700 | 197.000 |
| GR | 849.400 | 200.000 | 849.600 | 205.000 | 851.000 | 210.000 | 851.700 | 214.000 | 852.200 | 231.000 |
| GR | 852.500 | 260.000 | 853.500 | 350.000 | 855.500 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11850.000 | 0.000 | 0.000 | 0.000 | 130.000 | 130.000 | 130.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 78.000 | 0.000 | 328.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 1500 SECT. AO

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 860.600 | [illegible] | [illegible] | [illegible] | 856.000 | [illegible] | [illegible] | 90.000 | [illegible] | [illegible] |
| GR | 852.500 | 140.000 | [illegible] | 156.000 | 851.100 | 160.000 | 853.500 | 164.000 | 853.500 | 210.000 |
| GR | 854.600 | 235.000 | 854.800 | 243.000 | 860.600 | 247.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 4.400 | [illegible] | 8.900 | 860.000 | 13.300 | 859.700 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 26.700 | 858.700 | 31.100 | 858.400 | 35.600 | 858.100 | [illegible] |
| GR | 857.800 | 44.500 | 857.500 | 48.900 | 857.200 | 53.400 | 857.000 | 57.800 | 856.600 | 62.300 |
| GR | 856.400 | 66.700 | 856.100 | 71.200 | 855.800 | 75.600 | 855.500 | 80.100 | 855.200 | 84.500 |
| GR | 855.100 | 89.000 | 855.100 | 93.500 | 855.100 | 97.900 | 855.100 | 102.400 | 855.100 | 106.800 |
| GR | [illegible] | [illegible] | [illegible] | 115.700 | [illegible] | 120.200 | [illegible] | 124.600 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 130.900 | 853.900 | 131.800 | 853.500 | 132.700 | 853.100 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 135.300 | 852.900 | 136.200 | 852.800 | 137.100 | 852.800 | [illegible] |
| GR | 852.700 | 138.900 | 852.700 | 139.800 | 852.600 | 140.700 | 852.600 | 141.600 | 852.500 | 142.500 |
| GR | 852.500 | 143.400 | 852.400 | 144.300 | 852.400 | 145.200 | 852.400 | 146.100 | 852.300 | 147.000 |
| GR | 852.300 | 147.900 | 852.300 | 148.800 | 852.100 | 149.700 | 852.000 | 150.600 | 851.900 | 151.500 |
| GR | [illegible] | [illegible] | [illegible] | 153.300 | 852.900 | 154.200 | 853.400 | 155.100 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 163.900 | 854.000 | 167.800 | 854.000 | 171.800 | 854.100 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 183.700 | 854.200 | 187.600 | 854.200 | 191.600 | 854.300 | [illegible] |
| GR | 854.300 | 199.500 | 854.400 | 203.500 | 854.700 | 207.500 | 854.900 | 211.400 | 855.100 | 215.400 |
| GR | 855.300 | 219.300 | 855.400 | 223.300 | 855.400 | 227.300 | 855.400 | 231.200 | 855.500 | 235.200 |
| GR | 855.500 | 239.200 | 855.600 | 243.100 | 855.600 | 247.100 | 855.600 | 251.000 | 856.400 | 255.000 |
| GR | [illegible] | [illegible] | [illegible] | 262.900 | 859.100 | 266.900 | 860.100 | 270.900 | 861.100 | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 12120.000 | 90.000 | 123.200 | 148.000 | 62.000 | 62.000 | 62.000 | 0.000 | 0.000 | 0.000 |
| GR | 861.600 | 0.000 | 861.200 | 4.200 | 860.800 | 8.500 | 860.500 | 12.700 | 860.100 | 17.000 |
| GR | 859.700 | 21.200 | 859.400 | 25.400 | 859.100 | 29.700 | 858.800 | 33.900 | 858.500 | 38.200 |
| GR | [illegible] | [illegible] | [illegible] | 48.700 | [illegible] | 50.900 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 67.900 | [illegible] | 72.200 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 89.200 | [illegible] | 93.400 | [illegible] | 97.700 | [illegible] | [illegible] |
| GR | 855.500 | 106.200 | 855.500 | 110.400 | 855.500 | 114.700 | 855.500 | 118.900 | 855.400 | 123.200 |
| GR | 855.100 | 124.000 | 854.700 | 124.800 | 854.400 | 125.700 | 854.000 | 126.500 | 853.700 | 127.300 |
| GR | 853.600 | 128.100 | 853.500 | 129.000 | 853.500 | 129.800 | 853.400 | 130.600 | 853.300 | 131.400 |
| GR | [illegible] | [illegible] | [illegible] | 133.100 | [illegible] | 133.900 | [illegible] | 134.700 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 137.200 | 852.900 | 138.000 | 852.900 | 138.900 | 852.900 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 141.300 | 852.700 | 142.200 | 852.600 | 143.000 | [illegible] | [illegible] |
| GR | 852.300 | 144.600 | 853.000 | 145.500 | 853.400 | 146.300 | 853.900 | 147.100 | 854.400 | 148.000 |
| GR | 854.400 | 151.800 | 854.500 | 155.600 | 854.600 | 159.400 | 854.600 | 163.200 | 854.700 | 167.100 |
| GR | 854.800 | 170.900 | 854.900 | 174.700 | 854.900 | 178.500 | 855.000 | 182.400 | 855.100 | 186.200 |
| GR | [illegible] | [illegible] | [illegible] | 193.600 | [illegible] | 197.700 | [illegible] | 201.500 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 213.800 | 856.200 | 216.800 | 856.300 | 220.600 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 232.100 | 856.500 | 235.900 | 856.900 | 239.700 | [illegible] | [illegible] |
| GR | 858.000 | 247.400 | 858.800 | 251.200 | 859.700 | 255.000 | 860.600 | 258.900 | 861.600 | 262.700 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 12183.000 | 90.000 | 117.300 | 140.000 | 63.000 | 63.000 | 63.000 | 0.000 | [illegible] | [illegible] |
| GR | 862.100 | 0.000 | 861.700 | 4.000 | 861.300 | 8.000 | 860.900 | 12.100 | 860.500 | [illegible] |
| GR | 860.100 | 20.200 | 859.700 | 24.200 | 859.400 | 28.300 | 859.100 | 32.300 | 858.800 | 36.400 |
| GR | 858.500 | 40.400 | 858.200 | 44.500 | 858.000 | 48.500 | 857.800 | 52.600 | 857.500 | 56.600 |
| GR | 857.300 | 60.700 | 857.000 | 64.700 | 856.800 | 68.800 | 856.600 | 72.800 | 856.300 | 76.900 |
| GR | 856.200 | 80.900 | 856.200 | 84.900 | 856.200 | 89.000 | 856.100 | 93.000 | 856.100 | 97.100 |
| GR | [illegible] | [illegible] | [illegible] | 105.200 | 855.900 | 109.200 | 855.900 | 113.300 | 855.900 | [illegible] |
| GR | 855.500 | 118.100 | 855.200 | 118.800 | 854.900 | 119.600 | 854.600 | 120.300 | 854.300 | 121.100 |
| GR | 854.200 | 121.800 | 854.100 | 122.600 | 854.000 | 123.400 | 854.000 | 124.100 | 853.900 | 124.900 |
| GR | 853.800 | 125.600 | 853.800 | 126.400 | 853.700 | 127.100 | 853.600 | 127.900 | 853.500 | 128.600 |
| GR | 853.500 | 129.400 | 853.400 | 130.100 | 853.400 | 130.900 | 853.400 | 131.700 | 853.400 | 132.400 |
| GR | 853.400 | 133.200 | 853.400 | 133.900 | 853.300 | 134.700 | 853.300 | 135.400 | 853.200 | 136.200 |
| GR | [illegible] | [illegible] | [illegible] | 137.700 | [illegible] | 138.400 | [illegible] | 139.200 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 147.300 | [illegible] | 151.000 | [illegible] | 154.700 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 165.400 | [illegible] | 169.400 | [illegible] | 173.100 | [illegible] | [illegible] |
| GR | 855.900 | 180.500 | 856.100 | 184.200 | 856.300 | 187.900 | 856.500 | 191.600 | 856.700 | 195.300 |
| GR | 856.900 | 198.900 | 856.900 | 202.600 | 857.000 | 206.300 | 857.100 | 210.000 | 857.200 | 213.700 |
| GR | 857.200 | 217.400 | 857.300 | 221.100 | 857.400 | 224.800 | 857.400 | 228.400 | 858.000 | 232.100 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 12245.000 | 90.000 | 111.900 | 132.000 | 62.000 | 62.000 | 62.000 | 0.000 | -.400 | 0.000 |
| GR | 862.600 | 0.000 | 862.100 | 3.800 | 861.700 | 7.600 | 861.300 | 11.500 | 860.900 | 15.300 |
| GR | 860.500 | 19.200 | 860.100 | 23.000 | 859.800 | 26.900 | 859.500 | 30.700 | 859.200 | 34.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 857.700 | [illegible] | [illegible] | [illegible] | 857.300 | 65.300 | 857.100 | 69.200 | 856.900 | 73.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 856.700 | 84.500 | 856.400 | 88.400 | 856.600 | 92.200 |
| GR | 856.500 | 96.100 | 856.500 | 99.900 | 856.400 | 103.800 | 856.400 | 107.800 | 856.300 | 111.500 |
| GR | 856.000 | 112.100 | 855.700 | 112.800 | 855.400 | 113.500 | 855.100 | 114.200 | 854.900 | 114.900 |
| GR | 854.800 | 115.500 | 854.700 | 116.200 | 854.600 | 116.900 | 854.500 | 117.600 | 854.400 | 118.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 123.100 | 853.900 | 123.700 | 853.900 | 124.400 | 853.900 | 125.100 |
| GR | [illegible] | [illegible] | [illegible] | 126.500 | 853.900 | 127.200 | 853.900 | 127.800 | 853.900 | 128.500 |
| GR | 853.900 | 129.200 | 854.200 | 129.900 | 854.600 | 130.600 | 854.900 | 131.300 | 855.300 | 132.000 |
| GR | 855.400 | 135.500 | 855.500 | 139.100 | 855.700 | 142.600 | 855.800 | 146.100 | 856.000 | 149.700 |
| GR | 856.100 | 153.200 | 856.300 | 156.800 | 856.400 | 160.300 | 856.600 | 163.900 | 856.700 | 167.400 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 857.100 | 178.100 | 857.300 | 181.600 | 857.500 | [illegible] |
| GR | 857.600 | [illegible] | [illegible] | 192.300 | 857.800 | 195.800 | 857.900 | 199.400 | 858.000 | [illegible] |
| GR | 858.100 | [illegible] | [illegible] | 210.000 | 858.200 | 213.600 | 858.300 | 217.100 | 858.300 | [illegible] |
| GR | 859.400 | 224.200 | 860.100 | 227.800 | 860.900 | 231.300 | 861.700 | 234.900 | 862.600 | 238.500 |
| X1 | 12308.000 | [illegible] | [illegible] | 124.000 | 63.000 | 63.000 | 63.000 | 9.000 | -.200 | [illegible] |
| GR | 863.100 | 0.000 | 862.600 | 3.600 | 862.200 | 7.200 | 861.700 | 10.900 | 861.300 | [illegible] |
| GR | 860.900 | [illegible] | [illegible] | 21.800 | 860.100 | 25.400 | 859.800 | 29.100 | 859.500 | [illegible] |
| GR | 859.200 | 36.400 | 858.900 | 40.000 | 858.800 | 43.700 | 858.600 | 47.300 | 858.400 | 50.900 |
| GR | 858.200 | 54.600 | 858.000 | 58.200 | 857.800 | 61.900 | 857.700 | 65.500 | 857.500 | 69.200 |
| GR | 857.400 | 72.800 | 857.300 | 76.400 | 857.200 | 80.100 | 857.200 | 83.700 | 857.100 | 87.400 |
| GR | [illegible] | [illegible] | [illegible] | 94.600 | 856.900 | 98.300 | 856.800 | 101.900 | 856.700 | [illegible] |
| GR | 856.300 | [illegible] | [illegible] | 106.800 | 855.900 | 107.400 | 855.700 | 108.000 | 855.500 | [illegible] |
| GR | 855.400 | [illegible] | 855.300 | 109.900 | 855.200 | 110.500 | 855.100 | 111.100 | 855.000 | [illegible] |
| GR | 854.900 | 112.300 | 854.800 | 112.900 | 854.700 | 113.500 | 854.600 | 114.100 | 854.500 | 114.800 |
| GR | 854.500 | 115.400 | 854.400 | 116.000 | 854.300 | 116.600 | 854.400 | 117.200 | 854.400 | 117.800 |
| GR | 854.500 | 118.400 | 854.500 | 119.000 | 854.500 | 119.700 | 854.500 | 120.300 | 854.500 | 120.900 |
| GR | [illegible] | [illegible] | 854.900 | 122.100 | 855.100 | 122.700 | 855.400 | 123.300 | 855.700 | [illegible] |
| GR | [illegible] | 127.400 | 856.100 | 130.800 | 856.200 | 134.200 | 856.400 | 137.600 | 856.600 | [illegible] |
| GR | [illegible] | [illegible] | 857.000 | 147.800 | 857.100 | 151.200 | 857.300 | 154.700 | 857.500 | [illegible] |
| GR | 857.600 | 161.500 | 857.700 | 164.900 | 857.900 | 168.300 | 858.100 | 171.700 | 858.200 | 175.100 |
| GR | 858.400 | 178.500 | 858.500 | 182.000 | 858.600 | 185.400 | 858.700 | 188.800 | 858.800 | 192.200 |
| GR | 858.900 | 195.600 | 859.000 | 199.000 | 859.100 | 202.400 | 859.200 | 205.800 | 859.600 | 209.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| X1 | 12370.000 | 90.000 | 99.700 | 116.000 | 62.000 | 62.000 | 62.000 | 0.000 | 0.000 | 0.000 |
| GR | 863.600 | 0.000 | 863.100 | 3.400 | 862.600 | 6.800 | 862.200 | 10.300 | 861.700 | 13.700 |
| GR | 861.200 | 17.100 | 860.800 | 20.600 | 860.500 | 24.000 | 860.200 | 27.500 | 859.900 | 30.900 |
| GR | [illegible] | [illegible] | [illegible] | 37.800 | 859.200 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 858.700 | 51.500 | 858.500 | 55.000 | 858.300 | 58.400 | 858.200 | 61.900 | [illegible] | [illegible] |
| GR | 857.900 | 68.700 | 857.800 | 72.200 | 857.800 | 75.600 | 857.700 | 79.100 | 857.600 | [illegible] |
| GR | 857.500 | 85.900 | 857.400 | 89.400 | 857.300 | 92.800 | 857.300 | 96.300 | 857.200 | 99.700 |
| GR | 856.900 | 100.200 | 856.700 | 100.800 | 856.500 | 101.300 | 856.300 | 101.900 | 856.100 | 102.400 |
| GR | 856.000 | 102.900 | 855.900 | 103.500 | 855.800 | 104.000 | 855.600 | 104.600 | 855.500 | 105.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 108.900 | [illegible] | 109.400 | [illegible] | 110.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 112.200 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 855.300 | 113.800 | 855.500 | 114.300 | 855.700 | 114.900 | 855.900 | 115.400 | 856.200 | 116.000 |
| GR | 856.400 | 119.200 | 856.600 | 122.500 | 856.800 | 125.800 | 857.000 | 129.100 | 857.200 | 132.300 |
| GR | 857.500 | 135.600 | 857.700 | 138.900 | 857.900 | 142.100 | 858.100 | 145.400 | 858.300 | 148.700 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 860.800 | 201.100 | 861.300 | 204.400 | 862.100 | 207.600 | 862.800 | 210.900 | 863.600 | 214.200 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 864.100 | [illegible] | [illegible] | [illegible] | 863.100 | 6.100 | 862.800 | [illegible] | 862.100 | 12.900 |
| GR | 861.600 | [illegible] | [illegible] | [illegible] | 860.800 | 22.600 | 860.500 | 25.800 | 860.200 | 29.100 |
| GR | 859.900 | 32.300 | 859.700 | [illegible] | 859.500 | 38.800 | 859.400 | 42.000 | 859.300 | 45.300 |
| GR | 859.100 | 48.500 | 859.000 | 51.700 | 858.900 | 55.000 | 858.700 | 58.200 | 858.600 | 61.500 |
| GR | 858.500 | 64.700 | 858.400 | 67.900 | 858.300 | 71.200 | 858.200 | 74.400 | 858.100 | 77.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 857.400 | [illegible] | 857.200 | 94.800 | 857.000 | 95.200 | 856.800 | 95.700 | 856.700 | [illegible] |
| GR | 856.500 | [illegible] | [illegible] | 97.100 | 856.300 | 97.600 | 856.200 | 98.100 | 856.100 | [illegible] |
| GR | 856.000 | 99.000 | 855.900 | 99.500 | 855.800 | 99.900 | 855.700 | 100.400 | 855.500 | 100.900 |
| GR | 855.400 | 101.400 | 855.300 | 101.800 | 855.300 | 102.300 | 855.400 | 102.800 | 855.500 | 103.200 |
| GR | 855.600 | 103.700 | 855.700 | 104.200 | 855.700 | 104.700 | 855.800 | 105.100 | 855.900 | 105.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 856.300 | 107.000 | 856.400 | 107.500 | 856.600 | [illegible] |
| GR | 856.900 | [illegible] | 857.100 | 114.200 | 857.400 | 117.400 | 857.600 | 120.500 | 857.900 | [illegible] |
| GR | 858.100 | [illegible] | [illegible] | 129.900 | 858.600 | 133.100 | 858.900 | 136.200 | 859.100 | [illegible] |
| GR | 859.200 | 142.500 | 859.400 | 145.600 | 859.500 | 148.700 | 859.700 | 151.900 | 859.800 | 155.000 |
| GR | 860.000 | 158.100 | 860.100 | 161.300 | 860.200 | 164.400 | 860.400 | 167.600 | 860.500 | 170.700 |
| GR | 860.600 | 173.800 | 860.800 | 177.000 | 860.900 | 180.100 | 861.000 | 183.200 | 861.200 | 186.400 |
| GR | 861.500 | [illegible] | [illegible] | [illegible] | 862.600 | 195.800 | 863.300 | 198.900 | 864.100 | [illegible] |

VALLEY SECTION NO. 2000 SECT. AP

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 12495.000 | 11.000 | 88.000 | 100.000 | 62.000 | 62.000 | 62.000 | 0.000 | 0.000 | 0.000 |
| GR | 864.600 | [illegible] | [illegible] | 19.000 | 860.100 | 33.000 | 858.100 | 88.000 | 857.800 | [illegible] |
| GR | 855.800 | [illegible] | 857.100 | 100.000 | 859.900 | 129.000 | 862.200 | 177.000 | 862.600 | [illegible] |
| GR | 864.000 | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 2560 SECT. AQ

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 13055.000 | [illegible] | 57.000 | 67.000 | 500.000 | 620.000 | 560.000 | 0.000 | 0.000 | [illegible] |
| GR | 868.600 | [illegible] | [illegible] | 12.000 | 862.700 | 57.000 | 860.600 | 62.000 | 861.900 | [illegible] |
| GR | 862.600 | 67.000 | 864.600 | 72.000 | 865.800 | 77.000 | 865.600 | 107.000 | 864.600 | 132.000 |
| GR | 862.600 | 142.000 | 862.600 | 202.000 | 863.600 | 231.000 | 864.600 | 252.000 | 867.000 | 262.000 |
| X1 | 13155.000 | [illegible] | 116.000 | 127.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | [illegible] |
| X3 | 0.000 | [illegible] | 0.000 | 95.000 | 0.000 | 262.000 | 0.000 | 0.000 | 0.000 | [illegible] |
| GR | 873.000 | 0.000 | 872.800 | 4.000 | 872.700 | 8.000 | 872.600 | 12.000 | 872.500 | 16.000 |
| GR | 872.400 | 20.000 | 872.300 | 24.000 | 872.100 | 27.900 | 871.600 | 31.900 | 871.600 | 35.900 |
| GR | 871.300 | 39.900 | 870.800 | 43.900 | 870.600 | 47.900 | 869.900 | 51.900 | 869.400 | 55.900 |
| GR | 869.000 | [illegible] | [illegible] | 63.900 | 866.000 | 67.900 | 867.500 | 71.900 | 867.100 | [illegible] |
| GR | 866.000 | [illegible] | 866.200 | 83.900 | 865.900 | 87.900 | 865.500 | 91.900 | 865.100 | [illegible] |
| GR | 864.500 | [illegible] | 864.400 | 103.900 | 864.000 | 107.900 | 863.600 | 111.900 | 863.300 | [illegible] |
| GR | 863.100 | 116.300 | 862.900 | 116.700 | 862.700 | 117.000 | 862.600 | 117.400 | 862.400 | 117.800 |
| GR | 862.200 | 118.100 | 862.000 | 118.500 | 861.800 | 118.900 | 861.700 | 119.200 | 861.600 | 119.600 |
| GR | 861.500 | 120.000 | 861.300 | 120.300 | 861.200 | 120.700 | 861.100 | 121.100 | 861.100 | 121.400 |
| GR | 861.100 | [illegible] | 861.100 | 122.200 | 861.200 | 122.500 | 861.300 | 122.900 | 861.400 | [illegible] |
| GR | 861.400 | [illegible] | 861.600 | 124.000 | 861.700 | 124.400 | 861.900 | 124.700 | 862.000 | [illegible] |
| GR | 862.200 | 125.500 | 862.300 | 125.800 | 862.500 | 126.200 | 862.600 | 126.600 | 863.300 | [illegible] |
| GR | 865.200 | 134.300 | 865.800 | 141.600 | 865.900 | 145.900 | 865.900 | 156.200 | 865.900 | 165.500 |
| GR | 865.900 | 170.900 | 865.800 | 178.200 | 865.700 | 185.500 | 865.600 | 192.800 | 865.400 | 200.100 |
| GR | 864.500 | 207.400 | 864.100 | 214.800 | 864.100 | 222.100 | 864.200 | 229.400 | 864.200 | 236.700 |
| GR | 864.300 | [illegible] | 864.400 | 251.300 | 864.400 | 258.700 | 864.500 | 266.000 | 864.500 | 273.300 |
| GR | 864.600 | 280.600 | 864.800 | 287.900 | 865.000 | 295.200 | 865.200 | 302.500 | 865.400 | 309.900 |
| GR | 865.700 | 317.200 | 866.000 | 324.500 | 866.200 | 331.800 | 867.000 | 339.100 | 868.200 | 346.500 |
| X1 | 13205.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 108.000 | 0.000 | 250.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 4.000 | 295.000 | 400.000 | 525.000 | 745.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 13255.000 | 90.000 | 175.000 | 187.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 145.000 | 0.000 | 262.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 876.400 | [illegible] | [illegible] | [illegible] | [illegible] | 42.200 | 876.000 | 48.200 | 875.700 | 54.300 |
| GR | 875.400 | [illegible] | [illegible] | 65.300 | 874.000 | 72.400 | 873.300 | 78.400 | 872.600 | 84.400 |
| GR | 871.900 | 90.500 | 871.200 | 96.500 | 870.500 | 102.500 | 869.800 | 108.600 | 869.100 | 114.600 |
| GR | 868.400 | 120.600 | 867.900 | 126.700 | 867.400 | 132.700 | 866.900 | 138.700 | 866.400 | 144.800 |
| GR | 865.900 | 150.800 | 865.400 | 156.800 | 864.900 | 162.900 | 864.400 | 168.900 | 863.900 | 175.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 862.700 | [illegible] | [illegible] | [illegible] | [illegible] | 178.100 | 862.100 | 178.500 | 862.000 | [illegible] |
| GR | 862.000 | [illegible] | [illegible] | [illegible] | 861.800 | 180.100 | 861.700 | 180.500 | 861.700 | [illegible] |
| GR | 861.700 | 181.300 | 861.800 | 181.700 | 861.800 | 182.100 | 861.900 | 182.500 | 861.900 | 182.900 |
| GR | 862.000 | 183.300 | 862.100 | 183.700 | 862.300 | 184.100 | 862.500 | 184.500 | 862.700 | 184.900 |
| GR | 862.900 | 185.300 | 863.100 | 185.700 | 863.300 | 186.100 | 863.500 | 186.500 | 864.100 | 187.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 211.400 | 866.100 | 219.300 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 243.900 | 866.300 | 252.000 | 866.300 | 260.200 | 866.300 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 284.600 | 865.700 | 292.700 | 865.800 | 300.800 | 865.900 | [illegible] |
| GR | 866.000 | 317.100 | 866.200 | 325.200 | 866.300 | 333.400 | 866.400 | 341.500 | 866.500 | 349.600 |
| GR | 866.600 | 357.700 | 866.800 | 365.900 | 867.000 | 374.000 | 867.200 | 382.100 | 867.400 | 390.300 |
| GR | 867.600 | 398.400 | 867.800 | 406.500 | 868.000 | 414.700 | 868.600 | 422.800 | 869.500 | 431.000 |
| X1 | 13355.000 | [illegible] | [illegible] | 247.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 207.000 | 0.000 | 274.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 881.800 | 0.000 | 881.600 | 8.000 | 881.400 | 16.100 | 881.200 | 24.200 | 881.000 | 32.200 |
| GR | 880.800 | 40.300 | 880.600 | 48.400 | 880.300 | 56.400 | 880.100 | 64.500 | 879.800 | 72.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 96.800 | 876.700 | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 129.100 | 873.000 | 137.100 | 872.000 | 145.200 | 871.100 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 868.900 | 177.900 | 868.300 | 185.500 | 867.700 | [illegible] |
| GR | 867.000 | 201.700 | 866.400 | 209.700 | 865.800 | 217.800 | 865.200 | 225.900 | 864.500 | 234.000 |
| GR | 864.300 | 234.400 | 864.100 | 234.800 | 863.800 | 235.200 | 863.600 | 235.700 | 863.400 | 236.100 |
| GR | 863.100 | 236.500 | 862.900 | 237.000 | 862.700 | 237.400 | 862.500 | 237.800 | 862.500 | 238.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 862.400 | 239.600 | 862.300 | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 862.400 | 241.700 | 862.400 | 242.200 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 243.500 | 862.900 | 243.900 | 863.100 | 244.300 | [illegible] | [illegible] |
| GR | 863.700 | 245.200 | 863.900 | 245.600 | 864.200 | 246.100 | 864.400 | 246.500 | 864.900 | 247.000 |
| GR | 865.600 | 255.900 | 866.000 | 264.900 | 866.200 | 273.800 | 866.400 | 282.800 | 866.580 | 291.700 |
| GR | 866.700 | 300.700 | 866.800 | 309.600 | 867.000 | 318.600 | 867.100 | 327.500 | 867.200 | 336.500 |
| GR | [illegible] | [illegible] | [illegible] | 354.400 | 867.200 | 363.300 | 867.400 | 372.200 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 399.100 | 868.200 | 408.000 | 868.300 | 417.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 443.000 | 869.000 | 452.800 | 869.100 | 461.700 | [illegible] | [illegible] |
| GR | 869.500 | 479.600 | 869.700 | 488.600 | 869.800 | 497.500 | 870.200 | 506.500 | 870.700 | 515.500 |
| X1 | 13380.000 | 0.000 | 0.000 | 0.000 | 25.000 | 25.000 | 25.000 | 0.000 | .200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 213.000 | 0.000 | 268.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 13405.000 | 0.000 | 0.000 | 0.000 | 25.000 | 25.000 | 25.000 | 0.000 | .200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 219.000 | 0.000 | 261.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 13430.000 | 10.000 | 293.000 | 307.000 | 25.000 | 25.000 | 25.000 | 0.000 | -.200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 295.000 | 0.000 | 315.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 886.200 | 0.000 | 883.800 | 100.000 | 872.200 | 200.000 | 865.200 | 293.000 | 863.000 | 297.000 |
| GR | 863.000 | 303.000 | 865.700 | 307.000 | 868.000 | 400.000 | 870.500 | 500.000 | 872.000 | 600.000 |
| NC | .041 | .041 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 950 SECT. AR

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 13455.000 | 10.000 | 293.000 | 307.000 | 25.000 | 25.000 | 25.000 | [illegible] | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 291.000 | 0.000 | 305.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 886.200 | 0.000 | 883.800 | 100.000 | 872.200 | 200.000 | 865.200 | 293.000 | 863.000 | 297.000 |
| GR | 863.000 | 303.000 | 865.700 | 307.000 | 868.000 | 400.000 | 870.500 | 500.000 | 872.000 | 600.000 |
| X1 | 13459.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | -.200 | 0.000 |

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X3       [illegible]
X1  13463.000     19.000    204.000    217.000      4.000      4.000      4.000      0.000      0.000      0.000
GR    880.100      0.000    873.500    204.000    864.600    204.000    863.600    204.500    862.600    205.500
GR    862.600    208.000    862.600    210.500    862.600    213.000    862.600    215.500    863.600    216.500
GR    864.600    [illegible]    873.300    217.000    872.700    450.000    872.600    300.000    872.600    [illegible]
GR    873.700    300.000    875.100    600.000    876.900    700.000    879.300    800.000      0.000      0.000
NC       .031       .031       .031      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1  13464.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000
BT     17.000    [illegible]    880.100      0.000    204.000    873.500    864.600    204.500    873.500    207.100
BT    205.500    873.100    869.100    208.000    873.400    870.600    210.500    873.400    871.100    213.000
BT    873.400    874.600    215.500    873.300    869.100    216.500    873.300    867.100    217.000    873.300
BT    864.600    250.000    872.900      0.000    300.000    872.500      0.000    400.000    872.600      0.000
BT    500.000    873.700      0.000    000.000    875.100      0.000    700.000    876.900      0.000    800.000
BT    879.300      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

                 BRIDGE SECTION NO. 1000 TIEMKEN ROAD                    SECT. AS

X1  13548.000      0.000      0.000      0.000     84.000     84.000     84.000      0.000      0.000      0.000
X2      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
NC       .044       .044       .040      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1  13549.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000

                 VALLEY SECTION NO. 1050                                 SECT. AT

X1  13555.000     10.000    294.000    306.000      6.000      6.000      6.000      0.000      0.000      0.000
X3      0.000      0.000      0.000    258.000      0.000    314.000      0.000      0.000      0.000      0.000
GR    886.800      0.000    879.400    100.000    869.300    200.000    866.200    294.000    863.000    298.000
GR    863.000    302.000    865.900    306.000    867.200    400.000    869.300    500.000    871.600    600.000

X1  13685.000      0.000      0.000      0.000    140.000    120.000    130.000      0.000      1.100      0.000

X1  13815.000      0.000      0.000      0.000    140.000    120.000    130.000      0.000      1.100      0.000

X1  13945.000     11.000    296.000    304.000    130.000    130.000    130.000      0.000     -2.200      0.000
GR    885.900      0.000    876.900    100.000    873.400    200.000    869.900    296.000    868.500    298.000
GR    868.500    302.000    869.200    304.000    872.200    400.000    876.900    500.000    875.900    545.000
GR    879.900    600.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1  14075.000      0.000      0.000      0.000    140.000    120.000    130.000      0.000      1.100      0.000
NC       .062       .062       .043      0.000      0.000      0.000      0.000      0.000      0.000      0.000

                 VALLEY SECTION NO. 1700                                 SECT. AU

X1  14205.000     11.000    296.000    304.000    140.000    120.000    130.000      0.000      0.000      0.000
GR    885.900      0.000    876.900    100.000    873.400    200.000    869.900    296.000    868.500    298.000
GR    868.500    302.000    869.200    304.000    872.200    400.000    876.900    500.000    875.900    545.000
GR    879.900    600.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

                 VALLEY SECTION NO. 2600                                 SECT. AV

X1  15105.000     10.000    285.000    315.000    900.000    900.000    900.000      0.000      0.000      0.000
GR    890.400      0.000    882.900    100.000    880.000    200.000    878.200    285.000    875.900    297.000
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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 15110.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15115.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15120.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15125.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15130.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15135.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .100 | 0.000 |
| X1 | 15139.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | .100 | 0.000 |
| X1 | 15143.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | .100 | 0.000 |
| NC | .038 | .038 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 15145.000 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 242.000 | 0.000 | 335.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .078 | .078 | .078 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SS | 0.000 | 0.000 | 0.000 | 0.000 | 9.200 | 0.000 | 33.000 | 0.000 | 876.700 | 876.700 |

BRIDGE SECTION NO. 2650 PRIVATE ROAD SECT. AW

5.5' WIDE CONCRETE BOX CULVERT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 15165.000 | 10.000 | 280.000 | 300.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 880.300 | 883.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 12.000 | 0.000 | 891.200 | 0.000 | 100.000 | 884.500 | 0.000 | 200.000 | 883.000 | 0.000 |
| BT | 280.000 | 883.600 | 0.000 | 297.500 | 883.700 | 876.700 | 297.500 | 883.700 | 882.700 | 303.000 |
| BT | 882.700 | 882.700 | 303.000 | 883.700 | 876.700 | 300.000 | 883.800 | 0.000 | 400.000 | 884.200 |
| BT | 0.000 | 500.000 | 889.700 | 0.000 | 600.000 | 896.500 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 891.200 | 0.000 | 884.500 | 100.000 | 883.000 | 200.000 | 882.500 | 280.000 | 874.700 | 297.500 |
| GR | 876.700 | 303.000 | 883.800 | 300.000 | 884.200 | 400.000 | 889.700 | 500.000 | 896.500 | 600.000 |
| NC | .083 | .083 | .045 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 15166.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 15185.000 | 10.000 | 285.000 | 315.000 | 19.000 | 19.000 | 19.000 | 0.000 | -.300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 204.000 | 0.000 | 397.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 896.400 | 0.000 | 884.400 | 100.000 | 882.300 | 200.000 | 878.600 | 285.000 | 877.400 | 296.000 |
| GR | 877.400 | 304.000 | 879.800 | 315.000 | 883.100 | 400.000 | 890.300 | 500.000 | 897.100 | 600.000 |

VALLEY SECTION NO. 2700 SECT. AX

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 15285.000 | 10.000 | 285.000 | 315.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 162.000 | 0.000 | 395.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 896.400 | 0.000 | 884.400 | 100.000 | 882.300 | 200.000 | 878.600 | 285.000 | 877.400 | 296.000 |
| GR | 877.400 | 304.000 | 879.800 | 315.000 | 883.100 | 400.000 | 890.300 | 500.000 | 897.100 | 600.000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| X1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 890.900 | [illegible] | [illegible] | [illegible] | [illegible] | 19.800 | [illegible] | 39.700 | 888.300 | 39.600 |
| GR | 887.900 | 49.500 | 887.300 | 59.400 | 886.800 | 69.300 | 886.100 | 79.300 | 885.500 | 89.200 |
| GR | 885.000 | 99.100 | 884.600 | 109.000 | 884.600 | 118.900 | 884.500 | 128.800 | 884.300 | 138.700 |
| GR | 884.200 | 148.700 | 884.000 | 158.600 | 883.900 | 168.500 | 883.700 | 178.400 | 883.600 | 188.300 |
| GR | 883.400 | 198.200 | 883.100 | 208.100 | 882.800 | 218.100 | 882.400 | 228.000 | 882.100 | 237.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 879.900 | 290.100 | 879.800 | 291.000 | 879.700 | [illegible] |
| GR | 879.600 | [illegible] | 879.400 | [illegible] | 879.300 | 294.500 | 879.200 | 295.300 | 879.100 | [illegible] |
| GR | 879.000 | 297.100 | 879.000 | 298.000 | 879.000 | 298.800 | 879.000 | 299.700 | 879.000 | 300.600 |
| GR | 879.000 | 301.500 | 879.000 | 302.300 | 879.000 | 303.200 | 879.000 | 304.100 | 879.200 | 305.000 |
| GR | 879.400 | 305.800 | 879.600 | 306.700 | 879.700 | 307.600 | 879.900 | 308.500 | 880.100 | 309.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 312.000 | [illegible] | 312.800 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 331.500 | 882.000 | 340.500 | 882.400 | 349.400 | 882.700 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 376.100 | 883.800 | 385.800 | 884.200 | 393.900 | [illegible] | [illegible] |
| GR | 885.400 | 411.800 | 886.000 | 420.700 | 886.600 | 429.600 | 887.300 | 438.500 | 887.900 | 447.400 |
| GR | 888.500 | 456.400 | 889.300 | 465.300 | 889.900 | 474.200 | 890.600 | 483.100 | 891.300 | 492.000 |
| GR | 891.900 | 500.900 | 892.500 | 509.900 | 893.200 | 518.800 | 893.800 | 527.700 | 894.300 | 536.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 563.400 | 896.300 | 572.300 | [illegible] | [illegible] |
| X1 | 15420.000 | 90.000 | 290.000 | 312.500 | 140.000 | 75.000 | 107.000 | 0.000 | .100 | 0.000 |
| GR | 891.500 | 0.000 | 890.800 | 10.000 | 890.200 | 20.000 | 889.600 | 30.000 | 889.000 | 40.000 |
| GR | 888.400 | 49.900 | 887.800 | 59.900 | 887.200 | 69.900 | 886.600 | 79.900 | 886.000 | 89.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 119.900 | [illegible] | 129.900 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 159.900 | 884.800 | 169.900 | 884.700 | 179.900 | 884.600 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 884.000 | 219.900 | 883.700 | 229.900 | [illegible] | [illegible] |
| GR | 883.100 | 249.900 | 882.900 | 259.900 | 882.600 | 269.900 | 882.300 | 279.900 | 882.100 | 290.000 |
| GR | 881.900 | 290.700 | 881.800 | 291.500 | 881.600 | 292.200 | 881.500 | 293.000 | 881.400 | 293.700 |
| GR | 881.200 | 294.500 | 881.100 | 295.200 | 880.900 | 296.000 | 880.800 | 296.700 | 880.700 | 297.500 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 299.700 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 302.700 | 880.700 | 303.500 | 880.700 | 304.200 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 306.500 | 881.200 | 307.200 | 881.400 | 308.000 | 881.500 | [illegible] |
| GR | 881.600 | 309.500 | 881.700 | 310.200 | 881.900 | 311.000 | 882.000 | 311.700 | 882.100 | 312.500 |
| GR | 882.500 | 320.800 | 882.800 | 329.100 | 883.200 | 337.500 | 883.500 | 345.800 | 883.900 | 354.100 |
| GR | 884.200 | 362.400 | 884.600 | 370.800 | 884.900 | 379.100 | 885.300 | 387.400 | 885.800 | 395.800 |
| GR | [illegible] | [illegible] | [illegible] | 412.400 | 887.400 | 420.800 | 888.100 | 429.100 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 454.100 | 890.600 | 462.400 | 891.300 | 470.800 | 891.900 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 495.800 | 893.800 | 504.100 | 894.400 | 512.400 | [illegible] | [illegible] |
| GR | 895.100 | 529.100 | 895.500 | 537.400 | 895.900 | 545.800 | 896.200 | 554.100 | 896.600 | 562.500 |
| X1 | 15447.000 | [illegible] | [illegible] | 312.100 | 27.000 | 27.000 | 27.000 | 0.000 | 0.000 | [illegible] |
| GR | 891.700 | 0.000 | 891.000 | 10.000 | 890.400 | 20.000 | 889.600 | 30.000 | 889.200 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 60.100 | 887.400 | 70.100 | 886.800 | 80.100 | 886.200 | [illegible] |
| GR | 885.700 | 100.200 | 885.500 | 110.200 | 885.400 | 120.200 | 885.300 | 130.200 | 885.300 | 140.300 |
| GR | 885.200 | 150.300 | 885.100 | 160.300 | 885.100 | 170.300 | 885.000 | 180.300 | 884.900 | 190.400 |
| GR | 884.800 | 200.400 | 884.500 | 210.400 | 884.300 | 220.400 | 884.100 | 230.400 | 883.800 | 240.500 |
| GR | [illegible] | [illegible] | [illegible] | 260.500 | 883.000 | 270.500 | 882.800 | 280.600 | 882.600 | [illegible] |
| GR | 882.400 | 291.300 | 882.300 | 292.000 | 882.100 | 292.700 | 882.000 | 293.400 | 881.800 | 294.200 |
| GR | 881.700 | 294.900 | 881.500 | 295.600 | 881.400 | 296.300 | 881.200 | 297.000 | 881.100 | [illegible] |
| GR | 881.100 | 298.500 | 881.100 | 299.200 | 881.100 | 299.900 | 881.100 | 300.600 | 881.200 | 301.300 |
| GR | 881.200 | 302.100 | 881.200 | 302.800 | 881.200 | 303.500 | 881.200 | 304.200 | 881.300 | 304.900 |
| GR | 881.500 | 305.700 | 881.500 | 306.400 | 881.600 | 307.100 | 881.800 | 307.800 | 881.900 | 308.500 |
| GR | 882.000 | 309.300 | 882.100 | 310.000 | 882.200 | 310.700 | 882.400 | 311.400 | 882.500 | 312.100 |
| GR | 882.800 | 320.300 | 883.200 | 328.500 | 883.500 | 336.700 | 883.900 | 344.900 | 884.200 | 353.100 |
| GR | 884.600 | 361.200 | 884.900 | 369.400 | 885.300 | 377.600 | 885.600 | 385.800 | 886.100 | 394.000 |
| GR | 886.600 | 402.200 | 887.100 | 410.400 | 887.700 | 418.600 | 888.300 | 426.700 | 889.000 | 434.900 |
| GR | 889.600 | 443.100 | 890.200 | 451.300 | 890.800 | 459.500 | 891.500 | 467.700 | 892.100 | 475.900 |
| GR | 892.700 | 484.100 | 893.400 | 492.200 | 894.000 | 500.400 | 894.600 | 508.600 | 895.000 | 516.800 |
| GR | [illegible] | [illegible] | [illegible] | 533.200 | 896.000 | 541.400 | 896.300 | 549.600 | [illegible] | [illegible] |
| X1 | 15474.000 | 90.000 | 291.200 | 311.800 | 27.000 | 27.000 | 27.000 | 0.000 | 0.000 | 0.000 |
| GR | 891.800 | 0.000 | 891.100 | 10.000 | 890.500 | 20.000 | 889.900 | 30.100 | 889.300 | 40.100 |
| GR | 888.700 | 50.200 | 888.100 | 60.200 | 887.500 | 70.300 | 886.900 | 80.300 | 886.300 | 90.300 |

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FORM 1411-OB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 885.400 | [illegible] | [illegible] | [illegible] | 885.300 | 170.700 | 885.200 | 180.700 | 885.100 | 190.800 |
| GR | 885.000 | [illegible] | [illegible] | 210.900 | 884.600 | 220.900 | 884.400 | 230.900 | 884.100 | 241.000 |
| GR | 883.900 | 251.000 | 883.700 | 261.100 | 883.400 | 271.100 | 883.200 | 281.200 | 883.000 | 291.200 |
| GR | 882.800 | 291.900 | 882.700 | 292.600 | 882.500 | 293.300 | 882.400 | 293.900 | 882.200 | 294.600 |
| GR | 882.100 | 295.300 | 881.900 | 296.000 | 881.800 | 296.700 | 881.600 | 297.400 | 881.500 | 298.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 881.000 | [illegible] | [illegible] | [illegible] | 881.600 | 303.600 | 881.600 | 306.200 | 881.700 | [illegible] |
| GR | 881.700 | [illegible] | [illegible] | [illegible] | 882.000 | 307.800 | 882.100 | 307.700 | 882.300 | [illegible] |
| GR | 882.400 | 309.100 | 882.400 | 309.700 | 882.500 | 310.400 | 882.700 | 311.100 | 882.800 | 311.800 |
| GR | 883.100 | 319.800 | 883.500 | 327.900 | 883.800 | 335.900 | 884.200 | 344.000 | 884.500 | 352.000 |
| GR | 884.900 | 360.000 | 885.200 | 368.100 | 885.600 | 376.100 | 885.900 | 384.200 | 886.400 | 392.200 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 887.900 | 416.300 | 888.300 | 424.400 | 889.200 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 891.000 | 454.500 | 891.700 | 464.600 | 892.300 | [illegible] |
| GR | 892.900 | [illegible] | [illegible] | [illegible] | 894.200 | 496.800 | 894.800 | 504.800 | 895.100 | [illegible] |
| GR | 895.400 | 520.900 | 895.700 | 528.900 | 896.000 | 537.000 | 896.300 | 545.000 | 896.500 | 553.100 |
| X1 | 15501.000 | [illegible] | [illegible] | [illegible] | 27.000 | 27.000 | 27.000 | 0.000 | 0.000 | [illegible] |
| GR | 891.900 | [illegible] | [illegible] | 10.000 | 890.700 | 20.100 | 890.100 | 30.100 | 889.400 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 60.300 | 887.600 | 70.400 | 887.000 | 80.500 | 886.400 | [illegible] |
| GR | 885.900 | 100.600 | 885.800 | 110.700 | 885.800 | 120.700 | 885.700 | 130.300 | 885.600 | 140.900 |
| GR | 885.600 | 150.900 | 885.500 | 161.000 | 885.500 | 171.000 | 885.400 | 181.100 | 885.400 | 191.200 |
| GR | 885.300 | 201.200 | 885.100 | 211.300 | 884.900 | 221.400 | 884.700 | 231.400 | 884.500 | 241.500 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 883.800 | 271.700 | 883.600 | [illegible] | 883.400 | [illegible] |
| GR | 883.200 | [illegible] | [illegible] | 293.100 | 882.900 | 293.800 | 882.800 | 294.400 | 882.600 | [illegible] |
| GR | 882.500 | [illegible] | [illegible] | 296.400 | 882.200 | 297.100 | 882.000 | 297.700 | 881.900 | [illegible] |
| GR | 881.900 | 299.800 | 881.900 | 299.700 | 881.900 | 300.300 | 882.000 | 301.000 | 882.000 | 301.600 |
| GR | 882.000 | 302.300 | 882.000 | 303.000 | 882.000 | 303.600 | 882.000 | 304.300 | 882.100 | 304.900 |
| GR | 882.300 | 305.600 | 882.400 | 306.200 | 882.400 | 306.900 | 882.500 | 307.500 | 882.600 | 308.200 |
| GR | 882.200 | [illegible] | [illegible] | [illegible] | 882.800 | 310.200 | 882.900 | [illegible] | [illegible] | [illegible] |
| GR | 883.400 | [illegible] | [illegible] | 327.300 | 884.100 | 335.200 | 884.500 | 343.100 | [illegible] | [illegible] |
| GR | 885.200 | [illegible] | [illegible] | 366.700 | 885.900 | 374.600 | 886.200 | 382.500 | [illegible] | [illegible] |
| GR | 887.100 | 398.300 | 887.500 | 406.200 | 888.100 | 414.100 | 888.700 | 422.000 | 889.400 | 429.900 |
| GR | 890.000 | 437.800 | 890.600 | 445.700 | 891.200 | 453.600 | 891.900 | 461.500 | 892.500 | 469.400 |
| GR | 893.100 | 477.300 | 893.700 | 485.200 | 894.300 | 493.100 | 894.900 | 501.000 | 895.200 | 508.900 |
| GR | 895.500 | [illegible] | [illegible] | 524.700 | 896.000 | 532.600 | 896.300 | 540.500 | [illegible] | [illegible] |
| X1 | 15508.000 | 90.000 | 291.900 | 311.400 | 7.000 | 7.000 | 7.000 | 0.000 | 0.000 | 0.000 |
| GR | 891.900 | 0.000 | 891.300 | 10.000 | 890.700 | 20.100 | 890.100 | 30.200 | 889.400 | 40.200 |
| GR | 888.800 | 50.300 | 888.200 | 60.400 | 887.600 | 70.400 | 887.000 | 80.500 | 886.400 | 90.600 |
| GR | [illegible] | [illegible] | [illegible] | 110.700 | 885.800 | 120.800 | 885.700 | 130.800 | [illegible] | [illegible] |
| GR | 885.600 | [illegible] | [illegible] | 161.000 | 885.500 | 171.100 | 885.400 | 181.200 | [illegible] | [illegible] |
| GR | 885.300 | [illegible] | [illegible] | 211.400 | 885.000 | 221.400 | 884.700 | 231.500 | [illegible] | [illegible] |
| GR | 884.400 | 251.700 | 884.100 | 261.700 | 883.900 | 271.800 | 883.700 | 281.900 | 883.500 | 291.900 |
| GR | 883.300 | 292.600 | 883.200 | 293.200 | 883.000 | 293.900 | 882.900 | 294.500 | 882.700 | 295.200 |
| GR | 882.600 | 295.800 | 882.400 | 296.500 | 882.300 | 297.100 | 882.100 | 297.800 | 882.000 | 298.400 |
| GR | 882.000 | [illegible] | [illegible] | 299.700 | 882.000 | 300.400 | 882.000 | 301.000 | 882.100 | [illegible] |
| GR | 882.100 | [illegible] | 882.100 | 302.900 | 882.100 | 303.600 | 882.100 | 304.200 | 882.200 | [illegible] |
| GR | 882.300 | 305.800 | 882.500 | 306.200 | 882.500 | 306.800 | 882.600 | 307.500 | 882.700 | 308.100 |
| GR | 882.700 | 308.800 | 882.800 | 309.400 | 882.800 | 310.100 | 883.000 | 310.700 | 883.100 | 311.400 |
| GR | 883.400 | 319.200 | 883.800 | 327.100 | 884.100 | 335.000 | 884.500 | 342.800 | 884.800 | 350.700 |
| GR | 885.200 | 358.500 | 885.500 | 366.400 | 885.900 | 374.300 | 886.200 | 382.100 | 886.600 | 390.000 |
| GR | 887.100 | [illegible] | 887.500 | 405.700 | 888.100 | 413.600 | 888.700 | 421.400 | 889.400 | [illegible] |
| GR | 890.000 | [illegible] | 890.600 | 445.000 | 891.200 | 452.900 | 891.900 | 460.700 | 892.500 | [illegible] |
| GR | 893.100 | [illegible] | 893.700 | 484.300 | 894.300 | 492.200 | 894.900 | 500.000 | 895.200 | [illegible] |
| GR | 895.500 | 515.700 | 895.700 | 523.600 | 896.000 | 531.500 | 896.300 | 539.300 | 896.500 | 547.200 |
| X1 | 15515.000 | [illegible] | [illegible] | 311.300 | 7.000 | 7.000 | 7.000 | 0.000 | 0.000 | 0.000 |
| GR | 892.000 | [illegible] | [illegible] | 10.000 | 890.700 | 20.100 | 890.100 | 30.200 | 889.400 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 60.400 | 887.600 | 70.500 | 887.000 | 80.500 | [illegible] | [illegible] |
| GR | 885.900 | 100.700 | 885.900 | 110.800 | 885.800 | 120.800 | 885.700 | 130.900 | 885.700 | 141.000 |
| GR | 885.700 | 151.100 | 885.600 | 161.100 | 885.600 | 171.200 | 885.500 | 181.300 | 885.500 | 191.400 |
| GR | 885.400 | 201.400 | 885.200 | 211.500 | 885.000 | 221.600 | 884.800 | 231.700 | 884.600 | 241.700 |

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FORM 1411-08-PRINTED BY ROTARY MANIFOLD FORMS

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|---|---|---|---|---|---|---|---|---|---|---|
| GR | 884.400 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 883.400 | [illegible] | [illegible] | [illegible] | [illegible] | 294.800 | [illegible] | 294.700 | 882.800 | 295.300 |
| GR | 882.700 | 295.900 | 882.500 | 296.000 | [illegible] | 297.200 | 882.200 | 297.900 | 882.100 | 298.500 |
| GR | 882.100 | 299.100 | 882.100 | 299.800 | 882.100 | 300.400 | 882.100 | 301.100 | 882.200 | 301.700 |
| GR | 882.200 | 302.300 | 882.200 | 303.000 | 882.200 | 303.600 | 882.200 | 304.300 | 882.300 | 304.900 |
| GR | 882.400 | 305.500 | 882.500 | 306.200 | 882.600 | 306.800 | 882.700 | 307.500 | 882.700 | 308.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 883.500 | [illegible] | 883.900 | 326.900 | 884.200 | 334.600 | 884.600 | 342.400 | 884.900 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 373.900 | 886.300 | 381.700 | 886.700 | [illegible] |
| GR | 887.200 | 397.400 | 887.600 | 405.200 | 888.200 | 413.000 | 888.800 | 420.800 | 889.500 | 428.600 |
| GR | 890.100 | 436.500 | 890.700 | 444.300 | 891.300 | 452.100 | 892.000 | 459.900 | 892.600 | 467.800 |
| GR | 893.200 | 475.600 | 893.800 | 483.400 | 894.400 | 491.200 | 895.000 | 499.100 | 895.300 | 506.900 |
| GR | 895.300 | [illegible] | 895.700 | 522.500 | [illegible] | 530.400 | 896.300 | 538.200 | 896.500 | [illegible] |
| | | | | | | | | | | |
| XI | 15521.000 | 90.000 | 292.300 | 311.200 | 6.000 | 5.000 | 6.000 | 0.000 | 0.000 | 0.000 |
| GR | 892.000 | 0.000 | 891.400 | 10.000 | 890.800 | 20.100 | 890.200 | 30.200 | 889.500 | 40.300 |
| GR | 888.900 | 50.400 | 888.300 | 60.400 | 887.700 | 70.500 | 887.100 | 80.600 | 886.500 | 90.700 |
| GR | 886.000 | [illegible] | 885.900 | 110.900 | 885.900 | 120.900 | 885.800 | 131.000 | 885.800 | [illegible] |
| GR | 885.800 | 151.200 | 885.700 | 161.200 | 885.700 | 171.300 | 885.600 | 181.400 | 885.600 | [illegible] |
| GR | 885.500 | [illegible] | 885.300 | 211.600 | 885.100 | 221.700 | 884.900 | 231.800 | 884.700 | [illegible] |
| GR | 884.500 | 252.000 | 884.300 | 262.000 | 884.100 | 272.100 | 883.900 | 282.200 | 883.700 | 292.300 |
| GR | 883.500 | 292.900 | 883.400 | 293.500 | 883.200 | 294.200 | 883.100 | 294.800 | 882.900 | 295.400 |
| GR | 882.800 | 296.100 | 882.600 | 296.700 | 882.500 | 297.300 | 882.300 | 298.000 | 882.200 | 298.600 |
| GR | 882.200 | [illegible] | 882.200 | 299.900 | 882.200 | 300.500 | 882.200 | 301.100 | 882.300 | [illegible] |
| GR | 882.300 | [illegible] | 882.300 | 303.000 | 882.300 | 303.600 | 882.300 | 304.300 | 882.400 | [illegible] |
| GR | 882.500 | [illegible] | 882.600 | 306.200 | 882.700 | 306.800 | 882.700 | 307.400 | 882.800 | [illegible] |
| GR | 882.900 | 308.700 | 883.000 | 309.300 | 883.000 | 310.000 | 883.100 | 310.600 | 883.300 | 311.200 |
| GR | 883.600 | 319.000 | 884.000 | 326.800 | 884.300 | 334.600 | 884.700 | 342.400 | 885.000 | 350.200 |
| GR | 885.400 | 357.900 | 885.700 | 365.700 | 886.100 | 373.500 | 886.400 | 381.300 | 886.800 | 389.100 |
| GR | [illegible] | [illegible] | [illegible] | 404.700 | [illegible] | 412.500 | [illegible] | 420.200 | [illegible] | [illegible] |
| GR | 890.300 | [illegible] | [illegible] | 443.000 | 891.300 | 451.400 | 892.000 | 459.200 | 892.600 | [illegible] |
| GR | 893.200 | [illegible] | 893.800 | 482.500 | 894.400 | 490.300 | 895.000 | 498.100 | 895.300 | [illegible] |
| GR | 895.500 | 513.700 | 895.700 | 521.500 | 896.000 | 529.300 | 896.300 | 537.000 | 896.500 | 544.800 |
| | | | | | | | | | | |
| XI | 15522.000 | [illegible] | 292.500 | 311.200 | 7.000 | 7.000 | 7.000 | 0.000 | .100 | [illegible] |
| GR | 892.000 | [illegible] | 891.400 | 10.000 | 890.800 | 20.100 | 890.200 | 30.200 | 889.500 | [illegible] |
| GR | 888.900 | [illegible] | 888.300 | 60.500 | 887.700 | 70.600 | 887.100 | 80.600 | 886.500 | [illegible] |
| GR | 886.000 | 100.800 | 885.900 | 110.900 | 885.900 | 121.000 | 885.800 | 131.100 | 885.800 | 141.200 |
| GR | 885.800 | 151.200 | 885.700 | 161.300 | 885.700 | 171.400 | 885.600 | 181.500 | 885.600 | 191.600 |
| GR | 885.500 | 201.700 | 885.400 | 211.800 | 885.200 | 221.800 | 885.000 | 231.900 | 884.800 | 242.000 |
| GR | [illegible] | [illegible] | [illegible] | 262.200 | 884.200 | 272.300 | 884.000 | 282.400 | [illegible] | [illegible] |
| GR | 883.600 | 293.100 | 883.500 | 293.700 | 883.300 | 294.300 | 883.200 | 295.000 | 883.000 | [illegible] |
| GR | 882.900 | 296.200 | 882.700 | 296.800 | 882.600 | 297.500 | 882.400 | 298.100 | 882.300 | [illegible] |
| GR | 882.200 | 299.300 | 882.300 | 300.000 | 882.300 | 300.600 | 882.300 | 301.200 | 882.300 | 301.800 |
| GR | 882.400 | 302.500 | 882.400 | 303.100 | 882.400 | 303.700 | 882.400 | 304.300 | 882.500 | 305.000 |
| GR | 882.600 | 305.600 | 882.700 | 306.200 | 882.700 | 306.800 | 882.800 | 307.500 | 882.900 | 308.100 |
| GR | 883.000 | [illegible] | 883.000 | 309.300 | 883.100 | 310.000 | 883.200 | 310.600 | 883.300 | [illegible] |
| GR | 883.600 | 319.000 | 884.000 | 326.700 | 884.300 | 334.400 | 884.700 | 342.200 | 885.000 | [illegible] |
| GR | 885.400 | 357.700 | 885.700 | 365.400 | 886.100 | 373.200 | 886.400 | 380.900 | 886.800 | 388.700 |
| GR | 887.500 | 396.400 | 887.700 | 404.200 | 888.200 | 411.900 | 888.800 | 419.700 | 889.500 | 427.400 |
| GR | 890.100 | 435.200 | 890.700 | 442.900 | 891.300 | 450.700 | 892.000 | 458.400 | 892.600 | 466.200 |
| GR | 893.200 | 473.900 | 893.800 | 481.700 | 894.400 | 489.400 | 895.000 | 497.200 | 895.300 | 504.900 |
| GR | 895.500 | 512.700 | 895.700 | 520.400 | 895.900 | 528.200 | 896.200 | 535.900 | 896.400 | 543.700 |
| | | | | | | | | | | |
| XI | 15555.000 | 90.000 | 293.100 | 310.900 | 27.000 | 27.000 | 27.000 | 0.000 | 0.000 | 0.000 |
| GR | 892.200 | 0.000 | 891.600 | 10.100 | 891.000 | 20.200 | 890.400 | 30.300 | 889.700 | 40.400 |
| GR | 889.100 | 50.500 | 888.500 | 60.600 | 887.900 | 70.700 | 887.300 | 80.800 | 886.700 | 90.900 |
| GR | 886.200 | [illegible] | 886.100 | 111.100 | 886.100 | 121.200 | 886.000 | 131.400 | 886.000 | [illegible] |
| GR | 886.000 | [illegible] | 886.000 | 161.700 | 886.000 | 171.800 | 885.900 | 181.900 | 885.900 | [illegible] |
| GR | 885.800 | [illegible] | 885.700 | 212.200 | 885.500 | 222.300 | 885.400 | 232.400 | 885.200 | [illegible] |
| GR | 885.000 | 252.600 | 884.800 | 262.800 | 884.600 | 272.900 | 884.500 | 283.000 | 884.300 | 293.100 |
| GR | 884.100 | 293.700 | 884.000 | 294.300 | 883.800 | 294.900 | 883.700 | 295.400 | 883.500 | 296.000 |
| GR | 883.300 | 296.600 | 883.100 | 297.200 | 883.000 | 297.800 | 882.800 | 298.400 | 882.700 | 299.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 882.800 | 302.[illegible] | [illegible] | [illegible] | [illegible] | 305.700 | 882.[illegible] | 304.300 | 882.900 | 304.900 |
| GR | 883.000 | 305.500 | [illegible] | 306.100 | 883.100 | 306.700 | 883.200 | 307.300 | 883.300 | 307.900 |
| GR | 883.400 | 308.500 | 883.400 | 309.100 | 883.500 | 309.700 | 883.500 | 310.300 | 883.600 | 310.900 |
| GR | 883.900 | 318.500 | 884.300 | 326.100 | 884.600 | 333.700 | 885.000 | 341.300 | 885.300 | 348.900 |
| GR | 885.700 | 356.500 | 886.000 | 364.100 | 886.400 | 371.700 | 886.700 | 379.300 | 887.100 | 386.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 890.300 | [illegible] | [illegible] | 440.100 | 891.500 | 447.700 | 892.200 | 455.300 | 892.800 | [illegible] |
| GR | 893.400 | [illegible] | [illegible] | 478.100 | 894.000 | 485.700 | 895.200 | 493.300 | 895.400 | [illegible] |
| GR | 895.600 | 508.800 | [illegible] | 516.200 | 896.000 | 523.800 | 896.200 | 531.400 | 896.400 | 539.000 |
| X1 | 15[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 |
| GR | 892.300 | [illegible] | 891.600 | 10.100 | 891.000 | 20.200 | 890.400 | 30.300 | 889.800 | 40.400 |
| GR | 889.100 | [illegible] | 888.500 | 60.700 | 887.900 | 70.800 | 887.300 | 80.900 | 886.700 | [illegible] |
| GR | 886.200 | 101.200 | 886.200 | 111.300 | 886.200 | 121.400 | 886.100 | 131.600 | 886.100 | 141.700 |
| GR | 886.100 | 151.800 | 886.100 | 161.900 | 886.100 | 172.000 | 886.000 | 182.200 | 886.000 | 192.300 |
| GR | 886.000 | 202.400 | 885.900 | 212.500 | 885.700 | 222.700 | 885.600 | 232.800 | 885.400 | 242.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 273.300 | 884.800 | [illegible] | [illegible] | [illegible] |
| GR | 884.400 | [illegible] | 884.300 | 294.700 | 884.100 | 295.200 | 883.900 | 295.800 | 883.700 | [illegible] |
| GR | 883.600 | [illegible] | [illegible] | 297.300 | 883.200 | 298.100 | 883.100 | 298.700 | 883.000 | [illegible] |
| GR | 883.000 | 299.800 | 883.000 | 300.400 | 883.000 | 300.900 | 883.100 | 301.500 | 883.100 | 302.100 |
| GR | 883.100 | 302.600 | 883.200 | 303.200 | 883.200 | 303.800 | 883.200 | 304.400 | 883.200 | 304.900 |
| GR | 883.300 | 305.500 | 883.300 | 306.100 | 883.400 | 306.600 | 883.400 | 307.200 | 883.500 | 307.800 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 883.700 | 309.500 | 883.700 | 310.100 | [illegible] | [illegible] |
| GR | 884.100 | [illegible] | 884.500 | 325.600 | 884.800 | 333.100 | 885.200 | 340.600 | 885.500 | [illegible] |
| GR | 885.900 | [illegible] | [illegible] | 363.100 | 886.600 | 370.600 | 886.900 | 378.100 | 887.300 | [illegible] |
| GR | 887.700 | 393.100 | 888.100 | 400.600 | 888.500 | 408.000 | 889.100 | 415.500 | 889.800 | 423.000 |
| GR | 890.400 | 430.500 | 891.000 | 438.000 | 891.600 | 445.500 | 892.300 | 453.000 | 892.900 | 460.500 |
| GR | 893.500 | 468.000 | 894.100 | 475.500 | 894.700 | 483.000 | 895.300 | 490.500 | 895.400 | 498.000 |
| GR | 895.[illegible] | [illegible] | [illegible] | 513.000 | 896.000 | 520.500 | 896.100 | 528.000 | [illegible] | [illegible] |
| X1 | 15590.000 | 90.000 | 293.500 | 310.400 | 15.000 | 15.000 | 15.000 | 0.000 | .100 | 0.000 |
| GR | 892.300 | 0.000 | 891.600 | 10.100 | 891.000 | 20.200 | 890.400 | 30.400 | 889.800 | 40.500 |
| GR | 889.100 | 50.600 | 888.500 | 60.800 | 887.900 | 70.900 | 887.300 | 81.000 | 886.700 | 91.200 |
| GR | 886.200 | [illegible] | 886.200 | 111.400 | 886.200 | 121.600 | 886.200 | 131.700 | 886.200 | [illegible] |
| GR | 886.200 | 152.000 | 886.200 | 162.100 | 886.200 | 172.200 | 886.100 | 182.400 | 886.100 | [illegible] |
| GR | 886.100 | [illegible] | 886.000 | 212.600 | 885.800 | 222.900 | 885.700 | 233.000 | 885.500 | [illegible] |
| GR | 885.400 | 253.300 | 885.200 | 263.400 | 885.100 | 273.600 | 885.000 | 283.700 | 884.800 | 293.800 |
| GR | 884.600 | 294.400 | 884.500 | 294.900 | 884.300 | 295.500 | 884.100 | 296.000 | 883.900 | 296.600 |
| GR | 883.800 | 297.100 | 883.600 | 297.700 | 883.400 | 298.200 | 883.300 | 298.800 | 883.200 | 299.300 |
| GR | 883.200 | [illegible] | 883.200 | [illegible] | 883.200 | 301.000 | 883.300 | 301.600 | 883.300 | [illegible] |
| GR | 883.300 | 302.700 | 883.400 | 303.200 | 883.400 | 303.800 | 883.400 | 304.300 | 883.400 | [illegible] |
| GR | 883.500 | [illegible] | 883.500 | 304.000 | 883.600 | 306.500 | 883.600 | 307.100 | 883.700 | [illegible] |
| GR | 883.700 | 308.200 | 883.800 | 308.700 | 883.800 | 309.300 | 883.800 | 309.800 | 883.900 | 310.400 |
| GR | 884.200 | 317.800 | 884.600 | 325.200 | 884.900 | 332.600 | 885.300 | 340.100 | 885.600 | 347.500 |
| GR | 886.000 | 354.900 | 886.300 | 362.300 | 886.700 | 369.700 | 887.000 | 377.100 | 887.400 | 384.500 |
| GR | 887.800 | [illegible] | 888.200 | 399.400 | 888.600 | 406.800 | 889.200 | 414.200 | 889.900 | [illegible] |
| GR | 890.500 | 429.000 | 891.100 | 436.400 | 891.700 | 443.900 | 892.300 | 451.300 | 892.900 | [illegible] |
| GR | 893.500 | 466.100 | 894.200 | 473.500 | 894.800 | 480.900 | 895.400 | 488.300 | 895.400 | 495.800 |
| GR | 895.600 | 503.200 | 895.800 | 510.600 | 896.000 | 518.000 | 896.100 | 525.400 | 896.200 | 532.800 |

VALLEY SECTION NO. 3130 SECT. AY

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 15635.000 | 9.000 | 295.000 | 310.000 | 45.000 | 45.000 | 45.000 | 0.000 | 0.000 | 0.000 |
| GR | 892.[illegible] | 0.000 | 3[illegible]6.500 | 100.000 | 536.700 | 200.000 | 885.600 | 295.000 | 883.900 | 300.000 |
| GR | 864.500 | 310.000 | 888.800 | 400.000 | 385.700 | 482.000 | 896.200 | 525.000 | 0.000 | 0.000 |
| X1 | 16275.000 | 90.000 | 285.000 | 315.000 | 640.000 | 640.000 | 640.000 | 0.000 | 1.100 | 0.000 |
| GR | 912.700 | 0.000 | 911.700 | 9.800 | 911.100 | 19.600 | 910.300 | 29.400 | 909.500 | [illegible] |
| GR | 908.700 | 49.100 | 907.900 | 58.900 | 907.100 | 68.700 | 906.300 | 78.600 | 905.400 | 88.400 |
| GR | 904.600 | 98.200 | 903.600 | 108.100 | 902.600 | 117.900 | 901.300 | 127.700 | 900.200 | 137.500 |
| GR | 899.000 | 147.400 | 897.900 | 157.200 | 896.800 | 167.000 | 895.700 | 176.800 | 894.500 | 186.700 |

FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS
PRINTED IN U.S.A.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 892.500 | [illegible] | [illegible] | [illegible] | [illegible] | 265.300 | [illegible] | [illegible] | 892.100 | [illegible] |
| GR | 891.900 | 286.000 | 891.700 | 287.000 | 891.[illegible]00 | 288.000 | 891.300 | 289.000 | 891.100 | 290.000 |
| GR | 890.900 | 291.000 | 890.700 | 292.000 | 890.500 | 293.000 | 890.300 | 294.000 | 890.100 | 295.000 |
| GR | 889.900 | 296.000 | 889.700 | 297.000 | 889.700 | 298.000 | 889.700 | 299.000 | 889.700 | 300.000 |
| GR | 889.700 | 301.000 | 889.700 | 302.000 | 889.700 | 303.000 | 889.700 | 304.000 | 889.800 | 305.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 890.100 | [illegible] | 890.100 | 312.000 | 890.200 | 313.000 | 890.200 | 314.000 | 890.300 | [illegible] |
| GR | 890.400 | [illegible] | 890.800 | 336.000 | 891.100 | 343.500 | 891.400 | 353.000 | 891.000 | [illegible] |
| GR | 891.900 | 372.000 | 892.200 | 381.500 | 892.400 | 391.000 | 892.700 | 400.500 | 892.900 | 410.000 |
| GR | 893.100 | 419.500 | 893.200 | 429.000 | 893.400 | 438.500 | 893.600 | 448.000 | 893.700 | 457.500 |
| GR | 893.900 | 467.000 | 894.100 | 476.500 | 894.200 | 486.000 | 894.400 | 495.500 | 894.900 | 505.000 |
| GR | [illegible] | [illegible] | 896.400 | 524.000 | 897.100 | 533.500 | 897.900 | 543.000 | 898.000 | [illegible] |
| GR | 899.300 | 562.000 | 900.100 | 571.500 | 900.800 | 581.000 | 901.600 | 590.500 | 902.300 | [illegible] |
| X1 | 16290.000 | 90.000 | 285.000 | 315.000 | 15.000 | 15.000 | 15.000 | 0.000 | .500 | 0.000 |
| GR | 913.400 | 0.000 | 912.600 | 9.800 | 911.800 | 19.600 | 911.000 | 29.400 | 910.200 | 39.300 |
| GR | [illegible] | [illegible] | 908.500 | 58.900 | 907.700 | 68.700 | 906.900 | 78.600 | 906.100 | [illegible] |
| GR | 905.300 | [illegible] | 904.200 | 108.100 | 903.100 | 117.900 | 902.000 | 127.700 | 900.900 | [illegible] |
| GR | 899.700 | [illegible] | 898.600 | 157.200 | 897.500 | 167.000 | 896.300 | 176.800 | 895.200 | [illegible] |
| GR | 894.100 | 196.500 | 893.600 | 206.300 | 893.500 | 215.200 | 893.400 | 226.000 | 893.300 | 235.800 |
| GR | 893.200 | 245.600 | 893.100 | 255.500 | 893.000 | 265.300 | 892.900 | 275.100 | 892.800 | 285.000 |
| GR | 892.600 | 286.000 | 892.400 | 287.000 | 892.200 | 288.000 | 892.000 | 289.000 | 891.800 | 290.000 |
| GR | [illegible] | [illegible] | [illegible] | 292.000 | 891.200 | 293.000 | 891.000 | 294.000 | [illegible] | [illegible] |
| GR | [illegible] | 296.000 | 890.400 | 297.000 | 890.400 | 298.000 | 890.400 | 299.000 | [illegible] | [illegible] |
| GR | [illegible] | 301.000 | 890.400 | 302.000 | 890.400 | 303.000 | 890.400 | 304.000 | [illegible] | [illegible] |
| GR | 890.500 | 306.000 | 890.600 | 307.000 | 890.600 | 308.000 | 890.700 | 309.000 | 890.700 | 310.000 |
| GR | 890.800 | 311.000 | 890.800 | 312.000 | 890.900 | 313.000 | 890.900 | 314.000 | 891.000 | 315.000 |
| GR | 891.200 | 324.500 | 891.500 | 334.000 | 891.800 | 343.500 | 892.000 | 353.000 | 892.300 | 362.500 |
| GR | [illegible] | [illegible] | 892.900 | 381.500 | 893.100 | 391.000 | 893.400 | 400.500 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | 893.900 | 429.000 | 894.100 | 438.500 | 894.200 | 448.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | 894.800 | 476.500 | 894.900 | 486.000 | 895.100 | 495.500 | [illegible] | [illegible] |
| GR | 896.[illegible]00 | 514.500 | 897.000 | 524.000 | 897.800 | 533.500 | 898.500 | 543.000 | 899.300 | 552.500 |
| GR | 900.000 | 562.000 | 900.800 | 571.500 | 901.500 | 581.000 | 902.200 | 590.500 | 903.000 | 600.000 |

VALLEY SECTION NO. 3800 SECT. AZ

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16305.000 | 10.000 | 285.000 | 315.000 | 15.000 | 15.000 | 15.000 | 0.000 | 0.000 | 0.000 |
| GR | 914.100 | 0.000 | 905.900 | 100.000 | 894.400 | 200.000 | 893.500 | 285.000 | 891.100 | 297.000 |
| GR | 891.100 | 303.000 | 891.700 | 315.000 | 894.100 | 400.000 | 895.900 | 500.000 | 903.700 | 600.000 |
| X1 | 16345.000 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | .000 | 0.000 |
| X1 | 16375.000 | 90.000 | 268.700 | 313.200 | 30.000 | 30.000 | 30.000 | 0.000 | -.100 | 0.000 |
| GR | 912.200 | 0.000 | 911.400 | 9.800 | 910.700 | 19.700 | 909.900 | 29.600 | 909.200 | [illegible] |
| GR | 908.400 | 49.400 | 907.700 | 59.300 | 906.900 | 69.200 | 906.200 | 79.100 | 905.400 | 88.900 |
| GR | 904.700 | 98.800 | 903.800 | 108.700 | 902.800 | 118.600 | 901.800 | 128.500 | 900.900 | 138.400 |
| GR | 899.900 | 148.300 | 899.000 | 158.200 | 898.000 | 168.000 | 897.100 | 177.900 | 895.100 | 187.800 |
| GR | 895.200 | 197.700 | 894.800 | 207.600 | 894.800 | 217.500 | 894.700 | 227.400 | 894.600 | 237.300 |
| GR | 894.600 | 247.100 | 894.500 | 257.000 | 894.500 | 266.900 | 894.400 | 276.800 | 894.300 | 286.700 |
| GR | 894.200 | 287.600 | 894.000 | 288.500 | 893.800 | 289.400 | 893.600 | 290.200 | 893.500 | 291.100 |
| GR | 893.300 | 292.000 | 893.100 | 292.900 | 893.000 | 293.800 | 892.800 | 294.700 | 892.600 | 295.500 |
| GR | 892.500 | 296.400 | 892.300 | 297.300 | 892.300 | 298.200 | 892.300 | 299.100 | 892.300 | 300.000 |
| GR | 892.300 | 300.800 | 892.300 | 301.700 | 892.300 | 302.600 | 892.400 | 303.500 | 892.400 | 304.400 |
| GR | 892.400 | 305.200 | 892.500 | 306.100 | 892.600 | 307.000 | 892.600 | 307.900 | 892.700 | 308.800 |
| GR | 892.700 | 309.700 | 892.800 | 310.500 | 892.800 | 311.400 | 892.900 | 312.300 | 893.000 | 313.200 |
| GR | 893.300 | 322.800 | 893.700 | 332.300 | 894.000 | 341.900 | 894.400 | 351.400 | 894.700 | [illegible] |
| GR | 895.100 | 370.500 | 895.400 | 380.100 | 895.800 | 389.700 | 896.100 | 399.200 | 896.400 | [illegible] |
| GR | [illegible] | [illegible] | 896.800 | 427.600 | 897.100 | 437.500 | 897.300 | 447.000 | 897.500 | [illegible] |
| GR | 897.800 | 466.100 | 898.000 | 475.700 | 898.200 | 485.200 | 898.400 | 494.800 | 898.900 | 504.400 |
| GR | 899.600 | 513.900 | 900.200 | 523.500 | 900.900 | 533.000 | 901.600 | 542.600 | 902.200 | 552.200 |
| GR | 902.900 | 561.700 | 903.600 | 571.300 | 904.200 | 580.800 | 904.900 | 590.400 | 905.500 | 600.000 |

PRINTED IN U.S.A.
FORM 1411-DB-PRINTED BY ROTARY MANIFOLD FORMS.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16545.000 | 90.000 | 290.200 | 300.700 | 170.000 | 170.000 | 170.000 | 0.000 | .100 | 0.000 |
| GR | 908.500 | 0.000 | 907.900 | 10.000 | 907.200 | 20.000 | 906.600 | 30.000 | 905.900 | 40.000 |
| GR | 905.300 | 50.000 | 904.600 | 60.000 | 904.000 | 70.000 | 903.300 | 80.000 | 902.700 | 90.000 |
| GR | 902.000 | 100.000 | 901.400 | 110.000 | 900.800 | 120.100 | 900.200 | 130.100 | 899.600 | 140.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 170.100 | 897.200 | 180.100 | [illegible] | [illegible] |
| GR | 896.000 | [illegible] | [illegible] | [illegible] | [illegible] | 220.100 | 896.000 | 230.100 | 896.000 | [illegible] |
| GR | 896.000 | [illegible] | [illegible] | 260.200 | 896.000 | 270.200 | 896.100 | 280.200 | 896.100 | 290.200 |
| GR | 896.000 | 290.900 | 895.900 | 291.500 | 895.700 | 292.200 | 895.600 | 292.800 | 895.500 | 293.500 |
| GR | 895.400 | 294.100 | 895.300 | 294.700 | 895.200 | 295.400 | 895.100 | 296.000 | 895.000 | 296.700 |
| GR | 894.900 | 297.300 | 894.800 | 298.000 | 894.800 | 298.600 | 894.800 | 299.300 | 894.800 | 299.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 301.900 | 894.900 | 302.500 | [illegible] | [illegible] |
| GR | 894.900 | [illegible] | 895.000 | 304.500 | 895.100 | 305.100 | 895.100 | 305.800 | 895.200 | 306.400 |
| GR | 895.300 | [illegible] | 895.300 | 307.700 | 895.400 | 308.400 | 895.500 | 309.000 | 895.500 | 309.700 |
| GR | 896.100 | 319.400 | 896.600 | 329.000 | 897.100 | 338.700 | 897.700 | 348.400 | 898.200 | 358.100 |
| GR | 898.700 | 367.700 | 899.200 | 377.400 | 899.800 | 387.100 | 900.300 | 396.800 | 900.700 | 406.400 |
| GR | 901.100 | 416.100 | 901.400 | 425.800 | 901.700 | 435.500 | 902.100 | 445.100 | 902.400 | 454.800 |
| GR | 902.800 | [illegible] | 903.100 | [illegible] | 903.400 | 485.800 | 903.800 | 495.500 | 904.200 | [illegible] |
| GR | 904.700 | [illegible] | 905.200 | 522.500 | 905.800 | 532.200 | 906.300 | 541.900 | 906.800 | 551.600 |
| GR | 907.300 | [illegible] | 907.800 | 570.900 | 908.300 | 580.600 | 908.800 | 590.300 | 909.400 | [illegible] |

VALLEY SECTION NO. 4120 SECT. 8A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16625.000 | [illegible] | 292.600 | 308.000 | 60.000 | 80.000 | 80.000 | 0.000 | 0.000 | [illegible] |
| GR | 906.700 | [illegible] | 906.500 | 190.000 | 896.500 | 200.000 | 897.000 | 292.000 | 896.100 | [illegible] |
| GR | 896.200 | 305.000 | 896.900 | 308.000 | 902.700 | 400.000 | 906.800 | 500.000 | 911.300 | 600.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16656.000 | [illegible] | 291.700 | 308.100 | 11.000 | 11.000 | 11.000 | 0.000 | .100 | [illegible] |
| GR | 907.300 | [illegible] | 906.700 | 10.000 | 906.100 | 20.100 | 905.500 | 30.100 | 904.900 | [illegible] |
| GR | 904.300 | [illegible] | 903.700 | 60.300 | 903.100 | 70.400 | 902.500 | 80.400 | 901.900 | [illegible] |
| GR | 901.300 | 100.600 | 900.900 | 110.600 | 900.400 | 120.700 | 900.000 | 130.700 | 899.500 | 140.800 |
| GR | 899.000 | 150.900 | 898.600 | 160.900 | 898.100 | 171.000 | 897.700 | 181.000 | 897.200 | 191.100 |
| GR | 896.800 | 201.200 | 896.800 | 211.200 | 896.800 | 221.300 | 896.900 | 231.300 | 896.900 | 241.400 |
| GR | 896.900 | [illegible] | 897.000 | 261.500 | 897.000 | 271.600 | 897.000 | 281.600 | 897.000 | [illegible] |
| GR | 896.900 | 292.200 | 896.900 | 292.800 | 896.800 | 293.300 | 896.700 | 293.900 | 896.600 | [illegible] |
| GR | 896.500 | [illegible] | 896.500 | 295.500 | 896.400 | 296.100 | 896.300 | 296.600 | 896.200 | [illegible] |
| GR | 896.100 | 297.700 | 896.100 | 298.200 | 896.100 | 298.800 | 896.100 | 299.300 | 896.100 | 299.900 |
| GR | 896.100 | 300.400 | 896.100 | 301.000 | 896.200 | 301.500 | 896.200 | 302.100 | 896.200 | 302.600 |
| GR | 896.200 | 303.200 | 896.300 | 303.700 | 896.400 | 304.300 | 896.500 | 304.300 | 896.500 | 305.300 |
| GR | 896.600 | [illegible] | 896.700 | 306.400 | 896.800 | 307.000 | 896.800 | 307.500 | 896.900 | [illegible] |
| GR | 897.300 | 317.800 | 898.100 | 327.500 | 898.800 | 337.300 | 899.400 | 347.000 | 900.000 | [illegible] |
| GR | 900.700 | [illegible] | 901.400 | 376.200 | 902.100 | 385.900 | 902.600 | 395.600 | 903.000 | [illegible] |
| GR | 903.200 | 415.100 | 903.500 | 424.800 | 903.900 | 434.600 | 904.300 | 444.300 | 904.700 | 454.000 |
| GR | 905.000 | 463.700 | 905.400 | 473.500 | 905.800 | 483.200 | 906.200 | 492.900 | 906.600 | 502.700 |
| GR | 907.000 | 512.400 | 907.400 | 522.100 | 907.900 | 531.800 | 908.400 | 541.600 | 908.800 | 551.300 |
| GR | 909.200 | [illegible] | 909.700 | 570.800 | 910.100 | 580.500 | 910.600 | 590.200 | 911.000 | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16643.000 | 90.000 | 291.500 | 308.200 | 12.000 | 12.000 | 12.000 | 0.000 | 0.000 | 0.000 |
| GR | 907.900 | 0.000 | 907.300 | 10.000 | 906.700 | 20.100 | 906.100 | 30.100 | 905.500 | 40.200 |
| GR | 904.900 | 50.200 | 904.300 | 60.300 | 903.700 | 70.300 | 903.100 | 80.400 | 902.500 | 90.400 |
| GR | 901.900 | 100.500 | 901.500 | 110.500 | 901.000 | 120.600 | 900.500 | 130.600 | 900.000 | 140.700 |
| GR | 899.500 | 150.700 | 899.000 | 160.800 | 898.500 | 170.800 | 898.100 | 180.900 | 897.500 | 190.900 |
| GR | 897.100 | 201.000 | 897.100 | 211.000 | 897.100 | 221.100 | 897.100 | 231.100 | 897.100 | 241.200 |
| GR | 897.100 | 251.200 | 897.100 | 261.300 | 897.100 | 271.300 | 897.100 | 281.400 | 897.100 | 291.500 |
| GR | 897.000 | 292.000 | 896.900 | 292.600 | 896.600 | 293.100 | 896.700 | 293.700 | 896.700 | 294.200 |
| GR | 89[illegible].600 | 94.600 | 96.500 | 295.400 | 896.400 | 295.900 | 896.300 | 296.500 | 896.300 | 297.000 |
| GR | 896.200 | 297.600 | 896.200 | 298.100 | 896.200 | 298.700 | 896.200 | 299.300 | 896.200 | [illegible] |
| GR | 896.200 | 300.400 | 896.200 | 300.900 | 896.200 | 301.500 | 896.200 | 302.100 | 896.200 | [illegible] |
| GR | 896.300 | [illegible] | 896.400 | 303.900 | 896.600 | 304.300 | 896.300 | 304.800 | [illegible] | [illegible] |
| GR | 896.700 | 306.000 | 896.800 | 306.500 | 896.800 | 307.100 | 896.900 | 307.600 | 897.000 | 308.200 |
| GR | 897.600 | 317.900 | 898.200 | 327.600 | 898.900 | 337.400 | 899.500 | 347.100 | 900.100 | 356.800 |
| GR | 900.800 | 366.500 | 901.600 | 376.300 | 902.600 | 386.000 | 902.800 | 395.700 | 903.100 | 405.400 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 904.800 | [illegible] | [illegible] | [illegible] | [illegible] | 483.200 | 905.900 | 493.000 | 904.500 | 502.700 |
| GR | 906.700 | [illegible] | 907.100 | 522.100 | 907.600 | 531.900 | 908.100 | 541.600 | 908.500 | 551.300 |
| GR | 909.000 | 561.000 | 909.400 | 570.800 | 909.900 | 580.500 | 910.300 | 590.200 | 910.800 | 600.000 |
| XT | 16669.000 | [illegible] | [illegible] | [illegible] | 11.000 | 11.000 | 11.000 | 0.000 | [illegible] | [illegible] |
| GR | 908.500 | [illegible] | 907.900 | 10.000 | 907.300 | 20.000 | 906.700 | 30.100 | 906.100 | 40.100 |
| GR | 905.500 | [illegible] | 904.900 | 60.200 | 904.300 | 70.300 | 903.700 | 80.300 | 903.100 | [illegible] |
| GR | 902.500 | 100.400 | 902.100 | 110.400 | 901.500 | 120.500 | 901.000 | 130.500 | 900.500 | 140.600 |
| GR | 900.000 | 150.600 | 899.400 | 160.600 | 898.900 | 170.700 | 898.500 | 180.700 | 897.900 | 190.800 |
| GR | 897.400 | 200.800 | 897.400 | 210.900 | 897.400 | 220.900 | 897.300 | 230.900 | 897.300 | 241.000 |
| GR | 897.300 | [illegible] | [illegible] | 261.100 | 897.200 | 271.100 | 897.200 | 281.200 | 897.200 | 291.200 |
| GR | 897.100 | [illegible] | 897.000 | 292.300 | 896.900 | 292.900 | 896.800 | 293.500 | 896.800 | 294.100 |
| GR | 896.700 | [illegible] | 896.600 | 295.200 | 896.500 | 295.800 | 896.400 | 296.300 | 896.300 | [illegible] |
| GR | 896.300 | 297.500 | 896.200 | 298.000 | 896.200 | 298.600 | 896.200 | 299.200 | 896.200 | 299.800 |
| GR | 896.200 | 300.300 | 896.200 | 300.900 | 896.200 | 301.500 | 896.200 | 302.000 | 896.300 | 302.600 |
| GR | 896.300 | 303.200 | 896.400 | 303.800 | 896.500 | 304.300 | 896.600 | 304.900 | 896.700 | 305.500 |
| GR | 896.800 | [illegible] | [illegible] | 306.800 | 896.900 | 307.200 | 897.000 | 307.800 | 897.100 | [illegible] |
| GR | 897.700 | [illegible] | 898.300 | 327.800 | 899.000 | 337.500 | 899.600 | 347.200 | 900.200 | 356.900 |
| GR | 900.900 | [illegible] | 901.800 | 376.400 | 902.700 | 386.100 | 903.000 | 395.800 | 903.200 | [illegible] |
| GR | 903.000 | 415.300 | 903.200 | 425.000 | 903.600 | 434.700 | 903.900 | 444.400 | 904.300 | 454.100 |
| GR | 904.600 | 463.900 | 904.900 | 473.600 | 905.200 | 483.300 | 905.600 | 493.000 | 906.000 | 502.700 |
| GR | 906.400 | 512.500 | 906.900 | 522.200 | 907.300 | 531.900 | 907.800 | 541.600 | 908.200 | 551.300 |
| GR | 908.700 | [illegible] | [illegible] | 570.800 | 909.600 | 580.500 | 910.100 | 590.200 | 910.600 | [illegible] |
| HC | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| XT | 16670.000 | 90.000 | 291.000 | 308.500 | 11.000 | 11.000 | 11.000 | 0.000 | 0.000 | 0.000 |
| GR | 909.200 | 0.000 | 908.600 | 10.000 | 908.000 | 20.000 | 907.400 | 30.100 | 906.800 | 40.100 |
| GR | 906.200 | [illegible] | [illegible] | 60.200 | 905.600 | 70.200 | 904.400 | 80.200 | 903.800 | [illegible] |
| GR | 903.200 | [illegible] | 902.700 | 110.300 | 902.100 | 120.400 | 901.600 | 130.400 | 901.000 | [illegible] |
| GR | 900.500 | [illegible] | 899.900 | 160.500 | 899.400 | 170.500 | 898.900 | 180.600 | 898.300 | [illegible] |
| GR | 897.800 | 200.600 | 897.800 | 210.700 | 897.700 | 220.700 | 897.600 | 230.700 | 897.600 | 240.800 |
| GR | 897.500 | 250.800 | 897.500 | 260.800 | 897.400 | 270.900 | 897.300 | 280.900 | 897.300 | 291.000 |
| GR | 897.200 | 291.500 | 897.100 | 292.100 | 897.000 | 292.700 | 896.900 | 293.300 | 896.900 | 293.900 |
| GR | 896.800 | [illegible] | 896.700 | 295.000 | 896.600 | 295.600 | 896.500 | 296.200 | 896.400 | [illegible] |
| GR | 896.400 | [illegible] | 896.300 | 297.900 | 896.300 | 298.500 | 896.300 | 299.100 | 896.300 | [illegible] |
| GR | 896.300 | [illegible] | 896.300 | 300.900 | 896.300 | 301.400 | 896.300 | 302.000 | 896.400 | [illegible] |
| GR | 896.400 | 303.200 | 896.500 | 303.800 | 896.600 | 304.400 | 896.700 | 304.900 | 896.800 | 305.500 |
| GR | 896.900 | 306.100 | 897.000 | 306.700 | 897.000 | 307.300 | 897.100 | 307.900 | 897.200 | 308.500 |
| GR | 897.800 | 316.200 | 898.400 | 327.900 | 899.100 | 337.600 | 899.700 | 347.300 | 900.300 | 357.000 |
| GR | 901.100 | [illegible] | 902.100 | 376.300 | 903.000 | 386.200 | 903.300 | 395.900 | 903.300 | [illegible] |
| GR | 903.000 | 415.300 | 903.100 | 425.000 | 903.500 | 434.800 | 903.800 | 444.500 | 904.100 | [illegible] |
| GR | 904.400 | 463.900 | 904.700 | 473.600 | 905.000 | 483.300 | 905.300 | 493.100 | 905.700 | [illegible] |
| GR | 906.200 | 512.500 | 906.600 | 522.200 | 907.100 | 531.900 | 907.600 | 541.600 | 908.000 | 551.400 |
| GR | 908.500 | 561.100 | 909.000 | 570.800 | 909.400 | 580.500 | 909.900 | 590.200 | 910.400 | 600.000 |
| XT | 16674.000 | 90.000 | 290.700 | 308.600 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| GR | 909.300 | 0.000 | 909.100 | 10.000 | 908.500 | 20.000 | 907.900 | 30.000 | 907.300 | 40.100 |
| GR | 906.700 | 50.100 | 906.100 | 60.100 | 905.500 | 70.100 | 904.900 | 80.200 | 904.300 | 90.200 |
| GR | 903.700 | 100.200 | 903.200 | 110.200 | 902.600 | 120.300 | 902.000 | 130.300 | 901.400 | 140.300 |
| GR | 900.900 | 150.300 | 900.300 | 160.400 | 899.700 | 170.400 | 899.200 | 180.400 | 898.600 | 190.400 |
| GR | 898.100 | 200.500 | 898.000 | 210.500 | 897.900 | 220.500 | 897.800 | 230.500 | 897.700 | 240.600 |
| GR | 897.600 | 250.600 | 897.600 | 260.600 | 897.500 | 270.600 | 897.300 | 280.700 | 897.300 | 290.700 |
| GR | 897.200 | 291.300 | 897.100 | 291.900 | 897.000 | 292.500 | 896.900 | 293.100 | 896.900 | 293.700 |
| GR | 896.800 | 294.300 | 896.700 | 294.900 | 896.600 | 295.500 | 896.500 | 296.100 | 896.400 | 296.700 |
| GR | 896.400 | 297.300 | 896.300 | 297.800 | 896.300 | 298.400 | 896.300 | 299.000 | 896.300 | 299.600 |
| GR | 896.300 | 300.200 | 896.300 | 300.800 | 896.300 | 301.400 | 896.300 | 302.000 | 896.400 | 302.600 |
| GR | 896.400 | 303.200 | 896.500 | 303.800 | 896.600 | 304.400 | 896.700 | 305.000 | 896.800 | [illegible] |
| GR | 896.900 | 306.200 | 897.000 | 306.800 | 897.000 | 307.400 | 897.100 | 308.000 | 897.200 | [illegible] |
| GR | 897.800 | [illegible] | 898.400 | 326.800 | 899.100 | 337.700 | 899.700 | 347.400 | 900.300 | [illegible] |
| GR | 901.200 | 366.800 | 902.300 | 376.600 | 903.300 | 386.300 | 903.500 | 396.000 | 903.500 | 405.700 |
| GR | 902.900 | 415.400 | 902.900 | 425.100 | 903.300 | 434.800 | 903.600 | 444.500 | 903.800 | 454.300 |
| GR | 904.100 | 464.000 | 904.400 | 473.700 | 904.700 | 483.400 | 905.000 | 493.100 | 905.300 | 502.800 |

FORM 1411-SS-PRINTED BY ROTARY MANIFOLD FORMS. PRINTED IN U.S.A.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 908.200 | [illegible] | [illegible] | [illegible] | [illegible] | 580.500 | 909.400 | 590.200 | 910.100 | 600.000 |
| X1 | 16678.000 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | .100 | 0.000 |
| X1 | 16680.000 | [illegible] | [illegible] | [illegible] | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | [illegible] |
| X1 | 16681.000 | 90.000 | 290.500 | 308.700 | 1.000 | 1.000 | 1.000 | 0.000 | .100 | 0.000 |
| GR | 910.200 | 0.000 | 909.500 | 10.000 | 908.900 | 20.000 | 908.300 | 30.000 | 907.800 | 40.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 70.100 | 903.300 | 80.100 | 904.700 | [illegible] |
| GR | 904.100 | [illegible] | 903.600 | 110.100 | 903.000 | 120.200 | 902.400 | 130.200 | 901.800 | 140.200 |
| GR | 901.200 | [illegible] | [illegible] | 160.200 | 900.000 | 170.300 | 899.500 | 180.300 | 898.800 | 190.300 |
| GR | 898.300 | 200.300 | 898.200 | 210.300 | 898.100 | 220.300 | 898.000 | 230.400 | 897.800 | 240.400 |
| GR | 897.700 | 250.400 | 897.700 | 260.400 | 897.600 | 270.400 | 897.400 | 280.500 | 897.300 | 290.500 |
| GR | 897.200 | 291.100 | 897.100 | 291.700 | 897.000 | 292.300 | 896.900 | 292.900 | 896.900 | 293.500 |
| GR | 896.800 | [illegible] | [illegible] | [illegible] | 896.600 | 295.300 | 896.500 | 295.900 | 896.400 | [illegible] |
| GR | 896.400 | [illegible] | [illegible] | 297.700 | 896.300 | 298.400 | 896.300 | 299.000 | 896.300 | [illegible] |
| GR | 896.300 | [illegible] | [illegible] | 300.800 | 896.300 | 301.400 | 896.300 | 302.000 | 896.400 | [illegible] |
| GR | 896.400 | 303.200 | 896.500 | 303.300 | 896.600 | 304.400 | 896.700 | 305.000 | 896.800 | 305.600 |
| GR | 896.900 | 306.200 | 897.000 | 306.800 | 897.100 | 307.400 | 897.200 | 308.000 | 897.300 | 308.700 |
| GR | 897.900 | 318.400 | 898.500 | 328.100 | 899.100 | 337.800 | 899.700 | 347.500 | 900.300 | 357.200 |
| GR | 901.300 | [illegible] | [illegible] | [illegible] | 903.500 | 356.300 | 903.600 | 396.000 | 903.300 | [illegible] |
| GR | 902.800 | [illegible] | [illegible] | 425.200 | 903.100 | 434.900 | 903.400 | 444.600 | 903.600 | [illegible] |
| GR | 903.900 | [illegible] | [illegible] | 473.200 | 904.500 | 483.400 | 904.800 | 493.100 | 903.100 | [illegible] |
| GR | 905.600 | 512.600 | 906.100 | 522.300 | 906.600 | 532.000 | 907.100 | 541.700 | 907.500 | 551.400 |
| GR | 908.000 | 561.100 | 908.500 | 570.800 | 908.900 | 580.500 | 909.400 | 590.200 | 909.900 | 600.000 |
| X1 | 16687.000 | [illegible] | [illegible] | 308.800 | 6.000 | 6.000 | 6.000 | 0.000 | [illegible] | [illegible] |
| GR | 910.700 | [illegible] | [illegible] | 10.000 | 909.400 | 20.000 | 908.800 | 30.000 | 908.300 | [illegible] |
| GR | 907.600 | 50.000 | 907.000 | 60.000 | 906.400 | 70.000 | 905.800 | 80.000 | 905.200 | 90.100 |
| GR | 904.600 | 100.100 | 904.000 | 110.100 | 903.400 | 120.100 | 902.800 | 130.100 | 902.200 | 140.100 |
| GR | 901.600 | 150.100 | 901.000 | 160.100 | 900.300 | 170.200 | 899.800 | 180.200 | 899.100 | 190.200 |
| GR | 898.400 | [illegible] | [illegible] | 210.200 | 898.300 | 220.200 | 898.200 | 230.200 | 898.000 | [illegible] |
| GR | 897.800 | [illegible] | [illegible] | 260.300 | 897.700 | 270.300 | 897.500 | 280.300 | 897.400 | [illegible] |
| GR | 897.300 | [illegible] | [illegible] | 291.500 | 897.100 | 292.100 | 897.000 | 292.800 | 897.000 | [illegible] |
| GR | 896.900 | 294.000 | 896.800 | 294.600 | 896.700 | 295.200 | 896.600 | 295.800 | 896.500 | 296.400 |
| GR | 896.500 | 297.100 | 896.400 | 297.700 | 896.400 | 298.300 | 896.400 | 298.900 | 896.400 | 299.500 |
| GR | 896.400 | 300.100 | 896.400 | 300.800 | 896.400 | 301.400 | 896.400 | 302.000 | 896.500 | 302.600 |
| GR | 896.500 | [illegible] | [illegible] | 303.800 | 896.700 | 304.400 | 896.800 | 305.100 | 896.900 | [illegible] |
| GR | 897.000 | [illegible] | [illegible] | 306.900 | 897.200 | 307.500 | 897.300 | 308.100 | 897.400 | [illegible] |
| GR | 898.000 | [illegible] | [illegible] | 328.200 | 899.200 | 337.900 | 899.800 | 347.600 | 900.400 | [illegible] |
| GR | 901.400 | 367.000 | 902.600 | 376.700 | 903.800 | 386.400 | 903.800 | 395.100 | 903.400 | 405.800 |
| GR | 902.800 | 415.500 | 902.700 | 425.200 | 903.000 | 434.900 | 903.300 | 444.600 | 903.500 | 454.300 |
| GR | 903.800 | 464.100 | 904.000 | 473.800 | 904.300 | 483.500 | 904.600 | 493.200 | 904.900 | 502.900 |
| GR | 905.400 | [illegible] | [illegible] | 522.300 | 906.400 | 532.000 | 906.900 | 541.700 | 907.300 | [illegible] |
| GR | 907.800 | [illegible] | [illegible] | 570.800 | 908.800 | 580.500 | 909.300 | 590.200 | 909.800 | [illegible] |
| X1 | 16760.000 | 90.000 | 289.000 | 309.500 | 73.000 | 73.000 | 73.000 | 0.000 | .100 | 0.000 |
| GR | 914.200 | 0.000 | 913.500 | 9.900 | 912.900 | 19.900 | 912.300 | 29.800 | 911.700 | 39.800 |
| GR | 911.100 | 49.800 | 910.500 | 59.700 | 909.900 | 69.700 | 909.300 | 79.700 | 908.700 | 89.600 |
| GR | 908.100 | 99.600 | 907.400 | 109.600 | 906.600 | 119.500 | 905.900 | 129.500 | 905.100 | 139.500 |
| GR | 904.400 | 149.400 | 903.600 | 159.400 | 902.800 | 169.400 | 902.100 | 179.300 | 901.300 | 189.300 |
| GR | 900.600 | 199.300 | 900.300 | 209.200 | 900.000 | 219.200 | 899.700 | 229.200 | 899.400 | 239.100 |
| GR | 898.100 | 249.100 | 898.300 | 259.100 | 898.500 | 269.000 | 898.200 | 279.000 | 897.900 | 289.000 |
| GR | 897.800 | 289.600 | 897.700 | 290.300 | 897.700 | 291.000 | 897.600 | 291.700 | 897.500 | 292.400 |
| GR | 897.400 | 293.000 | 897.300 | 293.700 | 897.200 | 294.400 | 897.100 | 295.100 | 897.000 | [illegible] |
| GR | 896.900 | 296.500 | 896.800 | 297.100 | 896.800 | 297.800 | 896.700 | 298.500 | 896.700 | [illegible] |
| GR | 896.700 | [illegible] | [illegible] | 300.600 | 896.700 | 301.200 | 896.700 | 301.900 | 896.800 | [illegible] |
| GR | 896.900 | 303.300 | 897.100 | 304.000 | 897.200 | 304.700 | 897.300 | 305.300 | 897.400 | 306.000 |
| GR | 897.500 | 306.700 | 897.600 | 307.400 | 897.700 | 308.100 | 897.900 | 308.800 | 898.000 | 309.500 |
| GR | 898.400 | 319.100 | 899.200 | 328.800 | 899.800 | 338.500 | 900.400 | 348.200 | 901.000 | 357.900 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 902.200 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 902.600 | 414.600 | 902.100 | [illegible] | [illegible] | 472.300 | [illegible] | [illegible] | 902.500 | 456.700 |
| GR | 902.600 | 464.400 | 902.400 | 474.100 | 902.[illegible] | 483.700 | 903.100 | 493.600 | 903.300 | 503.100 |
| GR | 903.800 | 512.800 | 904.400 | 522.500 | 904.900 | 532.200 | 905.400 | 541.800 | 905.900 | 551.500 |
| GR | 906.500 | 561.200 | 907.000 | 570.900 | 907.500 | 580.600 | 908.000 | 590.300 | 908.500 | 600.000 |

VALLEY SECTION NO. 4300 SECT. BB

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16805.000 | 13.000 | 288.000 | 310.000 | 45.000 | 45.000 | 45.000 | 0.000 | 0.000 | 0.000 |
| GR | 916.700 | 0.000 | 910.600 | 100.000 | 901.900 | 200.000 | 898.300 | 289.000 | 897.000 | 298.000 |
| GR | 897.000 | 302.000 | 898.400 | 310.000 | 901.600 | 362.000 | 907.300 | 389.000 | 905.900 | 400.000 |
| GR | 901.600 | [illegible] | 902.000 | 500.000 | 907.700 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION N . 4640 SECT. BC

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16945.000 | 12.000 | 296.000 | 304.000 | 100.000 | 270.000 | 140.000 | 0.000 | 0.000 | 0.000 |
| GR | 905.100 | [illegible] | 905.900 | 20.000 | 900.300 | 70.000 | 905.900 | 100.000 | 901.300 | 200.000 |
| GR | 898.200 | 296.000 | 896.900 | 298.000 | 896.900 | 302.000 | 898.000 | 304.000 | 897.900 | 450.000 |
| GR | 901.900 | 500.000 | 910.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17085.000 | 0.000 | 0.000 | 0.000 | 190.000 | 100.000 | 140.000 | 0.000 | .800 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17125.000 | 0.000 | 0.000 | 0.000 | 190.000 | 100.000 | 140.000 | 0.000 | .800 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17365.000 | 11.000 | 295.000 | 306.000 | 190.000 | 100.000 | 140.000 | 0.000 | -.800 | 0.000 |
| GR | 910.600 | 0.000 | 905.900 | 100.000 | 901.600 | 200.000 | 900.900 | 295.000 | 900.200 | 298.000 |
| GR | 909.100 | 302.000 | 901.100 | 306.000 | 902.100 | 400.000 | 903.000 | 420.000 | 906.300 | 500.000 |
| GR | 915.500 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 5000 SECT. BD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17505.000 | 0.000 | 0.000 | 0.000 | 190.000 | 100.000 | 140.000 | 0.000 | .800 | 0.000 |

VALLEY SECTION NO. 5345 SECT. BE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17850.000 | 10.000 | 296.000 | 304.000 | 400.000 | 320.000 | 345.000 | 0.000 | 0.000 | 0.000 |
| GR | 906.700 | 0.000 | 906.400 | 100.000 | 904.700 | 200.000 | 903.800 | 296.000 | 902.600 | 298.000 |
| GR | 902.600 | 302.000 | 903.500 | 304.000 | 903.800 | 400.000 | 913.900 | 500.000 | 917.000 | 600.000 |

VALLEY SECTION NO. 5590 SECT. BF

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 18395.000 | 10.000 | 295.000 | 304.000 | 200.000 | 850.000 | 545.000 | 0.000 | 0.000 | 0.000 |
| GR | 917.500 | 0.000 | 915.900 | 100.000 | 911.900 | 200.000 | 907.800 | 295.000 | 907.200 | 298.000 |
| GR | 907.200 | 302.000 | 907.900 | 304.000 | 908.500 | 400.000 | 912.900 | 500.000 | 921.900 | 600.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 18545.000 | 90.000 | 295.200 | 304.000 | 150.000 | 150.000 | 150.000 | 0.000 | .100 | 0.000 |
| GR | 920.300 | 0.000 | 920.000 | 10.100 | 919.700 | 20.300 | 919.500 | 30.500 | 919.200 | 40.700 |
| GR | 919.000 | 50.900 | 918.700 | 61.000 | 918.400 | 71.200 | 918.200 | 81.400 | 917.900 | 91.600 |
| GR | 917.600 | 101.800 | 917.200 | 111.900 | 916.800 | 122.100 | 916.300 | 132.300 | 915.900 | 142.500 |
| GR | 915.400 | 152.700 | 915.000 | 162.800 | 914.500 | 173.000 | 914.100 | 183.200 | 913.600 | 193.400 |
| GR | 913.200 | 203.600 | 912.700 | 213.800 | 912.300 | 223.900 | 911.800 | 234.100 | 911.300 | 244.300 |
| GR | 910.900 | 254.500 | 910.400 | 264.700 | 909.900 | 274.800 | 909.500 | 285.000 | 909.000 | 295.200 |
| GR | 908.900 | 295.300 | 908.800 | 295.800 | 908.700 | 296.100 | 908.500 | 296.400 | 908.400 | 296.700 |
| GR | 908.300 | 297.000 | 908.200 | 297.200 | 908.100 | 297.500 | 908.000 | 297.800 | 908.000 | 298.100 |
| GR | 908.000 | 298.400 | 908.000 | 298.700 | 908.000 | 299.000 | 908.000 | 299.300 | 908.000 | 299.600 |
| GR | 908.000 | 299.900 | 908.000 | 300.200 | 908.000 | 300.400 | 908.000 | 300.700 | 908.000 | 301.000 |
| GR | 908.000 | 301.300 | 908.000 | 301.600 | 908.000 | 301.900 | 908.100 | 302.200 | 908.300 | 302.500 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 333.500 | 909.800 | 343.400 | 909.800 | 353.300 |
| GR | 909.900 | 363.100 | [illegible] | 373.[illegible] | 910.300 | 382.900 | 910.400 | 392.700 | 910.700 | 402.600 |
| GR | 911.100 | 412.500 | 911.500 | 422.300 | 911.900 | 432.200 | 912.300 | 442.100 | 912.700 | 451.900 |
| GR | 913.100 | 461.800 | 913.500 | 471.700 | 913.900 | 481.500 | 914.300 | 491.400 | 914.700 | 501.300 |
| GR | 915.400 | 511.100 | 916.100 | 521.000 | 916.900 | 530.900 | 917.600 | 540.700 | 918.300 | 550.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 580.200 | 921.200 | 590.100 | 921.900 | [illegible] |
| X1 | 18695.000 | 90.000 | 295.500 | 304.000 | 150.000 | 150.000 | 150.000 | 0.000 | 0.000 | 0.000 |
| GR | 923.100 | 0.000 | 922.700 | 10.100 | 922.300 | 20.300 | 922.000 | 30.500 | 921.600 | 40.700 |
| GR | 921.300 | 50.900 | 920.900 | 61.100 | 920.600 | 71.300 | 920.200 | 81.500 | 919.900 | 91.700 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 122.200 | 918.100 | 132.400 | 917.600 | 142.800 |
| GR | 917.100 | 152.[illegible] | 916.600 | 163.000 | 916.100 | 173.200 | 915.600 | 183.400 | 915.200 | 193.600 |
| GR | 914.700 | 203.[illegible] | 914.200 | 213.900 | 913.700 | 224.100 | 913.200 | 234.300 | 912.700 | 244.500 |
| GR | 912.200 | 254.700 | 911.800 | 264.900 | 911.300 | 275.100 | 910.800 | 285.300 | 910.300 | 295.500 |
| GR | 910.100 | 295.700 | 909.900 | 296.000 | 909.700 | 296.300 | 909.600 | 296.600 | 909.400 | 296.900 |
| GR | 909.200 | 297.200 | 909.000 | 297.400 | 908.900 | 297.700 | 908.900 | 298.000 | 908.900 | 298.300 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 908.900 | 299.100 | 908.900 | 299.400 | 908.900 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 300.300 | 908.900 | 300.500 | 908.900 | 300.800 | 908.900 | [illegible] |
| GR | 908.900 | [illegible] | [illegible] | 301.700 | 908.900 | 302.000 | 909.000 | 302.200 | 909.200 | [illegible] |
| GR | 909.400 | 302.800 | 909.500 | 303.100 | 909.700 | 303.400 | 909.800 | 303.700 | 910.000 | 304.000 |
| GR | 910.300 | 313.800 | 910.500 | 323.700 | 910.800 | 333.500 | 911.100 | 343.400 | 911.400 | 353.300 |
| GR | 911.600 | 363.100 | 911.900 | 373.000 | 912.200 | 382.900 | 912.500 | 392.700 | 912.700 | 402.600 |
| GR | 913.100 | [illegible] | [illegible] | 422.300 | 913.600 | 432.200 | 914.200 | 442.100 | 914.600 | [illegible] |
| GR | 914.900 | [illegible] | 915.300 | 471.700 | 915.700 | 481.500 | 916.000 | 491.400 | 916.400 | [illegible] |
| GR | 917.000 | [illegible] | 917.500 | 521.000 | 918.100 | 530.900 | 918.600 | 540.700 | 919.200 | [illegible] |
| GR | 919.700 | 560.500 | 920.300 | 570.300 | 920.800 | 530.200 | 921.400 | 590.100 | 921.900 | 600.000 |
| X1 | 18845.000 | [illegible] | 295.700 | 304.000 | 150.000 | 150.000 | 150.000 | 0.000 | [illegible] | [illegible] |
| GR | 925.900 | [illegible] | 925.400 | 10.100 | 925.000 | 20.300 | 924.500 | 30.500 | 924.100 | [illegible] |
| GR | 923.600 | [illegible] | 923.200 | 61.100 | 922.700 | 71.300 | 922.300 | 81.500 | 921.800 | [illegible] |
| GR | 921.400 | 101.900 | 920.800 | 112.100 | 920.300 | 122.300 | 919.800 | 132.500 | 919.300 | 142.700 |
| GR | 918.800 | 152.900 | 918.200 | 163.100 | 917.700 | 173.300 | 917.200 | 183.500 | 916.700 | 193.700 |
| GR | 916.200 | 203.900 | 915.600 | 214.100 | 915.100 | 224.300 | 914.600 | 234.500 | 914.100 | 244.700 |
| GR | 913.600 | [illegible] | 913.100 | 265.100 | 912.600 | 275.300 | 912.100 | 285.500 | 911.600 | [illegible] |
| GR | 911.300 | 296.000 | 911.100 | 296.300 | 910.800 | 296.500 | 910.600 | 296.800 | 910.400 | [illegible] |
| GR | 910.100 | 297.400 | 909.900 | 297.600 | 909.700 | 297.900 | 909.700 | 298.200 | 909.700 | [illegible] |
| GR | 909.700 | 298.700 | 909.700 | 299.000 | 909.700 | 299.300 | 909.700 | 299.500 | 909.700 | 299.800 |
| GR | 909.700 | 300.100 | 909.700 | 300.400 | 909.700 | 300.600 | 909.700 | 300.900 | 909.700 | 301.200 |
| GR | 909.700 | 301.500 | 909.700 | 301.700 | 909.800 | 302.000 | 910.000 | 302.300 | 910.100 | 302.600 |
| GR | 910.300 | [illegible] | 910.500 | 303.100 | 910.700 | 303.400 | 910.900 | 303.700 | 911.100 | [illegible] |
| GR | 911.500 | [illegible] | 911.800 | 323.700 | 912.200 | 333.500 | 912.600 | 343.400 | 913.000 | [illegible] |
| GR | 913.300 | [illegible] | 913.700 | 373.000 | 914.100 | 382.900 | 914.500 | 392.700 | 914.800 | [illegible] |
| GR | 915.200 | 412.500 | 915.500 | 422.300 | 915.800 | 432.200 | 916.200 | 442.100 | 916.500 | 451.900 |
| GR | 916.800 | 461.800 | 917.200 | 471.700 | 917.500 | 481.500 | 917.800 | 491.400 | 918.200 | 501.300 |
| GR | 918.500 | 511.100 | 918.900 | 521.000 | 919.300 | 530.900 | 919.700 | 540.700 | 920.000 | 550.600 |
| GR | 920.400 | [illegible] | 920.800 | 570.300 | 921.200 | 580.200 | 921.500 | 590.100 | 921.900 | [illegible] |
| NC | .065 | .065 | .039 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 6490 SECT. 86

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 18995.000 | 10.000 | 296.000 | 304.000 | 600.000 | 600.000 | 600.000 | 0.000 | 0.000 | 0.000 |
| GR | 928.700 | 0.000 | 923.400 | 100.000 | 917.900 | 200.000 | 912.900 | 290.000 | 910.600 | 298.000 |
| GR | 910.600 | 302.000 | 912.200 | 304.000 | 916.900 | 400.000 | 919.900 | 500.000 | 922.000 | 600.000 |
| X1 | 19110.000 | 0.000 | 296.000 | 304.000 | 150.000 | 50.000 | 115.000 | 0.000 | 0.000 | 0.000 |
| GR | 927.800 | 0.000 | 927.400 | 10.200 | 927.000 | 20.400 | 926.600 | 30.600 | 926.100 | [illegible] |
| GR | 925.700 | 51.000 | 925.300 | 61.200 | 924.900 | 71.400 | 924.500 | 81.600 | 924.100 | [illegible] |
| GR | 923.700 | 102.000 | 923.200 | 112.200 | 922.800 | 122.400 | 922.300 | 132.600 | 921.900 | [illegible] |
| GR | 921.600 | 153.100 | 921.000 | 163.300 | 920.500 | 173.500 | 920.100 | 183.700 | 919.600 | 193.900 |
| GR | 919.100 | 204.100 | 918.500 | 214.300 | 918.000 | 224.500 | 917.400 | 234.700 | 916.800 | 244.900 |
| GR | 916.200 | 255.100 | 915.700 | 265.300 | 915.100 | 275.500 | 914.500 | 285.700 | 914.000 | 296.000 |

FORM 1411-OB-PRINTED BY ROTARY MANIFOLD FORMS PRINTED IN U.S.A.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 912.300 | [illegible] | [illegible] | 297.800 | 911.900 | 298.100 | 911.900 | 298.400 | 911.900 | 298.600 |
| GR | 911.900 | 298.900 | 911.900 | 299.200 | 911.900 | 299.400 | 911.900 | 299.700 | 911.900 | 300.000 |
| GR | 911.900 | 300.200 | 911.900 | 300.500 | 911.900 | 300.700 | 911.900 | 301.000 | 911.900 | 301.300 |
| GR | 911.900 | 301.500 | 911.900 | 301.800 | 912.000 | 302.100 | 912.200 | 302.300 | 912.400 | 302.600 |
| GR | 912.600 | 302.900 | 912.800 | 303.100 | 913.000 | 303.400 | 913.200 | 303.700 | 913.400 | 304.000 |
| GR | [illegible] | [illegible] | [illegible] | 323.700 | [illegible] | 333.500 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 915.800 | [illegible] | 916.200 | 373.000 | 916.500 | 382.900 | 916.900 | 392.700 | 917.300 | [illegible] |
| GR | 917.600 | 412.500 | 917.800 | 422.300 | 918.100 | 432.200 | 918.300 | 442.100 | 918.600 | 451.900 |
| GR | 918.900 | 461.800 | 919.100 | 471.700 | 919.400 | 481.500 | 919.600 | 491.400 | 919.900 | 501.300 |
| GR | 920.100 | 511.100 | 920.200 | 521.000 | 920.400 | 530.900 | 920.500 | 540.700 | 920.700 | 550.600 |
| GR | 920.900 | 560.500 | 921.000 | 570.300 | 921.200 | 580.200 | 921.400 | 590.100 | 921.500 | 600.000 |
| X1 | 19159.000 | [illegible] | 296.000 | 304.000 | 29.000 | 29.000 | 29.000 | 0.000 | .100 | [illegible] |
| GR | 927.500 | 0.000 | 927.200 | 10.200 | 926.800 | 20.400 | 926.400 | 30.600 | 926.000 | 40.800 |
| GR | 925.600 | 51.000 | 925.200 | 61.200 | 924.900 | 71.400 | 924.500 | 81.600 | 924.100 | 91.800 |
| GR | 923.800 | 102.000 | 923.300 | 112.200 | 922.900 | 122.400 | 922.500 | 132.600 | 922.100 | 142.800 |
| GR | [illegible] | [illegible] | [illegible] | 163.300 | 920.800 | 173.500 | 920.400 | 183.700 | [illegible] | [illegible] |
| GR | 919.440 | [illegible] | [illegible] | 214.300 | 918.300 | 224.500 | 917.700 | 234.700 | [illegible] | [illegible] |
| GR | 916.300 | 255.100 | 916.000 | 265.300 | 915.400 | 275.500 | 916.800 | 285.700 | 914.200 | [illegible] |
| GR | 913.900 | 296.200 | 913.600 | 296.500 | 913.600 | 296.800 | 913.000 | 297.000 | 912.800 | 297.300 |
| GR | 912.600 | 297.600 | 912.300 | 297.800 | 912.200 | 298.100 | 912.200 | 298.400 | 912.200 | 298.600 |
| GR | 912.200 | 298.900 | 912.200 | 299.200 | 912.200 | 299.400 | 912.200 | 299.700 | 912.200 | 300.000 |
| GR | 912.200 | [illegible] | 912.200 | 300.500 | 912.200 | 300.700 | 912.200 | 301.000 | 912.200 | [illegible] |
| GR | 912.200 | 301.500 | 912.200 | 301.800 | 912.300 | 302.100 | 912.400 | 302.300 | 912.700 | [illegible] |
| GR | 912.900 | [illegible] | 913.200 | 303.100 | 913.300 | 303.400 | 913.500 | 303.700 | 913.700 | [illegible] |
| GR | 914.100 | 313.800 | 914.500 | 323.700 | 914.800 | 333.500 | 915.200 | 343.400 | 915.600 | 353.300 |
| GR | 916.000 | 363.100 | 916.300 | 373.000 | 916.600 | 382.900 | 917.000 | 392.700 | 917.400 | 402.600 |
| GR | 917.700 | 412.500 | 917.900 | 422.300 | 918.100 | 432.200 | 918.400 | 442.100 | 918.600 | 451.900 |
| GR | 918.900 | [illegible] | 919.100 | 471.700 | 919.400 | 481.500 | 919.600 | 491.400 | 919.900 | [illegible] |
| GR | 920.100 | [illegible] | 920.200 | 521.000 | 920.400 | 530.900 | 920.500 | 540.700 | 920.600 | [illegible] |
| GR | 920.800 | [illegible] | 920.900 | 570.300 | 921.100 | 580.200 | 921.300 | 590.100 | 921.400 | [illegible] |
| X1 | 19165.000 | 90.000 | 296.000 | 304.000 | 29.000 | 29.000 | 29.000 | 0.000 | .100 | 0.000 |
| GR | 927.800 | [illegible] | 927.000 | 10.200 | 926.600 | 20.400 | 926.300 | 30.600 | 925.900 | [illegible] |
| GR | 925.600 | 51.000 | 925.200 | 61.200 | 924.900 | 71.400 | 924.600 | 81.600 | 924.200 | [illegible] |
| GR | 923.900 | 102.000 | 923.500 | 112.200 | 923.100 | 122.400 | 922.700 | 132.600 | 922.300 | [illegible] |
| GR | 921.900 | 153.100 | 921.500 | 163.300 | 921.100 | 173.500 | 920.700 | 183.700 | 920.300 | 193.900 |
| GR | 919.800 | 204.100 | 919.200 | 214.300 | 918.700 | 224.500 | 918.000 | 234.700 | 917.400 | 244.900 |
| GR | 916.800 | 255.100 | 916.300 | 265.300 | 915.700 | 275.500 | 915.100 | 285.700 | 914.500 | 296.000 |
| GR | 914.200 | [illegible] | 914.000 | 296.300 | 913.700 | 296.800 | 913.400 | 297.000 | 913.200 | [illegible] |
| GR | 913.000 | 297.600 | 912.600 | 297.800 | 912.500 | 298.100 | 912.500 | 298.400 | 912.500 | [illegible] |
| GR | 912.500 | 298.900 | 912.500 | 299.200 | 912.500 | 299.400 | 912.500 | 299.700 | 912.500 | [illegible] |
| GR | 912.500 | 300.200 | 912.500 | 300.500 | 912.500 | 300.700 | 912.500 | 301.000 | 912.500 | 301.300 |
| GR | 912.500 | 301.500 | 912.600 | 301.800 | 912.700 | 302.100 | 912.900 | 302.300 | 913.100 | 302.600 |
| GR | 913.300 | 302.900 | 913.500 | 303.100 | 913.700 | 303.400 | 913.900 | 303.700 | 914.000 | 304.000 |
| GR | 914.400 | 313.800 | 914.600 | 323.700 | 915.100 | 333.500 | 915.500 | 343.400 | 915.800 | 353.300 |
| GR | 916.200 | 363.100 | 916.500 | 373.000 | 916.800 | 382.900 | 917.200 | 392.700 | 917.500 | 402.600 |
| GR | 917.800 | 412.500 | 918.000 | 422.300 | 918.200 | 432.200 | 918.500 | 442.100 | 918.700 | 451.900 |
| GR | 919.000 | 461.800 | 919.200 | 471.700 | 919.500 | 481.500 | 919.700 | 491.400 | 919.900 | 501.300 |
| GR | 920.100 | 511.100 | 920.200 | 521.000 | 920.400 | 530.900 | 920.500 | 540.700 | 920.600 | 550.600 |
| GR | 920.800 | 560.500 | 920.900 | 570.300 | 921.100 | 580.200 | 921.200 | 590.100 | 921.300 | 600.000 |
| X1 | 19196.000 | 90.000 | 296.000 | 304.000 | 28.000 | 28.000 | 28.000 | 0.000 | 0.000 | 0.000 |
| GR | 927.100 | 0.000 | 926.800 | 10.200 | 926.500 | 20.400 | 926.200 | 30.600 | 925.900 | 40.800 |
| GR | 925.600 | 51.000 | 925.200 | 61.200 | 925.000 | 71.400 | 924.700 | 81.600 | 924.300 | 91.800 |
| GR | 924.000 | 102.000 | 923.700 | 112.200 | 923.300 | 122.400 | 922.900 | 132.600 | 922.600 | 142.800 |
| GR | 922.200 | [illegible] | 921.800 | 163.300 | 921.400 | 173.500 | 921.100 | 183.700 | 920.700 | [illegible] |
| GR | 920.200 | [illegible] | 919.600 | 214.300 | 919.100 | 224.500 | 918.400 | 234.700 | 917.800 | 244.900 |
| GR | 917.200 | [illegible] | 916.600 | 265.300 | 916.000 | 275.500 | 915.400 | 285.700 | 914.800 | [illegible] |
| GR | 914.500 | 296.200 | 914.300 | 296.500 | 914.000 | 296.800 | 913.700 | 297.000 | 913.500 | 297.300 |
| GR | 913.300 | 297.600 | 913.000 | 297.800 | 912.900 | 298.100 | 912.900 | 298.400 | 912.900 | 298.600 |
| GR | 912.900 | 298.900 | 912.900 | 299.200 | 912.900 | 299.400 | 912.900 | 299.700 | 912.900 | 300.000 |

PRINTED IN U.S.A.
FORM 1411-SB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 912.900 | [illegible] | [illegible] | [illegible] | [illegible] | 302.100 | 913.300 | 302.300 | 913.400 | 302.600 |
| GR | 913.600 | 302.900 | 913.900 | [illegible] | [illegible] | 303.400 | 914.200 | 303.700 | 914.400 | 304.000 |
| GR | 914.700 | 313.000 | 915.100 | 323.700 | 915.400 | 333.500 | 915.700 | 343.400 | 916.000 | 353.300 |
| GR | 916.400 | 363.100 | 916.700 | 373.000 | 917.000 | 382.900 | 917.300 | 392.700 | 917.600 | 402.600 |
| GR | 917.900 | 412.500 | 918.100 | 422.300 | 918.300 | 432.200 | 918.600 | 442.100 | 918.800 | 451.900 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 920.100 | [illegible] | 920.200 | [illegible] | 920.400 | 530.900 | 920.500 | 540.700 | 920.600 | 550.600 |
| GR | 920.700 | [illegible] | 920.800 | [illegible] | 921.000 | 580.200 | 921.100 | 590.100 | 921.200 | 600.000 |
| X1 | 19225.000 | 90.000 | 296.000 | 304.000 | 29.000 | 29.000 | 29.000 | 0.000 | .100 | 0.000 |
| GR | [illegible] | [illegible] | [illegible] | 10.200 | 926.300 | 20.400 | 926.100 | 30.600 | 925.800 | 40.800 |
| GR | 925.300 | [illegible] | 925.200 | 61.200 | 925.000 | 71.400 | 924.700 | 81.600 | 924.400 | 91.800 |
| GR | 924.100 | [illegible] | 923.800 | 112.200 | 923.400 | 122.400 | 923.100 | 132.600 | 922.800 | 142.800 |
| GR | 922.400 | 153.100 | 922.100 | 163.300 | 921.700 | 173.500 | 921.400 | 183.700 | 921.100 | 193.900 |
| GR | 920.600 | 204.100 | 920.000 | 214.300 | 919.400 | 224.500 | 918.700 | 234.700 | 918.100 | 244.900 |
| GR | 917.500 | 255.100 | 916.900 | 265.300 | 916.300 | 275.500 | 915.700 | 285.700 | 915.000 | 296.000 |
| GR | 914.600 | [illegible] | 914.500 | [illegible] | 914.300 | 296.800 | 914.100 | 297.000 | 913.800 | [illegible] |
| GR | 913.600 | [illegible] | 913.300 | 297.800 | 913.200 | 298.100 | 913.200 | 298.400 | 913.200 | [illegible] |
| GR | 913.200 | [illegible] | 913.200 | 299.200 | 913.200 | 299.400 | 913.200 | 299.700 | 913.200 | [illegible] |
| GR | 913.200 | 300.200 | 913.200 | 300.500 | 913.200 | 300.700 | 913.200 | 301.000 | 913.200 | 301.300 |
| GR | 913.200 | 301.500 | 913.200 | 301.800 | 913.300 | 302.100 | 913.500 | 302.300 | 913.700 | 302.600 |
| GR | 913.900 | 302.900 | 914.100 | 303.100 | 914.300 | 303.400 | 914.500 | 303.700 | 914.700 | 304.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 915.600 | 333.500 | 915.900 | 343.400 | 916.200 | [illegible] |
| GR | 916.500 | [illegible] | 916.800 | 373.000 | 917.100 | 382.900 | 917.400 | 392.700 | 917.700 | [illegible] |
| GR | 917.900 | [illegible] | [illegible] | 422.300 | 918.300 | 432.200 | 918.600 | 442.100 | 918.800 | [illegible] |
| GR | 919.000 | 461.800 | 919.200 | 471.700 | 919.500 | 481.500 | 919.700 | 491.400 | 919.900 | 501.300 |
| GR | 920.000 | 511.100 | 920.200 | 521.000 | 920.300 | 530.900 | 920.400 | 540.700 | 920.500 | 550.600 |
| GR | 920.600 | 560.500 | 920.700 | 570.300 | 920.900 | 580.200 | 921.000 | 590.100 | 921.100 | 600.000 |
| X1 | 19340.000 | [illegible] | [illegible] | 304.000 | 150.000 | 50.000 | 115.000 | 0.000 | .100 | [illegible] |
| GR | 926.000 | 0.000 | 925.900 | 10.200 | 925.700 | 20.400 | 925.600 | 30.600 | 925.500 | 40.800 |
| GR | 925.300 | 51.000 | 925.200 | 61.200 | 925.000 | 71.400 | 924.900 | 81.600 | 924.700 | 91.800 |
| GR | 924.600 | 102.000 | 924.300 | 112.200 | 924.100 | 122.400 | 923.900 | 132.600 | 923.600 | 142.800 |
| GR | 923.400 | [illegible] | [illegible] | 163.300 | 923.000 | 173.500 | 922.700 | 183.700 | 922.300 | [illegible] |
| GR | 922.100 | [illegible] | [illegible] | 214.300 | 920.800 | 224.500 | 920.100 | 234.700 | 919.400 | [illegible] |
| GR | 918.800 | [illegible] | [illegible] | 265.300 | 917.500 | 275.500 | 916.800 | 285.700 | 916.100 | [illegible] |
| GR | 915.900 | 296.200 | 915.700 | 296.500 | 915.500 | 296.800 | 915.300 | 297.000 | 915.100 | 297.300 |
| GR | 914.800 | 297.600 | 914.600 | 297.800 | 914.500 | 298.100 | 914.500 | 298.400 | 914.500 | 298.600 |
| GR | 914.500 | 298.900 | 914.500 | 299.200 | 914.500 | 299.400 | 914.500 | 299.700 | 914.500 | 300.000 |
| GR | 914.500 | [illegible] | [illegible] | 300.500 | 914.500 | 300.700 | 914.500 | 301.000 | 914.500 | [illegible] |
| GR | 914.500 | [illegible] | [illegible] | 301.800 | 914.600 | 302.100 | 914.800 | 302.300 | 915.000 | [illegible] |
| GR | 915.200 | [illegible] | [illegible] | 303.100 | 915.600 | 303.400 | 915.800 | 303.700 | 916.000 | [illegible] |
| GR | 916.200 | 313.000 | 916.400 | 323.700 | 916.600 | 333.500 | 916.800 | 343.400 | 917.000 | 353.300 |
| GR | 917.200 | 363.100 | 917.400 | 373.000 | 917.600 | 382.900 | 917.800 | 392.700 | 918.000 | 402.600 |
| GR | 918.200 | 412.500 | 918.400 | 422.300 | 918.600 | 432.200 | 918.800 | 442.100 | 919.000 | 451.900 |
| GR | 919.200 | [illegible] | [illegible] | 471.700 | 919.600 | 481.500 | 919.800 | 491.400 | 919.900 | [illegible] |
| GR | 920.000 | [illegible] | 920.100 | 521.000 | 920.200 | 530.900 | 920.200 | 540.700 | 920.300 | [illegible] |
| GR | 920.400 | 560.500 | 920.500 | 570.300 | 920.500 | 580.200 | 920.600 | 590.100 | 920.700 | 600.000 |

VALLEY SECTION NO. 555 SECT. 34

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 19455.000 | 90.000 | 296.000 | 304.000 | 150.000 | 50.000 | 115.000 | 0.000 | 0.000 | 0.000 |
| GR | 925.200 | 0.000 | 925.100 | 100.000 | 923.900 | 200.000 | 917.300 | 296.000 | 915.900 | 298.000 |
| GR | 915.900 | 302.000 | 917.500 | 304.000 | 918.400 | 400.000 | 920.000 | 500.000 | 920.300 | 500.000 |
| X1 | 19470.000 | 90.000 | 296.000 | 304.000 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 925.500 | 0.000 | 925.400 | 10.200 | 925.400 | 20.400 | 925.400 | 30.600 | 925.400 | 40.800 |
| GR | 925.400 | 51.000 | 925.300 | 61.200 | 925.300 | 71.400 | 925.300 | 81.600 | 925.300 | [illegible] |
| GR | 925.200 | 102.000 | 925.100 | 112.200 | 925.000 | 122.400 | 924.800 | 132.600 | 924.700 | 142.800 |
| GR | 924.600 | 153.100 | 924.500 | 163.300 | 924.300 | 173.500 | 924.200 | 183.700 | 924.100 | 193.900 |
| GR | 923.700 | 204.100 | 923.000 | 214.300 | 922.300 | 224.500 | 921.600 | 234.700 | 920.900 | 244.900 |

FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS
PRINTED IN U.S.A.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 917.200 | [illegible] | [illegible] | [illegible] | [illegible] | 298.800 | [illegible] | 297.600 | 916.500 | 297.300 |
| GR | 916.300 | [illegible] | [illegible] | [illegible] | 916.000 | 298.100 | 916.000 | 298.400 | 916.000 | 298.600 |
| GR | 916.000 | [illegible] | 916.000 | 299.200 | 916.000 | 299.400 | 916.000 | 299.700 | 916.000 | 300.000 |
| GR | 916.000 | 300.200 | 916.000 | 300.500 | 916.000 | 300.800 | 916.000 | 301.000 | 916.100 | 301.300 |
| GR | 916.100 | 301.600 | 916.100 | 301.900 | 916.200 | 302.100 | 916.300 | 302.400 | 916.500 | 302.700 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 917.600 | [illegible] | [illegible] | 323.700 | 917.900 | 333.600 | 918.000 | 343.500 | 918.200 | [illegible] |
| GR | 918.300 | [illegible] | [illegible] | 373.100 | 918.600 | 382.900 | 918.600 | 392.800 | 918.900 | [illegible] |
| GR | 919.100 | 412.300 | 919.200 | 422.400 | 919.400 | 432.200 | 919.600 | 442.100 | 919.800 | 452.000 |
| GR | 919.900 | 461.800 | 920.100 | 471.700 | 920.300 | 481.600 | 920.500 | 491.400 | 920.700 | 501.500 |
| GR | 920.700 | 511.200 | 920.700 | 521.000 | 920.800 | 530.900 | 920.800 | 540.800 | 920.900 | 550.600 |
| GR | [illegible] | [illegible] | [illegible] | 570.400 | 921.000 | 580.200 | 921.100 | 590.100 | 921.100 | [illegible] |
| X1 | 19469.000 | 90.000 | 296.000 | 304.100 | 22.000 | 22.000 | 22.000 | 0.000 | 0.000 | 0.000 |
| GR | 925.800 | 0.000 | 925.700 | 10.200 | 925.700 | 20.400 | 925.700 | 30.600 | 925.600 | 40.800 |
| GR | 925.600 | 51.000 | 925.600 | 61.200 | 925.600 | 71.400 | 925.500 | 81.600 | 925.500 | 91.800 |
| GR | [illegible] | [illegible] | [illegible] | 112.200 | 925.200 | 122.400 | 925.000 | 132.600 | 924.900 | [illegible] |
| GR | 924.700 | [illegible] | 924.600 | 163.300 | 924.500 | 173.500 | 924.300 | 183.700 | 924.200 | [illegible] |
| GR | 923.900 | [illegible] | 923.200 | 214.300 | 922.500 | 224.900 | 921.800 | 234.700 | 921.100 | [illegible] |
| GR | 920.400 | 255.100 | 919.700 | 265.300 | 919.000 | 275.500 | 918.300 | 285.700 | 917.600 | 296.000 |
| GR | 917.400 | 296.200 | 917.200 | 296.500 | 917.100 | 296.800 | 916.900 | 297.000 | 916.700 | 297.300 |
| GR | 916.500 | 297.600 | 916.300 | 297.800 | 916.300 | 298.100 | 916.300 | 298.400 | 916.300 | 298.600 |
| GR | [illegible] | [illegible] | [illegible] | 299.200 | [illegible] | 299.500 | [illegible] | 299.700 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 300.500 | 916.300 | 300.800 | 916.300 | 301.100 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 301.900 | 916.400 | 302.200 | 916.600 | 302.400 | [illegible] | [illegible] |
| GR | 916.900 | 303.000 | 917.100 | 303.200 | 917.300 | 303.500 | 917.500 | 303.800 | 917.700 | 304.100 |
| GR | 917.800 | 313.900 | 918.000 | 323.800 | 918.200 | 333.600 | 918.300 | 343.500 | 918.500 | 353.400 |
| GR | 918.700 | 363.200 | 918.900 | 373.100 | 919.100 | 383.000 | 919.300 | 392.800 | 919.400 | 402.700 |
| GR | [illegible] | [illegible] | [illegible] | 422.400 | 920.000 | 432.300 | 920.200 | 442.100 | 920.400 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 471.700 | 921.000 | 481.600 | 921.100 | 491.500 | 921.400 | [illegible] |
| GR | 921.400 | [illegible] | 921.400 | 521.000 | 921.500 | 530.900 | 921.600 | 540.800 | 921.600 | [illegible] |
| GR | 921.700 | 550.500 | 921.800 | 570.400 | 921.800 | 580.200 | 921.900 | 590.100 | 921.900 | 600.000 |
| X1 | 19521.000 | [illegible] | 296.000 | 304.100 | 22.000 | 22.000 | 22.000 | 0.000 | 0.000 | 0.000 |
| GR | 926.100 | [illegible] | 926.000 | 10.200 | 926.000 | 20.400 | 926.000 | 30.600 | 925.900 | [illegible] |
| GR | 925.900 | [illegible] | 925.800 | 61.200 | 925.800 | 71.400 | 925.700 | 81.600 | 925.700 | [illegible] |
| GR | 925.600 | 102.000 | 925.500 | 112.200 | 925.400 | 122.400 | 925.200 | 132.600 | 925.100 | 142.800 |
| GR | 924.900 | 153.100 | 924.800 | 163.300 | 924.700 | 173.500 | 924.500 | 183.700 | 924.300 | 193.900 |
| GR | 924.000 | 204.100 | 923.300 | 214.300 | 922.600 | 224.500 | 922.000 | 234.700 | 921.300 | 244.900 |
| GR | [illegible] | [illegible] | [illegible] | 265.300 | 919.800 | 275.500 | 918.900 | 285.700 | 917.900 | [illegible] |
| GR | [illegible] | [illegible] | 917.400 | 296.500 | 917.200 | 296.800 | 917.100 | 297.000 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | 916.500 | 297.900 | 916.500 | 298.100 | 916.500 | 298.400 | [illegible] | [illegible] |
| GR | 916.500 | 299.900 | 916.500 | 299.200 | 916.500 | 299.500 | 916.500 | 299.800 | 916.500 | 300.000 |
| GR | 916.500 | 300.300 | 916.500 | 300.600 | 916.500 | 300.800 | 916.500 | 301.100 | 916.500 | 301.400 |
| GR | 916.500 | 301.700 | 916.500 | 301.900 | 916.600 | 302.200 | 916.800 | 302.500 | 917.000 | 302.700 |
| GR | [illegible] | [illegible] | [illegible] | 303.500 | 917.500 | 303.600 | 917.700 | 303.800 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 323.800 | 918.500 | 333.700 | 918.600 | 343.500 | [illegible] | [illegible] |
| GR | 919.100 | 363.300 | 919.300 | 373.100 | 919.500 | 383.000 | 919.800 | 392.900 | 919.900 | 402.700 |
| GR | 920.200 | 412.600 | 920.300 | 422.400 | 920.600 | 432.300 | 920.800 | 442.200 | 921.000 | 452.000 |
| GR | 921.100 | 461.900 | 921.400 | 471.700 | 921.600 | 481.600 | 921.800 | 491.500 | 922.100 | 501.300 |
| GR | 922.100 | 511.200 | 922.100 | 521.100 | 922.200 | 530.900 | 922.300 | 540.800 | 922.400 | 550.600 |
| GR | 922.500 | 560.500 | 922.600 | 570.400 | 922.600 | 580.200 | 922.700 | 590.100 | 922.700 | [illegible] |
| X1 | 19543.000 | 90.000 | 296.000 | 304.200 | 22.000 | 22.000 | 22.000 | 0.000 | .100 | 0.000 |
| GR | 926.400 | 0.000 | 926.300 | 10.200 | 926.300 | 20.400 | 926.200 | 30.600 | 926.100 | 40.800 |
| GR | 926.100 | 51.000 | 926.000 | 61.200 | 926.000 | 71.400 | 925.900 | 81.600 | 925.900 | 91.800 |
| GR | [illegible] | [illegible] | 925.600 | 112.200 | 925.500 | 122.400 | 925.300 | 132.600 | 925.200 | [illegible] |
| GR | [illegible] | [illegible] | 924.900 | 163.300 | 924.800 | 173.500 | 924.600 | 183.700 | 924.400 | [illegible] |
| GR | [illegible] | [illegible] | 923.400 | 214.300 | 923.700 | 224.500 | 922.100 | 234.700 | 921.400 | [illegible] |
| GR | 920.700 | 255.100 | 920.000 | 265.300 | 919.300 | 275.500 | 918.600 | 285.700 | 917.900 | 296.000 |
| GR | 917.700 | 296.200 | 917.500 | 296.500 | 917.400 | 296.800 | 917.200 | 297.100 | 917.000 | 297.300 |
| GR | 916.800 | 297.600 | 916.600 | 297.900 | 916.600 | 298.200 | 916.600 | 298.400 | 916.600 | 298.700 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 916.600 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 301.200 | 916.600 | 301.400 |
| GR | 916.700 | 301.700 | 916.[illegible] | 302.[illegible] | 916.800 | 302.300 | 916.900 | 302.500 | 917.100 | 302.800 |
| GR | 917.300 | 303.100 | 917.400 | 303.400 | 917.600 | 303.600 | 917.800 | 303.900 | 918.000 | 304.200 |
| GR | 918.200 | 314.100 | [illegible] | 323.900 | 918.700 | 333.800 | 918.900 | 343.600 | 919.200 | 353.500 |
| GR | 919.400 | 363.300 | 919.700 | 373.200 | 919.900 | 383.100 | 920.200 | 392.900 | 920.400 | 402.800 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 921.700 | [illegible] | [illegible] | 471.[illegible] | 922.200 | 481.600 | 922.400 | 491.500 | 922.700 | [illegible] |
| GR | 922.[illegible] | [illegible] | [illegible] | 521.100 | 922.900 | 530.900 | 923.000 | 540.800 | 923.100 | [illegible] |
| GR | 923.200 | 560.500 | 923.300 | 570.400 | 923.400 | 580.200 | 923.500 | 590.100 | 923.500 | 600.000 |
| X1 | 19586.000 | [illegible] | [illegible] | [illegible] | 43.000 | 43.000 | 43.000 | 0.000 | 0.000 | 0.000 |
| GR | 927.000 | [illegible] | [illegible] | 10.200 | 926.900 | 20.400 | 926.800 | 30.600 | 926.600 | 40.800 |
| GR | 926.[illegible] | [illegible] | 926.500 | 61.200 | 926.400 | 71.400 | 926.300 | 81.600 | 926.300 | 91.800 |
| GR | 926.100 | 102.000 | 926.000 | 112.200 | 925.800 | 122.400 | 925.600 | 132.600 | 925.500 | 142.800 |
| GR | 925.300 | 153.100 | 925.200 | 163.300 | 925.100 | 173.500 | 924.900 | 183.700 | 924.700 | 193.900 |
| GR | 924.400 | 204.100 | 923.700 | 214.300 | 923.000 | 224.500 | 922.300 | 234.700 | 921.600 | 244.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 275.500 | 918.900 | 285.700 | 918.200 | [illegible] |
| GR | 918.100 | [illegible] | 917.900 | [illegible] | 917.700 | 296.800 | 917.500 | 297.100 | 917.400 | [illegible] |
| GR | 917.200 | [illegible] | 917.000 | [illegible] | 917.000 | 298.200 | 917.000 | 298.500 | 917.000 | [illegible] |
| GR | 917.000 | 299.000 | 917.000 | 299.300 | 917.000 | 299.600 | 917.000 | 299.900 | 917.000 | 300.100 |
| GR | 917.000 | 300.400 | 917.000 | 300.700 | 917.000 | 301.000 | 917.000 | 301.300 | 917.000 | 301.500 |
| GR | 917.100 | 301.800 | 917.100 | 302.100 | 917.200 | 302.400 | 917.300 | 302.600 | 917.500 | 302.900 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 918.600 | [illegible] | 919.000 | 324.000 | 919.300 | 333.900 | 919.500 | 343.700 | 919.900 | [illegible] |
| GR | 920.200 | [illegible] | [illegible] | [illegible] | 920.800 | 383.200 | 921.100 | 393.000 | 921.400 | [illegible] |
| GR | 921.700 | 412.700 | 921.900 | 422.600 | 922.200 | 432.400 | 922.400 | 442.300 | 922.700 | 452.100 |
| GR | 922.900 | 462.000 | 923.200 | 471.800 | 923.500 | 481.700 | 923.700 | 491.600 | 924.000 | 501.400 |
| GR | 924.200 | 511.300 | 924.200 | 521.100 | 924.400 | 531.000 | 924.500 | 540.800 | 924.600 | 550.700 |
| GR | 924.[illegible] | [illegible] | 924.900 | 570.400 | 925.000 | 580.200 | 925.100 | 590.100 | 925.200 | [illegible] |
| X1 | 19630.000 | 90.000 | 296.000 | 304.500 | 44.000 | 44.000 | 44.000 | 0.000 | 0.000 | 0.000 |
| GR | 927.700 | 0.000 | 927.600 | 10.200 | 927.500 | 20.400 | 927.400 | 30.600 | 927.200 | 40.800 |
| GR | 927.100 | 51.000 | 927.000 | 61.200 | 926.900 | 71.400 | 926.800 | 81.600 | 926.700 | 91.800 |
| GR | 926.300 | [illegible] | 926.[illegible] | 112.200 | 926.200 | 122.400 | 926.000 | 132.600 | [illegible] | [illegible] |
| GR | 925.700 | [illegible] | 925.500 | 163.300 | 925.400 | 173.500 | 925.200 | 183.700 | 925.[illegible] | [illegible] |
| GR | 924.700 | [illegible] | 924.000 | 214.300 | 923.300 | 224.500 | 922.700 | 234.700 | 922.[illegible] | [illegible] |
| GR | 921.300 | 255.100 | 920.700 | 265.300 | 920.000 | 275.500 | 919.300 | 285.700 | 918.600 | 296.000 |
| GR | 918.500 | 296.200 | 918.300 | 296.500 | 918.100 | 296.800 | 917.900 | 297.100 | 917.800 | 297.400 |
| GR | 917.600 | 297.700 | 917.400 | 297.900 | 917.400 | 298.200 | 917.400 | 298.500 | 917.400 | 298.800 |
| GR | 917.[illegible] | [illegible] | 917.[illegible] | 299.300 | 917.400 | 299.600 | 917.400 | 299.900 | 917.[illegible] | [illegible] |
| GR | 917.400 | [illegible] | 917.400 | 300.800 | 917.400 | 301.000 | 917.400 | 301.300 | 917.400 | [illegible] |
| GR | 917.300 | [illegible] | 917.500 | 302.200 | 917.600 | 302.500 | 917.700 | 302.700 | 917.900 | [illegible] |
| GR | 918.100 | 303.300 | 918.200 | 303.600 | 918.400 | 303.900 | 918.600 | 304.200 | 918.800 | 304.500 |
| GR | 919.100 | 314.300 | 919.500 | 324.200 | 919.900 | 334.000 | 920.200 | 343.800 | 920.600 | 353.700 |
| GR | 921.000 | 363.500 | 921.400 | 373.400 | 921.700 | 383.200 | 922.100 | 393.100 | 922.500 | 402.900 |
| GR | 922.[illegible] | [illegible] | 923.000 | 422.600 | 923.300 | 432.500 | 923.600 | 442.300 | 923.900 | [illegible] |
| GR | 924.200 | 462.000 | 924.500 | 471.900 | 924.800 | 481.700 | 925.100 | 491.600 | 925.400 | [illegible] |
| GR | 925.600 | 511.300 | 925.700 | 521.100 | 925.900 | 531.000 | 926.000 | 540.800 | 926.200 | 550.700 |
| GR | 926.300 | 560.500 | 926.500 | 570.400 | 926.600 | 580.200 | 926.800 | 590.100 | 926.900 | 600.000 |
| HC | .065 | .065 | .043 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 19805.000 | 90.000 | 296.000 | 305.000 | 137.000 | 163.000 | 175.000 | 0.000 | .100 | 0.000 |
| GR | 930.300 | 0.000 | 930.000 | 10.200 | 929.800 | 20.400 | 929.600 | 30.600 | 929.400 | 40.800 |
| GR | 929.[illegible] | 51.000 | 928.900 | 61.200 | 928.700 | 71.400 | 928.500 | 81.600 | 928.300 | 91.800 |
| GR | [illegible] | 102.000 | 927.800 | 112.200 | 927.600 | 122.400 | 927.400 | 132.600 | 927.200 | 142.800 |
| GR | [illegible] | 153.100 | 926.800 | 163.300 | 926.600 | 173.500 | 926.300 | 183.700 | 926.100 | 193.900 |
| GR | 925.700 | [illegible] | 925.100 | 214.300 | 924.500 | 224.500 | 923.800 | 234.700 | 923.200 | [illegible] |
| GR | 922.600 | 255.100 | 921.900 | 265.300 | 921.300 | 275.500 | 920.700 | 285.700 | 920.000 | [illegible] |
| GR | 919.900 | [illegible] | 919.700 | 296.600 | 919.500 | 296.900 | 919.400 | 297.200 | 919.200 | [illegible] |
| GR | 919.000 | 297.700 | 918.900 | 298.000 | 918.900 | 298.300 | 918.900 | 298.600 | 918.900 | 298.900 |
| GR | 918.900 | 299.200 | 918.900 | 299.500 | 918.900 | 299.800 | 918.900 | 300.100 | 918.900 | 300.400 |
| GR | 918.900 | 300.700 | 918.900 | 301.000 | 918.900 | 301.300 | 919.000 | 301.600 | 919.000 | 301.900 |

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FORM 1411-BB-PRINTED BY ROTARY MANIFOLD FORMS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 919.700 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 920.300 | [illegible] |
| GR | 920.900 | 314.100 | [illegible] | [illegible] | [illegible] | 334.500 | 922.800 | 344.300 | 923.400 | 354.100 |
| GR | 924.100 | 363.900 | 924.700 | 373.800 | 925.300 | 383.600 | 926.000 | 393.400 | 926.500 | 403.300 |
| GR | 927.000 | 413.100 | 927.400 | 422.900 | 927.800 | 432.800 | 928.300 | 442.600 | 928.700 | 452.400 |
| GR | 929.100 | 462.300 | 929.600 | 472.100 | 930.000 | 481.900 | 930.400 | 491.800 | 930.900 | 501.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 932.500 | [illegible] | 932.800 | 570.400 | 933.100 | 580.300 | 933.300 | 590.100 | 933.600 | [illegible] |
| X1 | 19980.000 | 90.000 | 296.000 | 305.500 | 187.000 | 163.000 | 175.000 | 0.000 | .100 | 0.000 |
| GR | 932.800 | 0.000 | 932.500 | 10.200 | 932.200 | 20.400 | 931.800 | 30.600 | 931.500 | 40.800 |
| GR | 931.200 | [illegible] | [illegible] | 61.200 | 930.300 | 71.400 | 930.200 | 81.600 | 929.900 | [illegible] |
| GR | 929.600 | [illegible] | 929.300 | 112.200 | 929.100 | 122.400 | 928.800 | 132.600 | 928.500 | 142.800 |
| GR | 928.300 | 153.100 | 928.000 | 163.300 | 927.800 | 173.500 | 927.500 | 183.700 | 927.200 | 193.900 |
| GR | 926.800 | 204.100 | 926.200 | 214.300 | 925.600 | 224.500 | 925.000 | 234.700 | 924.400 | 244.900 |
| GR | 923.800 | 255.100 | 923.200 | 265.300 | 922.600 | 275.500 | 922.000 | 285.700 | 921.500 | 296.000 |
| GR | 921.300 | 296.300 | 921.100 | 296.600 | 921.000 | 296.900 | 920.800 | 297.200 | 920.700 | 297.500 |
| GR | 920.500 | [illegible] | 920.400 | 298.200 | 920.400 | 298.500 | 920.400 | 298.800 | 920.400 | 299.100 |
| GR | 920.400 | [illegible] | 920.400 | 299.700 | 920.400 | 300.100 | 920.400 | 300.400 | 920.400 | 300.700 |
| GR | 920.400 | [illegible] | 920.400 | 301.300 | 920.400 | 301.600 | 920.500 | 302.000 | 920.600 | 302.300 |
| GR | 920.700 | 302.600 | 920.700 | 302.900 | 920.900 | 303.200 | 921.000 | 303.500 | 921.100 | 303.900 |
| GR | 921.200 | 304.200 | 921.400 | 304.500 | 921.500 | 304.800 | 921.600 | 305.100 | 921.800 | 305.500 |
| GR | 922.600 | 315.300 | 923.500 | 325.100 | 924.400 | 334.900 | 925.300 | 344.700 | 926.200 | 354.500 |
| GR | 927.100 | [illegible] | 928.000 | 374.200 | 928.900 | 384.000 | 929.800 | 393.800 | 930.600 | [illegible] |
| GR | 931.200 | [illegible] | 931.700 | 423.200 | 932.300 | 433.100 | 932.900 | 442.900 | 933.500 | 452.700 |
| GR | 934.000 | [illegible] | 934.600 | 472.300 | 935.200 | 482.100 | 935.800 | 492.000 | 936.300 | [illegible] |
| GR | 936.700 | 511.600 | 937.100 | 521.400 | 937.500 | 531.200 | 937.900 | 541.000 | 938.300 | 550.900 |
| GR | 938.700 | 560.700 | 939.100 | 570.500 | 939.500 | 580.300 | 939.900 | 590.100 | 940.300 | 600.000 |
| X1 | 20030.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X1 | 20080.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .500 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 272.000 | 0.000 | 331.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 20130.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 234.000 | 0.000 | 315.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 20140.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 287.000 | 0.000 | 316.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 20150.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 289.000 | 0.000 | 313.000 | 0.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 765D SECT. B1

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 20155.000 | 10.000 | 296.000 | 306.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 291.000 | 0.000 | 312.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 935.400 | 0.000 | 931.200 | 100.000 | 928.200 | 200.000 | 922.900 | 296.000 | 922.000 | 298.000 |
| GR | 922.000 | 302.600 | 923.300 | 306.000 | 934.400 | 400.000 | 941.700 | 500.000 | 947.000 | 600.000 |
| NC | .035 | .035 | .033 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 20173.000 | 22.000 | 274.000 | 286.500 | 18.000 | 18.000 | 18.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 931.000 | 931.000 | 0.000 |
| GR | 933.000 | 0.000 | 932.400 | 50.000 | 932.100 | 100.000 | 931.800 | 150.000 | 931.500 | 200.000 |
| GR | 931.400 | [illegible] | 931.700 | 274.000 | 924.300 | 274.000 | 922.800 | 274.500 | 922.300 | 274.500 |
| GR | 921.800 | 279.000 | 921.800 | 281.500 | 922.300 | 284.000 | 922.800 | 286.000 | 924.300 | 288.500 |
| GR | 931.800 | 286.500 | 932.000 | 300.000 | 933.200 | 350.000 | 935.000 | 400.000 | 937.600 | 450.000 |
| GR | 940.800 | 500.000 | 942.800 | 525.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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FORM 1411-08-PRINTED BY ROTARY MANIFOLD FORMS

BRIDGE SECTION NO. 7700 BREWSTER ROAD SECT. BJ

12'6" X 7'11" MULTI-PLATE ARCH

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 20293.000 | 0.000 | 0.000 | 0.000 | 120.000 | 120.000 | 120.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 929.300 | 931.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 931.500 | 931.500 | 0.000 |
| BT | 20.000 | 0.000 | 933.000 | 0.000 | 50.000 | 932.400 | 0.000 | 100.000 | 932.100 | 0.000 |
| BT | 150.000 | 931.800 | 0.000 | 200.000 | 931.500 | 0.000 | 250.000 | 931.600 | 0.000 | 274.000 |
| BT | 931.700 | [illegible] | 274.500 | 931.700 | 926.800 | 276.500 | 931.700 | 929.300 | 279.000 | 931.700 |
| BT | 929.800 | 281.500 | 931.800 | 929.800 | 284.000 | 931.800 | 929.300 | 286.000 | 931.800 | 929.800 |
| BT | 286.500 | [illegible] | 934.300 | 300.000 | 932.000 | 0.000 | 350.000 | 933.200 | 0.000 | 400.000 |
| BT | 935.000 | 0.000 | 450.000 | 937.600 | 0.000 | 500.000 | 940.800 | 0.000 | 525.000 | 942.800 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .100 | .100 | .038 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 20294.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 7750 SECT. BK

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 20309.000 | 10.000 | 274.000 | 308.000 | 15.000 | 15.000 | 15.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 281.000 | 0.000 | 324.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 933.500 | 0.000 | 927.800 | 100.000 | 925.900 | 200.000 | 923.100 | 295.000 | 921.900 | 298.000 |
| GR | 921.900 | 302.000 | 923.700 | 308.000 | 930.600 | 400.000 | 942.500 | 500.000 | 948.000 | 600.000 |
| X1 | 20525.000 | 0.000 | 267.000 | 281.200 | 214.000 | 214.000 | 214.000 | 0.000 | 0.000 | 0.000 |
| GR | 934.300 | 0.000 | 933.000 | 8.500 | 933.300 | 17.000 | 932.900 | 25.500 | 932.400 | 34.200 |
| GR | 931.900 | 42.500 | 931.500 | 51.100 | 931.000 | 59.600 | 930.500 | 68.100 | 930.100 | 76.600 |
| GR | 929.700 | 85.100 | 929.500 | 93.600 | 929.300 | 102.200 | 929.100 | 110.700 | 929.000 | 119.200 |
| GR | 928.800 | 127.700 | 928.600 | 136.200 | 928.400 | 144.700 | 928.200 | 153.300 | 928.100 | 161.800 |
| GR | 927.900 | 170.400 | 927.800 | 178.800 | 927.400 | 187.300 | 927.100 | 195.800 | 926.800 | 204.400 |
| GR | 926.600 | 212.900 | 926.300 | 221.400 | 926.100 | 229.900 | 925.800 | 238.400 | 925.600 | 247.000 |
| GR | 925.300 | 255.400 | 925.000 | 247.900 | 924.800 | 248.400 | 924.500 | 248.000 | 924.200 | 249.300 |
| GR | 924.100 | 249.800 | 924.000 | 250.300 | 923.900 | 250.700 | 923.800 | 251.200 | 923.700 | 251.700 |
| GR | 923.600 | 252.200 | 923.600 | 252.600 | 923.500 | 253.100 | 923.500 | 253.600 | 923.500 | 254.100 |
| GR | 923.600 | 254.500 | 923.600 | 255.000 | 923.700 | 255.500 | 923.800 | 256.000 | 923.900 | 256.400 |
| GR | 924.000 | 256.900 | 924.200 | 257.400 | 924.300 | 257.900 | 924.400 | 258.300 | 924.500 | 258.800 |
| GR | 924.600 | 259.300 | 924.800 | 259.800 | 925.000 | 260.200 | 925.200 | 260.700 | 925.400 | 261.200 |
| GR | 926.200 | 260.400 | 926.000 | 277.600 | 927.600 | 285.800 | 928.200 | 294.000 | 928.400 | 302.300 |
| GR | 929.400 | 310.400 | 930.000 | 318.700 | 930.600 | 326.900 | 931.100 | 335.100 | 931.900 | 343.300 |
| GR | 932.800 | 351.500 | 933.800 | 359.700 | 934.700 | 367.900 | 935.600 | 376.100 | 936.500 | 384.300 |
| GR | 937.400 | 392.500 | 938.300 | 400.700 | 939.200 | 408.900 | 940.200 | 417.200 | 941.000 | 425.400 |
| GR | 941.800 | 433.600 | 941.900 | 441.800 | 942.400 | 450.000 | 942.900 | 458.200 | 943.400 | 466.200 |
| GR | 943.900 | 474.600 | 944.400 | 482.800 | 944.900 | 491.000 | 945.400 | 499.200 | 946.000 | 507.300 |
| X1 | 20790.000 | 90.000 | 198.000 | 214.500 | 267.000 | 267.000 | 267.000 | 0.000 | 0.000 | 0.000 |
| GR | 935.100 | 0.000 | 934.700 | 6.800 | 934.400 | 13.600 | 934.000 | 20.400 | 933.700 | 27.300 |
| GR | 933.300 | 34.100 | 933.000 | 40.900 | 932.600 | 47.700 | 932.300 | 54.600 | 931.900 | 61.400 |
| GR | 931.600 | 68.200 | 931.500 | 75.100 | 931.300 | 81.900 | 931.100 | 88.700 | 931.000 | 95.500 |
| GR | 930.800 | 102.400 | 930.700 | 109.200 | 930.500 | 116.000 | 930.300 | 122.800 | 930.200 | 129.700 |
| GR | [illegible] | 136.500 | 929.800 | 143.300 | 929.600 | 150.200 | 929.400 | 157.000 | 929.200 | 163.800 |
| GR | 928.900 | 170.000 | 928.700 | 177.500 | 928.500 | 184.300 | 928.300 | 191.100 | 928.100 | 198.000 |
| GR | 927.800 | 19[illegible].500 | 927.500 | 199.000 | 927.200 | 199.600 | 926.900 | 200.100 | 926.600 | 200.700 |
| GR | 926.400 | 201.200 | 926.200 | 201.800 | 926.000 | 202.300 | 925.800 | 202.900 | 925.600 | 203.400 |
| GR | 925.400 | 204.000 | 925.300 | 204.500 | 925.100 | 205.100 | 925.100 | 205.600 | 925.100 | 206.200 |
| GR | 925.100 | 206.700 | 925.200 | 207.300 | 925.200 | 207.800 | 925.300 | 208.400 | 925.400 | 208.900 |
| GR | 925.500 | 209.500 | 925.600 | 210.000 | 925.700 | 210.600 | 925.800 | 211.100 | 925.900 | 211.700 |
| GR | 926.100 | 212.200 | 926.400 | 212.800 | 926.600 | 213.300 | 926.900 | 213.900 | 927.200 | 214.500 |
| GR | 927.900 | 221.100 | 928.700 | 227.800 | 929.300 | 234.500 | 929.800 | 241.200 | 930.200 | 247.900 |

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 933.300 | [illegible] | [illegible] | [illegible] | [illegible] | 301.300 | [illegible] | [illegible] | 936.000 | [illegible] |
| GR | 936.700 | 321.600 | [illegible] | [illegible] | 938.100 | 334.700 | 938.700 | 341.400 | 939.300 | 348.100 |
| GR | 939.700 | 354.800 | 940.100 | 361.100 | 940.600 | 368.200 | 941.000 | 374.800 | 941.500 | 381.500 |
| GR | 942.000 | 388.200 | 942.500 | 394.900 | 943.000 | 401.600 | 943.500 | 408.300 | 944.000 | 415.000 |
| X1 | 21330.000 | [illegible] | [illegible] | 167.700 | 268.000 | 268.000 | 268.000 | 0.000 | 0.000 | [illegible] |
| GR | 935.700 | [illegible] | 935.700 | [illegible] | 935.400 | 10.200 | 935.200 | 15.400 | 935.000 | [illegible] |
| GR | 934.700 | 25.600 | 934.500 | 30.800 | 934.300 | 35.900 | 934.000 | 41.100 | 933.800 | 46.200 |
| GR | 933.600 | 51.300 | 933.400 | 56.500 | 933.300 | 61.600 | 933.100 | 66.700 | 933.000 | 71.900 |
| GR | 932.900 | 77.000 | 932.700 | 82.200 | 932.600 | 87.300 | 932.400 | 92.400 | 932.300 | 97.600 |
| GR | 932.100 | [illegible] | [illegible] | 101.000 | 931.800 | 113.000 | 931.600 | 118.100 | 931.500 | 123.300 |
| GR | 931.300 | [illegible] | 931.100 | 133.500 | 931.000 | 138.700 | 930.800 | 143.800 | 930.600 | 149.000 |
| GR | 930.300 | [illegible] | 929.900 | 156.200 | 929.600 | 150.800 | 929.300 | 151.400 | 928.900 | 152.100 |
| GR | 928.600 | 152.700 | 928.400 | 153.300 | 928.100 | 153.900 | 927.800 | 154.600 | 927.500 | 155.200 |
| GR | 927.200 | 155.800 | 927.000 | 156.400 | 926.700 | 157.100 | 926.700 | 157.700 | 926.700 | 158.300 |
| GR | 926.700 | 158.900 | 926.700 | 159.600 | 926.700 | 160.200 | 926.800 | 160.800 | 926.900 | 161.600 |
| GR | 927.000 | [illegible] | [illegible] | 162.700 | 927.200 | 163.300 | 927.300 | 163.900 | 927.400 | 164.600 |
| GR | 927.500 | [illegible] | 927.900 | 165.600 | 928.200 | 166.400 | 928.600 | 167.100 | 929.000 | 167.700 |
| GR | 929.700 | [illegible] | [illegible] | 178.000 | 931.100 | 183.200 | 931.400 | 188.300 | 931.700 | 193.500 |
| GR | 932.000 | 198.600 | 932.400 | 203.800 | 932.700 | 209.000 | 933.000 | 214.100 | 933.400 | 219.300 |
| GR | 933.800 | 224.400 | 934.300 | 229.600 | 934.700 | 234.800 | 935.100 | 239.900 | 935.500 | 245.100 |
| GR | 936.000 | 250.200 | 936.400 | 255.400 | 936.800 | 260.500 | 937.300 | 265.700 | 937.700 | 270.900 |
| GR | 937.900 | [illegible] | [illegible] | 281.200 | 938.700 | 286.300 | 939.200 | 291.500 | 939.600 | [illegible] |
| GR | 940.100 | [illegible] | 940.600 | 307.000 | 941.000 | 312.100 | 941.500 | 317.300 | 942.000 | 322.500 |
| X1 | 21191.000 | 0.000 | 0.000 | 0.000 | 133.000 | 133.000 | 133.000 | 0.000 | .800 | 0.000 |
| DT | 4.000 | 230.000 | 350.000 | 395.000 | 560.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | [illegible] SECTION NO. 31 | | | | SECT. BL | | | | |
| X1 | 21325.000 | 9.000 | 100.000 | 121.000 | 134.000 | 134.000 | 134.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 100.000 | 0.000 | 138.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 930.000 | [illegible] | [illegible] | 100.000 | 928.400 | 109.000 | 928.300 | 113.000 | 928.900 | 118.000 |
| GR | 930.800 | [illegible] | 932.000 | 131.000 | 936.400 | 200.000 | 940.000 | 230.000 | 0.000 | 0.000 |
| X1 | 21335.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .500 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 99.000 | 0.000 | 132.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21345.000 | [illegible] | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .500 | [illegible] |
| X3 | 0.000 | 0.000 | 0.000 | 99.000 | 0.000 | 127.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21355.000 | [illegible] | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .500 | [illegible] |
| X3 | 0.000 | [illegible] | 0.000 | 99.000 | 0.000 | 122.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21365.000 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | .500 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 103.000 | 0.000 | 121.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21370.000 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .300 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 103.000 | 0.000 | 118.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21374.000 | 31.000 | 197.800 | 210.300 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | [illegible] |
| GR | 943.400 | [illegible] | [illegible] | 16.000 | 942.500 | 41.000 | 942.000 | 66.000 | 941.700 | 91.000 |
| GR | 941.600 | 187.000 | [illegible] | 116.000 | 941.800 | 141.000 | 942.100 | 166.000 | 942.600 | 191.000 |
| GR | 942.800 | 197.800 | 932.800 | 197.800 | 932.000 | 198.000 | 931.500 | 198.800 | 931.100 | 200.000 |
| GR | 930.900 | 201.600 | 930.700 | 203.200 | 930.700 | 204.800 | 930.900 | 206.400 | 931.100 | 208.000 |
| GR | 931.500 | 209.200 | [illegible] | 210.000 | 932.800 | 210.300 | 943.200 | 210.300 | 943.400 | 216.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 9 .200 | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .035 | .35 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21375.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 29.000 | [illegible] | [illegible] | [illegible] | [illegible] | 943.100 | 0.000 | 41.000 | 942.500 | 0.000 |
| BT | 66.000 | [illegible] | 0.000 | 91.000 | 941.700 | 0.000 | 107.000 | 941.600 | 0.000 | 116.000 |
| BT | 941.600 | [illegible] | 941.000 | 941.000 | 0.000 | 166.000 | 942.100 | 0.000 | 191.000 | 942.400 |
| BT | 0.000 | 197.800 | 942.800 | 932.800 | 198.000 | 942.800 | 934.000 | 198.800 | 942.800 | 935.600 |
| BT | 200.000 | 942.900 | 937.000 | 201.600 | 942.900 | 938.200 | 203.200 | 943.000 | 938.600 | 204.800 |
| BT | 943.000 | 938.600 | 206.400 | 943.100 | 938.200 | 208.000 | 943.100 | 937.000 | 209.200 | 943.200 |
| BT | 935.000 | [illegible] | [illegible] | [illegible] | 210.300 | 943.200 | 932.000 | 216.000 | 943.400 | 0.000 |
| BT | 241.000 | [illegible] | 0.000 | 266.000 | 945.800 | 0.000 | 291.000 | 946.900 | 0.000 | 316.000 |
| BT | 948.100 | 0.000 | 341.000 | 949.100 | 0.000 | 377.000 | 950.200 | 0.000 | 0.000 | 0.000 |

BRIDGE SECTION NO. 11-A NEW KENT ROAD SECT. BM

[illegible] MULTI-PLATE ARCH

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 21455.000 | 31.000 | 197.800 | 210.300 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| BT | 29.000 | 0.000 | 943.400 | 0.000 | 16.000 | 943.100 | 0.000 | 41.000 | 942.500 | 0.000 |
| BT | 66.000 | 942.000 | 0.000 | 91.000 | 941.700 | 0.000 | 107.000 | 941.600 | 0.000 | 116.000 |
| BT | 941.600 | [illegible] | [illegible] | [illegible] | 0.000 | 166.000 | 942.100 | 0.000 | 191.000 | 942.400 |
| BT | 0.000 | [illegible] | [illegible] | 932.900 | 198.000 | 942.800 | 934.100 | 198.800 | 942.800 | 935.700 |
| BT | 200.000 | [illegible] | [illegible] | 201.400 | 942.900 | 938.300 | 203.200 | 943.000 | 938.700 | 204.800 |
| BT | 943.000 | 938.700 | 206.400 | 943.100 | 938.300 | 208.000 | 943.100 | 937.100 | 209.200 | 943.200 |
| BT | 935.700 | 210.000 | 943.200 | 934.100 | 210.300 | 943.200 | 932.900 | 216.000 | 943.400 | 0.000 |
| BT | 241.000 | 944.300 | 0.000 | 266.000 | 945.800 | 0.000 | 291.000 | 946.900 | 0.000 | 316.000 |
| BT | 948.100 | [illegible] | [illegible] | 949.100 | 0.000 | 377.000 | 950.200 | 0.000 | 0.000 | 0.000 |
| GR | 943.400 | [illegible] | [illegible] | 16.000 | 942.500 | 41.000 | 942.000 | 66.000 | 941.700 | [illegible] |
| GR | 941.600 | [illegible] | [illegible] | 116.000 | 941.500 | 141.000 | 942.100 | 166.000 | 942.400 | [illegible] |
| GR | 942.800 | 197.500 | 932.900 | 197.800 | 932.100 | 198.000 | 931.600 | 198.800 | 931.200 | 200.000 |
| GR | 931.000 | 201.600 | 930.800 | 203.200 | 930.800 | 204.800 | 931.000 | 206.400 | 931.200 | 208.000 |
| GR | 931.600 | 209.200 | 932.100 | 210.000 | 932.900 | 210.300 | 943.200 | 210.300 | 943.400 | 216.000 |
| GR | 944.300 | [illegible] | [illegible] | 266.000 | 946.900 | 291.000 | 948.100 | 316.000 | 949.100 | 341.000 |
| GR | 950.200 | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .030 | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21456.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | .030 | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21900.000 | 9.000 | 100.000 | 121.000 | 444.000 | 444.000 | 444.000 | 0.000 | 3.800 | 0.000 |
| GR | 936.800 | 0.000 | 933.200 | 100.000 | 928.400 | 109.000 | 928.300 | 113.000 | 928.900 | 118.000 |
| GR | 930.800 | 121.000 | 932.800 | 131.000 | 936.400 | 200.000 | 940.000 | 230.000 | 0.000 | 0.000 |

VALLEY SECTION NO. 12 SECT. BN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 23050.000 | 14.000 | 448.000 | 467.000 | 1150.000 | 1150.000 | 1150.000 | 0.000 | 0.000 | 0.000 |
| GR | 946.700 | 0.000 | 944.700 | 48.000 | 941.600 | 148.000 | 940.800 | 248.000 | 941.200 | 348.000 |
| GR | 940.000 | 436.000 | 937.900 | 448.000 | 935.500 | 454.000 | 935.300 | 469.000 | 935.800 | 483.000 |
| GR | 936.200 | 467.000 | 939.100 | 548.000 | 944.800 | 648.000 | 949.000 | 700.000 | 0.000 | 0.000 |
| X1 | 2319[illegible].000 | 90.000 | 442.000 | 461.000 | 149.000 | 149.000 | 149.000 | 0.000 | 0.000 | 0.000 |
| GR | 947.[illegible]00 | [illegible].000 | 946.500 | 15.200 | 945.900 | 30.400 | 945.300 | 45.700 | 944.800 | 60.900 |
| GR | 944.600 | 76.200 | 943.900 | 91.400 | 943.400 | 106.600 | 943.000 | 121.900 | 942.500 | [illegible] |
| GR | 942.100 | 152.400 | 942.000 | 167.600 | 941.500 | 182.800 | 941.600 | 198.100 | 941.300 | [illegible] |
| GR | 941.300 | 228.600 | 941.100 | 243.800 | 941.100 | 259.100 | 941.100 | 274.300 | 941.100 | [illegible] |
| GR | 941.100 | 304.800 | 941.100 | 320.000 | 941.100 | 335.300 | 941.100 | 350.500 | 940.900 | 365.700 |
| GR | 940.700 | 381.000 | 940.500 | 396.200 | 940.300 | 411.500 | 940.100 | 426.700 | 938.200 | 442.000 |
| GR | 938.000 | 442.600 | [illegible].700 | 443.300 | 937.400 | 443.900 | 937.100 | 444.600 | 936.900 | 445.200 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 935.700 | [illegible] | [illegible] | [illegible] | [illegible] | 452.300 | 935.400 | 453.700 | 935.500 | 454.800 |
| GR | 935.600 | 452.400 | [illegible] | 453.300 | 935.500 | 453.700 | 935.300 | 454.600 | 935.600 | 455.900 |
| GR | 935.700 | 455.700 | 935.800 | 456.300 | 935.900 | 457.000 | 936.000 | 457.600 | 936.100 | 458.300 |
| GR | 936.200 | 459.000 | 936.300 | 459.600 | 936.500 | 460.300 | 936.600 | 460.900 | 936.800 | 461.600 |
| GR | 937.100 | 470.700 | 937.400 | 479.800 | 937.700 | 489.000 | 938.000 | 498.100 | 938.300 | 507.200 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 939.400 | [illegible] | [illegible] | [illegible] |
| GR | 940.100 | [illegible] | 940.500 | 571.200 | 941.000 | 580.300 | 941.400 | 589.400 | 941.800 | [illegible] |
| GR | 942.200 | [illegible] | 942.600 | 616.800 | [illegible] | 626.000 | 943.500 | 635.100 | 943.900 | [illegible] |
| GR | 944.300 | 653.400 | 944.700 | 662.500 | 945.100 | 671.600 | 945.700 | 680.800 | 946.200 | 689.900 |
| GR | 946.800 | 699.000 | 947.400 | 708.200 | 948.000 | 717.300 | 948.600 | 726.400 | 949.100 | 735.600 |
| X1 | 23345.000 | [illegible] | 436.000 | 456.200 | 149.000 | 149.000 | 149.000 | 0.000 | 0.000 | 0.000 |
| GR | 947.500 | [illegible] | 947.000 | 15.000 | 946.400 | 30.000 | 945.900 | 45.100 | 945.400 | 60.100 |
| GR | 945.000 | 75.100 | 944.500 | 90.200 | 944.100 | 105.200 | 943.600 | 120.200 | 943.100 | 135.300 |
| GR | 942.800 | 150.300 | 942.600 | 165.300 | 942.400 | 180.400 | 942.100 | 195.400 | 941.900 | 210.400 |
| GR | 941.700 | 225.500 | 941.500 | 240.500 | 941.500 | 255.500 | 941.400 | 270.600 | 941.300 | 285.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 941.200 | 330.700 | 941.100 | 345.700 | 940.900 | [illegible] |
| GR | 940.800 | [illegible] | 940.600 | 390.800 | 940.400 | 405.900 | 940.200 | 420.900 | 938.600 | [illegible] |
| GR | 938.300 | [illegible] | 938.000 | 437.300 | 937.700 | 450.000 | 937.400 | 438.400 | 937.100 | [illegible] |
| GR | 936.800 | 440.000 | 936.500 | 440.700 | 936.300 | 441.300 | 936.100 | 442.000 | 936.000 | 442.700 |
| GR | 936.000 | 443.400 | 935.900 | 444.000 | 935.900 | 444.700 | 935.900 | 445.400 | 935.800 | 446.100 |
| GR | 935.800 | 446.700 | 935.800 | 447.400 | 935.800 | 448.100 | 935.800 | 448.800 | 936.000 | 449.400 |
| GR | 936.100 | [illegible] | 936.200 | 450.800 | 936.400 | 451.500 | 936.500 | 452.100 | 936.600 | [illegible] |
| GR | 936.800 | [illegible] | 936.900 | 454.200 | 937.100 | 454.800 | 937.300 | 455.500 | 937.500 | [illegible] |
| GR | 937.800 | [illegible] | 938.100 | 477.200 | 938.500 | 487.700 | 938.800 | 498.200 | 939.100 | [illegible] |
| GR | 939.400 | 519.200 | 939.700 | 529.700 | 940.000 | 540.200 | 940.200 | 550.700 | 940.500 | 561.200 |
| GR | 940.900 | 571.700 | 941.300 | 582.200 | 941.700 | 592.700 | 942.200 | 603.200 | 942.600 | 613.700 |
| GR | 943.000 | 624.200 | 943.300 | 634.700 | 943.700 | 645.200 | 944.100 | 655.700 | 944.500 | 666.200 |
| GR | 944.900 | [illegible] | 945.300 | 687.200 | 945.600 | 697.700 | 946.100 | 708.200 | 946.700 | [illegible] |
| GR | 947.200 | [illegible] | 947.700 | 739.700 | 948.300 | 750.200 | 948.800 | 760.700 | 949.300 | [illegible] |
| X1 | 23491.000 | 90.000 | 430.000 | 450.800 | 148.000 | 148.000 | 148.000 | 0.000 | 0.000 | 0.000 |
| GR | 948.000 | 0.000 | 947.500 | 14.800 | 947.000 | 29.600 | 946.400 | 44.400 | 946.000 | 59.300 |
| GR | 945.600 | [illegible] | 945.200 | 88.900 | 944.800 | 103.700 | 944.300 | 118.600 | 943.800 | [illegible] |
| GR | 943.400 | 148.200 | 943.200 | 163.100 | 942.900 | 177.900 | 942.600 | 192.700 | 942.400 | 207.500 |
| GR | 942.100 | [illegible] | 941.900 | 237.200 | 941.800 | 252.000 | 941.700 | 266.800 | 941.500 | [illegible] |
| GR | 941.400 | 296.500 | 941.300 | 311.300 | 941.200 | 326.200 | 941.100 | 341.000 | 941.000 | 355.800 |
| GR | 940.800 | 370.600 | 940.700 | 385.500 | 940.500 | 400.300 | 940.300 | 415.100 | 939.000 | 430.000 |
| GR | 938.700 | 430.600 | 938.300 | 431.300 | 938.000 | 432.000 | 937.700 | 432.700 | 937.400 | 433.400 |
| GR | 937.100 | [illegible] | 936.800 | 434.400 | 936.500 | 435.300 | 936.400 | 435.200 | 936.300 | [illegible] |
| GR | 936.200 | 437.000 | 936.200 | 438.300 | 936.200 | 439.000 | 936.100 | 439.700 | 936.100 | [illegible] |
| GR | 936.100 | 441.100 | 936.100 | 441.800 | 936.100 | 442.500 | 936.100 | 443.200 | 936.300 | [illegible] |
| GR | 936.400 | 444.600 | 936.600 | 445.300 | 936.800 | 446.000 | 937.000 | 446.600 | 937.100 | 447.300 |
| GR | 937.300 | 448.000 | 937.500 | 448.700 | 937.700 | 449.400 | 937.900 | 450.100 | 938.100 | 450.800 |
| GR | 938.500 | 462.700 | 938.800 | 474.600 | 939.200 | 486.400 | 939.600 | 498.300 | 939.900 | 510.200 |
| GR | 940.200 | [illegible] | 940.500 | 533.900 | 940.700 | 545.800 | 941.000 | 557.600 | 941.300 | [illegible] |
| GR | 941.700 | 581.400 | 942.100 | 593.200 | 942.500 | 605.100 | 942.900 | 617.000 | 943.300 | [illegible] |
| GR | 943.700 | 640.700 | 944.000 | 652.600 | 944.400 | 664.400 | 944.700 | 676.300 | 945.100 | [illegible] |
| GR | 945.400 | 700.000 | 945.300 | 711.900 | 946.200 | 723.800 | 946.600 | 735.600 | 947.100 | 747.500 |
| GR | 947.600 | 759.400 | 948.100 | 771.200 | 948.500 | 783.100 | 949.000 | 795.000 | 949.500 | 806.800 |
| X1 | 23645.000 | 90.000 | 424.000 | 445.500 | 149.000 | 149.000 | 149.000 | 0.000 | .100 | 0.000 |
| GR | 949.500 | 0.000 | 948.000 | 14.600 | 947.500 | 29.200 | 947.000 | 43.800 | 946.600 | 58.400 |
| GR | 946.200 | 73.100 | 945.800 | 87.700 | 945.400 | 102.300 | 944.900 | 116.900 | 944.500 | 131.500 |
| GR | 944.100 | 146.200 | 943.800 | 160.800 | 943.500 | 175.400 | 943.200 | 190.000 | 942.800 | 204.600 |
| GR | 942.600 | 219.300 | 942.300 | 233.900 | 942.100 | 248.500 | 941.900 | 263.100 | 941.700 | 277.700 |
| GR | 941.500 | [illegible] | 941.400 | 307.000 | 941.200 | 321.600 | 941.200 | 336.200 | 941.000 | [illegible] |
| GR | 940.900 | [illegible] | 940.700 | 380.100 | 940.600 | 394.700 | 940.500 | 409.300 | 939.400 | 424.000 |
| GR | 939.000 | [illegible] | 938.700 | 425.400 | 938.300 | 426.100 | 938.000 | 426.800 | 937.700 | [illegible] |
| GR | 937.400 | 428.200 | 937.000 | 429.000 | 936.800 | 429.700 | 936.600 | 430.400 | 936.500 | 431.100 |
| GR | 936.500 | 431.800 | 936.500 | 432.500 | 936.400 | 433.300 | 936.400 | 434.000 | 936.300 | 434.700 |
| GR | 936.300 | 435.400 | 936.300 | 436.100 | 936.400 | 436.800 | 936.400 | 437.600 | 936.600 | 438.300 |

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FORM 1411-SB-PRINTED BY ROTARY MANIFOLD FORMS

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|---|---|---|---|---|---|---|---|---|---|---|
| CR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| CR | 931.850 | 442.500 | 938.000 | 463.200 | [illegible] | [illegible] | [illegible] | [illegible] | 937.000 | 643.500 |
| GR | 939.100 | 455.700 | 939.500 | 471.500 | [illegible] | 435.700 | 930.000 | 453.000 | 940.000 | 511.000 |
| CR | 940.700 | 564.300 | 941.200 | 530.100 | 541.200 | 531.000 | 941.200 | 565.500 | 942.100 | 527.000 |
| GR | 942.500 | 591.000 | 942.000 | 536.200 | 535.000 | 517.500 | 533.700 | 630.700 | 944.100 | 503.500 |
| CR | 944.400 | 657.200 | 946.100 | 570.400 | 575.000 | 535.000 | 545.000 | 592.000 | 945.700 | 710.100 |
| GR | 945.000 | 713.200 | [illegible] | [illegible] | [illegible] | 717.300 | 547.100 | [illegible] | [illegible] | [illegible] |
| CR | 945.100 | 715.500 | 951.500 | [illegible] | [illegible] | 710.000 | 543.200 | 525.200 | 949.700 | 642.500 |
| X1 | 23794.000 | 90.000 | 413.000 | 447.500 | 449.100 | 142.000 | 143.000 | 0.000 | 0.000 | 0.000 |
| GR | 946.900 | 0.000 | 943.500 | 14.500 | 568.000 | 23.000 | 947.000 | 45.200 | 947.200 | 57.500 |
| CR | 948.300 | 73.700 | 945.400 | 35.400 | 535.100 | 100.500 | 945.000 | 115.300 | 949.100 | 129.700 |
| GR | 946.700 | 144.100 | 944.400 | 153.500 | 154.100 | 172.900 | 942.700 | 137.000 | 943.500 | 201.000 |
| CR | 946.300 | 211.200 | 942.700 | 233.500 | 542.400 | 245.100 | 942.300 | 251.000 | 941.500 | 273.500 |
| GR | 941.700 | 238.200 | 941.400 | 302.500 | 943.200 | 317.100 | 941.200 | 331.500 | 941.100 | 345.500 |
| CR | 940.500 | 260.500 | 940.100 | 374.700 | 940.700 | 366.100 | 940.000 | 410.500 | 939.700 | 418.000 |
| GR | 939.400 | 416.700 | 939.000 | 419.400 | 938.900 | 420.200 | 938.000 | 420.000 | 938.000 | 421.000 |
| CR | 937.600 | 422.500 | 937.000 | 422.100 | 937.000 | 425.800 | [illegible] | [illegible] | 934.500 | [illegible] |
| GR | 935.300 | 425.100 | [illegible] | 426.000 | [illegible] | 427.500 | [illegible] | [illegible] | 935.600 | [illegible] |
| CR | 935.000 | [illegible] | [illegible] | [illegible] | [illegible] | 431.200 | [illegible] | [illegible] | 933.500 | [illegible] |
| CR | 937.200 | 433.400 | 937.400 | 434.200 | 937.000 | 434.000 | 937.000 | 435.000 | 935.100 | 435.400 |
| GR | 931.600 | 437.100 | 938.400 | 437.000 | 938.400 | 438.500 | 939.100 | 435.000 | 936.400 | 440.100 |
| CR | 939.800 | 454.700 | 940.000 | 459.300 | [illegible] | 453.000 | 941.100 | 449.500 | 941.400 | 513.100 |
| CR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 555.000 | [illegible] | [illegible] | [illegible] | 536.500 |
| GR | 946.000 | 607.700 | 943.100 | 613.000 | [illegible] | [illegible] | 764.500 | [illegible] | 944.300 | 539.100 |
| CR | 945.500 | [illegible] | [illegible] | [illegible] | [illegible] | 712.500 | [illegible] | [illegible] | [illegible] | 572.100 |
| GR | 946.500 | 765.700 | 948.900 | [illegible] | [illegible] | 775.900 | 947.500 | 795.500 | 948.000 | 815.100 |
| CR | 948.300 | 812.700 | 948.700 | 834.000 | 849.100 | 863.900 | 949.500 | 843.500 | 949.900 | 873.100 |
| X1 | 594.000 | 0.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.000 | 0.000 | 0.000 |
| CR | 949.100 | [illegible] | [illegible] | 1.000 | [illegible] | 2.000 | [illegible] | 42.000 | 947.000 | [illegible] |
| GR | 947.400 | 71.500 | 947.100 | 85.200 | 943.700 | 95.000 | 946.300 | 111.600 | 945.000 | 127.800 |
| CR | 949.100 | 142.000 | [illegible] | 156.200 | 944.000 | 170.400 | 944.200 | 136.000 | 943.800 | 198.800 |
| CR | 945.400 | 211.100 | 942.300 | 227.300 | 942.700 | 241.500 | 942.400 | 255.700 | 942.100 | 209.500 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 340.500 |
| GR | 941.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 940.700 | 397.700 | 940.100 | -12.000 |
| CR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 414.200 | [illegible] | 415.000 | [illegible] | 15.100 |
| CR | 937.500 | 431.500 | 937.500 | 317.000 | [illegible] | 41[illegible].300 | 937.000 | 413.300 | 937.100 | 419.500 |
| CR | 937.000 | 421.300 | 937.000 | 421.000 | [illegible] | 421.300 | 936.900 | 422.000 | 936.900 | 423.000 |
| CR | 935.900 | 424.100 | [illegible] | 426.000 | [illegible] | 425.000 | 937.000 | 425.400 | 937.200 | 427.100 |
| CR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 432.100 | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 941.500 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 942.200 | [illegible] |
| CR | 942.500 | 531.500 | 942.000 | 546.100 | [illegible] | 537.500 | 943.400 | 577.400 | 943.800 | 554.400 |
| GR | 944.100 | [illegible] | 944.500 | [illegible] | [illegible] | [illegible] | 945.200 | 605.200 | 945.500 | 574.200 |
| GR | 945.800 | [illegible] | 946.100 | [illegible] | [illegible] | 624.100 | 946.300 | [illegible] | 942.000 | 654.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 713.700 |
| X1 | [illegible] | [illegible] | 400.000 | 425.000 | [illegible] | 147.000 | 147.000 | 0.000 | 0.000 | 0.000 |
| CR | [illegible] | [illegible] | [illegible] | 140.000 | [illegible] | 280.000 | 928.100 | 420.000 | 946.600 | 550.900 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 977.900 | [illegible] | 111.500 | [illegible] | 125.900 |
| [illegible] | [illegible] | [illegible] | 450.500 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 944.200 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 942.300 | 205.100 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 96[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 03[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 96[illegible] | 73[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 94[illegible] | 75[illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 53[illegible] | 71[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 96[illegible] | 81[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

VALUE [illegible] - 1 [illegible]

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X4 | 2424[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6R | 95[illegible] | [illegible] | [illegible] | 100[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6E | 937[illegible] | 416[illegible] | [illegible] | 812[illegible] | [illegible] | [illegible] | [illegible] | 424[illegible] | [illegible] | [illegible] | [illegible] |
| 6R | [illegible] | 501[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ROCHESTER-AVON ~~FIS~~ TOWNSHIPS

3) WATERCOURSE: SARGENT CREEK

4) DOCUMENT TYPE: 100-YR ENCROACHED

00BREAK00

```
**********************************************************************
  HEC2 RELEASE DATED NOV 76 LRDCSSID  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********************************************************************

T1      HOD  T.  . - [illegible] FIS JOA 5,50-01,07-1
T2      100 YEAR FLOOD
T3      SARGENT CREEK

J1  IC-SCX   JTD     JSPW     TOLR     STRT     [illegible]  NWPS     [illegible]     [illegible]     [illegible]
        0.       .0       .0       .0   0.900000     3.10     [illegible]     [illegible]   [illegible]170     [illegible]

J2  IPROF    TPLOT    FRFVS    XSECV    JSTCB    FR       NLLOC    [illegible]     [illegible]     [illegible]     JTLALT
        3.0000   0.100    -1.0000  0.500    1.0000   [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
```

```
#SECNO 3
CONV=     .300 FTAR=     .[illegible]
#SECNO 3.00
   SECNO     DEPTH     CUSEL     CRIWS     BSELK     IL        IV        HL        GLOSS     BANK ELEV
   0         OLDP      OCH       ORDB      ALDP      ACH       ARO       NOL       TW        LEFT/RIGHT
   TIME      VLOP      VCH       VRDB      RHL       RCH       A F       [illegible]       [illegible]       [illegible]
   SLOPE     XLOPE     XLCH      XLDB      TIRTAL    IOF       [illegible]       [illegible]       [illegible]       [illegible]

     0.00      4.97   7 4.17      0.01      [illegible]   735.[illegible]      1.24      0.00      0.00   [illegible]
   980.        0.      930.       0.        0.      111.       0.        0.        0.   [illegible]
     0.00      0.06      [illegible]      0.01      .043      .035      .041      0.001   755.[illegible]   56.[illegible]
  .0112[illegible]      0.        .         0.        1         0         1         0.10      [illegible]      [illegible]

#SECNO 310.100

                    VALLEY SECTION NO. 1                                    SECT: A

   310.00      4.57   763.97      .01       0.01   735.[illegible]      1.[illegible]      .[illegible]      .[illegible]      [illegible]
   910.        0.        [illegible]       0.        0.      111.       0.        1.        0.   [illegible]
     .01       0.00      [illegible]      0.[illegible]      .043      .035      .041      .03[illegible]   735.23      55.[illegible]
  .012865    310.      310.      310.        0         1         0      0.0[illegible]      37.74      [illegible]

#SECNO 3[illegible]
   [illegible]      [illegible]      [illegible]      0.00      0.01   [illegible]      1.[illegible]      .[illegible]      .[illegible]      [illegible]
   980.        0.        [illegible]       0.        0.      111.       0.        1.        0.   [illegible]
     .01       0.00      [illegible]      0.00      .04       .0[illegible]      .041      .03[illegible]   [illegible]      45.50
  .012791     20.       [illegible]      [illegible]        1         0         0      0.0[illegible]      [illegible]      [illegible]

#SECNO 340.000
   360.00      5.28   763.63      0.01      0.01   [illegible]      1.[illegible]      .[illegible]      .[illegible]      [illegible]
   980.        0.      [illegible]       0.        0.      115.       0.        1.        0.   [illegible]
     .01       0.00      [illegible]      0.00      .043      .0[illegible]      .041      .0[illegible]   [illegible]      45.45
  .011[illegible]      [illegible]      [illegible]      [illegible]        1         0         1      0.0[illegible]      [illegible]      [illegible]

#SECNO 350.100
   SECNO     DEPTH     CUSEL     CRIWS     BSELK     IL        IV        HL        GLOSS     BANK ELEV
   0         OLDP      OCH       ORDB      ALDP      ACH       ARO       NOL       TW        LEFT/RIGHT
   TIME      VLOP      VCH       VRDB      RHL       RCH       A F       [illegible]       [illegible]       [illegible]
   SLOPE     XLOPE     XLCH      XLDB      TIRTAL    IOF       [illegible]       [illegible]       [illegible]       [illegible]

   350.0[illegible]      5.65   7[illegible].56      1.60      0.01   [illegible].13      1.[illegible]      .13       .25   [illegible]
   980.        0.        [illegible]       0.        0.      5[illegible]       0.        1.        [illegible]   [illegible]
     .01       0.00      [illegible]      [illegible]      .0[illegible]      .0[illegible]      .[illegible]      .0[illegible]      [illegible]      [illegible]
  .016439     10.       1[illegible]      10.        [illegible]        [illegible]        0      0.0[illegible]      20.[illegible]      [illegible]

#SECNO 360.000
   360.00      5.54   765.16      0.00      0.00   770.61      1.27      .13       .11   [illegible]
   980.        0.      [illegible]       0.        0.      11[illegible]       0.        1.        0.   [illegible]
     .01       0.00      [illegible]      0.00      .04[illegible]      .0[illegible]      .041      .0[illegible]      [illegible]      [illegible]
  .010225     11.       [illegible]      40.        [illegible]        [illegible]        [illegible]      0.[illegible]      37.57      [illegible]

#SECNO 370.000
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 930. | 0. | 930. | 0. | 0. | 1130. | 0. | 1. | 0. | 771.50 |
| .01 | 0.00 | 9.64 | 0.00 | .083 | .033 | .041 | .037 | 700.60 | 27.42 |
| .011717 | 10. | 10. | 10. | 2 | 1 | 0 | 0.71 | 20.86 | 55.27 |

#SECNO 3[illegible]0.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 390.00 | 5.70 | 769.50 | 0.10 | 0.06 | 770.71 | 1.[illegible] | .17 | .02 | 774.50 |
| 930. | 0. | [illegible] | 0. | 0. | 1070. | 0. | 1. | 0. | 771.[illegible] |
| .01 | 0.00 | 9.19 | 0.00 | .052 | .035 | .041 | .037 | 700.71 | 20.20 |
| .010377 | 10. | 11. | 11. | 2 | 1 | 0 | 0.09 | 27.10 | 55.30 |

#SECNO 3[illegible].000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 392.[illegible] | 5.[illegible] | 769.67 | 0.07 | 0.00 | 770.[illegible] | 1.1[illegible] | .15 | .06 | 775.[illegible] |
| 930. | 0. | 950. | 0. | 0. | 1120. | 0. | 1. | 0. | 772.00 |
| .01 | 0.00 | 5.72 | 0.00 | .068 | .033 | .041 | .037 | 700.50 | 23.77 |
| .009439 | 13. | 13. | 13. | 2 | 6 | 0 | 0.70 | 27.59 | 57.30 |

#SECNO 395.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | CRINS | MSELK | DG | RO | HL | DLOSS | STOR ELEV |
| D | OLDD | GCH | DRDH | ALOS | ACH | AROD | VOL | TMA | LEFT/RIGHT |
| TIME | VLOD | VCH | VROD | XNL | XNCH | XNR | JTM | SL TM | SSTA |
| SLOPE | XLCHL | XLCH | XLCHR | TRIBAL | TC | TCOPT | COMAP | DFDTP | [illegible] |
| 395.00 | 5.92 | 769.72 | 0.01 | 0.01 | 770.51 | 1.10 | .03 | .10 | 775.20 |
| 930. | 0. | 910. | 0. | 0. | 1120. | 0. | 1. | 0. | 772.30 |
| .01 | 0.00 | 8.70 | 0.00 | .042 | .033 | .041 | .037 | 700.50 | 23.73 |
| .009365 | 20. | 20. | 20. | 1 | 1 | 1 | 0.[illegible] | [illegible] | [illegible] |

#SECNO 390.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 390.00 | 5.05 | 769.15 | 0.07 | 0.00 | 770.55 | 1.10 | .03 | .02 | 774.50 |
| 930. | 0. | 930. | 0. | 0. | 1120. | 0. | 1. | 0. | 772.00 |
| .01 | 0.00 | [illegible] | 0.00 | .073 | .033 | .041 | .037 | 700.60 | 20.20 |
| .006335 | 20. | 20. | 20. | 2 | 0 | 1 | 0.00 | 27.50 | [illegible] |

#SECNO 400.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 400.00 | 5.81 | 769.65 | 0.00 | 0.00 | 771.15 | 1.49 | .02 | .19 | 775.20 |
| 930. | 0. | [illegible] | 0. | 0. | 1070. | 0. | 1. | 0. | 771.80 |
| .01 | 0.00 | 9.[illegible] | 0.00 | .046 | .033 | .041 | .037 | 700.06 | [illegible] |
| .012905 | 20. | 20. | 20. | 2 | 0 | 0 | 0.09 | [illegible] | [illegible] |

#SECNO 410.000

WALLEY SECTION NO. 1.9 — CT. F

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 410.00 | 5.81 | 769.71 | 0.00 | 0.00 | 771.42 | 1.71 | .15 | .11 | 775.51 |
| 980. | 0. | [illegible] | 0. | 0. | [illegible] | 0. | 1. | 0. | 771.[illegible] |
| .01 | 0.00 | 10.51 | 0.00 | .042 | .0[illegible] | .041 | .037 | 700.91 | 15.51 |
| .016067 | [illegible] | [illegible] | [illegible] | 2 | [illegible] | 1 | 0.[illegible] | [illegible] | [illegible] |

#SECNO 415.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 415.00 | 5.[illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 1.[illegible] | .1[illegible] | .11 | 15.70 |
| 980. | 0. | [illegible] | [illegible] | 0. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .01 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .011[illegible]21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.10 | [illegible] | [illegible] |

#SECNO 417.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPT | CHSEL | CRINS | MSELK | DG | RO | L | DLOSS | STOR ELEV |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TIME | VLOF | VCH | VRJ | ALL | ACCF | [illegible] | [illegible] | [illegible] | [illegible] | SSTP |
| SLOPE | XLOPL | XLCH | XLOJR | INITIAL | ADC | [illegible] | CONSR | TOTITR | [illegible] | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 417.00 | 0.04 | 770.34 | 0.00 | 0.00 | 771.05 | 1.03 | 0.01 | .12 | 775.70 | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .01 | 0.00 | 5.22 | 0.00 | 0.141 | .133 | .141 | [illegible] | 7.4.01 | [illegible] | |
| .011331 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 25.[illegible] | [illegible] | |

#SECNO 41[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 41[illegible].00 | 0.41 | 770.51 | 0.00 | 0.00 | 771.[illegible] | 1.27 | .17 | .12 | 775.70 | |
| 980. | 0. | 180. | 0. | 1. | 138. | 1. | 1. | 0. | [illegible] | |
| .01 | 0.10 | 9.08 | 0.00 | .141 | .0[illegible] | .141 | [illegible] | 7.4.0[illegible] | 1.01 | |
| .010755 | 1. | 1. | 1. | 2 | 1 | 0 | 0.01 | 25.31 | [illegible] | |

#SECNO 419.100

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 419.00 | 0.43 | 770.43 | 0.00 | 0.00 | 771.[illegible] | 1.[illegible] | .11 | .10 | 775.70 | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .01 | 0.00 | 5.02 | 0.00 | .028 | .033 | .041 | .037 | 7.4.00 | 13.81 | |
| .010627 | 1. | 1. | 1. | 0 | 0 | 0 | 0.00 | 25.54 | 34.52 | |

#SECNO 421.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 421.00 | .54 | 770.34 | 0.00 | 0.00 | 771.[illegible] | [illegible] | .02 | .12 | 775.70 | |
| 980. | 0. | 510. | 0. | 0. | 112. | 0. | 1. | 0. | 773.30 | |
| .01 | 0.00 | 8.75 | 0.00 | .043 | .038 | .041 | .037 | 7.4.00 | 1.57 | |
| .009923 | 2. | 2. | 2. | 2 | | 2 | 0.01 | 25.[illegible] | 3.53 | |

#SECNO 432.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 432.00 | 0.30 | 770.30 | 0.00 | 0.00 | 771.37 | 1.03 | .10 | .05 | 775.70 | |
| 930. | 0. | 590. | 0. | 1. | 118. | 0. | 1. | 0. | 773.30 | |
| .01 | 0.00 | [illegible] | 0.00 | .065 | .036 | .041 | .035 | 7.4.00 | 12.94 | |
| .008371 | 11. | 11. | 11. | 2 | 0 | 0 | 0.10 | 27.[illegible] | 41.83 | |

#SECNO 454.000

| SECNO | DEPTH | CUSEL | CRIJS | JSELK | JG | JV | JL | JLOSS | JAXF ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | CLOS | DCR | CDOS | ALDE | ACI | ARIS | VOL | TOA | LEFT/RIGHT |
| TIME | VLOS | VCR | VDOS | [illegible] | THL | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOPL | XLCH | XLOJR | INITIAL | JDC | CONST | LOKAI | TOPTIJ | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 454.00 | 0.97 | 771.07 | 0.00 | 0.00 | 772.17 | 1.00 | .13 | .02 | 775.70 | |
| 950. | 0. | 5[illegible]. | 0. | 0. | 122. | 0. | 1. | 0. | [illegible] | |
| .01 | 1.10 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .007311 | 22. | [illegible] | 22. | 2 | 1 | 1 | 0.11 | [illegible] | [illegible] | |

#SECNO 476.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 476.00 | 0.10 | 771.00 | 0.00 | 0.00 | 772.25 | .05 | .16 | .02 | 775.70 | |
| [illegible] | 0. | [illegible] | 0. | [illegible] | [illegible] | [illegible] | 1. | 0. | [illegible] | |
| .01 | 0.00 | 7.31 | 0.00 | .046 | [illegible] | .041 | [illegible] | 7.4.00 | 11.[illegible] | |
| .007066 | 22. | 22. | 22. | 2 | 0 | 0 | 0.00 | [illegible] | [illegible] | |

#SECNO 498.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 498.00 | 0.21 | 771.50 | 0.00 | 0.00 | 772.51 | .07 | .15 | .01 | 775.70 | |
| 910. | 0. | 560. | 0. | 1. | 121. | 0. | 1. | 0. | [illegible] | |
| .02 | 0.00 | 7.57 | 0.00 | .043 | [illegible] | .043 | [illegible] | 7.4.00 | 11.46 | |
| .006736 | 22. | 22. | 22. | 2 | 1 | 0 | 0.01 | 25.[illegible] | 59.71 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.00 | 7.25 | 772.25 | 0.00 | 0.00 | 772.00 | 0.1 | 0.15 | 0.06 | [illegible] |
| 980. | 0. | 980. | 0. | 0. | 124. | 0. | 1. | 0. | [illegible] |
| .06 | 0.00 | 7.57 | 0.00 | .049 | .050 | .041 | [illegible] | 7[illegible] | 11.[illegible] |
| .005765 | 22. | 22. | 22. | 0 | 0 | 0 | 0.00 | 28.25 | 39.54 |

*SECTION 1000.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.00 | 7.53 | 772.52 | 0.01 | 0.00 | 772.[illegible] | .0[illegible] | .01 | .02 | [illegible] |
| 980. | 0. | 980. | 0. | 0. | 132. | 0. | 2. | 0. | 775.00 |
| .03 | 0.00 | 7.45 | 0.00 | .068 | .050 | .141 | .037 | 7[illegible].60 | 13.55 |
| .006247 | 110. | 110. | 110. | 2 | 0 | 0 | 0.10 | 40.54 | 51.08 |

*SECTION 740.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECTION | JUNCTION | CUSEL | CRITS | USELK | FQ | FV | HL | BLOSS | SANX ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TOA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | UTA | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | TITLE | ICC | ICOUT | COMAR | TOPITO | [illegible] |
| 740.00 | 7.54 | 773.24 | 0.01 | 0.00 | 776.01 | .07 | .15 | .05 | 775.70 |
| 910. | 0. | 930. | 0. | 0. | 135. | 0. | 2. | 1. | 776.93 |
| .03 | 0.10 | 7.04 | 0.00 | .04[illegible] | .058 | .141 | .037 | 755.3[illegible] | 9.45 |
| .000257 | 110. | 110. | 110. | [illegible] | 0 | [illegible] | 0.10 | [illegible] | [illegible] |

*SECTION 850.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 850.00 | .40 | 776.10 | 0.00 | 0.00 | 776.04 | .05 | .51 | .07 | 770.56 |
| 550. | 0. | 98[illegible] | 0. | 0. | 165. | 0. | 2. | 1. | 77[illegible].70 |
| .03 | [illegible] | [illegible] | [illegible] | .045 | [illegible] | [illegible] | 0.07 | 75[illegible].70 | [illegible] |
| .004535 | 110. | 110. | 110. | [illegible] | 0 | 1 | 1.00 | [illegible].31 | [illegible] |

*SECTION 950.00

VALLEY SECTION NO. 1.. SECTION 0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 950.00 | .44 | 776.36 | [illegible] | [illegible] | 775.[illegible] | .05 | [illegible] | [illegible] | [illegible] |
| 9[illegible]. | 0. | [illegible] | 0. | [illegible] | 1[illegible]. | 0. | [illegible] | [illegible] | [illegible] |
| .04 | 0.00 | 5.52 | 0.00 | .068 | .050 | .041 | [illegible] | 7[illegible].20 | 7.57 |
| .003094 | 110. | 110. | 110. | [illegible] | 0 | [illegible] | [illegible] | 52.[illegible] | [illegible].52 |

*SECTION 1150.00

VALLEY SECTION NO. 1.. SECTION 0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1150.00 | 1.15 | 775.35 | [illegible] | [illegible] | 775.[illegible] | [illegible] | [illegible] | .05 | [illegible] |
| 9[illegible]. | 0. | [illegible] | 0. | [illegible] | 1[illegible]. | 0. | [illegible] | [illegible] | [illegible] |
| .05 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .000972 | 190. | 190. | 190. | [illegible] | [illegible] | [illegible] | 0.10 | [illegible] | [illegible].54 |

*SECTION 1[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 157[illegible] | 7.[illegible] | 775.56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 980. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .07 | 0.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .09106 | 275. | 22 | 15[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SEC[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

```
1373.00    2.07    775.01    1.00    0.00    775.00    .01    .00    .01    775.00
  930.     1130.    5[illegible].    312.    [illegible]    1[illegible].    1310.    50.    20.    [illegible]
   .01     1.52     [illegible]    2.23    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    112.45
.000812    1.       1.       1.       2        1        0      0.01    [illegible]    [illegible]

SPECIAL BRIDGE

SB   XK      WKOR    .   CIFD      RPLIN     .0       SKU       ANGA      .1       ELC U     ELCID
     0.00    .050     .00      0.0       .01 10     .00      14.0      1.0      1.3-01    7.5 0

#SECNO 1[illegible].0.000
PRESSURE AVG L IN FLOW

TPRES     TELEC     ZO      TPEIT     UPT      BP A    TEMPERATURE A    ELLV     ELTAIL
 775.96   775.71    .00     511.      [illegible]      [illegible]      [illegible]    775.70    [illegible]

                    [illegible]                                    SECTION

1[illegible]    1.17    [illegible]    .08    [illegible]    [illegible]    .01    [illegible]    [illegible]    [illegible]
  930.    1400.    [illegible]    3[illegible].    1[illegible].    1930.    21[illegible].    [illegible]    20.    [illegible]
   .08    1.32     2.34     1.76     .03[illegible]    .03     .03[illegible]    .03[illegible]    7[illegible].01    10[illegible].60
.010415    7.       7.       7.       [illegible]    [illegible]    [illegible]    3.0[illegible]    1[illegible].04    [illegible]

#SECNO 1[illegible] 1.0[illegible]
1351.00    .17    775.17    1.00    0.00    775.23    .05    .10    .03    775.30
  940.    137.    [illegible]    [illegible]    [illegible]    1930.    21[illegible].    [illegible]    [illegible]    772.51
   .0     1.[illegible]    2.[illegible]    1.72    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible].59
.000[illegible]    1.       1.       1.       0        [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

#SECNO 1459.00[illegible]
1459.00    6.97    776.17    0.00    0.00    776.31    .14    .06    .04    776.50
  930.    127.    4[illegible].    3[illegible].    [illegible]    13[illegible].    159.    [illegible]    2.    772.50
   .0     1.[illegible]    [illegible]    2.17    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
.000[illegible]    100.    7[illegible].    3[illegible].    2        [illegible]    1        0.00    13[illegible].1    [illegible]

#SECNO 1460.000
1460.00    6.96    776.16    0.00    0.00    776.32    .16    .01    .11    776.51
  940.    102.    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    20.    [illegible]
   .08    2.30    [illegible]    2.77    [illegible]    [illegible]    [illegible]    .057    [illegible]    [illegible]
.001192    1.       1.       1.       0        0        1      0.01    [illegible]    [illegible]

#SECNO 1461.000
 SECNO     CONN     DISCL    CRITS    USERS    FS       HV       HL       HLOSS    ITR CLPV
 S        BLCR     BCH      BRD-     ALOS     ACH      ARSA     VOL      TWF      LEFT/ RGHT
 TIME     VLCR     VC       VROC     [illegible]L     [illegible]CH     [illegible]B     [illegible]TW     L TN     [illegible]TW
 SLOPE    XLCRL    XLCH     XLOBR    ITTIME   ICC      ICONT    [illegible]      TOPWID   [illegible]ST

                    METR SECTION NO. 1-A                                    SECTN

                    BRIDGE OVER DAM NOT CONSIDERED BECAUSE OF SMALL SIZE
```

```
                    [illegible] FROM CONDITIONS OF [illegible]

   1451.00     3.96    776.16     0.00     6.00    776.32      .16      .00      .00    [illegible]
    980.       1.1.     3[illegible].     456.      68.      96.     156.      7.       2.    [illegible]
     .03      2.35     3.91     2.78     .030     .052     .030     .037    [illegible]     [illegible]
   .101205      2.       2.       2.       [illegible]      [illegible]      [illegible]      [illegible]    [illegible]    [illegible]

#SECNO 1[illegible]2.000

                    D/S EDGE OF GOLF COURSE LAKE

   1[illegible]2.00     7.1[illegible]    776.32     0.00     0.00    776.30      .13      .00      .[illegible]    [illegible]
    980.       0.       980.       1.       0.     730.       0.       7.       2.    [illegible]
     .03      0.00     1.36     0.00     .052     .030     .052     .037    [illegible]     [illegible]
   .000096     1.       1.       1.       2.       0.       0.     0.00    15[illegible].7[illegible]    237.63

#SECNO 1[illegible]34.00[illegible]

                    D/S [illegible] OF GOLF COURSE LAKE

   1664.00     5.45    776.35     0.00     0.00    776.41      .13      .00      .02    [illegible]
    9[illegible].       0.       9[illegible].       0.       0.     [illegible]       [illegible].       1[illegible].       [illegible].    [illegible]
     .11      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]    [illegible]     [illegible]
   .010[illegible]      [illegible].     [illegible]     [illegible]       [illegible]       [illegible]     [illegible]    [illegible]    21[illegible]

#SECNO 1[illegible]5.00[illegible]

3[illegible]01 [illegible] CHANNEL [illegible] THE [illegible]

   SECNO     DEPTH     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    0.       ELEV     DEP.     [illegible]     ALT.     ACC.     AREA     VOL     TOA     LEFT/RIGHT
   TIME      VELOC     VEL.     VEL.     [illegible]     ANCH     ANG     ITR     FLOW     STA
   SL [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

3685 20 TRIALS ATTEMPTED [illegible]
3693 PROBABLY MISSING SPECIFIC [illegible]
3720 CRITICAL DEPTH ASSUMED

3470 ERROR AT HEAD STATION S=     [illegible]     2[illegible].0     [illegible]=     [illegible]     TAP T=     [illegible]

                    CHANNEL SECTION AT U/S OF EDGE OF LAKE

   1635.00     5.15    77[illegible].[illegible]5    770.65     0.00    777.39      .23      .00      .34    [illegible]
    9[illegible].       7[illegible].       [illegible]       [illegible].       [illegible].       [illegible].       [illegible].       [illegible].       [illegible].       [illegible]
     .11      [illegible]     7.71     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   .064751     1.       1.       1.       20.       [illegible]       0.     [illegible]     [illegible]     [illegible]

#SECNO 1[illegible].00

3470 ERROR AT T STATION S=     [illegible]     [illegible]     [illegible]=     TAP T=     [illegible]
   15[illegible].00     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    980.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
     .11      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   .0[illegible]23     [illegible]       1.       [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

#SEC [illegible]

   SECNO     DEPTH     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    0.       ELEV     DEP.     [illegible]     ALT.     ACC.     AREA     VOL     TOA     LEFT/RIGHT
   TIME      VELOC     VEL.     VEL.     [illegible]     ANCH     ANG     ITR     FLOW     STA
```

3470 ENCROACHMENT STATIO.S= 1.2.6 TYP.= 1 TAB.T= 1 .0.0
1687.00 5.10 777.10 0.00 777.55 .0. .0. .0. .75.4.

930. 105. 5.0. 225. 1.0 1100 3.0 1.0 2. 775.4
.11 2.45 5.17 2.32 .0.0 .0.5 .1.5 .0.5 7.1.0. 152 0
.003520 1. 1. 1. 1 0 1.0 1.0.0.0 2.0.0

*SECNO 1.8 1.000

3470 ENCROACHMENT STATIO..S= 152.0 250.0 TYP = 1 TAB. T= 1 .0.0
16..0.00 6.11 777.11 1.00 0.0 777.54 .0 .10 .0 .75.40

930. 105. 450. 225. 50. 100. 3.0 1.0 3. 775.0
.12 2.54 6.18 2.01 .030 .035 .030 .030 771.0 152 0
.003750 1. 1. 1. 0 0 2 0.0 1.0.0 2.0.0

*SECNO 1.91.000

3470 ENCROACHMENT STATIO S= 1.7.6 289.0 TYP.= 1 TAB. T= 14.0.0
1091.06 5.12 777.12 0.00 0.00 777.55 .0 .0 .0 775.60

950. 110. 5.0. 235. 25. 110. 7.0 1.0 .0 775.50
.12 2.41 5.1. 2.31 .050 .0.2 .0. .0.5 7.1.0 1.0.0
.003731 .0 .0 .0 1 0 .0 .0.0 1.0.0 230.0

*SECNO 1.13.000

3470 ENCROACHMENT STATIO.S= 1.7.0 2.5.0 TYP = 1 TAB.T= 1.0.0
1.90.00 .11 777.11 0.00 .0.0 777.57 .0 .0 .0 .0.0

980. 116. 5.0. 230. 40. 100. 3.0 1.0 .0 775.45
.1. 2.44 5.15 2.0 .0.0 .0.5 .0.5 .0.5 771.0 1.0.0
.003320 .0 .0 .0 2 1 .0 0.0 1.0.0 2.5.0

*SECNO 1701.001

3470 ENCROACHMENT STATIO..S= 140.0 300.0 TYP = 1 TAB. T= 1 .0.0
1701.00 .11 777.21 0.00 0.0 777.51 .4 .0 .0 775.50

9.0. 107. 5.5. 2.0. 4.0 11.0 3.0 1.0 .0 775.51
.12 2.45 5.17 2.37 .0 .0.5 .0.5 .0.5 7.1.0 .0.0
.003550 .0 .0 .0 .0 .0 .0 .0 0.0 1.0.0 2.5.0

*SECNO 1710.000

| SECTO | DEPTH | CTE | CTIS | ISTIM | IG | J | EL | CLOSE | MAX EL O |
|---|---|---|---|---|---|---|---|---|---|
| 0 | OLDN | JCH | 2FRJ | ALJF | AC- | A.J. | NOL | T & | LEFTX TL-T |
| TIME | VL.. | ICW | WRJ | BEL | XNC- | ARP | ITI | ELTIN | DITA |
| SLOPE | XL.9L | ELCH | XL039 | TYPIFL | IDC | ICONT | COIFR | TOPWID | PQUST |

3470 ENCROACHMENT STATIO S= 1.1.0 .0.0 TYP.= 1 TAB.TT= .0.0
1710.0% .21 777.1 1.0 0.0 777.55 .0 .0 .0 775.50

930. 116. 510. 256. 49. 130. 5.0 10. .0 775.50
.12 2.36 5.60 2.56 .035 .035 .035 .036 771.10 1.8.0
.003032 9. 9. 9. 2 0 0 0.0 1.8.0 .0.0.0

*SECNO 1719.0.0

3470 ENCROACHMENT STATIO.S= 142.0 .0.0 TYP.= 1 TABLET= 1.4.0.0
1719.0. .11 777.1 0.0 0.0 777.71 .0 .0 .0 .5.0

*SECNO 1722.000

3470 ENCROACHMENT STATIONS= 132.6 [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1722.00 | [illegible] | 777.53 | [illegible] | 0.00 | 777.72 | [illegible] | [illegible] | [illegible] | [illegible] |
| 900. | 107. | [illegible] | 229. | 636. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.47 | 5.95 | 2.66 | .036 | .035 | .036 | .035 | 771.26 | 162.00 |
| .003528 | 3. | 3. | 3. | 0 | 0 | 0 | 0.07 | 162.70 | 304.06 |

*SECNO 1724.000

3470 ENCROACHMENT STATIONS= 137.0 294.0 TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1724.00 | 6.16 | 777.34 | 3.00 | 6.00 | 777.72 | [illegible] | .01 | [illegible] | [illegible] |
| 980. | [illegible] | [illegible] | [illegible] | 45. | [illegible] | [illegible] | 10. | [illegible] | [illegible] |
| .12 | 2.42 | 5.57 | 2.70 | .036 | [illegible] | [illegible] | .035 | [illegible] | [illegible] |
| .003[illegible] | [illegible] | [illegible] | [illegible] | 1 | 0 | [illegible] | 0.00 | [illegible] | [illegible] |

*SECNO 1723.000

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17[illegible].04 | [illegible] | 777.[illegible] | [illegible] | [illegible] | 777.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 777.[illegible] |
| .12 | 2.55 | [illegible] | [illegible] | .035 | [illegible] | [illegible] | [illegible] | 771.30 | [illegible] |
| .004[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.11 | [illegible] | [illegible] |

*SECNO 17[illegible]

| SECNO | DEPTH | COSL | CRIS | [illegible] | FC | V | HL | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | DLOP | DCH | [illegible] | [illegible] | AC | [illegible] | WDL | [illegible] | [illegible] |
| TIST | VLOP | VCH | [illegible] | [illegible] | WSCH | [illegible] | STP | [illegible] | STA |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1736.00 | [illegible] | 777.43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .003[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 1744.000

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE= [illegible] TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1744.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .004[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO [illegible]

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE= [illegible] TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17[illegible].00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .00[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO [illegible]

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17 7.04 | 5.17 | 777.59 | 3.10 | [illegible] | 771.11 | [illegible] | [illegible] | .84 | [illegible] |
| 910. | [illegible] | 71[illegible] | 1.0. | [illegible] | 10[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.7[illegible] | 7.16 | [illegible].12 | .03[illegible] | [illegible] | [illegible] | [illegible] | 77[illegible].73 | [illegible] |
| .005562 | 34. | [illegible] | 34. | 1 | 0 | 0 | 3.0[illegible] | 1[illegible].0 | [illegible] |

*SECNO 1791.000

3470 ENCROACHMENT STATIONS= 14[illegible] 27[illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1791.00 | 5.58 | 777.60 | 3.01 | 0.01 | 773.22 | [illegible] | [illegible] | .90 | [illegible] |
| 980. | 8[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.76 | 7.15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7[illegible].71 | [illegible] |
| .005511 | [illegible] | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] |

*SECNO 1793.000

| SECTION | DEPTH | LEFT | RIGHT | WSELEV | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | [illegible] | LOB | [illegible] | ALOB | ACH | [illegible] | [illegible] | [illegible] | LEFT/RIGHT |
| TYPE | VEL 1 | VEL | [illegible] | [illegible] | ACH | [illegible] | [illegible] | [illegible] | STA |
| SLOPE | AL 1 | AL | ALOB | MODEL | TOTAL | [illegible] | [illegible] | [illegible] | TEST |

3470 ENCROACHMENT STATIONS= 1[illegible] 27[illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1793.00 | [illegible] | 777.[illegible] | [illegible] | [illegible] | 77[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 980. | 109. | [illegible] | [illegible] | [illegible] | 10[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .1[illegible] | 2.[illegible] | 6.56 | 3.03 | [illegible] | [illegible] | [illegible] | [illegible] | 771.7[illegible] | [illegible] |
| .004[illegible] | 2. | [illegible] | 2. | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 1[illegible]

3470 ENCROACHMENT STATIONS= 148.0 274.0 TYPE= 1 TARGET= 1[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1795.00 | 5.57 | 777.77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 930. | [illegible] | [illegible] | 185. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.74 | [illegible] | 3.11 | [illegible] | [illegible] | [illegible] | [illegible] | 771.[illegible] | [illegible] |
| .010692 | 2. | 2. | 2. | [illegible] | | | [illegible] | [illegible] | [illegible] |

*SECNO 1796.000

3470 ENCROACHMENT STATIONS= 14[illegible] 27[illegible] TYPE= 1 TARGET= 1[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1796.00 | 5.[illegible] | 777.77 | [illegible] | [illegible] | [illegible] | .55 | [illegible] | [illegible] | [illegible] |
| 930. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.74 | 6.[illegible] | 3.11 | [illegible] | [illegible] | [illegible] | [illegible] | 771.[illegible] | [illegible] |
| .006891 | 1. | 1. | 1. | 0 | 0 | 0 | [illegible] | [illegible] | [illegible] |

*SECNO 1797.000

3470 ENCROACHMENT STATIONS= 148.0 27[illegible] TYPE= 1 TARGET= 1[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1797.00 | 5.96 | 777.76 | [illegible] | [illegible] | 778.[illegible] | .55 | [illegible] | [illegible] | [illegible] |
| 580. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .12 | 2.7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 771.5[illegible] | [illegible] |
| .014635 | 1. | [illegible] | 1. | 0 | | 1 | [illegible] | [illegible] | [illegible] |

*SECNO 1799.000

3470 ENCROACHMENT STATIONS= [illegible] 27[illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1799.00 | 5.00 | 777.80 | [illegible] | [illegible] | 77[illegible] | .55 | [illegible] | [illegible] | [illegible] |
| 910. | 100. | 593. | 192. | [illegible] | 10[illegible] | 53. | 10. | 3. | [illegible] |
| .12 | 2.73 | 6.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 771.[illegible] | [illegible] |
| .010472 | 2. | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] |

```
#SECNO 1503.000
   SECNO     DEPTH     DESEL     CRIT.S    MSELR     EG        HW        ML        DLTSS     PARK DLTV
   0         DLOB      DCH       QRDS      ALDB      ACH       ARCH      VOL       TIB       DEFLECTIONS
   TIME      VLOB      VCH       VRDS      XFL       AACH      AFB       HTA       TLEIN     SSTA
   SLOP      ALOBL     ALCH      ALRDP     INITIAL   ICC       ICCNT     CDRFT     DEFTD     TCST

3470 ENCROACHMENT STATIONS=      147.0     276.0  TYPE=      1  TARGET=      [illegible]
  1803.00     5.85    777.76     6.90      0.90    775.42      .56       .02       .05    77[illegible].36
     910.     38.      729.      155.      30.       [illegible]  57.       [illegible]       [illegible]    775.20
     .12      2.81     7.13      5.26      .03       .05       .00       .03       771.96    [illegible]
  .005857     4.       4.        4.        2.        .         0.        0.00      [illegible]    [illegible]

#SECNO 1511.000

3470 ENCROACHMENT STATIONS=      151.0     266.0  TYPE=      1  TARGET=      [illegible]
  1811.00     [illegible]  77[illegible].45    [illegible]      0.70    [illegible]      .53       .05       .02       [illegible]
     930.     121.      535.      195.      45.       [illegible]  53.       10.       [illegible]    775.20
     .12      2.57      6.13      [illegible]  .03       .05       .03       .02       771.96    16[illegible].10
  .003.52     [illegible]  3.        [illegible]  5.        0.        0.        0.00      113.00    2[illegible].00

#SECNO 1[illegible].000

3470 ENCROACHMENT STATIONS=      151.0     26[illegible].0  TYPE=      1  TARGET=      [illegible]
  1920.00     5.35    77[illegible].35     [illegible]      0.00      [illegible]      .21       .02       .05       [illegible]
     [illegible]      [illegible]      56[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     .12      2.[illegible]      4.[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
  .002155     5.        [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]

#SECNO 1 21.000

3470 ENCROACHMENT STATIONS=      151.0     26[illegible]  TYPE=      1  TARGET=      [illegible]
  1621.00     [illegible]  77[illegible]      [illegible]      0.[illegible]    [illegible]      .2        .10       .11       [illegible]
     910.     [illegible]      5[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     .12      2.[illegible]      4.[illegible]      [illegible]      .02       .03       .146      .036      [illegible]    [illegible]
  .002369     1.        1.        1.        2.        [illegible]  0.        0.00      11[illegible]    [illegible]

SPECIAL OPTIONS

SB   XX        XKOR      CFFO      DOLEN     [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     0.01      1.59      2[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]

#SECNO 13[illegible].000
PRESSURE AND MAIN FLOW

ECPRS     [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
                                                                                                  A.[illegible]A
  7[illegible].39     7[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]

3470 [illegible]  STATIONS=      [illegible]  [illegible]  TYPE=      [illegible]  TARGET=      [illegible]

                 [illegible]

  [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      .15       [illegible]      [illegible]      [illegible]
     [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| .012 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .003115 | 1. | 3. | 3. | 2 | 0 | 4 | 0.0 | 123.00 | .001.00 | |

*SECNO 1630.000

| SECNO | DEPTH | CDSEL | CRDBS | DSELK | DC | HV | HL | DLOSS | SAMPLE DEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | DLOD | DCH | DRDS | ALOP | ACH | ARDS | VOL | TOR | [illegible] |
| TIME | VLOP | VCH | VRDS | XVL | XMCH | XAR | VTH | TLIM | STA |
| SLOPE | XLOPL | XLCH | XLDSR | ITRIAL | IDC | ICORT | CORAT | TORDIF | COST |

3470 ENCROACHMENT STATIONS= 25.0 2000 TYPE= 1 TARGET= 0.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1530.00 | 7.03 | 779.02 | 0.00 | 0.00 | 779.02 | .15 | .01 | .06 | [illegible] |
| 980. | 239. | 441. | [illegible] | 190. | 121. | 106. | [illegible] | [illegible] | [illegible] |
| .012 | 2.34 | 3.75 | 2.51 | .035 | .035 | .035 | .035 | 772.00 | 155.00 |
| .001055 | 1. | 1. | 1. | 0 | 1 | 1 | 0.00 | 11.00 | 201.00 |

*SECNO 1645.000

3470 ENCROACHMENT STATIONS= 15.0 2500 TYPE= 1 TARGET= 0.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1845.00 | 8.02 | 779.02 | 0.00 | 0.01 | 779.03 | .29 | .02 | .06 | [illegible] |
| 900. | 196. | 5[illegible] | [illegible] | 75. | 13[illegible] | [illegible] | 11. | [illegible] | [illegible] |
| .012 | 1.62 | [illegible] | [illegible] | .035 | .035 | .035 | .035 | [illegible] | [illegible] |
| .001543 | 15. | 15. | 15. | 2 | 1 | 1 | 0.00 | [illegible] | [illegible] |

*SECNO 1 [illegible]

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 980. | 145. | 457. | 143. | 52. | 1[illegible] | 54. | 11. | [illegible] | [illegible] |
| .013 | 2.73 | 3.09 | 2.75 | .035 | .035 | .035 | .035 | 772.00 | 131.00 |
| .002189 | 17. | 17. | 17. | | 0 | 0 | 0.00 | 51.00 | 252.00 |

*SECNO 1667.000

3470 ENCROACHMENT STATIONS= 165.0 2500 TYPE= 1 TARGET= 0.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1667.00 | 6.59 | 778.95 | 0.00 | 0.00 | 77[illegible] | .35 | .01 | .02 | [illegible] |
| 930. | 137. | 7[illegible] | 137. | 45. | 132. | 46. | 11. | 3. | [illegible] |
| .013 | 2.07 | [illegible] | [illegible] | .035 | [illegible] | .035 | [illegible] | [illegible] | [illegible] |
| .002495 | 5. | 5. | 5. | 1 | 1 | 0 | 0.00 | [illegible] | [illegible] |

*SECNO 1672.000

3470 ENCROACHMENT STATIONS= 165.0 2500 TYPE= 1 TARGET= 35.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1672.00 | 6.30 | 779.01 | 0.00 | 0.00 | 779.01 | .35 | .01 | .01 | [illegible] |
| 900. | 125. | 71[illegible] | 125. | 46. | 132. | 40. | 11. | 3. | [illegible] |
| .013 | 2.91 | 5.31 | 2.96 | .035 | .035 | .035 | .035 | 772.00 | 101.00 |
| .002521 | 5. | 5. | 5. | 0 | 1 | 0 | 0.00 | 35.00 | 241.00 |

*SECNO 1678.100

| SECNO | DEPTH | CDSEL | CRDBS | DSELK | DC | HV | HL | DLOSS | SAMPLE DEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | DLOD | DCH | DRDS | ALOP | ACH | ARDS | VOL | TOR | [illegible] |
| TIME | VLOP | VCH | VRDS | XVL | XMCH | XAR | VTH | TLIM | STA |
| SLOPE | XLOPL | XLCH | XLDSR | ITRIAL | IDC | ICORT | CORAT | TORDIF | COST |

3470 ENCROACHMENT STATIONS= 165.0 2500 TYPE= 1 TARGET= 35.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1678.00 | 6.47 | 778.97 | 0.00 | 0.00 | 779.01 | .36 | .02 | .05 | [illegible] |
| 970. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11. | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .003291 | 00 | 70 | 50 | 2 | 0 | 0 | 0.10 | [illegible] | [illegible] |

*SECNO 1379.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | 155.0 | | 2450 | TYPE= | 1 | TARGET= | 320.00 | |
| 1379.00 | 5.43 | 778.93 | 0.00 | 1.60 | 779.45 | .55 | .01 | .06 | 777.00 |
| 900. | 97. | 705. | 101. | 34. | 1200. | 32. | 11. | 3. | 777.00 |
| .15 | 2.37 | 5.09 | 2.81 | .155 | .035 | .036 | .035 | 772.50 | 135.00 |
| .003201 | 1. | 1. | 1. | 0 | 4 | 0 | 0.11 | 13.00 | 241.00 |

*SECNO 1387.10

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | 155.0 | | 2670 | TYPE= | 1 | TARGET= | 320.00 | |
| 1880.00 | 5.48 | 778.93 | 1.00 | 0.00 | 779.64 | .45 | .00 | .00 | 777.50 |
| 980. | 95. | 705. | 58. | 34. | 1300. | 34. | 11. | 3. | 777.40 |
| .15 | 2.37 | 5.50 | 2.71 | .095 | .035 | .035 | .035 | 772.50 | 105.00 |
| .003204 | 1. | 1. | 1. | 0 | 1 | 0 | 0.01 | 0.00 | 213.00 |

*SECNO 1391.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | 155.0 | | 2673 | TYPE= | 1 | TARGET= | [illegible] | |
| 1[illegible] | [illegible] | 778.[illegible] | 1.01 | 0.[illegible] | 779.[illegible] | [illegible] | .01 | .10 | [illegible] |
| 980. | [illegible] | 715. | [illegible] | [illegible] | [illegible] | 35. | 11. | [illegible] | [illegible] |
| .15 | 2.81 | 5.50 | 2.95 | .055 | .035 | .035 | .035 | 772.50 | 135.00 |
| .003190 | 1. | [illegible] | 1. | [illegible] | 1 | [illegible] | 0.01 | 12.00 | 247.00 |

*SECNO 1397.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | 155.0 | | 2770 | TYPE= | 1 | TARGET= | 320.00 | |
| 1385.00 | 5.49 | 778.99 | 0.00 | 1.90 | 779.65 | .56 | .00 | .00 | 777.50 |
| 990. | 96. | 7[illegible] | [illegible] | [illegible] | 1300. | [illegible] | 11. | 3. | 777.41 |
| .15 | 2.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 772.56 | [illegible] |
| .003100 | 2. | [illegible] | [illegible] | [illegible] | 1 | 1 | [illegible] | [illegible] | [illegible] |

*SECNO 1.89.001

| SECNO | DEPTH | CUSIL | CRITS | HS.LK | CE | CV | SL | CLASS | TA & TLEV |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | 155.0 | | 2950 | TYPE= | 1 | TARGET= | [illegible] | |
| 1.59.00 | [illegible] | 778.55 | [illegible] | 0.00 | 77[illegible].53 | .52 | .12 | .00 | 777.[illegible] |
| 910. | [illegible] | [illegible] | [illegible] | 25. | [illegible] | [illegible] | 11. | [illegible] | [illegible] |
| .13 | 2.57 | 6.21 | 2.01 | .035 | .035 | .035 | .035 | 772.50 | 107.04 |
| .003674 | 5. | [illegible] | [illegible] | [illegible] | | 0 | 0.01 | 7.00 | 245.00 |

*SECNO 1 [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3670 ENCIRCLEMENT STATIONS= | | [illegible] | | 2[illegible] | TYPE= | 1 | TARGET= | [illegible] | |
| 1895.00 | 1.20 | 778.[illegible] | .0 | [illegible] | 77[illegible].5[illegible] | .5 | [illegible] | [illegible] | 777.7[illegible] |
| 9[illegible] | 55 | 75[illegible] | [illegible] | 2[illegible] | 12[illegible] | [illegible] | 11. | [illegible] | [illegible] |
| .1[illegible] | [illegible] | [illegible] | [illegible] | 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .003[illegible] | 5 | [illegible] | [illegible] | | | | 1.03 | [illegible] | [illegible] |

*SECNO 1[illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1900.00 | 5.27 | 778.17 | 0.00 | 0.00 | 779.01 | 0.55 | 0.03 | [illegible] | [illegible] | [illegible] |
| 980. | 54. | 37. | 50. | 13. | 1[illegible] | 1[illegible] | 11. | [illegible] | [illegible] | [illegible] |
| .14 | 2.01 | 6.75 | 2.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .004601 | 5. | 5. | 5. | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 1[illegible]5.100

3470 ENCROACHMENT STATION S= [illegible] TYPE = [illegible] TARGET= [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1905.00 | 5.14 | 778.05 | [illegible] | [illegible] | 779.07 | .72 | [illegible] | [illegible] | [illegible] | [illegible] |
| 930. | 45. | 3[illegible] | [illegible] | 15. | 1[illegible] | 1[illegible] | 11. | 3. | [illegible] | [illegible] |
| .14 | 2.23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .005304 | 5. | 5. | 5. | [illegible] | | | 0.0 | [illegible] | [illegible] | [illegible] |

*SECNO 1911.000

3470 ENCROACHMENT STATION S= [illegible] TYPE = [illegible] TARGET= [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1911.00 | 5.15 | 778.15 | [illegible] | [illegible] | 779.7[illegible] | .7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 580. | 27. | [illegible] | 11. | 11. | 12[illegible] | [illegible] | 11. | [illegible] | [illegible] | [illegible] |
| .15 | 2.57 | 7.29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .005899 | 6. | 6. | 6. | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] |

*SECNO 1937.000

| SECNO | DEPTH | DISCH | CROSS | ISLOP | [illegible] | DV | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | ALPH | ULH | [illegible] | ALPH | ALH | ARV | VOL | [illegible] | [illegible] |
| TIME | VLOS | VLH | VRIS | WL | [illegible] | XIR | STR | ELEVN | SSTA |
| SLOPE | XLOEL | XLOR | [illegible] | ITRIAL | [illegible] | ICONT | COLWR | [illegible] | [illegible] |

3470 ENCROACHMENT STATION S= [illegible] TYPE = [illegible] TARGET= [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1937.00 | 5.54 | 77[illegible].04 | [illegible] | 0.00 | 7[illegible].[illegible] | .97 | .17 | .09 | 778.[illegible] | |
| 980. | 1[illegible] | [illegible] | 8. | 5. | 13[illegible] | 6. | 11. | 5. | [illegible] | |
| .1[illegible] | 2.54 | 7.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .007695 | 2[illegible] | [illegible] | [illegible] | [illegible] | | | 1.0 | [illegible] | [illegible] | [illegible] |

*SECNO 1962.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1962.00 | 5.[illegible]4 | 779.24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11 | [illegible] | [illegible] | [illegible] |
| .13 | 0.01 | 7.[illegible] | [illegible] | .03 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .00[illegible]897 | 25. | 25. | 25. | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 19[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1955.00 | 5.35 | 77[illegible].55 | [illegible] | 0.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 930. | [illegible] | [illegible] | 0. | [illegible] | 12[illegible] | [illegible] | 11. | [illegible] | [illegible] | [illegible] |
| .13 | 3.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .009[illegible] | 26. | 26. | 26. | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] |

*SECNO 200[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2[illegible].00 | 5.[illegible] | 77[illegible].[illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2[illegible] | [illegible] | [illegible] | 0. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .13 | 0.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010[illegible] | 20. | 20. | 20. | [illegible] | [illegible] | [illegible] | 0.10 | [illegible] | [illegible] | [illegible] |

*SECNO 200[illegible].000

5501 NV CHANGED FROM TRIB VALUES

| SECNO | DEPT | DISC | CROS | ISLP | [illegible] | DV | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|

```
TIME     VLOP     VCH      VPOD     ALL      ALCH     ASP      QTO      FLOW     STA
SLOPE    ALOPL    ALCH     ALOBR    ITRIAL   IDC      ICONT    CONAR    TOPWID   ENDST

5695 20 TRIALS ATTEMPTED JSEL,CHSEL
5693 PROFILE VT INPUT SPECIFIED SPECIFY
5720 CRITICAL DEPTH ASSUMED

          U/S FACE UNDERGROUND PIPE #1
2009.00   1.71   783.01   753.01   0.00   739.50   .65   .01   .07   790.40
 861.     0.      11.      0.       0.     15.      0.    11.   0.    737.30
  .15     0.04    5.04     0.01     .03    .05      .02   .025  11.31 43.29
.011839   1.      1.       1.       20     17       0     5.10  135.25 245.24
```

Need section to bring W.S. up 2.49 ft

```
#SECNO 2271.000
SECNO    FLOW     CHSEL    CFAJS    USSLR    FG       FV       FL       SCOUR    TAKE FLOW
0        ALOJ     QCH      QPOD     ALDC     ACH      ANOJ     WOL      TO       LPSTATIONT
TIME     VLOP     VCH      VPOD     WOL      ALCH     ALOB     .TO      ENDT     STA
SLOPE    ALOJBL   ALCH     ALOJBR   ITRIAL   IDC      ICONT    CONAR    TOPWID   ENDST

          BRIDGE SECTION NO. 2                    SLCT= -

          U/S FACE UNDERGROUND PIPE #1

          .03" OF AGR CONCRET PIPE

2271.00   .03    784.55   .10      0.00     785.10   .07   .07   .15   797.60
 861.     1.     861.     0.       0.       61.      .     1.    5.    747.5
  .17     0.10   .011     .09      .030     .15      .015  .015  11.10 50.46
.001142   2.     2.       2.2      .        .        .     0.01  22.04 27.06

#SECNO 2272.001
2272.01   0.95   784.35   0.79     0.00     784.40   .15   .09   .16   751.76
 930.     1.1.   7.       2.       199.     .72      44.   13.   5.    732.51
  .17     .97    .08      .59      .15      .05      .025  .015  11.15 57.18
.000220   1.     1.       1.       1        .        .     1.0   25.40 201.64

#SECNO 2521.000

          WALL U/S CROSS SECTION 2-A                    SLCT=

2521.00   .14    784.4    0.07     0.06     7.4      .07   .02   .03   .
 930.     .1.    519.     289.     .1.      115.     1.2.  .1.   .     730.71
  .1.     2.07   5.35     2.59     .01      .025     .025  .01.5 11.20 120.45
.001696   .75.   265.     225.     .        .        .     .01   102.00 225.10

#SECNO 2525.
2525.01   5.03   774.55   .01      0.00     745.14   .53   .     .     .
 .0.      .7.    556.     .1.      1        5.       .5    .1    .     .1.7
  .1      5.00   5.       .36      .03.     .04      .03   .1.5  11.00 12.5.
.0034.04  1.4.   .        .4.                        .     0.1.  .1.15  .1.51

2575.00   .14    785.14   .01      .0.      785.     .     .     .19   .2.50
 .20.     5.0    7.4.     1.4.     .        5.       .     .     .     .2.7
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.000240 | 1316. | 1516. | 1530. | 2 | 0 | 1 | 0.00 | 12.40 | 1[illegible].25 | |

*SECNO 2922.000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | FLOW | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | LEFT/RIGHT |
| TIME | VELOC | VCH | VPRS | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOPL | XLOS | XLOSR | TOTAL | ADC | [illegible] | [illegible] | [illegible] | [illegible] |
| 2922.00 | 6.09 | 735.99 | 0.00 | 0.00 | 786.62 | [illegible] | 0.07 | 0.12 | [illegible] |
| 935. | 51. | 71[illegible] | 195. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .20 | 2.29 | 1.12 | 3.5[illegible] | [illegible] | [illegible] | [illegible] | 0.33 | [illegible] | [illegible] |
| .005723 | 1.40 | [illegible] | 13[illegible] | [illegible] | 0 | 1 | 0.00 | [illegible] | [illegible] |

*SECNO 2989.000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | FLOW | OCH | PRES | ALOR | ACH | ARO | VOL | TOT | LEFT/RIGHT |
| TIME | VELOC | VCH | VPRS | TOL | RMES | RMR | TR | [illegible] | [illegible] |
| SLOPE | XLOPL | XLOS | XLOSR | TOTAL | ADC | [illegible] | [illegible] | [illegible] | [illegible] |
| 2989.00 | 6.03 | 735.81 | 0.00 | 0.00 | 717.31 | [illegible] | [illegible] | 0.15 | [illegible] |
| 935. | 45. | 72[illegible] | 1[illegible] | 15. | 67. | 4[illegible] | [illegible] | [illegible] | [illegible] |
| .20 | 2.54 | 0.35 | [illegible] | 0.45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .007221 | 67. | 67. | 67. | 1 | 1 | 1 | 0.07 | 79.15 | [illegible] |

*SECNO 3054.000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 3054.00 | 4.11 | 736.21 | 0.00 | 0.00 | 7[illegible] | [illegible] | [illegible] | 0.12 | [illegible] |
| 935. | 35. | 72[illegible] | 152. | 14. | [illegible] | 4[illegible] | [illegible] | [illegible] | [illegible] |
| .20 | 3.42 | 0.51 | 2.10 | 0.45 | 0.40 | 0.45 | 0.33 | [illegible] | [illegible] |
| .007592 | 67. | 67. | 67. | 1 | 0 | 1 | 0.00 | 71.34 | 117.65 |

*SECNO 312[illegible].000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 312[illegible].00 | [illegible] | 7[illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.05 | [illegible] |
| 935. | 59. | 71[illegible] | 152. | 13. | 37. | 43. | [illegible] | 7. | [illegible] |
| .17 | 3.22 | 0.15 | 2.52 | 0.45 | 0.41 | 0.45 | [illegible] | [illegible] | [illegible] |
| .006765 | 67. | 67. | 67. | 1 | 1 | 0 | 0.00 | [illegible] | 113.54 |

*SECNO 315[illegible].000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 315[illegible].00 | 6.09 | 777.69 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | 54. | 73[illegible] | 151. | 16. | [illegible] | 42. | 13. | 7. | 785.00 |
| .21 | 3.43 | 0.54 | 2.31 | 0.45 | 0.40 | 0.45 | 0.33 | [illegible] | [illegible] |
| .007354 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |

*SECNO 3189.000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | FLOW | OCH | PRES | ALOR | ACH | ARO | VOL | TOT | LEFT/RIGHT |
| TIME | VELOC | VCH | VPRS | TOL | RMES | RMR | TR | [illegible] | [illegible] |
| SLOPE | XLOPL | XLOS | XLOSR | TOTAL | ADC | [illegible] | [illegible] | [illegible] | [illegible] |
| 3189.00 | 6.13 | 787.53 | 79[illegible].05 | 0.00 | 788.[illegible] | [illegible] | 0.26 | 0.0[illegible] | [illegible] |
| 935. | 37. | 73.1 | 157. | 15. | 82. | 36. | 13. | 7. | [illegible] |
| .21 | 3.41 | [illegible] | 3.51 | 0.45 | [illegible] | [illegible] | 0.33 | [illegible] | [illegible] |
| .007342 | 33. | [illegible] | [illegible] | 1 | 1 | 0 | 0.01 | [illegible] | [illegible] |

*SECNO 3250.000

| SECNO | DEPTH | CHSEL | CRIES | ISLLK | EG | HV | HL | FLOSS | TANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 3250.00 | 5.40 | 786.70 | 0.00 | 0.00 | 789.20 | 0.75 | 0.48 | 0.17 | [illegible] |
| 935. | [illegible] | [illegible] | 154. | 21. | 97. | 43. | 13. | 7. | [illegible] |
| .21 | 3.31 | [illegible] | 2.39 | 0.45 | 0.46 | 0.45 | 0.33 | [illegible] | [illegible] |
| .006235 | 67. | 67. | 67. | 1 | 6 | 6 | 0.03 | [illegible] | [illegible] |

*SECNO 3[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 535. | 92. | 5946. | 185. | 27. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .21 | 3.46 | 7.22 | 3.41 | .045 | .040 | .045 | .035 | 78[illegible].70 | [illegible].82 | |
| .006929 | 67. | 67. | 67. | 2 | [illegible] | 0 | 0.01 | 83.7[illegible] | 15[illegible].55 | |

*SECND 3590.001

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3590.00 | 5.59 | 799.56 | 0.00 | 0.00 | 750.42 | [illegible] | [illegible] | [illegible] | [illegible] | |
| 535. | 17. | 761. | 115. | 24. | 54. | 42. | 1. | 7. | [illegible] | |
| .21 | 3.49 | 8.33 | 2.46 | .045 | .040 | .045 | .035 | 733.21 | 8[illegible].37 | |
| .007272 | 57. | 57. | 57. | 1 | 0 | 0 | 0.00 | 20.57 | 100.94 | |

*SECND 3623.001

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3623.00 | 3.59 | 750.09 | 0.00 | 0.00 | 791.76 | [illegible] | [illegible] | [illegible] | [illegible] | |
| 935. | 110. | 647. | 173. | 35. | 39. | 59. | 1. | 7. | [illegible] | |
| .21 | 3.15 | 7.26 | 3.77 | .045 | .040 | .045 | .035 | 733.40 | [illegible] | |
| .004974 | 33. | 33. | 33. | 5 | 0 | 0 | 0.00 | [illegible] | 171.50 | |

*SECND 3650.001

| SECND | DEPTH | CONSE | CRITS | PSELK | ZG | ZD | HL | FLOSS | MAX CL V |
|---|---|---|---|---|---|---|---|---|---|
| O | OLOS | OCR | OPOS | ALOR | ACS | ARDR | VOL | IJA | LEFT/JCRT |
| TIME | VLOR | VCR | VEOS | ANL | XNCH | XNF | XT | TLIN | STA |
| SLOPE | [illegible] | RLC | RLOSS | CTRIPL | [illegible] | COST | [illegible] | [illegible] | DST |
| 3650.00 | 3.51 | 759.23 | 0.00 | 0.00 | 750.53 | [illegible] | [illegible] | [illegible] | 7[illegible].78 |
| 935. | 119. | 636. | 150. | 36. | 45. | 47. | 1. | 7. | [illegible] |
| .21 | 3.45 | 7.53 | 3.22 | .045 | .040 | .045 | .035 | 7[illegible].00 | [illegible].32 |
| .004123 | [illegible] | [illegible] | [illegible] | 2 | 0 | 1 | 0.01 | [illegible] | [illegible] |

*SECND 3523.001

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3523.00 | 3.50 | 740.65 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7[illegible].60 | |
| 935. | 111. | [illegible] | [illegible] | 31. | 33. | 46. | 1. | 7. | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .007030 | [illegible] | [illegible] | [illegible] | 1 | | 1 | [illegible] | [illegible] | [illegible] | |

*SECND 3556.006

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3556.00 | [illegible] | 791.68 | 0.00 | 0.00 | 791.59 | [illegible] | [illegible] | [illegible] | 7[illegible].40 | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | 7[illegible].5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .003504 | [illegible] | [illegible] | 37. | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECND 3590.001

VALLEY S CTRD. 03. [illegible] TO 3

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3590.00 | 3.53 | 791.14 | 791.05 | 0.00 | 792.05 | [illegible] | [illegible] | [illegible] | 739.74 | |
| 935. | 116. | 705. | 113. | [illegible] | [illegible] | [illegible] | 1. | 8. | [illegible] | |
| .21 | 3.51 | 3.52 | 2.[illegible]5 | .045 | .040 | .045 | .035 | 724.51 | 7[illegible].92 | |
| .007761 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECND [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3827.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.57 | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | 44 | [illegible] | 5 | 21 | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .005[illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] | |

*SECND [illegible]

| SECND | DEPTH | CONSE | CRITS | PSELK | ZG | ZD | HL | FLOSS | MAX CL V |
|---|---|---|---|---|---|---|---|---|---|

```
TIME     VLOT     SCH      WRGT     SL       ALC      ATP      WTT      FLCN     FITA
SLOPE    ALPHL    ALCH     ALDER    TTRIAL   IDC      TCMT     CTIAS    TOPHIC   FLOST

40.6.00     5.64    196.24     0.01     0.00    746.53       .2       .73       .14    18.60
  .5.5.     1.00     2.1.     .1.      .2.      .7.      .1.      .2.       .1.     .1.
   .25      3.01     5.51     5.51     .145     .0.3     .1.3     .03      .2.7     .1.
.001502    337.     23.      237.       2        0                .0.0      .0.0    .1.
```

```
#SECNO 4.65.000
SPLOS    [illegible]  CRITS    [illegible]  [illegible]  [illegible]  [illegible]  L        [illegible]  [illegible]
0        SLOP     ACH      ARDU     ALCT     ALCA     [illegible]  ATL      TIA      L STX(left)
TIME     VLO      VCI      [illegible]  VBL      [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
SLOPE    ALOPL    ALCH     ALDGR    TT.TTE   IDC      TCMT     [illegible]  [illegible]  [illegible]
```

400

```
3655 20 TITLE ATTENUATION USEL USEL
3693 PROPEL MINIMUM SPECIFIC FLOTS
3720 CRITICAL DEPTH ASSUM 0
```

43.2

```
3670 ENCR ACCMENT STATIONS=     .16.0     562.0  TYPE=     1  TARGET=     [illegible]

                    U/S FACE UNDERGROUND PIPE [illegible]

40.5.0      1.1.     [illegible]     7[illegible]     6.0C     [illegible]     [illegible]     [illegible]     [illegible]
  .6.5.     .0.      32.5.     .0.      .0.      1.5.     .0.      .2.5.     .0.      [illegible]
   .21      0.00     6.0.     6.0C     .0.0     .0.5     .0.3     .1.7     .0.5.     -14.00
.020972     1.       1.       1.       .2       .5       .0       0.0.     .4.00     [illegible]
```

[illegible]

```
#SECNO 4[illegible]
3470 ENCROACHMENT STATIONS=     .56.0     595.1  TYPE=     1  TARGET=     151.00

                    [illegible] SECTION [illegible]

                    U/S FACE UNDERGROUND PIPE [illegible]

                    [illegible]

4259.01     2.05     797.25     [illegible]     0.01     [illegible]     [illegible]     [illegible]     .011     [illegible]
  325.      0.       325.      0.       .0       270.      .0.      23.      14.      [illegible]
   .27      0.00     3.04     .001     .03.     .055     .0.5     .137     796.00     [illegible]
.001935     1.0.     194.     1.4.      5        0        .        0.10     1.1.01     515.00
```

```
#SECNO 4[illegible] 0.0[illegible]

3670 ENCR ACCMENT STATIONS=     2.9.0     4.0.     TYPE=     1  TARGET=     171.00
42.0.00     8.20     797.40     0.01     0.00     [illegible]     .1     .0     .16     795.00
  [illegible]     .0.      4[illegible]     2.      .2.      [illegible]     .2.      2.      1.      [illegible]
   .21      .5.      .07      .3.      .0.0     .0.3     .0.5     .0.7     [illegible]     [illegible]
.000920     1.       1.       1.       .2       .3       .1       0.0.     151.10     [illegible]

#SECNO 441[illegible].001
441[illegible].00     1.10     797.61     0.00     [illegible]     [illegible]     .02      .01      .01     [illegible]
  515.      0.       51[illegible].     0.       .0       [illegible]     .0       .5.      [illegible]     [illegible]
   .5[illegible]     0.00     1.10     0.00     [illegible]     .0.5     .0.5     .037     [illegible]     [illegible]
.003061     151.     153.     151.     .2       .3       .1       [illegible]     [illegible]     [illegible]
```

```
SECNO    QLOTS    CUBIL    CPIPS    ASLLK    TG       TW       TL       QLOSS    BANK FL V
Q        QLOP     DCR      CROB     ALOB     AC       AROD     VOL      T.R      LEFT/RIGHT
TIME     VLOB     VCR      VRCD     XML      XMSH     XMF      BTN      FLHIN/      SSTA
SLOPE    ALOBL    XLCR     ALOBP    STRTAL   IUC      ZCONT    COPAR    TOPHIS      ENDST

3535 20 TOTAL ATTEMPTED USELESS
3590 PRO & LF MINIMUM SPECIFIC FL RCV
3720 CRITICAL OUTPUT ASSUMED
?                                                                                    Vel=
                D/S FACE UNDERGROUND PIPE #3

 441.00     1.11    806.81    10.81     .60    301.11      .05      .10      .11      .00000
   .23.      .0      .23.      .0       .0      1.1.       .0       .0       .0       .0000
    .31     0.00     0.32     0.00     0.03     0.35     0.06     0.37  1795.70   324.05
 .020361     1.      1.       1.       20       1.       0       0.00   [illegible]  5[illegible].85
 need section to bring W.S. up < .25
#SECNO 6700.000

3470 ENCROACHMENT STATIONS=     336.0     W/O TYPE=     1  TARGET=     [illegible]

                BRIDGE SECTION NO. 4                          SECTO L

                U/S FACE UNDERGROUND PIPE #1

                    262° F 36" CONCRETE PIPE (2)

 470.00     [illegible]    [illegible]    1        1       [illegible]    [illegible]    [illegible]    1.32     [illegible]
   .35.      [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
    .32      0.00     [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    0.37  1795.70   324.00
 .001072     [illegible]    [illegible]    [illegible]    [illegible]    0        1       0.00    35.00    190.00

#SECNO 6[illegible]                                                                  8.61
3470 ENCROACHMENT STATIONS=     [illegible]    TYPE=     1  TARGET=     [illegible]
 4732.00    11.10    [illegible]    .00    [illegible]    [illegible]    .01      .00      .02      [illegible]
   .35.      .00      .37.     457.     1[illegible]     2.10     [illegible]      .27.     1.2.     [illegible]
    .3.      .75      1.[illegible]     [illegible]      [illegible]      [illegible]      .037     [illegible]      [illegible]
 .00[illegible]      1.       [illegible]      1.                        0.00     [illegible]      [illegible]

#SECNO 5000.000

3470 ENCROACHMENT STATIONS=     [illegible]    TYPE=     [illegible]  TARGET=     [illegible]

                TAILW SECTION NO. 5                           SECTO

 5000.00     7.31     [illegible]    .10     [illegible]    [illegible]    .05      .17      .02      [illegible]
   .35.      1.0      [illegible]    [illegible]    1.0      1.2      .41      .10      1.2.     [illegible]
    .27      [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    .037     [illegible]      [illegible]
 .01[illegible]      [illegible]    [illegible]    [illegible]                        [illegible]      [illegible]      [illegible]

#SECNO 5351.000

3470 ENCROACHMENT STATIONS=     [illegible]    TYPE=     [illegible]  TARGET=     [illegible]
 5351.10     [illegible]    [illegible]    .01     [illegible]    [illegible]                      .1       [illegible]
   [illegible]      [illegible]      [illegible]      [illegible]                [illegible]      [illegible]      [illegible]      [illegible]
    .27      .14      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
 .00[illegible]      1.       [illegible]      1.                                [illegible]      [illegible]      [illegible]
```

SECOND 505.0000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECOND | DEPTH | CHISL | CHIS | HELIX | | AN | I | LISS | LEN |
| Q | ALOH | ODH | CROS | ALOH | ZCH | ATH | ADL | TEN | ENT |
| TIME | WLOH | VCH | VRO | XLL | XCH | ATH | ITH | TLIS | TSTA |
| SLOPE | XLOIL | XLCH | XLOUR | ITOTAL | IOC | ILOST | SOMAR | NOPITH | FLOW |

3470 ENCROACHMENT STATION= 0000 TYPE= 1 TOTAL= 2000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5046.00 | 6.28 | 811.45 | 1.00 | 811.52 | 3013.23 | 1.24 | .03 | .01 | .01.60 |
| 935. | 0. | 935. | 0. | 0. | 1.00. | 0. | 0. | 1.00 | 1.00 |
| .37 | 1.00 | 1.00 | 1.00 | .015 | .001 | .055 | .037 | 1.00 | 1.00 |
| .001017 | 1.0 | 1.0 | 1.0 | | | | 0.0 | 1.00 | 0.0 |

796.1

SECOND 505.0000

STA 5054 16' d/s Livermois ELLC 805.5 > 801.81

3470 ENCROACHMENT STATION= 0000 TYPE= 1 TOTAL= 2000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5057.00 | 5.97 | 811.22 | 1.00 | 811.65 | 3035.55 | 1.00 | .01 | .01 | .01.60 |
| 935. | 0. | 935. | 0. | 0. | 1.00 | 0. | 0. | 1.00 | 1.00 |
| .37 | 1.00 | 1.00 | 1.00 | .001 | .001 | .035 | .037 | 1.00 | 1.00 |
| .015558 | 0. | 0. | 0. | | 0.031 | 1 | 0.00 | 1.00 | 121.00 |

~~.105~~ 19 x .2 = 1.9 ft freeboard

151 796.1

SECOND 50 0000

⇒ [illegible] exceeds invert

3001 PV CHARGE [illegible]

3470 ENCROACHMENT STATION= 0000 TYPE= 1 TOTAL= 2000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 50[illegible]0 | [illegible] | [illegible] | .00 | [illegible] | [illegible] | [illegible] | .12 | [illegible] | [illegible] |
| 935. | 1. | [illegible] | 1. | 1. | [illegible] | 1. | [illegible] | [illegible] | [illegible] |
| .37 | [illegible] | [illegible] | 1.0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .015001 | [illegible] | [illegible] | 8. | [illegible] | .031 | 0 | 0.0 | 15.2 | [illegible] |

~~.105~~

+ prop. 20' extension d/s side

Act. '67 #8009507

SECOND 50 0000

[illegible] > [illegible]

3470 ENCROACHMENT STATION= [illegible] TYPE= [illegible] TOTAL= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5065.00 | 5.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .01 | [illegible] | [illegible] |
| 935. | 1. | [illegible] | 1. | 1. | 7[illegible] | 1. | [illegible] | 1.00 | [illegible] |
| .37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .015[illegible] | 1. | [illegible] | [illegible] | [illegible] | 0 | | [illegible] | [illegible] | [illegible] |

SPECIAL OPTION 14'10" x 9'1" CARD

[illegible]

SECOND 5107.0000

5070.00 [illegible]

[illegible]

3370 NORMAL [illegible]= [illegible] FLOW= [illegible] [illegible]= [illegible]

3405 OVERBANK AREA ASSUM[illegible] LL A= [illegible] LR A= [illegible]

3490 MULTI-PLATE AREA

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5137.00 | 0.55 | 803.05 | 1.00 | 811.72 | 0046.02 | 1.05 | 0.71 | 0.13 | 45.00 |
| 935. | 1. | 935. | 0. | 0. | [illegible] | 0. | [illegible] | 1. | [illegible] |
| 0.37 | 1.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.011522 | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 513 .00

| SECNO | DEPTH | CHNL | CDIA | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | CLOD | DCH | DFDA | ALPA | [illegible] | [illegible] | WSEL | [illegible] | TWIDL T |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

3495 OVERBA K AREA ASSUMED NON-EFFECTIVE ALL /= [illegible] LF A= [illegible]

[illegible] VALUE [illegible] IN [illegible] TO ALLOW [illegible] FOR [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5138.00 | 7.17 | 3[illegible] | 1.00 | 803.84 | 00[illegible] | 1.05 | [illegible] | [illegible] | [illegible] |
| 935. | [illegible] | 935. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.065951 | [illegible] | [illegible] | 1. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 5140.00

3001 [illegible]

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE = [illegible] [illegible]=

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5140.00 | 7.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.00579 | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 5137.00

3001 SV [illegible]

3470 ENCROACHMENT STATIONS= [illegible] [illegible] TYPE = [illegible] [illegible]=

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5137.00 | 1.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.001062 | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 5[illegible].00

3280 CROSS SECTION [illegible] EXTENDED [illegible]

TABLE OF SECTION [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5[illegible].00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 5[illegible].00

[illegible] ENCROACHMENT STATIONS= [illegible] TAR = 1 TARGET= [illegible]

VALLEY SECTION NO. 1 [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5930.00 | 4.72 | 805.82 | 0.00 | 804.21 | 805.00 | .11 | .91 | .18 | [illegible] |
| 935. | [illegible] | 224. | [illegible] | [illegible] | 5[illegible] | [illegible] | 40. | 15. | [illegible] |
| .50 | 1.00 | 4.20 | 1.75 | .065 | .041 | [illegible] | [illegible] | [illegible] | [illegible] |
| .0021[illegible] | 200. | 350. | 467. | 2 | 2 | 1 | 0.00 | [illegible] | [illegible] |

#SECNO 6005.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CLSTL | CRDUS | WSELK | FG | HV | HL | HLOSS | [illegible] |
| Q | VLOB | VCH | VRDS | ALOB | ACH | ARD | VOL | TOP | [illegible] |
| TIME | VLOB | VCH | VRDS | XNL | XNCH | XND | TO | ELEVN | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | TYPICAL | IOC | IOCHT | COBAR | TOPWID | COST |

VALLEY SECTION NO. 75 STA. 0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6005.00 | 4.39 | 805.95 | 1.00 | 805.78 | 806.22 | .22 | .72 | .07 | 503.60 |
| 935. | 245. | 349. | 321. | 100. | 5[illegible]. | 135. | 41. | 15. | [illegible] |
| .51 | 2.44 | 5.42 | 2.54 | .065 | .041 | .035 | .031 | 61.60 | 67.10 |
| .0042[illegible] | 75. | 75. | [illegible] | 2 | | 0 | 0.01 | 167.17 | 175.27 |

#SECNO 6140.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6040.00 | 4.24 | 806.74 | 0.00 | 805.32 | 806.[illegible] | .04 | .21 | .05 | 364.10 |
| 935. | 291. | 415. | 249. | 105. | 5[illegible] | [illegible] | 41. | 15. | 804.70 |
| .51 | 2.02 | [illegible] | [illegible] | [illegible] | [illegible] | 0125 | .030 | [illegible] | 41.73 |
| .0074[illegible] | [illegible] | [illegible] | [illegible] | | | 0 | 0.00 | 125.0[illegible] | [illegible] |

#SECNO 6175.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6175.00 | 4.00 | 806.60 | .00 | 805.72 | 806.78 | .03 | .27 | .02 | 518.40 |
| 935. | 195. | [illegible] | 155. | [illegible] | [illegible] | [illegible] | 51. | [illegible] | 805.10 |
| .51 | 2.07 | [illegible] | 2.28 | .033 | .041 | [illegible] | [illegible] | 102.10 | [illegible] |
| .00[illegible] | 35. | 35. | 35. | | | 0 | 0.01 | 10[illegible] | [illegible] |

#SECNO 6110.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6110.00 | 4.25 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | 152. | [illegible] | 77. | 112. | [illegible] | [illegible] | 43. | [illegible] | [illegible] |
| .5 | [illegible] | 7.65 | 3.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .0112665 | 35. | 35. | 35. | 1 | 1 | 1 | 0.07 | 171.75 | [illegible] |

#SECNO 6145.000

VALLEY SECTION NO. 210 STA. [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6145.00 | 4.05 | 807.25 | 0.00 | 806.71 | 807.[illegible] | .05 | .55 | .05 | 565.20 |
| 935. | 39[illegible] | 477. | 52. | 14[illegible] | 7.0 | [illegible] | 41. | 100. | [illegible] |
| .5[illegible] | 2.38 | 5.07 | 1.77 | .035 | [illegible] | .035 | .029 | 51.2[illegible] | [illegible] |
| .007[illegible] | 35. | 5. | 35. | 0 | 0 | 1 | 0.00 | 1[illegible] | 25[illegible] |

#SECNO 6220.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CLSTL | CRDUS | WSELK | FG | HV | HL | HLOSS | [illegible] ELEV |
| Q | VLOB | VCH | VRDS | ALOB | ACH | ARD | VOL | TOP | [illegible] |
| TIME | VLOB | VCH | VRDS | XNL | XNCH | XND | TO | ELEVN | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | TYPICAL | IOC | IOCHT | COBAR | TOPWID | COST |

VALLEY SECTION NO. 650 SECT. 5

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6620.00 | 5.52 | 811.02 | 6.10 | 810.25 | 811.47 | .45 | 3.50 | .05 | 819.20 |
| 935. | 57. | 345. | 513. | 35. | 45. | 125. | 46. | 100. | 50.40 |
| .56 | 1.50 | 7.13 | 1.20 | .070 | .041 | .053 | .055 | 03.76 | 1.00 |
| .000322 | 750. | 603. | 203. | 1 | 0 | 0 | 3.50 | 11.00 | 259.00 |

#SECNO 6. 0.000

3670 EXCAVATION AT STATION= 1710. 2450. TYPE= 1 TARGET= 3.10

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6600.00 | 5.34 | 811.17 | 6.31 | 811.55 | 811.62 | .42 | .05 | .15 | 816.36 |
| 935. | 50. | 35.0 | 1.5. | 30. | 6. | 101. | 46. | 1. | 50.75 |
| .54 | 1.85 | 1.12 | 4.79 | .073 | .043 | .055 | .050 | 13.30 | 151.30 |
| .010971 | 40. | 20. | 40. | 2 | 0 | 0 | 6.70 | 3.00 | 246.30 |

#SECNO 6700.30

3470 EXCAVATION AT STATION= 2010. 2540. TYPE= 1 TARGET= 3.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6700.00 | 5.39 | 811.09 | 7.00 | 810.52 | 812.63 | .56 | .42 | .11 | 820.83 |
| 935. | 54. | 45. | 42.5. | 25. | 51. | 79. | 44. | 13. | 515.00 |
| .55 | 1.19 | 1.13 | 5.15 | .077 | .040 | .052 | .053 | 13.51 | 1[illegible] |
| .011551 | 4[illegible] | 2[illegible] | [illegible] | 1 | 1 | 1 | 0.30 | [illegible] | 2[illegible] |

#SECNO 6781.100

3470 EXCAVATION AT STATION= 1710. [illegible] TYPE= 1 TARGET= [illegible]

VALLEY SECTION NO. [illegible] SECT. 7

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6780.00 | 5.5[illegible] | 81[illegible].45 | .00 | 11.65 | 13.[illegible] | 1.17 | .5 | .10 | 1[illegible] |
| 935. | .7. | 751. | 1.7. | 1[illegible] | [illegible] | [illegible] | 64. | 1[illegible] | 50.[illegible] |
| .5[illegible] | .59 | [illegible] | [illegible].12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010550 | 30. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 6[illegible].000

ELLC = 812.6 < 813.04 ⇒ submerged outlet

3495 [illegible] ELLC= [illegible] L A= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 67[illegible] | 6.0[illegible] | 1[illegible] | [illegible] | 11.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | [illegible] | 935. | [illegible] | [illegible] | 13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .53 | 0.00 | 6.99 | 1.09 | .043 | .0[illegible] | .046 | .0[illegible] | [illegible] | [illegible] |
| .003042 | [illegible] | [illegible] | 6[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33[illegible].50 |

SPECIAL [illegible]

| SS | XK | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SEC[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | [illegible] | [illegible] | [illegible] | [illegible] | AC[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TI[illegible] | VL[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SL[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[illegible] SECRE[illegible]

bridge e 6786

check on pressure flow

$K = 1.84$, $C = .737$

$Q = CA\sqrt{2gH} = .737(168)(8.025)H^{1/2}$

$Q = 993.9H^{1/2}$

$H = 813.85 - 813.04 = .81$

$Q = 993.9(.9) = 894.5 < 935$

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 513.92 | 513.45 | [illegible] | 0. | .35 | 1.41 | 1.46 | [illegible] | [illegible] | [illegible] |

[illegible] HYDRAULIC RIP ASSUMED TOP-FREEZE-BLOCK [illegible]

REACH SECTION NO. 855 ROUNDATE FRING STATE 3

[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | 10. | 535. | 10. | 10. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .55 | 0.01 | [illegible] | 0.07 | 0.07 | 0.01 | 0.40 | [illegible] | [illegible] | [illegible] |
| 0.00814 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECOND 6625.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6625.00 | [illegible] | [illegible] | 1.10 | 112.35 | 113.55 | [illegible] | [illegible] | [illegible] | [illegible] |
| 935. | 102. | 535. | 145. | 119. | 20. | 11. | 45. | 1. | [illegible] |
| .55 | .15 | [illegible] | 1.22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 150.25 |
| 0.00554 | 10. | [illegible] | 10. | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |

*SECOND 6 [illegible]

5470 ENCROACHMENT STATIONS = [illegible] [illegible] TYP = 1 [illegible] T= [illegible]

VALLEY SECTION NO. [illegible] STATE 4

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5830.10 | [illegible] | [illegible] | [illegible] | [illegible] | 813.70 | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | 471. | [illegible] | 39. | 85. | [illegible] | 45. | 10. | [illegible] |
| .55 | 1.41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.00259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECOND 7170.001

VALLEY SECTION NO. 1130 STATE [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7120.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 114. | [illegible] | [illegible] | 151. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .55 | [illegible] | [illegible] | 1.06 | 0.195 | 0.031 | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.001130 | 240. | [illegible] | [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECOND 7370.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7370.00 | [illegible] | [illegible] | [illegible] | [illegible] | 815.16 | 0.11 | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | [illegible] | 270. | 120. | [illegible] | 30. | 51. | 21. | [illegible] |
| .62 | [illegible] | [illegible] | 1.15 | 0.35 | 0.41 | [illegible] | [illegible] | [illegible] | [illegible] |
| 0.00150 | 150. | [illegible] | 475. | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECOND 7[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECOND | DELTA | CHSTL | CHTIS | HSTLK | ES | -V | VL | DLOSS | [illegible] |
| 0 | QLOB | QCH | QLOB | ALOB | ACH | ARO. | VOL | TWA | LIFT/HIGHEST |
| TIME | VLOB | VCH | VROB | XSL | XSCH | XOF | [illegible] | FLIN | SSTA |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

VALLEY SECTION NO. 1190 STATE 8

top widths should be consistent (exponents)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 32. | 2[illegible] | 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .66 | 1.02 | 4.1[illegible] | 1.43 | .075 | .0[illegible] | .015 | .027 | 1[illegible] | 125.02 |
| .002653 | 150. | [illegible] | 475. | 2 | 1 | 0 | 0.00 | [illegible] | [illegible] |

#SECND 7720.001

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7720.00 | 5.12 | 315.95 | [illegible] | [illegible] | [illegible] | .21 | .39 | [illegible] | [illegible] |
| 710. | 59. | 24[illegible] | 415. | 65. | [illegible] | 217. | 55. | [illegible] | [illegible] |
| .68 | 1.31 | 5.76 | 1.85 | .075 | .031 | .035 | .037 | 310.86 | [illegible] |
| .005703 | 120. | 100. | 80. | [illegible] | 0 | 0 | 0.00 | 211.65 | [illegible] |

#SECND 7820.010

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7820.04 | [illegible] | 315.[illegible] | [illegible] | 81[illegible] | [illegible] | .01 | .62 | .03 | [illegible] |
| 710. | 49. | 27[illegible] | 390. | 35. | [illegible] | 136. | 56. | 24. | [illegible] |
| .69 | 1.61 | [illegible] | 2.12 | .075 | .071 | .035 | .027 | [illegible] | 151.[illegible] |
| .008568 | 120. | 100. | 90. | 2 | [illegible] | 0 | 0.00 | 201.72 | [illegible] |

#SECND 7870.010

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7870.00 | 5.36 | 390.95 | 0.00 | 815.37 | 817.31 | .05 | .02 | .02 | 315.61 |
| 710. | 47. | 2[illegible] | 555. | 32. | [illegible] | 175. | 56. | 24. | 815.81 |
| .69 | 1.45 | 7.1[illegible] | 2.20 | .085 | .041 | .035 | .037 | 312.91 | [illegible] |
| .005601 | 130. | [illegible] | [illegible] | 2 | [illegible] | 0 | 0.00 | [illegible] | [illegible] |

#SECND 8120.000

VALLEY SECTION NO. 2150 SECTION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X 8121.[illegible] | 5.[illegible] | [illegible] | 0.00 | 1.56 | [illegible] | .20 | 1.7 | .14 | [illegible] |
| 710. | [illegible] | 2[illegible] | 1[illegible] | [illegible] | [illegible] | 1[illegible] | 59. | [illegible] | [illegible] |
| .72 | 4.13 | 5.75 | 1.76 | .081 | .023 | .013 | .021 | [illegible] | 31.57 |
| .005565 | 275. | 250. | 245. | 2 | 1 | 0 | 0.01 | [illegible] | 27[illegible] |

#SECND 8150.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECND | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8191.[illegible] | 4.05 | 819.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .06 | [illegible] |
| 710. | 295. | 26[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 51. | 25. | 517.15 |
| .72 | 2.05 | 6.07 | 1.45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .007712 | 71. | 71. | 71. | 2 | | 0 | 0.10 | [illegible] | [illegible] |

#SECND [illegible]

S470 ENCROACHMENT STATIC S= [illegible] [illegible] TYP = 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 82[illegible] | 4.53 | 319.93 | [illegible] | 1.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 55. | [illegible] | [illegible] |
| .72 | 2.50 | [illegible] | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .01013 | 1[illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] |

#SECND [illegible]

S470 ENCROACHMENT STATIC S= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | 2[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .72 | 2.51 | 7.45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] |

SPCV: 8.53.10C

5670 DISCHARGE STATIONS= [illegible] TYP= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 833.00 | 4.E2 | 820.83 | [illegible] | 321.23 | 321.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 253. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .73 | 2.5. | 7.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .011364 | 20. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

BSECNO 3373.000

5670 DISCHARGE STATIONS= [illegible] TYP= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 837.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 250. | 252. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .73 | 2.73 | 7.[illegible] | 2.49 | .050 | .040 | [illegible] | [illegible] | [illegible] | [illegible] |
| .011255 | 20. | [illegible] | [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

BSECNO [illegible]

| SECNO | DEPTH | CHSEL | CRIBS | USLE | LG | RV | SL | TOPS | TOTR ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | OLDH | OCH | DROB | ALOT | ACH | [illegible] | [illegible] | [illegible] | LEFT/RIGHT |
| TIME | VLOH | VCH | [illegible] | XLL | XRT | [illegible] | [illegible] | [illegible] | STA |
| SLOP | SL L | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 838.00 | 5.05 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 101. | 3.1. | 1[illegible]. | 110. | 12[illegible]. | 1[illegible]. | [illegible] | 37. | [illegible] |
| .73 | 1.74 | 2.[illegible] | 1.77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .00[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

BLIP: 820.3 < 821.5 ⇒ SUBMERGED ORIFICE

BSECNO 8383.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 838.00 | 5.06 | 821.57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 15[illegible]. | [illegible] | 154. | 1[illegible] | 122. | 1[illegible] | 59. | 27. | [illegible] |
| .73 | [illegible] | [illegible] | 1.55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .0[illegible] 51 | 10. | [illegible] | 10. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

SPECIAL BRIDGE

| SB | XR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.[illegible] | 2.7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

BSECNO 8415.000
PRESSURE AND WEIR FLOW

| EGRES | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 822.0[illegible] | [illegible] | 1.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

5670 DISCHARGE STATIONS= [illegible] TYP= 1 TARGET= [illegible]

BRIDGE SECTION NO. 7 SHABBARK DRIVE SECT. 7

[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 841.00 | 5.15 | 822.[illegible] | 1.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 177. | [illegible] | 174. | 14[illegible] | 131. | [illegible] | [illegible] | [illegible] | [illegible] |
| .73 | [illegible] | [illegible] | 1.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 8419.001

8470 ENCROACHMENT STATIONS= 332.0 36.0 TYPE= 1 TARGET= 1[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8419.00 | [illegible] | 822.34 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 267. | 131. | 153. | 14. | 131. | 14. | 53. | 27. | [illegible] |
| .74 | 1.00 | 1.20 | 1.75 | .035 | .7. | .035 | .03. | [illegible] | [illegible] |
| .000312 | 1. | 1. | 1. | 1 | 0 | 0 | 0.00 | 132.03 | [illegible] |

#SECNO 8501.001

VALLEY SECTION [illegible] SLOPE AA

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8500.00 | 5.55 | 822.03 | 1.00 | 121.00 | 822.75 | .016 | .07 | .05 | [illegible] |
| 710. | 0. | 710. | 0. | 0. | 234. | 1. | 50. | 27. | 822.40 |
| .75 | 1.00 | [illegible] | [illegible] | .035 | [illegible] | .035 | [illegible] | [illegible] | [illegible] |
| .000970 | 91. | [illegible] | 11. | [illegible] | 0 | [illegible] | 0.00 | [illegible] | 75.56 |

#SECNO 8564.000

| SECNO | DEPTH | [illegible] | [illegible] | [illegible] | [illegible] | V | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| D | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8564.00 | [illegible] | 822.59 | 6.00 | 121.04 | 82.67 | .0[illegible] | .07 | .02 | [illegible] |
| 710. | [illegible] | 710. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .001374 | [illegible] | [illegible] | [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 8616.000 ELTRD 820.7 < 822.64 ⇒ TW over dam

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8616.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 1. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .002055 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

SPECIAL [illegible]

| SB | XR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | LCHD | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 5.10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 819.56 |

#SECNO 8715.000
PRESSURE AND [illegible]

| EGPRS | EGLPC | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | LLLC | LTRD |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[illegible] SECTION [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8615.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .7. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .006750 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

WATER SURFACE LARGE= [illegible]

*001 AV CHANNEL WORK TRANSITIONS

| SECNO | DEPTH | LEVEL | CRITIC | IS LK | [illegible] | HV | HL | LOSS | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TI F | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

7195 MINIMUM SPECIFIC ENERGY

Yc e82496 > Xs e82496

7120 CRITICAL [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9055.0 | 4.76 | 626.56 | 626.56 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |
| 710. | 0. | 710. | 0. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .73 | .05 | [illegible] | .00 | .0041 | [illegible] | .004 | [illegible] | [illegible] | [illegible] |
| .021280 | 0. | 0. | 1. | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |

*SEC 0.96 7.000

*001 AV CHANNEL WORK TRANSITIONS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9157.00 | 5.15 | 626.5. | 0.00 | 626.9. | 0.7021 | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .7. | 1.5. | [illegible] | [illegible] | .006. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .000157 | 32. | [illegible] | [illegible] | [illegible] | | | 0.01 | [illegible] | [illegible] |

*SECNO 9155.000

| SEC | DEPTH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TI F | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9155.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 1. | [illegible] | 3. | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .7 | 1.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .003550 | 32. | [illegible] | [illegible] | | | | 0.01 | [illegible] | [illegible] |

*SECNO 9155.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9155.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 27. | 561. | 3. | 15. | 34. | 2. | 01. | 27. | [illegible] |
| .73 | 1.55 | 7.22 | .75 | .0048 | .042 | .0069 | [illegible] | [illegible] | [illegible] |
| .007294 | 55. | 55. | 55. | 1 | 0 | 1 | 0.00 | 5.15 | [illegible] |

*SECNO 9250.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9250.00 | 6.15 | 627.75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 15. | 571. | 5. | 17. | 9. | 5. | 01. | 27. | [illegible] |
| .73 | 1.59 | 3.57 | .92 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .006294 | 55. | 55. | 55. | 2 | 1 | 0 | 0.01 | [illegible] | [illegible] |

*SECNO 9315.000

VALLEY SECTION NO. 11 SECTO AC

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9315.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .73 | [illegible] | [illegible] | [illegible] |
| 710. | 30. | 577. | 3. | 15. | 45. | [illegible] | 01. | 27. | [illegible] |
| .77 | 1.55 | 7.[illegible] | [illegible] | [illegible] | [illegible] | .006 | [illegible] | [illegible] | [illegible] |
| .105595 | 55. | 55. | 55. | 2 | 1 | 0 | 0.01 | [illegible] | [illegible] |

3470 ENCROACHMENT STATIONS= 1310. 1900. TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9354.00 | 5.52 | 321.93 | 6.00 | 527.32 | 325.24 | .05 | .24 | .16 | [illegible] |
| 710. | 25. | 576. | 12. | 19. | 139. | .0 | 61. | 20. | [illegible] |
| .77 | 1.62 | 4.36 | 1.09 | .025 | .042 | .048 | .023 | [illegible] | [illegible] |
| .013710 | 45. | 60. | 40. | 5 | 0 | 1 | 1.00 | [illegible] | [illegible] |

*SECND 9355.000

| SECNO | DEPTH | CUS-L | CDIAS | USELK | SC | AV | HL | BLDSS | SWNK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | DLOP | LCH | DRDS | ALOP | ACH | ARO. | VOL | TOP | LEFT/RIGHT |
| TIME | WCTP | WCH | WRDS | ALL | ACTP | ACT | TTL | DTMP | TSTA |
| SLOPE | ALTPL | ALCH | ALDES | ITOTAL | JLC | ICOUNT | CDTAB | TOPLOD | ALDST |

ELTRD = 828.6 < 829.0 ⇒ TW over FOOD

3470 ENCROACHMENT STATIONS= 1010. 1940. TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9355.00 | [illegible] | [illegible] | 3.00 | 127.34 | [illegible] | .25 | .09 | .12 | [illegible] |
| 710. | 1.0 | 5[illegible] | .6. | 17. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .77 | [illegible] | [illegible] | 3.58 | .145 | .020 | .125 | .075 | [illegible] | [illegible] |
| .007540 | 10. | [illegible] | 10. | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

SPECIAL [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6.00 | 10.55 | 20.00 | 10.00 | 13.70 | 10.00 | [illegible] | [illegible] | 12.40 | 12.46 |

*SECND 9356.000
RESCURF [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| EGPRS | SGLOC | [illegible] | [illegible] | [illegible] | AF A | TEMPS [illegible] | LLLL | ELTRD | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

3470 ENCROACHMENT STATIONS= 1320. 1980. TYP = 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9360.00 | 5.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .01[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECND 9361.000

3470 ENCROACHMENT STATIONS= [illegible] 1[illegible] TYP = 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9361.00 | [illegible] | 29.[illegible] | 3.00 | 2[illegible] | [illegible] | .07 | .11 | .10 | [illegible] |
| 710. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .77 | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .010 | [illegible] | [illegible] | [illegible] |
| .0145[illegible] | [illegible] | | [illegible] | | | | [illegible] | [illegible] | [illegible] |

*SECND 9370.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .01[illegible] | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] |

```
*SECNO 9495.000
 9495.00     6.70     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    710.     1.       [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
     .71      .83     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .018269     85.      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

*SECNO 9540.000
   SECNO     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   Q         [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   TIME      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   SLOPE     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

 9580.0      6.55    [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    710.     2.       710.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
     .74      .96     9.54     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .019217     85.      35.      35.      4       12       0       [illegible]     [illegible]     [illegible]

*SECNO 9605.000
 9605.00     6.57     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    710.     3.       707.     0.       3.       74.      [illegible]     [illegible]     [illegible]     [illegible]
     .78     1.02     9.53     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .017962    85.      [illegible]     35.      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

*SECNO 9646.000
 9646.00     6.13     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    710.     3.       707.     0.       3.       74.      [illegible]     [illegible]     [illegible]     [illegible]
     .71     1.03     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .021135    21.      21.      [illegible]     4       [illegible]     0       [illegible]     [illegible]     [illegible]

*SECNO 9707.000

3301 AV CHANGE [illegible] TRAP AVGD

3470 ENCR ACHMENT STATIONS=     143.0     220.0  TYPE=     1  TARG T=     [illegible]
 9707.00     4.92    135.92    635.00    [illegible]    [illegible]     .15     .29     .21     [illegible]
    710.     25.      [illegible]     17.      18.      83.      12.      [illegible]     25.      [illegible]
     .71     1.31     [illegible]     1.17     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .005612    21.      21.      21.      12       [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

*SECNO 9721.000

3470 ENCROACHMENT STATIONS=     [illegible]     [illegible]  TYPE=     1  TARG T=     [illegible]
 9721.00     4.57    635.27    [illegible]    [illegible]    [illegible]     1.03     .23     .03     [illegible]
    710.     15.      [illegible]     18.      12.      [illegible]     1.       [illegible]     2.       [illegible]
     .71     1.26     [illegible]     .55      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .012251    21.      21.      21.      6       [illegible]     0       0.09    [illegible]     [illegible]

*SECNO 9750.000
   SECNO     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   Q         [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   TIME      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   SLOPE     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

7105 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     [illegible]     [illegible]  TYPE=     1  TARG T=     [illegible]
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 710. | 17. | 557. | 27. | 164. | 85. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .7: | 1.22 | 7.99 | .87 | .100 | .045 | .100 | .034 | [illegible] | 152.10 | |
| .009565 | 22. | 22. | 22. | 2 | 5 | 3 | 0.00 | 156.90 | 290.00 | |

#SECNO 9771.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | QL02 | UCH | [illegible] | [illegible] | [illegible] | [illegible] | VOL | [illegible] | L FT/RTLHT |
| TIME | VL03 | VCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | TRIAL | XUC | ICONT | COWAR | TOPWID | NDST |

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= .93.0 295.0 TYPE= 1 TARGET= 210.006

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9771.00 | 4.61 | 837.61 | 337.01 | 335.30 | 537.73 | .77 | .21 | .12 | 835.71 |
| 710. | 21. | 535. | 55. | 15. | 15. | 56. | 02. | 29. | 315.20 |
| .72 | 1.07 | 7.63 | 1.02 | .111 | .045 | .103 | .034 | 352.60 | [illegible] |
| .009645 | 21. | 21. | 21. | 2 | [illegible] | 0 | 2.00 | 216.34 | [illegible] |

#SECNO 9792.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | QL02 | UCH | [illegible] | [illegible] | [illegible] | [illegible] | VOL | [illegible] | L FT/RTLHT |
| TIME | VL03 | VCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | TRIAL | IUC | ICONT | COWAR | TOPWID | NDST |

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9792.00 | 4.59 | 837.48 | [illegible] | [illegible] | [illegible] | .75 | .19 | [illegible] | [illegible] |
| 710. | 31. | 554. | 55. | 15. | 15. | 77. | 02. | 25. | [illegible] |
| .7[illegible] | .81 | 7.06 | 1.10 | .110 | .045 | .100 | .036 | 332.30 | [illegible] |
| .008365 | 21. | 21. | 21. | 2 | [illegible] | 1 | 0.00 | 303.11 | [illegible] |

#SECNO 9[illegible]

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | QL02 | UCH | [illegible] | [illegible] | [illegible] | [illegible] | VOL | [illegible] | L FT/RTLHT |
| TIME | VL03 | VCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | TRIAL | IUC | ICONT | COWAR | TOPWID | NDST |

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9813.00 | 4.49 | 837.78 | [illegible] | [illegible] | 535.64 | [illegible] | .79 | [illegible] | [illegible] |
| 710. | 31. | 554. | 55. | 15. | 15. | 77. | 02. | 25. | [illegible] |
| .7[illegible] | .81 | 7.06 | 1.10 | .110 | .045 | .100 | .036 | 332.30 | [illegible] |
| .008365 | 21. | 21. | 21. | 2 | [illegible] | 1 | 0.00 | 303.11 | [illegible] |

#SECNO 9[illegible]

3265 DIVIDED FL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Q | QL02 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| TIME | VL03 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOBL | XLCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[illegible]
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 770. | 6[illegible]. | [illegible] | 101. | 65[illegible] | 52. | [illegible] | [illegible] | [illegible] | [illegible] |
| .79 | .94 | 6.94 | 1.21 | .104 | .043 | .100 | [illegible] | [illegible] | [illegible] |
| .009032 | 43. | [illegible] | 43. | 2 | 11 | 0 | [illegible] | [illegible] | [illegible] |

#SECNO 9.77.001

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CASEL | FRICS | USELF | [illegible] | [illegible] | [illegible] | LOSS | [illegible] |
| 0 | OLD3 | OCH | [illegible] | ALOB | [illegible] | [illegible] | VOL | [illegible] | [illegible] |
| TIME | VLOB | VCH | VRO[illegible] | XAL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | TYPICAL | ICC | ICD[illegible] | CORAR | [illegible] | [illegible] |

7185 [illegible] SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9877.00 | 4.12 | 621.92 | 33[illegible] | 3.70[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 770. | 5[illegible]. | 553. | 104. | 54. | [illegible] | 53. | [illegible] | 29. | [illegible] |
| .79 | 1.03 | 5.53 | 1.26 | .103 | .045 | .100 | [illegible] | [illegible] | 5.90 |
| .009469 | 21. | 21. | 21. | 3 | 11 | 0 | [illegible] | 242.51 | 146.07 |

#SECNO 9[illegible] .530

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | [illegible] | [illegible] | USELF | [illegible] | [illegible] | [illegible] | LOSS | [illegible] |
| 0 | OLD | OCH | [illegible] | ALOB | [illegible] | [illegible] | VOL | [illegible] | [illegible] |
| TIME | VLOB | VCH | VR[illegible] | XAL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | TYPICAL | ICC | ICD[illegible] | CORAR | [illegible] | [illegible] |

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9858.00 | 3.54 | 559.14 | [illegible] | 85[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 770. | 54. | 550. | 107. | 57. | [illegible] | 52. | [illegible] | [illegible] | [illegible] |
| .79 | 1.11 | 5.54 | 1.31 | .103 | .045 | .100 | .03[illegible] | 35.20 | [illegible] |
| .009993 | 21. | 21. | 21. | 2 | 11 | 0 | 0.70 | 241.43 | 141.25 |

#SECNO 9[illegible].000

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CASEL | FRICS | USELF | [illegible] | [illegible] | [illegible] | LOSS | [illegible] |
| 0 | OLD3 | OCH | [illegible] | ALOB | [illegible] | [illegible] | VOL | [illegible] | [illegible] |
| TIME | VLOB | VCH | VR[illegible] | XAL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | TYPICAL | ICC | ICD[illegible] | CORAR | [illegible] | [illegible] |

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

VALLEY SECTION NO. [illegible] SECTO. [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9920.00 | 3.83 | 639.53 | 836.53 | 830.32 | 840.07 | .54 | .22 | .01 | [illegible] |
| 770. | 77. | 523. | [illegible] | 83. | 77. | 52. | [illegible] | 20. | [illegible] |
| .79 | 1.15 | 6.83 | 1.31 | .10[illegible] | [illegible] | .110 | [illegible] | 35.70 | [illegible] |
| .010014 | 22. | 22. | 22. | 2 | [illegible] | 0 | [illegible] | [illegible] | [illegible] |

#SECNO 1.120.000

VALLEY SECTION NO. 100 SECT. AF

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10120.00 | 3.30 | 341.30 | 0.00 | 340.70 | 341.45 | .16 | 1.27 | .12 | 640.50 |
| 710. | 1. | 337. | 372. | 1. | 77. | 279. | 54. | 50. | 859.90 |
| .81 | .54 | 6.37 | 1.33 | .101 | .045 | .100 | .038 | 630.01 | 37.53 |
| .004365 | 200. | 200. | 201. | 2 | 0 | 0 | 0.00 | 221.71 | 217.25 |

#SECNO 10220.000

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10220.00 | 2.59 | 341.[illegible] | 0.00 | 341.[illegible] | 342.39 | .40 | .72 | .17 | 341.81 |
| 710. | 0. | 421. | 265. | 0. | 59. | 165. | 35. | 30. | 331.2[illegible] |
| .82 | .02 | 7.15 | 1.59 | .100 | .045 | .100 | .038 | 357.30 | 41.59 |
| .016665 | 100. | 100. | 100. | 2 | 0 | 0 | 0.00 | 1[illegible].72 | 257.95 |

#SECNO 10320.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSL | CRLAS | ISPLK | L | AV | HL | FLOSS | PARM FLTO |
| 0 | QLOB | QCH | IRDM | ALOB | ACH | ARMB | VOL | TEM | LIFT/MIGST |
| TIME | VLOB | VCH | VRCD | XWL | XRCH | ANR | STN | TLTIA | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ACOM | COMAR | TOPWID | ENDST |

VALLEY SECTION NO. 100 SECT. AG

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10320.00 | 3.14 | 343.64 | 0.00 | 343.15 | 344.01 | .17 | 1.55 | .04 | 542.01 |
| 710. | 372. | 31[illegible] | [illegible] | [illegible] | [illegible] | 1[illegible] | [illegible] | [illegible] | [illegible] |
| .[illegible] | 2.33 | 5.[illegible] | 1.41 | .101 | .045 | .101 | .033 | 1[illegible].31 | 2.50 |
| .015151 | 101. | 1[illegible] | 100. | [illegible] | 0 | 0 | 0.00 | [illegible] | 17.[illegible] |

#SECNO 10520.000

VALLEY SECTION NO. [illegible] SECT. [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10520.00 | 2.52 | 345.62 | 0.00 | 345.[illegible] | 345.[illegible] | .15 | 1.0[illegible] | .07 | 542.00 |
| 710. | 397. | 175. | 154. | 205. | [illegible] | 92. | 67. | [illegible] | 542.90 |
| .84 | 1.60 | 5.34 | 1.45 | .1[illegible] | .045 | .100 | .03[illegible] | [illegible].30 | [illegible] |
| .005354 | 200. | 200. | 201. | [illegible] | [illegible] | [illegible] | 0.00 | 105.[illegible] | 231.50 |

#SECNO 10720.000

VALLEY SECTION NO. 400 SECT. [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10720.[illegible] | 4.63 | 345.03 | .00 | 345.94 | 346.32 | .11 | 1.04 | .02 | [illegible] |
| 710. | 55. | 2[illegible] | 325. | 25. | 5[illegible] | 271. | 65. | 32. | 344.60 |
| .35 | 1.25 | 5.29 | 1.46 | .100 | .045 | .100 | .034 | 342.00 | 93.62 |
| .005424 | 200. | 200. | 206. | [illegible] | 0 | 0 | 0.00 | 21.50 | 310.12 |

#SECNO 11[illegible]20.000

VALLEY SECTION NO. [illegible] SECT. [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10920.[illegible] | 4.25 | 347.[illegible] | .00 | 347.11 | [illegible] | .11 | 1.1 | [illegible] | [illegible] |
| 710 | 15[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | 1.[illegible] | [illegible] | .04 | .101 | [illegible] | [illegible] | [illegible] |
| .0[illegible]11 | 2[illegible] | 2[illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 11120.000

```
11320.00     [illegible]   849.38    [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  710.       225.          362.      [illegible]   159.          51.           [illegible]   [illegible]   35.           [illegible]
  .49        1.52          7.62      1.83          .160          .045          .160          .034          865.50        3.01
 .011315     210.          207.      [illegible]   [illegible]   [illegible]   [illegible]   0.00          [illegible]   [illegible]

#SECNO 11319.001
  SECNO     DEPTH     CLSEL     CRWS      WSELK     EC        HV        HL        LOSS      RANK LEV
  Q         DLOB      QCH       QFOD      ALOB      ALCH      AP        VOL       THA       LEFT/RIGHT
  TIME      VLOB      VCH       VROB      TP        DRCH      [illegible]  F.        [illegible]  [illegible]
  SLOPE     XLOBL     XLCH      XLOBR     TTIME     ICC       ICNT      [illegible]  [illegible]  [illegible]

3470 ENCROACHMENT STATIONS=      195.0     427.0   TYPE=     1  TARGET=    -1.0000
11319.00     [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  710.       435.          155.      [illegible]   157.          [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  .91        2.95          5.[illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .004489     199.          199.      199.          2             0             [illegible]   0.00          [illegible]   [illegible]

#SECNO 11320.001

3265 DIVIDED FLOW          [illegible] TW over road

3370 NORMAL BRIDGE NO= [illegible] MIN ELTOP= 2[illegible]  AT ELEV= 35[illegible]

3470 ENCROACHMENT STATIONS=      [illegible]   427.0   TYPE=     1  TARGET=    -1.0000
11320.00     [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  710.       541.          [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  .91        4.44          5.[illegible]   1.69          [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .012305     1.            [illegible]   1.            [illegible]   0             [illegible]   [illegible]   [illegible]   [illegible]

#SECNO 11325.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE NO= [illegible] MIN ELTOP= [illegible]  AT ELEV= [illegible]

3470 ENCROACHMENT STATIONS=      [illegible]   427.0   TYPE=     1  TARGET=    [illegible]
                    [illegible] COURSE [illegible] NO. 1

11325.00     [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  710.       573.          [illegible]   14.           [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  .91        3.72          4.[illegible]   1.03          [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .007237     50.           [illegible]   50.           [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

#SECNO 11325.000

3470 ENCROACHMENT STATIONS=      [illegible]   427.0   TYPE=     1  TARGET=    [illegible]
11325.00     [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  710.       [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  .91        2.35          4.19          1.22          [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .002137     1.            1.            1.            [illegible]   0             [illegible]   [illegible]   [illegible]   [illegible]
```

3300 -V CHARGED MORE THAN -VINS

| SECNO | DEPTH | CUSCL | CRTUS | JSILK | EG | HV | HL | CLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | OLOP | OCH | ORTUS | ALOR | ACH | ARO | VOL | TAN | LEFT/RIGHT |
| TIME | VLOP | VLCH | VRTUS | VOL | VLCH | TIME | TIME | FLTIN | SSTA |
| SLOPE | XLOPL | XLCH | XLOPR | ZTOTAL | ZOC | ZSOPT | POWER | TOPHT | SLOPT |

3685 20 TRIALS ATTEMPTED HSFL,CHSFL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASECNO

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11519.01 | 6.72 | 355.22 | 353.22 | 351.55 | 354.01 | .79 | .77 | .73 | 352.50 |
| 710. | 98. | 605. | 7. | 3. | 7. | 6. | 71. | 0. | 352.50 |
| .92 | 2.01 | 7.35 | 1.55 | .035 | .025 | .030 | .029 | 440.51 | 440.00 |
| .007431 | 151. | 1[illegible] | [illegible] | 2[illegible] | 15 | 1 | 7.13 | [illegible] | 223.23 |

ASECNO 11520.000

3265 DIVIDED FLOW

| SECNO | DEPTH | CUSCL | CRTUS | JSILK | EG | HV | HL | CLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | OLOP | OCH | ORTUS | ALOR | ACH | ARO | VOL | TAN | LEFT/RIGHT |
| TIME | VLOP | VLCH | VRTUS | VOL | VLCH | TIME | TIME | FLTIN | SSTA |
| SLOPE | XLOPL | XLCH | XLOPR | ZTOTAL | ZOC | ZSOPT | POWER | TOPHT | SLOPT |

[illegible]

3470 ENCROACHMENT STATIONS= 1. MIN FLTIN= [illegible] MAX FLLE= 5.05

3685 20 TRIALS ATTEMPTED HSFL,CHSFL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASECNO

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11520.00 | 5.02 | 355.36 | 351.06 | 352.74 | 354.71 | .80 | .77 | .73 | 352.50 |
| 710. | 2.20 | 645. | 5. | 5.0 | 5. | 6. | 72. | 0. | 354.51 |
| .92 | 6.56 | 6.56 | 1.51 | .031 | .025 | .028 | .030 | 440.50 | 440.00 |
| .010433 | 0. | 0. | 0. | 0. | 0. | 0. | -3.00 | 7.54 | 223.27 |

ASECNO 11525.000

3691 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 1. MIN FLTIN= [illegible] MAX FLLE= [illegible]

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11525.00 | 5.13 | 56.23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 54.52 |
| 710. | 374. | [illegible] | [illegible] | [illegible] | 5. | [illegible] | [illegible] | [illegible] | 354.51 |
| .95 | 4.06 | [illegible] | [illegible] | .03 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 0. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

ASECNO 11526.000

3470 ENCROACHMENT STATIONS= [illegible] TYPE= 1 TARGET= [illegible]

```
 [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
    710.     266.     396.      [illegible]     122.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    .92      3.02     3.51      [illegible]     .035     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .000918     1.       1.       1.       2.       [illegible]     1.       [illegible]     [illegible]     [illegible]

*SECNO 11555.000

3470 ENCROACHMENT STATIONS=      [illegible]     [illegible]   TYP =     1  TARG T=      [illegible]
 11595.00     6.20    855.00     [illegible]    854.01    855.01     [illegible]     .01     .02     [illegible]
    710.     456.     407.     [illegible]     547.     115.     216.     [illegible]     [illegible]     [illegible]
     .94      .77      .93      .71      .03      .034     .038     .030     [illegible]     [illegible]
  .000070     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

*SECNO 11720.000

3470 ENCROACHMENT STATIONS=      51.0     36[illegible]   TYPE=     1  TARG T=      [illegible]

                 VALLEY SECTION NO. [illegible]                          SECTION [illegible]

 11720.00     5.67    855.01     [illegible]    854.01    855.03     [illegible]     .01     .00     855.00
    710.     351.     114.     245.     493.     101.     [illegible]     [illegible]     [illegible]     851.70
     .9[illegible]     .87     1.13      .74      .03[illegible]     .03[illegible]     [illegible]     [illegible]     [illegible]     51.00
  .000132     125.     [illegible]     125.       2.       [illegible]     [illegible]     .01     [illegible]     [illegible]

*SECNO 11850.000
   SECNO    DEPTH    CHSEL    CRIUS    USELK    LC       HV       EL       LOSS     PARK ELEV
   0        ELOR     DCH      DRDS     ALOB     ACH      ADCH     VEL      TOP      LEFTARIGHT
   TIME     VLOW     VCH      VROD     ANL      SHCH     [illegible]     ITL      TLEV     SSTA
   SLOPE    XLOSL    XLCH     XLOSR    ITRIAL   IDC      IDCNT    CDRAG    TOPWID   LOST

3470 ENCROACHMENT STATIONS=      78.0     [illegible]   TYP[illegible]=     1  TARGET T=      [illegible]
 11850.00     [illegible]    855.[illegible]     [illegible]    854.11    [illegible]     [illegible]     .15     .01     [illegible]
    710.     269.     172.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    1.01     1.47     2.12     1.21     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .000551     130.     130.     130.       [illegible]       [illegible]       0.       0.0[illegible]     [illegible]     [illegible]

*SECNO 11905.000

                 VALLEY SECTION NO. [illegible]                          SECTION [illegible]

 11995.00     3.99    855.09     1.00    854.31    855.[illegible]     .24     .15     .10     854.00
    710.     [illegible]     330.     297.     [illegible]     [illegible]     107.     [illegible]     [illegible]     [illegible]
    1.02     1.66     [illegible]     2.18     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
  .003555     145.     [illegible]     145.       1.       [illegible]       0.       0.0[illegible]     [illegible]     [illegible]

*SECNO 12058.000
   SECNO    DEPTH    CHSEL    CRIUS    USELK    LC       HV       EL       LOSS     PARK ELEV
   0        ELOR     DCH      DRDS     ALOB     ACH      ADCH     VEL      TOP      LEFTARIGHT
   TIME     VLOW     VCH      VROD     ANL      SHCH     [illegible]     ITL      TLEV     SSTA
   SLOPE    XLOSL    XLCH     XLOSR    ITRIAL   IDC      IDCNT    CDRAG    TOPWID   LOST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPT ASSUMED
 12058.00     3.57    855.27    855.27    854.72    855.[illegible]     .53     .54     .15     853.00
    710.     13[illegible].     430.     638.     [illegible]     [illegible]     [illegible]     60.     [illegible]     [illegible]
    1.02     1.35     [illegible]     [illegible]     .033     .036     [illegible]     [illegible]     [illegible]     [illegible]
  .008977     [illegible]     [illegible]     [illegible]       [illegible]       15.       0.       0.11     135.21     213.[illegible]
```

```
*SECNO 12120.000
   SECNO     DEPTH     CUSL      CRIGS     WSELK     EG        HV        HL        GLOSS     BANK ELEV
   0         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TLA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      WNL       WMCH      WAR       WTW       WLMIN       WSTA
   SLOPE     XLOBL     XLCH      XLOBR     STATIAL   IOC       ICONT     CORAR     TOPWID      WDST

7185 MIN ON SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 12120.00     3.66    855.94    855.94    855.35    856.52      .58       .55       .01    855.40
    710.      31.       454.      226.       16.       64.      57.       81.       40.    854.46
     1.02     1.92      7.03      3.58      .033      .034     .054      .320     75.30     77.70
  .002754      52.       52.       52.        1         3         0      0.00    100.34    210.35

*SECNO 12153.000
 12153.00     3.71    856.06      0.00    856.01    856.97      .32       .37       .06    855.60
    710.      86.       291.      251.       39.       59.      73.       81.       20.    [illegible]
     1.03     2.25      5.54      3.31      .039      .110     .051      .027    152.48     [illegible]
  .006301      [illegible]      [illegible]      [illegible]        1         6         0      1.07    1[illegible]      [illegible]

*SECNO 12245.000
   SECNO     DEPTH     CUSL      CRIGS     WSELK     EG        HV        HL        GLOSS     BANK ELEV
   0         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TLA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      WNL       WMCH      WAR       WTW       WLMIN       WSTA
   SLOPE     XLOBL     XLCH      XLOBR     STATIAL   IOC       ICONT     CORAR     TOPWID      WDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 12245.00     3.63    856.93    856.93    856.31    857.15      .30       .34       .04    855.50
    710.      [illegible]      410.      216.       31.       [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     1.03     2.73      6.96      4.05      .035      [illegible]      .105      .020    [illegible]      [illegible]
  .007280      52.       52.       52.        [illegible]        10         0      0.00    117.29    132.68

*SECNO 12300.000
   SECNO     DEPTH     CUSL      CRIGS     WSELK     EG        HV        HL        GLOSS     BANK ELEV
   0         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TLA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      WNL       WMCH      WAR       WTW       WLMIN       WSTA
   SLOPE     XLOBL     XLCH      XLOBR     STATIAL   IOC       ICONT     CORAR     TOPWID      WDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 12300.00     3.59    857.60    857.60    857.11    858.32      .32       .50       .03    855.50
    710.      97.       [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     1.03     3.15      7.30      4.51      .033      [illegible]      [illegible]      [illegible]    [illegible]      [illegible]
  .008534      [illegible]      [illegible]      [illegible]        [illegible]        [illegible]      0.00    [illegible]      [illegible]

*SECNO 12370.000
   SECNO     DEPTH     CUSL      CRIGS     WSELK     EG        HV        HL        GLOSS     BANK ELEV
   0         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TLA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      WNL       WMCH      WAR       WTW       WLMIN       WSTA
   SLOPE     XLOBL     XLCH      XLOBR     STATIAL   IOC       ICONT     CORAR     TOPWID      WDST

7185 [illegible] SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 12370.00     [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
    710.      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     1.04     [illegible]      7.[illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
  .009470      [illegible]      [illegible]      [illegible]        [illegible]        [illegible]      0.00    [illegible]      [illegible]
```

```
#SECNO 12433.000
   SECNO     DEPTH     CHS L     CRITS     WSELK     F         V         HL        HLOSS     BANK ELEV
   Q         QLOB      QCH       CRDS      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      ANL       XNCH      XNOB      WTN       ELWTN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       IOPT      COPAR     TOPWID    INDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 12433.00     3.91     859.21    859.21    853.55    659.6     [illegible]   .50       .90       57.[illegible]
     710.     151.      [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     1.06     3.72      7.[illegible]  .06       .033      .033      .033      [illegible]  [illegible]  [illegible]
   .001635    [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]

#SECNO 12495.000
   SECNO     DEPTH     CHS L     CRITS     WSELK     F         V         HL        HLOSS     BANK ELEV
   Q         QLOB      QCH       CRDS      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      ANL       XNCH      XNOB      WTN       ELWTN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       IOPT      COPAR     TOPWID    INDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

                    VALLEY SECTION NO. [illegible]                    SECTO. [illegible]

12495.00     4.20     [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     710.     [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     1.08     [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
   .005635    [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]

#SECNO 13055.000

3265 DIVIDED FLO

   SECNO     DEPTH     CHSEL     CRITS     WSELK     F         V         HL        HLOSS     BANK ELEV
   Q         QLOB      QCH       CRDS      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      ANL       XNCH      XNOB      WTN       ELWTN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       IOPT      COPAR     TOPWID    INDST

                    VALLEY SECTION NO. 2nd                    SECTO. A1

13055.00     3.[illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     710.     24.      [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
     1.08     2.[illegible]  3.47      3.53      [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
   .005017    500.     560.      627.      [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]

#SECNO 13195.000

3265 DIVIDED FLO

   SECNO     DEPTH     CHSEL     CRITS     WSELK     F         V         HL        HLOSS     BANK ELEV
   Q         QLOB      QCH       CRDS      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      ANL       XNCH      XNOB      WTN       ELWTN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       IOPT      COPAR     TOPWID    INDST

3685 20 TRIALS ATTEMPTED WSEL,CHSEL
3693 PROFILE MISSING SPECIFIC E CALC
```

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 55.0 252.0 TYPE = 1 TARGET= 152.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13155.00 | 4.23 | 835.43 | 835.43 | 834.92 | 835.00 | .57 | .03 | .15 | 201.30 |
| 710. | 111. | 312. | 258. | 25. | 3. | 750. | 86. | 42. | 843.39 |
| 1.09 | 4.42 | 3.09 | 5.77 | .033 | .035 | .028 | .031 | .061.10 | 95.06 |
| .003021 | 100. | 111. | 111. | 21 | 3 | 1 | 1.00 | 155.00 | 155.00 |

*SECNO 13205.000

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | ICELK | FR | AV | HL | LOSS | CHNL ELEV |
| Q | OLD | DCH | QTOL | ALOB | ALCH | AROB | VOL | EGA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | WEL | XNCH | XNOB | FRC | ELEVN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | COTAR | TOFBID | ENDST |

7165 INPUT SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 108.0 250.0 TYPE= 1 TARGET= 142.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13205.00 | 6.06 | 865.79 | 865.79 | 865.27 | 865.52 | .76 | .45 | .73 | .03.00 |
| 710. | 79. | 250. | 265. | 15. | 5. | 50. | 85. | 73. | 853.00 |
| 1.09 | 5.94 | 8.74 | 6.92 | .033 | .01 | .037 | .00 | .1.40 | 1.00.00 |
| .009356 | 20. | 50. | 50. | 2 | | 1 | 6.00 | 60.00 | 250.00 |

*SECNO 13255.000

3470 ENCROACHMENT STATIONS= 155.0 [illegible] TYPE = 1 TARGET= 142.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13255.00 | 4.03 | 866.53 | 8.00 | 855.74 | 865.52 | .05 | .20 | .32 | .50.00 |
| 525. | 14.0 | [illegible] | 55. | [illegible] | 5.0 | 45. | 55. | 43. | 305.00 |
| 1.00 | 3.32 | 5.05 | 2.14 | .031 | .035 | .035 | .033 | .01.70 | 13.00 |
| .003490 | 50. | 50. | 50. | 4 | 1 | 0 | 0.38 | 11.00 | 252.00 |

*SECNO 13355.000

3470 ENCROACHMENT STATIONS= 207.0 274.0 TYPE = 1 TARGET= 170.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13355.00 | 4.63 | 866.93 | 3.01 | 866.18 | 867.22 | .40 | .37 | .03 | 105.51 |
| 525. | 174. | 301. | 57. | 25. | 56. | 325. | 25. | 4. | 175.50 |
| 1.10 | 3.35 | 5.10 | 2.93 | .030 | .030 | .031 | .035 | .02.1 | 217.36 |
| .004088 | 106. | 106. | 106. | 4 | 4 | 1 | 1.31 | 17.00 | 27.00 |

*SECNO 13380.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | ICELK | FR | AV | HL | LOSS | CHNL ELEV |
| Q | OLD | DCH | QTOL | ALOB | ALCH | AROB | VOL | EGA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | WEL | XNCH | XNOB | FRC | ELEVN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | COTAR | TOFBID | ENDST |

3470 ENCROACHMENT STATIONS= [illegible] TYPE = 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13380.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 114. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.10 | 5.[illegible] | [illegible] | 3.30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .005389 | [illegible] | [illegible] | 5. | | | | [illegible] | [illegible] | [illegible] |

*SEC[illegible]

3470 ENCROACHMENT STATIONS= [illegible] TYPE = 1 TARGET= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13605.00 | 4.36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.10 | 4.39 | 7.75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .007233 | 25. | 5. | 25. | 2 | | | 1 | 0.0 | [illegible] | [illegible] |

*SECNO 1.430.000

3470 ENCROACHMENT STATISTICS= [illegible] 311. TYPE= 1 TRIG I= [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13430.01 | 6.03 | 87.19 | 1.00 | 465.95 | 67.97 | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 58. | 410. | 51. | 15. | 52. | [illegible] | 35. | [illegible] | [illegible] |
| 1.10 | 4.49 | 7.05 | 4.03 | .038 | .035 | .028 | .037 | 52.50 | [illegible] |
| .007103 | 25. | 25. | 25. | 1 | 8 | 0 | 0.00 | 50.00 | [illegible] |

*SECNO 1.455.000

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DELTA | CISL | CRUB | ALSELK | S | [illegible] | [illegible] | FLOWS | HANT FLOW |
| 0 | DLOB | .CH | DROB | ALOB | ACH | [illegible] | VOL | TRA | LEFT/RIGHT |
| TIME | VLOB | VCH | VRUB | XVL | XNCH | [illegible] | UTA | FLIPN | SSTA |
| SLOPE | XLOBL | XLCH | ALOBR | XTOTAL | IOC | [illegible] | CONAR | TOPHI | FDST |

7185 [illegible] OF SPECIFIC [illegible]
3720 CRITICAL [illegible] ASSUMED

3470 ENCROACHMENT STATISTICS= [illegible] 30.00 TYPE= 1 TRIG I= 17.00

VALLEY SECTION NO. 951 SECTO AD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13455.01 | 4.43 | [illegible] | [illegible] | 50.55 | [illegible] | 1.08 | [illegible] | [illegible] | [illegible] |
| 525. | 17. | 504. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 42. | 35.70 |
| 1.10 | 4.50 | 70.50 | [illegible] | .041 | .038 | .041 | .037 | 62.00 | 291.00 |
| .015340 | 25. | [illegible] | 25. | 2 | 11 | 0 | 0.00 | 17.00 | 50.00 |

*SECNO 1.755.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATISTICS= [illegible] TYPE= 1 TRIG I= 15.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13455.01 | 5.14 | 817.55 | [illegible] | 830.89 | [illegible] | 1.03 | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | 517. | [illegible] | [illegible] | [illegible] | [illegible] | 45. | 23. | [illegible] |
| 1.11 | 7.77 | 6.32 | 0.00 | .021 | .038 | .041 | .037 | 32.50 | 292.00 |
| .008530 | 4. | 4. | 4. | 1 | 5 | 0 | 0.00 | 15.00 | 317.00 |

*SECNO 134[illegible].000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DELTA | CISL | CRUB | ALSLK | S | [illegible] | [illegible] | FLOWS | HANT FLOW |
| 0 | DLOB | .CH | DROB | ALOB | ACH | [illegible] | VOL | TRA | LEFT/RIGHT |
| TIME | VLOB | VCH | VRUB | XVL | XNCH | [illegible] | UTA | FLIPN | SSTA |
| SLOPE | XLOBL | XLCH | ALOBR | XTOTAL | IOC | [illegible] | CONAR | TOPHI | FDST |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13403.01 | 5.06 | [illegible] | 0.00 | [illegible] | 989.91 | .15 | .02 | [illegible] | [illegible] |
| 525. | 0. | 525. | 0. | 0. | 710. | 0. | 15. | 35. | [illegible] |
| 1.10 | 0.00 | 7.00 | 0.00 | .041 | .038 | .041 | .037 | 82.00 | 204.00 |
| .007635 | 4. | 4. | 4. | 2 | 0 | 0 | 0.00 | 10.00 | 217.00 |

*SECNO 134[illegible].000 [illegible]

3370 NORMAL BRIDGE NO= 17 [illegible] FLTRD= [illegible] MAX FLOW= [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 0. | 525. | 0. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.10 | 0.00 | [illegible] | 0.07 | .031 | .031 | .031 | .035 | [illegible] | [illegible] | |
| .005750 | 1. | 1. | 1. | 2 | 0 | 1 | -4.67 | 1.00 | 237.00 | |

*SECNO 13547.001

3470 NORMAL DEPTH= 17 MIN FLTTO= [illegible] CA FLOW= 71.10

BRIDGE SECTION NO. 1001 TUTE RUN ROAD SECT. 49

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 13549.00 | 0.55 | [illegible] | 0.00 | [illegible] | [illegible] | .031 | [illegible] | [illegible] | [illegible] | |
| 525. | 0. | 525. | 0. | 0. | 75. | 0. | 35. | 45. | [illegible] | |
| 1.11 | 0.00 | 5.49 | 0.00 | .031 | .031 | .031 | .038 | [illegible] | [illegible] | |
| .004981 | 84. | 84. | 84. | 2 | 0 | 1 | -4.54 | 1.00 | 237.00 | |

*SECNO 13549.001

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 13549.00 | 0.52 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | .041 | [illegible] | [illegible] | |
| 525. | 0. | 525. | 0. | 0. | 62. | 0. | 35. | 45. | [illegible] | |
| 1.11 | 0.00 | 5.38 | 0.00 | .044 | .044 | .044 | [illegible] | [illegible] | [illegible] | |
| .005750 | 1. | 1. | 1. | 2 | 0 | 1 | 6.00 | 1.00 | 237.00 | |

*SECNO 13555.001

3470 ENCROACHMENT STATIONS= [illegible] [illegible] [illegible] = [illegible] [illegible]= [illegible]

[illegible] SECT. 47

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 13555.00 | 0.42 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 525. | 50. | [illegible] | 75. | [illegible] | 75. | 35. | 35. | 45. | [illegible] | |
| 1.11 | [illegible] | [illegible] | [illegible] | .064 | .064 | .064 | [illegible] | [illegible] | [illegible] | |
| .003091 | [illegible] | [illegible] | 50. | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECNO 13[illegible].000

| SECNO | DEPTH | LOSS | CONTRA | DISCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | BLOCK | BCH | [illegible] | [illegible] | ALPH | [illegible] | [illegible] | TAU | LIT/SICH | |
| TIME | VLOC | VCH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | SSTA | |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 13[illegible].00 | 5.94 | 870.06 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 525. | 95. | 115. | [illegible] | 115. | 5. | [illegible] | [illegible] | [illegible] | [illegible] | |
| 1.16 | .83 | [illegible] | [illegible] | .04[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .00[illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] | |

*SECNO 13[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 13915.00 | 4.6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .00[illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] | |

*SECNO 13945.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 13945.00 | 4.6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .00[illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] | |

*SECNO [illegible]

870.58

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 535. | 1[illegible] | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .005851 | 140. | 1[illegible] | 120. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[illegible]

VALLEY SECTION [illegible] STA 40 AL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14205.00 | 3.06 | 371.56 | 1.00 | 371.07 | 877.52 | [illegible] | 1.15 | .01 | [illegible] | [illegible] |
| 535. | 90. | 1[illegible] | 209. | 38. | 22. | 850. | 8[illegible] | [illegible] | [illegible] | [illegible] |
| 1.19 | [illegible] | [illegible] | [illegible] | .001 | .002 | [illegible] | .0[illegible] | [illegible] | [illegible] | [illegible] |
| .011825 | 140. | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15105.000

| SECNO | DEPTH | CHSTL | CRIT. | USCLK | [illegible] | [illegible] | AL | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| Q | ALOT | ALC | [illegible] | ALOB | ACH | ACOB | VEL | [illegible] | [illegible] |
| TIME | VLOB | VCH | [illegible] | VEL | [illegible] | [illegible] | STA | [illegible] | STA |
| SLOPE | ALOBL | ALC- | ALOBR | TOTAL | ADC | [illegible] | CORAT | [illegible] | [illegible] |

<7.84'

AV

<7.81'

VALLEY SECTION [illegible] STA [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15105.00 | 3.50 | 7[illegible] | 6.00 | [illegible] | 87[illegible] | [illegible] | 2.84 | [illegible] | 8[illegible] | [illegible] |
| 525. | 75. | 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 877.00 |
| 1.24 | 1.35 | 5.27 | 1.77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .006294 | 90. | 50. | [illegible] | 5 | | 7 | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15110.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15110.00 | 3.41 | 379.41 | 9.00 | [illegible] | 875.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 40. | 4[illegible] | 51. | 29. | [illegible] | [illegible] | [illegible] | 4[illegible] | 877.[illegible] | |
| 1.24 | 1.[illegible] | 5.55 | 1.84 | .902 | .043 | [illegible] | .054 | [illegible] | [illegible] | |
| .007302 | 5. | 5. | 5. | 2 | 07 | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECNO 15115.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15115.00 | 3.32 | 379.42 | 6.00 | 7.90 | 875.37 | .042 | [illegible] | [illegible] | [illegible] | |
| 525. | 35. | 4[illegible] | 41. | 25. | 7[illegible] | 2[illegible] | 5[illegible] | [illegible] | 877.81 | |
| 1.25 | 1.41 | 5.31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .006302 | 5. | 3. | 5. | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECNO 15120.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15120.00 | 3.24 | 379.44 | 3.60 | [illegible] | [illegible] | .051 | .05 | [illegible] | [illegible] | |
| 525. | [illegible] | 4[illegible] | 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 1.26 | 1.44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .00[illegible] 79 | 5. | 5. | 5. | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECNO 15125.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15125.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 525. | [illegible] | 4[illegible] | 42. | 19. | 71. | [illegible] | [illegible] | [illegible] | [illegible] | |
| 1.24 | 1.45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .011044 | 5. | 5. | 5. | 2 | 11 | 0 | [illegible] | [illegible] | [illegible] | |

*SECNO 15130.000

| SECNO | DEPTH | CHSTL | CRIT. | USCLK | [illegible] | [illegible] | AL | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| Q | ALOT | ACH | [illegible] | ALOB | ACH | ACOB | VEL | [illegible] | [illegible] |
| TIME | VLOB | VCH | [illegible] | VEL | [illegible] | [illegible] | STA | [illegible] | STA |
| SLOPE | ALOBL | ALC- | ALOBR | TOTAL | ADC | [illegible] | CORAT | [illegible] | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15130.00 | 1.00 | 879.69 | 879.64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 21. | 465. | 29. | 15. | 65. | 16. | 92. | 48. | 275.10 | |
| 1.24 | 1.42 | 4.73 | 2.14 | .062 | .043 | .002 | .139 | [illegible] | 247.43 | |
| .012975 | 5. | 5. | 5. | 4 | 3 | 0 | 0.10 | 95.20 | 241.17 | |

ASECND 15133.000

| SECND | DEPTH | CHSEL | CRLOS | ASCLK | EC | V | HL | PLOSS | BACK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | QLOB | QCH | CRCB | ALOS | BCH | ANOP | VOL | TCR | LEFTRIGHT |
| TIME | VLOB | VCH | VRCB | XNL | XNCH | XNR | UTN | FLOIN | STA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TLFUTC | MOST |

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15135.00 | 1.03 | 879.53 | 879.53 | 878.95 | 0.00.22 | .071 | .002 | .015 | [illegible] |
| 525. | 19. | 470. | 50. | 12. | 67. | 17. | 92. | 48. | 37.20 |
| 1.24 | 1.47 | [illegible] | [illegible] | .062 | .043 | .002 | .139 | [illegible] | [illegible] |
| .014512 | 5. | 5. | 5. | 4 | 1 | 0 | 0.10 | [illegible] | [illegible] |

ASECND 15139.000

| SECND | DEPTH | CHSEL | CRLOS | ASCLK | EC | V | HL | PLOSS | BACK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | QLOB | QCH | CRCB | ALOS | BCH | ANOP | VOL | TCR | LEFTRIGHT |
| TIME | VLOB | VCH | VRCB | XNL | XNCH | XNR | UTN | FLOIN | STA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TLFUTC | MOST |

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15139.00 | 1.02 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.24 | 1.47 | [illegible] | [illegible] | .062 | .043 | .002 | .139 | [illegible] | [illegible] |
| .014645 | 4. | [illegible] | [illegible] | 2 | 5 | 0 | 0.10 | [illegible] | [illegible] |

ASECND 15143.000

| SECND | DEPTH | CHSEL | CRLOS | ASCLK | EC | V | HL | PLOSS | BACK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | QLOB | QCH | CRCB | ALOS | BCH | ANOP | VOL | TCR | LEFTRIGHT |
| TIME | VLOB | VCH | VRCB | XNL | XNCH | XNR | UTN | FLOIN | STA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TLFUTC | MOST |

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15143.00 | 1.02 | 879.72 | 879.73 | 879.04 | [illegible] | [illegible] | .003 | .003 | [illegible] |
| 525. | 19. | 471. | 56. | 13. | [illegible] | 17. | [illegible] | 48. | [illegible] |
| 1.24 | 1.47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .014515 | 4. | 0 | 4. | 1 | 1 | [illegible] | 0.10 | [illegible] | [illegible] |

ASECND 15145.000

3470 ENCROACHMENT STATION [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15145.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.24 | 1.55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .006636 | [illegible] | [illegible] | [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

SPECIAL TABLE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

```
*SECNO 15195.000
   SECNO     DEPTH     C.S.L     DELTA     JSLOP     FI        AZ        AL        LOSS      DATE LEW
   0         OLD3      OCS       OD34      FLO2      ACF       BRI       VOL       TOT       L FIXLIGHT
   TIME      VL59      JCS       VE33      B.L       LACH      A.B       JTP       Tenin     SATA
   SLOPE     XL03L     ALCH      XL03R     TIMTAL    LOC       ICCNT     CHAR      TOTMOD    TOCOT

PRESSURE AND WEIR FLOW

   EGPRS     EGLMC     FB        CWEIR     OFP       EARLA     TRAPEZ ID     ELLE      ELMIN
                                                                 AREA
   6.5087    632.59    0.01      15.0      [illegible]   [illegible]   [illegible]   10.30     [illegible]

                BRIDGE SECTION NO. 2050 PRIVATE ROAD          SECTO BY  AW

                6.3' WIDE CONCRETE BOX CULVERT

   15165.00  6.95      863.00    1.00      311.01    863.02    .014      .023      0.00      682.53
      525.    100.      425.      [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
      1.25    1.01      [illegible]   [illegible]   .275      [illegible]   .275      [illegible]   [illegible]   [illegible]
   .003997    20.       [illegible]   20.       [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

*SECNO 15165.000
   15166.00  6.97      883.57    0.00      313.02    883.00    .016      .017      .014      [illegible]
      525.    [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   8.        [illegible]
      1.23    .39       3.26      .70       .030      .045      .003      .002      [illegible]   135.15
   .001590    [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

*SECNO 15195.000

3470 ENCROACHMENT STATION S=      [illegible]   [illegible]   TYPE=      TARGET=      [illegible]
   15195.00  [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   .05       [illegible]
      525.    168.      255.      112.      311.      [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
      1.25    .54       1.03      .46       .030      .045      .013      .037      [illegible]   [illegible]
   .000158    19.       19.       19.       2         1         0         0.00      [illegible]   [illegible]

*SECNO 15205.000

3470 ENCROACHMENT STATION S=      1[illegible]2.0      [illegible]95.0      TYPE=      1   TARGET=      [illegible]

                VALLEY SECTION NO. [illegible]                    SECTO BY

   15205.00  1.50      [illegible]   0.01      [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
      525.    177.      255.      [illegible]   320.      175.      255.      [illegible]   [illegible]   [illegible]
      1.28    .52       1.45      .35       .030      .045      .032      .039      [illegible]   [illegible]
   .000137    20.       20.       20.       1         1         1         0.00      [illegible]   [illegible]

*SECNO 15312.000
   15313.00  6.92      882.92    [illegible]   [illegible]   [illegible]   .015      .015      .012      [illegible]
      525.    1[illegible]0.    270.      [illegible]   189.      110.      111.      [illegible]   45.       [illegible]
      1.28    .80       2.63      .78       .030      .045      .003      .037      [illegible]   [illegible]
   .000732    190.      [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

*SECNO 15470.000
   SECNO     DEPTH     C.S.L     DELTA     JSLOP     FI        AZ        AL        LOSS      DATE LEW
   0         OLD3      OCS       OD34      FLO2      ACF       BRI       VOL       TOT       L FIXLIGHT
```

| SLOPE | VELOC | VLOC | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 1542[illegible] | 3.27 | 883.97 | 0.00 | 385.73 | 516.35 | .06 | .29 | .15 | 132.20 |
| 525. | 111. | 350. | 64. | 61. | 61. | -5. | 95. | 49. | 352.21 |
| 1.2[illegible] | [illegible] | [illegible] | 1.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .001251 | 121. | 127. | 25. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 15467.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15467.07 | 3.03 | 834.13 | 0.00 | [illegible] | [illegible] | .64 | .25 | .14 | [illegible] |
| 525. | [illegible] | [illegible] | 3. | [illegible] | [illegible] | 54. | 95. | [illegible] | [illegible] |
| 1.24 | [illegible] | [illegible] | 1.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010162 | 27. | 27. | 27. | [illegible] | 0 | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 15476.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15476.07 | 2.27 | 812.47 | [illegible] | [illegible] | 535.13 | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 101. | [illegible] | [illegible] | 48. | 51. | -3. | 95. | 50. | [illegible] |
| 1.25 | 2.15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .013700 | 27. | 27. | 27. | 4 | 11 | 0 | [illegible] | 123.72 | 351.15 |

#SECNO 15501.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15501.[illegible] | 2.[illegible] | 3[illegible].4 | [illegible] | [illegible] | [illegible] | .25 | [illegible] | .13 | [illegible] |
| 525. | [illegible] | [illegible] | 6. | 47. | [illegible] | 23. | [illegible] | 50. | [illegible] |
| 1.24 | 2.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 337.90 | 224.71 |
| .014595 | 27. | 27. | 27. | [illegible] | [illegible] | [illegible] | [illegible] | 125.08 | 351.[illegible] |

#SECNO 15505.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15505.00 | 3.24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .77 | [illegible] | [illegible] |
| 525. | 122. | 2[illegible] | [illegible] | [illegible] | [illegible] | 52. | [illegible] | [illegible] | [illegible] |
| 1.25 | 1.5[illegible] | 5.[illegible] | 1.94 | [illegible] | [illegible] | [illegible] | .39 | 3[illegible].00 | [illegible] |
| .007533 | 7. | [illegible] | [illegible] | 15 | [illegible] | [illegible] | 0.70 | 15[illegible] | [illegible] |

#SECNO 15513.000

| SECNO<br>0<br>TIME<br>SLOPE | DEPTH<br>OLDB<br>VLOD<br>VELOC | CRNSLL<br>UCS<br>VCS<br>VLOC | CRTS<br>ORDL<br>VRL<br>[illegible] | [illegible]<br>ALDP<br>AL<br>[illegible] | [illegible]<br>[illegible]<br>[illegible]<br>[illegible] | [illegible]<br>ATDS<br>[illegible]<br>[illegible] | [illegible]<br>VAL<br>[illegible]<br>[illegible] | [illegible]<br>THA<br>[illegible]<br>[illegible] | [illegible]<br>LEFT/RIGHT<br>SSTA<br>[illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 15515.00 | 3.13 | 835.26 | 0.00 | 536.57 | 305.51 | [illegible] | .35 | [illegible] | [illegible] |
| 525. | 123. | 342. | 99. | 49. | 52. | 50. | 95. | 50. | [illegible] |
| 1.29 | 1.75 | 5.81 | 3.01 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .018531 | 7. | 7. | 7. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECNO 15521.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15521.0[illegible] | [illegible].11 | 8[illegible].31 | 0.00 | [illegible] | [illegible] | [illegible] | .85 | .36 | [illegible] |
| 525. | 120. | 307. | [illegible] | [illegible] | [illegible] | [illegible] | 95. | 51. | [illegible] |
| 1.29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .009510 | [illegible] | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] |

#SECNO 1552[illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1552[illegible] | 3.03 | 35[illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.2[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .011[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] |

#SECNO 15555.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 114. | 28[illegible]. | 1.2. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.29 | 1.75 | [illegible] | 2.29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010141 | 27. | 27. | 27. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15375.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15375.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 11[illegible]. | [illegible] | 129. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.29 | 1.80 | 6.41 | 2.42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .011237 | 20. | 20. | 20. | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15590.000

| SECNO | DEPTH | CHSEL | CRELS | ISLOP | [illegible] | [illegible] | [illegible] | [illegible] | BLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | DLOB | DC- | QRIS | ALOB | ACH | [illegible] | VOL | [illegible] | [illegible] | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | ITW | ELMIN | | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | | EXDST |
| 15591.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 103. | 265. | 127. | 55. | 46. | [illegible] | [illegible] | 51. | [illegible] | [illegible] |
| 1.29 | 1.87 | 7.07 | 2.71 | .083 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .014611 | 15. | 15. | 15. | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15635.000

VALLEY SECTION NO. 3150 SETTO AY A1

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15635.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | 1[illegible]. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.30 | 1.61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .013109 | 45. | 45. | 45. | [illegible] | 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

A6 A6

*SECNO 15775.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15775.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.34 | .67 | 5.14 | 2.07 | .052 | .045 | .052 | .035 | [illegible] | [illegible] | [illegible] |
| .005341 | 540. | 540. | 540. | [illegible] | [illegible] | 0 | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 15890.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15890.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | 187. | [illegible] | [illegible] | [illegible] | [illegible] | 55. | [illegible] | [illegible] |
| 1.34 | .69 | 4.84 | 2.00 | .083 | .045 | .083 | [illegible] | [illegible] | [illegible] | [illegible] |
| .007245 | 15. | 15. | 15. | [illegible] | [illegible] | [illegible] | [illegible] | 157.52 | [illegible] | [illegible] |

*SECNO 1[illegible].000

VALLEY SECTION NO. [illegible] SETTO AY A2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15995.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | [illegible] | [illegible] | 158. | [illegible] | [illegible] | [illegible] | [illegible] | 53. | [illegible] | [illegible] |
| 1.34 | .57 | [illegible] | 1.94 | .032 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010735 | 15. | 15. | 15. | 2 | 1 | 1 | [illegible] | [illegible] | [illegible] | [illegible] |

*SECNO 16045.000

| SECNO | DEPTH | CHSEL | CRELS | ISLOP | [illegible] | [illegible] | [illegible] | [illegible] | BLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | DLOB | DC- | QRIS | ALOB | ACH | [illegible] | VOL | [illegible] | [illegible] | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | ITW | ELMIN | | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | | EXDST |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16365.00 | 2.59 | 884.27 | .010 | 983.73 | 997.12 | .45 | .67 | .00 | [illegible] | |
| 525. | 1. | 972. | 151. | 2. | 51. | 30. | 96. | 53. | [illegible] | |
| 1.34 | .45 | 5.24 | 2.12 | .083 | .045 | .133 | .039 | 351.70 | [illegible] | |
| .016353 | 40. | 40. | 40. | 2 | 0 | 0 | 0.00 | 11.95 | 335.62 | |

*SECNO 1.375.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16375.00 | 2.80 | 895.00 | 0.01 | 796.08 | 995.21 | .15 | .23 | .00 | [illegible] | |
| 525. | 0. | 354. | 155. | 0. | 105. | 55. | 99. | 52. | [illegible] | |
| 1.35 | 0.00 | 3.54 | 2.39 | .083 | .045 | .083 | .039 | 394.26 | 193.07 | |
| .011224 | 50. | [illegible] | 50. | 0 | 0 | 0 | 0.00 | 12.72 | 372.45 | |

*SECNO 1.565.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16565.00 | 2.30 | 897.20 | .010 | 896.95 | 997.51 | .27 | 2.21 | .05 | [illegible] | |
| 525. | 264. | 2[illegible]. | 98. | 107. | 37. | 22. | 99. | 56. | 375.60 | |
| 1.33 | 2.27 | 5.25 | 2.13 | .083 | .045 | [illegible] | [illegible] | 494.70 | 131.40 | |
| .015350 | [illegible] | 176. | 170. | 2 | 0 | 1 | 0.00 | [illegible] | [illegible] | |

*SECNO 1.625.000

VALLEY SECTION FOR 4120 SECT. HA BA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16625.00 | [illegible] | [illegible] | [illegible] | 997.44 | [illegible] | .17 | [illegible] | [illegible] | [illegible] | |
| 525. | 26[illegible]. | 1[illegible]. | [illegible]. | 131. | [illegible]. | 1[illegible]. | 130. | 51. | [illegible] | |
| 1.37 | 2.64 | 4.54 | [illegible] | [illegible] | .045 | [illegible] | .035 | 390.10 | 155.38 | |
| .005213 | 50. | [illegible] | [illegible] | 1 | 0 | 1 | 0.00 | [illegible] | [illegible] | |

*SECNO 1.665.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16654.00 | [illegible] | [illegible] | [illegible] | [illegible] | 893.[illegible] | .13 | .10 | [illegible] | [illegible] | |
| 525. | 339. | 135. | 97. | 150. | 3[illegible]. | 1[illegible]. | 101. | 55. | 357.00 | |
| 1.37 | 2.25 | 5.22 | 1.72 | .083 | .045 | [illegible] | .039 | 9[illegible].21 | 1[illegible].39 | |
| .011101 | 11. | 11. | 11. | 2 | 1 | 1 | 0.00 | [illegible] | [illegible] | |

*SECNO 1.545.000

| SECNO | DEPTH | TOTAL | CROSS | VELOCITY | [illegible] | [illegible] | VEL | [illegible] | FLOW AREA LEFT/RIGHT |
|---|---|---|---|---|---|---|---|---|---|
| O | ELEV | ELEV | AREA | ELEV | ELEV | ELEV | VOL | TOTAL | |
| TIME | VELOC | VELOC | [illegible] | ELEV | ELEV | ELEV | [illegible] | ELEVN | ESTA |
| SLOPE | [illegible] | [illegible] | [illegible] | TOTAL | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16546.00 | 2.31 | 895.31 | 1.00 | 896.06 | 995.74 | .15 | .15 | .03 | [illegible] | |
| 525. | 319. | 175. | 31. | 1[illegible]. | [illegible] | 1[illegible] | 100. | 55. | [illegible] | |
| 1.37 | 2.15 | 5.20 | 1.72 | .083 | .045 | [illegible] | [illegible] | [illegible] | 170.72 | |
| .015863 | 12. | [illegible] | [illegible] | | | 0 | | 0.00 | [illegible] | [illegible] |

*SECNO 1.559.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16659.00 | 2.29 | 896.59 | 1.00 | 895.14 | 998.83 | [illegible] | [illegible] | .05 | [illegible] | |
| 525. | 23[illegible]. | 2[illegible]. | 31. | 115. | [illegible] | 1[illegible]. | 1[illegible]. | 55. | [illegible] | |
| 1.37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .01509 | 11. | 11. | 11 | | | | [illegible] | [illegible] | [illegible] | |

*SECNO 1.[illegible]70.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16670.00 | 2.45 | [illegible] | 1.00 | [illegible] | [illegible] | [illegible] | 15 | [illegible] | [illegible] | |
| 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 1. | .25 | [illegible] | 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .01[illegible] | [illegible] | 11. | 11. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

*SECNO 1.[illegible]74.000

```
[illegible]
     525.    231.    256.    [illegible]    [illegible]    [illegible]    [illegible]    110.    55.    [illegible]
     1.37    2.47    5.62    2.13    0.13    0.45    [illegible]    0.15    [illegible]    1.[illegible]
   0.014360    4.    [illegible]    4.    2    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

*SECND 1[illegible]
 15571.00    2.00    [illegible]    1.[illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
     525.    225.    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    130.    [illegible]    [illegible]
     1.37    2.35    6.[illegible]    2.22    0.033    0.044    0.067    0.039    [illegible]    [illegible]
   0.016286    4.    4.    [illegible]    1    0    [illegible]    4.00    [illegible]    [illegible]

*SECND 15880.001
   SECND    DEPTH    CHSEL    CRDS    VSELK    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   0    0LOB    0CH    0RD    ALOB    ACH    [illegible]    [illegible]    [illegible]    LEFT/RIGHT
   TIME    VLOB    VCH    VRDB    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   SLOPE    XLOBL    XLCH    XLOBR    [illegible]    ICC    [illegible]    [illegible]    [illegible]    [illegible]

 15580.00    2.51    [illegible]    1.00    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
     525.    241.    220.    36.    114.    [illegible]    22.    100.    55.    [illegible]
     1.37    2.12    5.62    1.47    0.[illegible]    0.[illegible]    0.[illegible]    0.[illegible]    [illegible]    1.5.82
   0.011106    2.    2.    2.    [illegible]    [illegible]    0    0.[illegible]    13.75    [illegible]

*SECND 16[illegible]
 16[illegible].00    2.[illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    0.11    [illegible]    [illegible]
     525.    215.    27[illegible].    [illegible]    95.    [illegible]    [illegible]    190.    55.    [illegible]
     1.37    2.2[illegible]    6.[illegible]    2.12    0.[illegible]    0.44    [illegible]    0.39    [illegible]    13.33
   0.014732    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

*SECND 16687.000
 16687.00    2.74    859.14    1.00    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
     525.    217.    2[illegible].    [illegible]    [illegible]    [illegible]    [illegible]    100.    55.    [illegible]
     1.37    2.02    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   0.0[illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

*SECND 1[illegible]760.00
 16760.00    3.03    899.[illegible]3    3.00    [illegible]    [illegible]    0.31    [illegible]    [illegible]    [illegible]
     525.    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
     1.3[illegible]    2.1[illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   0.01[illegible].000    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

*SECND 16805.000

                    VALLEY SECTION NO. [illegible]                    SECTION [illegible]

 16805.00    3.32    [illegible]    3.00    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
     525.    [illegible]    38[illegible].    51.    52.    [illegible]    [illegible]    100.    55.    [illegible]
     1.[illegible]    1.70    5.22    1.65    0.[illegible]    [illegible]    [illegible]    0.039    [illegible]    [illegible]
   0.008741    [illegible]    45.    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]

*SECND 15945.000
   SECND    DEPTH    CHSEL    CRDS    VSELK    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   0    0LOB    0CH    0RD    ALOB    ACH    [illegible]    [illegible]    [illegible]    LEFT/RIGHT
   TIME    VLOB    VCH    VRDB    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]    [illegible]
   SLOPE    XLOBL    XLCH    XLOBR    [illegible]    ICC    [illegible]    [illegible]    [illegible]    [illegible]

                    VALLEY SECTION NO. [illegible]                    SECTION [illegible]
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 16965.00 | 4.40 | 911.00 | 0.00 | 910.55 | 901.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 525. | 102. | 82. | 591. | 141. | 33. | 551. | 102. | 56. | 970.30 |
| 1.42 | .75 | 2.50 | .93 | .012 | .044 | .003 | .000 | 395.90 | 205.79 |
| .000926 | 100. | 140. | 270. | 2 | 4 | 0 | 1.00 | 27.23 | 685.02 |

#SECRO 17385.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17385.00 | 3.76 | 911.60 | 0.00 | 910.75 | 901.52 | 0.00 | .10 | .02 | 3.70.0 |
| 525. | 92. | 103. | 129. | 28. | 23. | 257. | 107. | 57. | [illegible] |
| 1.44 | 1.05 | 3.73 | 1.26 | .033 | .064 | .037 | .034 | 347.73 | 224.42 |
| .002600 | 190. | 140. | 100. | 2 | 6 | 0 | 1.00 | 246.57 | 467.00 |

#SECRO 17225.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17225.00 | 3.30 | 901.78 | 0.00 | 901.35 | 902.01 | .12 | .45 | .03 | 3[illegible].80 |
| 525. | 16. | 124. | 315. | 63. | 25. | 197. | 104. | 57. | 669.00 |
| 1.45 | 1.37 | 5.03 | 1.50 | .083 | .044 | .037 | .039 | 35.58 | 205.37 |
| .005500 | 190. | [illegible] | [illegible] | 2 | 1 | 1 | 0.00 | 224.24 | [illegible] |

#SECRO 17385.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17385.00 | 3.11 | [illegible] | 0.00 | 901.90 | 902.02 | .05 | .41 | .02 | [illegible] |
| 525. | 270. | 87. | [illegible] | 232. | [illegible] | 105. | 105. | 58. | [illegible] |
| 1.85 | 2.17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 159.30 |
| .031831 | 190. | [illegible] | [illegible] | 2 | 3 | 3 | 0.00 | [illegible] | 625.10 |

#SECRO 17505.000

VALLEY SECTION NO. 5.00 PLOT. BD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17505.00 | 3.70 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | .11 | .12 | [illegible] |
| 525. | 274. | 101. | 151. | 179. | [illegible] | [illegible] | 107. | 59. | [illegible] |
| 1.51 | 1.55 | [illegible] | 1.27 | .043 | .042 | [illegible] | .035 | [illegible] | 103.30 |
| .004101 | 190. | [illegible] | 100. | 2 | 3 | 0 | 1.00 | [illegible] | 415.50 |

#SECRO 17550.000

| SECRO | DEPTH | LOSS | LOSS | SELE | LA | QM | HL | LOSS | PWR ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TLA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | WNL | WNCH | WNR | FR | TL MN | STA |
| SLOPE | SLOPE | WLOB | WLOB | CRITPL | IOC | SOCH | CONSR | TOTAL | COST |

<2.22'

<2.51

VALLEY SECTION NO. 5.45 PLOT. BE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17550.00 | [illegible] | [illegible] | 50[illegible].76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 116. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.54 | 1.57 | [illegible] | 2.22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .010833 | 410. | [illegible] | 120. | 13 | 14 | [illegible] | 0.10 | [illegible] | [illegible] |

#SECRO [illegible]

VALLEY SECTION NO. [illegible] PLOT. BF

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 18395.00 | 2.22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525 | 74. | [illegible] | [illegible] | 34 | [illegible] | [illegible] | [illegible] | [illegible] | 7.4. |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .005 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

#SECRO [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 18545.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.15 | [illegible] | [illegible] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.56 | 2.27 | 6.98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .012231 | 150. | 150. | 150. | 2 | 0 | 0 | [illegible] | [illegible] | [illegible] | |

*SECND 18.95.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 18995.00 | 5.52 | 516.12 | 0.00 | 515.31 | 516.23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 101. | 175. | 49. | 51. | [illegible] | [illegible] | [illegible] | [illegible] | 5. | 11.63 |
| 1.65 | 1.95 | 6.22 | 2.15 | .035 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 219.23 |
| .007671 | 150. | 150. | 150. | 2 | 0 | 0 | [illegible] | [illegible] | 125.32 | 393.55 |

*SECND 1[illegible].45.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 18145.00 | 3.55 | 513.23 | 0.00 | [illegible] | 514.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 54. | 21[illegible]. | 21[illegible]. | 43. | 2[illegible] | 57. | 1[illegible]. | [illegible] | [illegible] | [illegible] |
| 1.56 | 2.15 | 7.2[illegible] | 2.57 | .035 | [illegible] | [illegible] | .039 | [illegible] | 253.55 | |
| .010103 | 150. | 150. | 150. | 2 | 0 | 0 | 0.01 | 11[illegible].35 | [illegible] | |

*SECND 1[illegible].555.000

| SECND | DEPTH | CHSLL | CRIPS | ISELK | G | V | AL | CLASS | TAIR ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | SLOPE | XCH | XROC | XCOR | ACH | ACH | VOL | VOL | CREST/HEIGHT |
| TIME | VLOPE | VCI | VROC | XIL | XVCI | XAR | T. | TLTEH | SSTA |
| SLOPE | XLOPL | XLCH | XLOCR | ITERTAL | IDC | ICORT | CONAP | TOPWID | [illegible] |

VALLEY SETTING [illegible] SECTION [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 18995.00 | 5.54 | 516.16 | 0.00 | 515.35 | 516.27 | [illegible] | [illegible] | [illegible] | [illegible] | 514.50 |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.72 | 1.21 | [illegible] | 1.43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .011[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | |

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to show.
5/4/79 gms

*SECND 19130.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19139.00 | 4.12 | 515.22 | 0.00 | 15.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 35. | 1[illegible]. | [illegible] | [illegible] | [illegible] | [illegible] | 11[illegible] | [illegible] | [illegible] | [illegible] |
| 1.74 | 2.31 | 5.[illegible] | 2.65 | .065 | [illegible] | .065 | .039 | [illegible] | 251.22 | |
| .015921 | 29. | [illegible] | 29. | 1 | [illegible] | [illegible] | 0.00 | 11[illegible].51 | [illegible] | |

*SECND 19[illegible].000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19156.00 | 4.61 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 24. | 2[illegible]. | 23[illegible]. | 35. | [illegible] | 0[illegible] | 119. | [illegible] | [illegible] | |
| 1.74 | 2.43 | 7.20 | 2.81 | .035 | [illegible] | .035 | .039 | 91.[illegible] | 250.[illegible] | |
| .000148 | 29. | [illegible] | 29. | 2 | 0 | 0 | 0.00 | 91.51 | [illegible].45 | |

*SECND 19[illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19196.00 | 4.32 | 516.92 | 0.00 | 516.55 | 517.22 | [illegible] | [illegible] | [illegible] | [illegible] | 514.81 |
| 525. | [illegible] | 139. | [illegible] | [illegible] | 2[illegible] | [illegible] | 11[illegible] | 66. | 91[illegible] | |
| 1.73 | 2.28 | 6.57 | 2.58 | .035 | [illegible] | .035 | .039 | [illegible] | 25[illegible].73 | |
| .015[illegible] | [illegible] | [illegible] | [illegible] | 2 | 0 | 0 | [illegible] | [illegible] | [illegible] | |

*SECND 19[illegible].000

| SECND | DEPTH | CHSLL | CRIPS | ISELK | G | AV | AL | CLASS | TAIR ELEV |
|---|---|---|---|---|---|---|---|---|---|
| 0 | SLOPE | XCH | XROC | XCOR | ACH | ACH | VOL | VOL | CREST/HEIGHT |

| SLOPE | XLOBL | XLCH | XLOBR | YINITAL | IOC | IOCNT | CONTAR | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| 19225.00 | 3.80 | 917.10 | 0.00 | 915.52 | 917.51 | .41 | .22 | .15 | 245.30 |
| 525. | 75. | 201. | 285. | 31. | 27. | 37. | 119. | 31. | 114.00 |
| 1.75 | 2.57 | [illegible] | 2.94 | .065 | [illegible] | .065 | .139 | [illegible] | [illegible] |
| .009092 | 29. | [illegible] | 45. | 2 | 0 | 0 | 0.00 | 115.30 | 31.051 |

#SECNO 19360.001

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19360.00 | 3.40 | 913.60 | 0.00 | 917.59 | 918.47 | .87 | .08 | .03 | 190.20 |
| 525. | 52. | [illegible] | [illegible] | 24. | 26. | 39. | 119. | 53. | [illegible] |
| 1.75 | 2.77 | [illegible] | 2.94 | .065 | [illegible] | .065 | .039 | [illegible] | [illegible] |
| .013562 | 130. | 115. | 50. | 2 | 1 | 0 | 0.00 | 1[illegible] | 357.72 |

#SECNO 19455.000

VALLEY SECTION [illegible] SECT. 31 BH

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19455.00 | 3.23 | 919.12 | 0.00 | 91[illegible].61 | 915.35 | .21 | .35 | .12 | 217.30 |
| 525. | 48. | 15[illegible]. | 326. | 26. | 23. | 141. | 11[illegible]. | 32. | 317.00 |
| 1.70 | 1.55 | 6.04 | 2.32 | .055 | .04 | .05 | .029 | 115.90 | [illegible] |
| .018512 | 15[illegible]. | 125. | 50. | 1 | [illegible] | [illegible] | 1.01 | [illegible] | [illegible] |

#SECNO 19477.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19477.00 | 3.17 | 915.27 | 0.00 | 915.80 | 919.05 | .42 | .21 | .0 | 417.50 |
| 525. | 65. | 179. | 312. | 23. | 22. | 100. | 123. | 62. | 317.00 |
| 1.70 | [illegible] | [illegible] | [illegible] | .055 | .12[illegible] | .05[illegible] | .039 | [illegible] | [illegible] |
| .012903 | 22. | [illegible] | 22. | 2 | | 0 | 0.00 | 16[illegible] | [illegible] |

#SECNO 19499.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19499.30 | 3.35 | 915.65 | 0.00 | 916.22 | 919.92 | .51 | .2[illegible] | [illegible] | 417.60 |
| 525. | 7[illegible]. | 1[illegible]. | [illegible] | [illegible] | [illegible] | 110. | [illegible] | [illegible] | [illegible] |
| 1.71 | 3.52 | [illegible] | [illegible] | .055 | .0[illegible] | .035 | [illegible] | [illegible] | [illegible] |
| .013652 | 22. | [illegible] | [illegible] | 2 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |

#SECNO 19521.000

| SECNO | [illegible] | CSSPL | [illegible] | [illegible] | [illegible] | [illegible] | L | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| Q | OLOD | OCH | [illegible] | [illegible] | [illegible] | [illegible] | OOL | [illegible] | L [illegible] GNT |
| TIME | VLOD | VCH | [illegible] | [illegible] | [illegible] | [illegible] | ITI | [illegible] | [illegible] |
| SLOPE | XLOBL | XLCH | XLOBR | YINITAL | IOC | IOCNT | CONTAR | [illegible] | [illegible] |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19521.00 | 3.23 | 919.33 | 0.00 | [illegible] | [illegible] | [illegible] | .21 | .05 | [illegible] |
| 525. | 35. | 1[illegible]. | 25[illegible]. | [illegible] | [illegible] | [illegible] | 120. | [illegible] | [illegible] |
| 1.72 | 2.43 | 7.55 | 2.30 | .0[illegible] | [illegible] | .0[illegible] | [illegible] | [illegible] | [illegible] |
| .010721 | 22. | 22. | 22. | 2 | 1 | 1 | 0.00 | [illegible] | 359.33 |

#SECNO 19543.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19543.00 | 4.32 | 920.02 | 0.00 | [illegible] | [illegible] | [illegible] | .55 | .05 | [illegible] |
| 525. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.77 | 3.01 | [illegible] | .05[illegible] | .055 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .01[illegible] | [illegible] | [illegible] | [illegible] | 1 | | | [illegible] | [illegible] | [illegible] |

#SECNO [illegible]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19556.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 11[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 121 | [illegible] | [illegible] |
| 1.77 | [illegible] | [illegible] | [illegible] | .05[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .00763 | 4[illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

```
*SECNO 19630.000
 19630.00     3.59     920.95     0.00     926.41     921.55     .80     .08     .97     919.06
     525.     124.     217.     1[illegible].     43.     [illegible]     64.     148.     [illegible]     [illegible]
     1.77     3.02     7.96     2.91     -.065     .035     .0[illegible]     .019     [illegible]     201.03
   .010240     94.     [illegible]     [illegible]     2     0     1     [illegible]     [illegible]     [illegible]

*SECNO 19805.000
 19805.00     3.76     922.26     0.00     922.12     923.37     .03     1.[illegible]     .02     [illegible]
     525.     174.     2[illegible].     129.     55.     [illegible]     24.     121.     [illegible]     [illegible]
     1.7[illegible]     3.15     7.27     2.59     .065     [illegible]     .0[illegible]     [illegible]     [illegible]     [illegible]
   .009942     [illegible]     175.     16[illegible].     [illegible]     3     0.09     .05     [illegible]

*SECNO 19980.000
   SECNO     DEPTH     CUSEL     CRIUS     USELK     LB     HB     SL     [illegible]     TANK ELEV
   0     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   TIME     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
   SLOPE     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

 19980.00     3.54     926.34     1.00     926.65     924.72     .03     1.5[illegible]     .02     [illegible]
     525.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     330.     [illegible]     [illegible]     [illegible]
     1.7[illegible]     [illegible]     [illegible]     2.26     .0[illegible]     .04     .03     .0[illegible]     [illegible]     [illegible]
   .007944     1.[illegible]     175.     [illegible]     2     [illegible]     [illegible]     0.10     35.[illegible]     [illegible]

*SECNO 20030.000
 20030.00     [illegible]     924.[illegible]     [illegible]     [illegible]     [illegible]     [illegible]     .40     [illegible]     [illegible]
     525.     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     1[illegible].     [illegible]     [illegible]
     1.7[illegible]     [illegible]     [illegible]     2.[illegible]     .065     [illegible]     [illegible]     .070     [illegible]     247.08
   .007995     [illegible]     [illegible]     [illegible]     2     [illegible]     [illegible]     0.01     35.46     [illegible]

*SECNO 20110.000

3470 ENCROACHMENT STATIONS=     [illegible]     [illegible]  TYP =     1  TARGET=     [illegible]
 20030.00     3.72     925.12     0.00     924.47     925.66     .54     .56     .03     [illegible]
     525.     131.     246.     9[illegible].     [illegible]     [illegible]     32.     1[illegible].     [illegible]     [illegible]
     1.30     3.75     7.71     2.10     .065     .0[illegible]     .005     .060     [illegible]     [illegible]
   .010703     [illegible]     [illegible]     [illegible]     1     [illegible]     0     [illegible]     [illegible]     [illegible]

*SECNO 20130.000

3470 ENCROACHMENT STATIONS=     28.00     31.[illegible]  TYP =     1  TARGET=     [illegible]
 20130.00     3.73     925.53     0.10     924.90     [illegible]     .03     [illegible]     .10     [illegible]
     525.     1[illegible].     2[illegible].     [illegible].     [illegible]     [illegible]     [illegible]     122.     [illegible]     [illegible]
     1.36     4.[illegible]     [illegible].17     4.07     .0[illegible]     .0[illegible]     .035     .040     [illegible]     [illegible]
   .014474     [illegible]     [illegible]     [illegible]     [illegible]     0     0     1.00     34.00     [illegible]

*SECNO 20140.000

3470 ENCROACHMENT STATIONS=     [illegible]     31.[illegible]  TYP =     1  TARGET=     [illegible]
 20140.00     3.69     925.59     925.53     924.90     [illegible]     1.10     .17     .10     925.00
     525.     105.     327.     93.     21.     [illegible]     20.     122.     70.     [illegible]
     1.84     4.56     10.37     3.74     .065     .0[illegible]     .035     .040     [illegible]     287.00
   .019553     10.     10.     10.     [illegible]     0     0     [illegible]     [illegible]     [illegible]

*SECNO 20150.000
   SECNO     DEPTH     CUSEL     CRIUS     USELK     LB     HB     SL     [illegible]     TANK ELEV
   0     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
```

```
SLOPE    XLOIL    ALCH     ALOLR    ITRIAL   IOC      ICOUT    COSAR    TOPWID   ELEVT

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      269.1      41.00   TWP =      1  TARGET=      25.00
 20150.00     3.36    925.00    925.00    925.09    927.02      1.32       .30       .12     [illegible]
     525.      91.      [illegible]      74.      100.      [illegible]      100.     122.      70.     [illegible]
    1.80      5.11     11.05      4.74      .065      .042      .065      .040     [illegible]     [illegible]
 .021390      10.      [illegible]      10.       2         5         0      0.00     [illegible]     [illegible]

*SECNO 20155.000
   SECNO    DEPTH    COS-L    CRWDS    ISELK    EG       AV       WL       CLOSS    TARG ELEV
   Q        OLD2     OCH      OR03     ALOP     ACH      AR06     VOL      TWA      LEFT/RIGHT
   TIME     VL05     VCH      VR03     KML      ANC4     NTR      UTL      FLOIN    SSTA
   SLOPE    XLOIL    ALC      ALOSR    ITRIAL   IOC      ICOUT    COSAR    TOPWID   ELOST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3471 ENCROACHMENT STATIONS=      251.0      312.1   TWP =      1  TARGET=      [illegible]

                 VALLEY SECTION NO. 7.5?                    SECTION BI

 20155.00     3.36    925.86    925.86    925.13    927.01      1.55       .11       .07     [illegible]
     525.      70.      [illegible]      92.      100.      [illegible]      100.     122.      [illegible]     [illegible]
    1.00      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]     [illegible]
 .020772       5         [illegible]       5         [illegible]         [illegible]         0      0.00     [illegible]     [illegible]

*SECNO 20173.000
   SECNO    DEPTH    COS-L    CRWDS    ISELK    EG       AV       WL       CLOSS    TARG ELEV
   Q        OLD2     OCH      OR03     ALOP     ACH      AR06     VOL      TWA      LEFT/RIGHT
   TIME     VL05     VCH      VR03     KML      ANC4     NTR      UTL      FLOIN    SSTA
   SLOPE    XLOIL    ALC      ALOSR    ITRIAL   IOC      ICOUT    COSAR    TOPWID   ELOST

7185 MINIMUM SPECIFIC ENERGY ELLC 929.3 > 926.07 ⇒ unsubmerged outlet
3720 CRITICAL DEPTH ASSUMED

3485 OVERBANK ARCH CSSL    NON-EFFECTIVE FLOW=      [illegible]  L.A=      [illegible]

 20173.00     4.27    926.07    926.07    925.31    927.5[illegible]      1.51       .4[illegible]      .1[illegible]     [illegible]
     525.      0.      525.      0.      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]     [illegible]
    1.00      0.07     [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]     [illegible]
 .017241      1.       [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]     [illegible]

SPECIAL BRIDGE

SO   AK       WK       DCOC     DCL      [illegible]      [illegible]      SKEW     [illegible]      LOID     [illegible]
   [illegible]      .01      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]     [illegible]

*SECNO 202-3.010

OUTLOOK  L  TY [illegible]

 QPRO=      [illegible]  [illegible]=      [illegible]      [illegible]  L.A=      [illegible]      [illegible]=      [illegible]  [illegible]

3301 HW CALCULATION TRAV [illegible]
```

[illegible] FORMAL [illegible] OF MAIL [illegible] [illegible] [illegible] [illegible]

[illegible] SPECIAL ARLO ASSIGNED NON-EFFECTIVE SELL/= [illegible] [illegible] A= [illegible]

DRUGS & ALCOHOL NEW YORK [illegible] [illegible]

1215# X 7111# MULTI--LATE ARLO

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20298.00 | 5.90 | [illegible] | 6.10 | 20.56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 0. | 525. | [illegible] | 0. | [illegible] | [illegible] | 122. | [illegible] | [illegible] | 1.80 |
| 1.[illegible] | 0.00 | 7.1[illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| .006607 | 120. | 120. | 120. | 5 | 0 | 0 | [illegible] | 12.50 | 2[illegible].50 | |

#SECNO [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20394.00 | 7.10 | 523.[illegible] | 0.00 | [illegible] | [illegible] | [illegible] | .11 | .05 | [illegible] | |
| 525. | 0. | 525. | [illegible] | 0. | [illegible] | [illegible] | 122. | [illegible] | [illegible] | |
| 1.[illegible] | 0.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .006995 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 12.50 | [illegible] | |

#SECNO [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SECNO | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| O | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

3470 [illegible] STATIONS= [illegible] [illegible] TYPE= [illegible] TARGET= [illegible]

VALLEY SECTION NO. 7750 [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20539.00 | 1.67 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | .14 | [illegible] | |
| 525. | 1[illegible]. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 72. | [illegible] | |
| 1.[illegible] | 1.12 | 3.19 | 1.05 | .110 | [illegible] | .110 | [illegible] | [illegible] | [illegible] | |
| .009765 | 15. | 15. | 15. | [illegible] | 0 | 0 | 1.00 | [illegible] | [illegible] | |

#SECNO 21527.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20523.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 525. | 220. | 275. | 79. | [illegible] | 81. | 115. | 124. | 70. | [illegible] | |
| 1.84 | .67 | 2.82 | .39 | .110 | .058 | .100 | .039 | [illegible] | [illegible] | |
| .000557 | 214. | 214. | 214. | [illegible] | 0 | 0 | 0.00 | [illegible] | [illegible] | |

#SECNO 21790.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20790.00 | [illegible] | 929.98 | 0.00 | [illegible] | [illegible] | .047 | .034 | .22 | [illegible] | |
| 525. | [illegible] | 411. | 51. | 95. | [illegible] | [illegible] | 124. | 72. | [illegible] | |
| 1.[illegible] | 1.14 | 6.34 | 1.42 | .110 | [illegible] | .100 | .039 | [illegible] | [illegible] | |
| .004501 | 257. | 257. | 257. | [illegible] | 0 | 0 | 0.00 | [illegible] | [illegible] | |

#SECNO 21050.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21050.00 | [illegible] | 531.35 | 531.75 | 530.50 | 532.11 | .079 | 1.50 | .13 | [illegible] | |
| 525. | 0. | [illegible] | [illegible] | 3. | [illegible] | [illegible] | 127. | 72. | [illegible] | |
| 1.87 | .75 | 7.39 | 1.95 | .110 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .007337 | [illegible] | [illegible] | [illegible] | 4 | 0 | 0 | 0.00 | 50.54 | [illegible] | |

#SECNO 21191.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21191.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

```
 [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 [illegible]   .80   [illegible]   1.5[illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .005735   1350.   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

*SECND 21325.000
 SECND    DEPTH    CONSEL   CRITS    US LR    FS       DW       HL       DLOSS    SAME ELEV
 0        DLOB     DCH      DRCL     ALOG     ACH      GRAV     VOL      THA      LEFT/RIGHT
 TIME     VLOB     VCH      VRCL     ALL      ACH      [illegible]      ITR      TL IN    DATA
 SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   ICC      ICONT    CORAR    TOPEID   ENDST

3470 ENCROACHMENT STATIONS=   [illegible]   1310.   TYPE=   1   TARGET=   [illegible]

                VALLEY SECTION NO. 11                    SECT. BL   BL

21325.00   5.03   933.33   0.00   932.1[illegible]   933.69   .36   .58   .09   [illegible]
   395.   0.   37[illegible].   [illegible].   0.   77.   [illegible].   127.   77.   [illegible]
   1.35   [illegible].   5.52   1.07   .10[illegible]   [illegible]   .10[illegible]   .35[illegible]   2[illegible].30   [illegible]
 .005130   170.   150.   120.   2   [illegible]   0   [illegible]   [illegible].30   [illegible]

*SECND 21335.000

3470 ENCROACHMENT STATIONS=   [illegible]   1320.   TYPE=   1   TARGET=   [illegible]
21335.00   4.38   9[illegible].23   [illegible].00   [illegible]   [illegible]   [illegible].42   [illegible]   [illegible]   [illegible]
   395.   0.   305.   [illegible].   [illegible].   0.   [illegible].   127.   77.   [illegible]
   1.75   3.00   5.37   1.04   .10[illegible]   [illegible]   .10[illegible]   [illegible]   9[illegible].30   [illegible]
 .005253   100.   100.   100.   2   [illegible]   0   0.00   30.15   [illegible]

*SECND 21345.000

3470 ENCROACHMENT STATIONS=   [illegible]   1270.   TYPE=   1   TARGET=   [illegible]
21345.00   3.62   933.22   [illegible]   [illegible]   [illegible]   .48   .07   .13   [illegible]
   395.   0.   [illegible]   [illegible].   [illegible].   [illegible]   [illegible].   127.   [illegible]   [illegible]
   1.[illegible]   [illegible]   7.14   1.21   .10   [illegible]   [illegible]   .139   [illegible]   [illegible]
 .00[illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   1.80   [illegible]   [illegible]

*SECND 21355.000

3470 ENCROACHMENT STATIONS=   [illegible]   1260.   TYPE=   1   TARGET=   [illegible]
21355.00   3.80   [illegible]   [illegible]   [illegible]   [illegible]   1.15   [illegible]   [illegible]   [illegible]
   395.   0.   394.   [illegible].   0.   [illegible]   [illegible].   127.   77.   [illegible]
   1.5[illegible]   [illegible].00   8.31   1.15   .10[illegible]   [illegible]   .16[illegible]   [illegible]   [illegible]   [illegible]
 .01577[illegible]   100.   [illegible].   [illegible].   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]

*SECND 21365.000
 SECND    DEPTH    CONSEL   CRITS    US LR    FS       DW       HL       DLOSS    SAME ELEV
 0        DLOB     DCH      DRCL     ALOG     ACH      GRAV     VOL      THA      LEFT/RIGHT
 TIME     VLOB     VCH      VRCL     ALL      ACH      [illegible]      ITR      TL IN    DATA
 SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   ICC      ICONT    CORAR    TOPEID   ENDST

3585 20 TRIALS ATTEMPTED [illegible]
3593 PROBABLE MINIMUM [illegible]
3720 CRITICAL DEPTH ASSU[illegible]

3470 ENCROACHMENT STATIONS=   [illegible]   1[illegible]   TYPE=   [illegible]   TARGET=   [illegible]
213[illegible].00   [illegible]   933.[illegible]   [illegible]   [illegible]   [illegible]   1   [illegible]   [illegible]   [illegible]
   395.   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   127.   [illegible]   [illegible]
   1.8   [illegible]   8.[illegible]   .00   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
 .0[illegible]49   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
```

```
*SECNO 21370.010
  SECNO     DEPTH     CHSEL     CRITS     HSLOK     SE        SV        SL        LOSS      ADJ SLOP
  Q         SLOP      QCH       SRCP      ALOP      ACH       APO       VOL       TWA     LEFT/RIGHT
  TIME      VLOP      VCH       VRCP      HWL       HWCH      HWR       STM       SLOTW       SSTA
  SLOP      VLOPL     VLCH      SLCP      TOTAL     ERC       ERCT      CONVE     TOPWT       ADJS

3685 20 TRIALS ATTEMPTED DSEL,CHSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3670 ENCROACHMENT STATIONS=      113.0      113.0  TYPE=      1  TAIL T=      [illegible]
 21370.00      3.55    934.08    934.08    933.14    935.47      1.11       .01       .155    [illegible]
     395.       0.       395.       0.       0.       24.       0.      127.       72.    [illegible]
     1.85      0.00      9.52      0.00      .100      .033      .100      .039    [illegible]
  .021023       5.        5.        5.       20.        [illegible]       5.      0.00     15.00     11.00

*SECNO 21374.000
  SECNO     DEPTH     CHSEL     CRITS     HSLOK     SE        SV        SL        LOSS      ADJ SLOP
  Q         SLOP      QCH       SRCP      ALOP      ACH       APO       VOL       TWA     LEFT/RIGHT
  TIME      VLOP      VCH       VRCP      HWL       HWCH      HWR       STM       SLOTW       SSTA
  SLOPE     VLOPL     VLCH      SLCP      TOTAL     ERC       ERCT      CONVE     TOPWT       TCRT

7155 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 21374.00      3.55    934.25    934.25    933.29    935.42      1.50       .09       .07    [illegible]
     395.       0.       395.       0.       0.       [illegible]       0.      127.       72.    [illegible]
     1.03      0.00     10.17      0.00      .100      .000      .100      .033    [illegible]
  .023031       0.        0.        0.        [illegible]       0.      0.00     12.50    [illegible]

*SECNO 21375.000  El.=934.17 > 934.24 ⇒ unsubmerged outlet

3670 NORMAL DEPTH= [illegible] HWL ELTRD=  [illegible]  TW ELEV=  [illegible]

 21375.00      3.54    934.24    934.17    933.31    935.32      1.65       .03       .05    [illegible]
     395.       0.       395.       0.       0.       [illegible]       0.      127.       72.    [illegible]
     1.85      0.00     10.29      0.00      .035      .000      .035      .039    [illegible]
  .019072       1.        1.        1.        [illegible]       1.      [illegible]     12.51    [illegible]

*SECNO 21455.010

3301 HV CHANGED FROM TRIAL VALUES

3670 NORMAL DEPTH= [illegible] HWL ELTRD=  [illegible]  TW ELEV=  [illegible]

                 BRIDGE SECTION NO. 11-A (CULVERT ROAD)

                 1-8'x 8' 11" MULTI-PLATE ARCH

 21455.00      5.51    936.31      0.00    [illegible]    [illegible]      0.00       .83       .29    [illegible]
     395.       0.       395.       0.       0.       59.       0.      127.       72.    [illegible]
     1.39      1.00     [illegible]      0.00      .035      .035      .035      .030    [illegible]
  .006542       8.        8.        8.        2.        6.        1.     -4.42     12.51    [illegible]

*SECNO 21456.000
 21456.00      5.55    [illegible]      .000    [illegible]    [illegible]      [illegible]       [illegible]    [illegible]
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1.95 | 1.50 | 5.[illegible] | 0.01 | .090 | [illegible] | [illegible] | [illegible] | [illegible] | 1.7.31 | |
| .006660 | 1. | 1. | 1. | 2 | 3 | 0 | [illegible] | 12.56 | 210.50 | |

#SECNO 21900.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 21900.00 | 5.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | 4. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 1.95 | [illegible] | [illegible] | 1.71 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .001103 | 644. | 664. | 244. | 3 | 3 | 1 | 0.00 | [illegible] | 155.77 | |

#SECNO 23051.000

WALL Y SECTION NO. 12 SECTION [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23050.00 | 3.91 | 939.21 | 1.00 | [illegible] | [illegible] | [illegible] | 1.32 | [illegible] | [illegible] | |
| 395. | 2. | 186. | 213. | 5. | [illegible] | 127. | [illegible] | 7.. | [illegible] | |
| 2.77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .001097 | 115.. | 115.. | 115.. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 551.12 | |

#SECNO 23199.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23199.00 | 3.87 | 934.37 | 1.03 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | 3. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 2.04 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .001217 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

#SECNO 23463.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23463.00 | [illegible] | 939.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | [illegible] | [illegible] | 156. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 2.11 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .002101 | 146. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

#SECNO [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23466.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | [illegible] | [illegible] | 119. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 2.11 | .57 | 4.38 | 2.26 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .002751 | 14[illegible]. | [illegible] | 146. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 511.45 | |

#SECNO 23645.000

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| TIME | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| SLOPE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 23645.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 2.1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| .00[illegible] | 149. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

#SECNO [illegible]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23794.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 395. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 2.1[illegible] | [illegible] | [illegible] | 1.92 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 937.800 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 939.100 | 458.700 | 939.500 | 473.900 | 939.800 | 483.100 | 940.300 | 498.400 | 940.600 | 511.600 |
| GR | 940.900 | 526.800 | 941.200 | 538.100 | 941.500 | 551.300 | 941.800 | 564.500 | 942.100 | 577.800 |
| GR | 942.500 | 591.000 | 942.900 | 604.200 | 943.300 | 617.500 | 943.700 | 630.700 | 944.100 | 643.900 |
| GR | 944.400 | 657.200 | 944.700 | 670.400 | 945.000 | 683.600 | 945.300 | 696.900 | 945.700 | 710.100 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 948.000 | [illegible] | 948.400 | [illegible] | 948.800 | 816.800 | 949.300 | 829.200 | 949.700 | 842.500 |
| X1 | 23794.000 | 90.000 | 418.000 | 440.100 | 149.000 | 149.000 | 149.000 | 0.000 | 0.000 | 0.000 |
| GR | 948.900 | 0.000 | 948.500 | 14.400 | 948.000 | 28.800 | 947.600 | 43.200 | 947.200 | 57.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 115.300 | [illegible] | [illegible] |
| GR | 944.700 | [illegible] | 944.400 | [illegible] | 944.000 | 172.900 | 943.700 | 187.300 | 943.300 | 201.700 |
| GR | 943.000 | [illegible] | [illegible] | [illegible] | 942.400 | 245.000 | 942.200 | 259.400 | 941.900 | [illegible] |
| GR | 941.700 | 288.200 | 941.400 | 302.600 | 941.300 | 317.100 | 941.200 | 331.500 | 941.100 | 345.900 |
| GR | 940.900 | 360.300 | 940.800 | 374.700 | 940.700 | 389.100 | 940.600 | 403.500 | 939.700 | 418.000 |
| GR | 939.400 | 418.700 | 939.000 | 419.400 | 938.700 | 420.200 | 938.300 | 420.900 | 938.000 | 421.600 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 936.800 | [illegible] | [illegible] | [illegible] | 936.700 | 427.500 | 936.600 | 428.300 | [illegible] | [illegible] |
| GR | 936.600 | [illegible] | [illegible] | [illegible] | 936.600 | 431.200 | 936.700 | 432.000 | [illegible] | [illegible] |
| GR | 937.200 | 433.400 | 937.400 | 434.200 | 937.600 | 434.900 | 937.900 | 435.600 | 938.100 | 436.400 |
| GR | 938.400 | 437.100 | 938.600 | 437.900 | 938.900 | 438.600 | 939.100 | 439.300 | 939.400 | 440.100 |
| GR | 939.800 | 454.700 | 940.300 | 469.300 | 940.700 | 483.900 | 941.100 | 498.500 | 941.400 | 513.100 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 942.300 | 558.900 | 942.600 | 571.500 | 942.900 | [illegible] |
| GR | 943.500 | [illegible] | [illegible] | 613.300 | 944.100 | 629.900 | 944.500 | 644.500 | 944.800 | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 945.700 | 702.900 | 946.000 | 717.500 | [illegible] | [illegible] |
| GR | 946.600 | 746.700 | 946.900 | 761.300 | 947.200 | 775.900 | 947.600 | 790.500 | 948.000 | 805.100 |
| GR | 948.300 | 819.700 | 948.700 | 834.300 | 949.100 | 848.900 | 949.500 | 863.500 | 949.900 | 878.100 |
| X1 | 23943.000 | [illegible] | [illegible] | 434.700 | 149.000 | 149.000 | 149.000 | 0.000 | 0.000 | [illegible] |
| GR | 949.400 | [illegible] | [illegible] | 14.200 | 948.600 | 28.400 | 948.200 | 42.600 | 947.800 | [illegible] |
| GR | 947.400 | 71.000 | 947.100 | 85.200 | 946.700 | 99.400 | 946.300 | 113.600 | 945.800 | 127.800 |
| GR | 945.300 | 142.000 | 944.900 | 156.200 | 944.600 | 170.400 | 944.200 | 184.600 | 943.800 | 198.800 |
| GR | 943.400 | 213.100 | 943.000 | 227.300 | 942.700 | 241.500 | 942.400 | 255.700 | 942.100 | 269.900 |
| GR | [illegible] | [illegible] | [illegible] | 298.300 | 941.300 | 312.500 | 941.200 | 326.700 | 941.100 | [illegible] |
| GR | 941.000 | [illegible] | [illegible] | 369.300 | 940.800 | 383.500 | 940.700 | 397.700 | 940.100 | [illegible] |
| GR | 939.700 | [illegible] | [illegible] | 413.500 | 939.000 | 414.200 | 938.600 | 415.000 | 938.200 | [illegible] |
| GR | 937.900 | 416.500 | 937.500 | 417.300 | 937.200 | 418.000 | 937.100 | 418.800 | 937.100 | 419.500 |
| GR | 937.000 | 420.300 | 937.000 | 421.000 | 936.900 | 421.800 | 936.900 | 422.600 | 936.900 | 423.300 |
| GR | 936.900 | 424.100 | 936.900 | 424.800 | 936.900 | 425.600 | 937.000 | 426.400 | 937.200 | 427.100 |
| GR | [illegible] | [illegible] | [illegible] | 428.600 | 938.100 | 429.400 | 938.300 | 430.100 | [illegible] | [illegible] |
| GR | 938.900 | [illegible] | [illegible] | 432.400 | 939.500 | 433.200 | 939.800 | 433.900 | [illegible] | [illegible] |
| GR | [illegible] | [illegible] | [illegible] | 466.400 | 941.400 | 482.600 | 941.900 | 495.600 | [illegible] | [illegible] |
| GR | 942.500 | 530.500 | 942.800 | 546.500 | 943.100 | 562.400 | 943.400 | 578.400 | 943.800 | 594.400 |
| GR | 944.100 | 610.300 | 944.500 | 626.300 | 944.900 | 642.300 | 945.200 | 658.200 | 945.600 | 674.200 |
| GR | 945.800 | 690.200 | 946.100 | 706.100 | 946.300 | 722.100 | 946.600 | 738.100 | 946.800 | 754.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | 947.700 | 801.900 | [illegible] | 817.900 | [illegible] | [illegible] |
| GR | 948.700 | 849.800 | 949.100 | 865.800 | 949.400 | 881.800 | 949.700 | 897.700 | 950.100 | [illegible] |
| X1 | 24091.000 | 90.000 | 406.000 | 429.300 | 147.000 | 147.000 | 147.000 | 0.000 | 0.000 | 0.000 |
| GR | 949.800 | 0.000 | 949.400 | 14.000 | 949.100 | 28.000 | 948.700 | 42.000 | 948.400 | 55.900 |
| GR | 948.000 | 69.900 | 947.700 | 83.900 | 947.400 | 97.900 | 946.900 | 111.900 | 946.400 | [illegible] |
| GR | 946.000 | 139.900 | 945.500 | 153.900 | 945.100 | 167.900 | 944.700 | 181.900 | 944.200 | 195.900 |
| GR | 943.800 | 209.900 | 943.400 | 223.900 | 943.100 | 237.900 | 942.700 | 251.900 | 942.300 | 265.900 |
| GR | 942.000 | 279.900 | 941.600 | 293.900 | 941.300 | 307.900 | 941.200 | 321.900 | 941.200 | 335.900 |
| GR | 941.100 | 349.900 | 941.000 | 363.900 | 940.900 | 377.900 | 940.900 | 391.900 | 940.500 | 406.000 |
| GR | 940.100 | 406.700 | 939.700 | 407.500 | 939.300 | 408.300 | 938.900 | 409.100 | 938.500 | 409.800 |
| GR | 938.100 | 410.600 | 937.700 | 411.400 | 937.500 | 412.200 | 937.400 | 413.000 | 937.300 | [illegible] |
| GR | 937.300 | 414.500 | 937.200 | 415.300 | 937.200 | 416.100 | 937.100 | 416.900 | 937.100 | [illegible] |
| GR | 937.100 | [illegible] | 937.100 | [illegible] | 937.200 | [illegible] | 937.300 | [illegible] | [illegible] | [illegible] |
| GR | 937.900 | 422.300 | 938.200 | 423.100 | 938.500 | 423.900 | 938.800 | 424.600 | 939.100 | 425.400 |
| GR | 939.400 | 426.200 | 939.700 | 427.000 | 940.100 | 427.800 | 940.400 | 428.500 | 940.700 | 429.300 |
| GR | 941.200 | 446.700 | 941.700 | 464.600 | 942.200 | 481.500 | 942.600 | 498.700 | 943.000 | 516.800 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 946.900 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 946.600 | 786.700 | [illegible] | [illegible] | [illegible] | 743.300 | 947.200 | 758.700 | 947.400 | 776.000 |
| GR | 947.700 | 793.300 | [illegible] | 811.700 | 948.200 | 828.000 | 948.500 | 845.300 | 948.800 | 862.700 |
| GR | 949.100 | 880.000 | [illegible] | 897.300 | 949.700 | 914.700 | 950.000 | 932.000 | 950.300 | 949.300 |

VALLEY SECTION NO. 13 SECT. 89

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 24240.000 | 16.000 | 400.000 | 424.000 | 149.000 | 149.000 | 149.000 | 0.000 | 0.000 | 0.000 |
| GR | 950.300 | 0.000 | 948.000 | 100.000 | 944.500 | 200.000 | 941.400 | 300.000 | 940.900 | 400.000 |
| GR | 937.800 | 406.000 | 937.400 | 412.000 | 937.500 | 415.000 | 941.400 | 424.000 | 943.500 | 500.000 |
| GR | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| GR | 950.500 | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | [illegible] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ROCHESTER-AVON TOWNSHIPS

3) WATERCOURSE: SARGENT CREEK

4) DOCUMENT TYPE: HYDRAULIC ANALYSIS

00BREAK00

AVON TOWNSHIP FIS

ROCHESTER FIS

SARGENT CREEK

J&A FILE NO. 5850-01, 07-1

Johnson & Anderson, Inc.
Consulting Engineers
2300 Dixie Highway, P. O. Box 1166
Pontiac, Michigan 48056

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Telex: 23-5793
Phone: (313) 334-9901

Johnson&Anderson,Inc.
CONSULTING ENGINEERS
P.O. Box 1166 • 2300 Dixie Highway • Pontiac, Mich. 48056

March 20, 1979

Water Management Division
Michigan Dept. of Natural Resources
Post Office Box 30028
Lansing, Michigan 48909

Attention: Mr. Daniel H. Morgan, P.E., Chief
Flood Insurance Unit

Re: Flood Insurance Studies, City of Rochester & Township of Avon
Hydraulic Investigation

Ref: J&A File Nos. 5850-01, 07-1

Gentlemen:

We have completed the hydraulic investigation of Sargent Creek in the City of Rochester and the Township of Avon. In compliance with Flood Insurance Study requirements, flows with recurrence intervals of 10-, 50-, 100-, and 500-years were selected for study. Flow magnitude determination has been coordinated with the Department of Natural Resources.

Enclosed with this submittal are:

1. HEC-2 computer run, 4 flow, final model, Sargent Creek
2. J&A IPLOT of 100-year profile
3. Plan view and profile
4. Hydraulic analysis report and support data

If you have any questions, please call me.

Sincerely,

John Emig

John J. Emig, P.E.

JJE:cdj
enc.
cc: File (2)

# HYDRAULIC ANALYSIS

## INTRODUCTION

The stream being studied is Sargent Creek, flowing through the city of Rochester and Avon Township, Oakland County, Michigan. The study limits for Sargent Creek are from it confluence with Paint Creek in section 10, Avon Township, upstream to Adams Road at the western boundry of section 5, Avon Township. Upstream of Brewster Road in Section 5, Avon Township, Sargent Creek becomes Dutton Ditch. The flows used in this Hydraulic Analysis were determined using both Brater's unit hydrograph-infiltration capacity method and the SCS TR-20 computer program. Hydrographs for each sub-basin were determined by Brater's method and then routed by the SCS TR-20 computer program. These flows have been approved by the Michigan Department of Natural Resources. The Project Manager for this analysis was John Emig.

## METHOD OF ANALYSIS

Water-surface profiles were computed through use of the COE HEC-2 step-backwater computer program. Bridges which were under low flow conditions for all four flows were coded according to the "normal bridge" routine requirements. For those bridges which experienced pressure or weir flow for any of the four flows, the "special bridge" routine or hand calculations were used to determine the upstream water-surface elevation. The hydraulic model was developed for the 100-year flow. Valley sections upstream and downstream of bridges were located where full cross section flow would be developed out of the influence of the bridge constriction.

HYDRAULIC ANALYSIS

The criteria for placement of these sections was that outlined on pages 18-21 of the HEC Training Document No. 6, Application of the HEC-2 Bridge Routines. Accordingly, the downstream section was placed at a distance of about four times the average length of the side constriction caused by the bridge abutment. The upstream section was placed at a distance about equal to the bridge constriction. If additional sections were found necessary within this distance or if the actual field-surveyed cross section fell within this distance, the intermediate sections were encroached as appropriate.

## STARTING POINT

Because the peak times of the Sargent Creek and Paint Creek are vastly different, a stage-discharge relationship was developed for Paint Creek at the Sargent Creek confluence. The discharges on Paint Creek when Sargent Creek yields the peak flows were obtained from the TR-20 program for each frequency flood. The starting water-surface elevations at Sargent Creek were then found from the stage-discharge relationship for Paint Creek at the Sargent Creek confluence.

## CROSS SECTION DATA ACQUISITION

Cross section data for Sargent Creek was obtained from a variety of sources. The origin of particular sections is detailed in the SECNO

HYDRAULIC ANALYSIS

## CROSS SECTION DATA ACQUISITION (Cont.d)

TABLE. The following abreviations have been used:

| | | |
|---|---|---|
| 1. | J & A | Johnson & Anderson |
| 2. | GWE | Giffels Webster Engineers |
| 3. | ULC | Urban Land Consultants |
| 4. | WP&C | Warner Cantrell & Padmos |

## VARIABLES AND COEFFICIENTS

The basis for Manning's "n" value selection came from field inspection and comparison with the photographs and descriptions found on pages 101 to 123 in Open-Channel Hydraulics by Ven Te Chow, as well as with photographs and descriptions found in the Geological Survey Water-Supply Paper 1849, Roughness Characteristics of Natural Channels.

In general, the following range of Manning's "n" values were used:

| DESCRIPTION | MANNINGS "n" |
|---|---|
| 1. CHANNEL | |
| a. Sand bottom with light overhanging brush | 0.032 - 0.038 |
| b. Sand bottom with medium overhanging brush | 0.040 - 0.048 |
| 2. FLOODPLAINS | |
| a. High grass | 0.031 |
| b. Grass with light woods | 0.032 - 0.038 |
| c. Light to medium woods - brush | 0.040 - 0.078 |
| d. Medium to heavy woods - dense brush | 0.08 - 0.1 |

## VARIABLES AND COEFFICIENTS (Cont'd)

The contraction and expansion coefficients used in this study were .3 and .5, respectively. References used in the selection of these values were the HEC-2 Users Manual, Exhibit 2, Page 2, and Open-Channel Hydraulics, Ven Te Chow, Pages 311 and 468.

The loss coefficients used in the HEC-2 "Special Bridge" routine were determined as outlined in Exhibit 2 of the HEC-2 Users Manual. Calculations are included in the Appendix.

## DISCUSSION

Sargent Creek, downstream of Livernois Road, passes through a golf course. For aesthetic reasons, Sargent Creek has been diverted from normal open-channel flow to a series of underground pipes in three locations in the golf course. Since the capacity of the pipes are much less than that of the flow which would occur during flood conditions, the combination of overland flow and pipe flow was analized using the "Island Flow" technique similar to that outlined by Ven Te Chow, Open-Channel Hydraulics, P. 320. Once a tailwater elevation was determined, a calculation was made to determine the amount of flow for each recurrence internal through the pipe, with the remaining water passing overland. The headwater "Energy Grade Line" elevations between the pipe flow and overland flow were then matched so as to assure the correct division of flow. This process was repeated for each set of underground pipes, with the overland flow being modeled to represent basic hydraulic principles. Each set of pipe calculations for each recurrence interval are included with this submittal.

AVON TOWNSHIP FIS
ROCHESTER FIS
OAKLAND COUNTY, MICHIGAN

HYDRAULIC ANALYSIS

DISCUSSION (Cont'd)

The special bridge routine was used to determine the headwater elevation for the dam u/s of Shagbark drive. The weir was defined by use of the stations and road eleations on BT cards. On the SB card, solely arbitrarily small values for SWC & BAREA were given. Since invert elevations are assumed to be straight line between field cross section 5, an elevation of 820.2 was assumed for the channel immediately u/s of the lake. An estimate of the water surface elevation at the channel section u/s of the lake was made by assuming a parallel slope between water surface and ground, thus making the X5 card at section 9055 appropriate. Since the elevation entered on the X5 card is below critical depth, HEC-2 assumes critical depth at this section and continues u/s with its backwater calculation.

The 100 year floodway was defined by describing the sweep and extent of moving floodwaters.

# APPENDIX A

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 0 | AT CONFLUENCE WITH PAINT CREEK, CROSS SECTION A REPEATED |
| A | 310 | 310' U/S OF CONFLUENCE WITH PAINT CREEK, FIELD VALLEY SECTION 1 |
| | 330 | 330' U/S OF CONFLUENCE WITH PAINT CREEK, AVSEC BETWEEN CROSS SECTION A @ B |
| | 340 | 340' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 330 REPEATED |
| | 350 | 350' U/S OF CONFLUENCE WITH PAINT CREEK, AVSEC BETWEEN CROSS SECTIONS A & B |
| | 360 | 360' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 360 REPEATED |
| | 370 | 370' U/S OF CONFLUENCE WITH PAINT CREEK, AVSEC BETWEEN CROSS SECTIONS A & B |
| | 380 | 380' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 370 REPEATED |
| | 393 | 393' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 370 REPEATED |
| | 395 | 395' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 370 REPEATED |
| | 398 | 398' U/S OF CONFLUENCE WITH PAINT CREEK, SECNO 370 REPEATED |
| | 400 | 400' U/S OF CONFLUENCE WITH PAINT CREEK, AVSEC BETWEEN CROSS SECTIONS A & B |
| B | 410 | 410' U/S OF CONFLUENCE WITH PAINT CREEK, FIELD VALLEY SECTION 1.1 |
| | 416 | 6' U/S OF CROSS SECTION B, CROSS SECTION B REPEATED |
| | 417 | 7' U/S OF CROSS SECTION B, CROSS SECTION B REPEATED |
| | 418 | 8' U/S OF CROSS SECTION B, CROSS SECTION B REPEATED |
| | 419 | 9' U/S OF CROSS SECTION B, CROSS SECTION B REPEATED |
| | 421 | 11' U/S OF CROSS SECTION B, CROSS SECTION B REPEATED |
| | 432 | 22' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 454 | 44' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 476 | 66' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 498 | 88' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 520 | 110' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 630 | 220' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 740 | 330' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| | 850 | 440' U/S OF CROSS SECTION B, AVSEC BETWEEN CROSS SECTIONS B & C |
| C | 960 | 960' U/S OF CONFLUENCE WITH PAINT CREEK, FIELD VALLEY SECTION 1.2 |
| D | 1150 | 1150' U/S OF CONFLUENCE WITH PAINT CREEK, FIELD VALLEY SECTION 1.3 |
| | 1373 | D/S FACE GOLF COURSE BRIDGE #1, CROSS SECTION E REPEATED |
| E | 1380 | U/S FACE GOLF COURSE BRIDGE #1, FIELD BRIDGE SECTION 1-B |
| | 1459 | 1' D/S OF GOLF COURSE WEIR, CROSS SECTION F REPEATED |
| | 1460 | D/S FACE GOLF COURSE WEIR, CROSS SECTION F REPEATED |
| F | 1461 | U/S FACE GOLF COURSE WEIR, FIELD WEIR SECTION 1-A |
| | 1462 | 1' U/S OF GOLF COURSE WEIR, SECTION REPRESENTS LAKE |
| | 1684 | AT U/S EDGE OF LAKE, SECNO 1462 REPEATED |
| | 1685 | 136' D/S OF GOLF COURSE BRIDGE #2, VALLEY SECTION TAKEN FROM SECNO 1821 |
| | 1686 | 135' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1687 | 134' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1688 | 133' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1691 | 130' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1693 | 128' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1701 | 120' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1710 | 111' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1719 | 102' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1722 | 99' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1724 | 97' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1728 | 93' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1736 | 85' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 1744 | 77' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1753 | 68' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1787 | 34' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1791 | 30' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1795 | 26' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1796 | 25' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1797 | 24' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1799 | 22' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1803 | 18' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1811 | 10' D/S OF GOLF COURSE BRIDGE #2, SECNO 1685 REPEATED |
| | 1821 | D/S FACE GOLF COURSE BRIDGE #2, CROSS SECTION G REPEATED |
| G | 1829 | U/S FACE GOLF COURSE BRIDGE #2, FIELD BRIDGE SECTION 2-B |
| | 1845 | 16' U/S OF GOLF COURSE BRIDGE #2, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1862 | 33' U/S OF GOLF COURSE BRIDGE #2, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1867 | 38' U/S OF GOLF COURSE BRIDGE #2, SECNO 1862 REPEATED |
| | 1872 | 43' U/S OF GOLF COURSE BRIDGE #2, SECNO 1862 REPEATED |
| | 1878 | 49' U/S OF GOLF COURSE BRIDGE #2, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1879 | 50' U/S OF GOLF COURSE BRIDGE #2, SECNO 1878 REPEATED |
| | 1880 | 51' U/S OF GOLF COURSE BRIDGE #2, SECNO 1878 REPEATED |
| | 1881 | 52' U/S OF GOLF COURSE BRIDGE #2, SECNO 1878 REPEATED |
| | 1883 | 54' U/S OF GOLF COURSE BRIDGE #2, SECNO 1878 REPEATED |
| | 1889 | 60' U/S OF GOLF COURSE BRIDGE #2, SECNO 1878 REPEATED |
| | 1895 | 114' D/S OF ENCLOSED PIPE #1, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1900 | 109' D/S OF ENCLOSED PIPE #1, SECNO 1895 REPEATED |
| | 1905 | 104' D/S OF ENCLOSED PIPE #1, SECNO 1895 REPEATED |
| | 1911 | 98' D/S OF ENCLOSED PIPE #1, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1937 | 72' D/S OF ENCLOSED PIPE #1, SECNO 1911 REPEATED |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 1962 | 47' D/S OF ENCLOSED PIPE #1, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 1988 | 21' D/S OF ENCLOSED PIPE #1, AVSEC BETWEEN CROSS SECTIONS G & H |
| | 2008 | 1' D/S OF ENCLOSED PIPE #1, VALLEY SECTION FROM CROSS SECTION H |
| | 2009 | D/S FACE ENCLOSED PIPE #1, GR"S FOR OVERLAND FLOW - NO VALLEY |
| H | 2271 | U/S FACE ENCLOSED PIPE #1, FIELD BRIDGE SECTION 2 |
| | 2272 | 1' U/S OF ENCLOSED PIPE #1, SECNO 2008 REPEATED |
| I | 2521 | 250' U/S OF ENCLOSED PIPE #1, FIELD VALLEY SECTION 2-A |
| | 2655 | 134' U/S OF CROSS SECTION I, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 2788 | 267' U/S OF CROSS SECTION I, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 2922 | 401' U/S OF CROSS SECTION I, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 2989 | 468' U/S OF CROSS SECTION I, SECNO 2922 REPEATED |
| | 3056 | 534' D/S OF CROSS SECTION J, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 3123 | 467' D/S OF CROSS SECTION J, SECNO 3056 REPEATED |
| | 3156 | 434' D/S OF CROSS SECTION J, SECNO 3056 REPEATED |
| | 3189 | 401' D/S OF CROSS SECTION J, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 3256 | 334' D/S OF CROSS SECTION J, SECNO 3189 REPEATED |
| | 3323 | 267' D/S OF CROSS SECTION J, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 3390 | 200' D/S OF CROSS SECTION J, SECNO 3323 REPEATED |
| | 3423 | 167' D/S OF CROSS SECTION J, SECNO 3323 REPEATED |
| | 3456 | 134' D/S OF CROSS SECTION J, AVSEC BETWEEN CROSS SECTIONS I & J |
| | 3523 | 67' D/S OF CROSS SECTION J, SECNO 3456 REPEATED |
| | 3556 | 34' D/S OF CROSS SECTION J, SECNO 3456 REPEATED |
| J | 3590 | 475' D/S OF ENCLOSED PIPE #2, FIELD VALLEY SECTION 3 |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 3827 | 238' D/S OF ENCLOSED PIPE #2, CROSS SECTION J REPEATED |
| | 4064 | 1' D/S OF ENCLOSED PIPE #2, VALLEY SECTION FROM CROSS SECTION K |
| | 4065 | D/S FACE ENCLOSED PIPE #2, GR*S FOR OVERLAND FLOW - NO VALLEY |
| K | 4259 | U/S FACE ENCLOSED PIPE #2, FIELD BRIDGE SECTION 3-A |
| | 4260 | 1' U/S OF ENCLOSED PIPE #2, REVISED SECNO 4064 |
| | 4418 | 1' D/S OF ENCLOSED PIPE #3, VALLEY SECTION FROM CROSS SECTION L |
| | 4419 | D/S FACE ENCLOSED PIPE #3, GR*S FOR OVERLAND FLOW - NO VALLEY |
| L | 4781 | U/S FACE ENCLOSED PIPE #3, FIELD BRIDGE SECTION 4 |
| | 4782 | 1' U/S OF ENCLOSED PIPE #3, CROSS SECTION M REPEATED |
| M | 5000 | 63' D/S OF LIVERNOIS ROAD, FIELD VALLEY SECTION 5 |
| | 5031 | 32' D/S OF LIVERNOIS ROAD, CROSS SECTION M REPEATED |
| | 5046 | 17' D/S OF LIVERNOIS ROAD, CROSS SECTION M REPEATED |
| | 5054 | 9' D/S OF LIVERNOIS ROAD, CROSS SECTION M REPEATED |
| | 5062 | 1' D/S OF LIVERNOIS ROAD, CROSS SECTION N REPEATED |
| | 5063 | D/S FACE LIVERNOIS ROAD, CROSS SECTION N REPEATED |
| N | 5137 | U/S FACE LIVERNOIS ROAD, FIELD BRIDGE SECTION 6 |
| | 5138 | 1' U/S OF LIVERNOIS ROAD, CROSS SECTION N REPEATED |
| | 5140 | 3' U/S OF LIVERNOIS ROAD, CROSS SECTION M REPEATED |
| | 5187 | 50' U/S OF LIVERNOIS ROAD, CROSS SECTION M REPEATED |
| O | 5580 | 443' U/S OF LIVERNOIS ROAD, FIELD VALLEY SECTION 350 (GWE) |
| P | 5930 | 793' U/S OF LIVERNOIS ROAD, FIELD VALLEY SECTION 0 (GWE) |
| Q | 6005 | 868' U/S OF LIVERNOIS ROAD, FIELD VALLEY SECTION 75(GWE) |
| | 6040 | 35' U/S OF CROSS SECTION Q, AVSEC BETWEEN CROSS SECTIONS Q & R |
| | 6075 | 70' U/S OF CROSS SECTION Q, AVSEC BETWEEN CROSS SECTIONS Q & R |
| | 6110 | 35' D/S OF CROSS SECTION R, AVSEC BETWEEN CROSS SECTIONS Q & R |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| R | 6145 | 1008' U/S OF LIVERNOIS ROAD, FIELD VALLEY SECTION 215 (GWE) |
| S | 6620 | 165' D/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 690 (GWE) |
| | 6660 | 126' D/S OF PRIVATE BRIDGE, CROSS SECTION S REPEATED |
| | 6700 | 86' D/S OF PRIVATE BRIDGE, CROSS SECTION S REPEATED |
| T | 6780 | 6' D/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 850 (GWE) |
| | 6786 | D/S FACE PRIVATE BRIDGE, CROSS SECTION T REPEATED |
| U | 6824 | U/S FACE PRIVATE BRIDGE, FIELD BRIDGE SECTION 856 (GWE) |
| V | 6830 | 6' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 900 (GWE) |
| W | 7120 | 296' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 1190 (GWE) |
| | 7370 | 546' U/S OF PRIVATE BRIDGE, CROSS SECTION W REPEATED |
| X | 7620 | 796' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 1690 (GWE) |
| | 7720 | 663' D/S OF SHAGBARK DRIVE, CROSS SECTION X REPEATED |
| | 7820 | 563' D/S OF SHAGBARK DRIVE, CROSS SECTION X REPEATED |
| | 7870 | 513' D/S OF SHAGBARK DRIVE, CROSS SECTION X REPEATED |
| Y | 8120 | 263' D/S OF SHAGBARK DRIVE, FIELD VALLEY SECTION 2190 (GWE) |
| | 8191 | 192' D/S OF SHAGBARK DRIVE, CROSS SECTION Y REPEATED |
| | 8262 | 121' D/S OF SHAGBARK DRIVE, CROSS SECTION Y REPEATED |
| | 8333 | 50' D/S OF SHAGBARK DRIVE, CROSS SECTION Y REPEATED |
| | 8353 | 30' D/S OF SHAGBARK DRIVE, CROSS SECTION Y REPEATED |
| | 8373 | 10' D/S OF SHAGBARK DRIVE, CROSS SECTION Y REPEATED |
| | 8383 | D/S FACE SHAGBARK DRIVE, CROSS SECTION Z REPEATED |
| Z | 8418 | U/S FACE SHAGBARK DRIVE, FIELD BRIDGE SECTION 7 |
| AA | 8500 | 81' U/S OF SHAGBARK DRIVE, FIELD VALLEY SECTION 8 |
| | 8564 | 50' D/S OF PRIVATE DAM, CROSS SECTION AA REPEATED |
| | 8614 | D/S FACE PRIVATE DAM, CROSS SECTION AB REPEATED |
| AB | 8615 | U/S FACE PRIVATE DAM, FIELD DAM SECTION 9 |
| | 9055 | 1' U/S OF LAKE, 300' D/S OF PRIVATE BRIDGE, CROSS-SECTION AC REPEATED |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 9087 | 33' U/S OF LAKE, CROSS-SECTION AC REPEATED |
| | 9120 | 66' U/S OF LAKE, CROSS-SECTION AC REPEATED |
| | 9185 | 131' U/S OF LAKE, CROSS-SECTION AC REPEATED |
| | 9250 | 105' D/S OF PRIVATE BRIDGE, CROSS-SECTION AC REPEATED |
| AC | 9315 | 40' D/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 10 |
| | 9355 | D/S FACE PRIVATE BRIDGE, CROSS-SECTION AD REPEATED |
| AD | 9360 | U/S FACE PRIVATE BRIDGE, FIELD BRIDGE SECTION 10-A |
| | 9410 | 50' U/S OF PRIVATE BRIDGE, CROSS-SECTION AC REPEATED |
| | 9495 | 135' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9580 | 220' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9665 | 305' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9686 | 326' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9707 | 347' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9728 | 368' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9750 | 390' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9771 | 411' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9792 | 432' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9813 | 453' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9856 | 496' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9877 | 517' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| | 9898 | 538' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AD&AE |
| AE | 9920 | 560' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 1200 (ULC) |
| AF | 10120 | 760' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 1000 (ULC) |
| | 10220 | 100' U/S OF SECNO 10120, CROSS-SECTION AF REPEATED |
| AG | 10320 | 960' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 800 (ULC) |
| AH | 10520 | 1160' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 600 (ULC) |
| AI | 10720 | 1360' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 400 (ULC) |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| AJ | 10920 | 1560' U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 200 (ULC) |
| AK | 11120 | AT IRONSTONE DRIVE EXTENDED DUE SOUTH, FIELD VALLEY SECTION 000 (ULC) |
| | 11319 | 1' D/S OF GOLF COURSE BRIDGE #1, CROSS-SECTION AL REPEATED |
| | 11320 | D/S FACE GOLF COURSE BRIDGE #1, CROSS-SECTION AL REPEATED |
| AL | 11325 | U/S FACE GOLF COURSE BRIDGE #1, MANUFACTURED FROM ON-SITE INSPECTION AND FIELD INFO. OBTAINED FROM URBAN LAND CONSULTANTS. |
| | 11326 | 1' U/S OF GOLF COURSE BRIDGE #1, CROSS-SECTION AL REPEATED |
| | 11519 | 1' D/S OF GOLF COURSE BRIDGE #2, CROSS-SECTION AM REPEATED |
| | 11520 | D/S FACE GOLF COURSE BRIDGE #2, AM REPEATED |
| AM | 11525 | U/S FACE GOLF COURSE BRIDGE #2, MANUFACTURED FROM ON-SITE INSPECTION AND FIELD INFO. OBTAINED FROM URBAN LAND CONSULTANTS. |
| | 11526 | 1' U/S OF GOLF COURSE BRIDGE #2, CROSS-SECTION AM REPEATED |
| | 11595 | 72' U/S OF GOLF COURSE BRIDGE #2, CROSS-SECTION AN REPEATED |
| AN | 11720 | 195' U/S OF GOLF COURSE BRIDGE #2, FIELD VALLEY SECTION -600 (ULC) |
| | 11850 | 325' U/S OF GOLF COURSE BRIDGE #2, CROSS-SECTION AN REPEATED |
| AO | 11995 | IRONSTONE DRIVE EXTENDED, FIELD VALLEY SECTION 1500(GWE) |
| | 12058 | 63 ' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12120 | 125' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12183 | 188' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12245 | 250' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12308 | 313' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12370 | 375' U/S OF AO, AVSEC BETWEEN AO&AP |
| | 12433 | 62' D/S OF AP,AVSEC BETWEEN AO&AP |
| AP | 12495 | 969' D/S OF TIENKEN ROAD, FIELD VALLEY SECTION 2000(GWE) |
| AQ | 13055 | 409' D/S OF TIENKEN ROAD, FIELD VALLEY SECTION 2560(GWE) |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 13155 | 309' D/S OF TIENKEN ROAD,AVSEC BETWEEN AQ&AR |
| | ~~13205~~ | ~~259' D/S OF TIENKEN ROAD, SECNO 13155 REPEATED~~ |
| | 13255 | 209' D/S OF TIENKEN ROAD,AVSEC BETWEEN AQ&AR |
| | 13355 | 109' D/S OF TIENKEN ROAD,AVSEC BETWEEN AQ&AR |
| | ~~13380~~ | ~~84' D/S OF TIENKEN ROAD, SECNO 13355 REPEATED~~ |
| | 13405 | 59' D/S OF TIENKEN ROAD, SECNO 13355 REPEATED |
| | 13430 | 34' D/S OF TIENKEN ROAD, SECNO 13255 REPEATED |
| ~~AR~~ | ~~13455~~ | ~~9' D/S OF TIENKEN ROAD, FIELD VALLEY SECTION 950 (WCP)~~ |
| | 13459 | 5' D/S OF TIENKEN ROAD, CROSS-SECTION AR REPEATED |
| | 13463 | 1' D/S OF TIENKEN ROAD, CROSS-SECTION AS REPEATED |
| | ~~13464~~ | ~~D/S FACE TIENKEN ROAD, CROSS-SECTION AS REPEATED~~ |
| AS | 13548 | U/S FACE TIENKEN ROAD, FIELD BRIDGE SECTION 1000 (WCP) |
| | 13549 | 1' U/S OF TIENKEN ROAD, CROSS-SECTION AS REPEATED |
| ~~AT~~ | ~~13555~~ | ~~7' U/S OF TIENKEN ROAD, FIELD VALLEY SECTION 1050 (WCP)~~ |
| | 13685 | 137'U/S OF TIENKEN ROAD, CROSS-SECTION AT REPEATED |
| | 13815 | 267'U/S OF TIENKEN ROAD, CROSS-SECTION AT REPEATED |
| | ~~13945~~ | ~~397'U/S OF TIENKEN ROAD, CROSS-SECTION AU REPEATED~~ |
| | 14075 | 527'U/S OF TIENKEN ROAD, CROSS-SECTION AU REPEATED |
| AU | 14205 | 657'U/S OF TIENKEN ROAD, FIELD VALLEY SECTION 1700(WCP) |
| ~~AV~~ | ~~15105~~ | ~~40'D/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 2600(WCP)~~ |
| | 15110 | 35' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | 15115 | 30' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | ~~15120~~ | ~~25' D/S OF PRIVATE BRIDGE, AV REPEATED~~ |
| | 15125 | 20' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | 15130 | 15' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | ~~15135~~ | ~~10' D/S OF PRIVATE BRIDGE, AV REPEATED~~ |
| | 15139 | 6' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | 15143 | 2' D/S OF PRIVATE BRIDGE, AV REPEATED |
| | ~~15145~~ | ~~D/S FACE PRIVATE BRIDGE, AW REPEATED~~ |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| AW | 15165 | U/S FACE PRIVATE BRIDGE, FIELD BRIDGE SECTION 2650(WCP) |
| | ~~15185~~ | ~~20' U/S OF PRIVATE BRIDGE, AX REPEATED~~ |
| AX | 15205 | 40'U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 2700(WCP) |
| | 15313 | 148'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS AX&AY |
| | 15420 | 255'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS AX&AY |
| | ~~15447~~ | ~~282'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS~~ AX&AY |
| | 15474 | 309'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS AX&AY |
| | 15501 | 336'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS AX&AY |
| | ~~15508~~ | ~~343' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY~~ |
| | 15515 | 350' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY |
| | 15521 | 356' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY |
| | ~~15529~~ | ~~363'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS~~ AX&AY |
| | 15555 | 390'U/S OF PRIVATE BRIDGE, AVSEC BETWEEN CROSS-SECTIONS AX&AY |
| | 15575 | 410' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY |
| | 15590 | 425' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY |
| | ~~15605~~ | ~~440' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY~~ |
| | 15620 | 455' U/S OF PRIVATE BRIDGE, AVSEC BETWEEN AX&AY |
| AY | 15635 | 470'U/S OF PRIVATE BRIDGE, FIELD VALLEY SECTION 3130 ~~(WCP)~~ |
| | 16275 | 30' D/S OF AZ, AVSEC BETWEEN AY&AZ |
| | 16290 | 15' D/S OF AZ, AVSEC BETWEEN AY&AZ |
| ~~AZ~~ | ~~16305~~ | ~~FIELD VALLEY SECTION 3800 (WCP)~~ |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 16345 | CROSS-SECTION AZ REPEATED |
| | ~~16375~~ | ~~AVSEC BETWEEN AZ&BA~~ |
| | 16545 | AVSEC BETWEEN AZ&BA |
| | 16545 | AVSEC BETWEEN SECTIONS AZ & BA |
| BA | ~~16625~~ | ~~FIELD VALLEY SECTION 4120 (WCP)~~ |
| | 16636 | 11' U/S OF CROSS-SECTION BA, AVSEC BETWEEN SECTIONS BA & BB |
| | ~~16648~~ | ~~23' U/S OF BA, AVSEC BETWEEN BA&BB~~ BA & BB |
| | 16659 | 34' U/S OF CROSS-SECTION BA, AVSEC BETWEEN SECTIONS ~~BA & BB~~ |
| | 16670 | 45' U/S OF CROSS-SECTION BA, AVSEC BETWEEN SECTIONS BA & BB |
| | ~~16674~~ | ~~49' U/S OF CROSS-SECTION BA, AVSEC BETWEEN SECTIONS~~ BA & BB |
| | 16681 | 56' U/S OF BA, AVSEC BETWEEN BA&BB |
| | ~~16687~~ | ~~62' U/S OF BA, AVSEC BETWEEN BA&BB~~ |
| | 16760 | 135' U/S OF BA, AVSEC BETWEEN BA&BB |
| BB | 16805 | 180' U/S OF BA, FIELD VALLEY SECTION 4300(WCP) |
| ~~BC~~ | ~~16945~~ | ~~140' U/S OF BB, FIELD VALLEY SECTION 4440 (WCP)~~ |
| | 17085 | 140'U/S OF CROSS-SECTION BC, SECNO 16945 REPEATED |
| | 17225 | 280'U/S OF CROSS-SECTION BC, SECNO 16945 REPEATED |
| | ~~17365~~ | ~~140'D/S OF CROSS-SECTION BD, SECNO 17505 REPEATED~~ |
| BD | 17505 | FIELD VALLEY SECTION 5000 (WCP) |
| BE | 17850 | 345'U/S OF CROSS SECTION BD, FIELD VALLEY SECTION 5345 ~~(WCP)~~ |
| BF | 18395 | FIELD VALLEY SECTION 5890 (WCP) |
| | 18545 | 150' U/S OF BF,AVSEC BETWEEN BF&BG |
| | ~~18695~~ | ~~300' U/S OF BF,AVSEC BETWEEN BF&BG~~ |

| X-SECT. | SECNO | LOCATION & ORIGIN |
|---|---|---|
| | 18845 | 450' U/S OF BF,AVSEC BETWEEN BF&BG |
| BG | 18995 | FIELD VALLEY SECTION 6490 (WCP) |
| | 19110 | 115'U/S OF CROSS-SECTION BG, AVSEC BETWEEN SECTIONS BG&BH |
| | 19139 | 144'U/S OF CROSS-SECTION BG, AVSEC BETWEEN SECTIONS BG&BH |
| | 19168 | 173'U/S OF CROSS-SECTION BG, AVSEC BETWEEN SECTIONS BG&BH |
| | 19196 | 201'U/S OF CROSS-SECTION BG, AVSEC BETWEEN SECTIONS BG&BH |
| | 19225 | 230'D/S OF CROSS-SECTION BH, AVSEC BETWEEN SECTIONS BG&BH |
| | 19340 | 115'D/S OF CROSS-SECTION BH, AVSEC BETWEEN SECTIONS BG&BH |
| BH | 19455 | 718'D/S OF BREWSTER ROAD, FIELD VALLEY SECTION 6950(WCP) |
| | 19477 | 22'U/S OF SECTION BH, CROSS-SECTION BH REPEATED |
| | 19499 | 44'U/S OF SECTION BH, CROSS-SECTION BH REPEATED |
| | 19521 | 66' U/S OF BH, AVSEC BETWEEN BH&BI |
| | 19543 | 88'U/S OF SECTION BH, AVSEC BETWEEN SECTIONS BH&BI |
| | 19586 | 131'U/S OF SECTION BH, AVSEC BETWEEN SECTIONS BH&BI |
| | 19630 | 175'U/S OF SECTION BH, AVSEC BETWEEN SECTIONS BH&BI |
| | 19805 | 350' D/S OF BI, AVSEC BETWEEN BH&BI |
| | 19980 | 175' D/S OF BI, AVSEC BETWEEN BH&BI |
| | 20030 | 143' D/S OF BREWSTER ROAD, 19980 REPEATED |
| BI | 20155 | 18'D/S OF BREWSTER ROAD, FIELD VALLEY SECTION 7650(WCP) |
| | 20172 | 1'D/S OF BREWSTER ROAD, CROSS-SECTION BJ REPEATED |
| | 20173 | D/S FACE BREWSTER ROAD, CROSS-SECTION BJ REPEATED |
| BJ | 20293 | U/S FACE BREWSTER ROAD, FIELD BRIDGE SECTION 7700 (WCP-GWE) |

| X-SECT. | SECNO 6 | LOCATION & ORIGIN |
|---|---|---|
| | 20294 | 1'U/S OF BREWSTER ROAD, CROSS-SECTION BJ REPEATED |
| ~~BK~~ | ~~20309~~ | ~~16'U/S OF BREWSTER ROAD, FIELD VALLEY SECTION 7750(WCP)~~ |
| | 20523 | 230'U/S OF BREWSTER ROAD, AVSEC BETWEEN SECTIONS BK&BL |
| | 20790 | 497'U/S OF BREWSTER ROAD, AVSEC BETWEEN SECTIONS BK&BL |
| | ~~21058~~ | ~~267'D/S OF SECTION BL, AVSEC BETWEEN SECTIONS BK&BL~~ |
| | 21191 | 134'D/S OF SECTION BL, SECTION 21058 REPEATED |
| BL | 21325 | 50'D/S OF NEW KENT ROAD, FIELD VALLEY SECTION 11 (J&A) |
| | ~~21335~~ | ~~40'D/S OF NEW KENT ROAD, SECTION BL REPEATED~~ |
| | 21345 | 30'D/S OF NEW KENT ROAD, SECTION BL REPEATED |
| | 21355 | 20'D/S OF NEW KENT ROAD, SECTION BL REPEATED |
| | ~~21365~~ | ~~10'D/S OF NEW KENT ROAD, SECTION BL REPEATED~~ |
| | 21370 | 5'D/S OF NEW KENT ROAD, SECTION BL REPEATED |
| | 21374 | 1'D/S OF NEW KENT ROAD, SECTION BM REPEATED |
| | ~~21375~~ | ~~D/S FACE NEW KENT ROAD BRIDGE, SECTION BM REPEATED~~ |
| BM | 21455 | U/S FACE NEW KENT ROAD BRIDGE, FIELD BRIDGE SECTION 11-A (GWE) |
| | ~~21456~~ | ~~1'U/S OF NEW KENT ROAD, SECTION BM REPEATED~~ |
| | 21900 | 445'U/S OF NEW KENT ROAD, CROSS-SECTION BN REPEATED |
| BN | 23050 | 1290'D/S OF ADAMS ROAD, FIELD VALLEY SECTION 12 (J&A) |
| | ~~23199~~ | ~~AVSEC BETWEEN BN & BO~~ |
| | 23348 | AVSEC BETWEEN BN & BO |
| | 23496 | AVSEC BETWEEN BN & BO |
| | ~~23645~~ | ~~AVSEC BETWEEN BN & BO~~ |
| | 23794 | AVSEC BETWEEN BN & BO |
| | 23943 | AVSEC BETWEEN BN & BO |
| | ~~24091~~ | ~~AVSEC BETWEEN BN & BO~~ |
| BO | 24240 | 100'D/S OF ADAMS ROAD, FIELD VALLEY SECTION 13 (J&A) |

APPENDIX B

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RSM DATE 11-8-78 JOB DESCRIPTION AVON TWP. FIS SHEET ____ OF ____
SUBJECT SARGENT CREEK BRIDGE SECTION 1-B JOB NO. 5660-01

GOLF COURSE BRIDGE

$A = 74\ Ft^2$

$P = 48\ Ft \qquad R = A/P$

$R = 1.54$

ENTRANCE CONDITION: NO WINGWALLS

$L = 7'$

"n" = 0.028

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + $K_F$

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1 (.028)^2 7}{(1.54)^{4/3}} = 0.09$$

$\Sigma K_{OR} = 1.59$

GOLF COURSE BRIDGE

$A = 77$ SQ FT.

$P = 44$ FT $\quad R = A/P$

$R = 1.75$ FT

$n = 0.028$

$L = 8'$

ENTRANCE CONDITION: NO WINGWALLS

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.028)^2\, 8}{(1.75)^{4/3}}$$

$$= 0.09$$

$\Sigma K_{OR} = 1.59$

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BY RSM DATE _____ JOB DESCRIPTION Avon Twp FIS SHEET ____ OF ____
SUBJECT SARGENT CREEK BRIDGE SECTION #6 JOB NO. 5050-01

LUNDVOIS ROAD

14'10" X 9'1" MULTI PLATE ARCH

L = 74' Prot: 94'

A = 105 ft²

P = 38.48 ft

R = A/P = 2.73

"n" = 0.031

ENTRANCE CONDITION: MITERED TO CONFORM TO FILL SLOPE.

ΣKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.7

$$K_F = \frac{29.1\,(0.031)^2\,74}{(2.73)^{4/3}} = \frac{2.07}{3.82} = 0.54$$

for 94' Prot
.688

ΣKOR = 2.24

PRIVATE BRIDGE

30' X 5.6' BOX COLVERT

$A = 168\ FE^2$ $P = 71.2\ FE$

$R = A/P = 2.36$

$L = 38'$

"n" = .031

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.031)^2\, 38}{(2.36)^{4/3}} = \frac{1.06}{3.14}$$

$$= 0.34$$

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$\Sigma K_{OR} = 1.84$

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BY RSM DATE _____ JOB DESCRIPTION AVON TWP FIS SHEET ____ OF ____
SUBJECT SARGENT CREEK - BRIDGE SECTION #7 JOB NO. 5850-01

SHAGBARK DRIVE

26' X 4.1' WOODEN BOX CULVERT WITH PIERS

$A = 80.6\ FT^2$ $P = 94.1$ FT.

$R = A/P = 0.86$

"n" = 0.031

L = 35'

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.031)^2\, 35}{(0.86)^{4/3}} = \frac{0.98}{0.82}$$

$$= 1.20$$

$\Sigma K_{OR} = 2.70$

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BY BM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT Sargent Creek - Bridge Section 10-A JOB NO. 5850-01

PRIVATE BRIDGE

$A = 60.5\ FT^2 \quad P = 53.3\ FT$

$R = A/P = 1.14$

"n" = 0.021

$L = 5'$

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE = 0.5

$$K_F = \frac{29.1\,(n^2)\,L}{R^{4/3}} = \frac{29.1\,(.021)^2\,5}{(1.14)^{4/3}} = \frac{0.064}{1.19}$$

$$= 0.054$$

$\Sigma K_{OR} = 1.55$

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BY RM DATE _____ JOB DESCRIPTION AVON TWP FIS SHEET ____ OF ____
SUBJECT SARGENT CREEK - BRIDGE SECTION 2650 JOB NO. 5850-01

PRIVATE BRIDGE

5.5' CONCRETE BOX CULVERT

$A = 33\ ft^2 \quad P = 23\ ft.$

$R = A/P = 1.43$

"n" = 0.023

$L = 20'$

$\Sigma K_{OR}$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1 (.023)^2 20}{(1.43)^{4/3}} = \frac{0.31}{1.61}$$

$$= 0.19$$

$\Sigma K_{OR} = 1.69$

BREWSTER ROAD

12'6" x 7'11" CULVERT

$A = 78\ ft^2$ $P = 33'$

$R = A/P = 2.36$

"n" = 0.033

L = 120' (INCLUDING EXTENSION)

ENTRANCE CONDITION: MITERED TO CONFORM TO FILL SLOPE

XKOR = EXIT LOSS + ENTRANCE LOSS + BEND LOSS + FRICTION

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.7

BEND LOSS = 0.1 (SEE CALCULATIONS)

$$\text{FRICTION} = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1(.033)^2 120}{(2.36)^{4/3}}$$

$$= \frac{3.80}{3.14} = 1.21$$

XKOR = 3.01

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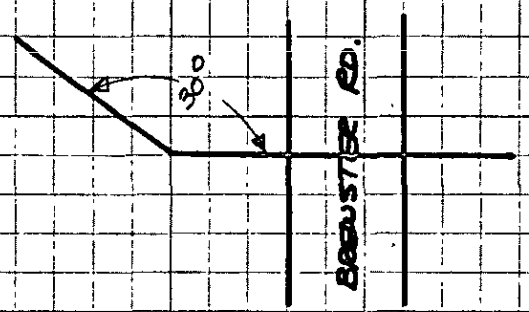
BY RSM DATE 12-21-78 JOB DESCRIPTION AVON TWP FIS SHEET ____ OF ____
SUBJECT SARGENT CREEK - BREWSTER ROAD EXTENSION JOB NO. 5850-01

BEND LOSS COMPUTATION

## BREWSTER ROAD CULVERT

12'6" x 7'11" MULTI-PLATE EXTENSION TO EXISTING 12'6" x 7'11" MULTI-PLATE ARCH




$\alpha = 30^\circ$

$A = 78\ ft^2 \Rightarrow$ TO FIND PIPE WITH EQUIVALENT AREA:

$$A = \frac{\pi D^2}{4} = 78 = \frac{\pi D^2}{4}$$

$$D = 10.0'$$

$\mu$ = DYNAMIC VISCOSITY, FUNCTION OF TEMPERATURE
ASSUMED = 55° F

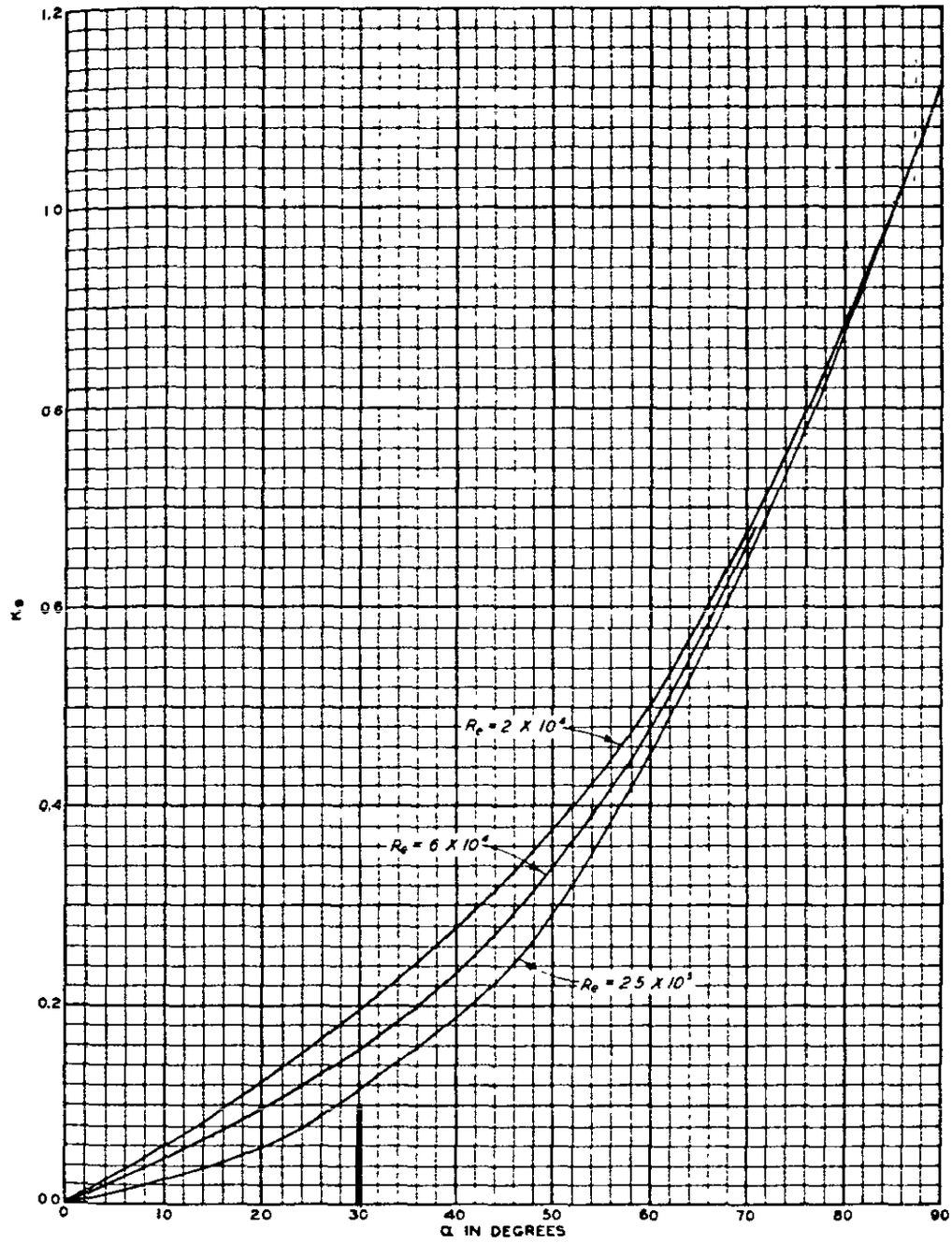
$\mu = 2.7 \times 10^{-5}$ $\quad Q = 525$ CFS

$D = 10.0$

$$V = \frac{525}{78} = 6.73\ ft/sec$$

$$Re\ (\text{REYNOLDS \#}) = \frac{VD}{\mu} = \frac{6.73 \times 10}{2.7 \times 10^{-5}} = 2.49 \times 10^6$$

$K_B = 0.1$




BASIC EQUATION

$$K_B = \frac{h_L}{V^2/2g}$$

WHERE $K_B$ = BEND LOSS COEFFICIENT

$h_L$ = HEAD LOSS DUE TO BEND

SINGLE MITER

BEND LOSS COEFFICIENTS

$K_B$ VS α

HYDRAULIC DESIGN CHART 228-2/1

# APPENDIX C

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P.O Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

# HYDRAULIC STRUCTURAL DATA

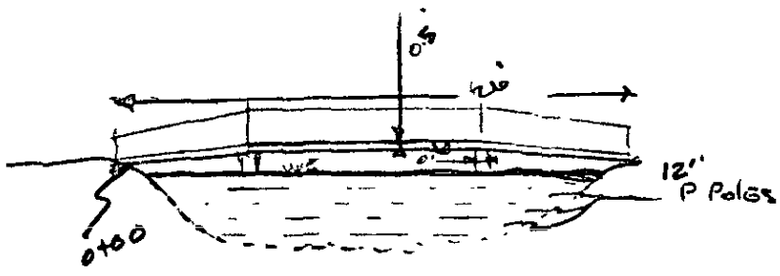
DAM #1-A

Code No. 5850-01

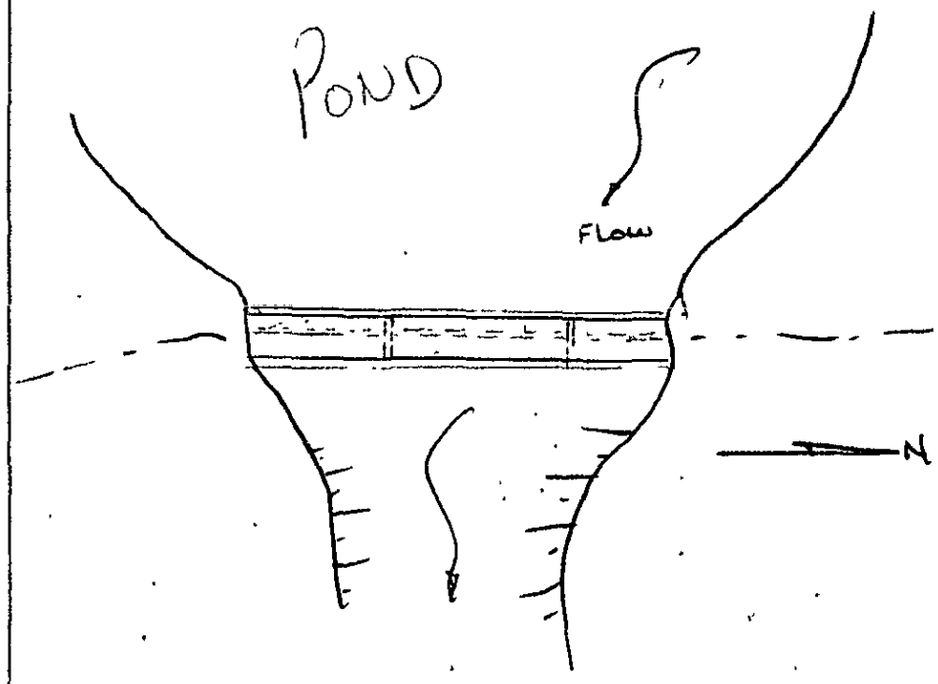
| | | | |
|---|---|---|---|
| Job Name: AVON TWP F.I.S | | | By: R. Moses |
| Date: 4-13-78 | Feature: P.POLE DAM w/CROSS WALK | | Water Course: SARGENT CREEK |
| Remarks: WALK-WAY OVER DAM IS OF VERY POOR CONSTRUCTION - (PLY-WOOD) USED FOR GOLF CARTS. HAND RAILS ARE JUST 2'x4' WOULD NOT BELIEVE TO BE ANY PART OF RESTRICTION. | | | |
| Width of Piers: 0.6' | Pier Shape: | No. of Piers: 2-wooden | Area: — |
| Water Elevation: 772.4 UP / 770.2 DN | Length: 26' | Width of Deck: 3'.0 | Skew: — |

## FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

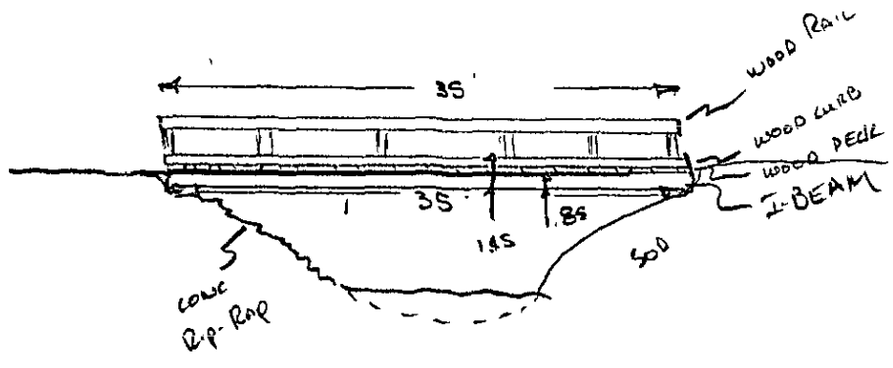
BRIDGE # 1-B 2-1

Code No. 5801 -01

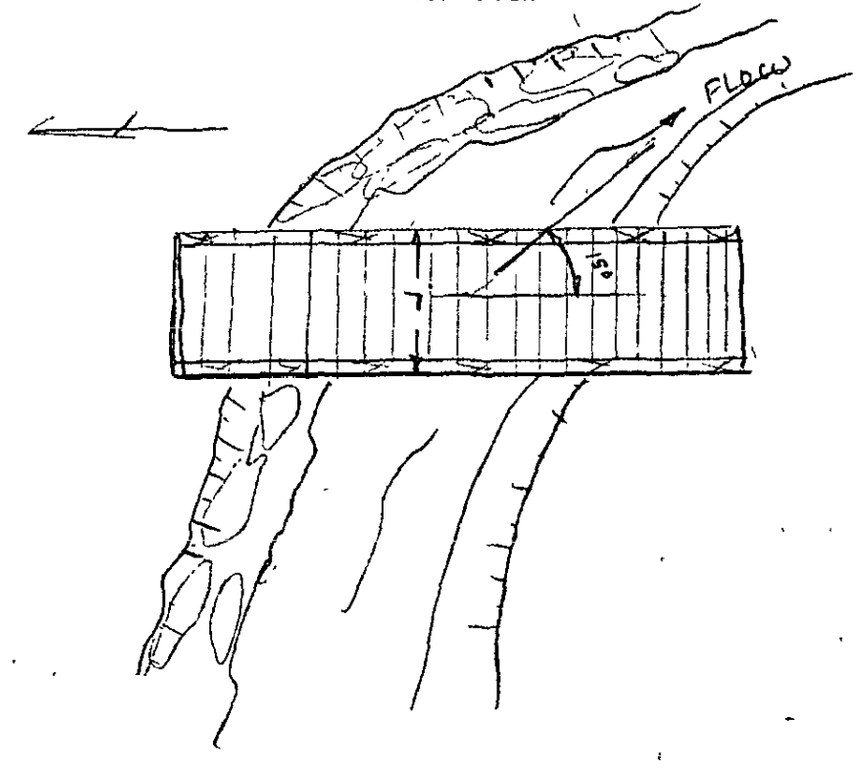
| | | | |
|---|---|---|---|
| Job Name: WATERFORD TWP. SAN | | | By: R. MOSES |
| Date: 11-4-78 | Feature: WOOD & I-BEAM | | Water Course: SARGENT CREEK |
| Remarks: LEFT BANK BROKEN CONC. RIP-RAP WALL RIGHT SOD, AREA OVER RIGHT GOLF COURSE AREA OVER LEFT BANK GOLF COURSE FOR 300, THEN BRUSH R.R. TRACKS, ROLLING HILLS BOTTOM SAND WITH 0.5 - 1.5 DIA ROCKS | | | |
| Width of Piers: | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 769.9 | Length: 35 | Width of Deck: 7 | Skew: |

## FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

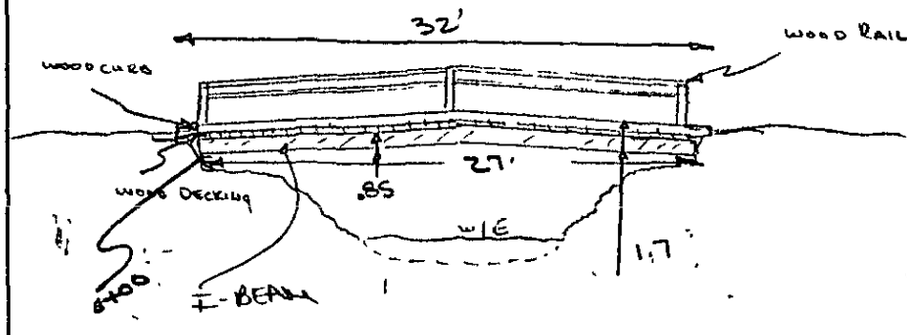
BRIDGE 2-B

Code No. 5850-01

| | | | |
|---|---|---|---|
| Job Name: AVON TWP. | | By: R. MOSES | |
| Date: 11-4-78 | Feature: WOOD DECK BRIDGE | Water Course: SARGENT CREEK | |
| Remarks: BROKEN CONC. & MORTAR BANK SIDES under BRIDGE, UP & DOWN STREAM OF BRIDGE IN BOTTOM ROCKS 0.5 TO 1.5' IN DIA. GOLF COURSE OVER RIGHT BANK & LEFT. (RIGHT CONT. TO RISE MODERATLY AFTER 200' LEFT CONT TO RISE VERY FAST AFTER 140') | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 772.4 | Length: 27' | Width of Deck: 8 | Skew: — |

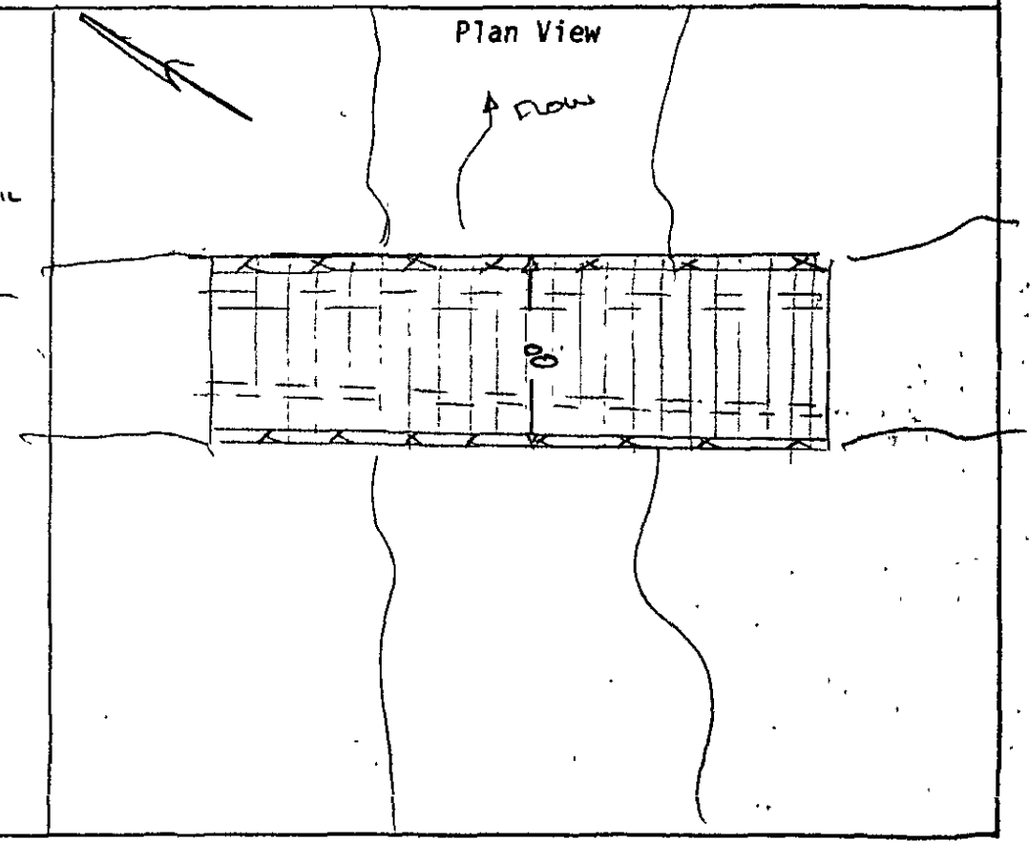
## FIELD SKETCH

Profile View




B.S
3
85

Plan View



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# HYDRAULIC STRUCTURAL DATA

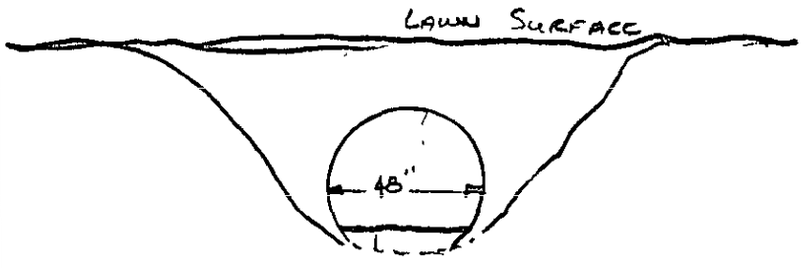
SECTION 2

Code No. 5850-01

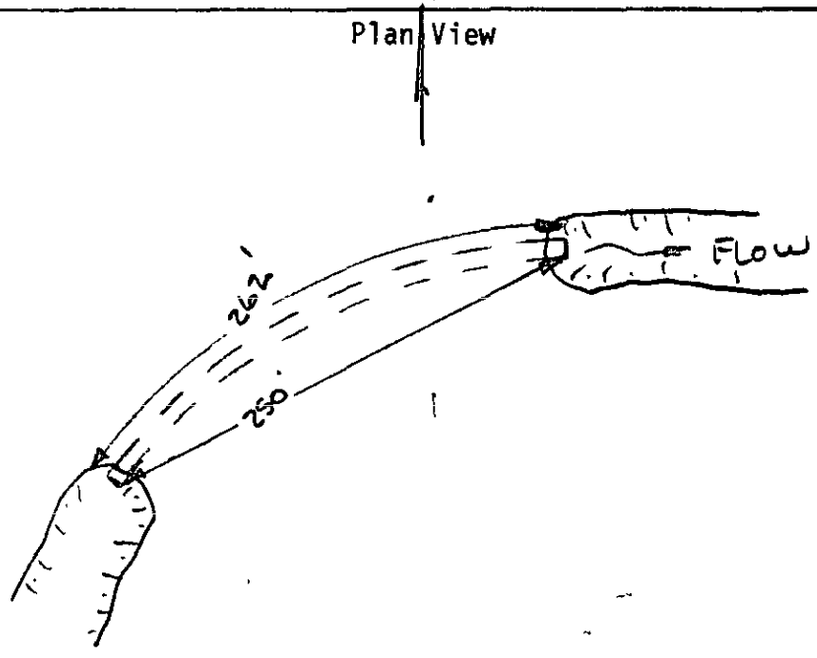
| | | | |
|---|---|---|---|
| Job Name: AVON TWP. | | By: R. MOSES | |
| Date: 4-13-78 | Feature: 48" CONC. CULVERT | Water Course: SARGENT CREEK | |
| Remarks: CREEK IS ENCLOSURED IN THIS AREA BECAUSE WIDE FAIR-WAY TOOK A VALLEY SEC. 100' UPSTREAM OF THIS CULVERT FOR YOUR OWN USE | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 775.5 | Length: 262' | Width of Deck: 48" | Skew: — |

FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

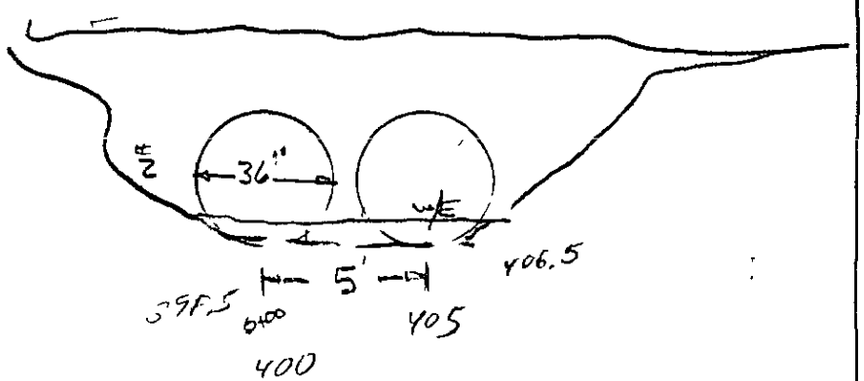
B.S. 3-A

Code No. 5850-01

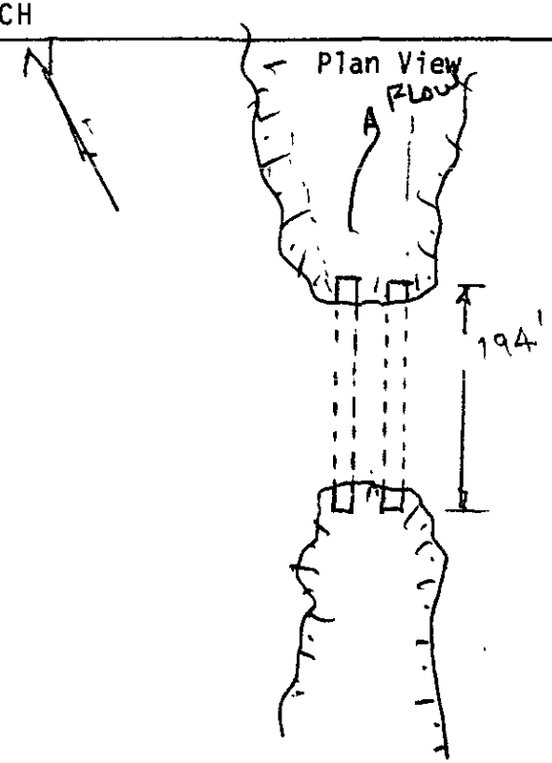
| | | | |
|---|---|---|---|
| Job Name: Avon Twp. F.I.S. | | By: R. Moses | |
| Date: 4-14-78 | Feature: 2-36" DIA. Conc culverts | Water Course: Sargent Creek | |
| Remarks: culverts are placed here for fair-way on golf course | | | |
| culverts are located as marked on map. | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 789.9 | Length: 195' | Width of Deck: | Skew: — |

## FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

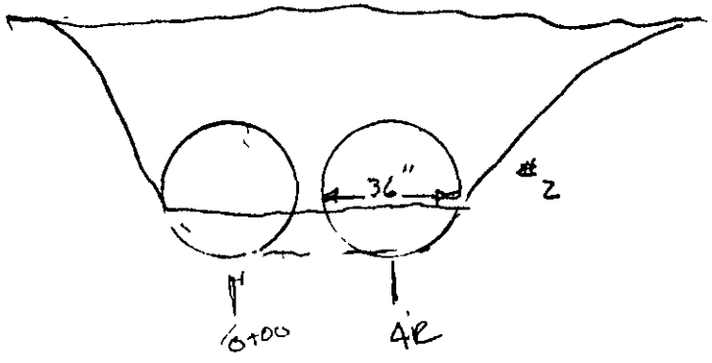
B.S.4

Code No. 5850-01

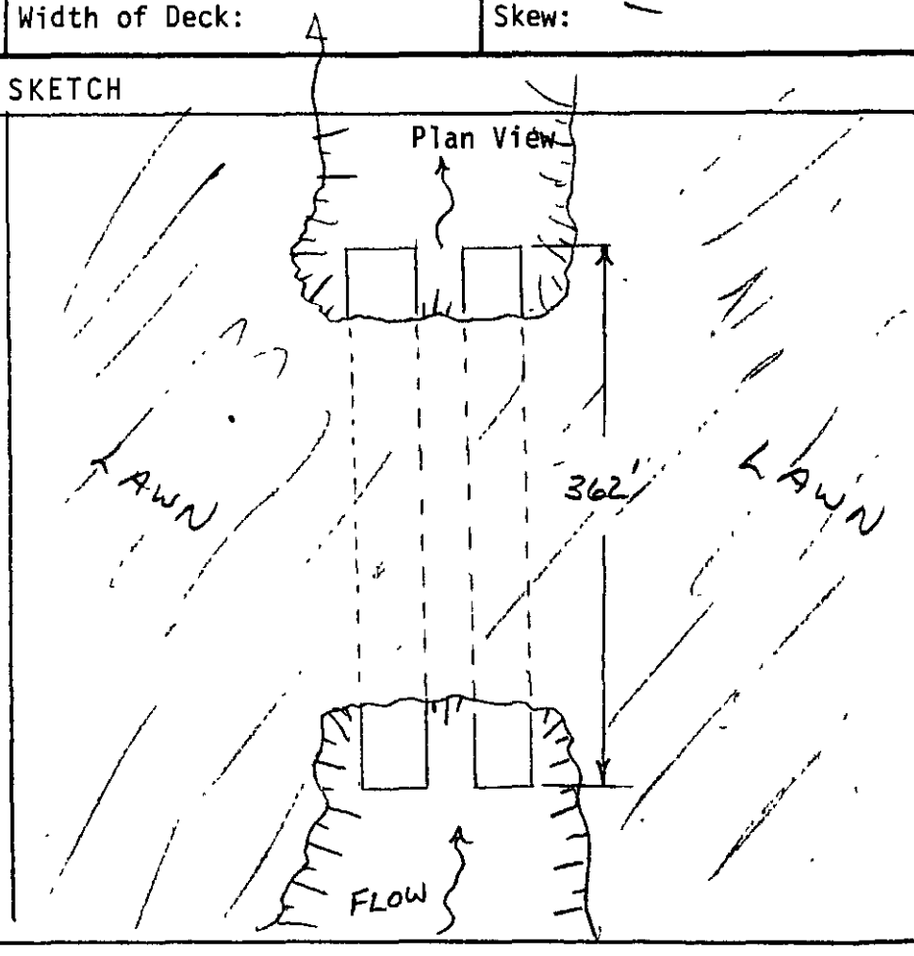
| | | | |
|---|---|---|---|
| Job Name: AVON TWP. F.I.S. | | By: R. MOSES | |
| Date: 4-14-78 | Feature: 2 - 36" CONC. CULVERTS | Water Course: SARGENT CREEK | |
| Remarks: PER MAP LOCATION | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 793.9 | Length: 362' | Width of Deck: | Skew: — |

FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

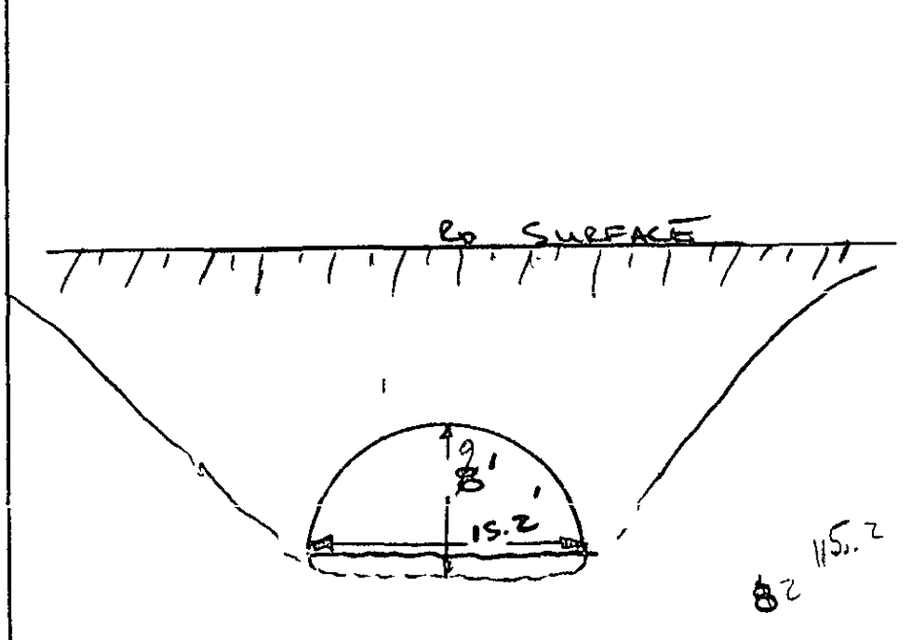
B.S. #6

Code No. 5850-01

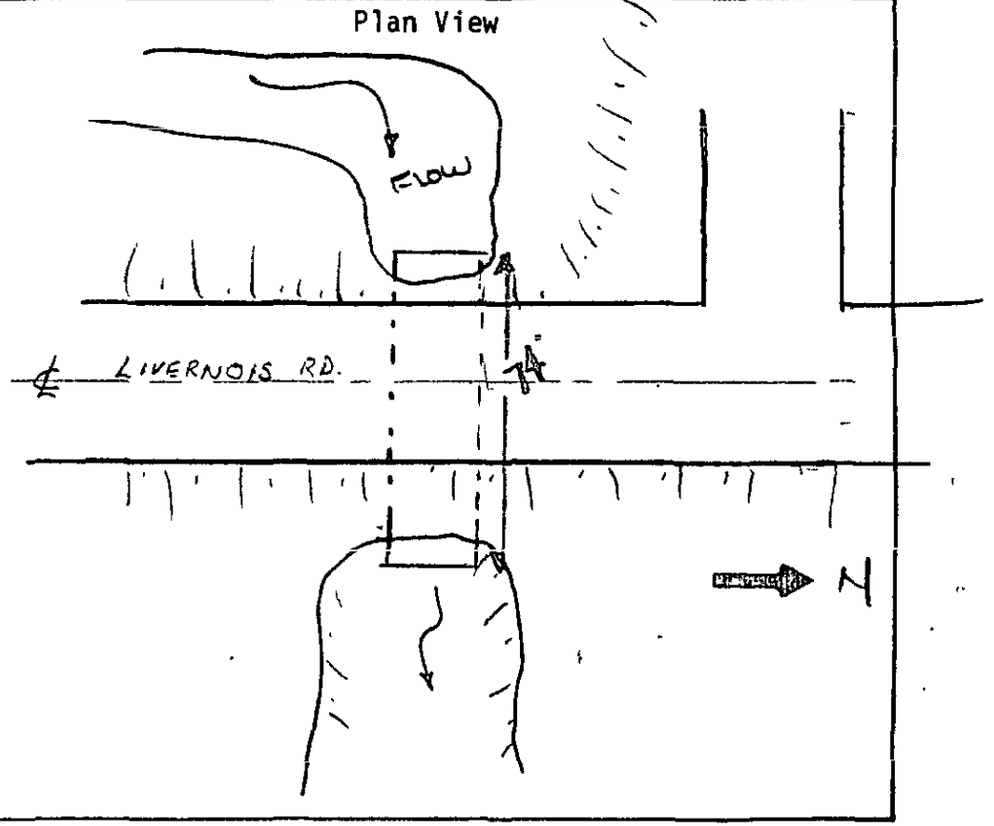
| | | | |
|---|---|---|---|
| Job Name: AVON TWP. F.I.S. | | | By: R. MOSES |
| Date: 11-14-78 | Feature: 9' x 15.2' CMP ARCH | | Water Course: SARGENT CREEK |
| Remarks: UNDER LIVERNOIS RD | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 796.7 | Length: 74' | Width of Deck: | Skew: — |

FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

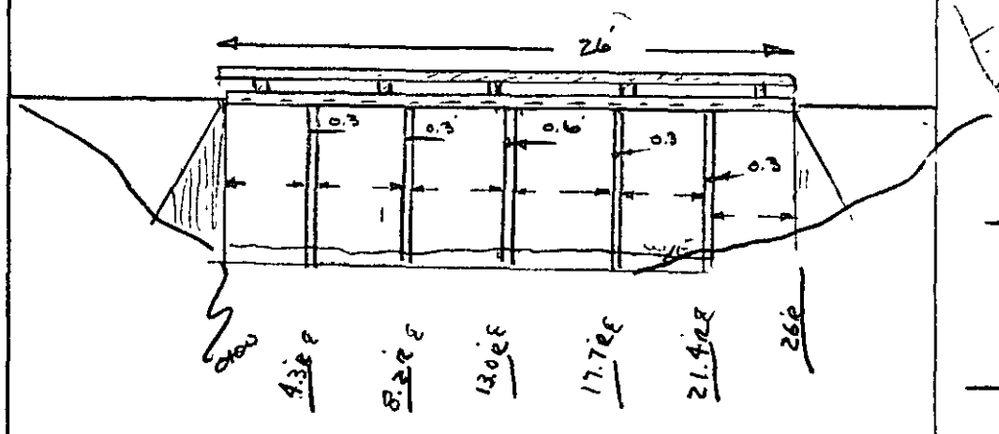
B.S. #7

Code No. 5850-01

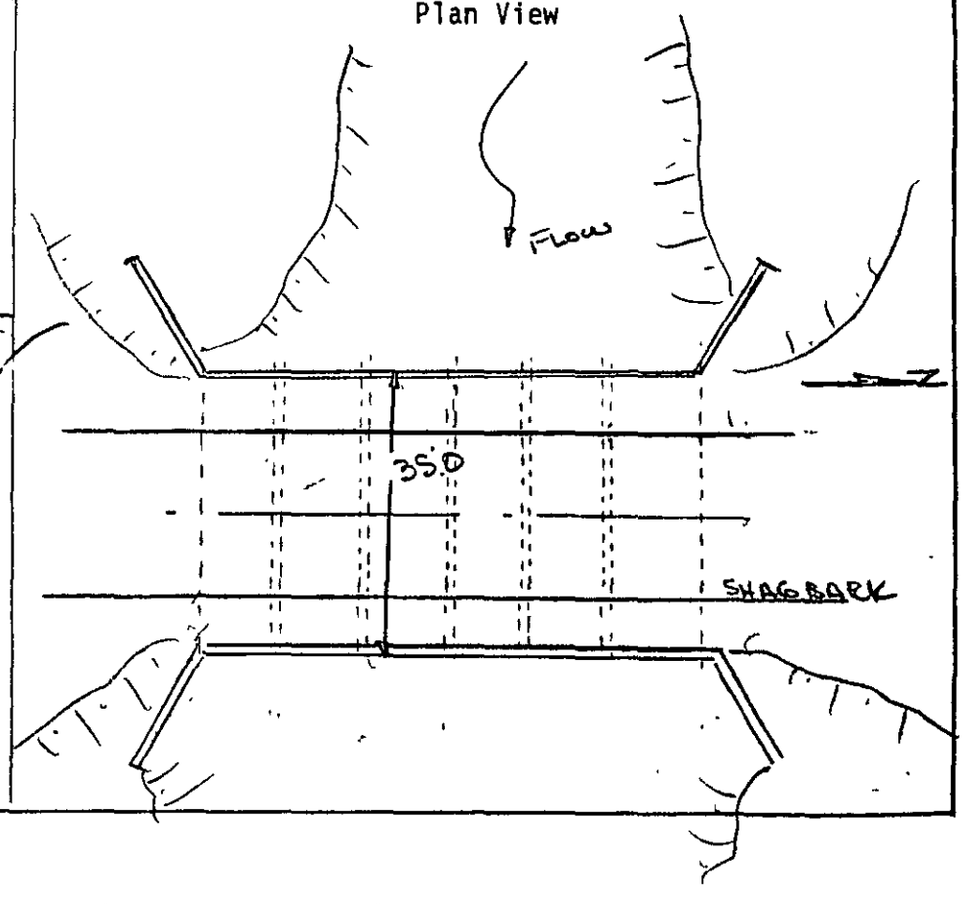
| | | | |
|---|---|---|---|
| Job Name: Avon Twp. F.I.S. | | | By: R. Moses |
| Date: 4-15-78 | Feature: Wood Box Culvert | | Water Course: Sargent Creek |
| Remarks: On Shagbark Dr. All wood construction w/ wooden bottom | | | |
| Width of Piers: – | Pier Shape: 2x4" | No. of Piers: 5 | Area: – |
| Water Elevation: | Length: | Width of Deck: | Skew: – |

## FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

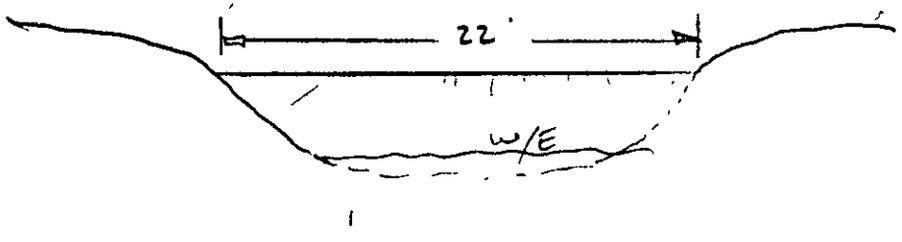
Dam #9

Code No. 5850-01

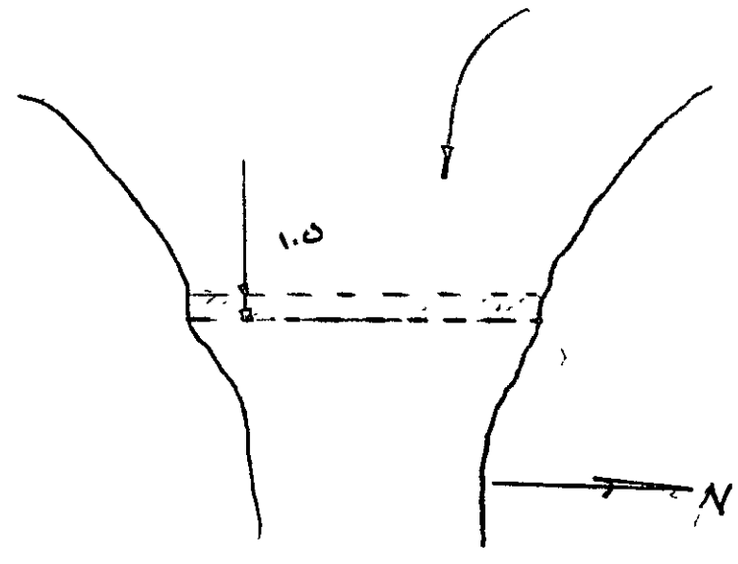
| | | | |
|---|---|---|---|
| Job Name: Avon Twp. F.I.S. | | By: R. Moses | |
| Date: 4-15-78 | Feature: Conc. Dam | Water Course: Sargent Creek | |
| Remarks: | | | |
| | | | |
| | | | |
| Width of Piers: — | Pier Shape: — | No. of Piers: — | Area: — |
| Water Elevation: 820.5 up / 817.8 dn | Length: 22' | Width of Deck: 1.0 | Skew: — |

FIELD SKETCH

Profile View




Plan View



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# HYDRAULIC STRUCTURAL DATA

U.S 10

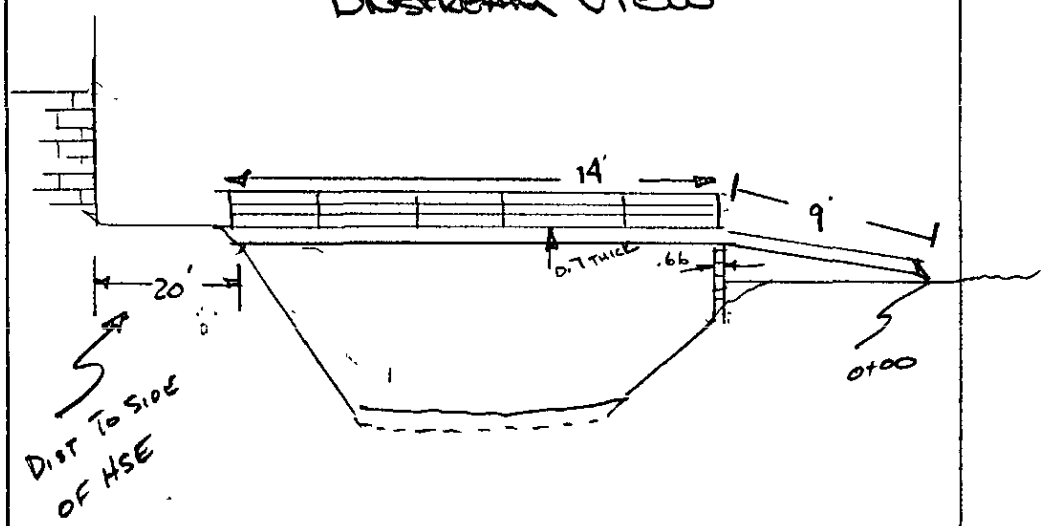
Code No. 5850-01

| | | | |
|---|---|---|---|
| Job Name: Avon Twp. F.I.S. | | | By: R. Moses |
| Date: 4-15-78 | Feature: Wood Foot Bridge | | Water Course: Sargent Creek |
| Remarks: Bridge is 40'± upstream of Valley Section | | | |
| Elev's taken show just opening. | | | |
| Width of Piers: .66 | Pier Shape: 8"x8" R.R Tie | No. of Piers: 1 | Area: — |
| Water Elevation: 824.0 | Length: 24' | Width of Deck: 5' | Skew: — |

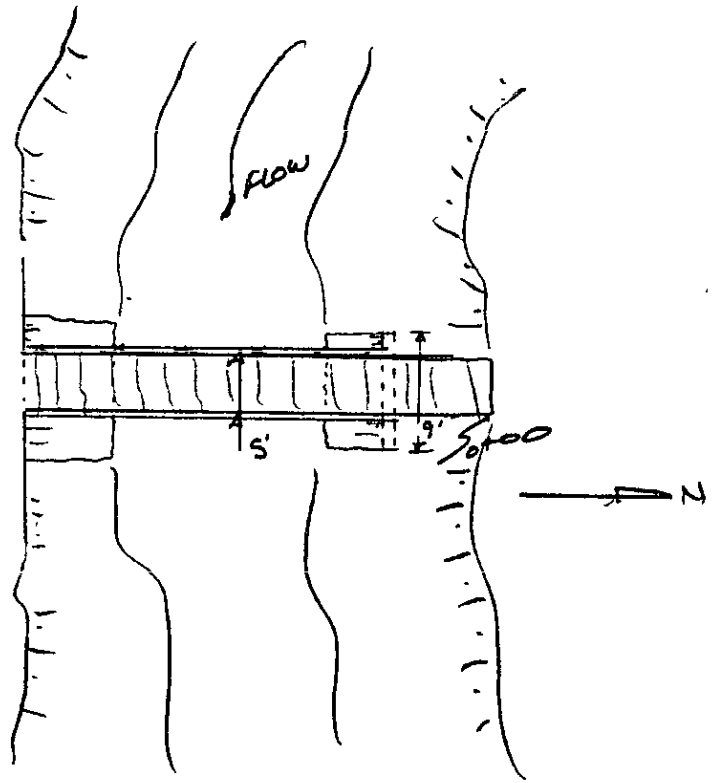
-- FIELD SKETCH

~~Profile View~~

Downstream View



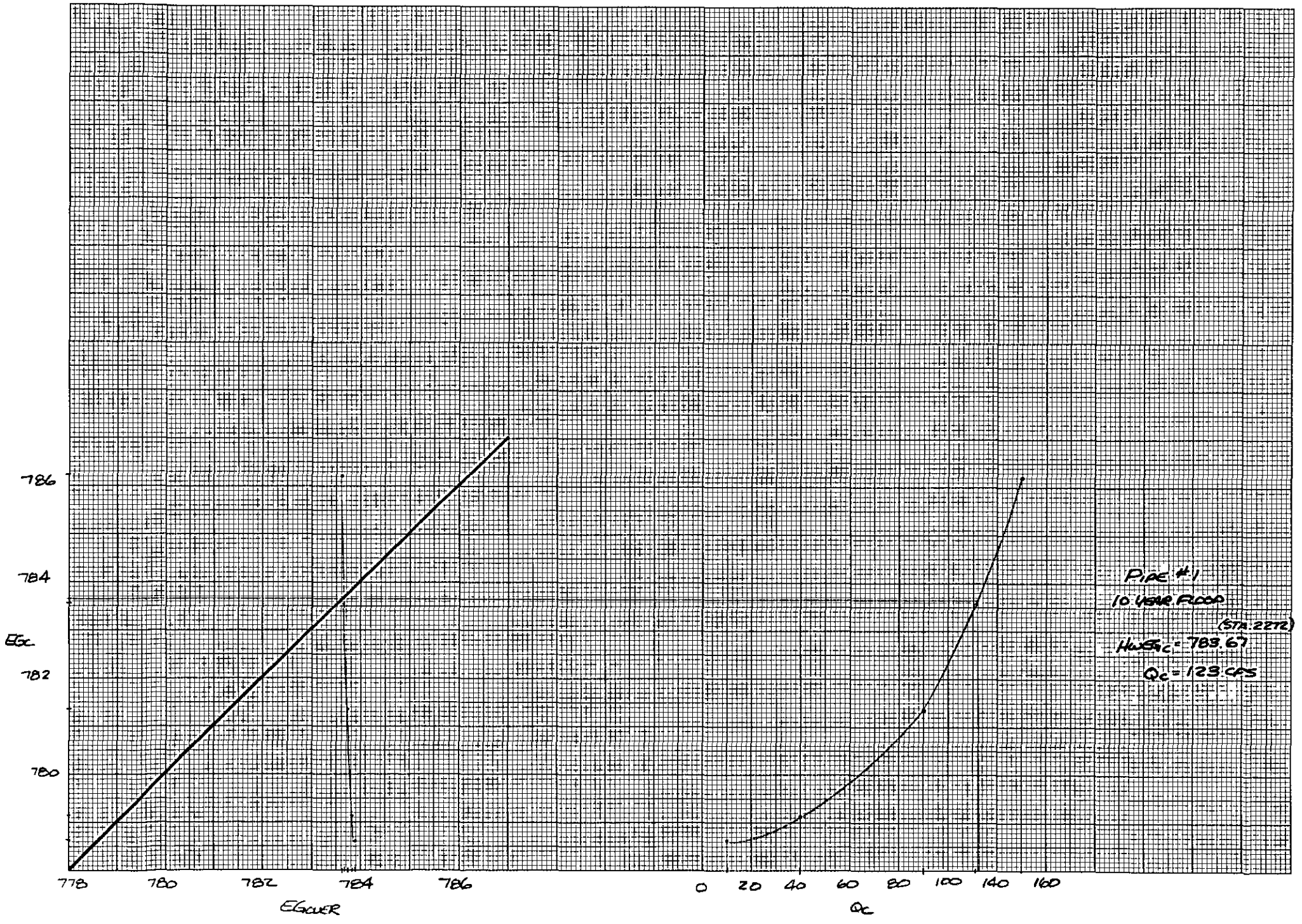

Plan View



# APPENDIX D

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

461510



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**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #1 SARGENT CREEK JOB NO. 5850-01

10 YR

$Q_T$ = 535 CFS

1. ASSUME 4 OVERLAND FLOWS: A) 525 CFS
   B) 495
   C) 445
   D) 414
   E) 385

2. $Q_C = Q_T - Q_{OVER}$: A,) 10 CFS
   B,) 40
   C,) 90
   D,) 121
   E,) 150

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

   1.0 + 0.5 + $K_F$

"n" = 0.016* $K_F = \frac{29.1\, n^2 L}{R^{4/3}} = 1.95$
L = 262'
A = 12.57
P = 12.57

*"n" VALUE REFLECTS BEND LOSS.

XKOR = 3.45

10 YEAR TAILWATER = 778.61 (STA. 2008)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 10 | 0.03 |
| 40 | 0.54 |
| 90 | 2.75 |
| 121 | 4.96 |
| 150 | 7.63 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

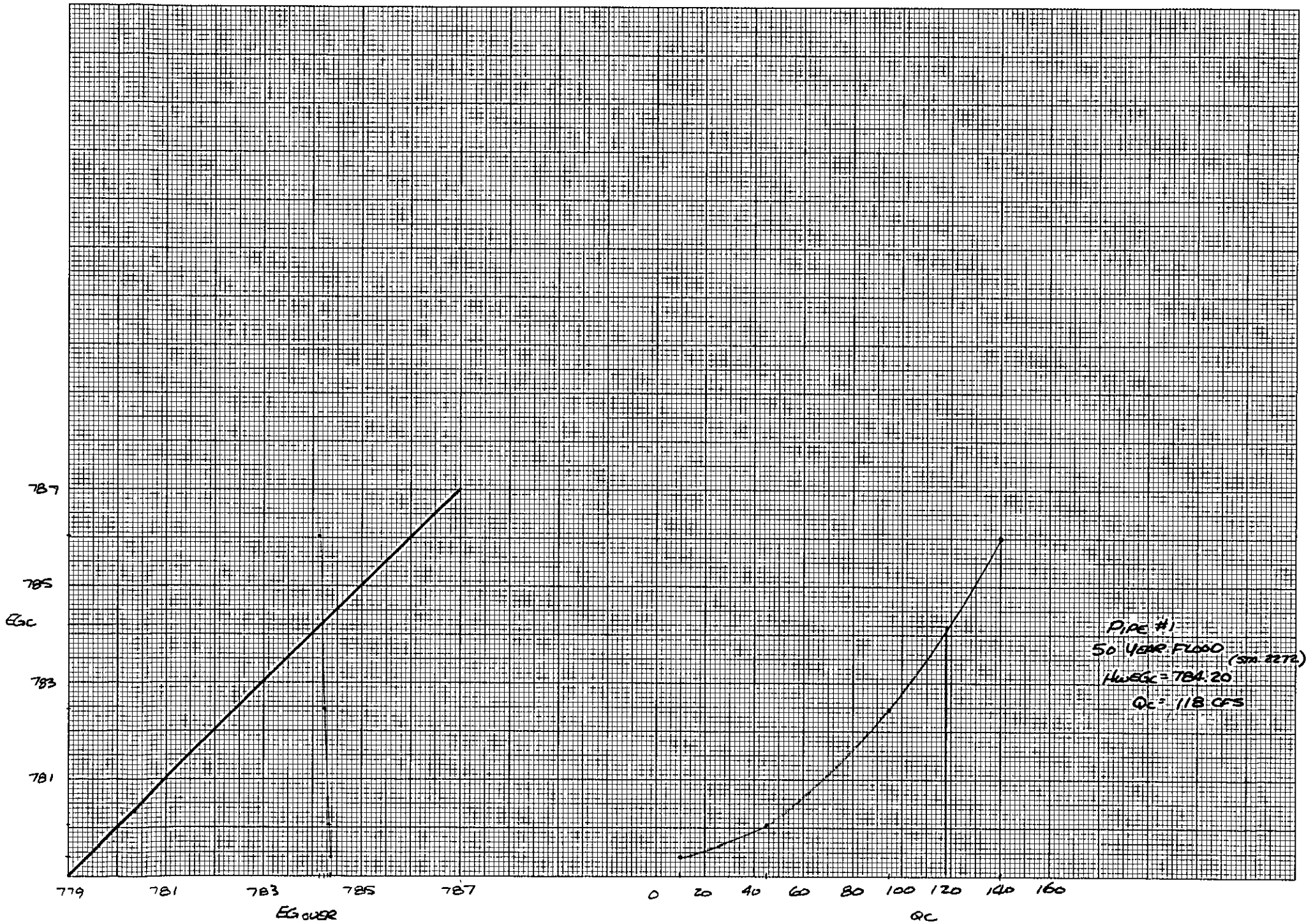
| $Q_C$ | $EG_C$ |
|---|---|
| 10 | 778.64 |
| 40 | 779.15 |
| 90 | 781.36 |
| 121 | 783.57 |
| 150 | 786.24 |

HEADWATER OBTAINED FROM HEC2 ($EG_{OVER}$) HEC2:A9

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 525 | 783.89 |
| 495 | 783.83 |
| 445 | 783.73 |
| 414 | 783.67 |
| 385 | 783.61 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

46 1510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #1 SAGGOT CREEK JOB NO. 5850-01

50 YR

$Q_T = 840$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 830 CFS
B) 795
C) 745
D) 700

2. $Q_C = Q_T - Q_{OVER}$: A,) 10 CFS
B,) 45
C,) 95
D,) 140

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

1.0 + 0.5 + $K_F$

"n" = 0.016* $K_F = \frac{29.1 n^2 L}{R^{4/3}} = 1.95$

L = 262'
A = 12.57
P = 12.57

*"n" VALUE REFLECTS BEND LOSS.

XKOR = 3.45

50 YEAR TAILWATER = 779.37 (STA. 2008)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$ (XKOR) |
|---|---|
| 10 | 0.03 |
| 45 | 0.69 |
| 95 | 3.06 |
| 140 | 6.65 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

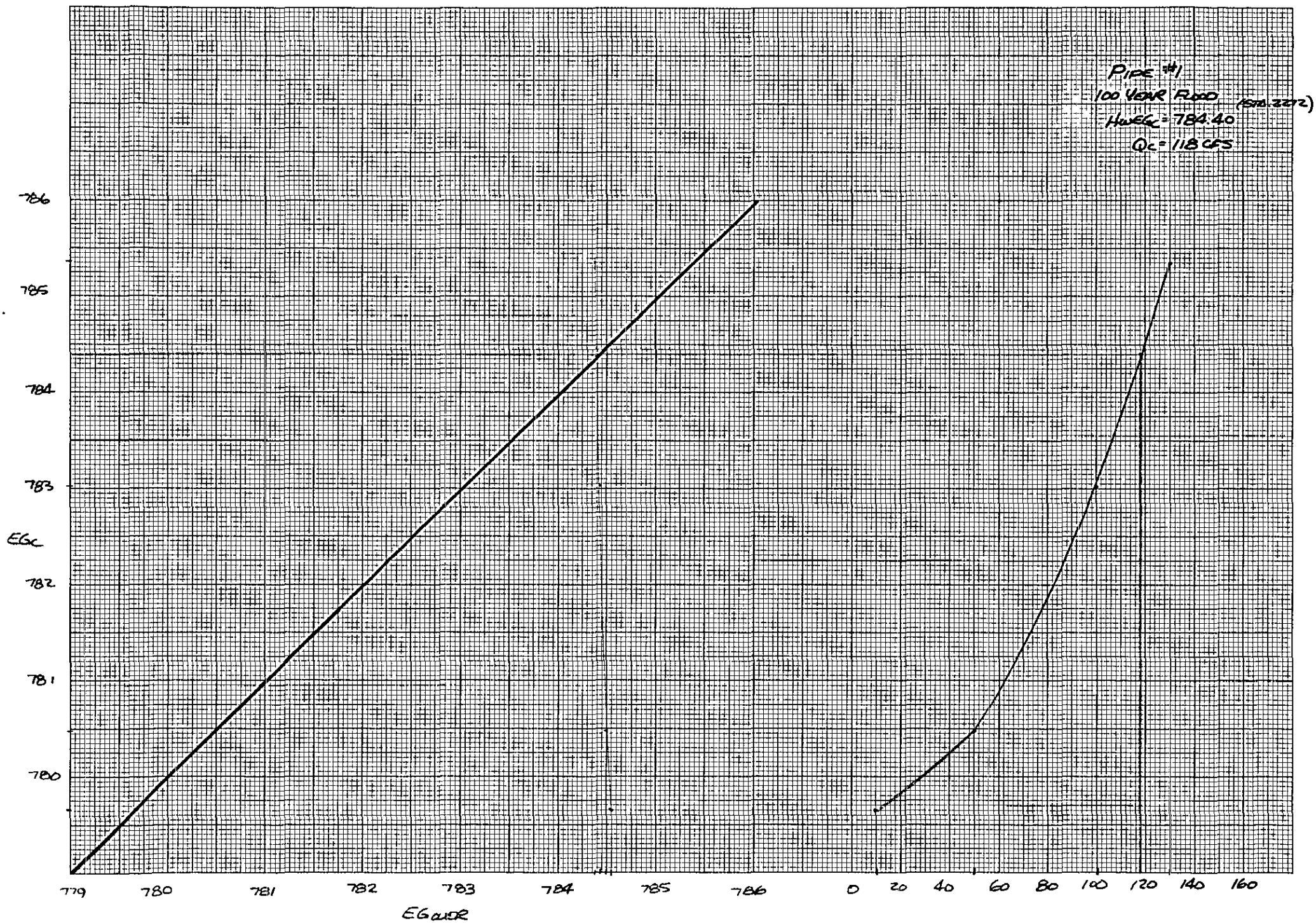
| $Q_C$ | $EG_C$ |
|---|---|
| 10 | 779.40 |
| 45 | 780.06 |
| 95 | 782.43 |
| 140 | 786.02 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC2: BW

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 830 | 784.37 |
| 795 | 784.32 |
| 745 | 784.24 |
| 700 | 784.17 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.





**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #1 SABBOT CREEK JOB NO. 5850-01

100 YR

$Q_T = 980$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 970 CFS
   B) 930
   C) 880
   D) 850

2. $Q_C = Q_T - Q_{OVER}$: A,) 10 CFS
   B,) 50
   C,) 100
   D,) 130

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

   1.0 + 0.5 + $K_F$

"n" = 0.016* $K_F = \frac{29.1 n^2 L}{R^{4/3}} = 1.95$

L = 262'
A = 12.57
P = 12.57

*"n" VALUE REFLECTS BEND LOSS.

XKOR = 3.45

100 YEAR TAILWATER = 779.63 (STA. 2008)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$ (XKOR) |
|---|---|
| 10 | 0.03 |
| 50 | 0.85 |
| 100 | 3.39 |
| 130 | 5.73 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

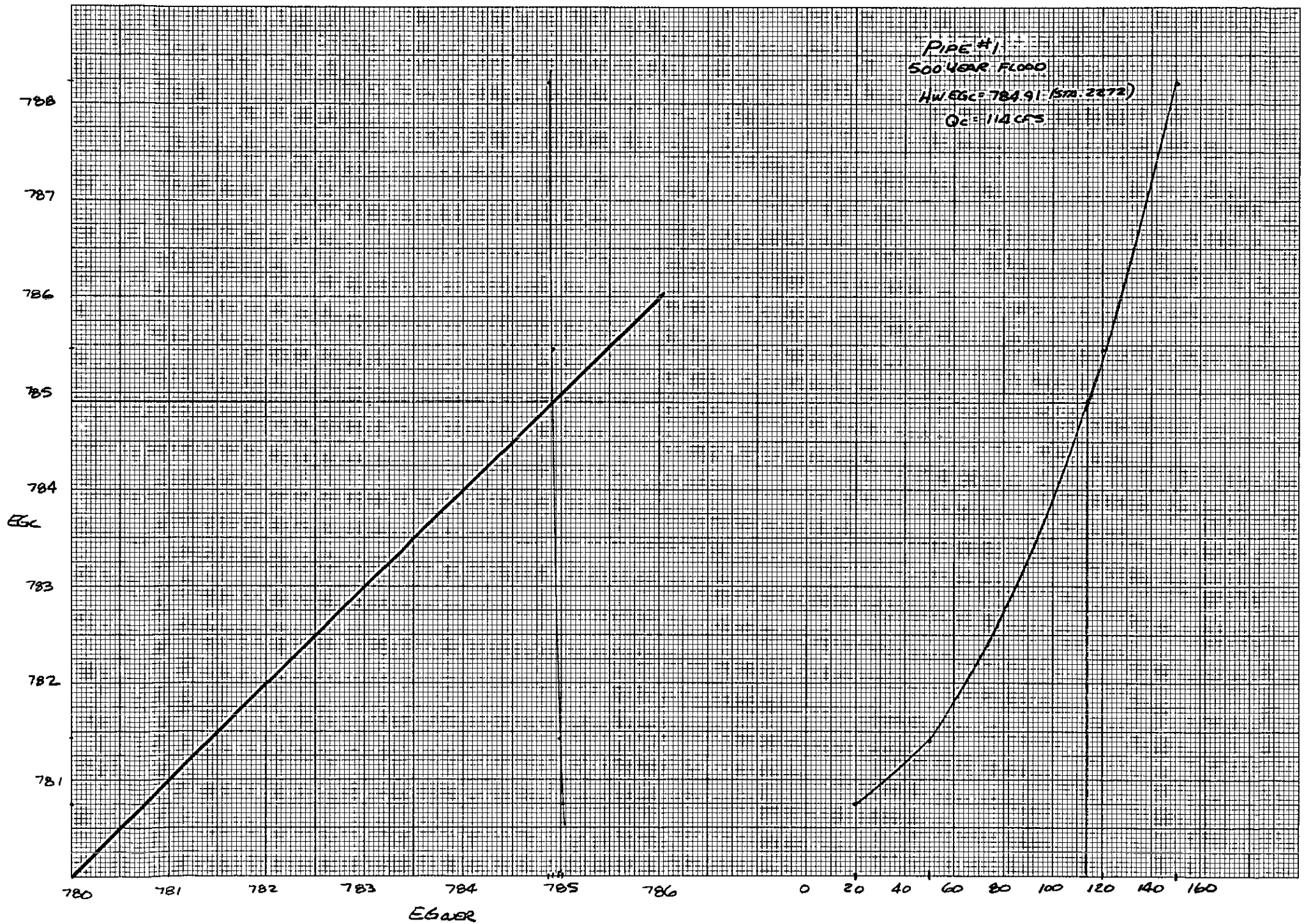
| $Q_C$ | $EG_C$ |
|---|---|
| 10 | 779.66 |
| 50 | 780.48 |
| 100 | 783.02 |
| 130 | 785.36 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC2:GH

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 970 | 784.55 |
| 930 | 784.50 |
| 880 | 784.43 |
| 850 | 784.39 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

46 1510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET _____ OF _____
SUBJECT PIPE FLOW CALCULATION - PIPE #1 SABBOT CREEK JOB NO. 5850-01

500YR

$Q_T$ = 1410 CFS

1. ASSUME 4 OVERLAND FLOWS: A) 1390 CFS
   B) 1360
   C) 1290
   D) 1260

2. $Q_C = Q_T - Q_{OVER}$: A,) 20 CFS
   B,) 50
   C,) 120
   D,) 150

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$1.0 + 0.5 + K_F$$

"n" = 0.016* $K_F = \frac{29.1 n^2 L}{R^{4/3}} = 1.95$
L = 262'
A = 12.57
P = 12.57

*"n" VALUE REFLECTS BEND LOSS.

XKOR = 3.45

500 YEAR TAILWATER = 780.59 (STA. 2008)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$(XKOR) |
|---|---|
| 20 | 0.14 |
| 50 | 0.85 |
| 120 | 4.88 |
| 150 | 7.63 |

HEADWATER OBTAINED FROM CALCULATION (EGL)

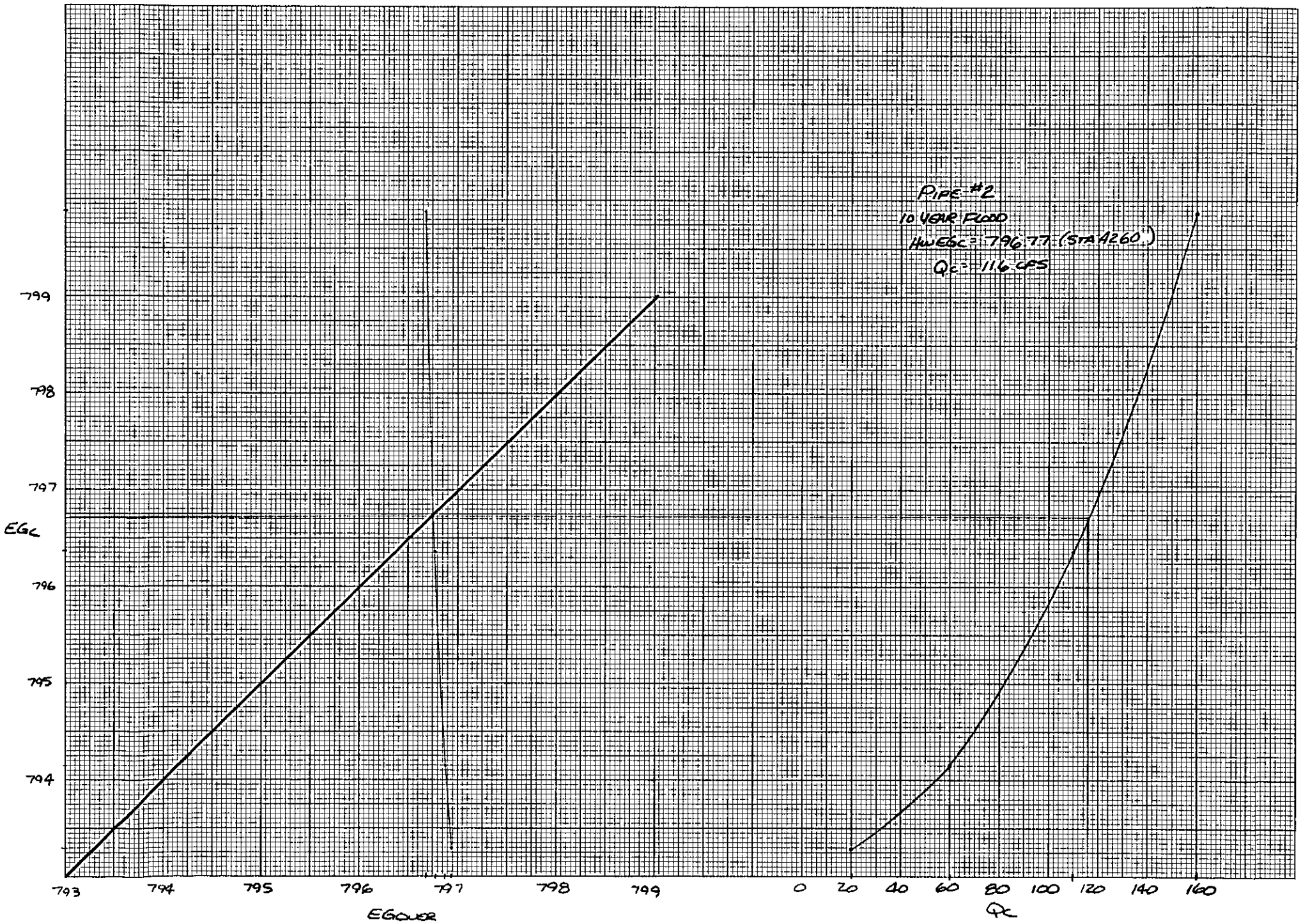
| $Q_C$ | EGL |
|---|---|
| 20 | 780.73 |
| 50 | 781.44 |
| 120 | 785.47 |
| 150 | 788.22 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC2:GC

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 1390 | 785.01 |
| 1360 | 784.98 |
| 1290 | 784.91 |
| 1260 | 784.87 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.





**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION AVON TWP. FTS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #2 SARGENT CREEK JOB NO. 5850-01

10 YR

$Q_T = 55$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 495 CFS
   B) 455
   C) 405
   D) 355

2. $Q_C = Q_T - Q_{OVER}$: A.) 20 CFS
   B.) 60
   C.) 110
   D.) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$1.0 + 0.5 + K_F$$

"n" = 0.015
L = 194'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1(.015)^2 194}{(0.75)^{4/3}} = \frac{1.27}{0.68} = 1.86$$

XKOR = 3.36

10 YEAR TAILWATER = 793.20 (STA. 4064)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 20 | 0.10 |
| 60 | 0.94 |
| 110 | 3.16 |
| 160 | 6.68 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

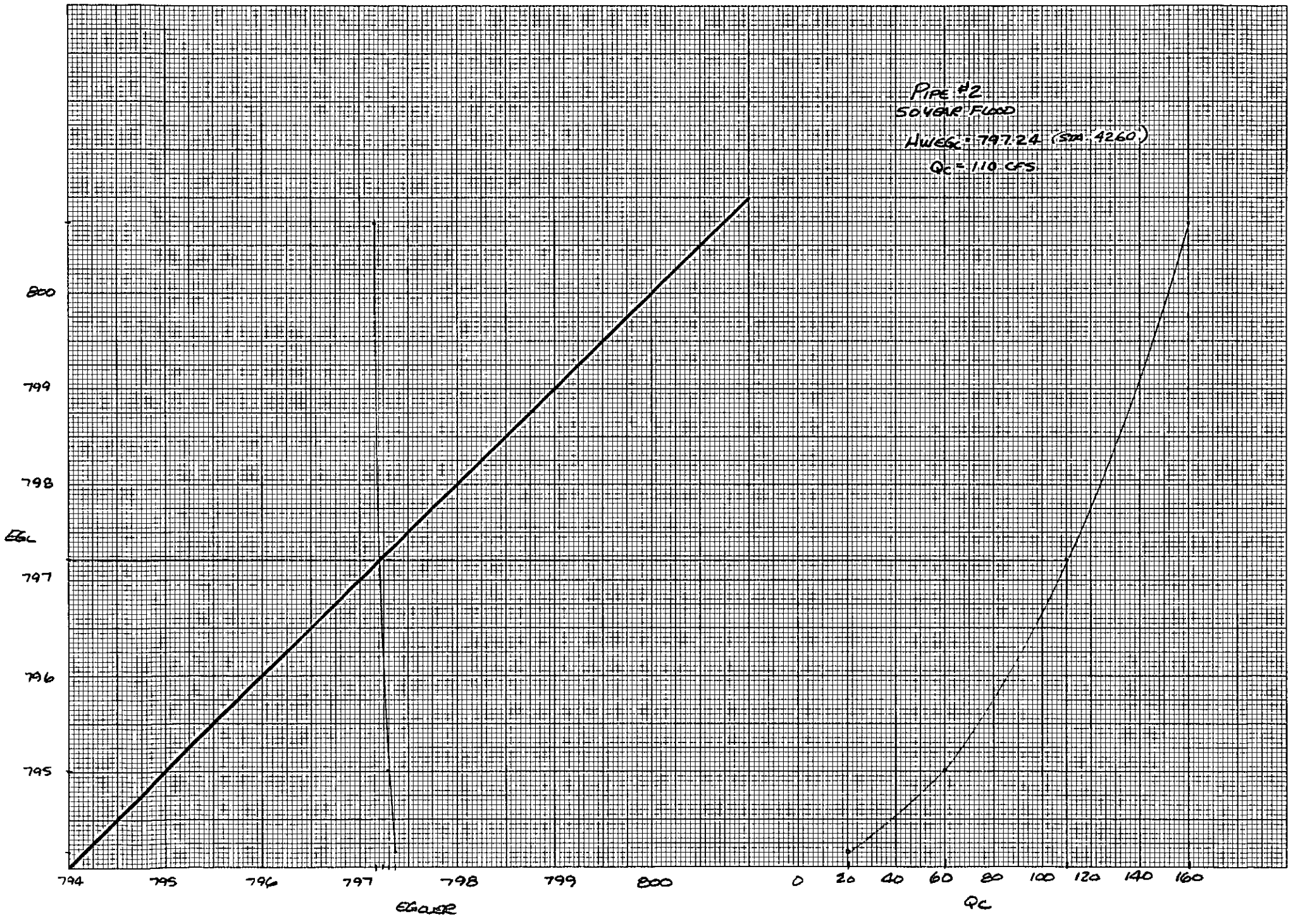
| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 793.30 |
| 60 | 794.14 |
| 110 | 796.36 |
| 160 | 799.88 |

HEADWATER OBTAINED FROM HEC2 ($EG_{OVER}$) HEC2: 60

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 495 | 796.94 |
| 455 | 796.87 |
| 405 | 796.78 |
| 355 | 796.69 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

461510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION AVON TWP. FTS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #2 SARGENT CREEK JOB NO. 5850-01

50 YR

$Q_T = 805$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 785 CFS
   B) 745
   C) 695
   D) 645

2. $Q_C = Q_T - Q_{OVER}$: A) 20 CFS
   B) 60
   C) 110
   D) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$1.0 + 0.5 + K_F$$

"n" = 0.015
L = 194'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1\,(.015)^2\,194}{(0.75)^{4/3}} = \frac{1.27}{0.68} = 1.86$$

XKOR = 3.36

50 YEAR TAILWATER = 794.06 (STA. 4064)

4. $EG_C = TW + XKOR \dfrac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 20 | 0.10 |
| 60 | 0.94 |
| 110 | 3.16 |
| 160 | 6.68 |

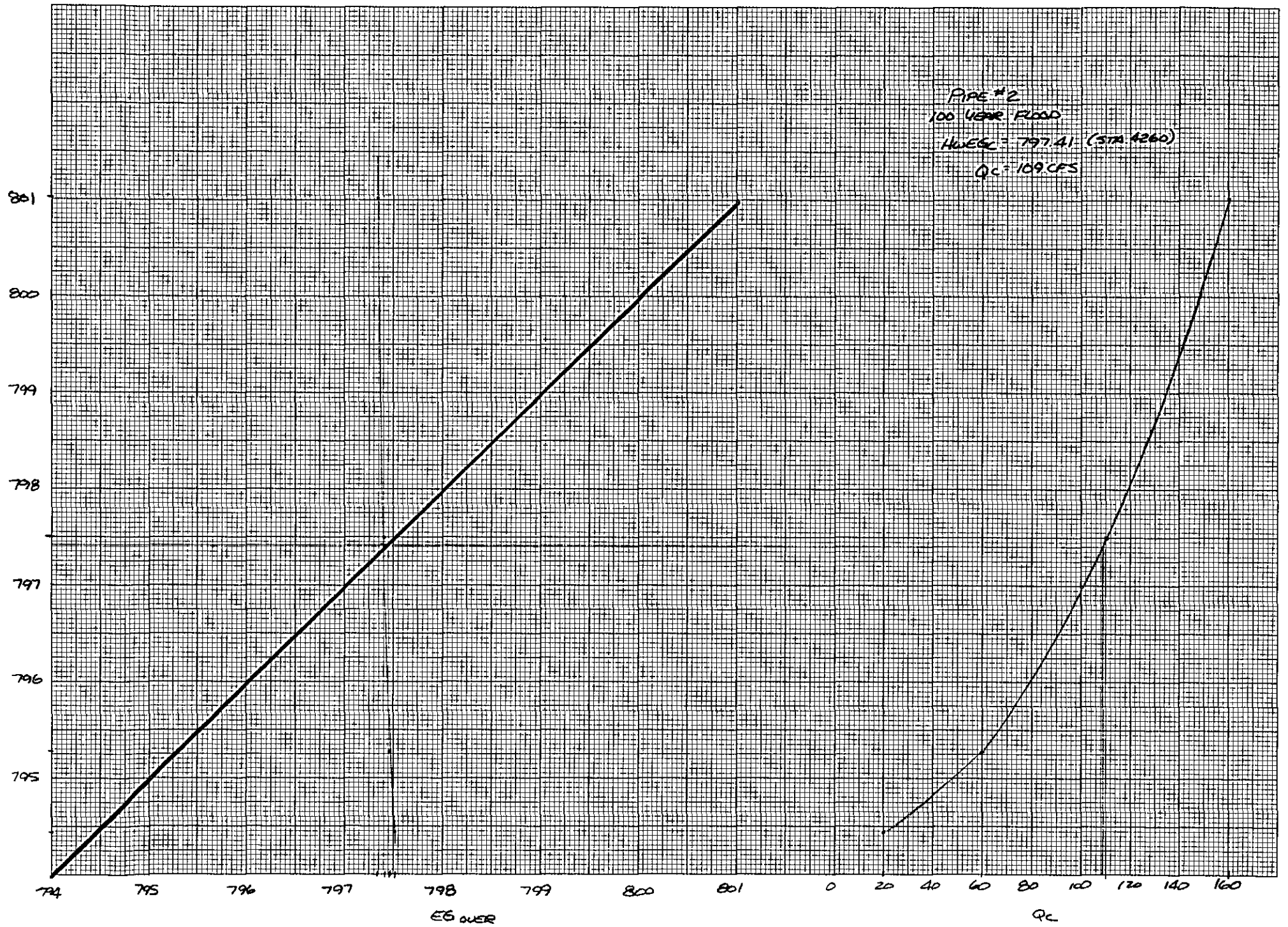
HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 794.16 |
| 60 | 795.0 |
| 110 | 797.22 |
| 160 | 800.74 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC 2: 6X

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 785 | 797.36 |
| 745 | 797.30 |
| 695 | 797.24 |
| 645 | 797.16 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.
46 1510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RSM DATE _____ JOB DESCRIPTION AVON TWP. FTS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #2 SARGENT CREEK JOB NO. 5850-01

100 YR

$Q_T = 935$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 915 CFS
   B) 875
   C) 825
   D) 775

2. $Q_C = Q_T - Q_{OVER}$: A,) 20 CFS
   B,) 60
   C,) 110
   D,) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$1.0 + 0.5 + K_F$$

"n" = 0.015
L = 194'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1\,(.015)^2\,194}{(0.75)^{4/3}} = \frac{1.27}{0.68} = 1.86$$

XKOR = 3.36

100 YEAR TAILWATER = 794.34 (STA. 4004)

4. $EG_C = TW + XKOR\,\frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 20 | 0.10 |
| 60 | 0.94 |
| 110 | 3.16 |
| 160 | 6.68 |

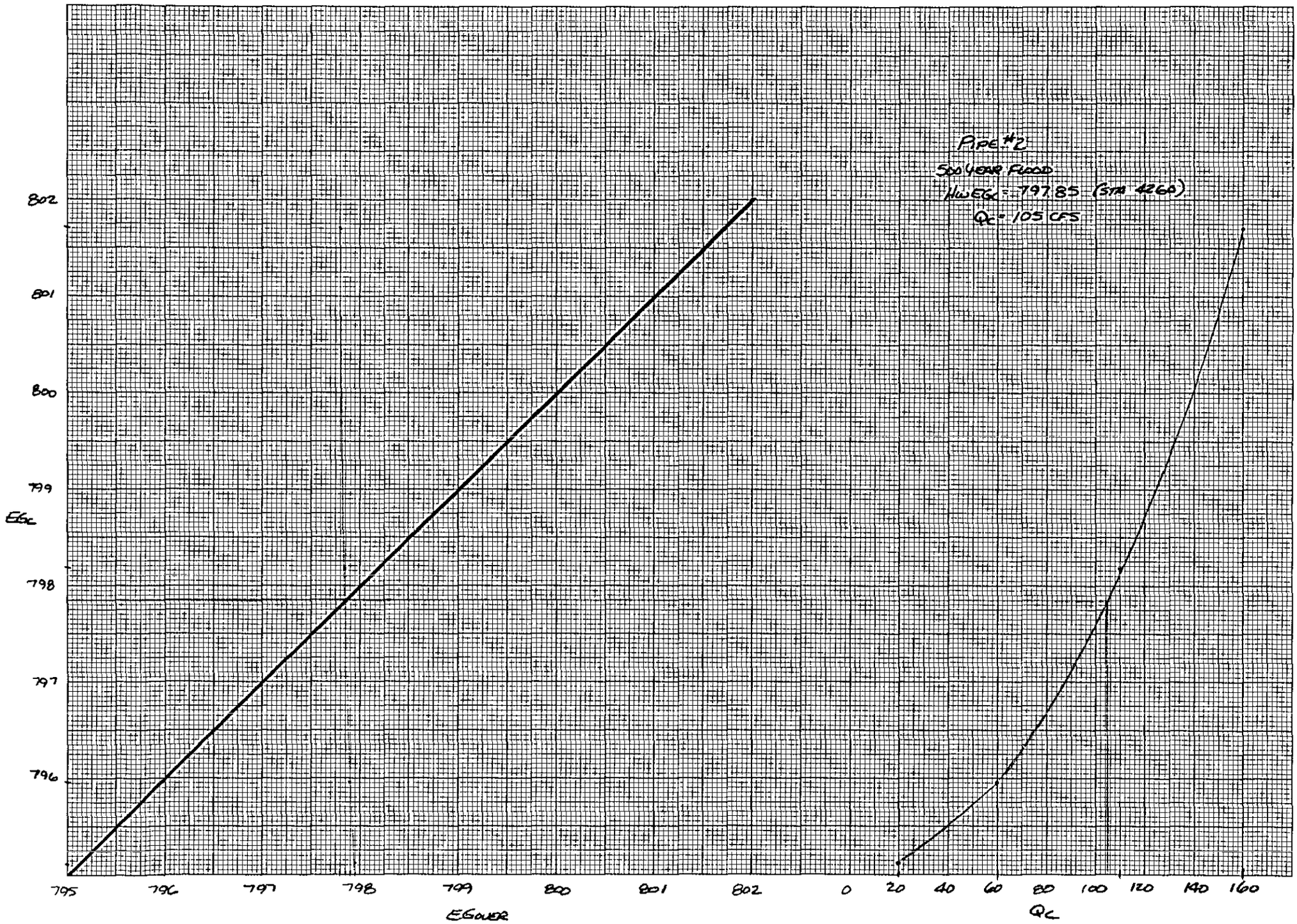
HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 794.44 |
| 60 | 795.28 |
| 110 | 797.50 |
| 160 | 801.02 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC2: 60

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 915 | 797.52 |
| 875 | 797.47 |
| 825 | 797.41 |
| 775 | 797.34 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.
461510



JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RSM DATE _____ JOB DESCRIPTION AVON TWP. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #2 SARGENT CREEK JOB NO. 5850-01

500 YR

$Q_T = 1325$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 1305 CFS
B) 1265
C) 1215
D) 1165

2. $Q_C = Q_T - Q_{OVER}$: A) 20 CFS
B) 60
C) 110
D) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$1.0 + 0.5 + K_F$

"n" = 0.015
L = 194'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$K_F = \frac{29.1 (.015)^2 194}{(0.75)^{4/3}} = \frac{1.27}{0.68} =$ 1.86

XKOR = 3.36

500 YEAR TAILWATER = 795.02 (STA 4064)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 20 | 0.10 |
| 60 | 0.94 |
| 110 | 3.16 |
| 160 | 6.68 |

HEADWATER OBTAINED FROM CALCULATION ($EG_W$)

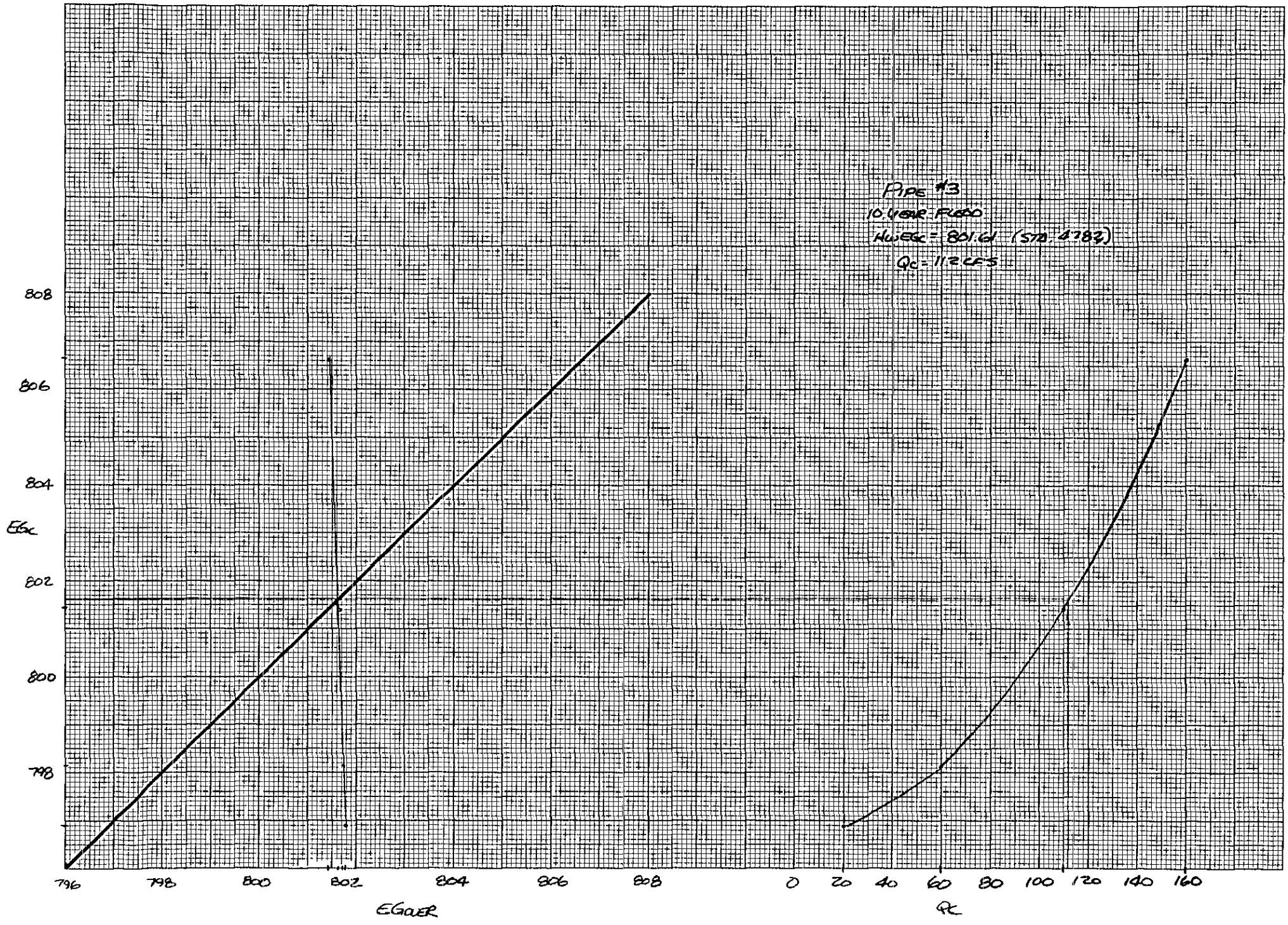
| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 795.12 |
| 60 | 795.96 |
| 110 | 798.18 |
| 160 | 801.7 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC 2: 61

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 1305 | 797.95 |
| 1265 | 797.90 |
| 1215 | 797.85 |
| 1165 | 797.80 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

461510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT Pipe Flow Calculation - Pipe #3 Sargent JOB NO. 5050-07

10 YR CREEK

$Q_T$ = 515 CFS

1. Assume 4 overland flows: A) 495 CFS
B) 455
C) 405
D) 355

2. $Q_C = Q_T - Q_{over}$ : A.) 20 CFS
B.) 60
C.) 110
D.) 160

3. XKOR = Exit Loss + Entrance Loss + Friction Loss

1.0 + 0.5 + $K_F$

"n" = 0.015
L = 362'
A = 7.07 (each pipe) (2 pipes)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1(.015)^2 362}{(0.75)^{4/3}} = \frac{237}{0.68} = 3.49$$

XKOR = 4.99

10 Year Tailwater = 796.74 (Sta. 4418)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$ (XKOR) |
|---|---|
| 20 | 0.16 |
| 60 | 1.40 |
| 110 | 4.69 |
| 160 | 9.92 |

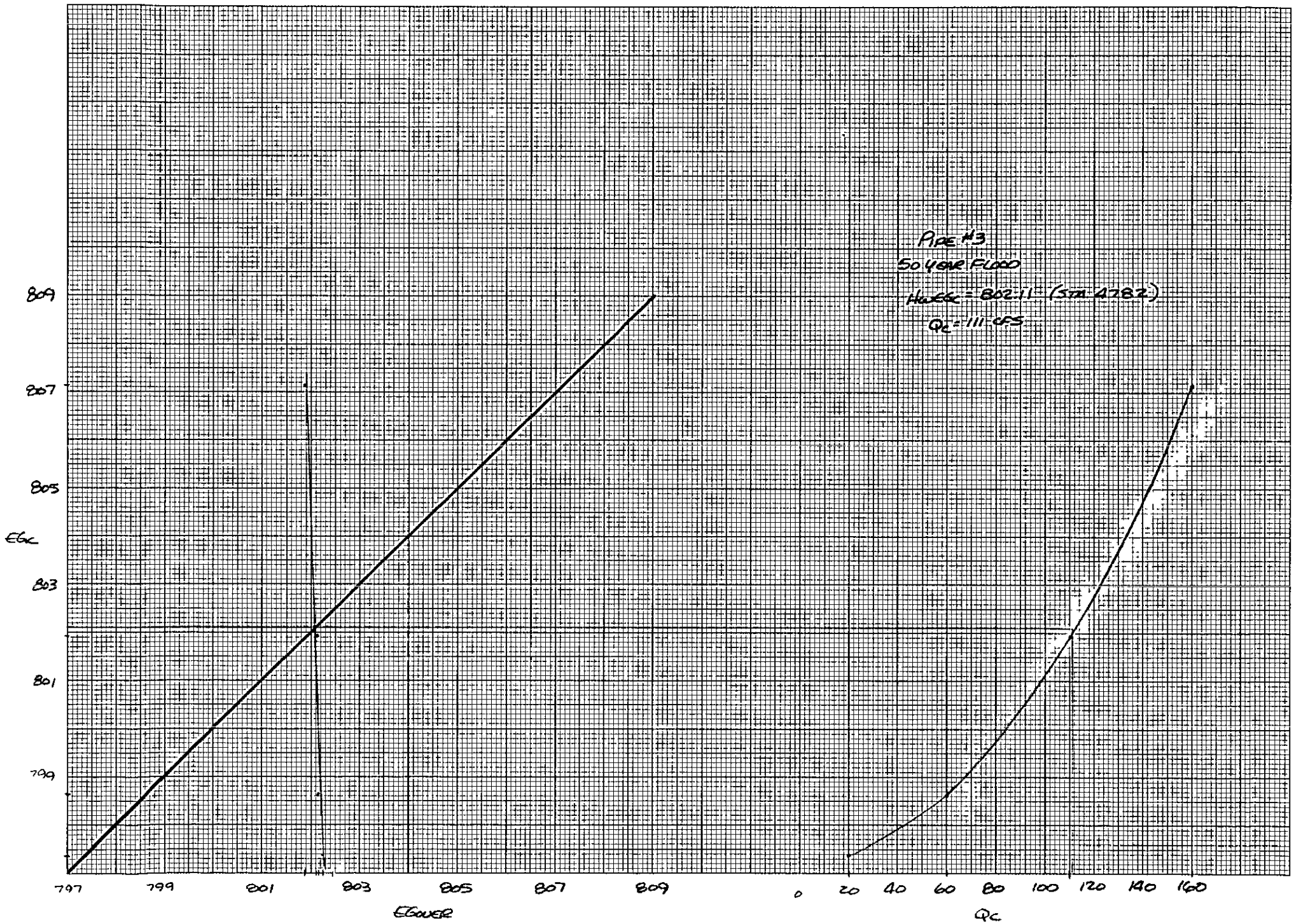
Headwater obtained from calculation ($EG_C$)

| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 796.90 |
| 60 | 798.14 |
| 110 | 801.43 |
| 160 | 806.66 |

Headwater obtained from HEC 2 ($EG_{over}$) HEC 2:

| $Q_{over}$ | $EG_{over}$ |
|---|---|
| 495 | 801.79 |
| 455 | 801.71 |
| 405 | 801.61 |
| 355 | 801.41 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.
461510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET _____ OF _____
SUBJECT PIPE FLOW CALCULATION - PIPE #3 SARGENT CREEK JOB NO. 5660-01

50 YR

$Q_T = 805$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 785 CFS
B) 745
C) 695
D) 645

2. $Q_C = Q_T - Q_{OVER}$ : A.) 20 CFS
B.) 60
C.) 110
D.) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$1.0 + 0.5 + K_F$

"n" = 0.015
L = 362'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$K_F = \frac{29.1(.015)^2 362}{(0.75)^{4/3}} = \frac{2.37}{0.68} = 3.49$

XKOR = 4.99

50 YEAR TAILWATER = 797.22 (STA. 4418)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$ (XKOR) |
|---|---|
| 20 | 0.16 |
| 60 | 1.40 |
| 110 | 4.69 |
| 160 | 9.92 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

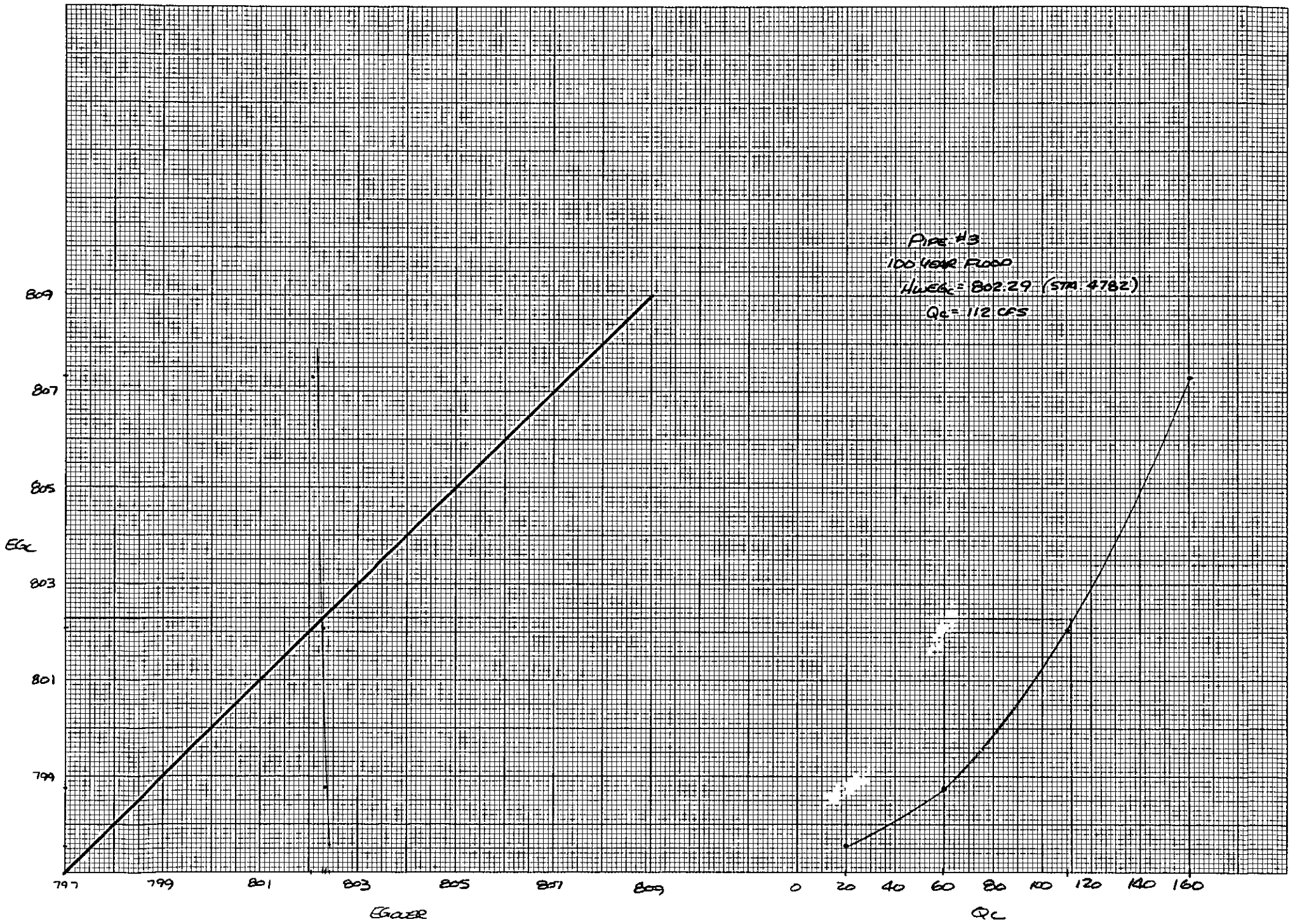
| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 797.38 |
| 60 | 798.62 |
| 110 | 801.92 |
| 160 | 807.14 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC 2: QN

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 785 | 802.24 |
| 745 | 802.19 |
| 695 | 802.11 |
| 645 | 801.88 |

K·E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

46 1510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RM DATE _____ JOB DESCRIPTION AVON TWP. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #3 SARGENT CREEK JOB NO. 5050-01

100 YR

$Q_T = 935$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 915 CFS
   B) 875
   C) 825
   D) 775

2. $Q_C = Q_T - Q_{OVER}$ : A₁) 20 CFS
   B₁) 60
   C₁) 110
   D₁) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$$1.0 + 0.5 + K_F$$

"n" = 0.015
L = 362'
A = 7.07 (EACH PIPE)(2 PIPES)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1(.015)^2 362}{(0.75)^{4/3}} = \frac{237}{0.68} = 3.49$$

XKOR = 4.99

100 YEAR TAILWATER = 797.38 (441B)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2$ (XKOR) |
|---|---|
| 20 | 0.16 |
| 60 | 1.40 |
| 110 | 4.69 |
| 160 | 9.92 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

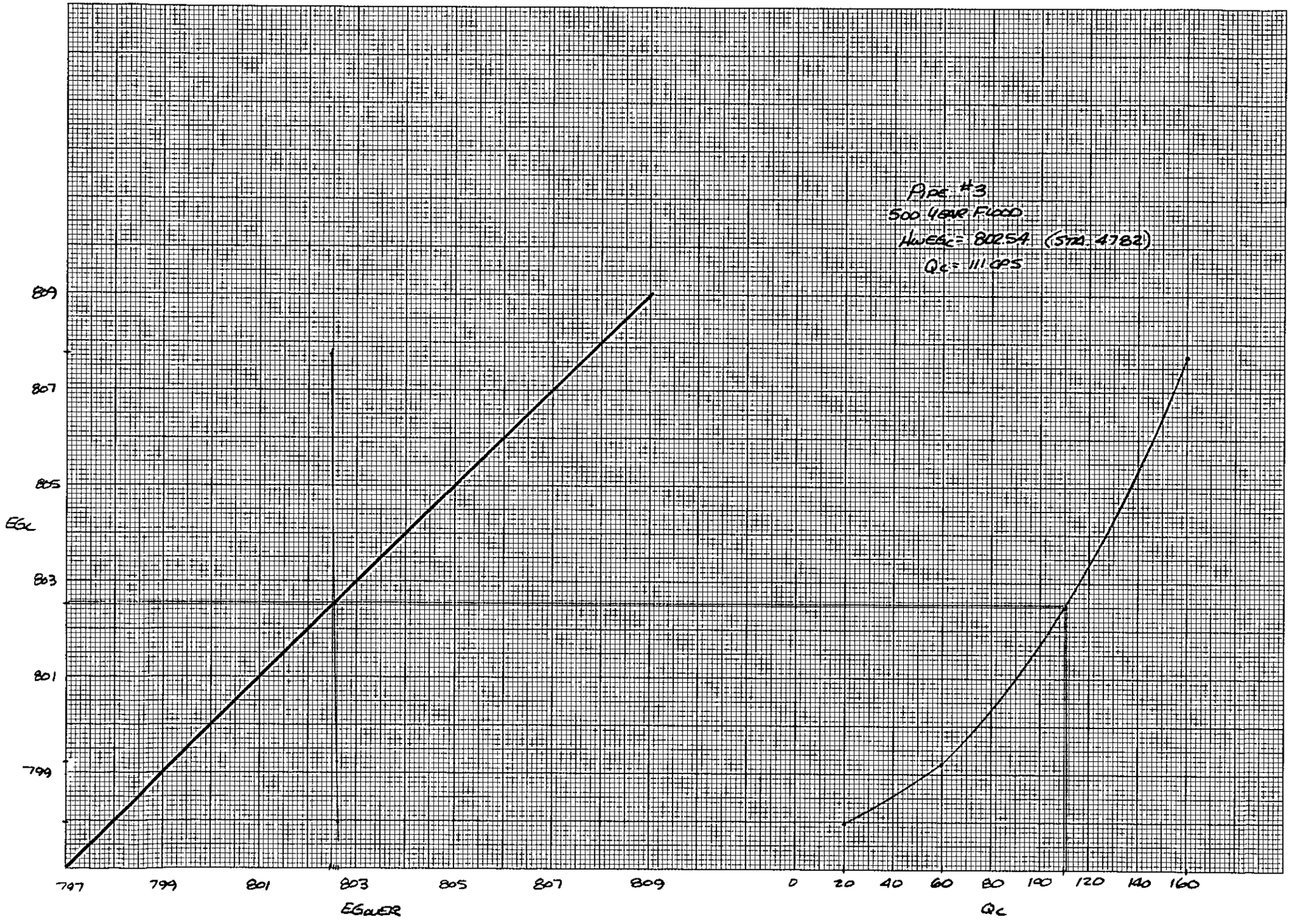
| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 797.54 |
| 60 | 798.78 |
| 110 | 802.07 |
| 160 | 807.30 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC 2: QW

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 915 | 802.41 |
| 875 | 802.36 |
| 825 | 802.30 |
| 775 | 802.05 |

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

461510



**JOHNSON & ANDERSON, INC.**
**CONSULTING ENGINEERS**

BY RM DATE _____ JOB DESCRIPTION Avon Twp. FIS SHEET ____ OF ____
SUBJECT PIPE FLOW CALCULATION - PIPE #3 SARGENT CREEK JOB NO. 5060-07

500 YR

$Q_T = 1325$ CFS

1. ASSUME 4 OVERLAND FLOWS: A) 1305 CFS
B) 1265
C) 1215
D) 1165

2. $Q_C = Q_T - Q_{OVER}$ : A.) 20 CFS
B.) 60
C.) 110
D.) 160

3. XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

$1.0 + 0.5 + K_F$

"n" = 0.015
L = 362'
A = 7.07 (EACH PIPE) (2 PIPES)
P = 9.42 "
R = 0.75

$$K_F = \frac{29.1(.015)^2 362}{(0.75)^{4/3}} = \frac{2.37}{0.68} = 3.49$$

XKOR = 4.99

500 YEAR TAILWATER = 797.81 (4418)

4. $EG_C = TW + XKOR \frac{Q_C^2}{2gA^2}$

| $Q_C$ | $Q_C^2/2gA^2(XKOR)$ |
|---|---|
| 20 | 0.16 |
| 60 | 1.40 |
| 110 | 4.69 |
| 160 | 9.92 |

HEADWATER OBTAINED FROM CALCULATION ($EG_C$)

| $Q_C$ | $EG_C$ |
|---|---|
| 20 | 797.97 |
| 60 | 799.21 |
| 110 | 802.50 |
| 160 | 807.73 |

HEADWATER OBTAINED FROM HEC 2 ($EG_{OVER}$) HEC 2: BK

| $Q_{OVER}$ | $EG_{OVER}$ |
|---|---|
| 1305 | 802.64 |
| 1265 | 802.60 |
| 1215 | 802.55 |
| 1165 | 802.49 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ROCHESTER-AVON ~~FIS~~ TOWNSHIPS

3) WATERCOURSE: SARGENT CREEK

4) DOCUMENT TYPE: SUMMARY

**********
VECP RELEASE DATE AND [illegible] 7001[illegible]77
ERROR CODE - 01[illegible]
MODIFICATION - 50[illegible]51,52,53
**********

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION [illegible] INDICATES THAT THE [illegible] OF [illegible] LIST

SARGENT CREEK

SUMMARY WITHOUT TAPE 53

| SEQ NO | LCH | FLTCD | FLLC | TLAP | J | DIST L | CRIMS | CC | TIRES | VCS | AREA | CTR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.00 | 0.00 | 0.00 | 759.71 | [illegible] | 755.15 | 0.00 | 755.00 | 122.10 | 7.26 | 72.77 | 45.[illegible] |
| 0.00 | [illegible] | 0.00 | 0.00 | 75[illegible].27 | 241.00 | 755.30 | 0.00 | 756.15 | 1[illegible].52 | [illegible].52 | 97.51 | 72.[illegible] |
| 0.000 | [illegible] | 0.00 | 0.00 | 75[illegible].70 | [illegible] | [illegible].17 | 0.00 | 755.3[illegible] | [illegible] | [illegible].97 | [illegible] | [illegible] |
| 0.00 | 0.00 | 0.00 | 0.00 | 755.20 | 1410.00 | 755.11 | 0.00 | 756.50 | 121.70 | 7.49 | 148.55 | 127.11 |
| 310.000 | 210.00 | 0.00 | 0.00 | 763.20 | 525.00 | 756.47 | 0.00 | 757.17 | [illegible] | 7.82 | [illegible] | [illegible] |
| 310.000 | 210.00 | 0.00 | 0.00 | 763.20 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 75.[illegible] |
| 310.000 | 310.00 | 0.00 | 0.00 | 755.20 | [illegible] | 755.17 | 0.00 | 759.[illegible] | 128.15 | 5.82 | [illegible] | [illegible] |
| 320.000 | 310.00 | 0.00 | 0.00 | 755.20 | 1410.00 | 758.[illegible] | 0.00 | 770.[illegible] | 132.[illegible] | 9.81 | [illegible] | 122.[illegible] |
| 330.000 | 20.00 | 0.00 | 0.00 | 755.30 | 555.00 | 757.41 | 0.00 | 755.13 | 31.74 | 0.33 | 78.[illegible] | 59.10 |
| 330.000 | 21.00 | 0.00 | 0.00 | 755.30 | 300.00 | 758.12 | 0.00 | 759.23 | 119.55 | 8.46 | [illegible] | 76.00 |
| 330.000 | [illegible] | 0.00 | 0.00 | 755.30 | [illegible] | 758.21 | 0.00 | 759.[illegible] | 127.59 | 3.95 | [illegible] | [illegible] |
| 330.000 | 20.00 | 0.00 | 0.00 | 755.30 | 1410.00 | 760.74 | 1.00 | 761.73 | 141.50 | 9.56 | 141.[illegible] | 136.70 |
| 340.000 | 10.00 | 0.00 | 0.00 | 753.40 | 555.00 | 767.43 | 0.00 | 765.22 | [illegible] | 5.91 | 77.43 | [illegible] |
| 340.000 | 10.00 | 0.00 | 0.00 | 753.40 | 850.00 | 768.40 | 0.00 | 755.03 | 102.09 | 7.93 | 105.73 | 32.09 |
| 340.000 | 10.00 | 0.00 | 0.00 | 753.40 | 980.00 | 765.63 | 0.00 | 765.51 | 113.59 | 8.51 | 135.16 | 91.[illegible] |
| 340.000 | 10.00 | 0.00 | 0.00 | 753.40 | 1410.00 | 770.[illegible] | 0.00 | [illegible] | [illegible] | 8.51 | [illegible] | [illegible] |
| 350.000 | 10.00 | 0.00 | 0.00 | 753.50 | 555.00 | 757.58 | 0.00 | 7[illegible].2 | 111.12 | 7.31 | [illegible].7 | 50.[illegible] |
| 350.000 | 10.00 | 0.00 | 0.00 | 753.50 | 541.00 | 755.73 | 0.00 | 759.69 | 123.30 | 9.36 | 39.70 | 72.[illegible] |
| 350.000 | 10.00 | 0.00 | 0.00 | 753.50 | [illegible] | 756.56 | 0.00 | 763.19 | 143.30 | 10.20 | 96.03 | 81.5[illegible] |
| 350.000 | 10.00 | 0.00 | 0.00 | 753.50 | 1410.00 | 765.56 | 765.06 | 771.95 | 155.03 | 11.16 | 126.36 | 112.[illegible] |
| 360.000 | 11.00 | 0.00 | 0.00 | 753.60 | 555.00 | 757.[illegible]2 | 0.00 | 755.5[illegible] | [illegible] | 7.72 | [illegible] | 51.[illegible] |
| 360.000 | 11.00 | 0.00 | 0.00 | [illegible] | [illegible] | 755.53 | 0.00 | 755.[illegible]5 | 119.[illegible] | [illegible] | [illegible] | [illegible] |
| 360.000 | 10.00 | 0.00 | 0.00 | 753.60 | 980.00 | 759.14 | 0.00 | 770.41 | 102.23 | 9.03 | 108.55 | 95.[illegible] |
| 360.000 | 10.00 | 0.00 | 0.00 | 753.60 | 1410.00 | 771.15 | 0.00 | 772.01 | 75.65 | 7.47 | 197.15 | 150.00 |
| 370.000 | 10.00 | 0.00 | 0.00 | 753.70 | 555.00 | 757.[illegible] | 0.00 | 751.70 | [illegible] | 3.07 | [illegible] | 43.10 |
| 370.000 | 11.00 | 0.00 | 0.00 | 753.70 | 850.00 | 758.55 | 0.00 | 760.32 | 125.75 | 9.27 | 90.[illegible] | 75.[illegible] |
| 370.000 | 10.00 | 0.00 | 0.00 | 753.70 | 980.00 | 759.10 | 0.00 | 770.57 | 111.17 | 9.44 | 105.1 | [illegible] |
| 370.000 | 10.00 | 0.00 | 0.00 | 753.70 | 1410.00 | 771.75 | 0.00 | 772.25 | 77.25 | 8.97 | 157.22 | 150.45 |
| 380.000 | 10.00 | 0.00 | 0.00 | 753.80 | 555.00 | 757.34 | 0.00 | 756.35 | 100.20 | 7.66 | 69.17 | 51.[illegible] |
| 380.000 | 10.00 | 0.00 | 0.00 | 753.80 | [illegible] | 758.[illegible] | 0.00 | 770.17 | 111.00 | 3.[illegible] | [illegible] | [illegible] |
| 380.000 | 10.00 | 0.00 | 0.00 | 753.80 | 530.00 | 759.47 | 0.00 | 770.41 | 10[illegible].77 | 5.15 | 100.03 | [illegible] |
| 380.000 | 10.00 | 0.00 | 0.00 | 753.80 | [illegible] | 771.[illegible] | 0.00 | [illegible] | [illegible] | 9.01 | 153.5[illegible] | 159.[illegible] |

| SECNO | XLCH | FLTRD | TLLC | TEMIN | T | CHSEL | CFTJS | EG | 10KHS | VCH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 393.001 | 13.00 | 0.01 | 0.00 | [illegible] | 5.5e.00 | [illegible] | [illegible] | 755.00 | 95.60 | 7.39 | 72.42 | [illegible] |
| 393.010 | 13.00 | 0.10 | 0.06 | [illegible] | 49.0 | [illegible] | 0.06 | [illegible] | [illegible] | 6.34 | [illegible] | [illegible] |
| 393.000 | 13.00 | 0.00 | 0.00 | 755.21 | 531.34 | 739.59 | 0.00 | 770.05 | 96.39 | 8.73 | 112.23 | 100.17 |
| 393.000 | 13.00 | 0.00 | 0.00 | 753.51 | 1411.91 | 771.20 | 0.00 | 772.45 | 70.15 | 9.01 | 156.41 | 154.25 |
| 395.000 | 2.00 | 0.10 | 0.06 | 753.20 | 5.5e.0 | [illegible] | 0.00 | 739.15 | 51.55 | 7.23 | [illegible] | [illegible] |
| 395.000 | 2.00 | 0.00 | 0.00 | 753.20 | 441.0 | 739.71 | 0.00 | 771.37 | 52.62 | 8.31 | 101.11 | [illegible] |
| 395.000 | 2.00 | 0.00 | 0.00 | 753.20 | [illegible] | 739.72 | 0.00 | 770.00 | 53.45 | 8.71 | 112.0 | 101.0 |
| 395.000 | 2.00 | 0.00 | 0.00 | 763.80 | 1410.00 | 771.23 | 0.01 | 772.41 | 77.69 | 8.59 | 156.09 | 150.57 |
| 398.000 | 2.00 | 0.01 | 0.00 | 763.80 | 5.5e.01 | 761.23 | 0.00 | 755.07 | 64.25 | 7.06 | 75.75 | 58.25 |
| 395.000 | 2.00 | 0.01 | 0.00 | 763.80 | 4.0e.00 | 759.61 | 0.01 | 770.42 | 55.05 | 3.05 | 114.57 | 91.17 |
| 395.000 | 2.00 | 0.01 | 0.00 | 763.80 | [illegible] | 760.55 | 0.00 | 771.15 | 55.55 | 8.42 | 113.40 | 113.0 |
| 395.000 | 2.00 | 0.00 | 0.00 | 763.80 | 1410.00 | 771.1 | 0.00 | 772.52 | 73.56 | 9.0 | 154.0 | 150.0 |
| 400.000 | 2.00 | 0.01 | 0.00 | 763.86 | 5.5e.00 | 768.14 | 0.00 | 759.23 | 124.50 | 8.34 | 64.12 | 47.05 |
| 400.000 | 2.00 | 0.01 | 0.00 | 763.80 | 84.00 | 760.25 | 0.00 | 770.53 | 101.30 | 9.41 | 89.30 | 73.57 |
| 400.000 | 2.00 | 0.10 | 0.10 | 763.10 | 5.5e.10 | 7[illegible].51 | 0.01 | 771.11 | 127.35 | 9.7 | 100.1 | [illegible] |
| 400.000 | 2.00 | 0.0 | 0.0 | 753.30 | 1410.06 | 771.16 | 0.0 | 772.71 | 105.0 | 9.90 | 1 1.51 | 137.4 |
| 410.000 | 10.00 | 0.00 | 0.00 | 753.90 | 535.10 | 762.26 | 0.00 | 759.52 | 149.20 | 8.70 | 61.10 | 63.51 |
| 410.000 | 10.00 | 0.00 | 0.00 | 763.90 | 360.10 | 765.25 | 0.00 | 730.12 | 150.25 | 10.05 | 53.5 | 66.77 |
| 410.000 | 10.00 | 0.00 | 0.00 | 763.90 | 500.00 | 759.71 | 0.06 | 771.42 | 106.54 | 10.51 | 93.25 | 77.2 |
| 410.000 | 10.00 | 0.00 | 0.00 | 763.91 | 1410.00 | 771.70 | 0.00 | [illegible] | 135.45 | 10.31 | 121.23 | 121.1 |
| 416.000 | 1.00 | 0.00 | 0.00 | 753.10 | 535.00 | [illegible] | 0.00 | [illegible] | 151.35 | 8.30 | [illegible] | [illegible] |
| 416.000 | 0.00 | 0.00 | 0.00 | 754.01 | 550.00 | 763.31 | 0.00 | 770.56 | 150.32 | 10.09 | 33.20 | 30.62 |
| 416.000 | 0.00 | 0.00 | 0.00 | 754.00 | 1410.00 | 771.21 | 0.00 | 772.15 | 127.55 | 10.37 | 129.74 | 120.11 |
| 417.010 | 1.00 | 0.01 | 0.00 | 754.01 | 5.5e.10 | [illegible] | 0.00 | 755.33 | 107.40 | 8.25 | 56.04 | [illegible] |
| 417.000 | 1.00 | 0.01 | 0.01 | 754.01 | 4.0e.00 | 760.81 | 0.00 | 771.07 | 117.35 | 9.00 | 93.25 | [illegible] |
| 417.000 | 1.00 | 0.00 | 0.00 | 754.00 | 500.00 | 770.37 | 0.00 | 771.05 | 115.31 | 9.22 | 106.25 | 92.07 |
| 417.000 | 1.00 | 0.00 | 0.00 | 754.00 | 1410.00 | 771.57 | 0.00 | 773.10 | 126.39 | 10.53 | 133.90 | 125.42 |
| 418.000 | 1.00 | 0.00 | 0.00 | 754.00 | 535.00 | 758.55 | [illegible] | [illegible] | 116.35 | 7.93 | [illegible] | 50.15 |
| 418.000 | 1.00 | 0.00 | 0.00 | [illegible] | 240.0 | 759.91 | 0.00 | 771.10 | 116.15 | 9.73 | 95.05 | 80.14 |
| 418.000 | 1.00 | 0.00 | 0.00 | 754.00 | 540.00 | 770.41 | 0.00 | 771.9 | 137.55 | 9.74 | 106.5 | 94.50 |
| 418.000 | 1.00 | 0.00 | 0.00 | 754.01 | 1410.00 | 771.54 | 0.00 | 773.15 | 116.91 | 10.15 | 130.0 | [illegible] |
| 419.000 | 1.00 | 0.00 | 0.00 | 754.00 | 535.00 | 762.03 | 0.00 | 760.64 | 113.78 | 7.92 | 67.55 | 50.18 |
| 419.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 765.97 | 0.00 | 771.11 | 119.01 | 9.75 | 95.05 | 80.50 |
| 419.000 | 1.00 | 0.01 | 0.01 | 4.01 | [illegible] | 770.63 | 0.00 | 771.71 | 100.37 | 9.02 | 108.01 | [illegible] |
| 419.000 | 1.00 | 0.01 | 0.01 | 4.00 | 1410.01 | 771.05 | 0.00 | 772.17 | 118.31 | 9.55 | [illegible] | 115.17 |
| 421.000 | 1.00 | 0.00 | 0.00 | [illegible] | 535.00 | 763.70 | 0.00 | 759.51 | 106.12 | 7.65 | 65.02 | 52.45 |
| 421.000 | 2.00 | 0.00 | 0.00 | [illegible] | 540.00 | 770.04 | 0.00 | 771.10 | 100.82 | 8.49 | 78.61 | 83.55 |
| 421.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | 770.55 | 0.00 | 771.32 | 99.23 | 8.71 | [illegible] | [illegible] |
| 421.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.74 | 0.00 | 7[illegible].1 | 102.97 | 9.73 | 145.03 | 152.05 |
| 432.000 | 11.00 | 0.00 | 0.00 | [illegible] | 535.00 | 758.95 | 0.01 | 7[illegible].30 | 93.91 | 7.59 | 72.60 | 56.11 |
| 432.000 | 11.00 | 0.01 | 0.00 | [illegible] | 540.00 | 770.7 | 0.00 | 771.25 | [illegible] | 9.09 | 103.11 | [illegible] |
| 432.000 | 11.00 | 0.01 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 771.37 | 63.71 | 8.33 | 117.50 | 117.11 |
| 432.000 | 11.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.1 | 0.00 | [illegible] | [illegible] | 9.65 | 155.01 | 155.[illegible] |

| SFL D | NLCH | ELTPD | ELLC | ELMIN | C | CTSUL | CTPUL | TG | TOMPD | VCH | AREA | PTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 454.000 | 22.00 | 0.00 | 0.00 | 734.10 | 1.50.00 | 771.28 | 0.00 | 772.02 | 76.57 | 5.07 | [illegible] | [illegible] |
| 454.000 | 22.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.50 | 0.00 | 771.55 | 76.34 | 7.75 | [illegible] | [illegible] |
| 454.000 | 22.00 | 0.00 | 0.00 | 734.10 | 531.00 | 771.17 | 0.00 | 772.17 | 76.17 | 5.03 | [illegible] | [illegible] |
| 454.000 | 22.00 | 0.00 | 0.00 | 734.10 | 1.10.00 | 772.37 | 0.00 | 773.57 | 75.87 | 6.76 | 160.57 | [illegible] |
| 470.000 | 22.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 771.26 | [illegible] | 5.72 | [illegible] | [illegible] |
| 475.000 | 22.00 | 0.00 | 0.00 | [illegible] | [illegible] | 770.75 | 0.00 | 771.07 | 70.[illegible] | 7.53 | [illegible] | [illegible] |
| 475.000 | 22.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.[illegible] | 0.00 | 772.25 | 70.[illegible] | 7.31 | [illegible] | [illegible] |
| 475.000 | 22.00 | 0.00 | 0.00 | 734.20 | 1.10.00 | 772.51 | 0.00 | 772.75 | 77.15 | 8.57 | 154.34 | [illegible] |
| 498.000 | 22.00 | 0.00 | 0.00 | 734.30 | 5.5.60 | 773.67 | 0.00 | 770.06 | 58.20 | 6.62 | 80.51 | [illegible] |
| 493.000 | 22.00 | 0.00 | 0.00 | 734.30 | [illegible] | 771.[illegible] | 0.00 | 771.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 493.000 | 22.00 | 0.00 | 0.00 | 734.30 | [illegible] | [illegible] | 0.00 | 772.51 | [illegible] | 7.57 | 1.7.[illegible] | [illegible] |
| 493.000 | 22.00 | 0.00 | 0.00 | 734.30 | 1.11.00 | 772.85 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 520.000 | 22.00 | 0.00 | 0.00 | 734.40 | 5.5.00 | 773.33 | 0.00 | 770.31 | 67.53 | 6.55 | 81.21 | [illegible] |
| 520.000 | 22.00 | 0.00 | 0.00 | 734.40 | 5.6.00 | 771.15 | 0.00 | 770.31 | 57.50 | 7.38 | 117.73 | 102.[illegible] |
| 520.000 | 22.00 | 0.00 | 0.00 | 734.40 | [illegible] | [illegible] | 0.00 | 772.55 | [illegible] | 7.07 | [illegible] | [illegible] |
| 520.000 | 22.00 | 0.00 | 0.00 | 734.40 | 1.11.00 | 772.27 | 0.00 | 773.57 | [illegible] | [illegible] | [illegible] | [illegible] |
| 530.000 | 110.00 | 0.00 | 0.00 | 4.31 | 5.5.00 | 770.[illegible] | 0.00 | 771.23 | 51.16 | 5.34 | 86.80 | 53.[illegible] |
| 530.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.01 | 0.00 | 772.71 | 52.15 | 7.16 | 117.24 | [illegible] |
| 530.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | 772.31 | 0.00 | 773.29 | 52.47 | 7.45 | 131.50 | [illegible] |
| 530.000 | 110.00 | 0.00 | 0.00 | [illegible] | 1.11.00 | 773.37 | 0.00 | [illegible] | 51.13 | 7.20 | [illegible] | [illegible] |
| 760.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | 771.23 | 0.00 | [illegible] | 55.72 | 5.31 | [illegible] | [illegible] |
| 760.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | 772.55 | 0.00 | 773.04 | 52.14 | 7.00 | [illegible] | [illegible] |
| 760.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | 773.26 | 0.00 | 774.01 | 62.91 | 7.06 | 139.02 | 123.[illegible] |
| 760.000 | 110.00 | 0.00 | 0.00 | [illegible] | 1.11.00 | 774.01 | 0.00 | 775.00 | 51.97 | 5.57 | [illegible] | [illegible] |
| 850.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 53.[illegible] | 5.77 | [illegible] | [illegible] |
| 850.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.92 | [illegible] | [illegible] |
| 850.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 63.59 | 5.93 | [illegible] | [illegible] |
| 850.000 | 110.00 | 0.00 | 0.00 | [illegible] | 1.11.00 | 775.56 | 0.00 | [illegible] | 55.74 | 5.98 | [illegible] | [illegible] |
| 960.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.33 | [illegible] | [illegible] |
| 960.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.18 | [illegible] | [illegible] |
| 960.000 | 110.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.22 | [illegible] | [illegible] |
| 960.000 | 110.00 | 0.00 | 0.00 | [illegible] | 1.11.00 | 775.99 | 0.00 | [illegible] | 29.35 | 5.71 | 257.13 | [illegible] |
| 1150.000 | 190.00 | 0.00 | 0.00 | [illegible] | 5.5.00 | 772.40 | 0.00 | [illegible] | 14.[illegible] | 2.37 | 133.03 | [illegible] |
| 1150.000 | 190.00 | 0.00 | 0.00 | [illegible] | [illegible] | 773.00 | 0.00 | [illegible] | 11.63 | 2.35 | [illegible] | [illegible] |
| 1150.000 | 190.00 | 0.00 | 0.00 | [illegible] | [illegible] | 775.35 | 0.00 | 775.47 | 9.72 | 2.37 | [illegible] | [illegible] |
| 1150.000 | 190.00 | 0.00 | 0.00 | [illegible] | 1.11.00 | 776.73 | 0.00 | [illegible] | 7.04 | 2.95 | [illegible] | [illegible] |
| 1372.000 | 222.00 | 0.00 | 0.00 | 750.00 | 5.5.00 | 773.77 | 0.00 | [illegible] | 53.59 | 6.61 | 137.30 | 93.[illegible] |
| 1372.000 | 222.00 | 0.00 | 0.00 | [illegible] | [illegible] | 775.15 | 0.00 | 775.21 | 15.21 | 5.76 | [illegible] | 222.[illegible] |
| 1372.000 | 222.00 | 0.00 | 0.00 | [illegible] | [illegible] | 775.95 | 0.00 | [illegible] | [illegible] | 5.50 | [illegible] | [illegible] |
| 1372.000 | 222.00 | 0.00 | 0.00 | [illegible] | [illegible] | 775.92 | 0.00 | 777.01 | 5.65 | 5.30 | [illegible] | [illegible] |
| 1373.000 | 1.00 | 0.00 | 0.00 | [illegible] | 5.5.00 | 775.33 | 0.00 | 774.10 | 55.75 | 4.36 | [illegible] | 85.49 |
| 1373.000 | 1.00 | 0.00 | 0.00 | 758.00 | 8.0.00 | 775.10 | 0.00 | 775.2[illegible] | 52.30 | 3.19 | [illegible] | 239.50 |
| 1373.000 | 1.00 | 0.00 | 0.00 | 758.00 | [illegible] | 775.51 | 0.00 | 775.71 | [illegible] | 2.90 | [illegible] | 350.05 |
| 1373.000 | 1.00 | 0.00 | 0.00 | 758.00 | 1.11.00 | 775.95 | 0.00 | [illegible] | 5.27 | 2.35 | [illegible] | [illegible] |

| | SECND | BLCK | FLTRD | ELLC | FLBIN | C | CWSEL | CRBIS | FG | TJKWS | VCO | AREA | .01? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1300.000 | 1.00 | 774.00 | 774.71 | 738.00 | 545.00 | 772.72 | 771.55 | 774.[illegible] | 966.36 | 2.12 | 38.[illegible] | 61.44 |
| | 1330.000 | 7.00 | 774.80 | 774.70 | 766.00 | 810.00 | 775.70 | 0.00 | 776.[illegible] | 4.35 | 2.32 | 452.43 | 402.[illegible] |
| | 1380.000 | 7.00 | 776.00 | 774.70 | 765.00 | 400.00 | 776.77 | 0.00 | 776.23 | 6.15 | 2.36 | 517.45 | 677.15 |
| | 1330.000 | 7.00 | 774.80 | 774.70 | 750.00 | 1410.00 | 777.17 | 0.00 | 777.25 | 5.18 | 2.51 | 750.34 | 792.[illegible] |
| | 1361.000 | 1.00 | 0.00 | 0.00 | 756.00 | 555.00 | 771.2[illegible] | 1.00 | 774.23 | 12.35 | 3.41 | 195.07 | 164.[illegible] |
| | 1361.000 | 1.00 | 0.00 | 0.00 | 750.00 | 840.00 | 775.35 | 0.00 | 773.[illegible]2 | 4.11 | 2.09 | 507.12 | 414.33 |
| | 1361.000 | 1.00 | 0.00 | 0.00 | 753.00 | 910.00 | 772.17 | 0.00 | 77[illegible].23 | 3.54 | 2.43 | 517.5[illegible] | 453.74 |
| | 1361.000 | 1.00 | 0.01 | 0.00 | 753.00 | 1410.00 | 777.19 | 0.00 | 777.25 | 3.65 | 2.39 | 730.72 | 1[illegible]7.05 |
| | 1459.000 | 78.00 | 0.00 | 0.00 | 749.20 | 555.00 | 774.12 | 0.00 | 776.67 | 25.02 | 3.04 | 131.91 | 133.01 |
| | 1459.010 | 77.00 | 0.00 | 0.00 | 755.20 | [illegible] | 775.[illegible] | [illegible] | 776.[illegible] | [illegible].94 | 3.52 | 125.09 | 211.11 |
| | 1459.000 | 77.00 | 0.00 | 0.00 | 755.21 | [illegible] | 772.17 | 0.00 | 776.31 | 8.05 | 4.03 | 170.5[illegible] | 209.[illegible] |
| | 1459.100 | 77.00 | 0.00 | 0.00 | 7[illegible].20 | 1410.00 | 777.1[illegible] | 0.00 | 777.31 | 0.11 | [illegible] | [illegible] | 571.45 |
| * | 1460.000 | 1.00 | 0.00 | 0.00 | 772.20 | 555.00 | 774.67 | 776.67 | 775.03 | 7[illegible].12 | 5.58 | 102.35 | 60.15 |
| | 1460.100 | 1.00 | 0.00 | 0.00 | 732.20 | 800.00 | 775.35 | 0.00 | 770.01 | 14.12 | 4.01 | 278.4[illegible] | 283.53 |
| | 1460.100 | 1.00 | 0.00 | 0.00 | 772.20 | [illegible] | 77[illegible] | 0.00 | 7[illegible].22 | 11.92 | 3.90 | [illegible] | [illegible] |
| | 1460.200 | 1.10 | 0.00 | 1.00 | 772.20 | 1410.00 | 777.19 | 0.00 | 777.[illegible] | 7.20 | 3.35 | 5[illegible].20 | 5[illegible].12 |
| | 1461.000 | 2.00 | 0.00 | 0.00 | 772.20 | 555.00 | 776.82 | 0.00 | 775.13 | 37.41 | 3.22 | 1[illegible].33 | 67.47 |
| | 1461.000 | 2.00 | 0.00 | 0.00 | 772.20 | 840.00 | 775.95 | 0.00 | 77[illegible].01 | 13.21 | 4.07 | 277.96 | 22[illegible].32 |
| | 1461.000 | 2.00 | 0.10 | 0.00 | 772.20 | 980.00 | 776.16 | 0.00 | 77[illegible].32 | 12.05 | 3.91 | 325.76 | 2[illegible]2.4 |
| | 1461.000 | 2.00 | 0.10 | 1.00 | 772.20 | [illegible] | 777.[illegible] | 0.15 | 777.[illegible] | [illegible] | 3.35 | [illegible] | [illegible] |
| | 1462.000 | 1.00 | 0.00 | 0.00 | 2[illegible].20 | 555.00 | 775.16 | 0.00 | 775.26 | .57 | .95 | 5[illegible].1[illegible] | 7[illegible].1 |
| | 1462.000 | 1.00 | 0.01 | 0.00 | 7[illegible].20 | 840.00 | 775.03 | 0.00 | 776.05 | .52 | 1.22 | 6[illegible].43 | 5[illegible] |
| | 1462.000 | 1.00 | 0.00 | 0.00 | 7[illegible].22 | 1410.00 | 777.31 | 0.00 | 777.25 | 1.14 | 1.54 | 8[illegible].37 | 1[illegible] |
| | 1684.000 | 222.00 | 0.00 | 0.00 | 770.[illegible] | 555.00 | 775.20 | 0.00 | 775.29 | 2.11 | 1.52 | 451.4[illegible] | [illegible] |
| | 1684.000 | 222.00 | 0.00 | 0.00 | 770.[illegible] | [illegible] | 775.75 | 0.00 | 776.[illegible] | 2.57 | 1.36 | 452.[illegible] | 52[illegible] |
| | 1684.000 | 222.00 | 0.01 | 0.00 | 770.[illegible] | [illegible] | 776.75 | 0.00 | 776.21 | 2.79 | 1.99 | 491.45 | 535.[illegible] |
| | 1684.000 | 222.00 | 0.01 | 0.00 | 770.[illegible] | 1410.00 | 777.[illegible] | 0.00 | 777.41 | 2.97 | 2.25 | 5[illegible].52 | [illegible] |
| * | 1685.000 | 1.00 | 0.01 | 0.00 | [illegible] | [illegible] | 775.31 | 775.[illegible] | 776.[illegible] | 14.51 | 3.51 | [illegible].29 | [illegible] |
| * | 1685.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 776.42 | 776.42 | 777.[illegible] | 5.74 | 7.37 | 153.7[illegible] | 10[illegible].37 |
| * | 1685.000 | 1.00 | 0.01 | 0.00 | [illegible] | [illegible] | [illegible] | 776.[illegible] | 77[illegible] | 7.51 | 7.71 | 173.1[illegible] | 1[illegible].2[illegible] |
| * | 1685.000 | 1.00 | 0.00 | 0.00 | 770.50 | 1410.00 | 777.12 | 777.12 | 777.50 | 5.97 | 3.33 | 2[illegible].[illegible] | 172.30 |
| * | 1686.000 | 1.00 | 0.00 | 0.00 | 770.37 | 555.00 | 775.42 | 775.37 | 77[illegible] | 132.45 | 3.45 | 53.00 | 44.[illegible] |
| | 1686.000 | 1.00 | 0.01 | 0.00 | [illegible] | [illegible] | 776.[illegible] | 0.00 | 777.[illegible] | [illegible] | 5.35 | 115.[illegible] | 132.7 |
| | 1686.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 777.[illegible] | 0.00 | 777.[illegible] | 37.[illegible] | 5.79 | [illegible].51 | 17[illegible] |
| | 1686.000 | 1.00 | 0.10 | 0.00 | [illegible] | 1410.00 | 7[illegible] | 0.00 | 777.[illegible] | 43.12 | 5.32 | [illegible] | [illegible] |
| * | 1687.000 | 1.00 | 0.10 | 0.00 | [illegible] | 555.00 | 775.45 | 775.45 | 775.[illegible] | 153.42 | 3.73 | 61.09 | 52.51 |
| | 1687.000 | 1.00 | 0.10 | 0.00 | [illegible] | [illegible] | 776.[illegible] | 0.00 | 777.24 | 30.70 | 5.37 | 200.96 | 133.36 |
| | 1687.001 | [illegible] | 0.00 | 0.01 | [illegible] | [illegible] | 777.[illegible] | 0.15 | 777.53 | [illegible] | 5.17 | [illegible] | [illegible] |
| | 1687.001 | [illegible] | 0.10 | [illegible] | [illegible] | 1410.00 | 777.4[illegible] | 0.00 | 778.[illegible] | [illegible] | 2.[illegible] | [illegible] | [illegible] |
| | 1688.001 | 1.00 | 1.00 | 0.01 | [illegible] | 555.00 | 775.57 | 0.00 | 776.[illegible] | 22.93 | 4.42 | 155.31 | 111.71 |
| | 16[illegible].001 | 1.00 | 0.10 | 0.10 | [illegible] | [illegible] | 776.[illegible] | [illegible] | 777.54 | 31.[illegible] | 5.35 | 203.54 | 135.31 |
| | 16[illegible].010 | 1.00 | 0.00 | 0.00 | 771.00 | [illegible] | 777.11 | 0.01 | 777.54 | 37.[illegible] | 5.17 | [illegible] | 155.[illegible] |
| | 16[illegible].000 | 1.00 | 0.00 | 0.00 | 771.31 | 1410.00 | 777.55 | 0.00 | [illegible] | 41.31 | 5.17 | [illegible] | [illegible] |

| STORD | RLC- | FLTED | ELLC | LIEN | U | CLSEL | LIENS | TL | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1691.000 | 2.00 | 0.00 | 0.00 | 771.00 | 550.00 | 776.52 | 0.00 | [illegible] | [illegible] | 5.00 | [illegible] | [illegible] |
| 1691.000 | 2.00 | 0.00 | 0.00 | 771.00 | [illegible] | 776.53 | 0.00 | [illegible] | [illegible] | 5.03 | [illegible] | [illegible] |
| 1691.000 | 2.00 | 0.00 | 0.00 | 771.00 | 550.00 | 777.12 | 0.00 | 777.53 | 27.31 | 5.15 | 224.15 | 155.[illegible] |
| 1691.000 | 3.00 | 0.00 | 0.00 | 771.00 | 1410.00 | 777.55 | 0.00 | [illegible] | 41.50 | 6.92 | 207.[illegible] | 213.[illegible] |
| 1695.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | 776.[illegible] | 0.00 | [illegible] | [illegible] | 4.[illegible] | [illegible] | [illegible] |
| 1695.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | 777.[illegible] | 0.00 | [illegible] | [illegible] | 5.[illegible] | [illegible] | [illegible] |
| 1693.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | 777.[illegible] | 0.00 | 777.57 | [illegible] | 5.15 | [illegible] | [illegible] |
| 1693.000 | 2.00 | 0.00 | 0.00 | 771.00 | 1410.00 | 777.55 | 0.00 | [illegible] | [illegible] | 5.[illegible] | 235.30 | 235.47 |
| 1701.000 | 0.00 | 0.00 | 0.00 | 771.10 | 550.00 | 776.73 | 0.00 | [illegible] | 25.[illegible] | 4.53 | 150.72 | 105.[illegible] |
| 1701.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1701.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 777.21 | [illegible] | [illegible] | [illegible] | 5.37 | [illegible] | [illegible] |
| 1701.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1710.000 | 9.00 | 0.00 | 0.00 | 771.10 | 550.00 | 776.73 | 0.00 | 777.55 | 25.22 | 4.59 | 150.57 | 106.5[illegible] |
| 1710.000 | 9.00 | 0.00 | 0.00 | 771.10 | 910.00 | 777.13 | 0.00 | 777.46 | [illegible] | 5.41 | 246.03 | 153.[illegible] |
| 1710.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1710.000 | [illegible] | [illegible] | [illegible] | [illegible] | 1410.00 | 777.51 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1719.000 | 5.00 | 0.00 | 0.00 | 771.20 | 550.00 | 776.73 | 0.00 | 777.55 | [illegible] | 4.84 | 149.57 | 99.57 |
| 1719.000 | 5.00 | 0.00 | 0.00 | 771.20 | 910.00 | 777.13 | 0.00 | 777.52 | 35.39 | 5.80 | 218.75 | 140.[illegible] |
| 1719.000 | 5.00 | 0.00 | 0.00 | 771.20 | 910.00 | 777.31 | 0.00 | 777.71 | 35.30 | 5.98 | 207.[illegible] | 107.[illegible] |
| 1719.000 | [illegible] | [illegible] | [illegible] | 771.20 | 1410.00 | 777.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1722.000 | [illegible] | [illegible] | [illegible] | 771.20 | 550.00 | 776.74 | 0.00 | 777.15 | 28.94 | 4.36 | [illegible] | [illegible] |
| 1722.000 | 3.00 | [illegible] | [illegible] | 771.20 | 910.00 | 777.15 | 0.00 | 777.53 | 35.31 | 5.77 | 209.99 | 141.[illegible] |
| 1722.000 | 3.00 | 0.00 | 0.00 | 771.20 | 930.00 | 777.[illegible] | 0.00 | 777.72 | 35.28 | 5.95 | 209.77 | 165.[illegible] |
| 1722.000 | 3.00 | [illegible] | 0.00 | 771.20 | 1410.00 | 777.13 | 0.00 | 777.36 | 36.37 | 6.36 | 220.27 | 240.5[illegible] |
| 1724.000 | 2.00 | [illegible] | 0.00 | 771.20 | 550.00 | 776.74 | 0.00 | [illegible] | [illegible] | 4.12 | [illegible] | [illegible] |
| 1724.000 | 2.00 | [illegible] | 0.00 | 771.20 | 910.00 | 777.1[illegible] | 0.00 | 777.51 | [illegible] | 5.72 | [illegible] | 140.[illegible] |
| 1724.000 | 2.00 | 0.00 | 0.00 | 771.20 | 930.00 | 777.3[illegible] | 0.00 | 777.75 | 35.36 | 5.95 | 235.01 | 165.[illegible] |
| 1724.000 | 2.00 | 0.00 | 0.00 | 771.20 | 1410.00 | 777.8 | 0.00 | 778.25 | 34.39 | 6.37 | 218.[illegible] | 240.65 |
| 1729.000 | 4.00 | 0.00 | 0.00 | 771.[illegible] | 550.00 | 776.72 | 0.00 | 777.11 | 35.2[illegible] | [illegible] | [illegible] | [illegible] |
| 1729.000 | 4.00 | 0.00 | 0.00 | 771.30 | [illegible] | 777.15 | 0.00 | [illegible] | 41.79 | 6.13 | 156.[illegible] | [illegible] |
| 1729.000 | 4.00 | 0.00 | 0.00 | 771.30 | [illegible] | 777.[illegible] | 0.00 | 777.74 | [illegible] | 6.36 | 231.[illegible] | [illegible] |
| 1729.000 | 4.00 | 0.00 | 0.00 | 771.30 | 1410.00 | 777.51 | 0.00 | 778.25 | 35.37 | 6.78 | 305.[illegible] | 271.[illegible] |
| 1736.000 | [illegible] | 0.00 | 0.00 | 771.30 | 550.00 | 776.[illegible] | 0.00 | 777.14 | 28.70 | 4.83 | 149.73 | 99.73 |
| 1736.000 | 9.00 | 0.00 | 0.00 | 771.30 | 870.00 | 777.26 | 0.00 | 777.[illegible] | 34.35 | 5.74 | [illegible] | [illegible] |
| 1736.000 | 2.00 | 0.00 | 0.00 | 771.30 | [illegible] | 777.[illegible] | 0.00 | 777.[illegible] | 35.49 | 5.99 | [illegible] | 104.[illegible] |
| 1736.000 | [illegible] | 0.00 | 0.00 | 771.30 | 1410.00 | 777.[illegible] | 0.00 | [illegible] | [illegible] | 6.78 | [illegible] | [illegible] |
| 1744.000 | 8.00 | 0.00 | 0.00 | 771.40 | 550.00 | 776.83 | 0.00 | 777.[illegible] | 34.99 | 5.21 | 135.54 | 90.44 |
| 1744.000 | 8.00 | 0.00 | 0.00 | 771.40 | 940.00 | 777.23 | 0.00 | 777.71 | 40.01 | 6.11 | 193.99 | 131.4[illegible] |
| 1744.000 | 8.00 | 0.00 | 0.00 | 771.40 | [illegible] | 777.43 | 0.00 | 777.[illegible] | [illegible] | [illegible] | 218.75 | [illegible] |
| 1744.000 | 8.00 | 0.00 | 0.00 | 771.40 | 1410.00 | 777.35 | 0.00 | [illegible] | [illegible] | 7.16 | [illegible] | 407.[illegible] |
| 1753.000 | 9.00 | 0.00 | 0.00 | 771.50 | 550.00 | 776.34 | 0.00 | 777.35 | 31.24 | 5.55 | 125.60 | 83.31 |
| 1753.000 | 9.00 | 0.00 | 0.00 | 771.50 | 940.00 | 777.26 | 0.00 | 777.75 | 48.17 | 6.52 | 150.01 | 121.03 |
| 1753.000 | 9.00 | 0.00 | 0.00 | 771.50 | 970.00 | 777.43 | 0.00 | 777.93 | 49.32 | 6.81 | 204.41 | 139.54 |
| 1753.000 | 9.00 | 0.00 | 0.00 | 771.50 | 1410.00 | 777.35 | 0.00 | 778.37 | 52.75 | 7.50 | [illegible] | [illegible] |

| SECNO | XLCH | ELTRC | ELLC | TLMIN | S | CUSTL | CRTUS | FS | TIMES | VCL | AREA | .014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1787.000 | 24.00 | 0.00 | 0.00 | 771.70 | 525.00 | 777.45 | 0.00 | 777.44 | 46.20 | 5.79 | 115.[illegible] | 7[illegible].71 |
| 1787.000 | 24.00 | 0.00 | 0.00 | 771.70 | 540.00 | 777.55 | 0.00 | 777.59 | 50.49 | 6.81 | 117.[illegible] | 114.[illegible] |
| 1787.000 | 24.00 | 0.00 | 0.00 | 771.70 | 930.00 | 777.57 | 0.00 | 778.19 | 55.82 | 7.10 | 168.20 | 131.41 |
| 1787.000 | 24.00 | 0.00 | 0.00 | 771.70 | 1410.00 | 777.90 | 0.00 | 778.73 | 62.31 | 8.13 | [illegible] | 97.[illegible] |
| 1791.000 | 4.00 | 0.00 | 0.00 | 771.70 | 525.00 | [illegible] | 0.00 | 777.85 | 37.72 | 5.37 | [illegible] | [illegible] |
| 1791.000 | 4.00 | 0.00 | 0.00 | 771.70 | 840.00 | 777.45 | 0.00 | 778.01 | 52.89 | 6.79 | 155.31 | 115.50 |
| 1791.000 | 4.00 | 0.00 | 0.00 | 771.70 | 930.00 | 777.51 | 0.00 | 778.22 | 55.11 | 7.15 | 187.72 | 132.01 |
| 1791.000 | 4.00 | 0.00 | 0.00 | 771.70 | 1410.00 | 778.02 | 0.00 | 778.75 | 61.24 | 8.09 | [illegible] | 150.[illegible] |
| 1793.000 | 2.00 | 0.00 | 0.00 | 771.70 | 525.00 | 777.09 | 0.00 | 777.48 | 37.65 | 5.36 | 128.20 | 87.19 |
| 1793.000 | 2.00 | 0.00 | 0.00 | 771.70 | 840.00 | 777.51 | 0.00 | 778.03 | 52.76 | [illegible] | 199.13 | [illegible] |
| 1793.000 | 2.00 | 0.00 | 0.00 | 771.70 | 930.00 | 777.[illegible] | 0.00 | 778.27 | [illegible] | 6.56 | [illegible] | 156.[illegible] |
| 1793.000 | 2.00 | 0.00 | 0.00 | 771.70 | 1410.00 | 778.26 | 0.00 | 778.82 | [illegible] | 7.15 | [illegible] | 21[illegible] |
| 1795.000 | 2.00 | 0.00 | 0.00 | 771.50 | 525.00 | 777.15 | 0.00 | 777.52 | 47.05 | 5.82 | 114.03 | 78.01 |
| 1795.000 | 2.00 | 0.00 | 0.00 | 771.50 | 840.00 | 777.58 | 0.00 | 778.11 | 48.73 | 6.56 | 173.0[illegible] | 1[illegible] |
| 1795.000 | 2.00 | 0.00 | 0.00 | 771.50 | 930.00 | 777.77 | 0.00 | 778.[illegible] | 50.20 | 5.[illegible] | [illegible] | [illegible].71 |
| 1795.000 | 2.00 | 0.00 | 0.00 | 771.50 | 1410.00 | 778.32 | 0.00 | 778.57 | 52.44 | 7.32 | 254.[illegible] | 1[illegible].1 |
| 1796.000 | 1.00 | 0.00 | 0.00 | 771.80 | 525.00 | 777.55 | 0.00 | 777.54 | 45.72 | 5.31 | 114.[illegible] | [illegible] |
| 1796.000 | 1.00 | 0.00 | 0.00 | 771.80 | 540.00 | 777.59 | 0.00 | 778.12 | 43.42 | 5.56 | 173.52 | 120.72 |
| 1796.000 | 1.00 | 0.00 | 0.00 | 771.80 | 930.00 | 777.77 | 0.00 | 778.[illegible] | 43.90 | 5.82 | 197.25 | 140.15 |
| 1796.000 | 1.00 | 0.00 | 0.00 | 771.80 | 1410.00 | 778.23 | 0.00 | 778.[illegible] | 52.[illegible] | [illegible] | [illegible] | [illegible] |
| 1797.000 | 1.00 | 0.00 | 0.00 | 771.80 | 525.00 | 777.05 | 0.00 | 777.95 | 45.05 | 5.77 | [illegible] | 7[illegible] |
| 1797.000 | 1.00 | 0.00 | 0.00 | 771.80 | 850.00 | 777.50 | 0.00 | 778.12 | 47.86 | 5.53 | 174.[illegible] | 127.65 |
| 1797.000 | 1.00 | 0.00 | 0.00 | 771.80 | 930.00 | 777.73 | 0.00 | 778.36 | 43.28 | 5.80 | 197.64 | 140.[illegible] |
| 1797.000 | 1.00 | 0.00 | 0.00 | 771.80 | 1410.00 | 778.24 | 0.00 | 778.[illegible]8 | 51.75 | 7.59 | 255.10 | 155.00 |
| 1799.000 | 2.00 | 0.00 | 0.00 | 771.30 | 525.00 | 777.1[illegible] | 0.00 | 777.30 | [illegible] | 5.55 | [illegible] | [illegible] |
| 1799.000 | 2.00 | 0.00 | 0.00 | 771.30 | 840.00 | 777.51 | 0.00 | 778.16 | 43.05 | 5.50 | 173.15 | 122.[illegible] |
| 1799.000 | 2.00 | 0.00 | 0.00 | 771.30 | 930.00 | 777.60 | 0.00 | 778.35 | 47.09 | 6.73 | 197.40 | 141.51 |
| 1799.000 | 2.00 | 0.00 | 0.00 | 771.30 | 1410.00 | 778.25 | 0.00 | 778.[illegible]9 | 51.81 | 7.59 | 254.5[illegible] | 155.[illegible] |
| 1803.000 | 6.00 | 0.00 | 0.00 | 771.50 | 525.00 | 777.1[illegible] | 0.00 | 777.55 | 45.05 | 5.20 | [illegible] | [illegible] |
| 1803.000 | 6.00 | 0.00 | 0.00 | 771.50 | 840.00 | 777.53 | 0.00 | 778.21 | 57.25 | 7.09 | 152.51 | 111.02 |
| 1803.000 | 6.00 | 0.00 | 0.00 | 771.50 | 930.00 | 777.75 | 0.00 | 778.42 | 5[illegible].81 | 7.73 | [illegible] | 13[illegible] |
| 1803.000 | 6.00 | 0.00 | 0.00 | 771.50 | 1410.00 | 778.22 | 0.00 | 778.97 | 61.96 | 8.14 | 237.07 | 179.[illegible] |
| 1811.000 | 0.00 | 0.00 | 0.00 | 771.50 | 525.00 | 777.31 | 0.00 | 777.70 | 45.56 | 5.30 | 168.42 | [illegible] |
| 1811.000 | 0.00 | 0.00 | 0.00 | 771.50 | [illegible] | 777.51 | 0.00 | 778.11 | 55.51 | 5.55 | [illegible] | 190.77 |
| 1811.000 | 0.00 | 0.00 | 0.00 | 771.50 | 930.00 | 778.01 | 0.00 | 778.52 | 42.52 | 5.13 | 217.[illegible] | 1[illegible] |
| 1811.000 | 8.00 | 0.00 | 0.00 | 771.50 | 1410.00 | 778.43 | 0.00 | 778.15 | 4[illegible].54 | 7.45 | 25[illegible] | [illegible] |
| 1820.000 | 0.00 | 0.00 | 0.00 | [illegible] | 525.00 | 777.59 | 0.00 | 777.76 | 19.10 | 5.97 | 162.56 | 122.32 |
| 1820.000 | 0.00 | 0.00 | 0.00 | 772.00 | 840.00 | 778.15 | 0.00 | 778.49 | 20.25 | 4.54 | 246.66 | 196.[illegible]5 |
| 1820.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | 778.25 | 0.00 | 778.50 | 27.35 | 5.[illegible] | [illegible] | [illegible] |
| 1820.000 | [illegible] | 0.00 | 0.00 | [illegible] | 1410.00 | [illegible] | 0.00 | 778.[illegible] | 45.13 | 5.71 | 318.[illegible] | [illegible] |
| 1821.000 | 1.00 | 0.00 | 0.00 | [illegible] | 525.00 | 777.65 | 0.00 | 777.75 | 21.65 | 5.71 | 155.55 | 155.[illegible] |
| 1821.000 | 1.00 | 0.00 | 0.00 | [illegible] | 840.00 | 77[illegible] | 0.00 | 778.40 | 27.35 | 4.20 | 250.56 | 177.[illegible] |
| 1821.000 | 1.00 | 0.00 | 0.00 | [illegible] | 930.00 | 778.34 | 0.00 | [illegible]1 | [illegible] | 4.4[illegible] | 271.00 | [illegible] |
| 1821.000 | 1.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.20 | [illegible] | [illegible] |

| SECND | XLCH | ELTRD | ELLC | ELMER | I | LOS L | CRTUS | T. | TORBS | VLH | AMTA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1329.000 | 0.00 | 777.20 | 777.10 | 772.00 | 505.00 | 775.00 | 0.00 | 775.00 | 10.10 | 2.05 | [illegible] | [illegible] |
| 1329.000 | 0.00 | 777.20 | 777.10 | 772.00 | 540.00 | 775.31 | 0.00 | [illegible] | 10.50 | 2.36 | 10.01 | [illegible] |
| 1329.000 | 0.00 | 777.20 | 777.10 | 772.00 | 530.00 | 775.13 | 0.00 | 775.13 | 11.30 | 5.50 | [illegible] | [illegible] |
| 1329.000 | 0.00 | 777.20 | 777.10 | 772.00 | 1410.00 | 775.54 | 0.00 | 775.04 | 13.12 | 4.23 | [illegible] | 382.0[illegible] |
| 1530.000 | 1.00 | 0.00 | 0.00 | 772.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1530.000 | 1.00 | 0.00 | 0.00 | 772.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 2.45 | [illegible] | [illegible] |
| 1530.000 | 1.00 | 0.00 | 0.00 | 772.00 | [illegible] | [illegible] | 0.00 | [illegible] | 10.55 | 3.75 | [illegible] | 231.00 |
| 1530.000 | 1.00 | 0.00 | 0.00 | 772.00 | 1400.00 | [illegible] | 0.00 | 775.35 | 12.64 | 4.42 | [illegible] | [illegible] |
| 1845.000 | 15.00 | 0.00 | 0.00 | 772.20 | 505.00 | 778.69 | 0.00 | 776.25 | 14.46 | 5.65 | 1[illegible] | 140.[illegible] |
| 1845.000 | 15.00 | 0.00 | 0.00 | 772.20 | [illegible] | [illegible] | 0.00 | [illegible] | 16.54 | 4.12 | [illegible] | [illegible] |
| 1845.000 | 15.00 | 0.00 | 0.00 | 772.20 | [illegible] | [illegible] | 0.00 | [illegible] | 15.[illegible] | 4.67 | [illegible] | [illegible] |
| 1845.000 | 15.00 | 0.00 | 0.00 | 772.20 | 1400.00 | [illegible] | 0.00 | [illegible] | 17.[illegible] | 5.13 | [illegible] | [illegible] |
| 1862.000 | 17.00 | 0.00 | 0.00 | 772.30 | 505.00 | 778.[illegible] | 0.00 | [illegible] | 20.62 | 4.22 | 157.[illegible] | 117.[illegible] |
| 1862.000 | 17.00 | 0.00 | 0.00 | 772.30 | [illegible] | [illegible] | 0.00 | [illegible] | 20.[illegible] | 4.77 | [illegible] | [illegible] |
| 1862.000 | 17.00 | [illegible] | 0.00 | 772.30 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.00 | [illegible] | [illegible] |
| 1862.000 | 17.00 | [illegible] | 0.00 | 772.30 | 1400.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.92 | [illegible] | [illegible] |
| 1867.000 | 5.00 | 0.00 | 0.00 | 772.50 | 505.00 | 775.07 | 0.00 | 778.35 | 23.90 | 4.48 | 136.70 | 105.[illegible] |
| 1867.000 | 5.00 | 0.00 | 0.00 | 772.50 | [illegible] | 775.77 | 0.00 | 775.03 | 23.53 | 5.03 | [illegible] | 172.[illegible] |
| 1867.000 | 5.00 | 0.00 | 0.00 | 772.50 | [illegible] | 778.09 | 0.00 | 775.25 | 24.55 | 5.35 | [illegible] | [illegible] |
| 1867.000 | 5.00 | 0.00 | 0.00 | 772.50 | 1400.00 | 775.50 | 0.00 | [illegible] | 23.55 | 5.25 | 273.75 | [illegible] |
| 1872.000 | 5.00 | 0.00 | 0.00 | 772.50 | 505.00 | 775.09 | [illegible] | [illegible] | [illegible] | 5.47 | [illegible] | [illegible] |
| 1872.000 | 5.00 | 0.00 | 0.00 | 772.50 | 540.00 | 775.[illegible] | 0.00 | [illegible] | 23.85 | 5.05 | 275.30 | [illegible] |
| 1872.000 | 5.00 | 0.00 | 0.00 | 772.50 | 500.00 | 779.00 | 0.00 | 775.56 | 25.21 | 5.33 | [illegible] | 195.67 |
| 1872.000 | 5.00 | 0.00 | 0.00 | 772.50 | 1400.00 | 775.55 | 0.00 | 775.07 | 21.65 | 5.25 | 275.[illegible] | [illegible] |
| 1878.000 | 5.00 | 0.00 | 0.00 | 772.50 | 505.00 | 776.07 | 0.00 | 779.41 | 20.[illegible] | 4.15 | 125.[illegible] | [illegible] |
| 1878.000 | 5.00 | 0.00 | 0.00 | 772.50 | [illegible] | 775.75 | 0.00 | [illegible] | [illegible] | 5.53 | 131.32 | [illegible] |
| 1878.000 | 5.00 | 0.00 | 0.00 | 772.50 | 530.00 | 776.77 | 0.00 | [illegible] | 22.12 | 5.90 | 202.15 | 172.[illegible] |
| 1878.000 | 5.00 | 0.00 | 0.00 | 772.50 | 1410.00 | 775.55 | 0.00 | [illegible] | 23.31 | 6.35 | 250.00 | 233.[illegible] |
| 1879.000 | 1.00 | 0.00 | 0.00 | 772.50 | 505.00 | 775.[illegible] | [illegible] | [illegible] | 21.23 | 4.35 | [illegible] | [illegible] |
| 1879.000 | 1.00 | 0.00 | 0.00 | 772.50 | [illegible] | 775.75 | [illegible] | 775.17 | 20.31 | 5.52 | [illegible] | 151.[illegible] |
| 1879.000 | 1.00 | 0.00 | 0.00 | 772.50 | [illegible] | 778.9[illegible] | [illegible] | [illegible] | [illegible] | 5.39 | 232.20 | 172.[illegible] |
| 1879.000 | 1.00 | 0.00 | 0.00 | 772.50 | 1410.00 | 775.55 | 0.00 | 775.15 | 35.21 | 4.33 | 250.25 | [illegible] |
| 1880.000 | 1.00 | 0.00 | 0.00 | 772.50 | 505.00 | 778.16 | 0.00 | 775.62 | 20.11 | 4.36 | 127.20 | 97.50 |
| 1880.000 | 1.00 | 0.00 | 0.00 | 772.50 | [illegible] | 778.75 | [illegible] | 775.17 | 31.[illegible] | 5.35 | [illegible] | [illegible] |
| 1880.000 | 1.00 | 0.00 | 0.00 | 772.50 | [illegible] | 778.[illegible] | 0.00 | [illegible] | 32.63 | 5.94 | 201.[illegible] | 172.[illegible] |
| 1880.000 | 1.00 | 0.00 | 0.00 | 772.50 | 1410.00 | 775.50 | 0.00 | [illegible] | [illegible] | 3.86 | [illegible] | [illegible] |
| 1881.000 | 1.00 | 0.00 | 0.00 | 772.50 | 505.00 | 775.0[illegible] | 0.00 | 775.45 | 29.92 | 4.83 | 127.37 | 97.[illegible] |
| 1881.000 | 1.00 | 0.00 | 0.00 | 772.50 | 340.00 | 773.77 | 0.00 | [illegible] | 30.23 | 5.52 | 133.36 | 152.[illegible] |
| 1881.000 | 1.00 | 0.00 | 0.00 | 772.50 | 530.00 | 778.[illegible] | [illegible] | [illegible] | [illegible] | 5.39 | [illegible] | [illegible] |
| 1881.000 | 1.00 | 0.00 | 0.00 | 772.50 | 1410.00 | 775.55 | [illegible] | [illegible] | 26.23 | 6.16 | 229.10 | [illegible] |
| 1883.000 | 2.00 | 0.00 | 0.00 | 772.50 | 505.00 | 778.05 | 0.00 | 773.43 | 21.59 | 4.31 | 128.39 | [illegible] |
| 1883.000 | 2.00 | 0.00 | 0.00 | 772.50 | 860.00 | 778.77 | 0.00 | 775.13 | 30.08 | 5.52 | 133.39 | 150.15 |
| 1883.000 | 2.00 | 0.00 | 0.00 | 772.50 | 950.00 | 778.99 | 0.00 | 775.45 | 31.34 | 5.39 | 201.11 | 173.[illegible] |
| 1883.000 | 2.00 | 0.00 | 0.00 | 772.50 | 1410.00 | 775.57 | 0.00 | [illegible] | 33.31 | 6.17 | 257.77 | [illegible] |

| | SEC'D | BLCH | SLTPD | FLLC | SLWIN | U | CUSUL | CTRUS | SG | 10KWS | VCH | AREA | .01% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 69.001 | 5.00 | 0.00 | 0.00 | 772.00 | [illegible] | 775.07 | 0.00 | 770.47 | 53.46 | 5.02 | [illegible] | 52.45 |
| | 1139.000 | 5.00 | 0.00 | 0.00 | 772.00 | 440.00 | 778.75 | 0.00 | 779.23 | 55.71 | 5.02 | 513.11 | 142.9 |
| | 1889.000 | 5.00 | 0.00 | 0.00 | 772.50 | 580.00 | 778.98 | 0.00 | 779.50 | 55.74 | 6.21 | 556.91 | 161.67 |
| | 1889.000 | 6.00 | 0.00 | 0.00 | 772.60 | 1410.00 | 779.55 | 0.00 | 780.23 | 61.67 | 7.23 | 203.51 | 212.44 |
| | 1595.000 | 5.00 | 0.00 | 0.00 | 772.70 | 535.00 | 778.11 | 0.00 | 778.52 | 41.45 | 5.94 | 134.21 | [illegible] |
| | 1595.000 | 5.00 | 0.00 | 0.00 | 772.70 | 40.00 | 778.79 | 0.00 | 779.31 | 44.63 | 5.33 | 151.71 | 125.74 |
| | 1895.000 | 5.00 | 0.00 | 0.00 | 772.70 | 510.00 | 778.34 | 0.00 | 779.53 | 47.33 | 6.71 | 117.00 | 142.76 |
| | 1895.000 | 5.00 | 0.00 | 0.00 | 772.70 | 1410.00 | 779.45 | 0.00 | 780.34 | 53.49 | 7.91 | 219.12 | 192.75 |
| | 1900.000 | 5.00 | 0.00 | 0.00 | 772.70 | 535.00 | 778.14 | 0.00 | 779.54 | 41.17 | 5.23 | 115.71 | 84.41 |
| | 1900.000 | 5.00 | 0.00 | 0.00 | 772.70 | 540.00 | 778.75 | 0.00 | 779.33 | 43.54 | 5.29 | 132.45 | 127.00 |
| | 1900.000 | 5.00 | 0.00 | 0.00 | 772.70 | 510.00 | 778.97 | 0.00 | 779.91 | 45.01 | 5.73 | 157.22 | 145.55 |
| | 1900.000 | 5.00 | 0.00 | 0.00 | 772.70 | 1410.00 | 779.52 | 0.00 | 780.[illegible] | 53.15 | 7.51 | 201.12 | 1[illegible].5.46 |
| | 1905.000 | 5.00 | 0.00 | 0.00 | 772.80 | 535.00 | 778.13 | 0.00 | 778.55 | 44.40 | 5.45 | 100.53 | 80.[illegible] |
| | 1905.000 | 5.00 | 0.00 | 0.00 | 772.80 | 840.00 | 778.75 | 0.00 | 779.35 | 49.40 | 6.57 | 143.73 | 113.52 |
| | 1905.000 | 5.00 | 0.00 | 0.00 | 772.80 | [illegible] | 778.[illegible] | 0.00 | 779.57 | [illegible] | 7.17 | [illegible] | [illegible] |
| | 1905.000 | 5.00 | 0.00 | 0.00 | 772.80 | 1510.00 | 779.[illegible] | 0.00 | [illegible] | 51.53 | 8.24 | [illegible] | [illegible] |
| | 1911.001 | 5.00 | 0.00 | 0.00 | 772.80 | 535.00 | 778.15 | 0.00 | 778.[illegible] | 45.30 | 5.43 | 98.[illegible] | 79.99 |
| | 1911.001 | 6.00 | 0.00 | 0.00 | 772.80 | 840.00 | 778.76 | 0.00 | 779.04 | 54.27 | 6.74 | 134.74 | 114.63 |
| | 1911.000 | 5.00 | 0.00 | 0.00 | 772.80 | 930.00 | 778.95 | 0.00 | 779.79 | 56.95 | 7.29 | 147.05 | 127.50 |
| | 1911.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 779.47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1937.000 | 25.00 | 0.00 | 0.00 | 773.10 | 535.00 | 776.28 | 0.00 | 779.29 | 53.43 | 5.46 | 91.[illegible] | 71.1[illegible] |
| | 1937.000 | 25.00 | 0.00 | 0.00 | 773.10 | 840.00 | 775.35 | 0.00 | 779.57 | 73.14 | 7.33 | 149.12 | 101.[illegible] |
| | 1937.000 | 25.00 | 0.00 | 0.00 | 773.10 | 930.00 | 779.06 | 0.00 | 780.01 | 75.75 | 7.99 | 139.2 | 111.72 |
| | 1937.000 | 25.00 | 0.0 | 0.00 | 773.10 | 1410.00 | 779.51 | 779.43 | [illegible] | [illegible]02 | 9.76 | 155.12 | 143.[illegible] |
| | 1962.000 | 25.00 | 0.00 | 0.00 | [illegible] | 535.00 | [illegible] | [illegible] | [illegible] | 53.53 | 5.37 | [illegible] | [illegible] |
| | 1962.000 | 25.00 | 0.00 | 0.00 | [illegible] | 540.00 | [illegible] | 0.00 | [illegible] | 73.61 | 7.23 | [illegible] | [illegible] |
| | 1962.000 | 25.00 | 0.00 | 0.00 | 773.30 | 930.00 | 779.26 | 0.00 | [illegible] | 35.97 | 7.91 | 123.96 | 115.05 |
| * | 1962.000 | 25.00 | 0.00 | 0.00 | [illegible] | 1410.00 | 780.31 | 775.61 | 781.29 | 53.32 | 7.96 | 192.32 | 177.20 |
| | 1980.001 | 25.00 | 0.00 | 0.00 | 773.50 | 535.00 | 778.35 | 0.00 | [illegible] | 73.22 | 5.40 | [illegible] | [illegible] |
| | 1980.001 | 25.00 | 0.00 | 0.00 | 773.50 | 840.00 | 779.21 | 0.00 | [illegible] | [illegible]21 | 7.50 | 110.[illegible] | 85.15 |
| | 1980.001 | 25.00 | 0.00 | 0.00 | 773.50 | 930.00 | 779.35 | 0.00 | [illegible] | 75.53 | 8.19 | 120.[illegible] | [illegible] |
| | 1998.000 | 20.00 | 0.00 | 0.00 | 773.60 | 1410.00 | 780.51 | 0.00 | 781.55 | 59.30 | 8.51 | 106.32 | 169.20 |
| | 2009.000 | 20.00 | 0.00 | 0.00 | 773.80 | 535.00 | 778.61 | 0.00 | [illegible] | 53.23 | 5.24 | 78.16 | 54.24 |
| | 2008.000 | 21.00 | 0.00 | 0.00 | 773.80 | 535.00 | [illegible] | 0.00 | [illegible] | 102.43 | 7.34 | [illegible] | [illegible] |
| | 2008.000 | 21.00 | 0.00 | 0.00 | 773.80 | [illegible] | 779.[illegible] | 0.00 | [illegible] | [illegible] | 8.29 | [illegible] | 94.5 |
| | 2008.000 | 20.00 | 0.00 | 0.00 | 773.80 | 1410.00 | 780.35 | 0.00 | [illegible] | [illegible] | 9.59 | [illegible] | 166.45 |
| * | 2009.000 | 1.00 | 0.00 | 0.00 | 781.00 | 512.00 | 782.57 | 782.57 | 782.51 | 213.65 | 4.67 | 56.50 | 20.20 |
| * | 2009.000 | 1.00 | 0.00 | 0.00 | [illegible] | 721.00 | 782.69 | 782.69 | 782.55 | 136.56 | 5.36 | 124.96 | 52.7. |
| * | 2009.001 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 783.01 | 783.01 | 783.[illegible] | 135.52 | 5.58 | 152.04 | 53.14 |
| * | 2009.001 | 1.00 | 0.00 | 0.00 | [illegible] | 1210.00 | [illegible] | [illegible] | 783.74 | 173.55 | 6.24 | [illegible] | [illegible] |
| | 2271.000 | 252.00 | 0.00 | 0.00 | 1.30 | 412.00 | [illegible] | [illegible] | [illegible] | 9.25 | 1.53 | 230.00 | 135.45 |
| | 2271.000 | 252.00 | 0.00 | 0.00 | 1.30 | 121.00 | [illegible] | 0.00 | [illegible] | 10.99 | 1.98 | 264.41 | 217.52 |
| | 2271.000 | 252.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11.52 | 2.11 | [illegible] | 254.[illegible] |
| | 2271.000 | 252.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 12.50 | 2.77 | [illegible] | 365.55 |

| SECND | XLCS | FLTRD | FLLC | FLMAN | D | LOSL | CTIMS | TC | TOKM3 | VIS | AOSR | eCTI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2272.000 | 1.00 | 0.00 | 0.00 | 774.40 | 535.00 | 700.58 | 0.00 | [illegible] | 1.02 | 1.60 | [illegible] | [illegible] |
| 2272.000 | 1.00 | 0.00 | 0.00 | 774.40 | 530.00 | [illegible] | 0.00 | [illegible] | 1.00 | [illegible] | [illegible] | [illegible] |
| 2272.000 | 1.00 | 0.00 | 0.00 | 774.40 | 530.00 | [illegible] | 1.00 | [illegible] | 0.29 | 2.06 | [illegible] | [illegible] |
| 2272.000 | 1.00 | 0.00 | 0.00 | 774.40 | 1510.00 | 734.34 | 0.00 | [illegible] | [illegible] | 2.57 | [illegible] | [illegible] |
| 2521.000 | 249.00 | 0.00 | 0.00 | 777.20 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2521.000 | 249.00 | 0.00 | 0.00 | 777.20 | 540.00 | 734.15 | 0.00 | [illegible] | 15.10 | [illegible] | [illegible] | [illegible] |
| 2521.000 | 249.00 | 0.00 | 0.00 | 777.20 | [illegible] | 734.73 | 0.00 | [illegible] | 12.98 | 5.59 | [illegible] | [illegible] |
| 2521.000 | 249.00 | 0.00 | 0.00 | 777.20 | [illegible] | [illegible] | 0.00 | [illegible] | 21.02 | 5.64 | [illegible] | [illegible] |
| 2655.000 | 134.00 | 0.00 | 0.00 | 778.10 | 515.00 | 733.75 | 0.00 | [illegible] | 25.02 | 5.16 | 100.00 | [illegible] |
| 2655.000 | 134.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 40.07 | [illegible] | [illegible] | [illegible] |
| 2655.000 | 134.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 147.57 |
| 2655.000 | 134.00 | 0.00 | 0.00 | 778.10 | 1510.00 | [illegible] | 0.00 | [illegible] | 53.85 | 8.24 | [illegible] | [illegible] |
| 2738.000 | 132.00 | 0.00 | 0.00 | [illegible] | 515.00 | 734.17 | 0.00 | [illegible] | 52.63 | 0.40 | 99.95 | [illegible] |
| 2738.000 | 132.00 | 0.00 | 0.00 | 779.00 | 560.00 | 734.85 | 0.00 | [illegible] | 30.45 | 7.57 | 102.55 | 103.04 |
| 2738.000 | [illegible] | 0.00 | 0.00 | 779.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2738.000 | [illegible] | 0.00 | 0.00 | 779.00 | 1510.00 | [illegible] | 0.00 | [illegible] | 25.[illegible] | 6.91 | [illegible] | [illegible] |
| 2922.000 | 136.00 | 0.00 | 0.00 | 779.90 | 515.00 | 734.91 | 0.00 | [illegible] | [illegible] | 6.83 | 36.55 | [illegible] |
| 2922.000 | 136.00 | 0.00 | 0.00 | 779.90 | 805.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.95 | 130.08 | [illegible] |
| 2922.000 | 136.00 | 0.00 | 0.00 | 779.90 | 535.00 | [illegible] | 0.00 | [illegible] | 37.27 | 6.13 | 140.94 | 116.00 |
| 2922.000 | [illegible] | 0.00 | 0.00 | 779.90 | 1325.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2989.000 | 57.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | 21.20 | 7.04 | [illegible] | [illegible] |
| 2989.000 | 57.00 | 0.00 | 0.00 | [illegible] | 535.00 | [illegible] | 0.00 | [illegible] | 22.74 | 9.05 | 128.31 | [illegible] |
| 2989.000 | 57.00 | 0.00 | 0.00 | [illegible] | 535.00 | 736.43 | 0.00 | [illegible] | 22.21 | 6.35 | 145.19 | [illegible] |
| 2989.000 | 57.00 | 0.00 | 0.00 | [illegible] | 1325.00 | 737.15 | 0.00 | 738.07 | 03.23 | 8.91 | 214.15 | 130.59 |
| 3056.000 | 57.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.27 | [illegible] | [illegible] |
| 3056.000 | 57.00 | 0.00 | 0.00 | [illegible] | 535.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3056.000 | 57.00 | 0.00 | 0.00 | [illegible] | 535.00 | [illegible] | 0.00 | [illegible] | 75.92 | 6.51 | 143.70 | 107.31 |
| 3056.000 | 57.00 | 0.00 | 0.00 | [illegible] | 1325.00 | [illegible] | 0.00 | [illegible] | 73.52 | 9.14 | 207.90 | 156.73 |
| 3123.000 | 57.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.79 | [illegible] | [illegible] |
| 3123.000 | 57.00 | 0.00 | 0.00 | [illegible] | 605.00 | [illegible] | 0.00 | [illegible] | 03.04 | 7.83 | [illegible] | [illegible] |
| 3123.000 | 57.00 | 0.00 | 0.00 | [illegible] | 605.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 151.32 | [illegible] |
| 3123.000 | 57.00 | 0.00 | 0.00 | 731.30 | 1325.00 | [illegible] | 0.00 | 735.15 | 75.07 | 9.17 | 201.30 | 156.32 |
| 3156.000 | 53.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | 78.75 | 7.32 | 79.97 | 53.[illegible] |
| 3156.000 | 53.00 | 0.00 | 0.00 | [illegible] | 305.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3156.000 | 53.00 | 0.00 | 0.00 | [illegible] | 535.00 | [illegible] | 0.00 | [illegible] | 35.04 | [illegible] | 143.40 | [illegible] |
| 3156.000 | 53.00 | 0.00 | 0.00 | [illegible] | 1325.00 | [illegible] | [illegible] | [illegible] | [illegible] | 9.63 | [illegible] | [illegible] |
| 3189.000 | 53.00 | 0.00 | 0.00 | 731.80 | 515.00 | 736.24 | 736.56 | 737.69 | [illegible] | 7.58 | 77.03 | 35.46 |
| 3189.000 | 53.00 | 0.00 | 0.00 | 731.80 | 535.00 | 737.65 | 737.57 | 738.61 | [illegible] | 5.52 | 120.40 | 47.65 |
| 3189.000 | 53.00 | 0.00 | 0.00 | [illegible] | 535.00 | 737.93 | 737.39 | [illegible] | [illegible] | [illegible] | [illegible] | 102.27 |
| 3189.000 | 53.00 | 0.00 | 0.00 | 731.80 | 1325.00 | 738.57 | 738.57 | [illegible] | [illegible] | 9.54 | 193.35 | 145.[illegible] |
| 3256.000 | 57.00 | 0.00 | 0.00 | 732.30 | 515.00 | 737.54 | 0.00 | [illegible] | [illegible] | 7.02 | 35.39 | 51.[illegible] |
| 3256.000 | 57.00 | 0.00 | 0.00 | 732.30 | 605.00 | 738.62 | 0.00 | 739.16 | 82.74 | 7.63 | 138.31 | 101.63 |
| 3256.000 | 57.00 | 0.00 | 0.00 | 732.30 | 535.00 | 738.70 | 0.00 | 739.66 | 82.35 | 7.89 | 150.30 | 116.04 |
| 3256.000 | 57.00 | 0.00 | 0.00 | 732.30 | 1325.00 | [illegible] | 0.00 | [illegible] | [illegible] | 8.27 | 220.[illegible] | 175.21 |

| | SECND | XLCH | ELTRD | ELLC | CLMIN | Q | CUSEL | CoINS | FG | TOKSS | NCA | AREA | eOIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3323.000 | 67.00 | 0.00 | 0.00 | 732.70 | 515.00 | 737.09 | 0.00 | 738.73 | 76.56 | 7.25 | 62.07 | [illegible] |
| | 3323.000 | 67.00 | 0.00 | 0.00 | 732.70 | 805.00 | 739.03 | 0.00 | 790.04 | 65.36 | 7.06 | [illegible] | [illegible] |
| | 3323.000 | 67.00 | 0.00 | 0.00 | 732.70 | 925.00 | 739.77 | 0.00 | 739.65 | 59.29 | 6.22 | 154.73 | 112.[illegible] |
| | 3323.000 | 67.00 | 0.00 | 0.00 | 732.70 | 1325.00 | 739.79 | 0.00 | 790.52 | 55.45 | 6.70 | 247.94 | 163.[illegible] |
| | 3390.000 | 67.00 | 0.00 | 0.00 | 7[illegible].20 | 515.00 | 735.65 | 0.00 | 735.26 | 75.41 | 7.26 | 2.35 | [illegible] |
| | 3390.000 | 67.00 | 0.00 | 0.00 | 753.20 | 805.00 | 739.25 | 739.16 | 790.14 | 73.50 | 8.13 | 1[illegible].14 | 93.[illegible] |
| | 3390.000 | 67.00 | 0.00 | 0.00 | 753.20 | 925.00 | 739.55 | 0.00 | 7[illegible] | 77.22 | 8.38 | 153.26 | 1[illegible] |
| | 3390.000 | 67.00 | 0.00 | 0.00 | 753.20 | 1325.00 | 739.21 | 0.00 | 791.11 | 71.50 | 9.01 | 209.50 | 159.[illegible] |
| | 3423.000 | 53.00 | 0.00 | 0.00 | 735.60 | 515.00 | 788.90 | 0.00 | 739.32 | 53.16 | 5.52 | 54.05 | 97.[illegible] |
| | 3423.000 | 53.00 | 0.00 | 0.00 | 735.60 | 805.00 | 739.31 | 0.00 | 791.41 | 56.23 | 7.52 | 159.23 | 115.[illegible] |
| | 3423.000 | 53.00 | 0.00 | 0.00 | 735.60 | 925.00 | 739.00 | 0.00 | 7[illegible].70 | 4[illegible].76 | 7.22 | [illegible] | 1[illegible] |
| | 3423.000 | 57.00 | 0.00 | 0.00 | 735.60 | 1325.00 | 790.70 | 0.00 | [illegible] | 52.01 | 8.00 | [illegible] | 192.[illegible] |
| | 3456.000 | 53.00 | 0.00 | 0.00 | 735.60 | 515.00 | 789.05 | 0.00 | 739.35 | 71.37 | 7.15 | [illegible].59 | 61.[illegible] |
| | 3456.000 | 53.00 | 0.00 | 0.00 | 735.60 | 805.00 | 739.94 | 0.00 | 790.55 | 52.39 | 7.31 | 153.23 | 101.[illegible] |
| | 3456.000 | [illegible] | 0.00 | 0.00 | 753.[illegible] | 925.00 | 790.21 | 0.00 | [illegible] | 51.23 | 7.32 | 150.25 | 115.[illegible] |
| | 3456.000 | [illegible] | 0.00 | 0.00 | 735.61 | 1325.00 | 790.38 | 0.01 | 791.[illegible] | [illegible] | [illegible] | [illegible] | 1[illegible] |
| | 3523.000 | 67.00 | 0.00 | 0.00 | 754.10 | 515.00 | 739.53 | 0.07 | 790.25 | 73.23 | 7.20 | 36.1[illegible] | 30.10 |
| | 3523.000 | 67.00 | 0.00 | 0.00 | 754.10 | 805.00 | 750.35 | 0.00 | 791.14 | 69.93 | 7.95 | 135.51 | 96.26 |
| | 3523.000 | 67.00 | 0.00 | 0.00 | 754.10 | 925.00 | 750.00 | 0.00 | 791.53 | 70.30 | 8.25 | 155.97 | 111.52 |
| | 3523.000 | 67.00 | 0.00 | 0.00 | 754.10 | 1325.00 | 791.[illegible] | 0.00 | 792.[illegible] | [illegible] | 8.93 | 211.[illegible] | [illegible] |
| | 3555.000 | [illegible] | 0.0 | 0.00 | [illegible] | 515.00 | 739.51 | 0.00 | 790.53 | [illegible] | [illegible].70 | [illegible] | [illegible] |
| | 3555.000 | 53.00 | 0.00 | 0.00 | 7[illegible] | 805.00 | 790.72 | 0.00 | 791.39 | 52.56 | 7.32 | 150.20 | 107.27 |
| | 3555.000 | 53.00 | 0.00 | 0.00 | 754.30 | 925.00 | 791.08 | 0.00 | 791.69 | 50.[illegible] | 7.25 | 151.71 | 131.71 |
| | 3555.000 | 53.00 | 0.00 | 0.00 | 754.30 | 1325.00 | 791.65 | 0.00 | 792.30 | 52.01 | 7.54 | 242.30 | [illegible] |
| | 3590.000 | 54.00 | 0.0 | 0.00 | [illegible] | 515.00 | 739.05 | 7[illegible].02 | 7[illegible] | [illegible] | [illegible].65 | [illegible] | 57.55 |
| | 3590.000 | 54.00 | 0.00 | 0.00 | [illegible] | 5[illegible] | 790.[illegible] | 7[illegible].03 | [illegible].75 | [illegible] | [illegible] | [illegible] | [illegible] |
| | 3590.000 | 54.00 | 0.00 | 0.00 | 754.50 | 805.00 | 791.14 | 791.63 | 792.85 | 77.41 | 8.62 | 159.63 | 105.[illegible] |
| | 3590.000 | 54.00 | 0.00 | 0.00 | 754.50 | 1325.00 | 791.7 | 0.00 | 792.70 | 75.61 | 9.22 | 216.75 | 152.13 |
| | 3827.000 | 257.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | 56.25 | [illegible] | [illegible] | [illegible] |
| | 3827.000 | 257.00 | 0.00 | 0.00 | [illegible] | [illegible] | 7[illegible].75 | 0.00 | [illegible] | [illegible] | 7.51 | 157.51 | [illegible] |
| | 3827.000 | 257.00 | 0.00 | 0.00 | [illegible] | [illegible] | 7[illegible].09 | 0.01 | [illegible] | 57.4[illegible] | [illegible] | [illegible] | 13[illegible] |
| | 3827.000 | 257.00 | 0.00 | 0.00 | [illegible] | 1325.00 | 7[illegible].01 | 0.00 | [illegible] | 55.65 | 8.58 | 246.55 | 171.3[illegible] |
| | 4064.000 | 257.00 | 0.00 | 0.00 | [illegible] | 515.00 | 7[illegible].27 | 0.00 | [illegible].35 | 1[illegible] | 4.32 | [illegible] | 125.49 |
| | 4064.000 | 257.00 | 0.00 | 0.00 | [illegible] | 515.00 | 7[illegible] | 0.00 | [illegible] | [illegible].70 | 5.75 | [illegible] | [illegible] |
| | 4064.000 | 257.00 | 0.00 | 0.00 | [illegible] | 805.00 | 7[illegible] | 0.00 | [illegible] | 1[illegible].32 | 5.91 | [illegible] | [illegible] |
| | 4064.000 | 257.00 | 0.00 | 0.00 | [illegible] | 1325.00 | 7[illegible] | 0.00 | 7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 4065.000 | 1.06 | 0.00 | 0.00 | [illegible] | [illegible] | 7[illegible] | 7[illegible] | 7[illegible] | 255.20 | 3.72 | 107.15 | 25.[illegible] |
| * | 4065.000 | 1.06 | 0.00 | 0.00 | [illegible] | 805.00 | 755.69 | 745.59 | 7[illegible] | [illegible] | 4.54 | 153.07 | 47.00 |
| * | 4065.000 | 1.06 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 4065.000 | 1.06 | 0.00 | 0.00 | [illegible] | 1325.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.56 | [illegible] | [illegible] |
| | 4259.000 | 198.00 | 0.00 | 0.00 | [illegible] | [illegible] | 7[illegible] | 0.00 | [illegible] | [illegible] | 1.52 | 207.57 | 107.55 |
| | 4259.000 | 1[illegible].00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | 17.[illegible] | 6.59 | 237.55 | 164.[illegible] |
| | 4259.000 | 1[illegible].00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.36 | [illegible] | 167.5[illegible] |
| | 4259.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.51 | [illegible] | 25.[illegible] |

| | SECRD | XLCS | TLTRD | ELLC | CLMTH | U | LBSIL | LTIPS | TB | TMPRS | WLH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4260.100 | 1.00 | 1.00 | 1.00 | 7[illegible].20 | [illegible]15.00 | [illegible] | 1.00 | [illegible] | [illegible] | -75 | [illegible] | 545.[illegible] |
| | 4260.200 | 1.00 | 0.00 | 1.00 | 739.20 | 515.00 | 777.22 | 0.00 | 757.26 | [illegible] | [illegible] | [illegible] | 1[illegible] |
| | 4290.100 | 1.00 | 0.00 | 0.00 | 739.20 | 515.00 | 777.41 | 0.00 | 777.41 | 0.20 | [illegible] | [illegible] | 1143.[illegible] |
| | 4260.100 | 1.00 | 0.00 | 1.00 | 739.20 | 515.00 | 777.65 | 0.00 | 777.65 | [illegible] | 0.02 | [illegible] | 1.[illegible] |
| | 4615.001 | 15.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 4411.200 | 153.00 | 0.00 | 0.00 | 739.20 | 515.00 | 777.22 | 1.00 | [illegible] | [illegible] | 1.1[illegible] | [illegible] | [illegible] |
| | 4411.300 | 153.00 | 1.00 | 1.00 | 739.20 | 515.00 | 777.62 | 0.00 | [illegible] | [illegible] | 1.10 | [illegible] | 253.41 |
| | 4418.000 | 153.00 | 1.00 | 1.00 | 739.20 | 515.00 | [illegible] | 1.00 | [illegible] | 0.54 | 1.02 | 502.72 | 727.13 |
| * | 4419.000 | 1.00 | 0.00 | 0.00 | 739.70 | [illegible] | 300.51 | 300.51 | 100.74 | 230.00 | 3.95 | 1.2.12 | 2.1[illegible] |
| * | 4419.000 | 1.00 | 1.00 | [illegible] | [illegible] | [illegible] | 300.72 | 300.72 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 4419.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 4419.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.37 | [illegible] | [illegible] |
| | 4761.000 | 302.00 | 0.00 | 0.00 | 739.20 | 403.00 | 0.55 | 0.00 | 301.50 | 7.00 | 1.63 | 252.65 | 150.14 |
| | 4761.000 | 302.00 | 0.00 | 1.00 | 739.20 | 0.40.01 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 221.[illegible] |
| | 4761.100 | 302.00 | 1.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 10.72 | 2.20 | [illegible] | 251.[illegible] |
| | 4781.000 | [illegible] | 0.00 | 0.00 | 739.20 | 1214.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 4782.000 | 1.00 | 1.00 | 0.00 | [illegible] | 515.00 | 301.50 | 1.00 | 11.51 | [illegible] | 1.13 | [illegible] | 703.[illegible] |
| | 4782.000 | 1.00 | 0.00 | 0.00 | 739.10 | 605.00 | 301.00 | 0.00 | [illegible] | 1.00 | 1.60 | 615.[illegible] | 106.14 |
| | 4782.000 | 1.00 | 0.00 | 0.00 | 739.10 | 925.00 | 302.25 | 0.00 | [illegible] | 1.22 | 1.79 | 713.[illegible] | 547.[illegible] |
| | 4782.100 | 1.00 | 0.00 | 1.00 | 739.10 | 1325.00 | 202.50 | 1.00 | [illegible] | 1.[illegible] | 2.12 | [illegible] | [illegible] |
| | 5000.000 | 218.00 | 0.00 | 1.00 | 724.30 | 515.00 | 301.[illegible] | 0.00 | [illegible] | 1.[illegible] | 5.55 | [illegible] | 145.[illegible] |
| | 5000.000 | 218.00 | 0.00 | 1.00 | 724.80 | 325.00 | 301.95 | 0.00 | 02.[illegible] | 23.28 | 5.41 | 171.23 | 155.[illegible] |
| | 5000.000 | 21[illegible].00 | [illegible] | 0.00 | 724.30 | 925.00 | [illegible] | 0.00 | 02.30 | 23.22 | 6.06 | [illegible] | 17[illegible] |
| | 5000.000 | 21[illegible].00 | 1.00 | 1.00 | 724.20 | 1325.00 | [illegible] | 0.00 | 02.[illegible] | 30.59 | 6.52 | 288.56 | 251.50 |
| | 5031.000 | 31.00 | 1.00 | 1.00 | 725.30 | 515.00 | 301.52 | 1.00 | 01.[illegible] | 25.52 | 6.90 | 111.[illegible] | [illegible] |
| | 5031.000 | 31.00 | 1.00 | 1.00 | 725.80 | 305.00 | 301.[illegible] | 1.00 | [illegible] | 32.25 | 6.09 | 1.3.11 | 105.[illegible] |
| | 5031.000 | 31.00 | 0.00 | 0.00 | 725.41 | 525.00 | 302.62 | 0.00 | 02.91 | 36.22 | 7.03 | 126.02 | 115.50 |
| | 5031.000 | 31.00 | 0.00 | 0.00 | 725.41 | 1325.00 | 302.52 | 0.00 | 30.[illegible] | 07.03 | 8.31 | 219.05 | 131.06 |
| | 5065.000 | 15.00 | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.50 | [illegible] | [illegible] |
| | 5065.100 | 15.00 | 1.00 | 0.00 | 725.78 | 515.00 | [illegible] | 1.00 | 12.[illegible] | 26.5 | 7.85 | 1.2.67 | 59.[illegible] |
| | 5046.100 | 15.00 | 0.00 | 0.00 | 725.70 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 8.53 | 1.4.[illegible] | 3.[illegible] |
| | 5046.000 | 15.00 | 0.00 | 0.00 | 725.70 | 1325.00 | 302.32 | 302.22 | 813.42 | 51.00 | 5.29 | 190.33 | 138.25 |
| | 5054.000 | [illegible].00 | 0.00 | 0.00 | 725.90 | 515.00 | [illegible] | 0.00 | 302.09 | 55.99 | 5.22 | 12.75 | 85.49 |
| | 5054.000 | 3.00 | 0.00 | 0.00 | [illegible] | 605.00 | 91.33 | 0.00 | [illegible] | 120.22 | 9.03 | [illegible] | [illegible] |
| | 5054.000 | 3.00 | 0.50 | 1.00 | 725.83 | 515.00 | 301.97 | 1.00 | [illegible] | 155.58 | 10.19 | 87.[illegible] | 74.[illegible] |
| * | 5054.000 | 3.00 | 0.00 | 0.00 | 725.50 | 1325.00 | 302.30 | 0.00 | [illegible] | 105.28 | 5.77 | [illegible] | 120.11 |
| | 5062.000 | 8.00 | 0.00 | 0.00 | 726.10 | 515.00 | 301.46 | 1.00 | 302.22 | 53.27 | 7.00 | 74.57 | 70.50 |
| | 5062.000 | 3.00 | 0.00 | 1.00 | 726.10 | 605.00 | 301.29 | 0.00 | [illegible] | 111.65 | 11.45 | 73.12 | 75.[illegible] |
| | 5062.000 | 1.00 | 1.00 | 0.00 | 726.10 | [illegible] | 301.[illegible] | 0.00 | [illegible] | 157.01 | 12.12 | [illegible] | [illegible] |
| | 5062.000 | 1.00 | 0.00 | 0.00 | 726.10 | 1325.00 | 303.21 | 0.00 | [illegible] | 41.[illegible] | 1.43 | 255.[illegible] | 20[illegible] |
| | 5063.000 | 1.00 | 0.00 | 0.00 | 726.10 | 515.00 | 301.53 | 0.00 | 302.22 | 32.54 | 5.97 | 75.55 | [illegible] |
| | 5063.000 | 1.00 | 0.00 | 0.00 | 726.10 | 605.00 | 301.70 | 0.00 | [illegible] | 57.03 | 10.43 | 78.27 | 97.59 |
| | 5063.000 | 1.00 | 0.00 | 0.00 | 726.10 | 925.00 | 301.71 | 0.00 | [illegible] | 90.85 | 12.10 | 79.37 | 90.05 |
| | 5063.000 | 1.00 | 0.00 | 1.00 | 726.10 | 1325.00 | 302.24 | 0.00 | 302.91 | 20.12 | 8.00 | 253.32 | 250.00 |

| | SECNO | ALCH | FLTRD | ELLC | FLTIN | C | CNSEL | CRINS | EC | IGKMS | WCH | AREA | *00P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5137.000 | 74.00 | 805.55 | 805.50 | 796.50 | 515.00 | 501.73 | 0.10 | 312.56 | 55.96 | 7.40 | 19.51 | 58.[illegible] |
| | 5137.000 | 74.00 | 805.55 | 805.50 | 796.50 | 515.00 | 302.35 | 0.00 | 304.30 | 55.61 | 11.29 | 79.20 | 12.26 |
| | 5137.000 | 74.00 | 805.55 | 805.50 | 796.50 | 525.00 | 503.05 | 0.00 | 316.37 | 115.23 | 10.84 | 25.23 | 37.10 |
| | 5137.000 | 74.00 | 805.55 | 805.50 | 796.50 | 1325.00 | 805.52 | 0.00 | 805.31 | 5.80 | 5.56 | 422.26 | 425.20 |
| | 5138.000 | 1.00 | 0.00 | 0.00 | 796.50 | 515.00 | 303.65 | 0.00 | 302.[illegible] | 76.42 | 2.04 | [illegible] | 5[illegible] |
| | 5138.000 | 1.00 | 0.00 | 0.00 | 796.50 | 515.00 | 392.76 | 0.00 | 314.10 | 112.65 | 5.23 | 15.26 | 75.00 |
| | 5138.000 | 1.00 | 0.00 | 0.00 | 796.50 | 525.00 | 803.67 | 0.00 | 315.12 | 95.51 | 5.34 | [illegible] | [illegible] |
| | 5138.000 | 1.00 | 0.00 | 0.00 | 796.50 | 1325.00 | 305.69 | 0.00 | 305.54 | 22.81 | 6.06 | 322.62 | 201.27 |
| | 5140.000 | 2.00 | 0.00 | 0.00 | 796.50 | 515.00 | 302.10 | 0.00 | 302.03 | 56.87 | 5.12 | 66.20 | 62.[illegible] |
| | 5140.000 | 2.00 | 0.00 | 0.00 | 796.50 | 505.10 | 302.42 | 0.00 | [illegible] | 76.23 | 2.57 | 100.17 | [illegible] |
| | 5140.000 | 2.00 | 0.00 | 0.00 | 796.50 | 525.10 | 104.35 | 0.00 | 305.1[illegible] | 37.16 | 7.37 | [illegible] | 112.[illegible] |
| | 5140.000 | 2.00 | 0.00 | 0.00 | 796.50 | 1325.00 | 115.7[illegible] | 0.00 | [illegible] | 12.55 | 2.26 | [illegible] | [illegible] |
| | 5187.000 | 47.00 | 0.00 | 0.00 | 796.70 | 515.00 | 302.65 | 0.00 | 302.97 | 56.32 | 4.79 | 137.51 | 37.50 |
| | 5187.000 | 47.00 | 0.00 | 0.00 | 796.70 | 605.00 | 204.50 | 0.00 | 204.60 | 16.31 | 4.97 | 295.70 | 195.25 |
| | 5187.000 | 47.00 | 0.00 | 0.00 | 796.70 | 525.00 | 305.50 | 0.00 | [illegible] | 10.17 | 5.52 | [illegible] | 296.70 |
| | 5187.000 | 47.00 | 0.00 | 0.00 | 796.70 | 1325.00 | 305.7[illegible] | 0.00 | 305.97 | 16.05 | 4.45 | [illegible] | [illegible] |
| | 5580.000 | 393.00 | 0.00 | 0.00 | 798.70 | 515.00 | 310.55 | 0.00 | 303.02 | 7.53 | 1.90 | 515.20 | 137.71 |
| | 5580.000 | 393.00 | 0.00 | 0.00 | 798.70 | 605.00 | 206.92 | 0.00 | 304.96 | 4.04 | 1.70 | 590.[illegible] | 400.52 |
| | 5580.000 | 393.00 | 0.00 | 0.00 | 798.70 | 625.00 | 305.70 | 0.00 | 305.72 | 2.75 | 1.53 | 853.27 | 549.21 |
| | 5580.000 | 393.00 | 0.00 | 0.00 | 798.70 | 1325.00 | 51[illegible] | 0.00 | [illegible] | 3.20 | 1.55 | [illegible] | [illegible] |
| | 5930.000 | 550.00 | 0.00 | 0.00 | 01.10 | 515.00 | 306.22 | 306.27 | 31[illegible] | 120.05 | [illegible] | 132.55 | 40[illegible] |
| | 5930.000 | 550.00 | 0.00 | 0.00 | 01.10 | 605.00 | 305.10 | 0.00 | 315.2[illegible] | 47.66 | 5.47 | 505.75 | 11[illegible] |
| | 5930.000 | 550.00 | 0.00 | 0.00 | 01.10 | 1325.00 | 300.35 | 0.00 | 300.52 | 22.51 | 4.65 | 544.05 | 275.[illegible] |
| | 6005.000 | 75.00 | 0.00 | 0.00 | 01.60 | 515.00 | 312.15 | 0.10 | 305.5[illegible] | 54.67 | 0.59 | 172.20 | [illegible] |
| | 6005.000 | 75.00 | 0.00 | 0.00 | 01.60 | 605.00 | 305.5[illegible] | 0.00 | 305.[illegible] | 27.82 | 5.21 | [illegible] | 91.[illegible] |
| | 6005.000 | 75.00 | 0.00 | 0.00 | 01.60 | 625.00 | 305.5[illegible] | 0.00 | 306.2[illegible] | 47.65 | 5.42 | 294.59 | 135.55 |
| | 6005.000 | 75.00 | 0.00 | 0.00 | 01.60 | 1325.00 | 306.36 | 0.00 | [illegible] | 32.13 | 5.91 | 551.65 | 106.[illegible] |
| | 6040.000 | 35.00 | 0.00 | 0.00 | 01.50 | 515.00 | 303.33 | 0.00 | [illegible] | 115.19 | 3.51 | [illegible] | [illegible] |
| | 6040.000 | 35.00 | 0.00 | 0.00 | 01.50 | 605.00 | 305.74 | 0.01 | 305.21 | 115.[illegible] | 3.24 | 1[illegible] | 77.[illegible] |
| | 6040.000 | 35.00 | 0.00 | 0.00 | 01.50 | 625.00 | [illegible] | 0.00 | [illegible] | 76.58 | 3.30 | 639.41 | [illegible] |
| | 6040.000 | 35.00 | 0.00 | 0.00 | 01.50 | 1325.00 | 316.71 | 0.00 | 307.05 | 55.35 | 5.61 | 353.36 | 195.[illegible] |
| | 6075.000 | 35.00 | 0.00 | 0.00 | 02.10 | 515.00 | 305.75 | 0.00 | 06.1[illegible] | 55.07 | 6.08 | 148.56 | 52.[illegible] |
| | 6075.000 | 35.00 | 0.00 | 0.00 | 02.10 | 605.00 | 302.20 | 0.00 | [illegible] | 33.45 | 5.59 | 219.[illegible] | 85.[illegible] |
| | 6075.000 | 35.00 | 0.00 | 0.00 | 02.10 | [illegible] | 305.62 | 0.00 | 305.71 | 32.55 | 6.58 | [illegible] | 112.[illegible] |
| | 6075.000 | 35.00 | 0.00 | 0.00 | 02.10 | 1325.00 | 306.92 | 0.00 | 307.59 | 71.10 | 5.49 | [illegible] | 157.14 |
| * | 6110.000 | 35.00 | 0.00 | 0.00 | 02.40 | 515.00 | 305.12 | 305.12 | 305.03 | 125.33 | 6.76 | 126.11 | 64.01 |
| * | 6110.000 | 35.00 | 0.00 | 0.00 | 02.40 | 605.10 | 305.52 | 305.52 | 307.08 | 126.03 | 7.58 | 167.02 | 71.[illegible] |
| | 6110.000 | 35.00 | 0.00 | 0.00 | 02.40 | [illegible] | 306.55 | 0.00 | [illegible] | 126.33 | 7.95 | [illegible] | [illegible] |
| | 6110.000 | 35.00 | 0.00 | 0.00 | 02.40 | 1325.00 | 307.45 | 0.00 | 307.07 | 115.39 | 7.38 | [illegible] | 12.[illegible] |
| | 6145.000 | 35.00 | 0.00 | 0.00 | 02.50 | 515.00 | 306.71 | 0.00 | 307.[illegible] | 35.06 | 5.37 | 104.53 | 61.57 |
| | 6145.000 | 35.00 | 0.00 | 0.00 | 02.50 | 605.00 | [illegible] | 0.00 | 307.47 | 26.03 | 6.17 | 252.33 | 93.[illegible] |
| | 6145.000 | 35.00 | 0.00 | 0.00 | 02.50 | 625.00 | 307.[illegible] | 0.00 | 307.34 | [illegible] | 5.52 | 256.[illegible] | 105.[illegible] |
| | 6145.000 | 35.00 | 0.00 | 0.00 | 02.50 | 1325.00 | 307.54 | 0.00 | [illegible] | [illegible] | 7.73 | [illegible] | 2[illegible] |

| SEC'D | XLCT | ELTRD | ELEC | [illegible] | D | DISEL | CITYS | EG | [illegible] | VCP | ADEP | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5020.000 | 675.00 | 0.00 | 0.00 | 905.00 | 315.00 | 1[illegible]0.3 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5520.000 | 675.00 | 0.00 | 0.00 | 905.00 | 315.00 | [illegible] | 0.00 | 11.22 | [illegible] | [illegible] | 1[illegible] | [illegible] |
| 5520.000 | 475.00 | 0.00 | 0.00 | 905.00 | 1325.00 | 311.02 | 0.00 | 51[illegible] | 0.22 | 7.01 | 209.[illegible] | 102.[illegible] |
| 5520.000 | 475.00 | 0.00 | 0.00 | 905.00 | 1325.00 | 311.51 | 0.00 | 512.1[illegible] | [illegible] | 7.00 | [illegible] | 150.[illegible] |
| 5660.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 50.[illegible] |
| 5660.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.71 | [illegible] | [illegible] |
| 5660.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5650.000 | 40.00 | 0.00 | 0.00 | 0.00 | 1325.00 | 311.54 | 0.00 | [illegible] | 11[illegible] | 5.01 | [illegible] | 126.[illegible] |
| 6700.000 | 40.00 | 0.00 | 0.00 | 0.00 | 515.00 | 810.95 | 0.00 | 311.51 | 113.78 | 7.30 | 7.05 | 47.27 |
| 6700.000 | 40.00 | 0.00 | 0.00 | 0.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6700.000 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 0.00 | [illegible] | 1.5.[illegible] | 9.15 | [illegible] | [illegible] |
| 6700.000 | [illegible] | [illegible] | 0.00 | 0.00 | 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11.52 | [illegible] | [illegible] |
| 6780.000 | 0.00 | 0.00 | 0.00 | 0.00 | 515.00 | 311.65 | 0.00 | 12.[illegible] | [illegible] | 5.52 | 94.57 | [illegible] |
| 6780.000 | 0.00 | 0.00 | 0.00 | 0.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 3.55 | 114.55 | [illegible] |
| 6780.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6780.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11.77 | [illegible] | [illegible] |
| 6785.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.21 | 93.00 | [illegible] |
| 6785.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.53 | 125.[illegible] | [illegible] |
| 6785.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.99 | 1[illegible] | [illegible] |
| 6785.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6824.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 157.[illegible] | [illegible] | |
| 6824.000 | [illegible] | 814.00 | [illegible] | [illegible] | [illegible] | [illegible] | 0.01 | [illegible] | [illegible] | 4.74 | 197.41 | [illegible] |
| 6824.000 | [illegible] | 814.00 | [illegible] | [illegible] | 1325.00 | [illegible] | 0.00 | [illegible] | 1.48 | 2.41 | 1052.[illegible] | [illegible] |
| 6825.000 | 1.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.11 | [illegible] | [illegible] | [illegible] |
| 6825.000 | 1.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.06 | [illegible] | [illegible] | [illegible] |
| 6825.000 | 1.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.56 | [illegible] | [illegible] | [illegible] |
| 6825.000 | 1.00 | 0.00 | [illegible] | [illegible] | 1325.00 | [illegible] | [illegible] | [illegible] | 6.00 | 2.99 | [illegible] | [illegible] |
| 6830.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6830.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.45 | [illegible] | [illegible] |
| 6830.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.54 | [illegible] | [illegible] |
| 6830.000 | [illegible] | 0.00 | [illegible] | [illegible] | 1315.00 | 815.23 | 0.00 | 815.[illegible] | 23.04 | 5.06 | 250.55 | [illegible] |
| 7120.000 | 250.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7120.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7120.000 | 250.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11.[illegible] | 4.25 | [illegible] | [illegible] |
| 7120.000 | 250.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7370.000 | 250.00 | 0.00 | 0.00 | [illegible] | [illegible] | 812.97 | 0.00 | 814.11 | 40.42 | 5.48 | 215.07 | 86.31 |
| 7370.000 | 250.00 | 0.00 | 0.00 | [illegible] | [illegible] | 814.55 | 0.00 | [illegible] | 15.04 | 3.72 | [illegible] | 144.31 |
| 7370.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.58 | [illegible] | [illegible] |
| 7370.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7620.000 | 250.00 | 0.00 | 0.00 | [illegible] | 250.00 | 814.[illegible] | 0.00 | 814.95 | 37.55 | 5.97 | 231.09 | 70.41 |
| 7620.000 | 250.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 815.55 | 25.73 | 4.09 | 372.11 | 121.[illegible] |
| 7620.000 | 250.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24.53 | 4.16 | [illegible] | [illegible] |
| 7620.000 | 250.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.01 | [illegible] | 15.50 | 3.07 | [illegible] | [illegible] |

| SECID | XLCP | ELTRD | ELLC | ELHA | D | DHSAL | CRTHS | ES | 10KHS | VCP | APEA | aPIK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7720.000 | 100.00 | 0.00 | 0.00 | 810.00 | 0.00.0 | 315.95 | 0.00 | 315.83 | 70.85 | 0.74 | 157.35 | 44.[illegible] |
| 7720.000 | 100.00 | 0.00 | 0.00 | 810.80 | 215.00 | 315.71 | 0.00 | 315.51 | 32.51 | 0.79 | 212.28 | 77.[illegible] |
| 7720.000 | 100.00 | 0.00 | 0.00 | 810.80 | 710.00 | 315.95 | 0.00 | 315.18 | 57.63 | 0.76 | 215.28 | 96.01 |
| 7720.000 | 100.00 | 0.00 | 0.00 | 810.80 | 1015.00 | 315.70 | 0.00 | 315.65 | 33.[illegible] | 0.26 | 476.35 | 197.07 |
| 7520.000 | 100.00 | 0.00 | 0.00 | 811.80 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 159.12 | 41.[illegible] |
| 7520.000 | 100.00 | 0.00 | 0.00 | 811.80 | 015.00 | 520.35 | 0.00 | 310.00 | 32.57 | 0.62 | 227.21 | 45.73 |
| 7520.000 | 100.00 | 0.00 | 0.00 | 811.80 | 710.00 | 510.52 | 0.00 | 310.0[illegible] | 25.0[illegible] | 0.76 | 209.20 | 76.70 |
| 7520.000 | 700.00 | 0.00 | 0.00 | 811.80 | 1015.00 | 517.13 | 0.00 | 317.[illegible] | 07.23 | 0.64 | 373.10 | 125.75 |
| 7370.000 | 50.00 | 0.00 | 0.00 | 812.10 | [illegible] | 510.37 | 0.00 | 310.72 | 59.25 | 0.30 | 141.60 | [illegible] |
| 7370.000 | 50.00 | 0.00 | 0.00 | 812.10 | 015.00 | 515.[illegible] | 0.00 | 317.15 | [illegible] | 0.92 | 215.10 | [illegible] |
| 7370.000 | 50.00 | 0.00 | 0.00 | 812.10 | 710.00 | [illegible] | 0.00 | 317.[illegible] | 90.98 | 0.10 | 27[illegible] | 72.10 |
| 7370.000 | 50.00 | 0.00 | 0.00 | 812.10 | 1015.00 | 317.[illegible] | 0.00 | 317.[illegible] | 33.38 | 0.31 | 112.5 | 10.[illegible] |
| 8120.000 | 250.00 | 0.00 | 0.00 | 816.10 | 300.00 | 312.36 | 0.00 | 310.53 | 55.[illegible] | 5.15 | 187.95 | 52.86 |
| 8120.000 | 250.00 | 0.00 | 0.00 | 816.10 | 015.00 | 310.78 | 0.00 | 310.97 | 54.[illegible] | 5.59 | 273.21 | [illegible] |
| 8120.000 | 250.00 | 0.00 | 0.00 | 816.10 | 710.00 | [illegible] | 0.00 | [illegible] | 35.85 | [illegible] | [illegible] | [illegible] |
| 8120.000 | 250.00 | 0.00 | 0.00 | 816.10 | 1015.00 | 315.21 | 0.00 | 31[illegible] | 31.97 | 3.39 | [illegible] | 137.[illegible] |
| 8191.000 | 71.00 | 0.00 | 0.00 | 814.70 | 300.00 | [illegible] | 0.00 | [illegible] | 42.77 | 3.09 | 156.38 | 42.17 |
| 8191.000 | 71.00 | 0.00 | 0.00 | 814.70 | 015.00 | [illegible] | 0.00 | 315.[illegible] | 28.51 | 2.63 | 235.75 | 49.08 |
| 8191.000 | 71.00 | 0.00 | 0.00 | 814.70 | 710.00 | 319.[illegible] | 0.00 | 31[illegible] | 77.12 | 5.60 | 207.09 | 30.[illegible] |
| 8191.000 | 71.00 | 0.00 | 0.00 | 814.70 | 1015.00 | 319.[illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 357.33 | 115.[illegible] |
| 8262.000 | 71.00 | 0.00 | 0.00 | 815.00 | [illegible] | 1[illegible] | 0.00 | [illegible] | 111.54 | 0.54 | [illegible] | [illegible] |
| 8262.000 | 71.00 | 0.00 | 0.00 | 815.00 | 015.00 | 319.[illegible] | 0.00 | 320.75 | 101.32 | 0.19 | 208.33 | 91.[illegible] |
| 8262.000 | 71.00 | 0.00 | 0.00 | 815.00 | 710.00 | 319.[illegible] | 0.00 | 320.70 | 100.36 | 0.37 | 233.61 | 70.[illegible] |
| 8262.000 | 71.00 | 0.00 | 0.00 | 815.00 | 1015.00 | [illegible] | 0.00 | 320.71 | 100.92 | 0.93 | 303.43 | 101.00 |
| 8333.000 | 71.00 | 0.00 | 0.00 | 816.00 | 0.0 | 510.19 | 0.00 | 320.41 | [illegible] | 3.11 | 1[illegible] | [illegible] |
| 8333.000 | 71.00 | 0.00 | 0.00 | 816.00 | 015.00 | [illegible] | 0.00 | [illegible] | [illegible] | 0.15 | 157.[illegible] | [illegible] |
| 8333.000 | 71.00 | 0.00 | 0.00 | 816.00 | 710.00 | 521.03 | 0.00 | 521.02 | 99.18 | 0.45 | 217.26 | 71.[illegible] |
| 8333.000 | 71.00 | 0.00 | 0.00 | 816.00 | 1015.00 | 521.04 | 0.00 | 521.[illegible] | 100.31 | 3.27 | 273.53 | 58.44 |
| 8352.000 | 20.00 | 0.00 | 0.00 | 816.20 | [illegible] | [illegible] | 0.00 | [illegible] | 93.[illegible] | 0.47 | [illegible] | 40.2 |
| 8353.000 | 20.00 | 0.00 | 0.00 | 816.20 | 015.00 | [illegible] | 0.00 | 31[illegible] | 111.[illegible] | 0.32 | 309.64 | [illegible] |
| 8353.000 | 20.00 | 0.00 | 0.00 | 816.20 | 710.00 | [illegible] | 0.00 | [illegible] | 111.[illegible] | 0.61 | 315.48 | [illegible] |
| 8353.000 | 20.00 | 0.00 | 0.00 | 816.20 | 1015.00 | 521.25 | 0.00 | 521.22 | 111.37 | 0.42 | 232.34 | [illegible] |
| 8373.000 | 20.00 | 0.00 | 0.00 | 816.40 | [illegible] | [illegible] | 0.00 | [illegible] | 1[illegible].22 | 0.75 | 126.27 | 35.44 |
| 8373.000 | 20.00 | 0.00 | 0.00 | 816.40 | 015.00 | [illegible] | 0.00 | [illegible] | [illegible] | 0.59 | 119.46 | [illegible] |
| 8373.000 | 20.00 | 0.00 | 0.00 | 816.40 | 710.00 | 521.01 | 0.00 | 521.47 | 112.[illegible] | 0.92 | 157.21 | [illegible] |
| 8373.000 | 20.00 | 0.00 | 0.00 | 816.40 | 1015.00 | [illegible] | 0.00 | 521.47 | 111.38 | 0.75 | 23[illegible] | [illegible] |
| 8382.000 | [illegible] | 0.00 | 0.00 | 816.50 | 300.00 | 520.93 | 0.00 | 820.97 | 16.49 | 1.81 | 272.45 | 103.97 |
| 8382.000 | [illegible] | 0.00 | 0.00 | 816.50 | 015.00 | 521.[illegible] | 0.00 | 821.45 | 23.27 | 2.46 | 319.97 | 127.45 |
| 8382.000 | [illegible] | 0.00 | 0.00 | 816.50 | 710.00 | 521.5[illegible] | 0.00 | [illegible] | 23.36 | 2.69 | [illegible] | [illegible] |
| 8382.000 | [illegible] | 0.00 | 0.00 | 816.50 | 1015.00 | [illegible] | 0.00 | [illegible] | 25.16 | 2.56 | 295.0[illegible] | 165.54 |
| 8383.000 | 1.00 | 0.00 | 0.00 | 816.50 | 300.00 | 520.93 | 0.00 | 820.97 | 8.33 | 2.16 | 272.25 | 104.15 |
| 8383.000 | 1.00 | 0.00 | 0.00 | 816.50 | 015.00 | 521.[illegible] | 0.00 | 821.6 | 7.54 | 2.97 | 319.56 | 227.61 |
| 8383.000 | 1.00 | 0.00 | 0.00 | 816.50 | 710.00 | [illegible].54 | 0.00 | 1.[illegible] | [illegible].31 | 3.27 | 337.10 | 283.41 |
| 8383.000 | 1.00 | 0.00 | 0.00 | 816.50 | 1015.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 295.[illegible] |

| | SECND | HLCH | CLTRD | SLLC | SLMI | [illegible] | [illegible] | CRINC | FG | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6413.000 | 35.00 | 821.80 | 820.00 | 31.50 | [illegible] | [illegible] | 0.00 | 21.57 | [illegible] | 0.23 | 11.14 | [illegible] |
| | 6413.000 | 35.00 | 821.00 | 820.00 | 316.50 | 015.00 | [illegible] | 0.00 | 22.54 | [illegible] | [illegible] | [illegible] | [illegible] |
| | 6418.000 | 35.00 | 821.00 | 820.00 | 316.50 | 710.00 | 022.53 | 0.00 | 22.51 | [illegible] | 0.42 | [illegible] | [illegible] |
| | 6419.000 | 35.00 | 821.00 | 820.00 | 316.50 | 1015.00 | 023.17 | 0.00 | [illegible] | 0.35 | 0.01 | 514.62 | 661.19 |
| | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 419.000 | 1.00 | [illegible] | [illegible] | 16.50 | [illegible] | 022.41 | 0.00 | [illegible] | [illegible] | 1.11 | [illegible] | [illegible] |
| | 419.000 | 1.00 | [illegible] | [illegible] | 13.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 433.01 |
| | 8419.000 | 1.00 | 0.00 | 0.00 | 315.50 | 1015.00 | 023.20 | 0.00 | 123.77 | 5.24 | 1.41 | 527.40 | [illegible] |
| | 8500.000 | 61.00 | 0.00 | 0.00 | 1.10 | [illegible] | 21.61 | [illegible] | 21.57 | 5.67 | 2.20 | 176.74 | 15.[illegible] |
| | 8500.000 | 61.00 | 0.00 | 0.00 | 315.10 | [illegible] | 022.41 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 8500.000 | 61.00 | 0.00 | 0.00 | 315.10 | 710.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 277.1 |
| | 8500.000 | 61.00 | 0.00 | 0.00 | 315.10 | 1015.00 | [illegible] | 0.00 | [illegible] | 1[illegible].15 | 0.77 | [illegible] | 274.64 |
| | 8564.000 | 64.00 | 0.00 | 0.00 | 316.00 | 0.00 | 821.65 | 0.00 | [illegible] | 5.5[illegible] | 2.55 | 153.14 | 125.03 |
| | 8564.000 | 64.00 | 0.00 | 0.00 | 316.50 | 015.00 | 022.65 | [illegible] | 022.51 | 12.27 | 5.15 | 195.47 | 175.55 |
| | 8564.000 | 64.00 | 0.00 | 0.00 | 316.50 | 710.00 | [illegible] | [illegible] | [illegible] | [illegible] | 3.41 | [illegible] | [illegible] |
| | 8564.000 | 64.00 | 0.00 | 0.00 | 316.50 | 1015.00 | 023.25 | [illegible] | [illegible] | [illegible] | 4.21 | [illegible] | [illegible] |
| | 8614.000 | 51.00 | 0.00 | 0.00 | 16.50 | 590.00 | 021.65 | 0.00 | 021.54 | 15.77 | 3.49 | [illegible] | 105.05 |
| | 8614.000 | 51.00 | 0.00 | 0.00 | 16.50 | 515.00 | 022.66 | 0.00 | 022.75 | 1[illegible].34 | 4.49 | 151.50 | 152.5[illegible] |
| | 8614.000 | 51.00 | 0.00 | 0.00 | 16.50 | 710.00 | 022.50 | 0.00 | [illegible] | [illegible] | 4.89 | 152.44 | 155.1[illegible] |
| | 8614.000 | 51.00 | 0.00 | 0.00 | 316.50 | 1015.00 | 023.21 | 0.00 | [illegible] | [illegible] | 3.03 | [illegible] | [illegible] |
| | 8615.000 | 1.00 | 820.20 | 819.70 | 319.50 | [illegible] | 22.43 | 0.00 | [illegible] | [illegible] | 4.00 | [illegible] | [illegible] |
| | 8615.000 | 1.00 | 820.20 | 819.70 | 319.50 | 615.00 | 323.04 | 0.00 | 323.31 | 40.37 | 5.69 | 124.92 | [illegible] |
| | 8615.000 | 1.00 | 820.20 | 819.70 | 319.50 | 710.00 | 323.25 | 0.00 | 323.75 | 44.54 | 6.15 | 153.43 | 106.[illegible] |
| | 8615.000 | 1.00 | 820.20 | 819.70 | 319.50 | 1015.00 | 323.33 | 0.00 | 324.34 | 5[illegible].09 | 7.54 | 1[illegible].1[illegible] | 132.04 |
| * | 9055.000 | 1.00 | 0.00 | 0.00 | 20.[illegible] | [illegible] | [illegible] | 823.[illegible] | 824.51 | 23.1[illegible] | [illegible].02 | [illegible] | 23.[illegible] |
| * | 9055.000 | 1.00 | 0.00 | 0.00 | 20.[illegible] | [illegible] | [illegible] | 824.1 | 824.[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9055.000 | 1.00 | 0.00 | 0.00 | 20.20 | [illegible] | [illegible] | 824.93 | 1[illegible].73 | 21.00 | 10.39 | 38.44 | 43.07 |
| * | 9055.000 | 1.00 | 0.00 | 0.00 | 20.[illegible] | [illegible] | [illegible] | 826.50 | 127.77 | 1[illegible].99 | 9.23 | 153.51 | 97.67 |
| | 9087.000 | 32.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 25.52 | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9087.000 | 32.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | 2[illegible].0 | 72.76 | [illegible] | 15.07 | 72.[illegible] |
| | 9087.000 | 32.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | 27.27 | [illegible].54 | 0.01 | [illegible] | [illegible] |
| * | 9087.000 | 32.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.57 | 825.76 | 125.19 | 42.25 | 3.49 | 235.21 | 153.15 |
| | 9120.000 | 33.00 | 0.00 | 0.00 | 20.70 | [illegible] | 823.77 | [illegible] | 125.30 | [illegible].76 | 0.13 | 03.15 | 42.57 |
| | 9120.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.95 | [illegible] | [illegible] |
| | 9120.000 | 33.00 | 0.00 | [illegible] | [illegible] | 710.00 | 823.77 | 0.00 | [illegible].51 | 0[illegible].50 | [illegible].07 | [illegible] | 65.[illegible] |
| | 9120.000 | 33.00 | 0.00 | [illegible] | [illegible] | [illegible] | 824.17 | 0.00 | [illegible] | 31.[illegible] | 7.12 | [illegible] | [illegible] |
| | 9185.000 | 65.00 | 0.00 | 0.00 | 320.20 | [illegible] | [illegible].7 | 0.00 | [illegible] | [illegible] | 6.37 | 64.25 | 63.57 |
| | 9185.000 | 65.00 | 0.00 | 0.00 | 320.20 | 015.00 | 823.81 | 0.00 | 827.57 | 77.45 | 7.32 | 52.36 | [illegible] |
| | 9185.000 | 65.00 | 0.00 | 0.00 | 320.20 | 710.00 | [illegible] | 0.00 | [illegible] | 72.26 | 7.22 | [illegible] | [illegible] |
| | 9185.000 | 65.00 | 0.00 | 0.00 | 320.20 | 1015.00 | [illegible] | 827.53 | 13.36 | 33.31 | [illegible].39 | 145.52 | 127.[illegible] |
| | 9250.000 | 65.00 | 0.00 | 0.00 | 321.60 | 590.00 | 823.57 | 0.00 | 823.33 | [illegible] | 5.30 | [illegible] | 26.71 |
| | 9250.000 | 65.00 | 0.00 | 0.00 | 321.60 | 615.00 | 827.59 | 0.00 | [illegible] | 36.67 | 6.68 | 99.41 | 75.32 |
| | 9250.000 | 65.00 | 0.00 | 0.00 | 321.60 | 710.00 | 827.75 | 0.00 | 832.45 | 62.96 | 8.87 | 120.32 | 65.50 |
| | 9250.000 | 65.00 | 0.00 | 0.00 | 321.60 | 1015.00 | 832.37 | 0.00 | [illegible].25 | 62.57 | 7.55 | 137.10 | 129.31 |

| | SECNO | XLC- | ELTRD | ELLC | ELHAM | U | CHSEL | CRINS | FG | 10K*S | VLH | AREA | *010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9315.000 | 65.00 | 0.00 | 0.00 | 822.10 | [illegible] | 326.70 | 0.00 | 322.[illegible] | 72.41 | 5.48 | 26.[illegible] | 25.81 |
| | 9315.000 | 65.00 | 0.00 | 0.00 | 822.10 | [illegible] | [illegible] | 0.00 | 322.53 | 37.67 | 5.11 | [illegible] | 75.[illegible] |
| | 9315.000 | 65.00 | 0.00 | 0.00 | 822.10 | 715.00 | [illegible] | 0.00 | 322.71 | 83.95 | 7.09 | 113.[illegible] | 85.51 |
| | 9315.000 | 65.00 | 0.00 | 0.00 | 822.10 | 1015.00 | [illegible] | 326.45 | 329.71 | 68.05 | 7.82 | 177.02 | 122.50 |
| | 9354.000 | 69.00 | 0.00 | 0.00 | [illegible] | [illegible] | 327.32 | 0.00 | 327.[illegible] | 95.32 | 5.20 | [illegible] | [illegible] |
| | 9354.000 | 69.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 62.70 | 4.80 | 1[illegible] | 54.[illegible] |
| | 9354.000 | 69.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 329.27 | 37.30 | 4.84 | 1[illegible] | 116.[illegible] |
| | 9354.000 | 69.00 | 0.00 | 0.00 | 323.40 | 1015.00 | 329.[illegible] | 0.00 | 329.97 | 37.75 | 5.51 | 205.12 | 165.21 |
| | 9355.000 | 1.00 | 0.00 | 0.00 | 822.40 | 650.00 | 327.34 | 0.00 | 327.75 | 259.45 | 5.16 | 75.53 | 24.[illegible] |
| | 9355.000 | 1.00 | 0.00 | 0.00 | 822.40 | 515.00 | 325.32 | 0.00 | 323.91 | 93.31 | 6.33 | [illegible] | [illegible] |
| | 9355.000 | 1.00 | 0.00 | 0.00 | [illegible] | 710.00 | 325.30 | 0.00 | 326.23 | 75.43 | 6.19 | 135.[illegible] | 11.[illegible] |
| | 9355.000 | 1.00 | 0.00 | 0.00 | [illegible] | 1015.00 | 329.70 | 0.00 | [illegible] | 69.50 | 6.53 | 239.[illegible] | 122.[illegible] |
| * | 9360.000 | 5.00 | 826.60 | 828.50 | 822.40 | 330.00 | 327.47 | 327.47 | 326.65 | 368.53 | 3.65 | 45.85 | 13.23 |
| | 9360.000 | 5.00 | 826.60 | 828.50 | 823.60 | 615.00 | 329.39 | 0.00 | 329.91 | 175.46 | 5.54 | 108.47 | 43.[illegible] |
| | 9360.000 | 5.00 | 823.60 | 825.50 | 822.60 | 710.00 | 329.32 | 0.00 | [illegible] | 117.70 | 4.53 | 134.[illegible] | 55.42 |
| | 9360.000 | 5.00 | 823.60 | 825.50 | 822.60 | 1015.00 | [illegible] | 0.00 | 331.21 | 75.20 | 4.58 | [illegible] | 114.[illegible] |
| | 9361.000 | 1.00 | 0.00 | 0.00 | 823.40 | 390.00 | 325.25 | 0.00 | 327.52 | 136.10 | 6.15 | 33.66 | 33.11 |
| | 9361.000 | 1.00 | 0.00 | 0.00 | 823.40 | 615.00 | 329.32 | 0.00 | 330.08 | 100.31 | 6.71 | 104.54 | 58.[illegible] |
| | 9361.000 | 1.00 | 0.00 | 0.00 | 823.40 | 710.00 | 329.75 | 0.00 | 330.40 | 95.37 | 6.75 | 129.71 | 72.51 |
| | 9361.000 | 1.00 | 0.00 | 0.00 | 823.41 | 1015.00 | [illegible] | 0.00 | [illegible] | 95.57 | 7.50 | [illegible] | [illegible] |
| | 9410.000 | 49.00 | 0.00 | 0.00 | [illegible] | [illegible] | 329.42 | 0.00 | [illegible] | 112.03 | [illegible] | 54.[illegible] | [illegible] |
| | 9410.000 | 49.00 | 0.00 | 0.00 | 824.51 | 390.00 | 330.37 | 0.00 | 331.72 | 123.51 | 8.25 | 91.65 | 53.[illegible] |
| | 9410.000 | 49.00 | 0.00 | 0.00 | 824.51 | 1015.00 | 330.74 | 330.43 | 332.21 | 141.05 | 7.75 | 128.57 | 95.[illegible] |
| | 9495.000 | 65.00 | 0.00 | 0.00 | 826.[illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 195.26 | 7.67 | 49.[illegible] | 27.91 |
| | 9495.000 | 65.00 | 0.00 | 0.00 | [illegible] | [illegible] | 330.36 | [illegible] | [illegible] | 133.[illegible] | 1.94 | 63.[illegible] | 65.[illegible] |
| | 9495.000 | 65.00 | 0.00 | 0.00 | [illegible] | 715.00 | [illegible] | [illegible] | 322.55 | 182.05 | 7.39 | 77.33 | 57.33 |
| * | 9495.000 | 65.00 | 0.00 | 0.00 | 826.40 | 1015.00 | 332.34 | 332.34 | 333.70 | 155.15 | 5.64 | 157.[illegible] | [illegible] |
| | 9580.000 | 85.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 190.32 | 7.74 | [illegible] | [illegible] |
| | 9580.000 | 5.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 333.72 | 193.50 | 5.37 | 82.14 | [illegible] |
| | 9580.000 | 85.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.54 | [illegible] | 51.[illegible] |
| * | 9580.000 | 85.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | [illegible] | 335.22 | 95.51 | 6.43 | 201.31 | [illegible] |
| | 9565.000 | 85.00 | 0.00 | 0.00 | 830.10 | [illegible] | [illegible] | 0.00 | 334.15 | 199.59 | 7.74 | 50.61 | 27.[illegible] |
| | 9565.000 | 85.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.06 | [illegible] | [illegible] |
| | 9565.000 | 85.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 333.39 | 196.[illegible] | 5.52 | 70.52 | 50.[illegible] |
| * | 9565.000 | 85.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.00 | 255.71 | [illegible] |
| | 9586.000 | 21.00 | 0.00 | 0.00 | 830.60 | [illegible] | [illegible] | 0.00 | 333.62 | 215.79 | 6.06 | 45.6 | 26.57 |
| | 9586.000 | 21.00 | 0.00 | 0.00 | 830.60 | 715.00 | 334.47 | 334.29 | 335.84 | 213.09 | 5.37 | 56.13 | 62.13 |
| | 9586.000 | 21.00 | 0.00 | 0.00 | 830.60 | 715.00 | 334.[illegible] | 334.62 | [illegible] | 211.[illegible] | 5.36 | 72.57 | [illegible] |
| * | 9586.000 | 21.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | [illegible] | [illegible] | 88.03 | 7.07 | 150.[illegible] | [illegible] |
| | 9707.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 333.95 | 149.71 | 7.10 | 53.92 | 31.58 |
| | 9707.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 147.53 | 6.14 | 80.14 | 52.57 |
| | 9707.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.50 | 122.[illegible] | [illegible] |
| | 9707.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | SECND | YLCH | FLTCD | SLLC | FLMIC | Q | D-SEL | D-TPS | TG | TCMS | VCH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9728.000 | 21.00 | 0.00 | 0.00 | 331.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9728.000 | 21.00 | 0.00 | 0.00 | 331.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9728.000 | 21.00 | 0.00 | 0.00 | 331.50 | 1015.00 | 77.62 | [illegible] | 37.79 | 5[illegible] | 5.71 | [illegible] | 131.10 |
| | 9750.000 | 22.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9750.000 | 22.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9750.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9750.000 | 22.00 | 0.00 | 0.00 | 332.00 | 1017.00 | [illegible] | [illegible] | [illegible] | 55.76 | 0.83 | 293.10 | [illegible] |
| | 9771.000 | 21.00 | 0.00 | 0.00 | 332.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.64 | 51.00 | 23.47 |
| | 9771.000 | 21.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 45.75 |
| * | 9771.000 | 21.00 | 0.00 | 0.00 | 332.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9771.000 | 21.00 | 0.00 | 0.00 | 332.00 | 1115.00 | [illegible] | 0.00 | [illegible] | 75.56 | [illegible] | [illegible] | [illegible] |
| | 9792.000 | 21.00 | 0.00 | 0.00 | 332.90 | [illegible] | 115.72 | 0.00 | [illegible] | 107.36 | [illegible] | 50.50 | 37.74 |
| | 9792.000 | 21.00 | 0.00 | 0.00 | 332.90 | [illegible] | 836.50 | 836.27 | [illegible] | [illegible] | 0.99 | [illegible] | 44.[illegible] |
| * | 9792.000 | 21.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9792.000 | 21.00 | 0.00 | 0.00 | [illegible] | 1115.00 | [illegible] | [illegible] | [illegible] | 31.[illegible] | [illegible] | [illegible] | 118.[illegible] |
| | 9813.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 175.53 | 7.40 | 32.25 | 29.[illegible] |
| | 9813.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.31 | 21.[illegible] | [illegible] |
| * | 9813.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | 37.75 | [illegible] | [illegible] | [illegible] | 7.35 | 195.32 | 75.21 |
| * | 9813.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9856.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.17 | [illegible] | [illegible] |
| * | 9856.000 | 41.00 | 0.00 | 0.00 | 334.30 | 715.00 | [illegible] | [illegible] | [illegible] | 55.27 | 0.37 | 153.75 | [illegible] |
| * | 9856.000 | 41.00 | 0.00 | 0.00 | 334.30 | 1011.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.32 | [illegible] | 136.61 |
| | 9877.000 | 21.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9877.000 | 21.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9877.000 | 21.00 | 0.00 | 0.00 | [illegible] | 715.00 | [illegible] | [illegible] | [illegible] | [illegible] | 0.92 | [illegible] | [illegible] |
| * | 9877.000 | 21.00 | 0.00 | 0.00 | [illegible] | 1115.00 | [illegible] | [illegible] | [illegible] | 51.53 | 7.32 | [illegible] | 136.[illegible] |
| | 9898.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.27 | [illegible] | [illegible] |
| * | 9898.000 | 21.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.19 | [illegible] | [illegible] |
| * | 9898.000 | 21.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 9898.000 | 21.00 | 0.00 | 0.00 | [illegible] | 1115.00 | [illegible] | [illegible] | [illegible] | 15.57 | 7.22 | [illegible] | 105.[illegible] |
| | 9920.000 | 22.00 | 0.00 | 0.00 | 335.70 | [illegible] | [illegible] | 0.00 | 39.13 | 192.10 | 7.65 | 52.[illegible] | 28.14 |
| * | 9920.000 | 22.00 | 0.00 | 0.00 | 335.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.73 | [illegible] | 50.17 |
| * | 9920.000 | 22.00 | 0.00 | 0.00 | 335.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 226.75 | [illegible] |
| * | 9920.000 | 22.00 | 0.00 | 0.00 | 335.70 | 1115.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.27 | [illegible] | 101.13 |
| | 10120.000 | 200.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.52 | 252.62 | 63.75 |
| | 10120.000 | 200.00 | 0.00 | 0.00 | [illegible] | 715.00 | 641.15 | 0.00 | [illegible] | 61.95 | 4.14 | 324.72 | 53.92 |
| | 10120.000 | 200.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 107.47 |
| | 10120.000 | 200.00 | 0.00 | 0.00 | [illegible] | 1115.00 | 641.70 | 0.00 | [illegible] | 57.95 | 4.93 | 452.57 | [illegible] |
| * | 10220.000 | 100.00 | 0.00 | 0.00 | 335.30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.34 | [illegible] | 21.[illegible] |
| * | 10220.000 | 100.00 | 0.00 | 0.00 | 335.30 | 715.00 | 841.77 | 841.77 | [illegible] | 164.25 | 5.53 | [illegible] | 47.98 |
| | 10220.000 | 100.00 | 0.00 | 0.00 | 335.30 | 710.00 | 841.39 | 0.00 | [illegible] | [illegible] | 7.13 | [illegible] | 55.00 |
| | 10220.000 | 100.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.62 | 297.62 | [illegible] |

| | SECNO | XLCN | FLTRD | ELLC | ELLIN | D | DISEL | CRTNS | TG | 10KBS | NCR | AREA | EDIR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10320.000 | 100.00 | 0.00 | 0.00 | 840.50 | 590.00 | 562.75 | 0.00 | 355.42 | 135.91 | 5.73 | 145.19 | 55.[illegible] |
| | 10320.000 | 100.00 | 0.00 | 0.00 | 840.50 | 615.00 | 562.69 | 0.00 | 355.15 | 152.05 | [illegible] | 1[illegible] | 4[illegible] |
| | 10320.000 | 100.00 | 0.00 | 0.00 | 840.50 | 715.00 | 363.34 | 0.00 | 344.11 | 151.61 | 5.93 | 222.79 | 57.66 |
| | 10320.000 | 100.00 | 0.00 | 0.00 | 840.50 | 1015.00 | 362.92 | 0.00 | 344.41 | 167.72 | 5.14 | 273.15 | 75.50 |
| | 10520.000 | 200.00 | 0.00 | 0.00 | 841.30 | 590.00 | [illegible] | 0.00 | 345.[illegible] | [illegible] | 4.[illegible] | [illegible] | 54.[illegible] |
| | 10520.000 | 200.00 | 0.00 | 0.00 | 841.30 | 615.00 | 345.74 | 0.00 | 345.51 | 57.20 | 5.05 | [illegible] | [illegible] |
| | 10520.000 | 200.00 | 0.00 | 0.00 | 841.30 | 715.00 | 345.52 | 0.00 | 345.25 | 55.[illegible] | 5.24 | [illegible] | [illegible] |
| | 10520.000 | 200.00 | 0.00 | 0.00 | 841.30 | 1015.00 | 3[illegible] | 0.00 | 345.31 | [illegible].95 | 5.90 | [illegible] | [illegible] |
| | 10720.000 | 200.00 | 0.00 | 0.00 | 842.00 | 590.00 | 345.92 | 0.00 | 345.13 | 53.42 | 4.05 | 206.77 | 5[illegible].35 |
| | 10720.000 | 200.00 | 0.00 | 0.00 | 842.00 | 615.00 | 3[illegible] | 0.00 | [illegible] | [illegible] | 5.[illegible] | [illegible] | [illegible] |
| | 10720.000 | 200.00 | 0.00 | 0.00 | 842.00 | 715.00 | [illegible] | 0.00 | [illegible] | 53.23 | 5.24 | [illegible] | [illegible] |
| | 10720.000 | 200.00 | 0.00 | 0.00 | 842.00 | 1015.00 | 347.13 | 0.00 | 347.25 | 41.42 | 5.50 | [illegible] | 145.[illegible] |
| | 10920.000 | 200.00 | 0.00 | 0.00 | 843.50 | 590.00 | 347.11 | 0.00 | 347.30 | 53.00 | 5.05 | 200.[illegible] | 49.[illegible] |
| | 10920.000 | 200.00 | 0.00 | 0.00 | 843.50 | 615.00 | 347.51 | 0.00 | 347.7[illegible] | 50.55 | 5.35 | 142.00 | 78.78 |
| | 10920.000 | 200.00 | 0.00 | 0.00 | 843.50 | 715.00 | [illegible] | 0.00 | [illegible] | 50.[illegible] | 5.37 | [illegible] | [illegible] |
| | 10920.000 | 200.00 | 0.00 | 0.00 | 843.50 | 1015.00 | [illegible] | [illegible] | 346.[illegible] | [illegible] | 5.75 | [illegible] | [illegible] |
| * | 11120.000 | 200.00 | 0.00 | 0.00 | 845.51 | 590.00 | 343.[illegible] | 343.37 | 335.24 | 109.47 | 5.97 | 1[illegible] | 37.[illegible] |
| * | 11120.000 | 200.00 | 0.00 | 0.00 | 845.51 | 615.00 | 349.16 | 879.16 | 339.39 | 127.27 | 6.95 | 230.[illegible] | 54.[illegible] |
| | 11120.000 | 200.00 | 0.00 | 0.00 | 845.50 | 715.00 | [illegible] | 0.00 | 4[illegible].71 | 125.13 | 7.06 | [illegible] | [illegible] |
| | 11120.000 | 200.00 | 0.00 | 0.00 | 845.50 | 1015.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.31 | [illegible] | [illegible] |
| | 11319.000 | 199.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 45.[illegible] | 4.53 | 1[illegible] | 55.[illegible] |
| | 11319.000 | 199.00 | 0.00 | 0.00 | 846.00 | 615.00 | 35.37 | 0.00 | 351.35 | 46.20 | 5.15 | 200.[illegible] | 52.50 |
| | 11319.000 | 199.00 | 0.00 | 0.00 | 846.00 | 715.00 | 356.97 | 0.00 | 351.17 | 44.59 | 5.36 | 241.21 | 105.97 |
| | 11319.000 | 199.00 | 0.00 | 0.00 | 846.00 | 1015.00 | 351.25 | 0.00 | 351.24 | 67.99 | 5.89 | 279.[illegible] | 146.52 |
| * | 11320.000 | 1.00 | 34.20 | 851.50 | [illegible] | [illegible] | [illegible] | 853.31 | 50.37 | [illegible] | 5.[illegible] | 191.[illegible] | [illegible] |
| | 11320.000 | 1.00 | [illegible] | 851.50 | [illegible] | 615.00 | [illegible] | 1.00 | 351.15 | 115.17 | [illegible] | [illegible] | 57.[illegible] |
| | 11320.000 | 1.00 | 46.40 | 859.50 | [illegible] | 715.00 | [illegible] | 0.00 | 851.23 | 123.35 | 6.46 | 157.05 | [illegible] |
| | 11320.000 | 1.00 | 86.40 | 850.50 | [illegible] | 1015.00 | 351.17 | 0.00 | 851.50 | 129.36 | 6.45 | 158.35 | 91.25 |
| | 11325.000 | 5.00 | [illegible] | 851.51 | [illegible] | 590.00 | [illegible] | 1.00 | [illegible] | [illegible] | 4.69 | [illegible] | 57.[illegible] |
| | 11325.000 | 5.00 | [illegible] | 850.51 | [illegible] | 615.00 | [illegible] | 0.00 | 351.21 | 57.95 | 4.84 | [illegible] | 73.54 |
| | 11325.000 | 5.00 | 0.40 | 850.51 | [illegible] | 715.00 | 351.11 | [illegible] | 351.15 | 73.37 | 4.[illegible] | [illegible] | [illegible] |
| | 11325.000 | 5.00 | 86.40 | 850.51 | [illegible] | 1015.00 | 351.60 | 0.00 | 351.30 | 75.34 | 4.54 | 241.22 | 115.55 |
| | 11326.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 850.35 | 0.00 | 850.23 | 18.1[illegible] | [illegible].32 | 1[illegible] | 91.[illegible] |
| | 11326.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | 351.15 | 1.00 | [illegible] | 21.23 | [illegible] | [illegible] | [illegible] |
| | 11326.000 | 1.00 | [illegible] | 0.00 | [illegible] | 715.00 | 351.28 | 0.00 | [illegible] | 41.[illegible] | 4.01 | [illegible] | 151.[illegible] |
| | 11326.000 | 1.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | 0.00 | 351.72 | [illegible] | 4.07 | [illegible] | [illegible] |
| * | 11519.000 | 199.00 | 0.00 | 0.00 | [illegible] | [illegible] | 851.50 | 851.30 | [illegible] | 107.[illegible] | [illegible].33 | 44.17 | 30.16 |
| * | 11519.000 | 199.00 | 0.00 | 0.00 | 400.50 | 615.00 | [illegible] | [illegible] | [illegible] | [illegible] | 7.36 | 103.[illegible] | 73.07 |
| * | 11519.000 | 199.00 | 0.00 | 0.00 | [illegible] | 715.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 11519.000 | 199.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | [illegible] | [illegible] | [illegible] | 9.55 | [illegible] | [illegible] |
| * | 11520.000 | 1.00 | 50.60 | 853.50 | [illegible] | [illegible] | 852.74 | 852.74 | [illegible] | 59.97 | 5.28 | 55.13 | 30.[illegible] |
| * | 11520.000 | 1.00 | 50.60 | 853.50 | [illegible] | 615.00 | 853.51 | 853.51 | 356.66 | 104.09 | 5.65 | [illegible] | 60.[illegible] |
| * | 11520.000 | 1.00 | [illegible] | 853.50 | [illegible] | 715.00 | [illegible] | 853.80 | [illegible] | 104.[illegible] | 5.54 | 111.[illegible] | 54.51 |
| * | 11520.000 | 1.00 | [illegible] | 853.51 | [illegible] | 1015.00 | [illegible] | 853.55 | [illegible] | [illegible] | [illegible] | 77.[illegible] | [illegible] |

| | SECND | XLCM | ELTRD | CLGC | ELHAP | G | CMPEL | CRTHS | FL | TOKES | CLI | AKEP | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11535.000 | 5.00 | 50.50 | 353.50 | [illegible] | [illegible] | 153.25 | 0.00 | 53.51 | 57.[illegible] | 5.15 | [illegible] | [illegible] |
| * | 11525.100 | 5.00 | 350.50 | 353.50 | 350.50 | .15.00 | 154.21 | 351.51 | 154.53 | 52.47 | 5.[illegible] | 141.[illegible] | 85.15 |
| | 11525.000 | 5.00 | 850.50 | 353.50 | 848.50 | 110.00 | 150.35 | 0.00 | 154.92 | 52.21 | 4.96 | 174.75 | [illegible] |
| | 11525.000 | 5.00 | 350.50 | 353.50 | 848.50 | 1115.00 | 54.35 | 3.00 | 155.0 | 71.[illegible] | 0.12 | 159.33 | 117.27 |
| | 11526.000 | 1.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 1.45 | 7.[illegible] | 2.04 | [illegible] | 141.[illegible] |
| | 11526.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | 152.33 | 0.00 | 1.474 | 8.[illegible] | [illegible] | [illegible] | 110.[illegible] |
| | 11526.000 | 1.00 | 0.00 | 0.00 | 48.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2.50 | [illegible] | 334.[illegible] |
| | 11526.000 | 1.00 | 0.00 | 1.00 | 143.50 | 1115.00 | 355.11 | 0.00 | 155.53 | 13.15 | 4.37 | 320.09 | 230.14 |
| | 11595.000 | 71.00 | 0.00 | 0.00 | 348.80 | [illegible] | 54.[illegible] | 0.00 | [illegible] | .54 | .71 | 635.49 | 532.0[illegible] |
| | 11595.000 | 71.00 | 0.00 | 0.00 | [illegible] | [illegible] | 156.71 | 1.00 | [illegible] | .54 | .[illegible] | [illegible] | 737.0[illegible] |
| | 11595.000 | 71.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.01 | 155.31 | .71 | .[illegible] | [illegible] | 151.56 |
| | 11595.000 | 71.00 | 0.00 | 0.00 | 138.50 | 1015.00 | 155.62 | 0.01 | 33.[illegible] | .99 | 1.19 | 1.[illegible] | 1021.18 |
| | 11720.000 | 125.00 | 0.00 | 0.00 | 369.40 | 290.00 | 154.[illegible] | 0.00 | 54.[illegible] | 1.56 | 1.01 | 543.39 | 554.[illegible] |
| | 11720.000 | 125.00 | 0.00 | 0.00 | 379.40 | 815.00 | 54.72 | 0.00 | 56.[illegible] | 1.21 | 1.09 | 152.56 | 560.37 |
| | 11720.000 | 125.00 | 0.00 | 0.00 | [illegible] | 710.00 | 155.01 | 0.00 | [illegible] | 1.22 | [illegible] | [illegible] | 54.[illegible] |
| | 11720.000 | 125.00 | 0.00 | 0.00 | 365.41 | 1015.00 | 155.64 | 0.00 | 155.47 | 1.[illegible] | 1.[illegible] | [illegible] | 1[illegible].7 |
| | 11950.000 | 130.00 | 0.00 | 0.00 | 150.20 | 390.00 | 154.11 | 0.00 | 56.13 | 11.26 | 2.65 | 248.54 | 116.15 |
| | 11950.000 | 130.00 | 0.00 | 0.00 | 150.20 | .15.00 | 854.61 | 0.00 | 354.36 | [illegible] | 2.10 | 422.77 | 24[illegible] |
| | 11950.000 | 130.00 | 0.00 | 0.00 | 350.20 | 710.00 | 855.03 | 0.00 | 355.07 | 5.31 | 2.10 | 479.21 | 302.5 |
| | 11950.000 | 130.00 | 0.00 | 0.00 | 50.20 | 1015.00 | 155.37 | 0.00 | 155.51 | 5.31 | 2.[illegible] | [illegible] | [illegible] |
| | 11995.000 | 145.00 | 0.00 | 0.00 | [illegible] | 390.00 | 354.[illegible] | 0.00 | 15[illegible] | 35.23 | 2.96 | [illegible] | 51.13 |
| | 11995.000 | 145.00 | 0.00 | 0.00 | 350.10 | 15.00 | 355.[illegible] | 0.00 | 155.15 | 32.42 | 5.91 | 171.12 | [illegible] |
| | 11995.000 | 145.00 | 0.00 | 0.00 | 1.10 | 710.00 | 155.[illegible] | 0.00 | 155.23 | 35.55 | 4.73 | 210.04 | 115.[illegible] |
| | 11995.000 | 145.00 | 0.00 | 0.00 | 1.01 | 1015.00 | .55.56 | 0.00 | .55.[illegible] | 31.16 | 2.39 | 292.03 | 151.[illegible] |
| * | 12053.000 | [illegible] | [illegible] | 0.00 | 51.70 | [illegible] | 154.72 | 154.72 | 35.19 | 91.[illegible] | [illegible] | 30.02 | [illegible] |
| * | 12058.000 | 62.00 | 1.04 | 0.00 | 1.04 | .15.00 | 155.13 | 155.1[illegible] | [illegible] | 91.[illegible] | 2.75 | 117.5[illegible] | [illegible] |
| * | 12053.000 | 55.00 | 0.00 | 0.00 | 51.70 | 710.00 | 155.[illegible] | 155.27 | 155.53 | 35.77 | 0.94 | 156.17 | 75.24 |
| | 12058.000 | 62.00 | 0.00 | 0.00 | 51.70 | 1015.00 | 155.[illegible] | 855.61 | 8[illegible].22 | 77.37 | 7.15 | 149.55 | 115.39 |
| * | 12120.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 12120.000 | 62.00 | [illegible] | 0.00 | 72.30 | 15.[illegible] | 155.[illegible] | 155.[illegible] | 35.[illegible] | [illegible] | 2.75 | [illegible] | [illegible] |
| * | 12120.000 | 62.00 | 0.00 | 0.00 | [illegible] | [illegible] | 155.29 | 855.53 | [illegible] | [illegible] | 7.08 | 126.[illegible] | 72.[illegible] |
| * | 12120.000 | 62.00 | 0.00 | 0.00 | [illegible] | 1015.00 | 155.37 | 855.32 | 350.97 | 32.30 | 7.52 | 189.12 | 111.[illegible] |
| | 12103.000 | 63.00 | 0.00 | 0.00 | 152.90 | 290.00 | 5.02 | 0.00 | 35.35 | 41.32 | 4.74 | 110.79 | 60.[illegible] |
| | 12103.000 | 63.00 | 0.00 | 0.00 | 152.90 | 315.00 | 155.59 | 0.01 | 355.17 | 42.30 | 5.35 | 130.77 | [illegible] |
| | 12103.000 | 63.00 | 0.00 | 0.00 | 152.90 | 710.00 | 35.[illegible] | 0.00 | 35.55 | 42.17 | 5.54 | 1[illegible].72 | 103.20 |
| | 12103.000 | 63.00 | 0.00 | 0.00 | 152.90 | 1015.00 | 155.93 | 0.00 | 157.17 | 45.32 | 5.28 | 229.51 | 14[illegible] |
| | 12245.000 | 32.00 | 0.00 | 0.00 | 353.50 | 290.00 | 155.31 | 855.29 | 355.31 | 31.42 | 5.29 | 75.09 | 63.12 |
| | 12245.000 | 32.00 | 0.00 | 0.00 | 353.50 | 315.00 | 155.72 | 155.73 | 157.29 | 61.00 | 7.01 | 141.0[illegible] | 84.33 |
| * | 12245.000 | 32.00 | 0.00 | 0.00 | 153.50 | 710.00 | 155.[illegible] | 155.52 | 157.45 | 72.30 | 5.[illegible] | 172.[illegible] | [illegible] |
| | 12245.000 | 32.00 | 0.00 | 0.00 | 353.50 | 1015.00 | 151.24 | 0.00 | 157.[illegible] | 31.91 | 7.91 | [illegible] | 112.15 |
| * | 12308.000 | 63.00 | 0.00 | 0.00 | 354.10 | 290.00 | 157.11 | 157.11 | 157.63 | 87.50 | 5.61 | 75.27 | 61.70 |
| * | 12308.000 | 63.00 | 0.00 | 0.00 | 354.10 | 615.00 | 157.55 | 157.53 | 45.15 | 63.61 | 7.27 | 116.55 | 67.26 |
| * | 12308.000 | 63.00 | 0.00 | 0.00 | 354.10 | 710.00 | 157.69 | 157.64 | 15.32 | 35.40 | 7.60 | 130.33 | 75.05 |
| * | 12308.000 | 63.00 | 0.00 | 0.00 | 354.10 | 1015.00 | 155.65 | 154.35 | 155.75 | 53.26 | 8.35 | 177.62 | 107.92 |

| | SEC.P | ALCP | FLTRD | ELLC | ELHIP | Q | CESEL | CRTUS | SO | TORAS | VCR | AREA | ATTK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 12370.000 | 62.00 | 0.00 | 0.00 | 854.70 | 690.10 | 862.95 | 817.95 | 859.51 | 38.00 | 0.78 | 115.71 | 41.[illegible] |
| * | 12370.000 | 62.00 | 0.00 | 0.00 | 854.70 | 615.00 | 859.95 | 859.95 | 859.11 | 35.01 | 7.50 | 113.45 | [illegible] |
| * | 12370.000 | 62.00 | 0.00 | 0.00 | 854.70 | 710.00 | 858.33 | 858.33 | 859.13 | 37.00 | 7.80 | 127.26 | 75.19 |
| * | 12370.000 | 62.00 | 0.00 | 0.00 | 854.70 | 1015.00 | 858.92 | 858.92 | 859.64 | 39.40 | 8.58 | 168.54 | 107.35 |
| * | 12433.000 | [illegible] | [illegible] | [illegible] | 855.30 | 591.00 | 859.59 | 859.95 | 859.10 | 33.57 | 5.33 | 75.[illegible] | [illegible] |
| * | 12433.000 | 63.00 | 0.00 | 0.00 | 855.30 | 615.00 | 859.05 | 859.05 | 859.30 | [illegible] | 7.35 | 111.75 | 50.[illegible] |
| * | 12433.000 | 63.00 | 0.00 | 0.00 | 855.30 | 710.00 | 859.21 | 859.21 | 859.10 | [illegible] | 7.39 | 165.15 | [illegible] |
| * | 12433.000 | 63.00 | 0.00 | 0.00 | 855.30 | 1015.00 | 859.32 | 859.32 | 860.32 | 64.72 | 8.53 | 159.16 | 110.27 |
| * | 12495.000 | 62.00 | 0.00 | 0.00 | 855.80 | 590.00 | 859.30 | 859.00 | 859.90 | 36.70 | 7.47 | 76.12 | [illegible] |
| * | 12495.000 | 62.00 | 0.00 | 0.00 | 855.80 | 615.00 | 859.29 | 859.23 | [illegible] | 35.95 | [illegible] | [illegible] | [illegible] |
| * | 12495.000 | 62.00 | 0.00 | 0.00 | 855.80 | 710.00 | 859.00 | [illegible] | [illegible] | 38.55 | [illegible] | [illegible] | [illegible] |
| * | 12495.000 | 62.00 | 0.00 | 0.00 | 855.80 | 1015.00 | [illegible] | [illegible] | 861.19 | 41.95 | 5.14 | [illegible] | 105.[illegible] |
| | 13055.000 | 500.00 | 0.00 | 0.00 | 860.40 | 590.00 | 863.27 | 0.00 | 863.93 | 49.50 | 6.80 | 123.31 | 55.04 |
| | 13055.000 | 500.00 | 0.00 | 0.00 | 860.40 | 615.00 | 864.13 | 0.00 | 864.[illegible] | 50.62 | 5.10 | 172.50 | [illegible] |
| | 13055.000 | 501.00 | 0.00 | 0.00 | [illegible] | 710.00 | [illegible] | [illegible] | [illegible] | 51.17 | 5.47 | [illegible] | [illegible] |
| | 13055.000 | 500.00 | 0.00 | 0.00 | [illegible] | 1015.00 | [illegible] | 0.00 | [illegible] | 47.71 | 5.77 | [illegible] | 147.[illegible] |
| * | 13155.000 | 100.00 | 0.00 | 0.00 | 861.10 | 590.00 | [illegible] | [illegible] | 865.21 | 72.72 | 5.92 | 59.72 | 45.42 |
| * | 13155.000 | 100.00 | 0.00 | 0.00 | 861.10 | 615.00 | 865.31 | 865.31 | 865.15 | 75.21 | 7.63 | 128.13 | 70.45 |
| * | 13155.000 | 100.00 | 0.00 | 0.00 | 861.10 | 710.00 | 865.43 | 865.43 | 860.01 | [illegible] | 5.01 | 140.41 | [illegible] |
| * | 13155.000 | 100.00 | 0.00 | 0.00 | 861.10 | 1015.00 | 865.50 | 865.60 | 865.45 | 32.71 | 2.53 | [illegible] | [illegible] |
| | 13205.000 | 50.00 | 0.00 | 0.00 | 861.60 | 590.00 | 865.27 | 0.00 | 865.39 | 74.00 | 4.06 | 3.07 | 45.26 |
| * | 13205.000 | 50.00 | 0.00 | 0.00 | 861.60 | 615.00 | 865.70 | 865.70 | 865.52 | 93.54 | 6.76 | 122.05 | [illegible] |
| * | 13205.000 | 51.00 | 0.00 | 0.00 | 861.60 | 1015.00 | 866.30 | 866.30 | 867.10 | 80.04 | 5.39 | 177.12 | 112.[illegible] |
| | 13255.000 | 50.00 | 0.00 | 0.00 | 862.70 | 590.00 | 865.77 | 0.00 | [illegible] | 29.59 | 5.43 | [illegible] | [illegible] |
| | 13255.000 | 51.00 | 0.00 | 0.00 | 862.70 | [illegible] | [illegible] | 0.00 | [illegible] | 67.52 | 6.65 | [illegible] | [illegible] |
| | 13255.000 | 50.00 | 0.00 | 0.00 | 862.70 | 525.00 | [illegible] | 0.00 | [illegible] | 22.93 | 5.35 | 133.41 | [illegible] |
| | 13255.000 | 50.00 | 0.00 | 0.00 | 862.70 | 615.00 | 867.11 | 0.00 | 867.37 | 26.15 | 6.21 | 167.79 | 127.42 |
| | 13355.000 | 100.00 | 0.00 | 0.00 | 863.50 | 590.00 | [illegible] | 0.00 | [illegible] | 44.59 | 5.57 | [illegible] | [illegible] |
| | 13355.000 | 101.00 | 0.00 | 0.00 | 863.50 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.35 | [illegible] | [illegible] |
| | 13355.000 | 100.00 | 0.00 | 0.00 | 863.50 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.11 | 119.[illegible] | [illegible] |
| | 13355.000 | 100.00 | 0.00 | 0.00 | 863.50 | 715.00 | 867.23 | 0.00 | 867.84 | 67.09 | 5.99 | 155.10 | [illegible] |
| | 13380.000 | 25.00 | 0.00 | 0.00 | 863.90 | 590.00 | 866.27 | 0.00 | 866.72 | 53.50 | 5.91 | 54.00 | 40.[illegible] |
| | 13380.000 | 25.00 | 0.00 | 0.00 | 863.90 | [illegible] | [illegible] | 0.00 | [illegible] | 51.17 | 5.43 | [illegible] | [illegible] |
| | 13380.000 | 25.00 | 0.00 | 0.00 | 863.90 | 525.00 | 866.[illegible] | 0.00 | [illegible] | 52.[illegible] | 5.62 | 103.03 | [illegible] |
| | 13380.000 | 25.00 | 0.00 | 0.00 | 863.90 | 615.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.95 | 164.49 | [illegible] |
| | 13405.000 | 25.00 | 0.00 | 0.00 | 864.70 | 590.00 | 866.31 | 0.00 | 866.90 | 63.29 | 5.29 | 58.07 | 37.[illegible] |
| | 13405.000 | 25.00 | 0.00 | 0.00 | 864.70 | 650.70 | 866.91 | 0.00 | 867.35 | 68.00 | 7.23 | 80.55 | 55.73 |
| | 13405.000 | 25.00 | 0.00 | 0.00 | 864.70 | 525.00 | 867.74 | 0.00 | 867.77 | 73.50 | 7.75 | 35.23 | [illegible] |
| | 13405.000 | [illegible] | 0.00 | 0.00 | 864.70 | [illegible] | [illegible] | 0.00 | [illegible] | 53.15 | [illegible] | 101.[illegible] | 77.[illegible] |
| | 13430.000 | 25.00 | 0.00 | 0.00 | 865.00 | 590.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.47 | [illegible] | 45.[illegible] |
| | 13430.000 | 25.00 | 0.00 | 0.00 | 865.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 7.24 | 75.44 | 57.[illegible] |
| | 13430.000 | 25.00 | 0.00 | 0.00 | 865.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 7.65 | [illegible] | 61.[illegible] |
| | 13430.000 | 25.00 | 0.00 | 0.00 | 865.00 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.93 | [illegible] | [illegible] |

| | SECRO | ALCH | FLTRE | FLLC | ELMIN | S | CISE | CITES | TC | 100 | VCT | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13655.000 | 25.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13655.000 | 25.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 13655.000 | 25.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10.50 | 53.01 | [illegible] |
| * | 13655.000 | 25.00 | 0.00 | 0.00 | [illegible] | [illegible] | 867.97 | 837.97 | [illegible] | 151.50 | 14.85 | [illegible] | [illegible] |
| | 13459.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.31 | [illegible] | [illegible] |
| | 13459.100 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13459.000 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8.32 | [illegible] | [illegible] |
| | 13459.000 | 6.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.79 | [illegible] | [illegible] |
| | 13463.000 | 6.00 | 0.00 | 0.00 | [illegible] | 245.00 | 867.70 | 0.00 | [illegible] | 37.10 | 5.31 | 35.57 | [illegible] |
| | 13463.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13463.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7.58 | [illegible] | [illegible] |
| | 13463.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13464.000 | 1.00 | 572.50 | 571.10 | [illegible] | 245.00 | [illegible] | 0.00 | 537.52 | 53.39 | 5.43 | 54.30 | 50.07 |
| | 13464.000 | 1.00 | 572.50 | 571.10 | [illegible] | 450.00 | 37.23 | 0.00 | [illegible] | 59.50 | 7.25 | 53.47 | 59.01 |
| | 13464.000 | 1.00 | 572.50 | 571.10 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13464.000 | 1.00 | 572.50 | 571.10 | [illegible] | 745.00 | [illegible] | 0.00 | 470.55 | 52.51 | [illegible] | [illegible] | [illegible] |
| | 13548.000 | 64.00 | 572.50 | 571.10 | 552.60 | 245.00 | 137.41 | 0.00 | [illegible] | 51.76 | 5.03 | 53.63 | 52.05 |
| | 13548.000 | 64.00 | 572.50 | 571.10 | 552.60 | 450.00 | [illegible] | 0.00 | [illegible] | 45.19 | 6.53 | 70.44 | [illegible] |
| | 13548.000 | 64.00 | 572.50 | 571.10 | 552.60 | 545.00 | 863.95 | 0.00 | 839.75 | 49.51 | 5.99 | 75.07 | 74.[illegible] |
| | 13548.000 | 64.00 | 572.50 | 571.10 | 552.60 | 745.00 | 570.71 | 0.00 | 571.51 | [illegible] | 6.76 | [illegible] | [illegible] |
| | 13549.000 | 1.00 | 1.00 | 0.00 | [illegible] | 245.00 | 137.5 | 0.00 | [illegible] | 31.25 | 4.57 | [illegible] | 65.[illegible] |
| | 13549.000 | 1.00 | 0.00 | 0.00 | 1.2.30 | 450.00 | 833.55 | 0.00 | 839.23 | 55.89 | 5.05 | 75.25 | 52.[illegible] |
| | 13549.000 | 1.00 | 0.00 | 0.00 | 1.2.30 | 545.00 | 869.12 | 0.00 | [illegible] | 57.50 | 6.38 | 82.23 | 69.[illegible] |
| | 13549.000 | 1.00 | 0.00 | 0.00 | 1.2.30 | 745.00 | 870.71 | 0.00 | 871.52 | 56.42 | 7.23 | 103.05 | 52.[illegible] |
| | 13555.000 | 0.00 | 0.00 | 0.00 | [illegible] | 245.00 | 837.63 | 0.00 | 837.[illegible] | [illegible] | 5.19 | 59.51 | [illegible] |
| | 13555.100 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 35.[illegible] | 5.75 | 47.27 | [illegible] |
| | 13555.000 | 0.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 30.01 | 5.72 | 111.05 | [illegible] |
| | 13555.000 | 6.10 | 0.71 | 0.00 | [illegible] | [illegible] | 571.25 | 0.00 | [illegible] | 21.57 | 5.85 | 158.96 | 159.[illegible] |
| | 13615.000 | 130.10 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 13615.000 | 130.10 | [illegible] | 1.30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8.[illegible] | 2.36 | [illegible] | [illegible] |
| | 13615.000 | 130.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.92 | [illegible] | [illegible] |
| | 13615.000 | 130.00 | 0.00 | 0.00 | 34.11 | 745.00 | 871.51 | 0.00 | 871.31 | .86 | 1.11 | [illegible] | 79.[illegible] |
| * | 13815.000 | 130.00 | 0.00 | 0.00 | 245.26 | 245.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.72 | [illegible] | 35.52 |
| | 13815.000 | 130.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 57.21 | 5.71 | [illegible] | [illegible] |
| | 13815.000 | 130.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 24.34 | 4.11 | 227.71 | [illegible] |
| | 13815.000 | 130.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | [illegible] | [illegible] | [illegible] | 1.15 | 270.72 | [illegible] |
| | 13945.000 | 130.00 | 0.00 | 0.00 | [illegible] | 245.00 | 849.8[illegible] | 0.00 | [illegible] | 8.85 | 2.34 | 220.50 | 59.13 |
| | 13945.000 | 130.00 | 0.00 | 0.00 | [illegible] | 450.00 | 870.71 | 0.00 | 870.25 | 11.45 | 2.84 | 277.64 | 135.[illegible] |
| | 13945.000 | 130.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | 2.52 | [illegible] | [illegible] |
| | 13945.000 | 130.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | 0.00 | [illegible] | 2.10 | 1.52 | [illegible] | [illegible] |
| | 14075.000 | 130.00 | 0.00 | 0.00 | 307.40 | 245.00 | 871.71 | 0.00 | 870.21 | 35.39 | 5.11 | [illegible] | [illegible] |
| | 14075.000 | 130.00 | 0.00 | 0.00 | 167.40 | 450.00 | 870.40 | 0.00 | 870.32 | 65.04 | 5.61 | 162.13 | 57.06 |
| | 14075.000 | 130.00 | 0.10 | 0.00 | 167.40 | 525.00 | 870.55 | 0.00 | 870.70 | 51.51 | 5.54 | 104.00 | 68.54 |
| | 14075.000 | 130.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | 0.00 | [illegible] | 11.32 | 5.13 | [illegible] | [illegible] |

| | SECND | XLCT | ELTRD | ELBC | FLRLN | Q | CHSEL | CRZUS | SG | TJKWS | VCH | AREA | WDIK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14205.000 | 130.00 | 0.00 | 0.00 | 350.50 | 295.00 | 371.17 | 0.00 | 371.53 | 125.30 | 6.60 | 93.05 | 25.57 |
| | 14205.000 | 130.00 | 0.00 | 0.00 | 350.50 | 450.00 | 371.15 | 0.00 | 371.74 | 144.10 | 7.11 | 135.17 | 41.[illegible] |
| | 14205.000 | 130.00 | 0.00 | 0.00 | 850.50 | 525.00 | 371.56 | 0.00 | 371.92 | 128.29 | 7.62 | 158.04 | 43.35 |
| | 14205.000 | 130.00 | 0.00 | 0.00 | 850.50 | 765.00 | 372.10 | 0.00 | 372.39 | 90.46 | 7.02 | 228.54 | 75.33 |
| | 15105.000 | 900.00 | 0.00 | 0.00 | 375.90 | 295.00 | 373.77 | 0.00 | 375.00 | 82.19 | 4.39 | [illegible] | 37.41 |
| | 15105.000 | 900.00 | 0.00 | 0.00 | 375.90 | 450.00 | 379.24 | 0.00 | 379.56 | 63.75 | 5.09 | 125.42 | 57.61 |
| | 15105.000 | 900.00 | 0.00 | 0.00 | 875.90 | 525.00 | 379.40 | 0.00 | 379.75 | 52.94 | 5.27 | 154.90 | 56.17 |
| | 15105.000 | 900.00 | 0.00 | 0.00 | 875.90 | 765.00 | 379.67 | 379.40 | 380.15 | 35.42 | 5.35 | 131.70 | 33.00 |
| | 15110.000 | 5.00 | 0.00 | 0.00 | 376.00 | 295.00 | 373.78 | 0.00 | 379.10 | 73.55 | 4.64 | 75.59 | 36.44 |
| | 15110.000 | 5.00 | 0.00 | 0.00 | 376.00 | 450.00 | 379.23 | 0.00 | [illegible] | 76.25 | 5.37 | 117.24 | [illegible] |
| | 15110.000 | 5.00 | 0.00 | 0.00 | 876.00 | 525.00 | 379.41 | 0.00 | [illegible] | 72.12 | 5.53 | 126.10 | 61.44 |
| | 15110.000 | 5.00 | 0.00 | 0.00 | 876.00 | 765.00 | 379.68 | 0.00 | [illegible] | 92.93 | 5.70 | [illegible] | 77.27 |
| | 15115.000 | 5.00 | 0.00 | 0.00 | 376.10 | 295.00 | 37[illegible].30 | 0.00 | [illegible] | 34.35 | 4.36 | 70.93 | 32.05 |
| | 15115.000 | 5.00 | 0.00 | 0.00 | 376.10 | 450.00 | 379.27 | 0.00 | [illegible] | 85.53 | 5.62 | 109.34 | 50.00 |
| | 15115.000 | 5.00 | 0.00 | 0.00 | 876.10 | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.31 | [illegible] | 57.02 |
| | 15115.000 | 5.00 | 0.00 | 0.00 | 876.10 | 765.00 | [illegible] | [illegible] | [illegible] | 156.73 | 7.04 | 157.30 | [illegible] |
| | 15120.000 | 5.00 | 0.00 | 0.00 | 376.20 | 295.00 | 373.23 | 0.00 | [illegible] | 92.24 | 5.10 | 56.12 | 29.76 |
| | 15120.000 | 5.00 | 0.00 | 0.00 | 376.20 | 450.00 | 379.23 | 0.00 | [illegible] | 100.02 | 5.95 | 100.75 | 45.46 |
| | 15120.000 | 5.00 | 0.00 | 0.00 | 876.20 | 525.00 | 379.44 | 0.00 | 379.93 | 98.76 | 6.17 | 136.01 | [illegible] |
| | 15120.000 | 5.00 | 0.00 | 0.00 | 876.20 | 765.00 | 379.72 | 379.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 15125.000 | 5.00 | 0.00 | 0.00 | 376.30 | 295.00 | [illegible] | [illegible] | [illegible] | 112.36 | 5.54 | [illegible] | [illegible] |
| | 15125.000 | 5.00 | 0.00 | 0.00 | 376.30 | 450.00 | 379.31 | 379.76 | 379.35 | 112.55 | 6.20 | 95.25 | 43.24 |
| | 15125.000 | 5.00 | 0.00 | 0.00 | 876.30 | 525.00 | 379.66 | 379.32 | [illegible] | 136.54 | 6.61 | 109.74 | 49.55 |
| * | 15125.000 | 5.00 | 0.00 | 0.00 | 876.30 | 765.00 | 379.77 | 379.77 | [illegible] | 131.27 | 7.57 | 162.63 | 65.02 |
| | 15130.000 | 5.00 | 0.00 | 0.00 | 376.40 | 295.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.56 | [illegible] | [illegible] |
| | 15130.000 | 5.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 131.33 | 6.53 | 87.26 | [illegible] |
| | 15130.000 | 5.00 | 0.00 | 0.00 | 876.40 | 525.00 | 379.69 | 379.43 | [illegible] | 129.73 | 6.78 | 101.25 | [illegible] |
| * | 15130.000 | 5.00 | 0.00 | 0.00 | 876.40 | 765.00 | 379.29 | 379.29 | [illegible] | 125.29 | 7.51 | 144.06 | 65.77 |
| | 15135.000 | 5.00 | 0.00 | 0.00 | 376.50 | 295.00 | [illegible] | 0.00 | [illegible] | 131.32 | 5.76 | [illegible] | [illegible] |
| | 15135.000 | 5.00 | 0.00 | 0.00 | 376.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.72 | 54.52 | [illegible] |
| * | 15135.000 | 5.00 | 0.00 | 0.00 | 876.50 | [illegible] | [illegible] | [illegible] | [illegible] | 135.12 | 7.06 | 95.01 | [illegible] |
| * | 15135.000 | 5.00 | 0.00 | 0.00 | 876.50 | 765.00 | 379.95 | 379.94 | [illegible] | 129.40 | 7.53 | 163.00 | 65.57 |
| | 15139.000 | 4.00 | 0.00 | 0.00 | 376.60 | 295.00 | [illegible] | [illegible] | [illegible] | 102.07 | 5.99 | 52.96 | [illegible] |
| * | 15139.000 | [illegible] | 0.00 | 0.00 | 876.60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.99 | 75.01 | [illegible] |
| * | 15139.000 | 4.00 | 0.00 | 0.00 | 876.60 | 525.00 | 379.62 | 379.22 | [illegible] | [illegible] | 7.07 | [illegible] | [illegible] |
| * | 15139.000 | 4.00 | 0.00 | 0.00 | 876.60 | 765.00 | [illegible] | [illegible] | [illegible] | 125.97 | 7.52 | 133.72 | [illegible] |
| | 15143.000 | 4.00 | 0.00 | 0.00 | 376.70 | 295.00 | 379.04 | 373.00 | 379.[illegible] | 134.51 | 6.23 | 50.60 | 21.73 |
| * | 15143.000 | 4.00 | 0.00 | 0.00 | 376.70 | 450.00 | 379.55 | 379.53 | 380.24 | 157.56 | 6.93 | 80.77 | 36.67 |
| * | 15143.000 | [illegible] | 0.00 | 0.00 | 876.70 | 525.00 | [illegible] | 379.72 | [illegible] | 133.93 | 7.03 | 95.[illegible] | [illegible] |
| * | 15143.000 | [illegible] | 0.00 | 0.00 | 876.70 | 765.00 | [illegible] | [illegible] | [illegible] | 120.92 | 7.52 | 113.65 | [illegible] |
| | 15145.000 | [illegible] | 0.00 | 0.00 | 376.70 | 295.00 | 379.[illegible] | 0.00 | [illegible] | [illegible] | 5.26 | [illegible] | 32.63 |
| | 15145.000 | [illegible] | 0.00 | 0.00 | 376.70 | [illegible] | [illegible] | [illegible] | 380.37 | 40.15 | 4.91 | 124.44 | 67.[illegible] |
| | 15145.000 | [illegible] | 0.00 | 0.00 | 876.70 | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 140.45 | 76.54 |
| | 15145.000 | [illegible] | 0.00 | 0.00 | 876.70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.72 | [illegible] | 106.[illegible] |

| SECND | XLCH | ELTRD | ELLC | ELMRX | I | FUSEL | CHTHS | [illegible] | TJKMS | VCP | AKSA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15155.000 | 21.00 | 830.30 | 50.00 | 170.70 | 295.00 | 331.71 | 0.00 | 131.90 | 177.20 | 5.05 | [illegible] | [illegible] |
| 15165.000 | 20.00 | 830.30 | 591.00 | 170.70 | 525.00 | 330.53 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15165.000 | 20.00 | 830.30 | 500.00 | 170.70 | 525.00 | 333.59 | 0.00 | 133.60 | 39.97 | 3.34 | [illegible] | [illegible] |
| 15165.000 | 20.00 | 830.30 | 500.00 | 170.70 | 295.00 | 334.01 | 0.00 | 134.20 | 52.22 | [illegible] | [illegible] | 17.15 |
| 15165.000 | 1.00 | 1.00 | 1.00 | 170.70 | 295.00 | [illegible] | 1.00 | 31.02 | [illegible] | [illegible] | [illegible] | 56.52 |
| 15166.000 | 1.00 | 1.00 | 1.00 | 176.70 | [illegible] | [illegible] | 1.00 | [illegible] | 17.05 | [illegible] | [illegible] | 100.37 |
| 15166.000 | 1.00 | 0.00 | 0.00 | 176.70 | 295.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 117.20 |
| 15166.000 | 1.00 | 0.00 | 0.00 | 176.70 | 295.00 | 331.97 | 0.00 | 135.25 | 250.78 | 6.57 | [illegible] | 158.87 |
| 15185.000 | 19.00 | 1.00 | 1.00 | 77.50 | 295.00 | [illegible] | 0.00 | [illegible] | 5.30 | 1.83 | [illegible] | 127.55 |
| 15195.000 | 19.00 | 0.00 | 0.00 | [illegible] | 450.00 | 332.72 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15195.000 | 19.00 | 0.00 | [illegible] | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 1.30 | 1.08 | [illegible] | 417.41 |
| 15195.000 | 19.00 | 0.00 | 1.06 | 177.11 | 745.00 | 334.30 | 0.00 | [illegible] | [illegible] | 1.70 | [illegible] | [illegible] |
| 15205.000 | 20.00 | 0.00 | 0.00 | 177.40 | 295.00 | 331.52 | 0.00 | 131.57 | 7.70 | 2.06 | [illegible] | 115.07 |
| 15205.000 | 20.00 | 0.00 | 0.00 | 177.40 | 450.00 | 332.72 | 0.00 | 133.74 | 1.03 | 1.35 | 177.77 | 154.2 |
| 15205.000 | 21.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 1.07 | 1.05 | [illegible] | [illegible] |
| 15205.000 | 21.00 | 0.00 | 0.00 | 177.40 | 745.00 | [illegible] | 0.00 | [illegible] | 2.71 | 1.52 | [illegible] | [illegible] |
| 15313.000 | 10.00 | 0.00 | 0.00 | 175.00 | 295.00 | 331.58 | 0.00 | 131.71 | 55.30 | 6.91 | 80.27 | [illegible] |
| 15313.000 | 10.00 | 0.00 | 0.00 | 179.00 | 450.00 | [illegible] | 0.00 | 135.77 | 7.47 | 2.31 | 173.16 | 16[illegible] |
| 15313.000 | 11.00 | 0.00 | 0.00 | 180.00 | 525.00 | [illegible] | 0.00 | [illegible] | 7.82 | 2.43 | 412.55 | 157.7[illegible] |
| 15313.000 | [illegible] | 0.00 | 0.00 | 179.00 | 745.00 | [illegible] | 0.00 | 5.48 | 9.77 | 2.39 | [illegible] | [illegible] |
| 15420.000 | 1[illegible].00 | 0.00 | 0.00 | [illegible] | 295.00 | [illegible] | [illegible] | [illegible] | 15.58 | 0.53 | [illegible] | [illegible] |
| 15420.000 | 107.00 | 0.00 | 0.00 | 170.70 | 450.00 | 333.77 | 0.00 | 134.15 | 91.07 | 5.76 | 124.75 | [illegible] |
| 15420.000 | 107.00 | 0.00 | 0.00 | 170.70 | 525.00 | 333.97 | 0.00 | 134.00 | 82.56 | 5.77 | 157.9 | 57.02 |
| 15420.000 | 107.00 | 0.00 | 0.00 | 170.70 | 745.00 | 334.52 | 0.00 | 134.30 | 73.53 | 5.22 | [illegible] | [illegible] |
| 15447.000 | 27.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | 134.02 | 100.09 | [illegible] | [illegible] | [illegible] |
| 15447.000 | 27.00 | 0.00 | 0.00 | [illegible] | 450.00 | [illegible] | 0.00 | [illegible] | 11.[illegible] | [illegible] | 132.7 | [illegible] |
| 15447.000 | 27.00 | 0.00 | 0.00 | 91.10 | 525.00 | [illegible] | 0.00 | [illegible] | 131.82 | 5.58 | 145.26 | 50.37 |
| 15447.000 | 27.00 | 0.00 | 0.00 | 91.10 | 745.00 | 336.53 | 0.00 | 55.07 | [illegible] | 5.75 | [illegible] | 75.14 |
| 15474.000 | 27.00 | 0.00 | 0.00 | [illegible] | 295.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.52 | [illegible] | [illegible] |
| 15474.000 | 27.00 | 0.00 | 0.00 | 91.54 | [illegible] | [illegible] | [illegible] | [illegible] | 142.[illegible] | [illegible] | 115.[illegible] | [illegible] |
| 15474.000 | 27.00 | 0.00 | 0.00 | 91.5 | 525.00 | [illegible] | [illegible] | [illegible] | 137.66 | 5.97 | 1[illegible] | [illegible] |
| 15476.000 | 27.00 | 0.00 | 0.00 | 1.59 | 745.00 | [illegible] | 0.00 | [illegible] | 129.04 | 7.45 | 137.51 | 35.34 |
| 15501.000 | 27.00 | 0.00 | 0.00 | 81.90 | 295.00 | [illegible] | [illegible] | [illegible] | 165.62 | 5.11 | 75.03 | 24.63 |
| 15501.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 143.71 | [illegible] | 115.50 | [illegible] |
| 15501.000 | 27.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | 145.96 | [illegible] | [illegible] | [illegible] |
| 15501.000 | 27.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.04 | 155.15 | [illegible] |
| 15505.000 | 7.00 | 0.00 | 0.00 | 182.00 | 295.00 | [illegible] | [illegible] | [illegible] | [illegible] | 4.97 | 100.05 | 32.54 |
| 15505.000 | 7.00 | 0.00 | 0.00 | 182.00 | 450.00 | 335.00 | 0.00 | [illegible] | 79.16 | 5.45 | 155.[illegible] | 51.70 |
| 15505.000 | 7.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.53 | [illegible] | [illegible] |
| 15505.000 | 7.00 | 0.00 | 0.00 | 182.00 | 745.00 | 85.51 | [illegible] | 65.05 | 45.09 | 6.10 | 250.55 | 35.5 |
| 15515.000 | 7.00 | 0.00 | 0.00 | [illegible] | 295.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.26 | [illegible] | [illegible] |
| 15515.000 | 7.00 | 0.00 | 0.00 | 182.10 | 450.00 | 335.12 | 0.00 | 335.65 | 85.00 | 5.72 | 145.75 | 49.03 |
| 15515.000 | 7.00 | 0.00 | 0.00 | 182.10 | 525.00 | 335.78 | 0.00 | 335.51 | 51.01 | 5.81 | 172.65 | 57.05 |
| 15515.000 | 7.00 | 0.00 | 0.00 | 182.10 | 745.00 | 335.55 | 0.00 | [illegible] | 85.74 | 6.47 | [illegible] | [illegible] |

| SECAD | ALCH | ELTRD | ELLC | ELMII | G | CHSEL | LTIPS | PL | 10KRS | WCH | ARCA | .0018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15521.000 | 6.00 | 0.00 | 0.00 | 352.20 | 295.00 | 544.71 | 0.00 | 345.16 | 110.03 | 5.55 | 83.53 | 28.00 |
| 15521.000 | 5.00 | 0.00 | 0.00 | 352.20 | 400.00 | 535.10 | 0.00 | 335.55 | 100.07 | 5.02 | 141.41 | 45.[illegible] |
| 15521.000 | 6.00 | 0.00 | 0.00 | 352.20 | 525.00 | 835.31 | 0.00 | 535.38 | 55.19 | 6.12 | 153.27 | 53.31 |
| 15521.000 | 6.00 | 0.00 | 0.00 | 352.20 | 755.00 | 835.68 | 0.00 | 335.73 | 96.26 | 6.71 | 223.55 | 75.02 |
| * 15528.000 | 7.10 | 0.10 | 0.00 | 342.30 | 295.10 | 165.76 | 055.70 | 175.23 | 130.30 | 6.26 | 75.21 | 23.30 |
| 15528.000 | 7.00 | 0.00 | 0.00 | 342.30 | 400.00 | 135.13 | 035.17 | 145.57 | 101.34 | 6.85 | 1[illegible].3 | 39.[illegible] |
| 15523.000 | 7.00 | 0.00 | 0.00 | 342.30 | 525.00 | 135.35 | 0.00 | 1[illegible] | 132.56 | 6.90 | 1[illegible] | 65.[illegible] |
| 15523.000 | 7.00 | 0.00 | 0.00 | 352.30 | 745.00 | 335.70 | 0.00 | 335.21 | 129.15 | 7.47 | 190.55 | 55.55 |
| 15555.000 | 27.00 | 0.00 | 0.00 | 382.70 | 295.00 | 485.37 | 0.00 | 115.61 | 90.55 | 6.15 | 100.90 | 31.00 |
| 15555.000 | 27.00 | 0.00 | 0.00 | 332.71 | 400.00 | 815.71 | 0.00 | [illegible] | 94.11 | 5.35 | 150.[illegible] | 57.[illegible] |
| 15555.000 | 27.00 | 0.00 | 0.00 | 312.71 | 525.00 | [illegible] | 0.70 | 418.12 | 101.41 | 5.23 | 1[illegible] | 52.16 |
| 15555.000 | 27.00 | 0.00 | 0.00 | 352.70 | 745.00 | 45.72 | 0.00 | [illegible] | [illegible].21 | 5.42 | 153.1 | 79.[illegible] |
| 15575.000 | 20.00 | 0.00 | 0.00 | 385.00 | 295.00 | 885.69 | 0.00 | 335.35 | 110.40 | 5.60 | 92.62 | 27.70 |
| 15575.000 | 20.00 | 0.00 | 0.00 | 385.70 | 400.00 | 385.[illegible] | 0.00 | 130.23 | 111.43 | 6.24 | 142.43 | 45.77 |
| 15575.000 | 20.00 | 0.00 | 0.00 | 332.70 | 525.00 | [illegible] | 0.00 | [illegible] | 112.17 | 5.45 | [illegible] | 59.42 |
| 15575.000 | 20.00 | 0.00 | 0.00 | 342.70 | 745.00 | 335.50 | 0.00 | [illegible] | 97.03 | 5.54 | 153.44 | 75.25 |
| 15590.000 | 15.00 | 0.00 | 0.00 | 333.30 | 295.00 | 135.35 | 385.03 | 353.13 | 157.73 | 6.30 | 80.[illegible] | 23.40 |
| 15590.000 | 15.00 | 0.10 | 0.00 | 133.30 | 400.00 | 390.15 | 300.15 | 283.69 | 143.03 | 6.38 | 148.24 | 37.5[illegible] |
| 15590.000 | 15.00 | 0.00 | 0.00 | [illegible] | 525.00 | 400.15 | 106.12 | [illegible] | 146.11 | 7.07 | 146.10 | 63.75 |
| * 15590.000 | 15.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | 315.33 | [illegible] | 125.30 | 7.21 | [illegible] | [illegible] |
| 15635.000 | 45.00 | 0.00 | 0.00 | 0.90 | 295.00 | [illegible] | 835.22 | 100.71 | 153.[illegible] | 5.51 | [illegible] | 23.30 |
| * 15635.000 | 45.00 | 0.00 | 0.00 | 0.90 | 430.00 | 135.79 | 135.79 | 197.76 | 125.21 | 6.55 | 171.46 | 41.11 |
| 15635.000 | 45.00 | 0.00 | 0.00 | 0.90 | 525.00 | 815.6 | 635.30 | 817.20 | 130.96 | 5.84 | 192.04 | 45.36 |
| 15635.000 | 45.00 | 0.00 | 0.00 | 0.90 | 745.00 | [illegible] | 0.00 | 337.52 | 113.22 | 5.91 | 230.43 | 79.01 |
| 15275.000 | 640.00 | 0.00 | 0.00 | 0.00 | [illegible] | [illegible] | 0.00 | [illegible] | 70.40 | 6.01 | [illegible] | 37.[illegible] |
| 15275.000 | 640.00 | 0.00 | 0.00 | 0.80 | 400.00 | 315.69 | 0.00 | [illegible] | [illegible] | 6.93 | [illegible] | 41.34 |
| 15275.000 | 640.00 | 0.00 | 0.00 | 0.20 | 525.00 | 335.51 | 0.00 | 133.39 | 83.41 | 5.10 | 1[illegible].70 | 57.43 |
| 15275.000 | 640.00 | 0.00 | 0.00 | 0.20 | 745.00 | 435.97 | 0.00 | 96.21 | 97.76 | 5.99 | 210.05 | 75.[illegible] |
| 15290.000 | 15.00 | 0.00 | 0.00 | 0.90 | 295.00 | 035.35 | 0.00 | [illegible] | [illegible] | 5.37 | 105.77 | [illegible] |
| 15290.000 | 15.00 | 0.00 | 0.00 | 0.90 | 400.00 | 135.12 | 0.00 | [illegible] | 76.13 | 6.58 | 1[illegible].39 | 53.41 |
| 15290.000 | 15.00 | 0.00 | 0.00 | 0.90 | 525.00 | 535.71 | 0.00 | 46.2 | 72.05 | 6.[illegible] | 113.70 | 61.[illegible] |
| 15290.000 | 15.00 | 0.00 | 0.00 | 0.90 | 745.00 | 335.12 | 0.00 | 535.32 | 75.43 | 5.47 | 230.46 | 85.22 |
| 16305.000 | 15.00 | 0.00 | 0.00 | 1.10 | 295.00 | [illegible] | 0.00 | [illegible] | 96.08 | 4.55 | 96.00 | 30.10 |
| 16305.000 | 15.00 | 0.00 | 0.00 | [illegible] | [illegible] | 352.71 | 0.00 | [illegible] | [illegible] | 5.63 | [illegible] | [illegible] |
| 16305.000 | 15.00 | 0.00 | 0.00 | 1.10 | 525.00 | 353.34 | 0.00 | [illegible] | 107.03 | 5.55 | 1[illegible] | 52.5[illegible] |
| 16305.000 | 15.00 | 0.00 | 0.00 | 1.10 | [illegible] | 335.79 | 0.00 | 8.[illegible] | 112.23 | 6.39 | 207.01 | 70.20 |
| 16345.000 | [illegible] | 0.00 | 0.00 | 1.70 | 295.00 | [illegible] | 0.00 | 334.10 | 94.51 | 5.27 | 50.92 | 24.62 |
| 16345.000 | 20.00 | 0.00 | 0.00 | 1.70 | 400.00 | 394.15 | 0.00 | 834.51 | 146.13 | 5.97 | 117.06 | 37.32 |
| 16345.000 | [illegible] | 0.00 | 0.00 | 1.70 | 525.00 | 334.75 | 0.00 | [illegible] | 153.33 | 6.26 | 132.11 | [illegible] |
| 16345.000 | [illegible] | 0.00 | 0.00 | 1.70 | [illegible] | [illegible] | [illegible] | 135.12 | 137.55 | 7.74 | 182.02 | 61.[illegible] |
| * 16375.000 | 30.00 | 0.00 | 0.00 | 2.20 | 295.00 | 354.[illegible] | 354.[illegible] | 155.[illegible] | 208.16 | 6.33 | 75.73 | 20.45 |
| 16375.000 | 30.00 | 0.00 | 0.00 | 2.20 | 400.00 | 434.93 | 0.00 | 5.[illegible] | 133.24 | 5.39 | 150.35 | 35.35 |
| 16375.000 | 30.00 | 0.00 | 0.00 | 2.20 | 525.00 | [illegible] | 0.00 | [illegible] | 112.44 | 5.33 | 177.57 | 49.55 |
| 16375.000 | 30.00 | 0.00 | 0.00 | 2.20 | [illegible] | [illegible] | 0.00 | 5.62 | [illegible] | [illegible] | 27.25 | [illegible] |

| SECRO | XLCH | ELTRO | ELLC | ELTIM | F | CUSEL | CTONS | TO | TOTAB | VCH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10545.000 | 170.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4.02 | [illegible] | [illegible] |
| 10545.000 | 170.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.75 | [illegible] | [illegible] |
| 16545.000 | 170.00 | 0.00 | 0.00 | [illegible] | 325.10 | [illegible] | 0.00 | [illegible] | [illegible] | 6.25 | 106.06 | [illegible] |
| 16545.000 | 170.00 | 0.00 | 0.00 | [illegible] | [illegible] | 457.30 | 0.00 | [illegible] | [illegible] | 7.73 | [illegible] | [illegible] |
| 16525.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16625.000 | 81.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16625.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4.54 | [illegible] | [illegible] |
| 16625.000 | 80.00 | 0.00 | 0.00 | 396.10 | [illegible] | [illegible] | 0.00 | [illegible] | 44.64 | 4.01 | 259.01 | 36.35 |
| 16636.000 | 11.00 | 0.00 | 0.00 | 196.20 | 295.00 | [illegible] | 0.00 | [illegible] | 134.37 | 4.70 | 123.19 | 25.40 |
| 16636.000 | 11.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16636.000 | 11.00 | 0.00 | 0.00 | 35[illegible].20 | 325.00 | [illegible] | [illegible] | [illegible] | 111.01 | 5.23 | [illegible] | [illegible] |
| 16636.000 | 11.00 | 0.00 | 0.00 | 395.20 | 765.00 | [illegible] | [illegible] | [illegible] | 95.17 | 5.54 | [illegible] | [illegible] |
| 16645.000 | 12.00 | 0.00 | 0.00 | 396.20 | 295.00 | [illegible] | [illegible] | [illegible] | 106.33 | 4.52 | 130.62 | 28.[illegible] |
| 16645.000 | 12.00 | 0.00 | 0.00 | [illegible] | 430.00 | 398.30 | [illegible] | [illegible] | 101.45 | 5.76 | 180.58 | 45.07 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 325.10 | [illegible] | [illegible] | [illegible] | [illegible] | 5.20 | [illegible] | [illegible] |
| 16648.000 | 12.00 | [illegible] | [illegible] | [illegible] | 765.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.[illegible] | [illegible] | 76.10 |
| 16659.000 | 11.00 | 0.00 | 0.00 | [illegible] | 295.00 | 350.14 | 0.00 | [illegible] | 177.02 | 5.71 | 136.00 | [illegible] |
| 16659.000 | 11.00 | 0.00 | 0.00 | [illegible] | 430.00 | [illegible] | 0.00 | [illegible] | 155.37 | 5.17 | 140.74 | [illegible] |
| 16659.000 | 11.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 130.95 | 5.27 | 137.75 | [illegible] |
| 16659.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 135.74 | [illegible] | [illegible] | [illegible] |
| 16670.000 | 11.00 | [illegible] | [illegible] | [illegible] | 295.00 | [illegible] | 0.00 | [illegible] | 103.20 | 5.53 | 117.[illegible] | [illegible] |
| 16670.000 | 11.00 | 0.00 | 0.00 | [illegible] | 430.00 | [illegible] | 0.00 | [illegible] | 135.27 | 5.00 | 153.69 | [illegible] |
| 16670.000 | 11.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 150.82 | 5.26 | 170.55 | 45.[illegible] |
| 16670.000 | 11.00 | 0.00 | 0.00 | [illegible] | 765.00 | [illegible] | 0.00 | [illegible] | 124.00 | 6.77 | 223.33 | 66.[illegible] |
| 16674.000 | 4.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.41 | [illegible] | [illegible] |
| 16674.000 | 4.00 | 0.00 | 0.00 | [illegible] | [illegible] | 694.35 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16674.000 | 4.00 | 0.00 | 0.00 | [illegible] | 325.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.52 | [illegible] | [illegible] |
| 16674.000 | 4.00 | 0.00 | 0.00 | [illegible] | 765.00 | [illegible] | 0.00 | [illegible] | 157.30 | 7.10 | 210.52 | 63.[illegible] |
| 16678.000 | 4.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16678.000 | 6.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16678.000 | 6.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16678.000 | 6.00 | 0.00 | 0.00 | [illegible] | 765.00 | [illegible] | 0.00 | [illegible] | 152.30 | 7.45 | [illegible] | 60.17 |
| 16680.000 | 2.00 | 0.00 | 0.00 | [illegible] | 295.00 | [illegible] | 0.00 | [illegible] | 94.36 | 6.05 | 120.11 | 30.34 |
| 16680.000 | 2.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16680.000 | 2.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 111.06 | 6.03 | [illegible] | [illegible] |
| 16680.000 | 2.00 | 0.00 | 0.00 | [illegible] | 765.00 | [illegible] | 0.00 | [illegible] | [illegible] | 6.30 | 219.[illegible] | [illegible] |
| 16691.000 | 1.00 | 0.00 | 0.00 | [illegible] | 295.00 | [illegible] | 0.00 | [illegible] | 124.07 | 5.62 | 100.40 | 25.95 |
| 16691.000 | 1.00 | 0.00 | 0.00 | [illegible] | 430.00 | [illegible] | [illegible] | [illegible] | 133.99 | 6.55 | 159.42 | 38.[illegible] |
| 16691.000 | 1.00 | 0.00 | 0.00 | [illegible] | 525.10 | [illegible] | [illegible] | [illegible] | 157.02 | 5.33 | [illegible] | [illegible] |
| 16691.000 | 1.00 | 0.00 | 0.00 | [illegible] | 765.00 | [illegible] | [illegible] | [illegible] | 139.50 | 6.71 | 195.70 | 58.[illegible] |
| 16687.000 | 5.00 | 0.00 | 0.00 | [illegible] | 295.00 | 398.72 | 0.00 | [illegible] | 95.79 | 4.86 | 116.[illegible] | 31.[illegible] |
| 16687.000 | 5.00 | 0.00 | 0.00 | [illegible] | 430.00 | 899.18 | 0.00 | [illegible] | 94.51 | 5.65 | 101.25 | 37.[illegible] |
| 16687.000 | 5.00 | 0.00 | 0.00 | [illegible] | 525.10 | 899.16 | 0.00 | [illegible] | 93.53 | 5.94 | 176.16 | 52.[illegible] |
| 16687.000 | 5.00 | 0.00 | 0.00 | [illegible] | 765.10 | [illegible] | 0.00 | [illegible] | 109.33 | 6.77 | [illegible] | [illegible] |

| SECND | XLCH | FLTXC | ELLC | CLIIN | T | CJSLL | CRTHS | FC | TOKGS | VCM | AREA | .0010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15760.000 | 73.00 | 0.00 | .00 | 495.00 | 295.00 | 499.36 | 0.00 | 500.71 | 103.50 | 5.47 | 0.70 | 30.[illegible] |
| 15760.000 | 73.00 | 0.00 | 0.00 | 395.50 | 360.00 | 499.71 | 0.10 | 500.18 | 115.35 | 5.44 | 112.50 | 42.[illegible] |
| 15760.000 | 73.00 | 0.00 | 0.00 | 495.00 | 525.00 | 499.83 | 0.00 | 500.36 | 120.00 | 5.51 | 151.50 | 47.[illegible] |
| 16760.000 | 73.00 | 0.00 | 0.00 | 295.00 | 745.00 | 503.19 | 0.00 | 500.79 | 127.95 | 7.63 | 174.53 | 55.15 |
| 16805.000 | 65.00 | 0.00 | 0.00 | 197.00 | 295.00 | 499.50 | 0.00 | 500.11 | 71.65 | 5.58 | 53.15 | 34.[illegible] |
| 16805.000 | 65.00 | 0.00 | 0.00 | 197.00 | 460.00 | 500.22 | 0.00 | 500.[illegible] | 55.00 | 5.59 | 101.16 | 51.[illegible] |
| 16805.000 | 65.00 | 0.00 | 0.00 | 197.00 | 545.00 | 500.35 | 0.00 | 500.19 | 67.61 | 5.28 | 144.57 | 52.15 |
| 16805.000 | 65.00 | 0.00 | 0.00 | 197.00 | 745.00 | 503.72 | 0.00 | 501.50 | 101.32 | 7.50 | 195.73 | 73.[illegible] |
| 16945.000 | 140.00 | 0.00 | 0.00 | 396.90 | 295.00 | 500.55 | 0.00 | 500.57 | 10.[illegible] | 6.27 | 56.37 | [illegible] |
| 16945.000 | 140.00 | 0.00 | 0.00 | 196.90 | 460.00 | 500.11 | 0.00 | 500.15 | 5.37 | 4.53 | 5.[illegible] | 150.[illegible] |
| 16945.000 | 140.00 | 0.00 | 0.00 | 395.90 | 525.00 | 501.39 | 0.00 | 501.[illegible] | 5.26 | 2.70 | 56.41 | 172.[illegible] |
| 16945.000 | 140.00 | 0.00 | 0.00 | 196.90 | 745.00 | 501.64 | 0.00 | 501.8[illegible] | 9.01 | 2.5[illegible] | 145.71 | 247.54 |
| 17085.000 | 140.00 | 0.00 | 0.00 | 197.70 | 295.00 | 500.75 | 0.00 | 500.85 | 29.79 | 5.96 | 210.97 | 66.[illegible] |
| 17085.000 | 140.00 | 0.00 | 0.00 | 397.70 | 460.00 | 501.2[illegible] | 0.00 | 501.24 | 28.69 | 5.75 | 329.96 | 9[illegible].01 |
| 17085.000 | 140.00 | 0.00 | 0.00 | 197.70 | 525.00 | 501.[illegible] | 0.00 | 501.5[illegible] | 25.00 | 5.73 | 372.52 | 112.[illegible] |
| 17085.000 | 140.00 | 0.00 | 0.00 | 197.70 | 745.00 | 501.[illegible] | 0.00 | 502.4 | 22.11 | 5.79 | 535.[illegible] | 155.[illegible]4 |
| 17225.000 | 140.00 | 0.00 | 0.00 | 598.50 | 295.00 | 501.35 | 0.00 | 501.85 | 25.03 | 6.91 | 172.56 | 53.[illegible] |
| 17225.000 | 140.00 | 0.00 | 0.00 | 398.50 | 395.00 | 501.73 | 0.00 | 501.27 | 59.00 | 5.04 | 252.56 | 59.65 |
| 17225.000 | 140.00 | 0.00 | 0.00 | 598.50 | 525.00 | 501.83 | 0.00 | 502.01 | 25.02 | 5.03 | 286.50 | 70.74 |
| 17225.000 | 140.00 | 0.00 | 0.00 | 598.50 | 745.00 | 502.[illegible] | 0.00 | 502.15 | 25.[illegible] | 5.[illegible] | [illegible] | 11[illegible] |
| 17365.000 | 140.00 | 0.00 | 0.00 | 398.30 | 295.00 | 501.50 | 0.00 | 501.95 | 1[illegible].70 | 2.53 | [illegible] | 72.[illegible] |
| 17365.000 | 140.00 | 0.00 | 0.00 | 398.30 | 525.00 | 502.41 | 0.00 | 502.44 | 1[illegible].01 | 2.25 | 425.85 | 121.70 |
| 17365.000 | 140.00 | 0.00 | 0.00 | 398.30 | 745.00 | 502.81 | 0.00 | 502.85 | 15.02 | 5.15 | 539.21 | 170.[illegible] |
| 17505.000 | 140.00 | 0.00 | 0.00 | 198.10 | 295.00 | 500.30 | 0.00 | 500.[illegible] | [illegible].13 | 5.56 | [illegible].15 | [illegible] |
| 17505.000 | 140.00 | 0.00 | 0.00 | 198.10 | 395.00 | 502.67 | 0.00 | 502.7[illegible] | [illegible].13 | 5.76 | 291.76 | [illegible] |
| 17505.000 | 140.00 | 0.00 | 0.00 | 198.10 | 525.00 | 502.81 | 0.00 | 502.37 | 41.81 | 5.83 | 523.21 | 31.19 |
| 17505.000 | 140.00 | 0.00 | 0.00 | 198.10 | 745.00 | 503.19 | 0.00 | 503.27 | 5[illegible].57 | 5.08 | 423.42 | 120.2 |
| 17850.000 | 345.00 | 0.00 | 0.00 | 12[illegible] | 295.00 | [illegible] | 916.53 | 4[illegible] | [illegible] | 5.33 | 177.33 | [illegible] |
| 17850.000 | 345.00 | 0.00 | 0.00 | 3[illegible] | 5[illegible].00 | 903.[illegible] | 904.[illegible] | 905.00 | 107.73 | 5.45 | 241.[illegible] | 34.[illegible] |
| 17850.000 | 345.00 | 0.00 | 0.00 | 02.50 | 525.00 | 705.13 | 906.70 | 905.11 | 10[illegible].0 | 5.52 | [illegible].4 | 50.35 |
| 17850.000 | 345.00 | 0.00 | 0.00 | 02.50 | 745.00 | 905.25 | 0.00 | 905.54 | 1[illegible].21 | 6.09 | 295.30 | 71.62 |
| 18395.000 | 545.00 | 0.00 | 0.00 | 17.00 | 295.00 | 09.[illegible] | 0.00 | 09.5[illegible] | 49.64 | 5.84 | 182.00 | 61.87 |
| 18395.000 | 545.00 | 0.00 | 0.00 | 3[illegible].50 | 395.00 | 709.36 | 0.00 | 709.54 | 3[illegible].7 | 4.35 | 240.[illegible] | 7[illegible] |
| 18395.000 | 545.00 | 0.00 | 0.00 | 37.70 | 525.00 | 9[illegible].17 | 0.00 | 910.7 | 52.12 | 4.56 | 271.[illegible] | 72.[illegible] |
| 18395.000 | 545.00 | 0.00 | 0.00 | 17.20 | 745.00 | 11[illegible] | 0.00 | 1[illegible].43 | 55.43 | 5.30 | 341.42 | 100.[illegible] |
| 18545.000 | 150.00 | 0.00 | 0.00 | 3[illegible].10 | 295.00 | 418.52 | 0.00 | 419.[illegible] | 135.79 | 6.36 | 196.13 | 25.41 |
| 18545.000 | 150.00 | 0.00 | 0.00 | 3[illegible].10 | 4[illegible].00 | 413.09 | 0.00 | 411.11 | 135.50 | 6.85 | 157.55 | 40.[illegible] |
| 18545.000 | 150.00 | 0.00 | 0.00 | [illegible] | 525.00 | 511.[illegible] | 0.00 | [illegible] | 132.81 | 6.98 | 177.25 | 47.[illegible] |
| 18545.000 | 150.00 | 0.00 | 0.00 | 08.10 | 745.00 | 511.39 | 0.00 | [illegible] | 135.00 | 7.37 | 58.10 | 65.41 |
| 19095.000 | 150.00 | 0.00 | 0.00 | [illegible] | 295.00 | 12.[illegible] | 0.00 | 512.21 | [illegible] | 5.15 | 127.07 | 36.45 |
| 19095.000 | 150.00 | 0.00 | 0.00 | 08.50 | 395.00 | 12.[illegible] | 0.00 | 12.[illegible] | [illegible] | 5.95 | 173.27 | 53.52 |
| 19095.000 | 150.00 | 0.00 | 0.00 | 08.90 | 525.00 | 512.[illegible] | 0.00 | 12.[illegible] | [illegible].7 | 6.22 | 1[illegible].3 | 59.94 |
| 19095.000 | 150.00 | 0.00 | 0.00 | 08.90 | 745.00 | 512.[illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 225.95 | [illegible] |

| SELNO | XLCH | ELTHC | ELEC | [illegible] | Q | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18845.000 | 150.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 102.02 | [illegible] | [illegible] | [illegible] |
| 18845.000 | 150.00 | 0.00 | 0.00 | [illegible] | 450.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18845.000 | 150.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | 101.00 | [illegible] | [illegible] | [illegible] |
| 18845.000 | 150.00 | 0.00 | 0.00 | 509.80 | 745.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.82 | 215.50 | [illegible] |
| 18995.000 | 300.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18995.000 | 300.00 | 0.00 | 0.00 | [illegible] | [illegible] | 15.95 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18995.000 | 300.00 | 0.00 | 0.00 | [illegible] | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18995.000 | 300.00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | [illegible] | [illegible] | [illegible] | 4.38 | 389.16 | [illegible] |
| 19110.000 | 115.00 | 0.00 | 0.00 | 11.50 | 255.00 | 15.51 | 0.00 | [illegible] | [illegible] | 5.56 | 101.92 | [illegible] |
| 19110.000 | 115.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19110.000 | 115.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19110.000 | 115.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.36 | [illegible] | [illegible] |
| 19139.000 | 290.00 | 0.00 | 0.00 | 112.30 | [illegible] | 15.55 | 0.00 | [illegible] | [illegible] | 6.71 | 43.04 | 30.51 |
| 19139.000 | 290.00 | 0.00 | 0.00 | 112.30 | [illegible] | 100.25 | [illegible] | [illegible] | [illegible] | 3.77 | 105.17 | 53.30 |
| 19139.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19139.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.80 | [illegible] | [illegible] |
| 19165.000 | [illegible] | 0.00 | 0.00 | 112.50 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.53 | 50.55 | [illegible] |
| 19165.000 | 290.00 | 0.00 | 0.00 | 112.50 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 7.16 | 135.28 | 49.57 |
| 19165.000 | [illegible] | 0.00 | 0.00 | 112.50 | 525.00 | [illegible] | 0.00 | [illegible] | 81.53 | 7.20 | 167.01 | 53.15 |
| 19165.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19196.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.71 | [illegible] | [illegible] |
| 19196.000 | 290.00 | 0.00 | 0.00 | 112.90 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.56 | 167.22 | [illegible] |
| 19196.000 | 290.00 | 0.00 | 0.00 | 112.90 | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | 6.57 | 102.30 | [illegible] |
| 19196.000 | 290.00 | 0.00 | 0.00 | 112.90 | 745.00 | [illegible] | 0.00 | [illegible] | [illegible] | 6.95 | 201.55 | [illegible] |
| 19225.000 | 290.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19225.000 | 290.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19225.000 | 290.00 | 0.00 | 0.00 | 113.20 | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.65 | 164.65 | [illegible] |
| 19225.000 | 290.00 | 0.00 | 0.00 | 113.30 | 745.00 | [illegible] | 0.00 | 17.93 | [illegible] | 7.76 | 201.05 | [illegible] |
| 19340.000 | 115.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19340.000 | 115.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 127.31 | [illegible] | [illegible] | [illegible] |
| 19340.000 | 115.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19340.000 | 115.00 | [illegible] | [illegible] | [illegible] | 745.00 | [illegible] | 0.00 | [illegible] | 120.34 | 6.52 | 187.55 | [illegible] |
| 19455.000 | 115.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 110.30 | 6.52 | 105.94 | [illegible] |
| 19455.000 | 115.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19455.000 | 115.00 | [illegible] | [illegible] | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | 35.72 | 6.36 | [illegible] | [illegible] |
| 19455.000 | 115.00 | [illegible] | 0.00 | 113.90 | 745.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19477.000 | 220.00 | 0.00 | 0.00 | 113.10 | [illegible] | [illegible] | [illegible] | [illegible] | 122.64 | 6.99 | 90.04 | [illegible] |
| 19477.000 | 220.00 | 0.00 | 0.00 | 113.10 | [illegible] | [illegible] | 0.00 | 19.58 | 123.51 | 7.78 | 100.83 | [illegible] |
| 19477.000 | 220.00 | 0.00 | 0.00 | 113.10 | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19477.000 | [illegible] | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.52 | [illegible] | [illegible] |
| 19499.000 | 220.00 | 0.00 | 0.00 | 113.30 | [illegible] | [illegible] | 0.00 | [illegible] | 55.59 | 5.39 | 114.00 | [illegible] |
| 19499.000 | 220.00 | 0.00 | 0.00 | 113.30 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 6.65 | 153.97 | [illegible] |
| 19499.000 | 220.00 | 0.00 | 0.00 | 113.30 | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | 6.99 | 164.44 | [illegible] |
| 19499.000 | 220.00 | 0.00 | 0.00 | 113.30 | 745.00 | [illegible] | 0.00 | [illegible] | 109.26 | 8.02 | [illegible] | [illegible] |

Rev'd 5-9-79

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HEC2 RELEASE DATE) NOV 76 UPDATED  AUG1977
ERROR CORR -  01,02
MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY

SARGENT CREEK AVON TWP. FIS J&A FILE NO. 5850-01

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRI |
|---|---|---|---|---|---|---|---|---|
| | 18395.000 | 0.00 | 0.00 | 0.00 | 907.20 | 295.00 | 909.47 | 0. |
| | 18395.000 | 0.00 | 0.00 | 0.00 | 907.20 | 460.00 | 909.84 | 0. |
| | 18395.000 | 0.00 | 0.00 | 0.00 | 907.20 | 525.00 | 909.97 | 0. |
| | 18395.000 | 0.00 | 0.00 | 0.00 | 907.20 | 745.00 | 910.32 | 0. |
| | 18545.000 | 150.00 | 0.00 | 0.00 | 908.10 | 295.00 | 910.51 | 0. |
| | 18545.000 | 150.00 | 0.00 | 0.00 | 908.10 | 460.00 | 910.89 | 0. |
| | 18545.000 | 150.00 | 0.00 | 0.00 | 908.10 | 525.00 | 911.01 | 0. |
| | 18545.000 | 150.00 | 0.00 | 0.00 | 908.10 | 745.00 | 911.39 | 0. |
| | 18695.000 | 150.00 | 0.00 | 0.00 | 908.90 | 295.00 | 912.01 | 0. |
| | 18695.000 | 150.00 | 0.00 | 0.00 | 908.90 | 460.00 | 912.39 | 0. |
| | 18695.000 | 150.00 | 0.00 | 0.00 | 908.90 | 525.00 | 912.51 | 0. |
| | 18695.000 | 150.00 | 0.00 | 0.00 | 908.90 | 745.00 | 912.87 | 0. |
| | 18845.000 | 150.00 | 0.00 | 0.00 | 909.80 | 295.00 | 913.14 | 0. |
| | 18845.000 | 150.00 | 0.00 | 0.00 | 909.80 | 460.00 | 913.61 | 0. |
| | 18845.000 | 150.00 | 0.00 | 0.00 | 909.80 | 525.00 | 913.76 | 0. |
| | 18845.000 | 150.00 | 0.00 | 0.00 | 909.80 | 745.00 | 914.19 | 0. |
| | 18995.000 | 150.00 | 0.00 | 0.00 | 910.60 | 295.00 | 914.40 | 0. |
| | 18995.000 | 150.00 | 0.00 | 0.00 | 910.60 | 460.00 | 914.88 | 0. |
| | 18995.000 | 150.00 | 0.00 | 0.00 | 910.60 | 525.00 | 915.04 | 0. |
| | 18995.000 | 150.00 | 0.00 | 0.00 | 910.60 | 745.00 | 915.49 | 0. |
| * | 19110.000 | 115.00 | 0.00 | 0.00 | 911.90 | 295.00 | 915.21 | 915. |
| | 19110.000 | 115.00 | 0.00 | 0.00 | 911.90 | 460.00 | 915.66 | 0. |
| | 19110.000 | 115.00 | 0.00 | 0.00 | 911.90 | 525.00 | 915.82 | 0. |
| | 19110.000 | 115.00 | 0.00 | 0.00 | 911.90 | 745.00 | 916.27 | 0. |
| * | 19139.000 | 29.00 | 0.00 | 0.00 | 912.30 | 295.00 | 915.58 | 915. |
| | 19139.000 | 29.00 | 0.00 | 0.00 | 912.30 | 460.00 | 915.96 | 0. |
| | 19139.000 | 29.00 | 0.00 | 0.00 | 912.30 | 525.00 | 916.12 | 0. |
| | 19139.000 | 29.00 | 0.00 | 0.00 | 912.30 | 745.00 | 916.54 | 0. |
| | 19168.000 | 29.00 | 0.00 | 0.00 | 912.60 | 295.00 | 915.95 | 0. |
| | 19168.000 | 29.00 | 0.00 | 0.00 | 912.60 | 460.00 | 916.47 | 0. |
| | 19168.000 | 29.00 | 0.00 | 0.00 | 912.60 | 525.00 | 916.60 | 0. |
| | 19168.000 | 29.00 | 0.00 | 0.00 | 912.60 | 745.00 | 917.00 | 0. |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | D | CWSEL |
|---|---|---|---|---|---|---|---|
| | 19196.000 | 28.00 | 0.00 | 0.00 | 912.90 | 295.00 | 916.35 |
| | 19196.000 | 28.00 | 0.00 | 0.00 | 912.90 | 460.00 | 916.78 |
| | 19196.000 | 28.00 | 0.00 | 0.00 | 912.90 | 525.00 | 916.92 |
| | 19196.000 | 28.00 | 0.00 | 0.00 | 912.90 | 745.00 | 917.34 |
| | 19225.000 | 29.00 | 0.00 | 0.00 | 913.30 | 295.00 | 916.51 |
| | 19225.000 | 29.00 | 0.00 | 0.00 | 913.30 | 460.00 | 916.96 |
| | 19225.000 | 29.00 | 0.00 | 0.00 | 913.30 | 525.00 | 917.10 |
| | 19225.000 | 29.00 | 0.00 | 0.00 | 913.30 | 745.00 | 917.52 |
| * | 19340.000 | 115.00 | 0.00 | 0.00 | 914.60 | 295.00 | 917.59 |
| * | 19340.000 | 115.00 | 0.00 | 0.00 | 914.60 | 460.00 | 917.92 |
| | 19340.000 | 115.00 | 0.00 | 0.00 | 914.60 | 525.00 | 918.00 |
| | 19340.000 | 115.00 | 0.00 | 0.00 | 914.60 | 745.00 | 918.36 |
| | 19455.000 | 115.00 | 0.00 | 0.00 | 915.90 | 295.00 | 918.61 |
| | 19455.000 | 115.00 | 0.00 | 0.00 | 915.90 | 460.00 | 918.99 |
| | 19455.000 | 115.00 | 0.00 | 0.00 | 915.90 | 525.00 | 919.13 |
| | 19455.000 | 115.00 | 0.00 | 0.00 | 915.90 | 745.00 | 919.43 |
| * | 19477.000 | 22.00 | 0.00 | 0.00 | 916.10 | 295.00 | 918.85 |
| | 19477.000 | 22.00 | 0.00 | 0.00 | 916.10 | 460.00 | 919.15 |
| | 19477.000 | 22.00 | 0.00 | 0.00 | 916.10 | 525.00 | 919.27 |
| | 19477.000 | 22.00 | 0.00 | 0.00 | 916.10 | 745.00 | 919.58 |
| | 19499.000 | 22.00 | 0.00 | 0.00 | 916.30 | 295.00 | 919.27 |
| | 19499.000 | 22.00 | 0.00 | 0.00 | 916.30 | 460.00 | 919.58 |
| | 19499.000 | 22.00 | 0.00 | 0.00 | 916.30 | 525.00 | 919.66 |
| | 19499.000 | 22.00 | 0.00 | 0.00 | 916.30 | 745.00 | 919.90 |
| | 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 295.00 | 919.38 |
| | 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 460.00 | 919.72 |
| | 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 525.00 | 919.82 |
| | 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 745.00 | 920.10 |
| | 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 295.00 | 919.55 |
| | 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 460.00 | 919.91 |
| | 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 525.00 | 920.02 |
| | 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 745.00 | 920.34 |
| | 19586.000 | 43.00 | 0.00 | 0.00 | 917.00 | 295.00 | 920.13 |
| | 19586.000 | 43.00 | 0.00 | 0.00 | 917.00 | 460.00 | 920.52 |
| | 19586.000 | 43.00 | 0.00 | 0.00 | 917.00 | 525.00 | 920.65 |
| | 19586.000 | 43.00 | 0.00 | 0.00 | 917.00 | 745.00 | 921.00 |
| | 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 295.00 | 920.40 |
| | 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 460.00 | 920.81 |
| | 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 525.00 | 920.95 |
| | 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 745.00 | 921.33 |
| | 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 295.00 | 922.12 |
| | 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 460.00 | 922.59 |
| | 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 525.00 | 922.74 |
| | 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 745.00 | 923.13 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | C#SEL |
|---|---|---|---|---|---|---|---|
| | 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 295.00 | 923.69 |
| | 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 460.00 | 924.13 |
| | 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 525.00 | 924.34 |
| | 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 745.00 | 924.82 |
| | 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 295.00 | 924.07 |
| | 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 460.00 | 924.57 |
| | 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 525.00 | 924.74 |
| | 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 745.00 | 925.22 |
| | 20080.000 | 50.00 | 0.00 | 0.00 | 921.40 | 295.00 | 924.47 |
| | 20080.000 | 50.00 | 0.00 | 0.00 | 921.40 | 460.00 | 924.96 |
| | 20080.000 | 50.00 | 0.00 | 0.00 | 921.40 | 525.00 | 925.12 |
| | 20080.000 | 50.00 | 0.00 | 0.00 | 921.40 | 745.00 | 925.57 |
| | 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | 295.00 | 924.94 |
| | 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | 460.00 | 925.43 |
| | 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | 525.00 | 925.58 |
| | 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | 745.00 | 926.03 |
| | 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 295.00 | 924.99 |
| | 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 460.00 | 925.45 |
| | 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 525.00 | 925.59 |
| * | 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 745.00 | 926.20 |
| | 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | 295.00 | 925.05 |
| * | 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | 460.00 | 925.59 |
| * | 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | 525.00 | 925.80 |
| * | 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | 745.00 | 926.51 |
| | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 295.00 | 925.13 |
| | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 460.00 | 925.63 |
| * | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 525.00 | 925.86 |
| * | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 745.00 | 926.63 |

| SF.NO | XLCH | FLTRD | ELLC | ELMIN | D | CHSEL | CRIDS | FS | 10KWS | VLM | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 295.00 | 919.36 | 0.00 | 915.71 | 97.18 | 0.37 | 85.34 | 51.51 |
| 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 0.00 | 919.71 | 0.00 | 921.05 | 112.22 | 7.23 | 152.74 | 45.37 |
| 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 525.00 | 919.91 | 0.00 | 920.21 | 107.21 | 7.65 | 145.52 | 50.70 |
| 19521.000 | 22.00 | 0.00 | 0.00 | 916.50 | 745.00 | 920.11 | 0.00 | 920.37 | 120.55 | 8.63 | 105.57 | 57.05 |
| 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 295.00 | 919.53 | 919.53 | 919.90 | 115.37 | 7.11 | 3.65 | 27.44 |
| 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 500.00 | 919.91 | 0.00 | 920.30 | 122.28 | 8.02 | 113.72 | 41.44 |
| 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 525.00 | 920.02 | 0.00 | 920.52 | 125.16 | 1.29 | 1.2.11 | 45.[illegible] |
| 19543.000 | 22.00 | 0.00 | 0.00 | 916.70 | 745.00 | 920.34 | 0.00 | 920.89 | 135.01 | 7.18 | 171.71 | 64.36 |
| 19586.000 | 45.00 | 0.00 | 0.00 | 917.00 | 295.00 | 920.13 | 0.00 | 920.61 | 65.24 | 5.76 | 101.56 | 35.52 |
| 19586.000 | 45.00 | 0.00 | 0.00 | 917.00 | 500.00 | 920.52 | 0.00 | 920.72 | 71.03 | 5.59 | 142.02 | 54.[illegible] |
| 19586.000 | 45.00 | 0.00 | 0.00 | 917.00 | 525.00 | 921.34 | 0.00 | 920.97 | 76.03 | 6.91 | 155.67 | 58.[illegible] |
| 19586.000 | 45.00 | 0.00 | 0.00 | 917.00 | 745.00 | 921.70 | 0.00 | [illegible] | 79.37 | 7.57 | 215.11 | 35.[illegible] |
| 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 295.00 | 920.40 | 0.00 | 920.42 | 45.24 | 3.77 | 32.57 | 30.21 |
| 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 457.00 | 921.31 | 0.00 | 921.26 | 100.72 | 7.66 | 113.37 | 45.32 |
| 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 525.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.94 | [illegible] | [illegible] |
| 19630.000 | 44.00 | 0.00 | 0.00 | 917.40 | 745.00 | 921.33 | 0.00 | 921.30 | [illegible] | 5.72 | 173.31 | 72.31 |
| 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 295.00 | 922.12 | 0.00 | 922.39 | 94.25 | 6.52 | 60.45 | 50.29 |
| 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 450.00 | 922.53 | 0.00 | 922.81 | 95.06 | 7.03 | 116.47 | 47.18 |
| 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 525.00 | 922.74 | 0.00 | 922.97 | 95.43 | 7.27 | 129.03 | 51.74 |
| 19805.000 | 175.00 | 0.00 | 0.00 | 919.00 | 745.00 | [illegible] | 0.00 | [illegible] | 97.57 | [illegible] | 170.16 | 75.04 |
| 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 295.00 | [illegible] | 0.00 | 924.[illegible] | 73.71 | 5.71 | [illegible] | [illegible] |
| 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 450.00 | 924.71 | 0.00 | 924.54 | 73.65 | 6.54 | 122.32 | 51.98 |
| 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 525.00 | 924.34 | 0.00 | 924.72 | 79.11 | 6.78 | 136.12 | 59.02 |
| 19980.000 | 175.00 | 0.00 | 0.00 | 920.50 | 745.00 | 924.42 | 0.00 | 925.24 | 79.25 | 7.39 | 130.33 | 63.66 |
| 20031.000 | 50.00 | 0.00 | 0.00 | 920.70 | [illegible] | [illegible] | 0.00 | [illegible] | 74.50 | 5.15 | 45.01 | [illegible] |
| 20031.000 | 50.00 | 0.00 | 0.00 | 920.70 | [illegible] | 922.37 | 0.00 | 924.94 | 79.[illegible] | 6.53 | 121.72 | 51.47 |
| 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 525.00 | 922.74 | 0.00 | 925.12 | 79.69 | 6.30 | 135.55 | 59.74 |
| 20030.000 | 50.00 | 0.00 | 0.00 | 920.90 | 745.00 | 925.22 | 0.00 | 925.64 | 79.65 | 7.41 | 179.75 | 63.[illegible] |
| 20040.000 | 50.00 | 0.00 | 0.00 | 921.40 | 295.00 | [illegible] | 0.00 | [illegible] | [illegible] | 5.83 | [illegible] | [illegible] |
| 20040.000 | 50.00 | 0.00 | 0.00 | 921.40 | [illegible] | [illegible] | 0.00 | 925.66 | [illegible] | 7.[illegible] | 162.[illegible] | 49.[illegible] |
| 20040.000 | 50.00 | 0.00 | 0.00 | 921.40 | 525.00 | [illegible] | 0.00 | [illegible] | 107.02 | 7.71 | [illegible] | [illegible] |
| 20040.000 | 50.00 | 0.00 | 0.00 | 921.40 | 745.00 | [illegible] | 0.00 | 926.25 | 119.23 | 8.84 | 137.37 | 58.23 |
| 20130.000 | 50.00 | 0.00 | 0.00 | 921.[illegible] | [illegible] | [illegible] | 0.00 | 925.60 | 111.66 | 6.90 | 62.69 | 23.[illegible] |
| 20130.000 | 50.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 9.54 | [illegible] | [illegible] |
| 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | [illegible] | [illegible] | 0.00 | [illegible] | 144.64 | 7.[illegible] | [illegible] | 43.[illegible] |
| 20130.000 | 50.00 | 0.00 | 0.00 | 921.80 | 745.00 | [illegible] | 0.00 | [illegible] | 179.32 | 10.91 | [illegible] | 55.[illegible] |
| 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 295.00 | 924.90 | 0.00 | 925.05 | 138.44 | 7.62 | 55.11 | 25.07 |
| 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 450.00 | 925.45 | 0.00 | 926.47 | 178.32 | 9.60 | 68.48 | 34.45 |
| 20140.000 | [illegible] | 0.00 | 0.00 | 921.90 | 525.00 | 925.50 | 925.50 | 928.77 | 195.50 | 10.37 | [illegible] | [illegible] |
| * 20140.000 | 10.00 | 0.00 | 0.00 | 921.90 | 745.00 | 926.10 | 926.20 | 927.71 | 208.00 | 11.64 | 20.15 | 52.[illegible] |
| 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | [illegible] | [illegible] | 0.00 | 925.90 | 170.30 | 6.37 | 63.11 | 22.21 |
| * 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | [illegible] | 925.5[illegible] | 925.5[illegible] | 928.[illegible] | 203.78 | 10.46 | 80.03 | 31.34 |
| * 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | 525.00 | [illegible] | 925.81 | [illegible] | 213.09 | 11.05 | 85.00 | 35.20 |
| * 20150.000 | 10.00 | 0.00 | 0.00 | 922.00 | [illegible] | [illegible] | 925.59 | [illegible] | [illegible] | 10.94 | [illegible] | 57.[illegible] |

| | SELCO | XLCH | ELTTO | ELLC | ELHIX | I | DHSEL | DTJS | FC | TMMS | VCH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 695.00 | 925.43 | 0.00 | 925.00 | 153.17 | [illegible] | 57.14 | [illegible] |
| | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 695.00 | 25.43 | 925.00 | [illegible] | 2[illegible].15 | 10.51 | 57.71 | [illegible] |
| * | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 525.00 | 925.00 | 925.00 | [illegible] | 207.73 | 11.23 | [illegible] | [illegible] |
| * | 20155.000 | 5.00 | 0.00 | 0.00 | 922.00 | 745.01 | 922.03 | [illegible] | 920.51 | 210.45 | 12.87 | 73.59 | 51[illegible].5 |
| | 20173.000 | [illegible] | 0.00 | 0.00 | [illegible] | 295.01 | 125.01 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 20173.000 | [illegible] | 0.00 | [illegible] | 921.80 | [illegible] | 125.01 | 125.[illegible] | 927.[illegible] | [illegible] | 10.42 | 54.10 | [illegible] |
| * | 20173.000 | [illegible] | 0.00 | [illegible] | 921.80 | [illegible] | 92[illegible] | 125.67 | 537.[illegible] | [illegible] | 11.05 | [illegible] | [illegible] |
| * | 20173.000 | 13.00 | 0.00 | 0.00 | 921.80 | 745.00 | 927.07 | 927.[illegible] | 929.07 | 1[illegible] | [illegible] | 51.[illegible] | 55.[illegible] |
| | 20293.000 | 120.00 | 931.50 | 929.00 | 921.00 | 295.00 | [illegible] | 0.00 | [illegible] | 31.71 | 5.56 | 52.2[illegible] | 45.[illegible] |
| | 20293.000 | 120.00 | 931.50 | 929.00 | 921.00 | 300.00 | [illegible] | 0.00 | [illegible] | 36.31 | 5.75 | [illegible] | [illegible] |
| | 20293.000 | 120.00 | 931.50 | 929.00 | 921.00 | 515.00 | 92[illegible].70 | [illegible] | 25.59 | [illegible] | 7.16 | [illegible] | 55.[illegible] |
| | 20293.000 | 120.00 | 931.50 | 929.00 | 21.70 | 745.00 | [illegible].52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 112.[illegible] |
| | 20294.000 | 1.00 | 0.00 | 0.00 | 921.89 | 295.00 | [illegible] | [illegible] | [illegible] | 47.05 | 5.35 | 55.01 | 42.[illegible] |
| | 20294.000 | 1.00 | 0.00 | 0.00 | 921.90 | 300.00 | [illegible] | 0.00 | [illegible] | 4[illegible].02 | 5.05 | 76.04 | 55.[illegible] |
| | 20294.000 | [illegible] | [illegible] | [illegible] | [illegible] | 525.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.23 | [illegible] | [illegible] |
| | 20296.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.[illegible] | 7.22 | [illegible] | [illegible] |
| | 20309.000 | 15.00 | 0.00 | 0.00 | [illegible] | 295.00 | 127.12 | 0.00 | 127.25 | 18.34 | 5.49 | 153.39 | [illegible] |
| | 20309.000 | 15.00 | 0.00 | 0.00 | [illegible] | 300.00 | [illegible] | [illegible] | [illegible] | [illegible] | 5.70 | 2[illegible].35 | 161.15 |
| | 20309.000 | 15.00 | 0.00 | [illegible] | 21.90 | 515.00 | 92[illegible].57 | 0.01 | [illegible] | 7.39 | 5.89 | 203.4[illegible] | 18[illegible] |
| | 20309.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 20523.000 | 214.00 | 0.0 | [illegible] | 23.50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible].71 | [illegible] | 51.[illegible] |
| | 20523.000 | 214.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 8.32 | 3.13 | [illegible] | [illegible] |
| | 20523.000 | 214.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible].57 | 2.62 | 524.1[illegible] | 222.5 |
| | 20523.000 | 214.00 | 0.00 | 0.00 | 23.50 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 2.21 | 1005.5[illegible] | 635.17 |
| | 20793.000 | 257.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.62 | [illegible] | [illegible] |
| | 20793.000 | 257.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 20793.000 | 257.00 | 0.00 | 0.00 | 25.10 | 325.00 | [illegible] | 0.00 | [illegible] | 35.31 | 6.36 | 155.55 | [illegible] |
| | 20793.000 | 257.00 | 0.00 | 0.00 | 25.10 | 745.00 | [illegible].73 | 0.00 | 31.[illegible] | 13.71 | 6.46 | 526.[illegible] | 201.1 |
| | 21053.000 | 258.00 | 0.0 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 5.37 | [illegible] | [illegible] |
| | 21053.000 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 35.[illegible] | 6.79 | [illegible] | [illegible] |
| | 21058.000 | [illegible] | 0.00 | 0.00 | [illegible] | 515.00 | [illegible] | [illegible] | [illegible] | 73.30 | [illegible] | [illegible] | [illegible] |
| | 21058.000 | 25[illegible].00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | [illegible] | [illegible] | 37.32 | 8.36 | 169.72 | [illegible] |
| | 21191.000 | 1[illegible].00 | 0.00 | 0.00 | 27.50 | 295.00 | [illegible] | 0.00 | [illegible] | 37.[illegible] | 5.37 | 60.06 | [illegible] |
| | 21191.000 | 1[illegible].00 | 0.00 | 0.0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.55 | [illegible] | [illegible] |
| | 21191.000 | 1[illegible].00 | 0.00 | 0.00 | [illegible] | 325.00 | [illegible] | 0.00 | [illegible] | 37.39 | [illegible] | 1[illegible].11 | [illegible] |
| | 21191.000 | 1[illegible].00 | 0.00 | 0.00 | [illegible] | 745.00 | [illegible] | 0.00 | [illegible] | [illegible] | 7.55 | 1[illegible] | [illegible] |
| | 21325.000 | 136.00 | 0.00 | 0.00 | 28.30 | 295.00 | [illegible].19 | 0.00 | [illegible] | [illegible].32 | 4.22 | 50.02 | 40.[illegible] |
| | 21325.000 | 136.00 | 0.00 | 0.00 | 928.30 | 350.00 | [illegible] | 0.00 | [illegible] | 32.[illegible] | 4.77 | 53.00 | 51.70 |
| | 21325.000 | 136.00 | 0.00 | 0.00 | 928.30 | 355.00 | [illegible] | 0.00 | [illegible] | 31.30 | 4.92 | [illegible] | [illegible] |
| | 21325.000 | 137.00 | 0.0 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 35.74 | 5.74 | [illegible] | [illegible] |
| | 21335.000 | 10.00 | 0.00 | 0.00 | 928.30 | 295.00 | 92[illegible].10 | 0.00 | 92[illegible].51 | 80.15 | 5.21 | 55.77 | 25.[illegible] |
| | 21335.000 | 10.00 | 0.00 | 0.00 | 928.30 | 350.00 | 9[illegible].01 | 0.00 | [illegible].51 | 55.36 | 5.72 | 57.25 | 47.[illegible] |
| | 21335.000 | 10.00 | 0.00 | 0.00 | 928.30 | 355.00 | [illegible].28 | 0.00 | [illegible] | 52.43 | 5.37 | 75.35 | 54.[illegible] |
| | 21335.000 | 10.00 | 0.00 | 0.00 | 928.30 | [illegible] | [illegible] | 0.00 | [illegible] | 56.[illegible] | 5.75 | [illegible] | [illegible] |

| | SECTO | XLCH | FLTRO | ELLC | FLMIN | J | CISEL | CRZHS | TG | TOHHS | BCH | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 21345.000 | 10.00 | 0.00 | 0.00 | 925.00 | 200.00 | 932.10 | 0.00 | 932.[illegible] | 125.09 | 0.72 | 0.[illegible] | 28.[illegible] |
| | 21345.000 | 10.00 | 0.00 | 0.00 | 924.00 | 257.06 | 932.95 | 0.00 | 933.71 | 95.58 | 7.05 | 57.[illegible] | 5.65 |
| | 21345.000 | 10.00 | 0.00 | 0.00 | 929.00 | 595.00 | 953.22 | 0.00 | 934.00 | 92.00 | 7.16 | 59.00 | 61.[illegible] |
| | 21345.000 | 10.00 | 0.00 | 0.00 | 929.00 | 500.06 | 933.85 | 0.00 | 934.[illegible] | 95.93 | 0.15 | 75.50 | 56.[illegible] |
| * | 21355.000 | 10.00 | 0.00 | 0.00 | 929.70 | 250.00 | 932.25 | 932.25 | 933.17 | 165.07 | 7.71 | 29.[illegible] | [illegible] |
| | 21355.000 | 10.00 | 0.00 | 0.00 | 929.70 | 200.00 | 932.15 | 932.[illegible] | 934.[illegible] | 172.79 | 0.55 | 51.00 | 26.[illegible] |
| | 21355.000 | 10.00 | 0.00 | 0.00 | 929.70 | 595.[illegible] | 933.73 | 932.[illegible] | [illegible] | 157.77 | 0.51 | [illegible] | 31.[illegible] |
| * | 21355.000 | 10.00 | 0.00 | 0.00 | 929.70 | 500.00 | 933.76 | 933.76 | 935.24 | 155.28 | 9.79 | 59.45 | 45.[illegible] |
| * | 21365.000 | 11.00 | 0.10 | 0.00 | 930.20 | 230.00 | 932.76 | 932.70 | 933.57 | 153.23 | 7.67 | [illegible] | 10.33 |
| * | 21355.000 | 11.00 | 0.00 | 0.00 | 930.20 | 250.00 | 932.37 | 932.37 | 934.[illegible] | 157.28 | [illegible] | 40.[illegible] | 25.73 |
| * | 21365.000 | 10.00 | 0.00 | 0.00 | 930.30 | 300.00 | 933.50 | 933.50 | 934.72 | [illegible] | 8.92 | 44.[illegible] | [illegible] |
| * | 21365.000 | 10.00 | 0.00 | 0.00 | 930.20 | 500.00 | 934.20 | 933.20 | [illegible] | 165.12 | 10.19 | 45.[illegible] | 40.[illegible] |
| * | 21370.000 | 5.00 | 0.00 | 0.00 | 930.50 | 200.00 | 933.16 | 933.16 | 934.10 | 214.05 | 8.17 | 28.14 | 15.[illegible] |
| * | 21370.000 | 5.00 | 0.00 | 0.00 | 930.50 | 350.00 | 933.94 | 933.84 | 935.16 | 210.40 | 9.15 | 35.25 | 24.[illegible] |
| * | 21370.000 | 5.00 | 0.00 | 0.00 | 930.50 | 350.00 | 934.[illegible] | 933.[illegible] | 935.37 | 211.23 | 5.52 | [illegible] | [illegible] |
| * | 21370.000 | 5.00 | 0.00 | 0.00 | 930.50 | 500.00 | 934.33 | 933.[illegible] | 935.55 | 215.[illegible] | 10.69 | 52.25 | [illegible] |
| * | 21374.000 | 4.00 | 0.00 | 0.00 | 930.70 | 250.00 | 932.24 | 932.23 | 934.47 | 215.52 | 5.38 | 27.14 | 15.57 |
| * | 21374.000 | 4.00 | 0.00 | 0.00 | 930.70 | 350.00 | 933.00 | 932.00 | 935.47 | 219.52 | 9.73 | 35.96 | 23.[illegible] |
| * | 21374.000 | 4.00 | 0.00 | 0.00 | 930.70 | 395.00 | 934.25 | 933.25 | 935.85 | 220.38 | 10.10 | 39.11 | 20.[illegible] |
| * | 21374.000 | 4.00 | 0.00 | 0.00 | 930.70 | 500.00 | [illegible] | 935.[illegible] | [illegible] | 221.57 | 11.30 | [illegible] | [illegible] |
| | 21375.000 | 1.00 | 941.50 | 938.00 | 930.70 | 200.10 | 933.31 | 933.30 | [illegible] | 1[illegible] | [illegible].47 | [illegible] | [illegible] |
| | 21375.000 | 1.00 | 941.50 | 938.00 | 930.70 | 250.00 | 933.72 | 933.93 | 935.30 | 181.53 | 5.74 | 35.93 | 25.15 |
| | 21375.000 | 1.00 | 941.50 | 938.00 | 930.70 | 255.00 | 933.27 | 933.15 | 935.35 | 190.73 | 10.29 | 38.55 | 23.50 |
| * | 21375.000 | 1.00 | 941.50 | 938.00 | 930.70 | 500.00 | 935.33 | 933.36 | 937.21 | 210.11 | 11.77 | 47.59 | [illegible] |
| | 21455.000 | 0.00 | 941.50 | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible].25 | [illegible] | 5.25 | [illegible] | [illegible] |
| | 21455.000 | 0.00 | 941.50 | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 171.00 | [illegible].37 | 55.55 | 44.[illegible] |
| | 21455.000 | 0.00 | 941.50 | 938.70 | 930.81 | 395.00 | [illegible] | 0.00 | 937.00 | 250.42 | 5.66 | 59.50 | 43.[illegible] |
| | 21455.000 | 0.00 | 941.50 | 938.70 | 930.81 | 500.00 | 937.35 | 0.00 | 938.07 | 93.72 | 7.93 | 70.22 | 55.[illegible] |
| | 21456.000 | 1.00 | 0.00 | 0.00 | [illegible] | 250.00 | [illegible] | 0.00 | [illegible] | 42.[illegible] | 5.05 | [illegible] | [illegible] |
| | 21456.000 | 1.00 | 0.00 | 0.00 | [illegible] | 300.00 | [illegible] | 0.00 | [illegible] | 40.91 | 5.61 | [illegible] | 51.[illegible] |
| | 21456.000 | 1.00 | 0.00 | 0.00 | [illegible] | 350.00 | [illegible] | 0.00 | [illegible] | 43.[illegible] | 5.99 | [illegible] | 57.[illegible] |
| | 21456.000 | 1.00 | 0.00 | 0.00 | [illegible] | 550.00 | 935.[illegible] | 0.00 | [illegible] | 45.14 | [illegible] | 55.44 | [illegible] |
| | 21500.000 | 446.00 | 0.00 | 0.00 | 2.00 | 200.10 | [illegible].35 | 0.00 | [illegible].57 | 13.94 | [illegible] | [illegible] | 52.35 |
| | 21500.000 | 446.00 | 0.00 | 0.00 | [illegible] | 350.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 112.[illegible] | [illegible] |
| | 21500.000 | 446.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 142.[illegible] | 113.[illegible] |
| | 21500.000 | 446.00 | 0.00 | 0.00 | [illegible] | 500.00 | [illegible] | 0.00 | [illegible] | [illegible] | 2.07 | [illegible] | 245.[illegible] |
| | 23050.000 | 1150.00 | .00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 14.69 | 2.77 | 112.56 | [illegible] |
| | 23050.000 | 1150.00 | 0.00 | 0.00 | [illegible] | 350.00 | [illegible] | 0.00 | 939.19 | 11.15 | [illegible] | 172.13 | 104.[illegible] |
| | 23050.000 | 1150.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 13.[illegible] | 2.87 | 154.[illegible] | [illegible] |
| | 23050.000 | 1150.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | 2.51 | [illegible] | [illegible] |
| | 23195.000 | 1[illegible].00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17.50 | [illegible] | 55.[illegible] | 56.[illegible] |
| | 23195.000 | 1[illegible].00 | 0.0 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 13.[illegible] | [illegible].10 | 1[illegible].[illegible] | 94.54 |
| | 23195.000 | 1[illegible].00 | 0.0 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | 12.[illegible] | [illegible].13 | 1[illegible].51 | 110.[illegible] |
| | 23195.000 | 1[illegible].00 | .00 | .00 | [illegible] | [illegible] | [illegible] | 0.00 | 6.24 | [illegible] | [illegible] | [illegible] | [illegible] |

| SECND | XLCH | FLTRD | ILLC | FLMIN | H | DISPL | GRTIS | [illegible] | [illegible] | [illegible] | AREA | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23361.011 | 147.00 | 0.00 | 0.00 | 13.00 | 400.01 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 73.42 | [illegible] |
| 23361.001 | 149.00 | 0.00 | 0.00 | [illegible] | 250.01 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23348.000 | 149.00 | .00 | 0.00 | 035.80 | 255.00 | 539.58 | 0.00 | 35.75 | 27.01 | [illegible] | 137.14 | [illegible] |
| 23348.000 | 149.00 | 0.00 | 0.00 | 035.80 | 537.00 | 540.29 | 0.00 | 40.42 | 13.00 | 3.61 | 219.[illegible] | 153.41 |
| 23696.000 | 148.00 | 0.01 | 0.00 | [illegible] | 200.01 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23696.000 | 145.10 | 0.00 | 0.00 | [illegible]10 | 350.10 | [illegible] | 0.00 | 35.31 | [illegible] | 4.50 | 106.02 | 65.77 |
| 23695.000 | 147.00 | 0.00 | 0.00 | [illegible]10 | 395.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 115.70 | 75.[illegible] |
| 23695.000 | 148.00 | 0.01 | 0.00 | 036.10 | 550.00 | 541.51 | 0.00 | 40.77 | 20.59 | 4.32 | 164.02 | 123.[illegible] |
| 23645.000 | 149.00 | 0.00 | 0.00 | 036.40 | 250.00 | 539.73 | 0.00 | 539.57 | 3.07 | 4.13 | 54.59 | 35.5[illegible] |
| 23645.000 | 145.00 | 0.00 | 0.01 | [illegible] | 350.00 | [illegible] | 0.00 | 540.41 | [illegible] | [illegible] | [illegible] | [illegible] |
| 23645.000 | 145.00 | 0.00 | 0.00 | [illegible] | 345.06 | [illegible] | [illegible] | [illegible] | [illegible] | 4.38 | [illegible] | 37.67 |
| 23645.000 | 145.00 | 0.00 | 0.00 | 036.40 | 500.00 | 540.93 | 0.00 | 541.10 | 30.20 | 3.05 | 151.50 | 101.[illegible] |
| 23794.000 | 149.00 | 0.01 | 0.00 | 036.60 | 250.00 | 540.20 | 0.00 | 541.41 | 25.27 | 3.78 | 70.04 | 45.75 |
| 23794.000 | 149.00 | 0.00 | 0.00 | 036.60 | 350.00 | 540.50 | 0.00 | 540.43 | 27.05 | 4.38 | 103.21 | 57.25 |
| 23794.001 | 149.00 | 0.01 | 0.00 | [illegible] | 395.00 | [illegible] | 0.00 | [illegible] | 27.27 | [illegible] | [illegible] | [illegible] |
| 23794.001 | 149.00 | 0.01 | 0.00 | 036.50 | [illegible] | 541.25 | 0.00 | 541.55 | 25.30 | 5.[illegible] | 135.13 | 114.21 |
| 23963.000 | 149.00 | 0.00 | 0.00 | 036.91 | 250.00 | 540.53 | 0.00 | 540.75 | 25.34 | 3.30 | 55.91 | 45.59 |
| 23963.000 | 149.00 | 0.00 | 0.00 | 036.90 | 350.00 | 541.07 | 0.00 | 541.04 | 25.52 | 4.41 | 103.45 | 57.41 |
| 23963.000 | 149.00 | 0.00 | 0.00 | 036.90 | 395.00 | 541.22 | 0.00 | 541.30 | 27.13 | 4.54 | 125.02 | 75.77 |
| 23963.000 | 149.00 | 0.00 | 0.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24091.000 | 147.00 | 0.00 | 0.00 | 037.10 | [illegible] | 540.55 | 0.00 | 541.1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24091.000 | 147.00 | 0.00 | 0.00 | 037.10 | 350.00 | 541.53 | 0.00 | 541.72 | 25.15 | 4.21 | 130.[illegible] | 77.22 |
| 24091.000 | 147.00 | 0.00 | 0.00 | 037.10 | 395.00 | 541.65 | 0.00 | 541.48 | 25.02 | 4.30 | 155.02 | 81.26 |
| 24091.000 | 147.00 | 0.00 | 0.00 | 037.10 | 500.00 | 542.06 | 0.00 | 542.30 | 25.45 | 4.63 | [illegible] | 115.54 |
| 24240.000 | 149.00 | 0.00 | 0.00 | 037.40 | [illegible] | 541.51 | 0.00 | 541.1[illegible] | [illegible] | 3.60 | [illegible] | [illegible] |
| 24240.000 | 149.00 | 0.00 | 0.00 | [illegible] | 250.00 | 541.37 | 0.00 | 542.01 | 21.34 | 3.54 | 154.02 | 75.[illegible] |
| 24240.000 | 149.00 | 0.00 | 0.00 | 037.40 | [illegible] | 542.02 | 0.00 | 542.25 | 21.03 | 4.03 | 174.33 | 85.13 |
| 24240.000 | 149.00 | 0.00 | 0.00 | 037.40 | [illegible] | 542.42 | 0.00 | 542.35 | 22.05 | 4.48 | 251.10 | 113.15 |

SARGENT CREEK

SUMMARY PRINTOUT TABLE 151

| SECND | Q | CHSEL | DIFHSP | DIFDSX | DIFKJS | TOPJIC | BLCH |
|---|---|---|---|---|---|---|---|
| 0.000 | 535.00 | 762.05 | 1.00 | 1.00 | 0.00 | 11.09 | 1.00 |
| 0.000 | 680.00 | 762.[illegible] | .79 | 1.00 | 0.00 | 15.51 | 0.00 |
| 0.000 | 980.00 | 764.17 | .27 | 0.01 | .00 | 37.72 | 0.00 |
| 0.000 | 1410.00 | 765.10 | .93 | 0.00 | 0.00 | 63.20 | 0.00 |
| 310.000 | 535.00 | 766.97 | 0.00 | 0.92 | 0.00 | 30.56 | 310.00 |
| 310.000 | 680.00 | 767.39 | .92 | 0.00 | 0.00 | 33.36 | 310.00 |
| 310.000 | 980.00 | 768.77 | .25 | -0.00 | 0.10 | 37.74 | 310.00 |
| 310.000 | 1410.00 | 770.08 | .02 | 0.99 | 0.00 | 42.53 | 310.00 |
| 330.000 | 535.00 | 767.41 | 0.00 | .04 | 0.00 | 20.15 | 20.00 |
| 330.000 | 740.00 | 768.12 | .71 | .23 | 1.00 | 35.19 | 20.00 |
| 330.000 | 980.00 | 769.67 | .25 | .24 | 0.00 | 50.53 | 20.00 |
| 330.000 | 1410.00 | 769.21 | .10 | .25 | 0.00 | 32.46 | 20.00 |
| 340.000 | 535.00 | 767.68 | 0.00 | .07 | 0.00 | 25.60 | 10.00 |
| 340.000 | 867.00 | 768.40 | .02 | .23 | 1.00 | 34.12 | 10.00 |
| 340.000 | 980.00 | 769.68 | .20 | .27 | 0.00 | 36.84 | 10.00 |
| 340.000 | 1410.00 | 771.55 | 1.27 | .71 | 0.00 | 63.[illegible] | 10.00 |
| 350.000 | 535.00 | 767.[illegible] | 1.01 | -.01 | 0.00 | 24.05 | 10.00 |
| 350.000 | 820.00 | 768.33 | .85 | -.01 | 0.00 | 25.95 | 10.00 |
| 350.000 | 980.00 | 768.56 | .24 | -.12 | 0.00 | 26.52 | 10.00 |
| 350.000 | 1410.00 | 769.64 | 1.03 | -.51 | 0.00 | 22.28 | 10.00 |
| 360.000 | 535.00 | 767.[illegible] | 1.00 | .19 | [illegible] | [illegible] | 10.00 |
| 360.000 | 740.00 | 768.[illegible] | 1.11 | .50 | 1.00 | 25.71 | 10.00 |
| 360.000 | 980.00 | 769.14 | .51 | .53 | 1.00 | 27.57 | 10.00 |
| 360.000 | 1410.00 | 771.15 | 2.01 | 1.51 | 0.00 | 50.04 | 10.00 |
| 370.000 | 535.00 | 767.[illegible] | 1.00 | .07 | 0.00 | [illegible] | 10.00 |
| 370.000 | 740.00 | 768.67 | 1.01 | .06 | 0.00 | 25.52 | 10.00 |
| 370.000 | 980.00 | 769.[illegible] | .50 | .05 | 0.00 | [illegible] | 10.00 |
| 370.000 | 1410.00 | 771.03 | 1.85 | -.12 | 0.00 | 21.21 | 10.00 |
| 380.000 | 535.00 | 767.94 | 1.00 | .25 | 0.00 | 25.04 | 10.00 |
| 380.000 | 740.00 | 768.95 | 1.01 | .27 | [illegible] | [illegible] | 10.00 |
| 380.000 | 980.00 | 769.[illegible] | .41 | .21 | 0.00 | 32.10 | 10.00 |
| 380.000 | 1410.00 | 771.10 | 1.71 | .07 | [illegible] | [illegible] | 10.00 |
| 393.000 | 535.00 | 769.15 | 1.00 | .21 | 0.00 | [illegible] | 10.00 |
| 393.000 | 740.00 | 769.27 | 1.12 | .32 | 1.00 | 23.57 | 10.00 |
| 393.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10.00 |
| 393.000 | 1410.00 | 771.20 | 1.57 | .10 | [illegible] | [illegible] | 10.00 |
| 395.000 | 535.00 | 763.21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 395.000 | 740.00 | 769.30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 395.000 | 980.00 | 769.[illegible] | .4 | [illegible] | 0.00 | [illegible] | [illegible] |
| 395.000 | 1410.00 | 771.23 | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |
| [illegible] | 535.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 397.000 | 740.00 | 769.41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 397.000 | 980.00 | 769.[illegible]5 | [illegible] | .12 | [illegible] | [illegible] | [illegible] |
| 397.000 | 1410.00 | 771.[illegible] | [illegible] | .03 | [illegible] | [illegible] | [illegible] |

| SEC.D | D | CHSQL | DIFISF | DIFMSX | DIFRUS | TPRLI | ALCH |
|---|---|---|---|---|---|---|---|
| 400.000 | 555.00 | 765.33 | 1.06 | -.13 | .00 | 21.55 | 2.00 |
| 400.000 | 640.00 | 756.29 | 1.05 | -.13 | .00 | [illegible] | [illegible] |
| 400.000 | 980.00 | 765.58 | .62 | -.17 | 0.00 | 25.13 | 2.00 |
| 400.000 | 1410.00 | 771.16 | 1.45 | -.15 | 0.00 | 26.92 | 2.00 |
| 410.001 | 555.00 | [illegible] | .00 | [illegible] | [illegible] | [illegible] | [illegible] |
| 410.001 | 820.00 | 756.29 | 1.05 | .05 | 0.00 | [illegible] | [illegible] |
| 410.001 | 9[illegible].00 | 769.71 | .51 | [illegible] | [illegible] | [illegible] | [illegible] |
| 410.000 | 1410.00 | 771.15 | 1.56 | -.02 | 0.00 | [illegible] | [illegible] |
| 416.000 | 555.00 | 768.33 | 0.00 | .00 | 0.00 | 19.50 | 0.00 |
| 416.000 | 640.00 | 759.28 | 1.00 | .05 | 0.00 | [illegible] | [illegible] |
| 416.000 | 980.00 | 769.00 | .51 | .16 | 0.00 | [illegible] | [illegible] |
| 416.000 | 1410.00 | 771.21 | 1.52 | .07 | 0.00 | [illegible] | [illegible] |
| 417.000 | 555.00 | 765.50 | 1.00 | .17 | 0.00 | [illegible] | 1.00 |
| 417.000 | 840.00 | 765.31 | 1.22 | .13 | 0.00 | [illegible] | 1.00 |
| 417.000 | 980.00 | 770.38 | .52 | .59 | 0.00 | [illegible] | 1.00 |
| 417.000 | 1410.00 | 771.06 | 1.01 | .16 | 0.00 | [illegible] | 1.00 |
| 418.000 | 555.00 | 765.35 | 0.00 | .15 | 0.00 | 20.35 | 1.00 |
| 418.000 | 840.00 | 769.91 | 1.25 | .09 | 0.00 | 26.23 | 1.00 |
| 418.000 | 980.00 | 770.41 | .51 | .08 | 1.00 | 25.71 | 1.10 |
| 418.000 | 1410.00 | 771.55 | 1.11 | .17 | 1.00 | [illegible] | 1.10 |
| 419.000 | 555.00 | 765.56 | 0.00 | .12 | 0.01 | 20.[illegible] | 1.00 |
| 419.000 | 840.00 | 769.92 | 1.20 | .12 | 0.00 | 26.23 | 1.00 |
| 419.000 | 980.00 | 770.43 | .51 | .02 | 1.00 | 25.64 | 1.00 |
| 419.000 | 1410.00 | 771.66 | 1.20 | .09 | 0.00 | 23.73 | 1.00 |
| 421.000 | 555.00 | 765.76 | .00 | .10 | 1.00 | 21.11 | 2.00 |
| 421.000 | 840.00 | 770.04 | 1.24 | .11 | 1.01 | 25.55 | 2.00 |
| 421.000 | 980.00 | 770.56 | .51 | .11 | 0.01 | 25.[illegible] | 2.00 |
| 421.000 | 1410.00 | 771.74 | 1.20 | .10 | 1.01 | 29.21 | 2.00 |
| 432.000 | 555.00 | 765.95 | .00 | .13 | 0.00 | 21.11 | 11.00 |
| 432.000 | 840.00 | 770.27 | 1.52 | .21 | 0.00 | 23.37 | 11.00 |
| 432.000 | 980.00 | 770.90 | .24 | .35 | 1.00 | 22.12 | 11.00 |
| 432.000 | 1410.00 | 772.10 | 1.51 | .35 | 0.00 | 30.[illegible]3 | 11.00 |
| 456.000 | 555.00 | 765.26 | 0.00 | .21 | 0.00 | 22.52 | 22.00 |
| 456.000 | 840.00 | 770.36 | 1.36 | .23 | 0.00 | 20.12 | 22.00 |
| 456.000 | 980.00 | 771.07 | .51 | .23 | 0.00 | [illegible] | 22.00 |
| 456.000 | 1410.00 | 772.37 | 1.50 | .37 | 0.00 | 31.[illegible]2 | 22.00 |
| 470.000 | 555.00 | 765.50 | 0.00 | .25 | 0.00 | 20.[illegible]4 | 22.00 |
| 470.000 | 840.00 | 770.79 | 1.30 | .25 | 0.00 | 20.67 | 22.00 |
| 470.000 | 980.00 | 771.30 | .51 | .23 | 0.00 | 27.[illegible] | 22.00 |
| 470.000 | 1410.00 | 772.51 | 1.51 | .24 | 0.00 | 31.74 | 22.00 |
| 490.000 | 555.00 | 765.37 | 0.00 | .13 | 0.00 | 22.97 | 22.00 |
| 490.000 | 840.00 | 770.99 | 1.51 | .19 | 0.00 | 26.82 | 22.00 |
| 490.000 | 980.00 | 771.50 | .51 | .20 | 0.10 | 26.25 | 22.00 |
| 490.000 | 1410.00 | 772.52 | 1.52 | .21 | 0.10 | 32.09 | 22.00 |

| SECND | Z | CHSEL | DIFUSP | DIFJSX | DIFKHS | TSPWJT | ALCH |
|---|---|---|---|---|---|---|---|
| 520.000 | 535.00 | 779.85 | 0.00 | .15 | 0.00 | 24.57 | 22.00 |
| 520.000 | 841.00 | 771.14 | 1.30 | .15 | 0.00 | 25.72 | 22.00 |
| 520.000 | 950.00 | 771.65 | .51 | .15 | 0.00 | 28.25 | 22.00 |
| 520.000 | 1410.00 | 772.97 | 1.32 | .15 | 0.00 | 32.12 | 22.00 |
| 630.000 | 535.00 | 770.60 | 1.00 | .77 | 0.00 | 23.27 | 110.00 |
| 630.000 | 840.00 | 771.51 | 1.31 | .73 | 0.00 | 25.57 | 110.00 |
| 630.000 | 950.00 | 772.43 | .51 | .75 | 0.00 | 28.51 | 110.00 |
| 630.000 | 1410.00 | 773.87 | 1.46 | .91 | 0.00 | 30.72 | 110.00 |
| 740.000 | 535.00 | 771.23 | 0.00 | .67 | 0.00 | 23.10 | 110.00 |
| 740.000 | 840.00 | 772.57 | 1.37 | .72 | 0.00 | 25.25 | 110.00 |
| 740.000 | 950.00 | 773.24 | .59 | .81 | 0.00 | 34.52 | 110.00 |
| 740.000 | 1410.00 | 774.91 | 1.07 | 1.74 | .00 | 51.[illegible] | 110.00 |
| 850.000 | 535.00 | 772.02 | 0.00 | .75 | 0.00 | 27.25 | 110.00 |
| 850.000 | 840.00 | 773.52 | 1.50 | .87 | 0.00 | 35.[illegible] | 110.00 |
| 850.000 | 950.00 | 774.10 | .58 | .16 | 0.00 | [illegible] | 110.00 |
| 850.000 | 1410.00 | 775.56 | 1.45 | .55 | 0.00 | [illegible] | 110.00 |
| 960.000 | 535.00 | 772.69 | 0.00 | .57 | 0.00 | 32.69 | 110.00 |
| 960.000 | 840.00 | 774.13 | 1.61 | .59 | 0.00 | 40.15 | 110.00 |
| 960.000 | 950.00 | 774.64 | .53 | .56 | 0.00 | 42.90 | 110.00 |
| 960.000 | 1410.00 | 775.99 | 1.35 | .62 | 0.00 | 50.20 | 110.00 |
| 1150.000 | 535.00 | 773.41 | .00 | .69 | 0.00 | 37.59 | 190.00 |
| 1150.000 | 840.00 | 774.80 | 1.41 | .71 | 0.00 | 35.21 | 190.00 |
| 1150.000 | 950.00 | 775.35 | .56 | .71 | 0.00 | 42.16 | 190.00 |
| 1150.000 | 1410.00 | 776.72 | 1.45 | .74 | 0.00 | 102.53 | 190.00 |
| 1372.000 | 535.00 | 773.77 | 0.00 | .57 | 0.00 | 106.52 | 222.00 |
| 1372.000 | 841.00 | 775.05 | 1.28 | .74 | 0.00 | 112.77 | 222.00 |
| 1372.000 | 950.00 | 775.56 | .51 | .27 | 0.00 | 170.07 | 222.00 |
| 1372.000 | 1410.00 | 776.[illegible]2 | 1.30 | .29 | 0.00 | 216.46 | 222.00 |
| 1373.000 | 535.00 | 773.33 | 0.00 | [illegible] | 0.00 | 115.32 | 1.00 |
| 1373.000 | 840.00 | 775.11 | 1.24 | .05 | 0.00 | 133.[illegible]4 | 1.00 |
| 1373.000 | 950.00 | 775.41 | .31 | .05 | 0.00 | 1[illegible]2.73 | 1.00 |
| 1373.000 | 1410.00 | 776.95 | 1.54 | .03 | 0.00 | 215.15 | 1.00 |
| 1380.000 | 535.00 | 773.72 | 0.00 | -.14 | 0.00 | [illegible] | 7.00 |
| 1380.000 | 840.00 | 775.35 | 1.62 | .75 | 0.00 | [illegible] | 7.00 |
| 1380.000 | 950.00 | 776.17 | .81 | -.5[illegible] | 0.00 | 1[illegible].4 | 7.00 |
| 1380.000 | 1410.00 | 777.19 | 1.02 | .04 | 0.00 | [illegible] | 7.00 |
| 1381.000 | 535.00 | 774.2[illegible] | 0.00 | .55 | 0.00 | 135.17 | 1.00 |
| 1381.000 | 841.00 | 775.35 | 1.58 | -.00 | 0.00 | 1[illegible].36 | 1.00 |
| 1381.000 | 950.00 | 77[illegible].37 | .01 | -.[illegible] | 0.00 | [illegible] | 1.00 |
| 1381.000 | 1410.00 | 777.[illegible] | [illegible] | -.00 | [illegible] | [illegible] | 1.00 |
| 1459.000 | 535.00 | 774.32 | .00 | [illegible] | 0.00 | [illegible] | [illegible] |
| 1459.000 | 840.00 | 775.86 | 1.[illegible] | [illegible] | 0.00 | 1[illegible].12 | [illegible] |
| 1459.000 | 950.00 | [illegible].17 | [illegible] | [illegible] | 0.00 | 154.1 | 73.00 |
| 1459.000 | 1410.00 | 777.[illegible] | 1.[illegible] | [illegible] | 0.00 | [illegible] | 73.[illegible] |

| | SECAD | Q | CUSEL | DIFUS- | UPPISN | DIFKAD | TRDLED | ALCI |
|---|---|---|---|---|---|---|---|---|
| | 1430.000 | 535.00 | 776.17 | 0.00 | .50 | [illegible] | 05.29 | 1.00 |
| | 1460.000 | 840.00 | 777.05 | 1.27 | -.01 | 0.00 | [illegible] | 1.00 |
| | 1430.000 | 980.00 | 776.16 | .52 | -.01 | 0.00 | 154.55 | 1.00 |
| | 1460.000 | 1610.00 | 777.16 | 1.02 | -.01 | 0.00 | 170.05 | 1.00 |
| | 1491.000 | 535.00 | 776.32 | 0.00 | .24 | [illegible] | 114.19 | [illegible] |
| | 1511.000 | 841.00 | 775.25 | 1.03 | [illegible] | [illegible] | 143.[illegible] | [illegible] |
| | 1461.000 | 981.00 | 777.13 | .03 | [illegible] | [illegible] | 154.07 | [illegible] |
| | 1661.000 | 1410.00 | 777.13 | 1.02 | .10 | 0.00 | 173.57 | 2.00 |
| | 1662.000 | 535.00 | 775.19 | 0.00 | .37 | 0.00 | 1[illegible].41 | 1.00 |
| | 1652.000 | [illegible] | 775.[illegible] | .24 | .17 | [illegible] | 159.[illegible] | [illegible] |
| | 1662.000 | 840.00 | 77[illegible].03 | .01 | .17 | 0.00 | 15[illegible].74 | [illegible] |
| | 1662.000 | 1410.00 | 777.31 | .01 | .13 | 0.00 | 172.09 | [illegible] |
| | 1684.000 | 535.00 | 775.26 | 1.00 | .01 | 0.00 | 11[illegible].47 | 222.00 |
| | 1684.000 | 840.00 | 776.05 | .05 | .01 | 0.00 | 125.96 | 222.00 |
| | 1684.000 | [illegible] | 77[illegible].35 | [illegible] | [illegible] | [illegible] | [illegible] | 222.00 |
| | 1684.000 | 1410.00 | 777.33 | .03 | .02 | 0.00 | 115.62 | 2.00 |
| * | 1685.000 | 535.00 | 775.61 | 0.01 | .21 | 0.00 | [illegible] | 1.00 |
| * | 1685.000 | 840.00 | 776.49 | 1.08 | .44 | 0.00 | 125.76 | 1.00 |
| * | 1685.000 | 980.00 | 776.55 | .17 | .21 | 0.00 | 132.10 | 1.00 |
| * | 1685.000 | 1410.00 | 777.12 | .07 | -.21 | [illegible] | 132.10 | 1.00 |
| * | 1686.000 | 535.00 | 775.42 | 1.00 | .01 | 0.00 | [illegible] | 1.00 |
| | 1686.000 | 841.00 | 775.56 | 1.50 | .47 | 0.00 | [illegible] | 1.00 |
| | 1686.000 | 980.00 | 777.13 | .13 | .47 | 0.00 | [illegible] | 1.00 |
| | 1686.000 | 1610.00 | 777.49 | .56 | .47 | 0.00 | [illegible] | 1.00 |
| * | 1687.001 | 535.00 | 775.45 | [illegible] | .05 | 0.00 | [illegible] | 1.00 |
| | 1687.001 | 840.00 | 776.93 | 1.40 | -.10 | 0.00 | [illegible] | 1.00 |
| | 1687.000 | 980.00 | 777.10 | .17 | -.05 | 0.00 | [illegible] | 1.00 |
| | 1687.000 | 1611.00 | 777.56 | .05 | -.13 | 0.00 | [illegible] | 1.00 |
| | 1688.001 | 535.00 | 775.37 | 0.00 | [illegible] | [illegible] | [illegible] | 1.00 |
| | 1688.001 | 841.00 | 776.94 | .27 | .11 | 0.00 | [illegible] | 1.00 |
| | 1688.001 | 981.00 | 777.11 | .17 | .11 | 0.00 | [illegible] | 1.00 |
| | 1688.001 | 1611.00 | 777.54 | .03 | .07 | 0.00 | [illegible] | 1.00 |
| | 1691.000 | 535.00 | 776.69 | 1.00 | .01 | 0.00 | 127.25 | [illegible] |
| | 1691.000 | 840.00 | 776.95 | .25 | .11 | [illegible] | [illegible] | [illegible] |
| | 1691.000 | 980.00 | 777.17 | .17 | .01 | 0.00 | [illegible] | [illegible] |
| | 1691.000 | 1410.00 | 777.55 | .43 | .01 | 0.00 | [illegible] | [illegible] |
| | 1693.000 | 535.00 | 776.65 | 1.00 | .01 | 0.00 | 131.11 | 2.00 |
| | 1693.000 | 840.00 | 777.01 | .31 | .06 | 0.00 | 164.15 | 2.00 |
| | 1693.000 | 980.00 | 777.15 | .17 | .17 | [illegible] | [illegible] | 2.00 |
| | 1693.000 | 1410.00 | 777.55 | .43 | .15 | [illegible] | [illegible] | 2.00 |
| | 1701.000 | 535.00 | 776.70 | 0.01 | .07 | [illegible] | [illegible] | [illegible] |
| | 1701.000 | 840.00 | 777.12 | .32 | .11 | 0.00 | 15[illegible].14 | 3.00 |
| | 1701.000 | 980.00 | 777.21 | .19 | .02 | 0.00 | [illegible] | [illegible] |
| | 1701.000 | 1411.00 | 777.72 | .50 | .17 | 0.00 | [illegible] | 3.00 |

| SECMC | Q | CKSEL | DIFISP | DIFLSY | DIFAIS | TORDIF | XLCH |
|---|---|---|---|---|---|---|---|
| 1710.000 | [illegible] | 777.73 | 1.10 | .03 | 1.04 | 14[illegible] | 2.00 |
| 1710.000 | [illegible] | 777.13 | .61 | .11 | [illegible] | 1[illegible] | [illegible] |
| 1710.000 | 980.00 | 777.21 | .13 | .10 | [illegible] | 101.00 | 5.00 |
| 1710.000 | 1410.00 | 777.81 | .47 | .05 | 0.00 | 168.00 | 9.00 |
| 1719.000 | 535.00 | 776.73 | 1.00 | .01 | 0.00 | 137.[illegible] | 5.00 |
| 1719.000 | 840.00 | 777.13 | .40 | -.01 | 0.00 | 131.07 | 5.00 |
| 1719.000 | 980.00 | 777.21 | .15 | .00 | 0.00 | 16[illegible].90 | 5.00 |
| 1719.000 | 1411.00 | 777.81 | .50 | .00 | 0.00 | 156.00 | 5.00 |
| 1722.000 | 535.00 | 776.74 | 0.00 | .01 | 0.00 | 1[illegible].25 | 0.00 |
| 1722.000 | 841.00 | 777.15 | .01 | .02 | 1.00 | 130.27 | 0.00 |
| 1722.000 | 981.00 | 777.23 | .16 | .12 | 1.01 | 1[illegible].71 | 0.00 |
| 1722.000 | 1411.00 | 777.82 | .49 | .01 | 0.00 | 1[illegible].01 | 0.00 |
| 1724.000 | 535.00 | 776.75 | 1.00 | .01 | 0.00 | 137.73 | 2.00 |
| 1724.000 | 840.00 | 777.16 | .41 | .02 | 0.00 | 155.[illegible] | 2.00 |
| 1724.000 | [illegible] | 777.[illegible] | .1[illegible] | .01 | 0.00 | 1[illegible] | 2.00 |
| 1724.000 | 1410.00 | 777.83 | .42 | .01 | 0.00 | 1[illegible] | 2.00 |
| 1728.000 | 535.00 | 776.73 | 0.00 | -.02 | 0.00 | 72[illegible] | 4.00 |
| 1728.000 | 840.00 | 777.14 | .61 | -.02 | 0.00 | 153.[illegible] | 4.00 |
| 1728.000 | 980.00 | 777.32 | .1[illegible] | -.02 | 0.00 | 159.10 | 4.00 |
| 1728.000 | 1410.00 | 777.[illegible] | .45 | -.02 | 0.00 | [illegible] | 4.00 |
| 1736.000 | 535.00 | 776.82 | 0.00 | .11 | [illegible] | 1[illegible] | 1.00 |
| 1736.000 | 840.00 | 777.26 | .42 | .1[illegible] | 0.00 | 13[illegible].21 | 3.00 |
| 1736.000 | 980.00 | 777.43 | .17 | .11 | 0.00 | 13[illegible].11 | 3.00 |
| 1736.000 | 1410.00 | 777.84 | .51 | .13 | 0.00 | 15[illegible] | 3.00 |
| 1746.000 | 535.00 | 776.83 | 0.00 | -.1[illegible] | 0.00 | [illegible] | [illegible] |
| 1746.000 | 841.00 | 777.26 | .52 | -.10 | 0.00 | [illegible] | [illegible] |
| 1746.000 | 980.00 | 777.43 | .17 | -.00 | 0.00 | 1[illegible].00 | 5.00 |
| 1746.000 | 1410.00 | 777.85 | .42 | .00 | 0.00 | 13[illegible].07 | 3.00 |
| 1753.000 | 535.00 | 776.93 | 0.11 | .00 | 0.00 | 1[illegible] | 0.00 |
| 1753.000 | 841.00 | 777.26 | .42 | .03 | 0.00 | 11[illegible].11 | [illegible] |
| 1753.000 | 980.00 | 777.43 | .17 | .00 | 0.00 | 15[illegible].00 | [illegible] |
| 1753.000 | 1410.00 | 777.85 | .32 | .01 | 0.00 | 15[illegible].70 | [illegible] |
| 1787.000 | 535.00 | 776.93 | 0.00 | .15 | 0.00 | 13[illegible].43 | 14.00 |
| 1787.000 | 841.10 | 777.51 | .34 | .15 | 1.00 | 12[illegible] | 2[illegible].00 |
| 1787.000 | 981.00 | 777.57 | .37 | .14 | [illegible] | 13[illegible].31 | [illegible].00 |
| 1787.000 | 1411.00 | 777.59 | .51 | .13 | 1.00 | 13[illegible].01 | 26.00 |
| 1791.000 | 535.00 | 777.09 | 1.00 | .12 | 0.00 | 1[illegible].55 | 6.00 |
| 1791.000 | 841.00 | 777.43 | .45 | .03 | 0.00 | 121.59 | 6.00 |
| 1791.000 | [illegible] | 777.51 | .47 | .0[illegible] | [illegible] | 12[illegible].01 | 6.00 |
| 1791.000 | 1410.00 | 778.02 | .42 | [illegible] | 0.00 | 12[illegible].70 | [illegible].00 |
| 1793.000 | 535.00 | 777.09 | [illegible] | [illegible] | 0.00 | [illegible] | 2.00 |
| 1793.000 | 840.00 | 777.51 | .12 | .01 | [illegible] | 12[illegible].00 | 2.00 |
| 1793.000 | 980.00 | [illegible] | .12 | .0[illegible] | [illegible] | 12[illegible].70 | [illegible] |
| 1793.000 | 1411.00 | [illegible] | .45 | [illegible] | [illegible] | 12[illegible] | 2.00 |

| SELLO | S | COSEL | DIFUSP | DIFISS | DIFXOS | TOTMAT | BLOC |
|---|---|---|---|---|---|---|---|
| 1795.000 | 525.00 | 777.05 | 0.00 | -.03 | 0.00 | 114.11 | 2.00 |
| 1795.000 | 360.00 | 777.59 | .52 | -.04 | 0.00 | 123.[illegible] | 2.00 |
| 1795.000 | 980.00 | 777.77 | .19 | -.04 | 0.00 | 123.00 | 2.00 |
| 1795.000 | 1410.00 | 778.22 | .46 | -.03 | 0.00 | 120.01 | 2.00 |
| 1796.000 | 535.00 | 777.96 | 1.00 | .01 | 0.00 | 101.21 | 1.00 |
| 1796.000 | 840.00 | 777.59 | .52 | .01 | 0.00 | 123.00 | 1.00 |
| 1796.000 | 1120.00 | 777.77 | .19 | .01 | 0.00 | [illegible] | 1.00 |
| 1796.000 | 1410.00 | 778.23 | .46 | .01 | 0.00 | 122.01 | 1.00 |
| 1797.000 | 535.00 | 777.03 | 0.00 | .01 | 0.00 | 100.45 | 1.00 |
| 1797.000 | 360.00 | 777.59 | .52 | .01 | 0.00 | 123.01 | 1.00 |
| 1797.000 | 920.00 | 777.73 | .15 | .01 | 0.00 | 121.[illegible] | 1.00 |
| 1797.000 | 1410.00 | 778.24 | .46 | .01 | 0.00 | 120.00 | 1.00 |
| 1799.000 | 535.00 | 777.18 | 0.00 | .11 | 0.00 | 105.73 | 2.00 |
| 1799.000 | 860.00 | 777.61 | .43 | .02 | 0.00 | 120.95 | 2.00 |
| 1799.000 | 980.00 | 777.80 | .18 | .01 | 0.00 | 123.[illegible] | 2.00 |
| 1799.000 | 1410.00 | 778.25 | .45 | .01 | 0.00 | [illegible] | 2.00 |
| 1803.000 | 535.00 | 777.16 | 1.00 | -.02 | 0.00 | 100.23 | 4.00 |
| 1803.000 | 640.00 | 777.58 | .42 | -.03 | 0.00 | 113.75 | 4.00 |
| 1803.000 | 920.00 | 777.76 | .18 | -.03 | 0.00 | 1[illegible].00 | 4.00 |
| 1803.000 | 1411.00 | 778.22 | .45 | -.03 | 0.00 | [illegible] | 4.00 |
| 1811.000 | 535.00 | 777.31 | 1.00 | .15 | 0.00 | 1[illegible].15 | 5.00 |
| 1811.000 | 840.00 | 777.90 | .55 | .01 | 0.00 | 115.09 | 8.00 |
| 1811.000 | 980.00 | 778.09 | .19 | .02 | 0.00 | 11[illegible].10 | 5.00 |
| 1811.000 | 1411.00 | 778.63 | .55 | .01 | 0.00 | 112.10 | .00 |
| 1820.000 | 535.00 | 777.54 | 0.00 | .50 | 0.00 | [illegible] | .00 |
| 1820.000 | 840.00 | 777.75 | .57 | .00 | 0.00 | 116.10 | 1.00 |
| 1820.000 | 980.00 | 778.35 | .19 | .03 | 0.00 | 112.10 | 1.00 |
| 1820.000 | 1411.00 | 778.81 | .47 | .03 | 0.00 | 112.00 | 1.00 |
| 1821.000 | 535.00 | 777.53 | .00 | .02 | 0.00 | [illegible] | 1.00 |
| 1821.000 | 840.00 | 777.20 | .47 | .00 | 0.00 | 112.11 | 1.00 |
| 1821.000 | 980.00 | 778.35 | .19 | .00 | 0.00 | 11[illegible].00 | 1.00 |
| 1821.000 | 1410.00 | 778.87 | .42 | .05 | 0.00 | 112.00 | 1.00 |
| 1829.000 | 535.00 | 778.10 | 0.00 | .44 | 0.00 | [illegible] | 8.00 |
| 1829.000 | 540.00 | 778.91 | .43 | .01 | 0.00 | 118.00 | 8.00 |
| 1829.000 | 980.00 | 779.02 | .23 | .55 | 0.00 | [illegible] | .00 |
| 1829.000 | 1411.00 | 779.64 | .00 | .77 | 0.00 | [illegible] | .00 |
| 1830.000 | 535.00 | 778.10 | 0.00 | -.10 | 0.00 | 100.70 | 1.00 |
| 1830.000 | 640.00 | 778.81 | .70 | -.10 | 0.00 | 10[illegible].10 | 1.00 |
| 1830.000 | 980.00 | 779.[illegible] | .20 | -.11 | 0.00 | [illegible] | 1.00 |
| 1830.000 | 1411.00 | 779.65 | .57 | -.10 | 0.00 | [illegible] | 1.00 |
| 1845.000 | 535.00 | 778.19 | 0.00 | -.01 | 0.00 | 1[illegible].00 | 15.00 |
| 1845.000 | 540.00 | 779.79 | .70 | -.01 | 0.00 | 10[illegible].00 | 15.00 |
| 1845.000 | 980.00 | 779.02 | .22 | -.02 | 0.00 | 1[illegible].00 | 15.00 |
| 1845.000 | 1411.00 | 779.51 | .57 | -.02 | 0.00 | 1[illegible].00 | 15.00 |

| SECND | C | CJSEL | DIFSH | DIFJSX | DIFKVS | TDFSCD | XLCF |
|---|---|---|---|---|---|---|---|
| 1862.000 | 515.00 | 77[illegible] | [illegible] | -.01 | [illegible] | [illegible] | [illegible] |
| 1862.000 | 840.00 | 778.71 | .71 | -.01 | 0.00 | [illegible] | [illegible] |
| 1862.000 | 960.00 | 779.01 | .22 | -.02 | 0.00 | [illegible] | [illegible] |
| 1862.000 | 1410.00 | 779.59 | .59 | -.02 | 0.00 | [illegible] | [illegible] |
| 1867.000 | 535.00 | 778.07 | 0.00 | -.01 | 0.00 | [illegible] | [illegible] |
| 1867.000 | 840.00 | 778.77 | .70 | -.01 | 0.00 | [illegible] | [illegible] |
| 1867.000 | 960.00 | 779.99 | .22 | -.01 | 0.00 | [illegible] | [illegible] |
| 1867.000 | 1410.00 | 779.55 | .59 | -.01 | 0.00 | [illegible] | [illegible] |
| 1872.000 | 535.00 | 778.09 | 0.00 | .01 | 0.00 | [illegible] | [illegible] |
| 1872.000 | 840.00 | 778.70 | .70 | .01 | 0.00 | [illegible] | [illegible] |
| 1872.000 | 960.00 | 779.00 | .22 | .01 | 0.00 | [illegible] | [illegible] |
| 1872.000 | 1410.00 | 779.59 | .55 | .01 | 0.00 | [illegible] | [illegible] |
| 1878.000 | 535.00 | 778.07 | 0.00 | -.02 | 0.00 | [illegible] | [illegible] |
| 1878.000 | 840.00 | 778.75 | .69 | -.03 | 0.00 | [illegible] | [illegible] |
| 1878.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1878.000 | 1410.00 | 779.55 | .58 | -.06 | 0.00 | [illegible] | [illegible] |
| 1879.000 | 535.00 | 778.07 | 0.00 | .00 | 0.00 | [illegible] | [illegible] |
| 1879.000 | 840.00 | 778.76 | .69 | .00 | 0.00 | [illegible] | [illegible] |
| 1879.000 | 960.00 | 779.98 | .22 | .00 | 0.00 | [illegible] | [illegible] |
| 1879.000 | 1410.00 | 779.55 | [illegible] | .00 | 0.00 | [illegible] | [illegible] |
| 1880.000 | 535.00 | 778.08 | [illegible] | .00 | [illegible] | [illegible] | [illegible] |
| 1880.000 | 840.00 | 778.76 | .69 | .00 | 0.00 | [illegible] | [illegible] |
| 1880.000 | 960.00 | 779.93 | [illegible] | .00 | 0.00 | [illegible] | [illegible] |
| 1880.000 | 1410.00 | 779.56 | [illegible] | .00 | 0.00 | [illegible] | [illegible] |
| 1881.000 | 515.00 | 778.08 | [illegible] | .00 | [illegible] | [illegible] | [illegible] |
| 1881.000 | 840.00 | 779.77 | [illegible] | .00 | 0.00 | [illegible] | [illegible] |
| 1881.000 | 960.00 | 779.99 | [illegible] | .00 | [illegible] | [illegible] | [illegible] |
| 1881.000 | 1410.00 | 779.56 | .56 | .00 | [illegible] | [illegible] | [illegible] |
| 1885.000 | 535.00 | 778.09 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1885.000 | 840.00 | 778.77 | .55 | [illegible] | [illegible] | [illegible] | [illegible] |
| 1885.000 | 960.00 | 779.99 | .22 | [illegible] | [illegible] | [illegible] | [illegible] |
| 1885.000 | 1410.00 | 779.57 | .58 | [illegible] | [illegible] | [illegible] | [illegible] |
| 1889.000 | 535.00 | 778.09 | [illegible] | .00 | 0.00 | [illegible] | [illegible] |
| 1889.000 | 840.00 | 778.75 | .57 | -.01 | [illegible] | [illegible] | [illegible] |
| 1889.000 | 960.00 | 779.[illegible] | .22 | -.01 | 0.00 | [illegible] | [illegible] |
| 1889.000 | 1410.00 | 779.55 | .57 | -.01 | 0.00 | [illegible] | [illegible] |
| 1895.000 | 535.00 | 778.09 | [illegible] | -.01 | 0.00 | [illegible] | [illegible] |
| 1895.000 | 860.00 | 778.73 | .55 | -.04 | 0.00 | [illegible] | [illegible] |
| 1895.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1895.000 | 1410.00 | 779.49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1900.000 | 535.00 | 778.11 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1900.000 | 840.00 | 778.75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1900.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1900.000 | 1410.00 | 779.52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | SECOND | Q | CISEL | DIFUSE | DIFUSX | DIFUSY | T PRIZ | XLCK |
|---|---|---|---|---|---|---|---|---|
| | 1905.000 | 535.00 | 771.12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1905.000 | 641.00 | 770.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1905.000 | 960.00 | 770.93 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1905.000 | 1410.00 | 779.49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1911.000 | 535.00 | 771.15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1911.000 | 640.00 | 773.74 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1911.000 | [illegible] | 773.55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1911.000 | 1610.00 | 775.57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1937.000 | 535.00 | 776.24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1937.000 | 641.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1937.000 | 931.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1937.000 | 1411.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1952.000 | 535.00 | 770.38 | [illegible] | [illegible] | [illegible] | [illegible] | 25.41 |
| | 1962.000 | 640.00 | 779.43 | [illegible] | [illegible] | [illegible] | [illegible] | 25.70 |
| | 1952.000 | [illegible] | 779.23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 1952.000 | 1410.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1988.000 | 535.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1988.000 | 840.00 | 779.21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 1988.000 | 930.00 | 779.45 | [illegible] | [illegible] | [illegible] | 41.50 | [illegible] |
| | 1988.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2003.000 | 535.00 | 775.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2003.000 | 641.00 | 775.57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2003.000 | 931.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2003.000 | 1410.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 2009.000 | 712.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 2009.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 2009.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| * | 2009.000 | 1250.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2271.000 | 612.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2271.000 | 721.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2271.000 | 831.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2271.000 | 1290.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2272.000 | 535.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2272.000 | 641.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2272.000 | 931.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2272.000 | 1411.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2521.000 | 535.00 | 735.55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2521.000 | 641.00 | 734.15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2521.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2521.000 | 1411.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2655.000 | 535.00 | 735.76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2655.000 | 840.00 | 734.34 | [illegible] | [illegible] | [illegible] | 75.96 | [illegible] |
| | 2655.000 | 931.00 | 734.55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 2655.000 | 1411.00 | 735.79 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| SECND | J | CUSEL | DIFRN | DTFLRX | DLFXHS | TOFLTD | .LCM |
|---|---|---|---|---|---|---|---|
| 2788.000 | 515.00 | 795.17 | 0.00 | .41 | 0.00 | 52.54 | 1[illegible].00 |
| 2788.000 | 605.00 | 795.18 | .77 | .58 | 0.00 | 65.53 | [illegible] |
| 2788.000 | 935.00 | 795.16 | .25 | .59 | 0.00 | 72.58 | 133.00 |
| 2788.000 | 1610.00 | 795.21 | .67 | .72 | 0.00 | 95.37 | 135.00 |
| 2922.000 | 515.00 | 795.71 | 0.00 | .74 | 0.00 | 40.93 | 136.00 |
| 2922.000 | 605.00 | 795.70 | .75 | .02 | 0.00 | 36.23 | 136.01 |
| 2922.000 | 935.00 | 795.69 | .25 | .04 | 0.00 | 72.02 | 136.01 |
| 2922.000 | 1325.00 | 795.75 | .77 | .05 | 0.00 | 93.24 | 136.00 |
| 2989.000 | 515.00 | 795.55 | 0.00 | .44 | 0.00 | 45.22 | 57.00 |
| 2989.000 | 605.00 | 795.14 | .79 | .45 | 0.00 | 52.87 | 57.00 |
| 2989.000 | 935.00 | 795.42 | .23 | .54 | 0.00 | 70.07 | [illegible] |
| 2989.000 | 1325.00 | 795.15 | .42 | .59 | 0.00 | 92.05 | 57.00 |
| 3056.000 | 515.00 | 795.32 | 0.00 | .47 | 0.00 | 45.11 | 57.01 |
| 3056.000 | 605.00 | 796.53 | .50 | .53 | 0.00 | 54.31 | 57.00 |
| 3056.000 | 935.00 | 796.71 | .28 | .47 | 0.00 | 71.55 | 57.00 |
| 3056.000 | 1325.00 | 797.50 | .76 | .65 | 0.00 | [illegible] | 57.00 |
| 3123.000 | 515.00 | 795.58 | 0.00 | .52 | 0.00 | [illegible] | [illegible] |
| 3123.000 | 605.00 | 797.22 | .34 | .59 | 0.00 | 56.[illegible] | 57.00 |
| 3123.000 | 935.00 | 797.57 | .25 | .60 | 0.00 | 74.43 | 57.01 |
| 3123.000 | 1325.00 | 798.05 | .39 | .65 | 0.00 | 92.05 | 57.[illegible] |
| 3156.000 | 515.00 | 795.30 | 0.00 | .22 | 0.00 | 44.71 | 57.00 |
| 3156.000 | 605.00 | 797.41 | .33 | .15 | 0.00 | 54.21 | 53.00 |
| 3156.000 | 935.00 | 797.62 | .23 | .19 | 0.00 | 71.22 | 53.00 |
| 3156.000 | 1325.00 | 799.51 | .32 | .22 | 0.00 | 90.52 | 53.00 |
| 3189.000 | 515.00 | 795.64 | 0.00 | .28 | 0.00 | 43.55 | [illegible] |
| 3189.000 | 605.00 | 797.35 | .00 | .32 | 0.00 | 55.31 | 53.00 |
| 3189.000 | 935.00 | 797.53 | .23 | .32 | 0.00 | 74.52 | 57.00 |
| 3189.000 | 1325.00 | 799.57 | .25 | .26 | 0.00 | 92.91 | 53.00 |
| 3253.000 | 515.00 | 797.56 | .00 | .50 | 0.00 | [illegible] | 57.00 |
| 3253.000 | 605.00 | 798.42 | .00 | .77 | 0.00 | 70.95 | 57.00 |
| 3253.000 | 935.00 | 799.70 | .23 | .73 | 0.00 | [illegible] | 57.00 |
| 3253.000 | 1325.00 | 799.62 | .72 | .86 | 0.00 | 105.52 | 57.00 |
| 3323.000 | 515.00 | 797.99 | 0.00 | .46 | 0.00 | 47.62 | 57.00 |
| 3323.000 | 605.00 | 798.83 | .23 | .41 | 0.00 | 66.51 | 57.00 |
| 3323.000 | 935.00 | 799.11 | .23 | .41 | 0.00 | 81.73 | 57.00 |
| 3323.000 | 1325.00 | 799.79 | .08 | .37 | 0.00 | 106.58 | 57.00 |
| 3390.000 | 515.00 | 798.69 | 0.00 | .30 | 0.00 | 47.36 | 57.00 |
| 3390.000 | 605.00 | 799.29 | .00 | .46 | 0.00 | 73.05 | 57.00 |
| 3390.000 | 935.00 | 799.58 | .23 | .5[illegible] | 0.00 | [illegible] | 57.00 |
| 3390.000 | 1325.00 | 799.21 | .03 | .52 | 0.00 | [illegible] | 57.00 |
| 3423.000 | 515.00 | 799.90 | .00 | .71 | 0.00 | [illegible] | [illegible] |
| 3423.000 | 605.00 | 799.31 | .11 | .53 | .00 | [illegible] | [illegible] |
| 3423.000 | 935.00 | 800.09 | .23 | .5[illegible] | 0.00 | [illegible] | [illegible] |
| 3423.000 | 1325.00 | [illegible] | [illegible] | .40 | 0.00 | [illegible] | [illegible] |

| | SECID | Q | CHSEL | DIFISP | DIFASX | DIFASS | TITSID | ALCO |
|---|---|---|---|---|---|---|---|---|
| | 3450.000 | 515.00 | 790.05 | 1.01 | .15 | 0.00 | [illegible] | [illegible] |
| | 3450.000 | 805.00 | 790.96 | .52 | .12 | 0.00 | [illegible] | [illegible] |
| | 3450.000 | 935.00 | 790.21 | .28 | .12 | 0.00 | [illegible] | [illegible] |
| | 3450.000 | 1325.00 | 791.36 | .03 | .16 | 0.00 | 10[illegible].70 | [illegible] |
| | 3523.000 | 515.00 | [illegible] | 0.00 | .57 | 0.00 | [illegible] | [illegible] |
| | 3523.000 | 805.00 | 790.36 | .11 | .20 | 0.00 | [illegible].17 | [illegible] |
| | 3523.000 | 935.00 | [illegible] | .20 | .29 | 0.00 | [illegible] | [illegible] |
| | 3523.000 | 1325.00 | 791.23 | .55 | .29 | 0.00 | [illegible] | [illegible] |
| | 3556.000 | 515.00 | 789.90 | 0.00 | .37 | 0.00 | [illegible] | [illegible] |
| | 3556.000 | 805.00 | [illegible] | [illegible] | .35 | [illegible] | [illegible] | [illegible] |
| | 3556.000 | 935.00 | 791.04 | .03 | .34 | 0.00 | [illegible].43 | [illegible] |
| | 3556.000 | 1325.00 | 791.57 | .11 | .46 | 0.00 | [illegible] | [illegible] |
| | 3590.000 | 515.00 | 790.05 | 0.00 | .15 | 0.00 | 56.70 | [illegible] |
| | 3590.000 | 805.00 | 790.83 | .78 | .11 | 0.00 | 75.72 | [illegible] |
| | 3590.000 | 935.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |
| | 3590.000 | 1325.00 | 791.78 | .54 | .10 | 0.00 | [illegible] | [illegible] |
| | 3827.000 | 515.00 | 791.89 | 0.00 | 0.84 | 0.00 | 55.35 | 237.00 |
| | 3827.000 | 805.00 | 792.76 | .00 | 1.43 | 0.00 | 96.27 | 237.00 |
| | 3827.000 | 935.00 | 793.00 | .25 | 1.45 | 0.00 | 92.70 | 237.00 |
| | 3827.000 | 1325.00 | [illegible] | .50 | [illegible] | 0.00 | [illegible] | [illegible] |
| | 4064.000 | 515.00 | [illegible] | 1.00 | 1.30 | 0.00 | [illegible] | [illegible] |
| | 4064.000 | 805.00 | 794.03 | .57 | 1.31 | 0.00 | 56.70 | 237.00 |
| | 4064.000 | 935.00 | 794.34 | .23 | 1.36 | 0.00 | [illegible] | 237.00 |
| | 4064.000 | 1325.00 | 795.02 | [illegible] | 1.43 | 0.00 | [illegible] | [illegible] |
| * | 4065.000 | 515.00 | [illegible] | 1.00 | [illegible] | 0.00 | 253.07 | 1.00 |
| * | 4065.000 | 593.00 | 795.55 | .12 | 1.[illegible] | 0.00 | 243.70 | 1.00 |
| * | 4065.000 | 825.00 | 795.05 | .03 | 1.22 | 0.00 | 24[illegible].00 | 1.00 |
| * | 4065.000 | 1221.00 | 796.27 | .23 | 1.25 | 0.00 | 24[illegible].00 | 1.00 |
| | 4259.000 | 515.00 | 795.70 | 1.00 | .00 | [illegible] | 151.00 | [illegible] |
| | 4259.000 | 595.00 | 797.11 | .51 | 1.12 | 1.00 | 151.00 | [illegible] |
| | 4259.000 | 825.00 | 797.35 | .12 | 1.14 | 0.00 | 151.00 | [illegible] |
| | 4259.000 | 1220.00 | 797.62 | .37 | 1.25 | 0.00 | 151.00 | 155.01 |
| | 4260.000 | 515.00 | 796.76 | 1.00 | .06 | 0.00 | 151.00 | 1.00 |
| | 4260.000 | 515.00 | 797.23 | .57 | .17 | 0.00 | 151.00 | 1.00 |
| | 4260.000 | 515.00 | 797.48 | .17 | .15 | 0.00 | 151.00 | 1.00 |
| | 4260.000 | 515.00 | 797.85 | .52 | .24 | 0.00 | 151.00 | 1.00 |
| | 4413.000 | 515.00 | 795.76 | 0.00 | .00 | 0.00 | 71.21 | 153.01 |
| | 4413.000 | 515.00 | 797.23 | .47 | -.01 | 0.00 | 73.05 | 153.01 |
| | 4413.000 | 515.00 | [illegible] | .17 | -.10 | 0.00 | [illegible] | [illegible] |
| | 4413.000 | 515.00 | 797.06 | .52 | -.10 | 0.00 | 75.50 | 153.00 |
| * | 4419.000 | 405.00 | 800.51 | 0.00 | .75 | [illegible] | 217.55 | 1.00 |
| * | 4419.000 | 694.00 | 801.72 | .23 | .45 | 0.00 | 234.25 | 1.00 |
| * | 4419.000 | 823.00 | 802.[illegible] | .03 | .41 | 0.00 | 240.[illegible] | 1.00 |
| * | 4419.000 | 1214.00 | [illegible] | .23 | .17 | [illegible] | 257.[illegible] | 1.00 |

| SECPO | C | CHSEL | DIF SP | DIF SR | DIFRIS | TDSELD | ALCH |
|---|---|---|---|---|---|---|---|
| 4781.000 | 265.00 | 801.53 | 0.00 | 1.05 | 0.00 | 155.00 | 3.00 |
| 4781.000 | 655.00 | 802.02 | [illegible] | 1.00 | [illegible] | 155.00 | 3.00 |
| 4781.000 | 825.00 | 802.19 | 0.17 | 1.03 | 0.00 | 150.00 | 3.00 |
| 4781.000 | 1214.00 | 802.45 | 0.25 | 1.42 | 0.00 | 222.00 | 3.00 |
| 4782.000 | 515.00 | 801.51 | [illegible] | [illegible] | [illegible] | 150.00 | 1.00 |
| 4782.000 | 605.00 | 802.01 | 0.45 | 0.05 | 0.49 | 150.00 | 1.00 |
| 4782.000 | 935.00 | 802.24 | [illegible] | 0.07 | [illegible] | 150.00 | 1.00 |
| 4782.000 | 1325.00 | 802.50 | 0.26 | 0.05 | 0.30 | 222.00 | 1.00 |
| 5000.000 | 515.00 | 801.53 | 0.00 | -0.06 | 0.00 | 44.45 | 21.00 |
| 5000.000 | 605.00 | 801.95 | 0.42 | -0.13 | [illegible] | 47.00 | 21.00 |
| 5000.000 | 935.00 | 802.10 | 0.15 | -0.10 | 0.52 | 47.00 | 21.00 |
| 5000.000 | 1325.00 | [illegible] | [illegible] | -0.13 | [illegible] | [illegible] | 21.00 |
| 5031.000 | 515.00 | 801.52 | 0.00 | -0.12 | 0.00 | 31.00 | 31.00 |
| 5031.000 | 605.00 | 801.90 | [illegible] | -0.06 | 0.38 | 31.00 | 31.00 |
| 5031.000 | 935.00 | 802.02 | 0.12 | -0.03 | [illegible] | 31.00 | 31.00 |
| 5031.000 | 1325.00 | 802.33 | [illegible] | -0.05 | 0.31 | [illegible] | 31.00 |
| 5046.000 | 515.00 | 801.52 | 0.00 | -0.09 | 0.00 | [illegible] | 15.00 |
| 5046.000 | 605.00 | 801.83 | 0.30 | -0.02 | [illegible] | 25.00 | 15.00 |
| 5046.000 | 935.00 | 801.98 | 0.10 | -0.03 | [illegible] | 25.00 | 15.00 |
| 5046.000 | 1325.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 15.00 |
| 5054.000 | 515.00 | [illegible] | 1.00 | -0.02 | 0.00 | 19.00 | 1.00 |
| 5054.000 | 605.00 | 801.80 | 0.31 | [illegible] | 0.31 | 19.00 | 1.00 |
| 5054.000 | 935.00 | 801.97 | 0.17 | -0.11 | 0.28 | 19.00 | 3.00 |
| 5054.000 | 1325.00 | 802.34 | 0.52 | 0.06 | 0.59 | 34.61 | 3.00 |
| 5062.000 | 515.00 | 801.60 | [illegible] | [illegible] | [illegible] | 15.00 | [illegible] |
| 5062.000 | 605.00 | [illegible] | 0.23 | -0.11 | [illegible] | 15.00 | 3.00 |
| 5062.000 | 935.00 | 801.69 | 0.00 | -0.19 | 0.00 | 15.00 | 3.00 |
| 5062.000 | 1325.00 | 803.28 | 1.59 | 0.50 | 1.02 | 81.57 | 3.00 |
| 5063.000 | 515.00 | 801.46 | [illegible] | [illegible] | [illegible] | 15.00 | 3.00 |
| 5063.000 | 605.00 | 801.70 | 0.24 | 0.02 | 0.24 | 15.00 | 3.00 |
| 5063.000 | 935.00 | 801.71 | 0.01 | [illegible] | 0.05 | 15.00 | 3.00 |
| 5063.000 | 1325.00 | 803.24 | 1.53 | -0.08 | [illegible] | [illegible] | 3.00 |
| 5137.000 | 515.00 | 801.73 | 0.00 | 0.26 | 0.00 | 16.00 | 14.00 |
| 5137.000 | 605.00 | 802.33 | 0.60 | 0.05 | [illegible] | 16.00 | 14.00 |
| 5137.000 | 935.00 | 802.45 | 0.09 | 1.00 | 1.02 | 14.00 | 14.00 |
| 5137.000 | 1325.00 | 805.51 | 2.97 | 2.24 | 3.19 | 234.44 | 14.00 |
| 5138.000 | 515.00 | 801.84 | 1.00 | -0.11 | 0.09 | 16.00 | 1.00 |
| 5138.000 | 605.00 | 802.04 | 0.9 | [illegible] | [illegible] | 16.00 | 1.00 |
| 5138.000 | 935.00 | 803.67 | [illegible] | [illegible] | [illegible] | 16.00 | 1.00 |
| 5138.000 | 1325.00 | 805.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5140.000 | 515.00 | 802.10 | [illegible] | [illegible] | [illegible] | [illegible] | 3.00 |
| 5140.000 | 605.00 | 803.23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5140.000 | 935.00 | 804.35 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5140.000 | 1325.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| SELID | Q | CASEL | DIFRSF | DIFRSK | DIFRIS | TOTIID | SLCR |
|---|---|---|---|---|---|---|---|
| 5187.000 | 515.00 | 316.35 | [illegible] | .55 | 0.10 | [illegible] | [illegible] |
| 5187.000 | 615.00 | [illegible] | 1.75 | [illegible] | 1.75 | [illegible] | [illegible] |
| 5187.000 | 935.00 | 405.36 | .95 | 1.02 | 2.72 | [illegible] | [illegible] |
| 5187.000 | 1325.00 | 305.75 | .42 | .85 | 3.15 | 174.67 | 67.00 |
| 5580.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5580.000 | 665.00 | 61.42 | 1.[illegible] | .52 | [illegible] | [illegible] | [illegible] |
| 5580.000 | [illegible] | 05.70 | .75 | .74 | 2.11 | [illegible] | [illegible] |
| 5580.000 | 1325.00 | 305.27 | .56 | .65 | 2.65 | 224.55 | [illegible] |
| * 5930.000 | 515.00 | 304.27 | 0.00 | .68 | 1.00 | 1[illegible].00 | [illegible] |
| 5930.000 | 605.00 | 305.10 | [illegible] | .15 | [illegible] | 135.[illegible] | [illegible] |
| 5930.000 | 535.00 | 305.52 | .72 | .13 | 1.55 | 1[illegible].01 | [illegible] |
| 5930.000 | 1325.00 | [illegible] | .57 | .16 | 2.14 | 1[illegible].01 | 150.00 |
| 6105.000 | 515.00 | 305.14 | 1.00 | .37 | 0.00 | 1[illegible] | 75.00 |
| 6005.000 | 805.00 | 805.68 | .56 | .38 | .56 | 135.37 | 75.00 |
| 6005.000 | [illegible] | 305.95 | .5[illegible] | .[illegible] | .75 | [illegible] | [illegible] |
| 6005.000 | 1325.00 | 305.56 | .51 | .19 | 1.11 | [illegible].47 | 75.00 |
| 6040.000 | 515.00 | 805.32 | 0.00 | .13 | 0.10 | 135.22 | 55.00 |
| 6040.000 | 605.00 | 105.74 | .41 | .25 | .41 | 14[illegible] | 55.00 |
| 6040.000 | 925.00 | 306.14 | .41 | .15 | .34 | 159.19 | 55.00 |
| 6040.000 | 1325.00 | 306.71 | .57 | .13 | [illegible] | 173.[illegible] | [illegible] |
| 6075.000 | 515.00 | 305.7[illegible] | .10 | .45 | 0.00 | 1[illegible] | 35.00 |
| 6075.000 | 815.00 | 316.20 | .[illegible] | .45 | .44 | 1[illegible] | 35.00 |
| 6075.000 | 925.00 | [illegible].40 | .20 | .25 | .25 | 169.3[illegible] | 35.00 |
| 6075.000 | 1325.00 | 80[illegible].93 | [illegible] | .22 | 1.18 | 1[illegible].35 | 35.00 |
| * 6110.000 | 515.00 | 1[illegible] | .00 | .37 | 0.00 | 1[illegible] | 35.00 |
| * 6110.000 | 805.00 | 306.52 | .41 | [illegible] | .40 | 1[illegible] | 35.00 |
| 6110.000 | 925.00 | 307.05 | .14 | .23 | .54 | 177.75 | 35.00 |
| 6110.000 | 1325.00 | 307.15 | .49 | .22 | 1.23 | 13[illegible].13 | 35.00 |
| 6145.000 | 515.00 | 500.71 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6145.000 | 805.00 | 307.12 | .51 | .60 | .53 | 177.[illegible] | [illegible] |
| 6145.000 | 925.00 | 307.25 | .1[illegible] | .59 | .54 | 1[illegible].41 | [illegible] |
| 6145.000 | 1325.00 | 307.54 | .29 | .29 | .53 | 19[illegible].47 | [illegible] |
| 6620.000 | 515.00 | 510.23 | 1.00 | 3.53 | 0.00 | 77.55 | 475.00 |
| 6620.000 | 805.00 | 510.79 | .55 | 3.51 | .55 | 1[illegible] | [illegible] |
| 6620.000 | 925.00 | 511.02 | .22 | 3.77 | .23 | 1[illegible] | 475.00 |
| 6620.000 | 1325.00 | 811.56 | .02 | 4.11 | 1.41 | 1[illegible] | 475.00 |
| 6660.000 | 515.00 | 510.55 | 0.00 | .32 | 0.00 | [illegible] | 40.00 |
| 6660.000 | 805.00 | 811.10 | .55 | .51 | .55 | 9[illegible] | 40.00 |
| 6660.000 | 925.00 | 311.31 | .21 | [illegible] | .23 | [illegible] | 40.00 |
| 6660.000 | 1325.00 | 311.76 | .57 | .27 | 1.[illegible] | [illegible] | 40.00 |
| 6700.000 | 515.00 | 510.95 | 0.00 | .29 | [illegible] | [illegible] | 50.00 |
| 6700.000 | 805.00 | 511.48 | .54 | .37 | .54 | 7[illegible] | 40.00 |
| 6700.000 | 925.00 | 511.69 | .21 | .57 | .75 | 7[illegible] | 40.00 |
| 6700.000 | 1325.00 | [illegible] | .53 | [illegible] | 1.20 | 7[illegible] | 41.00 |

| SECND | G | CUSFL | DIFHSF | DIFHSX | DIFHLS | TOPHED | ALCH |
|---|---|---|---|---|---|---|---|
| 6760.000 | 515.00 | 811.55 | .00 | .72 | [illegible] | [illegible] | [illegible] |
| 6760.000 | 605.00 | 812.26 | .08 | .72 | .71 | [illegible] | [illegible] |
| 6760.000 | 935.00 | 812.45 | .27 | .79 | .72 | [illegible] | [illegible] |
| 6760.000 | 1325.00 | 813.00 | .52 | .73 | 1.25 | [illegible] | [illegible] |
| 6760.000 | 515.00 | 811.27 | 0.00 | .21 | [illegible] | [illegible] | [illegible] |
| 6760.000 | 605.00 | 812.09 | .32 | .63 | .52 | [illegible] | [illegible] |
| 6760.000 | 935.00 | 813.03 | .35 | .55 | 1.17 | [illegible] | [illegible] |
| 6760.000 | 1325.00 | 815.37 | 2.33 | 2.27 | 3.50 | [illegible] | [illegible] |
| 6824.000 | 515.00 | 812.23 | 0.00 | .57 | 0.00 | [illegible] | [illegible] |
| 6824.000 | 605.00 | 813.04 | .39 | .35 | .31 | [illegible] | [illegible] |
| 6824.000 | 935.00 | 813.57 | .53 | .54 | 1.24 | [illegible] | [illegible] |
| 6824.000 | 1325.00 | 815.61 | 1.33 | .16 | 3.11 | [illegible] | [illegible] |
| 6825.000 | 515.00 | 812.35 | 1.00 | .12 | 0.00 | 84.28 | 1.00 |
| 6825.000 | 805.00 | 813.22 | .93 | .26 | .93 | 93.78 | 1.00 |
| 6825.000 | 935.00 | 813.35 | [illegible] | .21 | 1.50 | [illegible] | 1.00 |
| 6825.000 | 1325.00 | 815.30 | 1.53 | -.02 | [illegible] | [illegible] | 1.00 |
| 6830.000 | 350.00 | 812.23 | 0.00 | -.07 | 0.00 | [illegible] | 5.00 |
| 6830.000 | 615.00 | 813.17 | .84 | -.10 | .39 | [illegible] | 5.00 |
| 6830.000 | 710.00 | 813.75 | .53 | -.10 | 1.47 | [illegible] | 5.00 |
| 6830.000 | 1015.00 | 815.23 | 1.38 | -.15 | 2.[illegible] | [illegible] | 5.00 |
| 7120.000 | 350.00 | 813.14 | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] |
| 7120.000 | 615.00 | 814.17 | .90 | .54 | .53 | [illegible] | 290.00 |
| 7120.000 | 710.00 | 814.53 | .41 | .14 | 1.43 | [illegible] | 290.00 |
| 7120.000 | 1015.00 | 815.92 | 1.29 | .75 | 2.15 | [illegible] | 290.00 |
| 7370.000 | 350.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 250.00 |
| 7370.000 | 615.00 | [illegible] | .71 | .57 | .71 | [illegible] | 250.00 |
| 7370.000 | 710.00 | 815.02 | .53 | .43 | 1.03 | [illegible] | 250.00 |
| 7370.000 | 1015.00 | 815.16 | 1.15 | .14 | 2.10 | [illegible] | 250.00 |
| 7620.000 | 350.00 | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | 250.00 |
| 7620.000 | 615.00 | 815.43 | .32 | .71 | .02 | [illegible] | 250.00 |
| 7620.000 | 710.00 | 815.65 | .22 | [illegible] | .04 | [illegible] | 250.00 |
| 7620.000 | 1015.00 | 815.52 | .34 | .20 | 1.03 | [illegible] | 250.00 |
| 7720.000 | 390.00 | 815.19 | 0.00 | .16 | 0.00 | 15[illegible].22 | 110.00 |
| 7720.000 | 615.00 | 815.74 | .55 | [illegible] | .73 | 202.51 | 110.00 |
| 7720.000 | 710.00 | 815.93 | .21 | [illegible] | .70 | 211.[illegible] | 110.00 |
| 7720.000 | 1015.00 | 815.70 | .75 | [illegible] | 1.51 | 237.41 | 110.00 |
| 7820.000 | 90.00 | 815.92 | .00 | .16 | 0.00 | 147.[illegible] | 110.00 |
| 7820.000 | 615.00 | 815.35 | .44 | [illegible] | .44 | 195.[illegible] | 110.00 |
| 7820.000 | [illegible] | 813.52 | [illegible] | [illegible] | [illegible] | [illegible] | 110.00 |
| 7820.000 | 1015.00 | 817.0[illegible] | .50 | [illegible] | .15 | [illegible] | 110.00 |
| 7870.000 | 350.00 | 1653 | [illegible] | .25 | [illegible] | [illegible] | 50.00 |
| 7870.000 | 615.00 | 816.81 | .53 | .43 | [illegible] | [illegible] | [illegible] |
| 7870.000 | 710.00 | [illegible] | .15 | .14 | .53 | [illegible] | [illegible] |
| 7870.000 | [illegible] | [illegible] | .17 | [illegible] | [illegible] | [illegible] | [illegible] |

| STEP | D | CLSEL | DIFMSP | DIFBSS | DIFCIR | T [illegible] | RLP- |
|---|---|---|---|---|---|---|---|
| 3220.000 | 250.00 | 913.34 | 0.00 | 1.06 | 0.00 | 1[illegible] | [illegible] |
| 3220.000 | 415.00 | 913.73 | [illegible] | 1.93 | [illegible] | 203.1 | [illegible] |
| 3120.000 | 710.00 | 919.95 | .15 | 1.07 | .59 | 215.35 | 250.00 |
| 3120.000 | 1015.00 | 919.31 | .32 | 1.19 | [illegible] | 2[illegible] | 250.00 |
| 3191.000 | [illegible] | [illegible] | [illegible] | .51 | [illegible] | [illegible] | [illegible] |
| 3191.000 | 515.00 | 919.1[illegible] | .52 | .41 | [illegible] | [illegible] | [illegible] |
| 3191.000 | 710.00 | 919.35 | .16 | .43 | [illegible] | [illegible] | [illegible] |
| 3191.000 | 1015.00 | 919.76 | .41 | .45 | 1.01 | [illegible] | [illegible] |
| 3262.000 | 390.00 | 819.37 | 0.00 | .61 | 1.00 | [illegible] | [illegible] |
| 3262.000 | 515.00 | 819.73 | .41 | [illegible] | [illegible] | 1[illegible] | [illegible] |
| 3262.000 | 710.00 | 819.53 | .15 | [illegible] | .55 | 1[illegible] | [illegible] |
| 3262.000 | 1015.00 | 819.33 | .53 | .57 | [illegible] | 1[illegible] | [illegible] |
| 3333.000 | 390.00 | 820.10 | 0.00 | .75 | 0.00 | 1[illegible] | [illegible] |
| 3333.000 | 615.00 | 320.68 | [illegible] | .70 | [illegible] | 137.00 | [illegible] |
| 3333.000 | 710.00 | 321.55 | .13 | .70 | [illegible] | [illegible] | [illegible] |
| 3333.000 | 1015.00 | 321.46 | .41 | [illegible] | .56 | 137.10 | [illegible] |
| 3353.000 | 390.00 | 320.25 | 0.00 | .15 | 0.00 | 12[illegible] | 20.00 |
| 3353.000 | 615.00 | 220.65 | .41 | .19 | .41 | 127.00 | 20.00 |
| 3353.000 | 710.00 | 820.82 | .15 | .19 | .57 | 127.00 | 20.00 |
| 3353.000 | 1015.00 | 821.24 | .42 | [illegible] | [illegible] | 127.01 | 20.00 |
| 3373.000 | 390.00 | 820.43 | 0.00 | .15 | [illegible] | 117.01 | 10.00 |
| 3373.000 | 515.00 | 820.85 | .43 | .19 | .43 | 117.01 | 20.00 |
| 3373.000 | 710.00 | 821.01 | [illegible] | .19 | .53 | 117.00 | 20.00 |
| 3373.000 | 1015.00 | 821.44 | .44 | .20 | 1.02 | 117.00 | 20.00 |
| 3382.000 | 390.00 | 820.52 | 0.00 | .51 | 0.00 | 111.[illegible] | [illegible] |
| 3382.000 | 515.00 | 821.38 | .41 | .5[illegible] | [illegible] | 10[illegible] | [illegible] |
| 3382.000 | 710.00 | 321.55 | .17 | .54 | .52 | 112.55 | 1.01 |
| 3382.000 | 1015.00 | 522.03 | .43 | .59 | 1.10 | 12[illegible] | [illegible] |
| 3383.000 | 390.00 | 321.42 | 1.00 | -.01 | 0.00 | 10[illegible] | 1.00 |
| 3383.000 | 515.00 | 321.37 | .45 | -.01 | .45 | 11[illegible] | 1.00 |
| 3383.000 | 710.00 | 321.54 | .71 | -.01 | .01 | 11[illegible] | 1.00 |
| 3383.000 | 1015.00 | 322.01 | .47 | -.02 | 1.01 | 120.22 | 1.00 |
| 3418.000 | 390.00 | 321.41 | 1.00 | .46 | [illegible] | [illegible] | [illegible] |
| 3417.000 | 515.00 | 322.37 | [illegible] | 1.02 | [illegible] | 114.01 | [illegible] |
| 3417.000 | 710.00 | 322.53 | [illegible] | 1.15 | [illegible] | 104.10 | [illegible] |
| 3418.000 | 1015.00 | 323.17 | .55 | 1.11 | [illegible] | 103.30 | [illegible] |
| 3419.000 | 390.00 | 321.60 | 0.00 | .15 | 0.00 | 104.00 | 1.00 |
| 3419.000 | 615.00 | 322.41 | [illegible] | .02 | [illegible] | 104.00 | 1.00 |
| 3419.000 | 710.00 | 322.54 | .23 | .02 | 1.05 | [illegible] | 1.00 |
| 3419.000 | 1015.00 | 323.20 | .53 | [illegible] | 1.01 | 105.01 | 1.00 |
| 3500.000 | 390.00 | 321.60 | 1.00 | .10 | 1.10 | 52.09 | 61.00 |
| 3500.000 | 615.00 | 322.40 | .23 | -.11 | .36 | 57.55 | 1.00 |
| 3500.000 | 710.00 | 322.63 | .23 | -.01 | 1.02 | 05.31 | 61.00 |
| 3500.000 | 1015.00 | 323.10 | .55 | -.02 | 1.55 | [illegible] | 61.00 |

| | SECND | G | CUSEL | DIFLSP | DIFWSH | DIFKAS | TORQUE | WLCH |
|---|---|---|---|---|---|---|---|---|
| | 8564.000 | 390.00 | 821.54 | 0.00 | .04 | 1.01 | [illegible] | [illegible] |
| | 8564.000 | 615.00 | 822.45 | .42 | .03 | .32 | 54.51 | [illegible] |
| | 8564.000 | 710.00 | 822.59 | .24 | .05 | 1.15 | 55.13 | 35.00 |
| | 8564.000 | 1015.00 | 822.25 | .56 | .07 | 1.01 | 71.04 | 36.00 |
| | 8614.000 | 390.00 | 821.65 | 0.00 | .02 | 1.01 | 55.85 | 50.00 |
| | 8614.000 | 615.00 | 822.45 | .31 | .01 | .01 | 65.10 | 51.00 |
| | 8614.000 | 710.00 | 822.69 | .23 | .00 | 1.04 | 67.44 | 51.00 |
| | 8614.000 | 1015.00 | 823.26 | .55 | -.01 | 1.59 | 58.60 | 50.00 |
| | 8615.000 | 390.00 | 822.69 | 0.00 | .34 | 0.00 | 45.48 | 1.00 |
| | 8615.000 | 615.00 | 823.35 | .01 | .52 | .50 | 52.01 | 1.00 |
| | 8615.000 | 710.00 | 823.25 | .15 | .56 | .70 | 50.42 | 1.00 |
| | 8615.000 | 1015.00 | 822.32 | .37 | .78 | 1.14 | 84.52 | 1.00 |
| * | 9055.000 | 390.00 | 823.54 | 0.00 | 1.16 | 0.00 | 17.69 | 1.00 |
| * | 9055.000 | 615.00 | 824.51 | .97 | 1.52 | .97 | 19.30 | 1.00 |
| * | 9055.000 | 710.00 | 824.93 | .35 | 1.71 | 1.32 | 21.32 | 1.00 |
| * | 9055.000 | 1015.00 | 826.56 | 1.54 | 2.52 | 2.10 | 25.74 | 1.00 |
| | 9087.000 | 390.00 | 824.98 | 0.00 | 1.31 | 0.01 | [illegible] | 32.00 |
| | 9087.000 | 615.00 | 826.04 | 1.14 | 1.83 | 1.14 | 31.13 | 32.00 |
| | 9087.000 | 710.00 | 26.53 | .56 | 1.82 | 1.14 | [illegible] | [illegible] |
| * | 9087.000 | 1015.00 | 27.6[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 9120.000 | 390.00 | 25.31 | [illegible] | [illegible] | 0.00 | 21.12 | 35.00 |
| | 9120.000 | 615.00 | 825.32 | 1.11 | [illegible] | 1.11 | 25.15 | 35.00 |
| | 9120.000 | 710.00 | 825.77 | [illegible] | .12 | 1.52 | [illegible] | 35.00 |
| | 9120.000 | 1015.00 | 827.73 | [illegible] | .10 | 2.53 | 132.52 | 33.00 |
| | 9125.000 | 390.00 | 33.75 | [illegible] | .55 | [illegible] | [illegible] | 35.00 |
| | 9125.000 | 615.00 | 34.51 | [illegible] | [illegible] | [illegible] | [illegible] | 35.00 |
| | 9185.000 | 710.00 | 827.21 | .40 | .61 | 1.03 | 57.15 | 35.00 |
| | 9185.000 | 1015.00 | 828.07 | [illegible] | .10 | 2.22 | 114.70 | 35.00 |
| | 9250.000 | 390.00 | 828.31 | [illegible] | .55 | 0.00 | [illegible] | 55.00 |
| | 9250.000 | 615.00 | 827.34 | [illegible] | .53 | 1.11 | [illegible] | 35.00 |
| | 9250.000 | 710.00 | 828.75 | [illegible] | .59 | 1.42 | [illegible] | 35.00 |
| | 9250.000 | 1015.00 | 828.50 | .73 | .62 | 2.19 | 115.04 | 33.00 |
| | 9315.000 | 390.00 | 828.75 | .00 | .65 | 0.00 | 31.57 | 35.00 |
| | 9315.000 | 615.00 | 827.51 | 1.12 | .07 | 1.05 | [illegible] | 35.00 |
| | 9315.000 | 710.00 | [illegible] | .35 | [illegible] | 1.11 | [illegible] | [illegible] |
| | 9315.000 | 1015.00 | [illegible] | [illegible] | [illegible] | [illegible] | 117.71 | [illegible] |
| | 9354.000 | 390.00 | 27.32 | .00 | .51 | 1.01 | [illegible] | 45.00 |
| | 9354.000 | 615.00 | 828.54 | 1.22 | .73 | 1.21 | 59.05 | 49.00 |
| | 9354.000 | 710.00 | 829.92 | [illegible] | .81 | 1.31 | [illegible] | 45.00 |
| | 9354.000 | 1015.00 | 32.64 | .71 | .76 | [illegible] | [illegible] | 45.00 |
| | 9355.000 | 390.00 | 827.32 | [illegible] | .72 | 0.00 | [illegible] | [illegible] |
| | 9355.000 | 615.00 | 32.62 | 1.21 | .7 | 1.21 | [illegible] | [illegible] |
| | 9355.000 | 710.00 | 829.10 | .33 | .03 | 1.[illegible] | [illegible] | [illegible] |
| | 9355.000 | 1015.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | SECND | C | DISEL | DIFDSF | DIFISR | DIFFRS | TIPHUD | ALC |
|---|---|---|---|---|---|---|---|---|
| * | 9360.000 | 570.00 | 837.47 | 0.00 | .14 | 1.10 | 22.43 | 9.00 |
| | 9360.000 | 615.00 | 825.50 | 1.42 | .77 | 1.12 | 99.00 | 5.00 |
| | 9360.000 | 710.00 | 820.82 | .23 | .72 | 2.35 | 51.04 | 5.00 |
| | 9360.000 | 1015.00 | 830.63 | .81 | .93 | 3.15 | 41.10 | 5.00 |
| | 9361.000 | 590.00 | 829.25 | 0.00 | .75 | 0.00 | 21.00 | 4.00 |
| | 9361.000 | 615.00 | 829.52 | 1.07 | -.07 | 1.02 | 51.07 | 9.00 |
| | 9361.000 | 710.00 | 829.73 | .41 | -.19 | 1.07 | 9.00 | 2.00 |
| | 9361.000 | 1015.00 | 830.53 | .50 | -.10 | 2.23 | 51.00 | 4.00 |
| | 9410.000 | 590.00 | 826.82 | 0.00 | .57 | 0.00 | 1.59 | 49.00 |
| | 9410.000 | 615.00 | 827.75 | .54 | .53 | .74 | 2.27 | 47.00 |
| | 9410.000 | 710.00 | 830.07 | .12 | .74 | 1.20 | 35.01 | 49.00 |
| | 9410.000 | 1015.00 | 826.79 | .71 | .25 | 1.20 | 75.51 | 49.00 |
| | 9495.000 | 590.00 | 826.91 | 0.00 | 1.09 | 0.00 | 19.59 | 55.00 |
| | 9495.000 | 615.00 | 830.06 | .45 | 1.11 | .45 | 22.12 | 55.00 |
| | 9495.000 | 710.00 | 831.71 | .32 | 1.11 | 1.27 | 27.50 | 55.00 |
| * | 9495.000 | 1015.00 | 832.33 | 1.16 | 1.44 | 2.42 | 49.77 | 55.00 |
| | 9580.000 | 590.00 | 21.59 | 0.00 | 1.07 | 0.00 | 70.12 | 35.00 |
| | 9580.000 | 615.00 | 852.44 | .35 | 1.53 | .35 | 23.32 | 35.00 |
| | 9580.000 | 710.00 | 832.75 | .51 | 1.57 | 1.16 | 29.38 | 35.00 |
| * | 9580.000 | 1015.00 | 832.25 | 1.30 | 1.02 | 2.22 | 40.00 | 35.00 |
| | 9665.000 | 590.00 | 832.23 | 0.00 | 1.54 | 1.01 | 20.51 | 33.00 |
| | 9665.000 | 615.00 | 834.09 | .33 | 1.55 | .33 | 24.37 | 35.00 |
| | 9665.000 | 710.00 | 834.60 | .51 | 1.55 | 1.14 | 50.22 | 35.00 |
| * | 9665.000 | 1015.00 | 835.83 | 1.60 | 1.56 | 2.64 | 257.07 | 35.00 |
| | 9686.000 | 590.00 | 832.62 | 1.00 | .1 | 1.00 | 1.00 | 21.00 |
| | 9686.000 | 615.00 | 834.07 | .3 | .1 | .15 | 26.72 | 21.00 |
| | 9686.000 | 710.00 | 834.75 | .21 | .31 | 1.16 | 25.92 | 21.00 |
| * | 9686.000 | 1015.00 | 836.22 | 1.46 | .39 | 2.06 | 264.16 | 21.00 |
| | 9707.000 | 590.00 | 834.23 | 1.01 | .50 | 0.00 | 10.11 | 21.00 |
| | 9707.000 | 615.00 | 835.27 | .52 | .80 | .55 | 22.16 | 21.00 |
| | 9707.000 | 710.00 | 835.92 | .04 | 1.11 | 1.04 | 92.90 | 21.00 |
| * | 9707.000 | 1015.00 | 836.26 | .52 | .11 | 1.35 | 72.70 | 21.00 |
| | 9728.000 | 590.00 | 834.55 | 0.00 | .30 | 0.00 | 20.04 | 21.00 |
| | 9728.000 | 615.00 | 835.52 | .95 | .20 | .95 | 38.11 | 21.00 |
| | 9728.000 | 710.00 | 836.07 | .53 | .15 | 1.12 | 114.00 | 21.00 |
| | 9728.000 | 1015.00 | 837.42 | 1.16 | .10 | 2.01 | 144.00 | 21.00 |
| | 9750.000 | 590.00 | 836.95 | 1.16 | .37 | 0.00 | 26.25 | 22.00 |
| | 9750.000 | 615.00 | 835.97 | .72 | .34 | .12 | 27.75 | 23.00 |
| * | 9750.000 | 710.00 | 836.1 | .74 | .34 | 1.21 | 155.11 | 22.00 |
| | 9750.000 | 1015.00 | 837.50 | .59 | .11 | 2.25 | 95.10 | 23.00 |
| | 9771.000 | 590.00 | 835.35 | 0.00 | .31 | 0.00 | 20.03 | 21.00 |
| | 9771.000 | 615.00 | 836.25 | .90 | .36 | .90 | 35.31 | 21.00 |
| * | 9771.000 | 710.00 | 837.01 | .72 | .41 | 1.28 | 200.10 | 21.00 |
| | 9771.000 | 1015.00 | 837.71 | .70 | .11 | 2.06 | 200.10 | 21.00 |

| | SECND | T | CISEL | DIFLSF | DIFUSX | DIFKMS | TOPMLT | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 9792.000 | 390.00 | 837.72 | 0.00 | .29 | 0.00 | 20.00 | 21.00 |
| | 9792.000 | 615.00 | 839.54 | .00 | .27 | .00 | 6[illegible].[illegible] | 21.00 |
| * | 9792.000 | 710.00 | 837.44 | .36 | .43 | 1.72 | 253.15 | 21.00 |
| * | 9792.000 | 1015.00 | 837.97 | .52 | .25 | 2.45 | 2[illegible].[illegible] | 21.00 |
| | 9813.000 | 390.00 | 136.20 | 0.00 | .24 | 1.10 | 19.97 | 21.00 |
| | 9813.000 | 615.00 | 337.00 | .29 | .40 | .47 | 82.[illegible] | 21.00 |
| * | 9813.000 | 710.00 | 337.79 | .29 | .35 | 1.51 | 2[illegible].11 | 21.00 |
| * | 9813.000 | 1015.00 | 338.30 | .51 | .32 | 2.09 | 271.50 | 21.00 |
| | 9356.000 | 390.00 | 136.95 | 0.00 | .73 | 0.00 | 19.00 | 23.00 |
| * | 9356.000 | 615.00 | [illegible] | 1.[illegible] | 1.[illegible] | 1.35 | 2[illegible] | 23.00 |
| * | 9356.000 | 710.00 | 3[illegible] | .21 | .74 | 1.[illegible] | 2[illegible].41 | [illegible] |
| * | 9356.000 | 1015.00 | [illegible] | .[illegible] | .75 | 2.35 | 280.50 | 23.00 |
| | 9677.000 | 390.00 | 837.65 | 0.00 | .34 | 0.00 | 20.06 | 21.00 |
| * | 9677.000 | 615.00 | 838.65 | 1.02 | .27 | 1.02 | 214.[illegible] | 21.00 |
| * | 9677.000 | 710.00 | [illegible] | .[illegible] | .[illegible] | 1.19 | 262.31 | 21.00 |
| * | 9677.000 | 1015.00 | 836.25 | .46 | .22 | 1.63 | 3[illegible] | 21.00 |
| | 9898.000 | 390.00 | 837.94 | 0.00 | .31 | 0.00 | 19.55 | 21.00 |
| * | 9898.000 | 615.00 | 839.00 | 1.00 | .35 | 1.00 | 213.2[illegible] | 21.00 |
| * | 9898.000 | 710.00 | 839.16 | .15 | .33 | 1.21 | 241.[illegible] | 21.00 |
| * | 9898.000 | 1015.00 | 839.53 | .43 | .32 | 1.14 | 31[illegible].35 | 21.00 |
| | 9920.000 | 390.00 | [illegible] | 0.00 | .3[illegible] | 0.00 | [illegible] | 22.00 |
| * | 9920.000 | 615.00 | 839.35 | 1.03 | .35 | 1.03 | 220.32 | 22.00 |
| * | 9920.000 | 710.00 | 839.53 | .13 | .30 | 1.41 | 246.09 | 22.00 |
| * | 9920.000 | 1015.00 | 839.93 | .30 | .35 | 1.01 | 31[illegible].1 | 22.00 |
| | 10120.000 | 390.00 | 340.72 | 0.00 | 2.41 | 0.00 | 2[illegible].72 | 20.00 |
| | 10120.000 | 615.00 | 341.15 | .02 | 1.31 | .02 | 22[illegible].23 | 20.00 |
| | 10120.000 | 710.00 | 341.30 | .15 | 1.77 | .37 | 225.75 | 20.00 |
| | 10120.000 | 1015.00 | 341.70 | .40 | 1.77 | .37 | 261.13 | 20.00 |
| * | 10220.000 | 390.00 | 341.3[illegible] | 0.00 | .31 | 0.10 | [illegible] | 10.00 |
| * | 10220.000 | 615.00 | 341.77 | .[illegible] | .37 | .38 | 301.79 | 10.00 |
| | 10220.000 | 710.00 | 341.89 | .12 | .30 | .32 | 1[illegible].73 | 10.00 |
| | 10220.000 | 1015.00 | 342.33 | .43 | .33 | .99 | 226.13 | 10.00 |
| | 10320.000 | 390.00 | 343.15 | 0.00 | 1.31 | 0.00 | 237.93 | 11.00 |
| | 10320.000 | 615.00 | 343.69 | .53 | 1.77 | .35 | 101.28 | 11.00 |
| | 10320.000 | 710.10 | 343.54 | .14 | 1.76 | .35 | [illegible].57 | 10.00 |
| | 10320.000 | 1015.00 | 343.92 | .49 | 1.[illegible] | .76 | 115.[illegible] | 10.00 |
| | 10520.000 | 390.00 | 844.33 | 0.00 | 1.[illegible] | 0.00 | 15.77 | 20.00 |
| | 10520.000 | 615.00 | 845.44 | .51 | 1.35 | .51 | 177.57 | 20.00 |
| | 10520.000 | 710.00 | 45.6[illegible] | .17 | [illegible] | .3[illegible] | [illegible] | 2[illegible] |
| | 10520.000 | 1015.00 | 846.14 | .53 | .22 | 1.[illegible] | [illegible].55 | 20.00 |
| | 10720.000 | 390.00 | 45.92 | .00 | [illegible] | [illegible] | [illegible] | 2[illegible] |
| | 10720.000 | 615.00 | 846.45 | [illegible] | 1.[illegible] | [illegible] | [illegible].30 | 20.00 |
| | 10720.000 | 710.00 | [illegible] | [illegible] | 1.0 | | 21[illegible] | [illegible] |
| | 10720.000 | 1015.00 | 847.[illegible] | [illegible] | .10 | [illegible] | 23[illegible] | 2[illegible] |

| | SECND | D | CMSEL | DIFISA | DIFISB | DIFIOS | TOTALD | ALCP |
|---|---|---|---|---|---|---|---|---|
| | 10921.000 | 590.00 | 852.11 | 1.00 | 1.55 | 0.00 | 2052.4 | [illegible] |
| | 10920.000 | 615.00 | 857.55 | .43 | 1.15 | .67 | 2.0.15 | 310.00 |
| | 10920.000 | 710.00 | 857.75 | .17 | 1.12 | .06 | 2.85.5 | 210.00 |
| | 10920.000 | 1015.00 | 846.23 | .68 | 1.18 | 1.82 | 231.58 | 200.00 |
| * | 11120.000 | 590.00 | 850.37 | 0.00 | 1.75 | 0.00 | [illegible] | [illegible] |
| * | 11120.000 | 615.00 | 845.16 | .46 | 1.50 | .10 | 21.47 | [illegible] |
| | 11120.000 | 710.00 | 845.30 | .16 | 1.55 | [illegible] | 2.7.12 | [illegible] |
| | 11120.000 | 1015.00 | 840.49 | .55 | 0.45 | .32 | 2.1.7 | 200.00 |
| | 11319.000 | 590.00 | 850.51 | 1.00 | 1.04 | 0.00 | 1.5.35 | 1.5.0 |
| | 11319.000 | 615.00 | 851.87 | [illegible] | 1.71 | [illegible] | [illegible] | [illegible] |
| | 11319.000 | 710.00 | 850.87 | .40 | 1.57 | .45 | 1.1.02 | 1.1.00 |
| | 11319.000 | 1015.00 | 851.25 | .29 | 1.[illegible] | .74 | 213.95 | 1.9.0 |
| * | 11320.000 | 590.00 | 850.51 | 1.00 | -.00 | 0.00 | 137.47 | 1.00 |
| | 11320.000 | 615.00 | 850.80 | .29 | -.07 | .29 | 152.0 | 1.00 |
| | 11320.000 | 710.00 | 850.[illegible] | .19 | -.15 | .57 | 1[illegible].03 | 1.00 |
| | 11320.000 | 1015.00 | 851.17 | .43 | -.19 | [illegible] | 1[illegible].54 | 1.00 |
| | 11325.000 | 590.00 | 850.72 | 0.00 | .21 | 1.00 | 164.53 | 5.00 |
| | 11325.000 | 615.00 | 851.00 | .28 | .21 | .28 | 165.08 | 5.00 |
| | 11325.000 | 710.00 | 851.11 | .11 | .23 | .39 | 1[illegible].79 | 5.00 |
| | 11325.000 | 1015.00 | 851.50 | .25 | .23 | [illegible] | 213.17 | 5.00 |
| | 11326.000 | 590.00 | 850.25 | 0.00 | .13 | 0.00 | 1[illegible] | 1.00 |
| | 11326.000 | 615.00 | 851.15 | .51 | .15 | .51 | 72.0[illegible] | 1.00 |
| | 11326.000 | 710.00 | 851.25 | .12 | .17 | .45 | 214.57 | 1.00 |
| | 11326.000 | 1015.00 | 851.59 | .31 | .19 | .34 | 23[illegible].91 | 1.00 |
| * | 11519.000 | 590.00 | 851.59 | 0.00 | [illegible] | 0.00 | 93.40 | 1.50.00 |
| * | 11519.000 | 615.00 | 853.03 | 1.43 | 1.30 | [illegible] | 12.01 | 150.00 |
| * | 11519.000 | 710.00 | 853.22 | .15 | 1.95 | 1.72 | 35.25 | 150.00 |
| * | 11519.000 | 1015.00 | 855.68 | .65 | 2.38 | 2.13 | 95.15 | 150.00 |
| * | 11520.000 | 590.00 | 852.74 | 0.00 | 1.22 | 1.00 | [illegible] | 1.00 |
| * | 11520.000 | 615.00 | 853.51 | .77 | .53 | .77 | 57.13 | 1.00 |
| * | 11520.000 | 710.00 | 853.95 | .52 | .65 | 1.12 | 1[illegible].36 | 1.00 |
| * | 11520.000 | 1015.00 | 856.65 | .72 | .57 | 1.97 | 113.11 | 1.00 |
| | 11525.000 | 590.00 | 55.65 | 1.00 | .51 | 1.00 | [illegible] | 3.00 |
| * | 11525.000 | 615.00 | 852.27 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 11525.000 | 710.00 | 854.13 | .30 | .74 | .37 | 1[illegible] | 5.00 |
| | 11525.000 | 1015.00 | 856.85 | .42 | .71 | 1.21 | 11[illegible] | 3.00 |
| | 11526.000 | 590.00 | 55.58 | 1.00 | .31 | 0.00 | [illegible] | 1.00 |
| | 11526.000 | 615.00 | 856.62 | .57 | .34 | .57 | 1[illegible] | 1.00 |
| | 11526.000 | 710.00 | [illegible] | .21 | [illegible] | [illegible] | [illegible] | 1.00 |
| | 11526.000 | 1015.00 | 155.18 | .34 | .42 | 1.22 | 1[illegible] | 1.00 |
| | 11595.000 | 590.00 | 852.43 | 0.00 | .12 | 1.00 | 25[illegible].10 | 71.00 |
| | 11595.000 | 615.00 | 854.78 | .65 | .15 | .59 | 25[illegible].00 | 71.00 |
| | 11595.000 | 710.00 | 855.00 | .22 | .17 | .42 | 25[illegible].11 | 71.00 |
| | 11595.000 | 1015.00 | 855.[illegible] | .23 | .25 | 1.35 | 25[illegible].00 | 71.00 |

| | SECO | Q | CUSEL | DIFUSP | DIFLSX | DIFCUS | TOPWAT | WLCH |
|---|---|---|---|---|---|---|---|---|
| | 11720.000 | 390.00 | 855.09 | 0.00 | .01 | 0.00 | [illegible] | 125.00 |
| | 11720.000 | 615.00 | 855.79 | .71 | .01 | .70 | 315.00 | 125.00 |
| | 11720.000 | 710.00 | 855.01 | .23 | .01 | .02 | 315.00 | 125.00 |
| | 11720.000 | 1015.00 | 855.65 | .63 | .01 | 1.05 | 315.00 | 125.00 |
| | 11850.000 | 390.00 | 856.31 | 0.00 | .02 | 0.00 | 250.00 | 130.00 |
| | 11850.000 | 615.00 | 856.31 | .00 | .02 | .00 | 250.00 | 130.00 |
| | 11850.000 | 710.00 | 855.13 | .12 | .02 | .02 | 250.00 | 130.00 |
| | 11850.000 | 1015.00 | 855.47 | .44 | .02 | 1.03 | 250.00 | 130.00 |
| | 11995.000 | 390.00 | 856.30 | 0.00 | .19 | 0.00 | 36.39 | 165.00 |
| | 11995.000 | 615.00 | 856.38 | .57 | .07 | .37 | 177.24 | 165.00 |
| | 11995.000 | 710.00 | 855.09 | .22 | .15 | .25 | 131.41 | 165.00 |
| | 11995.000 | 1015.00 | 855.56 | .56 | .07 | 1.23 | 149.45 | 165.00 |
| * | 12058.000 | 390.00 | 856.72 | 0.00 | .42 | 0.00 | 71.15 | 53.00 |
| * | 12058.000 | 615.00 | 855.13 | .41 | .25 | .41 | 123.45 | 53.00 |
| * | 12058.000 | 710.00 | 855.27 | .71 | .17 | .55 | 175.21 | 53.00 |
| | 12058.000 | 1015.00 | 855.53 | .61 | .17 | .15 | 174.00 | 53.00 |
| * | 12120.000 | 390.00 | 855.35 | 0.00 | .03 | 0.00 | 71.35 | 52.00 |
| * | 12120.000 | 615.00 | 855.82 | .67 | .09 | .67 | 123.34 | 52.00 |
| * | 12120.000 | 710.00 | 855.96 | .16 | .07 | .55 | 123.34 | 52.00 |
| * | 12120.000 | 1015.00 | 856.32 | .35 | .13 | .27 | 192.23 | 52.00 |
| | 12183.000 | 390.00 | 856.0 | .00 | .23 | [illegible] | [illegible] | 53.00 |
| | 12183.000 | 615.00 | 856.50 | .62 | .08 | .62 | 123.19 | 53.00 |
| | 12183.000 | 710.00 | 856.64 | .71 | .71 | .57 | 131.33 | 53.00 |
| | 12183.000 | 1015.00 | 856.93 | [illegible] | .61 | .90 | 159.39 | 53.00 |
| | 12245.000 | 390.00 | 856.31 | .00 | .23 | 0.00 | [illegible] | 52.00 |
| | 12245.000 | 615.00 | 856.73 | [illegible] | .23 | .62 | 190.31 | 52.00 |
| * | 12245.000 | 710.00 | 855.53 | .20 | .27 | .62 | 117.20 | 52.00 |
| | 12245.000 | 1015.00 | 857.24 | .31 | .25 | .13 | 131.47 | 52.00 |
| * | 12308.000 | 390.00 | 857.11 | 0.00 | [illegible] | 0.00 | 73.13 | 53.00 |
| * | 12308.000 | 615.00 | 857.65 | .45 | .62 | .45 | 112.32 | 53.00 |
| * | 12308.000 | 710.00 | 857.69 | .71 | .75 | .51 | 117.76 | 53.00 |
| * | 12308.000 | 1015.00 | 858.05 | .57 | .72 | .54 | 122.59 | 53.00 |
| * | 12370.000 | 390.00 | 857.45 | 0.00 | .64 | 0.00 | 75.50 | 52.00 |
| * | 12370.000 | 615.00 | [illegible] | .42 | .62 | .43 | 95.72 | 52.00 |
| * | 12370.000 | 710.00 | [illegible] | .16 | [illegible] | .51 | 113.[illegible] | 52.00 |
| * | 12370.000 | 1015.00 | 858.92 | [illegible] | [illegible] | [illegible] | [illegible] | 52.00 |
| * | 12433.000 | 390.00 | 858.58 | [illegible] | .14 | .00 | 71.29 | 53.00 |
| * | 12433.000 | 615.00 | 859.05 | .45 | .05 | .45 | 89.27 | 53.00 |
| * | 12433.000 | 710.00 | 859.24 | .71 | [illegible] | .38 | [illegible] | 53.00 |
| * | 12433.000 | 1015.00 | 859.62 | .41 | .71 | .12 | 113.33 | 53.00 |
| * | 12495.000 | 390.00 | [illegible] | [illegible] | [illegible] | 0.00 | 51.75 | 52.00 |
| * | 12495.000 | 615.00 | 859.7 | [illegible] | .71 | [illegible] | 85.05 | 52.00 |
| * | 12495.000 | 710.00 | [illegible] | .22 | [illegible] | .23 | [illegible] | [illegible] |
| * | 12495.000 | 1015.00 | [illegible] | [illegible] | .72 | [illegible] | [illegible] | [illegible] |

| | SECND | D | CUSTL | DIFISP | DIFUSK | DIFKUS | TOTUID | ALCH |
|---|---|---|---|---|---|---|---|---|
| | 13055.000 | 295.00 | 865.79 | 0.00 | 4.67 | 0.00 | 122.79 | 50.00 |
| | 13055.000 | 615.00 | 866.18 | .29 | 4.58 | .05 | 134.06 | 50.00 |
| | 13055.000 | 715.00 | 864.28 | .12 | 4.28 | .51 | 135.66 | 50.00 |
| | 13055.000 | 1015.00 | 864.69 | .41 | 4.32 | .42 | 15[illegible].35 | 50.00 |
| * | 13155.000 | 295.00 | 865.52 | 0.00 | 1.19 | 1.00 | [illegible] | 100.00 |
| * | 13155.000 | 615.00 | 865.31 | .09 | 1.15 | .27 | 117.[illegible] | [illegible] |
| * | 13155.000 | 715.00 | 866.43 | .42 | 1.15 | .54 | 135.0 | [illegible] |
| * | 13155.000 | 1015.00 | 865.80 | .37 | 1.11 | .51 | 130.19 | [illegible] |
| | 13205.000 | 390.00 | 865.27 | 0.00 | .45 | 0.00 | [illegible] | [illegible] |
| * | 13205.000 | 515.00 | 865.70 | .42 | .37 | .42 | [illegible] | [illegible] |
| * | 13205.000 | 715.00 | 865.79 | .44 | .33 | .52 | [illegible] | [illegible] |
| * | 13205.000 | 1015.00 | 865.[illegible]0 | .52 | .51 | 1.00 | 16[illegible].00 | [illegible] |
| | 13255.000 | 295.00 | 865.77 | 0.00 | .50 | 0.00 | 6[illegible].38 | 50.00 |
| | 13255.000 | 450.00 | 866.23 | .42 | .53 | .50 | 6[illegible].21 | 50.00 |
| | 13255.000 | 525.00 | 865.58 | .35 | .79 | .51 | [illegible] | [illegible] |
| | 13255.000 | 745.00 | 867.01 | .43 | .71 | 1.24 | 71.[illegible] | 50.00 |
| | 13355.000 | 295.00 | 866.16 | 0.00 | .41 | 0.00 | [illegible] | [illegible] |
| | 13355.000 | 467.00 | 866.75 | .60 | .55 | .00 | [illegible] | 100.00 |
| | 13355.000 | 525.00 | 866.93 | .15 | .35 | .05 | 57.00 | 100.00 |
| | 13355.000 | 745.00 | 867.35 | .30 | .32 | 1.15 | [illegible] | [illegible] |
| | 13380.000 | 295.00 | 866.27 | 0.00 | .09 | 0.00 | [illegible] | [illegible] |
| | 13380.000 | 400.00 | 866.55 | .57 | .05 | .57 | 55.00 | 25.00 |
| | 13380.000 | 525.00 | 866.98 | .14 | .03 | .71 | 55.00 | 25.00 |
| | 13380.000 | 745.00 | 867.37 | .39 | .03 | 1.11 | 55.00 | 25.00 |
| | 13405.000 | 295.00 | 866.38 | .10 | .11 | 1.00 | 42.10 | 25.00 |
| | 13405.000 | 460.00 | 866.91 | .53 | .17 | .51 | 42.10 | 25.00 |
| | 13405.000 | 525.00 | 867.04 | .14 | .05 | .50 | 42.01 | 25.00 |
| | 13405.000 | 745.00 | 867.40 | .36 | .03 | 1.62 | 42.00 | 25.00 |
| | 13430.000 | 295.00 | 866.06 | 0.00 | [illegible] | 0.00 | [illegible] | [illegible] |
| | 13430.000 | 460.00 | 867.05 | .25 | .14 | .39 | 30.00 | 25.00 |
| | 13430.000 | 525.00 | 867.15 | .20 | .14 | .52 | 30.00 | 25.00 |
| | 13430.000 | 745.00 | 867.52 | .34 | .12 | .25 | 30.00 | 25.00 |
| | 13455.000 | 295.00 | 866.65 | 0.00 | -.11 | 0.00 | 17.00 | 25.00 |
| | 13455.000 | 460.00 | 865.50 | .25 | -.15 | .25 | 17.00 | 25.00 |
| * | 13455.000 | 525.00 | 867.15 | .23 | -.05 | .43 | 17.00 | 25.00 |
| * | 13455.000 | 745.00 | 867.97 | .34 | .45 | 1.22 | 17.00 | 25.00 |
| | 13459.000 | 295.00 | 866.44 | 0.00 | .20 | 0.00 | 15.00 | 4.00 |
| | 13459.000 | 460.00 | 867.63 | .79 | .72 | .79 | 15.00 | 4.00 |
| | 13459.000 | 525.00 | 867.93 | .32 | .82 | 1.10 | 15.00 | 4.00 |
| | 13459.000 | 745.00 | 868.85 | .91 | .08 | 2.69 | 15.00 | 4.00 |
| | 13463.000 | 295.00 | 867.06 | 0.00 | .22 | 0.00 | 15.00 | 4.00 |
| | 13463.000 | 460.00 | 867.93 | .36 | .30 | .53 | 35.10 | 4.00 |
| | 13463.000 | 525.00 | 868.25 | .33 | .21 | 1.12 | 15.00 | 4.00 |
| | 13463.000 | 745.00 | 869.19 | .92 | .03 | 2.11 | 15.00 | 4.00 |

| SECND | Q | CUSEL | DIFVSP | DIFNSX | DIFKNS | TORQID | ALCH |
|---|---|---|---|---|---|---|---|
| 13464.000 | 295.00 | 857.16 | 0.00 | -.01 | 0.00 | 10.00 | 1.00 |
| 13464.000 | 460.00 | 857.05 | .06 | -.04 | .01 | 12.00 | 1.00 |
| 13464.000 | 525.00 | 858.21 | .32 | -.05 | 1.15 | 13.00 | 1.00 |
| 13464.000 | 745.00 | 869.07 | .37 | -.10 | 2.02 | 15.00 | 1.00 |
| 13545.000 | 295.00 | 867.81 | 0.00 | .35 | 1.61 | 13.00 | 32.00 |
| 13545.000 | 460.00 | 868.52 | 1.12 | .05 | 1.12 | 13.00 | 15.00 |
| 13545.000 | 525.00 | 868.95 | .42 | .74 | 1.34 | 12.00 | 34.00 |
| 13548.000 | 745.00 | 870.21 | 1.25 | 1.14 | 2.31 | 13.00 | 26.00 |
| 13549.000 | 295.00 | 867.45 | 0.00 | .15 | 0.00 | 10.00 | 1.00 |
| 13549.000 | 461.00 | 868.56 | 1.21 | .13 | 1.21 | 13.00 | 1.00 |
| 13549.000 | 525.00 | 869.12 | .66 | .17 | 1.37 | 10.00 | 1.00 |
| 13549.000 | 745.00 | 870.71 | 1.54 | .50 | 3.26 | 12.00 | 1.00 |
| 13555.000 | 295.00 | 867.43 | 0.00 | -.02 | 0.00 | 20.00 | 6.00 |
| 13555.000 | 460.00 | 868.53 | 1.15 | .22 | 1.15 | 20.00 | 6.00 |
| 13555.000 | 525.00 | 869.63 | .55 | .31 | 2.03 | 25.01 | 3.61 |
| 13555.000 | 745.00 | 871.25 | 1.82 | .54 | 3.31 | 22.00 | 3.00 |
| 13685.000 | 295.00 | 868.35 | 0.00 | .96 | 0.00 | 182.34 | 130.00 |
| 13685.000 | 460.00 | 869.54 | 1.16 | .66 | 1.16 | 232.57 | 130.00 |
| 13685.000 | 525.00 | 870.04 | .51 | .61 | 1.37 | 272.35 | 130.00 |
| 13685.000 | 745.00 | 871.31 | 1.70 | .53 | 3.43 | 375.00 | 130.00 |
| 13815.000 | 295.00 | 869.10 | 0.00 | .89 | 1.00 | 112.43 | 130.00 |
| 13815.000 | 460.00 | 869.60 | .42 | .13 | .42 | 152.84 | 130.00 |
| 13815.000 | 525.00 | 870.09 | .49 | .05 | .91 | 190.33 | 130.00 |
| 13815.000 | 745.00 | 871.82 | 1.73 | .01 | 2.64 | 310.53 | 130.00 |
| 13945.000 | 295.00 | 869.56 | 0.00 | .03 | 0.00 | 1[illegible].40 | 130.00 |
| 13945.000 | 460.00 | 870.29 | .35 | .04 | .35 | 173.11 | 130.00 |
| 13945.000 | 525.00 | 870.39 | .20 | .30 | .54 | 155.24 | 130.00 |
| 13945.000 | 745.00 | 871.86 | 1.46 | .06 | 2.06 | 257.54 | 130.00 |
| 14075.000 | 295.00 | 870.01 | 0.00 | .75 | 0.00 | 1[illegible].05 | 130.00 |
| 14075.000 | 460.00 | 870.40 | .39 | .20 | .39 | 125.71 | 130.00 |
| 14075.000 | 525.00 | 870.51 | .11 | .03 | .50 | 1[illegible].11 | 130.00 |
| 14075.000 | 745.00 | 871.90 | 1.32 | .04 | 1.79 | 205.01 | 130.00 |
| 14205.000 | 295.00 | 871.07 | 0.00 | 1.06 | 0.00 | 95.35 | 1.00 |
| 14205.000 | 460.00 | 871.45 | .38 | 1.05 | .38 | 122.28 | 130.00 |
| 14205.000 | 525.00 | 871.56 | .11 | .03 | .64 | 12[illegible].35 | 1.00 |
| 14205.000 | 745.00 | 872.90 | .35 | .21 | 1.15 | 201.57 | 130.00 |
| 15105.000 | 295.00 | 878.77 | 0.00 | .70 | 0.00 | 7[illegible] | 940.00 |
| 15105.000 | 460.00 | 879.24 | .67 | .79 | .67 | 109.55 | 930.00 |
| 15105.000 | 525.00 | 879.40 | .15 | .9[illegible] | .82 | 20[illegible] | 900.00 |
| 15105.000 | 745.00 | 879.57 | .27 | .57 | .9[illegible] | 135.57 | 900.00 |
| 15110.000 | 295.00 | 878.73 | 0.00 | .02 | 0.00 | 73.45 | 50.00 |
| 15110.000 | 460.00 | 879.25 | .47 | .1[illegible] | .47 | 115.[illegible] | 50.00 |
| 15110.000 | 525.00 | 879.41 | .16 | .07 | [illegible] | 112.54 | 50.00 |
| 15110.000 | 745.00 | 879.83 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| SECO | Q | CHSLL | DIFHSP | DIFWSA | DIFKIS | TOPJIC | XLCH |
|---|---|---|---|---|---|---|---|
| 15115.000 | 295.00 | 873.80 | 0.00 | .02 | 0.00 | 53.45 | 5.00 |
| 15115.000 | 450.00 | 872.27 | .45 | .02 | .45 | 5[illegible].75 | 5.00 |
| 15115.000 | 525.00 | 875.62 | .15 | .02 | .02 | 109.65 | 5.00 |
| 15115.000 | 745.00 | 875.70 | .27 | .02 | .09 | 12[illegible].05 | 5.00 |
| 15120.000 | 295.00 | 875.00 | 0.00 | .03 | 0.00 | [illegible].15 | 5.00 |
| 15120.000 | 450.00 | 879.20 | .45 | .11 | .45 | [illegible] | 5.00 |
| 15120.000 | 525.00 | 879.44 | .18 | .01 | .1[illegible] | 11[illegible] | 5.00 |
| 15120.000 | 745.00 | 870.72 | .26 | .02 | .09 | 12[illegible].42 | 5.00 |
| 15125.000 | 295.00 | 873.86 | 0.00 | .03 | 0.00 | 5[illegible].14 | 5.00 |
| 15125.000 | 450.00 | 87[illegible].31 | .45 | .03 | .45 | [illegible]3.52 | 5.00 |
| 15125.000 | 525.00 | 870.46 | .15 | .03 | .00 | 5[illegible].05 | 5.00 |
| * 15125.000 | 745.00 | 87[illegible].77 | .31 | .06 | .31 | 11[illegible].02 | 5.00 |
| 15130.000 | 295.00 | 878.90 | 0.00 | .04 | 0.00 | 55.25 | 5.00 |
| 15130.000 | 450.00 | 87[illegible].34 | .45 | .03 | .53 | 85.59 | 5.00 |
| 15130.000 | 525.00 | 87[illegible].45 | .15 | .02 | .53 | 92.20 | 5.00 |
| * 15130.000 | 745.00 | 175.[illegible]9 | .50 | .11 | [illegible] | 115.[illegible] | 5.00 |
| 15135.000 | 295.00 | 873.95 | 0.00 | .05 | 0.00 | 52.13 | 5.00 |
| 15135.000 | 450.00 | 879.39 | .45 | .05 | .63 | 10.56 | 5.00 |
| * 15135.000 | 525.00 | 87[illegible].53 | .16 | .04 | .57 | 9.31 | 5.00 |
| * 15135.000 | 745.00 | 37[illegible].9[illegible] | .45 | .07 | 1.02 | 119.55 | 5.00 |
| 15139.000 | 295.00 | 875.95 | 0.00 | .04 | 0.00 | 76.75 | 4.00 |
| * 15139.000 | 450.00 | 879.43 | .64 | .05 | .46 | 75.55 | 4.00 |
| * 15139.000 | 525.00 | 879.62 | .13 | .10 | .03 | 3[illegible].9[illegible] | 4.00 |
| * 15139.000 | 745.00 | 830.18 | .45 | .16 | 1.15 | 11[illegible].1 | 4.00 |
| 15143.000 | 295.00 | 87[illegible].34 | 0.0[illegible] | .05 | 0.00 | [illegible].51 | 4.00 |
| * 15143.000 | 450.00 | 879.55 | .51 | .11 | .5[illegible] | 77.39 | [illegible] |
| * 15143.000 | 525.00 | 879.72 | .18 | .11 | .[illegible] | 39.17 | 3.00 |
| * 15143.000 | 745.00 | 830.18 | .45 | .16 | 1.15 | 11[illegible].1 | 4.00 |
| 15145.000 | 295.00 | 870.21 | 0.00 | .07 | 0.00 | [illegible].17 | 2.00 |
| 15145.000 | 450.00 | [illegible].35 | .75 | .51 | .75 | 9[illegible].77 | [illegible] |
| 15145.000 | 525.00 | [illegible].25 | .13 | .51 | .52 | [illegible].01 | 2.00 |
| 15145.000 | 745.00 | 830.65 | .41 | .45 | 1.23 | 93.01 | 2.00 |
| 15165.000 | 295.00 | 861.01 | 0.00 | 1.70 | 0.00 | 21.57 | 20.00 |
| 15165.000 | 450.00 | 893.53 | 2.52 | 5.47 | 2.52 | 153.03 | 20.00 |
| 15165.000 | 525.00 | 8[illegible].[illegible] | .16 | [illegible] | 2.63 | 15[illegible].[illegible] | 20.00 |
| 15165.000 | 745.00 | 864.01 | .32 | 3.38 | 3.00 | 23[illegible].02 | 20.00 |
| 15166.000 | 295.00 | 301.02 | 0.00 | .01 | 0.00 | 21.5[illegible] | 1.00 |
| 15166.000 | 450.00 | 383.52 | 2.49 | -.01 | 2.25 | 142.74 | 1.00 |
| 15166.000 | 525.00 | [illegible] | .1[illegible] | -.02 | 2.05 | 15[illegible] | 1.00 |
| 15166.000 | 745.00 | [illegible].47 | .21 | -.07 | 2.05 | 21[illegible].06 | 1.00 |
| 15185.000 | 295.00 | 301.51 | 1.00 | .50 | 0.00 | 155.53 | 19.00 |
| 15185.000 | 450.00 | 883.72 | 2.21 | .28 | 2.21 | 153.00 | 19.00 |
| 15185.000 | 525.00 | 883.90 | .13 | .23 | 2.05 | 15[illegible].00 | 19.00 |
| 15185.000 | 745.00 | 884.30 | .41 | .3[illegible] | 2.75 | 15[illegible].00 | 19.00 |

| | SECND | G | CASEL | DIFNSP | DIFUSX | DIFRUS | TIPNID | XLCK |
|---|---|---|---|---|---|---|---|---|
| | 15205.000 | 295.00 | 881.53 | 0.00 | .04 | 0.00 | 151.[illegible] | 27.00 |
| | 15205.000 | 460.00 | 850.72 | 2.20 | .05 | 2.21 | [illegible] | 27.00 |
| | 15205.000 | 525.00 | 853.90 | .18 | .00 | 2.33 | 223.[illegible] | 27.00 |
| | 15205.000 | 745.00 | 384.51 | .41 | .00 | 2.79 | 233.00 | 27.00 |
| | 15313.000 | 295.00 | 377.58 | 0.00 | .02 | 0.00 | 7[illegible].57 | [illegible] |
| | 15313.000 | 460.00 | 880.76 | 2.15 | .12 | 2.17 | 20[illegible].75 | 10[illegible].00 |
| | 15313.000 | 525.00 | 882.92 | .13 | .12 | 2.36 | 221.15 | [illegible] |
| | 15313.000 | 745.00 | 946.36 | .62 | .13 | 2.76 | 259.01 | [illegible] |
| * | 15420.000 | 295.00 | 333.08 | 0.00 | 1.50 | 0.00 | 77.17 | 137.03 |
| | 15420.000 | 460.00 | 435.77 | .55 | .04 | .59 | 1[illegible].81 | 117.[illegible] |
| | 15420.000 | 525.00 | 435.57 | .20 | .05 | .57 | 12[illegible] | 117.[illegible] |
| | 15420.000 | 745.00 | 354.42 | .45 | .03 | 1.34 | 153.07 | 117.[illegible] |
| | 15447.000 | 295.00 | 303.63 | 0.00 | .55 | 0.00 | 55.63 | 27.00 |
| | 15447.000 | 460.00 | 374.01 | .33 | .24 | .35 | 114.77 | 27.00 |
| | 15447.000 | 525.00 | 355.18 | .17 | .21 | .31 | 120.55 | 27.00 |
| | 15447.000 | 745.00 | 383.41 | .44 | .20 | .35 | 155.[illegible] | 27.00 |
| | 15474.000 | 295.00 | 385.94 | 0.00 | .26 | 0.00 | 35.33 | 27.00 |
| | 15474.000 | 460.00 | 834.32 | .38 | .31 | .31 | 91.31 | 27.00 |
| | 15474.000 | 525.00 | 536.47 | .15 | .29 | .35 | 12[illegible].73 | 27.00 |
| | 15474.000 | 745.00 | 394.30 | .31 | .25 | .35 | 152.71 | 27.00 |
| | 15501.000 | 295.00 | 384.33 | .00 | .[illegible] | 1.01 | 33.75 | 27.00 |
| | 15501.000 | 460.00 | 834.71 | .40 | .25 | .40 | 117.87 | 27.00 |
| | 15501.000 | 525.00 | 834.34 | .15 | .37 | .52 | 125.94 | 27.00 |
| | 15501.000 | 745.00 | 185.23 | .34 | .35 | .51 | 154.65 | 27.00 |
| | 15508.000 | 295.00 | 324.53 | 0.00 | .11 | 0.00 | 111.[illegible] | 7.00 |
| | 15508.000 | 460.00 | 185.[illegible] | .33 | .27 | .[illegible] | 142.[illegible] | 7.00 |
| | 15508.000 | 525.00 | 185.24 | .13 | .61 | .01 | 155.02 | 7.00 |
| | 15508.000 | 745.00 | 385.61 | .37 | .56 | .[illegible] | 229.53 | 7.00 |
| | 15515.000 | 295.00 | 34.57 | .[illegible] | .14 | 0.01 | [illegible].53 | 7.00 |
| | 15515.000 | 460.00 | 385.12 | .33 | .12 | .15 | 1[illegible] | 7.00 |
| | 15515.000 | 525.00 | 815.21 | .15 | .34 | .31 | 150.5[illegible] | 7.00 |
| | 15515.000 | 745.00 | 325.55 | .37 | .04 | .37 | 2[illegible].03 | 7.00 |
| | 15521.000 | 295.00 | 384.71 | 0.00 | .04 | 0.00 | 1[illegible] | 0.00 |
| | 15521.000 | 460.00 | 835.16 | .42 | .02 | .34 | 155.06 | 6.00 |
| | 15521.000 | 525.00 | 815.31 | .1[illegible] | .03 | .[illegible] | 135.[illegible] | 0.00 |
| | 15521.000 | 745.00 | 385.58 | .37 | .07 | .37 | 39.15 | 0.00 |
| * | 15528.000 | 295.00 | 136.76 | 0.00 | .04 | 0.00 | [illegible].70 | 7.00 |
| | 15528.000 | 460.00 | 235.18 | .42 | .02 | .32 | 12[illegible].59 | 7.00 |
| | 15528.000 | 525.00 | [illegible].55 | .15 | .12 | .3[illegible] | [illegible] | 7.00 |
| | 15528.000 | 745.00 | 5[illegible].70 | [illegible] | .12 | .[illegible] | [illegible].70 | 7.00 |
| | 15555.000 | 295.00 | 285.32 | 0.00 | .55 | .00 | 1[illegible] | 27.00 |
| | 15555.000 | 460.00 | 835.70 | [illegible] | .32 | .[illegible] | 1[illegible].37 | 27.00 |
| | 15555.000 | 525.00 | 8[illegible] | .10 | .[illegible] | .[illegible] | 1[illegible] | 27.00 |
| | 15555.000 | 745.00 | [illegible] | .03 | .[illegible] | .[illegible] | 2[illegible].37 | 7.00 |

| SECND | D | CUSIL | DIFCOF | DIFHSX | DIFKBS | TOPNIT | BLCH |
|---|---|---|---|---|---|---|---|
| 15575.000 | 295.00 | 885.49 | 0.00 | .17 | 0.00 | 140.87 | 20.00 |
| 15575.000 | 460.00 | 885.19 | .32 | .13 | .00 | 142.15 | 20.00 |
| 15575.000 | 525.00 | 886.00 | .12 | .20 | .57 | 178.40 | 20.00 |
| 15575.000 | 745.00 | 886.40 | .39 | .13 | .00 | 259.57 | 20.00 |
| 15590.000 | 295.00 | 183.64 | 1.00 | .15 | 0.00 | 165.00 | 15.00 |
| 15590.000 | 460.00 | 906.03 | .29 | .15 | .25 | 137.57 | 15.00 |
| 15590.000 | 525.00 | 906.16 | .12 | .15 | .01 | 150.01 | 15.00 |
| * 15590.000 | 735.00 | 906.53 | .39 | .17 | .09 | 268.21 | 15.00 |
| 15635.000 | 295.00 | 886.36 | 0.00 | .72 | 0.00 | 119.35 | 65.00 |
| * 15635.000 | 460.00 | 886.79 | .42 | .75 | .43 | 202.57 | 65.00 |
| 15635.000 | 525.00 | 886.[illegible] | .13 | .72 | .51 | 222.58 | 65.00 |
| 15635.000 | 745.00 | 887.20 | .52 | .51 | .45 | 277.73 | 65.00 |
| 16275.000 | 295.00 | 853.13 | 0.00 | 6.77 | 0.00 | 90.19 | 540.00 |
| 16275.000 | 460.00 | 893.46 | .33 | 6.07 | .00 | 136.24 | 540.00 |
| 16275.000 | 525.00 | 893.64 | .15 | 6.72 | .02 | 151.77 | 541.07 |
| 16275.000 | 745.00 | 893.90 | .29 | 6.70 | .77 | 1[illegible].43 | 540.07 |
| 16290.000 | 295.00 | 393.25 | 1.00 | .12 | 0.00 | 5[illegible].57 | 15.00 |
| 16290.000 | 460.00 | 393.62 | .37 | .16 | .37 | 131.15 | 15.00 |
| 16290.000 | 525.00 | 393.77 | .15 | .16 | .52 | 157.52 | 15.00 |
| 16290.000 | 745.00 | 394.12 | .35 | .22 | .37 | 205.[illegible] | 15.00 |
| 16305.000 | 295.00 | 395.35 | .00 | .03 | 0.00 | [illegible] | 15.00 |
| 16305.000 | 460.00 | 893.71 | .37 | .03 | .37 | 120.51 | 15.00 |
| 16305.000 | 525.00 | 893.86 | .14 | .08 | .51 | 1[illegible].55 | 15.00 |
| 16305.000 | 745.00 | 894.19 | .35 | .07 | .36 | 135.13 | 15.00 |
| 16365.000 | 295.00 | 893.75 | 0.00 | .49 | 0.00 | [illegible].51 | 61.00 |
| 16365.000 | 460.00 | 894.16 | .41 | .51 | .41 | 132.[illegible] | 61.00 |
| 16365.000 | 525.00 | 894.29 | .13 | .55 | .55 | 116.95 | 61.00 |
| 16365.000 | 745.00 | 894.65 | .35 | .56 | .59 | 162.39 | 61.00 |
| 16375.000 | 295.00 | 894.58 | 0.00 | .71 | 0.00 | [illegible] | [illegible] |
| 16375.000 | 460.00 | 9[illegible].93 | .35 | .76 | .55 | 100.57 | [illegible] |
| 16375.000 | 525.00 | 895.06 | .14 | .77 | .39 | 17[illegible].79 | [illegible] |
| 16375.000 | 745.00 | 895.46 | .40 | .81 | 1.05 | 190.20 | [illegible] |
| 16545.000 | 295.00 | 896.93 | 0.00 | 2.55 | 0.00 | 127.26 | 170.00 |
| 16545.000 | 460.00 | 897.16 | .22 | 2.72 | .22 | 154.97 | 170.00 |
| 16545.000 | 525.00 | 897.20 | .05 | 2.12 | .27 | 150.15 | 170.00 |
| 16545.000 | 745.00 | 897.36 | .15 | [illegible] | .55 | 1[illegible].15 | 170.00 |
| 16625.000 | 295.00 | 897.91 | 0.00 | .59 | 0.00 | 150.13 | 80.00 |
| 16625.000 | 460.00 | 898.17 | .25 | 1.03 | .25 | 167.57 | 80.00 |
| 16625.000 | 525.00 | 898.31 | .14 | 1.11 | .39 | 172.23 | 80.00 |
| 16625.000 | 745.00 | 898.71 | .41 | 1.[illegible] | .80 | 1[illegible].97 | 80.00 |
| 16635.000 | 295.00 | 897.91 | 0.00 | .09 | 0.00 | 135.71 | 11.00 |
| 16636.000 | 460.00 | 898.25 | .35 | .08 | .35 | 150.32 | 11.00 |
| 16635.000 | 525.00 | 898.39 | .14 | .08 | .48 | 162.95 | 11.00 |
| 16635.000 | 745.00 | 898.78 | .39 | .17 | .37 | 170.55 | 11.00 |

| SECRO | Q | CLSEL | DIFUSP | DIFUSX | DIFKUS | TOFUID | XLCH |
|---|---|---|---|---|---|---|---|
| 16642.000 | 295.00 | 898.06 | 0.00 | .15 | 0.00 | 142.47 | 12.00 |
| 16642.000 | 460.00 | 894.05 | .33 | .13 | .32 | 144.21 | 12.00 |
| 16642.000 | 525.00 | 898.51 | .13 | .12 | .45 | 151.14 | 12.00 |
| 16642.000 | 745.00 | 898.88 | .37 | .11 | .33 | 173.36 | 12.00 |
| 16659.000 | 295.00 | 895.14 | 0.00 | .26 | 0.00 | 135.23 | 11.00 |
| 16659.000 | 460.00 | 898.47 | .33 | .03 | .33 | 145.53 | 11.00 |
| 16659.000 | 525.00 | 898.59 | .12 | .00 | .45 | 149.54 | 11.00 |
| 16659.000 | 745.00 | 898.95 | .36 | .07 | .31 | 155.59 | 11.00 |
| 16670.000 | 295.00 | 896.37 | 0.00 | .23 | 0.00 | 138.50 | 11.00 |
| 16670.000 | 460.00 | 893.83 | .25 | .15 | .25 | 143.22 | 11.00 |
| 16670.000 | 525.00 | 898.74 | .11 | .15 | .27 | 144.11 | 11.00 |
| 16670.000 | 745.00 | 899.08 | .34 | .13 | .31 | 150.24 | 11.00 |
| 16674.000 | 295.00 | 898.39 | 0.00 | .02 | 0.00 | 133.14 | 9.00 |
| 16674.000 | 460.00 | 898.65 | .26 | .13 | .26 | 141.98 | 9.00 |
| 16674.000 | 525.00 | 898.76 | .11 | .14 | .37 | 145.37 | 9.00 |
| 16674.000 | 745.00 | 899.10 | .33 | .32 | .72 | 155.75 | 9.00 |
| 16678.000 | 295.00 | 898.82 | 0.00 | .03 | 0.00 | 130.70 | 8.00 |
| 16678.000 | 460.00 | 898.69 | .23 | .06 | .20 | 140.43 | 8.00 |
| 16678.000 | 525.00 | 898.80 | .11 | .06 | .34 | 143.31 | 8.00 |
| 16678.000 | 745.00 | 899.14 | .36 | .14 | .75 | 153.11 | 8.00 |
| 16680.000 | 295.00 | 893.58 | 0.00 | .17 | 0.00 | 133.37 | 2.00 |
| 16680.000 | 460.00 | 898.98 | .29 | .13 | .29 | 143.87 | 2.00 |
| 16680.000 | 525.00 | 898.98 | .10 | .17 | .29 | 143.75 | 2.00 |
| 16680.000 | 745.00 | 899.26 | .26 | .12 | .63 | 157.50 | 2.00 |
| 16681.000 | 295.00 | 899.54 | .00 | -.04 | 0.00 | 132.41 | 1.00 |
| 16681.000 | 460.00 | 899.63 | .09 | -.04 | .23 | 141.45 | 1.00 |
| 16681.000 | 525.00 | 899.93 | .10 | -.05 | .35 | 145.35 | 1.00 |
| 16681.000 | 745.00 | 899.21 | .23 | -.05 | .17 | 152.22 | 1.00 |
| 16687.000 | 295.00 | 898.72 | .00 | .01 | 0.00 | 132.05 | 0.00 |
| 16687.000 | 460.00 | 899.04 | .32 | .21 | .32 | 142.36 | 0.00 |
| 16687.000 | 525.00 | 899.14 | .11 | .21 | .42 | 145.32 | 0.00 |
| 16687.000 | 745.00 | 899.44 | .30 | .22 | .72 | 155.62 | 0.00 |
| 16760.000 | 295.00 | 899.34 | 0.00 | .02 | 0.00 | 140.46 | 73.00 |
| 16760.000 | 460.00 | 899.71 | .37 | .17 | .33 | 152.25 | 73.00 |
| 16760.000 | 525.00 | 899.83 | .12 | .19 | .42 | 155.13 | 73.00 |
| 16760.000 | 745.00 | 900.15 | .33 | .15 | .15 | 163.18 | 73.00 |
| 16805.000 | 295.00 | 899.80 | 0.00 | .20 | 0.00 | 131.83 | 45.00 |
| 16805.000 | 460.00 | 900.22 | .42 | .31 | .42 | 142.69 | 45.00 |
| 16805.000 | 525.00 | 900.35 | .13 | .32 | .55 | 146.70 | 45.00 |
| 16805.000 | 745.00 | 900.[illegible] | .[illegible] | .5 | .92 | 155.10 | 45.00 |
| 16845.000 | 295.00 | 900.55 | 0.00 | .15 | 0.00 | 273.73 | 160.00 |
| 16845.000 | 460.00 | 901.11 | .53 | .15 | .5 | 281.42 | 160.00 |
| 16845.000 | 525.00 | 901.30 | .19 | .2 | .19 | 279.23 | 40.00 |
| 16845.000 | 745.00 | 901.[illegible] | .53 | .12 | 1.22 | [illegible] | [illegible] |

| SECND | Q | CUSEL | DIFIST | DIFLSY | DIFLIS | TOSJIT | ALCH |
|---|---|---|---|---|---|---|---|
| 17095.000 | 295.00 | 900.74 | 1.00 | .55 | 0.00 | 205.74 | 140.00 |
| 17095.000 | 460.00 | 901.28 | .54 | .17 | .56 | 2[illegible].[illegible]4 | 140.00 |
| 17095.000 | 525.00 | 901.46 | .15 | .16 | .72 | 254.57 | 140.00 |
| 17095.000 | 745.00 | 901.98 | .52 | .15 | 1.24 | 27[illegible].51 | 140.00 |
| 17275.000 | 295.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17275.000 | 460.00 | [illegible] | [illegible] | .45 | [illegible] | 21[illegible] | [illegible] |
| 17275.000 | 525.00 | 901.83 | .13 | .22 | [illegible] | 22[illegible] | [illegible] |
| 17275.000 | 745.00 | 902.34 | .45 | .25 | [illegible] | 243.02 | 141.00 |
| 17365.000 | 295.00 | 901.30 | 0.00 | .56 | 0.00 | 242.14 | 140.00 |
| 17365.000 | 460.00 | 902.20 | .37 | .54 | .57 | 252.12 | 140.00 |
| 17365.000 | 525.00 | 902.41 | .15 | .52 | .50 | 2[illegible].16 | 141.00 |
| 17365.000 | 745.00 | 902.61 | .41 | .47 | .51 | 2[illegible].15 | [illegible] |
| 17505.000 | 295.00 | 903.30 | 1.00 | .40 | 1.10 | 224.37 | 140.00 |
| 17505.000 | 460.00 | 902.87 | .37 | .40 | .27 | 24[illegible].[illegible] | 140.00 |
| 17505.000 | 525.00 | 902.51 | .15 | [illegible] | .50 | 2[illegible].72 | 140.00 |
| 17505.000 | 745.00 | 903.1[illegible] | [illegible] | .29 | [illegible] | 254.54 | 140.00 |
| 17650.000 | 295.00 | 905.63 | 1.00 | 2.53 | 1.00 | 215.72 | 345.00 |
| 17650.000 | 460.00 | 904.93 | .25 | 2.24 | .25 | 224.53 | 345.00 |
| 17650.000 | 525.00 | 905.02 | .09 | 2.27 | [illegible] | 230.74 | 345.00 |
| 17650.000 | 745.00 | 905.29 | .27 | 2.10 | [illegible] | 239.70 | 345.00 |
| 18395.000 | 295.00 | 909.47 | 1.00 | 4.55 | 0.00 | [illegible].63 | 545.00 |
| 18395.000 | 460.00 | 909.[illegible] | .37 | 4.01 | [illegible] | 184.[illegible] | 545.00 |
| 18395.000 | 525.00 | 909.97 | .12 | 4.95 | .50 | [illegible].65 | 545.00 |
| 18395.000 | 745.00 | 910.32 | .35 | 5.03 | .05 | 216.52 | 545.00 |
| 18545.000 | 295.00 | 1[illegible].52 | 1.00 | [illegible] | 1.00 | 12[illegible].57 | 150.00 |
| 18545.000 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18545.000 | 525.00 | 911.02 | .12 | 1.05 | .50 | 152.95 | 150.00 |
| 18545.000 | 745.00 | 911.39 | .32 | 1.07 | .37 | 172.38 | 150.00 |
| 18695.000 | 295.00 | 912.01 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18695.000 | 460.00 | 912.30 | [illegible] | [illegible] | .25 | 208.41 | 150.00 |
| 18695.000 | 525.00 | 912.52 | .12 | [illegible] | .51 | [illegible] | 150.00 |
| 18695.000 | 745.00 | 912.87 | .35 | 1.48 | .05 | 1[illegible].03 | 150.00 |
| 18845.000 | 295.00 | 913.14 | 0.00 | 1.12 | 0.00 | 68.10 | 150.00 |
| 18845.000 | 460.00 | 913.01 | .37 | 1.22 | [illegible] | 111.54 | 150.00 |
| 18845.000 | 525.00 | 913.79 | .15 | 1.25 | .02 | 11[illegible].39 | 150.00 |
| 18845.000 | 745.00 | 914.19 | .40 | 1.32 | [illegible] | 132.77 | 150.00 |
| 18995.000 | 295.00 | 915.35 | 0.00 | 2.22 | 0.00 | 119.58 | 500.00 |
| 18995.000 | 460.00 | 915.55 | .59 | 2.34 | .59 | 165.19 | [illegible] |
| 18995.000 | 525.00 | [illegible] | .12 | 2.71 | .70 | 150.30 | 500.00 |
| 18995.000 | 745.00 | [illegible] | .34 | 2.47 | [illegible] | 172.30 | 500.00 |
| 19110.000 | 295.00 | 915.51 | 0.00 | .15 | 0.00 | 37.55 | 115.00 |
| 19110.000 | 460.00 | 915.12 | .01 | .17 | .01 | 114.[illegible] | 115.00 |
| 19110.000 | 525.00 | 915.32 | .23 | .19 | .01 | 124.11 | 115.00 |
| 19110.000 | 745.00 | 915.57 | .55 | .19 | 1.38 | 14[illegible] | 115.00 |

| SEC | D | CMSEL | DIFMSP | DIFMSS | DIFKIS | TOPJID | BLCH |
|---|---|---|---|---|---|---|---|
| 19139.000 | 295.00 | 915.85 | 0.00 | .14 | 0.00 | 70.02 | 29.00 |
| 19139.000 | 460.00 | 915.23 | .50 | .11 | .58 | 104.21 | 29.00 |
| 19139.000 | 525.00 | 915.42 | .19 | .10 | .77 | 114.51 | 29.00 |
| 19139.000 | 745.00 | 915.96 | .56 | .10 | 1.32 | 140.19 | 29.00 |
| 19158.000 | 295.00 | 915.51 | 1.00 | .27 | 0.00 | 80.05 | 29.00 |
| 19158.000 | 460.00 | 915.44 | .52 | .21 | .52 | 102.12 | 29.00 |
| 19158.000 | 525.00 | 915.61 | .13 | .15 | .76 | 112.51 | 29.00 |
| 19158.000 | 745.00 | 917.12 | .51 | .16 | 1.21 | 133.85 | 29.00 |
| 19196.000 | 295.00 | 916.36 | 0.00 | .44 | 0.00 | 92.26 | 29.00 |
| 19196.000 | 460.00 | 916.71 | .43 | .34 | .43 | 112.[illegible] | 29.00 |
| 19196.000 | 525.00 | 916.92 | .14 | .31 | .57 | 122.[illegible] | 29.00 |
| 19196.000 | 745.00 | 917.37 | .45 | .25 | 1.01 | 142.75 | 29.00 |
| 19225.000 | 295.00 | 915.52 | 0.00 | .16 | 0.00 | [illegible] | 29.00 |
| 19225.000 | 460.00 | 915.95 | .43 | .17 | .43 | 100.55 | 29.00 |
| 19225.000 | 525.00 | 917.10 | .15 | .17 | .58 | 115.[illegible] | 29.00 |
| 19225.000 | 745.00 | 917.54 | .44 | .17 | 1.02 | [illegible] | 29.00 |
| * 19340.000 | 295.00 | 917.59 | 0.00 | 1.08 | 0.00 | 701.[illegible] | 115.00 |
| 19340.000 | 460.00 | 917.38 | .29 | .93 | .29 | 120.13 | 115.00 |
| 19340.000 | 525.00 | 916.00 | .12 | .91 | .41 | 12[illegible].04 | 115.00 |
| 19340.000 | 745.00 | 918.35 | .35 | .32 | .77 | 152.45 | 115.00 |
| 19455.000 | 295.00 | 918.61 | 0.00 | 1.02 | 0.00 | 120.51 | 115.00 |
| 19455.000 | 460.00 | 919.02 | .41 | 1.13 | .41 | 1[illegible].73 | 115.00 |
| 19455.000 | 525.00 | 919.13 | .10 | 1.15 | .52 | 176.[illegible] | 115.00 |
| 19455.000 | 745.00 | 919.43 | .30 | 1.07 | .82 | 1[illegible].32 | 115.00 |
| * 19477.000 | [illegible].00 | 918.86 | 0.00 | .25 | 0.00 | 1140.[illegible] | 22.00 |
| 19477.000 | 460.00 | 15.17 | .[illegible]1 | .15 | .31 | 1[illegible].55 | 22.00 |
| 19477.000 | 525.00 | 919.27 | .11 | .15 | .41 | 1[illegible].90 | 22.00 |
| 19477.000 | 745.00 | 919.59 | .31 | .16 | .72 | 176.97 | 22.00 |
| 19499.000 | 295.00 | 915.27 | 0.00 | .21 | 0.00 | [illegible] | 22.00 |
| 19499.000 | [illegible] | 919.57 | .30 | .31 | .30 | [illegible].75 | 22.00 |
| 19499.000 | 525.00 | 919.65 | .[illegible] | .35 | .35 | [illegible].43 | 22.00 |
| 19499.000 | 745.00 | 919.90 | .25 | .31 | .63 | 154.07 | 22.00 |
| 19521.000 | 295.00 | 919.38 | 0.00 | .12 | 0.00 | 104.45 | 22.00 |
| 19521.000 | 460.00 | 919.74 | .36 | .15 | .36 | 121.[illegible] | 22.00 |
| 19521.000 | 525.00 | 919.81 | .10 | .15 | .46 | 127.78 | 22.00 |
| 19521.000 | 745.00 | 921.10 | .29 | .21 | .72 | 141.53 | 22.00 |
| 19543.000 | 295.00 | 919.55 | 0.00 | .17 | 0.00 | 91.37 | 22.00 |
| 19543.000 | 460.00 | 919.91 | .35 | .20 | .35 | 110.54 | 22.00 |
| 19543.000 | 525.00 | 921.02 | .11 | .21 | .47 | 117.61 | 22.00 |
| 19543.000 | 745.00 | 921.34 | .32 | .25 | .79 | 133.23 | 22.00 |
| 19585.000 | 295.00 | 20.13 | 0.00 | .53 | .00 | [illegible] | 45.00 |
| 19586.000 | 460.00 | 20.52 | .35 | .61 | .35 | 112.[illegible] | 45.00 |
| 19586.000 | 525.00 | 920.64 | .12 | .72 | .47 | 118.7[illegible] | 45.00 |
| 19586.000 | 745.00 | 921.00 | .25 | .87 | .72 | [illegible] | 45.00 |

| | SECND | Q | CNSFL | DIFESF | DIFUSN | DIFKNS | TCPHIT | XLPD |
|---|---|---|---|---|---|---|---|---|
| | 19630.000 | 255.00 | 920.50 | 0.00 | .27 | 0.00 | 29.27 | 0.00 |
| | 19630.000 | 460.00 | 920.81 | .41 | .29 | .41 | 95.05 | 44.00 |
| | 19630.000 | 525.00 | 920.95 | .15 | .31 | .56 | 117.75 | 44.00 |
| | 19630.000 | 745.00 | 921.33 | .38 | .33 | [illegible] | 117.12 | 44.00 |
| | 19805.000 | 295.00 | 922.12 | 0.00 | 1.71 | 0.00 | 58.12 | 175.00 |
| | 19805.000 | 460.00 | 922.59 | .47 | 1.73 | .47 | 82.55 | 175.00 |
| | 19805.000 | 525.00 | 922.74 | .15 | 1.70 | .32 | 92.58 | 175.00 |
| | 19805.000 | 745.00 | 923.18 | .44 | 1.55 | 1.00 | 101.[illegible] | 175.00 |
| | 19980.000 | 295.00 | 923.59 | 0.00 | 1.57 | 0.00 | 57.42 | 175.00 |
| | 19980.000 | 460.00 | 924.15 | .49 | 1.59 | .59 | [illegible] | 175.00 |
| | 19980.000 | 525.00 | 924.34 | .15 | 1.50 | .25 | 85.51 | 175.00 |
| | 19980.000 | 745.00 | 924.82 | .43 | 1.24 | 1.43 | 45.97 | 175.00 |
| | 20030.000 | 295.00 | 924.07 | 0.00 | .30 | 0.00 | 06.42 | 50.00 |
| | 20030.000 | 460.00 | 924.57 | .50 | .30 | .50 | 10.79 | 50.00 |
| | 20030.000 | 525.00 | 924.74 | .15 | .40 | .37 | 55.52 | 50.00 |
| | 20030.000 | 745.00 | 925.22 | .44 | .40 | 1.15 | [illegible] | 51.00 |
| | 20080.000 | 295.00 | 924.47 | 0.00 | .60 | 0.00 | 52.71 | 50.00 |
| | 20080.000 | 460.00 | 924.96 | .49 | .59 | .49 | 5[illegible].21 | 50.00 |
| | 20080.000 | 525.00 | 925.12 | .15 | .53 | .65 | 59.00 | 51.00 |
| | 20080.000 | 745.00 | 925.57 | .45 | .56 | 1.10 | 55.10 | 50.00 |
| | 20130.000 | 295.00 | 924.94 | 0.00 | .47 | 1.00 | [illegible] | 50.00 |
| | 20130.000 | 460.00 | 925.63 | .43 | .56 | .60 | 35.00 | 50.00 |
| | 20130.000 | 525.00 | 925.54 | .15 | .66 | .54 | 34.00 | 50.00 |
| | 20130.000 | 745.00 | 926.03 | .45 | .46 | 1.05 | 35.00 | 50.00 |
| | 20140.000 | 295.00 | 924.95 | 0.00 | .05 | 0.00 | [illegible] | 10.00 |
| | 20140.000 | 460.00 | 925.43 | .40 | .05 | .45 | [illegible].00 | 10.00 |
| | 20140.000 | 525.00 | 925.59 | .14 | .01 | .60 | 29.00 | 10.00 |
| * | 20140.000 | 745.00 | 926.20 | .61 | .17 | 1.21 | 29.00 | 10.00 |
| | 20150.000 | 295.00 | 925.05 | .00 | [illegible] | 0.00 | 28.10 | 10.00 |
| * | 20150.000 | 460.00 | 925.34 | .52 | .12 | .52 | 28.10 | 10.00 |
| * | 20150.000 | 525.00 | 925.80 | .24 | .21 | .73 | 26.00 | 10.00 |
| * | 20150.000 | 745.00 | 926.51 | .71 | .31 | 1.46 | 24.00 | 10.00 |
| | 20155.000 | 295.00 | 925.13 | 0.00 | .08 | 0.00 | 21.00 | 5.00 |
| | 20155.000 | 460.00 | 925.62 | .51 | .05 | .51 | 21.00 | 5.00 |
| * | 20155.000 | 525.00 | 925.86 | .23 | .06 | .74 | 21.00 | 5.00 |
| * | 20155.000 | 745.00 | 926.63 | .77 | .12 | 1.50 | 21.10 | 5.00 |
| | 20173.000 | 295.00 | 925.31 | 0.00 | .17 | 0.00 | 12.50 | 10.00 |
| | 20173.000 | 460.00 | 925.51 | .50 | .19 | .50 | 12.50 | 10.00 |
| * | 20173.000 | 525.00 | 926.07 | .26 | .21 | .76 | 12.50 | 10.00 |
| * | 20173.000 | 745.00 | 927.07 | 1.00 | .46 | 1.75 | 12.51 | 10.00 |
| | 20293.000 | 295.00 | 926.04 | 0.00 | 1.50 | 0.00 | 12.50 | 120.00 |
| | 20293.000 | 460.00 | 928.16 | 1.54 | 2.37 | 1.54 | 12.50 | 120.00 |
| | 20293.000 | 525.00 | 929.70 | .52 | 2.54 | 2.06 | 12.50 | 120.00 |
| | 20293.000 | 745.00 | 930.52 | 1.32 | 3.45 | 3.03 | 12.50 | 120.00 |

| | SECND | Q | CASEL | DIFNSP | DIFNSX | DIFNLS | TORQUE | ALCF |
|---|---|---|---|---|---|---|---|---|
| | 20296.000 | 295.00 | 925.33 | 1.00 | .04 | 1.07 | 12.53 | 1.00 |
| | 20296.000 | 460.00 | 926.36 | 1.50 | .13 | 1.24 | 12.51 | 1.00 |
| | 20296.000 | 525.00 | 928.94 | .30 | .24 | 2.20 | 12.51 | 1.00 |
| | 20296.000 | 745.00 | 930.53 | 1.59 | .61 | 3.55 | 12.50 | 1.00 |
| | 20309.000 | 295.00 | 927.12 | 0.00 | .44 | 0.00 | 42.00 | 15.00 |
| | 20309.000 | 460.00 | 923.94 | 1.21 | .57 | 1.21 | 44.00 | 15.00 |
| | 20309.000 | 525.00 | 929.57 | .53 | .62 | 2.44 | 43.00 | 15.00 |
| | 20309.000 | 745.00 | 931.35 | 1.79 | .82 | 4.23 | 43.00 | 15.00 |
| | 20523.000 | 295.00 | 927.63 | 1.00 | .31 | 0.00 | 51.02 | 214.00 |
| | 20523.000 | 460.00 | 929.20 | 1.73 | .26 | 1.73 | 211.16 | 214.00 |
| | 20523.000 | 525.00 | 929.82 | .34 | .27 | 2.45 | 234.10 | 214.00 |
| | 20523.000 | 745.00 | 931.65 | 1.82 | .30 | 4.22 | 292.91 | 214.00 |
| | 20790.000 | 295.00 | 928.50 | 0.00 | 1.15 | 0.00 | 65.60 | 207.00 |
| | 20790.000 | 460.00 | 929.39 | .81 | .20 | .81 | 78.35 | 207.00 |
| | 20790.000 | 525.00 | 930.94 | .55 | .11 | 1.33 | 105.30 | 207.00 |
| | 20790.000 | 745.00 | 931.70 | 1.75 | .05 | 3.12 | 203.17 | 207.00 |
| | 21058.000 | 295.00 | 930.56 | 0.00 | 2.06 | 0.00 | 31.15 | 258.00 |
| | 21058.000 | 460.00 | 931.20 | .56 | 1.81 | .56 | 53.17 | 258.00 |
| | 21058.000 | 525.00 | 931.33 | .12 | 1.21 | .59 | 59.44 | 258.00 |
| | 21058.000 | 745.00 | 932.03 | .72 | .79 | 2.32 | 95.91 | 258.00 |
| | 21191.000 | 295.00 | 931.00 | 1.00 | .79 | 1.00 | 28.90 | 1.5.00 |
| | 21191.000 | 460.00 | 932.05 | .97 | .05 | .79 | 51.04 | 135.00 |
| | 21191.000 | 525.00 | 932.36 | .27 | 1.01 | 1.01 | 70.42 | 135.00 |
| | 21191.000 | 745.00 | 933.03 | .30 | .53 | 1.33 | 112.00 | 135.00 |
| | 21325.000 | 230.00 | 932.15 | 1.00 | .14 | 1.01 | 1.05 | 135.00 |
| | 21325.000 | 350.00 | 932.64 | .30 | .55 | .33 | 13.42 | 135.00 |
| | 21325.000 | 395.00 | 933.33 | .26 | .57 | 1.14 | 31.10 | 135.00 |
| | 21325.000 | 560.00 | 934.30 | .37 | .58 | 1.54 | 33.70 | 135.00 |
| | 21335.000 | 230.00 | 932.15 | 1.00 | -.02 | 1.00 | 22.41 | 11.00 |
| | 21335.000 | 350.00 | 933.01 | .35 | -.04 | .35 | 23.26 | 11.00 |
| | 21335.000 | 395.00 | 933.28 | .26 | -.04 | 1.11 | 32.15 | 11.00 |
| | 21335.000 | 560.00 | 933.54 | .26 | -.05 | 1.13 | 33.07 | 10.00 |
| | 21345.000 | 230.00 | 932.10 | 0.00 | -.05 | 1.00 | 1.54 | 10.00 |
| | 21345.000 | 350.00 | 932.55 | .44 | -.05 | .45 | 26.31 | 10.00 |
| | 21345.000 | 395.00 | 933.22 | .28 | -.07 | 1.12 | 25.17 | 10.00 |
| | 21345.000 | 560.00 | 933.85 | .25 | -.07 | 1.75 | 23.25 | 10.00 |
| * | 21355.000 | 230.00 | 932.25 | 1.00 | .15 | 1.00 | 16.32 | 10.00 |
| | 21355.000 | 350.00 | 932.89 | .54 | -.05 | .55 | 16.80 | 10.00 |
| | 21355.000 | 395.00 | 933.16 | .27 | -.07 | .54 | 19.31 | 10.00 |
| * | 21355.000 | 560.00 | 933.76 | .30 | -.07 | 1.53 | 20.32 | 10.00 |
| * | 21365.000 | 230.00 | 932.70 | .00 | .51 | 1.00 | 1.00 | 10.00 |
| * | 21365.000 | 350.00 | 933.37 | .01 | .54 | .01 | 11.71 | 10.00 |
| * | 21365.000 | 395.00 | 933.53 | .21 | .52 | .02 | 1.00 | 10.00 |
| * | 21365.000 | 560.00 | 934.20 | .32 | .55 | 1.43 | 1.00 | 10.00 |

| | SECND | Q | CUSPL | DIFUSP | DIFUSS | DIFUS | TOPDIC | XLCS |
|---|---|---|---|---|---|---|---|---|
| * | 21370.000 | 230.00 | 933.14 | 0.00 | [illegible] | 0.00 | 12.50 | 5.00 |
| * | 21370.000 | 350.00 | 933.54 | [illegible] | [illegible] | [illegible] | 12.50 | [illegible] |
| * | 21370.000 | 395.00 | 934.05 | [illegible] | [illegible] | [illegible] | 15.00 | [illegible] |
| * | 21370.000 | 560.00 | 934.76 | [illegible] | [illegible] | 1.04 | 15.00 | [illegible] |
| * | 21374.000 | 230.00 | 935.29 | [illegible] | [illegible] | [illegible] | 12.50 | 4.00 |
| * | 21374.000 | 350.00 | 935.00 | [illegible] | [illegible] | [illegible] | 12.50 | [illegible] |
| * | 21374.000 | 395.00 | 934.25 | [illegible] | [illegible] | [illegible] | 12.50 | [illegible] |
| * | 21374.000 | 560.00 | 935.00 | [illegible] | [illegible] | [illegible] | 12.50 | [illegible] |
| | 21375.000 | 230.00 | 933.31 | 0.00 | [illegible] | 0.00 | 12.50 | 1.00 |
| | 21375.000 | 350.00 | 935.02 | [illegible] | [illegible] | [illegible] | 12.50 | 1.00 |
| | 21375.000 | 395.00 | 934.24 | [illegible] | [illegible] | [illegible] | 12.50 | 1.00 |
| | 21375.000 | 560.00 | 935.05 | [illegible] | [illegible] | [illegible] | 12.50 | 1.00 |
| | 21455.000 | 230.00 | 934.82 | 0.00 | 1.51 | 0.00 | 12.50 | 31.00 |
| | 21455.000 | 350.00 | 935.91 | 1.09 | 1.39 | 1.09 | 12.50 | 31.00 |
| | 21455.000 | 395.00 | [illegible] | [illegible] | 2.06 | 1.51 | 12.50 | [illegible] |
| | 21455.000 | 560.00 | 937.59 | 1.57 | 2.12 | 2.57 | 12.50 | [illegible] |
| | 21456.000 | 230.00 | 934.86 | 0.00 | [illegible] | 0.00 | 12.50 | 1.00 |
| | 21456.000 | 350.00 | 936.06 | 1.17 | [illegible] | 1.17 | 12.50 | 1.00 |
| | 21456.000 | 395.00 | 936.69 | [illegible] | [illegible] | 1.24 | 12.50 | 1.00 |
| | 21456.000 | 560.00 | [illegible] | 1.24 | [illegible] | [illegible] | 12.50 | 1.00 |
| | 21900.000 | 230.00 | [illegible] | 0.00 | [illegible] | 0.00 | 23.50 | 446.00 |
| | 21900.000 | 350.00 | 937.39 | 1.14 | 1.75 | 1.14 | 51.53 | 446.00 |
| | 21900.000 | 395.00 | 937.29 | [illegible] | 1.49 | 1.54 | 21.55 | 446.00 |
| | 21900.000 | 560.00 | 939.37 | 1.46 | 1.26 | 3.02 | 15.11 | 446.00 |
| | 23050.000 | 230.00 | [illegible] | [illegible] | [illegible] | 1.00 | 32.09 | 1130.00 |
| | 23050.000 | 350.00 | 939.01 | [illegible] | 1.53 | [illegible] | 113.67 | 1130.00 |
| | 23050.000 | 395.00 | 939.21 | [illegible] | 1.32 | [illegible] | 109.51 | 1130.00 |
| | 23050.000 | 560.00 | 940.06 | [illegible] | [illegible] | 1.70 | 132.49 | 1130.00 |
| | 23199.000 | 230.00 | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] |
| | 23199.000 | 350.00 | 939.11 | [illegible] | [illegible] | [illegible] | 113.12 | [illegible] |
| | 23199.000 | 395.00 | 939.37 | [illegible] | [illegible] | [illegible] | 113.10 | [illegible] |
| | 23199.000 | 560.00 | 940.15 | [illegible] | [illegible] | 1.57 | 140.24 | [illegible] |
| | 23346.000 | 230.00 | 933.84 | 0.00 | [illegible] | 0.00 | 57.52 | 149.00 |
| | 23346.000 | 350.00 | 939.60 | [illegible] | [illegible] | [illegible] | 113.73 | 149.00 |
| | 23346.000 | 395.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 149.00 |
| | 23346.000 | 560.00 | 940.25 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | 23496.000 | 230.00 | 939.28 | 0.00 | [illegible] | 0.00 | 61.11 | [illegible] |
| | 23496.000 | 350.00 | 939.75 | [illegible] | [illegible] | [illegible] | 82.73 | [illegible] |
| | 23496.000 | 395.00 | 939.91 | [illegible] | [illegible] | [illegible] | 90.84 | 149.00 |
| | 23496.000 | 560.00 | 940.51 | [illegible] | [illegible] | 1.22 | 134.31 | [illegible] |
| | 23645.000 | 230.00 | 939.75 | 0.00 | [illegible] | 0.00 | 55.09 | 149.00 |
| | 23645.000 | 350.00 | 940.19 | [illegible] | [illegible] | [illegible] | 78.29 | 149.00 |
| | 23645.000 | 395.00 | 940.33 | [illegible] | [illegible] | [illegible] | [illegible] | 149.00 |
| | 23645.000 | 560.00 | 940.33 | [illegible] | [illegible] | 1.11 | 139.01 | 149.00 |

| SECND | Y | CWSEL | DIFUSP | DIFNSX | DIFKWS | TOFWID | WLCH |
|---|---|---|---|---|---|---|---|
| 23794.000 | 330.00 | 940.20 | 0.00 | .45 | 0.00 | 50.30 | 149.00 |
| 23794.000 | 350.00 | 940.46 | .47 | .49 | .47 | 91.50 | 149.00 |
| 23794.000 | 395.00 | 940.82 | .15 | .49 | .52 | 116.72 | 149.00 |
| 23794.000 | 560.00 | 941.28 | .45 | .44 | 1.07 | 135.53 | 149.00 |
| 23943.000 | 230.00 | 941.53 | 0.00 | .37 | 0.00 | 52.[illegible] | 149.00 |
| 23943.000 | 350.00 | 941.07 | .50 | .40 | .50 | 13[illegible].75 | 149.00 |
| 23943.000 | 395.00 | 941.22 | .15 | .40 | .05 | 150.[illegible] | 149.00 |
| 23943.000 | 560.00 | 941.67 | .45 | .40 | 1.10 | 201.10 | 149.00 |
| 24091.000 | 230.00 | 940.95 | 0.00 | .37 | 0.00 | 66.71 | 147.00 |
| 24091.000 | 350.00 | 941.40 | .53 | .41 | .53 | 156.56 | 147.00 |
| 24091.000 | 395.00 | 941.64 | .15 | .42 | .59 | 15[illegible].79 | 147.00 |
| 24091.000 | 560.00 | 942.06 | .51 | .38 | 1.11 | 190.51 | 147.00 |
| 24240.000 | 230.00 | 941.31 | 0.00 | .35 | 0.00 | 135.46 | 149.00 |
| 24240.000 | 350.00 | 941.87 | .56 | .39 | .55 | 155.59 | 149.00 |
| 24240.000 | 395.00 | 942.02 | .15 | .35 | .71 | 1[illegible].25 | 149.00 |
| 24240.000 | 560.00 | 942.42 | .40 | .37 | 1.11 | 15[illegible].54 | 149.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GIBSON DRAIN 100 YR FLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 850.00 | 641.40 | 0.00 | 641.43 | 4.65 | 1.92 | 733.03 | 393.74 |
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 490.00 | 640.80 | 0.00 | 640.82 | 3.92 | 1.64 | 513.83 | 247.47 |
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 720.00 | 641.30 | 0.00 | 641.32 | 3.86 | 1.73 | 695.44 | 366.70 |
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 1150.00 | 641.90 | 0.00 | 641.93 | 4.46 | 1.98 | 927.26 | 544.56 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 850.00 | 641.48 | 0.00 | 641.53 | 4.08 | 2.49 | 690.89 | 420.69 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 490.00 | 640.86 | 0.00 | 640.91 | 3.31 | 2.11 | 460.27 | 269.42 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 720.00 | 641.36 | 0.00 | 641.41 | 3.42 | 2.26 | 647.90 | 389.16 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 1150.00 | 641.97 | 0.00 | 642.03 | 4.32 | 2.59 | 877.43 | 573.56 |
| 1.020 | 45.00 | 641.00 | 638.90 | 633.70 | 850.00 | 641.63 | 0.00 | 641.69 | 6.34 | 2.65 | 655.12 | 337.66 |
| 1.020 | 45.00 | 641.00 | 638.90 | 633.70 | 490.00 | 641.14 | 0.00 | 641.18 | 3.65 | 1.91 | 516.14 | 256.63 |
| 1.020 | 45.00 | 641.00 | 638.90 | 633.70 | 720.00 | 641.52 | 0.00 | 641.57 | 5.13 | 2.36 | 622.92 | 317.95 |
| 1.020 | 45.00 | 641.00 | 638.90 | 633.70 | 1150.00 | 642.07 | 0.00 | 642.14 | 7.40 | 2.98 | 785.98 | 422.62 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 850.00 | 641.72 | 0.00 | 641.75 | 4.27 | 2.00 | 766.31 | 411.12 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 490.00 | 641.19 | 0.00 | 641.21 | 2.49 | 1.44 | 610.64 | 310.22 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 720.00 | 641.59 | 0.00 | 641.62 | 3.49 | 1.78 | 728.29 | 385.45 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 1150.00 | 642.17 | 0.00 | 642.21 | 5.06 | 2.28 | 912.79 | 511.19 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 850.00 | 641.98 | 0.00 | 642.08 | 9.48 | 2.87 | 514.67 | 276.09 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 490.00 | 641.35 | 0.00 | 641.42 | 6.42 | 2.19 | 336.69 | 193.40 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 720.00 | 641.81 | 0.00 | 641.89 | 8.29 | 2.63 | 463.83 | 250.12 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 1150.00 | 642.48 | 0.00 | 642.58 | 10.21 | 3.14 | 661.54 | 359.90 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 850.00 | 642.54 | 0.00 | 642.70 | 15.57 | 3.49 | 389.46 | 215.40 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 490.00 | 641.75 | 0.00 | 641.86 | 11.88 | 2.76 | 211.75 | 142.17 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 720.00 | 642.31 | 0.00 | 642.45 | 14.47 | 3.27 | 326.67 | 189.29 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 1150.00 | 643.07 | 0.00 | 643.23 | 15.74 | 3.73 | 540.43 | 289.88 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 850.00 | 643.19 | 0.00 | 643.22 | 4.99 | 1.99 | 860.43 | 380.70 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 490.00 | 642.33 | 0.00 | 642.37 | 5.75 | 1.91 | 511.11 | 204.27 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 720.00 | 642.93 | 0.00 | 642.97 | 5.05 | 1.94 | 752.59 | 320.53 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 1150.00 | 643.71 | 0.00 | 643.75 | 4.88 | 2.10 | 1080.10 | 520.49 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 850.00 | 643.30 | 0.00 | 643.35 | 4.39 | 2.30 | 834.99 | 405.88 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 490.00 | 642.45 | 0.00 | 642.50 | 4.16 | 2.06 | 493.79 | 240.14 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 720.00 | 643.04 | 0.00 | 643.09 | 4.27 | 2.21 | 727.18 | 348.42 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 1150.00 | 643.82 | 0.00 | 643.87 | 4.51 | 2.44 | 1055.03 | 541.33 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.020 | 36.00 | 642.50 | 641.50 | 635.90 | 850.00 | 643.43 | 0.00 | 643.47 | 3.41 | 2.07 | 954.50 | 460.50 |
| 3.020 | 36.00 | 642.50 | 641.50 | 635.90 | 490.00 | 642.85 | 0.00 | 642.87 | 2.32 | 1.61 | 687.29 | 321.77 |
| 3.020 | 36.00 | 642.50 | 641.50 | 635.90 | 720.00 | 643.20 | 0.00 | 643.24 | 3.20 | 1.96 | 849.21 | 402.56 |
| 3.020 | 36.00 | 642.50 | 641.50 | 635.90 | 1150.00 | 643.93 | 0.00 | 643.96 | 3.64 | 2.23 | 1185.95 | 603.04 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 850.00 | 643.46 | 0.00 | 643.50 | 5.25 | 2.06 | 842.95 | 370.96 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 490.00 | 642.87 | 0.00 | 642.90 | 4.11 | 1.69 | 576.73 | 241.79 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 720.00 | 643.23 | 0.00 | 643.27 | 5.17 | 1.99 | 738.30 | 316.67 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 1150.00 | 643.95 | 0.00 | 643.99 | 5.18 | 2.17 | 1073.70 | 505.48 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 850.00 | 643.75 | 0.00 | 643.80 | 4.07 | 1.91 | 566.66 | 421.40 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 490.00 | 643.07 | 0.00 | 643.09 | 2.27 | 1.31 | 451.79 | 325.47 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 720.00 | 643.50 | 0.00 | 643.54 | 3.49 | 1.72 | 524.52 | 385.22 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 1150.00 | 644.27 | 0.00 | 644.33 | 5.05 | 2.25 | 680.76 | 511.85 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 850.00 | 643.87 | 0.00 | 644.05 | 17.75 | 3.41 | 249.22 | 201.77 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 490.00 | 643.14 | 0.00 | 643.22 | 9.00 | 2.24 | 218.27 | 163.37 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 720.00 | 643.61 | 0.00 | 643.75 | 14.71 | 3.02 | 238.15 | 187.72 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 1150.00 | 644.42 | 0.00 | 644.56 | 12.86 | 3.30 | 483.54 | 320.67 |
| 4.020 | 68.00 | 644.80 | 642.40 | 638.00 | 850.00 | 644.61 | 0.00 | 644.79 | 15.28 | 3.41 | 249.23 | 217.47 |
| 4.020 | 68.00 | 644.80 | 642.40 | 638.00 | 490.00 | 643.35 | 0.00 | 643.44 | 9.92 | 2.43 | 201.61 | 155.60 |
| 4.020 | 68.00 | 644.80 | 642.40 | 638.00 | 720.00 | 644.11 | 0.00 | 644.27 | 14.01 | 3.12 | 230.53 | 192.36 |
| 4.020 | 68.00 | 644.80 | 642.40 | 638.00 | 1150.00 | 645.47 | 0.00 | 645.54 | 6.25 | 2.56 | 686.65 | 459.85 |
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 850.00 | 644.88 | 0.00 | 644.92 | 4.26 | 1.75 | 600.51 | 411.86 |
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 490.00 | 643.51 | 0.00 | 643.54 | 4.28 | 1.45 | 361.89 | 236.80 |
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 720.00 | 644.35 | 0.00 | 644.40 | 4.62 | 1.70 | 500.46 | 335.11 |
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 1150.00 | 645.56 | 0.00 | 645.61 | 4.76 | 1.99 | 736.13 | 527.16 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 850.00 | 645.23 | 0.00 | 645.32 | 10.40 | 2.44 | 366.82 | 263.62 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 490.00 | 643.86 | 0.00 | 643.92 | 9.40 | 1.97 | 249.14 | 159.83 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 720.00 | 644.73 | 0.00 | 644.82 | 10.76 | 2.32 | 312.85 | 219.53 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 1150.00 | 645.94 | 0.00 | 646.05 | 11.23 | 2.78 | 471.44 | 343.11 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 850.00 | 645.38 | 0.00 | 645.55 | 16.22 | 3.53 | 292.51 | 211.02 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 490.00 | 644.01 | 0.00 | 644.15 | 18.63 | 3.02 | 162.02 | 113.52 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 720.00 | 644.89 | 0.00 | 645.11 | 23.53 | 3.75 | 191.99 | 148.43 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 1150.00 | 645.10 | 0.00 | 646.32 | 18.73 | 4.08 | 366.40 | 265.70 |
| 5.020 | 62.00 | 645.70 | 643.80 | 639.20 | 850.00 | 646.29 | 0.00 | 646.38 | 9.43 | 2.72 | 416.22 | 276.81 |
| 5.020 | 62.00 | 645.70 | 643.80 | 639.20 | 490.00 | 644.28 | 0.00 | 644.40 | 15.23 | 2.35 | 171.64 | 125.57 |
| 5.020 | 62.00 | 645.70 | 643.80 | 639.20 | 720.00 | 645.56 | 0.00 | 645.74 | 16.12 | 3.34 | 215.30 | 179.31 |
| 5.020 | 62.00 | 645.70 | 643.80 | 639.20 | 1150.00 | 647.00 | 0.00 | 647.09 | 7.10 | 2.78 | 642.39 | 431.54 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 850.00 | 646.38 | 0.00 | 646.44 | 7.04 | 2.04 | 443.47 | 320.26 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 490.00 | 644.45 | 0.00 | 644.51 | 9.48 | 1.92 | 255.86 | 159.13 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 720.00 | 645.78 | 0.00 | 645.84 | 7.92 | 1.99 | 367.33 | 255.90 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 1150.00 | 647.06 | 0.00 | 647.14 | 7.83 | 2.35 | 554.56 | 410.90 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 850.00 | 646.82 | 0.00 | 646.91 | 11.60 | 2.38 | 360.30 | 249.57 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 490.00 | 645.02 | 0.00 | 645.10 | 13.79 | 2.23 | 219.97 | 131.96 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 720.00 | 646.28 | 0.00 | 646.36 | 12.46 | 2.31 | 311.68 | 203.96 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 1150.00 | 647.54 | 0.00 | 647.65 | 12.27 | 2.72 | 453.72 | 328.32 |

| SECNO | XLCH | ELTRD | ELLC | ELHIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 850.00 | 646.91 | 0.00 | 647.19 | 48.70 | 4.28 | 215.16 | 121.80 |
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 490.00 | 645.14 | 0.00 | 645.47 | 83.85 | 4.57 | 107.20 | 53.51 |
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 720.00 | 646.38 | 0.00 | 646.66 | 56.94 | 4.32 | 169.43 | 95.42 |
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 1150.00 | 647.65 | 0.00 | 647.90 | 39.74 | 4.26 | 373.29 | 182.43 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 850.00 | 648.53 | 0.00 | 648.91 | 35.85 | 4.97 | 171.13 | 141.97 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 490.00 | 647.08 | 0.00 | 647.30 | 28.22 | 3.76 | 130.40 | 92.25 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 720.00 | 648.05 | 0.00 | 648.38 | 33.17 | 4.56 | 157.86 | 125.01 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 1150.00 | 648.88 | 0.00 | 649.08 | 22.43 | 4.30 | 533.65 | 242.83 |
| 6.100 | 10.00 | 649.60 | 646.90 | 641.20 | 850.00 | 648.77 | 0.00 | 649.12 | 31.67 | 4.77 | 178.03 | 151.05 |
| 6.100 | 10.00 | 649.60 | 646.90 | 641.20 | 490.00 | 647.12 | 0.00 | 647.35 | 74.52 | 3.88 | 126.25 | 56.76 |
| 6.100 | 10.00 | 649.60 | 646.90 | 641.20 | 720.00 | 648.17 | 0.00 | 648.48 | 31.02 | 4.47 | 161.25 | 129.28 |
| 6.100 | 10.00 | 649.60 | 646.90 | 641.20 | 1150.00 | 649.77 | 0.00 | 649.83 | 7.71 | 2.75 | 934.62 | 414.20 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 850.00 | 649.34 | 0.00 | 649.40 | 9.23 | 2.53 | 597.42 | 279.82 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 490.00 | 647.61 | 0.00 | 647.76 | 22.89 | 3.24 | 212.53 | 102.41 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 720.00 | 648.68 | 0.00 | 648.77 | 13.38 | 2.84 | 443.26 | 196.83 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 1150.00 | 649.86 | 0.00 | 649.93 | 10.32 | 2.32 | 722.17 | 358.05 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 850.00 | 649.95 | 0.00 | 650.07 | 20.14 | 3.38 | 492.99 | 189.39 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 490.00 | 648.88 | 0.00 | 649.08 | 30.40 | 3.60 | 165.77 | 88.87 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 720.00 | 649.53 | 0.00 | 649.70 | 26.72 | 3.70 | 354.30 | 139.29 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 1150.00 | 650.49 | 0.00 | 650.59 | 17.67 | 3.38 | 683.68 | 273.61 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 850.00 | 651.55 | 0.00 | 651.78 | 36.11 | 4.31 | 360.99 | 141.45 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 490.00 | 650.84 | 0.00 | 651.04 | 31.45 | 3.64 | 160.63 | 87.37 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 720.00 | 651.39 | 0.00 | 651.60 | 33.18 | 4.05 | 307.60 | 124.99 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 1150.00 | 651.97 | 0.00 | 652.18 | 35.80 | 4.52 | 500.04 | 192.21 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 850.00 | 653.14 | 0.00 | 653.28 | 15.68 | 3.42 | 363.84 | 214.64 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 490.00 | 652.15 | 0.00 | 652.24 | 11.85 | 2.66 | 258.34 | 142.37 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 720.00 | 652.84 | 0.00 | 652.97 | 14.20 | 3.15 | 331.89 | 191.05 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 1150.00 | 653.68 | 0.00 | 653.86 | 19.43 | 4.01 | 421.80 | 260.90 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.29 | 0.00 | 653.81 | 65.96 | 5.77 | 147.42 | 104.66 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 490.00 | 652.31 | 0.00 | 652.57 | 40.62 | 4.05 | 121.11 | 76.88 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 720.00 | 653.00 | 0.00 | 653.42 | 56.02 | 5.15 | 139.69 | 96.20 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 1150.00 | 653.81 | 0.00 | 654.59 | 91.05 | 7.13 | 161.38 | 120.52 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.27 | 0.00 | 653.84 | 101.46 | 0.00 | 140.12 | 84.39 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 490.00 | 652.31 | 0.00 | 652.58 | 60.77 | 0.00 | 117.36 | 62.86 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 720.00 | 652.99 | 0.00 | 653.44 | 85.11 | 0.00 | 133.68 | 78.05 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 1150.00 | 653.76 | 0.00 | 654.65 | 141.76 | 0.00 | 151.99 | 96.59 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.63 | 0.00 | 654.14 | 82.94 | 0.00 | 148.88 | 93.33 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 490.00 | 652.51 | 0.00 | 652.76 | 53.38 | 0.00 | 122.02 | 67.07 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 720.00 | 653.29 | 0.00 | 653.69 | 72.04 | 0.00 | 140.56 | 84.83 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 1150.00 | 654.31 | 0.00 | 655.07 | 107.38 | 0.00 | 165.25 | 110.98 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.79 | 0.00 | 654.18 | 39.63 | 4.95 | 171.66 | 135.03 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 490.00 | 652.58 | 0.00 | 652.78 | 26.24 | 3.56 | 137.71 | 95.65 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 720.00 | 653.41 | 0.00 | 653.72 | 34.78 | 4.47 | 160.91 | 122.09 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 1150.00 | 654.58 | 0.00 | 655.12 | 50.01 | 5.94 | 193.57 | 162.62 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 850.00 | 654.35 | 0.00 | 654.38 | 4.93 | 1.97 | 802.55 | 382.79 |
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 490.00 | 652.92 | 0.00 | 652.97 | 8.27 | 2.15 | 436.31 | 170.40 |
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 720.00 | 653.88 | 0.00 | 653.92 | 5.59 | 1.99 | 682.96 | 304.44 |
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 1150.00 | 655.33 | 0.00 | 655.36 | 4.03 | 1.96 | 1053.93 | 572.79 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 850.00 | 654.95 | 0.00 | 655.15 | 31.11 | 4.06 | 294.80 | 152.39 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 490.00 | 653.86 | 0.00 | 654.04 | 32.80 | 3.60 | 177.82 | 85.56 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 720.00 | 654.56 | 0.00 | 654.76 | 32.59 | 3.96 | 253.12 | 126.13 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 1150.00 | 655.81 | 0.00 | 656.01 | 27.51 | 4.18 | 387.55 | 219.24 |
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 850.00 | 655.24 | 0.00 | 655.54 | 20.97 | 4.41 | 192.65 | 185.63 |
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 490.00 | 654.16 | 0.00 | 654.30 | 12.13 | 3.01 | 162.57 | 140.69 |
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 720.00 | 654.85 | 0.00 | 655.10 | 18.14 | 3.96 | 181.89 | 169.05 |
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 1150.00 | 656.08 | 0.00 | 656.52 | 26.50 | 5.33 | 215.92 | 223.38 |
| 9.020 | 59.00 | 657.40 | 654.10 | 648.30 | 850.00 | 655.69 | 0.00 | 655.98 | 24.22 | 4.31 | 197.07 | 172.72 |
| 9.020 | 59.00 | 657.40 | 654.10 | 648.30 | 490.00 | 654.25 | 0.00 | 654.40 | 15.77 | 3.09 | 158.34 | 123.38 |
| 9.020 | 59.00 | 657.40 | 654.10 | 648.30 | 720.00 | 655.14 | 0.00 | 655.38 | 22.07 | 3.35 | 182.26 | 153.27 |
| 9.020 | 59.00 | 657.40 | 654.10 | 648.30 | 1150.00 | 657.04 | 0.00 | 657.41 | 26.52 | 4.93 | 233.47 | 223.30 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 850.00 | 656.12 | 0.00 | 656.14 | 2.59 | 1.56 | 878.41 | 527.99 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 490.00 | 654.49 | 0.00 | 654.51 | 2.89 | 1.38 | 554.31 | 288.25 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 720.00 | 655.51 | 0.00 | 655.53 | 2.82 | 1.53 | 753.84 | 428.64 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 1150.00 | 657.57 | 0.00 | 657.59 | 2.02 | 1.57 | 1190.57 | 809.89 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 850.00 | 656.21 | 0.00 | 656.24 | 1.99 | 1.65 | 790.01 | 602.84 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 490.00 | 654.60 | 0.00 | 654.62 | 2.13 | 1.42 | 514.53 | 336.00 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 720.00 | 655.61 | 0.00 | 655.64 | 2.16 | 1.61 | 677.70 | 490.38 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 1150.00 | 657.65 | 0.00 | 657.67 | 1.53 | 1.64 | 1109.84 | 931.15 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 850.00 | 656.31 | 0.00 | 656.35 | 2.79 | 1.86 | 696.21 | 508.95 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 490.00 | 654.72 | 0.00 | 654.74 | 3.20 | 1.63 | 443.60 | 274.10 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 720.00 | 655.73 | 0.00 | 655.76 | 3.07 | 1.82 | 595.89 | 411.00 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 1150.00 | 657.72 | 0.00 | 657.75 | 2.06 | 1.83 | 987.50 | 802.07 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.51 | 0.00 | 656.55 | 4.33 | 2.16 | 593.35 | 408.57 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 490.00 | 654.95 | 0.00 | 654.99 | 5.43 | 1.94 | 366.15 | 210.23 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 720.00 | 655.94 | 0.00 | 655.99 | 4.81 | 2.12 | 505.75 | 328.18 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 1150.00 | 657.87 | 0.00 | 657.91 | 3.09 | 2.11 | 841.53 | 654.46 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.48 | 0.00 | 656.58 | 67.44 | 3.14 | 377.32 | 103.51 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 490.00 | 654.94 | 0.00 | 655.00 | 27.93 | 2.42 | 287.81 | 92.73 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 720.00 | 655.90 | 0.00 | 656.01 | 55.12 | 3.40 | 308.42 | 96.98 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 1150.00 | 657.85 | 0.00 | 657.91 | 27.68 | 2.48 | 625.92 | 218.57 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.51 | 0.00 | 656.60 | 65.71 | 3.11 | 380.52 | 104.85 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 490.00 | 654.95 | 0.00 | 655.01 | 27.93 | 2.42 | 287.81 | 92.72 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 720.00 | 655.92 | 0.00 | 656.03 | 55.04 | 3.40 | 308.79 | 97.05 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 1150.00 | 657.86 | 0.00 | 657.92 | 27.71 | 2.48 | 625.69 | 218.46 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.57 | 0.00 | 656.61 | 4.14 | 2.13 | 602.71 | 417.52 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 490.00 | 654.98 | 0.00 | 655.01 | 5.30 | 1.93 | 369.47 | 212.88 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 720.00 | 656.01 | 0.00 | 656.05 | 4.58 | 2.08 | 514.99 | 336.42 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 1150.00 | 657.89 | 0.00 | 657.93 | 3.04 | 2.09 | 846.61 | 659.56 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 850.00 | 656.89 | 0.00 | 656.96 | 8.28 | 2.68 | 468.47 | 295.46 |
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 490.00 | 655.42 | 0.00 | 655.48 | 12.31 | 2.55 | 273.19 | 139.68 |
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 720.00 | 656.37 | 0.00 | 656.44 | 9.51 | 2.66 | 394.99 | 233.52 |
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 1150.00 | 658.12 | 0.00 | 658.18 | 5.89 | 2.64 | 661.11 | 473.71 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 850.00 | 657.16 | 0.00 | 657.43 | 59.62 | 4.11 | 206.86 | 110.08 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 490.00 | 655.88 | 0.00 | 656.13 | 81.47 | 4.00 | 122.35 | 54.29 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 720.00 | 656.70 | 0.00 | 656.96 | 68.44 | 4.15 | 173.69 | 87.03 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 1150.00 | 658.29 | 0.00 | 658.52 | 40.41 | 3.85 | 298.64 | 180.90 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 850.00 | 658.50 | 0.00 | 658.96 | 69.11 | 5.45 | 156.09 | 102.25 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 490.00 | 657.36 | 0.00 | 657.64 | 54.40 | 4.28 | 114.43 | 66.44 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 720.00 | 658.12 | 0.00 | 658.52 | 64.53 | 5.07 | 141.91 | 89.63 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 1150.00 | 659.31 | 0.00 | 659.88 | 76.36 | 6.07 | 195.63 | 131.60 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 850.00 | 661.28 | 0.00 | 661.53 | 33.60 | 4.04 | 236.85 | 146.63 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 490.00 | 659.66 | 0.00 | 659.85 | 31.12 | 3.50 | 139.86 | 87.84 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 720.00 | 660.73 | 0.00 | 660.98 | 32.57 | 3.96 | 184.61 | 126.16 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 1150.00 | 662.11 | 0.00 | 662.35 | 29.18 | 4.17 | 372.21 | 212.90 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 850.00 | 662.45 | 0.00 | 662.53 | 10.90 | 2.30 | 425.30 | 257.49 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 490.00 | 660.97 | 0.00 | 661.05 | 15.55 | 2.16 | 228.00 | 124.24 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 720.00 | 661.96 | 0.00 | 662.04 | 12.38 | 2.27 | 352.03 | 204.60 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 1150.00 | 663.20 | 0.00 | 663.29 | 10.78 | 2.54 | 537.53 | 350.27 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 850.00 | 663.29 | 0.00 | 663.44 | 25.40 | 3.04 | 295.96 | 168.66 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 490.00 | 662.09 | 0.00 | 662.20 | 28.60 | 2.68 | 182.94 | 91.62 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 720.00 | 662.90 | 0.00 | 663.04 | 26.78 | 2.94 | 248.78 | 139.12 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 1150.00 | 664.00 | 0.00 | 664.16 | 23.00 | 3.27 | 401.77 | 239.80 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 850.00 | 664.21 | 0.00 | 664.33 | 20.28 | 2.83 | 328.06 | 188.77 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 490.00 | 663.08 | 0.00 | 663.17 | 21.15 | 2.40 | 204.47 | 106.56 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 720.00 | 663.86 | 0.00 | 663.97 | 20.90 | 2.69 | 278.02 | 157.50 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 1150.00 | 664.86 | 0.00 | 665.01 | 19.87 | 3.11 | 425.92 | 257.97 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 850.00 | 665.37 | 0.00 | 665.60 | 38.61 | 3.86 | 220.10 | 136.79 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 490.00 | 664.25 | 0.00 | 664.41 | 35.28 | 3.16 | 155.01 | 82.50 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 720.00 | 665.02 | 0.00 | 665.23 | 36.82 | 3.61 | 199.30 | 118.66 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 1150.00 | 666.00 | 0.00 | 666.30 | 40.93 | 4.42 | 266.72 | 179.76 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 850.00 | 667.27 | 0.00 | 667.62 | 49.28 | 4.82 | 216.91 | 121.08 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 490.00 | 666.09 | 0.00 | 666.34 | 50.20 | 3.99 | 122.72 | 69.16 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 720.00 | 666.90 | 0.00 | 667.23 | 51.10 | 4.61 | 164.26 | 100.72 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 1150.00 | 667.93 | 0.00 | 668.29 | 45.78 | 5.11 | 321.57 | 169.96 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 850.00 | 668.62 | 0.00 | 668.90 | 38.07 | 4.40 | 256.07 | 137.77 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 490.00 | 667.45 | 0.00 | 667.66 | 39.80 | 3.68 | 133.07 | 77.67 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 720.00 | 668.28 | 0.00 | 668.55 | 38.87 | 4.22 | 202.48 | 115.48 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 1150.00 | 669.22 | 0.00 | 669.53 | 38.19 | 4.79 | 351.17 | 186.09 |
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 850.00 | 669.87 | 0.00 | 670.03 | 26.95 | 3.68 | 366.34 | 163.74 |
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 490.00 | 668.79 | 0.00 | 668.97 | 34.80 | 3.48 | 186.80 | 83.06 |
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 720.00 | 669.55 | 0.00 | 669.71 | 27.92 | 3.56 | 312.97 | 136.27 |
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 1150.00 | 670.48 | 0.00 | 670.65 | 26.31 | 3.96 | 469.97 | 224.19 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 850.00 | 670.99 | 0.00 | 671.24 | 42.06 | 4.40 | 270.57 | 131.07 |
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 490.00 | 670.10 | 0.00 | 670.29 | 39.82 | 3.66 | 163.32 | 77.65 |
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 720.00 | 670.70 | 0.00 | 670.93 | 41.58 | 4.17 | 235.52 | 111.66 |
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 1150.00 | 671.58 | 0.00 | 671.87 | 42.93 | 4.85 | 341.72 | 175.51 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 850.00 | 671.72 | 0.00 | 672.28 | 62.32 | 5.99 | 141.87 | 107.67 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 490.00 | 670.74 | 0.00 | 671.01 | 36.49 | 4.14 | 118.37 | 81.12 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 720.00 | 671.42 | 0.00 | 671.86 | 52.76 | 5.35 | 134.53 | 99.13 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 1150.00 | 672.29 | 0.00 | 672.58 | 36.22 | 5.13 | 395.74 | 191.09 |
| 14.020 | 9.00 | 673.20 | 670.70 | 664.80 | 850.00 | 672.93 | 0.00 | 673.29 | 32.52 | 4.81 | 176.77 | 149.05 |
| 14.020 | 9.00 | 673.20 | 670.70 | 664.80 | 490.00 | 671.07 | 0.00 | 671.29 | 29.73 | 3.32 | 128.26 | 89.87 |
| 14.020 | 9.00 | 673.20 | 670.70 | 664.80 | 720.00 | 672.28 | 0.00 | 672.50 | 31.87 | 4.50 | 159.99 | 127.53 |
| 14.020 | 9.00 | 673.20 | 670.70 | 664.80 | 1150.00 | 673.67 | 0.00 | 673.88 | 19.97 | 4.25 | 454.81 | 257.36 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 850.00 | 673.41 | 0.00 | 673.58 | 17.33 | 3.75 | 363.04 | 204.17 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 490.00 | 671.41 | 0.00 | 671.62 | 29.60 | 3.84 | 160.63 | 90.06 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 720.00 | 672.72 | 0.00 | 672.91 | 21.33 | 3.86 | 268.07 | 155.90 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 1150.00 | 673.90 | 0.00 | 674.11 | 21.17 | 4.35 | 462.38 | 249.94 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 850.00 | 673.81 | 0.00 | 673.96 | 14.65 | 3.52 | 404.33 | 222.11 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 490.00 | 672.04 | 0.00 | 672.20 | 20.23 | 3.37 | 192.43 | 108.93 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 720.00 | 673.20 | 0.00 | 673.36 | 17.16 | 3.57 | 296.50 | 173.82 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 1150.00 | 674.39 | 0.00 | 674.55 | 16.81 | 3.98 | 520.42 | 280.49 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.16 | 0.00 | 674.25 | 11.38 | 2.34 | 363.93 | 252.01 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 490.00 | 672.54 | 0.00 | 672.61 | 15.81 | 2.14 | 229.26 | 123.23 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 720.00 | 673.62 | 0.00 | 673.70 | 12.66 | 2.26 | 318.45 | 202.37 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 1150.00 | 674.77 | 0.00 | 674.89 | 13.46 | 2.77 | 415.70 | 313.43 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.24 | 0.00 | 674.47 | 16.29 | 3.90 | 217.90 | 210.60 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 490.00 | 672.65 | 0.00 | 672.76 | 9.63 | 2.73 | 179.77 | 157.92 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 720.00 | 673.71 | 0.00 | 673.90 | 13.96 | 3.51 | 205.26 | 192.69 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 1150.00 | 674.84 | 0.00 | 675.22 | 24.68 | 4.95 | 232.31 | 231.50 |
| 15.020 | 45.00 | 676.60 | 672.60 | 665.00 | 850.00 | 674.81 | 0.00 | 675.01 | 13.61 | 3.67 | 231.53 | 230.36 |
| 15.020 | 45.00 | 676.60 | 672.60 | 665.00 | 490.00 | 672.80 | 0.00 | 672.91 | 9.08 | 2.67 | 183.30 | 162.63 |
| 15.020 | 45.00 | 676.60 | 672.60 | 665.00 | 720.00 | 674.09 | 0.00 | 674.27 | 12.26 | 3.36 | 214.44 | 205.65 |
| 15.020 | 45.00 | 676.60 | 672.60 | 665.00 | 1150.00 | 675.95 | 0.00 | 676.26 | 17.92 | 4.44 | 259.11 | 271.68 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 850.00 | 675.12 | 0.00 | 675.20 | 9.29 | 2.19 | 387.51 | 278.89 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 490.00 | 672.99 | 0.00 | 673.06 | 13.93 | 2.21 | 221.99 | 131.31 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 720.00 | 674.37 | 0.00 | 674.45 | 11.00 | 2.22 | 323.95 | 217.13 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 1150.00 | 676.39 | 0.00 | 676.47 | 7.59 | 2.29 | 508.95 | 417.31 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 850.00 | 675.40 | 0.00 | 675.49 | 12.10 | 2.48 | 343.36 | 244.34 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 490.00 | 673.39 | 0.00 | 673.48 | 16.55 | 2.40 | 203.91 | 120.45 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 720.00 | 674.69 | 0.00 | 674.79 | 13.76 | 2.48 | 290.14 | 194.10 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 1150.00 | 676.62 | 0.00 | 676.72 | 10.81 | 2.60 | 443.02 | 349.69 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 850.00 | 675.53 | 0.00 | 675.65 | 17.44 | 2.83 | 300.53 | 203.53 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 490.00 | 673.58 | 0.00 | 673.70 | 25.43 | 2.31 | 174.08 | 97.17 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 720.00 | 674.84 | 0.00 | 674.97 | 20.05 | 2.85 | 252.41 | 160.80 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 1150.00 | 676.73 | 0.00 | 676.87 | 15.10 | 2.92 | 393.32 | 295.93 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 850.00 | 675.50 | 0.00 | 676.28 | 63.10 | 6.62 | 128.48 | 103.00 |
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 490.00 | 673.82 | 0.00 | 674.19 | 47.39 | 4.90 | 99.98 | 71.18 |
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 720.00 | 674.98 | 0.00 | 675.56 | 61.74 | 6.07 | 118.60 | 91.63 |
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 1150.00 | 676.57 | 0.00 | 677.64 | 85.79 | 7.90 | 145.62 | 123.44 |
| 16.020 | 40.00 | 681.90 | 674.00 | 667.40 | 850.00 | 676.92 | 0.00 | 677.36 | 35.84 | 5.35 | 158.85 | 141.99 |
| 16.020 | 40.00 | 681.90 | 674.00 | 667.40 | 490.00 | 674.10 | 0.00 | 674.41 | 33.91 | 4.42 | 110.98 | 84.15 |
| 16.020 | 40.00 | 681.90 | 674.00 | 667.40 | 720.00 | 675.84 | 0.00 | 676.25 | 36.62 | 5.12 | 140.52 | 118.99 |
| 16.020 | 40.00 | 681.90 | 674.00 | 667.40 | 1150.00 | 679.39 | 0.00 | 679.90 | 33.81 | 5.73 | 200.83 | 197.79 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 850.00 | 677.57 | 0.00 | 677.64 | 6.51 | 2.12 | 401.78 | 333.16 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 490.00 | 674.61 | 0.00 | 674.69 | 12.05 | 2.28 | 215.05 | 141.14 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 720.00 | 676.46 | 0.00 | 676.53 | 8.37 | 2.21 | 325.92 | 248.93 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 1150.00 | 680.09 | 0.00 | 680.15 | 3.72 | 1.92 | 615.50 | 596.62 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 850.00 | 677.77 | 0.00 | 677.85 | 7.93 | 2.27 | 374.21 | 301.82 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 490.00 | 675.00 | 0.00 | 675.09 | 14.06 | 2.41 | 203.30 | 130.67 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 720.00 | 676.73 | 0.00 | 676.81 | 10.08 | 2.37 | 304.37 | 226.74 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 1150.00 | 680.21 | 0.00 | 680.28 | 4.67 | 2.06 | 562.73 | 532.40 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.73 | 0.00 | 677.88 | 79.43 | 3.17 | 267.78 | 95.37 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 490.00 | 674.97 | 0.00 | 675.10 | 59.39 | 2.88 | 170.24 | 63.58 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 720.00 | 676.65 | 0.00 | 676.85 | 142.15 | 3.60 | 199.96 | 60.39 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 1150.00 | 680.19 | 0.00 | 680.29 | 28.08 | 2.55 | 454.17 | 217.02 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.80 | 0.00 | 677.95 | 74.80 | 3.11 | 272.91 | 98.28 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 490.00 | 675.03 | 0.00 | 675.16 | 59.50 | 2.88 | 170.43 | 63.47 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 720.00 | 676.79 | 0.00 | 676.98 | 126.21 | 3.46 | 207.94 | 64.09 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 1150.00 | 680.21 | 0.00 | 680.31 | 27.74 | 2.54 | 456.17 | 218.36 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 850.00 | 677.89 | 0.00 | 677.97 | 7.48 | 2.22 | 382.24 | 310.87 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 490.00 | 675.08 | 0.00 | 675.16 | 13.24 | 2.36 | 207.80 | 134.66 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 720.00 | 676.92 | 0.00 | 677.00 | 9.06 | 2.27 | 316.64 | 239.24 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 1150.00 | 680.26 | 0.00 | 680.32 | 4.56 | 2.05 | 567.30 | 538.31 |
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.00 | 0.00 | 678.08 | 8.27 | 2.31 | 368.63 | 295.59 |
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 490.00 | 675.27 | 0.00 | 675.36 | 14.35 | 2.43 | 201.78 | 129.34 |
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 720.00 | 677.04 | 0.00 | 677.13 | 9.98 | 2.36 | 305.57 | 227.95 |
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 1150.00 | 680.32 | 0.00 | 680.39 | 5.12 | 2.12 | 544.74 | 508.26 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 850.00 | 677.95 | 0.00 | 678.11 | 78.42 | 3.17 | 268.03 | 95.99 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 490.00 | 675.24 | 0.00 | 675.38 | 71.72 | 3.05 | 160.62 | 57.86 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 720.00 | 676.98 | 0.00 | 677.17 | 126.54 | 3.48 | 206.79 | 64.01 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 1150.00 | 680.30 | 0.00 | 680.40 | 30.06 | 2.61 | 441.91 | 209.76 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 850.00 | 678.02 | 0.00 | 678.18 | 73.93 | 3.11 | 273.08 | 98.86 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 490.00 | 675.30 | 0.00 | 675.44 | 72.07 | 3.05 | 160.81 | 57.72 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 720.00 | 677.10 | 0.00 | 677.28 | 114.18 | 3.37 | 213.92 | 67.38 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 1150.00 | 680.33 | 0.00 | 680.43 | 29.66 | 2.60 | 443.87 | 211.16 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.11 | 0.00 | 678.19 | 7.79 | 2.26 | 376.61 | 304.53 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 490.00 | 675.37 | 0.00 | 675.46 | 13.32 | 2.36 | 207.35 | 134.26 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 720.00 | 677.21 | 0.00 | 677.30 | 9.06 | 2.27 | 316.62 | 239.22 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 1150.00 | 680.37 | 0.00 | 680.44 | 5.00 | 2.10 | 549.15 | 514.33 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 850.00 | 678.27 | 0.00 | 678.30 | 3.56 | 1.81 | 823.46 | 450.81 |
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 490.00 | 675.65 | 0.00 | 675.72 | 11.70 | 2.48 | 283.52 | 143.25 |
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 720.00 | 677.40 | 0.00 | 677.44 | 4.99 | 1.96 | 622.08 | 322.29 |
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 1150.00 | 680.48 | 0.00 | 680.50 | 1.63 | 1.46 | 1413.63 | 901.78 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.29 | 0.00 | 678.33 | 4.36 | 1.95 | 756.85 | 407.12 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 490.00 | 675.70 | 0.00 | 675.80 | 14.63 | 2.70 | 248.66 | 128.11 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 720.00 | 677.43 | 0.00 | 677.47 | 5.26 | 2.14 | 564.72 | 287.80 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 1150.00 | 680.49 | 0.00 | 680.51 | 1.90 | 1.55 | 1335.69 | 833.87 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.30 | 0.00 | 678.33 | 13.48 | 1.69 | 649.96 | 231.53 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 490.00 | 675.58 | 0.00 | 675.87 | 237.40 | 4.55 | 131.36 | 31.80 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 720.00 | 677.43 | 0.00 | 677.48 | 25.89 | 2.07 | 457.98 | 141.51 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 1150.00 | 680.50 | 0.00 | 680.51 | 3.96 | 1.15 | 1227.67 | 577.69 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.31 | 0.00 | 678.34 | 13.26 | 1.68 | 653.81 | 233.46 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 490.00 | 675.86 | 0.00 | 676.05 | 147.02 | 3.79 | 165.07 | 40.41 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 720.00 | 677.45 | 0.00 | 677.50 | 25.28 | 2.06 | 461.87 | 143.20 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 1150.00 | 680.50 | 0.00 | 680.52 | 3.94 | 1.15 | 1230.14 | 579.46 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.31 | 0.00 | 678.34 | 4.31 | 1.94 | 760.67 | 409.59 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 490.00 | 675.99 | 0.00 | 676.07 | 11.21 | 2.44 | 291.38 | 146.35 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 720.00 | 677.45 | 0.00 | 677.50 | 6.13 | 2.12 | 569.90 | 290.87 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 1150.00 | 680.50 | 0.00 | 680.52 | 1.90 | 1.55 | 1336.02 | 834.15 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.44 | 0.00 | 678.48 | 3.90 | 1.87 | 792.50 | 430.37 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 490.00 | 676.33 | 0.00 | 676.38 | 8.10 | 2.14 | 351.58 | 172.20 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 720.00 | 677.65 | 0.00 | 677.69 | 5.22 | 2.00 | 610.34 | 315.14 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 1150.00 | 680.56 | 0.00 | 680.58 | 1.84 | 1.53 | 1352.14 | 847.99 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.45 | 0.00 | 678.48 | 11.53 | 1.59 | 687.10 | 250.36 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 490.00 | 676.31 | 0.00 | 676.39 | 64.28 | 2.72 | 245.18 | 61.12 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 720.00 | 677.65 | 0.00 | 677.69 | 19.68 | 1.87 | 504.99 | 162.31 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 1150.00 | 680.57 | 0.00 | 680.58 | 3.78 | 1.13 | 1246.69 | 591.40 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.46 | 0.00 | 678.49 | 11.36 | 1.58 | 690.72 | 252.22 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 490.00 | 676.37 | 0.00 | 676.45 | 58.50 | 2.62 | 254.85 | 64.07 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 720.00 | 677.67 | 0.00 | 677.71 | 19.28 | 1.85 | 508.63 | 163.96 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 1150.00 | 680.57 | 0.00 | 680.58 | 3.76 | 1.13 | 1249.10 | 593.15 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.46 | 0.00 | 678.49 | 3.84 | 1.86 | 797.39 | 433.57 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 490.00 | 676.40 | 0.00 | 676.46 | 7.52 | 2.08 | 365.58 | 178.69 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 720.00 | 677.67 | 0.00 | 677.71 | 5.11 | 1.98 | 616.06 | 318.62 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 1150.00 | 680.57 | 0.00 | 680.59 | 1.83 | 1.53 | 1354.96 | 850.43 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 850.00 | 678.60 | 0.00 | 678.86 | 27.70 | 4.06 | 217.22 | 161.49 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 490.00 | 676.78 | 0.00 | 676.97 | 29.04 | 3.49 | 140.50 | 90.92 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 720.00 | 677.90 | 0.00 | 678.14 | 30.67 | 3.97 | 181.29 | 130.02 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 1150.00 | 680.62 | 0.00 | 680.77 | 13.17 | 3.34 | 486.23 | 316.90 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.15 | 0.00 | 679.57 | 26.93 | 5.19 | 127.19 | 127.18 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 380.00 | 677.32 | 0.00 | 677.55 | 20.18 | 3.88 | 97.93 | 84.59 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 560.00 | 678.49 | 0.00 | 678.85 | 25.36 | 4.80 | 116.60 | 111.21 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 920.00 | 680.90 | 0.00 | 681.01 | 7.27 | 3.31 | 548.46 | 341.25 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.05 | 0.00 | 679.67 | 26.14 | 6.31 | 104.55 | 129.09 |
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 380.00 | 677.25 | 0.00 | 677.63 | 19.78 | 4.94 | 76.99 | 85.43 |
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 560.00 | 678.40 | 0.00 | 678.94 | 24.63 | 5.93 | 94.51 | 112.84 |
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 920.00 | 680.52 | 0.00 | 681.40 | 59.47 | 7.53 | 122.20 | 119.30 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.08 | 0.00 | 679.70 | 25.90 | 6.29 | 104.91 | 129.68 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 380.00 | 677.27 | 0.00 | 677.65 | 19.59 | 4.92 | 77.26 | 85.85 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 560.00 | 678.42 | 0.00 | 678.96 | 24.39 | 5.90 | 94.85 | 113.39 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 920.00 | 680.57 | 0.00 | 681.45 | 59.47 | 7.53 | 122.20 | 119.30 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.14 | 0.00 | 679.75 | 84.80 | 6.23 | 105.96 | 71.67 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 380.00 | 677.32 | 0.00 | 677.68 | 64.16 | 4.87 | 78.00 | 47.44 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 560.00 | 678.48 | 0.00 | 679.01 | 79.78 | 5.84 | 95.82 | 62.70 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 920.00 | 680.81 | 0.00 | 681.57 | 91.08 | 6.99 | 131.58 | 96.40 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 660.00 | 679.82 | 0.00 | 679.92 | 9.45 | 2.61 | 252.74 | 214.69 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 380.00 | 677.72 | 0.00 | 677.80 | 10.06 | 2.23 | 170.49 | 119.81 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 560.00 | 679.07 | 0.00 | 679.17 | 9.94 | 2.52 | 222.65 | 177.61 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 920.00 | 681.67 | 0.00 | 681.79 | 7.95 | 2.79 | 330.02 | 326.28 |
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 660.00 | 679.75 | 0.00 | 680.04 | 24.37 | 4.34 | 152.14 | 133.68 |
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 380.00 | 677.69 | 0.00 | 677.87 | 20.77 | 3.42 | 111.05 | 83.37 |
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 560.00 | 679.02 | 0.00 | 679.27 | 23.68 | 4.07 | 137.54 | 115.08 |
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 920.00 | 681.56 | 0.00 | 681.93 | 25.36 | 4.88 | 188.40 | 182.70 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 660.00 | 679.69 | 0.00 | 680.10 | 11.82 | 5.15 | 128.05 | 191.95 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 380.00 | 677.66 | 0.00 | 677.91 | 9.27 | 4.06 | 93.66 | 124.78 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 560.00 | 678.97 | 0.00 | 679.33 | 11.19 | 4.84 | 115.81 | 167.42 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 920.00 | 681.49 | 0.00 | 682.01 | 12.99 | 5.80 | 158.54 | 255.22 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 660.00 | 679.75 | 0.00 | 680.15 | 11.53 | 5.11 | 129.23 | 194.33 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 380.00 | 677.70 | 0.00 | 677.95 | 9.02 | 4.02 | 94.60 | 126.54 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 560.00 | 679.02 | 0.00 | 679.38 | 10.90 | 4.79 | 116.93 | 169.64 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 920.00 | 681.55 | 0.00 | 682.07 | 12.72 | 5.76 | 159.81 | 257.92 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 660.00 | 679.86 | 0.00 | 680.18 | 30.79 | 4.55 | 145.02 | 118.94 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 380.00 | 677.77 | 0.00 | 677.97 | 26.74 | 3.61 | 105.28 | 73.48 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 560.00 | 679.12 | 0.00 | 679.40 | 30.05 | 4.28 | 130.94 | 102.15 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 920.00 | 681.69 | 0.00 | 682.10 | 31.79 | 5.11 | 179.90 | 163.18 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 660.00 | 680.22 | 0.00 | 680.43 | 23.27 | 3.67 | 179.74 | 136.81 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 380.00 | 678.02 | 0.00 | 678.20 | 27.49 | 3.34 | 113.86 | 72.48 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 560.00 | 679.44 | 0.00 | 679.64 | 24.81 | 3.60 | 155.43 | 112.43 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 920.00 | 682.15 | 0.00 | 682.36 | 19.97 | 3.68 | 250.00 | 205.85 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 660.00 | 680.64 | 0.00 | 680.66 | 1.83 | 1.36 | 734.11 | 488.54 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 380.00 | 678.47 | 0.00 | 678.49 | 2.57 | 1.27 | 433.36 | 237.24 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 560.00 | 679.88 | 0.00 | 679.90 | 2.06 | 1.34 | 622.50 | 389.74 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 920.00 | 682.52 | 0.00 | 682.54 | 1.36 | 1.36 | 1032.76 | 789.95 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 660.00 | 680.67 | 0.00 | 680.70 | 2.85 | 1.64 | 551.35 | 391.19 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 380.00 | 678.52 | 0.00 | 678.54 | 3.96 | 1.50 | 338.08 | 191.04 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 560.00 | 679.91 | 0.00 | 679.94 | 3.19 | 1.60 | 474.50 | 313.67 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 920.00 | 682.54 | 0.00 | 682.57 | 2.20 | 1.69 | 758.51 | 620.61 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 660.00 | 680.66 | 0.00 | 681.09 | 31.34 | 5.27 | 125.35 | 117.90 |
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 380.00 | 678.56 | 0.00 | 678.86 | 32.93 | 4.35 | 87.46 | 66.22 |
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 560.00 | 679.92 | 0.00 | 680.31 | 32.09 | 4.99 | 112.18 | 98.85 |
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 920.00 | 682.51 | 0.00 | 683.03 | 29.28 | 5.80 | 158.50 | 170.02 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 660.00 | 680.55 | 0.00 | 681.55 | 49.76 | 8.01 | 82.44 | 93.56 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 380.00 | 678.44 | 0.00 | 679.38 | 72.42 | 7.77 | 48.91 | 44.65 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 560.00 | 679.81 | 0.00 | 680.79 | 55.05 | 7.93 | 70.63 | 75.48 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 920.00 | 682.40 | 0.00 | 683.45 | 42.37 | 8.22 | 111.89 | 141.35 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 660.00 | 680.99 | 0.00 | 681.84 | 39.81 | 7.38 | 89.44 | 104.60 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 380.00 | 679.15 | 0.00 | 679.77 | 39.92 | 6.32 | 60.14 | 60.14 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 560.00 | 680.32 | 0.00 | 681.10 | 40.50 | 7.10 | 78.86 | 87.99 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 920.00 | 682.74 | 0.00 | 683.69 | 37.44 | 7.85 | 117.24 | 150.35 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 660.00 | 681.80 | 0.00 | 682.07 | 24.83 | 4.15 | 159.13 | 132.46 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 380.00 | 679.80 | 0.00 | 679.96 | 19.73 | 3.19 | 119.04 | 85.55 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 560.00 | 681.10 | 0.00 | 681.33 | 23.62 | 3.36 | 144.97 | 115.24 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 920.00 | 683.60 | 0.00 | 683.94 | 26.51 | 4.72 | 194.96 | 178.67 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 660.00 | 682.10 | 0.00 | 682.26 | 18.32 | 3.35 | 252.80 | 154.22 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 380.00 | 679.96 | 0.00 | 680.11 | 24.22 | 3.17 | 119.74 | 77.21 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 560.00 | 681.32 | 0.00 | 681.51 | 23.79 | 3.48 | 166.26 | 114.81 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 920.00 | 684.05 | 0.00 | 684.14 | 8.19 | 2.72 | 535.62 | 321.42 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.77 | 0.00 | 682.84 | 8.38 | 2.45 | 465.45 | 227.93 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 380.00 | 680.96 | 0.00 | 681.07 | 17.06 | 2.77 | 191.62 | 92.00 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 560.00 | 682.17 | 0.00 | 682.24 | 10.55 | 2.57 | 359.06 | 172.37 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 920.00 | 684.39 | 0.00 | 684.42 | 4.48 | 2.09 | 802.79 | 434.76 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.80 | 0.00 | 682.84 | 21.33 | 1.99 | 437.87 | 142.90 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 380.00 | 680.95 | 0.00 | 681.08 | 83.06 | 3.02 | 160.19 | 41.70 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 560.00 | 682.19 | 0.00 | 682.25 | 31.57 | 2.25 | 330.62 | 99.66 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 920.00 | 684.40 | 0.00 | 684.43 | 8.71 | 1.50 | 772.20 | 311.76 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.81 | 0.00 | 682.85 | 21.19 | 1.99 | 439.00 | 143.37 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 380.00 | 680.99 | 0.00 | 681.11 | 80.67 | 2.99 | 162.40 | 42.31 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 560.00 | 682.20 | 0.00 | 682.26 | 31.24 | 2.24 | 332.01 | 100.19 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 920.00 | 684.41 | 0.00 | 684.43 | 8.63 | 1.50 | 774.57 | 313.19 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.79 | 0.00 | 682.86 | 8.15 | 2.43 | 471.45 | 231.15 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 380.00 | 681.01 | 0.00 | 681.12 | 16.23 | 2.73 | 196.94 | 94.32 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 560.00 | 682.19 | 0.00 | 682.27 | 10.19 | 2.53 | 365.03 | 175.41 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 920.00 | 684.40 | 0.00 | 684.44 | 4.41 | 2.08 | 807.77 | 438.33 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 660.00 | 682.94 | 0.00 | 683.07 | 18.28 | 3.29 | 323.36 | 154.37 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 380.00 | 681.32 | 0.00 | 681.52 | 34.89 | 3.58 | 121.01 | 64.33 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 560.00 | 682.38 | 0.00 | 682.53 | 23.50 | 3.46 | 243.37 | 115.52 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 920.00 | 684.47 | 0.00 | 684.55 | 9.00 | 2.73 | 607.87 | 306.72 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 660.00 | 683.10 | 0.00 | 683.22 | 17.25 | 3.22 | 332.42 | 158.90 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 380.00 | 681.62 | 0.00 | 681.79 | 28.11 | 3.32 | 141.72 | 71.67 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 560.00 | 682.58 | 0.00 | 682.72 | 21.02 | 3.32 | 257.45 | 122.16 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 920.00 | 684.55 | 0.00 | 684.62 | 9.25 | 2.76 | 600.72 | 302.49 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 660.00 | 684.12 | 0.00 | 684.36 | 29.14 | 4.01 | 191.37 | 122.26 |
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 380.00 | 682.94 | 0.00 | 683.09 | 24.05 | 3.11 | 124.06 | 77.49 |
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 560.00 | 683.75 | 0.00 | 683.96 | 28.18 | 3.75 | 160.19 | 105.48 |
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 920.00 | 685.15 | 0.00 | 685.39 | 24.37 | 4.16 | 314.62 | 186.35 |
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 660.00 | 684.97 | 0.00 | 685.15 | 20.18 | 3.54 | 242.93 | 146.92 |
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 380.00 | 683.65 | 0.00 | 683.78 | 18.95 | 2.87 | 135.94 | 87.30 |
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 560.00 | 684.57 | 0.00 | 684.74 | 20.22 | 3.36 | 196.04 | 124.54 |
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 920.00 | 685.90 | 0.00 | 686.09 | 18.64 | 3.78 | 358.11 | 213.07 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 660.00 | 685.25 | 0.00 | 685.33 | 4.94 | 2.38 | 425.22 | 297.08 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 380.00 | 683.88 | 0.00 | 683.94 | 5.03 | 1.93 | 197.23 | 169.47 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 560.00 | 684.84 | 0.00 | 684.90 | 4.56 | 2.22 | 370.46 | 262.15 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 920.00 | 686.18 | 0.00 | 686.27 | 5.65 | 2.73 | 551.04 | 387.04 |
| 21.020 | 60.00 | 685.00 | 682.00 | 676.50 | 660.00 | 685.80 | 0.00 | 685.87 | 3.87 | 2.19 | 397.56 | 335.50 |
| 21.020 | 60.00 | 685.00 | 682.00 | 676.50 | 380.00 | 684.45 | 0.00 | 684.49 | 3.24 | 1.64 | 231.48 | 211.22 |
| 21.020 | 60.00 | 685.00 | 682.00 | 676.50 | 560.00 | 685.51 | 0.00 | 685.56 | 3.22 | 1.95 | 360.80 | 311.89 |
| 21.020 | 60.00 | 685.00 | 682.00 | 676.50 | 920.00 | 686.46 | 0.00 | 686.56 | 5.43 | 2.72 | 480.02 | 394.84 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 660.00 | 685.82 | 0.00 | 685.93 | 12.57 | 2.61 | 252.47 | 186.16 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 380.00 | 684.47 | 0.00 | 684.54 | 9.47 | 2.04 | 186.02 | 123.49 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 560.00 | 685.53 | 0.00 | 685.61 | 10.71 | 2.36 | 237.07 | 171.08 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 920.00 | 686.49 | 0.00 | 686.65 | 17.05 | 3.19 | 288.70 | 222.83 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 660.00 | 686.59 | 0.00 | 686.69 | 12.13 | 2.58 | 255.81 | 189.46 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 380.00 | 685.07 | 0.00 | 685.14 | 10.12 | 2.09 | 181.48 | 119.46 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 560.00 | 686.19 | 0.00 | 686.28 | 10.93 | 2.38 | 235.30 | 169.37 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 920.00 | 687.48 | 0.00 | 687.62 | 14.65 | 3.01 | 305.47 | 240.35 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 660.00 | 686.75 | 0.00 | 686.75 | .32 | .51 | 2322.53 | 1174.25 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 380.00 | 685.20 | 0.00 | 685.20 | .36 | .45 | 1567.59 | 631.79 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 560.00 | 686.34 | 0.00 | 686.34 | .30 | .47 | 2120.64 | 1015.79 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 920.00 | 687.69 | 0.00 | 687.70 | .34 | .58 | 2780.62 | 1567.53 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 660.00 | 686.77 | 0.00 | 686.77 | .52 | .60 | 1991.11 | 919.13 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 380.00 | 685.22 | 0.00 | 685.22 | .74 | .58 | 1239.90 | 442.02 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 560.00 | 686.35 | 0.00 | 686.35 | .52 | .57 | 1789.02 | 776.40 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 920.00 | 687.71 | 0.00 | 687.72 | .52 | .67 | 2449.74 | 1278.85 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 910.00 | 686.83 | 0.00 | 686.84 | 2.01 | 1.06 | 1584.91 | 642.65 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 510.00 | 685.32 | 0.00 | 685.33 | 3.87 | 1.15 | 864.99 | 259.32 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 770.00 | 686.42 | 0.00 | 686.43 | 2.18 | 1.04 | 1384.15 | 521.95 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 1220.00 | 687.77 | 0.00 | 687.78 | 1.63 | 1.08 | 2040.63 | 955.61 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 910.00 | 686.98 | 0.00 | 686.99 | 3.95 | 1.35 | 1268.88 | 457.68 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 510.00 | 685.63 | 0.00 | 685.65 | 9.03 | 1.58 | 638.65 | 169.68 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 770.00 | 686.58 | 0.00 | 686.60 | 4.58 | 1.36 | 1080.41 | 359.65 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 1220.00 | 687.88 | 0.00 | 687.90 | 2.86 | 1.31 | 1707.33 | 721.59 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 910.00 | 687.42 | 0.00 | 687.64 | 38.76 | 4.25 | 262.58 | 146.16 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 510.00 | 686.48 | 0.00 | 686.61 | 27.37 | 3.18 | 197.06 | 97.49 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 770.00 | 687.09 | 0.00 | 687.29 | 35.94 | 3.94 | 239.62 | 128.45 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 1220.00 | 688.16 | 0.00 | 688.44 | 40.40 | 4.69 | 318.48 | 191.94 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 910.00 | 687.87 | 0.00 | 687.96 | 8.05 | 2.73 | 449.57 | 320.78 |
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 510.00 | 686.78 | 0.00 | 686.88 | 9.37 | 2.50 | 204.35 | 166.59 |
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 770.00 | 687.50 | 0.00 | 687.57 | 7.06 | 2.46 | 416.77 | 289.89 |
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 1220.00 | 688.68 | 0.00 | 688.80 | 9.59 | 3.19 | 524.73 | 393.96 |
| 23.020 | 177.00 | 688.30 | 685.50 | 680.50 | 910.00 | 689.70 | 0.00 | 689.76 | 4.10 | 2.32 | 547.40 | 449.27 |
| 23.020 | 177.00 | 688.30 | 685.50 | 680.50 | 510.00 | 688.35 | 0.00 | 688.39 | 2.44 | 1.61 | 431.08 | 326.70 |
| 23.020 | 177.00 | 688.30 | 685.50 | 680.50 | 770.00 | 689.38 | 0.00 | 689.43 | 3.39 | 2.06 | 519.12 | 418.26 |
| 23.020 | 177.00 | 688.30 | 685.50 | 680.50 | 1220.00 | 690.28 | 0.00 | 690.38 | 5.76 | 2.86 | 600.59 | 508.51 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 910.00 | 689.80 | 0.00 | 689.85 | 4.20 | 1.90 | 562.21 | 444.12 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 510.00 | 688.41 | 0.00 | 688.44 | 2.86 | 1.39 | 411.61 | 301.32 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 770.00 | 689.46 | 0.00 | 689.50 | 3.61 | 1.71 | 522.17 | 405.37 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 1220.00 | 690.43 | 0.00 | 690.50 | 5.44 | 2.28 | 643.92 | 523.08 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 910.00 | 689.93 | 0.00 | 689.94 | 1.40 | 1.06 | 861.84 | 769.62 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 510.00 | 688.49 | 0.00 | 688.50 | .91 | .77 | 665.68 | 533.24 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 770.00 | 689.57 | 0.00 | 689.58 | 1.20 | .95 | 809.99 | 702.26 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 1220.00 | 690.59 | 0.00 | 690.62 | 1.83 | 1.27 | 965.01 | 902.56 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 910.00 | 690.00 | 0.00 | 690.02 | 1.56 | 1.10 | 829.34 | 727.46 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 510.00 | 688.54 | 0.00 | 688.55 | 1.05 | .80 | 633.82 | 497.77 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 770.00 | 689.63 | 0.00 | 689.65 | 1.35 | .99 | 777.56 | 662.53 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 1220.00 | 690.69 | 0.00 | 690.72 | 2.01 | 1.32 | 932.97 | 861.38 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 910.00 | 690.11 | 0.00 | 690.14 | 3.07 | 1.76 | 785.37 | 519.66 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 510.00 | 688.62 | 0.00 | 688.63 | 2.32 | 1.32 | 563.36 | 335.16 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 770.00 | 689.72 | 0.00 | 689.75 | 2.72 | 1.60 | 718.58 | 467.11 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 1220.00 | 690.82 | 0.00 | 690.86 | 3.75 | 2.07 | 922.80 | 630.00 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 910.00 | 690.32 | 0.00 | 690.36 | 5.41 | 2.12 | 629.12 | 391.34 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 510.00 | 688.79 | 0.00 | 688.82 | 4.80 | 1.67 | 436.50 | 232.88 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 770.00 | 689.91 | 0.00 | 689.95 | 4.97 | 1.95 | 575.67 | 345.52 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 1220.00 | 691.07 | 0.00 | 691.13 | 6.27 | 2.46 | 743.75 | 487.20 |

GIBSON DRAIN 100 YR FLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| .900 | 850.00 | 641.40 | 0.00 | 0.00 | 0.00 | 377.95 | 0.00 |
| .900 | 490.00 | 640.80 | 0.00 | 0.00 | 0.00 | 352.72 | 0.00 |
| .900 | 720.00 | 641.30 | 0.00 | 0.00 | 0.00 | 373.74 | 0.00 |
| .900 | 1150.00 | 641.90 | 0.00 | 0.00 | 0.00 | 398.97 | 0.00 |
| .980 | 850.00 | 641.48 | 0.00 | .08 | 0.00 | 375.00 | 200.00 |
| .980 | 490.00 | 640.86 | 0.00 | .06 | 0.00 | 375.00 | 200.00 |
| .980 | 720.00 | 641.36 | 0.00 | .06 | 0.00 | 375.00 | 200.00 |
| .980 | 1150.00 | 641.97 | 0.00 | .07 | 0.00 | 375.00 | 200.00 |
| 1.020 | 850.00 | 641.63 | 0.00 | .16 | 0.00 | 291.14 | 45.00 |
| 1.020 | 490.00 | 641.14 | 0.00 | .28 | 0.00 | 279.33 | 45.00 |
| 1.020 | 720.00 | 641.52 | 0.00 | .16 | 0.00 | 288.08 | 45.00 |
| 1.020 | 1150.00 | 642.07 | 0.00 | .10 | 0.00 | 303.25 | 45.00 |
| 1.800 | 850.00 | 641.72 | 0.00 | .08 | 0.00 | 301.69 | 100.00 |
| 1.800 | 490.00 | 641.19 | 0.00 | .05 | 0.00 | 285.47 | 100.00 |
| 1.800 | 720.00 | 641.59 | 0.00 | .07 | 0.00 | 298.20 | 100.00 |
| 1.800 | 1150.00 | 642.17 | 0.00 | .10 | 0.00 | 338.00 | 100.00 |
| 1.900 | 850.00 | 641.98 | 0.00 | .27 | 0.00 | 289.62 | 500.00 |
| 1.900 | 490.00 | 641.35 | 0.00 | .16 | 0.00 | 255.93 | 500.00 |
| 1.900 | 720.00 | 641.81 | 0.00 | .22 | 0.00 | 286.09 | 500.00 |
| 1.900 | 1150.00 | 642.48 | 0.00 | .31 | 0.00 | 299.59 | 500.00 |
| 2.000 | 850.00 | 642.54 | 0.00 | .56 | 0.00 | 280.84 | 500.00 |
| 2.000 | 490.00 | 641.75 | 0.00 | .39 | 0.00 | 161.69 | 500.00 |
| 2.000 | 720.00 | 642.31 | 0.00 | .50 | 0.00 | 249.68 | 500.00 |
| 2.000 | 1150.00 | 643.07 | 0.00 | .59 | 0.00 | 291.40 | 500.00 |
| 3.200 | 850.00 | 643.19 | 0.00 | .65 | 0.00 | 420.00 | 620.00 |
| 3.200 | 490.00 | 642.33 | 0.00 | .59 | 0.00 | 380.76 | 620.00 |
| 3.200 | 720.00 | 642.93 | 0.00 | .63 | 0.00 | 416.11 | 620.00 |
| 3.200 | 1150.00 | 643.71 | 0.00 | .65 | 0.00 | 420.00 | 620.00 |
| 2.980 | 850.00 | 643.30 | 0.00 | .11 | 0.00 | 420.00 | 240.00 |
| 2.980 | 490.00 | 642.45 | 0.00 | .11 | 0.00 | 375.91 | 240.00 |
| 2.980 | 720.00 | 643.04 | 0.00 | .11 | 0.00 | 410.73 | 240.00 |
| 2.980 | 1150.00 | 643.82 | 0.00 | .11 | 0.00 | 420.00 | 240.00 |
| 3.020 | 850.00 | 643.43 | 0.00 | .13 | 0.00 | 465.34 | 36.00 |
| 3.020 | 490.00 | 642.85 | 0.00 | .40 | 0.00 | 449.10 | 36.00 |
| 3.020 | 720.00 | 643.20 | 0.00 | .16 | 0.00 | 459.01 | 36.00 |
| 3.020 | 1150.00 | 643.93 | 0.00 | .10 | 0.00 | 470.00 | 36.00 |
| 3.800 | 850.00 | 643.46 | 0.00 | .03 | 0.00 | 460.47 | 64.00 |
| 3.800 | 490.00 | 642.87 | 0.00 | .02 | 0.00 | 444.12 | 64.00 |
| 3.800 | 720.00 | 643.23 | 0.00 | .02 | 0.00 | 454.12 | 64.00 |
| 3.800 | 1150.00 | 643.95 | 0.00 | .03 | 0.00 | 470.00 | 64.00 |
| 4.200 | 850.00 | 643.75 | 0.00 | .29 | 0.00 | 178.89 | 650.00 |
| 4.200 | 490.00 | 643.07 | 0.00 | .20 | 0.00 | 166.71 | 650.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4.200 | 720.00 | 643.50 | 0.00 | .27 | 0.00 | 174.52 | 650.00 |
| 4.200 | 1150.00 | 644.27 | 0.00 | .31 | 0.00 | 227.00 | 650.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 3.980 | 850.00 | 643.87 | 0.00 | .12 | 0.00 | 43.00 | 250.00 |
| 3.980 | 490.00 | 643.14 | 0.00 | .07 | 0.00 | 43.00 | 250.00 |
| 3.980 | 720.00 | 643.61 | 0.00 | .11 | 0.00 | 43.00 | 250.00 |
| 3.980 | 1150.00 | 644.42 | 0.00 | .16 | 0.00 | 167.39 | 250.00 |
| 4.020 | 850.00 | 644.61 | 0.00 | .74 | 0.00 | 38.00 | 68.00 |
| 4.020 | 490.00 | 643.35 | 0.00 | .21 | 0.00 | 38.00 | 68.00 |
| 4.020 | 720.00 | 644.11 | 0.00 | .51 | 0.00 | 38.00 | 68.00 |
| 4.020 | 1150.00 | 645.47 | 0.00 | 1.05 | 0.00 | 200.00 | 68.00 |
| 4.800 | 850.00 | 644.88 | 0.00 | .28 | 0.00 | 196.73 | 132.00 |
| 4.800 | 490.00 | 643.51 | 0.00 | .16 | 0.00 | 138.40 | 132.00 |
| 4.800 | 720.00 | 644.35 | 0.00 | .24 | 0.00 | 183.46 | 132.00 |
| 4.800 | 1150.00 | 645.56 | 0.00 | .09 | 0.00 | 200.00 | 132.00 |
| 5.200 | 850.00 | 645.23 | 0.00 | .35 | 0.00 | 129.13 | 600.00 |
| 5.200 | 490.00 | 643.86 | 0.00 | .35 | 0.00 | 66.68 | 600.00 |
| 5.200 | 720.00 | 644.73 | 0.00 | .38 | 0.00 | 91.14 | 600.00 |
| 5.200 | 1150.00 | 645.94 | 0.00 | .38 | 0.00 | 156.72 | 600.00 |
| 4.980 | 850.00 | 645.38 | 0.00 | .15 | 0.00 | 75.36 | 150.00 |
| 4.980 | 490.00 | 644.01 | 0.00 | .15 | 0.00 | 34.00 | 150.00 |
| 4.980 | 720.00 | 644.89 | 0.00 | .16 | 0.00 | 34.00 | 150.00 |
| 4.980 | 1150.00 | 646.10 | 0.00 | .16 | 0.00 | 148.59 | 150.00 |
| 5.020 | 850.00 | 646.29 | 0.00 | .90 | 0.00 | 117.00 | 62.00 |
| 5.020 | 490.00 | 644.28 | 0.00 | .26 | 0.00 | 34.00 | 62.00 |
| 5.020 | 720.00 | 645.56 | 0.00 | .67 | 0.00 | 34.00 | 62.00 |
| 5.020 | 1150.00 | 647.00 | 0.00 | .90 | 0.00 | 200.00 | 62.00 |
| 5.800 | 850.00 | 646.38 | 0.00 | .09 | 0.00 | 151.86 | 68.00 |
| 5.800 | 490.00 | 644.45 | 0.00 | .17 | 0.00 | 71.85 | 68.00 |
| 5.800 | 720.00 | 645.78 | 0.00 | .22 | 0.00 | 106.76 | 68.00 |
| 5.800 | 1150.00 | 647.06 | 0.00 | .05 | 0.00 | 169.34 | 68.00 |
| 5.900 | 850.00 | 646.82 | 0.00 | .45 | 0.00 | 103.42 | 520.00 |
| 5.900 | 490.00 | 645.02 | 0.00 | .58 | 0.00 | 65.20 | 520.00 |
| 5.900 | 720.00 | 646.28 | 0.00 | .50 | 0.00 | 81.11 | 520.00 |
| 5.900 | 1150.00 | 647.54 | 0.00 | .48 | 0.00 | 155.17 | 520.00 |
| 5.950 | 850.00 | 646.91 | 0.00 | .08 | 0.00 | 145.50 | 100.00 |
| 5.950 | 490.00 | 645.14 | 0.00 | .12 | 0.00 | 41.16 | 100.00 |
| 5.950 | 720.00 | 646.38 | 0.00 | .10 | 0.00 | 63.70 | 100.00 |
| 5.950 | 1150.00 | 647.65 | 0.00 | .11 | 0.00 | 280.61 | 100.00 |
| 6.000 | 850.00 | 648.53 | 0.00 | 1.62 | 0.00 | 28.00 | 395.00 |
| 6.000 | 490.00 | 647.08 | 0.00 | 1.93 | 0.00 | 28.00 | 395.00 |
| 6.000 | 720.00 | 648.05 | 0.00 | 1.68 | 0.00 | 28.00 | 395.00 |
| 6.000 | 1150.00 | 648.88 | 0.00 | 1.22 | 0.00 | 450.00 | 395.00 |
| 6.100 | 850.00 | 648.77 | 0.00 | .24 | 0.00 | 28.00 | 10.00 |
| 6.100 | 490.00 | 647.12 | 0.00 | .04 | 0.00 | 28.00 | 10.00 |
| 6.100 | 720.00 | 648.17 | 0.00 | .12 | 0.00 | 28.00 | 10.00 |
| 6.100 | 1150.00 | 649.77 | 0.00 | .89 | 0.00 | 450.00 | 10.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 6.200 | 850.00 | 649.34 | 0.00 | .56 | 0.00 | 240.00 | 100.00 |
| 6.200 | 490.00 | 647.61 | 0.00 | .50 | 0.00 | 204.37 | 100.00 |
| 6.200 | 720.00 | 648.68 | 0.00 | .51 | 0.00 | 228.34 | 100.00 |
| 6.200 | 1150.00 | 649.86 | 0.00 | .09 | 0.00 | 240.00 | 100.00 |
| 6.500 | 850.00 | 649.95 | 0.00 | .61 | 0.00 | 342.04 | 495.00 |
| 6.500 | 490.00 | 648.88 | 0.00 | 1.27 | 0.00 | 166.09 | 495.00 |
| 6.500 | 720.00 | 649.53 | 0.00 | .86 | 0.00 | 330.39 | 495.00 |
| 6.500 | 1150.00 | 650.49 | 0.00 | .64 | 0.00 | 357.43 | 495.00 |
| 7.000 | 850.00 | 651.55 | 0.00 | 1.61 | 0.00 | 330.96 | 635.00 |
| 7.000 | 490.00 | 650.84 | 0.00 | 1.96 | 0.00 | 158.55 | 635.00 |
| 7.000 | 720.00 | 651.39 | 0.00 | 1.86 | 0.00 | 326.38 | 635.00 |
| 7.000 | 1150.00 | 651.97 | 0.00 | 1.48 | 0.00 | 342.62 | 635.00 |
| 8.200 | 850.00 | 653.14 | 0.00 | 1.58 | 0.00 | 107.00 | 650.00 |
| 8.200 | 490.00 | 652.15 | 0.00 | 1.31 | 0.00 | 107.00 | 650.00 |
| 8.200 | 720.00 | 652.84 | 0.00 | 1.45 | 0.00 | 107.00 | 650.00 |
| 8.200 | 1150.00 | 653.68 | 0.00 | 1.71 | 0.00 | 107.00 | 650.00 |
| 7.980 | 850.00 | 653.29 | 0.00 | .15 | 0.00 | 27.00 | 127.00 |
| 7.980 | 490.00 | 652.31 | 0.00 | .17 | 0.00 | 26.89 | 127.00 |
| 7.980 | 720.00 | 653.00 | 0.00 | .16 | 0.00 | 27.00 | 127.00 |
| 7.980 | 1150.00 | 653.81 | 0.00 | .13 | 0.00 | 27.00 | 127.00 |
| 7.990 | 850.00 | 653.27 | 0.00 | -.02 | 0.00 | 23.97 | 1.00 |
| 7.990 | 490.00 | 652.31 | 0.00 | -.00 | 0.00 | 23.94 | 1.00 |
| 7.990 | 720.00 | 652.99 | 0.00 | -.01 | 0.00 | 23.96 | 1.00 |
| 7.990 | 1150.00 | 653.76 | 0.00 | -.04 | 0.00 | 23.98 | 1.00 |
| 8.010 | 850.00 | 653.63 | 0.00 | .37 | 0.00 | 23.98 | 31.00 |
| 8.010 | 490.00 | 652.51 | 0.00 | .20 | 0.00 | 23.94 | 31.00 |
| 8.010 | 720.00 | 653.29 | 0.00 | .30 | 0.00 | 23.97 | 31.00 |
| 8.010 | 1150.00 | 654.31 | 0.00 | .55 | 0.00 | 23.99 | 31.00 |
| 8.020 | 850.00 | 653.79 | 0.00 | .16 | 0.00 | 28.00 | 1.00 |
| 8.020 | 490.00 | 652.58 | 0.00 | .07 | 0.00 | 28.00 | 1.00 |
| 8.020 | 720.00 | 653.41 | 0.00 | .13 | 0.00 | 28.00 | 1.00 |
| 8.020 | 1150.00 | 654.58 | 0.00 | .26 | 0.00 | 28.00 | 1.00 |
| 8.800 | 850.00 | 654.35 | 0.00 | .56 | 0.00 | 256.00 | 110.00 |
| 8.800 | 490.00 | 652.92 | 0.00 | .34 | 0.00 | 256.00 | 110.00 |
| 8.800 | 720.00 | 653.88 | 0.00 | .47 | 0.00 | 256.00 | 110.00 |
| 8.800 | 1150.00 | 655.33 | 0.00 | .76 | 0.00 | 256.00 | 110.00 |
| 9.200 | 850.00 | 654.95 | 0.00 | .60 | 0.00 | 107.00 | 700.00 |
| 9.200 | 490.00 | 653.86 | 0.00 | .94 | 0.00 | 107.00 | 700.00 |
| 9.200 | 720.00 | 654.56 | 0.00 | .67 | 0.00 | 107.00 | 700.00 |
| 9.200 | 1150.00 | 655.81 | 0.00 | .48 | 0.00 | 107.00 | 700.00 |
| 8.980 | 850.00 | 655.24 | 0.00 | .30 | 0.00 | 27.75 | 131.00 |
| 8.980 | 490.00 | 654.16 | 0.00 | .30 | 0.00 | 27.75 | 131.00 |
| 8.980 | 720.00 | 654.85 | 0.00 | .30 | 0.00 | 27.75 | 131.00 |
| 8.980 | 1150.00 | 656.08 | 0.00 | .27 | 0.00 | 27.75 | 131.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 9.020 | 850.00 | 655.69 | 0.00 | .44 | 0.00 | 27.00 | 59.00 |
| 9.020 | 490.00 | 654.25 | 0.00 | .10 | 0.00 | 27.00 | 59.00 |
| 9.020 | 720.00 | 655.14 | 0.00 | .28 | 0.00 | 27.00 | 59.00 |
| 9.020 | 1150.00 | 657.04 | 0.00 | .95 | 0.00 | 27.00 | 59.00 |
| 9.800 | 850.00 | 656.12 | 0.00 | .43 | 0.00 | 207.76 | 110.00 |
| 9.800 | 490.00 | 654.49 | 0.00 | .24 | 0.00 | 186.84 | 110.00 |
| 9.800 | 720.00 | 655.51 | 0.00 | .37 | 0.00 | 202.02 | 110.00 |
| 9.800 | 1150.00 | 657.57 | 0.00 | .54 | 0.00 | 218.00 | 110.00 |
| 9.900 | 850.00 | 656.21 | 0.00 | .10 | 0.00 | 198.61 | 445.00 |
| 9.900 | 490.00 | 654.60 | 0.00 | .11 | 0.00 | 150.25 | 445.00 |
| 9.900 | 720.00 | 655.61 | 0.00 | .11 | 0.00 | 176.23 | 445.00 |
| 9.900 | 1150.00 | 657.65 | 0.00 | .07 | 0.00 | 240.96 | 445.00 |
| 10.000 | 850.00 | 656.31 | 0.00 | .10 | 0.00 | 180.11 | 455.00 |
| 10.000 | 490.00 | 654.72 | 0.00 | .11 | 0.00 | 141.90 | 455.00 |
| 10.000 | 720.00 | 655.73 | 0.00 | .11 | 0.00 | 160.88 | 455.00 |
| 10.000 | 1150.00 | 657.72 | 0.00 | .08 | 0.00 | 230.58 | 455.00 |
| 10.050 | 850.00 | 656.51 | 0.00 | .20 | 0.00 | 160.41 | 595.00 |
| 10.050 | 490.00 | 654.95 | 0.00 | .24 | 0.00 | 132.17 | 595.00 |
| 10.050 | 720.00 | 655.94 | 0.00 | .22 | 0.00 | 149.24 | 595.00 |
| 10.050 | 1150.00 | 657.87 | 0.00 | .14 | 0.00 | 208.07 | 595.00 |
| 10.060 | 850.00 | 656.48 | 0.00 | -.03 | 0.00 | 159.37 | 1.00 |
| 10.060 | 490.00 | 654.94 | 0.00 | -.01 | 0.00 | 132.06 | 1.00 |
| 10.060 | 720.00 | 655.90 | 0.00 | -.05 | 0.00 | 148.46 | 1.00 |
| 10.060 | 1150.00 | 657.85 | 0.00 | -.01 | 0.00 | 207.81 | 1.00 |
| 10.070 | 850.00 | 656.51 | 0.00 | .03 | 0.00 | 160.01 | 4.00 |
| 10.070 | 490.00 | 654.95 | 0.00 | .01 | 0.00 | 132.06 | 4.00 |
| 10.070 | 720.00 | 655.92 | 0.00 | .02 | 0.00 | 148.76 | 4.00 |
| 10.070 | 1150.00 | 657.86 | 0.00 | .01 | 0.00 | 207.77 | 4.00 |
| 10.100 | 850.00 | 656.57 | 0.00 | .06 | 0.00 | 162.14 | 1.00 |
| 10.100 | 490.00 | 654.98 | 0.00 | .03 | 0.00 | 132.60 | 1.00 |
| 10.100 | 720.00 | 656.01 | 0.00 | .08 | 0.00 | 150.30 | 1.00 |
| 10.100 | 1150.00 | 657.89 | 0.00 | .03 | 0.00 | 208.98 | 1.00 |
| 10.500 | 850.00 | 656.89 | 0.00 | .32 | 0.00 | 144.88 | 595.00 |
| 10.500 | 490.00 | 655.42 | 0.00 | .44 | 0.00 | 119.46 | 595.00 |
| 10.500 | 720.00 | 656.37 | 0.00 | .36 | 0.00 | 135.88 | 595.00 |
| 10.500 | 1150.00 | 658.12 | 0.00 | .23 | 0.00 | 172.68 | 595.00 |
| 10.700 | 850.00 | 657.16 | 0.00 | .27 | 0.00 | 74.12 | 227.00 |
| 10.700 | 490.00 | 655.88 | 0.00 | .46 | 0.00 | 57.63 | 227.00 |
| 10.700 | 720.00 | 656.70 | 0.00 | .33 | 0.00 | 68.12 | 227.00 |
| 10.700 | 1150.00 | 658.29 | 0.00 | .17 | 0.00 | 89.63 | 227.00 |
| 11.000 | 850.00 | 658.50 | 0.00 | 1.33 | 0.00 | 38.76 | 228.00 |
| 11.000 | 490.00 | 657.36 | 0.00 | 1.48 | 0.00 | 34.28 | 228.00 |
| 11.000 | 720.00 | 658.12 | 0.00 | 1.43 | 0.00 | 37.30 | 228.00 |
| 11.000 | 1150.00 | 659.31 | 0.00 | 1.01 | 0.00 | 82.95 | 228.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 11.200 | 850.00 | 661.28 | 0.00 | 2.79 | 0.00 | 123.19 | 545.00 |
| 11.200 | 490.00 | 659.66 | 0.00 | 2.31 | 0.00 | 37.08 | 545.00 |
| 11.200 | 720.00 | 660.73 | 0.00 | 2.61 | 0.00 | 53.29 | 545.00 |
| 11.200 | 1150.00 | 662.11 | 0.00 | 2.81 | 0.00 | 175.00 | 545.00 |
| 11.800 | 850.00 | 662.45 | 0.00 | 1.17 | 0.00 | 150.00 | 550.00 |
| 11.800 | 490.00 | 660.97 | 0.00 | 1.31 | 0.00 | 96.26 | 550.00 |
| 11.800 | 720.00 | 661.96 | 0.00 | 1.23 | 0.00 | 150.00 | 550.00 |
| 11.800 | 1150.00 | 663.20 | 0.00 | 1.09 | 0.00 | 150.00 | 550.00 |
| 12.000 | 850.00 | 663.29 | 0.00 | .84 | 0.00 | 139.93 | 555.00 |
| 12.000 | 490.00 | 662.09 | 0.00 | 1.12 | 0.00 | 71.89 | 555.00 |
| 12.000 | 720.00 | 662.90 | 0.00 | .94 | 0.00 | 101.21 | 555.00 |
| 12.000 | 1150.00 | 664.00 | 0.00 | .80 | 0.00 | 150.00 | 555.00 |
| 12.200 | 850.00 | 664.21 | 0.00 | .92 | 0.00 | 150.00 | 395.00 |
| 12.200 | 490.00 | 663.08 | 0.00 | .99 | 0.00 | 75.68 | 395.00 |
| 12.200 | 720.00 | 663.86 | 0.00 | .96 | 0.00 | 127.08 | 395.00 |
| 12.200 | 1150.00 | 664.86 | 0.00 | .86 | 0.00 | 150.00 | 395.00 |
| 12.800 | 100 850.00 | 665.37 | 0.00 | 1.16 | 0.00 | 61.66 | 450.00 |
| 12.800 | 10 490.00 | 664.25 | 0.00 | 1.17 | 0.00 | 55.11 | 450.00 |
| 12.800 | 50 720.00 | 665.02 | 0.00 | 1.16 | 0.00 | 59.64 | 450.00 |
| 12.800 | 500 1150.00 | 666.00 | 0.00 | 1.14 | 0.00 | 89.24 | 450.00 |
| 13.000 | 850.00 | 667.27 | 0.00 | 1.90 | 0.00 | 158.00 | 455.00 |
| 13.000 | 490.00 | 666.09 | 0.00 | 1.84 | 0.00 | 38.89 | 455.00 |
| 13.000 | 720.00 | 666.90 | 0.00 | 1.88 | 0.00 | 74.92 | 455.00 |
| 13.000 | 1150.00 | 667.93 | 0.00 | 1.93 | 0.00 | 158.00 | 455.00 |
| 13.200 | 850.00 | 668.62 | 0.00 | 1.35 | 0.00 | 159.00 | 295.00 |
| 13.200 | 490.00 | 667.45 | 0.00 | 1.36 | 0.00 | 40.74 | 295.00 |
| 13.200 | 720.00 | 668.28 | 0.00 | 1.38 | 0.00 | 158.00 | 295.00 |
| 13.200 | 1150.00 | 669.22 | 0.00 | 1.29 | 0.00 | 158.00 | 295.00 |
| 13.800 | 850.00 | 669.87 | 0.00 | 1.25 | 0.00 | 168.67 | 350.00 |
| 13.800 | 490.00 | 668.79 | 0.00 | 1.34 | 0.00 | 155.20 | 350.00 |
| 13.800 | 720.00 | 669.55 | 0.00 | 1.27 | 0.00 | 167.64 | 350.00 |
| 13.800 | 1150.00 | 670.48 | 0.00 | 1.25 | 0.00 | 170.64 | 350.00 |
| 14.200 | 850.00 | 670.99 | 0.00 | 1.12 | 0.00 | 121.00 | 355.00 |
| 14.200 | 490.00 | 670.10 | 0.00 | 1.31 | 0.00 | 120.61 | 355.00 |
| 14.200 | 720.00 | 670.70 | 0.00 | 1.15 | 0.00 | 121.00 | 355.00 |
| 14.200 | 1150.00 | 671.58 | 0.00 | 1.10 | 0.00 | 121.00 | 355.00 |
| 13.980 | 850.00 | 671.72 | 0.00 | .74 | 0.00 | 24.00 | 181.00 |
| 13.980 | 490.00 | 670.74 | 0.00 | .65 | 0.00 | 24.00 | 181.00 |
| 13.980 | 720.00 | 671.42 | 0.00 | .72 | 0.00 | 24.00 | 181.00 |
| 13.980 | 1150.00 | 672.29 | 0.00 | .71 | 0.00 | 159.05 | 181.00 |
| 14.020 | 850.00 | 672.93 | 0.00 | 1.20 | 0.00 | 26.00 | 9.00 |
| 14.020 | 490.00 | 671.07 | 0.00 | .32 | 0.00 | 26.00 | 9.00 |
| 14.020 | 720.00 | 672.28 | 0.00 | .87 | 0.00 | 26.00 | 9.00 |
| 14.020 | 1150.00 | 673.67 | 0.00 | 1.38 | 0.00 | 204.54 | 9.00 |

2+845

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 14.100 | 850.00 | 673.41 | 0.00 | .48 | 0.00 | 204.00 | 110.00 |
| 14.100 | 490.00 | 671.41 | 0.00 | .35 | 0.00 | 71.59 | 110.00 |
| 14.100 | 720.00 | 672.72 | 0.00 | .43 | 0.00 | 94.07 | 110.00 |
| 14.100 | 1150.00 | 673.90 | 0.00 | .23 | 0.00 | 204.72 | 110.00 |
| 14.500 | 850.00 | 673.81 | 0.00 | .40 | 0.00 | 204.30 | 235.00 |
| 14.500 | 490.00 | 672.04 | 0.00 | .63 | 0.00 | 78.91 | 235.00 |
| 14.500 | 720.00 | 673.20 | 0.00 | .48 | 0.00 | 118.85 | 235.00 |
| 14.500 | 1150.00 | 674.39 | 0.00 | .49 | 0.00 | 205.15 | 235.00 |
| 14.600 | 850.00 | 674.16 | 0.00 | .35 | 0.00 | 84.00 | 215.00 |
| 14.600 | 490.00 | 672.54 | 0.00 | .49 | 0.00 | 78.21 | 215.00 |
| 14.600 | 720.00 | 673.62 | 0.00 | .42 | 0.00 | 84.00 | 215.00 |
| 14.600 | 1150.00 | 674.77 | 0.00 | .39 | 0.00 | 84.00 | 215.00 |
| 14.980 | 850.00 | 674.24 | 0.00 | .07 | 0.00 | 24.00 | 110.00 |
| 14.980 | 490.00 | 672.65 | 0.00 | .11 | 0.00 | 24.00 | 110.00 |
| 14.980 | 720.00 | 673.71 | 0.00 | .09 | 0.00 | 24.00 | 110.00 |
| 14.980 | 1150.00 | 674.84 | 0.00 | .07 | 0.00 | 24.00 | 110.00 |
| 15.020 | 850.00 | 674.81 | 0.00 | .57 | 0.00 | 24.00 | 45.00 |
| 15.020 | 490.00 | 672.80 | 0.00 | .15 | 0.00 | 24.00 | 45.00 |
| 15.020 | 720.00 | 674.09 | 0.00 | .38 | 0.00 | 24.00 | 45.00 |
| 15.020 | 1150.00 | 675.95 | 0.00 | 1.12 | 0.00 | 24.00 | 45.00 |
| 15.800 | 850.00 | 675.12 | 0.00 | .32 | 0.00 | 98.02 | 130.00 |
| 15.800 | 490.00 | 672.99 | 0.00 | .19 | 0.00 | 66.53 | 130.00 |
| 15.800 | 720.00 | 674.37 | 0.00 | .28 | 0.00 | 80.64 | 130.00 |
| 15.800 | 1150.00 | 676.39 | 0.00 | .44 | 0.00 | 108.63 | 130.00 |
| 16.200 | 850.00 | 675.40 | 0.00 | .27 | 0.00 | 77.57 | 270.00 |
| 16.200 | 490.00 | 673.39 | 0.00 | .40 | 0.00 | 50.81 | 270.00 |
| 16.200 | 720.00 | 674.69 | 0.00 | .32 | 0.00 | 71.89 | 270.00 |
| 16.200 | 1150.00 | 676.62 | 0.00 | .23 | 0.00 | 85.60 | 270.00 |
| 16.300 | 850.00 | 675.53 | 0.00 | .13 | 0.00 | 73.11 | 105.00 |
| 16.300 | 490.00 | 673.58 | 0.00 | .19 | 0.00 | 56.47 | 105.00 |
| 16.300 | 720.00 | 674.84 | 0.00 | .15 | 0.00 | 67.27 | 105.00 |
| 16.300 | 1150.00 | 676.73 | 0.00 | .11 | 0.00 | 81.69 | 105.00 |
| 15.980 | 850.00 | 675.60 | 0.00 | .07 | 0.00 | 16.00 | 105.00 |
| 15.980 | 490.00 | 673.82 | 0.00 | .24 | 0.00 | 16.00 | 105.00 |
| 15.980 | 720.00 | 674.98 | 0.00 | .14 | 0.00 | 16.00 | 105.00 |
| 15.980 | 1150.00 | 676.67 | 0.00 | -.06 | 0.00 | 16.00 | 105.00 |
| 16.020 | 850.00 | 676.92 | 0.00 | 1.32 | 0.00 | 17.00 | 40.00 |
| 16.020 | 490.00 | 674.10 | 0.00 | .28 | 0.00 | 17.00 | 40.00 |
| 16.020 | 720.00 | 675.84 | 0.00 | .86 | 0.00 | 17.00 | 40.00 |
| 16.020 | 1150.00 | 679.39 | 0.00 | 2.72 | 0.00 | 17.00 | 40.00 |
| 16.800 | 850.00 | 677.57 | 0.00 | .65 | 0.00 | 71.28 | 110.00 |
| 16.800 | 490.00 | 674.61 | 0.00 | .51 | 0.00 | 54.49 | 110.00 |
| 16.800 | 720.00 | 676.46 | 0.00 | .62 | 0.00 | 65.57 | 110.00 |
| 16.800 | 1150.00 | 680.09 | 0.00 | .70 | 0.00 | 120.31 | 110.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 16.850 | 850.00 | 677.77 | 0.00 | .21 | 0.00 | 69.26 | 300.00 |
| 16.850 | 490.00 | 675.00 | 0.00 | .38 | 0.00 | 53.17 | 300.00 |
| 16.850 | 720.00 | 676.73 | 0.00 | .27 | 0.00 | 63.61 | 300.00 |
| 16.850 | 1150.00 | 680.21 | 0.00 | .12 | 0.00 | 99.00 | 300.00 |
| 16.860 | 850.00 | 677.73 | 0.00 | -.05 | 0.00 | 69.02 | 1.00 |
| 16.860 | 490.00 | 674.97 | 0.00 | -.02 | 0.00 | 53.05 | 1.00 |
| 16.860 | 720.00 | 676.65 | 0.00 | -.07 | 0.00 | 63.18 | 1.00 |
| 16.860 | 1150.00 | 680.19 | 0.00 | -.02 | 0.00 | 98.03 | 1.00 |
| 16.870 | 850.00 | 677.80 | 0.00 | .08 | 0.00 | 69.41 | 9.00 |
| 16.870 | 490.00 | 675.03 | 0.00 | .05 | 0.00 | 53.38 | 9.00 |
| 16.870 | 720.00 | 676.79 | 0.00 | .14 | 0.00 | 64.01 | 9.00 |
| 16.870 | 1150.00 | 680.21 | 0.00 | .03 | 0.00 | 98.93 | 9.00 |
| 16.880 | 850.00 | 677.89 | 0.00 | .09 | 0.00 | 69.85 | 1.00 |
| 16.880 | 490.00 | 675.08 | 0.00 | .05 | 0.00 | 53.68 | 1.00 |
| 16.880 | 720.00 | 676.92 | 0.00 | .12 | 0.00 | 64.76 | 1.00 |
| 16.880 | 1150.00 | 680.26 | 0.00 | .04 | 0.00 | 101.02 | 1.00 |
| 16.950 | 850.00 | 678.00 | 0.00 | .11 | 0.00 | 68.84 | 140.00 |
| 16.950 | 490.00 | 675.27 | 0.00 | .19 | 0.00 | 53.00 | 140.00 |
| 16.950 | 720.00 | 677.04 | 0.00 | .13 | 0.00 | 63.72 | 140.00 |
| 16.950 | 1150.00 | 680.32 | 0.00 | .06 | 0.00 | 90.60 | 140.00 |
| 16.960 | 850.00 | 677.95 | 0.00 | -.05 | 0.00 | 68.62 | 1.00 |
| 16.960 | 490.00 | 675.24 | 0.00 | -.03 | 0.00 | 52.83 | 1.00 |
| 16.960 | 720.00 | 676.98 | 0.00 | -.06 | 0.00 | 63.35 | 1.00 |
| 16.960 | 1150.00 | 680.30 | 0.00 | -.02 | 0.00 | 89.64 | 1.00 |
| 16.970 | 850.00 | 678.02 | 0.00 | .08 | 0.00 | 69.01 | 9.00 |
| 16.970 | 490.00 | 675.30 | 0.00 | .07 | 0.00 | 53.22 | 9.00 |
| 16.970 | 720.00 | 677.10 | 0.00 | .12 | 0.00 | 64.08 | 9.00 |
| 16.970 | 1150.00 | 680.33 | 0.00 | .03 | 0.00 | 90.56 | 9.00 |
| 16.980 | 850.00 | 678.11 | 0.00 | .08 | 0.00 | 69.44 | 1.00 |
| 16.980 | 490.00 | 675.37 | 0.00 | .07 | 0.00 | 53.63 | 1.00 |
| 16.980 | 720.00 | 677.21 | 0.00 | .11 | 0.00 | 64.76 | 1.00 |
| 16.980 | 1150.00 | 680.37 | 0.00 | .04 | 0.00 | 92.73 | 1.00 |
| 17.000 | 850.00 | 678.27 | 0.00 | .16 | 0.00 | 244.54 | 215.00 |
| 17.000 | 490.00 | 675.65 | 0.00 | .28 | 0.00 | 177.09 | 215.00 |
| 17.000 | 720.00 | 677.40 | 0.00 | .19 | 0.00 | 217.59 | 215.00 |
| 17.000 | 1150.00 | 680.48 | 0.00 | .12 | 0.00 | 275.00 | 215.00 |
| 17.200 | 850.00 | 678.29 | 0.00 | .02 | 0.00 | 235.97 | 50.00 |
| 17.200 | 490.00 | 675.70 | 0.00 | .05 | 0.00 | 122.05 | 50.00 |
| 17.200 | 720.00 | 677.43 | 0.00 | .02 | 0.00 | 209.28 | 50.00 |
| 17.200 | 1150.00 | 680.49 | 0.00 | .01 | 0.00 | 275.00 | 50.00 |
| 17.220 | 850.00 | 678.30 | 0.00 | .01 | 0.00 | 235.78 | 1.00 |
| 17.220 | 490.00 | 675.58 | 0.00 | -.12 | 0.00 | 115.99 | 1.00 |
| 17.220 | 720.00 | 677.43 | 0.00 | .00 | 0.00 | 209.10 | 1.00 |
| 17.220 | 1150.00 | 680.50 | 0.00 | .01 | 0.00 | 275.00 | 1.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 17.230 | 850.00 | 678.31 | 0.00 | .01 | 0.00 | 236.29 | 9.00 |
| 17.230 | 490.00 | 675.86 | 0.00 | .28 | 0.00 | 158.38 | 9.00 |
| 17.230 | 720.00 | 677.45 | 0.00 | .02 | 0.00 | 209.67 | 9.00 |
| 17.230 | 1150.00 | 680.50 | 0.00 | .00 | 0.00 | 275.00 | 9.00 |
| 17.250 | 850.00 | 678.31 | 0.00 | -.00 | 0.00 | 236.47 | 1.00 |
| 17.250 | 490.00 | 675.99 | 0.00 | .13 | 0.00 | 177.53 | 1.00 |
| 17.250 | 720.00 | 677.45 | 0.00 | -.00 | 0.00 | 210.05 | 1.00 |
| 17.250 | 1150.00 | 680.50 | 0.00 | -.00 | 0.00 | 275.00 | 1.00 |
| 17.300 | 850.00 | 678.44 | 0.00 | .14 | 0.00 | 240.59 | 330.00 |
| 17.300 | 490.00 | 676.33 | 0.00 | .34 | 0.00 | 180.86 | 330.00 |
| 17.300 | 720.00 | 677.65 | 0.00 | .19 | 0.00 | 215.92 | 330.00 |
| 17.300 | 1150.00 | 680.56 | 0.00 | .06 | 0.00 | 275.00 | 330.00 |
| 17.320 | 850.00 | 678.45 | 0.00 | .01 | 0.00 | 240.60 | 1.00 |
| 17.320 | 490.00 | 676.31 | 0.00 | -.02 | 0.00 | 180.78 | 1.00 |
| 17.320 | 720.00 | 677.65 | 0.00 | .01 | 0.00 | 215.94 | 1.00 |
| 17.320 | 1150.00 | 680.57 | 0.00 | .01 | 0.00 | 275.00 | 1.00 |
| 17.330 | 850.00 | 678.46 | 0.00 | .01 | 0.00 | 241.07 | 9.00 |
| 17.330 | 490.00 | 676.37 | 0.00 | .06 | 0.00 | 181.32 | 9.00 |
| 17.330 | 720.00 | 677.67 | 0.00 | .02 | 0.00 | 216.46 | 9.00 |
| 17.330 | 1150.00 | 680.57 | 0.00 | .00 | 0.00 | 275.00 | 9.00 |
| 17.350 | 850.00 | 678.46 | 0.00 | -.00 | 0.00 | 241.22 | 1.00 |
| 17.350 | 490.00 | 676.40 | 0.00 | .03 | 0.00 | 181.62 | 1.00 |
| 17.350 | 720.00 | 677.67 | 0.00 | -.00 | 0.00 | 216.74 | 1.00 |
| 17.350 | 1150.00 | 680.57 | 0.00 | -.00 | 0.00 | 275.00 | 1.00 |
| 18.200 | 850.00 | 678.60 | 0.00 | .14 | 0.00 | 63.90 | 350.00 |
| 18.200 | 490.00 | 676.78 | 0.00 | .37 | 0.00 | 34.83 | 350.00 |
| 18.200 | 720.00 | 677.90 | 0.00 | .23 | 0.00 | 38.16 | 350.00 |
| 18.200 | 1150.00 | 680.62 | 0.00 | .05 | 0.00 | 154.30 | 350.00 |
| 18.280 | 660.00 | 679.15 | 0.00 | .55 | 0.00 | 16.00 | 230.00 |
| 18.280 | 380.00 | 677.32 | 0.00 | .54 | 0.00 | 16.00 | 230.00 |
| 18.280 | 560.00 | 678.49 | 0.00 | .59 | 0.00 | 16.00 | 230.00 |
| 18.280 | 920.00 | 680.90 | 0.00 | .29 | 0.00 | 142.00 | 230.00 |
| 18.290 | 660.00 | 679.05 | 0.00 | -.10 | 0.00 | 15.34 | 1.00 |
| 18.290 | 380.00 | 677.25 | 0.00 | -.07 | 0.00 | 15.25 | 1.00 |
| 18.290 | 560.00 | 678.40 | 0.00 | -.09 | 0.00 | 15.31 | 1.00 |
| 18.290 | 920.00 | 680.52 | 0.00 | -.39 | 0.00 | 22.15 | 1.00 |
| 18.310 | 660.00 | 679.08 | 0.00 | .03 | 0.00 | 15.34 | 9.00 |
| 18.310 | 380.00 | 677.27 | 0.00 | .02 | 0.00 | 15.25 | 9.00 |
| 18.310 | 560.00 | 678.42 | 0.00 | .03 | 0.00 | 15.31 | 9.00 |
| 18.310 | 920.00 | 680.57 | 0.00 | .05 | 0.00 | 23.28 | 9.00 |
| 18.320 | 660.00 | 679.14 | 0.00 | .06 | 0.00 | 15.35 | 11.00 |
| 18.320 | 380.00 | 677.32 | 0.00 | .04 | 0.00 | 15.26 | 11.00 |
| 18.320 | 560.00 | 678.48 | 0.00 | .06 | 0.00 | 15.31 | 11.00 |
| 18.320 | 920.00 | 680.81 | 0.00 | .24 | 0.00 | 15.40 | 11.00 |

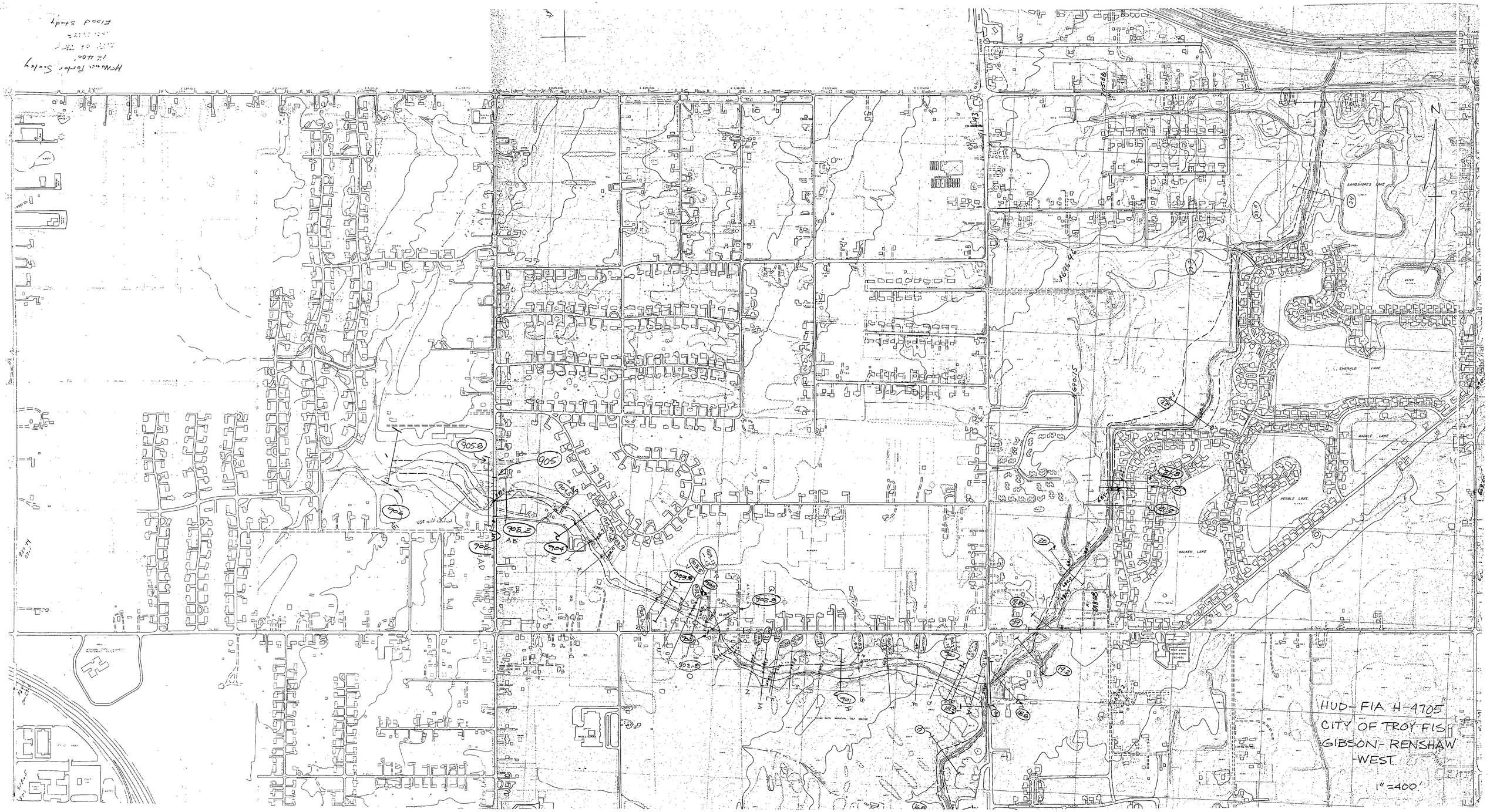
| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 18.400 | 660.00 | 679.82 | 0.00 | .68 | 0.00 | 41.03 | 14.00 |
| 18.400 | 380.00 | 677.72 | 0.00 | .41 | 0.00 | 37.05 | 14.00 |
| 18.400 | 560.00 | 679.07 | 0.00 | .59 | 0.00 | 39.79 | 14.00 |
| 18.400 | 920.00 | 681.67 | 0.00 | .86 | 0.00 | 42.00 | 14.00 |
| 17.980 | 660.00 | 679.75 | 0.00 | -.07 | 0.00 | 20.00 | 15.00 |
| 17.980 | 380.00 | 677.69 | 0.00 | -.03 | 0.00 | 20.00 | 15.00 |
| 17.980 | 560.00 | 679.02 | 0.00 | -.06 | 0.00 | 20.00 | 15.00 |
| 17.980 | 920.00 | 681.56 | 0.00 | -.11 | 0.00 | 20.00 | 15.00 |
| 17.990 | 660.00 | 679.69 | 0.00 | -.06 | 0.00 | 16.95 | 1.00 |
| 17.990 | 380.00 | 677.66 | 0.00 | -.04 | 0.00 | 16.91 | 1.00 |
| 17.990 | 560.00 | 678.97 | 0.00 | -.05 | 0.00 | 16.93 | 1.00 |
| 17.990 | 920.00 | 681.49 | 0.00 | -.07 | 0.00 | 16.98 | 1.00 |
| 18.010 | 660.00 | 679.75 | 0.00 | .06 | 0.00 | 16.95 | 43.00 |
| 18.010 | 380.00 | 677.70 | 0.00 | .05 | 0.00 | 16.91 | 43.00 |
| 18.010 | 560.00 | 679.02 | 0.00 | .06 | 0.00 | 16.94 | 43.00 |
| 18.010 | 920.00 | 681.55 | 0.00 | .07 | 0.00 | 16.99 | 43.00 |
| 18.020 | 660.00 | 679.86 | 0.00 | .11 | 0.00 | 19.00 | 1.00 |
| 18.020 | 380.00 | 677.77 | 0.00 | .06 | 0.00 | 19.00 | 1.00 |
| 18.020 | 560.00 | 679.12 | 0.00 | .10 | 0.00 | 19.00 | 1.00 |
| 18.020 | 920.00 | 681.69 | 0.00 | .14 | 0.00 | 19.00 | 1.00 |
| 18.800 | 660.00 | 680.22 | 0.00 | .36 | 0.00 | 32.49 | 80.00 |
| 18.800 | 380.00 | 678.02 | 0.00 | .26 | 0.00 | 27.80 | 80.00 |
| 18.800 | 560.00 | 679.44 | 0.00 | .33 | 0.00 | 30.58 | 80.00 |
| 18.800 | 920.00 | 682.15 | 0.00 | .45 | 0.00 | 40.31 | 80.00 |
| 19.200 | 660.00 | 680.64 | 0.00 | .42 | 0.00 | 150.27 | 450.00 |
| 19.200 | 380.00 | 678.47 | 0.00 | .45 | 0.00 | 128.07 | 450.00 |
| 19.200 | 560.00 | 679.89 | 0.00 | .43 | 0.00 | 142.44 | 450.00 |
| 19.200 | 920.00 | 682.52 | 0.00 | .37 | 0.00 | 163.49 | 450.00 |
| 19.300 | 660.00 | 680.67 | 0.00 | .03 | 0.00 | 103.07 | 160.00 |
| 19.300 | 380.00 | 678.52 | 0.00 | .04 | 0.00 | 95.32 | 160.00 |
| 19.300 | 560.00 | 679.91 | 0.00 | .03 | 0.00 | 100.35 | 160.00 |
| 19.300 | 920.00 | 682.54 | 0.00 | .02 | 0.00 | 121.08 | 160.00 |
| 18.980 | 660.00 | 680.66 | 0.00 | -.00 | 0.00 | 18.00 | 117.00 |
| 18.980 | 380.00 | 678.56 | 0.00 | .05 | 0.00 | 18.00 | 117.00 |
| 18.980 | 560.00 | 679.92 | 0.00 | .01 | 0.00 | 18.00 | 117.00 |
| 18.980 | 920.00 | 682.51 | 0.00 | -.03 | 0.00 | 18.00 | 117.00 |
| 18.990 | 660.00 | 680.55 | 0.00 | -.11 | 0.00 | 15.90 | 1.00 |
| 18.990 | 380.00 | 678.44 | 0.00 | -.12 | 0.00 | 15.82 | 1.00 |
| 18.990 | 560.00 | 679.81 | 0.00 | -.11 | 0.00 | 15.87 | 1.00 |
| 18.990 | 920.00 | 682.40 | 0.00 | -.10 | 0.00 | 15.96 | 1.00 |
| 19.010 | 660.00 | 680.99 | 0.00 | .44 | 0.00 | 15.91 | 51.00 |
| 19.010 | 380.00 | 679.15 | 0.00 | .71 | 0.00 | 15.85 | 51.00 |
| 19.010 | 560.00 | 680.32 | 0.00 | .51 | 0.00 | 15.89 | 51.00 |
| 19.010 | 920.00 | 682.74 | 0.00 | .33 | 0.00 | 15.97 | 51.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKES | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 19.020 | 660.00 | 681.80 | 0.00 | .81 | 0.00 | 20.00 | 1.00 |
| 19.020 | 380.00 | 679.80 | 0.00 | .65 | 0.00 | 20.00 | 1.00 |
| 19.020 | 560.00 | 681.10 | 0.00 | .77 | 0.00 | 20.00 | 1.00 |
| 19.020 | 920.00 | 683.60 | 0.00 | .86 | 0.00 | 20.00 | 1.00 |
| 19.800 | 660.00 | 682.10 | 0.00 | .29 | 0.00 | 128.97 | 70.00 |
| 19.800 | 380.00 | 679.96 | 0.00 | .16 | 0.00 | 27.69 | 70.00 |
| 19.800 | 560.00 | 681.32 | 0.00 | .23 | 0.00 | 66.48 | 70.00 |
| 19.800 | 920.00 | 684.05 | 0.00 | .46 | 0.00 | 168.81 | 70.00 |
| 19.900 | 660.00 | 682.77 | 0.00 | .68 | 0.00 | 188.10 | 470.00 |
| 19.900 | 380.00 | 680.96 | 0.00 | 1.00 | 0.00 | 118.75 | 470.00 |
| 19.900 | 560.00 | 682.17 | 0.00 | .84 | 0.00 | 163.20 | 470.00 |
| 19.900 | 920.00 | 684.39 | 0.00 | .33 | 0.00 | 214.00 | 470.00 |
| 19.920 | 660.00 | 682.80 | 0.00 | .03 | 0.00 | 139.24 | 1.00 |
| 19.920 | 380.00 | 680.95 | 0.00 | -.01 | 0.00 | 118.80 | 1.00 |
| 19.920 | 560.00 | 682.19 | 0.00 | .02 | 0.00 | 164.30 | 1.00 |
| 19.920 | 920.00 | 684.40 | 0.00 | .02 | 0.00 | 214.00 | 1.00 |
| 19.930 | 660.00 | 682.81 | 0.00 | .01 | 0.00 | 189.48 | 4.00 |
| 19.930 | 380.00 | 680.99 | 0.00 | .04 | 0.00 | 119.25 | 4.00 |
| 19.930 | 560.00 | 682.20 | 0.00 | .01 | 0.00 | 164.64 | 4.00 |
| 19.930 | 920.00 | 684.41 | 0.00 | .00 | 0.00 | 214.00 | 4.00 |
| 19.950 | 660.00 | 682.79 | 0.00 | -.01 | 0.00 | 139.41 | 1.00 |
| 19.950 | 380.00 | 681.01 | 0.00 | .02 | 0.00 | 119.81 | 1.00 |
| 19.950 | 560.00 | 682.19 | 0.00 | -.01 | 0.00 | 164.70 | 1.00 |
| 19.950 | 920.00 | 684.40 | 0.00 | -.01 | 0.00 | 214.00 | 1.00 |
| 20.000 | 660.00 | 682.94 | 0.00 | .14 | 0.00 | 153.95 | 160.00 |
| 20.000 | 380.00 | 681.32 | 0.00 | .31 | 0.00 | 94.72 | 160.00 |
| 20.000 | 560.00 | 682.38 | 0.00 | .18 | 0.00 | 131.36 | 160.00 |
| 20.000 | 920.00 | 684.47 | 0.00 | .08 | 0.00 | 214.00 | 160.00 |
| 20.100 | 660.00 | 683.10 | 0.00 | .16 | 0.00 | 156.35 | 85.00 |
| 20.100 | 380.00 | 681.62 | 0.00 | .30 | 0.00 | 108.25 | 85.00 |
| 20.100 | 560.00 | 682.58 | 0.00 | .21 | 0.00 | 135.47 | 85.00 |
| 20.100 | 920.00 | 684.55 | 0.00 | .08 | 0.00 | 214.00 | 85.00 |
| 20.500 | 660.00 | 684.12 | 0.00 | 1.02 | 0.00 | 98.29 | 500.00 |
| 20.500 | 380.00 | 682.94 | 0.00 | 1.31 | 0.00 | 36.02 | 500.00 |
| 20.500 | 560.00 | 683.75 | 0.00 | 1.16 | 0.00 | 67.71 | 500.00 |
| 20.500 | 920.00 | 685.15 | 0.00 | .60 | 0.00 | 125.05 | 500.00 |
| 21.200 | 660.00 | 684.97 | 0.00 | .85 | 0.00 | 121.91 | 325.00 |
| 21.200 | 380.00 | 683.65 | 0.00 | .72 | 0.00 | 38.45 | 325.00 |
| 21.200 | 560.00 | 684.57 | 0.00 | .82 | 0.00 | 102.08 | 325.00 |
| 21.200 | 920.00 | 685.90 | 0.00 | .75 | 0.00 | 126.91 | 325.00 |
| 20.980 | 660.00 | 685.25 | 0.00 | .28 | 0.00 | 132.22 | 150.00 |
| 20.980 | 380.00 | 683.88 | 0.00 | .23 | 0.00 | 27.00 | 150.00 |
| 20.980 | 560.00 | 684.84 | 0.00 | .27 | 0.00 | 129.96 | 150.00 |
| 20.980 | 920.00 | 686.18 | 0.00 | .28 | 0.00 | 141.00 | 150.00 |

| SECNO | D | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 21.020 | 660.00 | 685.80 | 0.00 | .55 | 0.00 | 125.00 | 60.00 |
| 21.020 | 380.00 | 684.45 | 0.00 | .57 | 0.00 | 30.00 | 60.00 |
| 21.020 | 560.00 | 685.51 | 0.00 | .67 | 0.00 | 125.00 | 60.00 |
| 21.020 | 920.00 | 686.46 | 0.00 | .28 | 0.00 | 125.00 | 60.00 |
| 21.800 | 660.00 | 685.82 | 0.00 | .02 | 0.00 | 52.70 | 50.00 |
| 21.800 | 380.00 | 684.47 | 0.00 | .02 | 0.00 | 45.57 | 50.00 |
| 21.800 | 560.00 | 685.53 | 0.00 | .02 | 0.00 | 51.14 | 50.00 |
| 21.800 | 920.00 | 686.49 | 0.00 | .03 | 0.00 | 56.21 | 50.00 |
| 21.850 | 660.00 | 686.59 | 0.00 | .76 | 0.00 | 53.03 | 615.00 |
| 21.850 | 380.00 | 685.07 | 0.00 | .60 | 0.00 | 45.04 | 615.00 |
| 21.850 | 560.00 | 686.19 | 0.00 | .66 | 0.00 | 50.95 | 615.00 |
| 21.850 | 920.00 | 687.48 | 0.00 | .99 | 0.00 | 57.76 | 615.00 |
| 21.900 | 660.00 | 686.75 | 0.00 | .16 | 0.00 | 486.00 | 500.00 |
| 21.900 | 380.00 | 685.20 | 0.00 | .13 | 0.00 | 486.00 | 500.00 |
| 21.900 | 560.00 | 686.34 | 0.00 | .14 | 0.00 | 486.00 | 500.00 |
| 21.900 | 920.00 | 687.69 | 0.00 | .21 | 0.00 | 486.00 | 500.00 |
| 22.000 | 660.00 | 686.77 | 0.00 | .02 | 0.00 | 486.00 | 445.00 |
| 22.000 | 380.00 | 685.22 | 0.00 | .02 | 0.00 | 478.40 | 445.00 |
| 22.000 | 560.00 | 686.35 | 0.00 | .02 | 0.00 | 486.00 | 445.00 |
| 22.000 | 920.00 | 687.71 | 0.00 | .02 | 0.00 | 486.00 | 445.00 |
| 22.200 | 910.00 | 686.83 | 0.00 | .06 | 0.00 | 486.00 | 665.00 |
| 22.200 | 510.00 | 685.32 | 0.00 | .10 | 0.00 | 462.46 | 665.00 |
| 22.200 | 770.00 | 686.42 | 0.00 | .07 | 0.00 | 484.39 | 665.00 |
| 22.200 | 1220.00 | 687.77 | 0.00 | .06 | 0.00 | 486.00 | 665.00 |
| 22.800 | 910.00 | 686.98 | 0.00 | .15 | 0.00 | 479.61 | 550.00 |
| 22.800 | 510.00 | 685.63 | 0.00 | .31 | 0.00 | 449.60 | 550.00 |
| 22.800 | 770.00 | 686.58 | 0.00 | .16 | 0.00 | 471.68 | 550.00 |
| 22.800 | 1220.00 | 687.88 | 0.00 | .11 | 0.00 | 486.00 | 550.00 |
| 23.200 | 910.00 | 687.42 | 0.00 | .44 | 0.00 | 72.57 | 635.00 |
| 23.200 | 510.00 | 686.48 | 0.00 | .85 | 0.00 | 67.25 | 635.00 |
| 23.200 | 770.00 | 687.09 | 0.00 | .51 | 0.00 | 70.75 | 635.00 |
| 23.200 | 1220.00 | 688.16 | 0.00 | .28 | 0.00 | 76.82 | 635.00 |
| 22.980 | 910.00 | 687.87 | 0.00 | .45 | 0.00 | 90.04 | 170.00 |
| 22.980 | 510.00 | 686.78 | 0.00 | .30 | 0.00 | 33.00 | 170.00 |
| 22.980 | 770.00 | 687.50 | 0.00 | .40 | 0.00 | 87.36 | 170.00 |
| 22.980 | 1220.00 | 688.68 | 0.00 | .51 | 0.00 | 95.89 | 170.00 |
| 23.020 | 910.00 | 689.70 | 0.00 | 1.83 | 0.00 | 88.24 | 177.00 |
| 23.020 | 510.00 | 688.35 | 0.00 | 1.57 | 0.00 | 84.88 | 177.00 |
| 23.020 | 770.00 | 689.38 | 0.00 | 1.88 | 0.00 | 87.44 | 177.00 |
| 23.020 | 1220.00 | 690.28 | 0.00 | 1.60 | 0.00 | 101.04 | 177.00 |
| 23.800 | 910.00 | 689.80 | 0.00 | .10 | 0.00 | 116.28 | 203.00 |
| 23.800 | 510.00 | 688.41 | 0.00 | .06 | 0.00 | 99.19 | 203.00 |
| 23.800 | 770.00 | 689.46 | 0.00 | .08 | 0.00 | 111.99 | 203.00 |
| 23.800 | 1220.00 | 690.43 | 0.00 | .15 | 0.00 | 156.05 | 203.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFHSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 23.900 | 910.00 | 689.93 | 0.00 | .12 | 0.00 | 147.89 | 375.00 |
| 23.900 | 510.00 | 688.49 | 0.00 | .08 | 0.00 | 129.09 | 375.00 |
| 23.900 | 770.00 | 689.57 | 0.00 | .10 | 0.00 | 140.39 | 375.00 |
| 23.900 | 1220.00 | 690.59 | 0.00 | .17 | 0.00 | 161.79 | 375.00 |
| 24.000 | 910.00 | 690.00 | 0.00 | .08 | 0.00 | 143.23 | 525.00 |
| 24.000 | 510.00 | 688.54 | 0.00 | .05 | 0.00 | 126.64 | 525.00 |
| 24.000 | 770.00 | 689.63 | 0.00 | .07 | 0.00 | 137.37 | 525.00 |
| 24.000 | 1220.00 | 690.69 | 0.00 | .10 | 0.00 | 157.61 | 525.00 |
| 24.500 | 910.00 | 690.11 | 0.00 | .10 | 0.00 | 184.45 | 525.00 |
| 24.500 | 510.00 | 688.62 | 0.00 | .07 | 0.00 | 128.86 | 525.00 |
| 24.500 | 770.00 | 689.72 | 0.00 | .09 | 0.00 | 163.65 | 525.00 |
| 24.500 | 1220.00 | 690.82 | 0.00 | .13 | 0.00 | 199.43 | 525.00 |
| 25.000 | 910.00 | 690.32 | 0.00 | .21 | 0.00 | 134.40 | 550.00 |
| 25.000 | 510.00 | 688.79 | 0.00 | .17 | 0.00 | 117.44 | 550.00 |
| 25.000 | 770.00 | 689.91 | 0.00 | .19 | 0.00 | 129.92 | 550.00 |
| 25.000 | 1220.00 | 691.07 | 0.00 | .25 | 0.00 | 171.78 | 550.00 |

SUMMARY OF ERRORS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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON DRAIN

4) DOCUMENT TYPE: REPORT

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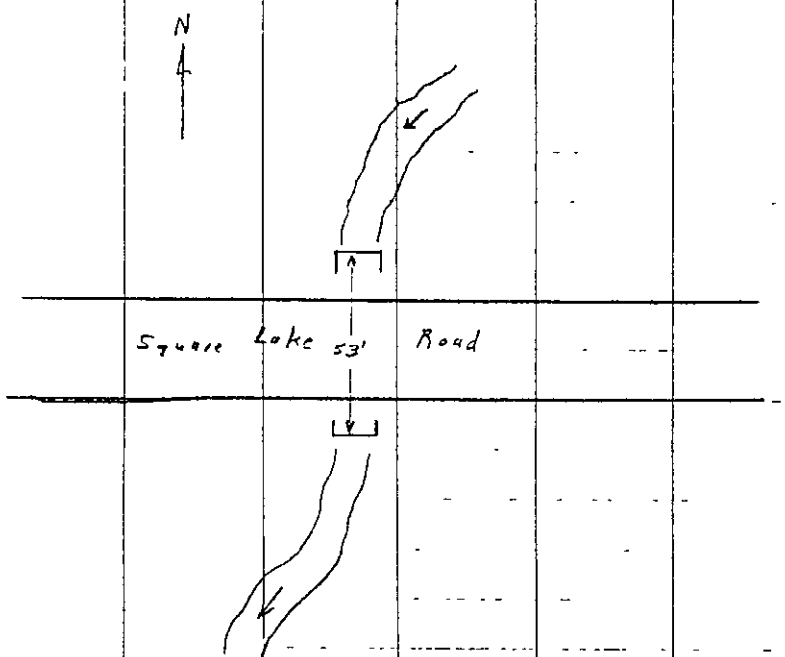
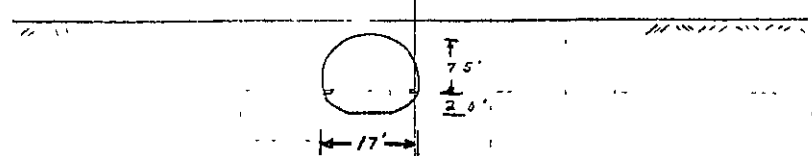
7 5 77

477-B/47

X-sec # 19

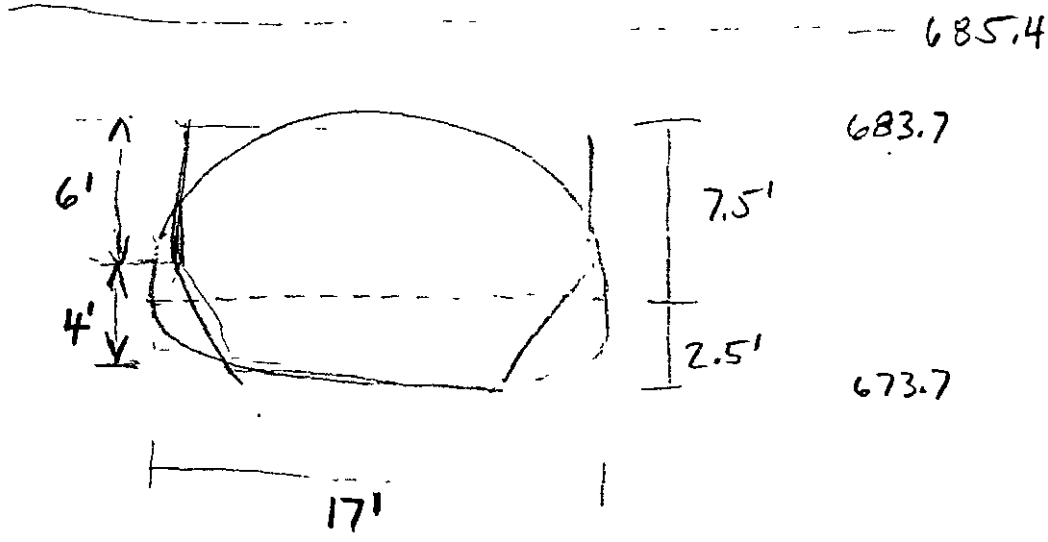
Gibson Drain




See 477-B/66

X section [illegible] Lake [illegible]




$A_{act} = 133.5$ $\quad 6 \times 16 = 96$

$133.5 - 96 = 37.5$

$2x + y = 16 \rightarrow y = 16 - 2x$

$37.5 = 4x + 4y$ $\quad \cancel{y = 16 - 2}$

$37.5 = 4x + 4(16 - 2x)$

$= 4x + 64 - 8x$

$4x = 64 - 37.5 = 26.5$

$x = 6.625 \quad y = 2.75$

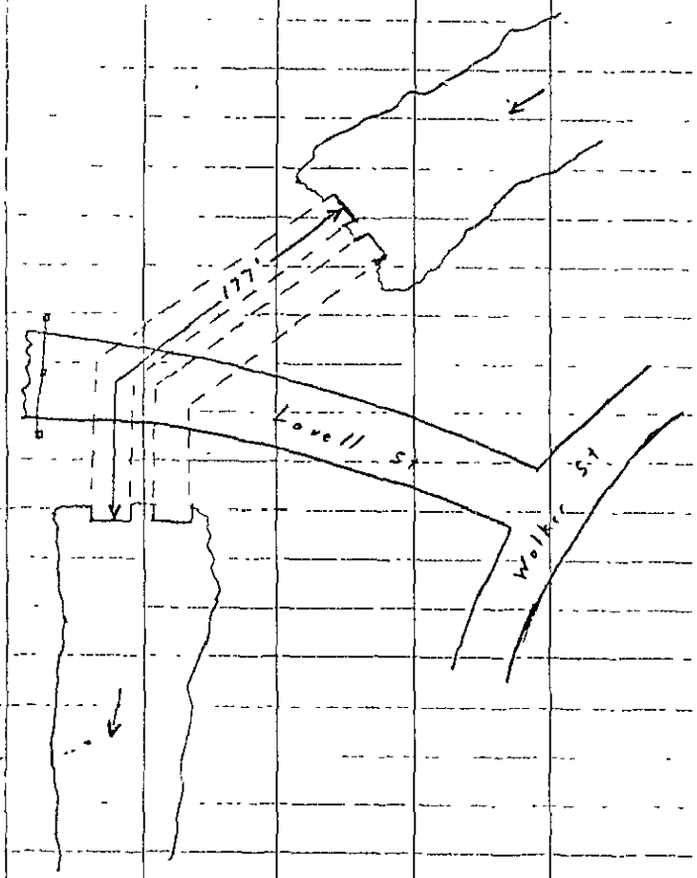
$x = 6.6$

$y = 2.8$

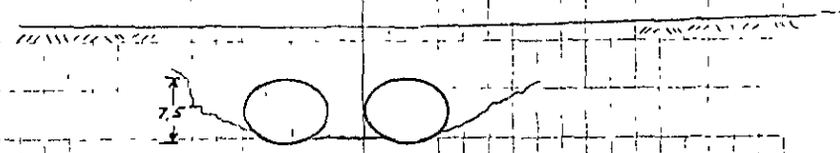
7-9-79

477-B/64

Gibson Drain
X-sec #23



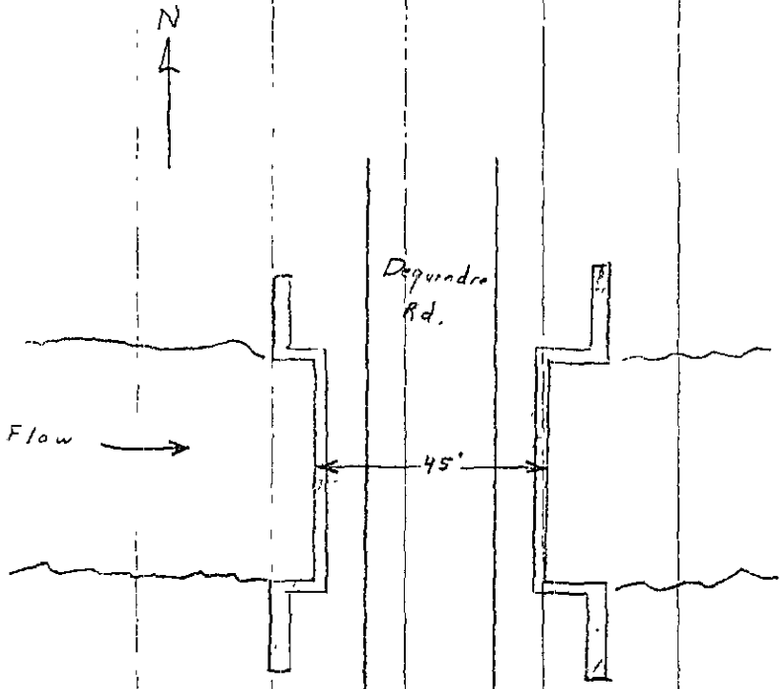

Note: 5' of water & silt bottom
Pipe sizes are estimates.
New pipes.

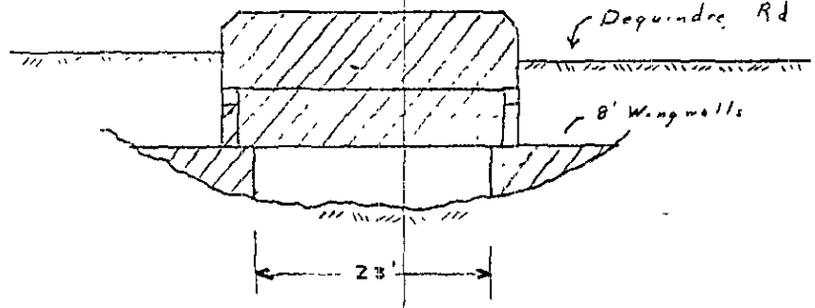


6-18-79

477-A
63

X-sec #1
Gibson Drain

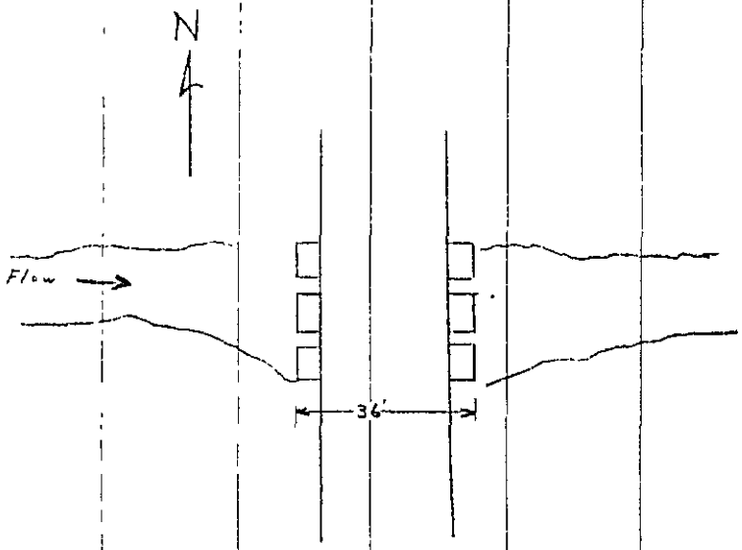


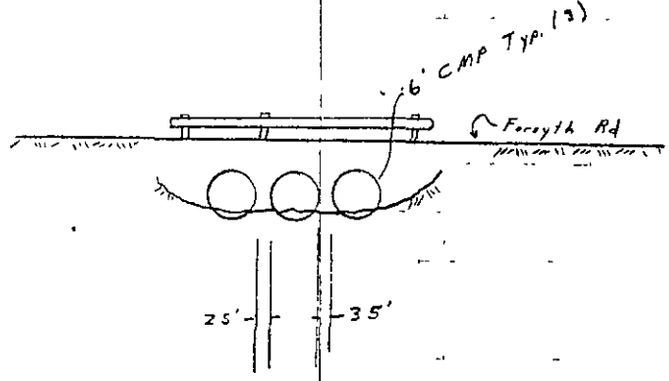



6-19-79

477-A
67

Gibson Drain
X-sec # 3

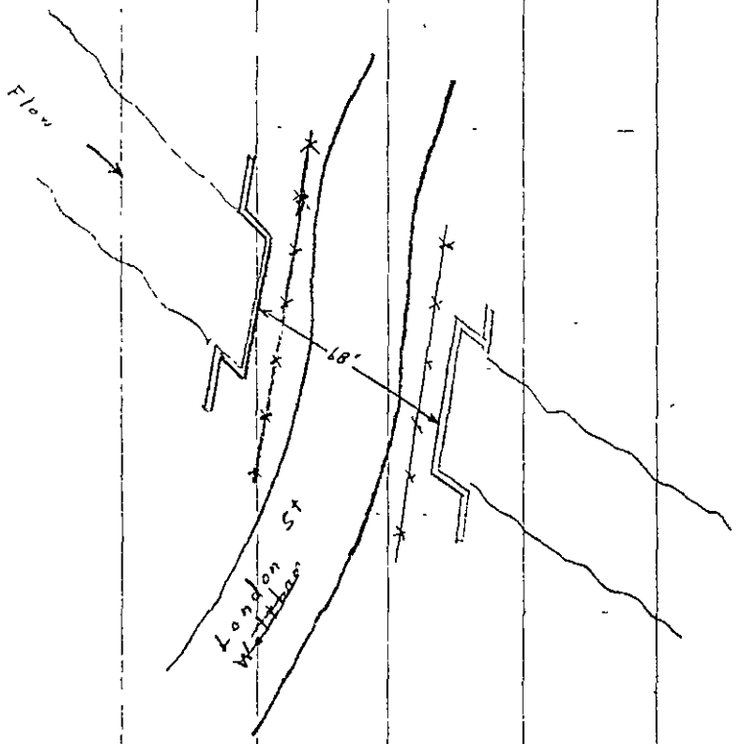


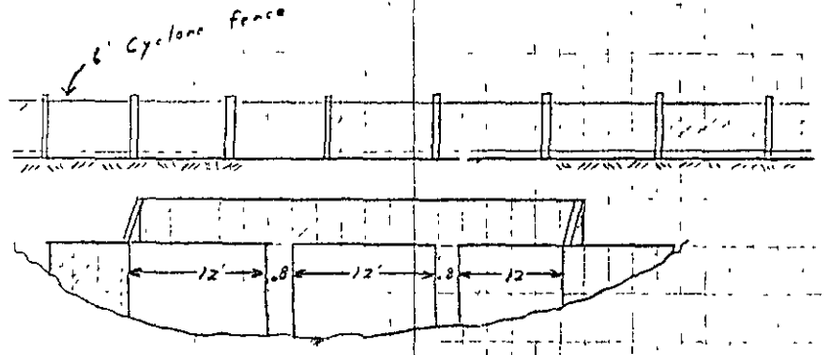



6-19-79

477-1
73

Gibson Drain
X-sec #4

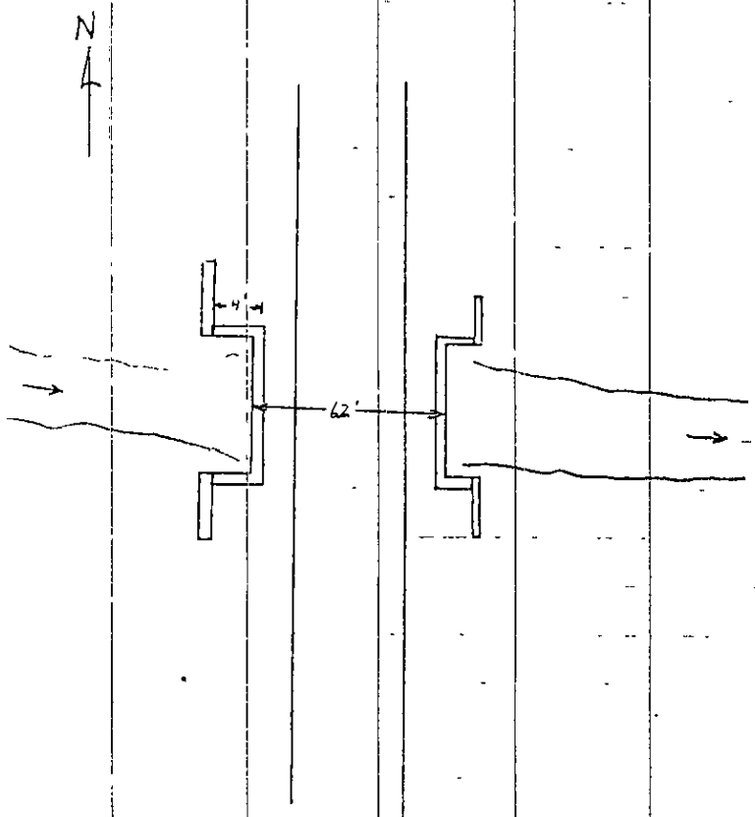


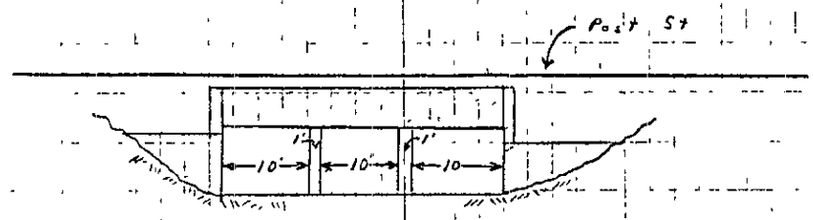



6-20-79
80°, Thunderstorm

477 A/8

Gibson Drain
X-sec # 5



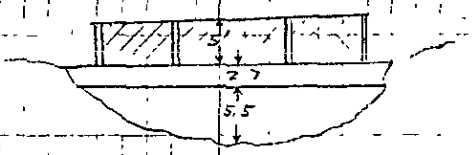




See pg 11

6-27-79

477-B/34

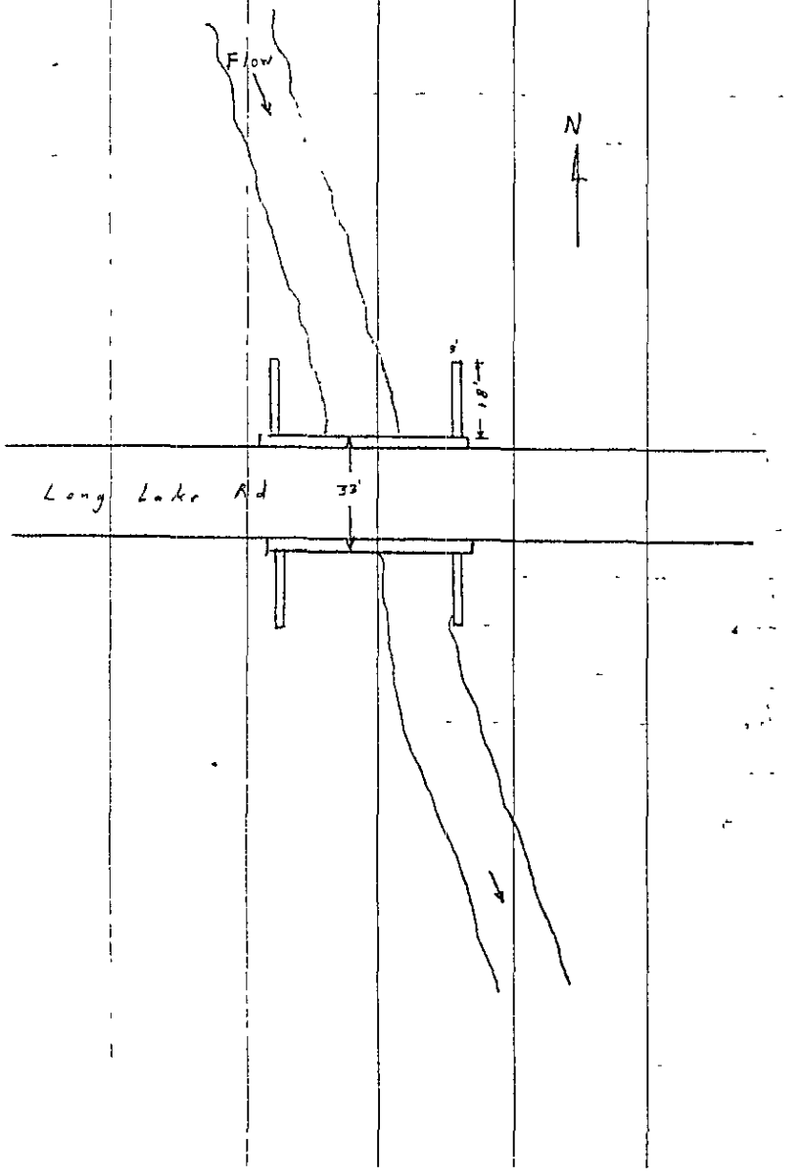
| bridge lev | |
|---|---|
| 48.31 | M.H. rim |
| 48.10 | |
| 49.62 | spot elev, center of foot-bridge |
| 48.9 | |
| 48.1 | picture # 19 roll # 141 |
| 47.3 | Looking D.S |
| 46.9 | |
| 45 | picture # 20 roll # 141 |
| 41.7 | water surface Looking U.S @ Footbridge |
| 41.2 | |
| 41.4 | d |
| 41.7 | |
| 42.3 | |
| 47.1 | |
| 48.8 | |
| 47.64 | |
| 48.33 | 0.02 high |

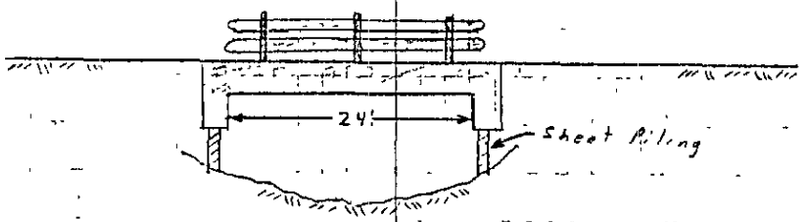


6-20-79

477-B/4

Gibson Drain
X-sec # 8



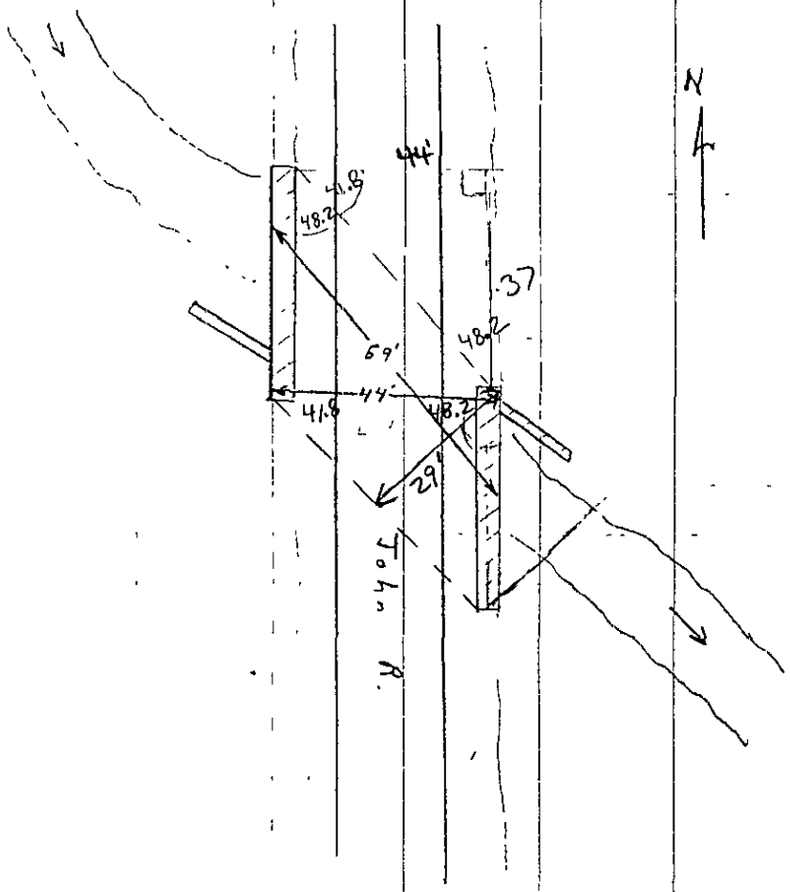



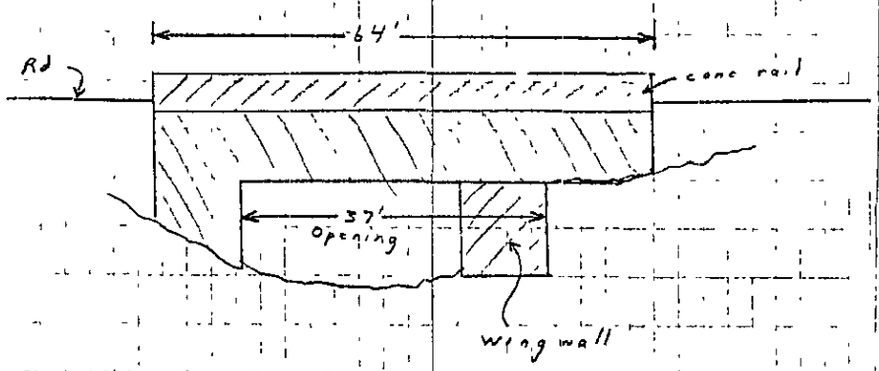
6-21-79

477-B/14

X-sec #9

Gibson Drain

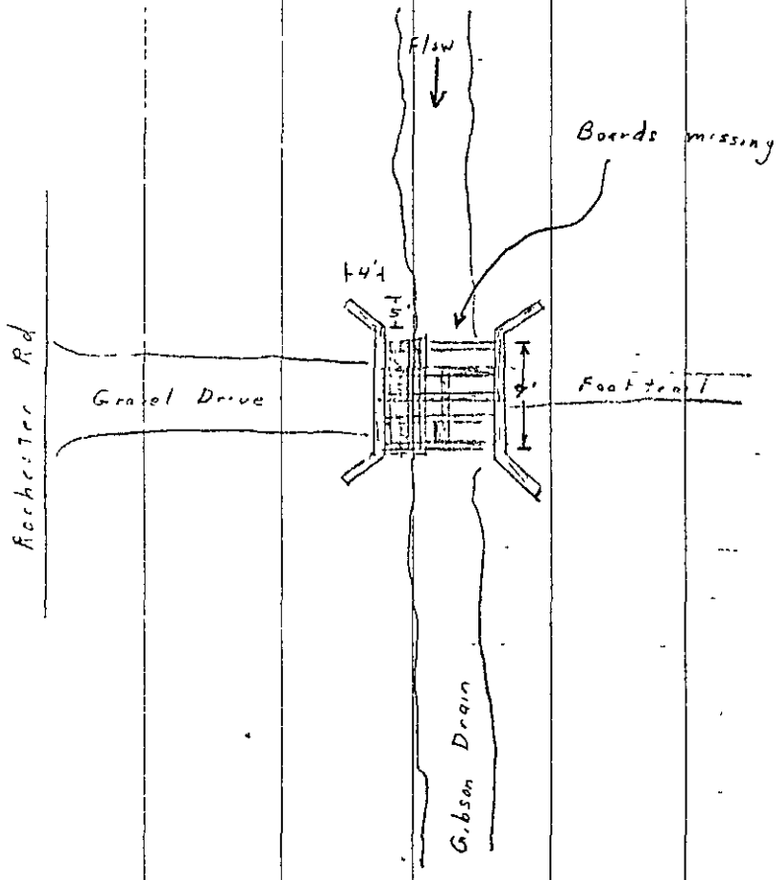


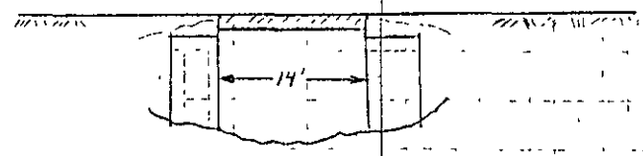



6-21-79

477-B/19

Gibson Drain
X-sec # 14

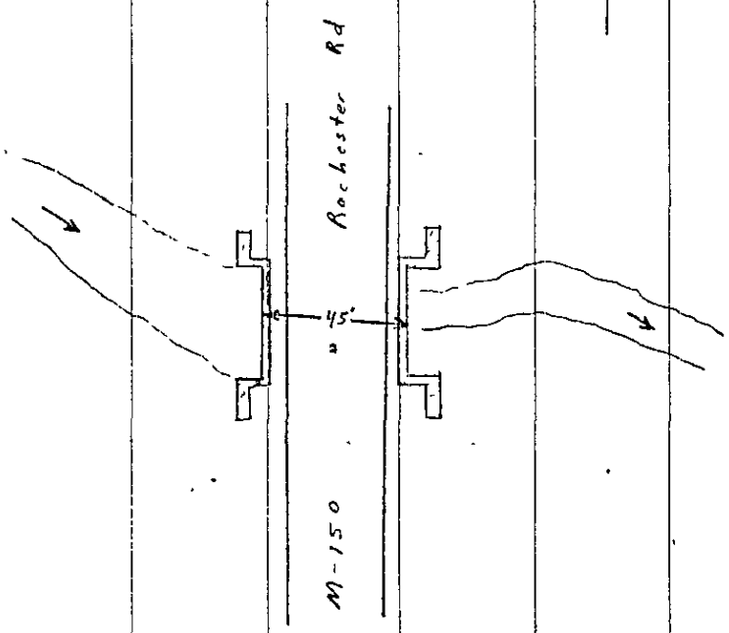


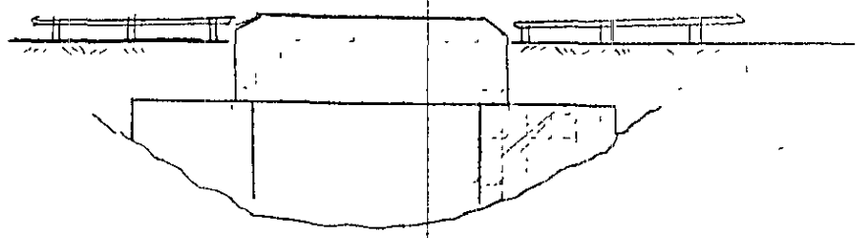



7-3-79

477 B/35

Gibson Drain
X-sec # 15

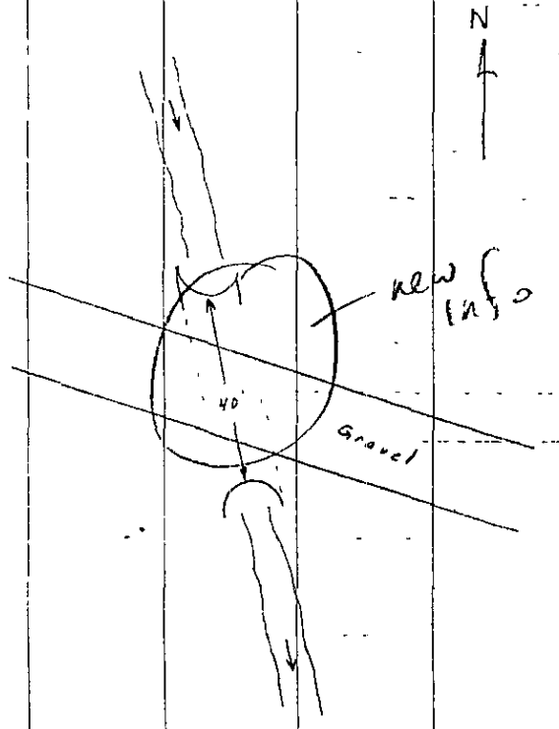


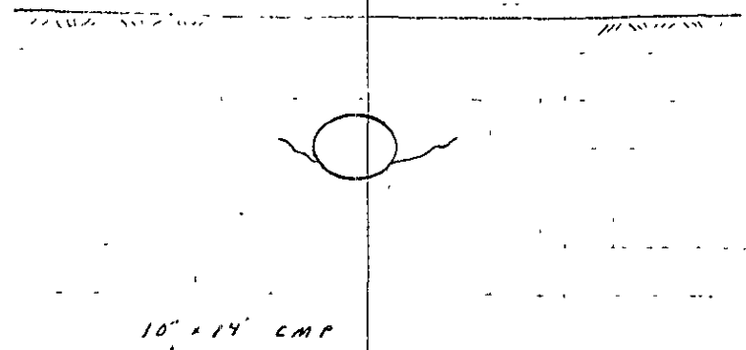



7-3-79

477-B/39

X-sec #16
Gibson Dam
See p. 7' for details of opening



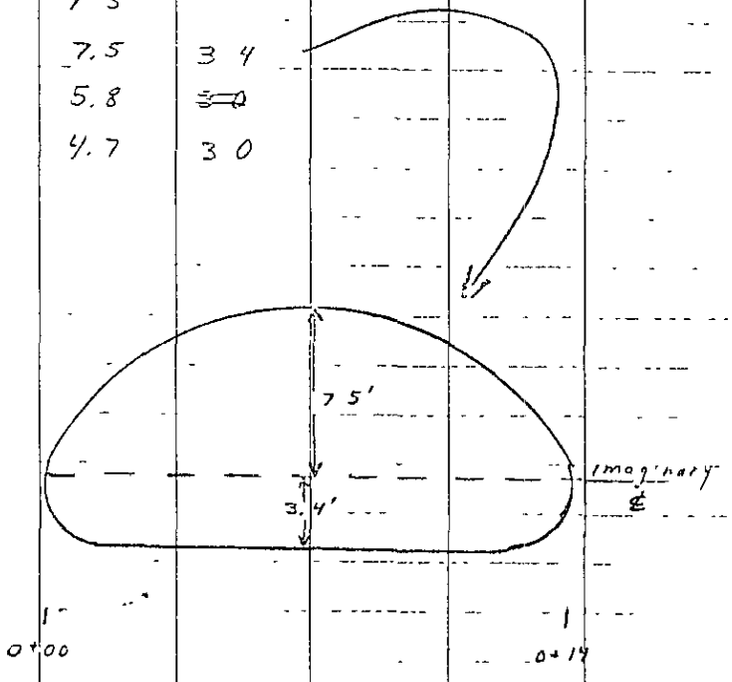
7-10-79

477-B/71

Gibson Drain

X sec # 16

| Sta. | Ht above I-℄ | Ht below I-℄ |
|---|---|---|
| 0+02 | ~~0~~ 5.3 | 3.6 |
| 0+04 | 6.3 | |
| 0+05 | 7.5 | |
| 0+07 | 7.5 | 3.4 |
| 0+09 | 5.8 | ~~0~~ |
| 0+11 | 4.7 | 3.0 |

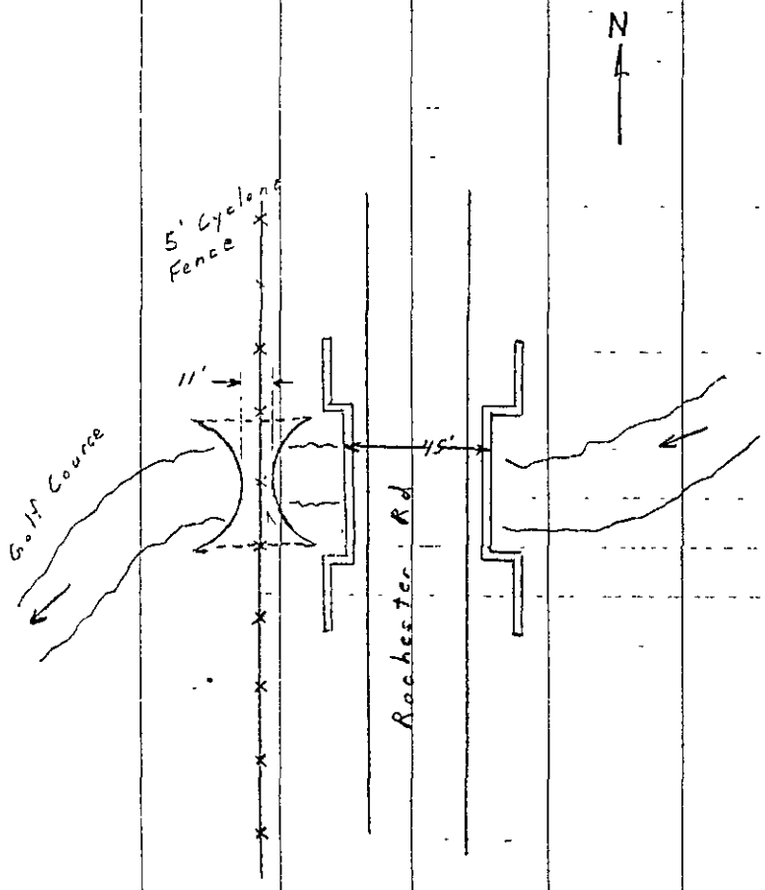


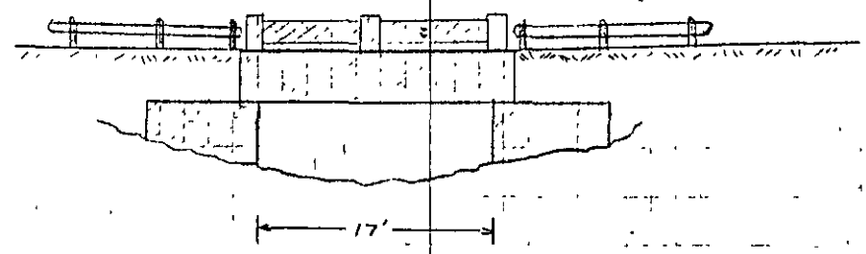

Note: Imaginary ℄ used as baseline for stationing

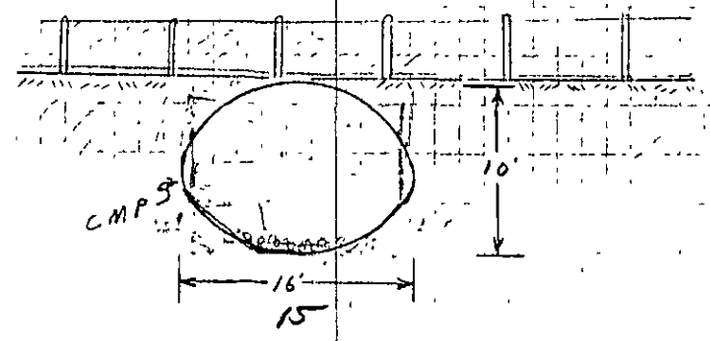
7-5-79

477-B/43

Gibson Drain
X-sec = 18
See p 65 for additional sketch




See 477B/65

Aact = 122.6  61.3 → h = 4  w = 15.325

X-sec #18

| Sta | Height above $H_2O$ | Sta | Height above $H_2O$ |
|---|---|---|---|
| 0+00 | 2.5 | 0+10 | 6.8 |
| 0+02 | 5.4 | 0+12 | 5.6 |
| 0+04 | 6.0 | 0+14 | 4.0 |
| 0+06 | 6.6 | 0+16 | 0.5 |
| 0+08 | 7.4 | | |

7-10-79
70°, P Cloudy

477-B/65

Note: Used imaginary ℄ for std, 0+00 to left as looking D.S

Pipe was installed crooked

Pipe is 10' x 16' oval

Bottom is filled w/ broken concrete

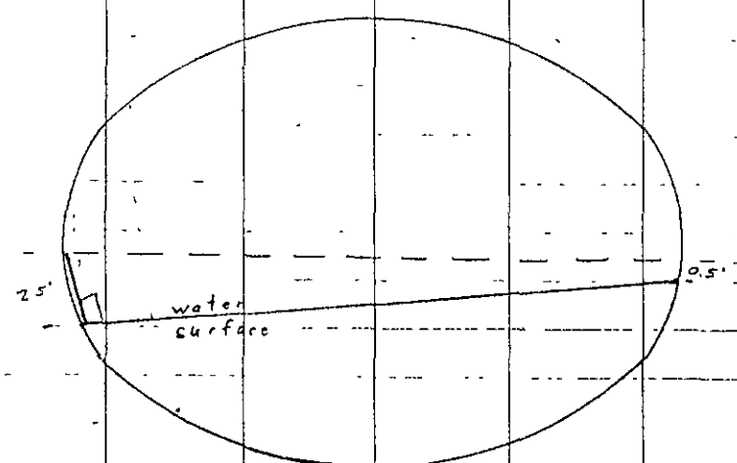
Some warping has occurred in pipe

10' height verified

J. O'Neill

K. Burn

D. Jeffries




imaginary ℄

Gibson Drain

X-sec #18, see p 43 for original

Footer size

18.25 - 2.92

$2x + y = 15.325 \qquad y = 15.325 - 2x$

$61.3 = 5x + 5y$

~~A = 61.3 =~~

$61.3 = 5x + 5(15.325 - 2x)$

$61.3 = 5x + \cancel{91.95}\ 76.625 - 10x$

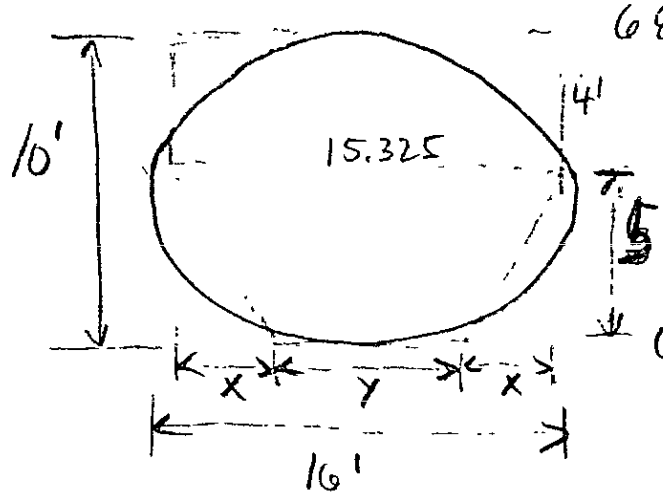
$5x = \cancel{91.95}\ 76.625 - 61.3 = \cancel{30.65}\ 15.325$

$x = \cancel{5.108}\ 3.065$

$\therefore\ y = 15.325 - 2(\cancel{5.108}\ 3.065) = \cancel{5.109}\ 9.195$

682.3

680.2




$x = 3.065 \quad x = 3.1$

$y = 9.195 \quad y = 9.2$

671.2

$\therefore \rightarrow 15.4$

40 100

682.3 40 680.2 62.3 676.2 62.4 671.2 65.4 671.2 74.6
676.2 77.6 680.2 77.7 682.3 100

7-10-79

477-B/66

Gibson Drain

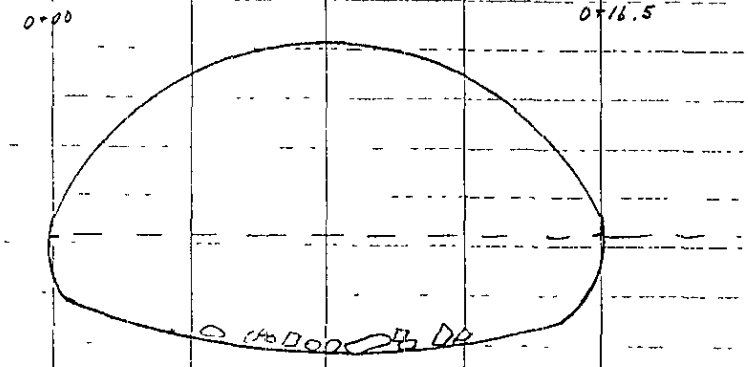
X-sec #19, see p 47 for original

Note: Large chunks of broken conc here

Used imaginary ℄ for station baseline

X-sec #19

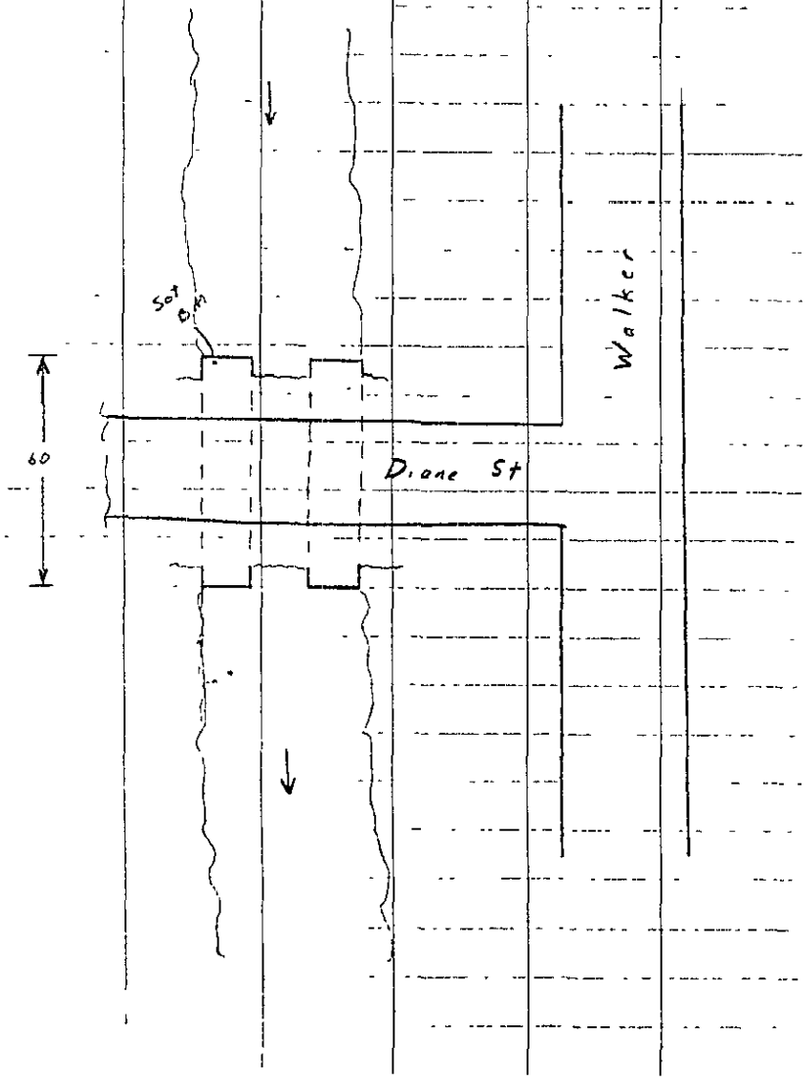
| Sta | Height above I-℄ | Height below I-℄ |
|---|---|---|
| 0+00 | | |
| 0+02 | 5.0 | 2.2 |
| 0+04 | 6.6 | 2.2 |
| 0+06 | 7.3 | |
| 0+08 | 7.5 | 2.2 |
| 0+10 | 7.3 | |
| 0+12 | 6.7 | 2.2 |
| 0+14 | 5.3 | |

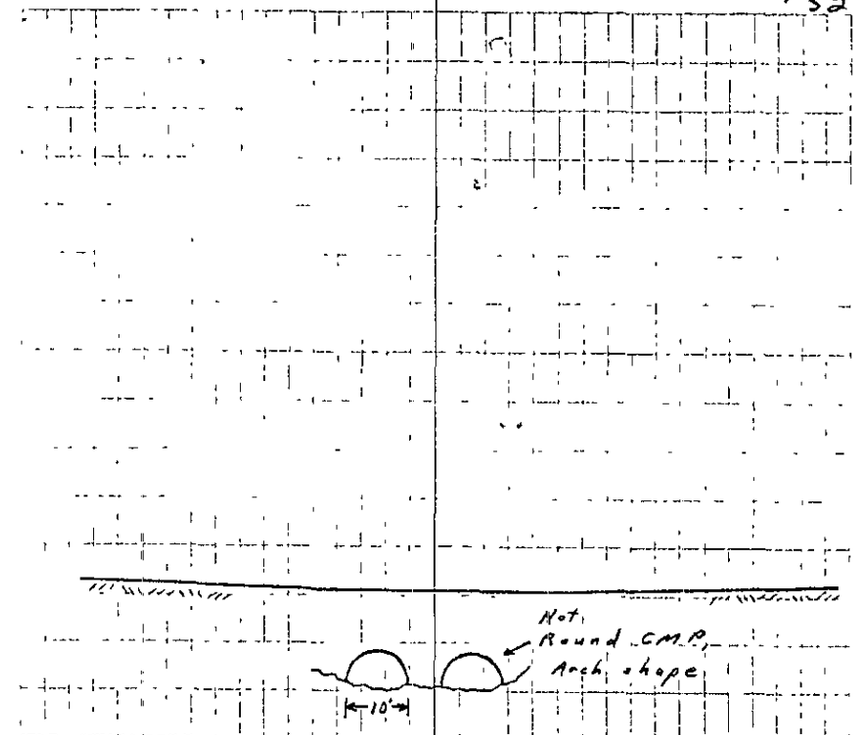


7-5-79

477-B/52

Gibson Drain
X-sec # 21
See p 67 for details




See 477-B/67

7-10-79

477-B/

Gibson Drain

67

X-sec # 21, see p. 52 for original

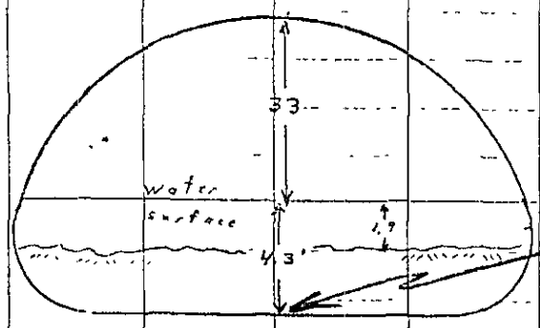
X-sec # 21

| Sta | Height above $H_2O$ | To dirt Height below $H_2O$ | To pipe Height below $H_2O$ |
|---|---|---|---|
| 0+01 | 1.2' | 1.9 | |
| 0+03 | 2.8 | 1.9 | |
| 0+05 | 3.3 | 1.9 | 4.3 |
| 0+07 | 3.1 | 1.9 | |
| 0+09 | 2.1 | | |

Note. Used water surface as a baseline
Pipe may be 11.5' x 7.6' pipe, 11.5' dim. in water
New pipe here
Present channel is 11' wide, & 5.2' high
approx. semi-circle
Measurements taken on W. culv., E. culv. is typical

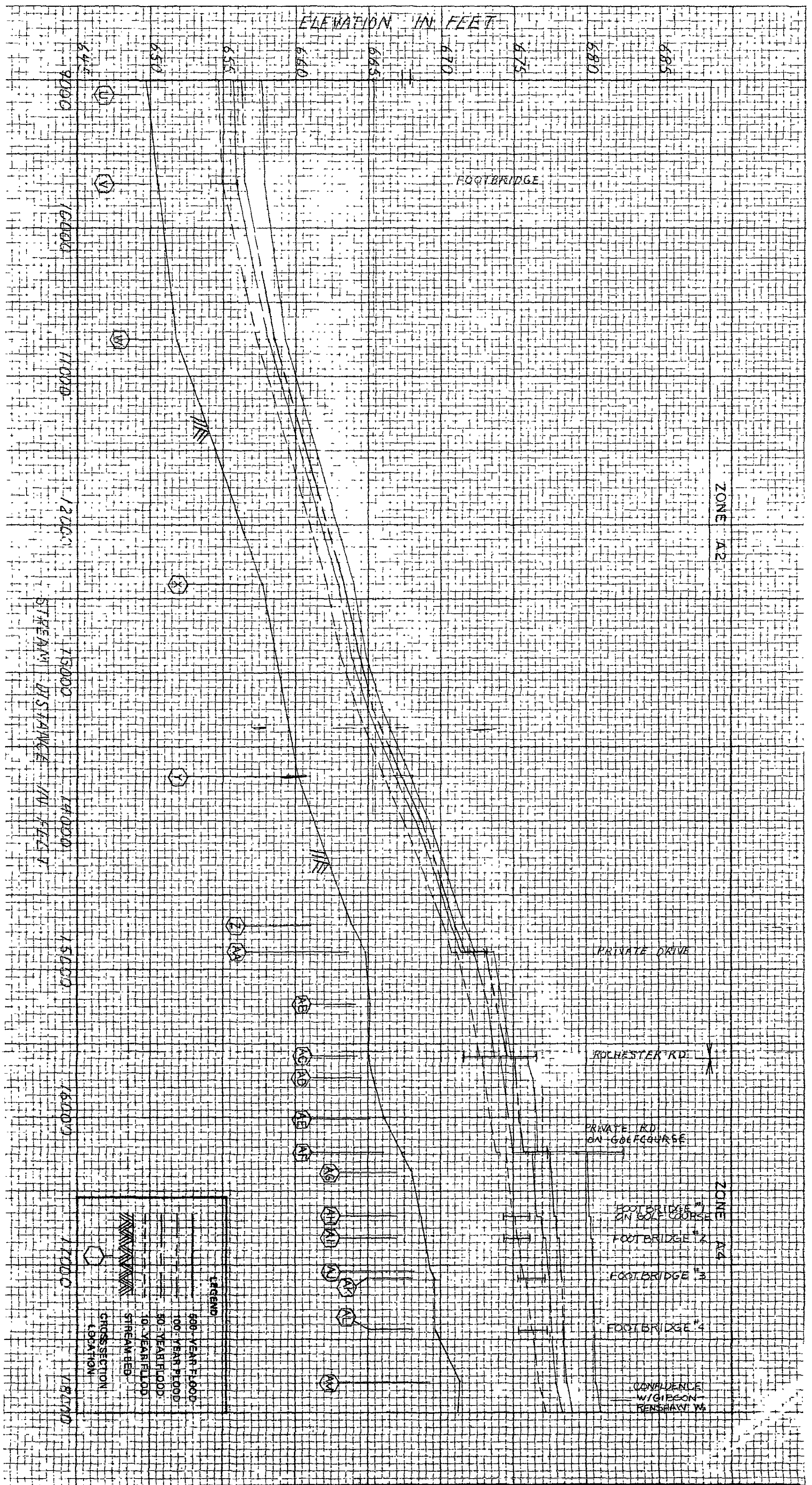
0+00

0+11




Possibly hitting rock and not bottom of pipe. Muck & rock bottom hard to dig through without a back hoe

"PERFECT" CROSS SECTION
10 X 10 — ONE INCH
EUGENE DIETZGEN CO

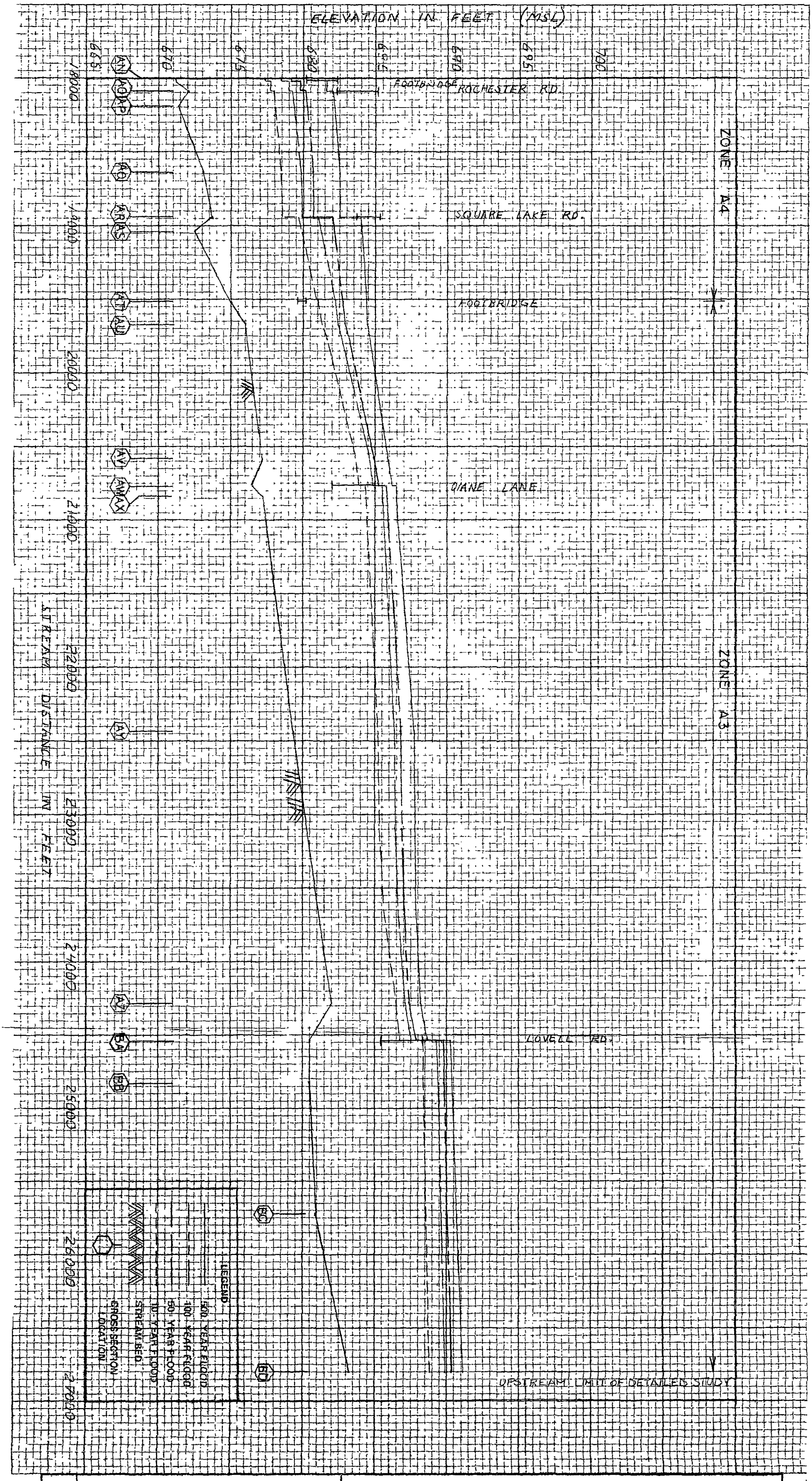



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

GIBSON DRAIN

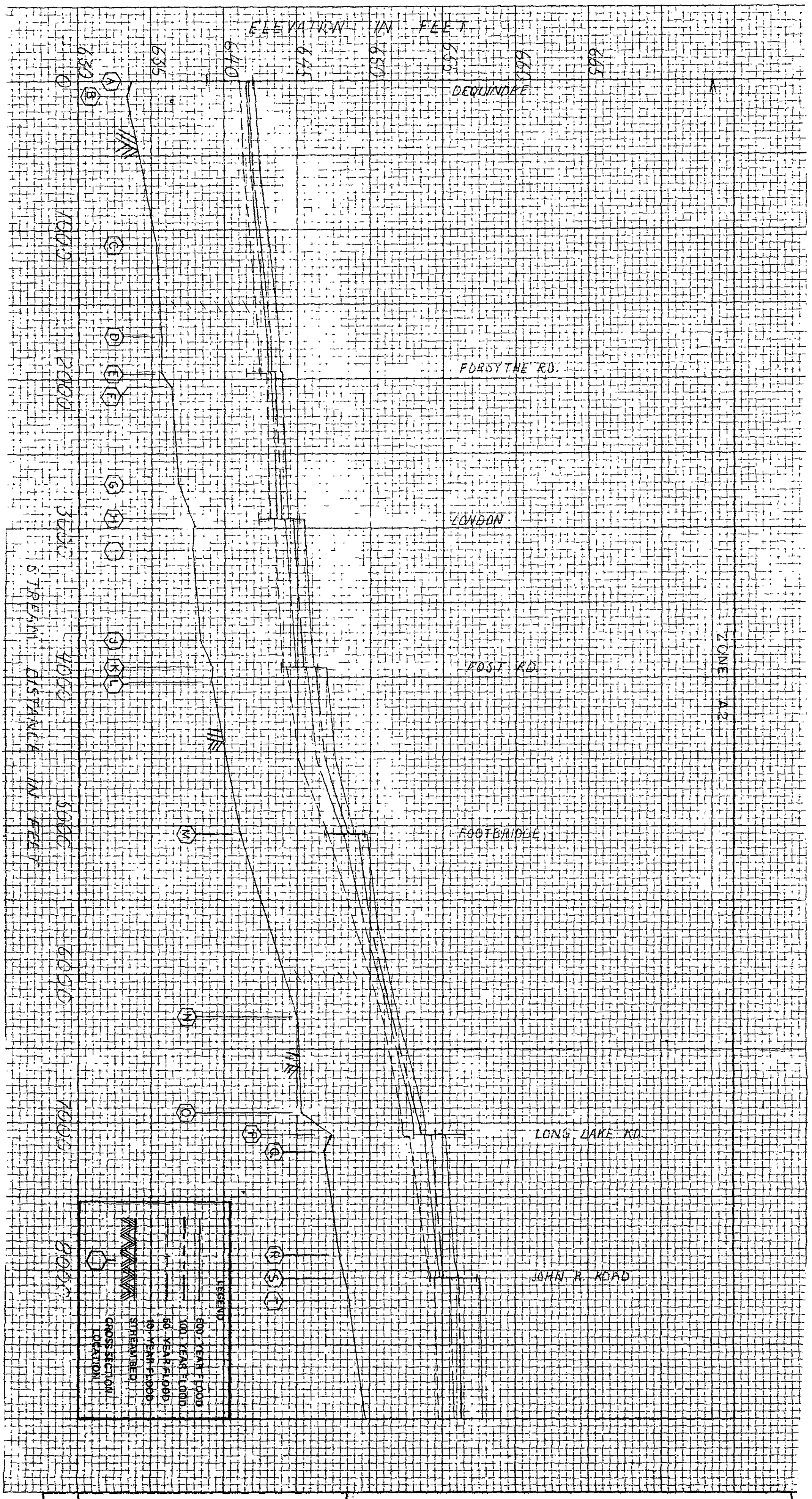



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF TROY, MI.
(OAKLAND CO.)

**FLOOD PROFILES**

GIBSON DRAIN

PRINTED IN U.S.A.




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

GIBSON DRAIN

PRINTED IN U S A

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON RENSHAW DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*************************************************
```

```
T1      HUD-FIA F-4705
T2      TROY
T3      GIBSON DRAIN  100 YR FLOW= 1580 CFS ENCROACHMENT
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 641.400 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 2

CCHV=    .300 CEHV=    .500
*SECNC .900
 2800 NAT Q1=    393.74  WSEL=    641.40  ENC Q1=    393.74  WSEL=    641.50  RATIC=  C.0000
 NAT Q1=    422.  RATICS LOB,CH,RCB=  0.0000   .3333   .6667  WSEL=    641.50
3280 CRCSS SECTICN       .90 EXTENDED       .1C FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST


3470 ENCROACHMENT STATIONS=     500.0     800.8  TYPE=     4  TARGET=        .067

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      642.4C ELREA=      639.90

      .90      7.30   641.40      C.00   641.40   641.44      .04      0.00      0.00   642.40
     850.        C.     312.      538.       C.     153.     5C2.        0.        0.   639.90
     0.00      C.CO     2.04      1.07      .045     .042     .050     0.000   634.1C   5C2.05
  .00C527        0.       0.        0.        C        0        0      0.00   298.73   800.78


*SECNO .980
 2800 NAT Q1=    420.69  WSEL=    641.48  ENC Q1=    420.69  WSEL=    641.58  RATIO=   .0000
 NAT Q1=    447.  RATICS LOB,CH,RCB=   .1725   .4602   .3673  WSEL=    641.58
3280 CROSS SECTICN       .98 EXTENDED       1.19 FEET


3470 ENCROACHMENT STATIONS=     202.8     521.6  TYPE=     4  TARGET=        .059

         ** D/S FACE DEQUINDRE

      .98      7.78   641.48      0.00   641.48   641.55      .06       .10       .01   636.50
     85C.      125.     429.      296.     131.     163.     332.        3.        1.    636.5C
      .03       .96     2.63       .89     .045     .042     .050      .042   633.70   2C2.79
  .000454      200.     200.      200.        C        0        0      0.00   318.79   521.58


SPECIAL BRIDGE

SB   XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.7C      2.80      0.00      23.CC     0.00     119.60     0.00     633.70    633.70

*SECNO 1.020
 2800 NAT Q1=    337.66  WSEL=    641.63  ENC Q1=    337.66  WSEL=    641.73  RATIO=   .0000
 NAT Q1=    356.  RATICS LOB,CH,RCB=   .0375   .5038   .4587  WSEL=    641.73,
 WATER EL=CHANGE FRCM NATURAL PROFILES BRIDGE
3280 CRCSS SECTICN       1.02 EXTENDED       .34 FEET


3470 ENCRCACHMENT STATIONS=     285.0     530.C  TYPE=     4  TARGET=        .051
     1.02      7.94   641.64      0.00   641.63   641.71      .07       .02       .00   636.50
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     850.       11.      462.      377.       13.      167.      426.       4.        2.    636.50
      .C4       .84      2.77       .88      .070      .050      .070     .043    633.70    285.05
  .000694       45.       45.       45.        0         0         3     0.00    245.00    530.04

*SECNO 1.800
 2800 NAT Q1=     411.12  WSEL=     641.72  ENC Q1=     411.12  WSEL=     641.82  RATIO=    .0000
 NAT Q1=     432.  RATIOS LOB,CH,ROB=    .0162    .5178    .4660  WSEL=     641.82
3280 CROSS SECTION       1.80 EXTENDED        .24 FEET


3470 ENCROACHMENT STATIONS=      282.0      528.1  TYPE=      4  TARGET=         .048
     1.80      8.34    641.74      0.00    641.72    641.78       .04       .06       .01    639.60
     850.        C.      462.      388.        C.      226.      482.        5.        2.    638.40
      .06      0.00      2.04       .81      .070      .050      .070     .045    633.40    282.00
  .000479      100.      100.      100.         2         0         0     0.00    246.14    528.14

CCHV=     .150 CEHV=     .350
*SECNO 1.900
 2800 NAT Q1=     276.09  WSEL=     641.98  ENC Q1=     276.C9  WSEL=     642.08  RATIO=    .0000
 NAT Q1=     292.  RATIOS LOB,CH,ROB=    .0499    .7118    .2383  WSEL=     642.08
3280 CROSS SECTION       1.90 EXTENDED        .53 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      285.7      482.C  TYPE=      4  TARGET=         .055
     1.90      7.63    642.03      0.00    641.98    642.14       .11       .33       .02    640.10
     850.       2C.      647.      183.       22.      219.      212.       12.        5.    640.40
      .11       .91      2.96       .86      .070      .050      .070     .048    634.40    285.70
  .00C997      50C.      500.      5CC.         2         0         0     0.00    196.28    481.98

*SECNC 2.000
 2800 NAT Q1=     215.4C  WSEL=     642.54  ENC Q1=     215.40  WSEL=     642.64  RATIO=   0.0000
 NAT Q1=     228.  RATIOS LOB,CH,ROB=    .0357    .8051    .1592  WSEL=     642.64
3280 CROSS SECTICN       2.00 EXTENDED        .12 FEET


3470 ENCROACHMENT STATIONS=      292.9      442.6  TYPE=      4  TARGET=         .C55
     2.00      7.21    642.61      0.00    642.54    642.78       .17       .62       .02    641.10
     85C.        7.      727.      116.        7.      204.      124.       16.        7.    641.40
      .16       .93      3.57       .93      .070      .050      .070     .049    635.40    292.91
  .001593      500.      500.      500.         1         0         0     0.00    149.68    442.59

*SECNO 3.200
 2800 NAT Q1=     380.70  WSEL=     643.19  ENC Q1=     380.70  WSEL=     643.29  RATIO=    .0000
 NAT Q1=     4C6.  RATICS LOB,CH,RCB=    .1424    .4253    .4323  WSEL=     643.29
3280 CROSS SECTION       3.20 EXTENDED        .28 FEET
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3470 ENCROACHMENT STATIONS=      202.0      531.1  TYPE=      4  TARGET=          .062
     3.20      7.58    643.28      0.00    643.19    643.31       .03       .51       .02    641.40
     850.      101.      387.      363.      138.      191.      467.       24.       10.     640.50
      .29       .73      2.03       .78      .070      .050      .070      .049    635.70    202.04
  .000505      620.      620.      620.         2         0         0      0.00    329.02    531.06

CCHV=     .400 CEHV=     .800
*SECNO 2.980
 2800 NAT Q1=     405.88  WSEL=     643.30  ENC Q1=     405.88  WSEL=     643.40  RATIO=    .0000
 NAT Q1=     430.  RATIOS LOB,CH,ROB=    .1534    .4992    .3474  WSEL=     643.40
3280 CROSS SECTION       2.93 EXTENDED        .19 FEET


3470 ENCROACHMENT STATIONS=      205.9      526.9  TYPE=      4  TARGET=          .056

         ** D/S FACE FORSYTHE

     2.98      7.49    643.39      0.00    643.30    643.44       .05       .11       .01    637.00
     850.      113.      451.      286.      154.      194.      420.       29.       12.     637.00
      .33       .73      2.33       .68      .070      .050      .070      .049    635.90    205.93
  .000445      240.      240.      240.         0         0         0      0.00    320.98    526.92


SPECIAL BRIDGE

SB  XK          XKCR        COFQ        RDLEN       BWC         BWP         BAREA       SS          ELCHU       ELCHD
     0.00        2.30        2.60      350.00      14.68        0.00       82.20       0.00      635.90      635.90
*SECNO 3.020
 2800 NAT Q1=     460.50  WSEL=     643.43  ENC Q1=     460.50  WSEL=     643.53  RATIO=   0.0000
 NAT Q1=     487.  RATIOS LOB,CH,ROB=    .3415    .4574    .2011  WSEL=     643.53
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION       3.02 EXTENDED        1.22 FEET


3470 ENCROACHMENT STATIONS=      139.5      510.7  TYPE=      4  TARGET=          .055
     3.02      7.62    643.52      0.00    643.43    643.56       .04       .01       .00    636.80
     850.      282.      413.      155.      417.      197.      271.       29.       12.     636.80
      .34       .68      2.09       .57      .070      .050      .070      .049    635.90    139.52
  .000345       36.       36.       36.         0         0         5      0.00    371.22    510.74

*SECNO 3.800
 2800 NAT Q1=     370.96  WSEL=     643.46  ENC Q1=     370.96  WSEL=     643.56  RATIO=    .0000
 NAT Q1=     397.  RATIOS LOB,CH,ROB=    .3283    .4942    .1775  WSEL=     643.56
3280 CROSS SECTION       3.80 EXTENDED        1.05 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST


3470 ENCROACHMENT STATIONS=      146.1      505.6  TYPE=      4  TARGET=          .065
     3.80      7.45    643.55      0.00    643.46    643.59       .04       .03       .00    640.90
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     850.      268.      451.      131.      347.      215.      211.       31.       13.    641.80
      .35       .77      2.10       .62      .070      .050      .070      .049    636.10    146.13
  .000532       64.       64.       64.         0         0         0      0.00    359.47    505.59


CCHV=     .150 CEHV=     .350
*SECNC 4.200
 2800 NAT Q1=     421.40  WSEL=     643.75  ENC Q1=     421.40  WSEL=     643.85  RATIO=    .0000
 NAT Q1=     439.  RATIOS LOB,CH,ROB=    .0994    .8698    .0308  WSEL=     643.85
3280 CROSS SECTION       4.20 EXTENDED       1.74 FEET


3470 ENCROACHMENT STATIONS=      155.8      282.4  TYPE=      4  TARGET=        .040
     4.20      7.04    643.84      0.00    643.75    643.89       .05       .30       .00    641.00
     850.       70.      771.        9.      104.      398.       14.       40.       16.    641.40
      .45       .67      1.93       .61      .070      .050      .070      .049    636.80    155.76
  .000409      650.      650.      650.         0         0         0      0.00    126.60    282.37


CCHV=     .300 CEHV=     .500
*SECNC 3.980
 2800 NAT Q1=     201.77  WSEL=     643.87  ENC Q1=     207.56  WSEL=     643.97  RATIO=   -.0287
 NAT Q1=     208.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     643.97
3280 CROSS SECTION       3.98 EXTENDED        .67 FEET


3470 ENCROACHMENT STATIONS=      218.0      261.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      644.10 ELREA=      644.10

        ** D/S FACE LONDON

     3.99      5.97    643.97      0.00    643.87    644.15       .17       .19       .06    639.00
     850.        0.      850.        0.        0.      254.        0.       42.       17.    639.00
      .47      0.00      3.35      0.00      .075      .055      .075      .050    638.00    218.00
  .001930      250.      250.      250.         2         0         0      0.00     43.00    261.00


SPECIAL BRIDGE

SB  XK        XKCR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.05      2.80      0.00     37.60      1.60    158.40      0.00    638.00    638.00

*SECNC 4.020
 2800 NAT Q1=     217.47  WSEL=     644.61  ENC Q1=     222.68  WSEL=     644.71  RATIO=   -.0240
 NAT Q1=     223.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     644.71
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION       4.02 EXTENDED        .51 FEET


3470 ENCROACHMENT STATIONS=      282.0      320.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      645.00 ELREA=      644.80

     4.02      6.71    644.71      0.00    644.61    644.88       .18       .13       .00    638.60
     850.        0.      850.        0.        0.      253.        0.       43.       17.    638.60
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     .47      0.00      3.36      0.00      .075      .055      .075      .050    638.00    282.00
  .001798      68.       68.       68.         0         0         2      0.00     38.00    320.00

*SECNC 4.800
 2800 NAT Q1=     411.86  WSEL=     644.88  ENC Q1=     411.86  WSEL=     644.98  RATIO=    .0000
 NAT Q1=     428.  RATIOS LOB,CH,ROB=    .0539    .8925    .0535  WSEL=     644.98
3280 CROSS SECTION       4.80 EXTENDED        .88 FEET


3470 ENCROACHMENT STATIONS=      246.5      371.8  TYPE=      4  TARGET=         .037
     4.80      7.18    644.98      0.00    644.88    645.02      .05       .10       .04    642.20
     850.       31.      788.       31.       46.      446.      52.       44.       17.    642.80
      .49       .68      1.77       .60      .075      .055     .075      .050    637.80    246.53
  .000427      132.      132.      132.         2         0        0      0.00    125.28    371.81

CCHV=     .150 CEHV=     .350
*SECNC 5.200
 2800 NAT Q1=     263.62  WSEL=     645.23  ENC Q1=     270.45  WSEL=     645.33  RATIO=   -.0259
 NAT Q1=     274.  RATIOS LOB,CH,ROB=    .0003    .9884    .0114  WSEL=     645.33
3280 CROSS SECTION       5.20 EXTENDED        .33 FEET


   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBP     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      356.0      428.0  TYPE=      4  TARGET=         .012
     5.20      7.03    645.33      0.00    645.23    645.42      .09       .38       .02    645.00
     850.        0.      850.        0.        0.      352.       0.       50.       19.    644.40
      .56      0.00      2.41      0.00      .075      .055     .075      .051    638.30    356.00
  .001016      600.      600.      600.         2         0        0      0.00     72.00    428.00


CCHV=     .300 CEHV=     .500
*SECNC 4.980
 2800 NAT Q1=     211.02  WSEL=     645.38  ENC Q1=     211.02  WSEL=     645.48  RATIO=    .0000
 NAT Q1=     218.  RATIOS LOB,CH,ROB=    .0604    .8607    .0789  WSEL=     645.48

3470 ENCROACHMENT STATIONS=      367.2      417.7  TYPE=      4  TARGET=         .032

         ** D/S FACE POST

     4.98      6.27    645.47      0.00    645.38    645.65      .18       .19       .05    640.80
     850.       38.      757.       55.       25.      212.      35.       51.       19.    640.80
      .58      1.50      3.58      1.59      .075      .055     .075      .051    639.20    367.21
  .001637      150.      150.      150.         2         0        0      0.00     50.46    417.67


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      ROLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.00      2.80      0.00     32.00      2.00    138.00      0.00    639.20    639.20

*SECNO 5.020
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 2800 NAT Q1=     276.81  WSEL=     646.29  ENC Q1=     276.81  WSEL=     646.39  RATIO=    .0000
 NAT Q1=     286.  RATIOS LOB,CH,ROB=  0.0000   .7586   .2414  WSEL=     646.39
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION       5.02 EXTENDED       1.48 FEET


3470 ENCROACHMENT STATIONS=      369.0      463.5  TYPE=      4  TARGET=         .032

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       646.40 ELREA=       645.70

     5.02      7.18    646.38      0.00    646.29    646.47       .10       .08       .03    640.30
     850.        0.      666.      184.        0.      243.      150.       52.       19.    640.10
      .58      0.00      2.74      1.23      .075      .055      .075      .051    639.20    369.00
  .000956       62.       62.       62.         0         0         3      0.00     94.53    463.53


*SECNO 5.800
 2800 NAT Q1=     320.26  WSEL=     646.38  ENC Q1=     327.67  WSEL=     646.48  RATIO=  -.0231
 NAT Q1=     333.  RATIOS LOB,CH,ROB=   .0020   .9838   .0142  WSEL=     646.48
3280 CROSS SECTION       5.80 EXTENDED        .07 FEET


3470 ENCROACHMENT STATIONS=      350.0      434.0  TYPE=      4  TARGET=         .016
     5.80      7.37    646.47      0.00    646.38    646.54       .06       .06       .01    645.80
     850.        0.      850.        0.        0.      420.        0.       52.       19.    645.30
      .59      0.00      2.02      0.00      .075      .055      .075      .051    639.10    350.00
  .000697       68.       68.       68.         2         0         0      0.00     84.00    434.00


CCHV=     .150 CEHV=     .350
*SECNO 5.900
 2800 NAT Q1=     249.57  WSEL=     646.82  ENC Q1=     259.53  WSEL=     646.92  RATIO=  -.0399
 NAT Q1=     260.  RATIOS LOB,CH,ROB=   .0000   .9980   .0020  WSEL=     646.92

3470 ENCROACHMENT STATIONS=      350.0      434.0  TYPE=      4  TARGET=         .002
     5.90      6.71    646.91      0.00    646.82    646.99       .08       .45       .01    646.90
     850.        0.      850.        0.        0.      364.        0.       57.       20.    646.40
      .65      0.00      2.34      0.00      .075      .055      .075      .051    640.20    350.00
  .001100      520.      520.      520.         2         0         0      0.00     84.00    434.00


*SECNO 5.950
 2800 NAT Q1=     121.80  WSEL=     646.91  ENC Q1=     124.06  WSEL=     647.01  RATIO=  -.0186
 NAT Q1=     127.  RATIOS LOB,CH,ROB=  0.0000   .9741   .0259  WSEL=     647.01
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      398.0      456.0  TYPE=      4  TARGET=         .026
     5.95      6.58    646.98      0.00    646.91    647.27       .28       .20       .07    647.40
     850.        0.      850.        0.        0.      198.        0.       58.       20.    645.80
      .66      0.00      4.28      0.00      .075      .055      .075      .051    640.40    400.42
  .004941      100.      100.      100.         2         0         0      0.00     55.58    456.00


CCHV=     .400 CEHV=     .800
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*SECNO 6.000
 2800 NAT Q1=     141.97  WSEL=     648.53  ENC Q1=     145.76  WSEL=     648.63  RATIO=  -.0267
 NAT Q1=     146.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     648.63
3280 CROSS SECTION       6.00 EXTENDED        .42 FEET


3470 ENCROACHMENT STATIONS=      420.0      448.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       648.80 ELREA=       648.80


         ** D/S FACE FOOTBRIDGE

     6.00      7.52    648.72      0.00    648.53    649.08       .36      1.75       .06    644.40
     850.        0.     850.        0.        0.     176.        0.       59.       21.    645.20
      .68      0.00      4.82      0.00      .080      .055      .080      .052    641.20    420.00
  .003997      395.      395.      395.         2         0         0      0.00     28.00    448.00


SPECIAL BRIDGE

SB  XK         XKCR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.45       2.60     220.00     29.00       0.00     165.30       0.00     641.20     641.20

*SECNO 6.100
 2800 NAT Q1=     151.05  WSEL=     648.77  ENC Q1=     154.73  WSEL=     648.87  RATIO=  -.0243
 NAT Q1=     155.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     648.87
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION       6.10 EXTENDED        .66 FEET


3470 ENCROACHMENT STATIONS=      420.0      448.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       649.60 ELREA=       649.60

     6.10      7.76    648.96      0.00    648.77    649.29       .33       .04       .01    644.40
     850.        0.     850.        0.        0.     183.        0.       59.       21.    645.20
      .68      0.00      4.64      0.00      .080      .055      .080      .052    641.20    420.00
  .003587       10.       10.       10.         0         0         0      0.00     28.00    448.00


*SECNO 6.200
 2800 NAT Q1=     279.82  WSEL=     649.34  ENC Q1=     279.82  WSEL=     649.44  RATIO=   .0000
 NAT Q1=     294.  RATIOS LOB,CH,ROB=   .1244   .5556   .3200  WSEL=     649.44
3280 CROSS SECTION       6.20 EXTENDED       2.00 FEET


3470 ENCROACHMENT STATIONS=      442.9      637.9  TYPE=      4  TARGET=         .048
     6.20      8.00    649.50      0.00    649.34    649.56       .06       .16       .11    647.00
     850.       91.     490.      269.     102.      196.      278.       60.       21.    646.90
      .70       .90      2.50       .96      .080      .055      .080      .052    641.50    442.89
  .000872      100.     100.      100.         2         0         0      0.00    195.03    637.92


CCHV=     .150 CEHV=     .350
*SECNO 6.500
 2800 NAT Q1=     189.39  WSEL=     649.95  ENC Q1=     189.39  WSEL=     650.05  RATIO=   .0000
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 NAT Q1=     203.  RATIOS LOB,CH,ROB=    .0651    .6278    .3071  WSEL=     650.05

3470 ENCROACHMENT STATIONS=      470.3      723.5  TYPE=      4  TARGET=          .069
     6.50      7.08    650.08      0.00    649.95    650.20      .12       .62       .02    648.50
     850.       28.      568.      254.       28.      168.     260.       66.       23.     648.40
      .75      1.00      3.38       .98      .080      .055     .080      .052    643.00    470.27
  .001945      495.      495.      495.         2         0        0      0.00    253.23    723.50


*SECNO 7.000
 2800 NAT Q1=     141.45  WSEL=     651.55  ENC Q1=     141.45  WSEL=     651.65  RATIO=    .0000
 NAT Q1=     153.  RATIOS LOB,CH,ROB=    .0432    .7408    .2160  WSEL=     651.65
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      485.3      688.8  TYPE=      4  TARGET=          .073
     7.00      6.64    651.64      0.00    651.55    651.89      .24      1.65       .04    650.50
     850.        6.      680.      164.        5.      155.     153.       72.       27.     650.40
      .80      1.05      4.38      1.07      .080      .055     .080      .052    645.00    485.25
  .003625      635.      635.      635.         1         0        0      0.00    203.51    688.76


*SECNO 8.200
 2800 NAT Q1=     214.64  WSEL=     653.14  ENC Q1=     214.64  WSEL=     653.24  RATIO=    .0000
 NAT Q1=     223.  RATIOS LOB,CH,ROB=    .0053    .7223    .2725  WSEL=     653.24
3280 CROSS SECTION       8.20 EXTENDED       2.39 FEET


3470 ENCROACHMENT STATIONS=      370.0      465.2  TYPE=      4  TARGET=          .037
     8.20      7.98    653.28      0.00    653.14    653.42      .14      1.52       .02    650.80
     850.        0.      626.      224.        0.      186.     166.       77.       29.     650.10
      .86      0.00      3.36      1.35      .080      .055     .080      .053    645.30    370.00
  .001632      650.      650.      650.         1         0        0      0.00     95.20    465.20


CCHV=     .250 CEHV=     .450
*SECNO 7.980
 2800 NAT Q1=     104.66  WSEL=     653.29  ENC Q1=     107.66  WSEL=     653.39  RATIO=   -.0287
 NAT Q1=     108.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     653.39

3470 ENCROACHMENT STATIONS=      368.0      395.0  TYPE=      4  TARGET=          0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      656.50 ELREA=      656.50

     7.98      6.06    653.46      0.00    653.29    653.94      .49       .36       .16    652.90
     850.        0.      850.        0.        0.      152.       0.       77.       29.     652.20
      .87      0.00      5.59      0.00      .080      .055     .080      .053    647.40    368.00
  .006316      127.      127.      127.         2         0        0      0.00     27.00    395.00


*SECNO 7.990
 2800 NAT Q1=     173.03  WSEL=     653.26  ENC Q1=     177.33  WSEL=     653.36  RATIO=   -.0248
 NAT Q1=     177.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     653.36

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.50 MAX ELLC=  654.50
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3470 ENCROACHMENT STATIONS=      100.0      124.0  TYPE=      4  TARGET=        0.000

        ** D/S FACE LONG LAKE RD

     7.99      6.03    653.43      0.00    653.26    653.97       .54       .00       .02    654.50
     850.        0.      850.        0.        0.      144.        0.       77.       29.    654.50
      .87      0.00      5.90      0.00      .080      .030      .080      .053    647.40    100.02
  .002223        1.        1.        1.         2         0         0      0.00     23.97    123.98


*SECNO 8.010
 2800 NAT Q1=     177.16  WSEL=     653.36  ENC Q1=     181.48  WSEL=     653.46  RATIO=  -.0244
 NAT Q1=     181.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     653.46

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.50 MAX ELLO=  654.50


3470 ENCROACHMENT STATIONS=      100.0      124.0  TYPE=      4  TARGET=        0.000
     8.01      6.11    653.51      0.00    653.36    654.04       .53       .07       .00    654.50
     850.        0.      850.        0.        0.      146.        0.       78.       29.    654.50
      .87      0.00      5.83      0.00      .080      .030      .080      .052    647.40    100.01
  .002145       31.       31.       31.         1         0         0      0.00     23.97    123.99


*SECNO 8.020
 2800 NAT Q1=     126.25  WSEL=     653.53  ENC Q1=     129.58  WSEL=     653.63  RATIO=  -.0264
 NAT Q1=     130.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     653.63
3280 CROSS SECTION      8.02 EXTENDED      1.38 FEET


   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID       ENDST


3470 ENCROACHMENT STATIONS=      334.0      362.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      656.50 ELREA=      656.50

     8.02      6.28    653.68      0.00    653.53    654.08       .39       .00       .03    651.50
     850.        0.      850.        0.        0.      169.        0.       78.       29.    650.70
      .87      0.00      5.04      0.00      .080      .055      .080      .052    647.40    334.00
  .004728        1.        1.        1.         2         0         0      0.00     28.00    362.00


*SECNO 8.800
 2800 NAT Q1=     348.04  WSEL=     654.15  ENC Q1=     348.04  WSEL=     654.25  RATIO=   .0000
 NAT Q1=     365.  RATIOS LOB,CH,ROB=   .5347   .4198   .0454  WSEL=     654.25
3280 CROSS SECTION      8.80 EXTENDED      2.47 FEET


3470 ENCROACHMENT STATIONS=      131.7      368.4  TYPE=      4  TARGET=         .047
     8.80      7.37    654.27      0.00    654.15    654.31       .04       .14       .09    651.00
     850.      458.      373.       19.      534.      175.       24.       79.       29.    650.20
      .89       .86      2.13       .81      .080      .055      .080      .052    646.90    131.66
  .000585      110.      110.      110.         2         0         0      0.00    236.76    368.42
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CCHV=    .150 CEHV=    .350
*SECNO 9.200
 2800 NAT Q1=     146.35  WSEL=     654.86  ENC Q1=     146.35  WSEL=     654.96  RATIO=    .0000
 NAT Q1=     153.  RATIOS LOB,CH,RCB=   .2509   .7491  0.0000  WSEL=     654.96
3280 CROSS SECTION       9.20 EXTENDED       2.07 FEET


3470 ENCROACHMENT STATIONS=      388.6      482.C  TYPE=      4  TARGET=         .044
     9.20      7.06    654.96      0.00    654.86    655.19      .23       .82       .07    652.80
     850.      185.      665.        0.      114.      158.       0.       87.       32.    653.4C
      .95      1.63      4.22      C.CO      .C80      .055      .080      .053    647.90    388.63
  .003356      700.      700.      7C0.         2         0         0      0.00     93.37    482.0C

CCHV=    .350 CEHV=    .650
*SECNO 8.980
 2800 NAT Q1=     182.85  WSEL=     655.18  ENC Q1=     187.19  WSEL=     655.28  RATIO=  -.0238
 NAT Q1=     187.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     655.28
3280 CROSS SECTION       8.98 EXTENDED       1.28 FEET


3470 ENCROACHMENT STATIONS=      414.3      442.C  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NCN-EFFECTIVE,ELLEA=      657.00 ELREA=      657.0C

        ** D/S FACE JOHN R

     8.98      7.08    655.38      0.00    655.18    655.67      .29       .43       .04    648.30
     850.        0.      850.        0.        0.      196.       0.       87.       32.    648.30
      .96      0.CC      4.33      C.CO      .C80      .055      .080      .053    648.30    414.25
  .003282      131.      131.      131.         2         0         0      0.00     27.75    442.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.85      2.60    150.00     29.00      0.00    168.20      0.00    648.30    648.30

*SECNO 9.020
 2800 NAT Q1=     170.21  WSEL=     655.62  ENC Q1=     173.79  WSEL=     655.72  RATIO=  -.0210
 NAT Q1=     174.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     655.72
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CRCSS SECTICN       9.02 EXTENDED       1.52 FEET


3470 ENCROACHMENT STATIONS=      475.0      502.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      657.4C ELREA=      657.40

     9.02      7.52    655.82      0.CC    655.62    656.09      .28       .18       .00    649.90
     850.        0.      850.        0.        0.      201.       0.       88.       32.    649.90
      .56      0.00      4.24      C.00      .C80      .055      .080      .053    648.3C    475.00
  .002899       59.       59.       59.         0         C         0      0.00     27.00    502.00
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*SECNO 9.800
 2800 NAT Q1=     517.61  WSEL=     656.06  ENC Q1=     517.61  WSEL=     656.16  RATIO=  0.0000
 NAT Q1=     535.  RATIOS LOB,CH,ROB=   .3660   .3057   .3284  WSEL=     656.16
3280 CROSS SECTION       9.80 EXTENDED       1.63 FEET

   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      418.4      585.1  TYPE=      4  TARGET=         .032
     9.80      7.63   656.23      0.00   656.06   656.25      .02       .07       .09    650.20
     850.      307.     266.      277.     367.     170.     303.       89.       33.    650.20
      .99       .84     1.57       .91     .080     .055     .080      .053   648.60   418.38
  .000255      110.     110.      110.        2        0        0      0.00   166.68   585.05


CCHV=    .150 CEHV=    .350
*SECNO 9.900
 2800 NAT Q1=     591.61  WSEL=     656.16  ENC Q1=     591.61  WSEL=     656.26  RATIO=  0.0000
 NAT Q1=     612.  RATIOS LOB,CH,ROB=   .3460   .4133   .2407  WSEL=     656.26

3470 ENCROACHMENT STATIONS=      379.8      513.0  TYPE=      4  TARGET=         .033
     9.90      7.23   656.33      0.00   656.16   656.35      .03       .10       .00    650.20
     850.      290.     361.      198.     304.     218.     215.       97.       34.    650.20
     1.09       .95     1.66       .92     .065     .045     .065      .052   649.10   379.83
  .000197      445.     445.      445.        0        0        0      0.00   133.16   512.99

*SECNO 10.000
 2800 NAT Q1=     499.51  WSEL=     656.26  ENC Q1=     499.51  WSEL=     656.36  RATIO=   .0000
 NAT Q1=     517.  RATIOS LOB,CH,ROB=   .3369   .4305   .2327  WSEL=     656.36

3470 ENCROACHMENT STATIONS=      385.7      507.9  TYPE=      4  TARGET=         .034
    10.00      6.73   656.43      0.00   656.26   656.46      .03       .11       .00    650.80
     850.      282.     378.      191.     259.     202.     181.      104.       35.    650.80
     1.17      1.09     1.87      1.05     .065     .045     .065      .052   649.70   385.73
  .000277      455.     455.      455.        0        0        0      0.00   122.13   507.87


*SECNO 10.050
 2800 NAT Q1=     401.64  WSEL=     656.47  ENC Q1=     401.64  WSEL=     656.57  RATIO=  0.0000
 NAT Q1=     417.  RATIOS LOB,CH,ROB=   .3273   .4514   .2213  WSEL=     656.57

3470 ENCROACHMENT STATIONS=      390.9      502.4  TYPE=      4  TARGET=         .037
    10.05      6.12   656.62      0.00   656.47   656.67      .05       .20       .00    651.60
     850.      273.     398.      179.     214.     182.     144.      112.       37.    651.60
     1.27      1.27     2.18      1.24     .065     .045     .065      .052   650.50   390.86
  .000431      595.     595.      595.        1        0        0      0.00   111.52   502.38


*SECNO 10.060
 2800 NAT Q1=     100.53  WSEL=     656.43  ENC Q1=     100.53  WSEL=     656.53  RATIO=   .0000
 NAT Q1=     107.  RATIOS LOB,CH,ROB=   .2964   .4394   .2642  WSEL=     656.53

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  656.00 MAX ELLC=  654.20
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3470 ENCROACHMENT STATIONS=      404.1      502.4  TYPE=      4  TARGET=         .059

         ** D/S FACE FOOTBRIDGE

    10.06      6.06    656.56      0.00    656.43    656.71       .15       .00       .03    651.60
     850.      226.      456.      168.      104.      123.       84.      112.       37.     651.60
     1.27      2.18      3.72      2.01      .065      .045      .065      .052    650.50    404.14
  .009189        1.        1.        1.         2         0         0   -176.77     98.21    502.35

*SECNO 10.070
 2800 NAT Q1=     101.94  WSEL=     656.46  ENC Q1=     101.94  WSEL=     656.56  RATIO=    .0000
 NAT Q1=     109.  RATIOS LOB,CH,ROB=    .2966    .4372    .2662  WSEL=     656.56
   SECNO     DEPTH     CWSEL     CRIVS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,ARD=  0 MIN ELTRD=  656.00 MAX ELLC=  654.20


3470 ENCROACHMENT STATIONS=      404.3      502.3  TYPE=      4  TARGET=         .063
    10.07      6.10    656.60      0.00    656.46    656.74       .14       .04       .00    651.60
     850.      226.      455.      168.      104.      123.       85.      112.       37.     651.60
     1.27      2.17      3.69      1.99      .065      .045      .065      .052    650.50    404.28
  .008928        4.        4.        4.         0         0         0   -176.48     98.05    502.32

*SECNO 10.100
 2800 NAT Q1=     411.03  WSEL=     656.53  ENC Q1=     411.03  WSEL=     656.63  RATIO=    .0000
 NAT Q1=     427.  RATIOS LOB,CH,ROB=    .3280    .4493    .2226  WSEL=     656.63

3470 ENCROACHMENT STATIONS=      390.5      502.5  TYPE=      4  TARGET=         .036
    10.10      6.21    656.71      0.00    656.53    656.76       .05       .00       .01    651.60
     850.      274.      396.      180.      219.      185.      148.      112.       37.     651.60
     1.27      1.25      2.14      1.22      .065      .045      .065      .052    650.50    390.47
  .000406        1.        1.        1.         2         0         0      0.00    112.46    502.93

*SECNO 10.500
 2800 NAT Q1=     291.44  WSEL=     656.86  ENC Q1=     291.44  WSEL=     656.96  RATIO=    .0000
 NAT Q1=     304.  RATIOS LOB,CH,ROB=    .3137    .4784    .2079  WSEL=     656.96

3470 ENCROACHMENT STATIONS=      395.8      497.8  TYPE=      4  TARGET=         .041
    10.50      5.32    657.02      0.00    656.86    657.10       .08       .33       .01    652.80
     850.      260.      424.      165.      165.      157.      107.      119.       39.     652.80
     1.35      1.58      2.71      1.54      .065      .045      .065      .051    651.70    395.82
  .000813      595.      595.      595.         2         0         0      0.00    102.01    497.83

*SECNO 10.700
 2800 NAT Q1=     108.84  WSEL=     657.14  ENC Q1=     114.15  WSEL=     657.24  RATIO=   -.0488
 NAT Q1=     114.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     657.24

3470 ENCROACHMENT STATIONS=      171.0      261.0  TYPE=      4  TARGET=        0.000
    10.70      5.00    657.30      0.00    657.14    657.54       .24       .38       .06    658.60
     850.        0.      850.        0.        0.      217.        0.      121.       39.     658.20
     1.37      0.00      3.91      0.00      .085      .055      .085      .051    652.30    179.28
  .005230      227.      227.      227.         2         0         0      0.00     75.90    255.18
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*SECNO 11.000
 2800 NAT Q1=     102.16  WSEL=     658.49  ENC Q1=     105.77  WSEL=     658.59  RATIO=  -.0354
 NAT Q1=     106.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     658.59

3470 ENCROACHMENT STATIONS=      188.0      236.0  TYPE=      4  TARGET=        0.000
    11.00      5.81    658.51      0.00    658.49    658.97      .46      1.36      .08    659.80
     850.        0.      850.        0.        0.      157.       0.      122.      39.    658.60
     1.38      0.00      5.42      0.00      .085      .055     .085      .051   652.70    197.01
  .006829      228.      228.      228.         2         0        0      0.00    38.83    235.84


*SECNO 11.200
 2800 NAT Q1=     146.69  WSEL=     661.28  ENC Q1=     147.00  WSEL=     661.38  RATIO=  -.0021
 NAT Q1=     152.  RATIOS LOB,CH,ROB=  0.0000   .9699   .0301  WSEL=     661.38
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      188.0      236.0  TYPE=      4  TARGET=         .030
    11.20      7.04    661.34      0.00    661.28    661.60      .26      2.60      .03    661.40
     850.        0.      850.        0.        0.      209.       0.      124.      40.    660.20
     1.42      0.00      4.08      0.00      .085      .055     .085      .052   654.30    188.58
  .003522      545.      545.      545.         2         0        0      0.00    47.43    236.00


*SECNO 11.800
 2800 NAT Q1=     257.39  WSEL=     662.45  ENC Q1=     257.39  WSEL=     662.55  RATIO=  0.0000
 NAT Q1=     268.  RATIOS LOB,CH,ROB=   .0637   .9363  0.0000  WSEL=     662.55
3280 CROSS SECTION      11.80 EXTENDED       1.04 FEET


3470 ENCROACHMENT STATIONS=      255.5      354.0  TYPE=      4  TARGET=         .041
    11.80      6.54    662.54      0.00    662.45    662.62      .08      1.00      .03    660.70
     850.       20.      830.        0.       26.      354.       0.      128.      41.    661.50
     1.48       .76      2.34      0.00      .085      .055     .085      .052   656.00    255.50
  .001102      550.      550.      550.         2         0        0      0.00    98.50    354.00


*SECNO 12.000
 2800 NAT Q1=     168.63  WSEL=     663.29  ENC Q1=     175.04  WSEL=     663.39  RATIO=  -.0380
 NAT Q1=     178.  RATIOS LOB,CH,ROB=   .0152   .9848  0.0000  WSEL=     663.39
3280 CROSS SECTION      12.00 EXTENDED        .18 FEET


3470 ENCROACHMENT STATIONS=      272.0      354.0  TYPE=      4  TARGET=         .015
    12.00      5.68    663.38      0.00    663.29    663.52      .14       .87      .02    662.40
     850.        0.      850.        0.        0.      283.       0.      132.      42.    663.20
     1.53      0.00      3.00      0.00      .085      .055     .085      .052   657.70    272.00
  .002435      555.      555.      555.         2         0        0      0.00    82.00    354.00


*SECNO 12.200
 2800 NAT Q1=     188.76  WSEL=     664.21  ENC Q1=     193.33  WSEL=     664.31  RATIO=  -.0242
 NAT Q1=     199.  RATIOS LOB,CH,ROB=   .0268   .9732  0.0000  WSEL=     664.31
3280 CROSS SECTION      12.20 EXTENDED        .37 FEET
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3470 ENCROACHMENT STATIONS=      272.0      354.0  TYPE=      4  TARGET=          .027
    12.20      5.87    664.27      0.00    664.21    664.40      .13       .88       .00    663.10
     850.        0.      850.        0.        0.      299.       0.      135.       43.    663.90
     1.57      0.00      2.84      0.00      .085      .055      .085      .052    658.40    272.00
  .002040      395.      395.      395.         2         0         0      0.00     82.00    354.00


*SECNO 12.800
 2800 NAT Q1=     136.78  WSEL=     665.37  ENC Q1=     142.76  WSEL=     665.47  RATIO=  -.0437
 NAT Q1=    143.  RATIOS LOB,CH,ROB=   .0000  1.0000  0.0000  WSEL=     665.47

3470 ENCROACHMENT STATIONS=      140.0      202.0  TYPE=      4  TARGET=          .000
    12.80      6.12    665.42      0.00    665.37    665.64      .22      1.21       .03    665.40
     850.        0.      850.        0.        0.      223.       0.      137.       43.    665.50
     1.60      0.00      3.81      0.00      .090      .055      .090      .052    659.30    140.00
  .003714      450.      450.      450.         2         0         0      0.00     61.88    201.88


*SECNO 13.000
 2800 NAT Q1=     121.08  WSEL=     667.27  ENC Q1=     121.11  WSEL=     667.37  RATIO=  -.0002
 NAT Q1=    127.  RATIOS LOB,CH,ROB=   .0210   .9504   .0286  WSEL=     667.37
3280 CROSS SECTION      13.00 EXTENDED        .34 FEET


   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      152.0      192.0  TYPE=      4  TARGET=          .050
    13.00      7.14    667.34      0.00    667.27    667.72      .38      2.02       .05    666.30
     850.        0.      850.        0.        0.      173.       0.      139.       44.    666.40
     1.63      0.00      4.92      0.00      .090      .055      .090      .052    660.20    152.00
  .005391      455.      455.      455.         2         0         0      0.00     40.00    192.00


*SECNO 13.200
 2800 NAT Q1=     137.77  WSEL=     668.62  ENC Q1=     137.77  WSEL=     668.72  RATIO=  0.0000
 NAT Q1=    145.  RATIOS LOB,CH,ROB=   .0359   .9163   .0478  WSEL=     668.72
3280 CROSS SECTION      13.20 EXTENDED        .64 FEET


3470 ENCROACHMENT STATIONS=      142.6      211.8  TYPE=      4  TARGET=          .050
    13.20      7.44    668.74      0.00    668.62    669.04      .29      1.31       .01    667.40
     850.       10.      819.       21.       10.      185.      21.      141.       44.    667.50
     1.65       .99      4.43      1.01      .090      .055      .090      .052    661.30    142.59
  .003727      295.      295.      295.         2         0         0      0.00     69.22    211.82


*SECNO 13.800
 2800 NAT Q1=     163.74  WSEL=     669.87  ENC Q1=     163.74  WSEL=     669.97  RATIO=   .0000
 NAT Q1=    173.  RATIOS LOB,CH,ROB=   .0896   .7223   .1881  WSEL=     669.97
3280 CROSS SECTION      13.80 EXTENDED       1.38 FEET
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3470 ENCROACHMENT STATIONS=      142.1      283.6  TYPE=      4  TARGET=          .054
    13.80      7.48    669.98      0.00    669.87    670.15       .17      1.09       .02    667.60
     850.       57.      648.      146.       41.      174.      131.      143.       45.    668.00
     1.68      1.37      3.71      1.12      .090      .055      .090      .052    662.50    142.06
  .002655      350.      350.      350.         2         0         0      0.00    141.50    283.56


*SECNC 14.200
 2800 NAT Q1=     131.07  WSEL=     670.99  ENC Q1=     131.07  WSEL=     671.09  RATIO=  0.0000
 NAT Q1=     138.  RATIOS LOB,CH,ROB=   .0898   .8148   .0955  WSEL=     671.09
3280 CROSS SECTION      14.20 EXTENDED       1.09 FEET


3470 ENCROACHMENT STATIONS=      141.9      237.4  TYPE=      4  TARGET=          .051
    14.20      7.19    671.09      0.00    670.99    671.36       .27      1.17       .04    669.00
     850.       58.      730.       63.       36.      163.       50.      145.       46.    669.40
     1.70      1.59      4.47      1.24      .090      .055      .090      .052    663.90    141.89
  .004208      355.      355.      355.         2         0         0      0.00     95.56    237.45


CCHV=    .200 CEHV=    .400
*SECNO 13.980
 2800 NAT Q1=     107.67  WSEL=     671.72  ENC Q1=     110.51  WSEL=     671.82  RATIO=  -.0264
 NAT Q1=     111.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     671.82
3280 CROSS SECTION      13.98 EXTENDED        .86 FEET


3470 ENCROACHMENT STATIONS=      174.0      198.0  TYPE=      4  TARGET=          0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.90 ELREA=      671.90


        ** D/S FACE PRIVATE DRIVE

    13.98      7.06    671.86      0.00    671.72    672.39       .53       .93       .10    668.70
     850.        0.      850.        0.        0.      145.        0.      146.       46.    670.30
     1.71      0.00      5.86      0.00      .090      .055      .090      .052    664.80    174.00
  .006399      181.      181.      181.         2         0         0      0.00     24.00    198.00


SPECIAL BRIDGE

SB  XK        XKCR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.45      2.80    200.00     14.00      0.00     99.40      0.00    664.80    664.80

*SECNC 14.020
 2800 NAT Q1=     149.05  WSEL=     672.93  ENC Q1=     152.29  WSEL=     673.03  RATIO=  -.0217
 NAT Q1=     152.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     673.03
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      224.0      250.0  TYPE=      4  TARGET=          0.000
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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      673.20 ELREA=      673.20

    14.02      8.26    673.06      0.00    672.93    673.41       .35       .04       .04    669.30
     850.        0.     850.        0.        0.     180.        0.      146.       46.    669.60
     1.71      0.00      4.72      0.00      .090      .055      .090      .052    664.80    224.00
  .003700        9.        9.        9.         0         0         0      0.00     26.00    250.00

*SECNO 14.100
 2800 NAT Q1=     204.17  WSEL=     673.41  ENC Q1=     204.17  WSEL=     673.51  RATIO=    .0000
 NAT Q1=     213.  RATIOS LOB,CH,ROB=    .0140    .7324    .2536  WSEL=     673.51
3280 CROSS SECTION      14.10 EXTENDED        .17 FEET


3470 ENCROACHMENT STATIONS=      224.0      301.1  TYPE=      4  TARGET=        .041
    14.10      8.67    673.57      0.00    673.41    673.73       .16       .29       .04    669.40
     850.        0.     631.      219.        0.     173.      148.      147.       47.    669.70
     1.72      0.00      3.65      1.48      .090      .055      .090      .052    664.90    224.00
  .001928      110.     110.      110.         2         0         0      0.00     77.10    301.10

CCHV=     .150 CEHV=     .350
*SECNO 14.500
 2800 NAT Q1=     222.11  WSEL=     673.81  ENC Q1=     222.11  WSEL=     673.91  RATIO=    .0000
 NAT Q1=     232.  RATIOS LOB,CH,ROB=    .0146    .7079    .2775  WSEL=     673.91
3280 CROSS SECTION      14.50 EXTENDED        .41 FEET


3470 ENCROACHMENT STATIONS=      224.0      322.0  TYPE=      4  TARGET=        .041
    14.50      8.91    674.01      0.00    673.81    674.14       .13       .41       .00    669.60
     850.        0.     604.      246.        0.     179.      186.      149.       47.    669.90
     1.75      0.00      3.38      1.32      .090      .055      .090      .052    665.10    224.00
  .001585      235.     235.      235.         2         0         0      0.00     97.97    321.97

CCHV=     .300 CEHV=     .500
*SECNO 14.600
 2800 NAT Q1=     252.01  WSEL=     674.16  ENC Q1=     262.46  WSEL=     674.26  RATIO=   -.0415
 NAT Q1=     262.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     674.26
3280 CROSS SECTION      14.60 EXTENDED        .85 FEET


3470 ENCROACHMENT STATIONS=      224.0      308.0  TYPE=      4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      675.50 ELREA=      675.50

    14.60      9.35    674.35      0.00    674.16    674.43       .08       .27       .02    669.50
     850.        0.     850.        0.        0.     381.        0.      151.       47.    673.00
     1.77      0.00      2.23      0.00      .090      .055      .090      .052    665.00    224.00
  .001031      215.     215.      215.         2         0         0      0.00     84.00    308.00

*SECNO 14.980
 2800 NAT Q1=     210.60  WSEL=     674.24  ENC Q1=     214.05  WSEL=     674.34  RATIO=   -.0164
 NAT Q1=     214.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     674.34
3280 CROSS SECTION      14.98 EXTENDED       1.44 FEET
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3470 ENCROACHMENT STATIONS=      225.0      249.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      675.50 ELREA=      675.50


         ** D/S FACE ROCHESTER

    14.99      9.44    674.44      0.00    674.24    674.66       .23       .16       .07    666.90
     850.        0.      850.        0.        0.      223.        0.      151.       48.    666.90
     1.78      0.00      3.82      0.00      .090      .055      .090      .052    665.00    225.00
  .002069      110.      110.      110.         2         0         0      0.00     24.00    249.00


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.60      2.70    200.00     20.00      0.00    152.00      0.00    665.00    665.00

*SECNC 15.020
 2800 NAT Q1=     230.36  WSEL=     674.81  ENC Q1=     233.88  WSEL=     674.91  RATIO=  -.0153
 NAT Q1=     234.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     674.91
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION      15.02 EXTENDED       2.00 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      225.0      249.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      677.00 ELREA=      677.00

    15.02     10.00    675.00      0.00    674.81    675.20       .20       .09       .01    666.90
     850.        0.      850.        0.        0.      236.        0.      152.       48.    666.90
     1.79      0.00      3.60      0.00      .090      .055      .090      .052    665.00    225.00
  .001761       45.       45.       45.         0         0         0      0.00     24.00    249.00


*SECNC 15.800
 2800 NAT Q1=     278.89  WSEL=     675.12  ENC Q1=     288.28  WSEL=     675.22  RATIO=  -.0337
 NAT Q1=     288.  RATIOS LOB,CH,ROB=  0.0000   .9999   .0001  WSEL=     675.22

3470 ENCROACHMENT STATIONS=      230.0      320.0  TYPE=      4  TARGET=        .000
    15.80     10.03    675.33      0.00    675.12    675.40       .07       .15       .04    675.80
     850.        0.      850.        0.        0.      405.        0.      153.       48.    674.80
     1.80      0.00      2.10      0.00      .090      .055      .090      .052    665.30    232.37
  .000821      130.      130.      130.         2         0         0      0.00     87.63    320.00


CCHV=     .150 CEHV=     .350
*SECNC 16.200
 2800 NAT Q1=     244.34  WSEL=     675.40  ENC Q1=     252.22  WSEL=     675.50  RATIO=  -.0322
 NAT Q1=     252.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     675.50
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3470 ENCROACHMENT STATIONS=      134.0      232.0  TYPE=      4  TARGET=        0.000
    16.20      9.47    675.57      0.00    675.40    675.66      .09       .25       .01    678.40
     850.        0.      850.        0.        0.      357.       0.      155.       48.    678.60
     1.83      0.00      2.38      0.00      .090      .055      .090      .052    666.10    142.85
  .001086      270.      270.      270.         2         0         0      0.00     78.69    221.54


*SECNO 16.300
 2800 NAT Q1=     203.53  WSEL=     675.53  ENC Q1=     210.28  WSEL=     675.63  RATIO=  -.0332
 NAT Q1=     210.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     675.63

3470 ENCROACHMENT STATIONS=      134.0      232.0  TYPE=      4  TARGET=        0.000
    16.30      8.89    675.69      0.00    675.53    675.80      .12       .14       .01    679.10
     850.        0.      850.        0.        0.      312.       0.      156.       48.    679.30
     1.84      0.00      2.72      0.00      .090      .055      .090      .052    666.80    145.09
  .001575      105.      105.      105.         2         0         0      0.00     74.45    219.54


CCHV=    .350 CEHV=    .550
*SECNO 15.980
 2800 NAT Q1=     103.00  WSEL=     675.60  ENC Q1=     104.87  WSEL=     675.70  RATIO=  -.0182
 NAT Q1=     105.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     675.70

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      175.0      191.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.50 ELREA=      680.50

        ** D/S FACE PRIVATE ROAD ON GOLF COURSE

    15.98      8.37    675.77      0.00    675.60    676.42      .65       .32       .30    670.20
     850.        0.      850.        0.        0.      131.       0.      156.       49.    670.10
     1.85      0.00      6.48      0.00      .090      .055      .090      .052    667.40    175.00
  .008478      105.      105.      105.         2         0         0      0.00     16.00    191.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.90      2.90      0.00     11.00      0.00    110.00      0.00    667.40    667.40

*SECNO 16.020
 2800 NAT Q1=     141.99  WSEL=     676.92  ENC Q1=     144.13  WSEL=     677.02  RATIO=  -.0151
 NAT Q1=     144.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     677.02
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      233.0      250.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      681.90 ELREA=      683.20

    16.02      9.68    677.08      0.00    676.92    677.51      .43       .25       .08    669.40
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     850.        0.      850.        0.        0.      162.        0.      156.       49.    669.40
     1.85      0.00      5.26      0.00      .090      .055      .090      .052   667.40    233.00
  .004837       4C.       40.       40.         0         0         0      0.00    17.00    250.00


*SECNC 16.800
 2800 NAT Q1=     333.16  WSEL=     677.57  ENC Q1=     341.41  WSEL=     677.67  RATIO=  -.0248
 NAT Q1=     341.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     677.67

3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.80      9.72    677.72      0.00    677.57    677.79       .07       .15       .13    679.40
     850.        0.      850.        0.        0.      413.        0.      157.       49.    679.00
     1.87      0.00      2.06      0.00      .090      .055      .090      .053   668.00    205.60
  .000604      110.      110.      110.         2         0         0      0.00    72.07    277.67


CCHV=     .150 CEHV=     .350
*SECNC 16.850
 2800 NAT Q1=     301.82  WSEL=     677.77  ENC Q1=     309.69  WSEL=     677.87  RATIO=  -.0261
 NAT Q1=     310.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     677.87

3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.85      9.31    677.91      0.00    677.77    677.99       .08       .20       .00    680.00
     850.        0.      850.        0.        0.      384.        0.      160.       49.    679.60
     1.90      0.00      2.21      0.00      .090      .055      .090      .053   668.60    206.94
  .000737      300.      300.      300.         1         0         0      0.00    70.00    276.94


*SECNC 16.860
 2800 NAT Q1=      95.37  WSEL=     677.73  ENC Q1=      99.21  WSEL=     677.83  RATIO=  -.0402
 NAT Q1=      99.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     677.83

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.30


3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000

         ** D/S FACE FOOTBRIDGE ON GOLF COURSE

    16.86      9.27    677.87      0.00    677.73    678.02       .15       .00       .02    680.00
     850.        0.      850.        0.        0.      277.        0.      160.       49.    679.60
     1.90      0.00      3.06      0.00      .090      .055      .090      .053   668.60    207.10
  .007099        1.        1.        1.         2         0         0   -103.41    69.75    276.85


*SECNO 16.870
 2800 NAT Q1=      98.28  WSEL=     677.80  ENC Q1=     102.18  WSEL=     677.90  RATIO=  -.0397
 NAT Q1=     102.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     677.90

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.30


3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.87      9.34    677.94      0.00    677.80    678.08       .14       .06       .00    680.00
     850.        0.      850.        0.        0.      282.        0.      160.       49.    679.60
     1.90      0.00      3.02      0.00      .090      .055      .090      .053   668.60    206.89
  .006762        9.        9.        9.         0         0         0   -103.52    70.08    276.97


*SECNC 16.880
 2800 NAT Q1=     310.87  WSEL=     677.89  ENC Q1=     318.82  WSEL=     677.99  RATIO=  -.0256
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 NAT Q1=     319.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    677.99
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.88      9.42   678.02      0.00   677.89   678.09      .07       .00       .01   680.00
     850.        0.     850.        0.       0.     391.       0.      160.      49.    679.60
     1.91      0.00     2.17      0.00     .090     .055     .090      .053   668.60   206.61
  .000701        1.       1.        1.        2        0        0      0.00    70.51   277.12


*SECNO 16.950
 2800 NAT Q1=     295.59  WSEL=     678.00  ENC Q1=     303.51  WSEL=     678.10  RATIO=  -.0268
 NAT Q1=     304.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     678.10

3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.95      9.22   678.12      0.00   678.00   678.20      .08       .10       .00   680.30
     850.        0.     850.        0.       0.     377.       0.      161.      49.    679.90
     1.92      0.00     2.25      0.00     .090     .055     .090      .053   668.90   207.26
  .000774      140.     140.      140.        0        0        0      0.00    69.50   276.77


*SECNO 16.960
 2800 NAT Q1=      95.99  WSEL=     677.95  ENC Q1=      99.82  WSEL=     678.05  RATIO=  -.0400
 NAT Q1=     100.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     678.05

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.40


3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000

         ** D/S FACE FOOTBRIDGE ON GOLF COURSE

    16.96      9.17   678.07      0.00   677.95   678.22      .15       .00       .02   680.30
     850.        0.     850.        0.       0.     276.       0.      161.      49.    679.90
     1.92      0.00     3.08      0.00     .090     .055     .090      .053   668.90   207.42
  .007115        1.       1.        1.        2        0        0    -97.81    69.26   276.68


*SECNO 16.970
 2800 NAT Q1=      98.86  WSEL=     678.02  ENC Q1=     102.76  WSEL=     678.12  RATIO=  -.0394
 NAT Q1=     103.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     678.12

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.40


3470 ENCROACHMENT STATIONS=      200.0      280.0  TYPE=      4  TARGET=        0.000
    16.97      9.24   678.14      0.00   678.02   678.28      .14       .06       .00   680.30
     850.        0.     850.        0.       0.     281.       0.      161.      49.    679.90
     1.92      0.00     3.03      0.00     .090     .055     .090      .053   668.90   207.21
  .006780        9.       9.        9.        0        0        0    -97.91    69.58   276.79


*SECNO 16.980
 2800 NAT Q1=     304.53  WSEL=     678.11  ENC Q1=     312.39  WSEL=     678.21  RATIO=  -.0258
 NAT Q1=     312.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     678.21
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3470 ENCROACHMENT STATIONS=      200.0      280.C  TYPE=      4  TARGET=          0.000
    16.98      9.32    678.22      0.00    678.11    678.30      .08       .00       .01    680.30
     850.        C.      850.        0.        0.      384.       0.      161.       49.     679.90
     1.92      0.00      2.21      0.00      .09C      .055     .C90      .053    668.90    206.93
  .000736        1.        1.        1.         2         0        0      0.00     70.01    276.94


*SECNC 17.000
 2800 NAT Q1=     450.81  WSEL=     678.27  ENC Q1=     450.81  WSEL=     678.37  RATIO=    .0000
 NAT Q1=     467.  RATICS LOB,CH,ROB=    .444C    .53B2    .0178  WSEL=     678.37
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITPIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=       50.4      228.2  TYPE=      4  TARGET=          .035
    17.00      9.C8    678.38      C.CO    678.27    678.41      .03       .11       .01    673.00
     85C.      376.      474.        0.      508.      260.       0.      164.       50.     676.3C
     1.97       .74      1.82       .C9      .C90      .055     .090      .053    669.30     50.39
  .000355      215.      215.      215.         2         0        0      0.00    177.76    228.16


*SECNO 17.200
 2800 NAT Q1=     407.12  WSEL=     678.29  ENC Q1=     407.12  WSEL=     678.39  RATIO=    .0000
 NAT Q1=     422.  RATICS LOB,CH,RCB=    .4288    .5579    .0133  WSEL=     678.39

3470 ENCROACHMENT STATIONS=       53.8      228.C  TYPE=      4  TARGET=          .034
    17.20      8.79    678.39      0.00    678.29    678.43      .04       .02       .00    673.30
     850.      366.      484.        0.      46C.      25C.       0.      165.       50.     676.60
     1.98       .80      1.94      0.00      .090      .055     .090      .053    669.60     53.76
  .000450       5C.       50.       50.         0         0        0      0.00    174.24    228.00


*SECNC 17.220
 28C0 NAT Q1=     231.53  WSEL=     678.30  ENC Q1=     231.53  WSEL=     678.40  RATIO=    .0000
 NAT Q1=     245.  RATICS LOB,CH,RCB=    .6077    .3690    .0233  WSEL=     678.40

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRO=  675.CC MAX ELLC=  673.10


3470 ENCROACHMENT STATIONS=       51.7      228.0  TYPE=      4  TARGET=          .053

         ** D/S FACE FCOTBRIDGE CN GCLFCCURSE-ELTRC LOWERED-BRIDGE KEPT IN BANKS

    17.22      8.80    678.40      0.00    678.30    678.43      .C3       .00       .00    673.30
     850.      522.      328.        0.      415.      194.       0.      165.       50.     676.60
     1.98      1.26      1.70      C.CO      .C90      .055     .090      .053    669.60     51.69
  .001367        1.        1.        1.         0         0        0  -105.50    176.31    228.00


*SECNO 17.230
 2800 NAT Q1=     233.46  WSEL=     678.31  ENC Q1=     233.46  WSEL=     678.41  RATIO=    .0000
 NAT Q1=     246.  RATIOS LOB,CH,RCB=    .6083    .3682    .0236  WSEL=     678.41

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10


3470 ENCROACHMENT STATIONS=       50.9      228.C  TYPE=      4  TARGET=          .051
    17.23      8.81    678.41      0.00    678.31    678.44      .03       .01       .00    673.30
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     850.      523.      327.        0.      420.      194.        0.      165.       50.    676.60
     1.98      1.25      1.68      0.00      .090      .055      .090      .053   669.60     50.91
 .001339        9.        9.        9.         0         0         0  -105.50   177.09    228.00

*SECNO 17.250
 2800 NAT Q1=     409.59  WSEL=     678.31  ENC Q1=     409.59  WSEL=     678.41  RATIO=    .0000
 NAT Q1=    424.  RATIOS LOB,CH,ROB=    .4297    .5567    .0136  WSEL=     678.41

3470 ENCROACHMENT STATIONS=       53.7      228.0  TYPE=      4  TARGET=        .035
    17.25      8.81    678.41      0.00    678.31    678.45       .04       .00       .00    673.30
     850.      367.      483.        0.      462.      250.        0.      165.       50.    676.60
     1.98       .79      1.93      0.00      .090      .055      .090      .053   669.60     53.69
 .000445        1.        1.        1.         0         0         0      0.00   174.31    228.00

*SECNO 17.300
 2800 NAT Q1=     430.37  WSEL=     678.44  ENC Q1=     430.37  WSEL=     678.54  RATIO=    .0000
 NAT Q1=    446.  RATIOS LOB,CH,ROB=    .4374    .5469    .0157  WSEL=     678.54
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOPR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=       52.3      228.0  TYPE=      4  TARGET=        .036
    17.30      8.95    678.55      0.00    678.44    678.59       .03       .14       .00    673.30
     850.      375.      475.        0.      485.      255.        0.      171.       52.    676.60
     2.05       .77      1.86      0.00      .090      .055      .090      .053   669.60     52.30
 .000405      330.      330.      330.         1         0         0      0.00   175.70    228.00

*SECNO 17.320
 2800 NAT Q1=     250.36  WSEL=     678.45  ENC Q1=     250.36  WSEL=     678.55  RATIO=    .0000
 NAT Q1=    264.  RATIOS LOB,CH,ROB=    .6145    .3586    .0269  WSEL=     678.55

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10


3470 ENCROACHMENT STATIONS=       49.7      228.8  TYPE=      4  TARGET=        .051

         ** D/S FACE FOOTBRIDGE ON GOLFCOURSE-ELTRD LOWERED-BRIDGE KEPT IN BANKS

    17.32      8.96    678.56      0.00    678.45    678.59       .03       .00       .00    673.30
     850.      530.      320.        1.      443.      200.        2.      171.       52.    676.60
     2.05      1.20      1.60       .38      .090      .055      .090      .053   669.60     49.71
 .001142        1.        1.        1.         0         0         0  -105.50   179.08    228.79

*SECNO 17.330
 2800 NAT Q1=     252.22  WSEL=     678.46  ENC Q1=     252.22  WSEL=     678.56  RATIO=   0.0000
 NAT Q1=    265.  RATIOS LOB,CH,ROB=    .6149    .3579    .0272  WSEL=     678.56

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10


3470 ENCROACHMENT STATIONS=       49.3      229.6  TYPE=      4  TARGET=        .049
    17.33      8.97    678.57      0.00    678.46    678.60       .03       .01       .00    673.30
     850.      530.      319.        2.      446.      200.        3.      171.       52.    676.60
     2.05      1.19      1.59       .51      .090      .055      .090      .053   669.60     49.33
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  .001122        9.        9.        9.        0        0        0  -105.50   180.26   229.60


*SECNO 17.350
 2800 NAT Q1=     433.57  WSEL=     678.46  ENC Q1=     433.57  WSEL=     678.56  RATIO=    .0000
 NAT Q1=    449.  RATIOS LOB,CH,ROB=   .4382   .5458   .0160  WSEL=     678.56

3470 ENCROACHMENT STATIONS=       51.1      228.0  TYPE=      4  TARGET=        .034
    17.35      8.97   678.57      0.00   678.46   678.60      .03      .00      .00   673.30
     850.      378.     472.        0.     491.     256.       0.     171.      52.    676.60
     2.05       .77     1.84      0.00     .090     .055     .090     .053   669.60    51.15
  .000397        1.        1.        1.        0        0        0     0.00   176.85   228.00


*SECNO 18.200
 2800 NAT Q1=     161.49  WSEL=     678.60  ENC Q1=     165.38  WSEL=     678.70  RATIO=  -.0241
 NAT Q1=    166.  RATIOS LOB,CH,ROB=  0.0000   .9939   .0061  WSEL=     678.70

3470 ENCROACHMENT STATIONS=       40.0       82.0  TYPE=      4  TARGET=        .006
    18.20      7.32   678.72      0.00   678.60   678.97      .25      .29      .07   680.20
     850.        0.     850.        0.       0.     213.       0.     175.      53.    677.90
     2.07      0.00     3.99      0.00     .090     .055     .090     .053   671.40    42.47
  .002689      350.     350.      350.        2        0        0     0.00    39.53    82.00


CCHV=    .300 CEHV=    .500
*SECNO 18.280
 2800 NAT Q1=     127.18  WSEL=     679.15  ENC Q1=     129.64  WSEL=     679.25  RATIO=  -.0194
 NAT Q1=    130.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     679.25
3280 CROSS SECTION     18.28 EXTENDED       .06 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=       56.0       72.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.50 ELREA=      680.50

    18.29      8.26   679.46      0.00   679.15   679.84      .39      .81      .07   671.20
     660.        0.     660.        0.       0.     132.       0.     176.      53.    671.20
     2.09      0.00     5.00      0.00     .090     .055     .090     .053   671.20    56.00
  .005293      230.     230.      230.        2        0        0     0.00    16.00    72.00


*SECNO 18.290
 2800 NAT Q1=     129.09  WSEL=     679.05  ENC Q1=     131.60  WSEL=     679.15  RATIO=  -.0195
 NAT Q1=    132.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     679.15

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  682.30 MAX ELLC=  680.20


3470 ENCROACHMENT STATIONS=       62.3       77.7  TYPE=      4  TARGET=        0.000

         ** D/S FACE FOOTBRIDGE

    18.29      8.17   679.37      0.00   679.05   679.94      .56      .00      .09   680.20
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    17.98      7.90   680.00      0.00   679.75   680.28      .27      .02      .09   672.50
     660.        0.     660.        0.       0.     157.       0.     176.      53.   672.50
     2.09      0.00     4.20      0.00     .090     .055     .090     .053   672.10    54.00
  .003275       15.      15.       15.        2        0        0     0.00    20.00    74.00


*SECNO 17.990
 2800 NAT Q1=     191.95  WSEL=     679.69  ENC Q1=     195.39  WSEL=     679.79  RATIO=  -.0179
 NAT Q1=     195.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     679.79

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.20 MAX ELLC=  682.30


         ** D/S FACE ROCHESTER RD

    17.99      7.85   679.95      0.00   679.69   680.34      .39      .00      .06   682.30
     660.        0.     660.        0.       0.     132.       0.     176.      53.   682.30
     2.09      0.00     4.98      0.00     .090     .025     .090     .053   672.10      .02
  .001079        1.       1.        1.        2        0        0     0.00    16.95    16.98


*SECNO 18.010
 2800 NAT Q1=     194.33  WSEL=     679.75  ENC Q1=     197.45  WSEL=     679.85  RATIO=  -.0161
 NAT Q1=     197.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     679.85

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.20 MAX ELLC=  682.30

    18.01      7.90   680.00      0.00   679.75   680.38      .38      .05      .00   682.30
     660.        0.     660.        0.       0.     133.       0.     176.      53.   682.30
     2.09      0.00     4.95      0.00     .090     .025     .090     .053   672.10      .02
  .001061       43.      43.       43.        0        0        0     0.00    16.95    16.98


*SECNO 18.020
 2800 NAT Q1=     118.94  WSEL=     679.86  ENC Q1=     121.25  WSEL=     679.96  RATIO=  -.0194
 NAT Q1=     121.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     679.96

3470 ENCROACHMENT STATIONS=      338.0      357.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       685.20 ELREA=       685.20

    18.02      8.01   680.11      0.00   679.86   680.41      .30      .00      .02   674.50
     660.        0.     660.        0.       0.     150.       0.     176.      53.   674.50
     2.09      0.00     4.41      0.00     .090     .055     .090     .053   672.10   338.00
  .003616        1.       1.        1.        2        0        0     0.00    19.00   357.00


*SECNO 18.800
 2800 NAT Q1=     136.81  WSEL=     680.22  ENC Q1=     139.84  WSEL=     680.32  RATIO=  -.0221
 NAT Q1=     140.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     680.32

3470 ENCROACHMENT STATIONS=      320.0      372.0  TYPE=      4  TARGET=        0.000
    18.80      9.17   680.47      0.00   680.22   680.66      .19      .22      .03   689.40
     660.        0.     660.        0.       0.     188.       0.     176.      53.   683.80
     2.10      0.00     3.51      0.00     .090     .055     .090     .053   671.30   327.98
  .002088       80.      80.       80.        2        0        0     0.00    33.49   361.47


CCHV=     .150 CEHV=     .350
*SECNO 19.200
 2800 NAT Q1=     488.54  WSEL=     680.64  ENC Q1=     488.54  WSEL=     680.74  RATIO=   .0000
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 NAT Q1=     503.  RATIOS LOB,CH,ROB=    .3630    .5930    .0440  WSEL=     680.74
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      199.8      315.8  TYPE=      4  TARGET=         .029
    19.20      7.75    680.85      0.00    680.64    680.87      .02       .19       .03    675.00
     660.      238.      403.       19.      363.      299.      40.      181.       54.    674.70
     2.21       .66      1.35       .48      .090      .055     .090      .053    673.10    199.83
  .000173      450.      450.      450.         2         0        0      0.00    116.02    315.85


*SECNO 19.300
 2800 NAT Q1=     391.19  WSEL=     680.67  ENC Q1=     391.19  WSEL=     680.77  RATIO=    .0000
 NAT Q1=     402.  RATIOS LOB,CH,ROB=    .2730    .6806    .0464  WSEL=     680.77
3280 CROSS SECTION      19.30 EXTENDED       4.89 FEET


3470 ENCROACHMENT STATIONS=      225.9      315.9  TYPE=      4  TARGET=         .027
    19.30      7.38    680.88      0.00    680.67    680.91      .03       .03       .00    675.40
     660.      183.      455.       21.      225.      284.      37.      183.       54.    675.10
     2.25       .81      1.60       .57      .090      .055     .090      .053    673.50    225.88
  .000262      160.      160.      160.         0         0        0      0.00     90.04    315.92


CCHV=     .400 CEHV=     .800
*SECNO 18.980
 2800 NAT Q1=     117.90  WSEL=     680.66  ENC Q1=     120.58  WSEL=     680.76  RATIO=   -.0228
 NAT Q1=     121.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     680.76

3470 ENCROACHMENT STATIONS=      284.0      302.0  TYPE=      4  TARGET=         0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      684.50 ELREA=      684.50

    18.99      7.19    680.89      0.00    680.66    681.29      .40       .08       .30    673.70
     660.        0.      660.        0.        0.      129.       0.      184.       54.    673.70
     2.25      0.00      5.10      0.00      .090      .055     .090      .053    673.70    284.00
  .005647      117.      117.      117.         2         0        0      0.00     18.00    302.00


*SECNO 18.990
 2800 NAT Q1=      93.56  WSEL=     680.55  ENC Q1=      96.05  WSEL=     680.65  RATIO=   -.0266
 NAT Q1=      96.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     680.65

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.40 MAX ELLC=  683.70


3470 ENCROACHMENT STATIONS=       92.0      108.0  TYPE=      4  TARGET=         0.000

         ** D/S FACE SQUARE LAKE RD

    18.99      7.09    680.79      0.00    680.55    681.70      .91       .00       .41    683.70
     660.        0.      660.        0.        0.       86.       0.      184.       54.    683.70
     2.25      0.00      7.66      0.00      .090      .030     .090      .053    673.70     92.05
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  .004407        1.        1.        1.        2        0        0     0.00    15.90   107.95

*SECNC 19.010
 2800 NAT Q1=     104.60  WSEL=     680.99  ENC Q1=     107.03  WSEL=     681.09  RATIO=  -.0232
 NAT Q1=     107.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     681.09

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.40 MAX ELLC=  683.70

3470 ENCROACHMENT STATIONS=       92.0      108.0  TYPE=      4  TARGET=        0.000
    19.01      7.45   681.15      0.00   680.99   681.95      .80      .21      .04   683.70
     660.        0.     660.        0.       0.     92.        0.     184.      54.   683.70
     2.26      0.00      7.18     0.00     .090     .030     .090     .053   673.70    92.04
  .003695       51.       51.       51.        2        0        0     0.00    15.92   107.96

*SECNO 19.020
 2800 NAT Q1=     132.46  WSEL=     681.80  ENC Q1=     134.74  WSEL=     681.90  RATIO=  -.0172
 NAT Q1=     135.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     681.90

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      197.0      217.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      685.40 ELREA=      685.40

    19.02      8.21   681.91      0.00   681.80   682.17      .26      .00      .22   676.80
     660.        0.     660.        0.       0.    161.        0.     184.      54.   676.80
     2.26      0.00      4.09     0.00     .090     .055     .090     .053   673.70   197.00
  .002977        1.        1.        1.        2        0        0     0.00    20.00   217.00

*SECNO 19.800
 2800 NAT Q1=     154.22  WSEL=     682.10  ENC Q1=     154.22  WSEL=     682.20  RATIO=   .0000
 NAT Q1=     161.  RATIOS LOB,CH,ROB=   .0394   .9296   .0310  WSEL=     682.20

3470 ENCROACHMENT STATIONS=      176.3      243.5  TYPE=      4  TARGET=        .040
    19.80      9.59   682.19      0.00   682.10   682.37      .17      .16      .03   681.10
     660.       13.     639.        8.      19.     188.       13.     184.      54.   681.40
     2.26       .71      3.39      .57     .090     .055     .090     .053   672.60   176.26
  .001836       70.       70.       70.        2        0        0     0.00    67.24   243.50

CCHV=     .150 CEHV=     .350
*SECNO 19.900
 2800 NAT Q1=     227.93  WSEL=     682.77  ENC Q1=     227.93  WSEL=     682.87  RATIO=   .0000
 NAT Q1=     238.  RATIOS LOB,CH,ROB=   .3154   .6309   .0537  WSEL=     682.87

3470 ENCROACHMENT STATIONS=      110.2      232.8  TYPE=      4  TARGET=        .044
    19.90      7.88   682.88      0.00   682.77   682.94      .07      .56      .02   680.00
     660.      203.     436.       22.     219.     176.       29.     188.      55.   680.40
     2.33       .92      2.48      .73     .090     .055     .090     .053   675.00   110.22
  .000838      470.      470.      470.        2        0        0     0.00   122.55   232.77
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*SECNC 19.920
 2800 NAT Q1=     142.90  WSEL=     682.80  ENC Q1=     142.90  WSEL=     682.90  RATIO=    .0000
 NAT Q1=     151.  RATIOS LOB,CH,ROB=    .4493    .4633    .0874  WSEL=     682.90

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  680.20 MAX ELLC=  679.50


3470 ENCROACHMENT STATIONS=      108.5      237.2  TYPE=      4  TARGET=          .054

         ** D/S FACE FOOTBRIDGE

    19.92      7.90    682.90      0.00    682.80    682.95       .05       .00       .00    680.00
     660.      296.      322.       42.      210.      160.       37.      188.       55.     680.40
     2.33      1.41      2.01      1.14      .090      .055      .090      .053    675.00    108.47
  .002119        1.        1.        1.         2         0         0    -31.51    128.73    237.21


*SECNO 19.930
 2800 NAT Q1=     143.37  WSEL=     682.81  ENC Q1=     143.37  WSEL=     682.91  RATIO=    .0000
 NAT Q1=     152.  RATIOS LOB,CH,ROB=    .4498    .4623    .0879  WSEL=     682.91

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  680.20 MAX ELLC=  679.50


3470 ENCROACHMENT STATIONS=      108.6      237.0  TYPE=      4  TARGET=          .055
    19.93      7.91    682.91      0.00    682.81    682.96       .05       .01       .00    680.00
     660.      296.      322.       42.      210.      161.       36.      188.       55.     680.40
     2.33      1.41      2.01      1.14      .090      .055      .090      .053    675.00    108.64
  .002107        4.        4.        4.         0         0         0    -31.47    128.37    237.01


*SECNC 19.950
 2800 NAT Q1=     231.15  WSEL=     682.79  ENC Q1=     231.15  WSEL=     682.89  RATIO=    .0000
 NAT Q1=     241.  RATIOS LOB,CH,ROB=    .3169    .6285    .0546  WSEL=     682.89
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      109.2      234.7  TYPE=      4  TARGET=          .040
    19.95      7.90    682.90      0.00    682.79    682.96       .06       .00       .01    680.00
     660.      205.      432.       24.      224.      177.       33.      188.       55.     680.40
     2.33       .91      2.44       .72      .090      .055      .090      .053    675.00    109.21
  .000810        1.        1.        1.         1         0         0      0.00    125.50    234.71


*SECNO 20.000
 2800 NAT Q1=     154.37  WSEL=     682.94  ENC Q1=     154.37  WSEL=     683.04  RATIO=    .0000
 NAT Q1=     162.  RATIOS LOB,CH,ROB=    .2452    .7313    .0235  WSEL=     683.04

3470 ENCROACHMENT STATIONS=      117.3      218.0  TYPE=      4  TARGET=          .048
    20.00      7.04    683.04      0.00    682.94    683.18       .13       .19       .02    681.00
     660.      157.      503.        0.      140.      153.        0.      189.       56.     681.40
     2.35      1.12      3.30      0.00      .090      .055      .090      .053    676.00    117.34
  .001928      160.      160.      160.         2         0         0      0.00    100.65    218.00


*SECNO 20.100
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 2800 NAT Q1=     158.90  WSEL=     683.10  ENC Q1=     158.90  WSEL=     683.20  RATIO=    .0000
 NAT Q1=     167.  RATIOS LOB,CH,ROB=    .2512    .7235    .0253  WSEL=     683.20

3470 ENCROACHMENT STATIONS=      116.7      218.7  TYPE=      4  TARGET=          .048
    20.10      7.10    683.20      0.00    683.10    683.33      .13       .16       .00    681.10
     660.      157.      503.       1.      146.      154.       1.       190.       56.    681.50
     2.35      1.08      3.26      .44      .090      .055     .090      .053    676.10    116.66
  .001732       85.       85.       85.        1         0        0      0.00    102.07    218.73


*SECNO 20.500
 2800 NAT Q1=     122.26  WSEL=     684.12  ENC Q1=     122.53  WSEL=     684.22  RATIO=  -.0022
 NAT Q1=     127.  RATIOS LOB,CH,ROB=    .0184    .9633    .0184  WSEL=     684.22

3470 ENCROACHMENT STATIONS=      362.0      394.0  TYPE=      4  TARGET=          .037
    20.50      7.47    684.27      0.00    684.12    684.52      .25      1.15       .04    682.00
     660.        0.      660.        0.        0.      164.       0.       193.       57.    683.40
     2.39      0.00      4.02      0.00      .090      .055     .090      .053    676.80    362.00
  .003173      500.      500.      500.        2         0        0      0.00     32.00    394.00


*SECNO 21.200
 2800 NAT Q1=     146.92  WSEL=     684.97  ENC Q1=     146.92  WSEL=     685.07  RATIO=  0.0000
 NAT Q1=     153.  RATIOS LOB,CH,ROB=    .0250    .9218    .0532  WSEL=     685.07
3280 CROSS SECTION      21.20 EXTENDED        .34 FEET


3470 ENCROACHMENT STATIONS=      360.9      420.7  TYPE=      4  TARGET=          .041
    21.20      7.94    685.14      0.00    684.97    685.33      .19       .79       .01    682.40
     660.        2.      634.       24.        3.      179.      31.       194.       57.    683.80
     2.42       .62      3.54      .78      .090      .055     .090      .053    677.20    360.92
  .001938      325.      325.      325.        2         0        0      0.00     59.81    420.73


CCHV=     .400 CEHV=     .800
*SECNO 20.980
 2800 NAT Q1=     297.08  WSEL=     685.25  ENC Q1=     297.08  WSEL=     685.35  RATIO=    .0000
 NAT Q1=     306.  RATIOS LOB,CH,ROB=    .0326    .8367    .1307  WSEL=     685.35
3280 CROSS SECTION      20.98 EXTENDED       1.32 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      357.5      458.4  TYPE=      4  TARGET=          .029

         ** D/S FACE DIANE LANE

    20.98      8.92    685.42      0.00    685.25    685.50      .08       .13       .04    678.60
     660.       11.      567.       82.       20.      239.     142.       195.       57.    678.60
     2.43       .55      2.37      .58      .090      .055     .090      .053    676.50    357.47
  .000473      150.      150.      150.        2         0        0      0.00    100.96    458.42


SPECIAL BRIDGE
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SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.45      2.80    125.00     17.30      0.00     95.00      0.00    676.50    676.50

*SECNC 21.020
 2800 NAT Q1=     335.50  WSEL=     685.80  ENC Q1=     335.50  WSEL=     685.90  RATIO=    .0000
 NAT Q1=    344.  RATIOS LOB,CH,ROB=   .0520  .8963   .0517  WSEL=     685.90
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION      21.02 EXTENDED        .77 FEET


3470 ENCROACHMENT STATIONS=      359.6     411.3  TYPE=      4  TARGET=        .025
    21.02      9.47    685.97     0.00    685.80    686.04      .07       .03       .00    679.30
     660.       27.     605.       27.       39.     277.       39.      195.       57.    679.30
     2.44       .71      2.19      .70      .090     .055      .090      .053    676.50    359.62
  .000376       60.      60.       60.        0        0         3      0.00     51.72    411.34

*SECNC 21.800
 2800 NAT Q1=     186.16  WSEL=     685.82  ENC Q1=     191.54  WSEL=     685.92  RATIO=  -.0289
 NAT Q1=    192.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     685.92

3470 ENCROACHMENT STATIONS=      352.0     412.0  TYPE=      4  TARGET=       0.000
    21.80      8.79    685.99     0.00    685.82    686.09      .10       .03       .02    687.00
     660.        0.      660.       0.        0.     262.        0.      196.       57.    687.70
     2.45      0.00      2.52     0.00      .090     .055      .090      .053    677.20    355.72
  .001140       50.      50.       50.        1        0         0      0.00     53.63    409.35


CCHV=     .150 CEHV=     .350
*SECNC 21.850
 2800 NAT Q1=     189.46  WSEL=     686.59  ENC Q1=     194.88  WSEL=     686.69  RATIO=  -.0286
 NAT Q1=    195.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     686.69

3470 ENCROACHMENT STATIONS=      352.0     412.0  TYPE=      4  TARGET=       0.000
    21.85      8.79    686.69     0.00    686.59    686.79      .10       .70       .00    687.70
     660.        0.      660.       0.        0.     262.        0.      200.       58.    688.40
     2.52      0.00      2.52     0.00      .090     .055      .090      .053    677.90    355.73
  .001142      615.     615.      615.        0        0         0      0.00     53.61    409.34


*SECNO 21.900
 2800 NAT Q1=    1174.25  WSEL=     686.75  ENC Q1=    1174.25  WSEL=     686.85  RATIO=    .0000
 NAT Q1=   1214.  RATIOS LOB,CH,ROB=   .1979   .1639   .6382  WSEL=     686.85
3280 CROSS SECTION      21.90 EXTENDED       3.55 FEET


3470 ENCROACHMENT STATIONS=       38.7     487.9  TYPE=      4  TARGET=        .033
    21.90      8.25    686.85     0.00    686.75    686.85      .00       .05       .01    682.50
     660.      124.      112.     425.      518.     219.     1525.      214.       61.    683.30
     2.96       .24       .51      .28      .090     .055      .090      .053    678.60     38.65
  .000032      500.     500.      500.        2        0         0      0.00    449.21    487.86


*SECNC 22.000
 2800 NAT Q1=     919.13  WSEL=     686.77  ENC Q1=     919.13  WSEL=     686.87  RATIO=  0.0000
 NAT Q1=    955.  RATIOS LOB,CH,ROB=   .1844   .1728   .6428  WSEL=     686.87
3280 CROSS SECTION      22.00 EXTENDED       2.87 FEET
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=       46.3      485.0  TYPE=      4  TARGET=          .037
    22.00      7.57    686.87      0.00    686.77    686.87       .00       .02       .00    683.20
     660.      113.      118.      428.      413.      195.     1316.      235.       66.    684.00
     3.30       .27       .61       .33      .090      .055      .090      .053    679.30     46.28
  .000052      445.      445.      445.         0         0         0      0.00    438.74    485.02


*SECNC 22.200
 2800 NAT Q1=     642.65  WSEL=     686.83  ENC Q1=     642.65  WSEL=     686.93  RATIO=    .0000
 NAT Q1=     674.  RATIOS LOB,CH,ROB=   .1617   .1886   .6497  WSEL=     686.93
3280 CROSS SECTION      22.20 EXTENDED       2.04 FEET


3470 ENCROACHMENT STATIONS=       59.0      479.5  TYPE=      4  TARGET=          .046
    22.20      6.73    686.93      0.00    686.83    686.94       .01       .07       .00    684.10
     910.      132.      180.      598.      287.      167.     1061.      262.       72.    684.90
     3.59       .46      1.07       .56      .090      .055      .090      .053    680.20     59.00
  .000199      665.      665.      665.         1         0         0      0.00    420.50    479.50


*SECNC 22.800
 2800 NAT Q1=     457.68  WSEL=     686.98  ENC Q1=     457.68  WSEL=     687.08  RATIO=    .0000
 NAT Q1=     484.  RATIOS LOB,CH,ROB=   .1379   .2069   .6552  WSEL=     687.08
3280 CROSS SECTION      22.80 EXTENDED       1.38 FEET


3470 ENCROACHMENT STATIONS=       68.9      473.1  TYPE=      4  TARGET=          .055
    22.80      6.08    687.08      0.00    686.98    687.09       .01       .15       .00    684.90
     910.      107.      199.      604.      199.      145.      860.      279.       77.    685.70
     3.77       .54      1.37       .70      .090      .055      .090      .053    681.00     68.94
  .000394      550.      550.      550.         0         0         0      0.00    404.16    473.09


*SECNC 23.200
 2800 NAT Q1=     146.16  WSEL=     687.42  ENC Q1=     146.16  WSEL=     687.52  RATIO=   0.0000
 NAT Q1=     152.  RATIOS LOB,CH,ROB=  0.0000   .7457   .2543  WSEL=     687.52

3470 ENCROACHMENT STATIONS=      320.0      397.0  TYPE=      4  TARGET=          .038
    23.20      5.51    687.51      0.00    687.42    687.74       .23       .57       .08    692.10
     910.        0.      695.      215.        0.      164.       91.      289.       81.    683.70
     3.82      0.00      4.24      2.36      .090      .055      .090      .053    682.00    332.93
  .003781      635.      635.      635.         2         0         0      0.00     64.03    396.96


CCHV=     .400 CEHV=     .800
*SECNC 22.980
 2800 NAT Q1=     320.78  WSEL=     687.87  ENC Q1=     320.78  WSEL=     687.97  RATIO=    .0000
 NAT Q1=     329.  RATIOS LOB,CH,ROB=   .0506   .7160   .2334  WSEL=     687.97

3470 ENCROACHMENT STATIONS=      328.9      396.8  TYPE=      4  TARGET=          .026
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        ** D/S FACE LOVELL FD

    22.98      7.46   687.96      0.00   687.87   688.05      .10      .26      .06   683.50
     910.       34.     671.      205.      36.     243.     140.     291.      81.   682.20
     3.84       .94     2.76      1.46     .090     .055     .090     .053   680.50   328.93
  .000813      170.     170.      170.        2        0        0     0.00    67.92   396.85


SPECIAL BRIDGE

SB  XK        XKOR      COEQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.30      2.80      0.00     18.04      0.00     90.20     0.00    680.50    680.50

*SECNO 23.020
 2800 NAT Q1=    449.27  WSEL=    689.70  ENC Q1=    449.27  WSEL=    689.80  RATIO=    .0000
 NAT Q1=    459.  RATIOS LOB,CH,RCB=   .1925   .7431   .0644  WSEL=    689.80
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     23.02 EXTENDED      2.79 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      159.0      234.5  TYPE=      4  TARGET=         .021
    23.02      9.29   689.79      0.00   689.70   689.85      .07      .10      .01   682.00
     910.      170.     690.       50.     172.     296.      60.     293.      81.   682.00
     3.86       .99     2.33      .84     .090     .055     .090     .053   680.50   159.00
  .000411      177.     177.      177.        0        0        4     0.00    75.52   234.51


*SECNO 23.800
 2800 NAT Q1=    444.12  WSEL=    689.80  ENC Q1=    444.12  WSEL=    689.90  RATIO=    .0000
 NAT Q1=    454.  RATIOS LOB,CH,RCB=   .0856   .9144  0.0000  WSEL=    689.90

3470 ENCROACHMENT STATIONS=      158.5      244.0  TYPE=      4  TARGET=         .023
    23.80      9.39   689.89      0.00   689.80   689.94      .05      .08      .01   684.80
     910.       57.     853.        0.      73.     445.       0.     295.      82.   690.00
     3.89       .78     1.91      0.00     .090     .055     .090     .053   680.50   158.55
  .000423      203.     203.      203.        2        0        0     0.00    85.18   243.73


CCHV=    .150 CEHV=    .350
*SECNO 23.900
 2800 NAT Q1=    769.62  WSEL=    689.93  ENC Q1=    788.74  WSEL=    690.03  RATIO=  -.0248
 NAT Q1=    789.  RATIOS LOB,CH,RCB=   .0002   .9998  0.0000  WSEL=    690.03

3470 ENCROACHMENT STATIONS=      380.0      532.0  TYPE=      4  TARGET=         .000
    23.90      9.42   690.02      0.00   689.93   690.03      .02      .08      .01   689.50
     910.        0.     910.        0.       0.     873.       0.     301.      83.   691.90
     3.99      0.00     1.04      0.00     .090     .055     .090     .053   680.60   380.00
  .000134      375.     375.      375.        2        0        0     0.00   141.82   521.82


*SECNO 24.000
 2800 NAT Q1=    727.46  WSEL=    690.00  ENC Q1=    746.17  WSEL=    690.10  RATIO=  -.0257
 NAT Q1=    746.  RATIOS LOB,CH,RCB=   .0000  1.0000  0.0000  WSEL=    690.10
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3470 ENCROACHMENT STATIONS=      380.0      532.C  TYPE=      4  TARGET=          .000
   24.00      9.19    690.09      0.00    690.00    690.11       .02       .07       .00    689.80
    910.        C.      910.        C.        0.      841.        0.      311.       84.    692.2C
    4.13      0.C0      1.08      0.C0      .C90      .055      .090      .053    680.90    380.00
  .000150     525.      525.      525.         0         0         0      0.00    140.60    52C.60

*SECNO 24.500
 2800 NAT Q1=     519.66  WSEL=     690.11  ENC Q1=     519.66  WSEL=     690.21  RATIO=    .0000
 NAT Q1=     534.  RATIOS LOB,CH,RCB=    .0211    .4868    .4921  WSEL=     690.21

3470 ENCROACHMENT STATIONS=      294.3      4C8.3  TYPE=      4  TARGET=          .027
   24.50      8.19    690.19      0.00    690.11    690.22       .03       .11       .00    686.40
    910.        6.      456.      449.       13.      257.      464.      321.       86.    683.40
    4.23       .44      1.78       .97      .090      .055      .090      .053    682.0C    294.31
  .000308     525.      525.      525.         1         0         0      0.00    114.03    408.33

*SECNO 25.000
 2800 NAT Q1=     391.34  WSEL=     690.32  ENC Q1=     391.34  WSEL=     690.42  RATIO=    .0000
 NAT Q1=     403.  RATIOS LOB,CH,RCB=    .0125    .5102    .4773  WSEL=     690.42
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROP      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      298.0      399.3  TYPE=      4  TARGET=          .029
   25.00      7.21    690.41      0.00    690.32    690.45       .05       .23       .01    687.60
    910.        C.      467.      443.        C.      223.      366.      329.       87.    684.60
    4.32      0.00      2.09      1.21      .090      .055      .090      .053    683.2C    298.00
  .000574     550.      550.      550.         0         0         0      0.00    101.32    399.32
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GIBSON DRAIN 100 YR FLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 850.00 | 641.40 | 0.00 | 641.43 | 4.66 | 1.92 | 733.03 | 393.74 |
| .900 | 0.00 | 0.00 | 0.00 | 634.10 | 850.00 | 641.40 | 0.00 | 641.44 | 5.27 | 2.04 | 654.59 | 370.28 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 850.00 | 641.48 | 0.00 | 641.53 | 4.08 | 2.49 | 690.89 | 420.69 |
| .980 | 200.00 | 0.00 | 0.00 | 633.70 | 850.00 | 641.48 | 0.00 | 641.55 | 4.54 | 2.63 | 625.91 | 398.83 |
| 1.020 | 45.00 | 641.00 | 638.90 | 633.70 | 850.00 | 641.63 | 0.00 | 641.69 | 6.34 | 2.65 | 655.12 | 337.66 |
| 1.020 | 45.00 | 999999.00 | 0.00 | 633.70 | 850.00 | 641.64 | 0.00 | 641.71 | 6.94 | 2.77 | 605.84 | 322.75 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 850.00 | 641.72 | 0.00 | 641.75 | 4.27 | 2.00 | 766.31 | 411.12 |
| 1.800 | 100.00 | 0.00 | 0.00 | 633.40 | 850.00 | 641.74 | 0.00 | 641.78 | 4.79 | 2.04 | 708.14 | 388.48 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 850.00 | 641.98 | 0.00 | 642.08 | 9.48 | 2.87 | 514.67 | 276.09 |
| 1.900 | 500.00 | 0.00 | 0.00 | 634.40 | 850.00 | 642.03 | 0.00 | 642.14 | 9.97 | 2.96 | 453.24 | 269.18 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 850.00 | 642.54 | 0.00 | 642.70 | 15.57 | 3.49 | 389.46 | 215.40 |
| 2.000 | 500.00 | 0.00 | 0.00 | 635.40 | 850.00 | 642.61 | 0.00 | 642.78 | 15.93 | 3.57 | 335.86 | 212.95 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 850.00 | 643.19 | 0.00 | 643.22 | 4.99 | 1.99 | 860.43 | 380.70 |
| 3.200 | 620.00 | 0.00 | 0.00 | 635.70 | 850.00 | 643.28 | 0.00 | 643.31 | 5.05 | 2.03 | 795.82 | 378.19 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 850.00 | 643.30 | 0.00 | 643.35 | 4.39 | 2.30 | 834.99 | 405.88 |
| 2.980 | 240.00 | 0.00 | 0.00 | 635.90 | 850.00 | 643.39 | 0.00 | 643.44 | 4.45 | 2.33 | 767.68 | 403.10 |
| 3.020 | 36.00 | 642.50 | 641.50 | 635.90 | 850.00 | 643.43 | 0.00 | 643.47 | 3.41 | 2.07 | 954.50 | 460.50 |
| 3.020 | 36.00 | 999999.00 | 0.00 | 635.90 | 850.00 | 643.52 | 0.00 | 643.56 | 3.45 | 2.09 | 884.87 | 457.87 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 850.00 | 643.46 | 0.00 | 643.50 | 5.25 | 2.06 | 842.95 | 370.96 |
| 3.800 | 64.00 | 0.00 | 0.00 | 636.10 | 850.00 | 643.55 | 0.00 | 643.59 | 5.32 | 2.10 | 772.72 | 368.41 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 850.00 | 643.75 | 0.00 | 643.80 | 4.07 | 1.91 | 566.66 | 421.40 |
| 4.200 | 650.00 | 0.00 | 0.00 | 636.80 | 850.00 | 643.84 | 0.00 | 643.89 | 4.09 | 1.93 | 517.15 | 420.12 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 850.00 | 643.87 | 0.00 | 644.05 | 17.75 | 3.41 | 249.22 | 201.77 |
| 3.980 | 250.00 | 0.00 | 0.00 | 638.00 | 850.00 | 643.97 | 0.00 | 644.15 | 19.30 | 3.35 | 253.83 | 193.50 |
| 4.020 | 68.00 | 644.80 | 642.40 | 638.00 | 850.00 | 644.61 | 0.00 | 644.79 | 15.28 | 3.41 | 249.23 | 217.47 |
| 4.020 | 68.00 | 999999.00 | 0.00 | 638.00 | 850.00 | 644.71 | 0.00 | 644.88 | 17.98 | 3.36 | 253.14 | 200.46 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 850.00 | 644.88 | 0.00 | 644.92 | 4.26 | 1.75 | 600.51 | 411.86 |
| 4.800 | 132.00 | 0.00 | 0.00 | 637.80 | 850.00 | 644.98 | 0.00 | 645.02 | 4.27 | 1.77 | 543.28 | 411.51 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 850.00 | 645.23 | 0.00 | 645.32 | 10.40 | 2.44 | 366.82 | 263.62 |
| 5.200 | 600.00 | 0.00 | 0.00 | 638.30 | 850.00 | 645.33 | 0.00 | 645.42 | 10.16 | 2.41 | 352.33 | 266.71 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 850.00 | 645.38 | 0.00 | 645.55 | 16.22 | 3.53 | 292.51 | 211.02 |
| 4.980 | 150.00 | 0.00 | 0.00 | 639.20 | 850.00 | 645.47 | 0.00 | 645.65 | 16.37 | 3.58 | 271.51 | 210.07 |
| 5.020 | 62.00 | 645.70 | 643.80 | 639.20 | 850.00 | 646.29 | 0.00 | 646.38 | 9.43 | 2.72 | 416.22 | 276.81 |
| 5.020 | 62.00 | 999999.00 | 0.00 | 639.20 | 850.00 | 646.38 | 0.00 | 646.47 | 9.56 | 2.74 | 392.61 | 274.90 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 850.00 | 646.38 | 0.00 | 646.44 | 7.04 | 2.04 | 443.47 | 320.26 |
| 5.800 | 68.00 | 0.00 | 0.00 | 639.10 | 850.00 | 646.47 | 0.00 | 646.54 | 6.97 | 2.02 | 419.82 | 322.07 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 850.00 | 646.82 | 0.00 | 646.91 | 11.60 | 2.38 | 360.30 | 249.57 |
| 5.900 | 520.00 | 0.00 | 0.00 | 640.20 | 850.00 | 646.91 | 0.00 | 646.99 | 11.00 | 2.34 | 364.00 | 256.33 |
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 850.00 | 646.91 | 0.00 | 647.19 | 48.70 | 4.28 | 215.16 | 121.80 |
| 5.950 | 100.00 | 0.00 | 0.00 | 640.40 | 850.00 | 646.98 | 0.00 | 647.27 | 49.41 | 4.28 | 198.46 | 120.92 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 850.00 | 648.53 | 0.00 | 648.91 | 35.85 | 4.97 | 171.13 | 141.97 |
| 6.000 | 395.00 | 0.00 | 0.00 | 641.20 | 850.00 | 648.72 | 0.00 | 649.08 | 39.97 | 4.82 | 176.47 | 134.45 |
| 6.100 | 10.00 | 649.60 | 646.90 | 641.20 | 850.00 | 648.77 | 0.00 | 649.12 | 31.67 | 4.77 | 178.03 | 151.05 |
| 6.100 | 10.00 | 999999.00 | 0.00 | 641.20 | 850.00 | 648.96 | 0.00 | 649.29 | 35.87 | 4.64 | 183.23 | 141.92 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 850.00 | 649.34 | 0.00 | 649.40 | 9.23 | 2.53 | 597.42 | 279.82 |
| 6.200 | 100.00 | 0.00 | 0.00 | 641.50 | 850.00 | 649.50 | 0.00 | 649.56 | 8.72 | 2.50 | 576.25 | 287.83 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 850.00 | 649.95 | 0.00 | 650.07 | 20.14 | 3.38 | 492.99 | 189.39 |
| 6.500 | 495.00 | 0.00 | 0.00 | 643.00 | 850.00 | 650.08 | 0.00 | 650.20 | 19.45 | 3.38 | 456.31 | 192.73 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 850.00 | 651.55 | 0.00 | 651.78 | 36.11 | 4.31 | 360.99 | 141.45 |
| 7.000 | 635.00 | 0.00 | 0.00 | 645.00 | 850.00 | 651.64 | 0.00 | 651.89 | 36.25 | 4.38 | 313.71 | 141.18 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 850.00 | 653.14 | 0.00 | 653.28 | 15.68 | 3.42 | 363.84 | 214.64 |
| 8.200 | 650.00 | 0.00 | 0.00 | 645.30 | 850.00 | 653.28 | 0.00 | 653.42 | 16.32 | 3.36 | 352.69 | 210.43 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.29 | 0.00 | 653.81 | 65.96 | 5.77 | 147.42 | 104.66 |
| 7.980 | 127.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.46 | 0.00 | 653.94 | 63.16 | 5.59 | 151.96 | 106.95 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.26 | 0.00 | 653.83 | 24.13 | 6.07 | 140.00 | 173.03 |
| 7.990 | 1.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.43 | 0.00 | 653.97 | 22.23 | 5.90 | 144.03 | 180.26 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.36 | 0.00 | 653.91 | 23.02 | 5.97 | 142.31 | 177.16 |
| 8.010 | 31.00 | 656.50 | 654.50 | 647.40 | 850.00 | 653.51 | 0.00 | 654.04 | 21.45 | 5.83 | 145.84 | 183.55 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.53 | 0.00 | 653.95 | 45.33 | 5.17 | 164.40 | 126.25 |
| 8.020 | 1.00 | 0.00 | 0.00 | 647.40 | 850.00 | 653.68 | 0.00 | 654.08 | 47.28 | 5.04 | 168.55 | 123.62 |
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 850.00 | 654.15 | 0.00 | 654.19 | 5.96 | 2.12 | 751.03 | 348.04 |
| 8.800 | 110.00 | 0.00 | 0.00 | 646.90 | 850.00 | 654.27 | 0.00 | 654.31 | 5.85 | 2.13 | 733.34 | 351.38 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 850.00 | 654.86 | 0.00 | 655.08 | 33.73 | 4.18 | 285.55 | 146.35 |
| 9.200 | 700.00 | 0.00 | 0.00 | 647.90 | 850.00 | 654.96 | 0.00 | 655.19 | 33.56 | 4.22 | 271.22 | 146.72 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 850.00 | 655.18 | 0.00 | 655.49 | 21.61 | 4.45 | 190.87 | 182.85 |
| 8.980 | 131.00 | 0.00 | 0.00 | 648.30 | 850.00 | 655.38 | 0.00 | 655.67 | 32.82 | 4.33 | 196.37 | 148.37 |
| 9.020 | 59.00 | 657.40 | 654.10 | 648.30 | 850.00 | 655.62 | 0.00 | 655.91 | 24.94 | 4.35 | 195.18 | 170.21 |
| 9.020 | 59.00 | 999999.00 | 0.00 | 648.30 | 850.00 | 655.82 | 0.00 | 656.09 | 28.99 | 4.24 | 200.52 | 157.86 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 850.00 | 656.06 | 0.00 | 656.08 | 2.70 | 1.59 | 865.85 | 517.61 |
| 9.800 | 110.00 | 0.00 | 0.00 | 648.60 | 850.00 | 656.23 | 0.00 | 656.25 | 2.55 | 1.57 | 839.34 | 532.05 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 850.00 | 656.16 | 0.00 | 656.18 | 2.06 | 1.67 | 778.79 | 591.61 |
| 9.900 | 445.00 | 0.00 | 0.00 | 649.10 | 850.00 | 656.33 | 0.00 | 656.35 | 1.97 | 1.66 | 736.10 | 605.70 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 850.00 | 656.26 | 0.00 | 656.29 | 2.90 | 1.88 | 686.80 | 499.51 |
| 10.000 | 455.00 | 0.00 | 0.00 | 649.70 | 850.00 | 656.43 | 0.00 | 656.46 | 2.77 | 1.87 | 641.81 | 510.69 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.47 | 0.00 | 656.51 | 4.48 | 2.18 | 586.10 | 401.64 |
| 10.050 | 595.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.62 | 0.00 | 656.67 | 4.31 | 2.18 | 540.65 | 409.21 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.43 | 0.00 | 656.53 | 71.49 | 3.21 | 370.23 | 100.53 |
| 10.060 | 1.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.56 | 0.00 | 656.71 | 91.89 | 3.72 | 309.85 | 88.67 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.46 | 0.00 | 656.56 | 69.52 | 3.18 | 373.60 | 101.94 |
| 10.070 | 4.00 | 656.00 | 654.20 | 650.50 | 850.00 | 656.60 | 0.00 | 656.74 | 89.28 | 3.69 | 312.50 | 89.96 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.53 | 0.00 | 656.57 | 4.28 | 2.15 | 595.92 | 411.03 |
| 10.100 | 1.00 | 0.00 | 0.00 | 650.50 | 850.00 | 656.71 | 0.00 | 656.76 | 4.06 | 2.14 | 552.88 | 421.97 |
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 850.00 | 656.86 | 0.00 | 656.93 | 8.51 | 2.71 | 463.83 | 291.44 |
| 10.500 | 595.00 | 0.00 | 0.00 | 651.70 | 850.00 | 657.02 | 0.00 | 657.10 | 8.13 | 2.71 | 428.73 | 298.09 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 850.00 | 657.14 | 0.00 | 657.41 | 60.99 | 4.14 | 205.12 | 108.84 |
| 10.700 | 227.00 | 0.00 | 0.00 | 652.30 | 850.00 | 657.30 | 0.00 | 657.54 | 52.30 | 3.91 | 217.20 | 117.54 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 850.00 | 658.49 | 0.00 | 658.95 | 69.23 | 5.45 | 155.99 | 102.16 |
| 11.000 | 228.00 | 0.00 | 0.00 | 652.70 | 850.00 | 658.51 | 0.00 | 658.97 | 68.29 | 5.42 | 156.76 | 102.86 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 850.00 | 661.28 | 0.00 | 661.53 | 33.57 | 4.04 | 237.01 | 146.69 |
| 11.200 | 545.00 | 0.00 | 0.00 | 654.30 | 850.00 | 661.34 | 0.00 | 661.60 | 35.22 | 4.08 | 208.51 | 143.22 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 850.00 | 662.45 | 0.00 | 662.53 | 10.91 | 2.30 | 425.16 | 257.39 |
| 11.800 | 550.00 | 0.00 | 0.00 | 656.00 | 850.00 | 662.54 | 0.00 | 662.62 | 11.02 | 2.34 | 380.11 | 256.09 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 850.00 | 663.29 | 0.00 | 663.44 | 25.41 | 3.04 | 295.91 | 168.63 |
| 12.000 | 555.00 | 0.00 | 0.00 | 657.70 | 850.00 | 663.38 | 0.00 | 663.52 | 24.35 | 3.00 | 283.35 | 172.25 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 850.00 | 664.21 | 0.00 | 664.33 | 20.28 | 2.83 | 328.04 | 188.76 |
| 12.200 | 395.00 | 0.00 | 0.00 | 658.40 | 850.00 | 664.27 | 0.00 | 664.40 | 20.40 | 2.84 | 299.37 | 188.21 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 850.00 | 665.37 | 0.00 | 665.60 | 38.62 | 3.86 | 220.10 | 136.78 |
| 12.800 | 450.00 | 0.00 | 0.00 | 659.30 | 850.00 | 665.42 | 0.00 | 665.64 | 37.14 | 3.81 | 223.32 | 139.48 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 850.00 | 667.27 | 0.00 | 667.62 | 49.28 | 4.82 | 216.91 | 121.08 |
| 13.000 | 455.00 | 0.00 | 0.00 | 660.20 | 850.00 | 667.34 | 0.00 | 667.72 | 53.91 | 4.92 | 172.66 | 115.77 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 850.00 | 668.62 | 0.00 | 668.90 | 38.07 | 4.40 | 256.07 | 137.77 |
| 13.200 | 295.00 | 0.00 | 0.00 | 661.30 | 850.00 | 668.74 | 0.00 | 669.04 | 37.27 | 4.43 | 215.57 | 139.23 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 850.00 | 669.87 | 0.00 | 670.03 | 26.95 | 3.68 | 366.34 | 163.74 |
| 13.800 | 350.00 | 0.00 | 0.00 | 662.50 | 850.00 | 669.98 | 0.00 | 670.15 | 26.55 | 3.71 | 346.20 | 164.97 |
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 850.00 | 670.99 | 0.00 | 671.24 | 42.06 | 4.40 | 270.57 | 131.07 |
| 14.200 | 355.00 | 0.00 | 0.00 | 663.90 | 850.00 | 671.09 | 0.00 | 671.36 | 42.08 | 4.47 | 249.81 | 131.04 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 850.00 | 671.72 | 0.00 | 672.28 | 62.32 | 5.99 | 141.87 | 107.67 |
| 13.980 | 181.00 | 0.00 | 0.00 | 664.80 | 850.00 | 671.86 | 0.00 | 672.39 | 63.99 | 5.86 | 145.15 | 106.26 |
| 14.020 | 9.00 | 673.20 | 670.70 | 664.80 | 850.00 | 672.93 | 0.00 | 673.29 | 32.52 | 4.81 | 176.77 | 149.05 |
| 14.020 | 9.00 | 999999.00 | 0.00 | 664.80 | 850.00 | 673.06 | 0.00 | 673.41 | 37.00 | 4.72 | 180.14 | 139.73 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 850.00 | 673.41 | 0.00 | 673.58 | 17.33 | 3.75 | 363.04 | 204.17 |
| 14.100 | 110.00 | 0.00 | 0.00 | 664.90 | 850.00 | 673.57 | 0.00 | 673.73 | 19.28 | 3.65 | 320.83 | 193.60 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 850.00 | 673.81 | 0.00 | 673.96 | 14.65 | 3.52 | 404.33 | 222.11 |
| 14.500 | 235.00 | 0.00 | 0.00 | 665.10 | 850.00 | 674.01 | 0.00 | 674.14 | 15.85 | 3.38 | 365.46 | 213.48 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.16 | 0.00 | 674.25 | 11.38 | 2.34 | 363.93 | 252.01 |
| 14.600 | 215.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.35 | 0.00 | 674.43 | 10.31 | 2.23 | 380.58 | 264.74 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.24 | 0.00 | 674.47 | 16.29 | 3.90 | 217.90 | 210.60 |
| 14.980 | 110.00 | 0.00 | 0.00 | 665.00 | 850.00 | 674.44 | 0.00 | 674.66 | 20.69 | 3.82 | 222.68 | 186.86 |
| 15.020 | 45.00 | 676.60 | 672.60 | 665.00 | 850.00 | 674.81 | 0.00 | 675.01 | 13.61 | 3.67 | 231.53 | 230.36 |
| 15.020 | 45.00 | 999999.00 | 0.00 | 665.00 | 850.00 | 675.00 | 0.00 | 675.20 | 17.61 | 3.60 | 236.30 | 202.55 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 850.00 | 675.12 | 0.00 | 675.20 | 9.29 | 2.19 | 387.51 | 278.89 |
| 15.800 | 130.00 | 0.00 | 0.00 | 665.30 | 850.00 | 675.33 | 0.00 | 675.40 | 8.21 | 2.10 | 404.86 | 296.63 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 850.00 | 675.40 | 0.00 | 675.49 | 12.10 | 2.48 | 343.36 | 244.34 |
| 16.200 | 270.00 | 0.00 | 0.00 | 666.10 | 850.00 | 675.57 | 0.00 | 675.66 | 10.86 | 2.38 | 356.72 | 257.88 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 850.00 | 675.53 | 0.00 | 675.65 | 17.44 | 2.83 | 300.53 | 203.53 |
| 16.300 | 105.00 | 0.00 | 0.00 | 666.80 | 850.00 | 675.69 | 0.00 | 675.80 | 15.75 | 2.72 | 312.12 | 214.20 |
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 850.00 | 675.60 | 0.00 | 676.28 | 68.10 | 6.62 | 128.48 | 103.00 |
| 15.980 | 105.00 | 0.00 | 0.00 | 667.40 | 850.00 | 675.77 | 0.00 | 676.42 | 84.78 | 6.48 | 131.15 | 92.32 |
| 16.020 | 40.00 | 681.90 | 674.00 | 667.40 | 850.00 | 676.92 | 0.00 | 677.36 | 35.84 | 5.35 | 158.85 | 141.99 |
| 16.020 | 40.00 | 999999.00 | 0.00 | 667.40 | 850.00 | 677.08 | 0.00 | 677.51 | 48.37 | 5.26 | 161.65 | 122.22 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 850.00 | 677.57 | 0.00 | 677.64 | 6.51 | 2.12 | 401.78 | 333.16 |
| 16.800 | 110.00 | 0.00 | 0.00 | 668.00 | 850.00 | 677.72 | 0.00 | 677.79 | 6.04 | 2.06 | 412.81 | 345.90 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 850.00 | 677.77 | 0.00 | 677.85 | 7.93 | 2.27 | 374.21 | 301.82 |
| 16.850 | 300.00 | 0.00 | 0.00 | 668.60 | 850.00 | 677.91 | 0.00 | 677.99 | 7.37 | 2.21 | 384.28 | 313.18 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.73 | 0.00 | 677.88 | 79.43 | 3.17 | 267.78 | 95.37 |
| 16.860 | 1.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.87 | 0.00 | 678.02 | 70.99 | 3.06 | 277.45 | 100.89 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.80 | 0.00 | 677.95 | 74.80 | 3.11 | 272.91 | 98.28 |
| 16.870 | 9.00 | 676.20 | 674.30 | 668.60 | 850.00 | 677.94 | 0.00 | 678.08 | 67.62 | 3.02 | 281.75 | 103.37 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 850.00 | 677.89 | 0.00 | 677.97 | 7.48 | 2.22 | 382.24 | 310.87 |
| 16.880 | 1.00 | 0.00 | 0.00 | 668.60 | 850.00 | 678.02 | 0.00 | 678.09 | 7.01 | 2.17 | 391.19 | 321.03 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.00 | 0.00 | 678.08 | 8.27 | 2.31 | 368.63 | 295.59 |
| 16.950 | 140.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.12 | 0.00 | 678.20 | 7.74 | 2.25 | 377.47 | 305.49 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 850.00 | 677.95 | 0.00 | 678.11 | 78.42 | 3.17 | 268.03 | 95.99 |
| 16.960 | 1.00 | 676.20 | 674.40 | 668.90 | 850.00 | 678.07 | 0.00 | 678.22 | 71.15 | 3.08 | 276.40 | 100.77 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 850.00 | 678.02 | 0.00 | 678.18 | 73.93 | 3.11 | 273.08 | 98.86 |
| 16.970 | 9.00 | 676.20 | 674.40 | 668.90 | 850.00 | 678.14 | 0.00 | 678.28 | 67.80 | 3.03 | 280.66 | 103.23 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.11 | 0.00 | 678.19 | 7.79 | 2.26 | 376.61 | 304.53 |
| 16.980 | 1.00 | 0.00 | 0.00 | 668.90 | 850.00 | 678.22 | 0.00 | 678.30 | 7.36 | 2.21 | 384.36 | 313.27 |
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 850.00 | 678.27 | 0.00 | 678.30 | 3.56 | 1.81 | 823.46 | 450.81 |
| 17.000 | 215.00 | 0.00 | 0.00 | 669.30 | 850.00 | 678.38 | 0.00 | 678.41 | 3.55 | 1.82 | 768.14 | 451.23 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.29 | 0.00 | 678.33 | 4.36 | 1.95 | 756.85 | 407.12 |
| 17.200 | 50.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.39 | 0.00 | 678.43 | 4.50 | 1.94 | 709.51 | 400.64 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.30 | 0.00 | 678.33 | 13.48 | 1.69 | 649.96 | 231.53 |
| 17.220 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.40 | 0.00 | 678.43 | 13.67 | 1.70 | 608.93 | 229.88 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.31 | 0.00 | 678.34 | 13.26 | 1.68 | 653.81 | 233.46 |
| 17.230 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.41 | 0.00 | 678.44 | 13.39 | 1.68 | 613.93 | 232.29 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.31 | 0.00 | 678.34 | 4.31 | 1.94 | 760.67 | 409.59 |
| 17.250 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.41 | 0.00 | 678.45 | 4.45 | 1.93 | 712.83 | 403.12 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.44 | 0.00 | 678.48 | 3.90 | 1.87 | 792.50 | 430.37 |
| 17.300 | 330.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.55 | 0.00 | 678.59 | 4.05 | 1.86 | 740.01 | 422.57 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.45 | 0.00 | 678.48 | 11.53 | 1.59 | 687.10 | 250.36 |
| 17.320 | 1.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.56 | 0.00 | 678.59 | 11.42 | 1.60 | 643.90 | 251.51 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.46 | 0.00 | 678.49 | 11.36 | 1.58 | 690.72 | 252.22 |
| 17.330 | 9.00 | 675.00 | 673.10 | 669.60 | 850.00 | 678.57 | 0.00 | 678.60 | 11.22 | 1.59 | 649.24 | 253.70 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.46 | 0.00 | 678.49 | 3.84 | 1.86 | 797.39 | 433.57 |
| 17.350 | 1.00 | 0.00 | 0.00 | 669.60 | 850.00 | 678.57 | 0.00 | 678.60 | 3.97 | 1.84 | 747.13 | 426.73 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 850.00 | 678.60 | 0.00 | 678.86 | 27.70 | 4.06 | 217.22 | 161.49 |
| 18.200 | 350.00 | 0.00 | 0.00 | 671.40 | 850.00 | 678.72 | 0.00 | 678.97 | 26.89 | 3.99 | 213.25 | 163.91 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.15 | 0.00 | 679.57 | 26.93 | 5.19 | 127.19 | 127.18 |
| 18.280 | 230.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.46 | 0.00 | 679.84 | 52.93 | 5.00 | 132.13 | 90.72 |
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.05 | 0.00 | 679.67 | 26.14 | 6.31 | 104.55 | 129.09 |
| 18.290 | 1.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.37 | 0.00 | 679.94 | 23.15 | 6.03 | 109.47 | 137.17 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.08 | 0.00 | 679.70 | 25.90 | 6.29 | 104.91 | 129.68 |
| 18.310 | 9.00 | 682.30 | 680.20 | 671.20 | 660.00 | 679.40 | 0.00 | 679.96 | 22.97 | 6.01 | 109.80 | 137.72 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.14 | 0.00 | 679.75 | 84.80 | 6.23 | 105.96 | 71.67 |
| 18.320 | 11.00 | 0.00 | 0.00 | 671.20 | 660.00 | 679.45 | 0.00 | 680.00 | 75.49 | 5.96 | 110.74 | 75.96 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 660.00 | 679.82 | 0.00 | 679.92 | 9.45 | 2.61 | 252.74 | 214.69 |
| 18.400 | 14.00 | 0.00 | 0.00 | 671.60 | 660.00 | 680.07 | 0.00 | 680.17 | 8.90 | 2.51 | 263.05 | 221.25 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 660.00 | 679.75 | 0.00 | 680.04 | 24.37 | 4.34 | 152.14 | 133.68 |
| 17.980 | 15.00 | 0.00 | 0.00 | 672.10 | 660.00 | 680.00 | 0.00 | 680.28 | 32.75 | 4.20 | 157.30 | 115.33 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 660.00 | 679.69 | 0.00 | 680.10 | 11.82 | 5.15 | 128.05 | 191.95 |
| 17.990 | 1.00 | 685.20 | 682.30 | 672.10 | 660.00 | 679.95 | 0.00 | 680.34 | 10.79 | 4.98 | 132.49 | 200.96 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 660.00 | 679.75 | 0.00 | 680.15 | 11.53 | 5.11 | 129.23 | 194.33 |
| 18.010 | 43.00 | 685.20 | 682.30 | 672.10 | 660.00 | 680.00 | 0.00 | 680.38 | 10.61 | 4.95 | 133.29 | 202.60 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 660.00 | 679.86 | 0.00 | 680.18 | 30.79 | 4.55 | 145.02 | 118.94 |
| 18.020 | 1.00 | 0.00 | 0.00 | 672.10 | 660.00 | 680.11 | 0.00 | 680.41 | 36.16 | 4.41 | 149.74 | 109.75 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 660.00 | 680.22 | 0.00 | 680.43 | 23.27 | 3.67 | 179.74 | 136.81 |
| 18.800 | 80.00 | 0.00 | 0.00 | 671.30 | 660.00 | 680.47 | 0.00 | 680.66 | 20.88 | 3.51 | 187.90 | 144.43 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 660.00 | 680.64 | 0.00 | 680.66 | 1.83 | 1.36 | 734.11 | 488.54 |
| 19.200 | 450.00 | 0.00 | 0.00 | 673.10 | 660.00 | 680.85 | 0.00 | 680.87 | 1.73 | 1.35 | 701.92 | 501.45 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 660.00 | 680.67 | 0.00 | 680.70 | 2.85 | 1.64 | 551.35 | 391.19 |
| 19.300 | 160.00 | 0.00 | 0.00 | 673.50 | 660.00 | 680.88 | 0.00 | 680.91 | 2.62 | 1.60 | 546.66 | 408.08 |
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 660.00 | 680.66 | 0.00 | 681.09 | 31.34 | 5.27 | 125.35 | 117.90 |
| 18.980 | 117.00 | 0.00 | 0.00 | 673.70 | 660.00 | 680.89 | 0.00 | 681.29 | 56.47 | 5.10 | 129.36 | 87.83 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 660.00 | 680.55 | 0.00 | 681.55 | 49.76 | 8.01 | 82.44 | 93.56 |
| 18.990 | 1.00 | 685.40 | 683.70 | 673.70 | 660.00 | 680.79 | 0.00 | 681.70 | 44.07 | 7.66 | 86.18 | 99.42 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 660.00 | 680.99 | 0.00 | 681.84 | 39.81 | 7.38 | 89.44 | 104.60 |
| 19.010 | 51.00 | 685.40 | 683.70 | 673.70 | 660.00 | 681.15 | 0.00 | 681.95 | 36.95 | 7.18 | 91.93 | 108.57 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 660.00 | 681.80 | 0.00 | 682.07 | 24.83 | 4.15 | 159.13 | 132.46 |
| 19.020 | 1.00 | 0.00 | 0.00 | 673.70 | 660.00 | 681.91 | 0.00 | 682.17 | 29.77 | 4.09 | 161.23 | 120.95 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 660.00 | 682.10 | 0.00 | 682.26 | 18.32 | 3.35 | 252.80 | 154.22 |
| 19.800 | 70.00 | 0.00 | 0.00 | 672.60 | 660.00 | 682.19 | 0.00 | 682.37 | 18.36 | 3.39 | 220.58 | 154.04 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.77 | 0.00 | 682.84 | 8.38 | 2.45 | 465.45 | 227.93 |
| 19.900 | 470.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.88 | 0.00 | 682.94 | 8.38 | 2.48 | 424.53 | 228.01 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.80 | 0.00 | 682.84 | 21.33 | 1.99 | 437.87 | 142.90 |
| 19.920 | 1.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.90 | 0.00 | 682.95 | 21.19 | 2.01 | 406.75 | 143.38 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.81 | 0.00 | 682.85 | 21.19 | 1.99 | 439.00 | 143.37 |
| 19.930 | 4.00 | 680.20 | 679.50 | 675.00 | 660.00 | 682.91 | 0.00 | 682.96 | 21.07 | 2.01 | 407.19 | 143.79 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.79 | 0.00 | 682.86 | 8.15 | 2.43 | 471.45 | 231.15 |
| 19.950 | 1.00 | 0.00 | 0.00 | 675.00 | 660.00 | 682.90 | 0.00 | 682.96 | 8.10 | 2.44 | 433.45 | 231.95 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 660.00 | 682.94 | 0.00 | 683.07 | 18.28 | 3.29 | 323.36 | 154.37 |
| 20.000 | 160.00 | 0.00 | 0.00 | 676.00 | 660.00 | 683.04 | 0.00 | 683.18 | 19.28 | 3.30 | 293.02 | 150.33 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 660.00 | 683.10 | 0.00 | 683.22 | 17.25 | 3.22 | 332.42 | 158.90 |
| 20.100 | 85.00 | 0.00 | 0.00 | 676.10 | 660.00 | 683.20 | 0.00 | 683.33 | 17.32 | 3.26 | 301.13 | 158.59 |
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 660.00 | 684.12 | 0.00 | 684.36 | 29.14 | 4.01 | 191.37 | 122.26 |
| 20.500 | 500.00 | 0.00 | 0.00 | 676.80 | 660.00 | 684.27 | 0.00 | 684.52 | 31.73 | 4.02 | 164.22 | 117.17 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 660.00 | 684.97 | 0.00 | 685.15 | 20.18 | 3.54 | 242.93 | 146.92 |
| 21.200 | 325.00 | 0.00 | 0.00 | 677.20 | 660.00 | 685.14 | 0.00 | 685.33 | 19.38 | 3.54 | 213.08 | 149.92 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 660.00 | 685.25 | 0.00 | 685.33 | 4.94 | 2.38 | 425.22 | 297.08 |
| 20.980 | 150.00 | 0.00 | 0.00 | 676.50 | 660.00 | 685.42 | 0.00 | 685.50 | 4.78 | 2.37 | 401.27 | 301.84 |
| 21.020 | 60.00 | 685.00 | 682.00 | 676.50 | 660.00 | 685.80 | 0.00 | 685.87 | 3.87 | 2.19 | 397.56 | 335.50 |
| 21.020 | 60.00 | 999999.00 | 0.00 | 676.50 | 660.00 | 685.97 | 0.00 | 686.04 | 3.76 | 2.19 | 355.02 | 340.24 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 660.00 | 685.82 | 0.00 | 685.93 | 12.57 | 2.61 | 252.47 | 186.16 |
| 21.800 | 50.00 | 0.00 | 0.00 | 677.20 | 660.00 | 685.99 | 0.00 | 686.09 | 11.40 | 2.52 | 261.85 | 195.50 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 660.00 | 686.59 | 0.00 | 686.69 | 12.13 | 2.58 | 255.81 | 189.46 |
| 21.850 | 615.00 | 0.00 | 0.00 | 677.90 | 660.00 | 686.69 | 0.00 | 686.79 | 11.42 | 2.52 | 261.62 | 195.27 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 660.00 | 686.75 | 0.00 | 686.75 | .32 | .51 | 2322.53 | 1174.25 |
| 21.900 | 500.00 | 0.00 | 0.00 | 678.60 | 660.00 | 686.85 | 0.00 | 686.85 | .32 | .51 | 2261.99 | 1175.08 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 660.00 | 686.77 | 0.00 | 686.77 | .52 | .60 | 1991.11 | 919.13 |
| 22.000 | 445.00 | 0.00 | 0.00 | 679.30 | 660.00 | 686.87 | 0.00 | 686.87 | .52 | .61 | 1925.21 | 919.39 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 910.00 | 686.83 | 0.00 | 686.84 | 2.01 | 1.06 | 1584.91 | 642.65 |
| 22.200 | 665.00 | 0.00 | 0.00 | 680.20 | 910.00 | 686.93 | 0.00 | 686.94 | 1.99 | 1.07 | 1515.68 | 644.38 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 910.00 | 686.98 | 0.00 | 686.99 | 3.95 | 1.35 | 1268.88 | 457.68 |
| 22.800 | 550.00 | 0.00 | 0.00 | 681.00 | 910.00 | 687.08 | 0.00 | 687.09 | 3.94 | 1.37 | 1204.34 | 458.70 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 910.00 | 687.42 | 0.00 | 687.64 | 38.76 | 4.25 | 262.58 | 146.16 |
| 23.200 | 635.00 | 0.00 | 0.00 | 682.00 | 910.00 | 687.51 | 0.00 | 687.74 | 37.81 | 4.24 | 255.07 | 147.99 |
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 910.00 | 687.87 | 0.00 | 687.96 | 8.05 | 2.73 | 449.57 | 320.78 |
| 22.980 | 170.00 | 0.00 | 0.00 | 680.50 | 910.00 | 687.96 | 0.00 | 688.05 | 8.13 | 2.76 | 419.55 | 319.06 |
| 23.020 | 177.00 | 688.30 | 685.50 | 680.50 | 910.00 | 689.70 | 0.00 | 689.76 | 4.10 | 2.32 | 547.40 | 449.27 |
| 23.020 | 177.00 | 999999.00 | 0.00 | 680.50 | 910.00 | 689.79 | 0.00 | 689.85 | 4.11 | 2.33 | 527.31 | 449.11 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 910.00 | 689.80 | 0.00 | 689.85 | 4.20 | 1.90 | 562.21 | 444.12 |
| 23.800 | 203.00 | 0.00 | 0.00 | 680.50 | 910.00 | 689.89 | 0.00 | 689.94 | 4.23 | 1.91 | 518.65 | 442.47 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 910.00 | 689.93 | 0.00 | 689.94 | 1.40 | 1.06 | 861.84 | 769.62 |
| 23.900 | 375.00 | 0.00 | 0.00 | 680.60 | 910.00 | 690.02 | 0.00 | 690.03 | 1.34 | 1.04 | 873.33 | 784.77 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 910.00 | 690.00 | 0.00 | 690.02 | 1.56 | 1.10 | 829.34 | 727.46 |
| 24.000 | 525.00 | 0.00 | 0.00 | 680.90 | 910.00 | 690.09 | 0.00 | 690.11 | 1.50 | 1.08 | 841.47 | 742.68 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 910.00 | 690.11 | 0.00 | 690.14 | 3.07 | 1.76 | 785.37 | 519.66 |
| 24.500 | 525.00 | 0.00 | 0.00 | 682.00 | 910.00 | 690.19 | 0.00 | 690.22 | 3.08 | 1.78 | 733.22 | 518.32 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 910.00 | 690.32 | 0.00 | 690.36 | 5.41 | 2.12 | 629.12 | 391.34 |
| 25.000 | 550.00 | 0.00 | 0.00 | 683.20 | 910.00 | 690.41 | 0.00 | 690.45 | 5.74 | 2.09 | 589.33 | 379.88 |

GIBSON DRAIN 100 YR FLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| .900 | 850.00 | 641.40 | 0.00 | 0.00 | 0.00 | 377.95 | 0.00 |
| .900 | 850.00 | 641.40 | 0.00 | 0.00 | 0.00 | 298.73 | 0.00 |
| .980 | 850.00 | 641.48 | 0.00 | .08 | 0.00 | 375.00 | 200.00 |
| .980 | 850.00 | 641.48 | 0.00 | .08 | .01 | 318.79 | 200.00 |
| 1.020 | 850.00 | 641.63 | 0.00 | .16 | 0.00 | 291.14 | 45.00 |
| 1.020 | 850.00 | 641.64 | 0.00 | .16 | .01 | 245.00 | 45.00 |
| 1.800 | 850.00 | 641.72 | 0.00 | .08 | 0.00 | 301.69 | 100.00 |
| 1.800 | 850.00 | 641.74 | 0.00 | .10 | .02 | 246.14 | 100.00 |
| 1.900 | 850.00 | 641.98 | 0.00 | .27 | 0.00 | 289.62 | 500.00 |
| 1.900 | 850.00 | 642.03 | 0.00 | .29 | .05 | 196.28 | 500.00 |
| 2.000 | 850.00 | 642.54 | 0.00 | .56 | 0.00 | 280.84 | 500.00 |
| 2.000 | 850.00 | 642.61 | 0.00 | .58 | .07 | 149.68 | 500.00 |
| 3.200 | 850.00 | 643.19 | 0.00 | .65 | 0.00 | 420.00 | 620.00 |
| 3.200 | 850.00 | 643.28 | 0.00 | .67 | .09 | 329.02 | 620.00 |
| 2.980 | 850.00 | 643.30 | 0.00 | .11 | 0.00 | 420.00 | 240.00 |
| 2.980 | 850.00 | 643.39 | 0.00 | .11 | .09 | 320.98 | 240.00 |
| 3.020 | 850.00 | 643.43 | 0.00 | .13 | 0.00 | 465.34 | 36.00 |
| 3.020 | 850.00 | 643.52 | 0.00 | .13 | .09 | 371.22 | 36.00 |
| 3.800 | 850.00 | 643.46 | 0.00 | .03 | 0.00 | 460.47 | 64.00 |
| 3.800 | 850.00 | 643.55 | 0.00 | .03 | .09 | 359.47 | 64.00 |
| 4.200 | 850.00 | 643.75 | 0.00 | .29 | 0.00 | 178.89 | 650.00 |
| 4.200 | 850.00 | 643.84 | 0.00 | .29 | .09 | 126.60 | 650.00 |
| 3.980 | 850.00 | 643.87 | 0.00 | .12 | 0.00 | 43.00 | 250.00 |
| 3.980 | 850.00 | 643.97 | 0.00 | .13 | .10 | 43.00 | 250.00 |
| 4.020 | 850.00 | 644.61 | 0.00 | .74 | 0.00 | 38.00 | 68.00 |
| 4.020 | 850.00 | 644.71 | 0.00 | .74 | .10 | 38.00 | 68.00 |
| 4.800 | 850.00 | 644.88 | 0.00 | .28 | 0.00 | 196.73 | 132.00 |
| 4.800 | 850.00 | 644.98 | 0.00 | .27 | .10 | 125.28 | 132.00 |
| 5.200 | 850.00 | 645.23 | 0.00 | .35 | 0.00 | 129.13 | 600.00 |
| 5.200 | 850.00 | 645.33 | 0.00 | .35 | .10 | 72.00 | 600.00 |
| 4.980 | 850.00 | 645.38 | 0.00 | .15 | 0.00 | 75.36 | 150.00 |
| 4.980 | 850.00 | 645.47 | 0.00 | .15 | .09 | 50.46 | 150.00 |
| 5.020 | 850.00 | 646.29 | 0.00 | .90 | 0.00 | 117.00 | 62.00 |
| 5.020 | 850.00 | 646.38 | 0.00 | .90 | .09 | 94.53 | 62.00 |
| 5.800 | 850.00 | 646.38 | 0.00 | .09 | 0.00 | 151.86 | 68.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5.800 | 850.00 | 646.47 | 0.00 | .10 | .10 | 84.00 | 68.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TCPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 5.900 | 850.00 | 646.82 | 0.00 | .45 | 0.00 | 103.42 | 520.00 |
| 5.900 | 850.00 | 646.91 | 0.00 | .44 | .08 | 84.00 | 520.00 |
| 5.950 | 850.00 | 646.91 | 0.00 | .08 | 0.00 | 145.50 | 100.00 |
| 5.950 | 850.00 | 646.98 | 0.00 | .07 | .07 | 55.58 | 100.00 |
| 6.000 | 850.00 | 648.53 | 0.00 | 1.62 | 0.00 | 28.00 | 395.00 |
| 6.000 | 850.00 | 648.72 | 0.00 | 1.74 | .19 | 28.00 | 395.00 |
| 6.100 | 850.00 | 648.77 | 0.00 | .24 | 0.00 | 28.00 | 10.00 |
| 6.100 | 850.00 | 648.96 | 0.00 | .24 | .19 | 28.00 | 10.00 |
| 6.200 | 850.00 | 649.34 | 0.00 | .56 | 0.00 | 240.00 | 100.00 |
| 6.200 | 850.00 | 649.50 | 0.00 | .54 | .16 | 195.03 | 100.00 |
| 6.500 | 850.00 | 649.95 | 0.00 | .61 | 0.00 | 342.04 | 495.00 |
| 6.500 | 850.00 | 650.08 | 0.00 | .58 | .13 | 253.23 | 495.00 |
| 7.000 | 850.00 | 651.55 | 0.00 | 1.61 | 0.00 | 330.96 | 635.00 |
| 7.000 | 850.00 | 651.64 | 0.00 | 1.57 | .09 | 203.51 | 635.00 |
| 8.200 | 850.00 | 653.14 | 0.00 | 1.58 | 0.00 | 107.00 | 650.00 |
| 8.200 | 850.00 | 653.28 | 0.00 | 1.64 | .15 | 95.20 | 650.00 |
| 7.980 | 850.00 | 653.29 | 0.00 | .15 | 0.00 | 27.00 | 127.00 |
| 7.980 | 850.00 | 653.46 | 0.00 | .17 | .17 | 27.00 | 127.00 |
| 7.990 | 850.00 | 653.26 | 0.00 | -.03 | 0.00 | 23.97 | 1.00 |
| 7.990 | 850.00 | 653.43 | 0.00 | -.03 | .17 | 23.97 | 1.00 |
| 8.010 | 850.00 | 653.36 | 0.00 | .10 | 0.00 | 23.97 | 31.00 |
| 8.010 | 850.00 | 653.51 | 0.00 | .08 | .16 | 23.97 | 31.00 |
| 8.020 | 850.00 | 653.53 | 0.00 | .18 | 0.00 | 28.00 | 1.00 |
| 8.020 | 850.00 | 653.68 | 0.00 | .17 | .15 | 28.00 | 1.00 |
| 8.800 | 850.00 | 654.15 | 0.00 | .61 | 0.00 | 256.00 | 110.00 |
| 8.800 | 850.00 | 654.27 | 0.00 | .59 | .12 | 236.76 | 110.00 |
| 9.200 | 850.00 | 654.86 | 0.00 | .71 | 0.00 | 107.00 | 700.00 |
| 9.200 | 850.00 | 654.96 | 0.00 | .69 | .10 | 93.37 | 700.00 |
| 8.980 | 850.00 | 655.18 | 0.00 | .32 | 0.00 | 27.75 | 131.00 |
| 8.980 | 850.00 | 655.38 | 0.00 | .41 | .20 | 27.75 | 131.00 |
| 9.020 | 850.00 | 655.62 | 0.00 | .44 | 0.00 | 27.00 | 59.00 |
| 9.020 | 850.00 | 655.82 | 0.00 | .44 | .20 | 27.00 | 59.00 |
| 9.800 | 850.00 | 656.06 | 0.00 | .44 | 0.00 | 207.19 | 110.00 |
| 9.800 | 850.00 | 656.23 | 0.00 | .42 | .18 | 166.68 | 110.00 |
| 9.900 | 850.00 | 656.16 | 0.00 | .10 | 0.00 | 196.49 | 445.00 |
| 9.900 | 850.00 | 656.33 | 0.00 | .10 | .17 | 133.16 | 445.00 |
| 10.000 | 850.00 | 656.26 | 0.00 | .11 | 0.00 | 178.15 | 455.00 |
| 10.000 | 850.00 | 656.43 | 0.00 | .10 | .17 | 122.13 | 455.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 10.050 | 850.00 | 656.47 | 0.00 | .20 | 0.00 | 159.06 | 595.00 |
| 10.050 | 850.00 | 656.62 | 0.00 | .19 | .16 | 111.52 | 595.00 |
| 10.060 | 850.00 | 656.43 | 0.00 | -.04 | 0.00 | 157.97 | 1.00 |
| 10.060 | 850.00 | 656.56 | 0.00 | -.06 | .13 | 98.21 | 1.00 |
| 10.070 | 850.00 | 656.46 | 0.00 | .03 | 0.00 | 158.64 | 4.00 |
| 10.070 | 850.00 | 656.60 | 0.00 | .04 | .14 | 98.05 | 4.00 |
| 10.100 | 850.00 | 656.53 | 0.00 | .07 | 0.00 | 160.89 | 1.00 |
| 10.100 | 850.00 | 656.71 | 0.00 | .11 | .18 | 112.46 | 1.00 |
| 10.500 | 850.00 | 656.86 | 0.00 | .33 | 0.00 | 144.33 | 595.00 |
| 10.500 | 850.00 | 657.02 | 0.00 | .31 | .17 | 102.01 | 595.00 |
| 10.700 | 850.00 | 657.14 | 0.00 | .28 | 0.00 | 73.82 | 227.00 |
| 10.700 | 850.00 | 657.30 | 0.00 | .27 | .16 | 75.90 | 227.00 |
| 11.000 | 850.00 | 658.49 | 0.00 | 1.35 | 0.00 | 38.75 | 228.00 |
| 11.000 | 850.00 | 658.51 | 0.00 | 1.21 | .02 | 38.83 | 228.00 |
| 11.200 | 850.00 | 661.28 | 0.00 | 2.79 | 0.00 | 123.27 | 545.00 |
| 11.200 | 850.00 | 661.34 | 0.00 | 2.83 | .06 | 47.43 | 545.00 |
| 11.800 | 850.00 | 662.45 | 0.00 | 1.17 | 0.00 | 150.00 | 550.00 |
| 11.800 | 850.00 | 662.54 | 0.00 | 1.20 | .09 | 98.50 | 550.00 |
| 12.000 | 850.00 | 663.29 | 0.00 | .84 | 0.00 | 139.90 | 555.00 |
| 12.000 | 850.00 | 663.38 | 0.00 | .84 | .08 | 82.00 | 555.00 |
| 12.200 | 850.00 | 664.21 | 0.00 | .92 | 0.00 | 150.00 | 395.00 |
| 12.200 | 850.00 | 664.27 | 0.00 | .90 | .06 | 82.00 | 395.00 |
| 12.800 | 850.00 | 665.37 | 0.00 | 1.16 | 0.00 | 61.66 | 450.00 |
| 12.800 | 850.00 | 665.42 | 0.00 | 1.15 | .05 | 61.88 | 450.00 |
| 13.000 | 850.00 | 667.27 | 0.00 | 1.90 | 0.00 | 158.00 | 455.00 |
| 13.000 | 850.00 | 667.34 | 0.00 | 1.92 | .07 | 40.00 | 455.00 |
| 13.200 | 850.00 | 668.62 | 0.00 | 1.35 | 0.00 | 158.00 | 295.00 |
| 13.200 | 850.00 | 668.74 | 0.00 | 1.41 | .13 | 69.22 | 295.00 |
| 13.800 | 850.00 | 669.87 | 0.00 | 1.25 | 0.00 | 168.67 | 350.00 |
| 13.800 | 850.00 | 669.98 | 0.00 | 1.24 | .11 | 141.50 | 350.00 |
| 14.200 | 850.00 | 670.99 | 0.00 | 1.12 | 0.00 | 121.00 | 355.00 |
| 14.200 | 850.00 | 671.09 | 0.00 | 1.10 | .10 | 95.56 | 355.00 |
| 13.980 | 850.00 | 671.72 | 0.00 | .74 | 0.00 | 24.00 | 181.00 |
| 13.980 | 850.00 | 671.86 | 0.00 | .77 | .13 | 24.00 | 181.00 |
| 14.020 | 850.00 | 672.93 | 0.00 | 1.20 | 0.00 | 26.00 | 9.00 |
| 14.020 | 850.00 | 673.06 | 0.00 | 1.20 | .13 | 26.00 | 9.00 |
| 14.100 | 850.00 | 673.41 | 0.00 | .48 | 0.00 | 204.00 | 110.00 |
| 14.100 | 850.00 | 673.57 | 0.00 | .51 | .16 | 77.10 | 110.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 14.500 | 850.00 | 673.81 | 0.00 | .40 | 0.00 | 204.30 | 235.00 |
| 14.500 | 850.00 | 674.01 | 0.00 | .44 | .20 | 97.97 | 235.00 |
| 14.600 | 850.00 | 674.16 | 0.00 | .35 | 0.00 | 84.00 | 215.00 |
| 14.600 | 850.00 | 674.35 | 0.00 | .34 | .19 | 84.00 | 215.00 |
| 14.980 | 850.00 | 674.24 | 0.00 | .07 | 0.00 | 24.00 | 110.00 |
| 14.980 | 850.00 | 674.44 | 0.00 | .08 | .20 | 24.00 | 110.00 |
| 15.020 | 850.00 | 674.81 | 0.00 | .57 | 0.00 | 24.00 | 45.00 |
| 15.020 | 850.00 | 675.00 | 0.00 | .57 | .20 | 24.00 | 45.00 |
| 15.800 | 850.00 | 675.12 | 0.00 | .32 | 0.00 | 88.02 | 130.00 |
| 15.800 | 850.00 | 675.33 | 0.00 | .32 | .20 | 87.63 | 130.00 |
| 16.200 | 850.00 | 675.40 | 0.00 | .27 | 0.00 | 77.57 | 270.00 |
| 16.200 | 850.00 | 675.57 | 0.00 | .24 | .17 | 78.69 | 270.00 |
| 16.300 | 850.00 | 675.53 | 0.00 | .13 | 0.00 | 73.11 | 105.00 |
| 16.300 | 850.00 | 675.69 | 0.00 | .12 | .16 | 74.45 | 105.00 |
| 15.980 | 850.00 | 675.60 | 0.00 | .07 | 0.00 | 16.00 | 105.00 |
| 15.980 | 850.00 | 675.77 | 0.00 | .08 | .17 | 16.00 | 105.00 |
| 16.020 | 850.00 | 676.92 | 0.00 | 1.32 | 0.00 | 17.00 | 40.00 |
| 16.020 | 850.00 | 677.08 | 0.00 | 1.32 | .17 | 17.00 | 40.00 |
| 16.800 | 850.00 | 677.57 | 0.00 | .65 | 0.00 | 71.28 | 110.00 |
| 16.800 | 850.00 | 677.72 | 0.00 | .64 | .15 | 72.07 | 110.00 |
| 16.850 | 850.00 | 677.77 | 0.00 | .21 | 0.00 | 69.26 | 300.00 |
| 16.850 | 850.00 | 677.91 | 0.00 | .19 | .14 | 70.00 | 300.00 |
| 16.860 | 850.00 | 677.73 | 0.00 | -.05 | 0.00 | 69.02 | 1.00 |
| 16.860 | 850.00 | 677.87 | 0.00 | -.04 | .14 | 69.75 | 1.00 |
| 16.870 | 850.00 | 677.80 | 0.00 | .08 | 0.00 | 69.41 | 9.00 |
| 16.870 | 850.00 | 677.94 | 0.00 | .07 | .13 | 70.08 | 9.00 |
| 16.880 | 850.00 | 677.89 | 0.00 | .09 | 0.00 | 69.85 | 1.00 |
| 16.880 | 850.00 | 678.02 | 0.00 | .08 | .13 | 70.51 | 1.00 |
| 16.950 | 850.00 | 678.00 | 0.00 | .11 | 0.00 | 68.84 | 140.00 |
| 16.950 | 850.00 | 678.12 | 0.00 | .10 | .12 | 69.50 | 140.00 |
| 16.960 | 850.00 | 677.95 | 0.00 | -.05 | 0.00 | 68.62 | 1.00 |
| 16.960 | 850.00 | 678.07 | 0.00 | -.04 | .12 | 69.26 | 1.00 |
| 16.970 | 850.00 | 678.02 | 0.00 | .08 | 0.00 | 69.01 | 9.00 |
| 16.970 | 850.00 | 678.14 | 0.00 | .07 | .12 | 69.58 | 9.00 |
| 16.980 | 850.00 | 678.11 | 0.00 | .08 | 0.00 | 69.44 | 1.00 |
| 16.980 | 850.00 | 678.22 | 0.00 | .08 | .11 | 70.01 | 1.00 |
| 17.000 | 850.00 | 678.27 | 0.00 | .16 | 0.00 | 244.54 | 215.00 |
| 17.000 | 850.00 | 678.38 | 0.00 | .16 | .10 | 177.76 | 215.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 17.200 | 850.00 | 678.29 | 0.00 | .02 | 0.00 | 235.97 | 50.00 |
| 17.200 | 850.00 | 678.39 | 0.00 | .02 | .10 | 174.24 | 50.00 |
| 17.220 | 850.00 | 678.30 | 0.00 | .01 | 0.00 | 235.78 | 1.00 |
| 17.220 | 850.00 | 678.40 | 0.00 | .01 | .10 | 176.31 | 1.00 |
| 17.230 | 850.00 | 678.31 | 0.00 | .01 | 0.00 | 236.29 | 9.00 |
| 17.230 | 850.00 | 678.41 | 0.00 | .01 | .10 | 177.09 | 9.00 |
| 17.250 | 850.00 | 678.31 | 0.00 | -.00 | 0.00 | 236.47 | 1.00 |
| 17.250 | 850.00 | 678.41 | 0.00 | -.00 | .10 | 174.31 | 1.00 |
| 17.300 | 850.00 | 678.44 | 0.00 | .14 | 0.00 | 240.59 | 330.00 |
| 17.300 | 850.00 | 678.55 | 0.00 | .14 | .11 | 175.70 | 330.00 |
| 17.320 | 850.00 | 678.45 | 0.00 | .01 | 0.00 | 240.60 | 1.00 |
| 17.320 | 850.00 | 678.56 | 0.00 | .01 | .11 | 179.08 | 1.00 |
| 17.330 | 850.00 | 678.46 | 0.00 | .01 | 0.00 | 241.07 | 9.00 |
| 17.330 | 850.00 | 678.57 | 0.00 | .01 | .11 | 180.26 | 9.00 |
| 17.350 | 850.00 | 678.46 | 0.00 | -.00 | 0.00 | 241.22 | 1.00 |
| 17.350 | 850.00 | 678.57 | 0.00 | -.00 | .11 | 176.85 | 1.00 |
| 18.200 | 850.00 | 678.60 | 0.00 | .14 | 0.00 | 63.90 | 350.00 |
| 18.200 | 850.00 | 678.72 | 0.00 | .15 | .12 | 39.53 | 350.00 |
| 18.280 | 660.00 | 679.15 | 0.00 | .55 | 0.00 | 16.00 | 230.00 |
| 18.280 | 660.00 | 679.46 | 0.00 | .74 | .31 | 16.00 | 230.00 |
| 18.290 | 660.00 | 679.05 | 0.00 | -.10 | 0.00 | 15.34 | 1.00 |
| 18.290 | 660.00 | 679.37 | 0.00 | -.09 | .32 | 15.36 | 1.00 |
| 18.310 | 660.00 | 679.08 | 0.00 | .03 | 0.00 | 15.34 | 9.00 |
| 18.310 | 660.00 | 679.40 | 0.00 | .03 | .32 | 15.36 | 9.00 |
| 18.320 | 660.00 | 679.14 | 0.00 | .06 | 0.00 | 15.35 | 11.00 |
| 18.320 | 660.00 | 679.45 | 0.00 | .05 | .31 | 15.36 | 11.00 |
| 18.400 | 660.00 | 679.82 | 0.00 | .68 | 0.00 | 41.03 | 14.00 |
| 18.400 | 660.00 | 680.07 | 0.00 | .62 | .25 | 41.45 | 14.00 |
| 17.980 | 660.00 | 679.75 | 0.00 | -.07 | 0.00 | 20.00 | 15.00 |
| 17.980 | 660.00 | 680.00 | 0.00 | -.06 | .26 | 20.00 | 15.00 |
| 17.990 | 660.00 | 679.69 | 0.00 | -.06 | 0.00 | 16.95 | 1.00 |
| 17.990 | 660.00 | 679.95 | 0.00 | -.05 | .26 | 16.95 | 1.00 |
| 18.010 | 660.00 | 679.75 | 0.00 | .06 | 0.00 | 16.95 | 43.00 |
| 18.010 | 660.00 | 680.00 | 0.00 | .05 | .25 | 16.95 | 43.00 |
| 18.020 | 660.00 | 679.86 | 0.00 | .11 | 0.00 | 19.00 | 1.00 |
| 18.020 | 660.00 | 680.11 | 0.00 | .10 | .25 | 19.00 | 1.00 |
| 18.800 | 660.00 | 680.22 | 0.00 | .36 | 0.00 | 32.49 | 80.00 |
| 18.800 | 660.00 | 680.47 | 0.00 | .36 | .25 | 33.49 | 80.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 19.200 | 660.00 | 680.64 | 0.00 | .42 | 0.00 | 150.27 | 450.00 |
| 19.200 | 660.00 | 680.85 | 0.00 | .39 | .21 | 116.02 | 450.00 |
| 19.300 | 660.00 | 680.67 | 0.00 | .03 | 0.00 | 103.07 | 160.00 |
| 19.300 | 660.00 | 680.88 | 0.00 | .03 | .21 | 90.04 | 160.00 |
| 18.980 | 660.00 | 680.66 | 0.00 | -.00 | 0.00 | 18.00 | 117.00 |
| 18.980 | 660.00 | 680.89 | 0.00 | .01 | .22 | 18.00 | 117.00 |
| 18.990 | 660.00 | 680.55 | 0.00 | -.11 | 0.00 | 15.90 | 1.00 |
| 18.990 | 660.00 | 680.79 | 0.00 | -.10 | .23 | 15.90 | 1.00 |
| 19.010 | 660.00 | 680.99 | 0.00 | .44 | 0.00 | 15.91 | 51.00 |
| 19.010 | 660.00 | 681.15 | 0.00 | .36 | .16 | 15.92 | 51.00 |
| 19.020 | 660.00 | 681.80 | 0.00 | .81 | 0.00 | 20.00 | 1.00 |
| 19.020 | 660.00 | 681.91 | 0.00 | .76 | .11 | 20.00 | 1.00 |
| 19.800 | 660.00 | 682.10 | 0.00 | .29 | 0.00 | 128.97 | 70.00 |
| 19.800 | 660.00 | 682.19 | 0.00 | .28 | .10 | 67.24 | 70.00 |
| 19.900 | 660.00 | 682.77 | 0.00 | .68 | 0.00 | 188.10 | 470.00 |
| 19.900 | 660.00 | 682.88 | 0.00 | .68 | .10 | 122.55 | 470.00 |
| 19.920 | 660.00 | 682.80 | 0.00 | .03 | 0.00 | 189.24 | 1.00 |
| 19.920 | 660.00 | 682.90 | 0.00 | .03 | .10 | 128.73 | 1.00 |
| 19.930 | 660.00 | 682.81 | 0.00 | .01 | 0.00 | 189.48 | 4.00 |
| 19.930 | 660.00 | 682.91 | 0.00 | .01 | .10 | 128.37 | 4.00 |
| 19.950 | 660.00 | 682.79 | 0.00 | -.01 | 0.00 | 189.41 | 1.00 |
| 19.950 | 660.00 | 682.90 | 0.00 | -.01 | .10 | 125.50 | 1.00 |
| 20.000 | 660.00 | 682.94 | 0.00 | .14 | 0.00 | 153.95 | 160.00 |
| 20.000 | 660.00 | 683.04 | 0.00 | .15 | .11 | 100.65 | 160.00 |
| 20.100 | 660.00 | 683.10 | 0.00 | .16 | 0.00 | 156.35 | 85.00 |
| 20.100 | 660.00 | 683.20 | 0.00 | .16 | .11 | 102.07 | 85.00 |
| 20.500 | 660.00 | 684.12 | 0.00 | 1.02 | 0.00 | 98.29 | 500.00 |
| 20.500 | 660.00 | 684.27 | 0.00 | 1.07 | .15 | 32.00 | 500.00 |
| 21.200 | 660.00 | 684.97 | 0.00 | .85 | 0.00 | 121.91 | 325.00 |
| 21.200 | 660.00 | 685.14 | 0.00 | .87 | .16 | 59.81 | 325.00 |
| 20.980 | 660.00 | 685.25 | 0.00 | .28 | 0.00 | 132.22 | 150.00 |
| 20.980 | 660.00 | 685.42 | 0.00 | .28 | .17 | 100.96 | 150.00 |
| 21.020 | 660.00 | 685.80 | 0.00 | .55 | 0.00 | 125.00 | 60.00 |
| 21.020 | 660.00 | 685.97 | 0.00 | .55 | .17 | 51.72 | 60.00 |
| 21.800 | 660.00 | 685.82 | 0.00 | .02 | 0.00 | 52.70 | 50.00 |
| 21.800 | 660.00 | 685.99 | 0.00 | .02 | .17 | 53.63 | 50.00 |
| 21.850 | 660.00 | 686.59 | 0.00 | .76 | 0.00 | 53.03 | 615.00 |
| 21.850 | 660.00 | 686.69 | 0.00 | .70 | .11 | 53.61 | 615.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 21.900 | 660.00 | 686.75 | 0.00 | .16 | 0.00 | 486.00 | 500.00 |
| 21.900 | 660.00 | 686.85 | 0.00 | .16 | .10 | 449.21 | 500.00 |
| 22.000 | 660.00 | 686.77 | 0.00 | .02 | 0.00 | 486.00 | 445.00 |
| 22.000 | 660.00 | 686.87 | 0.00 | .02 | .10 | 438.74 | 445.00 |
| 22.200 | 910.00 | 686.83 | 0.00 | .06 | 0.00 | 486.00 | 665.00 |
| 22.200 | 910.00 | 686.93 | 0.00 | .06 | .10 | 420.50 | 665.00 |
| 22.800 | 910.00 | 686.98 | 0.00 | .15 | 0.00 | 479.61 | 550.00 |
| 22.800 | 910.00 | 687.08 | 0.00 | .15 | .10 | 404.16 | 550.00 |
| 23.200 | 910.00 | 687.42 | 0.00 | .44 | 0.00 | 72.57 | 635.00 |
| 23.200 | 910.00 | 687.51 | 0.00 | .43 | .09 | 64.03 | 635.00 |
| 22.980 | 910.00 | 687.87 | 0.00 | .45 | 0.00 | 90.04 | 170.00 |
| 22.980 | 910.00 | 687.96 | 0.00 | .45 | .09 | 67.92 | 170.00 |
| 23.020 | 910.00 | 689.70 | 0.00 | 1.83 | 0.00 | 88.24 | 177.00 |
| 23.020 | 910.00 | 689.79 | 0.00 | 1.83 | .09 | 75.52 | 177.00 |
| 23.800 | 910.00 | 689.80 | 0.00 | .10 | 0.00 | 116.28 | 203.00 |
| 23.800 | 910.00 | 689.89 | 0.00 | .10 | .09 | 85.18 | 203.00 |
| 23.900 | 910.00 | 689.93 | 0.00 | .12 | 0.00 | 147.89 | 375.00 |
| 23.900 | 910.00 | 690.02 | 0.00 | .13 | .09 | 141.82 | 375.00 |
| 24.000 | 910.00 | 690.00 | 0.00 | .08 | 0.00 | 143.23 | 525.00 |
| 24.000 | 910.00 | 690.09 | 0.00 | .07 | .09 | 140.60 | 525.00 |
| 24.500 | 910.00 | 690.11 | 0.00 | .10 | 0.00 | 184.45 | 525.00 |
| 24.500 | 910.00 | 690.19 | 0.00 | .10 | .08 | 114.03 | 525.00 |
| 25.000 | 910.00 | 690.32 | 0.00 | .21 | 0.00 | 134.40 | 550.00 |
| 25.000 | 910.00 | 690.41 | 0.00 | .22 | .09 | 101.32 | 550.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, GIBSON DRAIN 100 YR FLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| .900 | 299. | 655. | 1.3 | 641.4 | 641.4 | 0.0 |
| .980 | 319. | 626. | 1.4 | 641.5 | 641.5 | 0.0 |
| 1.020 | 245. | 606. | 1.4 | 641.6 | 641.6 | 0.0 |
| 1.800 | 246. | 708. | 1.2 | 641.7 | 641.7 | 0.0 |
| 1.900 | 196. | 453. | 1.9 | 642.0 | 642.0 | 0.0 |
| 2.000 | 150. | 336. | 2.5 | 642.6 | 642.5 | .1 |
| 3.200 | 329. | 796. | 1.1 | 643.3 | 643.2 | .1 |
| 2.980 | 321. | 768. | 1.1 | 643.4 | 643.3 | .1 |
| 3.020 | 371. | 885. | 1.0 | 643.5 | 643.4 | .1 |
| 3.800 | 359. | 773. | 1.1 | 643.6 | 643.5 | .1 |
| 4.200 | 127. | 517. | 1.6 | 643.8 | 643.7 | .1 |
| 3.980 | 43. | 254. | 3.3 | 644.0 | 643.9 | .1 |
| 4.020 | 38. | 253. | 3.4 | 644.7 | 644.6 | .1 |
| 4.800 | 125. | 543. | 1.6 | 645.0 | 644.9 | .1 |
| 5.200 | 72. | 352. | 2.4 | 645.3 | 645.2 | .1 |
| 4.980 | 50. | 272. | 3.1 | 645.5 | 645.4 | .1 |
| 5.020 | 95. | 393. | 2.2 | 646.4 | 646.3 | .1 |
| 5.800 | 84. | 420. | 2.0 | 646.5 | 646.4 | .1 |
| 5.900 | 84. | 364. | 2.3 | 646.9 | 646.8 | .1 |
| 5.950 | 56. | 198. | 4.3 | 647.0 | 646.9 | .1 |
| 6.000 | 28. | 176. | 4.8 | 648.7 | 648.5 | .2 |
| 6.100 | 28. | 183. | 4.6 | 649.0 | 648.8 | .2 |
| 6.200 | 195. | 576. | 1.5 | 649.5 | 649.3 | .2 |
| 6.500 | 253. | 456. | 1.9 | 650.0 | 649.9 | .1 |
| 7.000 | 204. | 314. | 2.7 | 651.7 | 651.6 | .1 |
| 8.200 | 95. | 353. | 2.4 | 653.2 | 653.1 | .1 |
| 7.980 | 27. | 152. | 5.6 | 653.5 | 653.3 | .2 |
| 7.990 | 24. | 144. | 5.9 | 653.5 | 653.3 | .2 |
| 8.010 | 24. | 146. | 5.8 | 653.6 | 653.4 | .2 |
| 8.020 | 28. | 169. | 5.0 | 653.6 | 653.5 | .1 |
| 8.800 | 237. | 733. | 1.2 | 654.2 | 654.1 | .1 |
| 9.200 | 93. | 271. | 3.1 | 655.0 | 654.9 | .1 |
| 8.980 | 28. | 196. | 4.3 | 655.4 | 655.2 | .2 |
| 9.020 | 27. | 201. | 4.2 | 655.8 | 655.6 | .2 |
| 9.800 | 167. | 839. | 1.0 | 656.3 | 656.1 | .2 |
| 9.900 | 133. | 736. | 1.2 | 656.4 | 656.2 | .2 |
| 10.000 | 122. | 642. | 1.3 | 656.5 | 656.3 | .2 |
| 10.050 | 112. | 541. | 1.6 | 656.7 | 656.5 | .2 |
| 10.060 | 98. | 310. | 2.7 | 656.5 | 656.4 | .1 |
| 10.070 | 98. | 312. | 2.7 | 656.6 | 656.5 | .1 |
| 10.100 | 112. | 553. | 1.5 | 656.7 | 656.5 | .2 |
| 10.500 | 102. | 429. | 2.0 | 657.1 | 656.9 | .2 |
| 10.700 | 76. | 217. | 3.9 | 657.3 | 657.1 | .2 |
| 11.000 | 39. | 157. | 5.4 | 658.5 | 658.5 | 0.0 |
| 11.200 | 47. | 209. | 4.1 | 661.4 | 661.3 | .1 |
| 11.800 | 98. | 380. | 2.2 | 662.6 | 662.5 | .1 |
| 12.000 | 82. | 283. | 3.0 | 663.4 | 663.3 | .1 |
| 12.200 | 82. | 299. | 2.8 | 664.3 | 664.2 | .1 |
| 12.800 | 62. | 223. | 3.8 | 665.5 | 665.4 | .1 |
| 13.000 | 40. | 173. | 4.9 | 667.4 | 667.3 | .1 |

FLOODWAY DATA, GIBSON DRAIN 100 YR FLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 13.200 | 69. | 216. | 3.9 | 668.7 | 668.6 | .1 |
| 13.800 | 142. | 346. | 2.5 | 670.0 | 669.9 | .1 |
| 14.200 | 96. | 250. | 3.4 | 671.1 | 671.0 | .1 |
| 13.980 | 24. | 145. | 5.9 | 671.8 | 671.7 | .1 |
| 14.020 | 26. | 180. | 4.7 | 673.0 | 672.9 | .1 |
| 14.100 | 77. | 321. | 2.6 | 673.6 | 673.4 | .2 |
| 14.500 | 98. | 365. | 2.3 | 674.0 | 673.8 | .2 |
| 14.600 | 84. | 381. | 2.2 | 674.4 | 674.2 | .2 |
| 14.980 | 24. | 223. | 3.8 | 674.4 | 674.2 | .2 |
| 15.020 | 24. | 236. | 3.6 | 675.0 | 674.8 | .2 |
| 15.800 | 88. | 405. | 2.1 | 675.3 | 675.1 | .2 |
| 16.200 | 79. | 357. | 2.4 | 675.6 | 675.4 | .2 |
| 16.300 | 74. | 312. | 2.7 | 675.7 | 675.5 | .2 |
| 15.980 | 16. | 131. | 6.5 | 675.8 | 675.6 | .2 |
| 16.020 | 17. | 162. | 5.3 | 677.1 | 676.9 | .2 |
| 16.800 | 72. | 413. | 2.1 | 677.8 | 677.6 | .2 |
| 16.850 | 70. | 384. | 2.2 | 677.9 | 677.8 | .1 |
| 16.860 | 70. | 277. | 3.1 | 677.8 | 677.7 | .1 |
| 16.870 | 70. | 282. | 3.0 | 677.9 | 677.8 | .1 |
| 16.880 | 71. | 391. | 2.2 | 678.0 | 677.9 | .1 |
| 16.950 | 70. | 377. | 2.3 | 678.1 | 678.0 | .1 |
| 16.960 | 69. | 276. | 3.1 | 678.0 | 677.9 | .1 |
| 16.970 | 70. | 281. | 3.0 | 678.1 | 678.0 | .1 |
| 16.980 | 70. | 384. | 2.2 | 678.2 | 678.1 | .1 |
| 17.000 | 178. | 768. | 1.1 | 678.4 | 678.3 | .1 |
| 17.200 | 174. | 710. | 1.2 | 678.4 | 678.3 | .1 |
| 17.220 | 176. | 609. | 1.4 | 678.4 | 678.3 | .1 |
| 17.230 | 177. | 614. | 1.4 | 678.4 | 678.3 | .1 |
| 17.250 | 174. | 713. | 1.2 | 678.4 | 678.3 | .1 |
| 17.300 | 176. | 740. | 1.1 | 678.5 | 678.4 | .1 |
| 17.320 | 179. | 644. | 1.3 | 678.6 | 678.5 | .1 |
| 17.330 | 180. | 649. | 1.3 | 678.6 | 678.5 | .1 |
| 17.350 | 177. | 747. | 1.1 | 678.6 | 678.5 | .1 |
| 18.200 | 40. | 213. | 4.0 | 678.7 | 678.6 | .1 |
| 18.290 | 16. | 132. | 5.0 | 679.4 | 679.1 | .3 |
| 18.290 | 15. | 109. | 6.0 | 679.4 | 679.1 | .3 |
| 18.310 | 15. | 110. | 6.0 | 679.4 | 679.1 | .3 |
| 18.320 | 15. | 111. | 6.0 | 679.4 | 679.1 | .3 |
| 18.400 | 41. | 263. | 2.5 | 680.1 | 679.8 | .3 |
| 17.980 | 20. | 157. | 4.2 | 680.0 | 679.7 | .3 |
| 17.990 | 17. | 132. | 5.0 | 680.0 | 679.7 | .3 |
| 18.010 | 17. | 133. | 5.0 | 680.0 | 679.7 | .3 |
| 18.020 | 19. | 150. | 4.4 | 680.1 | 679.9 | .2 |
| 18.800 | 33. | 188. | 3.5 | 680.4 | 680.2 | .2 |
| 19.200 | 116. | 702. | .9 | 680.8 | 680.6 | .2 |
| 19.300 | 90. | 547. | 1.2 | 680.9 | 680.7 | .2 |
| 18.980 | 18. | 129. | 5.1 | 680.9 | 680.7 | .2 |
| 18.990 | 16. | 86. | 7.7 | 680.8 | 680.6 | .2 |
| 19.010 | 16. | 92. | 7.2 | 681.2 | 681.0 | .2 |
| 19.020 | 20. | 161. | 4.1 | 681.9 | 681.8 | .1 |

FLOODWAY DATA, GIBSON DRAIN 100 YR FLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 19.800 | 67. | 221. | 3.0 | 682.2 | 682.1 | .1 |
| 19.900 | 123. | 425. | 1.6 | 682.9 | 682.8 | .1 |
| 19.920 | 129. | 407. | 1.6 | 682.9 | 682.8 | .1 |
| 19.930 | 128. | 407. | 1.6 | 682.9 | 682.8 | .1 |
| 19.950 | 125. | 433. | 1.5 | 682.9 | 682.8 | .1 |
| 20.000 | 101. | 293. | 2.3 | 683.0 | 682.9 | .1 |
| 20.100 | 102. | 301. | 2.2 | 683.2 | 683.1 | .1 |
| 20.500 | 32. | 164. | 4.0 | 684.2 | 684.1 | .1 |
| 21.200 | 60. | 213. | 3.1 | 685.2 | 685.0 | .2 |
| 20.980 | 101. | 401. | 1.6 | 685.5 | 685.3 | .2 |
| 21.020 | 52. | 355. | 1.9 | 686.0 | 685.8 | .2 |
| 21.800 | 54. | 262. | 2.5 | 686.0 | 685.8 | .2 |
| 21.850 | 54. | 262. | 2.5 | 686.7 | 686.6 | .1 |
| 21.900 | 449. | 2262. | .3 | 686.9 | 686.8 | .1 |
| 22.000 | 439. | 1925. | .3 | 686.9 | 686.8 | .1 |
| 22.200 | 420. | 1516. | .6 | 686.9 | 686.8 | .1 |
| 22.800 | 404. | 1204. | .8 | 687.1 | 687.0 | .1 |
| 23.200 | 64. | 255. | 3.6 | 687.5 | 687.4 | .1 |
| 22.980 | 68. | 420. | 2.2 | 688.0 | 687.9 | .1 |
| 23.020 | 76. | 527. | 1.7 | 689.8 | 689.7 | .1 |
| 23.800 | 85. | 519. | 1.8 | 689.9 | 689.8 | .1 |
| 23.900 | 142. | 873. | 1.0 | 690.0 | 689.9 | .1 |
| 24.000 | 141. | 841. | 1.1 | 690.1 | 690.0 | .1 |
| 24.500 | 114. | 733. | 1.2 | 690.2 | 690.1 | .1 |
| 25.000 | 101. | 589. | 1.5 | 690.4 | 690.3 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON ~~DRAIN~~ RENSHAW DRAIN

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

JOB NO. UM5060 UNIVERSITY OF MICHIGAN TERMINAL SYSTEM MERIT NET 13:00:13 12-04-79

Gibson #21

[illegible]

DNR COPY

Gibson Renshaw Drain

Corrected [illegible] at 7.99-[illegible] — [illegible] overbank [illegible] were lower [illegible] u/s of [illegible] on profile [illegible] one but [illegible] on plotted x-sections — move channel over to fit bank symbols and you will have correct x-section. Was plotted before error was corrected.

PARAMETERS: ,ID=XSNL,PW=,ROUTE=NUES

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MM          MM   NN          NN   EEEEEEEEEEEE   TTTTTTTTTTTT
MMM        MMM   NNN         NN   EEEEEEEEEEEE   TTTTTTTTTTTT
MMMM      MMMM   NNNN        NN   EE                 TT
MM MM    MM MM   NN NN       NN   EE                 TT
MM  MMMM  MM     NN  NN      NN   EE                 TT
MM   MM   MM     NN   NN     NN   EEEEEEEE           TT
MM        MM     NN    NN    NN   EEEEEEEE           TT
MM        MM     NN     NN   NN   EE                 TT
MM        MM     NN      NNNN   EE                 TT
MM        MM     NN       NNN   EE                 TT
MM        MM     NN        NN   EEEEEEEEEEEE       TT
MM        MM     NN         N   EEEEEEEEEEEE       TT


XX          XX   SSSSSSSSSS   NN          NN   LL
XX         XX    SSSSSSSSSSS  NNN         NN   LL
 XX       XX     SS         SS NNNN       NN   LL
  XX     XX      SS            NN NN      NN   LL
   XX   XX       SSS           NN  NN     NN   LL
    XXXX          SSSSSSSS     NN   NN    NN   LL
    XXXX           SSSSSSSS    NN    NN   NN   LL
   XX  XX                SSS  NN     NN  NN   LL
  XX    XX               SS   NN      NNNN   LL
 XX       XX    SS         SS NN       NNN   LL
XX         XX   SSSSSSSSSSS   NN        NN   LLLLLLLLLLLL
XX         XX    SSSSSSSSSS   NN         N   LLLLLLLLLLLL
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*************************************************

C
T1      HUD-FIA F-4705
T2      TROY
T3      GIBSON DRAIN 100 YR FLOW= 850 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     C         WSEL      FQ

     -1.       4.        0.        0.   0.000000     0.00      -1.0       0.    641.400    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    0.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .045      .050      .042      .300      .500     0.000     0.000     0.000     0.000     0.000
QT     5.000   490.000   720.000  850.000  1150.000  850.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1      .900    14.000   500.000   536.000     0.000     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   642.400     0.000     0.000
GR   641.300   400.000   639.000   450.000   642.400   500.000   638.500   508.000   638.100   510.000
GR   634.700   512.000   634.100   518.000   634.900   526.000   637.700   528.000   639.900   536.000
GR   640.400   600.000   638.700   700.000   639.400   800.000   641.900   900.000     0.000     0.000

        ** D/S FACE DEQUINDRE

X1      .980    13.000   288.000   312.000   200.000   200.000   200.000     0.000      .300     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   640.000   640.000     0.000
GR   640.100   175.000   639.600   282.000   636.200   288.000   635.400   290.000   634.600   291.000
GR   633.600   293.000   633.400   300.000   634.800   307.000   636.200   312.000   638.400   318.000
GR   639.400   336.000   639.600   352.000   640.000   550.000     0.000     0.000     0.000     0.000
SB     0.000     1.700     2.800     0.000    23.000     0.000   119.600     0.000   633.700   633.700
NC      .070      .070      .050     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     1.020    15.000   288.000   312.000    45.000    45.000    45.000     0.000      .300     0.000
X2     0.000     0.000     1.000   638.900   641.000     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   641.000   641.000     0.000
BT     6.000   212.000   641.000     0.000   282.000   641.000     0.000   288.000   641.000     0.000
BT   312.000   641.000     0.000   318.000   641.000     0.000   550.000   641.000     0.000     0.000
GR   642.000   212.000   641.800   246.000   641.000   268.000   639.600   282.000   636.200   288.000
GR   635.400   290.000   634.600   291.000   633.600   293.000   633.400   300.000   634.800   307.000
GR   636.200   312.000   638.400   318.000   639.400   336.000   639.600   540.000   641.000   550.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1.800 | 15.000 | 282.000 | 318.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| GR | 642.000 | 212.000 | 641.800 | 246.000 | 641.000 | 268.000 | 639.600 | 282.000 | 636.200 | 288.000 |
| GR | 635.400 | 290.000 | 634.600 | 291.000 | 633.600 | 293.000 | 633.400 | 300.000 | 634.800 | 307.000 |
| GR | 636.200 | 312.000 | 638.400 | 318.000 | 639.400 | 336.000 | 639.600 | 540.000 | 641.500 | 550.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1.900 | 13.000 | 298.000 | 334.000 | 500.000 | 500.000 | 500.000 | 0.000 | -1.000 | 0.000 |
| GR | 644.500 | 198.000 | 644.200 | 226.000 | 641.500 | 280.000 | 641.100 | 298.000 | 636.800 | 304.000 |
| GR | 635.700 | 307.000 | 635.400 | 309.000 | 635.400 | 323.000 | 636.800 | 326.000 | 641.400 | 334.000 |
| GR | 641.400 | 408.000 | 641.700 | 430.000 | 642.500 | 540.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 2.000 | 13.000 | 298.000 | 334.000 | 500.000 | 500.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 644.500 | 198.000 | 644.200 | 226.000 | 641.500 | 280.000 | 641.100 | 298.000 | 636.800 | 304.000 |
| GR | 635.700 | 307.000 | 635.400 | 309.000 | 635.400 | 323.000 | 636.800 | 326.000 | 641.400 | 334.000 |
| GR | 641.400 | 408.000 | 641.700 | 430.000 | 642.500 | 540.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 3.200 | 13.000 | 274.000 | 308.000 | 620.000 | 620.000 | 620.000 | 0.000 | 0.000 | 0.000 |
| GR | 643.000 | 130.000 | 641.200 | 230.000 | 641.400 | 274.000 | 636.800 | 286.000 | 635.900 | 292.000 |
| GR | 635.700 | 294.000 | 636.800 | 302.000 | 640.500 | 308.000 | 641.400 | 324.000 | 641.200 | 402.000 |
| GR | 641.100 | 429.000 | 641.200 | 545.000 | 643.000 | 550.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FORSYTHE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 2.980 | 13.000 | 281.000 | 307.000 | 240.000 | 240.000 | 240.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 642.000 | 642.000 | 0.000 |
| GR | 643.000 | 130.000 | 641.200 | 230.000 | 641.400 | 274.000 | 636.800 | 281.000 | 635.700 | 282.000 |
| GR | 635.700 | 306.000 | 636.800 | 307.000 | 640.500 | 308.000 | 641.400 | 324.000 | 641.200 | 402.000 |
| GR | 641.300 | 425.000 | 641.400 | 545.000 | 643.000 | 550.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.300 | 2.600 | 350.000 | 14.680 | 0.000 | 82.200 | 0.000 | 635.900 | 635.900 |
| X1 | 3.020 | 12.000 | 328.000 | 354.000 | 36.000 | 36.000 | 36.000 | 0.000 | -.200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 641.500 | 642.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 642.500 | 642.500 | 0.000 |
| GR | 642.500 | 100.000 | 641.300 | 258.000 | 641.400 | 308.000 | 640.900 | 322.000 | 637.000 | 328.000 |
| GR | 636.100 | 329.000 | 636.100 | 353.000 | 637.000 | 354.000 | 641.800 | 360.000 | 642.200 | 374.000 |
| GR | 642.000 | 520.000 | 643.800 | 570.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 3.800 | 12.000 | 322.000 | 360.000 | 64.000 | 64.000 | 64.000 | 0.000 | 0.000 | 0.000 |
| GR | 642.500 | 100.000 | 641.300 | 258.000 | 641.400 | 308.000 | 640.900 | 322.000 | 637.000 | 332.000 |
| GR | 636.300 | 333.000 | 636.100 | 337.000 | 637.000 | 350.000 | 641.800 | 360.000 | 642.200 | 374.000 |
| GR | 642.000 | 520.000 | 643.800 | 570.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 4.200 | 13.000 | 208.000 | 276.000 | 650.000 | 650.000 | 650.000 | 0.000 | 0.000 | 0.000 |
| GR | 642.100 | 140.000 | 642.000 | 180.000 | 641.800 | 196.000 | 641.000 | 208.000 | 637.800 | 218.000 |
| GR | 637.100 | 232.000 | 636.900 | 240.000 | 636.800 | 248.000 | 637.100 | 256.000 | 639.000 | 268.000 |
| GR | 641.400 | 276.000 | 643.800 | 320.000 | 643.900 | 367.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .075 | .075 | .055 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LONDON

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 3.980 | 11.000 | 218.000 | 261.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.200 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 644.100 | 644.100 | 0.000 |
| GR | 642.100 | 142.000 | 642.000 | 180.000 | 641.800 | 196.000 | 641.000 | 208.000 | 637.800 | 218.000 |
| GR | 636.800 | 219.000 | 636.800 | 256.000 | 637.800 | 261.000 | 641.400 | 276.000 | 643.800 | 320.000 |
| GR | 643.900 | 342.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.250 | 2.050 | 2.800 | 0.000 | 37.600 | 1.600 | 158.400 | 0.000 | 638.000 | 638.000 |
| | | | | | | | | | | |
| X1 | 4.020 | 13.000 | 282.000 | 320.000 | 68.000 | 68.000 | 68.000 | 0.000 | .200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 642.400 | 644.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 645.000 | 644.800 | 0.000 |
| BT | 4.000 | 200.000 | 645.000 | 0.000 | 316.000 | 645.100 | 0.000 | 328.000 | 645.100 | 0.000 |
| BT | 400.000 | 644.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 645.000 | 201.000 | 644.600 | 210.000 | 642.200 | 266.000 | 640.000 | 274.000 | 638.400 | 282.000 |
| GR | 637.800 | 284.000 | 637.800 | 316.000 | 638.400 | 320.000 | 640.000 | 328.000 | 641.900 | 334.000 |
| GR | 642.800 | 344.000 | 643.200 | 370.000 | 644.000 | 401.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 4.800 | 11.000 | 266.000 | 344.000 | 132.000 | 132.000 | 132.000 | 0.000 | 0.000 | 0.000 |
| GR | 645.000 | 201.000 | 644.600 | 212.000 | 642.200 | 266.000 | 640.000 | 275.000 | 637.800 | 284.000 |
| GR | 637.800 | 317.000 | 640.000 | 329.000 | 641.900 | 334.000 | 642.800 | 344.000 | 644.000 | 396.000 |
| GR | 644.100 | 401.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 5.200 | 10.000 | 356.000 | 428.000 | 600.000 | 600.000 | 600.000 | 0.000 | 0.000 | 0.000 |
| GR | 647.900 | 292.000 | 645.000 | 356.000 | 639.900 | 370.000 | 639.200 | 382.000 | 638.500 | 388.000 |
| GR | 638.300 | 400.000 | 638.500 | 404.000 | 644.400 | 428.000 | 645.400 | 488.000 | 645.000 | 492.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE POST

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 4.980 | 8.000 | 374.000 | 408.000 | 150.000 | 150.000 | 150.000 | 0.000 | .900 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 645.000 | 645.000 | 0.000 |
| GR | 645.500 | 291.000 | 645.000 | 356.000 | 639.900 | 374.000 | 638.300 | 375.000 | 638.300 | 407.000 |
| GR | 639.900 | 408.000 | 644.400 | 428.000 | 645.400 | 491.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.250 | 2.000 | 2.800 | 0.000 | 32.000 | 2.000 | 138.000 | 0.000 | 639.200 | 639.200 |
| | | | | | | | | | | |
| X1 | 5.020 | 10.000 | 369.000 | 403.000 | 62.000 | 62.000 | 62.000 | 0.000 | .100 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 643.800 | 645.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 646.400 | 645.700 | 0.000 |
| BT | 3.000 | 286.000 | 647.400 | 0.000 | 370.000 | 646.400 | 0.000 | 486.000 | 645.700 | 0.000 |
| GR | 646.200 | 286.000 | 645.800 | 350.000 | 640.600 | 364.000 | 640.200 | 369.000 | 639.100 | 370.000 |
| GR | 639.100 | 402.000 | 640.000 | 403.000 | 643.900 | 420.000 | 644.600 | 434.000 | 644.800 | 486.000 |
| | | | | | | | | | | |
| X1 | 5.800 | 12.000 | 350.000 | 434.000 | 68.000 | 68.000 | 68.000 | 0.000 | 0.000 | 0.000 |
| GR | 649.400 | 286.000 | 646.800 | 320.000 | 645.800 | 350.000 | 640.600 | 364.000 | 640.200 | 378.000 |
| GR | 639.400 | 388.000 | 639.100 | 395.000 | 639.400 | 402.000 | 640.000 | 408.000 | 643.900 | 420.000 |
| GR | 645.300 | 434.000 | 646.400 | 486.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 5.900 | 0.000 | 0.000 | 0.000 | 520.000 | 520.000 | 520.000 | 0.000 | 1.100 | 0.000 |
| | | | | | | | | | | |
| X1 | 5.950 | 13.000 | 398.000 | 456.000 | 100.000 | 100.000 | 100.000 | 0.000 | -.800 | 0.000 |
| GR | 648.700 | 220.000 | 648.600 | 384.000 | 648.200 | 398.000 | 644.400 | 420.000 | 641.800 | 426.000 |
| GR | 641.200 | 428.000 | 641.800 | 440.000 | 645.200 | 448.000 | 646.600 | 456.000 | 647.500 | 474.000 |
| GR | 647.700 | 544.000 | 647.900 | 570.000 | 648.300 | 670.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .080 | .080 | .055 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.000 | 13.000 | 420.000 | 448.000 | 395.000 | 395.000 | 395.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 648.800 | 648.800 | 0.000 |
| GR | 648.700 | 220.000 | 648.600 | 384.000 | 648.200 | 398.000 | 644.400 | 420.000 | 641.800 | 426.000 |
| GR | 641.200 | 428.000 | 641.800 | 440.000 | 645.200 | 448.000 | 646.600 | 456.000 | 647.500 | 474.000 |
| GR | 647.700 | 544.000 | 647.900 | 570.000 | 648.300 | 670.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.450 | 2.600 | 220.000 | 29.000 | 0.000 | 165.300 | 0.000 | 641.200 | 641.200 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.100 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 646.900 | 649.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 649.600 | 649.600 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.200 | 10.000 | 490.000 | 520.000 | 100.000 | 100.000 | 100.000 | 0.000 | -3.500 | 0.000 |
| GR | 652.800 | 410.000 | 651.200 | 440.000 | 650.500 | 490.000 | 647.800 | 498.000 | 645.300 | 500.000 |
| GR | 645.000 | 509.000 | 645.200 | 518.000 | 650.400 | 520.000 | 650.700 | 600.000 | 651.000 | 650.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.500 | 12.000 | 490.000 | 520.000 | 495.000 | 495.000 | 495.000 | 0.000 | -2.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.000 | 0.000 |
| GR | 654.400 | 380.000 | 651.200 | 440.000 | 650.500 | 490.000 | 647.800 | 498.000 | 645.300 | 500.000 |
| GR | 645.000 | 509.000 | 645.200 | 518.000 | 650.400 | 520.000 | 650.700 | 600.000 | 651.000 | 650.000 |
| GR | 651.100 | 760.000 | 655.000 | 797.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 7.000 | 0.000 | 0.000 | 0.000 | 635.000 | 635.000 | 635.000 | 0.000 | 2.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 8.200 | 11.000 | 370.000 | 398.000 | 650.000 | 650.000 | 650.000 | 0.000 | 0.000 | 0.000 |
| GR | 650.900 | 368.000 | 650.800 | 369.000 | 650.800 | 370.000 | 650.000 | 372.000 | 645.500 | 375.000 |
| GR | 645.300 | 382.000 | 645.600 | 391.000 | 650.100 | 398.000 | 650.600 | 406.000 | 650.800 | 410.000 |
| GR | 651.000 | 475.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .250 | .450 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 7.980 | 10.000 | 368.000 | 395.000 | 127.000 | 127.000 | 127.000 | 0.000 | 2.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 656.500 | 656.500 | 0.000 |
| GR | 652.100 | 320.000 | 651.800 | 356.000 | 650.800 | 368.000 | 645.600 | 369.000 | 645.300 | 385.000 |
| GR | 645.600 | 393.000 | 650.100 | 395.000 | 650.600 | 406.000 | 651.100 | 502.000 | 652.000 | 538.000 |
| NC | 0.000 | 0.000 | .030 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LONG LAKE RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 7.990 | 4.000 | 100.000 | 124.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.500 | 656.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 654.500 | 100.000 | 647.400 | 100.100 | 647.400 | 123.900 | 654.500 | 124.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 8.010 | 0.000 | 0.000 | 0.000 | 31.000 | 31.000 | 31.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.500 | 656.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 8.020 | 8.000 | 334.000 | 362.000 | 1.000 | 1.000 | 1.000 | 0.000 | .500 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 656.500 | 656.500 | 0.000 |
| GR | 652.000 | 120.000 | 651.700 | 230.000 | 651.400 | 300.000 | 651.000 | 334.000 | 646.900 | 336.000 |
| GR | 646.900 | 360.000 | 650.200 | 362.000 | 651.800 | 376.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 8.800 | 9.000 | 334.000 | 362.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 652.000 | 120.000 | 651.700 | 230.000 | 651.400 | 300.000 | 651.000 | 334.000 | 647.600 | 338.000 |
| GR | 646.900 | 340.000 | 647.600 | 354.000 | 650.200 | 362.000 | 651.800 | 376.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 9.200 | 10.000 | 450.000 | 482.000 | 700.000 | 700.000 | 700.000 | 0.000 | 0.000 | 0.000 |
| GR | 652.900 | 375.000 | 653.700 | 400.000 | 652.800 | 425.000 | 652.800 | 434.000 | 652.800 | 450.000 |
| GR | 649.500 | 460.000 | 647.900 | 466.000 | 648.200 | 472.000 | 649.500 | 474.000 | 653.400 | 482.000 |
| NC | 0.000 | 0.000 | 0.000 | .350 | .650 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE JOHN R

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 8.980 | 6.000 | 451.000 | 488.000 | 131.000 | 131.000 | 131.000 | .750 | .400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 657.000 | 657.000 | 0.000 |
| GR | 653.700 | 304.000 | 652.800 | 358.000 | 652.700 | 450.000 | 647.900 | 451.000 | 647.900 | 488.000 |
| GR | 654.800 | 490.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.850 | 2.600 | 150.000 | 29.000 | 0.000 | 168.200 | 0.000 | 648.300 | 648.300 |
| X1 | 9.020 | 10.000 | 500.000 | 536.000 | 59.000 | 59.000 | 59.000 | .750 | -.300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 654.100 | 657.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 657.400 | 657.400 | 0.000 |
| GR | 654.600 | 400.000 | 653.700 | 448.000 | 650.800 | 460.000 | 650.200 | 500.000 | 648.600 | 502.000 |
| GR | 648.600 | 534.000 | 650.200 | 536.000 | 650.400 | 562.000 | 653.600 | 584.000 | 657.200 | 618.000 |
| X1 | 9.800 | 11.000 | 504.000 | 528.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 654.600 | 400.000 | 653.700 | 448.000 | 650.800 | 460.000 | 650.200 | 504.000 | 649.200 | 512.000 |
| GR | 648.600 | 520.000 | 648.600 | 525.000 | 650.200 | 528.000 | 650.200 | 562.000 | 653.600 | 584.000 |
| GR | 657.200 | 618.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .065 | .065 | .045 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 9.900 | 10.000 | 438.000 | 470.000 | 445.000 | 445.000 | 445.000 | 0.000 | -.600 | 0.000 |
| GR | 657.600 | 334.000 | 656.100 | 360.000 | 650.800 | 412.000 | 650.800 | 438.000 | 649.700 | 453.000 |
| GR | 649.700 | 460.000 | 650.800 | 470.000 | 651.000 | 488.000 | 655.600 | 522.000 | 660.400 | 618.000 |
| X1 | 10.000 | 0.000 | 0.000 | 0.000 | 455.000 | 455.000 | 455.000 | 0.000 | .600 | 0.000 |
| X1 | 10.050 | 0.000 | 0.000 | 0.000 | 595.000 | 595.000 | 595.000 | 0.000 | .800 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10.060 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.200 | 656.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 10.070 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.200 | 656.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10.100 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 10.500 | 0.000 | 0.000 | 0.000 | 595.000 | 595.000 | 595.000 | 0.000 | 1.200 | 0.000 |
| NC | .085 | .085 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 10.700 | 11.000 | 171.000 | 261.000 | 227.000 | 227.000 | 227.000 | 0.000 | -.400 | 0.000 |
| GR | 660.000 | 143.000 | 659.800 | 160.000 | 659.000 | 171.000 | 653.200 | 208.000 | 652.800 | 213.000 |
| GR | 652.700 | 221.000 | 653.200 | 226.000 | 658.600 | 261.000 | 659.400 | 275.000 | 659.200 | 290.000 |
| GR | 659.800 | 318.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 11.000 | 11.000 | 188.000 | 236.000 | 228.000 | 228.000 | 228.000 | 0.000 | 0.000 | 0.000 |
| GR | 660.000 | 143.000 | 659.800 | 188.000 | 659.000 | 196.000 | 653.200 | 208.000 | 652.800 | 213.000 |
| GR | 652.700 | 221.000 | 653.200 | 226.000 | 658.600 | 236.000 | 659.400 | 254.000 | 659.200 | 290.000 |
| GR | 659.800 | 318.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 11.200 | 0.000 | 0.000 | 0.000 | 545.000 | 545.000 | 545.000 | 0.000 | 1.600 | 0.000 |
| X1 | 11.800 | 8.000 | 272.000 | 354.000 | 550.000 | 550.000 | 550.000 | 0.000 | -1.700 | 0.000 |
| GR | 663.400 | 204.000 | 662.800 | 260.000 | 662.400 | 272.000 | 659.400 | 288.000 | 657.700 | 305.000 |
| GR | 657.800 | 310.000 | 658.100 | 315.000 | 663.200 | 354.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 12.000 | 0.000 | 0.000 | 0.000 | 555.000 | 555.000 | 555.000 | 0.000 | 1.700 | 0.000 |
| X1 | 12.200 | 0.000 | 0.000 | 0.000 | 395.000 | 395.000 | 395.000 | 0.000 | .700 | 0.000 |
| NC | .090 | .090 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | L-bank | | L-bank | R-bank | | | | | |
| X1 | 12.800 | 10.000 | 140.000 | 202.000 | 450.000 | 450.000 | 450.000 | 0.000 | -.900 | 0.000 |
| GR | 667.000 | 100.000 | 666.900 | 130.000 | 666.300 | 140.000 | 661.800 | 160.000 | 660.200 | 172.000 |
| GR | 661.800 | 185.000 | 665.000 | 200.000 | 666.400 | 202.000 | 667.000 | 222.000 | 667.000 | 258.000 |
| X1 | 13.000 | 10.000 | 152.000 | 192.000 | 455.000 | 455.000 | 455.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.000 | 100.000 | 666.900 | 142.000 | 666.300 | 152.000 | 661.800 | 166.000 | 660.200 | 172.000 |
| GR | 661.800 | 178.000 | 665.000 | 190.000 | 666.400 | 192.000 | 667.000 | 222.000 | 667.000 | 258.000 |
| X1 | 13.200 | 0.000 | 0.000 | 0.000 | 295.000 | 295.000 | 295.000 | 0.000 | 1.100 | 0.000 |
| X1 | 13.800 | 10.000 | 160.000 | 198.000 | 350.000 | 350.000 | 350.000 | 0.000 | -1.400 | 0.000 |
| GR | 675.400 | 118.000 | 669.200 | 138.000 | 669.000 | 160.000 | 667.800 | 174.000 | 665.000 | 180.000 |
| GR | 663.900 | 185.000 | 665.000 | 190.000 | 669.400 | 198.000 | 669.800 | 206.000 | 670.000 | 300.000 |
| X1 | 14.200 | 10.000 | 160.000 | 198.000 | 355.000 | 355.000 | 355.000 | 0.000 | 0.000 | 0.000 |
| GR | 670.200 | 134.000 | 669.200 | 138.000 | 669.000 | 160.000 | 667.800 | 174.000 | 665.000 | 180.000 |
| GR | 663.900 | 185.000 | 665.000 | 190.000 | 669.400 | 198.000 | 669.800 | 206.000 | 670.000 | 255.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE PRIVATE DRIVE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 13.980 | 10.000 | 174.000 | 198.000 | 181.000 | 181.000 | 181.000 | 0.000 | .900 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 671.900 | 671.900 | 0.000 |
| GR | 675.400 | 118.000 | 669.200 | 138.000 | 669.000 | 160.000 | 667.800 | 174.000 | 663.900 | 178.000 |
| GR | 663.900 | 192.000 | 669.400 | 198.000 | 669.800 | 206.000 | 670.000 | 210.000 | 670.100 | 300.000 |
| SB | 0.000 | 1.450 | 2.800 | 200.000 | 14.000 | 0.000 | 99.400 | 0.000 | 664.800 | 664.800 |
| | | | | | | | | | | |
| X1 | 14.020 | 11.000 | 224.000 | 250.000 | 9.000 | 9.000 | 9.000 | 0.000 | -.300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 670.700 | 673.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 673.200 | 673.200 | 0.000 |
| GR | 680.300 | 208.000 | 669.600 | 224.000 | 667.000 | 229.000 | 665.100 | 230.000 | 665.100 | 244.000 |
| GR | 667.000 | 245.000 | 669.900 | 250.000 | 670.400 | 260.000 | 670.700 | 278.000 | 673.100 | 316.000 |
| GR | 673.600 | 422.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 14.100 | 10.000 | 224.000 | 250.000 | 110.000 | 110.000 | 110.000 | 0.000 | -.200 | 0.000 |
| GR | 680.300 | 208.000 | 669.600 | 224.000 | 667.000 | 230.000 | 665.100 | 237.000 | 667.000 | 244.000 |
| GR | 669.900 | 250.000 | 670.400 | 260.000 | 670.700 | 278.000 | 673.100 | 316.000 | 673.600 | 422.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 14.500 | 0.000 | 0.000 | 0.000 | 235.000 | 235.000 | 235.000 | 0.000 | .200 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 14.600 | 10.000 | 224.000 | 308.000 | 215.000 | 215.000 | 215.000 | 0.000 | -.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 675.500 | 675.500 | 0.000 |
| GR | 680.300 | 208.000 | 669.600 | 224.000 | 667.000 | 230.000 | 665.100 | 237.000 | 667.000 | 244.000 |
| GR | 669.900 | 250.000 | 670.400 | 260.000 | 670.700 | 278.000 | 673.100 | 308.000 | 673.600 | 422.000 |

** D/S FACE ROCHESTER

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 14.980 | 13.000 | 225.000 | 249.000 | 110.000 | 110.000 | 110.000 | 0.000 | -.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 675.500 | 675.500 | 0.000 |
| GR | 674.000 | 85.000 | 673.000 | 165.000 | 670.500 | 200.000 | 670.200 | 216.000 | 669.600 | 224.000 |
| GR | 667.000 | 225.000 | 665.100 | 227.000 | 665.100 | 247.000 | 667.000 | 249.000 | 669.900 | 250.000 |
| GR | 670.400 | 260.000 | 670.700 | 278.000 | 673.100 | 316.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.600 | 2.700 | 200.000 | 20.000 | 0.000 | 152.000 | 0.000 | 665.000 | 665.000 |
| | | | | | | | | | | |
| X1 | 15.020 | 0.000 | 0.000 | 0.000 | 45.000 | 45.000 | 45.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 672.600 | 676.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 677.000 | 677.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 15.800 | 10.000 | 230.000 | 320.000 | 130.000 | 130.000 | 130.000 | 0.000 | 0.000 | 0.000 |
| GR | 676.500 | 200.000 | 676.400 | 218.000 | 675.800 | 230.000 | 670.200 | 258.000 | 667.400 | 276.000 |
| GR | 665.300 | 281.000 | 667.400 | 286.000 | 669.400 | 292.000 | 674.800 | 320.000 | 677.600 | 332.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 16.200 | 11.000 | 134.000 | 232.000 | 270.000 | 270.000 | 270.000 | 0.000 | 0.000 | 0.000 |
| GR | 679.600 | 86.000 | 678.400 | 134.000 | 675.200 | 144.000 | 668.900 | 176.000 | 666.800 | 180.000 |
| GR | 666.100 | 184.000 | 667.700 | 186.000 | 668.800 | 190.000 | 669.900 | 202.000 | 678.600 | 232.000 |
| GR | 679.800 | 246.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 16.300 | 0.000 | 0.000 | 0.000 | 105.000 | 105.000 | 105.000 | 0.000 | .700 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .350 | .550 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE PRIVATE ROAD ON GOLF COURSE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 15.980 | 10.000 | 175.000 | 191.000 | 105.000 | 105.000 | 105.000 | 0.000 | 1.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 680.500 | 680.500 | 0.000 |
| GR | 679.600 | 86.000 | 678.400 | 134.000 | 675.200 | 144.000 | 668.900 | 175.000 | 666.100 | 176.000 |
| GR | 666.100 | 190.000 | 668.800 | 191.000 | 669.900 | 202.000 | 678.600 | 232.000 | 679.800 | 246.000 |
| SB | 0.000 | 1.900 | 2.900 | 0.000 | 11.000 | 0.000 | 110.000 | 0.000 | 667.400 | 667.400 |
| X1 | 16.020 | 12.000 | 233.000 | 250.000 | 40.000 | 40.000 | 40.000 | 0.000 | -.600 | 0.000 |
| | 0.000 | 0.000 | 1.000 | 674.000 | 681.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 681.900 | 683.200 | 0.000 |
| | 6.000 | 145.000 | 681.900 | 0.000 | 180.000 | 682.700 | 0.000 | 250.000 | 683.000 | 0.000 |
| BT | 280.000 | 683.600 | 0.000 | 314.000 | 683.700 | 0.000 | 342.000 | 684.000 | 0.000 | 0.000 |
| GR | 680.700 | 145.000 | 680.400 | 180.000 | 679.400 | 200.000 | 672.600 | 226.000 | 670.000 | 233.000 |
| GR | 668.000 | 234.000 | 668.000 | 248.000 | 670.000 | 250.000 | 672.400 | 265.000 | 679.200 | 280.000 |
| GR | 680.400 | 314.000 | 680.600 | 342.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.800 | 14.000 | 200.000 | 280.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 680.600 | 145.000 | 680.400 | 180.000 | 679.400 | 200.000 | 676.400 | 210.000 | 672.600 | 226.000 |
| GR | 670.000 | 234.000 | 668.300 | 245.000 | 668.000 | 250.000 | 668.700 | 257.000 | 670.000 | 258.000 |
| GR | 672.400 | 268.000 | 679.000 | 280.000 | 680.400 | 314.000 | 680.600 | 342.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.850 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | .600 | 0.000 |

** D/S FACE FOOTBRIDGE ON GOLF COURSE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16.860 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 674.300 | 676.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.870 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 674.300 | 676.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.880 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.950 | 0.000 | 0.000 | 0.000 | 140.000 | 140.000 | 140.000 | 0.000 | .300 | 0.000 |

** D/S FACE FOOTBRIDGE ON GOLF COURSE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 16.960 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 674.400 | 676.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.970 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 674.400 | 676.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 16.980 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.000 | 10.000 | 192.000 | 228.000 | 215.000 | 215.000 | 215.000 | 0.000 | 0.000 | 0.000 |
| GR | 680.000 | 15.000 | 675.600 | 50.000 | 675.500 | 100.000 | 674.400 | 150.000 | 673.000 | 192.000 |
| GR | 669.300 | 202.000 | 669.300 | 214.000 | 670.200 | 216.000 | 676.300 | 228.000 | 679.000 | 290.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17.200 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .300 | 0.000 |

** D/S FACE FOOTBRIDGE ON GOLFCOURSE-ELTRD LOWERED-BRIDGE KEPT IN BANKS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17.220 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 673.100 | 675.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.230 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 673.100 | 675.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.250 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.300 | 0.000 | 0.000 | 0.000 | 330.000 | 330.000 | 330.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE ON GOLFCOURSE-ELTRD LOWERED-BRIDGE KEPT IN BANKS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17.320 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 673.100 | 675.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.330 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 673.100 | 675.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.350 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.200 | 12.000 | 40.000 | 82.000 | 350.000 | 350.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| GR | 684.800 | 24.000 | 680.200 | 34.000 | 680.200 | 40.000 | 671.800 | 54.000 | 671.400 | 63.000 |
| GR | 671.800 | 74.000 | 677.900 | 82.000 | 678.700 | 110.000 | 678.800 | 160.000 | 679.600 | 182.000 |
| GR | 683.000 | 200.000 | 683.600 | 222.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 5.000 | 380.000 | 560.000 | 660.000 | 920.000 | 660.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.280 | 9.000 | 56.000 | 72.000 | 230.000 | 230.000 | 230.000 | 0.000 | -.200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 680.500 | 680.500 | 0.000 |
| GR | 680.200 | 40.000 | 671.800 | 54.000 | 671.400 | 56.000 | 671.400 | 72.000 | 671.800 | 74.000 |
| GR | 677.900 | 82.000 | 678.700 | 100.000 | 678.800 | 160.000 | 679.600 | 182.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .030 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 18.290 | 8.000 | 62.300 | 77.700 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 680.200 | 682.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 682.300 | 40.000 | 680.200 | 62.300 | 676.200 | 62.400 | 671.200 | 65.400 | 671.200 | 74.600 |
| GR | 676.200 | 77.600 | 680.200 | 77.700 | 682.300 | 100.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.310 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 680.200 | 682.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 18.320 | 0.000 | 0.000 | 0.000 | 11.000 | 11.000 | 11.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 682.300 | 682.300 | 0.000 |
| X1 | 18.400 | 13.000 | 40.000 | 82.000 | 14.000 | 14.000 | 14.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 685.200 | 685.200 | 0.000 |
| GR | 684.800 | 24.000 | 680.200 | 34.000 | 680.200 | 40.000 | 671.800 | 54.000 | 671.400 | 56.000 |
| GR | 671.400 | 72.000 | 671.800 | 74.000 | 677.900 | 82.000 | 678.700 | 110.000 | 678.800 | 166.000 |
| GR | 679.600 | 182.000 | 683.000 | 200.000 | 684.800 | 215.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 17.980 | 13.000 | 54.000 | 74.000 | 15.000 | 15.000 | 15.000 | 0.000 | .700 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 685.200 | 685.200 | 0.000 |
| GR | 684.800 | 24.000 | 680.200 | 34.000 | 680.200 | 40.000 | 671.800 | 54.000 | 671.400 | 56.000 |
| GR | 671.400 | 72.000 | 671.800 | 74.000 | 677.900 | 82.000 | 678.700 | 110.000 | 678.800 | 166.000 |
| GR | 679.600 | 182.000 | 683.000 | 200.000 | 684.800 | 215.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE ROCHESTER RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 17.990 | 4.000 | 0.000 | 17.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 682.300 | 685.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 682.300 | 0.000 | 672.100 | .100 | 672.100 | 16.900 | 682.300 | 17.000 | 0.000 | 0.000 |
| X1 | 18.010 | 0.000 | 0.000 | 0.000 | 43.000 | 43.000 | 43.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 682.300 | 685.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.020 | 11.000 | 338.000 | 357.000 | 1.000 | 1.000 | 1.000 | 0.000 | .800 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 685.200 | 685.200 | 0.000 |
| GR | 689.600 | 308.000 | 689.400 | 320.000 | 678.200 | 330.000 | 673.700 | 338.000 | 671.300 | 339.000 |
| GR | 671.300 | 356.000 | 673.700 | 357.000 | 680.200 | 362.000 | 683.800 | 372.000 | 685.800 | 400.000 |
| GR | 686.900 | 464.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.800 | 11.000 | 320.000 | 372.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 689.600 | 308.000 | 689.400 | 320.000 | 678.200 | 330.000 | 673.700 | 338.000 | 671.300 | 346.000 |
| GR | 673.700 | 354.000 | 680.000 | 360.000 | 683.800 | 372.000 | 685.800 | 400.000 | 686.200 | 428.000 |
| GR | 686.900 | 464.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 19.200 | 10.000 | 268.000 | 308.000 | 450.000 | 450.000 | 450.000 | 0.000 | 0.000 | 0.000 |
| GR | 683.200 | 170.000 | 681.400 | 174.000 | 676.000 | 210.000 | 675.200 | 234.000 | 675.000 | 268.000 |
| GR | 673.100 | 272.000 | 673.100 | 299.000 | 674.700 | 308.000 | 680.800 | 330.000 | 682.300 | 335.000 |
| X1 | 19.300 | 10.000 | 268.000 | 308.000 | 160.000 | 160.000 | 160.000 | 0.000 | .400 | 0.000 |
| GR | 675.600 | 225.000 | 675.500 | 226.000 | 675.400 | 227.000 | 675.200 | 234.000 | 675.000 | 268.000 |
| GR | 673.100 | 272.000 | 673.100 | 299.000 | 674.700 | 308.000 | 680.800 | 330.000 | 682.300 | 348.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 18.980 | 10.000 | 284.000 | 302.000 | 117.000 | 117.000 | 117.000 | 0.000 | .600 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 684.500 | 684.500 | 0.000 |
| GR | 683.200 | 170.000 | 681.400 | 174.000 | 676.000 | 210.000 | 675.200 | 234.000 | 675.000 | 276.000 |
| GR | 673.100 | 284.000 | 673.100 | 302.000 | 675.000 | 310.000 | 680.800 | 330.000 | 682.300 | 348.000 |

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NC      0.000      0.000      .030      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        ** D/S FACE SQUARE LAKE RD

X1     18.990      8.000     92.000    108.000      1.000      1.000      1.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    683.700    685.400      0.000      0.000      0.000      0.000      0.000
GR    685.400      0.000    683.700     92.000    677.700     92.100    673.700     98.600    673.700    101.400
GR    677.700    107.900    683.700    108.000    685.400    200.000      0.000      0.000      0.000      0.000

X1     19.010      0.000      0.000      0.000     51.000     51.000     51.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    683.700    685.400      0.000      0.000      0.000      0.000      0.000
NC      0.000      0.000      .055      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1     19.020     11.000    197.000    217.000      1.000      1.000      1.000      0.000      1.100      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    685.400    685.400      0.000
GR    685.600     92.000    683.400    148.000    681.300    160.000    681.100    194.000    675.700    197.000
GR    672.600    198.000    672.600    216.000    675.700    217.000    681.400    226.000    681.700    283.000
GR    685.000    308.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1     19.800     11.000    194.000    226.000     70.000     70.000     70.000      0.000      0.000      0.000
GR    685.600     92.000    683.400    148.000    681.200    160.000    681.100    194.000    675.700    200.000
GR    672.600    203.000    672.600    209.000    675.700    214.000    681.400    226.000    681.600    280.000
GR    685.000    308.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
NC      0.000      0.000      0.000      .150       .350      0.000      0.000      0.000      0.000      0.000

X1     19.900     12.000    190.000    218.000    470.000    470.000    470.000      0.000     -1.000      0.000
GR    684.400     82.000    682.600    102.000    680.800    118.000    681.400    180.000    681.000    190.000
GR    677.600    198.000    676.100    202.000    676.000    207.000    676.700    214.000    681.400    218.000
GR    682.200    230.000    684.400    296.000      0.000      0.000      0.000      0.000      0.000      0.000

        ** D/S FACE FOOTBRIDGE

X1     19.920      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    679.500    680.200      0.000      0.000      0.000      0.000      0.000

X1     19.930      0.000      0.000      0.000      4.000      4.000      4.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    679.500    680.200      0.000      0.000      0.000      0.000      0.000

X1     19.950      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000

X1     20.000      0.000      0.000      0.000    160.000    160.000    160.000      0.000      1.000      0.000

X1     20.100      0.000      0.000      0.000     85.000     85.000     85.000      0.000       .100      0.000

X1     20.500      9.000    362.000    394.000    500.000    500.000    500.000      0.000      -.400      0.000
GR    686.800    334.000    686.100    342.000    682.400    362.000    679.300    368.000    677.200    370.000
GR    677.200    377.000    679.300    384.000    683.800    394.000    684.800    470.000      0.000      0.000

X1     21.200      0.000      0.000      0.000    325.000    325.000    325.000      0.000       .400      0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DIANE LANE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 20.980 | 9.000 | 363.000 | 390.000 | 150.000 | 150.000 | 150.000 | 0.000 | -.700 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 684.500 | 684.500 | 0.000 |
| GR | 686.800 | 334.000 | 686.100 | 342.000 | 682.400 | 362.000 | 679.300 | 363.000 | 677.200 | 364.000 |
| GR | 677.200 | 389.000 | 679.300 | 390.000 | 683.800 | 394.000 | 684.800 | 475.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.450 | 2.800 | 125.000 | 17.300 | 0.000 | 95.000 | 0.000 | 676.500 | 676.500 |
| | | | | | | | | | | |
| X1 | 21.020 | 8.000 | 370.000 | 400.000 | 60.000 | 60.000 | 60.000 | 0.000 | -.700 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 682.000 | 685.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 685.000 | 685.000 | 0.000 |
| GR | 685.900 | 322.000 | 685.700 | 360.000 | 680.000 | 370.000 | 677.200 | 372.000 | 677.200 | 397.000 |
| GR | 680.000 | 400.000 | 685.700 | 410.000 | 685.900 | 447.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 21.800 | 8.000 | 352.000 | 412.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| GR | 687.500 | 300.000 | 687.000 | 352.000 | 680.000 | 378.000 | 677.200 | 389.000 | 677.200 | 392.000 |
| GR | 680.000 | 400.000 | 687.700 | 412.000 | 688.000 | 455.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 21.850 | 0.000 | 0.000 | 0.000 | 615.000 | 615.000 | 615.000 | 0.000 | .700 | 0.000 |
| | | | | | | | | | | |
| X1 | 21.900 | 13.000 | 162.000 | 196.000 | 500.000 | 500.000 | 500.000 | 0.000 | -.700 | 0.000 |
| GR | 685.600 | 14.000 | 683.300 | 60.000 | 683.200 | 162.000 | 680.200 | 170.000 | 679.400 | 171.000 |
| GR | 679.300 | 176.000 | 680.200 | 182.000 | 684.000 | 196.000 | 682.600 | 215.000 | 682.800 | 295.000 |
| GR | 681.600 | 370.000 | 681.700 | 445.000 | 684.000 | 500.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 22.000 | 0.000 | 0.000 | 0.000 | 445.000 | 445.000 | 445.000 | 0.000 | .700 | 0.000 |
| QT | 5.000 | 510.000 | 770.000 | 910.000 | 1220.000 | 910.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 22.200 | 0.000 | 0.000 | 0.000 | 665.000 | 665.000 | 665.000 | 0.000 | .900 | 0.000 |
| | | | | | | | | | | |
| X1 | 22.800 | 0.000 | 0.000 | 0.000 | 550.000 | 550.000 | 550.000 | 0.000 | .800 | 0.000 |
| | | | | | | | | | | |
| X1 | 23.200 | 10.000 | 320.000 | 372.000 | 635.000 | 635.000 | 635.000 | 0.000 | 0.000 | 0.000 |
| GR | 693.300 | 230.000 | 693.200 | 288.000 | 692.100 | 320.000 | 685.000 | 340.000 | 682.500 | 345.000 |
| GR | 682.000 | 353.000 | 682.300 | 363.000 | 683.700 | 372.000 | 684.000 | 396.000 | 691.000 | 416.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LOVELL RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 22.980 | 8.000 | 339.000 | 372.000 | 170.000 | 170.000 | 170.000 | 0.000 | -1.500 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 687.000 | 687.000 | 0.000 |
| GR | 693.300 | 289.000 | 693.200 | 290.000 | 685.000 | 339.000 | 682.000 | 340.000 | 682.000 | 370.000 |
| GR | 683.700 | 372.000 | 683.900 | 396.000 | 691.000 | 405.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 3.300 | 2.800 | 0.000 | 18.040 | 0.000 | 90.200 | 0.000 | 680.500 | 680.500 |
| | | | | | | | | | | |
| X1 | 23.020 | 8.000 | 192.000 | 224.000 | 177.000 | 177.000 | 177.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 685.500 | 688.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 688.300 | 688.300 | 0.000 |
| BT | 4.000 | 155.000 | 689.700 | 0.000 | 176.000 | 688.400 | 0.000 | 223.000 | 688.300 | 0.000 |
| BT | 270.000 | 689.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 687.000 | 155.000 | 684.800 | 176.000 | 682.000 | 192.000 | 680.500 | 193.000 | 680.500 | 223.000 |
| GR | 682.000 | 224.000 | 690.000 | 244.000 | 690.600 | 270.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 23.800 | 9.000 | 176.000 | 244.000 | 203.000 | 203.000 | 203.000 | 0.000 | 0.000 | 0.000 |
| GR | 692.200 | 104.000 | 684.800 | 176.000 | 681.900 | 200.000 | 680.500 | 205.000 | 680.500 | 209.000 |
| GR | 682.000 | 224.000 | 690.000 | 244.000 | 690.600 | 290.000 | 692.200 | 306.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 23.900 | 8.000 | 380.000 | 532.000 | 375.000 | 375.000 | 375.000 | 0.000 | -.300 | 0.000 |
| GR | 692.000 | 346.000 | 687.800 | 380.000 | 682.600 | 412.000 | 682.000 | 416.000 | 680.900 | 441.000 |
| GR | 682.600 | 476.000 | 684.800 | 492.000 | 692.200 | 532.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 24.000 | 0.000 | 0.000 | 0.000 | 525.000 | 525.000 | 525.000 | 0.000 | .300 | 0.000 |
| X1 | 24.500 | 11.000 | 298.000 | 332.000 | 525.000 | 525.000 | 525.000 | 0.000 | -1.200 | 0.000 |
| GR | 693.300 | 222.000 | 691.800 | 272.000 | 687.600 | 298.000 | 683.400 | 304.000 | 683.200 | 314.000 |
| GR | 683.400 | 324.000 | 684.600 | 332.000 | 684.800 | 376.000 | 685.500 | 392.000 | 690.400 | 416.000 |
| GR | 691.400 | 464.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 25.000 | 0.000 | 0.000 | 0.000 | 550.000 | 550.000 | 550.000 | 0.000 | 1.200 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PROF 1

CCHV= .300 CEHV= .500
*SECNC .900
3280 CROSS SECTION .90 EXTENDED .10 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | FV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICCNT | CORAR | TOPWID | ENDST |

$Q_{100}$ in Sterling Hts FIS = 1330 cfs , WSEL = 840.83 @ 820 cfs "Floodway" width given as 865'

XSEC 41175

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 642.40 ELREA= 639.90

LOB not allowed to Fraction

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .90 | 7.30 | 641.40 | 0.00 | 641.40 | 641.43 | .03 | 0.00 | 0.00 | 642.40 |
| 850. | 0. | 294. | 556. | 0. | 153. | 580. | 0. | 0. | 639.90 |
| 0.00 | 0.00 | 1.92 | .96 | .045 | .042 | .050 | 0.000 | 634.10 | 502.05 |
| .000466 | 0. | 0. | 0. | 0 | 0 | 0 | 0.00 | 377.95 | 880.00 |

Floodway = 300 Ft

[illegible] more appropriate [illegible] ROB [illegible] LOB [illegible] floodway [illegible]

*SECNC .980
3280 CROSS SECTION .98 EXTENDED 1.18 FEET

** D/S FACE DEQUINDRE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .98 | 7.78 | 641.48 | 0.00 | 0.00 | 641.53 | .05 | .09 | .01 | 636.50 |
| 850. | 141. | 406. | 302. | 162. | 163. | 365. | 3. | 2. | 636.50 |
| .03 | .87 | 2.49 | .83 | .045 | .042 | .050 | .042 | 633.70 | 175.00 |
| .000408 | 200. | 200. | 200. | 1 | 0 | 0 | 0.00 | 375.00 | 550.00 |

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.70 | 2.80 | 0.00 | 23.00 | 0.00 | 119.60 | 0.00 | 633.70 | 633.70 |

weir = 338 Ft

*SECNC 1.020
3280 CROSS SECTION 1.02 EXTENDED .33 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 642.81 | 641.53 | 0.00 | 509. | 344. | 120. | 120. | 638.90 | 641.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.02 | 7.93 | 641.63 | 0.00 | 0.00 | 641.69 | .06 | .17 | 0.00 | 636.50 |
| 850. | 31. | 441. | 378. | 37. | 166. | 452. | 4. | 2. | 636.50 |
| .04 | .85 | 2.65 | .84 | .070 | .050 | .070 | .043 | 633.70 | 258.86 |
| .000634 | 45. | 45. | 45. | 2 | 0 | 3 | 0.00 | 291.14 | 550.00 |

```
*SECNC 1.800
3280 CROSS SECTICN      1.80 EXTENDED       .22 FEET


     1.80      8.32   641.72      0.00      0.00   641.75       .04       .05       .01   639.60
     85C.       12.     450.      387.       27.     225.      514.        6.        3.    638.40
      .06       .46     2.00       .75      .C7C      .050      .070      .045    633.40   248.31
  .000427      10C.     100.      1C0.        2         0         0      0.00    301.69   55C.00


CCHV=     .150 CEHV=     .350
*SECNC 1.900
3280 CROSS SECTION      1.90 EXTENDED       .48 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRUB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


     1.90      7.58   641.98      C.CO      C.CO   642.08       .10       .31       .02   640.10
     85C.       40.     622.      188.       52.     217.      245.       13.        6.    640.40
      .12       .76     2.87       .77      .07C      .050      .070      .048    634.40   250.38
  .000948      500.     500.      5CC.        0         0         0      0.00    289.62   54C.00


*SECNO 2.000
3280 CROSS SECTICN      2.00 EXTENDED       .04 FEET


     2.00      7.14   642.54      0.00      0.CC   642.70       .16       .60       .02   641.10
     850.       28.     703.      119.       33.     201.      155.       18.        9.    641.40
      .17       .83     3.49       .77      .07C      .050      .070      .049    635.40   259.16
  .001557      500.     500.      500.        2         0         0      0.00    280.84   540.00


*SECNO 3.200
3280 CROSS SECTICN      3.20 EXTENDED       .19 FEET


     3.20      7.49   643.19      0.00      0.CC   643.22       .03       .50       .02   641.40
     850.      115.     374.      361.      192.     188.      481.       27.       14.    640.5C
      .30       .60     1.99       .75      .C70      .050      .070      .049    635.70   130.00
  .00C499      62C.     620.      620.        2         0         0      0.00    420.00   55C.0C


CCHV=     .400 CEHV=     .800
*SECNO 2.980
3280 CROSS SECTION      2.98 EXTENDED       .1C FEET


        ** D/S FACE FORSYTHE

     2.98      7.40   643.30      C.00      0.00   643.35       .05       .11       .01   637.00
     850.      124.     440.      286.      2C7.     191.      436.       32.       17.    637.00
      .35       .60     2.30       .66      .070      .050      .070      .049    635.90   13C.0C
  .00C439      24C.     240.      24C.        2         0         0      0.00    420.00   550.00
```

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.30 | 2.60 | 350.00 | 14.68 | 0.00 | 82.20 | 0.00 | 635.90 | 635.90 |

*SECNO 3.020
3280 CROSS SECTION 3.02 EXTENDED 1.13 FEET

$1 + 9r \frac{2g(.032)^2 \cdot 26}{(1.5)^{1/3}} = 2.5$

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 647.12 | 643.35 | 0.00 | 673. | 177. | 82. | 82. | 641.50 | 642.50 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.02 | 7.53 | 643.43 | 0.00 | 0.00 | 643.47 | .03 | .12 | 0.00 | 636.80 |
| 850. | 284. | 403. | 164. | 451. | 195. | 309. | 32. | 17. | 636.80 |
| .35 | .63 | 2.07 | .53 | .070 | .050 | .070 | .049 | 635.90 | 100.00 |
| .000341 | 36. | 36. | 36. | 2 | 0 | 5 | 0.00 | 465.34 | 565.34 |

*SECNO 3.800
3280 CROSS SECTION 3.80 EXTENDED .96 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | ENDST |
| 3.80 | 7.36 | 643.46 | 0.00 | 0.00 | 643.50 | .04 | .03 | .00 | 640.90 |
| 850. | 272. | 436. | 142. | 384. | 211. | 248. | 34. | 18. | 641.80 |
| .37 | .71 | 2.06 | .57 | .070 | .050 | .070 | .049 | 636.10 | 100.00 |
| .000525 | 64. | 64. | 64. | 0 | 0 | 0 | 0.00 | 460.47 | 560.47 |

CCHV= .150 CEHV= .350
*SECNO 4.200
3280 CROSS SECTION 4.20 EXTENDED 1.64 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.20 | 6.55 | 643.75 | 0.00 | 0.00 | 643.80 | .05 | .30 | .00 | 641.00 |
| 850. | 80. | 746. | 24. | 125. | 391. | 50. | 44. | 23. | 641.40 |
| .47 | .64 | 1.91 | .47 | .070 | .050 | .070 | .049 | 636.80 | 140.00 |
| .000407 | 650. | 650. | 650. | 0 | 0 | 0 | 0.00 | 178.89 | 318.89 |

CCHV= .300 CEHV= .500
*SECNO 3.980
3280 CROSS SECTION 3.98 EXTENDED .57 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 644.10 ELREA= 644.10

** D/S FACE LONDON

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     3.98      5.87    643.87      0.00      0.00    644.05       .18       .19       .07    639.00
     850.        0.      850.        0.        0.      249.        0.       47.       23.    639.00
      .49      0.00      3.41      0.00      .075      .055      .075      .050    638.00    218.00
  .001775      250.      250.      250.         0         0         0      0.00     43.00    261.00


SPECIAL BRIDGE

SB  XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.05      2.80      0.00     37.60      1.60    158.40      0.00    638.00    638.00

*SECNO 4.020
3280 CROSS SECTION       4.02 EXTENDED        .41 FEET


PRESSURE FLOW

 EGPRS      ECLWC      H3        QWEIP     QPR       BAREA     TRAPEZOID      ELLC      ELTRD
                                                                  AREA
   644.79    644.12       .02        0.      850.      158.      158.      642.40    644.80


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      645.00 ELREA=      644.80

     4.02      6.61    644.61      0.00      0.00    644.79       .18       .74      0.00    638.60
     850.        0.      850.        0.        0.      249.        0.       47.       23.    638.60
      .50      0.00      3.41      0.00      .075      .055      .075      .050    638.00    282.00
  .001528       68.       68.       68.         2         0         0      0.00     38.00    320.00


*SECNO 4.800
3280 CROSS SECTION       4.80 EXTENDED        .78 FEET


     4.80      7.08    644.88      0.00      0.00    644.92       .04       .10       .04    642.20
     850.       43.      765.       42.       81.      438.       81.       48.       24.    642.80
      .52       .53      1.75       .52      .075      .055      .075      .050    637.80    204.27
  .000426      132.      132.      132.         2         0         0      0.00    196.73    401.00


CCHV=    .150 CEHV=    .350
*SECNO 5.200

3265 DIVIDED FLOW

3280 CROSS SECTION       5.20 EXTENDED        .23 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


     5.20      6.93    645.23      0.00      0.00    645.32       .09       .38       .02    645.00
     850.        0.      843.        7.        1.      345.       21.       55.       26.    644.40
      .59       .15      2.44       .35      .075      .055      .075      .051    638.30    350.93
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  .001040      600.      600.      600.         2         0         0      0.00    129.13    492.00

CCHV=     .300 CEHV=     .500
*SECNO 4.980

         ** D/S FACE POST

     4.98      6.18    645.38      0.00      0.00    645.55       .17       .19       .04    640.80
     850.       50.      735.       64.       37.      209.       47.       56.       26.    640.80
      .60      1.35      3.53      1.37      .075      .055      .075      .051    639.20    357.83
  .001622      150.      150.      150.         2         0         0      0.00     75.36    433.18


SPECIAL BRIDGE

SB   XK        XKCR      COEQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.00      2.80      0.00      32.00     2.00      138.00    0.00      639.20    639.20

*SECNO 5.020
3280 CROSS SECTION       5.02 EXTENDED       1.39 FEET


PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA     ELLC      ELTRD
  646.56    645.66     .02       62.       781.      138.      138.              643.80    645.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      646.40 ELREA=      645.70

     5.02      7.09    646.29      0.00      0.00    646.38       .09       .82      0.00    640.30
     850.        0.      652.      198.        0.      240.      176.       57.       26.    640.10
      .61      0.00      2.72      1.13      .075      .055      .075      .051    639.20    369.00
  .000943       62.       62.       62.         2         0         3      0.00    117.00    486.00
                                  only 62cfs going weir flow in ROB
*SECNO 5.800
     5.80      7.28    646.38      0.00      0.00    646.44       .06       .06       .01    645.80
     850.        1.      839.        9.        5.      411.       27.       57.       27.    645.30
      .62       .23      2.04       .35      .075      .055      .075      .051    639.10    332.83
  .000704       68.       68.       68.         0         0         0      0.00    151.86    484.69


CCHV=     .150 CEHV=     .350
*SECNO 5.900
     5.90      6.62    646.82      0.00      0.00    646.91       .09       .46       .01    646.90
     850.        0.      849.        1.        0.      356.        4.       62.       28.    646.40
      .68      0.00      2.38       .24      .075      .055      .075      .051    640.20    350.23
  .001160      520.      520.      520.         1         0         0      0.00    103.42    453.65


*SECNO 5.950
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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```
     5.95      6.51    646.91      0.00      0.00    647.19       .28       .21       .07    647.40
     850.        0.      835.       15.        0.     195.       20.       63.       28.     645.80
      .68      0.00      4.28       .76      .075      .055      .075      .051    640.40    400.79
  .004870      100.      100.      100.         0         0         0      0.00    145.50    546.29

CCHV=     .400 CEHV=     .800
*SECNO 6.000
3280 CROSS SECTION       6.00 EXTENDED        .23 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      648.80 ELREA=      648.80

         ** D/S FACE FOOTBRIDGE

     6.00      7.33    648.53      0.00      0.00    648.91       .38      1.64       .08    644.40
     850.        0.      850.        0.        0.     171.        0.       64.       29.     645.20
      .71      0.00      4.97      0.00      .080      .055      .080      .052    641.20    420.00
  .003585      395.      395.      395.         2         0         0      0.00     28.00    448.00


SPECIAL BRIDGE

SB   XK          XKOR        COFQ       RDLEN       BWC        BWP       BAREA       SS        ELCHU      ELCHD
     0.00        1.45        2.60      220.00     29.00       0.00      165.30      0.00      641.20     641.20

*SECNO 6.100
3280 CROSS SECTION       6.10 EXTENDED        .47 FEET

PRESSURE FLOW

 EGPRS       EGLWC        H3        QWEIR       QPR        BAREA    TRAPEZOID       ELLC      ELTRD
                                                                       AREA
   649.12     648.91      0.00         0.       850.       165.       165.       646.90     649.60


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      649.60 ELREA=      649.60

     6.10      7.57    648.77      0.00      0.00    649.12       .35       .21      0.00    644.40
     850.        0.      850.        0.        0.     178.        0.       65.       29.     645.20
      .71      0.00      4.77      0.00      .080      .055      .080      .052    641.20    420.00
  .003167       10.       10.       10.         2         0         0      0.00     28.00    448.00

*SECNO 6.200
3280 CROSS SECTION       6.20 EXTENDED       1.84 FEET

     6.20      7.84    649.34      0.00      0.00    649.40       .06       .16       .12    647.00
     850.      101.      484.      265.      124.     191.      282.       65.       29.     646.90
      .72       .81      2.53       .94      .080      .055      .080      .052    641.50    410.00
  .000923      100.      100.      100.         2         0         0      0.00    240.00    650.00
```

```
CCHV=     .150 CEHV=     .350
*SECNO 6.500
      6.50      6.55    649.95      0.00      0.00    650.07       .12       .65       .02    648.50
      850.       51.      556.      243.       6C.      164.      269.       72.       33.     648.40
       .78       .85      3.38       .91      .0FC      .055      .080      .052    643.00    426.00
   .002C14      495.      495.      495.         2         0         0      0.00    342.04    768.03

*SECNC 7.000
    SECNO     DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALCB       ACH      ARCB       VOL       TWA   LEFT/RIGHT
    TIME      VLCB      VCH       VRCB      XNL       XNCH       XNR       WTN     ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC      ICCNT     CORAR    TOPWID      ENDST

      7.C0      6.55    651.55      0.00      C.00    651.78       .23      1.68       .04    650.50
      850.       32.      658.      161.       36.      152.      172.       78.       38.     650.40
       .83       .87      4.31       .93      .080      .055      .C80      .052    645.00    433.35
   .003611      635.      635.      635.         3         0         0      0.00    330.96    764.31

*SECNO 8.200
3280 CROSS SECTION       8.20 EXTENDED       2.23 FEET

      8.20      7.84    653.14      C.00      0.00    653.28       .14      1.48       .01    650.80
      850.        4.      622.      224.        5.      182.      177.       83.       41.     650.10
       .89       .94      3.42      1.26      .080      .055      .080      .053    645.30    368.00
   .001568      650.      650.      650.         2         0         0      0.00    107.00    475.00

CCHV=     .250 CEHV=     .450
*SECNO 7.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      656.50 ELREA=      656.50

      7.98      5.89    653.29      C.00      C.C0    653.81       .52       .36       .17    652.90
      850.        0.      850.        0.        0.      147.        0.       84.       41.     652.20
       .90      0.C0      5.77      C.00      .CEC      .055      .080      .053    647.40    368.00
   .006596      127.      127.      127.         2         0         0      0.00     27.00    395.00

*SECNC 7.990

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.50 MAX ELLC=  654.50

         ** D/S FACE LONG LAKE RC

      7.99      5.86    653.26      C.00      C.C0    653.83       .57       .00       .03    654.50
      85C.        0.      850.        0.        0.      140.        0.       84.       41.     654.5C
       .90      0.00      6.07      0.C0      .C8C      .030      .080      .053    647.40    100.02
   .002413        1.        1.        1.         2         0         0      0.00     23.97    123.98

*SECNO 8.010

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.50 MAX ELLC=  654.50

      8.01      5.96    653.36      0.00      0.00    653.91       .55       .07       .00    654.5C
```

```
     850.        0.      850.        0.        0.      142.        0.       84.       41.    654.50
      .90      0.00      5.97      0.00      .080      .030      .080      .052   647.40    100.02
  .002302       31.       31.       31.         2         0         0      0.00    23.97    123.98

*SECNO 8.020
3280 CROSS SECTION       8.02 EXTENDED       1.24 FEET

   SECNO     DEPTH     CVSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      656.50 ELREA=      656.50

     8.02      6.13    653.53      0.00      0.00    653.95       .42       .00       .03    651.50
     850.        0.      850.        0.        0.      164.        0.       84.       41.    650.70
      .90      0.00      5.17      0.00      .080      .055      .080      .052   647.40    334.00
  .004533        1.        1.        1.         2         0         0      0.00    28.00    362.00

*SECNO 8.800
3280 CROSS SECTION       8.80 EXTENDED       2.35 FEET

     8.80      7.25    654.15      0.00      0.00    654.19       .04       .14       .09    651.00
     850.      447.      364.       39.      535.      172.       44.       85.       41.    650.20
      .92       .84      2.12       .88      .080      .055      .080      .052   646.90    120.00
  .000596      110.      110.      110.         2         0         0      0.00   256.00    376.00

CCHV=    .150 CEHV=    .350
*SECNO 9.200
3280 CROSS SECTION       9.20 EXTENDED       1.97 FEET

     9.20      6.96    654.86      0.00      0.00    655.08       .22       .83       .06    652.80
     850.      204.      646.        0.      131.      154.        0.       94.       44.    653.40
      .97      1.56      4.18      0.00      .080      .055      .080      .053   647.90    375.00
  .003373      700.      700.      700.         2         0         0      0.00   107.00    482.00

CCHV=    .350 CEHV=    .650
*SECNO 8.980
3280 CROSS SECTION       8.98 EXTENDED       1.08 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      657.00 ELREA=      657.00

        ** D/S FACE JOHN R

     8.98      6.88    655.18      0.00      0.00    655.49       .31       .35       .06    648.30
     850.        0.      850.        0.        0.      191.        0.       94.       45.    648.30
      .98      0.00      4.45      0.00      .080      .055      .080      .053   648.30    414.25
  .002161      131.      131.      131.         2         0         0      0.00    27.75    442.00
```

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.85 | 2.60 | 150.00 | 29.00 | 0.00 | 168.20 | 0.00 | 648.30 | 648.30 |

*SECNO 9.020
3280 CROSS SECTION 9.02 EXTENDED 1.32 FEET

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 655.91 | 655.51 | 0.00 | 0. | 850. | 168. | 168. | 654.10 | 657.40 |

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.40 ELREA= 657.40

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.02 | 7.32 | 655.62 | 0.00 | 0.00 | 655.91 | .29 | .43 | 0.00 | 649.90 |
| 850. | 0. | 850. | 0. | 0. | 195. | 0. | 95. | 45. | 649.90 |
| .99 | 0.00 | 4.35 | 0.00 | .080 | .055 | .080 | .053 | 648.30 | 475.00 |
| .002494 | 59. | 59. | 59. | 2 | 0 | 0 | 0.00 | 27.00 | 502.00 |

*SECNO 9.800
3280 CROSS SECTION 9.80 EXTENDED 1.46 FEET

| SECNO<br>Q<br>TIME<br>SLOPE | DEPTH<br>QLOB<br>VLOB<br>XLOBL | CWSEL<br>QCH<br>VCH<br>XLCH | CRITS<br>QROB<br>VROB<br>XLOBR | WSELK<br>ALOB<br>XNL<br>ITRIAL | EG<br>ACH<br>XNCH<br>IDC | HV<br>AROB<br>XNR<br>ICONT | HL<br>VOL<br>WTN<br>CORAR | OLOSS<br>TWA<br>ELMIN<br>TOPWID | BANK ELEV<br>LEFT/RIGHT<br>SSTA<br>ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 9.80 | 7.46 | 656.06 | 0.00 | 0.00 | 656.08 | .02 | .07 | .10 | 650.20 |
| 850. | 309. | 262. | 279. | 382. | 165. | 319. | 96. | 45. | 650.20 |
| 1.02 | .81 | 1.59 | .87 | .080 | .055 | .080 | .053 | 648.60 | 400.00 |
| .000270 | 110. | 110. | 110. | 2 | 0 | 0 | 0.00 | 207.19 | 607.19 |

CCHV= .150 CEHV= .350
*SECNO 9.900

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.90 | 7.06 | 656.16 | 0.00 | 0.00 | 656.18 | .02 | .10 | .00 | 650.20 |
| 850. | 293. | 354. | 203. | 330. | 212. | 236. | 104. | 47. | 650.20 |
| 1.12 | .89 | 1.67 | .86 | .065 | .045 | .065 | .052 | 649.10 | 348.63 |
| .000206 | 445. | 445. | 445. | 2 | 0 | 0 | 0.00 | 196.49 | 545.12 |

*SECNO 10.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.00 | 6.56 | 656.26 | 0.00 | 0.00 | 656.29 | .03 | .11 | .00 | 650.80 |
| 850. | 285. | 369. | 196. | 289. | 196. | 202. | 112. | 49. | 650.80 |
| 1.21 | .99 | 1.88 | .97 | .065 | .045 | .065 | .052 | 649.70 | 357.14 |
| .000290 | 455. | 455. | 455. | 0 | 0 | 0 | 0.00 | 178.15 | 535.30 |

*SECNO 10.050

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.05 | 5.97 | 656.47 | 0.00 | 0.00 | 656.51 | .04 | .21 | .00 | 651.60 |

```
     850.      277.      387.      186.      243.      177.      166.      121.       51.    651.60
     1.31      1.14      2.18      1.12      .065      .045      .065      .052   650.50   364.26
 .000448      595.      595.      595.         2         0         0      0.00   159.06   523.32

*SECNC 10.060

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.00 MAX ELLC=  654.20

        ** D/S FACE FOOTBRIDGE

    10.06      5.93    656.43      0.00      0.00    656.53       .10       .00       .02    651.60
     850.      251.      380.      219.      151.      118.      101.      121.       51.    651.60
     1.31      1.67      3.21      2.16      .065      .045      .065      .052   650.50   364.62
 .007149        1.        1.        1.         2         0         0   -210.04   157.97   522.58

*SECNC 10.070
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID     ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  656.00 MAX ELLC=  654.20

    10.07      5.96    656.46      0.00      0.00    656.56       .10       .03       .00    651.60
     850.      252.      378.      220.      152.      119.      103.      121.       51.    651.60
     1.31      1.65      3.18      2.15      .065      .045      .065      .052   650.50   364.40
 .006952        4.        4.        4.         1         0         0   -210.24   158.64   523.03

*SECNC 10.100
    10.10      6.03    656.53      0.00      0.00    656.57       .04       .00       .01    651.60
     850.      278.      385.      187.      247.      179.      170.      121.       51.    651.60
     1.31      1.12      2.15      1.11      .065      .045      .065      .052   650.50   363.66
 .000428        1.        1.        1.         2         0         0      0.00   160.89   524.55

*SECNC 10.500
    10.50      5.16    656.86      0.00      0.00    656.93       .07       .35       .01    652.80
     850.      265.      410.      175.      186.      151.      126.      128.       53.    652.80
     1.39      1.42      2.71      1.39      .065      .045      .065      .051   651.70   372.19
 .000851      595.      595.      595.         3         0         0      0.00   144.33   516.51

*SECNC 10.700
    10.70      4.84    657.14      0.00      0.00    657.41       .27       .41       .07    658.60
     850.        0.      850.        0.        0.      205.        0.      130.       54.    658.20
     1.41      0.00      4.14      0.00      .085      .055      .085      .051   652.30   180.31
 .006099      227.      227.      227.         2         0         0      0.00    73.82   254.13

*SECNC 11.000
    11.00      5.79    658.49      0.00      0.00    658.55       .46      1.48       .07    659.80
     850.        0.      850.        0.        0.      156.        0.      131.       54.    658.60
     1.42      0.00      5.45      0.00      .085      .055      .085      .051   652.70   197.05
 .006923      228.      228.      228.         2         0         0      0.00    38.75   235.80
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*SECNC 11.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

    11.20      6.98    661.28      0.00      0.00    661.53       .25      2.54       .03    661.40
     850.        0.      831.       19.        0.      206.       31.      133.       55.     660.20
     1.46      0.00      4.04       .61      .085      .055      .085      .052    654.30    189.19
  .003357      545.      545.      545.         1         0         0      0.00    123.27    312.46

*SECNC 11.800
3280 CROSS SECTION      11.80 EXTENDED        .96 FEET

    11.80      6.45    662.45      0.00      0.00    662.53       .08       .97       .03    660.70
     850.        50.      800.        0.       78.      347.        0.      137.       57.     661.50
     1.53       .64      2.30      0.00      .085      .055      .085      .052    656.00    204.00
  .001091      550.      550.      550.         3         0         0      0.00    150.00    354.00

*SECNC 12.000
3280 CROSS SECTION      12.00 EXTENDED        .09 FEET

    12.00      5.59    663.29      0.00      0.00    663.44       .14       .88       .02    662.40
     850.        10.      840.        0.       20.      276.        0.      142.       59.     663.20
     1.58       .49      3.04      0.00      .085      .055      .085      .052    657.70    214.10
  .002541      555.      555.      555.         2         0         0      0.00    139.90    354.00

*SECNC 12.200
3280 CROSS SECTION      12.20 EXTENDED        .31 FEET

    12.20      5.81    664.21      0.00      0.00    664.33       .12       .89       .00    663.10
     850.        18.      832.        0.       34.      294.        0.      145.       60.     663.90
     1.62       .53      2.83      0.00      .085      .055      .085      .052    658.40    204.00
  .002028      395.      395.      395.         2         0         0      0.00    150.00    354.00

*SECNC 12.800
    12.80      6.07    665.37      0.00      0.00    665.60       .23      1.23       .04    665.40
     850.         0.      850.        0.        0.      220.        0.      148.       61.     665.50
     1.65      0.00      3.86      0.00      .090      .055      .090      .052    659.30    140.15
  .003862      450.      450.      450.         2         0         0      0.00     61.66    201.81

*SECNC 13.000
3280 CROSS SECTION      13.00 EXTENDED        .27 FEET

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

```
    13.00      7.07   667.27      0.00      0.00   667.62       .35      1.98       .04   666.30
     850.       13.     818.       18.       20.     170.       27.     150.       62.    666.40
     1.68       .66     4.82       .68      .090     .055      .090     .052   660.20   100.00
  .004928      455.     455.      455.         2        0         0     0.00   158.00   258.00

*SECNC 13.200
3280 CROSS SECTION      13.20 EXTENDED        .52 FEET

    13.20      7.32   668.62      0.00      0.00   668.90       .28      1.27       .01   667.40
     850.       25.     791.       34.       33.     180.       43.     151.       63.    667.50
     1.70       .77     4.40       .79      .090     .055      .090     .052   661.30   100.00
  .003807      295.     295.      295.         2        0         0     0.00   158.00   258.00

*SECNC 13.800
3280 CROSS SECTION      13.80 EXTENDED       1.27 FEET

    13.80      7.37   669.87      0.00      0.00   670.03       .16      1.11       .02   667.60
     850.       74.     625.      150.       55.     170.      142.     154.       65.    668.00
     1.73      1.36     3.68      1.06      .090     .055      .090     .052   662.50   131.33
  .002695      350.     350.      350.         2        0         0     0.00   168.67   300.00

*SECNC 14.200
3280 CROSS SECTION      14.20 EXTENDED        .99 FEET

    14.20      7.09   670.99      0.00      0.00   671.24       .25      1.18       .03   669.00
     850.       74.     702.       74.       47.     159.       64.     156.       66.    669.40
     1.76      1.58     4.40      1.15      .090     .055      .090     .052   663.90   134.00
  .004206      355.     355.      355.         2        0         0     0.00   121.00   255.00

CCHV=     .200 CEHV=     .400
*SECNC 13.980
3280 CROSS SECTION      13.98 EXTENDED        .72 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.90 ELREA=      671.90

        ** D/S FACE PRIVATE DRIVE

    13.98      6.92   671.72      0.00      0.00   672.28       .56       .92       .12   668.70
     850.        0.     850.        0.        0.     142.        0.     157.       66.    670.30
     1.76      0.00     5.99      0.00      .090     .055      .090     .052   664.80   174.00
  .006232      181.     181.      181.         2        0         0     0.00    24.00   198.00


SPECIAL BRIDGE

SB  XK         XKCR       COFQ      KDLEN      BWC       BWP       BAREA      SS        ELCHU     ELCHD
     0.00       1.45       2.80     200.00     14.00      0.00      99.40     0.00     664.80    664.80

*SECNC 14.020
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
```

```
   Q        QLCB     QCH      QRCB     ALCB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VRCB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLCBR    ITRIAL   IDC      ICCNT    CORAR    TOPWID     ENDST

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3       QWEIR      CPR       BAREA   TRAPEZOID      ELLC     ELTRD
                                                             AREA
   673.37    672.25    0.00       14.      828.       99.       83.       670.70    673.20


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      673.20 ELREA=      673.20

    14.02     8.13   672.93     0.00     0.00   673.29      .36     1.00     0.00   669.30
     850.      0.     850.      0.       0.     177.       0.     157.      66.    669.60
     1.77     0.00    4.81     0.00     .090     .055     .090     .052   664.80   224.00
  .003252      9.      9.       9.        6        0        0     0.00    26.00   250.00

*SECNO 14.100
3280 CROSS SECTION     14.10 EXTENDED       .01 FEET

    14.10     8.51   673.41     0.00     0.00   673.58      .17      .25      .04   669.40
     850.      12.    633.      206.      12.     169.     182.     158.      67.    669.70
     1.78      .97    3.75     1.13     .090     .055     .090     .052   664.90   218.00
  .001733     110.    110.      110.       2        0        0     0.00   204.00   422.00

CCHV=    .150 CEHV=    .350
*SECNO 14.500
3280 CROSS SECTION     14.50 EXTENDED       .21 FEET

    14.50     8.71   673.81     0.00     0.00   673.96      .14      .37      .00   669.60
     850.      12.    612.      226.      13.     174.     217.     160.      68.    669.90
     1.80      .92    3.52     1.04     .090     .055     .090     .052   665.10   217.70
  .001465     235.    235.      235.       2        0        0     0.00   204.30   422.00

CCHV=    .300 CEHV=    .500
*SECNO 14.600
3280 CROSS SECTION     14.60 EXTENDED       .66 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      675.50 ELREA=      675.50

    14.60     9.16   674.16     0.00     0.00   674.25      .08      .28      .02   669.50
     850.      0.     850.      0.       0.     364.       0.     162.      68.    673.00
     1.82     0.00    2.34     0.00     .090     .055     .090     .052   665.00   224.00
  .001138     215.    215.      215.       0        0        0     0.00    84.00   308.00

*SECNO 14.980
3280 CROSS SECTION     14.98 EXTENDED      1.24 FEET
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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 675.50 ELREA= 675.50

** D/S FACE ROCHESTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14.99 | 9.24 | 674.24 | 0.00 | 0.00 | 674.47 | .24 | .15 | .08 | 666.90 |
| 850. | 0. | 850. | 0. | 0. | 218. | 0. | 163. | 68. | 666.90 |
| 1.83 | 0.00 | 3.90 | 0.00 | .090 | .055 | .090 | .052 | 665.00 | 225.00 |
| .001629 | 110. | 110. | 110. | 2 | 0 | 0 | 0.00 | 24.00 | 249.00 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.60 | 2.70 | 200.00 | 20.00 | 0.00 | 152.00 | 0.00 | 665.00 | 665.00 |

*SECNO 15.020
3280 CROSS SECTION 15.02 EXTENDED 1.81 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRC |
|---|---|---|---|---|---|---|---|---|
| 675.01 | 674.47 | 0.00 | 0. | 850. | 152. | 152. | 672.60 | 676.60 |

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 677.00 ELREA= 677.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15.02 | 9.81 | 674.81 | 0.00 | 0.00 | 675.01 | .21 | .54 | 0.00 | 666.90 |
| 850. | 0. | 850. | 0. | 0. | 232. | 0. | 163. | 69. | 666.90 |
| 1.84 | 0.00 | 3.67 | 0.00 | .090 | .055 | .090 | .052 | 665.00 | 225.00 |
| .001361 | 45. | 45. | 45. | 2 | 0 | 0 | 0.00 | 24.00 | 249.00 |

*SECNO 15.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15.80 | 9.82 | 675.12 | 0.00 | 0.00 | 675.20 | .07 | .14 | .04 | 675.80 |
| 850. | 0. | 850. | 0. | 0. | 387. | 0. | 164. | 69. | 674.80 |
| 1.85 | 0.00 | 2.19 | .15 | .090 | .055 | .090 | .052 | 665.30 | 233.38 |
| .000929 | 130. | 130. | 130. | 2 | 0 | 0 | 0.00 | 88.02 | 321.39 |

CCHV= .150 CEHV= .350
*SECNO 16.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 16.20 | 9.30 | 675.40 | 0.00 | 0.00 | 675.49 | .10 | .29 | .01 | 678.40 |
| 850. | 0. | 850. | 0. | 0. | 343. | 0. | 166. | 69. | 678.60 |
| 1.88 | 0.00 | 2.48 | 0.00 | .090 | .055 | .090 | .052 | 666.10 | 143.39 |
| .001210 | 270. | 270. | 270. | 2 | 0 | 0 | 0.00 | 77.57 | 220.95 |

*SECNO 16.300

```
    16.30      8.73    675.53      0.00      0.00    675.65       .12       .15       .01    679.10
     850.        C.     850.        C.        C.     301.        0.      167.       69.     679.30
     1.89      0.00      2.83      0.00      .090      .055      .090      .052    666.80    145.88
  .001744      105.      105.      105.         2         0         0      0.00     73.11    219.00

CCHV=     .350 CEHV=     .550
*SECNC 15.980

3301 HV CHANGED MORE THAN HVINS


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.50 ELREA=      680.50

         ** D/S FACE PRIVATE ROAD ON GOLF COURSE

    15.98      8.20    675.60      0.00      0.00    676.28       .68       .32       .31    670.20
     850.        0.     850.        0.        C.     128.        0.      167.       69.     670.10
     1.90      0.00      6.62      0.00      .090      .055      .090      .052    667.40    175.00
  .006810      105.      105.      105.         2         0         0      0.00     16.00    191.00


SPECIAL BRIDGE

SB  XK         XKCR       CCFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.9C       2.90       0.00      11.C0       0.00     110.00      0.00      667.40     667.40

*SECNC 16.020
   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

PRESSURE FLOW

 EGPRS      EGLWC      H3         QWEIR      QPR        BAREA    TRAPEZOID      ELLC       ELTRD
                                                                   AREA
   677.36     676.20      0.00         0.       850.       110.       73.      674.0C     681.9C


3495 OVERBANK AREA ASSUMED NCN-EFFECTIVE,ELLEA=      681.90 ELREA=      683.20

    16.02      9.52    676.92      C.C0      C.C0    677.36       .44      1.C8      0.00    669.40
     850.        0.     850.        0.        0.     159.        0.      168.       70.     669.40
     1.90      0.00      5.35      C.C0      .09C      .055      .090      .052    667.40    233.00
  .C03584       40.       40.       40.         2         0         0      0.00     17.00    25C.0C


*SECNC 16.800
    16.80      9.57    677.57      0.00      0.00    677.64       .07       .14       .13    679.4C
     850.        0.     850.        0.        0.     402.        0.      168.       70.     679.00
     1.91      0.00      2.12      0.00      .09C      .C55      .090      .053    668.00    206.11
  .000651      11C.      110.      110.         2         0         0      0.00     71.28    277.39

CCHV=     .150 CEHV=     .350
```

14'x 10'8" CMP (use 14'2" x 9'10")
A=115sft
ELLC ≈677.4 ⇒ flow partly full

hand comps indicate 677.4
looks appears Reasonable ✓

```
*SECNO 16.850
    16.85      9.17    677.77      0.00      0.00    677.85       .08       .22       .00    680.00
     850.        0.     850.        0.        0.     374.        0.      171.       70.     679.60
     1.95      0.00      2.27      0.00      .090      .055      .090      .053    668.60    207.42
  .000793      300.      300.      300.         2         0         0      0.00     69.26    276.68

*SECNO 16.860

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.30

        ** D/S FACE FOOTBRIDGE ON GOLF COURSE

    16.86      9.13    677.73      0.00      0.00    677.88       .16       .00       .03    680.00
     850.        0.     850.        0.        0.     268.        0.      171.       70.     679.60
     1.95      0.00      3.17      0.00      .090      .055      .090      .053    668.60    207.58
  .007943        1.        1.        1.         2         0         0   -103.16     69.02    276.59

*SECNO 16.870

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.30

    16.87      9.20    677.80      0.00      0.00    677.95       .15       .07       .00    680.00
     850.        0.     850.        0.        0.     273.        0.      171.       70.     679.60
     1.95      0.00      3.11      0.00      .090      .055      .090      .053    668.60    207.32
  .007480        9.        9.        9.         2         0         0   -103.30     69.41    276.73

*SECNO 16.880
    SECNO     DEPTH    CVSEL     CRIWS     WSELK        EG        HV        HL     OLOSS   BANK ELEV
    Q         QLOB     QCH       QRCB      ALCB       ACH       ARCB      VOL       TWA   LEFT/RIGHT
    TIME      VLCB     VCH       VRCB      XNL        XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLCBL    XLCH      XLCBR     ITRIAL     ICC       ICCNT     CORAR     TOPWID     ENDST

    16.88      9.29    677.89      0.00      0.00    677.97       .08       .00       .01    680.00
     850.        0.     850.        0.        0.     382.        0.      171.       70.     679.60
     1.95      0.00      2.22      0.00      .090      .055      .090      .053    668.60    207.04
  .000748        1.        1.        1.         2         0         0      0.00     69.85    276.89

*SECNO 16.950
    16.95      9.10    678.00      0.00      0.00    678.08       .08       .11       .00    680.30
     850.        0.     850.        0.        0.     369.        0.      172.       70.     679.90
     1.97      0.00      2.31      0.00      .090      .055      .090      .053    668.90    207.69
  .000827      140.      140.      140.         2         0         0      0.00     68.84    276.53

*SECNO 16.960

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  676.20 MAX ELLC=  674.40

        ** D/S FACE FOOTBRIDGE ON GOLF COURSE

    16.96      9.05    677.95      0.00      0.00    678.11       .16       .00       .03    680.30
     850.        0.     850.        0.        0.     268.        0.      172.       70.     679.90
     1.97      0.00      3.17      0.00      .090      .055      .090      .053    668.90    207.83
  .007842        1.        1.        1.         2         0         0    -97.61     68.62    276.45
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*SECNO 16.970

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  676.20 MAX ELLC=  674.40

    16.97      9.12    678.02      0.00      0.00    678.18       .15       .07       .00    680.30
     850.        0.      850.        0.        0.      273.        0.      172.       70.    679.90
     1.97      0.00      3.11      0.00      .090      .055      .090      .053    668.90    207.58
  .007393        9.        9.        9.         2         0         0    -97.73     69.01    276.59


*SECNO 16.980
    16.98      9.21    678.11      0.00      0.00    678.19       .08       .00       .01    680.30
     850.        0.      850.        0.        0.      377.        0.      172.       70.    679.90
     1.97      0.00      2.26      0.00      .090      .055      .090      .053    668.90    207.30
  .000779        1.        1.        1.         2         0         0      0.00     69.44    276.74


*SECNO 17.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


    17.00      8.97    678.27      0.00      0.00    678.30       .03       .11       .01    673.00
     850.      373.      463.       14.      523.      256.       45.      175.       71.    676.30
     2.01       .71      1.81       .31      .090      .055      .090      .053    669.30     28.75
  .000356      215.      215.      215.         2         0         0      0.00    244.54    273.28


*SECNO 17.200
    17.20      8.69    678.29      0.00      0.00    678.33       .04       .02       .00    673.30
     850.      360.      480.       10.      478.      246.       33.      176.       71.    676.60
     2.02       .75      1.95       .31      .090      .055      .090      .053    669.60     30.95
  .000436       50.       50.       50.         1         0         0      0.00    235.97    266.92


*SECNO 17.220

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10

        ** D/S FACE FOOTBRIDGE ON GOLFCOURSE-ELTRD LOWERED-BRIDGE KEPT IN BANKS

    17.22      8.70    678.30      0.00      0.00    678.33       .03       .00       .00    673.30
     850.      512.      320.       18.      427.      190.       33.      176.       71.    676.60
     2.02      1.20      1.69       .54      .090      .055      .090      .053    669.60     31.00
  .001348        1.        1.        1.         0         0         0   -105.50    235.78    266.78


*SECNO 17.230

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10

    17.23      8.71    678.31      0.00      0.00    678.34       .03       .01       .00    673.30
     850.      513.      319.       18.      430.      191.       33.      176.       71.    676.60
     2.03      1.19      1.68       .54      .090      .055      .090      .053    669.60     30.87
  .001326        9.        9.        9.         0         0         0   -105.50    236.29    267.16
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*SECNO 17.250
    17.25      8.71    678.31      0.00      0.00    678.34       .04       .00       .00    673.30
     850.      361.     479.       10.      480.      247.       34.      176.       71.     676.60
     2.03       .75     1.94       .31      .090      .055      .090      .053    669.60     30.82
  .000431        1.       1.        1.         0         0         0      0.00    236.47    267.29

*SECNO 17.300
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

    17.30      8.84    678.44      0.00      0.00    678.48       .03       .14       .00    673.30
     850.      367.     471.       12.      502.      252.       39.      182.       73.     676.60
     2.09       .73     1.87       .31      .090      .055      .090      .053    669.60     29.76
  .000390      330.     330.      330.         2         0         0      0.00    240.59    270.35

*SECNO 17.320

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10

        ** D/S FACE FOOTBRIDGE ON GOLFCOURSE-ELTRD LOWERED-BRIDGE KEPT IN BANKS

    17.32      8.85    678.45      0.00      0.00    678.48       .03       .00       .00    673.30
     850.      518.     311.       21.      452.      196.       39.      182.       73.     676.60
     2.09      1.15     1.59       .53      .090      .055      .090      .053    669.60     29.76
  .001153        1.       1.        1.         0         0         0   -105.50    240.60    270.36

*SECNO 17.330

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  675.00 MAX ELLC=  673.10

    17.33      8.86    678.46      0.00      0.00    678.49       .03       .01       .00    673.30
     850.      519.     310.       21.      455.      196.       40.      182.       73.     676.60
     2.10      1.14     1.58       .53      .090      .055      .090      .053    669.60     29.64
  .001136        9.       9.        9.         0         0         0   -105.50    241.07    270.71

*SECNO 17.350
    17.35      8.86    678.46      0.00      0.00    678.49       .03       .00       .00    673.30
     850.      368.     470.       12.      505.      252.       40.      182.       73.     676.60
     2.10       .73     1.86       .31      .090      .055      .090      .053    669.60     29.60
  .000384        1.       1.        1.         0         0         0      0.00    241.22    270.82

*SECNO 18.200
    18.20      7.20    678.60      0.00      0.00    678.86       .25       .29       .08    680.20
     850.        0.     846.        4.        0.      209.        9.      187.       75.     677.90
     2.12      0.00     4.06       .43      .090      .055      .090      .053    671.40     42.66
  .002770      350.     350.      350.         2         0         0      0.00     63.90    106.56

CCHV=    .300 CEHV=    .500
*SECNO 18.280
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
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```
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.50 ELREA=      680.50

    18.28     7.95    679.15      0.00      0.00    679.57       .42       .63       .08    671.20
     660.       0.      660.       0.        0.      127.        0.      187.       75.     671.20
     2.13     0.00      5.19      0.00      .090      .055      .090      .053    671.20     56.00
  .002693     230.      230.      230.         2         0         0      0.00     16.00     72.00

*SECNC 18.290

3370 NORMAL BRIDGE,NRC=   0 MIN ELTRD=  682.30 MAX ELLC=  680.20

        ** D/S FACE FOOTBRIDGE

    18.29     7.85    679.05      0.00      0.00    679.67       .62       .00       .10    680.20
     660.       0.      660.       0.        0.      105.        0.      187.       75.     680.20
     2.13     0.00      6.31      0.00      .090      .030      .090      .053    671.20     62.33
  .002614       1.        1.        1.         2         0         0      0.00     15.34     77.67

*SECNC 18.310

3370 NORMAL BRIDGE,NRC=   0 MIN ELTRD=  682.30 MAX ELLC=  680.20

    18.31     7.88    679.08      0.00      0.00    679.70       .61       .02       .00    680.20
     660.       0.      660.       0.        0.      105.        0.      187.       75.     680.20
     2.13     0.00      6.29      0.00      .090      .030      .090      .053    671.20     62.33
  .002590       9.        9.        9.         0         0         0      0.00     15.34     77.67

*SECNC 18.320

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      682.30 ELREA=      682.30

    18.32     7.94    679.14      0.00      0.00    679.75       .60       .05       .00    680.20
     660.       0.      660.       0.        0.      106.        0.      187.       75.     680.20
     2.13     0.00      6.23      0.00      .090      .055      .090      .053    671.20     62.33
  .008480      11.       11.       11.         2         0         0      0.00     15.35     77.67

*SECNC 18.400

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      685.20 ELREA=      685.20

    18.40     8.22    679.82      0.00      0.00    679.92       .11       .03       .15    680.40
     660.       0.      660.       0.        0.      253.        0.      188.       75.     678.10
     2.14     0.00      2.61      0.00      .090      .055      .090      .053    671.60     40.97
  .000945      14.       14.       14.         2         0         0      0.00     41.03     82.00

*SECNC 17.980
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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(135 x 5'11") A = 175 ft²

looks appears reasonable

.55 x .5 = .275 + .02 = .295 ≈ .3 ft

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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      685.20 ELREA=      685.20

    17.98      7.65    679.75      0.00      0.00    680.04       .29       .02       .09    672.50
     660.        0.      660.        0.        0.     152.        0.      188.       75.     672.50
     2.14      0.00      4.34      0.00      .090      .055      .090      .053    672.10     54.00
  .002437       15.       15.       15.         2         0         0      0.00     20.00     74.00

*SECNO 17.990

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.20 MAX ELLC=  682.30

         ** D/S FACE ROCHESTER RD

    17.99      7.59    679.69      0.00      0.00    680.10       .41       .00       .06    682.30
     660.        0.      660.        0.        0.     128.        0.      188.       75.     682.30
     2.14      0.00      5.15      0.00      .090      .025      .090      .053    672.10       .03
  .001182        1.        1.        1.         2         0         0      0.00     16.95     16.97

*SECNO 18.010

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.20 MAX ELLC=  682.30

    18.01      7.65    679.75      0.00      0.00    680.15       .41       .05       .00    682.30
     660.        0.      660.        0.        0.     129.        0.      188.       75.     682.30
     2.14      0.00      5.11      0.00      .090      .025      .090      .053    672.10       .02
  .001153       43.       43.       43.         1         0         0      0.00     16.95     16.98

*SECNO 18.020

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      685.20 ELREA=      685.20

    18.02      7.76    679.86      0.00      0.00    680.18       .32       .00       .03    674.50
     660.        0.      660.        0.        0.     145.        0.      188.       75.     674.50
     2.14      0.00      4.55      0.00      .090      .055      .090      .053    672.10    338.00
  .003079        1.        1.        1.         2         0         0      0.00     19.00    357.00

*SECNO 18.800
    18.80      8.92    680.22      0.00      0.00    680.43       .21       .21       .03    689.40
     660.        0.      660.        0.        0.     180.        0.      188.       75.     683.80
     2.14      0.00      3.67      0.00      .090      .055      .090      .053    671.30    328.20
  .002327       80.       80.       80.         2         0         0      0.00     32.49    360.69

CCHV=     .150 CEHV=     .350
*SECNO 19.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST

    19.20      7.54    680.64      0.00      0.00    680.66       .02       .20       .03    675.00
     660.      238.      393.       29.      380.      290.       63.      193.       76.     674.70
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    2.26      .63     1.36      .45      .090      .055      .090      .053   673.10   179.12
 .000183     450.     450.     450.         2         0         0      0.00   150.27   329.39

*SECNO 19.300
3280 CROSS SECTION      19.30 EXTENDED       4.67 FEET

   19.30     7.17   680.67     0.00     0.00   680.70       .03       .04       .00   675.40
    660.     179.     451.      30.     220.     276.       56.      195.       76.    675.10
    2.30      .82     1.64      .54     .090     .055      .090      .053   673.50   225.00
 .000285     160.     160.     160.        2        0         0      0.00   103.07   328.07

CCHV=    .400 CEHV=    .800
*SECNO 18.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      684.50 ELREA=      684.50

   18.98     6.96   680.66     0.00     0.00   681.09       .43       .08       .32   673.70
    660.       0.     660.       0.       0.     125.        0.      196.       76.    673.70
    2.30     0.00     5.27     0.00     .090     .055      .090      .053   673.70   284.00
 .003134     117.     117.     117.        2        0         0      0.00    18.00   302.00

*SECNO 18.990

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.40 MAX ELLC=  683.70

        ** D/S FACE SQUARE LAKE RD

   18.99     6.85   680.55     0.00     0.00   681.55      1.00       .00       .45   683.70
    660.       0.     660.       0.       0.     82.        0.      196.       76.    683.70
    2.30     0.00     8.01     0.00     .090     .030      .090      .053   673.70    92.05
 .004976       1.       1.       1.        2        0         0      0.00    15.90   107.95

*SECNO 19.010

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  685.40 MAX ELLC=  683.70

   19.01     7.29   680.99     0.00     0.00   681.84       .85       .23       .06   683.70
    660.       0.     660.       0.       0.     89.        0.      196.       76.    683.70
    2.30     0.00     7.38     0.00     .090     .030      .090      .053   673.70    92.05
 .003981      51.      51.      51.        2        0         0      0.00    15.91   107.95

*SECNO 19.020

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

17'x 0' (.15'/ft)

n=.05 S.C.

n=.047 ✓

```
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      685.40 ELREA=      685.40

    19.02      8.10    681.80      0.00      0.00    682.07       .27       .00       .23    676.80
     660.        0.      660.        0.        0.     159.        0.      196.       76.    676.80
     2.30      0.00      4.15      0.00      .090      .055      .090      .053    673.70    197.00
  .002483        1.        1.        1.         2         0         0      0.00     20.00    217.00

*SECNO 19.800
    19.80      9.50    682.10      0.00      0.00    682.26       .16       .15       .04    681.10
     660.       23.      621.       16.       34.     185.       33.      196.       77.    681.40
     2.31       .66      3.35       .49      .090      .055      .090      .053    672.60    155.11
  .001832       70.       70.       70.         2         0         0      0.00    128.97    284.08

CCHV=     .150 CEHV=     .350
*SECNO 19.900
    19.90      7.77    682.77      0.00      0.00    682.84       .06       .56       .02    680.00
     660.      204.      424.       33.      232.     173.       61.      200.       78.    680.40
     2.38       .88      2.45       .54      .090      .055      .090      .053    675.00     89.00
  .000838      470.      470.      470.         2         0         0      0.00    188.10    277.10

*SECNO 19.920

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  680.20 MAX ELLC=  679.50

        ** D/S FACE FOOTBRIDGE
    19.92      7.80    682.80      0.00      0.00    682.84       .04       .00       .00    680.00
     660.      292.      314.       54.      218.     157.       62.      200.       78.    680.40
     2.38      1.34      1.99       .87      .090      .055      .090      .053    675.00     88.69
  .002133        1.        1.        1.         2         0         0    -32.80    189.24    277.93

*SECNO 19.930

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  680.20 MAX ELLC=  679.50

    19.93      7.81    682.81      0.00      0.00    682.85       .04       .01       .00    680.00
     660.      292.      313.       54.      219.     158.       63.      200.       78.    680.40
     2.38      1.34      1.99       .87      .090      .055      .090      .053    675.00     88.63
  .002119        4.        4.        4.         0         0         0    -32.80    189.48    278.11

*SECNO 19.950
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

    19.95      7.79    682.79      0.00      0.00    682.86       .06       .00       .01    680.00
     660.      205.      421.       34.      235.     174.       63.      200.       78.    680.40
     2.38       .87      2.43       .54      .090      .055      .090      .053    675.00     88.65
  .000815        1.        1.        1.         1         0         0      0.00    189.41    278.06

*SECNO 20.000
```

```
    20.00      6.94    682.94      0.00      0.00    683.07       .13       .19       .02    681.00
     660.      155.     492.       13.      152.      150.       22.      202.       79.     681.40
     2.40      1.02      3.29      .62      .090      .055      .090      .053    676.00     98.23
  .001828      160.      160.     160.         2         0         0      0.00    153.95    252.18

*SECNC 20.100
    20.10      7.00    683.10      0.00      0.00    683.22       .12       .15       .00    681.10
     660.      159.     486.       15.      157.      151.       24.      202.       79.     681.50
     2.41      1.01      3.22      .61      .090      .055      .090      .053    676.10     97.58
  .001725       85.       85.       85.         2         0         0      0.00    156.35    253.93

*SECNO 20.500
    20.50      7.32    684.12      0.00      0.00    684.36       .24      1.10       .04    682.00
     660.       11.     640.        9.       12.      159.       20.      205.       81.     683.40
     2.44       .92      4.01      .45      .090      .055      .090      .053    676.80    350.53
  .002914      500.      500.     500.         2         0         0      0.00     98.29    448.82

*SECNC 21.200
3280 CROSS SECTION      21.20 EXTENDED        .17 FEET

    21.20      7.77    684.97      0.00      0.00    685.15       .18       .78       .01    682.40
     660.       16.     615.       29.       18.      174.       51.      207.       82.     683.80
     2.47       .87      3.54      .57      .090      .055      .090      .053    677.20    348.09
  .002018      325.      325.     325.         2         0         0      0.00    121.91    470.00

CCFV=     .400 CEFV=     .800
*SECNO 20.980
3280 CROSS SECTION      20.98 EXTENDED       1.16 FEET

   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


        ** D/S FACE DIANE LANE

    20.98      8.75    685.25      0.00      0.00    685.33       .08       .13       .04    678.60
     660.       21.     558.       81.       39.      234.      152.      208.       82.     678.60
     2.49       .53      2.38      .54      .090      .055      .090      .053    676.50    342.78
  .000494      150.      150.     150.         2         0         0      0.00    132.22    475.00

SPECIAL BRIDGE

SB  XK         XKCR       COFQ      RDLEN      BWC       BWP       BAREA      SS        ELCHU     ELCHD
     0.00       2.45       2.80    125.00     17.30      0.00      95.00     0.00     676.50    676.50

*SECNC 21.020
3280 CROSS SECTION      21.02 EXTENDED        .60 FEET

PRESSURE AND WEIR FLOW
```

| EGPRS | EGLWC | H3 | CWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 687.09 | 685.33 | 0.00 | 280. | 381. | 95. | 95. | 682.00 | 685.00 |

102 45

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.02 | 9.30 | 685.80 | 0.00 | 0.00 | 685.87 | .07 | .54 | 0.00 | 679.30 |
| 660. | 32. | 595. | 32. | 63. | 272. | 62. | 209. | 82. | 679.30 |
| 2.50 | .51 | 2.19 | .52 | .090 | .055 | .090 | .053 | 676.50 | 322.00 |
| .000387 | 60. | 60. | 60. | 2 | 0 | 3 | 0.00 | 125.00 | 447.00 |

Channel flow [illegible] on right

*SECNO 21.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.80 | 8.62 | 685.82 | 0.00 | 0.00 | 685.93 | .11 | .03 | .03 | 687.00 |
| 660. | 0. | 660. | 0. | 0. | 252. | 0. | 209. | 82. | 687.70 |
| 2.50 | 0.00 | 2.61 | 0.00 | .090 | .055 | .090 | .053 | 677.20 | 356.37 |
| .001257 | 50. | 50. | 50. | 0 | 0 | 0 | 0.00 | 52.70 | 409.07 |

CCHV= .150 CEHV= .350

*SECNO 21.850

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.85 | 8.69 | 686.59 | 0.00 | 0.00 | 686.69 | .10 | .76 | .00 | 687.70 |
| 660. | 0. | 660. | 0. | 0. | 256. | 0. | 213. | 83. | 688.40 |
| 2.57 | 0.00 | 2.58 | 0.00 | .090 | .055 | .090 | .053 | 677.90 | 356.14 |
| .001213 | 615. | 615. | 615. | 2 | 0 | 0 | 0.00 | 53.03 | 409.17 |

*SECNO 21.900

3280 CROSS SECTION 21.90 EXTENDED 3.45 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.90 | 8.15 | 686.75 | 0.00 | 0.00 | 686.75 | .00 | .05 | .02 | 682.50 |
| 660. | 129. | 109. | 422. | 566. | 215. | 1541. | 228. | 86. | 683.30 |
| 3.03 | .23 | .51 | .27 | .090 | .055 | .090 | .053 | 678.60 | 14.00 |
| .000032 | 500. | 500. | 500. | 2 | 0 | 0 | 0.00 | 486.00 | 500.00 |

→ 350 ←

Houses in LOB would force flow

See topo.

*SECNO 22.000

3280 CROSS SECTION 22.00 EXTENDED 2.77 FEET

| SECNO<br>Q<br>TIME<br>SLOPE | DEPTH<br>QLOB<br>VLOB<br>XLCBL | CWSEL<br>QCH<br>VCH<br>XLCH | CRIWS<br>QROB<br>VROB<br>XLCBR | WSELK<br>ALCB<br>XNL<br>ITRIAL | EG<br>ACH<br>XNCH<br>ICC | HV<br>ARCB<br>XNR<br>ICONT | HL<br>VOL<br>WTN<br>CORAR | OLOSS<br>TWA<br>ELMIN<br>TOPWID | BANK ELEV<br>LEFT/RIGHT<br>SSTA<br>ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 22.00 | 7.47 | 686.77 | 0.00 | 0.00 | 686.77 | .00 | .02 | .00 | 682.20 |
| 660. | 120. | 115. | 425. | 466. | 192. | 1333. | 250. | 91. | 684.00 |
| 3.37 | .26 | .60 | .32 | .090 | .055 | .090 | .053 | 679.30 | 14.00 |
| .000052 | 445. | 445. | 445. | 2 | 0 | 0 | 0.00 | 486.00 | 500.00 |

*SECNO 22.200

3280 CROSS SECTION 22.20 EXTENDED 1.93 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 22.20 | 6.63 | 686.83 | 0.00 | 0.00 | 686.84 | .01 | .07 | .00 | 684.10 |
| 910. | 144. | 174. | 592. | 342. | 164. | 1079. | 277. | 98. | 684.90 |
| 3.67 | .42 | 1.06 | .55 | .090 | .055 | .090 | .053 | 680.20 | 14.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .000201 | 665. | 665. | 665. | 2 | 0 | 0 | 0.00 | 486.00 | 500.00 |

*SECNC 22.800
3280 CROSS SECTION 22.80 EXTENDED 1.28 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 22.80 | 5.98 | 686.98 | 0.00 | 0.00 | 686.99 | .01 | .15 | .00 | 684.90 |
| 910. | 122. | 191. | 597. | 246. | 141. | 881. | 295. | 105. | 685.70 |
| 3.86 | .49 | 1.35 | .68 | .090 | .055 | .090 | .053 | 681.00 | 20.39 |
| .000395 | 550. | 550. | 550. | 2 | 0 | 0 | 0.00 | 479.61 | 500.00 |

*SECNC 23.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 23.20 | 5.42 | 687.42 | 0.00 | 0.00 | 687.64 | .23 | .58 | .08 | 692.10 |
| 910. | 0. | 681. | 229. | 0. | 160. | 102. | 306. | 109. | 683.70 |
| 3.91 | 0.00 | 4.25 | 2.24 | .090 | .055 | .090 | .053 | 682.00 | 333.19 |
| .003876 | 635. | 635. | 635. | 2 | 0 | 0 | 0.00 | 72.57 | 405.76 |

CCHV= .400 CEHV= .800
*SECNC 22.980

** D/S FACE LOVELL RD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 22.98 | 7.37 | 687.87 | 0.00 | 0.00 | 687.96 | .09 | .26 | .06 | 683.50 |
| 910. | 45. | 654. | 211. | 57. | 240. | 153. | 307. | 109. | 682.20 |
| 3.93 | .78 | 2.73 | 1.39 | .090 | .055 | .090 | .053 | 680.50 | 312.90 |
| .000805 | 170. | 170. | 170. | 2 | 0 | 0 | 0.00 | 90.04 | 402.93 |

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 3.30 | 2.80 | 0.00 | 18.04 | 0.00 | 90.20 | 0.00 | 680.50 | 680.50 |

*SECNC 23.020
3280 CROSS SECTION 23.02 EXTENDED 2.70 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNC | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | ENDST |

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 693.08 | 688.10 | 0.00 | 362. | 548. | 90. | 90. | 685.50 | 688.30 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 23.02 | 9.20 | 689.70 | 0.00 | 0.00 | 689.76 | .07 | 1.80 | 0.00 | 682.00 |
| 910. | 173. | 679. | 58. | 181. | 293. | 74. | 310. | 109. | 682.00 |
| 3.95 | .96 | 2.32 | .78 | .090 | .055 | .090 | .053 | 680.50 | 155.00 |
| .000410 | 177. | 177. | 177. | 2 | 0 | 4 | 0.00 | 88.24 | 243.24 |

```
*SECNO 23.800
    23.80      9.30    689.80      0.00      0.00    689.85       .05       .08       .01    684.80
     910.       76.      834.        0.      122.      440.        0.      312.      110.     690.0C
     3.98       .62      1.90      C.CO      .C90      .055      .C90      .053    680.50    127.24
  .000420      203.      203.      203.         1         0         0      0.00    116.28    243.53

CCHV=     .150 CEHV=     .350
*SECNC 23.900
    23.90      9.33    689.93      C.CO      C.CO    689.94       .02       .08       .01    689.50
     910.        0.      910.        C.        1.      86C.        0.      318.      111.     691.90
     4.C8       .C7      1.06      0.00      .090      .055      .090      .053    680.6C    373.43
  .000140      375.      375.      375.         2         0         C      0.00    147.89    521.32

*SECNC 24.000
    24.00      9.10    690.00      C.00      C.CO    69C.02       .02       .08       .00    689.80
     910.        0.      910.        0.        0.      829.        0.      328.      113.     692.2C
     4.22       .C4      1.10      C.00      .090      .055      .090      .053    680.90    376.88
  .000156      525.      525.      525.         2         0         0      0.00    143.23    52C.12

*SECNO 24.500
    24.50      8.11    690.11      0.00      0.CO    69C.14       .03       .11       .00    686.40
     910.       18.      445.      446.       43.      253.      489.      338.      115.     683.4C
     4.33       .43      1.76       .91      .C90      .055      .090      .053    682.00    275.06
  .000307      525.      525.      525.         2         0         0      0.00    184.45    459.50

*SECNO 25.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA   LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN      ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR    TOPWID      ENDST

    25.00      7.12    690.32      C.CO      0.00    69C.36       .05       .22       .01    687.60
     910.       11.      466.      433.       23.      22C.      387.      347.      117.     684.60
     4.42       .47      2.12      1.12      .090      .055      .090      .053    683.20    281.19
  .000541      55C.      550.      55C.         2         0         0      0.00    134.40    415.59
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON-RENSHAW DRAIN WEST

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 245.00 | 677.28 | 0.00 | 677.43 | 100.09 | 3.08 | 79.55 | 24.49 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 360.00 | 678.00 | 0.00 | 678.18 | 101.76 | 3.40 | 105.85 | 35.69 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 678.30 | 0.00 | 678.50 | 99.82 | 3.62 | 124.48 | 43.04 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 590.00 | 678.80 | 0.00 | 679.03 | 98.42 | 3.99 | 184.31 | 59.47 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 245.00 | 678.18 | 0.00 | 678.53 | 214.95 | 4.76 | 51.50 | 16.71 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 360.00 | 678.93 | 0.00 | 679.38 | 233.32 | 5.39 | 66.74 | 23.57 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.25 | 0.00 | 679.77 | 253.71 | 5.82 | 73.92 | 27.00 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 590.00 | 679.80 | 0.00 | 680.51 | 307.61 | 6.77 | 87.21 | 33.64 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 245.00 | 679.08 | 0.00 | 679.27 | 94.42 | 3.49 | 70.22 | 25.21 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 360.00 | 680.06 | 0.00 | 680.29 | 93.64 | 3.84 | 96.22 | 37.20 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 430.00 | 680.63 | 0.00 | 680.75 | 48.66 | 3.06 | 237.17 | 61.64 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 590.00 | 681.56 | 0.00 | 681.61 | 18.62 | 2.16 | 481.91 | 136.72 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 245.00 | 680.62 | 0.00 | 680.76 | 60.77 | 2.96 | 82.86 | 31.43 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 360.00 | 681.48 | 0.00 | 681.59 | 46.20 | 2.91 | 197.61 | 52.96 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.61 | 0.00 | 681.73 | 51.27 | 3.13 | 230.30 | 60.05 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 590.00 | 682.08 | 0.00 | 682.17 | 40.70 | 2.99 | 351.02 | 92.49 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 245.00 | 680.59 | 0.00 | 680.79 | 313.16 | 3.58 | 68.48 | 13.84 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 360.00 | 681.51 | 0.00 | 681.60 | 135.42 | 2.76 | 191.46 | 30.94 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.66 | 0.00 | 681.74 | 126.53 | 2.75 | 229.54 | 38.23 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 590.00 | 682.13 | 0.00 | 682.18 | 76.44 | 2.31 | 349.88 | 67.48 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 245.00 | 680.73 | 0.00 | 680.91 | 274.69 | 3.42 | 71.67 | 14.78 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 360.00 | 681.58 | 0.00 | 681.65 | 111.09 | 2.54 | 208.98 | 34.16 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.72 | 0.00 | 681.79 | 107.42 | 2.56 | 245.03 | 41.49 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 590.00 | 682.16 | 0.00 | 682.21 | 72.71 | 2.27 | 356.00 | 69.19 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 245.00 | 680.81 | 0.00 | 680.93 | 52.38 | 2.80 | 87.62 | 33.85 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 360.00 | 681.57 | 0.00 | 681.66 | 37.93 | 2.68 | 223.24 | 58.45 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.71 | 0.00 | 681.81 | 41.38 | 2.86 | 258.72 | 66.85 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 590.00 | 682.15 | 0.00 | 682.22 | 35.60 | 2.83 | 371.64 | 98.88 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 245.00 | 681.08 | 0.00 | 681.22 | 58.15 | 2.91 | 84.25 | 32.13 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 360.00 | 681.77 | 0.00 | 681.91 | 55.94 | 3.14 | 172.63 | 48.13 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 681.93 | 0.00 | 682.07 | 59.29 | 3.32 | 211.34 | 55.84 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 590.00 | 682.34 | 0.00 | 682.46 | 51.95 | 3.31 | 314.95 | 81.86 |

| SECND | XLCH | FLTRD | ELLC | ELMIN | Q | CWSEL | CRINS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 245.00 | 682.41 | 0.00 | 682.62 | 110.31 | 3.70 | 66.22 | 23.33 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 360.00 | 683.12 | 0.00 | 683.42 | 131.32 | 4.35 | 82.84 | 31.42 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.39 | 0.00 | 683.74 | 152.55 | 4.81 | 89.49 | 34.81 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 590.00 | 683.72 | 682.12 | 684.22 | 198.70 | 5.77 | 134.32 | 41.86 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 245.00 | 682.37 | 0.00 | 682.67 | 516.40 | 4.39 | 55.75 | 10.78 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 360.00 | 683.08 | 0.00 | 683.47 | 557.65 | 5.06 | 71.10 | 15.24 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.33 | 0.00 | 683.81 | 632.00 | 5.58 | 77.10 | 17.10 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 590.00 | 683.62 | 682.61 | 684.34 | 874.97 | 6.87 | 98.61 | 19.95 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 245.00 | 682.61 | 0.00 | 682.86 | 403.69 | 4.03 | 60.78 | 12.19 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 360.00 | 683.35 | 0.00 | 683.69 | 434.45 | 4.64 | 77.63 | 17.27 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.83 | 0.00 | 684.04 | 276.72 | 4.03 | 150.67 | 25.85 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 590.00 | 684.52 | 0.00 | 684.58 | 91.08 | 2.61 | 323.60 | 61.82 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 245.00 | 682.71 | 0.00 | 682.89 | 84.60 | 3.35 | 73.18 | 26.64 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 360.00 | 683.48 | 0.00 | 683.72 | 99.54 | 3.92 | 91.92 | 36.08 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.84 | 0.00 | 684.05 | 83.92 | 3.83 | 165.97 | 46.94 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 590.00 | 684.50 | 0.00 | 684.60 | 46.61 | 3.17 | 330.74 | 86.42 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 245.00 | 684.98 | 0.00 | 685.17 | 94.44 | 3.49 | 70.21 | 25.21 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 360.00 | 685.95 | 0.00 | 686.18 | 93.57 | 3.84 | 96.32 | 37.22 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.15 | 0.00 | 686.40 | 99.94 | 4.11 | 142.12 | 43.01 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 590.00 | 686.30 | 684.52 | 686.65 | 145.16 | 5.08 | 177.16 | 48.97 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 245.00 | 684.95 | 0.00 | 685.22 | 435.73 | 4.11 | 59.57 | 11.74 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 360.00 | 685.92 | 0.00 | 686.22 | 379.98 | 4.40 | 82.26 | 18.47 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.15 | 683.00 | 686.42 | 342.78 | 4.39 | 132.20 | 23.23 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 590.00 | 686.56 | 0.00 | 686.71 | 211.03 | 3.72 | 235.22 | 40.61 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 245.00 | 685.15 | 0.00 | 685.38 | 357.25 | 3.84 | 63.85 | 12.96 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 360.00 | 686.21 | 0.00 | 686.37 | 207.34 | 3.45 | 145.90 | 25.00 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.43 | 0.00 | 686.55 | 167.57 | 3.22 | 197.34 | 33.22 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 590.00 | 686.68 | 0.00 | 686.80 | 157.39 | 3.28 | 264.55 | 47.03 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 245.00 | 685.24 | 0.00 | 685.41 | 75.99 | 3.22 | 76.19 | 28.11 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 360.00 | 686.22 | 0.00 | 686.37 | 61.64 | 3.27 | 159.71 | 45.85 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.42 | 0.00 | 686.56 | 60.89 | 3.36 | 207.90 | 55.11 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 590.00 | 686.66 | 0.00 | 686.83 | 72.19 | 3.80 | 269.00 | 69.44 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 245.00 | 687.81 | 0.00 | 687.85 | 77.34 | 2.25 | 185.32 | 27.86 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 360.00 | 688.17 | 0.00 | 688.21 | 53.21 | 2.06 | 276.12 | 49.35 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.32 | 0.00 | 688.35 | 51.57 | 2.11 | 314.16 | 59.88 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 590.00 | 688.63 | 0.00 | 688.67 | 46.92 | 2.17 | 398.80 | 86.13 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 245.00 | 687.82 | 0.00 | 687.86 | 107.18 | 1.94 | 180.90 | 23.67 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 360.00 | 688.18 | 0.00 | 688.21 | 65.97 | 1.71 | 272.09 | 44.32 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.33 | 0.00 | 688.36 | 62.56 | 1.73 | 309.81 | 54.37 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 590.00 | 688.64 | 0.00 | 688.67 | 55.65 | 1.77 | 392.55 | 79.09 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 245.00 | 687.91 | 0.00 | 687.94 | 75.18 | 1.68 | 203.44 | 28.26 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 360.00 | 688.24 | 0.00 | 688.27 | 55.34 | 1.59 | 287.74 | 48.39 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 53.87 | 1.63 | 324.82 | 58.58 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 590.00 | 688.69 | 0.00 | 688.72 | 50.04 | 1.70 | 405.91 | 83.40 |

| | SECNO | XLCH | ELTRD | FLLC | ELMIN | G | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 900.650 | .50 | 0.00 | 0.00 | 682.40 | 245.00 | 687.91 | 0.00 | 687.94 | 53.56 | 1.93 | 211.45 | 33.48 |
| | 900.650 | .50 | 0.00 | 0.00 | 682.40 | 360.00 | 688.24 | 0.00 | 688.27 | 43.80 | 1.91 | 294.72 | 54.39 |
| | 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 43.74 | 1.97 | 331.72 | 65.01 |
| | 900.650 | .50 | 0.00 | 0.00 | 682.40 | 590.00 | 688.69 | 0.00 | 688.73 | 42.22 | 2.08 | 412.72 | 90.80 |
| | 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 245.00 | 688.68 | 0.00 | 688.75 | 45.28 | 2.46 | 183.61 | 36.41 |
| | 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 360.00 | 688.95 | 0.00 | 689.02 | 47.52 | 2.68 | 251.30 | 52.22 |
| | 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.09 | 0.00 | 689.16 | 47.85 | 2.77 | 288.17 | 62.16 |
| | 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 590.00 | 689.39 | 0.00 | 689.46 | 47.95 | 2.93 | 364.04 | 85.21 |
| | 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 245.00 | 689.76 | 688.50 | 690.01 | 153.50 | 4.09 | 80.64 | 19.77 |
| | 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 360.00 | 690.05 | 0.00 | 690.26 | 141.98 | 4.23 | 151.89 | 30.21 |
| | 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.19 | 0.00 | 690.39 | 135.13 | 4.27 | 186.38 | 36.99 |
| | 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 590.00 | 690.46 | 0.00 | 690.63 | 122.05 | 4.31 | 255.86 | 53.40 |
| | 900.820 | .50 | 688.60 | 688.20 | 685.40 | 245.00 | 689.76 | 688.20 | 690.03 | 679.89 | 4.38 | 75.25 | 9.40 |
| | 900.820 | .50 | 688.60 | 688.20 | 685.40 | 360.00 | 690.24 | 0.00 | 690.31 | 200.62 | 2.70 | 188.81 | 25.42 |
| | 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.36 | 0.00 | 690.43 | 182.39 | 2.66 | 220.65 | 31.84 |
| | 900.820 | .50 | 688.60 | 688.20 | 685.40 | 590.00 | 690.59 | 0.00 | 690.66 | 167.21 | 2.68 | 279.90 | 45.63 |
| | 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 245.00 | 690.14 | 0.00 | 690.19 | 129.06 | 2.12 | 167.67 | 21.57 |
| | 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 360.00 | 690.33 | 0.00 | 690.38 | 140.24 | 2.31 | 213.81 | 30.40 |
| | 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.44 | 0.00 | 690.49 | 143.76 | 2.40 | 238.99 | 35.86 |
| | 900.330 | 4.00 | 688.60 | 688.20 | 685.40 | 590.00 | 690.66 | 0.00 | 690.72 | 141.67 | 2.50 | 295.30 | 49.57 |
| | 900.850 | .50 | 0.00 | 0.00 | 685.40 | 245.00 | 690.13 | 0.00 | 690.21 | 52.11 | 2.61 | 171.47 | 33.94 |
| | 900.850 | .50 | 0.00 | 0.00 | 685.40 | 360.00 | 690.31 | 0.00 | 690.40 | 68.42 | 3.12 | 215.83 | 43.52 |
| | 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.42 | 0.00 | 690.52 | 73.68 | 3.31 | 242.94 | 50.10 |
| | 900.850 | .50 | 0.00 | 0.00 | 685.40 | 590.00 | 690.64 | 0.00 | 690.75 | 82.05 | 3.65 | 298.63 | 65.14 |
| | 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 245.00 | 690.56 | 0.00 | 690.74 | 114.06 | 3.62 | 106.58 | 22.94 |
| | 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 360.00 | 690.84 | 0.00 | 691.00 | 109.95 | 3.80 | 173.44 | 34.33 |
| | 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 690.97 | 0.00 | 691.13 | 108.08 | 3.89 | 206.40 | 41.36 |
| | 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 590.00 | 691.23 | 0.00 | 691.38 | 105.70 | 4.06 | 270.86 | 57.39 |
| | 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 245.00 | 691.31 | 0.00 | 691.47 | 102.05 | 3.46 | 115.80 | 24.25 |
| | 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 360.00 | 691.56 | 0.00 | 691.71 | 103.27 | 3.70 | 178.84 | 35.43 |
| | 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.69 | 0.00 | 691.84 | 103.80 | 3.82 | 210.12 | 42.20 |
| | 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 590.00 | 691.94 | 0.00 | 692.08 | 103.99 | 4.03 | 272.60 | 57.86 |
| | 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 245.00 | 691.96 | 690.69 | 692.21 | 107.17 | 4.10 | 81.50 | 23.67 |
| | 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 360.00 | 692.23 | 0.00 | 692.48 | 113.00 | 4.51 | 147.13 | 33.87 |
| | 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.36 | 0.00 | 692.61 | 113.45 | 4.66 | 179.22 | 40.37 |
| | 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 590.00 | 692.61 | 0.00 | 692.84 | 111.82 | 4.90 | 243.31 | 55.79 |
| * | 901.020 | .50 | 690.70 | 690.00 | 687.60 | 245.00 | 691.83 | 690.00 | 692.34 | 1006.54 | 5.78 | 43.41 | 7.72 |
| | 901.020 | .50 | 690.70 | 690.00 | 687.60 | 360.00 | 692.46 | 0.00 | 692.54 | 168.53 | 2.88 | 192.11 | 27.73 |
| | 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.58 | 0.00 | 692.66 | 157.97 | 2.88 | 222.68 | 34.21 |
| | 901.020 | .50 | 690.70 | 690.00 | 687.60 | 590.00 | 692.81 | 0.00 | 692.89 | 152.44 | 2.99 | 278.93 | 47.79 |
| | 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 245.00 | 692.50 | 0.00 | 692.53 | 67.71 | 1.84 | 202.09 | 29.77 |
| | 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 360.00 | 692.54 | 0.00 | 692.60 | 128.37 | 2.56 | 211.54 | 31.77 |
| | 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.66 | 0.00 | 692.72 | 129.15 | 2.64 | 238.57 | 37.84 |
| | 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 590.00 | 692.88 | 0.00 | 692.95 | 129.11 | 2.79 | 294.61 | 51.92 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | G | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 245.00 | 692.49 | 0.00 | 692.55 | 26.28 | 2.31 | 211.65 | 47.80 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 360.00 | 692.51 | 0.00 | 692.63 | 53.65 | 3.32 | 217.22 | 49.15 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.63 | 0.00 | 692.75 | 57.89 | 3.53 | 246.03 | 56.52 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 590.00 | 692.84 | 0.00 | 692.98 | 67.25 | 3.98 | 300.44 | 71.95 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 245.00 | 693.57 | 0.00 | 693.90 | 149.50 | 4.62 | 53.07 | 20.04 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 360.00 | 694.10 | 0.00 | 694.31 | 94.01 | 4.18 | 163.76 | 37.13 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.25 | 0.00 | 694.45 | 88.69 | 4.21 | 202.68 | 45.66 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 590.00 | 694.56 | 0.00 | 694.73 | 80.99 | 4.29 | 278.73 | 65.56 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 245.00 | 693.43 | 0.00 | 694.04 | 879.92 | 6.24 | 39.28 | 8.26 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 360.00 | 694.28 | 0.00 | 694.35 | 171.32 | 2.78 | 193.83 | 27.50 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.42 | 0.00 | 694.48 | 147.57 | 2.68 | 230.73 | 35.40 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 590.00 | 694.69 | 0.00 | 694.76 | 123.62 | 2.62 | 301.59 | 53.06 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 245.00 | 694.22 | 0.00 | 694.26 | 94.12 | 2.03 | 182.38 | 25.25 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 360.00 | 694.36 | 0.00 | 694.41 | 126.34 | 2.44 | 215.52 | 32.03 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.48 | 0.00 | 694.54 | 123.39 | 2.48 | 245.05 | 38.71 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 590.00 | 694.74 | 0.00 | 694.81 | 110.55 | 2.50 | 312.71 | 56.11 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 245.00 | 694.21 | 0.00 | 694.28 | 32.47 | 2.52 | 191.09 | 42.99 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 360.00 | 694.33 | 0.00 | 694.44 | 51.61 | 3.26 | 221.11 | 50.11 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.45 | 0.00 | 694.57 | 54.40 | 3.44 | 252.69 | 58.30 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 590.00 | 694.72 | 0.00 | 694.84 | 57.68 | 3.73 | 319.16 | 77.69 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 245.00 | 694.97 | 0.00 | 695.30 | 148.03 | 4.60 | 53.27 | 20.14 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 360.00 | 695.39 | 695.28 | 695.68 | 127.20 | 4.74 | 136.54 | 31.92 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.54 | 0.00 | 695.80 | 120.22 | 4.77 | 173.83 | 39.22 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 590.00 | 695.82 | 0.00 | 696.06 | 110.80 | 4.88 | 244.28 | 56.05 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 245.00 | 696.76 | 0.00 | 696.95 | 84.26 | 3.73 | 104.43 | 26.69 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 360.00 | 697.03 | 0.00 | 697.22 | 85.50 | 4.02 | 172.48 | 38.93 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.15 | 0.00 | 697.34 | 90.59 | 4.25 | 200.62 | 45.18 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 590.00 | 697.37 | 0.00 | 697.58 | 98.13 | 4.64 | 257.32 | 59.56 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 245.00 | 696.75 | 695.40 | 697.12 | 706.07 | 4.95 | 60.02 | 9.22 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 360.00 | 697.04 | 0.00 | 697.25 | 461.89 | 4.36 | 129.59 | 16.75 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.27 | 0.00 | 697.39 | 262.75 | 3.50 | 187.22 | 26.53 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 590.00 | 697.53 | 0.00 | 697.64 | 212.09 | 3.34 | 252.06 | 40.51 |
| 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 245.00 | 697.32 | 0.00 | 697.35 | 72.25 | 1.85 | 198.88 | 28.82 |
| 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 360.00 | 697.35 | 0.00 | 697.42 | 140.03 | 2.60 | 206.71 | 30.42 |
| 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.42 | 0.00 | 697.49 | 157.39 | 2.81 | 224.78 | 34.28 |
| 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 590.00 | 697.64 | 0.00 | 697.72 | 153.31 | 2.92 | 280.99 | 47.65 |
| 901.250 | .50 | 0.00 | 0.00 | 692.30 | 245.00 | 697.32 | 0.00 | 697.36 | 18.76 | 2.01 | 246.20 | 56.56 |
| 901.250 | .50 | 0.00 | 0.00 | 692.30 | 360.00 | 697.35 | 0.00 | 697.43 | 37.59 | 2.86 | 254.23 | 58.72 |
| 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.42 | 0.00 | 697.52 | 45.80 | 3.21 | 271.64 | 63.54 |
| 901.250 | .50 | 0.00 | 0.00 | 692.30 | 590.00 | 697.64 | 0.00 | 697.76 | 53.67 | 3.63 | 328.21 | 80.53 |
| 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 245.00 | 697.40 | 0.00 | 697.50 | 42.86 | 2.83 | 165.20 | 37.42 |
| 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 360.00 | 697.51 | 0.00 | 697.66 | 69.56 | 3.69 | 191.85 | 43.16 |
| 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.61 | 0.00 | 697.77 | 77.79 | 3.99 | 215.60 | 48.75 |
| 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 590.00 | 697.85 | 0.00 | 698.02 | 81.79 | 4.31 | 277.60 | 65.24 |

| | SECNO | XLCH | ELTRC | ELLC | FLMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 245.00 | 697.58 | 0.00 | 697.76 | 78.39 | 3.62 | 110.99 | 27.67 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 360.00 | 697.78 | 0.00 | 698.00 | 99.51 | 4.28 | 158.59 | 36.09 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 697.90 | 0.00 | 698.12 | 103.41 | 4.49 | 187.93 | 42.28 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 590.00 | 698.15 | 0.00 | 698.37 | 103.29 | 4.74 | 251.77 | 58.05 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 245.00 | 697.89 | 696.69 | 698.18 | 124.00 | 4.34 | 65.59 | 22.00 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 360.00 | 698.15 | 698.06 | 698.47 | 139.49 | 4.92 | 128.31 | 30.48 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.28 | 698.18 | 698.59 | 140.05 | 5.08 | 159.83 | 36.33 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 590.00 | 698.53 | 0.00 | 698.83 | 136.88 | 5.32 | 222.39 | 50.43 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 245.00 | 698.29 | 697.09 | 698.58 | 124.70 | 4.34 | 64.91 | 21.94 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 360.00 | 698.67 | 0.00 | 698.90 | 101.64 | 4.32 | 156.67 | 35.71 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.80 | 0.00 | 699.02 | 101.06 | 4.44 | 190.12 | 42.77 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 590.00 | 699.01 | 0.00 | 699.25 | 112.85 | 4.91 | 242.34 | 55.54 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 245.00 | 698.69 | 697.49 | 698.98 | 125.36 | 4.35 | 64.28 | 21.88 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 360.00 | 699.02 | 0.00 | 699.28 | 117.47 | 4.58 | 143.65 | 33.22 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.14 | 0.00 | 699.40 | 118.47 | 4.74 | 175.19 | 39.51 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 590.00 | 699.38 | 0.00 | 699.64 | 121.32 | 5.06 | 234.77 | 53.57 |
| | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 245.00 | 699.13 | 0.00 | 699.47 | 155.60 | 4.69 | 52.27 | 19.64 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 360.00 | 699.55 | 699.55 | 699.87 | 142.36 | 4.96 | 126.52 | 30.17 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.66 | 699.66 | 699.99 | 150.66 | 5.24 | 153.22 | 35.03 |
| | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 590.00 | 699.84 | 699.82 | 700.22 | 176.94 | 5.92 | 197.06 | 44.35 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 245.00 | 699.13 | 0.00 | 699.58 | 767.20 | 5.39 | 45.49 | 8.85 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 360.00 | 699.96 | 0.00 | 700.01 | 107.83 | 2.52 | 220.03 | 34.67 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.08 | 0.00 | 700.14 | 104.59 | 2.56 | 252.02 | 42.05 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 590.00 | 700.32 | 0.00 | 700.38 | 107.04 | 2.72 | 309.79 | 57.03 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 245.00 | 699.82 | 0.00 | 699.86 | 76.58 | 2.06 | 187.99 | 28.00 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 360.00 | 700.01 | 0.00 | 700.06 | 91.45 | 2.35 | 233.29 | 37.64 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.13 | 0.00 | 700.18 | 90.38 | 2.41 | 264.99 | 45.23 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 590.00 | 700.37 | 0.00 | 700.43 | 91.01 | 2.54 | 326.90 | 61.84 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 245.00 | 699.82 | 0.00 | 699.89 | 31.53 | 2.49 | 193.91 | 43.63 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 360.00 | 700.01 | 0.00 | 700.10 | 42.15 | 3.00 | 241.99 | 55.45 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.13 | 0.00 | 700.22 | 45.34 | 3.19 | 272.76 | 63.86 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 590.00 | 700.37 | 0.00 | 700.47 | 51.37 | 3.56 | 333.78 | 82.31 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 245.00 | 699.87 | 0.00 | 699.95 | 35.99 | 2.63 | 181.37 | 40.84 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 360.00 | 700.07 | 0.00 | 700.17 | 46.47 | 3.13 | 231.82 | 52.81 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.20 | 0.00 | 700.30 | 49.21 | 3.30 | 263.63 | 61.30 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 590.00 | 700.45 | 0.00 | 700.56 | 54.35 | 3.65 | 326.60 | 80.03 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 245.00 | 699.93 | 0.00 | 699.97 | 86.69 | 2.05 | 184.97 | 26.31 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 360.00 | 700.16 | 0.00 | 700.20 | 86.89 | 2.18 | 241.90 | 38.62 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.29 | 0.00 | 700.33 | 84.67 | 2.22 | 274.84 | 46.73 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 590.00 | 700.54 | 0.00 | 700.59 | 83.49 | 2.33 | 339.53 | 64.57 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 245.00 | 699.97 | 0.00 | 700.01 | 77.80 | 1.96 | 192.34 | 27.78 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 360.00 | 700.20 | 0.00 | 700.24 | 79.26 | 2.09 | 249.53 | 40.44 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.33 | 0.00 | 700.37 | 78.94 | 2.15 | 281.28 | 48.40 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 590.00 | 700.58 | 0.00 | 700.63 | 78.48 | 2.27 | 346.38 | 66.60 |

| SECNO | XLCH | ELTRD | ELLC | EL"IN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 245.00 | 699.97 | 0.00 | 700.03 | 27.42 | 2.35 | 207.44 | 46.79 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 360.00 | 700.20 | 0.00 | 700.27 | 34.28 | 2.76 | 264.31 | 61.49 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.32 | 0.00 | 700.40 | 36.77 | 2.93 | 297.00 | 70.91 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 590.00 | 700.58 | 0.00 | 700.66 | 41.55 | 3.27 | 361.80 | 91.53 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 245.00 | 700.24 | 0.00 | 700.28 | 24.06 | 2.13 | 199.47 | 49.94 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 360.00 | 700.53 | 0.00 | 700.58 | 30.79 | 2.57 | 240.32 | 64.88 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.68 | 0.00 | 700.74 | 34.20 | 2.79 | 262.77 | 73.53 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 590.00 | 700.98 | 0.00 | 701.06 | 41.13 | 3.24 | 308.38 | 91.99 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 245.00 | 700.26 | 0.00 | 700.29 | 41.44 | 1.86 | 185.33 | 38.06 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 360.00 | 700.55 | 0.00 | 700.59 | 48.37 | 2.18 | 226.54 | 51.76 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.70 | 0.00 | 700.75 | 51.76 | 2.35 | 249.19 | 59.77 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 590.00 | 701.00 | 0.00 | 701.07 | 57.47 | 2.67 | 297.44 | 77.83 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 245.00 | 700.27 | 0.00 | 700.30 | 39.65 | 1.83 | 187.99 | 38.91 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 360.00 | 700.57 | 0.00 | 700.61 | 46.14 | 2.15 | 230.10 | 53.00 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.72 | 0.00 | 700.77 | 49.31 | 2.31 | 253.24 | 61.23 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 590.00 | 701.03 | 0.00 | 701.09 | 55.69 | 2.64 | 300.58 | 79.06 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 245.00 | 700.27 | 0.00 | 700.31 | 22.56 | 2.08 | 204.11 | 51.58 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 360.00 | 700.57 | 0.00 | 700.62 | 28.70 | 2.50 | 246.41 | 67.20 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.73 | 0.00 | 700.79 | 31.80 | 2.72 | 269.67 | 76.25 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 590.00 | 701.03 | 0.00 | 701.11 | 38.05 | 3.15 | 317.04 | 95.64 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 245.00 | 700.63 | 0.00 | 700.69 | 37.18 | 2.52 | 170.38 | 40.18 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 360.00 | 700.99 | 0.00 | 701.05 | 39.60 | 2.82 | 219.72 | 57.21 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.17 | 0.00 | 701.25 | 40.86 | 2.98 | 246.60 | 67.27 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 590.00 | 701.54 | 0.00 | 701.62 | 43.59 | 3.31 | 302.05 | 89.36 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 245.00 | 700.66 | 0.00 | 700.70 | 73.62 | 1.82 | 161.88 | 28.55 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 360.00 | 701.02 | 0.00 | 701.07 | 68.23 | 1.95 | 211.82 | 43.58 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.21 | 0.00 | 701.26 | 66.90 | 2.02 | 239.09 | 52.57 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 590.00 | 701.58 | 0.00 | 701.64 | 66.15 | 2.19 | 295.43 | 72.54 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 245.00 | 700.69 | 0.00 | 700.73 | 69.51 | 1.78 | 164.87 | 29.39 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 360.00 | 701.05 | 0.00 | 701.09 | 65.22 | 1.91 | 214.90 | 44.58 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.24 | 0.00 | 701.29 | 64.22 | 1.99 | 242.29 | 53.66 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 590.00 | 701.60 | 0.00 | 701.66 | 63.86 | 2.16 | 298.91 | 73.83 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 245.00 | 700.69 | 0.00 | 700.74 | 32.34 | 2.38 | 179.33 | 43.09 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 360.00 | 701.05 | 0.00 | 701.11 | 35.16 | 2.70 | 229.21 | 60.71 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.24 | 0.00 | 701.30 | 36.56 | 2.86 | 256.58 | 71.12 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 590.00 | 701.60 | 0.00 | 701.68 | 39.38 | 3.19 | 313.22 | 94.02 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 245.00 | 701.83 | 0.00 | 702.11 | 207.38 | 4.86 | 81.41 | 17.01 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 360.00 | 702.20 | 0.00 | 702.45 | 172.99 | 4.97 | 126.70 | 27.37 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.39 | 0.00 | 702.62 | 157.64 | 4.99 | 151.12 | 34.25 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 590.00 | 702.76 | 0.00 | 702.98 | 136.20 | 5.08 | 201.21 | 50.55 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 245.00 | 704.11 | 0.00 | 704.22 | 78.06 | 3.35 | 128.05 | 27.73 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 360.00 | 704.39 | 0.00 | 704.52 | 86.52 | 3.80 | 165.71 | 38.70 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.53 | 0.00 | 704.68 | 92.17 | 4.06 | 184.47 | 44.79 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 590.00 | 704.81 | 0.00 | 704.99 | 101.17 | 4.54 | 223.66 | 58.66 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 902.220 | .50 | 704.00 | 703.30 | 700.00 | 245.00 | 704.11 | 703.30 | 704.39 | 1153.35 | 5.09 | 70.62 | 7.21 |
| | 902.220 | .50 | 704.00 | 703.30 | 700.00 | 360.00 | 704.39 | 0.00 | 704.61 | 737.99 | 4.53 | 108.35 | 13.25 |
| | 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.54 | 0.00 | 704.74 | 650.04 | 4.46 | 126.82 | 16.87 |
| | 902.220 | .50 | 704.00 | 703.30 | 700.00 | 590.00 | 704.82 | 0.00 | 705.04 | 529.63 | 4.38 | 166.02 | 25.64 |
| | 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 245.00 | 704.58 | 0.00 | 704.65 | 181.37 | 2.39 | 133.14 | 18.19 |
| | 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 360.00 | 704.73 | 0.00 | 704.82 | 252.36 | 2.95 | 153.33 | 22.66 |
| | 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 704.84 | 0.00 | 704.95 | 265.22 | 3.12 | 169.20 | 26.40 |
| | 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 590.00 | 705.08 | 0.00 | 705.23 | 274.93 | 3.39 | 205.20 | 35.58 |
| | 902.250 | .50 | 0.00 | 0.00 | 700.00 | 245.00 | 704.62 | 0.00 | 704.66 | 25.28 | 2.17 | 195.99 | 48.72 |
| | 902.250 | .50 | 0.00 | 0.00 | 700.00 | 360.00 | 704.77 | 0.00 | 704.84 | 40.53 | 2.85 | 217.91 | 56.55 |
| | 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 704.89 | 0.00 | 704.97 | 47.12 | 3.15 | 234.38 | 62.64 |
| | 902.250 | .50 | 0.00 | 0.00 | 700.00 | 590.00 | 705.14 | 0.00 | 705.25 | 58.72 | 3.70 | 271.54 | 77.00 |
| | 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 245.00 | 705.56 | 0.00 | 705.95 | 153.83 | 5.04 | 48.66 | 19.75 |
| | 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 360.00 | 706.18 | 0.00 | 706.78 | 193.22 | 6.21 | 57.93 | 25.90 |
| | 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.49 | 0.00 | 707.23 | 216.30 | 6.86 | 62.67 | 29.24 |
| | 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 590.00 | 707.11 | 0.00 | 708.15 | 267.60 | 8.21 | 71.89 | 36.07 |
| | 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 245.00 | 705.48 | 0.00 | 706.34 | 107.09 | 7.45 | 32.90 | 23.68 |
| | 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 360.00 | 706.05 | 0.00 | 707.38 | 145.58 | 9.28 | 38.81 | 29.84 |
| | 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.33 | 0.00 | 707.98 | 169.67 | 10.30 | 41.75 | 33.01 |
| * | 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 590.00 | 706.95 | 706.95 | 709.28 | 216.07 | 12.24 | 48.19 | 40.14 |
| | 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 245.00 | 706.30 | 0.00 | 706.84 | 56.37 | 5.92 | 41.40 | 32.63 |
| | 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 360.00 | 707.34 | 0.00 | 708.08 | 64.48 | 6.88 | 52.31 | 44.83 |
| | 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.97 | 0.00 | 708.80 | 67.27 | 7.31 | 58.85 | 52.43 |
| | 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 590.00 | 709.55 | 0.00 | 710.57 | 119.22 | 8.10 | 72.80 | 54.04 |
| | 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 245.00 | 706.77 | 0.00 | 706.98 | 55.13 | 3.66 | 66.99 | 33.00 |
| | 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 360.00 | 707.99 | 0.00 | 708.27 | 57.55 | 4.23 | 85.18 | 47.46 |
| | 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.70 | 0.00 | 709.01 | 57.82 | 4.49 | 95.82 | 56.55 |
| | 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 590.00 | 710.48 | 0.00 | 710.84 | 52.98 | 4.82 | 122.51 | 81.06 |
| | 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 245.00 | 707.30 | 0.00 | 707.40 | 36.92 | 2.89 | 123.87 | 40.32 |
| | 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 360.00 | 708.54 | 0.00 | 708.60 | 17.09 | 2.43 | 231.73 | 87.08 |
| | 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.26 | 0.00 | 709.31 | 11.37 | 2.19 | 327.74 | 127.54 |
| | 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 590.00 | 711.04 | 0.00 | 711.06 | 3.93 | 1.56 | 690.68 | 297.77 |
| | 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 245.00 | 707.85 | 0.00 | 708.38 | 209.41 | 6.42 | 54.33 | 16.93 |
| | 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 360.00 | 708.80 | 0.00 | 709.07 | 107.95 | 5.33 | 124.41 | 34.65 |
| | 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.43 | 0.00 | 709.55 | 51.05 | 3.97 | 226.64 | 60.18 |
| | 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 590.00 | 711.09 | 0.00 | 711.12 | 10.02 | 2.10 | 544.64 | 186.41 |
| | 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 245.00 | 709.22 | 0.00 | 709.23 | 2.20 | 1.02 | 488.52 | 165.25 |
| | 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 360.00 | 709.53 | 0.00 | 709.54 | 3.41 | 1.32 | 544.23 | 195.03 |
| | 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 430.00 | 709.74 | 0.00 | 709.75 | 3.99 | 1.46 | 579.98 | 215.21 |
| | 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 590.00 | 711.18 | 0.00 | 711.19 | 2.37 | 1.30 | 837.47 | 383.26 |
| | 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 245.00 | 709.26 | 0.00 | 709.28 | 11.34 | 1.41 | 285.22 | 72.74 |
| | 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 360.00 | 709.58 | 0.00 | 709.61 | 14.11 | 1.68 | 343.33 | 95.84 |
| | 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.80 | 0.00 | 709.82 | 14.67 | 1.79 | 381.02 | 112.26 |
| | 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 590.00 | 711.21 | 0.00 | 711.23 | 5.67 | 1.40 | 632.66 | 247.67 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 245.00 | 709.25 | 0.00 | 709.30 | 82.62 | 2.15 | 199.98 | 26.95 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 360.00 | 709.56 | 0.00 | 709.63 | 87.16 | 2.41 | 257.96 | 38.56 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.79 | 0.00 | 709.85 | 83.39 | 2.48 | 295.61 | 47.09 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 590.00 | 711.21 | 0.00 | 711.23 | 23.54 | 1.73 | 547.20 | 121.60 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 245.00 | 709.29 | 0.00 | 709.33 | 78.34 | 2.10 | 203.91 | 27.68 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 360.00 | 709.62 | 0.00 | 709.67 | 83.14 | 2.37 | 262.19 | 39.48 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.83 | 0.00 | 709.88 | 80.07 | 2.45 | 299.68 | 48.06 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 590.00 | 711.22 | 0.00 | 711.24 | 23.43 | 1.73 | 548.02 | 121.89 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 245.00 | 709.33 | 0.00 | 709.34 | 10.00 | 1.34 | 297.68 | 77.46 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 360.00 | 709.66 | 0.00 | 709.68 | 12.62 | 1.61 | 356.28 | 101.36 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.87 | 0.00 | 709.89 | 13.31 | 1.73 | 393.38 | 117.87 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 590.00 | 711.23 | 0.00 | 711.25 | 5.60 | 1.39 | 635.28 | 249.30 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 245.00 | 709.41 | 0.00 | 709.43 | 10.87 | 1.76 | 288.60 | 74.33 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 360.00 | 709.76 | 0.00 | 709.78 | 13.39 | 2.06 | 350.91 | 98.40 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.97 | 0.00 | 710.00 | 14.07 | 2.17 | 389.06 | 114.63 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 590.00 | 711.28 | 0.00 | 711.29 | 6.27 | 1.71 | 621.58 | 235.59 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 245.00 | 710.23 | 0.00 | 710.23 | 3.24 | 1.08 | 435.95 | 136.07 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 360.00 | 710.43 | 0.00 | 710.45 | 5.46 | 1.44 | 472.84 | 154.02 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 430.00 | 710.55 | 0.00 | 710.57 | 6.81 | 1.64 | 494.02 | 164.76 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 590.00 | 711.38 | 0.00 | 711.39 | 5.69 | 1.65 | 641.06 | 247.30 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 245.00 | 710.25 | 0.00 | 710.26 | 8.46 | 1.59 | 315.29 | 84.25 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 360.00 | 710.47 | 0.00 | 710.50 | 12.88 | 2.03 | 355.51 | 100.30 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.60 | 0.00 | 710.63 | 15.42 | 2.25 | 377.28 | 109.50 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 590.00 | 711.41 | 0.00 | 711.44 | 10.92 | 2.11 | 520.32 | 178.51 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 245.00 | 710.32 | 0.00 | 710.38 | 34.37 | 2.82 | 185.03 | 41.79 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 360.00 | 710.58 | 0.00 | 710.65 | 42.99 | 3.31 | 230.72 | 54.91 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.72 | 0.00 | 710.81 | 46.40 | 3.52 | 256.31 | 63.13 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 590.00 | 711.50 | 0.00 | 711.55 | 25.55 | 2.94 | 393.81 | 116.73 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 245.00 | 711.93 | 0.00 | 711.94 | 2.53 | .98 | 472.93 | 154.07 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 360.00 | 712.13 | 0.00 | 712.14 | 4.38 | 1.33 | 507.93 | 171.97 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 430.00 | 712.24 | 0.00 | 712.25 | 5.57 | 1.51 | 527.37 | 182.27 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 590.00 | 712.47 | 0.00 | 712.50 | 8.33 | 1.90 | 567.77 | 204.45 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 245.00 | 712.05 | 0.00 | 712.15 | 80.88 | 3.02 | 120.99 | 27.24 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 360.00 | 712.32 | 0.00 | 712.46 | 95.34 | 3.56 | 163.12 | 36.87 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.47 | 0.00 | 712.62 | 96.30 | 3.73 | 190.15 | 43.82 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 590.00 | 712.80 | 0.00 | 712.95 | 90.45 | 3.92 | 248.21 | 62.04 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 245.00 | 712.45 | 0.00 | 712.48 | 17.55 | 1.70 | 237.66 | 58.49 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 360.00 | 712.79 | 0.00 | 712.83 | 19.74 | 1.95 | 300.29 | 81.03 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 712.97 | 0.00 | 713.01 | 21.28 | 2.10 | 330.74 | 93.22 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 590.00 | 713.31 | 0.00 | 713.36 | 24.10 | 2.39 | 392.47 | 120.20 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 245.00 | 712.46 | 0.00 | 712.48 | 43.11 | 1.36 | 210.80 | 37.32 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 360.00 | 712.80 | 0.00 | 712.83 | 40.92 | 1.49 | 272.45 | 56.28 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 712.98 | 0.00 | 713.01 | 41.11 | 1.57 | 303.62 | 67.07 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 590.00 | 713.32 | 0.00 | 713.36 | 42.70 | 1.76 | 364.50 | 90.29 |

| SECNO | XLCH | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 245.00 | 712.47 | 0.00 | 712.50 | 41.10 | 1.34 | 213.99 | 38.22 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 360.00 | 712.82 | 0.00 | 712.85 | 39.35 | 1.47 | 275.75 | 57.39 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.00 | 0.00 | 713.03 | 39.60 | 1.55 | 307.14 | 68.33 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 590.00 | 713.34 | 0.00 | 713.38 | 41.25 | 1.73 | 368.38 | 91.87 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 245.00 | 712.47 | 0.00 | 712.50 | 16.37 | 1.66 | 243.84 | 60.55 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 360.00 | 712.82 | 0.00 | 712.85 | 18.79 | 1.92 | 305.45 | 83.04 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 712.99 | 0.00 | 713.03 | 20.18 | 2.06 | 336.80 | 95.73 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 590.00 | 713.34 | 0.00 | 713.39 | 23.09 | 2.35 | 398.04 | 122.77 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 245.00 | 712.62 | 0.00 | 712.72 | 68.17 | 2.84 | 131.52 | 29.67 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 360.00 | 712.99 | 0.00 | 713.09 | 65.84 | 3.09 | 192.07 | 44.37 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.17 | 0.00 | 713.27 | 62.53 | 3.16 | 225.05 | 54.38 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 590.00 | 713.53 | 0.00 | 713.63 | 58.09 | 3.31 | 290.84 | 77.41 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 245.00 | 713.18 | 0.00 | 713.33 | 117.78 | 3.47 | 101.35 | 22.58 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 360.00 | 713.52 | 0.00 | 713.69 | 118.24 | 3.86 | 146.59 | 33.11 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.68 | 0.00 | 713.86 | 118.30 | 4.04 | 174.40 | 39.53 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 590.00 | 714.01 | 0.00 | 714.18 | 109.01 | 4.21 | 231.65 | 56.51 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 245.00 | 714.01 | 0.00 | 714.18 | 136.73 | 3.68 | 94.07 | 20.95 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 360.00 | 714.36 | 0.00 | 714.55 | 136.87 | 4.07 | 136.32 | 30.77 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.52 | 0.00 | 714.72 | 136.94 | 4.27 | 162.58 | 36.74 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 590.00 | 714.80 | 0.00 | 715.01 | 137.46 | 4.60 | 212.12 | 50.32 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 245.00 | 716.22 | 0.00 | 716.33 | 86.07 | 3.09 | 117.43 | 26.41 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 360.00 | 716.57 | 0.00 | 716.70 | 85.86 | 3.43 | 171.54 | 38.85 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.73 | 0.00 | 716.86 | 85.00 | 3.56 | 199.88 | 46.64 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 590.00 | 717.03 | 0.00 | 717.17 | 86.08 | 3.85 | 252.73 | 63.59 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 245.00 | 718.19 | 0.00 | 718.61 | 244.20 | 5.22 | 46.91 | 15.68 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 360.00 | 718.68 | 0.00 | 719.30 | 309.54 | 6.31 | 57.02 | 20.46 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.90 | 0.00 | 719.65 | 353.99 | 6.95 | 61.85 | 22.85 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 590.00 | 719.33 | 0.00 | 720.38 | 441.86 | 8.20 | 71.94 | 28.07 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 245.00 | 720.67 | 0.00 | 720.89 | 97.17 | 3.72 | 65.78 | 24.85 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 360.00 | 721.55 | 0.00 | 721.81 | 95.49 | 4.12 | 87.55 | 36.84 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.94 | 0.00 | 722.22 | 89.86 | 4.31 | 114.44 | 45.36 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 590.00 | 722.62 | 0.00 | 722.86 | 70.48 | 4.26 | 203.09 | 70.28 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 245.00 | 722.19 | 0.00 | 722.56 | 134.71 | 5.09 | 55.04 | 21.11 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 360.00 | 723.03 | 0.00 | 723.49 | 132.92 | 5.80 | 74.20 | 31.23 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.40 | 0.00 | 723.93 | 140.00 | 6.27 | 83.41 | 36.34 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 590.00 | 723.93 | 722.67 | 724.61 | 164.38 | 7.28 | 113.41 | 46.02 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 245.00 | 724.03 | 0.00 | 724.08 | 15.78 | 1.72 | 142.75 | 61.67 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 360.00 | 724.59 | 0.00 | 724.67 | 20.03 | 2.15 | 167.57 | 80.45 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 430.00 | 724.86 | 0.00 | 724.95 | 22.77 | 2.40 | 179.45 | 90.10 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 590.00 | 725.38 | 0.00 | 725.51 | 28.84 | 2.92 | 202.31 | 109.87 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 245.00 | 724.61 | 0.00 | 724.80 | 85.46 | 3.55 | 68.96 | 26.50 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 360.00 | 725.30 | 0.00 | 725.57 | 99.70 | 4.18 | 86.23 | 36.05 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.64 | 0.00 | 725.94 | 99.90 | 4.47 | 105.59 | 43.02 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 590.00 | 726.26 | 0.00 | 726.55 | 87.00 | 4.62 | 180.08 | 63.26 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 245.00 | 724.61 | 0.00 | 724.81 | 85.60 | 3.55 | 68.92 | 26.48 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 360.00 | 725.31 | 0.00 | 725.58 | 99.41 | 4.17 | 86.31 | 36.11 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.64 | 0.00 | 725.95 | 100.52 | 4.47 | 105.11 | 42.89 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 590.00 | 726.23 | 0.00 | 726.58 | 246.85 | 5.01 | 159.33 | 37.55 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 245.00 | 724.64 | 0.00 | 724.83 | 83.47 | 3.52 | 69.56 | 26.82 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 360.00 | 725.34 | 0.00 | 725.61 | 96.23 | 4.13 | 87.29 | 36.70 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.68 | 0.00 | 725.98 | 97.18 | 4.42 | 107.82 | 43.62 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 590.00 | 726.33 | 0.00 | 726.68 | 391.48 | 4.93 | 164.55 | 29.82 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 245.00 | 724.64 | 0.00 | 724.84 | 82.85 | 3.51 | 69.76 | 26.92 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 360.00 | 725.35 | 0.00 | 725.61 | 95.24 | 4.12 | 87.64 | 36.89 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.69 | 0.00 | 725.99 | 95.78 | 4.40 | 109.03 | 43.94 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 590.00 | 726.48 | 0.00 | 726.70 | 64.89 | 4.13 | 212.51 | 73.24 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 245.00 | 726.26 | 0.00 | 726.39 | 47.92 | 2.88 | 85.17 | 35.39 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 360.00 | 727.04 | 0.00 | 727.19 | 43.69 | 3.16 | 149.50 | 54.46 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.36 | 0.00 | 727.50 | 40.48 | 3.20 | 194.38 | 67.58 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 590.00 | 727.84 | 0.00 | 727.98 | 40.66 | 3.44 | 270.77 | 92.52 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 245.00 | 727.34 | 0.00 | 727.57 | 69.68 | 4.08 | 72.24 | 29.35 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 360.00 | 728.06 | 0.00 | 728.30 | 68.26 | 4.47 | 129.52 | 43.57 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.32 | 0.00 | 728.56 | 67.10 | 4.59 | 163.96 | 52.49 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 590.00 | 728.80 | 0.00 | 729.02 | 64.98 | 4.78 | 232.60 | 73.19 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 245.00 | 728.28 | 0.00 | 728.57 | 97.82 | 4.56 | 63.34 | 24.77 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 360.00 | 729.01 | 0.00 | 729.38 | 106.51 | 5.33 | 89.04 | 34.88 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.27 | 0.00 | 729.66 | 108.96 | 5.59 | 119.38 | 41.19 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 590.00 | 729.73 | 0.00 | 730.10 | 108.58 | 5.92 | 178.62 | 56.62 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 245.00 | 729.36 | 0.00 | 729.48 | 31.29 | 3.03 | 130.47 | 43.80 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 360.00 | 729.66 | 0.00 | 729.81 | 44.75 | 3.76 | 168.73 | 53.82 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 430.00 | 729.79 | 0.00 | 729.97 | 52.91 | 4.16 | 187.18 | 59.11 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 590.00 | 730.09 | 0.00 | 730.31 | 65.91 | 4.81 | 231.00 | 72.67 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 245.00 | 730.41 | 0.00 | 730.73 | 196.04 | 4.56 | 53.74 | 17.50 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 360.00 | 730.99 | 0.00 | 731.39 | 192.50 | 5.10 | 81.82 | 25.95 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.25 | 0.00 | 731.64 | 176.69 | 5.20 | 107.42 | 32.35 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 590.00 | 731.71 | 0.00 | 732.08 | 157.17 | 5.40 | 157.06 | 47.06 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 245.00 | 731.72 | 0.00 | 731.97 | 134.38 | 3.97 | 61.85 | 21.13 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 360.00 | 732.29 | 0.00 | 732.54 | 115.63 | 4.24 | 111.58 | 33.48 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.49 | 0.00 | 732.76 | 118.32 | 4.48 | 132.71 | 39.53 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 590.00 | 732.85 | 0.00 | 733.15 | 123.58 | 4.93 | 175.16 | 53.07 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 245.00 | 732.51 | 0.00 | 732.58 | 50.16 | 2.77 | 138.12 | 34.59 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 360.00 | 733.02 | 0.00 | 733.10 | 47.42 | 3.01 | 189.72 | 52.28 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.24 | 0.00 | 733.33 | 48.99 | 3.19 | 214.89 | 61.44 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 590.00 | 733.65 | 0.00 | 733.76 | 53.18 | 3.58 | 265.88 | 80.90 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 245.00 | 732.86 | 0.00 | 733.05 | 187.12 | 4.49 | 83.74 | 17.91 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 360.00 | 733.34 | 0.00 | 733.52 | 147.89 | 4.56 | 122.61 | 29.60 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.56 | 0.00 | 733.75 | 141.06 | 4.70 | 143.03 | 36.20 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 590.00 | 733.98 | 0.00 | 734.20 | 133.42 | 5.01 | 186.36 | 51.08 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 245.00 | 733.83 | 0.00 | 734.03 | 203.33 | 4.63 | 81.16 | 17.18 |
| | 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 360.00 | 734.17 | 0.00 | 734.41 | 206.04 | 5.15 | 108.06 | 25.08 |
| | 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.36 | 0.00 | 734.62 | 203.13 | 5.37 | 124.40 | 30.17 |
| | 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 590.00 | 734.74 | 0.00 | 735.02 | 196.41 | 5.77 | 160.59 | 42.10 |
| | 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 245.00 | 735.33 | 0.00 | 735.45 | 103.01 | 3.60 | 104.96 | 24.14 |
| | 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 360.00 | 735.72 | 0.00 | 735.86 | 105.87 | 4.03 | 139.33 | 34.99 |
| | 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 735.92 | 0.00 | 736.07 | 107.92 | 4.26 | 158.51 | 41.39 |
| | 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 590.00 | 736.30 | 0.00 | 736.49 | 111.03 | 4.69 | 200.04 | 55.99 |
| | 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 245.00 | 737.06 | 0.00 | 737.23 | 203.51 | 3.37 | 72.79 | 17.17 |
| | 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 360.00 | 737.36 | 0.00 | 737.54 | 171.83 | 3.51 | 107.33 | 27.46 |
| | 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.55 | 0.00 | 737.75 | 166.85 | 3.70 | 123.63 | 33.29 |
| | 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 590.00 | 737.92 | 0.00 | 738.16 | 160.29 | 4.05 | 159.05 | 46.60 |
| | 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 245.00 | 738.96 | 0.00 | 739.27 | 113.00 | 4.50 | 54.48 | 23.05 |
| | 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 360.00 | 739.52 | 0.00 | 740.06 | 172.06 | 5.88 | 61.21 | 27.45 |
| | 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 739.85 | 0.00 | 740.52 | 204.36 | 6.60 | 65.11 | 30.08 |
| * | 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 590.00 | 740.06 | 738.63 | 741.24 | 343.15 | 8.72 | 67.67 | 31.85 |
| | 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 245.00 | 739.39 | 0.00 | 739.62 | 60.56 | 3.83 | 63.90 | 31.48 |
| | 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 360.00 | 740.64 | 0.00 | 740.95 | 67.36 | 4.49 | 80.11 | 43.86 |
| | 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 430.00 | 741.55 | 0.00 | 741.89 | 64.62 | 4.68 | 91.95 | 53.49 |
| | 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 590.00 | 743.79 | 0.00 | 743.80 | 2.53 | 1.03 | 623.23 | 371.06 |
| | 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 245.00 | 739.83 | 0.00 | 739.85 | 10.90 | 1.42 | 260.60 | 74.20 |
| | 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 360.00 | 741.14 | 0.00 | 741.15 | 4.75 | 1.16 | 448.61 | 165.21 |
| | 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.07 | 0.00 | 742.08 | 3.01 | 1.04 | 582.72 | 247.97 |
| | 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 590.00 | 743.81 | 0.00 | 743.82 | 1.81 | .96 | 835.31 | 438.96 |
| | 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 245.00 | 740.14 | 0.00 | 740.30 | 131.39 | 3.61 | 92.44 | 21.37 |
| | 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 360.00 | 741.26 | 0.00 | 741.32 | 30.70 | 2.31 | 237.06 | 64.97 |
| | 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.14 | 0.00 | 742.17 | 13.04 | 1.76 | 361.08 | 119.07 |
| | 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 590.00 | 743.84 | 0.00 | 743.86 | 4.95 | 1.36 | 608.00 | 265.10 |
| | 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 245.00 | 741.87 | 0.00 | 742.00 | 98.14 | 3.25 | 105.97 | 24.73 |
| | 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 360.00 | 742.04 | 0.00 | 742.24 | 149.17 | 4.19 | 125.04 | 29.48 |
| | 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.48 | 0.00 | 742.61 | 86.44 | 3.57 | 184.14 | 46.25 |
| | 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 590.00 | 743.96 | 0.00 | 744.00 | 19.07 | 2.20 | 392.96 | 135.11 |
| | 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 245.00 | 743.44 | 0.00 | 743.57 | 104.50 | 3.32 | 102.89 | 23.97 |
| | 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 360.00 | 743.89 | 0.00 | 744.02 | 89.69 | 3.46 | 157.02 | 38.01 |
| | 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 743.96 | 0.00 | 744.12 | 109.07 | 3.90 | 167.88 | 41.17 |
| | 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 590.00 | 744.44 | 0.00 | 744.58 | 85.41 | 3.83 | 234.08 | 63.84 |
| | 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 245.00 | 745.03 | 0.00 | 745.16 | 107.96 | 3.36 | 101.33 | 23.58 |
| | 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 360.00 | 745.37 | 0.00 | 745.53 | 112.28 | 3.77 | 142.48 | 33.97 |
| | 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.57 | 0.00 | 745.73 | 105.67 | 3.85 | 170.09 | 41.83 |
| | 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 590.00 | 745.88 | 0.00 | 746.06 | 112.73 | 4.26 | 211.52 | 55.57 |
| | 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 245.00 | 745.95 | 0.00 | 745.98 | 31.67 | 1.84 | 214.04 | 43.54 |
| | 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 360.00 | 746.32 | 0.00 | 746.35 | 31.24 | 2.02 | 280.62 | 64.41 |
| | 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.50 | 0.00 | 746.54 | 31.37 | 2.12 | 316.81 | 76.77 |
| | 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 590.00 | 746.86 | 0.00 | 746.90 | 32.24 | 2.33 | 389.57 | 103.91 |

| SECNC | XLCH | ELTKD | ELLC | ELMIN | G | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 245.00 | 746.90 | 0.00 | 747.02 | 201.04 | 3.70 | 109.35 | 17.28 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 360.00 | 747.21 | 0.00 | 747.32 | 166.35 | 3.78 | 155.38 | 27.91 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.37 | 0.00 | 747.48 | 152.51 | 3.82 | 182.27 | 34.82 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 590.00 | 747.71 | 0.00 | 747.82 | 131.18 | 3.91 | 240.63 | 51.51 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 245.00 | 748.81 | 0.00 | 748.86 | 77.70 | 2.58 | 154.91 | 27.79 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 360.00 | 749.06 | 0.00 | 749.13 | 85.66 | 2.95 | 197.38 | 38.90 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.19 | 0.00 | 749.27 | 89.46 | 3.13 | 220.80 | 45.46 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 590.00 | 749.46 | 0.00 | 749.55 | 95.19 | 3.47 | 268.69 | 60.47 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 245.00 | 750.26 | 0.00 | 750.33 | 118.06 | 3.02 | 133.06 | 22.55 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 360.00 | 750.56 | 0.00 | 750.64 | 111.07 | 3.25 | 179.77 | 34.16 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.71 | 0.00 | 750.80 | 108.50 | 3.37 | 206.01 | 41.28 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 590.00 | 751.00 | 0.00 | 751.10 | 105.24 | 3.60 | 259.57 | 57.51 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 245.00 | 751.93 | 0.00 | 751.99 | 97.17 | 2.81 | 142.84 | 24.85 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 360.00 | 752.20 | 0.00 | 752.27 | 100.22 | 3.12 | 186.55 | 35.96 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.34 | 0.00 | 752.42 | 100.86 | 3.27 | 211.49 | 42.82 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 590.00 | 752.62 | 0.00 | 752.71 | 102.90 | 3.57 | 261.59 | 58.16 |

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFLSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 899.000 | 245.00 | 677.28 | 0.00 | 0.00 | -1.52 | 33.92 | 0.00 |
| 899.000 | 360.00 | 678.00 | 0.00 | 0.00 | -.30 | 39.97 | 0.00 |
| 899.000 | 430.00 | 678.30 | 0.00 | 0.00 | 0.00 | 83.20 | 0.00 |
| 899.000 | 590.00 | 678.80 | 0.00 | 0.00 | .50 | 155.41 | 0.00 |
| 899.100 | 245.00 | 678.18 | 0.00 | .90 | 0.00 | 19.01 | 65.00 |
| 899.100 | 360.00 | 678.93 | 0.00 | .93 | 0.00 | 21.88 | 65.00 |
| 899.100 | 430.00 | 679.25 | 0.00 | .95 | 0.00 | 23.10 | 65.00 |
| 899.100 | 590.00 | 679.80 | 0.00 | 1.00 | 0.00 | 25.22 | 65.00 |
| 899.130 | 245.00 | 679.08 | 0.00 | .90 | 0.00 | 22.48 | 5.00 |
| 899.130 | 360.00 | 680.06 | 0.00 | 1.13 | 0.00 | 130.41 | 5.00 |
| 899.130 | 430.00 | 680.63 | 0.00 | 1.38 | 0.00 | 252.34 | 5.00 |
| 899.130 | 590.00 | 681.56 | 0.00 | 1.77 | 0.00 | 273.83 | 5.00 |
| 899.200 | 245.00 | 680.62 | 0.00 | 1.54 | 0.00 | 24.55 | 195.00 |
| 899.200 | 360.00 | 681.48 | 0.00 | 1.42 | 0.00 | 248.69 | 195.00 |
| 899.200 | 430.00 | 681.61 | 0.00 | .97 | 0.00 | 251.71 | 195.00 |
| 899.200 | 590.00 | 682.08 | 0.00 | .51 | 0.00 | 262.56 | 195.00 |
| 899.220 | 245.00 | 680.59 | 0.00 | -.03 | 0.00 | 24.44 | .50 |
| 899.220 | 360.00 | 681.51 | 0.00 | .03 | 0.00 | 249.46 | .50 |
| 899.220 | 430.00 | 681.66 | 0.00 | .05 | 0.00 | 252.96 | .50 |
| 899.220 | 590.00 | 682.13 | 0.00 | .05 | 0.00 | 263.72 | .50 |
| 899.230 | 245.00 | 680.73 | 0.00 | .14 | 0.00 | 24.97 | 4.00 |
| 899.230 | 360.00 | 681.58 | 0.00 | .07 | 0.00 | 251.07 | 4.00 |
| 899.230 | 430.00 | 681.72 | 0.00 | .06 | 0.00 | 254.37 | 4.00 |
| 899.230 | 590.00 | 682.16 | 0.00 | .03 | 0.00 | 264.26 | 4.00 |
| 899.250 | 245.00 | 680.81 | 0.00 | .08 | 0.00 | 25.28 | .50 |
| 899.250 | 360.00 | 681.57 | 0.00 | -.01 | 0.00 | 251.06 | .50 |
| 899.250 | 430.00 | 681.71 | 0.00 | -.01 | 0.00 | 254.31 | .50 |
| 899.250 | 590.00 | 682.15 | 0.00 | -.01 | 0.00 | 264.36 | .50 |
| 900.000 | 245.00 | 681.08 | 0.00 | .27 | 0.00 | 24.76 | 50.00 |
| 900.000 | 360.00 | 681.77 | 0.00 | .20 | 0.00 | 246.36 | 50.00 |
| 900.000 | 430.00 | 681.93 | 0.00 | .22 | 0.00 | 249.96 | 50.00 |
| 900.000 | 590.00 | 682.34 | 0.00 | .19 | 0.00 | 259.36 | 50.00 |
| 900.200 | 245.00 | 682.41 | 0.00 | 1.32 | 0.00 | 21.79 | 175.00 |
| 900.200 | 360.00 | 683.12 | 0.00 | 1.35 | 0.00 | 24.55 | 175.00 |
| 900.200 | 430.00 | 683.39 | 0.00 | 1.46 | 0.00 | 25.57 | 175.00 |
| 900.200 | 590.00 | 683.72 | 0.00 | 1.38 | 0.00 | 242.74 | 175.00 |
| 900.220 | 245.00 | 682.37 | 0.00 | -.04 | 0.00 | 21.65 | .50 |
| 900.220 | 360.00 | 683.08 | 0.00 | -.05 | 0.00 | 24.37 | .50 |
| 900.220 | 430.00 | 683.33 | 0.00 | -.05 | 0.00 | 25.35 | .50 |
| 900.220 | 590.00 | 683.62 | 0.00 | -.11 | 0.00 | 240.40 | .50 |
| 900.230 | 245.00 | 682.61 | 0.00 | .24 | 0.00 | 22.58 | 4.00 |
| 900.230 | 360.00 | 683.35 | 0.00 | .28 | 0.00 | 25.44 | 4.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 900.230 | 430.00 | 683.83 | 0.00 | .49 | 0.00 | 245.35 | 4.00 |
| 900.230 | 590.00 | 684.52 | 0.00 | .90 | 0.00 | 261.13 | 4.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 900.250 | 245.00 | 682.71 | 0.00 | .11 | 0.00 | 22.98 | .50 |
| 900.250 | 360.00 | 683.48 | 0.00 | .13 | 0.00 | 25.93 | .50 |
| 900.250 | 430.00 | 683.84 | 0.00 | .02 | 0.00 | 245.73 | .50 |
| 900.250 | 590.00 | 684.50 | 0.00 | -.02 | 0.00 | 260.77 | .50 |
| 900.400 | 245.00 | 684.98 | 0.00 | 2.27 | 0.00 | 22.48 | 255.00 |
| 900.400 | 360.00 | 685.95 | 0.00 | 2.47 | 0.00 | 132.11 | 255.00 |
| 900.400 | 430.00 | 686.15 | 0.00 | 2.31 | 0.00 | 243.48 | 255.00 |
| 900.400 | 590.00 | 686.30 | 0.00 | 1.80 | 0.00 | 246.78 | 255.00 |
| 900.420 | 245.00 | 684.95 | 0.00 | -.03 | 0.00 | 22.36 | .50 |
| 900.420 | 360.00 | 685.92 | 0.00 | -.03 | 0.00 | 72.26 | .50 |
| 900.420 | 430.00 | 686.15 | 0.00 | -.00 | 0.00 | 243.60 | .50 |
| 900.420 | 590.00 | 686.56 | 0.00 | .27 | 0.00 | 253.18 | .50 |
| 900.430 | 245.00 | 685.15 | 0.00 | .20 | 0.00 | 23.13 | 4.00 |
| 900.430 | 360.00 | 686.21 | 0.00 | .29 | 0.00 | 244.90 | 4.00 |
| 900.430 | 430.00 | 686.43 | 0.00 | .28 | 0.00 | 249.70 | 4.00 |
| 900.430 | 590.00 | 686.68 | 0.00 | .12 | 0.00 | 255.85 | 4.00 |
| 900.450 | 245.00 | 685.24 | 0.00 | .09 | 0.00 | 23.48 | .50 |
| 900.450 | 360.00 | 686.22 | 0.00 | .01 | 0.00 | 245.14 | .50 |
| 900.450 | 430.00 | 686.42 | 0.00 | -.01 | 0.00 | 249.65 | .50 |
| 900.450 | 590.00 | 686.66 | 0.00 | -.03 | 0.00 | 255.24 | .50 |
| 900.600 | 245.00 | 687.81 | 0.00 | 2.56 | 0.00 | 250.26 | 315.00 |
| 900.600 | 360.00 | 688.17 | 0.00 | 1.95 | 0.00 | 257.42 | 315.00 |
| 900.600 | 430.00 | 688.32 | 0.00 | 1.90 | 0.00 | 260.36 | 315.00 |
| 900.600 | 590.00 | 688.63 | 0.00 | 1.97 | 0.00 | 266.78 | 315.00 |
| 900.620 | 245.00 | 687.82 | 0.00 | .02 | 0.00 | 250.30 | .50 |
| 900.620 | 360.00 | 688.18 | 0.00 | .01 | 0.00 | 257.49 | .50 |
| 900.620 | 430.00 | 688.33 | 0.00 | .01 | 0.00 | 260.40 | .50 |
| 900.620 | 590.00 | 688.64 | 0.00 | .01 | 0.00 | 266.68 | .50 |
| 900.630 | 245.00 | 687.91 | 0.00 | .09 | 0.00 | 252.10 | 9.00 |
| 900.630 | 360.00 | 688.24 | 0.00 | .06 | 0.00 | 258.70 | 9.00 |
| 900.630 | 430.00 | 688.38 | 0.00 | .06 | 0.00 | 261.55 | 9.00 |
| 900.630 | 590.00 | 688.69 | 0.00 | .05 | 0.00 | 267.68 | 9.00 |
| 900.650 | 245.00 | 687.91 | 0.00 | .00 | 0.00 | 252.34 | .50 |
| 900.650 | 360.00 | 688.24 | 0.00 | .00 | 0.00 | 258.86 | .50 |
| 900.650 | 430.00 | 688.38 | 0.00 | .00 | 0.00 | 261.70 | .50 |
| 900.650 | 590.00 | 688.69 | 0.00 | .00 | 0.00 | 267.82 | .50 |
| 900.700 | 245.00 | 688.68 | 0.00 | .77 | 0.00 | 247.71 | 160.00 |
| 900.700 | 360.00 | 688.95 | 0.00 | .71 | 0.00 | 252.08 | 160.00 |
| 900.700 | 430.00 | 689.09 | 0.00 | .71 | 0.00 | 254.43 | 160.00 |
| 900.700 | 590.00 | 689.39 | 0.00 | .70 | 0.00 | 259.19 | 160.00 |
| 900.800 | 245.00 | 689.76 | 0.00 | 1.08 | 0.00 | 240.92 | 155.00 |
| 900.800 | 360.00 | 690.05 | 0.00 | 1.10 | 0.00 | 245.64 | 155.00 |
| 900.800 | 430.00 | 690.19 | 0.00 | 1.09 | 0.00 | 247.89 | 155.00 |
| 900.800 | 590.00 | 690.46 | 0.00 | 1.07 | 0.00 | 252.37 | 155.00 |

| SECND | Q | CASEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 900.820 | 245.00 | 689.76 | 0.00 | .00 | 0.00 | 241.02 | .50 |
| 900.820 | 360.00 | 690.24 | 0.00 | .19 | 0.00 | 248.51 | .50 |
| 900.820 | 430.00 | 690.36 | 0.00 | .17 | 0.00 | 250.56 | .50 |
| 900.820 | 590.00 | 690.59 | 0.00 | .13 | 0.00 | 254.35 | .50 |
| 900.830 | 245.00 | 690.14 | 0.00 | .38 | 0.00 | 247.13 | 4.00 |
| 900.830 | 360.00 | 690.33 | 0.00 | .09 | 0.00 | 250.12 | 4.00 |
| 900.830 | 430.00 | 690.44 | 0.00 | .08 | 0.00 | 251.74 | 4.00 |
| 900.830 | 590.00 | 690.66 | 0.00 | .07 | 0.00 | 255.32 | 4.00 |
| 900.850 | 245.00 | 690.13 | 0.00 | -.01 | 0.00 | 246.92 | .50 |
| 900.850 | 360.00 | 690.31 | 0.00 | -.02 | 0.00 | 249.80 | .50 |
| 900.850 | 430.00 | 690.42 | 0.00 | -.02 | 0.00 | 251.55 | .50 |
| 900.850 | 590.00 | 690.64 | 0.00 | -.02 | 0.00 | 255.09 | .50 |
| 900.860 | 245.00 | 690.56 | 0.00 | .43 | 0.00 | 242.65 | 66.00 |
| 900.860 | 360.00 | 690.84 | 0.00 | .53 | 0.00 | 247.05 | 66.00 |
| 900.860 | 430.00 | 690.97 | 0.00 | .56 | 0.00 | 249.19 | 66.00 |
| 900.860 | 590.00 | 691.23 | 0.00 | .59 | 0.00 | 253.33 | 66.00 |
| 900.870 | 245.00 | 691.31 | 0.00 | .75 | 0.00 | 243.26 | 67.00 |
| 900.870 | 360.00 | 691.56 | 0.00 | .73 | 0.00 | 247.40 | 67.00 |
| 900.870 | 430.00 | 691.69 | 0.00 | .72 | 0.00 | 249.43 | 67.00 |
| 900.870 | 590.00 | 691.94 | 0.00 | .71 | 0.00 | 253.44 | 67.00 |
| 901.000 | 245.00 | 691.96 | 0.00 | .65 | 0.00 | 240.97 | 67.00 |
| 901.000 | 360.00 | 692.23 | 0.00 | .67 | 0.00 | 245.33 | 67.00 |
| 901.000 | 430.00 | 692.36 | 0.00 | .67 | 0.00 | 247.43 | 67.00 |
| 901.000 | 590.00 | 692.61 | 0.00 | .67 | 0.00 | 251.57 | 67.00 |
| * 901.020 | 245.00 | 691.83 | 0.00 | -.13 | 0.00 | 91.49 | .50 |
| 901.020 | 360.00 | 692.46 | 0.00 | .23 | 0.00 | 249.06 | .50 |
| 901.020 | 430.00 | 692.58 | 0.00 | .22 | 0.00 | 251.03 | .50 |
| 901.020 | 590.00 | 692.81 | 0.00 | .20 | 0.00 | 254.62 | .50 |
| 901.030 | 245.00 | 692.50 | 0.00 | .68 | 0.00 | 249.71 | 4.00 |
| 901.030 | 360.00 | 692.54 | 0.00 | .08 | 0.00 | 250.32 | 4.00 |
| 901.030 | 430.00 | 692.66 | 0.00 | .07 | 0.00 | 252.05 | 4.00 |
| 901.030 | 590.00 | 692.88 | 0.00 | .07 | 0.00 | 255.61 | 4.00 |
| 901.050 | 245.00 | 692.49 | 0.00 | -.01 | 0.00 | 249.53 | .50 |
| 901.050 | 360.00 | 692.51 | 0.00 | -.03 | 0.00 | 249.89 | .50 |
| 901.050 | 430.00 | 692.63 | 0.00 | -.03 | 0.00 | 251.74 | .50 |
| 901.050 | 590.00 | 692.84 | 0.00 | -.03 | 0.00 | 255.21 | .50 |
| 901.100 | 245.00 | 693.57 | 0.00 | 1.08 | 0.00 | 22.82 | 235.00 |
| 901.100 | 360.00 | 694.10 | 0.00 | 1.58 | 0.00 | 246.42 | 235.00 |
| 901.100 | 430.00 | 694.25 | 0.00 | 1.63 | 0.00 | 248.95 | 235.00 |
| 901.100 | 590.00 | 694.56 | 0.00 | 1.71 | 0.00 | 253.83 | 235.00 |
| 901.120 | 245.00 | 693.43 | 0.00 | -.14 | 0.00 | 22.13 | .50 |
| 901.120 | 360.00 | 694.28 | 0.00 | .18 | 0.00 | 249.17 | .50 |
| 901.120 | 430.00 | 694.42 | 0.00 | .16 | 0.00 | 251.55 | .50 |
| 901.120 | 590.00 | 694.65 | 0.00 | .13 | 0.00 | 256.05 | .50 |

| SECND | C | CHSEL | DIFKSP | DIFHSX | DIFKHS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 901.130 | 245.00 | 694.22 | 0.00 | .79 | 0.00 | 248.43 | 4.00 |
| 901.130 | 360.00 | 694.36 | 0.00 | .08 | 0.00 | 250.57 | 4.00 |
| 901.130 | 430.00 | 694.48 | 0.00 | .07 | 0.00 | 252.47 | 4.00 |
| 901.130 | 590.00 | 694.74 | 0.00 | .05 | 0.00 | 256.75 | 4.00 |
| 901.150 | 245.00 | 694.21 | 0.00 | -.01 | 0.00 | 248.20 | .50 |
| 901.150 | 360.00 | 694.33 | 0.00 | -.03 | 0.00 | 250.14 | .50 |
| 901.150 | 430.00 | 694.45 | 0.00 | -.03 | 0.00 | 252.17 | .50 |
| 901.150 | 590.00 | 694.72 | 0.00 | -.03 | 0.00 | 256.39 | .50 |
| 901.170 | 245.00 | 694.97 | 0.00 | .76 | 0.00 | 22.87 | 150.00 |
| 901.170 | 360.00 | 695.39 | 0.00 | 1.06 | 0.00 | 244.63 | 150.00 |
| 901.170 | 430.00 | 695.54 | 0.00 | 1.08 | 0.00 | 247.08 | 150.00 |
| 901.170 | 590.00 | 695.82 | 0.00 | 1.11 | 0.00 | 251.63 | 150.00 |
| 901.200 | 245.00 | 696.76 | 0.00 | 1.79 | 0.00 | 242.50 | 145.00 |
| 901.200 | 360.00 | 697.03 | 0.00 | 1.65 | 0.00 | 246.99 | 145.00 |
| 901.200 | 430.00 | 697.15 | 0.00 | 1.61 | 0.00 | 248.82 | 145.00 |
| 901.200 | 590.00 | 697.37 | 0.00 | 1.55 | 0.00 | 252.47 | 145.00 |
| 901.220 | 245.00 | 696.75 | 0.00 | -.01 | 0.00 | 242.49 | .50 |
| 901.220 | 360.00 | 697.04 | 0.00 | .01 | 0.00 | 247.09 | .50 |
| 901.220 | 430.00 | 697.27 | 0.00 | .13 | 0.00 | 250.84 | .50 |
| 901.220 | 590.00 | 697.53 | 0.00 | .16 | 0.00 | 254.99 | .50 |
| 901.230 | 245.00 | 697.32 | 0.00 | .57 | 0.00 | 251.59 | 4.00 |
| 901.230 | 360.00 | 697.35 | 0.00 | .31 | 0.00 | 252.09 | 4.00 |
| 901.230 | 430.00 | 697.42 | 0.00 | .15 | 0.00 | 253.25 | 4.00 |
| 901.230 | 590.00 | 697.64 | 0.00 | .11 | 0.00 | 256.82 | 4.00 |
| 901.250 | 245.00 | 697.32 | 0.00 | .00 | 0.00 | 251.76 | .50 |
| 901.250 | 360.00 | 697.35 | 0.00 | .00 | 0.00 | 252.27 | .50 |
| 901.250 | 430.00 | 697.42 | 0.00 | .00 | 0.00 | 253.38 | .50 |
| 901.250 | 590.00 | 697.64 | 0.00 | .00 | 0.00 | 256.96 | .50 |
| 901.260 | 245.00 | 697.40 | 0.00 | .08 | 0.00 | 246.51 | 33.00 |
| 901.260 | 360.00 | 697.51 | 0.00 | .16 | 0.00 | 248.25 | 33.00 |
| 901.260 | 430.00 | 697.61 | 0.00 | .19 | 0.00 | 249.79 | 33.00 |
| 901.260 | 590.00 | 697.85 | 0.00 | .21 | 0.00 | 253.76 | 33.00 |
| 901.270 | 245.00 | 697.58 | 0.00 | .18 | 0.00 | 242.94 | 33.00 |
| 901.270 | 360.00 | 697.78 | 0.00 | .27 | 0.00 | 246.08 | 33.00 |
| 901.270 | 430.00 | 697.90 | 0.00 | .29 | 0.00 | 247.99 | 33.00 |
| 901.270 | 590.00 | 698.15 | 0.00 | .30 | 0.00 | 252.11 | 33.00 |
| 901.280 | 245.00 | 697.89 | 0.00 | .31 | 0.00 | 226.91 | 33.00 |
| 901.280 | 360.00 | 698.15 | 0.00 | .38 | 0.00 | 244.09 | 33.00 |
| 901.280 | 430.00 | 698.28 | 0.00 | .39 | 0.00 | 246.16 | 33.00 |
| 901.280 | 590.00 | 698.53 | 0.00 | .38 | 0.00 | 250.23 | 33.00 |
| 901.290 | 245.00 | 698.29 | 0.00 | .40 | 0.00 | 220.33 | 32.00 |
| 901.290 | 360.00 | 698.67 | 0.00 | .52 | 0.00 | 245.95 | 32.00 |
| 901.290 | 430.00 | 698.80 | 0.00 | .52 | 0.00 | 248.14 | 32.00 |
| 901.290 | 590.00 | 699.01 | 0.00 | .48 | 0.00 | 251.51 | 32.00 |

| | SECNC | Q | CWSEL | DIFKSP | DIFKSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 901.300 | 245.00 | 698.69 | 0.00 | .40 | 0.00 | 214.03 | 32.00 |
| | 901.300 | 360.00 | 699.02 | 0.00 | .35 | 0.00 | 245.10 | 32.00 |
| | 901.300 | 430.00 | 699.14 | 0.00 | .35 | 0.00 | 247.16 | 32.00 |
| | 901.300 | 590.00 | 699.38 | 0.00 | .37 | 0.00 | 251.02 | 32.00 |
| | 901.310 | 245.00 | 699.13 | 0.00 | .44 | 0.00 | 22.64 | 32.00 |
| * | 901.310 | 360.00 | 699.55 | 0.00 | .53 | 0.00 | 243.97 | 32.00 |
| * | 901.310 | 430.00 | 699.66 | 0.00 | .51 | 0.00 | 245.73 | 32.00 |
| | 901.310 | 590.00 | 699.84 | 0.00 | .45 | 0.00 | 248.59 | 32.00 |
| | 901.320 | 245.00 | 699.13 | 0.00 | .00 | 0.00 | 22.68 | .50 |
| | 901.320 | 360.00 | 699.96 | 0.00 | .41 | 0.00 | 250.52 | .50 |
| | 901.320 | 430.00 | 700.08 | 0.00 | .42 | 0.00 | 252.57 | .50 |
| | 901.320 | 590.00 | 700.32 | 0.00 | .48 | 0.00 | 256.24 | .50 |
| | 901.330 | 245.00 | 699.82 | 0.00 | .69 | 0.00 | 248.45 | 4.00 |
| | 901.330 | 360.00 | 700.01 | 0.00 | .05 | 0.00 | 251.38 | 4.00 |
| | 901.330 | 430.00 | 700.13 | 0.00 | .05 | 0.00 | 253.40 | 4.00 |
| | 901.330 | 590.00 | 700.37 | 0.00 | .05 | 0.00 | 257.31 | 4.00 |
| | 901.350 | 245.00 | 699.82 | 0.00 | -.00 | 0.00 | 248.38 | .50 |
| | 901.350 | 360.00 | 700.01 | 0.00 | -.00 | 0.00 | 251.49 | .50 |
| | 901.350 | 430.00 | 700.13 | 0.00 | -.00 | 0.00 | 253.45 | .50 |
| | 901.350 | 590.00 | 700.37 | 0.00 | -.00 | 0.00 | 257.31 | .50 |
| | 901.400 | 245.00 | 699.87 | 0.00 | .05 | 0.00 | 247.57 | 15.00 |
| | 901.400 | 360.00 | 700.07 | 0.00 | .07 | 0.00 | 250.83 | 15.00 |
| | 901.400 | 430.00 | 700.20 | 0.00 | .07 | 0.00 | 252.87 | 15.00 |
| | 901.400 | 590.00 | 700.45 | 0.00 | .08 | 0.00 | 256.85 | 15.00 |
| | 901.420 | 245.00 | 699.93 | 0.00 | .06 | 0.00 | 248.60 | .50 |
| | 901.420 | 360.00 | 700.16 | 0.00 | .09 | 0.00 | 252.26 | .50 |
| | 901.420 | 430.00 | 700.29 | 0.00 | .09 | 0.00 | 254.36 | .50 |
| | 901.420 | 590.00 | 700.54 | 0.00 | .10 | 0.00 | 258.43 | .50 |
| | 901.430 | 245.00 | 699.97 | 0.00 | .04 | 0.00 | 249.07 | 4.00 |
| | 901.430 | 360.00 | 700.20 | 0.00 | .04 | 0.00 | 252.75 | 4.00 |
| | 901.430 | 430.00 | 700.33 | 0.00 | .04 | 0.00 | 254.77 | 4.00 |
| | 901.430 | 590.00 | 700.58 | 0.00 | .04 | 0.00 | 258.86 | 4.00 |
| | 901.450 | 245.00 | 699.97 | 0.00 | -.00 | 0.00 | 249.26 | .50 |
| | 901.450 | 360.00 | 700.20 | 0.00 | -.00 | 0.00 | 252.91 | .50 |
| | 901.450 | 430.00 | 700.32 | 0.00 | -.00 | 0.00 | 254.99 | .50 |
| | 901.450 | 590.00 | 700.58 | 0.00 | -.00 | 0.00 | 259.06 | .50 |
| | 901.500 | 245.00 | 700.24 | 0.00 | .27 | 0.00 | 138.06 | 95.00 |
| | 901.500 | 360.00 | 700.53 | 0.00 | .33 | 0.00 | 146.13 | 95.00 |
| | 901.500 | 430.00 | 700.68 | 0.00 | .36 | 0.00 | 150.39 | 95.00 |
| | 901.500 | 590.00 | 700.98 | 0.00 | .40 | 0.00 | 158.68 | 95.00 |
| | 901.520 | 245.00 | 700.26 | 0.00 | .01 | 0.00 | 138.27 | .50 |
| | 901.520 | 360.00 | 700.55 | 0.00 | .02 | 0.00 | 146.41 | .50 |
| | 901.520 | 430.00 | 700.70 | 0.00 | .02 | 0.00 | 150.69 | .50 |
| | 901.520 | 590.00 | 701.00 | 0.00 | .03 | 0.00 | 159.38 | .50 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 901.530 | 245.00 | 700.27 | 0.00 | .02 | 0.00 | 138.81 | 4.00 |
| | 901.530 | 360.00 | 700.57 | 0.00 | .02 | 0.00 | 147.09 | 4.00 |
| | 901.530 | 430.00 | 700.72 | 0.00 | .02 | 0.00 | 151.44 | 4.00 |
| | 901.530 | 590.00 | 701.03 | 0.00 | .02 | 0.00 | 159.66 | 4.00 |
| | 901.550 | 245.00 | 700.27 | 0.00 | .00 | 0.00 | 139.00 | .50 |
| | 901.550 | 360.00 | 700.57 | 0.00 | .00 | 0.00 | 147.30 | .50 |
| | 901.550 | 430.00 | 700.73 | 0.00 | .00 | 0.00 | 151.67 | .50 |
| | 901.550 | 590.00 | 701.03 | 0.00 | .00 | 0.00 | 159.77 | .50 |
| | 901.600 | 245.00 | 700.63 | 0.00 | .35 | 0.00 | 135.32 | 125.00 |
| | 901.600 | 360.00 | 700.99 | 0.00 | .42 | 0.00 | 142.12 | 125.00 |
| | 901.600 | 430.00 | 701.17 | 0.00 | .45 | 0.00 | 147.34 | 125.00 |
| | 901.600 | 590.00 | 701.54 | 0.00 | .51 | 0.00 | 157.55 | 125.00 |
| | 901.620 | 245.00 | 700.66 | 0.00 | .03 | 0.00 | 135.61 | .50 |
| | 901.620 | 360.00 | 701.02 | 0.00 | .03 | 0.00 | 143.08 | .50 |
| | 901.620 | 430.00 | 701.21 | 0.00 | .04 | 0.00 | 148.34 | .50 |
| | 901.620 | 590.00 | 701.58 | 0.00 | .04 | 0.00 | 158.65 | .50 |
| | 901.630 | 245.00 | 700.69 | 0.00 | .03 | 0.00 | 135.81 | 4.00 |
| | 901.630 | 360.00 | 701.05 | 0.00 | .03 | 0.00 | 143.69 | 4.00 |
| | 901.630 | 430.00 | 701.24 | 0.00 | .03 | 0.00 | 148.94 | 4.00 |
| | 901.630 | 590.00 | 701.60 | 0.00 | .03 | 0.00 | 159.27 | 4.00 |
| | 901.650 | 245.00 | 700.69 | 0.00 | .00 | 0.00 | 135.92 | .50 |
| | 901.650 | 360.00 | 701.05 | 0.00 | .00 | 0.00 | 143.98 | .50 |
| | 901.650 | 430.00 | 701.24 | 0.00 | .00 | 0.00 | 149.23 | .50 |
| | 901.650 | 590.00 | 701.60 | 0.00 | .00 | 0.00 | 159.43 | .50 |
| | 901.800 | 245.00 | 701.83 | 0.00 | 1.14 | 0.00 | 107.48 | 175.00 |
| | 901.800 | 360.00 | 702.20 | 0.00 | 1.15 | 0.00 | 132.40 | 175.00 |
| | 901.800 | 430.00 | 702.39 | 0.00 | 1.15 | 0.00 | 134.04 | 175.00 |
| | 901.800 | 590.00 | 702.76 | 0.00 | 1.15 | 0.00 | 138.41 | 175.00 |
| | 902.200 | 245.00 | 704.11 | 0.00 | 2.28 | 0.00 | 132.49 | 170.00 |
| | 902.200 | 360.00 | 704.39 | 0.00 | 2.19 | 0.00 | 135.01 | 170.00 |
| | 902.200 | 430.00 | 704.53 | 0.00 | 2.14 | 0.00 | 136.26 | 170.00 |
| | 902.200 | 590.00 | 704.81 | 0.00 | 2.06 | 0.00 | 142.89 | 170.00 |
| * | 902.220 | 245.00 | 704.11 | 0.00 | -.01 | 0.00 | 132.49 | .50 |
| | 902.220 | 360.00 | 704.39 | 0.00 | .00 | 0.00 | 135.06 | .50 |
| | 902.220 | 430.00 | 704.54 | 0.00 | .00 | 0.00 | 136.30 | .50 |
| | 902.220 | 590.00 | 704.82 | 0.00 | .00 | 0.00 | 143.05 | .50 |
| | 902.230 | 245.00 | 704.58 | 0.00 | .48 | 0.00 | 136.72 | 4.00 |
| | 902.230 | 360.00 | 704.73 | 0.00 | .33 | 0.00 | 140.54 | 4.00 |
| | 902.230 | 430.00 | 704.84 | 0.00 | .30 | 0.00 | 143.68 | 4.00 |
| | 902.230 | 590.00 | 705.08 | 0.00 | .26 | 0.00 | 150.55 | 4.00 |
| | 902.250 | 245.00 | 704.62 | 0.00 | .03 | 0.00 | 137.35 | .50 |
| | 902.250 | 360.00 | 704.77 | 0.00 | .05 | 0.00 | 141.76 | .50 |
| | 902.250 | 430.00 | 704.89 | 0.00 | .05 | 0.00 | 144.99 | .50 |
| | 902.250 | 590.00 | 705.14 | 0.00 | .06 | 0.00 | 152.02 | .50 |

| | SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 901.980 | 245.00 | 705.56 | 0.00 | .94 | 0.00 | 15.00 | 198.00 |
| | 901.980 | 360.00 | 706.18 | 0.00 | 1.40 | 0.00 | 15.00 | 198.00 |
| | 901.980 | 430.00 | 706.49 | 0.00 | 1.61 | 0.00 | 15.00 | 198.00 |
| | 901.980 | 590.00 | 707.11 | 0.00 | 1.97 | 0.00 | 15.00 | 198.00 |
| | 901.990 | 245.00 | 705.48 | 0.00 | -.08 | 0.00 | 10.39 | 1.00 |
| | 901.990 | 360.00 | 706.05 | 0.00 | -.13 | 0.00 | 10.41 | 1.00 |
| | 901.990 | 430.00 | 706.33 | 0.00 | -.16 | 0.00 | 10.42 | 1.00 |
| * | 901.990 | 590.00 | 706.95 | 0.00 | -.16 | 0.00 | 10.43 | 1.00 |
| | 902.010 | 245.00 | 706.30 | 0.00 | .82 | 0.00 | 10.41 | 49.00 |
| | 902.010 | 360.00 | 707.34 | 0.00 | 1.30 | 0.00 | 10.44 | 49.00 |
| | 902.010 | 430.00 | 707.97 | 0.00 | 1.64 | 0.00 | 10.46 | 49.00 |
| | 902.010 | 590.00 | 709.55 | 0.00 | 2.60 | 0.00 | 10.50 | 49.00 |
| | 902.020 | 245.00 | 706.77 | 0.00 | .48 | 0.00 | 15.00 | 1.00 |
| | 902.020 | 360.00 | 707.99 | 0.00 | .65 | 0.00 | 15.00 | 1.00 |
| | 902.020 | 430.00 | 708.70 | 0.00 | .73 | 0.00 | 15.00 | 1.00 |
| | 902.020 | 590.00 | 710.48 | 0.00 | .93 | 0.00 | 15.00 | 1.00 |
| | 902.800 | 245.00 | 707.30 | 0.00 | .53 | 0.00 | 73.74 | 85.00 |
| | 902.800 | 360.00 | 708.54 | 0.00 | .55 | 0.00 | 105.14 | 85.00 |
| | 902.800 | 430.00 | 709.26 | 0.00 | .56 | 0.00 | 163.68 | 85.00 |
| | 902.800 | 590.00 | 711.04 | 0.00 | .56 | 0.00 | 214.00 | 85.00 |
| | 902.980 | 245.00 | 707.85 | 0.00 | .54 | 0.00 | 47.16 | 86.00 |
| | 902.980 | 360.00 | 708.80 | 0.00 | .26 | 0.00 | 109.84 | 86.00 |
| | 902.980 | 430.00 | 709.43 | 0.00 | .17 | 0.00 | 176.69 | 86.00 |
| | 902.980 | 590.00 | 711.09 | 0.00 | .05 | 0.00 | 205.88 | 86.00 |
| | 903.020 | 245.00 | 709.22 | 0.00 | 1.38 | 0.00 | 178.00 | 24.00 |
| | 903.020 | 360.00 | 709.53 | 0.00 | .73 | 0.00 | 178.00 | 24.00 |
| | 903.020 | 430.00 | 709.74 | 0.00 | .31 | 0.00 | 178.00 | 24.00 |
| | 903.020 | 590.00 | 711.18 | 0.00 | .09 | 0.00 | 178.00 | 24.00 |
| | 903.100 | 245.00 | 709.26 | 0.00 | .04 | 0.00 | 178.00 | 91.00 |
| | 903.100 | 360.00 | 709.58 | 0.00 | .05 | 0.00 | 178.00 | 91.00 |
| | 903.100 | 430.00 | 709.80 | 0.00 | .06 | 0.00 | 178.00 | 91.00 |
| | 903.100 | 590.00 | 711.21 | 0.00 | .03 | 0.00 | 178.00 | 91.00 |
| | 903.120 | 245.00 | 709.25 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| | 903.120 | 360.00 | 709.58 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| | 903.120 | 430.00 | 709.79 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| | 903.120 | 590.00 | 711.21 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| | 903.130 | 245.00 | 709.29 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| | 903.130 | 360.00 | 709.62 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| | 903.130 | 430.00 | 709.83 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| | 903.130 | 590.00 | 711.22 | 0.00 | .01 | 0.00 | 178.00 | 4.00 |
| | 903.150 | 245.00 | 709.33 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| | 903.150 | 360.00 | 709.66 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| | 903.150 | 430.00 | 709.87 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| | 903.150 | 590.00 | 711.23 | 0.00 | .01 | 0.00 | 178.00 | .50 |

| SECNC | C | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.280 | 245.00 | 709.41 | 0.00 | .08 | 0.00 | 178.00 | 79.00 |
| 903.280 | 360.00 | 709.76 | 0.00 | .10 | 0.00 | 178.00 | 79.00 |
| 903.280 | 430.00 | 709.97 | 0.00 | .11 | 0.00 | 178.00 | 79.00 |
| 903.280 | 590.00 | 711.28 | 0.00 | .05 | 0.00 | 178.00 | 79.00 |
| 903.320 | 245.00 | 710.23 | 0.00 | .82 | 0.00 | 178.00 | 15.00 |
| 903.320 | 360.00 | 710.43 | 0.00 | .68 | 0.00 | 178.00 | 15.00 |
| 903.320 | 430.00 | 710.55 | 0.00 | .58 | 0.00 | 178.00 | 15.00 |
| 903.320 | 590.00 | 711.38 | 0.00 | .10 | 0.00 | 178.00 | 15.00 |
| 903.400 | 245.00 | 710.25 | 0.00 | .02 | 0.00 | 178.00 | 50.00 |
| 903.400 | 360.00 | 710.47 | 0.00 | .04 | 0.00 | 178.00 | 50.00 |
| 903.400 | 430.00 | 710.60 | 0.00 | .05 | 0.00 | 178.00 | 50.00 |
| 903.400 | 590.00 | 711.41 | 0.00 | .04 | 0.00 | 178.00 | 50.00 |
| 903.480 | 245.00 | 710.32 | 0.00 | .07 | 0.00 | 178.00 | 55.00 |
| 903.480 | 360.00 | 710.58 | 0.00 | .11 | 0.00 | 178.00 | 55.00 |
| 903.480 | 430.00 | 710.72 | 0.00 | .13 | 0.00 | 178.00 | 55.00 |
| 903.480 | 590.00 | 711.50 | 0.00 | .08 | 0.00 | 178.00 | 55.00 |
| 903.520 | 245.00 | 711.93 | 0.00 | 1.61 | 0.00 | 178.00 | 15.00 |
| 903.520 | 360.00 | 712.13 | 0.00 | 1.55 | 0.00 | 178.00 | 15.00 |
| 903.520 | 430.00 | 712.24 | 0.00 | 1.52 | 0.00 | 178.00 | 15.00 |
| 903.520 | 590.00 | 712.47 | 0.00 | .98 | 0.00 | 178.00 | 15.00 |
| 903.800 | 245.00 | 712.05 | 0.00 | .11 | 0.00 | 131.52 | 180.00 |
| 903.800 | 360.00 | 712.32 | 0.00 | .19 | 0.00 | 172.77 | 180.00 |
| 903.800 | 430.00 | 712.47 | 0.00 | .23 | 0.00 | 178.00 | 180.00 |
| 903.800 | 590.00 | 712.80 | 0.00 | .33 | 0.00 | 178.00 | 180.00 |
| 903.810 | 245.00 | 712.45 | 0.00 | .40 | 0.00 | 178.00 | 95.00 |
| 903.810 | 360.00 | 712.79 | 0.00 | .47 | 0.00 | 178.00 | 95.00 |
| 903.810 | 430.00 | 712.97 | 0.00 | .50 | 0.00 | 178.00 | 95.00 |
| 903.810 | 590.00 | 713.31 | 0.00 | .51 | 0.00 | 178.00 | 95.00 |
| 903.600 | 245.00 | 712.46 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 360.00 | 712.80 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 430.00 | 712.98 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 590.00 | 713.32 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.650 | 245.00 | 712.47 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 360.00 | 712.82 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 430.00 | 713.00 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 590.00 | 713.34 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.820 | 245.00 | 712.47 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 360.00 | 712.82 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 430.00 | 712.99 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 590.00 | 713.34 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.830 | 245.00 | 712.62 | 0.00 | .15 | 0.00 | 143.54 | 66.00 |
| 903.830 | 360.00 | 712.99 | 0.00 | .17 | 0.00 | 178.00 | 66.00 |
| 903.830 | 430.00 | 713.17 | 0.00 | .18 | 0.00 | 178.00 | 66.00 |
| 903.830 | 590.00 | 713.53 | 0.00 | .19 | 0.00 | 178.00 | 66.00 |

| SECNO | Q | CASEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.840 | 245.00 | 713.18 | 0.00 | .55 | 0.00 | 107.10 | 67.00 |
| 903.840 | 360.00 | 713.52 | 0.00 | .53 | 0.00 | 159.18 | 67.00 |
| 903.840 | 430.00 | 713.68 | 0.00 | .51 | 0.00 | 177.09 | 67.00 |
| 903.840 | 590.00 | 714.01 | 0.00 | .47 | 0.00 | 178.00 | 67.00 |
| 903.850 | 245.00 | 714.01 | 0.00 | .83 | 0.00 | 102.01 | 67.00 |
| 903.850 | 360.00 | 714.36 | 0.00 | .84 | 0.00 | 148.70 | 67.00 |
| 903.850 | 430.00 | 714.52 | 0.00 | .84 | 0.00 | 172.56 | 67.00 |
| 903.850 | 590.00 | 714.80 | 0.00 | .79 | 0.00 | 178.00 | 67.00 |
| 903.860 | 245.00 | 716.22 | 0.00 | 2.21 | 0.00 | 127.19 | 200.00 |
| 903.860 | 360.00 | 716.57 | 0.00 | 2.21 | 0.00 | 176.01 | 200.00 |
| 903.860 | 430.00 | 716.73 | 0.00 | 2.21 | 0.00 | 178.00 | 200.00 |
| 903.860 | 590.00 | 717.03 | 0.00 | 2.23 | 0.00 | 178.00 | 200.00 |
| 903.870 | 245.00 | 718.19 | 0.00 | 1.97 | 0.00 | 19.63 | 150.00 |
| 903.870 | 360.00 | 718.68 | 0.00 | 2.11 | 0.00 | 21.51 | 150.00 |
| 903.870 | 430.00 | 718.90 | 0.00 | 2.17 | 0.00 | 22.36 | 150.00 |
| 903.870 | 590.00 | 719.33 | 0.00 | 2.31 | 0.00 | 24.03 | 150.00 |
| 903.880 | 245.00 | 720.67 | 0.00 | 2.48 | 0.00 | 23.02 | 150.00 |
| 903.880 | 360.00 | 721.55 | 0.00 | 2.87 | 0.00 | 34.32 | 150.00 |
| 903.880 | 430.00 | 721.94 | 0.00 | 3.04 | 0.00 | 103.73 | 150.00 |
| 903.880 | 590.00 | 722.62 | 0.00 | 3.29 | 0.00 | 148.24 | 150.00 |
| 903.890 | 245.00 | 722.19 | 0.00 | 1.51 | 0.00 | 21.16 | 136.00 |
| 903.890 | 360.00 | 723.03 | 0.00 | 1.48 | 0.00 | 24.38 | 136.00 |
| 903.890 | 430.00 | 723.40 | 0.00 | 1.46 | 0.00 | 25.79 | 136.00 |
| 903.890 | 590.00 | 723.93 | 0.00 | 1.31 | 0.00 | 101.47 | 136.00 |
| 903.920 | 245.00 | 724.03 | 0.00 | 1.84 | 0.00 | 44.00 | 14.00 |
| 903.920 | 360.00 | 724.59 | 0.00 | 1.57 | 0.00 | 44.00 | 14.00 |
| 903.920 | 430.00 | 724.86 | 0.00 | 1.47 | 0.00 | 44.00 | 14.00 |
| 903.920 | 590.00 | 725.38 | 0.00 | 1.45 | 0.00 | 44.00 | 14.00 |
| 903.930 | 245.00 | 724.61 | 0.00 | .58 | 0.00 | 23.55 | 196.00 |
| 903.930 | 360.00 | 725.30 | 0.00 | .71 | 0.00 | 27.01 | 196.00 |
| 903.930 | 430.00 | 725.64 | 0.00 | .77 | 0.00 | 85.46 | 196.00 |
| 903.930 | 590.00 | 726.26 | 0.00 | .88 | 0.00 | 140.17 | 196.00 |
| 903.940 | 245.00 | 724.61 | 0.00 | .00 | 0.00 | 23.54 | .50 |
| 903.940 | 360.00 | 725.31 | 0.00 | .01 | 0.00 | 27.51 | .50 |
| 903.940 | 430.00 | 725.64 | 0.00 | .00 | 0.00 | 84.49 | .50 |
| 903.940 | 590.00 | 726.23 | 0.00 | -.04 | 0.00 | 138.37 | .50 |
| 903.950 | 245.00 | 724.64 | 0.00 | .03 | 0.00 | 23.64 | 3.00 |
| 903.950 | 360.00 | 725.34 | 0.00 | .04 | 0.00 | 33.01 | 3.00 |
| 903.950 | 430.00 | 725.68 | 0.00 | .04 | 0.00 | 89.77 | 3.00 |
| 903.950 | 590.00 | 726.33 | 0.00 | .11 | 0.00 | 143.82 | 3.00 |
| 903.960 | 245.00 | 724.64 | 0.00 | .01 | 0.00 | 23.68 | .50 |
| 903.960 | 360.00 | 725.35 | 0.00 | .01 | 0.00 | 34.77 | .50 |
| 903.960 | 430.00 | 725.69 | 0.00 | .01 | 0.00 | 92.03 | .50 |
| 903.960 | 590.00 | 726.48 | 0.00 | .15 | 0.00 | 151.43 | .50 |

| SECNO | G | CWSEL | DIFASP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 904.000 | 245.00 | 726.26 | 0.00 | 1.62 | 0.00 | 26.23 | 250.00 |
| 904.000 | 360.00 | 727.04 | 0.00 | 1.69 | 0.00 | 128.65 | 250.00 |
| 904.000 | 430.00 | 727.36 | 0.00 | 1.67 | 0.00 | 145.24 | 250.00 |
| 904.000 | 590.00 | 727.84 | 0.00 | 1.36 | 0.00 | 169.79 | 250.00 |
| 904.200 | 245.00 | 727.34 | 0.00 | 1.08 | 0.00 | 25.31 | 200.00 |
| 904.200 | 360.00 | 728.06 | 0.00 | 1.01 | 0.00 | 124.77 | 200.00 |
| 904.200 | 430.00 | 728.32 | 0.00 | .96 | 0.00 | 134.54 | 200.00 |
| 904.200 | 590.00 | 728.80 | 0.00 | .96 | 0.00 | 152.16 | 200.00 |
| 904.480 | 245.00 | 728.28 | 0.00 | .94 | 0.00 | 23.72 | 116.00 |
| 904.480 | 360.00 | 729.01 | 0.00 | .95 | 0.00 | 94.96 | 116.00 |
| 904.480 | 430.00 | 729.27 | 0.00 | .95 | 0.00 | 121.75 | 116.00 |
| 904.480 | 590.00 | 729.73 | 0.00 | .93 | 0.00 | 138.49 | 116.00 |
| 904.520 | 245.00 | 729.36 | 0.00 | 1.08 | 0.00 | 125.05 | 14.00 |
| 904.520 | 360.00 | 729.66 | 0.00 | .65 | 0.00 | 135.84 | 14.00 |
| 904.520 | 430.00 | 729.79 | 0.00 | .52 | 0.00 | 140.75 | 14.00 |
| 904.520 | 590.00 | 730.09 | 0.00 | .36 | 0.00 | 151.77 | 14.00 |
| 904.600 | 245.00 | 730.41 | 0.00 | 1.04 | 0.00 | 24.30 | 170.00 |
| 904.600 | 360.00 | 730.99 | 0.00 | 1.34 | 0.00 | 95.65 | 170.00 |
| 904.600 | 430.00 | 731.25 | 0.00 | 1.46 | 0.00 | 103.64 | 170.00 |
| 904.600 | 590.00 | 731.71 | 0.00 | 1.62 | 0.00 | 117.60 | 170.00 |
| 904.650 | 245.00 | 731.72 | 0.00 | 1.32 | 0.00 | 34.56 | 75.00 |
| 904.650 | 360.00 | 732.29 | 0.00 | 1.30 | 0.00 | 104.88 | 75.00 |
| 904.650 | 430.00 | 732.49 | 0.00 | 1.24 | 0.00 | 110.97 | 75.00 |
| 904.650 | 590.00 | 732.85 | 0.00 | 1.14 | 0.00 | 122.84 | 75.00 |
| 904.700 | 245.00 | 732.51 | 0.00 | .78 | 0.00 | 94.25 | 75.00 |
| 904.700 | 360.00 | 733.02 | 0.00 | .73 | 0.00 | 109.65 | 75.00 |
| 904.700 | 430.00 | 733.24 | 0.00 | .76 | 0.00 | 116.43 | 75.00 |
| 904.700 | 590.00 | 733.65 | 0.00 | .80 | 0.00 | 129.07 | 75.00 |
| 904.750 | 245.00 | 732.86 | 0.00 | .36 | 0.00 | 74.64 | 50.00 |
| 904.750 | 360.00 | 733.34 | 0.00 | .32 | 0.00 | 89.10 | 50.00 |
| 904.750 | 430.00 | 733.56 | 0.00 | .32 | 0.00 | 95.82 | 50.00 |
| 904.750 | 590.00 | 733.98 | 0.00 | .33 | 0.00 | 108.71 | 50.00 |
| 904.800 | 245.00 | 733.83 | 0.00 | .97 | 0.00 | 73.58 | 50.00 |
| 904.800 | 360.00 | 734.17 | 0.00 | .83 | 0.00 | 83.97 | 50.00 |
| 904.800 | 430.00 | 734.36 | 0.00 | .80 | 0.00 | 89.70 | 50.00 |
| 904.800 | 590.00 | 734.74 | 0.00 | .75 | 0.00 | 101.24 | 50.00 |
| 904.900 | 245.00 | 735.33 | 0.00 | 1.50 | 0.00 | 82.85 | 100.00 |
| 904.900 | 360.00 | 735.72 | 0.00 | 1.55 | 0.00 | 94.63 | 100.00 |
| 904.900 | 430.00 | 735.92 | 0.00 | 1.56 | 0.00 | 100.62 | 100.00 |
| 904.900 | 590.00 | 736.30 | 0.00 | 1.57 | 0.00 | 112.48 | 100.00 |
| 905.200 | 245.00 | 737.06 | 0.00 | 1.72 | 0.00 | 59.91 | 125.00 |
| 905.200 | 360.00 | 737.36 | 0.00 | 1.64 | 0.00 | 83.71 | 125.00 |
| 905.200 | 430.00 | 737.55 | 0.00 | 1.63 | 0.00 | 89.44 | 125.00 |
| 905.200 | 590.00 | 737.92 | 0.00 | 1.62 | 0.00 | 100.78 | 125.00 |

| | SECND | G | CNSEL | DIFWSP | DIFWSX | DIFKWS | TCPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 904.980 | 245.00 | 738.96 | 0.00 | 1.90 | 0.00 | 12.00 | 130.00 |
| | 904.980 | 360.00 | 739.52 | 0.00 | 2.16 | 0.00 | 12.00 | 130.00 |
| | 904.980 | 430.00 | 739.85 | 0.00 | 2.30 | 0.00 | 12.00 | 130.00 |
| * | 904.980 | 590.00 | 740.06 | 0.00 | 2.13 | 0.00 | 12.00 | 130.00 |
| | 905.020 | 245.00 | 739.39 | 0.00 | .43 | 0.00 | 13.00 | 65.00 |
| | 905.020 | 360.00 | 740.64 | 0.00 | 1.12 | 0.00 | 13.00 | 65.00 |
| | 905.020 | 430.00 | 741.55 | 0.00 | 1.70 | 0.00 | 13.00 | 65.00 |
| | 905.020 | 590.00 | 743.79 | 0.00 | 3.73 | 0.00 | 81.00 | 65.00 |
| | 905.800 | 245.00 | 739.83 | 0.00 | .44 | 0.00 | 140.22 | 70.00 |
| | 905.800 | 360.00 | 741.14 | 0.00 | .50 | 0.00 | 145.00 | 70.00 |
| | 905.800 | 430.00 | 742.07 | 0.00 | .52 | 0.00 | 145.00 | 70.00 |
| | 905.800 | 590.00 | 743.81 | 0.00 | .02 | 0.00 | 145.00 | 70.00 |
| | 905.820 | 245.00 | 740.14 | 0.00 | .30 | 0.00 | 96.72 | 150.00 |
| | 905.820 | 360.00 | 741.26 | 0.00 | .12 | 0.00 | 139.10 | 150.00 |
| | 905.820 | 430.00 | 742.14 | 0.00 | .07 | 0.00 | 145.00 | 150.00 |
| | 905.820 | 590.00 | 743.84 | 0.00 | .04 | 0.00 | 145.00 | 150.00 |
| | 905.830 | 245.00 | 741.87 | 0.00 | 1.74 | 0.00 | 108.73 | 150.00 |
| | 905.830 | 360.00 | 742.04 | 0.00 | .77 | 0.00 | 123.71 | 150.00 |
| | 905.830 | 430.00 | 742.48 | 0.00 | .34 | 0.00 | 136.54 | 150.00 |
| | 905.830 | 590.00 | 743.96 | 0.00 | .11 | 0.00 | 145.00 | 150.00 |
| | 905.850 | 245.00 | 743.44 | 0.00 | 1.56 | 0.00 | 106.12 | 155.00 |
| | 905.850 | 360.00 | 743.89 | 0.00 | 1.85 | 0.00 | 133.46 | 155.00 |
| | 905.850 | 430.00 | 743.96 | 0.00 | 1.48 | 0.00 | 135.18 | 155.00 |
| | 905.850 | 590.00 | 744.44 | 0.00 | .48 | 0.00 | 138.96 | 155.00 |
| | 905.860 | 245.00 | 745.03 | 0.00 | 1.59 | 0.00 | 104.77 | 150.00 |
| | 905.860 | 360.00 | 745.37 | 0.00 | 1.48 | 0.00 | 131.13 | 150.00 |
| | 905.860 | 430.00 | 745.57 | 0.00 | 1.62 | 0.00 | 135.53 | 150.00 |
| | 905.860 | 590.00 | 745.88 | 0.00 | 1.44 | 0.00 | 137.87 | 150.00 |
| | 905.950 | 245.00 | 745.95 | 0.00 | .93 | 0.00 | 176.51 | 150.00 |
| | 905.950 | 360.00 | 746.32 | 0.00 | .95 | 0.00 | 191.04 | 150.00 |
| | 905.950 | 430.00 | 746.50 | 0.00 | .93 | 0.00 | 198.27 | 150.00 |
| | 905.950 | 590.00 | 746.86 | 0.00 | .98 | 0.00 | 208.10 | 150.00 |
| | 905.960 | 245.00 | 746.90 | 0.00 | .95 | 0.00 | 144.34 | 155.00 |
| | 905.960 | 360.00 | 747.21 | 0.00 | .89 | 0.00 | 159.29 | 155.00 |
| | 905.960 | 430.00 | 747.37 | 0.00 | .87 | 0.00 | 167.40 | 155.00 |
| | 905.960 | 590.00 | 747.71 | 0.00 | .85 | 0.00 | 182.72 | 155.00 |
| | 905.970 | 245.00 | 748.81 | 0.00 | 1.90 | 0.00 | 159.14 | 155.00 |
| | 905.970 | 360.00 | 749.06 | 0.00 | 1.85 | 0.00 | 171.80 | 155.00 |
| | 905.970 | 430.00 | 749.19 | 0.00 | 1.82 | 0.00 | 178.39 | 155.00 |
| | 905.970 | 590.00 | 749.46 | 0.00 | 1.75 | 0.00 | 188.60 | 155.00 |
| | 905.980 | 245.00 | 750.26 | 0.00 | 1.45 | 0.00 | 152.22 | 155.00 |
| | 905.980 | 360.00 | 750.56 | 0.00 | 1.50 | 0.00 | 166.67 | 155.00 |
| | 905.980 | 430.00 | 750.71 | 0.00 | 1.52 | 0.00 | 174.25 | 155.00 |
| | 905.980 | 590.00 | 751.00 | 0.00 | 1.55 | 0.00 | 186.71 | 155.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 906.000 | 245.00 | 751.93 | 0.00 | 1.67 | 0.00 | 155.36 | 155.00 |
| 906.000 | 360.00 | 752.20 | 0.00 | 1.64 | 0.00 | 168.65 | 155.00 |
| 906.000 | 430.00 | 752.34 | 0.00 | 1.63 | 0.00 | 175.80 | 155.00 |
| 906.000 | 590.00 | 752.62 | 0.00 | 1.61 | 0.00 | 187.13 | 155.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  901.020  PROFILE= 1  SLOPE TOO STEEP

CAUTION  SECNO=  901.310  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  901.310  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 3  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=  902.220  PROFILE= 1  SLOPE TOO STEEP

CAUTION  SECNO=  901.990  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.990  PROFILE= 4  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=  904.980  PROFILE= 4  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=  904.980  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

FLOOD INSURANCE ZONE DATA FOR GIBSON-BENSHAW DRAIN-WES

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 899.000 | 0. | -1.0 | -.3 | .5 |
| 899.100 | 65. | -1.1 | -.3 | .5 |
| 899.130 | 70. | -1.5 | -.6 | .9 |
| 899.200 | 265. | -1.0 | -.1 | .5 |
| 899.220 | 266. | -1.1 | -.2 | .5 |
| 899.230 | 270. | -1.0 | -.1 | .4 |
| 899.250 | 270. | -.9 | -.1 | .4 |
| 900.000 | 320. | -.8 | -.2 | .4 |
| 900.200 | 495. | -1.0 | -.3 | .3 |
| 900.220 | 496. | -1.0 | -.3 | .3 |
| 900.230 | 500. | -1.2 | -.5 | .7 |
| 900.250 | 500. | -1.1 | -.4 | .7 |
| 900.400 | 755. | -1.2 | -.2 | .1 |
| 900.420 | 756. | -1.2 | -.2 | .4 |
| 900.430 | 760. | -1.3 | -.2 | .3 |
| 900.450 | 760. | -1.2 | -.2 | .2 |
| 900.600 | 1075. | -.5 | -.1 | .3 |
| 900.620 | 1076. | -.5 | -.1 | .3 |
| 900.630 | 1085. | -.5 | -.1 | .3 |
| 900.650 | 1085. | -.5 | -.1 | .3 |
| 900.700 | 1245. | -.4 | -.1 | .3 |
| 900.800 | 1400. | -.4 | -.1 | .3 |
| 900.820 | 1401. | -.6 | -.1 | .2 |
| 900.830 | 1405. | -.3 | -.1 | .2 |
| 900.850 | 1405. | -.3 | -.1 | .2 |
| 900.860 | 1471. | -.4 | -.1 | .3 |
| 900.870 | 1538. | -.4 | -.1 | .2 |
| 901.000 | 1605. | -.4 | -.1 | .2 |
| 901.020 | 1606. | -.8 | -.1 | .2 |
| 901.030 | 1610. | -.2 | -.1 | .2 |
| 901.050 | 1610. | -.1 | -.1 | .2 |
| 901.100 | 1845. | -.7 | -.2 | .3 |
| 901.120 | 1846. | -1.0 | -.1 | .3 |
| 901.130 | 1850. | -.3 | -.1 | .3 |
| 901.150 | 1850. | -.2 | -.1 | .3 |
| 901.170 | 2000. | -.6 | -.2 | .3 |
| 901.200 | 2145. | -.4 | -.1 | .2 |
| 901.220 | 2146. | -.5 | -.2 | .3 |
| 901.230 | 2150. | -.1 | -.1 | .2 |
| 901.250 | 2150. | -.1 | -.1 | .2 |
| 901.260 | 2183. | -.2 | -.1 | .2 |
| 901.270 | 2216. | -.3 | -.1 | .3 |
| 901.280 | 2249. | -.4 | -.1 | .3 |
| 901.290 | 2281. | -.5 | -.1 | .2 |
| 901.300 | 2313. | -.5 | -.1 | .2 |
| 901.310 | 2345. | -.5 | -.1 | .2 |
| 901.320 | 2346. | -.9 | -.1 | .2 |
| 901.330 | 2350. | -.3 | -.1 | .2 |
| 901.350 | 2350. | -.3 | -.1 | .2 |

| | | | | |
|---|---|---|---|---|
| 901.400 | 2365. | -.3 | -.1 | .2 |
| 901.420 | 2366. | -.4 | -.1 | .3 |
| 901.430 | 2370. | -.4 | -.1 | .3 |
| 901.450 | 2370. | -.4 | -.1 | .3 |
| 901.500 | 2465. | -.4 | -.2 | .3 |
| 901.520 | 2466. | -.4 | -.2 | .3 |
| 901.530 | 2470. | -.5 | -.2 | .3 |
| 901.550 | 2470. | -.5 | -.2 | .3 |
| 901.600 | 2595. | -.5 | -.2 | .4 |
| 901.620 | 2596. | -.5 | -.2 | .4 |
| 901.630 | 2600. | -.5 | -.2 | .4 |
| 901.650 | 2600. | -.5 | -.2 | .4 |
| 901.800 | 2775. | -.6 | -.2 | .4 |
| 902.200 | 2945. | -.4 | -.1 | .3 |
| 902.220 | 2946. | -.4 | -.1 | .3 |
| 902.230 | 2950. | -.3 | -.1 | .2 |
| 902.250 | 2950. | -.3 | -.1 | .3 |
| 901.980 | 3148. | -.9 | -.3 | .6 |
| 901.990 | 3149. | -.9 | -.3 | .6 |
| 902.010 | 3198. | -1.7 | -.6 | 1.6 |
| 902.020 | 3199. | -1.9 | -.7 | 1.8 |
| 902.800 | 3284. | -2.0 | -.7 | 1.8 |
| 902.980 | 3370. | -1.6 | -.6 | 1.7 |
| 903.020 | 3394. | -.5 | -.2 | 1.4 |
| 903.100 | 3485. | -.5 | -.2 | 1.4 |
| 903.120 | 3486. | -.5 | -.2 | 1.4 |
| 903.130 | 3490. | -.5 | -.2 | 1.4 |
| 903.150 | 3490. | -.5 | -.2 | 1.4 |
| 903.280 | 3569. | -.6 | -.2 | 1.3 |
| 903.320 | 3584. | -.3 | -.1 | .8 |
| 903.400 | 3634. | -.3 | -.1 | .8 |
| 903.480 | 3689. | -.4 | -.1 | .8 |
| 903.520 | 3704. | -.3 | -.1 | .2 |
| 903.800 | 3884. | -.4 | -.2 | .3 |
| 903.810 | 3979. | -.5 | -.2 | .3 |
| 903.600 | 3980. | -.5 | -.2 | .3 |
| 903.650 | 3984. | -.5 | -.2 | .3 |
| 903.820 | 3984. | -.5 | -.2 | .3 |
| 903.830 | 4050. | -.5 | -.2 | .4 |
| 903.840 | 4117. | -.5 | -.2 | .3 |
| 903.850 | 4184. | -.5 | -.2 | .3 |
| 903.860 | 4384. | -.5 | -.2 | .3 |
| 903.870 | 4534. | -.7 | -.2 | .4 |
| 903.880 | 4684. | -1.3 | -.4 | .7 |
| 903.890 | 4820. | -1.2 | -.4 | .5 |
| 903.920 | 4834. | -.6 | -.3 | .5 |
| 903.930 | 5030. | -1.0 | -.3 | .6 |
| 903.940 | 5031. | -1.0 | -.3 | .6 |
| 903.950 | 5034. | -1.0 | -.3 | .7 |
| 903.960 | 5034. | -1.0 | -.3 | .8 |
| 904.000 | 5284. | -1.1 | -.3 | .5 |
| 904.200 | 5484. | -1.0 | -.3 | .5 |
| 904.480 | 5600. | -1.0 | -.3 | .5 |
| 904.520 | 5614. | -.4 | -.1 | .3 |
| 904.600 | 5784. | -.8 | -.3 | .5 |
| 904.650 | 5859. | -.8 | -.2 | .4 |
| 904.700 | 5934. | -.7 | -.2 | .4 |
| 904.750 | 5984. | -.7 | -.2 | .4 |
| 904.800 | 6034. | -.5 | -.2 | .4 |
| 904.900 | 6134. | -.6 | -.2 | .4 |
| 905.200 | 6259. | -.5 | -.2 | .4 |

| | | | | |
|---|---|---|---|---|
| 904.980 | 6389. | -.9 | -.3 | .2 |
| 905.020 | 6454. | -2.2 | -.9 | 2.2 |
| 905.800 | 6524. | -2.2 | -.9 | 1.7 |
| 905.820 | 6674. | -2.0 | -.9 | 1.7 |
| 905.830 | 6824. | -.6 | -.4 | 1.5 |
| 905.850 | 6979. | -.5 | -.1 | .5 |
| 905.860 | 7129. | -.5 | -.2 | .3 |
| 905.950 | 7279. | -.5 | -.2 | .4 |
| 905.960 | 7434. | -.5 | -.2 | .3 |
| 905.970 | 7589. | -.4 | -.1 | .3 |
| 905.980 | 7744. | -.4 | -.2 | .3 |
| 906.000 | 7899. | -.4 | -.1 | .3 |
| WEIGHTED AVG FOR REACH | | -.7 | -.2 | .5 |

FHF FOR THE REACH = 005 WITH 88.7_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 1

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON-RENSHAW DRAIN WEST

4) DOCUMENT TYPE: 100 YR CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 678.30 | 0.00 | 678.50 | 100.21 | 3.62 | 124.22 | 42.96 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 679.30 | 0.00 | 679.37 | 26.31 | 2.26 | 279.68 | 83.82 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 677.30 | 0.00 | 677.75 | 302.91 | 5.37 | 80.08 | 24.71 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.25 | 0.00 | 679.77 | 253.83 | 5.82 | 73.91 | 26.99 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.63 | 0.00 | 680.04 | 186.62 | 5.18 | 82.96 | 31.48 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.16 | 0.00 | 679.71 | 273.35 | 5.98 | 71.87 | 26.01 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 430.00 | 680.63 | 0.00 | 680.75 | 48.69 | 3.06 | 237.09 | 61.62 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 430.00 | 680.82 | 0.00 | 680.90 | 34.37 | 2.65 | 283.96 | 73.34 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 430.00 | 680.58 | 0.00 | 680.71 | 53.56 | 3.19 | 224.59 | 58.76 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.61 | 0.00 | 681.73 | 51.27 | 3.13 | 230.31 | 60.05 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.62 | 0.00 | 681.74 | 50.29 | 3.10 | 232.84 | 60.64 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.61 | 0.00 | 681.73 | 50.41 | 3.11 | 232.54 | 60.57 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.66 | 0.00 | 681.74 | 126.57 | 2.75 | 229.52 | 38.22 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.67 | 0.00 | 681.75 | 122.77 | 2.71 | 232.36 | 38.81 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.66 | 0.00 | 681.74 | 127.29 | 2.76 | 228.99 | 38.11 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.72 | 0.00 | 681.79 | 107.44 | 2.56 | 245.01 | 41.48 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.73 | 0.00 | 681.80 | 104.94 | 2.54 | 247.29 | 41.98 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.72 | 0.00 | 681.79 | 107.86 | 2.57 | 244.64 | 41.40 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.71 | 0.00 | 681.81 | 41.38 | 2.86 | 258.70 | 66.84 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.72 | 0.00 | 681.81 | 40.69 | 2.84 | 260.96 | 67.41 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.71 | 0.00 | 681.80 | 41.50 | 2.86 | 258.33 | 66.75 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 681.93 | 0.00 | 682.07 | 59.30 | 3.32 | 211.33 | 55.84 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 681.94 | 0.00 | 682.08 | 58.68 | 3.31 | 212.70 | 56.13 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 681.93 | 0.00 | 682.07 | 59.40 | 3.33 | 211.11 | 55.79 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.39 | 0.00 | 683.74 | 152.54 | 4.81 | 89.49 | 34.82 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.38 | 0.00 | 683.74 | 153.01 | 4.81 | 89.38 | 34.76 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.39 | 0.00 | 683.75 | 152.47 | 4.80 | 89.50 | 34.82 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.33 | 0.00 | 683.81 | 631.98 | 5.58 | 77.10 | 17.10 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.33 | 0.00 | 683.81 | 634.43 | 5.58 | 76.99 | 17.07 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.33 | 0.00 | 683.81 | 631.58 | 5.58 | 77.11 | 17.11 |

| SECNC | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.83 | 0.00 | 684.04 | 276.70 | 4.03 | 150.67 | 25.85 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.82 | 0.00 | 684.04 | 279.19 | 4.05 | 149.86 | 25.73 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.83 | 0.00 | 684.04 | 276.36 | 4.03 | 150.79 | 25.87 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.84 | 0.00 | 684.05 | 83.91 | 3.83 | 165.98 | 46.94 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.84 | 0.00 | 684.05 | 84.57 | 3.85 | 164.94 | 46.76 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.84 | 0.00 | 684.05 | 83.81 | 3.83 | 166.14 | 46.97 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.15 | 0.00 | 686.40 | 99.94 | 4.11 | 142.11 | 43.01 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.15 | 0.00 | 686.40 | 99.48 | 4.11 | 142.77 | 43.11 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.15 | 0.00 | 686.40 | 100.01 | 4.11 | 142.01 | 43.00 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.15 | 683.00 | 686.42 | 342.79 | 4.39 | 132.20 | 23.22 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.15 | 683.00 | 686.42 | 340.89 | 4.38 | 132.73 | 23.29 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.15 | 683.00 | 686.42 | 343.07 | 4.39 | 132.12 | 23.22 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.43 | 0.00 | 686.55 | 167.57 | 3.22 | 197.34 | 33.22 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.43 | 0.00 | 686.55 | 167.37 | 3.22 | 197.45 | 33.24 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.43 | 0.00 | 686.55 | 167.60 | 3.22 | 197.32 | 33.21 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.42 | 0.00 | 686.56 | 60.89 | 3.36 | 207.90 | 55.11 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.42 | 0.00 | 686.56 | 60.87 | 3.36 | 207.93 | 55.11 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.42 | 0.00 | 686.56 | 60.89 | 3.36 | 207.90 | 55.11 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.32 | 0.00 | 688.35 | 51.57 | 2.11 | 314.16 | 59.88 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.32 | 0.00 | 688.35 | 51.58 | 2.11 | 314.15 | 59.87 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.32 | 0.00 | 688.35 | 51.57 | 2.11 | 314.16 | 59.88 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.33 | 0.00 | 688.36 | 62.56 | 1.73 | 309.81 | 54.37 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.33 | 0.00 | 688.36 | 62.56 | 1.73 | 309.80 | 54.36 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.33 | 0.00 | 688.36 | 62.56 | 1.73 | 309.81 | 54.37 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 53.87 | 1.63 | 324.82 | 58.58 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 53.88 | 1.63 | 324.81 | 58.58 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 53.87 | 1.63 | 324.82 | 58.58 |
| 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 43.74 | 1.97 | 331.72 | 65.01 |
| 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 43.75 | 1.97 | 331.72 | 65.01 |
| 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 43.74 | 1.97 | 331.72 | 65.01 |
| 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.09 | 0.00 | 689.16 | 47.85 | 2.77 | 288.17 | 62.16 |
| 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.09 | 0.00 | 689.16 | 47.85 | 2.77 | 288.17 | 62.16 |
| 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.09 | 0.00 | 689.16 | 47.85 | 2.77 | 288.17 | 62.16 |
| 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.19 | 0.00 | 690.39 | 135.13 | 4.27 | 186.38 | 36.99 |
| 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.19 | 0.00 | 690.39 | 135.13 | 4.27 | 186.38 | 36.99 |
| 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.19 | 0.00 | 690.39 | 135.13 | 4.27 | 186.38 | 36.99 |
| 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.36 | 0.00 | 690.43 | 182.39 | 2.66 | 220.65 | 31.84 |
| 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.36 | 0.00 | 690.43 | 182.39 | 2.66 | 220.65 | 31.84 |
| 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.36 | 0.00 | 690.43 | 182.39 | 2.66 | 220.65 | 31.84 |
| 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.44 | 0.00 | 690.49 | 143.76 | 2.40 | 238.99 | 35.86 |
| 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.44 | 0.00 | 690.49 | 143.76 | 2.40 | 238.99 | 35.86 |
| 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.44 | 0.00 | 690.49 | 143.76 | 2.40 | 238.99 | 35.86 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.42 | 0.00 | 690.52 | 73.68 | 3.31 | 242.94 | 50.10 |
| 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.42 | 0.00 | 690.52 | 73.68 | 3.31 | 242.94 | 50.10 |
| 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.42 | 0.00 | 690.52 | 73.68 | 3.31 | 242.94 | 50.10 |
| 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 690.97 | 0.00 | 691.13 | 108.08 | 3.89 | 206.40 | 41.36 |
| 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 690.97 | 0.00 | 691.13 | 108.08 | 3.89 | 206.40 | 41.36 |
| 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 690.97 | 0.00 | 691.13 | 108.08 | 3.89 | 206.40 | 41.36 |
| 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.69 | 0.00 | 691.84 | 103.80 | 3.82 | 210.12 | 42.20 |
| 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.69 | 0.00 | 691.84 | 103.80 | 3.82 | 210.12 | 42.20 |
| 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.69 | 0.00 | 691.84 | 103.80 | 3.82 | 210.12 | 42.20 |
| 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.36 | 0.00 | 692.61 | 113.45 | 4.66 | 179.22 | 40.37 |
| 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.36 | 0.00 | 692.61 | 113.45 | 4.66 | 179.22 | 40.37 |
| 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.36 | 0.00 | 692.61 | 113.45 | 4.66 | 179.22 | 40.37 |
| 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.58 | 0.00 | 692.66 | 157.97 | 2.88 | 222.68 | 34.21 |
| 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.58 | 0.00 | 692.66 | 157.97 | 2.88 | 222.68 | 34.21 |
| 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.58 | 0.00 | 692.66 | 157.97 | 2.88 | 222.68 | 34.21 |
| 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.66 | 0.00 | 692.72 | 129.15 | 2.64 | 238.57 | 37.84 |
| 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.66 | 0.00 | 692.72 | 129.15 | 2.64 | 238.57 | 37.84 |
| 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.66 | 0.00 | 692.72 | 129.15 | 2.64 | 238.57 | 37.84 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.63 | 0.00 | 692.75 | 57.89 | 3.53 | 246.03 | 56.52 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.63 | 0.00 | 692.75 | 57.89 | 3.53 | 246.03 | 56.52 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.63 | 0.00 | 692.75 | 57.89 | 3.53 | 246.03 | 56.52 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.25 | 0.00 | 694.45 | 88.69 | 4.21 | 202.68 | 45.66 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.25 | 0.00 | 694.45 | 88.69 | 4.21 | 202.68 | 45.66 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.25 | 0.00 | 694.45 | 88.69 | 4.21 | 202.68 | 45.66 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.42 | 0.00 | 694.48 | 147.57 | 2.68 | 230.73 | 35.40 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.42 | 0.00 | 694.48 | 147.57 | 2.68 | 230.73 | 35.40 |
| 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.42 | 0.00 | 694.48 | 147.57 | 2.68 | 230.73 | 35.40 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.48 | 0.00 | 694.54 | 123.39 | 2.48 | 245.05 | 38.71 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.48 | 0.00 | 694.54 | 123.39 | 2.48 | 245.05 | 38.71 |
| 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.48 | 0.00 | 694.54 | 123.39 | 2.48 | 245.05 | 38.71 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.45 | 0.00 | 694.57 | 54.40 | 3.44 | 252.69 | 58.30 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.45 | 0.00 | 694.57 | 54.40 | 3.44 | 252.69 | 58.30 |
| 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.45 | 0.00 | 694.57 | 54.40 | 3.44 | 252.69 | 58.30 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.54 | 0.00 | 695.80 | 120.22 | 4.77 | 173.83 | 39.22 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.54 | 0.00 | 695.80 | 120.22 | 4.77 | 173.83 | 39.22 |
| 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.54 | 0.00 | 695.80 | 120.22 | 4.77 | 173.83 | 39.22 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.15 | 0.00 | 697.34 | 90.59 | 4.25 | 200.62 | 45.18 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.15 | 0.00 | 697.34 | 90.59 | 4.25 | 200.62 | 45.18 |
| 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.15 | 0.00 | 697.34 | 90.59 | 4.25 | 200.62 | 45.18 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.27 | 0.00 | 697.39 | 262.75 | 3.50 | 187.22 | 26.53 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.27 | 0.00 | 697.39 | 262.75 | 3.50 | 187.22 | 26.53 |
| 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.27 | 0.00 | 697.39 | 262.75 | 3.50 | 187.22 | 26.53 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.42 | 0.00 | 697.49 | 157.39 | 2.81 | 224.78 | 34.28 |
| | 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.42 | 0.00 | 697.49 | 157.39 | 2.81 | 224.78 | 34.28 |
| | 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.42 | 0.00 | 697.49 | 157.39 | 2.81 | 224.78 | 34.28 |
| | 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.42 | 0.00 | 697.52 | 45.80 | 3.21 | 271.64 | 63.54 |
| | 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.42 | 0.00 | 697.52 | 45.80 | 3.21 | 271.64 | 63.54 |
| | 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.42 | 0.00 | 697.52 | 45.80 | 3.21 | 271.64 | 63.54 |
| | 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.61 | 0.00 | 697.77 | 77.79 | 3.99 | 215.60 | 48.75 |
| | 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.61 | 0.00 | 697.77 | 77.79 | 3.99 | 215.60 | 48.75 |
| | 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.61 | 0.00 | 697.77 | 77.79 | 3.99 | 215.60 | 48.75 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 697.90 | 0.00 | 698.12 | 103.41 | 4.49 | 187.93 | 42.28 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 697.90 | 0.00 | 698.12 | 103.41 | 4.49 | 187.93 | 42.28 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 697.90 | 0.00 | 698.12 | 103.41 | 4.49 | 187.93 | 42.28 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.28 | 698.18 | 698.59 | 140.05 | 5.08 | 159.83 | 36.33 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.28 | 698.18 | 698.59 | 140.05 | 5.08 | 159.83 | 36.33 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.28 | 698.18 | 698.59 | 140.05 | 5.08 | 159.83 | 36.33 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.80 | 0.00 | 699.02 | 101.06 | 4.44 | 190.12 | 42.77 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.80 | 0.00 | 699.02 | 101.06 | 4.44 | 190.12 | 42.77 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.80 | 0.00 | 699.02 | 101.06 | 4.44 | 190.12 | 42.77 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.14 | 0.00 | 699.40 | 118.47 | 4.74 | 175.19 | 39.51 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.14 | 0.00 | 699.40 | 118.47 | 4.74 | 175.19 | 39.51 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.14 | 0.00 | 699.40 | 118.47 | 4.74 | 175.19 | 39.51 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.66 | 699.66 | 699.99 | 150.66 | 5.24 | 153.22 | 35.03 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.66 | 699.66 | 699.99 | 150.66 | 5.24 | 153.22 | 35.03 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.66 | 699.66 | 699.99 | 150.66 | 5.24 | 153.22 | 35.03 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.08 | 0.00 | 700.14 | 104.59 | 2.56 | 252.02 | 42.05 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.08 | 0.00 | 700.14 | 104.59 | 2.56 | 252.02 | 42.05 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.08 | 0.00 | 700.14 | 104.59 | 2.56 | 252.02 | 42.05 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.13 | 0.00 | 700.18 | 90.38 | 2.41 | 264.99 | 45.23 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.13 | 0.00 | 700.18 | 90.38 | 2.41 | 264.99 | 45.23 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.13 | 0.00 | 700.18 | 90.38 | 2.41 | 264.99 | 45.23 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.13 | 0.00 | 700.22 | 45.34 | 3.19 | 272.76 | 63.86 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.13 | 0.00 | 700.22 | 45.34 | 3.19 | 272.76 | 63.86 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.13 | 0.00 | 700.22 | 45.34 | 3.19 | 272.76 | 63.86 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.20 | 0.00 | 700.30 | 49.21 | 3.30 | 263.63 | 61.30 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.20 | 0.00 | 700.30 | 49.21 | 3.30 | 263.63 | 61.30 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.20 | 0.00 | 700.30 | 49.21 | 3.30 | 263.63 | 61.30 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.29 | 0.00 | 700.33 | 84.67 | 2.22 | 274.84 | 46.73 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.29 | 0.00 | 700.33 | 84.67 | 2.22 | 274.84 | 46.73 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.29 | 0.00 | 700.33 | 84.67 | 2.22 | 274.84 | 46.73 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.33 | 0.00 | 700.37 | 78.94 | 2.15 | 281.28 | 48.40 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.33 | 0.00 | 700.37 | 78.94 | 2.15 | 281.28 | 48.40 |
| | 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.33 | 0.00 | 700.37 | 78.94 | 2.15 | 281.28 | 48.40 |

| SECNO | XLCH | ELTRO | FLLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.32 | 0.00 | 700.40 | 36.77 | 2.93 | 297.00 | 70.91 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.32 | 0.00 | 700.40 | 36.77 | 2.93 | 297.00 | 70.91 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.32 | 0.00 | 700.40 | 36.77 | 2.93 | 297.00 | 70.91 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.68 | 0.00 | 700.74 | 34.20 | 2.79 | 262.77 | 73.53 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.68 | 0.00 | 700.74 | 34.20 | 2.79 | 262.77 | 73.53 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.68 | 0.00 | 700.74 | 34.20 | 2.79 | 262.77 | 73.53 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.70 | 0.00 | 700.75 | 51.76 | 2.35 | 249.19 | 59.77 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.70 | 0.00 | 700.75 | 51.76 | 2.35 | 249.19 | 59.77 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.70 | 0.00 | 700.75 | 51.76 | 2.35 | 249.19 | 59.77 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.72 | 0.00 | 700.77 | 49.31 | 2.31 | 253.24 | 61.23 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.72 | 0.00 | 700.77 | 49.31 | 2.31 | 253.24 | 61.23 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.72 | 0.00 | 700.77 | 49.31 | 2.31 | 253.24 | 61.23 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.73 | 0.00 | 700.79 | 31.80 | 2.72 | 269.67 | 76.25 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.73 | 0.00 | 700.79 | 31.80 | 2.72 | 269.67 | 76.25 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.73 | 0.00 | 700.79 | 31.80 | 2.72 | 269.67 | 76.25 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.17 | 0.00 | 701.25 | 40.86 | 2.98 | 246.60 | 67.27 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.17 | 0.00 | 701.25 | 40.86 | 2.98 | 246.60 | 67.27 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.17 | 0.00 | 701.25 | 40.86 | 2.98 | 246.60 | 67.27 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.21 | 0.00 | 701.26 | 66.90 | 2.02 | 239.09 | 52.57 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.21 | 0.00 | 701.26 | 66.90 | 2.02 | 239.09 | 52.57 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.21 | 0.00 | 701.26 | 66.90 | 2.02 | 239.09 | 52.57 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.24 | 0.00 | 701.29 | 64.22 | 1.99 | 242.29 | 53.66 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.24 | 0.00 | 701.29 | 64.22 | 1.99 | 242.29 | 53.66 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.24 | 0.00 | 701.29 | 64.22 | 1.99 | 242.29 | 53.66 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.24 | 0.00 | 701.30 | 36.56 | 2.86 | 256.58 | 71.12 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.24 | 0.00 | 701.30 | 36.56 | 2.86 | 256.58 | 71.12 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.24 | 0.00 | 701.30 | 36.56 | 2.86 | 256.58 | 71.12 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.39 | 0.00 | 702.62 | 157.64 | 4.99 | 151.12 | 34.25 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.39 | 0.00 | 702.62 | 157.64 | 4.99 | 151.12 | 34.25 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.39 | 0.00 | 702.62 | 157.64 | 4.99 | 151.12 | 34.25 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.53 | 0.00 | 704.68 | 92.17 | 4.06 | 184.47 | 44.79 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.53 | 0.00 | 704.68 | 92.17 | 4.06 | 184.47 | 44.79 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.53 | 0.00 | 704.68 | 92.17 | 4.06 | 184.47 | 44.79 |
| 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.54 | 0.00 | 704.74 | 650.04 | 4.46 | 126.82 | 16.87 |
| 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.54 | 0.00 | 704.74 | 650.04 | 4.46 | 126.82 | 16.87 |
| 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.54 | 0.00 | 704.74 | 650.04 | 4.46 | 126.82 | 16.87 |
| 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 704.84 | 0.00 | 704.95 | 265.22 | 3.12 | 169.20 | 26.40 |
| 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 704.84 | 0.00 | 704.95 | 265.22 | 3.12 | 169.20 | 26.40 |
| 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 704.84 | 0.00 | 704.95 | 265.22 | 3.12 | 169.20 | 26.40 |
| 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 704.89 | 0.00 | 704.97 | 47.12 | 3.15 | 234.38 | 62.64 |
| 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 704.89 | 0.00 | 704.97 | 47.12 | 3.15 | 234.38 | 62.64 |
| 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 704.89 | 0.00 | 704.97 | 47.12 | 3.15 | 234.38 | 62.64 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.49 | 0.00 | 707.23 | 216.30 | 6.86 | 62.67 | 29.24 |
| 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.49 | 0.00 | 707.23 | 216.30 | 6.86 | 62.67 | 29.24 |
| 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.49 | 0.00 | 707.23 | 216.30 | 6.86 | 62.67 | 29.24 |
| 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.33 | 0.00 | 707.98 | 169.67 | 10.30 | 41.75 | 33.01 |
| 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.33 | 0.00 | 707.98 | 169.67 | 10.30 | 41.75 | 33.01 |
| 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.33 | 0.00 | 707.98 | 169.67 | 10.30 | 41.75 | 33.01 |
| 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.97 | 0.00 | 708.80 | 67.27 | 7.31 | 58.85 | 52.43 |
| 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.97 | 0.00 | 708.80 | 67.27 | 7.31 | 58.85 | 52.43 |
| 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.97 | 0.00 | 708.80 | 67.27 | 7.31 | 58.85 | 52.43 |
| 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.70 | 0.00 | 709.01 | 57.82 | 4.49 | 95.82 | 56.55 |
| 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.70 | 0.00 | 709.01 | 57.82 | 4.49 | 95.82 | 56.55 |
| 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.70 | 0.00 | 709.01 | 57.82 | 4.49 | 95.82 | 56.55 |
| 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.26 | 0.00 | 709.31 | 11.37 | 2.19 | 327.74 | 127.54 |
| 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.26 | 0.00 | 709.31 | 11.37 | 2.19 | 327.74 | 127.54 |
| 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.26 | 0.00 | 709.31 | 11.37 | 2.19 | 327.74 | 127.54 |
| 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.43 | 0.00 | 709.55 | 51.05 | 3.97 | 226.64 | 60.18 |
| 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.43 | 0.00 | 709.55 | 51.05 | 3.97 | 226.64 | 60.18 |
| 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.43 | 0.00 | 709.55 | 51.05 | 3.97 | 226.64 | 60.18 |
| 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 430.00 | 709.74 | 0.00 | 709.75 | 3.99 | 1.46 | 579.98 | 215.21 |
| 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 430.00 | 709.74 | 0.00 | 709.75 | 3.99 | 1.46 | 579.98 | 215.21 |
| 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 430.00 | 709.74 | 0.00 | 709.75 | 3.99 | 1.46 | 579.98 | 215.21 |
| 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.80 | 0.00 | 709.82 | 14.67 | 1.79 | 381.02 | 112.26 |
| 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.80 | 0.00 | 709.82 | 14.67 | 1.79 | 381.02 | 112.26 |
| 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.80 | 0.00 | 709.82 | 14.67 | 1.79 | 381.02 | 112.26 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.79 | 0.00 | 709.85 | 83.39 | 2.48 | 295.61 | 47.09 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.79 | 0.00 | 709.85 | 83.39 | 2.48 | 295.61 | 47.09 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.79 | 0.00 | 709.85 | 83.39 | 2.48 | 295.61 | 47.09 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.83 | 0.00 | 709.88 | 80.07 | 2.45 | 299.68 | 48.06 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.83 | 0.00 | 709.88 | 80.07 | 2.45 | 299.68 | 48.06 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.83 | 0.00 | 709.88 | 80.07 | 2.45 | 299.68 | 48.06 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.87 | 0.00 | 709.89 | 13.31 | 1.73 | 393.38 | 117.87 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.87 | 0.00 | 709.89 | 13.31 | 1.73 | 393.38 | 117.87 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.87 | 0.00 | 709.89 | 13.31 | 1.73 | 393.38 | 117.87 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.97 | 0.00 | 710.00 | 14.07 | 2.17 | 389.06 | 114.63 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.97 | 0.00 | 710.00 | 14.07 | 2.17 | 389.06 | 114.63 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.97 | 0.00 | 710.00 | 14.07 | 2.17 | 389.06 | 114.63 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 430.00 | 710.55 | 0.00 | 710.57 | 6.81 | 1.64 | 494.02 | 164.76 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 430.00 | 710.55 | 0.00 | 710.57 | 6.81 | 1.64 | 494.02 | 164.76 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 430.00 | 710.55 | 0.00 | 710.57 | 6.81 | 1.64 | 494.02 | 164.76 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.60 | 0.00 | 710.63 | 15.42 | 2.25 | 377.28 | 109.50 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.60 | 0.00 | 710.63 | 15.42 | 2.25 | 377.28 | 109.50 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.60 | 0.00 | 710.63 | 15.42 | 2.25 | 377.28 | 109.50 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.72 | 0.00 | 710.81 | 46.40 | 3.52 | 256.31 | 63.13 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.72 | 0.00 | 710.81 | 46.40 | 3.52 | 256.31 | 63.13 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.72 | 0.00 | 710.81 | 46.40 | 3.52 | 256.31 | 63.13 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 430.00 | 712.24 | 0.00 | 712.25 | 5.57 | 1.51 | 527.37 | 182.27 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 430.00 | 712.24 | 0.00 | 712.25 | 5.57 | 1.51 | 527.37 | 182.27 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 430.00 | 712.24 | 0.00 | 712.25 | 5.57 | 1.51 | 527.37 | 182.27 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.47 | 0.00 | 712.62 | 96.30 | 3.73 | 190.15 | 43.82 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.47 | 0.00 | 712.62 | 96.30 | 3.73 | 190.15 | 43.82 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.47 | 0.00 | 712.62 | 96.30 | 3.73 | 190.15 | 43.82 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 712.97 | 0.00 | 713.01 | 21.28 | 2.10 | 330.74 | 93.22 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 712.97 | 0.00 | 713.01 | 21.28 | 2.10 | 330.74 | 93.22 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 712.97 | 0.00 | 713.01 | 21.28 | 2.10 | 330.74 | 93.22 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 712.98 | 0.00 | 713.01 | 41.11 | 1.57 | 303.62 | 67.07 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 712.98 | 0.00 | 713.01 | 41.11 | 1.57 | 303.62 | 67.07 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 712.98 | 0.00 | 713.01 | 41.11 | 1.57 | 303.62 | 67.07 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.00 | 0.00 | 713.03 | 39.60 | 1.55 | 307.14 | 68.33 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.00 | 0.00 | 713.03 | 39.60 | 1.55 | 307.14 | 68.33 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.00 | 0.00 | 713.03 | 39.60 | 1.55 | 307.14 | 68.33 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 712.99 | 0.00 | 713.03 | 20.18 | 2.06 | 336.80 | 95.73 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 712.99 | 0.00 | 713.03 | 20.18 | 2.06 | 336.80 | 95.73 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 712.99 | 0.00 | 713.03 | 20.18 | 2.06 | 336.80 | 95.73 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.17 | 0.00 | 713.27 | 62.53 | 3.16 | 225.05 | 54.38 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.17 | 0.00 | 713.27 | 62.53 | 3.16 | 225.05 | 54.38 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.17 | 0.00 | 713.27 | 62.53 | 3.16 | 225.05 | 54.38 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.68 | 0.00 | 713.86 | 118.30 | 4.04 | 174.40 | 39.53 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.68 | 0.00 | 713.86 | 118.30 | 4.04 | 174.40 | 39.53 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.68 | 0.00 | 713.86 | 118.30 | 4.04 | 174.40 | 39.53 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.52 | 0.00 | 714.72 | 136.94 | 4.27 | 162.58 | 36.74 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.52 | 0.00 | 714.72 | 136.94 | 4.27 | 162.58 | 36.74 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.52 | 0.00 | 714.72 | 136.94 | 4.27 | 162.58 | 36.74 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.73 | 0.00 | 716.86 | 85.00 | 3.56 | 199.88 | 46.64 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.73 | 0.00 | 716.86 | 85.00 | 3.56 | 199.88 | 46.64 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.73 | 0.00 | 716.86 | 85.00 | 3.56 | 199.88 | 46.64 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.90 | 0.00 | 719.65 | 353.99 | 6.95 | 61.85 | 22.85 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.90 | 0.00 | 719.65 | 353.99 | 6.95 | 61.85 | 22.85 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.90 | 0.00 | 719.65 | 353.99 | 6.95 | 61.85 | 22.85 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.94 | 0.00 | 722.22 | 89.86 | 4.31 | 114.44 | 45.36 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.94 | 0.00 | 722.22 | 89.86 | 4.31 | 114.44 | 45.36 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.94 | 0.00 | 722.22 | 89.86 | 4.31 | 114.44 | 45.36 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.40 | 0.00 | 723.93 | 140.00 | 6.27 | 83.41 | 36.34 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.40 | 0.00 | 723.93 | 140.00 | 6.27 | 83.41 | 36.34 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.40 | 0.00 | 723.93 | 140.00 | 6.27 | 83.41 | 36.34 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 430.00 | 724.86 | 0.00 | 724.95 | 22.77 | 2.40 | 179.45 | 90.10 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 430.00 | 724.86 | 0.00 | 724.95 | 22.77 | 2.40 | 179.45 | 90.10 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 430.00 | 724.86 | 0.00 | 724.95 | 22.77 | 2.40 | 179.45 | 90.10 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.64 | 0.00 | 725.94 | 99.90 | 4.47 | 105.59 | 43.02 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.64 | 0.00 | 725.94 | 99.90 | 4.47 | 105.59 | 43.02 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.64 | 0.00 | 725.94 | 99.90 | 4.47 | 105.59 | 43.02 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.64 | 0.00 | 725.95 | 100.52 | 4.47 | 105.11 | 42.89 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.64 | 0.00 | 725.95 | 100.52 | 4.47 | 105.11 | 42.89 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.64 | 0.00 | 725.95 | 100.52 | 4.47 | 105.11 | 42.89 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.68 | 0.00 | 725.98 | 97.18 | 4.42 | 107.82 | 43.62 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.68 | 0.00 | 725.98 | 97.18 | 4.42 | 107.82 | 43.62 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.68 | 0.00 | 725.98 | 97.18 | 4.42 | 107.82 | 43.62 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.69 | 0.00 | 725.99 | 95.78 | 4.40 | 109.03 | 43.94 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.69 | 0.00 | 725.99 | 95.78 | 4.40 | 109.03 | 43.94 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.69 | 0.00 | 725.99 | 95.78 | 4.40 | 109.03 | 43.94 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.36 | 0.00 | 727.50 | 40.48 | 3.20 | 194.38 | 67.58 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.36 | 0.00 | 727.50 | 40.48 | 3.20 | 194.38 | 67.58 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.36 | 0.00 | 727.50 | 40.48 | 3.20 | 194.38 | 67.58 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.32 | 0.00 | 728.56 | 67.10 | 4.59 | 163.96 | 52.49 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.32 | 0.00 | 728.56 | 67.10 | 4.59 | 163.96 | 52.49 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.32 | 0.00 | 728.56 | 67.10 | 4.59 | 163.96 | 52.49 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.27 | 0.00 | 729.66 | 108.96 | 5.59 | 119.38 | 41.19 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.27 | 0.00 | 729.66 | 108.96 | 5.59 | 119.38 | 41.19 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.27 | 0.00 | 729.66 | 108.96 | 5.59 | 119.38 | 41.19 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 430.00 | 729.79 | 0.00 | 729.97 | 52.91 | 4.16 | 187.18 | 59.11 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 430.00 | 729.79 | 0.00 | 729.97 | 52.91 | 4.16 | 187.18 | 59.11 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 430.00 | 729.79 | 0.00 | 729.97 | 52.91 | 4.16 | 187.18 | 59.11 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.25 | 0.00 | 731.64 | 176.69 | 5.20 | 107.42 | 32.35 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.25 | 0.00 | 731.64 | 176.69 | 5.20 | 107.42 | 32.35 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.25 | 0.00 | 731.64 | 176.69 | 5.20 | 107.42 | 32.35 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.49 | 0.00 | 732.76 | 118.32 | 4.48 | 132.71 | 39.53 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.49 | 0.00 | 732.76 | 118.32 | 4.48 | 132.71 | 39.53 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.49 | 0.00 | 732.76 | 118.32 | 4.48 | 132.71 | 39.53 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.24 | 0.00 | 733.33 | 48.99 | 3.19 | 214.89 | 61.44 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.24 | 0.00 | 733.33 | 48.99 | 3.19 | 214.89 | 61.44 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.24 | 0.00 | 733.33 | 48.99 | 3.19 | 214.89 | 61.44 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.56 | 0.00 | 733.75 | 141.06 | 4.70 | 143.03 | 36.20 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.56 | 0.00 | 733.75 | 141.06 | 4.70 | 143.03 | 36.20 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.56 | 0.00 | 733.75 | 141.06 | 4.70 | 143.03 | 36.20 |
| 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.36 | 0.00 | 734.62 | 203.13 | 5.37 | 124.40 | 30.17 |
| 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.36 | 0.00 | 734.62 | 203.13 | 5.37 | 124.40 | 30.17 |
| 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.36 | 0.00 | 734.62 | 203.13 | 5.37 | 124.40 | 30.17 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 735.92 | 0.00 | 736.07 | 107.92 | 4.26 | 158.51 | 41.39 |
| 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 735.92 | 0.00 | 736.07 | 107.92 | 4.26 | 158.51 | 41.39 |
| 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 735.92 | 0.00 | 736.07 | 107.92 | 4.26 | 158.51 | 41.39 |
| 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.55 | 0.00 | 737.75 | 166.85 | 3.70 | 123.63 | 33.29 |
| 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.55 | 0.00 | 737.75 | 166.85 | 3.70 | 123.63 | 33.29 |
| 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.55 | 0.00 | 737.75 | 166.85 | 3.70 | 123.63 | 33.29 |
| 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 739.85 | 0.00 | 740.52 | 204.36 | 6.60 | 65.11 | 30.08 |
| 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 739.85 | 0.00 | 740.52 | 204.36 | 6.60 | 65.11 | 30.08 |
| 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 739.85 | 0.00 | 740.52 | 204.36 | 6.60 | 65.11 | 30.08 |
| 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 430.00 | 741.55 | 0.00 | 741.89 | 64.62 | 4.68 | 91.95 | 53.49 |
| 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 430.00 | 741.55 | 0.00 | 741.89 | 64.62 | 4.68 | 91.95 | 53.49 |
| 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 430.00 | 741.55 | 0.00 | 741.89 | 64.62 | 4.68 | 91.95 | 53.49 |
| 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.07 | 0.00 | 742.08 | 3.01 | 1.04 | 582.72 | 247.97 |
| 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.07 | 0.00 | 742.08 | 3.01 | 1.04 | 582.72 | 247.97 |
| 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.07 | 0.00 | 742.08 | 3.01 | 1.04 | 582.72 | 247.97 |
| 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.14 | 0.00 | 742.17 | 13.04 | 1.76 | 361.08 | 119.07 |
| 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.14 | 0.00 | 742.17 | 13.04 | 1.76 | 361.08 | 119.07 |
| 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.14 | 0.00 | 742.17 | 13.04 | 1.76 | 361.08 | 119.07 |
| 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.48 | 0.00 | 742.61 | 86.44 | 3.57 | 184.14 | 46.25 |
| 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.48 | 0.00 | 742.61 | 86.44 | 3.57 | 184.14 | 46.25 |
| 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.48 | 0.00 | 742.61 | 86.44 | 3.57 | 184.14 | 46.25 |
| 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 743.96 | 0.00 | 744.12 | 109.07 | 3.90 | 167.88 | 41.17 |
| 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 743.96 | 0.00 | 744.12 | 109.07 | 3.90 | 167.88 | 41.17 |
| 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 743.96 | 0.00 | 744.12 | 109.07 | 3.90 | 167.88 | 41.17 |
| 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.57 | 0.00 | 745.73 | 105.67 | 3.85 | 170.09 | 41.83 |
| 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.57 | 0.00 | 745.73 | 105.67 | 3.85 | 170.09 | 41.83 |
| 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.57 | 0.00 | 745.73 | 105.67 | 3.85 | 170.09 | 41.83 |
| 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.50 | 0.00 | 746.54 | 31.37 | 2.12 | 316.81 | 76.77 |
| 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.50 | 0.00 | 746.54 | 31.37 | 2.12 | 316.81 | 76.77 |
| 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.50 | 0.00 | 746.54 | 31.37 | 2.12 | 316.81 | 76.77 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.37 | 0.00 | 747.48 | 152.51 | 3.82 | 182.27 | 34.82 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.37 | 0.00 | 747.48 | 152.51 | 3.82 | 182.27 | 34.82 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.37 | 0.00 | 747.48 | 152.51 | 3.82 | 182.27 | 34.82 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.19 | 0.00 | 749.27 | 89.46 | 3.13 | 220.80 | 45.46 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.19 | 0.00 | 749.27 | 89.46 | 3.13 | 220.80 | 45.46 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.19 | 0.00 | 749.27 | 89.46 | 3.13 | 220.80 | 45.46 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.71 | 0.00 | 750.80 | 108.50 | 3.37 | 206.01 | 41.28 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.71 | 0.00 | 750.80 | 108.50 | 3.37 | 206.01 | 41.28 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.71 | 0.00 | 750.80 | 108.50 | 3.37 | 206.01 | 41.28 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.34 | 0.00 | 752.42 | 100.86 | 3.27 | 211.49 | 42.82 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.34 | 0.00 | 752.42 | 100.86 | 3.27 | 211.49 | 42.82 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.34 | 0.00 | 752.42 | 100.86 | 3.27 | 211.49 | 42.82 |

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 899.000 | 430.00 | 678.30 | 0.00 | 0.00 | -.50 | 82.75 | 0.00 |
| 899.000 | 430.00 | 679.30 | 0.00 | 0.00 | 0.00 | 227.20 | 0.00 |
| 899.000 | 430.00 | 677.30 | 0.00 | 0.00 | 0.00 | 34.05 | 0.00 |
| 899.100 | 430.00 | 679.25 | 0.00 | .95 | 0.00 | 23.10 | 65.00 |
| 899.100 | 430.00 | 679.63 | 0.00 | .33 | 0.00 | 24.56 | 65.00 |
| 899.100 | 430.00 | 679.16 | 0.00 | 1.86 | 0.00 | 22.76 | 65.00 |
| 899.130 | 430.00 | 680.63 | 0.00 | 1.38 | 0.00 | 252.33 | 5.00 |
| 899.130 | 430.00 | 680.82 | 0.00 | 1.19 | 0.00 | 256.59 | 5.00 |
| 899.130 | 430.00 | 680.58 | 0.00 | 1.42 | 0.00 | 251.19 | 5.00 |
| 899.200 | 430.00 | 681.61 | 0.00 | .97 | 0.00 | 251.71 | 195.00 |
| 899.200 | 430.00 | 681.62 | 0.00 | .80 | 0.00 | 251.94 | 195.00 |
| 899.200 | 430.00 | 681.61 | 0.00 | 1.03 | 0.00 | 251.91 | 195.00 |
| 899.220 | 430.00 | 681.66 | 0.00 | .05 | 0.00 | 252.96 | .50 |
| 899.220 | 430.00 | 681.67 | 0.00 | .05 | 0.00 | 253.22 | .50 |
| 899.220 | 430.00 | 681.66 | 0.00 | .05 | 0.00 | 252.91 | .50 |
| 899.230 | 430.00 | 681.72 | 0.00 | .06 | 0.00 | 254.37 | 4.00 |
| 899.230 | 430.00 | 681.73 | 0.00 | .06 | 0.00 | 254.57 | 4.00 |
| 899.230 | 430.00 | 681.72 | 0.00 | .06 | 0.00 | 254.33 | 4.00 |
| 899.250 | 430.00 | 681.71 | 0.00 | -.01 | 0.00 | 254.30 | .50 |
| 899.250 | 430.00 | 681.72 | 0.00 | -.01 | 0.00 | 254.51 | .50 |
| 899.250 | 430.00 | 681.71 | 0.00 | -.01 | 0.00 | 254.27 | .50 |
| 900.000 | 430.00 | 681.93 | 0.00 | .22 | 0.00 | 249.96 | 50.00 |
| 900.000 | 430.00 | 681.94 | 0.00 | .22 | 0.00 | 250.09 | 50.00 |
| 900.000 | 430.00 | 681.93 | 0.00 | .22 | 0.00 | 249.94 | 50.00 |
| 900.200 | 430.00 | 683.39 | 0.00 | 1.46 | 0.00 | 25.57 | 175.00 |
| 900.200 | 430.00 | 683.38 | 0.00 | 1.45 | 0.00 | 25.55 | 175.00 |
| 900.200 | 430.00 | 683.39 | 0.00 | 1.46 | 0.00 | 25.57 | 175.00 |
| 900.220 | 430.00 | 683.33 | 0.00 | -.05 | 0.00 | 25.35 | .50 |
| 900.220 | 430.00 | 683.33 | 0.00 | -.05 | 0.00 | 25.33 | .50 |
| 900.220 | 430.00 | 683.33 | 0.00 | -.05 | 0.00 | 25.35 | .50 |
| 900.230 | 430.00 | 683.83 | 0.00 | .49 | 0.00 | 245.35 | 4.00 |
| 900.230 | 430.00 | 683.82 | 0.00 | .49 | 0.00 | 245.27 | 4.00 |
| 900.230 | 430.00 | 683.83 | 0.00 | .49 | 0.00 | 245.36 | 4.00 |
| 900.250 | 430.00 | 683.84 | 0.00 | .02 | 0.00 | 245.73 | .50 |
| 900.250 | 430.00 | 683.84 | 0.00 | .02 | 0.00 | 245.64 | .50 |
| 900.250 | 430.00 | 683.84 | 0.00 | .02 | 0.00 | 245.75 | .50 |
| 900.400 | 430.00 | 686.15 | 0.00 | 2.31 | 0.00 | 243.48 | 255.00 |
| 900.400 | 430.00 | 686.15 | 0.00 | 2.31 | 0.00 | 243.54 | 255.00 |
| 900.400 | 430.00 | 686.15 | 0.00 | 2.31 | 0.00 | 243.47 | 255.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 900.420 | 430.00 | 686.15 | 0.00 | -.00 | 0.00 | 243.60 | .50 |
| 900.420 | 430.00 | 686.15 | 0.00 | -.00 | 0.00 | 243.65 | .50 |
| 900.420 | 430.00 | 686.15 | 0.00 | -.00 | 0.00 | 243.60 | .50 |
| 900.430 | 430.00 | 686.43 | 0.00 | .28 | 0.00 | 249.70 | 4.00 |
| 900.430 | 430.00 | 686.43 | 0.00 | .28 | 0.00 | 249.71 | 4.00 |
| 900.430 | 430.00 | 686.43 | 0.00 | .28 | 0.00 | 249.70 | 4.00 |
| 900.450 | 430.00 | 686.42 | 0.00 | -.01 | 0.00 | 249.65 | .50 |
| 900.450 | 430.00 | 686.42 | 0.00 | -.01 | 0.00 | 249.65 | .50 |
| 900.450 | 430.00 | 686.42 | 0.00 | -.01 | 0.00 | 249.64 | .50 |
| 900.600 | 430.00 | 688.32 | 0.00 | 1.90 | 0.00 | 260.36 | 315.00 |
| 900.600 | 430.00 | 688.32 | 0.00 | 1.90 | 0.00 | 260.35 | 315.00 |
| 900.600 | 430.00 | 688.32 | 0.00 | 1.90 | 0.00 | 260.36 | 315.00 |
| 900.620 | 430.00 | 688.33 | 0.00 | .01 | 0.00 | 260.40 | .50 |
| 900.620 | 430.00 | 688.33 | 0.00 | .01 | 0.00 | 260.40 | .50 |
| 900.620 | 430.00 | 688.33 | 0.00 | .01 | 0.00 | 260.40 | .50 |
| 900.630 | 430.00 | 688.38 | 0.00 | .06 | 0.00 | 261.55 | 9.00 |
| 900.630 | 430.00 | 688.38 | 0.00 | .06 | 0.00 | 261.55 | 9.00 |
| 900.630 | 430.00 | 688.38 | 0.00 | .06 | 0.00 | 261.55 | 9.00 |
| 900.650 | 430.00 | 688.38 | 0.00 | .00 | 0.00 | 261.70 | .50 |
| 900.650 | 430.00 | 688.38 | 0.00 | .00 | 0.00 | 261.70 | .50 |
| 900.650 | 430.00 | 688.38 | 0.00 | .00 | 0.00 | 261.70 | .50 |
| 900.700 | 430.00 | 689.09 | 0.00 | .71 | 0.00 | 254.43 | 160.00 |
| 900.700 | 430.00 | 689.09 | 0.00 | .71 | 0.00 | 254.43 | 160.00 |
| 900.700 | 430.00 | 689.09 | 0.00 | .71 | 0.00 | 254.43 | 160.00 |
| 900.800 | 430.00 | 690.19 | 0.00 | 1.09 | 0.00 | 247.89 | 155.00 |
| 900.800 | 430.00 | 690.19 | 0.00 | 1.09 | 0.00 | 247.89 | 155.00 |
| 900.800 | 430.00 | 690.19 | 0.00 | 1.09 | 0.00 | 247.89 | 155.00 |
| 900.820 | 430.00 | 690.36 | 0.00 | .17 | 0.00 | 250.56 | .50 |
| 900.820 | 430.00 | 690.36 | 0.00 | .17 | 0.00 | 250.56 | .50 |
| 900.820 | 430.00 | 690.36 | 0.00 | .17 | 0.00 | 250.56 | .50 |
| 900.830 | 430.00 | 690.44 | 0.00 | .08 | 0.00 | 251.74 | 4.00 |
| 900.830 | 430.00 | 690.44 | 0.00 | .08 | 0.00 | 251.74 | 4.00 |
| 900.830 | 430.00 | 690.44 | 0.00 | .08 | 0.00 | 251.74 | 4.00 |
| 900.850 | 430.00 | 690.42 | 0.00 | -.02 | 0.00 | 251.55 | .50 |
| 900.850 | 430.00 | 690.42 | 0.00 | -.02 | 0.00 | 251.55 | .50 |
| 900.850 | 430.00 | 690.42 | 0.00 | -.02 | 0.00 | 251.55 | .50 |
| 900.860 | 430.00 | 690.97 | 0.00 | .56 | 0.00 | 249.19 | 66.00 |
| 900.860 | 430.00 | 690.97 | 0.00 | .56 | 0.00 | 249.19 | 66.00 |
| 900.860 | 430.00 | 690.97 | 0.00 | .56 | 0.00 | 249.19 | 66.00 |
| 900.870 | 430.00 | 691.69 | 0.00 | .72 | 0.00 | 249.43 | 67.00 |
| 900.870 | 430.00 | 691.69 | 0.00 | .72 | 0.00 | 249.43 | 67.00 |
| 900.870 | 430.00 | 691.69 | 0.00 | .72 | 0.00 | 249.43 | 67.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 901.000 | 430.00 | 692.36 | 0.00 | .67 | 0.00 | 247.43 | 67.00 |
| 901.000 | 430.00 | 692.36 | 0.00 | .67 | 0.00 | 247.43 | 67.00 |
| 901.000 | 430.00 | 692.36 | 0.00 | .67 | 0.00 | 247.43 | 67.00 |
| 901.020 | 430.00 | 692.58 | 0.00 | .22 | 0.00 | 251.03 | .50 |
| 901.020 | 430.00 | 692.58 | 0.00 | .22 | 0.00 | 251.03 | .50 |
| 901.020 | 430.00 | 692.58 | 0.00 | .22 | 0.00 | 251.03 | .50 |
| 901.030 | 430.00 | 692.66 | 0.00 | .07 | 0.00 | 252.05 | 4.00 |
| 901.030 | 430.00 | 692.66 | 0.00 | .07 | 0.00 | 252.05 | 4.00 |
| 901.030 | 430.00 | 692.66 | 0.00 | .07 | 0.00 | 252.05 | 4.00 |
| 901.050 | 430.00 | 692.63 | 0.00 | -.03 | 0.00 | 251.74 | .50 |
| 901.050 | 430.00 | 692.63 | 0.00 | -.03 | 0.00 | 251.74 | .50 |
| 901.050 | 430.00 | 692.63 | 0.00 | -.03 | 0.00 | 251.74 | .50 |
| 901.100 | 430.00 | 694.25 | 0.00 | 1.63 | 0.00 | 248.95 | 235.00 |
| 901.100 | 430.00 | 694.25 | 0.00 | 1.63 | 0.00 | 248.95 | 235.00 |
| 901.100 | 430.00 | 694.25 | 0.00 | 1.63 | 0.00 | 248.95 | 235.00 |
| 901.120 | 430.00 | 694.42 | 0.00 | .16 | 0.00 | 251.55 | .50 |
| 901.120 | 430.00 | 694.42 | 0.00 | .16 | 0.00 | 251.55 | .50 |
| 901.120 | 430.00 | 694.42 | 0.00 | .16 | 0.00 | 251.55 | .50 |
| 901.130 | 430.00 | 694.48 | 0.00 | .07 | 0.00 | 252.47 | 4.00 |
| 901.130 | 430.00 | 694.48 | 0.00 | .07 | 0.00 | 252.47 | 4.00 |
| 901.130 | 430.00 | 694.48 | 0.00 | .07 | 0.00 | 252.47 | 4.00 |
| 901.150 | 430.00 | 694.45 | 0.00 | -.03 | 0.00 | 252.17 | .50 |
| 901.150 | 430.00 | 694.45 | 0.00 | -.03 | 0.00 | 252.17 | .50 |
| 901.150 | 430.00 | 694.45 | 0.00 | -.03 | 0.00 | 252.17 | .50 |
| 901.170 | 430.00 | 695.54 | 0.00 | 1.08 | 0.00 | 247.08 | 150.00 |
| 901.170 | 430.00 | 695.54 | 0.00 | 1.08 | 0.00 | 247.08 | 150.00 |
| 901.170 | 430.00 | 695.54 | 0.00 | 1.08 | 0.00 | 247.08 | 150.00 |
| 901.200 | 430.00 | 697.15 | 0.00 | 1.61 | 0.00 | 248.82 | 145.00 |
| 901.200 | 430.00 | 697.15 | 0.00 | 1.61 | 0.00 | 248.82 | 145.00 |
| 901.200 | 430.00 | 697.15 | 0.00 | 1.61 | 0.00 | 248.82 | 145.00 |
| 901.220 | 430.00 | 697.27 | 0.00 | .13 | 0.00 | 250.84 | .50 |
| 901.220 | 430.00 | 697.27 | 0.00 | .13 | 0.00 | 250.84 | .50 |
| 901.220 | 430.00 | 697.27 | 0.00 | .13 | 0.00 | 250.84 | .50 |
| 901.230 | 430.00 | 697.42 | 0.00 | .15 | 0.00 | 253.25 | 4.00 |
| 901.230 | 430.00 | 697.42 | 0.00 | .15 | 0.00 | 253.25 | 4.00 |
| 901.230 | 430.00 | 697.42 | 0.00 | .15 | 0.00 | 253.25 | 4.00 |
| 901.250 | 430.00 | 697.42 | 0.00 | .00 | 0.00 | 253.38 | .50 |
| 901.250 | 430.00 | 697.42 | 0.00 | .00 | 0.00 | 253.38 | .50 |
| 901.250 | 430.00 | 697.42 | 0.00 | .00 | 0.00 | 253.38 | .50 |
| 901.260 | 430.00 | 697.61 | 0.00 | .19 | 0.00 | 249.79 | 33.00 |
| 901.260 | 430.00 | 697.61 | 0.00 | .19 | 0.00 | 249.79 | 33.00 |
| 901.260 | 430.00 | 697.61 | 0.00 | .19 | 0.00 | 249.79 | 33.00 |

| | SECNO | Q | CWSEL | DIFKSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 901.270 | 430.00 | 697.90 | 0.00 | .29 | 0.00 | 247.99 | 33.00 |
| | 901.270 | 430.00 | 697.90 | 0.00 | .29 | 0.00 | 247.99 | 33.00 |
| | 901.270 | 430.00 | 697.90 | 0.00 | .29 | 0.00 | 247.99 | 33.00 |
| | 901.280 | 430.00 | 698.28 | 0.00 | .39 | 0.00 | 246.16 | 33.00 |
| | 901.280 | 430.00 | 698.28 | 0.00 | .39 | 0.00 | 246.16 | 33.00 |
| | 901.280 | 430.00 | 698.28 | 0.00 | .39 | 0.00 | 246.16 | 33.00 |
| | 901.290 | 430.00 | 698.80 | 0.00 | .52 | 0.00 | 248.14 | 32.00 |
| | 901.290 | 430.00 | 698.80 | 0.00 | .52 | 0.00 | 248.14 | 32.00 |
| | 901.290 | 430.00 | 698.80 | 0.00 | .52 | 0.00 | 248.14 | 32.00 |
| | 901.300 | 430.00 | 699.14 | 0.00 | .35 | 0.00 | 247.16 | 32.00 |
| | 901.300 | 430.00 | 699.14 | 0.00 | .35 | 0.00 | 247.16 | 32.00 |
| | 901.300 | 430.00 | 699.14 | 0.00 | .35 | 0.00 | 247.16 | 32.00 |
| * | 901.310 | 430.00 | 699.66 | 0.00 | .51 | 0.00 | 245.73 | 32.00 |
| * | 901.310 | 430.00 | 699.66 | 0.00 | .51 | 0.00 | 245.73 | 32.00 |
| * | 901.310 | 430.00 | 699.66 | 0.00 | .51 | 0.00 | 245.73 | 32.00 |
| | 901.320 | 430.00 | 700.08 | 0.00 | .42 | 0.00 | 252.57 | .50 |
| | 901.320 | 430.00 | 700.08 | 0.00 | .42 | 0.00 | 252.57 | .50 |
| | 901.320 | 430.00 | 700.08 | 0.00 | .42 | 0.00 | 252.57 | .50 |
| | 901.330 | 430.00 | 700.13 | 0.00 | .05 | 0.00 | 253.40 | 4.00 |
| | 901.330 | 430.00 | 700.13 | 0.00 | .05 | 0.00 | 253.40 | 4.00 |
| | 901.330 | 430.00 | 700.13 | 0.00 | .05 | 0.00 | 253.40 | 4.00 |
| | 901.350 | 430.00 | 700.13 | 0.00 | -.00 | 0.00 | 253.45 | .50 |
| | 901.350 | 430.00 | 700.13 | 0.00 | -.00 | 0.00 | 253.45 | .50 |
| | 901.350 | 430.00 | 700.13 | 0.00 | -.00 | 0.00 | 253.45 | .50 |
| | 901.400 | 430.00 | 700.20 | 0.00 | .07 | 0.00 | 252.87 | 15.00 |
| | 901.400 | 430.00 | 700.20 | 0.00 | .07 | 0.00 | 252.87 | 15.00 |
| | 901.400 | 430.00 | 700.20 | 0.00 | .07 | 0.00 | 252.87 | 15.00 |
| | 901.420 | 430.00 | 700.29 | 0.00 | .09 | 0.00 | 254.36 | .50 |
| | 901.420 | 430.00 | 700.29 | 0.00 | .09 | 0.00 | 254.36 | .50 |
| | 901.420 | 430.00 | 700.29 | 0.00 | .09 | 0.00 | 254.36 | .50 |
| | 901.430 | 430.00 | 700.33 | 0.00 | .04 | 0.00 | 254.77 | 4.00 |
| | 901.430 | 430.00 | 700.33 | 0.00 | .04 | 0.00 | 254.77 | 4.00 |
| | 901.430 | 430.00 | 700.33 | 0.00 | .04 | 0.00 | 254.77 | 4.00 |
| | 901.450 | 430.00 | 700.32 | 0.00 | -.00 | 0.00 | 254.99 | .50 |
| | 901.450 | 430.00 | 700.32 | 0.00 | -.00 | 0.00 | 254.99 | .50 |
| | 901.450 | 430.00 | 700.32 | 0.00 | -.00 | 0.00 | 254.99 | .50 |
| | 901.500 | 430.00 | 700.68 | 0.00 | .36 | 0.00 | 150.39 | 95.00 |
| | 901.500 | 430.00 | 700.68 | 0.00 | .36 | 0.00 | 150.39 | 95.00 |
| | 901.500 | 430.00 | 700.68 | 0.00 | .36 | 0.00 | 150.39 | 95.00 |
| | 901.520 | 430.00 | 700.70 | 0.00 | .02 | 0.00 | 150.69 | .50 |
| | 901.520 | 430.00 | 700.70 | 0.00 | .02 | 0.00 | 150.69 | .50 |
| | 901.520 | 430.00 | 700.70 | 0.00 | .02 | 0.00 | 150.69 | .50 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 901.530 | 430.00 | 700.72 | 0.00 | .02 | 0.00 | 151.44 | 4.00 |
| 901.530 | 430.00 | 700.72 | 0.00 | .02 | 0.00 | 151.44 | 4.00 |
| 901.530 | 430.00 | 700.72 | 0.00 | .02 | 0.00 | 151.44 | 4.00 |
| 901.550 | 430.00 | 700.73 | 0.00 | .00 | 0.00 | 151.67 | .50 |
| 901.550 | 430.00 | 700.73 | 0.00 | .00 | 0.00 | 151.67 | .50 |
| 901.550 | 430.00 | 700.73 | 0.00 | .00 | 0.00 | 151.67 | .50 |
| 901.600 | 430.00 | 701.17 | 0.00 | .45 | 0.00 | 147.34 | 125.00 |
| 901.600 | 430.00 | 701.17 | 0.00 | .45 | 0.00 | 147.34 | 125.00 |
| 901.600 | 430.00 | 701.17 | 0.00 | .45 | 0.00 | 147.34 | 125.00 |
| 901.620 | 430.00 | 701.21 | 0.00 | .04 | 0.00 | 148.34 | .50 |
| 901.620 | 430.00 | 701.21 | 0.00 | .04 | 0.00 | 148.34 | .50 |
| 901.620 | 430.00 | 701.21 | 0.00 | .04 | 0.00 | 148.34 | .50 |
| 901.630 | 430.00 | 701.24 | 0.00 | .03 | 0.00 | 148.94 | 4.00 |
| 901.630 | 430.00 | 701.24 | 0.00 | .03 | 0.00 | 148.94 | 4.00 |
| 901.630 | 430.00 | 701.24 | 0.00 | .03 | 0.00 | 148.94 | 4.00 |
| 901.650 | 430.00 | 701.24 | 0.00 | .00 | 0.00 | 149.23 | .50 |
| 901.650 | 430.00 | 701.24 | 0.00 | .00 | 0.00 | 149.23 | .50 |
| 901.650 | 430.00 | 701.24 | 0.00 | .00 | 0.00 | 149.23 | .50 |
| 901.800 | 430.00 | 702.39 | 0.00 | 1.15 | 0.00 | 134.04 | 175.00 |
| 901.800 | 430.00 | 702.39 | 0.00 | 1.15 | 0.00 | 134.04 | 175.00 |
| 901.800 | 430.00 | 702.39 | 0.00 | 1.15 | 0.00 | 134.04 | 175.00 |
| 902.200 | 430.00 | 704.53 | 0.00 | 2.14 | 0.00 | 136.26 | 170.00 |
| 902.200 | 430.00 | 704.53 | 0.00 | 2.14 | 0.00 | 136.26 | 170.00 |
| 902.200 | 430.00 | 704.53 | 0.00 | 2.14 | 0.00 | 136.26 | 170.00 |
| 902.220 | 430.00 | 704.54 | 0.00 | .00 | 0.00 | 136.30 | .50 |
| 902.220 | 430.00 | 704.54 | 0.00 | .00 | 0.00 | 136.30 | .50 |
| 902.220 | 430.00 | 704.54 | 0.00 | .00 | 0.00 | 136.30 | .50 |
| 902.230 | 430.00 | 704.84 | 0.00 | .30 | 0.00 | 143.68 | 4.00 |
| 902.230 | 430.00 | 704.84 | 0.00 | .30 | 0.00 | 143.68 | 4.00 |
| 902.230 | 430.00 | 704.84 | 0.00 | .30 | 0.00 | 143.68 | 4.00 |
| 902.250 | 430.00 | 704.89 | 0.00 | .05 | 0.00 | 144.99 | .50 |
| 902.250 | 430.00 | 704.89 | 0.00 | .05 | 0.00 | 144.99 | .50 |
| 902.250 | 430.00 | 704.89 | 0.00 | .05 | 0.00 | 144.99 | .50 |
| 901.980 | 430.00 | 706.49 | 0.00 | 1.61 | 0.00 | 15.00 | 198.00 |
| 901.980 | 430.00 | 706.49 | 0.00 | 1.61 | 0.00 | 15.00 | 198.00 |
| 901.980 | 430.00 | 706.49 | 0.00 | 1.61 | 0.00 | 15.00 | 198.00 |
| 901.990 | 430.00 | 706.33 | 0.00 | -.16 | 0.00 | 10.42 | 1.00 |
| 901.990 | 430.00 | 706.33 | 0.00 | -.16 | 0.00 | 10.42 | 1.00 |
| 901.990 | 430.00 | 706.33 | 0.00 | -.16 | 0.00 | 10.42 | 1.00 |
| 902.010 | 430.00 | 707.97 | 0.00 | 1.64 | 0.00 | 10.46 | 49.00 |
| 902.010 | 430.00 | 707.97 | 0.00 | 1.64 | 0.00 | 10.46 | 49.00 |
| 902.010 | 430.00 | 707.97 | 0.00 | 1.64 | 0.00 | 10.46 | 49.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWIC | XLCH |
|---|---|---|---|---|---|---|---|
| 902.020 | 430.00 | 708.70 | 0.00 | .73 | 0.00 | 15.00 | 1.00 |
| 902.020 | 430.00 | 708.70 | 0.00 | .73 | 0.00 | 15.00 | 1.00 |
| 902.020 | 430.00 | 708.70 | 0.00 | .73 | 0.00 | 15.00 | 1.00 |
| 902.800 | 430.00 | 709.26 | 0.00 | .56 | 0.00 | 163.68 | 85.00 |
| 902.800 | 430.00 | 709.26 | 0.00 | .56 | 0.00 | 163.68 | 85.00 |
| 902.800 | 430.00 | 709.26 | 0.00 | .56 | 0.00 | 163.68 | 85.00 |
| 902.980 | 430.00 | 709.43 | 0.00 | .17 | 0.00 | 176.69 | 86.00 |
| 902.980 | 430.00 | 709.43 | 0.00 | .17 | 0.00 | 176.69 | 86.00 |
| 902.980 | 430.00 | 709.43 | 0.00 | .17 | 0.00 | 176.69 | 86.00 |
| 903.020 | 430.00 | 709.74 | 0.00 | .31 | 0.00 | 178.00 | 24.00 |
| 903.020 | 430.00 | 709.74 | 0.00 | .31 | 0.00 | 178.00 | 24.00 |
| 903.020 | 430.00 | 709.74 | 0.00 | .31 | 0.00 | 178.00 | 24.00 |
| 903.100 | 430.00 | 709.80 | 0.00 | .06 | 0.00 | 178.00 | 91.00 |
| 903.100 | 430.00 | 709.80 | 0.00 | .06 | 0.00 | 178.00 | 91.00 |
| 903.100 | 430.00 | 709.80 | 0.00 | .06 | 0.00 | 178.00 | 91.00 |
| 903.120 | 430.00 | 709.79 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.120 | 430.00 | 709.79 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.120 | 430.00 | 709.79 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.130 | 430.00 | 709.83 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| 903.130 | 430.00 | 709.83 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| 903.130 | 430.00 | 709.83 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| 903.150 | 430.00 | 709.87 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| 903.150 | 430.00 | 709.87 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| 903.150 | 430.00 | 709.87 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| 903.280 | 430.00 | 709.97 | 0.00 | .11 | 0.00 | 178.00 | 79.00 |
| 903.280 | 430.00 | 709.97 | 0.00 | .11 | 0.00 | 178.00 | 79.00 |
| 903.280 | 430.00 | 709.97 | 0.00 | .11 | 0.00 | 178.00 | 79.00 |
| 903.320 | 430.00 | 710.55 | 0.00 | .58 | 0.00 | 178.00 | 15.00 |
| 903.320 | 430.00 | 710.55 | 0.00 | .58 | 0.00 | 178.00 | 15.00 |
| 903.320 | 430.00 | 710.55 | 0.00 | .58 | 0.00 | 178.00 | 15.00 |
| 903.400 | 430.00 | 710.60 | 0.00 | .05 | 0.00 | 178.00 | 50.00 |
| 903.400 | 430.00 | 710.60 | 0.00 | .05 | 0.00 | 178.00 | 50.00 |
| 903.400 | 430.00 | 710.60 | 0.00 | .05 | 0.00 | 178.00 | 50.00 |
| 903.480 | 430.00 | 710.72 | 0.00 | .13 | 0.00 | 178.00 | 55.00 |
| 903.480 | 430.00 | 710.72 | 0.00 | .13 | 0.00 | 178.00 | 55.00 |
| 903.480 | 430.00 | 710.72 | 0.00 | .13 | 0.00 | 178.00 | 55.00 |
| 903.520 | 430.00 | 712.24 | 0.00 | 1.52 | 0.00 | 178.00 | 15.00 |
| 903.520 | 430.00 | 712.24 | 0.00 | 1.52 | 0.00 | 178.00 | 15.00 |
| 903.520 | 430.00 | 712.24 | 0.00 | 1.52 | 0.00 | 178.00 | 15.00 |
| 903.800 | 430.00 | 712.47 | 0.00 | .23 | 0.00 | 178.00 | 180.00 |
| 903.800 | 430.00 | 712.47 | 0.00 | .23 | 0.00 | 178.00 | 180.00 |
| 903.800 | 430.00 | 712.47 | 0.00 | .23 | 0.00 | 178.00 | 180.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.810 | 430.00 | 712.97 | 0.00 | .50 | 0.00 | 178.00 | 95.00 |
| 903.810 | 430.00 | 712.97 | 0.00 | .50 | 0.00 | 178.00 | 95.00 |
| 903.810 | 430.00 | 712.97 | 0.00 | .50 | 0.00 | 178.00 | 95.00 |
| 903.600 | 430.00 | 712.98 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 430.00 | 712.98 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 430.00 | 712.98 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.650 | 430.00 | 713.00 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 430.00 | 713.00 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 430.00 | 713.00 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.820 | 430.00 | 712.99 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 430.00 | 712.99 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 430.00 | 712.99 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.830 | 430.00 | 713.17 | 0.00 | .18 | 0.00 | 178.00 | 66.00 |
| 903.830 | 430.00 | 713.17 | 0.00 | .18 | 0.00 | 178.00 | 66.00 |
| 903.830 | 430.00 | 713.17 | 0.00 | .18 | 0.00 | 178.00 | 66.00 |
| 903.840 | 430.00 | 713.68 | 0.00 | .51 | 0.00 | 177.09 | 67.00 |
| 903.840 | 430.00 | 713.68 | 0.00 | .51 | 0.00 | 177.09 | 67.00 |
| 903.840 | 430.00 | 713.68 | 0.00 | .51 | 0.00 | 177.09 | 67.00 |
| 903.850 | 430.00 | 714.52 | 0.00 | .84 | 0.00 | 172.56 | 67.00 |
| 903.850 | 430.00 | 714.52 | 0.00 | .84 | 0.00 | 172.56 | 67.00 |
| 903.850 | 430.00 | 714.52 | 0.00 | .84 | 0.00 | 172.56 | 67.00 |
| 903.860 | 430.00 | 716.73 | 0.00 | 2.21 | 0.00 | 178.00 | 200.00 |
| 903.860 | 430.00 | 716.73 | 0.00 | 2.21 | 0.00 | 178.00 | 200.00 |
| 903.860 | 430.00 | 716.73 | 0.00 | 2.21 | 0.00 | 178.00 | 200.00 |
| 903.870 | 430.00 | 718.90 | 0.00 | 2.17 | 0.00 | 22.36 | 150.00 |
| 903.870 | 430.00 | 718.90 | 0.00 | 2.17 | 0.00 | 22.36 | 150.00 |
| 903.870 | 430.00 | 718.90 | 0.00 | 2.17 | 0.00 | 22.36 | 150.00 |
| 903.880 | 430.00 | 721.94 | 0.00 | 3.04 | 0.00 | 103.73 | 150.00 |
| 903.880 | 430.00 | 721.94 | 0.00 | 3.04 | 0.00 | 103.73 | 150.00 |
| 903.880 | 430.00 | 721.94 | 0.00 | 3.04 | 0.00 | 103.73 | 150.00 |
| 903.890 | 430.00 | 723.40 | 0.00 | 1.46 | 0.00 | 25.79 | 136.00 |
| 903.890 | 430.00 | 723.40 | 0.00 | 1.46 | 0.00 | 25.79 | 136.00 |
| 903.890 | 430.00 | 723.40 | 0.00 | 1.46 | 0.00 | 25.79 | 136.00 |
| 903.920 | 430.00 | 724.86 | 0.00 | 1.47 | 0.00 | 44.00 | 14.00 |
| 903.920 | 430.00 | 724.86 | 0.00 | 1.47 | 0.00 | 44.00 | 14.00 |
| 903.920 | 430.00 | 724.86 | 0.00 | 1.47 | 0.00 | 44.00 | 14.00 |
| 903.930 | 430.00 | 725.64 | 0.00 | .77 | 0.00 | 85.46 | 196.00 |
| 903.930 | 430.00 | 725.64 | 0.00 | .77 | 0.00 | 85.46 | 196.00 |
| 903.930 | 430.00 | 725.64 | 0.00 | .77 | 0.00 | 85.46 | 196.00 |
| 903.940 | 430.00 | 725.64 | 0.00 | .00 | 0.00 | 84.49 | .50 |
| 903.940 | 430.00 | 725.64 | 0.00 | .00 | 0.00 | 84.49 | .50 |
| 903.940 | 430.00 | 725.64 | 0.00 | .00 | 0.00 | 84.49 | .50 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.950 | 430.00 | 725.68 | 0.00 | .04 | 0.00 | 89.77 | 3.00 |
| 903.950 | 430.00 | 725.68 | 0.00 | .04 | 0.00 | 89.77 | 3.00 |
| 903.950 | 430.00 | 725.68 | 0.00 | .04 | 0.00 | 89.77 | 3.00 |
| 903.960 | 430.00 | 725.69 | 0.00 | .01 | 0.00 | 92.03 | .50 |
| 903.960 | 430.00 | 725.69 | 0.00 | .01 | 0.00 | 92.03 | .50 |
| 903.960 | 430.00 | 725.69 | 0.00 | .01 | 0.00 | 92.03 | .50 |
| 904.000 | 430.00 | 727.36 | 0.00 | 1.67 | 0.00 | 145.24 | 250.00 |
| 904.000 | 430.00 | 727.36 | 0.00 | 1.67 | 0.00 | 145.24 | 250.00 |
| 904.000 | 430.00 | 727.36 | 0.00 | 1.67 | 0.00 | 145.24 | 250.00 |
| 904.200 | 430.00 | 728.32 | 0.00 | .96 | 0.00 | 134.54 | 200.00 |
| 904.200 | 430.00 | 728.32 | 0.00 | .96 | 0.00 | 134.54 | 200.00 |
| 904.200 | 430.00 | 728.32 | 0.00 | .96 | 0.00 | 134.54 | 200.00 |
| 904.480 | 430.00 | 729.27 | 0.00 | .95 | 0.00 | 121.75 | 116.00 |
| 904.480 | 430.00 | 729.27 | 0.00 | .95 | 0.00 | 121.75 | 116.00 |
| 904.480 | 430.00 | 729.27 | 0.00 | .95 | 0.00 | 121.75 | 116.00 |
| 904.520 | 430.00 | 729.79 | 0.00 | .52 | 0.00 | 140.75 | 14.00 |
| 904.520 | 430.00 | 729.79 | 0.00 | .52 | 0.00 | 140.75 | 14.00 |
| 904.520 | 430.00 | 729.79 | 0.00 | .52 | 0.00 | 140.75 | 14.00 |
| 904.600 | 430.00 | 731.25 | 0.00 | 1.46 | 0.00 | 103.64 | 170.00 |
| 904.600 | 430.00 | 731.25 | 0.00 | 1.46 | 0.00 | 103.64 | 170.00 |
| 904.600 | 430.00 | 731.25 | 0.00 | 1.46 | 0.00 | 103.64 | 170.00 |
| 904.650 | 430.00 | 732.49 | 0.00 | 1.24 | 0.00 | 110.97 | 75.00 |
| 904.650 | 430.00 | 732.49 | 0.00 | 1.24 | 0.00 | 110.97 | 75.00 |
| 904.650 | 430.00 | 732.49 | 0.00 | 1.24 | 0.00 | 110.97 | 75.00 |
| 904.700 | 430.00 | 733.24 | 0.00 | .76 | 0.00 | 116.43 | 75.00 |
| 904.700 | 430.00 | 733.24 | 0.00 | .76 | 0.00 | 116.43 | 75.00 |
| 904.700 | 430.00 | 733.24 | 0.00 | .76 | 0.00 | 116.43 | 75.00 |
| 904.750 | 430.00 | 733.56 | 0.00 | .32 | 0.00 | 95.82 | 50.00 |
| 904.750 | 430.00 | 733.56 | 0.00 | .32 | 0.00 | 95.82 | 50.00 |
| 904.750 | 430.00 | 733.56 | 0.00 | .32 | 0.00 | 95.82 | 50.00 |
| 904.800 | 430.00 | 734.36 | 0.00 | .80 | 0.00 | 89.70 | 50.00 |
| 904.800 | 430.00 | 734.36 | 0.00 | .80 | 0.00 | 89.70 | 50.00 |
| 904.800 | 430.00 | 734.36 | 0.00 | .80 | 0.00 | 89.70 | 50.00 |
| 904.900 | 430.00 | 735.92 | 0.00 | 1.56 | 0.00 | 100.62 | 100.00 |
| 904.900 | 430.00 | 735.92 | 0.00 | 1.56 | 0.00 | 100.62 | 100.00 |
| 904.900 | 430.00 | 735.92 | 0.00 | 1.56 | 0.00 | 100.62 | 100.00 |
| 905.200 | 430.00 | 737.55 | 0.00 | 1.63 | 0.00 | 89.44 | 125.00 |
| 905.200 | 430.00 | 737.55 | 0.00 | 1.63 | 0.00 | 89.44 | 125.00 |
| 905.200 | 430.00 | 737.55 | 0.00 | 1.63 | 0.00 | 89.44 | 125.00 |
| 904.980 | 430.00 | 739.85 | 0.00 | 2.30 | 0.00 | 12.00 | 130.00 |
| 904.980 | 430.00 | 739.85 | 0.00 | 2.30 | 0.00 | 12.00 | 130.00 |
| 904.980 | 430.00 | 739.85 | 0.00 | 2.30 | 0.00 | 12.00 | 130.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 905.020 | 430.00 | 741.55 | 0.00 | 1.70 | 0.00 | 13.00 | 65.00 |
| 905.020 | 430.00 | 741.55 | 0.00 | 1.70 | 0.00 | 13.00 | 65.00 |
| 905.020 | 430.00 | 741.55 | 0.00 | 1.70 | 0.00 | 13.00 | 65.00 |
| 905.800 | 430.00 | 742.07 | 0.00 | .52 | 0.00 | 145.00 | 70.00 |
| 905.800 | 430.00 | 742.07 | 0.00 | .52 | 0.00 | 145.00 | 70.00 |
| 905.800 | 430.00 | 742.07 | 0.00 | .52 | 0.00 | 145.00 | 70.00 |
| 905.820 | 430.00 | 742.14 | 0.00 | .07 | 0.00 | 145.00 | 150.00 |
| 905.820 | 430.00 | 742.14 | 0.00 | .07 | 0.00 | 145.00 | 150.00 |
| 905.820 | 430.00 | 742.14 | 0.00 | .07 | 0.00 | 145.00 | 150.00 |
| 905.830 | 430.00 | 742.48 | 0.00 | .34 | 0.00 | 136.54 | 150.00 |
| 905.830 | 430.00 | 742.48 | 0.00 | .34 | 0.00 | 136.54 | 150.00 |
| 905.830 | 430.00 | 742.48 | 0.00 | .34 | 0.00 | 136.54 | 150.00 |
| 905.850 | 430.00 | 743.96 | 0.00 | 1.48 | 0.00 | 135.18 | 155.00 |
| 905.850 | 430.00 | 743.96 | 0.00 | 1.48 | 0.00 | 135.18 | 155.00 |
| 905.850 | 430.00 | 743.96 | 0.00 | 1.48 | 0.00 | 135.18 | 155.00 |
| 905.860 | 430.00 | 745.57 | 0.00 | 1.62 | 0.00 | 135.53 | 150.00 |
| 905.860 | 430.00 | 745.57 | 0.00 | 1.62 | 0.00 | 135.53 | 150.00 |
| 905.860 | 430.00 | 745.57 | 0.00 | 1.62 | 0.00 | 135.53 | 150.00 |
| 905.950 | 430.00 | 746.50 | 0.00 | .93 | 0.00 | 198.27 | 150.00 |
| 905.950 | 430.00 | 746.50 | 0.00 | .93 | 0.00 | 198.27 | 150.00 |
| 905.950 | 430.00 | 746.50 | 0.00 | .93 | 0.00 | 198.27 | 150.00 |
| 905.960 | 430.00 | 747.37 | 0.00 | .87 | 0.00 | 167.40 | 155.00 |
| 905.960 | 430.00 | 747.37 | 0.00 | .87 | 0.00 | 167.40 | 155.00 |
| 905.960 | 430.00 | 747.37 | 0.00 | .87 | 0.00 | 167.40 | 155.00 |
| 905.970 | 430.00 | 749.19 | 0.00 | 1.82 | 0.00 | 178.39 | 155.00 |
| 905.970 | 430.00 | 749.19 | 0.00 | 1.82 | 0.00 | 178.39 | 155.00 |
| 905.970 | 430.00 | 749.19 | 0.00 | 1.82 | 0.00 | 178.39 | 155.00 |
| 905.980 | 430.00 | 750.71 | 0.00 | 1.52 | 0.00 | 174.25 | 155.00 |
| 905.980 | 430.00 | 750.71 | 0.00 | 1.52 | 0.00 | 174.25 | 155.00 |
| 905.980 | 430.00 | 750.71 | 0.00 | 1.52 | 0.00 | 174.25 | 155.00 |
| 906.000 | 430.00 | 752.34 | 0.00 | 1.63 | 0.00 | 175.80 | 155.00 |
| 906.000 | 430.00 | 752.34 | 0.00 | 1.63 | 0.00 | 175.80 | 155.00 |
| 906.000 | 430.00 | 752.34 | 0.00 | 1.63 | 0.00 | 175.80 | 155.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  901.310  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  901.310  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  901.310  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 3  MINIMUM SPECIFIC ENERGY
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1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON-RENSHAW DRAIN WEST

4) DOCUMENT TYPE: 100 YR ENCROACHED

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

T1       HUD-FIA F-4705
T2       TROY
T3       GIBSON-RENSHAW DRAIN-WEST 100 YR FLOW=430CFS ENCROACHMENT

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        6.        0.        0.   0.000000     0.00      -1.0        0.    678.300    0.000

J2  NPROF     IPLOT     PRFVS     XSFCV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    15.000    0.000    -1.000     0.000     0.000    -1.300     0.000     0.000     0.000     0.000
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*PROF 2

CCHV=     .150 CEHV=     .350
*SECNC 899.000
 2800 NAT Q1=      42.96  WSEL=     678.30  ENC Q1=      45.12  WSEL=     678.40  RATIO=  -.0503
 NAT Q1=      46.  RATIOS LOB,CH,ROB=    .0055    .9868    .0077  WSEL=     678.40
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     FG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      120.0      160.0  TYPE=      4  TARGET=         .013
   899.00      7.10    678.30      0.00    678.30    678.51       .21      0.00      0.00    678.00
     430.        0.      430.        0.        0.      118.        0.        0.        0.    678.00
     0.00      0.00      3.64      0.00      .095      .078      .095     0.000    671.20    120.00
  .010357        0.        0.        0.         0         0         0      0.00     40.00    160.00


CCHV=     .500 CEHV=     .900
*SECNC 899.100
 2800 NAT Q1=      26.99  WSEL=     679.25  ENC Q1=      28.13  WSEL=     679.35  RATIO=  -.0424
 NAT Q1=      28.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     679.35

3470 ENCROACHMENT STATIONS=      174.0      200.0  TYPE=      4  TARGET=        0.000

         ** FOOTBRIDGE 170

   899.10      6.77    679.27      0.00    679.25    679.78       .52      1.00       .28    680.00
     430.        0.      430.        0.        0.       74.        0.        0.        0.    680.00
      .00      0.00      5.78      0.00      .095      .078      .095      .077    672.50    175.98
  .024996       65.       65.       65.         2         0         0      0.00     23.17    199.15


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.60      2.90      25.00     7.35      0.00      36.00     0.00     672.50    672.50

*SECNO 899.130
 2800 NAT Q1=      61.62  WSEL=     680.63  ENC Q1=      61.62  WSEL=     680.73  RATIO=   .0000
 NAT Q1=      68.  RATIOS LOB,CH,ROB=    .1540    .7337    .1123  WSEL=     680.73
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=       87.2      253.2  TYPE=      4  TARGET=         .089
   899.13      8.15    680.65      0.00    680.63    680.79       .14       .05       .19    680.00
     430.       45.      358.       28.       53.      109.       23.        0.        0.    680.00
      .00       .84      3.27       .84      .095      .078      .095      .076    672.50     87.16
  .005531        5.        5.        5.         0         0         2      0.00    166.08    253.24


*SECNO 899.200
 2800 NAT Q1=      60.05  WSEL=     681.61  ENC Q1=      60.05  WSEL=     681.71  RATIO=   .0000
 NAT Q1=      66.  RATIOS LOB,CH,ROB=    .1477    .7446    .1077  WSEL=     681.71

3470 ENCROACHMENT STATIONS=       89.3      251.2  TYPE=      4  TARGET=         .090
   899.20      8.20    681.70      0.00    681.61    681.84       .13      1.04       .00    681.00
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     430.       48.      352.       29.       57.      111.       34.        1.        1.    681.00
      .02       .85      3.18       .86      .095      .078      .C95      .077   673.5C    89.30
  .005156      195.      195.      195.         2         0         0     0.00   161.88   251.18


CCHV=     .250 CEHV=     .450
*SECNO 899.220
 2800 NAT Q1=      38.27  WSEL=     681.66  ENC Q1=      38.22  WSEL=     681.76  RATIO=    .0000
 NAT Q1=      44.  RATIOS LOB,CH,RCB=    .2557    .5578    .1865  WSEL=     681.76
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  C MIN ELTRD=  679.80 MAX ELLC=  678.90


3470 ENCROACHMENT STATIONS=      80.4      259.8  TYPE=      4  TARGET=        .123

         ** FOOTBRIDGE 17D

   899.22      8.26   681.76      0.00   681.66   681.85       .09       .00       .01   681.00
     430.       96.      273.       61.       68.       98.       44.        1.        1.   681.00
      .02      1.41      2.79      1.41      .095      .078      .C95      .077   673.5C    8C.43
  .012565        1.        1.        1.         2         C         0   -14.40   179.36   259.78


*SECNC 899.230
 2800 NAT Q1=      41.48  WSEL=     681.72  ENC Q1=      41.48  WSEL=     681.82  RATIO=    .0000
 NAT Q1=      47.  RATIOS LOB,CH,RCB=    .2720    .5295    .1985  WSEL=     681.82

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  679.80 MAX ELLC=  678.90


3470 ENCROACHMENT STATIONS=      77.5      262.6  TYPE=      4  TARGET=        .121
   899.23      8.33   681.83      0.00   681.72   681.90       .07       .05       .00   681.00
     430.      104.      258.       68.       76.       99.       49.        1.        1.   681.0C
      .02      1.37      2.60      1.37      .C95      .078      .C95      .077   673.50    77.48
  .010657        4.        4.        4.         2         0         0   -14.40   185.15   262.63


*SECNC 899.250
 2800 NAT Q1=      66.84  WSEL=     681.71  ENC Q1=      66.84  WSEL=     681.81  RATIO=    .0000
 NAT Q1=      73.  RATIOS LOB,CH,RCB=    .1718    .7028    .1254  WSEL=     681.81

3470 ENCROACHMENT STATIONS=      79.6      260.6  TYPE=      4  TARGET=        .C82
   899.25      8.31   681.81      0.C0   681.71   681.91       .10       .00       .01   681.00
     430.       62.      327.       4C.       74.      114.       48.        1.        1.   681.0C
      .02       .84      2.88       .84      .095      .078      .C95      .076   673.5C    75.56
  .004060        1.        1.        1.         1         0         0     0.00   181.04   260.60


*SECNC 900.000
 2800 NAT Q1=      55.84  WSEL=     681.93  ENC Q1=      55.84  WSEL=     682.03  RATIO=    .0000
 NAT Q1=      61.  RATIOS LOB,CH,RCB=    .1292    .7767    .0941  WSEL=     682.03

3470 ENCROACHMENT STATIONS=      96.2      244.6  TYPE=      4  TARGET=        .091
   90C.00      8.13   682.03      0.00   681.93   682.18       .15       .24       .02   681.40
     430.       4C.      366.       23.       47.      109.       27.        1.        1.   681.40
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      .03       .85      3.36       .86      .095      .078      .095      .076    673.90     96.19
  .005861       50.       50.       50.         0         0         0      0.00    148.43    244.62


*SECNC 900.200
 2800 NAT Q1=      34.82  WSEL=     683.39  ENC Q1=      36.14  WSEL=     683.49  RATIO=  -.0381
 NAT Q1=     36.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     683.49

3470 ENCROACHMENT STATIONS=      174.0      200.0  TYPE=      4  TARGET=        0.000
   900.20      7.45    683.45      0.00    683.39    683.80       .34      1.53       .09    683.50
     430.        0.      430.        0.        0.       91.        0.        2.        1.    683.50
      .04      0.00      4.71      0.00      .095      .078      .095      .077    676.00    174.10
  .014422      175.      175.      175.         2         0         0      0.00     25.85    199.96


*SECNC 900.220
 2800 NAT Q1=      17.10  WSEL=     683.33  ENC Q1=      17.87  WSEL=     683.43  RATIO=  -.0448
 NAT Q1=     18.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     683.43
   SECNC     DEPTH     CWSEL     CKINS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  681.00 MAX ELLC=  680.30


3470 ENCROACHMENT STATIONS=      174.0      200.0  TYPE=      4  TARGET=        0.000
        ** FOOTERIDGE 900A

   900.22      7.40    683.40      0.00    683.33    683.86       .46       .01       .05    683.50
     430.        0.      430.        0.        0.       79.        0.        2.        1.    683.50
      .04      0.00      5.46      0.00      .095      .078      .095      .077    676.00    174.27
  .059521        1.        1.        1.         2         0         0    -11.06     25.61    199.88


*SECNC 900.230
 2800 NAT Q1=      25.85  WSEL=     683.83  ENC Q1=      25.85  WSEL=     683.93  RATIO=   .0000
 NAT Q1=     29.  RATIOS LOB,CH,ROB=   .1300   .7754   .0946  WSEL=     683.93

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  681.00 MAX ELLC=  680.30


3470 ENCROACHMENT STATIONS=      113.5      229.0  TYPE=      4  TARGET=         .120
   900.23      7.78    683.78      0.00    683.83    684.09       .31       .18       .04    683.50
     430.       18.      403.        9.       15.       88.        7.        2.        1.    683.50
      .04      1.17      4.57      1.20      .095      .078      .095      .076    676.00    113.47
  .036327        4.        4.        4.         2         0         0    -11.20    115.53    228.99


*SECNC 900.250
 2800 NAT Q1=      46.94  WSEL=     683.84  ENC Q1=      46.94  WSEL=     683.94  RATIO=  0.0000
 NAT Q1=     51.  RATIOS LOB,CH,ROB=   .0805   .8609   .0586  WSEL=     683.94

3470 ENCROACHMENT STATIONS=      121.8      221.1  TYPE=      4  TARGET=         .086
   900.25      7.87    683.87      0.00    683.84    684.11       .24       .01       .02    683.50
     430.       13.      411.        6.       18.      102.        8.        2.        1.    683.50
      .04       .74      4.03       .75      .095      .078      .095      .076    676.00    121.81
  .009215        1.        1.        1.         2         0         0      0.00     99.27    221.08
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*SECNO 900.400
 2800 NAT Q1=      43.01  WSEL=     686.15  ENC Q1=      43.01  WSEL=     686.25  RATIO=    .0000
 NAT Q1=     47.  RATIOS LOB,CH,ROB=   .0561   .9031   .0408  WSEL=     686.25

3470 ENCROACHMENT STATIONS=      155.0      200.0  TYPE=      4  TARGET=         .086
   900.40      7.88    686.28      0.00    686.15    686.55       .26      2.43       .01    685.90
     430.        6.      424.        0.        7.      102.        0.        3.        2.    685.90
      .06       .80      4.14      0.00      .095      .078      .095      .077    678.40    155.01
  .009851      255.      255.      255.         1         0         0      0.00     45.00    200.00


*SECNO 900.420
 2800 NAT Q1=      23.22  WSEL=     686.15  ENC Q1=      23.22  WSEL=     686.25  RATIO=    .0000
 NAT Q1=     26.  RATIOS LOB,CH,ROB=   .0990   .8290   .0720  WSEL=     686.25

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  683.70 MAX ELLC=  683.00


3470 ENCROACHMENT STATIONS=      130.1      214.4  TYPE=      4  TARGET=         .116

         ** FOOTBRIDGE 900B

   900.42      7.89    686.29      0.00    686.15    686.56       .27       .01       .01    685.90
     430.       24.      398.        8.       17.       91.        6.        3.        2.    685.90
      .06      1.45      4.35      1.46      .095      .078      .095      .077    678.40    130.11
  .031977        1.        1.        1.         0         0         0    -11.20     84.32    214.43


*SECNO 900.430
 2800 NAT Q1=      33.22  WSEL=     686.43  ENC Q1=      33.22  WSEL=     686.53  RATIO=  0.0000
 NAT Q1=     38.  RATIOS LOB,CH,ROB=   .2048   .6459   .1493  WSEL=     686.53
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       IOCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  683.70 MAX ELLC=  683.00


3470 ENCROACHMENT STATIONS=       92.9      247.8  TYPE=      4  TARGET=         .133
   900.43      8.16    686.56      0.00    686.43    686.69       .12       .09       .04    685.90
     430.       73.      314.       43.       51.       98.       30.        3.        2.    685.90
      .06      1.43      3.19      1.43      .095      .078      .095      .077    678.40     92.87
  .015616        4.        4.        4.         3         0         0    -11.20    154.97    247.84


*SECNO 900.450
 2800 NAT Q1=      55.11  WSEL=     686.42  ENC Q1=      55.11  WSEL=     686.52  RATIO=    .0000
 NAT Q1=     61.  RATIOS LOB,CH,ROB=   .1260   .7822   .0918  WSEL=     686.52

3470 ENCROACHMENT STATIONS=       98.0      242.9  TYPE=      4  TARGET=         .092
   900.45      8.15    686.55      0.00    686.42    686.70       .15       .00       .01    685.90
     430.       41.      365.       24.       48.      110.       27.        3.        2.    685.90
      .06       .86      3.33       .87      .095      .078      .095      .076    678.40     97.98
  .005722        1.        1.        1.         1         0         0      0.00    144.94    242.92


*SECNO 900.600
```

```
 2800 NAT Q1=      59.88  WSEL=     688.32  ENC Q1=      59.88  WSEL=     688.42  RATIO=   C.0000
 NAT Q1=      68.  RATIOS LOB,CH,ROB=    .2310    .2831    .4859  WSEL=     688.42

3470 ENCROACHMENT STATIONS=      163.4      372.2  TYPE=      4  TARGET=          .113
   900.60      6.01    688.41      0.00    688.32    688.45      .04      1.73      .03    687.10
     430.       84.      138.      208.       66.       63.     161.       4.       3.    687.10
      .11      1.28      2.18      1.29      .095      .078     .095      .077   682.40    163.37
  .005258      315.      315.      315.         3         0        0      0.00   208.85    372.22


*SECNC 900.620
 2800 NAT Q1=      54.37  WSEL=     688.33  ENC Q1=      54.37  WSEL=     688.43  RATIO=    .0000
 NAT Q1=      62.  RATIOS LOB,CH,ROB=    .2538    .2125    .5337  WSEL=     688.43

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  687.10 MAX ELLC=  686.50


3470 ENCROACHMENT STATIONS=      163.6      371.9  TYPE=      4  TARGET=          .127

         ** FOOTBRIDGE 900C

   900.62      6.02    688.42      0.00    688.33    688.46      .04       .00       .00    687.10
     430.       94.      105.      231.       66.       59.     162.       4.       3.    687.10
      .11      1.42      1.80      1.43      .095      .078     .095      .077   682.40    163.64
  .006404        1.        1.        1.         0         0        0     -4.95   208.27    371.92


*SECNC 900.630
 2800 NAT Q1=      58.58  WSEL=     688.38  ENC Q1=      58.58  WSEL=     688.48  RATIO=    .0000
 NAT Q1=      67.  RATIOS LOB,CH,ROB=    .2565    .2059    .5375  WSEL=     688.48

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  687.10 MAX ELLC=  686.50


3470 ENCROACHMENT STATIONS=      162.1      373.3  TYPE=      4  TARGET=          .121
   900.63      6.08    688.48      0.00    688.38    688.51      .03       .05       .00    687.10
     430.       96.      101.      233.       71.       60.     171.       4.       3.    687.10
      .11      1.35      1.69      1.36      .095      .078     .095      .077   682.40    162.14
  .005467        9.        9.        9.         1         0        0     -4.95   211.12    373.26


*SECNC 900.650
 2800 NAT Q1=      65.01  WSEL=     688.38  ENC Q1=      65.01  WSEL=     688.48  RATIO=    .0000
 NAT Q1=      73.  RATIOS LOB,CH,ROB=    .2349    .2731    .4921  WSEL=     688.48
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      161.6      373.8  TYPE=      4  TARGET=          .107
   900.65      6.08    688.48      0.00    688.38    688.52      .04       .00       .00    687.10
     430.       87.      131.      211.       72.       65.     173.       4.       3.    687.10
      .11      1.21      2.02      1.22      .095      .078     .095      .077   682.40    161.59
  .004371        1.        1.        1.         0         0        0      0.00   212.23    373.82


*SECNC 900.700
 2800 NAT Q1=      62.16  WSEL=     689.09  ENC Q1=      62.16  WSEL=     689.19  RATIO=   C.0000
 NAT Q1=      70.  RATIOS LOB,CH,ROB=    .1711    .4638    .3651  WSEL=     689.19
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3470 ENCROACHMENT STATIONS=      168.5      368.2  TYPE=      4  TARGET=          .106
   900.70      5.29    669.19      0.00    689.09    689.27       .07       .73       .02    688.10
     430.       57.      223.      150.       51.       79.      135.        5.        4.    688.10
      .14      1.11      2.83      1.11      .095      .078      .095      .077    683.90    168.55
  .004804      160.      160.      160.         2         0         0      0.00    199.64    368.19

*SECNO 900.800
 2800 NAT Q1=      36.99  WSEL=     690.19  ENC Q1=      36.99  WSEL=     690.29  RATIO=    .0000
 NAT Q1=      42.  RATIOS LOB,CH,ROB=    .1208    .6160    .2632  WSEL=     690.29

3470 ENCROACHMENT STATIONS=      186.7      350.1  TYPE=      4  TARGET=          .129
   900.80      4.89    690.29      0.00    690.19    690.51       .22      1.17       .07    689.60
     430.       28.      305.       97.       20.       70.       71.        6.        5.    689.60
      .15      1.37      4.38      1.36      .095      .078      .095      .077    685.40    186.68
  .013644      155.      155.      155.         2         0         0      0.00    163.45    350.13

*SECNO 900.820
 2800 NAT Q1=      31.84  WSEL=     690.36  ENC Q1=      31.84  WSEL=     690.46  RATIO=    .0000
 NAT Q1=      38.  RATIOS LOB,CH,ROB=    .2033    .3574    .4392  WSEL=     690.46

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  688.60 MAX ELLO=  688.20

3470 ENCROACHMENT STATIONS=      174.2      363.0  TYPE=      4  TARGET=          .151

         ** FOOTBRIDGE 900D

   900.82      5.07    690.47      0.00    690.36    690.55       .08       .01       .04    689.60
     430.       65.      179.      186.       36.       67.      102.        6.        5.    689.60
      .15      1.82      2.67      1.82      .095      .078      .095      .077    685.40    174.18
  .017454        1.        1.        1.         3         0         0     -7.00    188.84    363.03

*SECNO 900.830
 2800 NAT Q1=      35.86  WSEL=     690.44  ENC Q1=      35.86  WSEL=     690.54  RATIO=    .0000
 NAT Q1=      42.  RATIOS LOB,CH,ROB=    .2121    .3318    .4561  WSEL=     690.54

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  688.60 MAX ELLO=  688.20

3470 ENCROACHMENT STATIONS=      172.8      364.3  TYPE=      4  TARGET=          .152
   900.83      5.15    690.55      0.00    690.44    690.61       .06       .06       .00    689.60
     430.       70.      166.      194.       41.       69.      113.        6.        5.    689.60
      .15      1.71      2.42      1.72      .095      .078      .095      .077    685.40    172.77
  .013817        4.        4.        4.         2         0         0     -7.00    191.52    364.29

*SECNO 900.850
 2800 NAT Q1=      50.10  WSEL=     690.42  ENC Q1=      50.10  WSEL=     690.52  RATIO=    .0000
 NAT Q1=      57.  RATIOS LOB,CH,ROB=    .1520    .5207    .3273  WSEL=     690.52
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      174.5      362.5  TYPE=      4  TARGET=          .116
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  900.85      5.13    690.53      0.00    690.42    690.64       .11       .00       .02    689.60
    430.       46.      251.      132.       38.       75.      109.        6.        5.    689.60
     .15      1.21      3.34      1.22      .095      .078      .095      .077   685.40    174.54
 .007148        1.        1.        1.         2         0         0      0.00   187.98    362.52


*SECNO 900.860
 2800 NAT Q1=      41.36  WSEL=     690.97  ENC Q1=      41.36  WSEL=     691.07  RATIO=    .0000
 NAT Q1=     47.  RATIOS LOB,CH,ROB=   .1331   .5781   .2888  WSEL=     691.07

3470 ENCROACHMENT STATIONS=      181.9      355.2  TYPE=      4  TARGET=        .126
  900.86      4.97    691.07      0.00    690.97    691.24       .17       .57       .03    690.30
    430.       34.      284.      111.       26.       72.       84.        7.        5.    690.30
     .16      1.32      3.97      1.32      .095      .078      .095      .077   686.10    181.85
 .010825       66.       66.       66.         2         0         0      0.00   173.33    355.18


*SECNO 900.870
 2800 NAT Q1=      42.20  WSEL=     691.69  ENC Q1=      42.20  WSEL=     691.79  RATIO=  0.0000
 NAT Q1=     48.  RATIOS LOB,CH,ROB=   .1356   .5704   .2939  WSEL=     691.79

3470 ENCROACHMENT STATIONS=      181.7      355.3  TYPE=      4  TARGET=        .128
  900.87      4.99    691.79      0.00    691.69    691.96       .17       .71       .00    691.00
    430.       35.      282.      113.       27.       72.       86.        7.        5.    691.00
     .16      1.31      3.92      1.31      .095      .078      .095      .077   686.80    181.73
 .010446       67.       67.       67.         2         0         0      0.00   173.55    355.28


*SECNO 901.000
 2800 NAT Q1=      40.37  WSEL=     692.36  ENC Q1=      40.37  WSEL=     692.46  RATIO=  0.0000
 NAT Q1=     46.  RATIOS LOB,CH,ROB=   .1031   .6721   .2249  WSEL=     692.46

3470 ENCROACHMENT STATIONS=      190.7      345.8  TYPE=      4  TARGET=        .122
  901.00      4.86    692.46      0.00    692.36    692.74       .28       .73       .05    691.80
    430.       21.      329.       80.       17.       69.       66.        7.        5.    691.80
     .17      1.22      4.77      1.21      .095      .065      .095      .076   687.60    190.67
 .011370       67.       67.       67.         2         0         0      0.00   155.16    345.83


*SECNO 901.020
 2800 NAT Q1=      34.21  WSEL=     692.58  ENC Q1=      34.21  WSEL=     692.68  RATIO=    .0000
 NAT Q1=     40.  RATIOS LOB,CH,ROB=   .2018   .3630   .4352  WSEL=     692.68

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  690.70 MAX ELLC=  690.00


3470 ENCROACHMENT STATIONS=      173.4      363.8  TYPE=      4  TARGET=        .146

        ** FOOTBRIDGE 901A

  901.02      5.11    692.71      0.00    692.58    692.79       .08       .01       .05    691.80
    430.       66.      180.      185.       38.       62.      107.        7.        5.    691.80
     .17      1.72      2.88      1.72      .095      .065      .095      .076   687.60    173.37
 .014890        1.        1.        1.         3         0         0    -12.25   190.43    363.80


*SECNO 901.030
 2800 NAT Q1=      37.84  WSEL=     692.66  ENC Q1=      37.84  WSEL=     692.76  RATIO=    .0000
 NAT Q1=     45.  RATIOS LOB,CH,ROB=   .2092   .3413   .4495  WSEL=     692.76
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
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   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICOMT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  690.70 MAX ELLC=  690.00


3470 ENCROACHMENT STATIONS=      172.8      364.2  TYPE=      4  TARGET=         .150
   901.03      5.18    692.78      0.00    692.66    692.85      .07       .05       .00    691.80
     430.       69.      170.      192.      42.       64.     117.        7.        5.    691.80
      .17      1.64      2.65      1.64     .095      .065     .095      .076    687.60    172.78
  .012151        4.        4.        4.        2         0        0    -12.25    191.46    364.23


*SECNC 901.050
 2800 NAT Q1=      56.52  WSEL=     692.63  ENC Q1=      56.52  WSEL=     692.73  RATIO=  0.0000
 NAT Q1=      63.  RATIOS LOB,CH,ROB=   .1391   .5617   .2993  WSEL=     692.73

3470 ENCROACHMENT STATIONS=      175.3      361.7  TYPE=      4  TARGET=         .109
   901.05      5.15    692.75      0.00    692.63    692.88      .13       .00       .03    691.80
     430.       42.      268.      120.      38.       76.     111.        7.        5.    691.80
      .17      1.08      3.54      1.09     .095      .065     .095      .076    687.60    175.26
  .005532        1.        1.        1.        2         0        0      0.00    186.48    361.74


*SECNC 901.100
 2800 NAT Q1=      45.66  WSEL=     694.25  ENC Q1=      45.66  WSEL=     694.35  RATIO=   .0000
 NAT Q1=      52.  RATIOS LOB,CH,ROB=   .1170   .6289   .2541  WSEL=     694.35

3470 ENCROACHMENT STATIONS=      184.0      353.0  TYPE=      4  TARGET=         .117
   901.10      4.94    694.34      0.00    694.25    694.56      .22      1.64       .04    693.60
     430.       28.      308.       94.      24.       71.      80.        8.        6.    693.60
      .19      1.18      4.34      1.18     .095      .065     .095      .075    689.40    183.98
  .009088      235.      235.      235.        2         0        0      0.00    168.98    352.96


*SECNC 901.120
 2800 NAT Q1=      35.40  WSEL=     694.42  ENC Q1=      35.40  WSEL=     694.52  RATIO=   .0000
 NAT Q1=      41.  RATIOS LOB,CH,ROB=   .2086   .3423   .4491  WSEL=     694.52

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  693.50 MAX ELLC=  692.80


3470 ENCROACHMENT STATIONS=      172.1      365.0  TYPE=      4  TARGET=         .145

         ** FOOTBRIDGE 901B

   901.12      5.13    694.55      0.00    694.42    694.60      .07       .01       .04    693.60
     430.       69.      171.      190.      40.       63.     111.        8.        6.    693.60
      .19      1.72      2.72      1.72     .095      .065     .095      .075    689.40    172.09
  .014370        1.        1.        1.        3         0        0    -12.25    192.95    365.04


*SECNC 901.130
 2800 NAT Q1=      38.71  WSEL=     694.48  ENC Q1=      38.71  WSEL=     694.58  RATIO=   .0000
 NAT Q1=      45.  RATIOS LOB,CH,ROB=   .2149   .3239   .4612  WSEL=     694.58

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  693.50 MAX ELLC=  692.80
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3470 ENCROACHMENT STATIONS=      171.8      365.2  TYPE=      4  TARGET=          .149
   901.13      5.19    694.59      0.00    694.49    694.66       .06       .05       .00    693.60
     430.       71.      164.      195.       43.       64.      118.        8.        6.    693.60
      .19      1.65      2.55      1.66      .095      .065      .095      .074    689.40    171.75
  .012339        4.        4.        4.         1         0         0    -12.25    193.47    365.23


*SECNO 901.150
 2800 NAT Q1=      58.30  WSEL=     694.45  ENC Q1=      58.30  WSEL=     694.55  RATIO=    .0000
 NAT Q1=      65.  RATIOS LOB,CH,ROB=    .1421    .5526    .3053  WSEL=     694.55
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      CCH       CFCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      174.2      362.8  TYPE=      4  TARGET=          .108
   901.15      5.16    694.56      0.00    694.45    694.69       .12       .00       .03    693.60
     430.       43.      265.      122.       40.       76.      113.        8.        6.    693.60
      .19      1.08      3.49      1.08      .095      .065      .095      .074    689.40    174.21
  .005351        1.        1.        1.         2         0         0      0.00    188.55    362.76


*SECNO 901.170
 2800 NAT Q1=      39.22  WSEL=     695.54  ENC Q1=      39.22  WSEL=     695.64  RATIO=    .0000
 NAT Q1=      45.  RATIOS LOB,CH,ROB=    .0996    .6829    .2175  WSEL=     695.64

3470 ENCROACHMENT STATIONS=      192.4      343.9  TYPE=      4  TARGET=          .123
   901.17      4.83    695.63      0.00    695.54    695.92       .30      1.16       .08    695.00
     430.       19.      335.       76.       15.       68.       62.        9.        7.    695.00
      .20      1.23      4.90      1.22      .095      .065      .095      .074    690.80    192.39
  .012114      150.      150.      150.         1         0         0      0.00    151.55    343.94


CCHV=     .500 CEHV=     .900
*SECNO 901.200
 2800 NAT Q1=      45.18  WSEL=     697.15  ENC Q1=      45.18  WSEL=     697.25  RATIO=    .0000
 NAT Q1=      51.  RATIOS LOB,CH,ROB=    .1160    .6319    .2521  WSEL=     697.25

3470 ENCROACHMENT STATIONS=      184.9      352.0  TYPE=      4  TARGET=          .119
   901.20      4.95    697.25      0.00    697.15    697.47       .21      1.50       .04    696.50
     430.       28.      308.       94.       23.       71.       80.        9.        7.    696.50
      .21      1.18      4.33      1.18      .095      .065      .095      .073    692.30    184.85
  .008978      145.      145.      145.         3         0         0      0.00    167.19    352.04


*SECNO 901.220
 2800 NAT Q1=      26.53  WSEL=     697.27  ENC Q1=      26.53  WSEL=     697.37  RATIO=    .0000
 NAT Q1=      32.  RATIOS LOB,CH,ROB=    .1793    .4353    .3854  WSEL=     697.37

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  696.70 MAX ELLC=  696.10


3470 ENCROACHMENT STATIONS=      178.2      359.4  TYPE=      4  TARGET=          .163

         ** FOOTBRIDGE 901C

   901.22      5.09    697.39      0.00    697.27    697.52       .13       .01       .04    696.50
     430.       51.      221.      158.       27.       63.       82.        9.        7.    696.50
      .21      1.91      3.52      1.93      .095      .065      .095      .073    692.30    178.23
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  .025147        1.        1.        1.         4         C         0   -37.36    181.19    359.42

*SECNO 901.23C
 2800 NAT Q1=      34.28  WSEL=    697.42  ENC Q1=      34.28  WSEL=    697.52  RATIO=    .0000
 NAT Q1=      40.  RATIOS LOB,CH,ROB=   .1988   .3771   .4241  WSEL=    697.52

3370 NORMAL BRIDGE,ARC=  0 MIN ELTPD=  696.70 MAX ELLC=  696.10

3470 ENCROACHMENT STATIONS=      170.9     366.4  TYPE=      4  TARGET=        .141
   901.23      5.24   697.54      0.00   697.42   697.62      .08       .08       .02    696.50
     430.       65.     185.      179.      39.      66.     106.        9.        7.    696.50
      .21      1.67     2.80      1.69     .095     .065     .095      .073    692.30    170.77
  .014794        4.        4.        4.         2         0         0   -39.21    195.64    366.41

*SECNO 901.25C
 2800 NAT Q1=      63.54  WSEL=    697.42  ENC Q1=      63.54  WSEL=    697.52  RATIO=    .0000
 NAT Q1=      70.  RATIOS LOB,CH,ROB=   .1492   .5313   .3195  WSEL=    697.52
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      169.6     367.3  TYPE=      4  TARGET=        .096
   901.25      5.24   697.54      0.00   697.42   697.64      .10       .00       .02    696.50
     43C.       49.     250.      131.      48.      78.     128.        9.        7.    696.5C
      .21      1.03     3.20      1.03     .095     .065     .C95      .073    692.30    169.61
  .004365        1.        1.        1.         0         0         0      0.00    197.70    367.31

*SECNO 901.26C
 2800 NAT Q1=      48.75  WSEL=    697.61  ENC Q1=      48.75  WSEL=    697.71  RATIO=  C.0000
 NAT Q1=      55.  RATIOS LOB,CH,ROB=   .1242   .6070   .2688  WSEL=    697.71

3470 ENCROACHMENT STATIONS=      181.1     355.9  TYPE=      4  TARGET=        .115
   901.26      5.C2   697.72      0.C0   697.61   697.90      .18       .19       .07    696.90
     430.       33.     294.      103.      28.      73.      9C.       10.        8.    696.90
      .21      1.15     4.05      1.15     .C95     .065     .095      .073    692.7C    181.11
  .007669       33.       33.       33.         0         0         0     0.00    174.80    355.91

*SECNO 901.27C
 2800 NAT Q1=      42.28  WSEL=    697.90  ENC Q1=      42.28  WSEL=    698.00  RATIO=    .0000
 NAT Q1=      48.  RATIOS LOB,CH,ROB=   .1085   .6553   .2362  WSEL=    698.00

3470 ENCROACHMENT STATIONS=      188.0     348.7  TYPE=      4  TARGET=        .121
   901.27      4.90   698.00      0.00   697.90   698.25      .24       .29       .06    697.3C
     430.       24.     319.       87.      2C.      7C.      73.       10.        8.    697.30
      .21      1.20     4.56      1.20     .095     .065     .C95      .073    693.10    188.02
  .01C164       33.       33.       33.         2         0         0     0.00    160.67    348.69

*SECNO 901.28C
 2800 NAT Q1=      36.33  WSEL=    698.28  ENC Q1=      36.33  WSEL=    698.38  RATIO=    .0000
 NAT Q1=      42.  RATIOS LOB,CH,ROB=   .0903   .7119   .1978  WSEL=    698.38

3470 ENCROACHMENT STATIONS=      197.8     337.8  TYPE=      4  TARGET=        .125
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   901.29      4.78    698.38      0.00    698.23    698.73       .35       .39       .09    697.80
     430.       14.      350.       67.       11.       67.       54.       10.        8.    697.80
      .22      1.25      5.19      1.24      .095      .065      .095      .073    693.60    197.80
  .013940       33.       33.       33.         2         0         0      0.00    140.04    337.85


*SECNC 901.290
 2800 NAT Q1=      42.77  WSEL=    698.80  ENC Q1=      42.77  WSEL=    698.90  RATIO=    .0000
 NAT Q1=      48.  RATIOS LOB,CH,ROB=   .1089   .6539   .2371  WSEL=    698.90

3470 ENCROACHMENT STATIONS=      185.7     351.2  TYPE=      4  TARGET=        .114
   901.29      4.92    698.92      0.00    698.80    699.16       .23       .37       .06    698.20
     430.       26.      315.       90.       22.       70.       75.       10.        8.    698.20
      .22      1.19      4.47      1.19      .095      .065      .095      .072    694.00    185.69
  .009751       32.       32.       32.         3         0         0      0.00    165.49    351.18


*SECNC 901.300
 2800 NAT Q1=      39.51  WSEL=    699.14  ENC Q1=      39.51  WSEL=    699.24  RATIO=    .0000
 NAT Q1=      45.  RATIOS LOB,CH,ROB=   .1005   .6800   .2195  WSEL=    699.24
   SECNC     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      192.0     344.3  TYPE=      4  TARGET=        .123
   901.30      4.86    699.26      0.00    699.14    699.54       .28       .34       .04    698.60
     430.       20.      331.       79.       16.       69.       65.       10.        8.    698.60
      .22      1.23      4.81      1.22      .095      .065      .095      .072    694.40    192.04
  .011552       32.       32.       32.         2         0         0      0.00    152.29    344.33


*SECNC 901.310
 2800 NAT Q1=      35.03  WSEL=    699.66  ENC Q1=      35.03  WSEL=    699.76  RATIO=    .0000
 NAT Q1=      40.  RATIOS LOB,CH,ROB=   .0857   .7264   .1880  WSEL=    699.76

3470 ENCROACHMENT STATIONS=      200.7     334.5  TYPE=      4  TARGET=        .126
   901.31      4.69    699.69    699.63    699.66    700.12       .43       .45       .13    699.20
     430.       10.      368.       53.        8.       65.       43.       10.        8.    699.20
      .22      1.23      5.65      1.22      .095      .065      .095      .072    695.00    200.68
  .017242       32.       32.       32.         4        10         0      0.00    133.84    334.52


*SECNC 901.320
 2800 NAT Q1=      42.05  WSEL=    700.08  ENC Q1=      42.05  WSEL=    700.18  RATIO=   0.0000
 NAT Q1=      48.  RATIOS LOB,CH,ROB=   .2012   .3669   .4319  WSEL=    700.18

3370 NORMAL BRIDGE,NBC=  0 MIN ELTRD=  697.60 MAX ELLC=  697.20


3470 ENCROACHMENT STATIONS=      170.2     366.8  TYPE=      4  TARGET=        .131

         ** FOOTBRIDGE 901D

   901.32      5.25    700.25      0.00    700.08    700.31       .06       .01       .19    699.20
     430.       70.      173.      188.       48.       71.      128.       10.        8.    699.20
      .22      1.46      2.43      1.47      .095      .065      .095      .072    695.00    170.17
  .008763        1.        1.        1.         5         0         0     -7.00    196.67    366.85
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*SECNC 901.330
 2800 NAT Q1=      45.23  WSEL=     700.13  ENC Q1=      45.23  WSEL=     700.23  RATIO=    .0000
 NAT Q1=      52.  RATIOS LOB,CH,ROB=    .2060    .3530    .4410  WSEL=     700.23

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  697.60 MAX ELLC=  697.20


3470 ENCROACHMENT STATIONS=      168.2      368.7  TYPE=      4  TARGET=         .124
   901.33      5.29    700.29      0.00    700.13    700.34      .05       .03       .00    699.20
     430.       72.      167.      190.       51.       72.     134.       10.        8.    699.20
      .22      1.42      2.33      1.42      .095      .065     .095      .072    695.00    168.22
  .007944        4.        4.        4.         0         0        0     -7.00    200.50    368.72


*SECNC 901.350
 2800 NAT Q1=      63.86  WSEL=     700.13  ENC Q1=      63.86  WSEL=     700.23  RATIO=    .0000
 NAT Q1=      71.  RATIOS LOB,CH,ROB=    .1499    .5290    .3210  WSEL=     700.23

3470 ENCROACHMENT STATIONS=      170.1      366.8  TYPE=      4  TARGET=         .098
   901.35      5.29    700.29      0.00    700.13    700.38      .09       .00       .04    699.20
     430.       50.      244.      136.       50.       79.     133.       10.        8.    699.20
      .22      1.01      3.09      1.02      .095      .065     .095      .072    695.00    170.09
  .003982        1.        1.        1.         0         0        0      0.00    196.72    366.81


*SECNC 901.400
 2800 NAT Q1=      61.30  WSEL=     700.20  ENC Q1=      61.30  WSEL=     700.30  RATIO=    .0000
 NAT Q1=      69.  RATIOS LOB,CH,ROB=    .1468    .5384    .3148  WSEL=     700.30
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      172.6      364.3  TYPE=      4  TARGET=         .106
   901.40      5.25    700.35      0.00    700.20    700.45      .10       .06       .01    699.30
     430.       47.      252.      131.       45.       78.     125.       10.        8.    699.30
      .23      1.04      3.24      1.04      .095      .065     .095      .072    695.10    172.63
  .004443       15.       15.       15.         0         0        0      0.00    191.65    364.28


*SECNO 901.420
 2800 NAT Q1=      46.73  WSEL=     700.29  ENC Q1=      46.73  WSEL=     700.39  RATIO=   0.0000
 NAT Q1=      53.  RATIOS LOB,CH,ROB=    .2208    .3079    .4713  WSEL=     700.39

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.20 MAX ELLC=  697.50


3470 ENCROACHMENT STATIONS=      166.5      370.3  TYPE=      4  TARGET=         .124

         ** FOOTBRIDGE 901E

   901.42      5.34    700.44      0.00    700.29    700.49      .05       .00       .03    699.30
     430.       79.      146.      205.       56.       68.     143.       10.        8.    699.30
      .23      1.42      2.15      1.43      .095      .065     .095      .072    695.10    166.47
  .007447        1.        1.        1.         2         0        0    -12.25    203.87    370.33


*SECNO 901.430
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 2800 NAT Q1=      48.40  WSEL=    700.33  ENC Q1=      48.40  WSEL=    700.43  RATIO=    .0000
 NAT Q1=      56.  RATIOS LOB,CH,ROB=   .2236   .3000   .4764  WSEL=    700.43

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.20 MAX ELLC=  697.50


3470 ENCROACHMENT STATIONS=      167.7      369.0  TYPE=      4  TARGET=         .135
   901.43      5.37   700.47      0.00   700.33   700.52      .04       .03       .00   699.30
     430.       79.     145.      206.      56.      66.     145.       10.        8.    699.30
      .23      1.41     2.12      1.42     .095     .065     .095      .072   695.10   167.70
  .007135        4.       4.        4.        0        0        0   -12.25   201.27   368.97


*SECNO 901.450
 2800 NAT Q1=      70.91  WSEL=    700.32  ENC Q1=      70.91  WSEL=    700.42  RATIO=    .0000
 NAT Q1=      78.  RATIOS LOB,CH,ROB=   .1594   .5011   .3396  WSEL=    700.42

3470 ENCROACHMENT STATIONS=      167.5      369.2  TYPE=      4  TARGET=         .095
   901.45      5.37   700.47      0.00   700.32   700.55      .08       .00       .03   699.30
     430.       55.     233.      143.      56.      81.     146.       10.        8.    699.30
      .23       .97     2.88       .98     .095     .065     .095      .072   695.10   167.49
  .003346        1.       1.        1.        0        0        0      0.00   201.70   369.19


*SECNO 901.500
 2800 NAT Q1=      73.53  WSEL=    700.68  ENC Q1=      73.53  WSEL=    700.78  RATIO=    .0000
 NAT Q1=      80.  RATIOS LOB,CH,ROB=   .1642   .3763   .4595  WSEL=    700.78

3470 ENCROACHMENT STATIONS=      139.8      253.3  TYPE=      4  TARGET=         .076
   901.50      5.20   700.80      0.00   700.68   700.87      .07       .32       .00   698.10
     430.       58.     175.      197.      35.      62.     148.       11.        9.    698.50
      .24      1.65     2.82      1.33     .095     .065     .095      .072   695.60   139.80
  .003340       95.      95.       95.        2        0        0      0.00   113.52   253.32


*SECNO 901.520
 2800 NAT Q1=      59.77  WSEL=    700.70  ENC Q1=      59.77  WSEL=    700.80  RATIO=    .0000
 NAT Q1=      66.  RATIOS LOB,CH,ROB=   .1820   .2520   .5660  WSEL=    700.80
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.50 MAX ELLC=  697.60


3470 ENCROACHMENT STATIONS=      139.7      253.6  TYPE=      4  TARGET=         .093

         ** FOOTBRIDGE 901F LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

   901.52      5.22   700.82      0.00   700.70   700.88      .06       .00       .01   698.10
     430.       64.     119.      247.      33.      50.     149.       11.        9.    698.50
      .24      1.92     2.41      1.66     .095     .065     .095      .072   695.60   139.67
  .005132        1.       1.        1.        1        0        0   -15.20   113.93   253.59


*SECNO 901.530
 2800 NAT Q1=      61.23  WSEL=    700.72  ENC Q1=      61.23  WSEL=    700.82  RATIO=    .0000
 NAT Q1=      67.  RATIOS LOB,CH,ROB=   .1823   .2506   .5672  WSEL=    700.82
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3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.50 MAX ELLC=  697.60

3470 ENCROACHMENT STATIONS=      139.3      254.4  TYPE=      4  TARGET=          .088
   901.53      5.24    700.84      0.00    700.72    700.90       .06       .02       .00    698.10
     430.       64.      118.      248.       34.       50.      152.       11.        9.    698.50
      .24      1.86      2.36      1.63      .095      .065      .095      .072    695.60    139.26
  .004868        4.        4.        4.         0         0         0    -15.20    115.10    254.36

*SECNO 901.550
 2800 NAT Q1=      76.25  WSEL=     700.73  ENC Q1=      76.25  WSEL=     700.83  RATIO=    .0000
 NAT Q1=      82.  RATIOS LOB,CH,ROB=   .1649   .3717   .4634  WSEL=     700.83

3470 ENCROACHMENT STATIONS=      139.4      254.2  TYPE=      4  TARGET=          .073
   901.55      5.24    700.84      0.00    700.73    700.91       .06       .00       .01    698.10
     430.       59.      172.      199.       37.       63.      153.       11.        9.    698.50
      .24      1.58      2.75      1.30      .095      .065      .095      .071    695.60    139.35
  .003115        1.        1.        1.         0         0         0      0.00    114.83    254.18

*SECNO 901.600
 2800 NAT Q1=      67.27  WSEL=     701.17  ENC Q1=      67.27  WSEL=     701.27  RATIO=    .0000
 NAT Q1=      73.  RATIOS LOB,CH,ROB=   .1627   .3884   .4489  WSEL=     701.27

3470 ENCROACHMENT STATIONS=      139.1      251.5  TYPE=      4  TARGET=          .079
   901.60      5.08    701.28      0.00    701.17    701.36       .08       .44       .01    698.70
     430.       60.      180.      190.       35.       60.      136.       12.        9.    699.10
      .26      1.70      3.01      1.40      .095      .065      .095      .071    696.20    139.05
  .003989      125.      125.      125.         2         0         0      0.00    112.47    251.53

*SECNO 901.620
 2800 NAT Q1=      52.57  WSEL=     701.21  ENC Q1=      52.57  WSEL=     701.31  RATIO=    .0000
 NAT Q1=      58.  RATIOS LOB,CH,ROB=   .1904   .2203   .5893  WSEL=     701.31

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  699.10 MAX ELLC=  698.40

3470 ENCROACHMENT STATIONS=      139.5      253.8  TYPE=      4  TARGET=          .089

         ** FOOTBRIDGE 901G LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

   901.62      5.11    701.31      0.00    701.21    701.37       .06       .00       .01    698.70
     430.       68.      104.      258.       32.       50.      142.       12.        9.    699.10
      .26      2.12      2.07      1.82      .095      .065      .095      .071    696.20    139.49
  .006669        1.        1.        1.         2         0         0    -12.80    114.34    253.83

*SECNO 901.630
 2800 NAT Q1=      53.66  WSEL=     701.24  ENC Q1=      53.66  WSEL=     701.34  RATIO=    .0000
 NAT Q1=      59.  RATIOS LOB,CH,ROB=   .1906   .2184   .5910  WSEL=     701.34
   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  699.10 MAX ELLC=  698.40
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3470 ENCROACHMENT STATIONS=      139.7      253.5  TYPE=      4  TARGET=          .094
   901.63      5.14    701.34      0.00    701.24    701.40       .06       .03       .00    698.70
     430.       68.      104.      259.       32.       51.      143.       12.        9.    699.10
      .26      2.11      2.05      1.81      .095      .065      .095      .071    696.20    139.65
  .006441        4.        4.        4.         0         0         0    -12.80    113.79    253.48


*SECNO 901.650
 2800 NAT Q1=      71.12  WSEL=     701.24  ENC Q1=      71.12  WSEL=     701.34  RATIO=  0.0000
 NAT Q1=      77.  RATIOS LOB,CH,ROB=   .1636   .3811   .4554  WSEL=     701.34

3470 ENCROACHMENT STATIONS=      139.9      253.0  TYPE=      4  TARGET=          .075
   901.65      5.14    701.34      0.00    701.24    701.42       .07       .00       .01    698.70
     430.       58.      177.      195.       34.       61.      143.       12.        9.    699.10
      .26      1.70      2.91      1.36      .095      .065      .095      .071    696.20    139.94
  .003628        1.        1.        1.         0         0         0      0.00    113.06    252.99


*SECNO 901.800
 2800 NAT Q1=      34.25  WSEL=     702.39  ENC Q1=      34.25  WSEL=     702.49  RATIO=   .0000
 NAT Q1=      38.  RATIOS LOB,CH,ROB=   .1579   .5017   .3404  WSEL=     702.49

3470 ENCROACHMENT STATIONS=      142.6      227.3  TYPE=      4  TARGET=          .107
   901.80      4.38    702.48      0.00    702.39    702.75       .27      1.16       .17    700.60
     430.       51.      242.      137.       20.       47.       64.       12.        9.    701.00
      .27      2.60      5.14      2.15      .095      .065      .095      .071    698.10    142.64
  .015868      175.      175.      175.         2         0         0      0.00     84.69    227.33


*SECNO 902.200
 2800 NAT Q1=      44.79  WSEL=     704.53  ENC Q1=      44.79  WSEL=     704.63  RATIO=   .0000
 NAT Q1=      49.  RATIOS LOB,CH,ROB=   .1582   .4521   .3897  WSEL=     704.63

3470 ENCROACHMENT STATIONS=      141.3      239.6  TYPE=      4  TARGET=          .094
   902.20      4.64    704.64      0.00    704.53    704.80       .16      1.99       .05    702.50
     430.       53.      214.      163.       25.       52.       91.       13.       10.    702.90
      .29      2.13      4.13      1.79      .095      .065      .095      .070    700.00    141.30
  .009013      170.      170.      170.         2         0         0      0.00     98.32    239.63


*SECNO 902.220
 2800 NAT Q1=      16.87  WSEL=     704.54  ENC Q1=      16.87  WSEL=     704.64  RATIO=   .0000
 NAT Q1=      20.  RATIOS LOB,CH,ROB=   .0924   .3576   .5499  WSEL=     704.64

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  704.00 MAX ELLC=  703.30


3470 ENCROACHMENT STATIONS=      152.2      248.2  TYPE=      4  TARGET=          .142

        ** FOOTBRIDGE AT 902.2

   902.22      4.64    704.64      0.00    704.54    704.91       .27       .01       .10    702.50
     430.        5.      188.      237.        2.       39.       64.       13.       10.    702.90
      .29      2.02      4.80      3.68      .095      .065      .095      .070    700.00    152.25
  .070509        1.        1.        1.         1         0         0    -48.07     95.94    248.19


*SECNO 902.230
 2800 NAT Q1=      26.40  WSEL=     704.84  ENC Q1=      26.40  WSEL=     704.94  RATIO=   .0000
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 NAT Q1=      30.  RATIOS LOB,CH,ROB=    .0974    .2932    .6094  WSEL=     704.94
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  704.00 MAX ELLC=  703.30


3470 ENCROACHMENT STATIONS=      150.3      254.8  TYPE=      4  TARGET=         .115
   902.23      5.01    705.01      0.00    704.84    705.14       .13       .15       .07    702.50
     430.       10.      144.      277.       7.       46.      101.       13.       10.     702.90
      .29      1.50      3.13      2.75      .095      .065      .095      .070    700.00    150.26
  .024336        4.        4.        4.         2         0         0    -49.19    104.54    254.80


*SECNO 902.250
 2800 NAT Q1=      62.64  WSEL=     704.89  ENC Q1=      62.64  WSEL=     704.99  RATIO=  0.0000
 NAT Q1=      68.  RATIOS LOB,CH,ROB=    .1616    .3985    .4398  WSEL=     704.99

3470 ENCROACHMENT STATIONS=      139.5      249.9  TYPE=      4  TARGET=         .081
   902.25      5.08    705.08      0.00    704.89    705.16       .08       .00       .02    702.50
     430.       60.      181.      189.       35.       60.      134.       13.       10.     702.90
      .29      1.73      3.03      1.41      .095      .065      .095      .070    700.00    139.48
  .004017        1.        1.        1.         2         0         0      0.00    110.44    249.92


CCHV=     .400 CEHV=     .800
*SECNO 901.980
 2800 NAT Q1=      29.24  WSEL=     706.49  ENC Q1=      30.32  WSEL=     706.59  RATIO=  -.0369
 NAT Q1=      30.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     706.59

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      145.0      160.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      709.30 ELREA=      709.30


         ** D/S FACE SQUARE LAKE ROAD

   901.98      4.25    706.55      0.00    706.49    707.26       .71      1.59       .51    704.80
     430.        0.      430.        0.        0.       63.        0.       14.       10.     704.80
      .29      0.00      6.79      0.00      .095      .065      .095      .070    702.30    145.00
  .023320      198.      198.      198.         2         0         0      0.00     15.00    160.00


*SECNO 901.990
 2800 NAT Q1=      33.01  WSEL=     706.33  ENC Q1=      34.14  WSEL=     706.43  RATIO=  -.0341
 NAT Q1=      34.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     706.43

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE,NRD=  2 MIN ELTRD=  710.00 MAX ELLC=  709.30

   901.99      4.09    706.39      0.00    706.33    707.99      1.60       .02       .71    709.30
     430.        0.      430.        0.        0.       42.        0.       14.       10.     709.30
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      .29      0.00     10.15      0.00      .095      .033      .095      .070    702.30       .04
  .016303       1.        1.        1.         2         0         0      0.00     10.42     10.46


*SECNO 902.010
 2800 NAT Q1=      52.43  WSEL=     707.97  END Q1=      53.69  WSEL=     708.07  RATIO=  -.0241
 NAT Q1=      54.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     708.07

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL DRIDGE,NRC=  2 MIN ELTRD=  710.00 MAX ELLC=  709.30

   902.01      5.65    707.95      0.00    707.97    708.79       .83       .49       .31    709.30
     430.        0.      430.        0.        0.       59.        0.       14.       10.    709.30
      .30      0.00      7.33      0.00      .095      .033      .095      .069    702.30       .02
  .006782       49.       49.       49.         4         0         0      0.00     10.46     10.48


*SECNO 902.020
 2800 NAT Q1=      56.55  WSEL=     708.70  END Q1=      57.87  WSEL=     708.80  RATIO=  -.0233
 NAT Q1=      58.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     708.80

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      355.0     370.0  TYPE=      4  TARGET=       0.000

3455 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      710.60 ELREA=      710.60

   902.02      6.39    708.69      0.00    708.70    709.00       .31       .01       .21    704.20
     430.        0.      430.        0.        0.       96.        0.       14.       10.    704.20
      .30      0.00      4.50      0.00      .095      .065      .095      .069    702.30    355.00
  .007408       1.        1.        1.         3         0         0      0.00     15.00    370.00


*SECNO 902.800
 2800 NAT Q1=     127.54  WSEL=     709.26  END Q1=     127.54  WSEL=     709.36  RATIO=   .0000
 NAT Q1=     134.  RATIOS LOB,CH,ROB=   .0972   .4743   .4285  WSEL=     709.36

3470 ENCROACHMENT STATIONS=      338.0     420.4  TYPE=      4  TARGET=        .050
   902.80      7.17    709.27      0.00    709.26    709.32       .05       .21       .11    706.20
     430.       32.      217.      181.       36.       95.      152.       14.       10.    705.20
      .31       .89      2.28      1.19      .095      .065      .095      .069    702.10    338.01
  .001233       85.       85.       85.         2         0         0      0.00     82.38    420.38


*SECNO 902.980
 2800 NAT Q1=      60.18  WSEL=     709.43  END Q1=      60.18  WSEL=     709.53  RATIO=  0.0000
 NAT Q1=      65.  RATIOS LOB,CH,ROB=   .2637   .3854   .3509  WSEL=     709.53

3470 ENCROACHMENT STATIONS=      310.5     420.1  TYPE=      4  TARGET=        .081

        ** D/S FACE DRIVEWAY CULVERT AT 903
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   902.93      5.55    709.45      0.00    709.43    709.59       .14       .20       .07    705.80
     430.      101.      186.      142.       64.       44.       84.       14.       10.    705.80
      .32      1.59      4.22      1.70      .095      .065      .095      .069   703.90    310.50
  .005732       86.       86.       86.         2         0         0      0.00   109.55    420.05


SPECIAL BRIDGE

SB  XK        XKCR      CCFQ      RDLEN     BUC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.65      2.80      0.00      4.70      0.00      14.20     0.00    703.90    703.90

*SECNO 903.020
 2800 NAT Q1=     215.21  WSEL=     709.74  ENC Q1=     215.21  WSEL=     709.84  RATIO=    .0000
 NAT Q1=     225.  RATIOS LOB,CH,ROB=    .5737    .1936    .2327  WSEL=     709.84
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     903.02 EXTENDED       2.35 FEET


3470 ENCROACHMENT STATIONS=      174.3     339.4  TYPE=      4  TARGET=        .043
   903.02      5.85    709.75      0.00    709.74    709.77       .01       .03       .05    704.30
     430.      247.       88.       95.      354.       58.      139.       15.       10.    704.30
      .33       .70      1.52       .68      .095      .065      .095      .069   703.90    174.32
  .000429       24.       24.       24.         0         0         6      0.00   165.07    339.39


*SECNO 903.100
 2800 NAT Q1=     112.26  WSEL=     709.80  ENC Q1=     112.26  WSEL=     709.90  RATIO=    .0000
 NAT Q1=     120.  RATIOS LOB,CH,ROB=    .4463    .3947    .1591  WSEL=     709.90
3280 CROSS SECTION     903.10 EXTENDED       2.62 FEET


3470 ENCROACHMENT STATIONS=      189.4     340.5  TYPE=      4  TARGET=        .068
   903.10      4.62    709.82      0.00    709.80    709.85       .03       .07       .02    707.10
     430.      188.      185.       57.      188.       98.       61.       16.       11.    708.30
      .35      1.00      1.89       .94      .095      .072      .095      .069   705.20    189.43
  .001613       91.       91.       91.         1         0         0      0.00   151.03    340.47


*SECNO 903.120
 2800 NAT Q1=      47.09  WSEL=     709.79  ENC Q1=      47.09  WSEL=     709.89  RATIO=    .0000
 NAT Q1=      51.  RATIOS LOB,CH,ROB=    .4028    .4436    .1536  WSEL=     709.89
3280 CROSS SECTION     903.12 EXTENDED       2.61 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CCKAR     TOPWID       ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  708.30 MAX ELLC=  707.40


3470 ENCROACHMENT STATIONS=      233.0     327.3  TYPE=      4  TARGET=        .080

        ** FOOTBRIDGE 903A
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   903.12      4.60    709.80      0.00    709.79    709.92       .11       .00       .07    707.10
     430.      116.      255.       59.       82.       79.       26.       16.       11.    708.30
      .35      1.42      3.21      2.25      .095      .072      .095      .069    705.20    232.96
  .013851        1.        1.        1.         1         0         0    -56.14     94.35    327.31


*SECNC 903.130
 2800 NAT Q1=      48.06  WSEL=     709.33  ENC Q1=      48.06  WSEL=     709.93  RATIO=    .0000
 NAT Q1=      53.  RATIOS LOB,CH,ROB=    .4064    .4393    .1542  WSEL=     709.93
3280 CROSS SECTION     903.13 EXTENDED       2.65 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  708.30 MAX ELLC=  707.40


3470 ENCROACHMENT STATIONS=      233.3      326.7  TYPE=      4  TARGET=         .089
   903.13      4.66    709.86      0.00    709.83    709.97       .11       .05       .00    707.10
     430.      117.      255.       58.       83.       81.       26.       16.       11.    708.30
      .35      1.41      3.17      2.23      .095      .072      .095      .069    705.20    233.27
  .013202        4.        4.        4.         1         0         0    -55.74     93.46    326.73


*SECNC 903.150
 2800 NAT Q1=     117.87  WSEL=     709.87  ENC Q1=     117.87  WSEL=     709.97  RATIO=  0.0000
 NAT Q1=     126.  RATIOS LOB,CH,ROB=    .4513    .3889    .1599  WSEL=     709.97
3280 CROSS SECTION     903.15 EXTENDED       2.78 FEET


3470 ENCROACHMENT STATIONS=      187.9      340.6  TYPE=      4  TARGET=         .066
   903.15      4.78    709.98      0.00    709.87    710.01       .03       .00       .03    707.10
     430.      193.      179.       59.      205.      102.       66.       16.       11.    708.30
      .35       .94      1.75       .89      .095      .072      .095      .069    705.20    187.91
  .001306        1.        1.        1.         2         0         0      0.00    152.70    340.62


*SECNC 903.280
 2800 NAT Q1=     114.63  WSEL=     709.97  ENC Q1=     114.63  WSEL=     710.07  RATIO=  0.0000
 NAT Q1=     123.  RATIOS LOB,CH,ROB=    .5496    .2314    .2191  WSEL=     710.07
3280 CROSS SECTION     903.28 EXTENDED       1.38 FEET


3470 ENCROACHMENT STATIONS=      180.1      332.1  TYPE=      4  TARGET=         .067

         ** D/S FACE DRIVEWAY CULVERT 903B

   903.28      4.89    710.09      0.00    709.97    710.12       .03       .11       .00    705.60
     430.      238.      106.       86.      237.       48.       84.       16.       11.    705.60
      .36      1.00      2.20      1.03      .095      .072      .095      .069    705.20    180.10
  .001394       79.       79.       79.         0         0         0      0.00    151.99    332.09


SPECIAL BRIDGE

SB  XK        XKCR      CDFQ      ROLEN     BWC       B&P       BAREA     SS        ELCHU     ELCHD
     0.00      1.70      2.60    200.00      4.90      0.00     17.70      0.00    705.20    705.20

*SECNC 903.320
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 2800 NAT Q1=     164.76  WSEL=     710.55  ENC Q1=     164.76  WSEL=     710.65  RATIO=    .0000
 NAT Q1=     173.  RATIOS LOB,CH,ROB=    .5717    .1980    .2302  WSEL=     710.65
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     903.32 EXTENDED       1.97 FEET


3470 ENCROACHMENT STATIONS=      175.8      337.7  TYPE=      4  TARGET=          .049
   903.32      5.47    710.67      0.00    710.55    710.68      .02       .01       .01    705.60
     430.      248.      89.       93.      308.      54.      118.       16.       11.     705.60
      .37       .80      1.64      .79      .095      .072     .095      .069    705.20    175.80
  .000669      15.       15.       15.        0         0        6      0.00    161.88    337.68


*SECNO 903.40C
 2800 NAT Q1=     109.50  WSEL=     710.60  ENC Q1=     109.50  WSEL=     710.70  RATIO=    .0000
 NAT Q1=     117.  RATIOS LOB,CH,ROB=    .5458    .2370    .2172  WSEL=     710.70
3280 CROSS SECTION     903.40 EXTENDED       1.32 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      179.8      332.4  TYPE=      4  TARGET=          .063
   903.40      4.81    710.71      0.00    710.60    710.74      .03       .05       .01    706.30
     430.      236.      108.      86.      231.      48.       82.       17.       11.     706.30
      .39      1.02      2.26      1.05      .095      .072     .095      .069    705.90    179.80
  .001506      50.       50.       50.        0         0        0      0.00    152.60    332.40


*SECNO 903.48C
 2800 NAT Q1=      63.13  WSEL=     710.72  ENC Q1=      63.13  WSEL=     710.82  RATIO=   0.0000
 NAT Q1=      69.  RATIOS LOB,CH,ROB=    .4942    .3102    .1955  WSEL=     710.82
3280 CROSS SECTION     903.48 EXTENDED        .63 FEET


3470 ENCROACHMENT STATIONS=      187.4      316.8  TYPE=      4  TARGET=          .088

         ** D/S FACE DRIVEWAY CULVERT 903C

   903.48      4.13    710.83      0.00    710.72    710.92      .09       .13       .05    707.10
     430.      213.      146.      71.      150.      41.       42.       17.       11.     707.10
      .38      1.42      3.57      1.71      .095      .072     .095      .069    706.70    187.40
  .004590      55.       55.       55.        2         0        0      0.00    129.43    316.83


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     PWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.80      2.60    200.00      3.30      0.00     12.40      0.00    706.70    706.70

*SECNO 903.52C
 2800 NAT Q1=     182.27  WSEL=     712.24  ENC Q1=     182.27  WSEL=     712.34  RATIO=    .0000
 NAT Q1=     191.  RATIOS LOB,CH,ROB=    .5770    .1900    .2330  WSEL=     712.34
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
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3280 CROSS SECTION    903.52 EXTENDED      2.15 FEET


3470 ENCROACHMENT STATIONS=      175.2      338.4  TYPE=      4  TARGET=          .047
   903.52      5.65    712.35      0.00    712.24    712.36      .01       .02       .03    707.10
     430.      250.      85.       95.      330.      56.      127.       17.       12.     707.10
      .39       .76      1.52      .74      .095      .072     .095      .069    706.70    175.15
  .000550       15.       15.      15.        0         0        7      0.00    163.29    338.44


*SECNO 903.800
 2800 NAT Q1=      43.82  WSEL=     712.47  ENC Q1=      43.82  WSEL=     712.57  RATIO=    .0000
 NAT Q1=     49.  RATIOS LOB,CH,ROB=   .3781   .5890   .0329  WSEL=     712.57
3280 CROSS SECTION    903.80 EXTENDED       .28 FEET


3470 ENCROACHMENT STATIONS=      232.6      310.0  TYPE=      4  TARGET=          .105
   903.80      3.78    712.58      0.00    712.47    712.74      .17       .26       .12    710.70
     430.      149.      281.       0.       75.       74.       0.        19.       12.     711.90
      .40      2.00      3.79      0.00      .095      .072     .095      .069    708.80    232.64
  .009753      180.      180.      180.        2         0        0      0.00     77.36    310.00


CCHV=    .150 CEHV=    .350
*SECNO 903.810
 2800 NAT Q1=      93.22  WSEL=     712.97  ENC Q1=      93.22  WSEL=     713.07  RATIO=    .0000
 NAT Q1=    101.  RATIOS LOB,CH,ROB=   .4759   .4428   .0814  WSEL=     713.07
3280 CROSS SECTION    903.81 EXTENDED      1.09 FEET


3470 ENCROACHMENT STATIONS=      192.6      326.9  TYPE=      4  TARGET=          .078
   903.81      4.59    713.09      0.00    712.97    713.13      .04       .37       .02    710.40
     430.      204.      206.      20.      181.      97.       24.       19.       12.     711.60
      .42      1.13      2.13      .85      .095      .072     .095      .069    708.50    192.63
  .002079       95.       95.      95.        2         0        0      0.00    134.31    326.94


*SECNO 903.600
 2800 NAT Q1=      67.07  WSEL=     712.98  ENC Q1=      67.07  WSEL=     713.08  RATIO=    .0000
 NAT Q1=     74.  RATIOS LOB,CH,ROB=   .6554   .2321   .1125  WSEL=     713.08
3280 CROSS SECTION    903.60 EXTENDED      1.09 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  710.40 MAX ELLO=  708.90


3470 ENCROACHMENT STATIONS=      190.4      329.0  TYPE=      4  TARGET=          .094

         ** FOOTBRIDGE 903C-2 LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

   903.60      4.60    713.10      0.00    712.98    713.13      .04       .00       .00    710.40
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     430.      289.      110.       31.      184.       68.       26.       19.       12.     711.60
      .42      1.57      1.61      1.18      .095      .072      .095      .069   708.50     190.42
  .004055        1.        1.        1.         C         0         0   -28.50   138.61     329.03

*SECNO 903.650
 2800 NAT Q1=      68.33  WSEL=     713.00  ENC Q1=      68.33  WSEL=     713.10  RATIO=    .0000
 NAT Q1=      75.  RATIOS LOB,CH,ROB=    .6555    .2313    .1132  WSEL=     713.10
3280 CROSS SECTION     903.65 EXTENDED       1.11 FEET


3370 NORMAL BRIDGE,NRO=  0  MIN ELTRD=  710.40 MAX ELLO=  708.90

3470 ENCROACHMENT STATIONS=      189.6      329.7  TYPE=      4  TARGET=         .091
   903.65      4.61   713.11      0.00   713.00   713.15       .04       .02       .00     710.40
     430.      288.      109.       32.      197.       69.       28.       19.       12.     711.60
      .42      1.54      1.59      1.17      .095      .072      .095      .069   708.50     189.60
  .003877        4.        4.        4.         0         0         0   -28.50   140.09     329.68

*SECNO 903.820
 2800 NAT Q1=      95.73  WSEL=     712.99  ENC Q1=      95.73  WSEL=     713.09  RATIO=   0.0000
 NAT Q1=     103.  RATIOS LOB,CH,ROB=    .4777    .4399    .0824  WSEL=     713.09
3280 CROSS SECTION     903.82 EXTENDED       1.12 FEET


3470 ENCROACHMENT STATIONS=      190.4      328.9  TYPE=      4  TARGET=         .070
   903.82      4.61   713.11      0.00   712.99   713.15       .04       .00       .00     710.40
     430.      205.      203.       22.      186.       98.       27.       19.       12.     711.60
      .42      1.10      2.08       .83      .095      .072      .095      .069   708.50     190.41
  .001963        1.        1.        1.         0         0         0      0.00   138.52     328.93

*SECNO 903.830
 2800 NAT Q1=      54.38  WSEL=     713.17  ENC Q1=      54.38  WSEL=     713.27  RATIO=    .0000
 NAT Q1=      60.  RATIOS LOB,CH,ROB=    .4121    .5402    .0477  WSEL=     713.27
3280 CROSS SECTION     903.83 EXTENDED        .48 FEET


3470 ENCROACHMENT STATIONS=      216.5      310.0  TYPE=      4  TARGET=         .097
   903.83      3.98   713.28      0.00   713.17   713.39       .11       .21       .02     711.20
     430.      175.      255.        0.      104.       80.        0.       20.       12.     712.40
      .43      1.68      3.19      0.00      .095      .072      .095      .069   709.30     216.50
  .006344       66.       66.       66.         2         0         0      0.00    93.50     310.00

*SECNO 903.840
 2800 NAT Q1=      39.53  WSEL=     713.68  ENC Q1=      39.53  WSEL=     713.78  RATIO=    .0000
 NAT Q1=      44.  RATIOS LOB,CH,ROB=    .3590    .6154    .0256  WSEL=     713.78
3280 CROSS SECTION     903.84 EXTENDED        .20 FEET


3470 ENCROACHMENT STATIONS=      239.0      310.0  TYPE=      4  TARGET=         .106
   903.84      3.69   713.79      0.00   713.68   713.99       .20       .56       .03     712.00
     430.      137.      293.        0.       63.       72.        0.       20.       13.     713.20
      .43      2.16      4.08      0.00      .095      .072      .095      .069   710.10     239.03
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 .011732      67.      67.      67.        1        0        0     0.00    70.97   310.00

*SECNO 903.850
 2800 NAT Q1=      36.74  WSEL=    714.52  ENC Q1=      36.74  WSEL=    714.62  RATIO=    .0000
 NAT Q1=      41.  RATIOS LOB,CH,ROB=    .3437    .6359    .0204  WSEL=    714.62
3280 CROSS SECTION    903.85 EXTENDED       .12 FEET

   SECNO     DEPTH     QISEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      243.1     310.0  TYPE=      4  TARGET=        .104
   903.85     3.62   714.62      0.00   714.52   714.85      .23      .85      .01   712.90
     430.     127.     303.       0.      56.      70.       0.      20.      13.   714.10
      .44     2.29     4.34      0.00     .095     .072     .095     .069   711.00   243.08
  .013827      67.      67.      67.        2        0        0     0.00    66.92   310.00

*SECNO 903.860
 2800 NAT Q1=      46.64  WSEL=    716.73  ENC Q1=      46.64  WSEL=    716.83  RATIO=    .0000
 NAT Q1=      52.  RATIOS LOB,CH,ROB=    .3882    .5747    .0371  WSEL=    716.83
3280 CROSS SECTION    903.86 EXTENDED       .35 FEET


3470 ENCROACHMENT STATIONS=      227.8     310.0  TYPE=      4  TARGET=        .101
   903.86     3.84   716.84      0.00   716.73   716.99      .15     2.12      .01   714.90
     430.     158.     272.       0.      84.      76.       0.      21.      13.   716.10
      .46     1.89     3.57      0.00     .095     .072     .095     .069   713.00   227.84
  .008414     200.     200.     200.        2        0        0     0.00    82.16   310.00

CCHV=     .400 CEHV=     .800
*SECNO 903.870
 2800 NAT Q1=      22.85  WSEL=    718.90  ENC Q1=      24.00  WSEL=    719.00  RATIO=   -.0499
 NAT Q1=      24.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    719.00

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      348.0     374.0  TYPE=      4  TARGET=        0.000
   903.87     4.07   718.97      0.00   718.90   719.69      .72     2.24      .46   719.90
     430.       0.     430.       0.       0.      63.       0.      21.      13.   719.80
      .46     0.00     6.81      0.00     .095     .072     .095     .069   714.90   349.78
  .033457     150.     150.     150.        2        0        0     0.00    22.58   372.36

*SECNO 903.880
 2800 NAT Q1=      45.36  WSEL=    721.94  ENC Q1=      46.30  WSEL=    722.04  RATIO=   -.0208
 NAT Q1=      48.  RATIOS LOB,CH,ROB=    .0368    .9617    .0015  WSEL=    722.04

3470 ENCROACHMENT STATIONS=      348.0     374.0  TYPE=      4  TARGET=        .038
   903.88     5.49   721.99      0.00   721.94   722.29      .29     2.43      .17   721.50
     430.       0.     430.       0.       0.      99.       0.      21.      13.   721.40
      .47     0.00     4.35      0.00     .095     .072     .095     .069   716.50   348.00
  .009517     150.     150.     150.        1        0        0     0.00    26.00   374.00
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*SECNC 903.890
 2800 NAT Q1=      36.34  WSEL=     723.40  ENC Q1=      36.34  WSEL=     723.50  RATIO=    .0000
 NAT Q1=     38.  RATIOS LOB,CH,ROB=   .0741   .8483   .0777  WSEL=    723.50

3470 ENCROACHMENT STATIONS=      351.7      370.5  TYPE=      4  TARGET=         .040

         ** D/S FACE FOOTBRIDGE(CLLVERTS) 9030

   903.89      4.99   723.49      0.00   723.40   724.06      .57      1.55      .22   719.80
     430.       24.     330.       26.       9.      60.      10.       22.      13.    719.80
      .48      2.57     6.35      2.62     .095     .072     .095      .069   718.50   351.73
  .013983      136.     136.      136.        1        0        0      0.00    18.81   370.54


SPECIAL BRIDGE

SB  XK         XKCR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.65       2.90      50.00      6.40       0.00      19.20       0.00     718.50     718.50

*SECNC 903.920
 2800 NAT Q1=      90.10  WSEL=     724.86  ENC Q1=      93.79  WSEL=     724.96  RATIO=  -.0409
 NAT Q1=     94.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    724.96
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      330.0      374.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      725.50 ELREA=      725.50

   903.92      6.46   724.96      0.00   724.86   725.04      .09       .06       .19   723.50
     430.        0.     430.        0.        0.     184.       0.       22.       13.    723.40
      .48      0.00     2.34      0.00     .095     .072     .095      .069   718.50   330.00
  .002280       14.      14.       14.        0        0        5      0.00    44.00   374.00


*SECNC 903.930
 2800 NAT Q1=      43.02  WSEL=     725.64  ENC Q1=      44.29  WSEL=     725.74  RATIO=  -.0295
 NAT Q1=     45.  RATIOS LOB,CH,ROB=   .0210   .9780   .0010  WSEL=    725.74

3470 ENCROACHMENT STATIONS=      348.0      374.0  TYPE=      4  TARGET=         .022
   903.93      5.43   725.73      0.00   725.64   726.04      .30       .82       .17   725.30
     430.        0.     430.        0.        0.      97.       0.       22.       14.    725.20
      .49      0.00     4.42      0.00     .095     .072     .095      .069   720.30   348.00
  .009965      196.     196.      196.        2        0        0      0.00    26.00   374.00


CCHV=    .150 CEHV=    .350
*SECNC 903.940
 2800 NAT Q1=      42.89  WSEL=     725.64  ENC Q1=      44.37  WSEL=     725.74  RATIO=  -.0345
 NAT Q1=     45.  RATIOS LOB,CH,ROB=   .0216   .9775   .0010  WSEL=    725.74

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  726.30 MAX ELLC=  726.10
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3470 ENCROACHMENT STATIONS=      348.0      374.0  TYPE=      4  TARGET=          .023

         ** FOOTBRIDGE 903E

   903.94      5.44    725.74      0.00    725.64    726.04       .30       .00       .00    725.30
     430.        0.      430.        0.        0.       98.        0.       22.       14.    725.20
      .49      0.00      4.41      0.00      .095      .072      .095      .069    720.30    348.00
  .009921        1.        1.        1.         0         0         0      0.00     26.00    374.00


*SECNO 903.950
 2800 NAT Q1=      43.62  WSEL=     725.68  ENC Q1=      45.13  WSEL=     725.78  RATIO=  -.0346
 NAT Q1=     46.  RATIOS LOB,CH,ROB=   .0271    .9717    .0012  WSEL=     725.78

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  726.30 MAX ELLC=  726.10


3470 ENCROACHMENT STATIONS=      348.0      374.0  TYPE=      4  TARGET=          .028
   903.95      5.47    725.77      0.00    725.69    726.07       .30       .03       .00    725.30
     430.        0.      430.        0.        0.       98.        0.       22.       14.    725.20
      .49      0.00      4.38      0.00      .095      .072      .095      .069    720.30    348.00
  .009693        3.        3.        3.         0         0         0      0.00     26.00    374.00


*SECNO 903.960
 2800 NAT Q1=      43.94  WSEL=     725.69  ENC Q1=      45.30  WSEL=     725.79  RATIO=  -.0310
 NAT Q1=     47.  RATIOS LOB,CH,ROB=   .0285    .9703    .0012  WSEL=     725.79

3470 ENCROACHMENT STATIONS=      348.0      374.0  TYPE=      4  TARGET=          .030
   903.96      5.48    725.78      0.00    725.69    726.08       .30       .00       .00    725.30
     430.        0.      430.        0.        0.       99.        0.       22.       14.    725.20
      .49      0.00      4.36      0.00      .095      .072      .095      .069    720.30    348.00
  .009605        1.        1.        1.         0         0         0      0.00     26.00    374.00


*SECNO 904.000
 2800 NAT Q1=      67.58  WSEL=     727.36  ENC Q1=      67.58  WSEL=     727.46  RATIO=   .0000
 NAT Q1=     72.  RATIOS LOB,CH,ROB=   .1712    .8229    .0059  WSEL=     727.46
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      295.1      374.0  TYPE=      4  TARGET=          .064
   904.00      6.18    727.48      0.00    727.36    727.62       .14      1.52       .02    726.30
     430.       54.      376.        0.       54.      117.        0.       23.       14.    726.20
      .52      1.01      3.22      0.00      .095      .072      .095      .069    721.30    295.09
  .004213      250.      250.      250.         1         0         0      0.00     78.91    374.00


*SECNO 904.200
 2800 NAT Q1=      52.49  WSEL=     728.32  ENC Q1=      52.49  WSEL=     728.42  RATIO=   .0000
 NAT Q1=     56.  RATIOS LOB,CH,ROB=   .2576    .6540    .0883  WSEL=     728.42

3470 ENCROACHMENT STATIONS=      278.2      371.1  TYPE=      4  TARGET=          .068
   904.20      5.45    728.45      0.00    728.32    728.69       .24      1.03       .03    724.30
     430.      106.      299.       26.       77.       65.       13.       24.       14.    724.30
      .53      1.27      4.58      1.95      .095      .072      .095      .070    723.00    278.25
  .006467      200.      200.      200.         2         0         0      0.00     92.80    371.05
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CCHV=    .400 CEHV=    .300
*SECNO 904.480
 2800 NAT Q1=      41.19  WSEL=    729.27  ENC Q1=      41.19  WSEL=    729.37  RATIO=    .0000
 NAT Q1=     44.  RATIOS LOB,CH,ROB=   .1647   .7492   .0861  WSEL=    729.37

3470 ENCROACHMENT STATIONS=      305.4     370.6  TYPE=     4  TARGET=        .063

         ** D/S FACE FOOTBRIDGE 904A

   904.48      5.07   729.37      0.00   729.27   729.78      .41      .95      .14   725.60
     430.       62.     343.       25.      37.      61.      11.      24.      14.   725.60
      .54      1.66     5.64      2.36     .095     .072     .095     .070   724.30   305.37
  .010812      116.     116.      116.        1        0        0     0.00    65.27   370.64


SPECIAL BRIDGE

SB  XK        XKOR      COEQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.65      2.90    120.00      6.40      0.00     19.20      0.00    724.30    724.30

*SECNO 904.520
 2800 NAT Q1=      59.11  WSEL=    729.79  ENC Q1=      59.11  WSEL=    729.89  RATIO=    .0000
 NAT Q1=     63.  RATIOS LOB,CH,ROB=   .2988   .6126   .0886  WSEL=    729.89
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      270.3     371.5  TYPE=     4  TARGET=        .065
   904.52      5.59   729.89      0.00   729.79   730.08      .19      .10      .09   725.60
     430.      122.     281.       27.      94.      67.      15.      24.      14.   725.60
      .54      1.30     4.19      1.82     .095     .072     .095     .070   724.30   270.33
  .005251       14.      14.       14.        0        0        6     0.00   101.15   371.48

*SECNO 904.600
 2800 NAT Q1=      32.35  WSEL=    731.25  ENC Q1=      32.35  WSEL=    731.35  RATIO=    .0000
 NAT Q1=     35.  RATIOS LOB,CH,ROB=   .1131   .8853   .0016  WSEL=    731.35

3470 ENCROACHMENT STATIONS=      331.8     374.0  TYPE=     4  TARGET=        .082
   904.60      4.36   731.36      0.00   731.25   731.78      .42     1.51      .19   730.70
     430.       15.     415.        0.      10.      78.       0.      25.      15.   730.70
      .55      1.51     5.31      0.00     .095     .072     .095     .070   727.00   331.78
  .018193      170.     170.      170.        2        0        0     0.00    42.22   374.00


*SECNO 904.650
 2800 NAT Q1=      39.53  WSEL=    732.49  ENC Q1=      39.53  WSEL=    732.59  RATIO=    .0000
 NAT Q1=     43.  RATIOS LOB,CH,ROB=   .1728   .8243   .0029  WSEL=    732.59
   SECNO     DEPTH     CHSEL     CRITS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      311.5     374.0  TYPE=     4  TARGET=        .079
   904.65      4.63   732.63      0.00   732.49   732.91      .28     1.08      .06   731.70
     430.       49.     381.        0.      32.      85.       0.      25.      15.   731.70
      .56      1.52     4.47      0.00     .095     .072     .095     .070   728.00   311.50
  .011589       75.      75.       75.        2        0        0     0.00    62.50   374.00
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CCHV=    .150 CEHV=    .350
*SECNO 904.700
 2800 NAT Q1=      61.44  WSEL=    733.24  ENC Q1=      61.44  WSEL=    733.34  RATIO=    .0000
 NAT Q1=     66.  RATIOS LOB,CH,RCB=   .5931   .3064   .1005  WSEL=    733.34

3470 ENCROACHMENT STATIONS=      272.0     344.6  TYPE=     4  TARGET=        .070
   904.70     4.38   733.38     0.00   733.24   733.47      .09      .53      .03   730.60
     430.     258.     142.      31.     127.      44.      21.      25.      15.   731.40
      .56     2.03     3.23     1.43     .095     .072     .095     .070   729.00   272.02
  .004757      75.      75.      75.        2        0        0     0.00    72.54   344.56


*SECNO 904.750
 2800 NAT Q1=      36.20  WSEL=    733.56  ENC Q1=      36.20  WSEL=    733.66  RATIO=  0.0000
 NAT Q1=     39.  RATIOS LOB,CH,RCB=   .5844   .3626   .0530  WSEL=    733.66

3470 ENCROACHMENT STATIONS=      275.1     334.5  TYPE=     4  TARGET=        .082
   904.75     3.67   733.67     0.00   733.56   733.89      .22      .38      .04   731.60
     430.     255.     170.       5.      88.      35.       3.      26.      15.   732.40
      .57     2.88     4.80     1.63     .095     .072     .095     .070   730.00   275.12
  .013960      50.      50.      50.        2        0        0     0.00    59.34   334.46


*SECNO 904.800
 2800 NAT Q1=      30.17  WSEL=    734.36  ENC Q1=      30.17  WSEL=    734.46  RATIO=    .0000
 NAT Q1=     33.  RATIOS LOB,CH,RCB=   .5760   .3843   .0397  WSEL=    734.46

3470 ENCROACHMENT STATIONS=      275.3     332.0  TYPE=     4  TARGET=        .087
   904.80     3.48   734.48     0.00   734.36   734.74      .27      .83      .02   732.60
     430.     257.     173.       0.      79.      33.       0.      26.      15.   733.40
      .57     3.24     5.22     0.00     .095     .072     .095     .070   731.00   275.25
  .020296      50.      50.      50.        2        0        0     0.00    56.75   332.00


*SECNO 904.900
 2800 NAT Q1=      41.39  WSEL=    735.92  ENC Q1=      41.39  WSEL=    736.02  RATIO=    .0000
 NAT Q1=     45.  RATIOS LOB,CH,RCB=   .5886   .3476   .0638  WSEL=    736.02

3470 ENCROACHMENT STATIONS=      274.3     337.0  TYPE=     4  TARGET=        .078
   904.90     3.82   736.02     0.00   735.92   736.20      .18     1.45      .01   733.80
     430.     256.     163.      11.      97.      37.       7.      26.      15.   734.60
      .58     2.65     4.36     1.69     .095     .072     .095     .070   732.20   274.33
  .010810     100.     100.     100.        1        0        0     0.00    62.68   337.01


*SECNO 905.200
 2800 NAT Q1=      33.29  WSEL=    737.55  ENC Q1=      33.29  WSEL=    737.65  RATIO=    .0000
 NAT Q1=     37.  RATIOS LOB,CH,RCB=  0.0000   .8873   .1127  WSEL=    737.65
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      246.0     329.7  TYPE=     4  TARGET=        .089
   905.20     3.45   737.65     0.00   737.55   737.87      .22     1.65      .02   740.00
     430.       0.     418.      12.       0.     110.       5.      26.      15.   734.20
      .59     0.00     3.81     2.19     .095     .072     .095     .070   734.20   263.62
  .016579     125.     125.     125.        2        0        0     0.00    66.03   329.65
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CCHV=     .400 CEHV=     .800
*SECNO 904.980
 2800 NAT Q1=      30.08  WSEL=     739.85  ENC Q1=      30.94  WSEL=     739.95  RATIO=  -.0286
 NAT Q1=     31.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     739.95
3280 CROSS SECTION    904.98 EXTENDED       .06 FEET


3470 ENCROACHMENT STATIONS=      320.0      332.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      740.10 ELREA=      740.10

        ** D/S FACE LIVERNOIS ROAD

   904.98      5.66    740.06      0.00    739.85    740.69       .63      2.49       .32    736.00
     430.        0.      430.        0.        0.       68.        0.       27.       16.    736.80
      .59      0.00      6.35      0.00      .095      .072      .095      .070    734.40    320.00
  .022397      130.      130.      130.         2         0         0      0.00     12.00    332.00


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     PWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.56      2.60      0.00     12.00      0.00     60.00      0.00    734.40    734.40

*SECNO 905.020
 2800 NAT Q1=      53.49  WSEL=     741.55  ENC Q1=      54.56  WSEL=     741.65  RATIO=  -.0200
 NAT Q1=     55.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     741.65
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    905.02 EXTENDED      2.96 FEET


3470 ENCROACHMENT STATIONS=      505.0      518.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      744.40 ELREA=      743.50

   905.02      7.36    741.76      0.00    741.55    742.08       .32       .86       .12    735.40
     430.        0.      430.        0.        0.       95.        0.       27.       16.    735.40
      .60      0.00      4.54      0.00      .095      .072      .095      .070    734.40    505.00
  .008797       65.       65.       65.         0         0         0      0.00     13.00    518.00


*SECNO 905.800
 2800 NAT Q1=     247.97  WSEL=     742.07  ENC Q1=     247.97  WSEL=     742.17  RATIO=   .0000
 NAT Q1=    258.  RATIOS LOB,CH,ROB=   .3616   .3276   .3108  WSEL=     742.17
3280 CROSS SECTION    905.80 EXTENDED      3.35 FEET


3470 ENCROACHMENT STATIONS=      443.2      575.9  TYPE=      4  TARGET=         .038
   905.80      6.65    742.25      0.00    742.07    742.26       .01       .06       .12    737.60
     430.      153.      145.      131.      227.      141.      209.       27.       16.    737.50
      .62       .68      1.03       .63      .095      .078      .095      .070    735.60    443.16
  .000282       70.       70.       70.         2         0         0      0.00    132.77    575.92


CCHV=     .150 CEHV=     .350
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*SECNO 905.820
 2800 NAT Q1=     119.07  WSEL=     742.14  ENC Q1=     119.07  WSEL=     742.24  RATIO=    .0000
 NAT Q1=     126.  RATIOS LOB,CH,ROB=    .3265    .4015    .2720  WSEL=     742.24
3280 CROSS SECTION     905.82 EXTENDED       1.82 FEET


3470 ENCROACHMENT STATIONS=      450.0      571.6  TYPE=      4  TARGET=          .057
   905.82      5.12    742.32      0.00    742.14    742.35      .03       .08       .01    739.20
     430.      137.      181.      113.      131.      104.     118.       29.       16.    739.10
      .66      1.04      1.73       .95      .095      .078     .095      .070    737.20    450.03
  .001192      150.      150.      150.         2         0        0      0.00    121.62    571.65

*SECNO 905.830
 2800 NAT Q1=      46.25  WSEL=     742.48  ENC Q1=      46.25  WSEL=     742.58  RATIO=    .0000
 NAT Q1=      51.  RATIOS LOB,CH,ROB=    .2621    .5587    .1792  WSEL=     742.58
3280 CROSS SECTION     905.83 EXTENDED        .52 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      468.3      552.5  TYPE=      4  TARGET=          .086
   905.83      3.82    742.62      0.00    742.48    742.76      .14       .37       .04    740.80
     430.      104.      261.       66.       52.       73.      39.       30.       16.    740.70
      .67      2.00      3.56      1.67      .095      .078     .095      .070    738.80    468.29
  .008110      150.      150.      150.         2         0        0      0.00     84.25    552.54

*SECNO 905.850
 2800 NAT Q1=      41.17  WSEL=     743.96  ENC Q1=      41.17  WSEL=     744.06  RATIO=    .0000
 NAT Q1=      45.  RATIOS LOB,CH,ROB=    .2516    .5845    .1639  WSEL=     744.06
3280 CROSS SECTION     905.85 EXTENDED        .35 FEET


3470 ENCROACHMENT STATIONS=      470.5      548.0  TYPE=      4  TARGET=          .089
   905.85      3.65    744.05      0.00    743.96    744.24      .19      1.46       .02    742.40
     430.       97.      277.       56.       44.       69.      30.       30.       17.    742.30
      .68      2.20      4.01      1.84      .095      .078     .095      .070    740.40    470.46
  .011124      155.      155.      155.         1         0        0      0.00     77.52    547.98

*SECNO 905.860
 2800 NAT Q1=      41.83  WSEL=     745.57  ENC Q1=      41.83  WSEL=     745.67  RATIO=   0.0000
 NAT Q1=      46.  RATIOS LOB,CH,ROB=    .2530    .5810    .1659  WSEL=     745.67
3280 CROSS SECTION     905.86 EXTENDED        .38 FEET


3470 ENCROACHMENT STATIONS=      470.1      548.7  TYPE=      4  TARGET=          .088
   905.86      3.68    745.68      0.00    745.57    745.86      .18      1.62       .00    744.00
     430.       98.      274.       58.       45.       70.      32.       31.       17.    743.90
      .70      2.16      3.92      1.81      .095      .078     .095      .070    742.00    470.13
  .010449      150.      150.      150.         2         0        0      0.00     78.59    548.72
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*SECNO 905.950
 2800 NAT Q1=      76.77  WSEL=     746.50  ENC Q1=      76.77  WSEL=     746.60  RATIO=   C.0000
 NAT Q1=      84.  RATIOS LOB,CH,ROB=    .4589    .2155    .3256  WSEL=     746.60
3280 CROSS SECTION     905.95 EXTENDED        .01 FEET


3470 ENCROACHMENT STATIONS=      393.5      529.9  TYPE=      4  TARGET=          .C83
   905.95      3.C1    746.61      C.00    746.50    746.65      .04       .78       .02    744.20
     430.      196.      101.      133.      143.       47.      96.       32.       17.     744.00
      .72      1.37      2.16      1.38      .095      .078     .C95      .071    743.60    393.45
  .003C86      15C.      150.      15C.         2         0        0      0.00    136.44    529.90


*SECNC 905.960
 2800 NAT Q1=      34.82  WSEL=     747.37  ENC C1=      34.82  WSEL=     747.47  RATIO=    .0000
 NAT C1=      39.  RATIOS LOB,CH,ROB=    .4306    .2830    .2864  WSEL=     747.47

347C ENCROACHMENT STATIONS=      40C.9      510.1  TYPE=      4  TARGET=          .117
   905.96      2.27    747.47      0.00    747.37    747.6C      .14       .91       .03    745.80
     43C.      181.      138.      111.       81.       35.      43.       32.       18.     745.6C
      .74      2.24      3.97      2.56      .095      .078     .C95      .071    745.20    400.87
  .015495      155.      155.      155.         2         0        0      0.00    109.27    510.14


*SECNC 905.97C
 2800 NAT Q1=      45.46  WSEL=     749.19  ENC C1=      45.46  WSEL=     749.29  RATIO=    .0000
 NAT Q1=      51.  RATIOS LOB,CH,ROB=    .4447    .2574    .2979  WSEL=     749.29
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      398.1      515.2  TYPE=      4  TARGET=          .108
   905.97      2.50    749.30      0.00    749.19    749.39      .09       1.78      .01    747.40
     430.      189.      124.      118.      10C.       39.      57.       33.       18.     747.20
      .76      1.89      3.20      2.08      .095      .C78     .095      .071    746.80    398.06
  .008816      155.      155.      155.         2         0        0      0.00    117.10    515.15


*SECNC 905.980
 2800 NAT Q1=      41.28  WSEL=     750.71  ENC Q1=      41.28  WSEL=     750.81  RATIO=    .0000
 NAT Q1=      46.  RATIOS LOB,CH,ROB=    .4411    .2670    .2919  WSEL=     750.81

3470 ENCROACHMENT STATIONS=      398.7      513.1  TYPE=      4  TARGET=          .108
   905.98      2.40    750.8C      0.00    750.71    750.91      .10       1.52      .01    749.00
     430.      187.      129.      115.       93.       37.      51.       34.       19.     748.80
      .77      2.01      3.47      2.25      .095      .078     .095      .071    748.40    398.74
  .010906      155.      155.      155.         2         0        0      0.00    114.35    513.09


*SECNC 906.00C
 2800 NAT Q1=      42.82  WSEL=     752.34  ENC C1=      42.82  WSEL=     752.44  RATIO=    .0000
 NAT C1=      48.  RATIOS LOB,CH,ROB=    .4423    .2639    .2938  WSEL=     752.44

3470 ENCROACHMENT STATIONS=      398.0      514.3  TYPE=      4  TARGET=          .103
   906.00      2.43    752.43      0.00    752.34    752.53      .10       1.62      .00    750.60
     430.      187.      126.      116.       96.       38.      54.       34.       19.     750.4C
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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .79 | 1.96 | 3.36 | 2.17 | .095 | .078 | .095 | .071 | 750.00 | 397.99 |
| .010017 | 155. | 155. | 155. | ? | 0 | 0 | 0.00 | 116.33 | 514.32 |

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 678.30 | 0.00 | 678.50 | 100.21 | 3.62 | 124.22 | 42.96 |
| 899.000 | 0.00 | 0.00 | 0.00 | 671.20 | 430.00 | 678.30 | 0.00 | 678.51 | 103.57 | 3.64 | 118.00 | 42.25 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.25 | 0.00 | 679.77 | 253.83 | 5.82 | 73.91 | 26.99 |
| 899.100 | 65.00 | 0.00 | 0.00 | 672.50 | 430.00 | 679.27 | 0.00 | 679.78 | 249.96 | 5.78 | 74.33 | 27.20 |
| 899.130 | 5.00 | 679.10 | 677.40 | 672.50 | 430.00 | 680.63 | 0.00 | 680.75 | 48.69 | 3.06 | 237.09 | 61.62 |
| 899.130 | 5.00 | 999999.00 | 0.00 | 672.50 | 430.00 | 680.65 | 0.00 | 680.79 | 55.31 | 3.27 | 195.74 | 57.82 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.61 | 0.00 | 681.73 | 51.27 | 3.13 | 230.31 | 60.05 |
| 899.200 | 195.00 | 0.00 | 0.00 | 673.50 | 430.00 | 681.70 | 0.00 | 681.84 | 51.56 | 3.18 | 201.63 | 59.89 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.66 | 0.00 | 681.74 | 126.57 | 2.75 | 229.52 | 38.22 |
| 899.220 | .50 | 679.80 | 678.90 | 673.50 | 430.00 | 681.76 | 0.00 | 681.85 | 125.65 | 2.79 | 209.29 | 38.36 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.72 | 0.00 | 681.79 | 107.44 | 2.56 | 245.01 | 41.48 |
| 899.230 | 4.00 | 679.80 | 678.90 | 673.50 | 430.00 | 681.83 | 0.00 | 681.90 | 106.57 | 2.60 | 224.83 | 41.65 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.71 | 0.00 | 681.81 | 41.38 | 2.86 | 258.70 | 66.84 |
| 899.250 | .50 | 0.00 | 0.00 | 673.50 | 430.00 | 681.81 | 0.00 | 681.91 | 40.60 | 2.88 | 235.49 | 67.49 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 681.93 | 0.00 | 682.07 | 59.30 | 3.32 | 211.33 | 55.84 |
| 900.000 | 50.00 | 0.00 | 0.00 | 673.90 | 430.00 | 682.03 | 0.00 | 682.18 | 58.61 | 3.36 | 183.54 | 56.17 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.39 | 0.00 | 683.74 | 152.54 | 4.81 | 89.49 | 34.82 |
| 900.200 | 175.00 | 0.00 | 0.00 | 676.00 | 430.00 | 683.45 | 0.00 | 683.80 | 144.22 | 4.71 | 91.39 | 35.81 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.33 | 0.00 | 683.81 | 631.98 | 5.58 | 77.10 | 17.10 |
| 900.220 | .50 | 681.00 | 680.30 | 676.00 | 430.00 | 683.40 | 0.00 | 683.86 | 595.21 | 5.46 | 78.74 | 17.63 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.83 | 0.00 | 684.04 | 276.70 | 4.03 | 150.67 | 25.85 |
| 900.230 | 4.00 | 681.00 | 680.30 | 676.00 | 430.00 | 683.78 | 0.00 | 684.09 | 363.27 | 4.57 | 110.76 | 22.56 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.84 | 0.00 | 684.05 | 83.91 | 3.83 | 165.98 | 46.94 |
| 900.250 | .50 | 0.00 | 0.00 | 676.00 | 430.00 | 683.87 | 0.00 | 684.11 | 92.15 | 4.03 | 127.59 | 44.79 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.15 | 0.00 | 686.40 | 99.94 | 4.11 | 142.11 | 43.01 |
| 900.400 | 255.00 | 0.00 | 0.00 | 678.40 | 430.00 | 686.28 | 0.00 | 686.55 | 98.51 | 4.14 | 109.71 | 43.32 |

| SECND | XLCF | ELTRD | ELLC | EL'IN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.15 | 683.00 | 686.42 | 342.79 | 4.39 | 132.20 | 23.22 |
| 900.420 | .50 | 683.70 | 683.00 | 678.40 | 430.00 | 686.29 | 0.00 | 686.56 | 319.77 | 4.35 | 113.54 | 24.05 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.43 | 0.00 | 686.55 | 167.57 | 3.22 | 197.34 | 33.22 |
| 900.430 | 4.00 | 683.70 | 683.00 | 678.40 | 430.00 | 686.56 | 0.00 | 686.69 | 156.16 | 3.19 | 179.61 | 34.41 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.42 | 0.00 | 686.56 | 60.89 | 3.36 | 207.90 | 55.11 |
| 900.450 | .50 | 0.00 | 0.00 | 678.40 | 430.00 | 686.55 | 0.00 | 686.70 | 57.22 | 3.33 | 184.66 | 56.85 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.32 | 0.00 | 688.35 | 51.57 | 2.11 | 314.16 | 59.88 |
| 900.600 | 315.00 | 0.00 | 0.00 | 682.40 | 430.00 | 688.41 | 0.00 | 688.45 | 52.58 | 2.18 | 290.47 | 59.30 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.33 | 0.00 | 688.36 | 62.56 | 1.73 | 309.81 | 54.37 |
| 900.620 | .50 | 687.10 | 686.50 | 682.40 | 430.00 | 688.42 | 0.00 | 688.46 | 64.04 | 1.80 | 286.45 | 53.73 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 53.87 | 1.63 | 324.82 | 58.58 |
| 900.630 | 9.00 | 687.10 | 686.50 | 682.40 | 430.00 | 688.48 | 0.00 | 688.51 | 54.67 | 1.69 | 302.24 | 58.15 |
| 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.38 | 0.00 | 688.41 | 43.74 | 1.97 | 331.72 | 65.01 |
| 900.650 | .50 | 0.00 | 0.00 | 682.40 | 430.00 | 688.48 | 0.00 | 688.52 | 43.71 | 2.02 | 310.11 | 65.04 |
| 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.09 | 0.00 | 689.16 | 47.85 | 2.77 | 288.17 | 62.16 |
| 900.700 | 160.00 | 0.00 | 0.00 | 683.90 | 430.00 | 689.19 | 0.00 | 689.27 | 48.04 | 2.83 | 264.72 | 62.04 |
| 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.19 | 0.00 | 690.39 | 135.13 | 4.27 | 186.38 | 36.99 |
| 900.800 | 155.00 | 0.00 | 0.00 | 685.40 | 430.00 | 690.29 | 0.00 | 690.51 | 136.44 | 4.38 | 161.17 | 36.81 |
| 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.36 | 0.00 | 690.43 | 182.39 | 2.66 | 220.65 | 31.84 |
| 900.820 | .50 | 688.60 | 688.20 | 685.40 | 430.00 | 690.47 | 0.00 | 690.55 | 174.54 | 2.67 | 205.11 | 32.55 |
| 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.44 | 0.00 | 690.49 | 143.76 | 2.40 | 238.99 | 35.86 |
| 900.830 | 4.00 | 688.60 | 688.20 | 685.40 | 430.00 | 690.55 | 0.00 | 690.61 | 138.17 | 2.42 | 222.35 | 36.58 |
| 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.42 | 0.00 | 690.52 | 73.68 | 3.31 | 242.94 | 50.10 |
| 900.850 | .50 | 0.00 | 0.00 | 685.40 | 430.00 | 690.53 | 0.00 | 690.64 | 71.48 | 3.34 | 222.24 | 50.86 |
| 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 690.97 | 0.00 | 691.13 | 108.08 | 3.89 | 206.40 | 41.36 |
| 900.860 | 66.00 | 0.00 | 0.00 | 686.10 | 430.00 | 691.07 | 0.00 | 691.24 | 108.25 | 3.97 | 182.05 | 41.33 |
| 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.69 | 0.00 | 691.84 | 103.80 | 3.82 | 210.12 | 42.20 |
| 900.870 | 67.00 | 0.00 | 0.00 | 686.80 | 430.00 | 691.79 | 0.00 | 691.96 | 104.46 | 3.92 | 184.91 | 42.07 |
| 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.36 | 0.00 | 692.61 | 113.45 | 4.66 | 179.22 | 40.37 |
| 901.000 | 67.00 | 0.00 | 0.00 | 687.60 | 430.00 | 692.46 | 0.00 | 692.74 | 113.70 | 4.77 | 151.91 | 40.33 |
| 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.58 | 0.00 | 692.66 | 157.97 | 2.88 | 222.68 | 34.21 |
| 901.020 | .50 | 690.70 | 690.00 | 687.60 | 430.00 | 692.71 | 0.00 | 692.79 | 148.90 | 2.88 | 207.55 | 35.24 |
| 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.66 | 0.00 | 692.72 | 129.15 | 2.64 | 238.57 | 37.84 |
| 901.030 | 4.00 | 690.70 | 690.00 | 687.60 | 430.00 | 692.78 | 0.00 | 692.85 | 121.51 | 2.65 | 222.47 | 39.01 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.63 | 0.00 | 692.75 | 57.89 | 3.53 | 246.03 | 56.52 |
| 901.050 | .50 | 0.00 | 0.00 | 687.60 | 430.00 | 692.75 | 0.00 | 692.88 | 55.32 | 3.54 | 224.82 | 57.81 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.25 | 0.00 | 694.45 | 88.69 | 4.21 | 202.68 | 45.66 |
| 901.100 | 235.00 | 0.00 | 0.00 | 689.40 | 430.00 | 694.34 | 0.00 | 694.56 | 90.88 | 4.34 | 174.35 | 45.10 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.42 | 0.00 | 694.48 | 147.57 | 2.68 | 230.73 | 35.40 |
| | 901.120 | .50 | 693.50 | 692.80 | 689.40 | 430.00 | 694.53 | 0.00 | 694.60 | 143.70 | 2.72 | 213.64 | 35.87 |
| | 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.48 | 0.00 | 694.54 | 123.39 | 2.48 | 245.05 | 38.71 |
| | 901.130 | 4.00 | 693.50 | 692.80 | 689.40 | 430.00 | 694.59 | 0.00 | 694.66 | 123.39 | 2.55 | 224.80 | 38.71 |
| | 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.45 | 0.00 | 694.57 | 54.40 | 3.44 | 252.69 | 58.30 |
| | 901.150 | .50 | 0.00 | 0.00 | 689.40 | 430.00 | 694.56 | 0.00 | 694.69 | 53.51 | 3.49 | 228.91 | 58.78 |
| | 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.54 | 0.00 | 695.80 | 120.22 | 4.77 | 173.83 | 39.22 |
| | 901.170 | 150.00 | 0.00 | 0.00 | 690.80 | 430.00 | 695.63 | 0.00 | 695.92 | 121.14 | 4.90 | 145.99 | 39.07 |
| | 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.15 | 0.00 | 697.34 | 90.59 | 4.25 | 200.62 | 45.18 |
| | 901.200 | 145.00 | 0.00 | 0.00 | 692.30 | 430.00 | 697.25 | 0.00 | 697.47 | 89.78 | 4.33 | 174.62 | 45.38 |
| | 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.27 | 0.00 | 697.39 | 262.75 | 3.50 | 187.22 | 26.53 |
| | 901.220 | .50 | 696.70 | 696.10 | 692.30 | 430.00 | 697.39 | 0.00 | 697.52 | 251.47 | 3.52 | 171.62 | 27.12 |
| | 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.42 | 0.00 | 697.49 | 157.39 | 2.81 | 224.78 | 34.28 |
| | 901.230 | 4.00 | 696.70 | 696.10 | 692.30 | 430.00 | 697.54 | 0.00 | 697.62 | 147.94 | 2.80 | 211.49 | 35.35 |
| | 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.42 | 0.00 | 697.52 | 45.80 | 3.21 | 271.64 | 63.54 |
| | 901.250 | .50 | 0.00 | 0.00 | 692.30 | 430.00 | 697.54 | 0.00 | 697.64 | 43.65 | 3.20 | 253.29 | 65.08 |
| | 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.61 | 0.00 | 697.77 | 77.79 | 3.99 | 215.60 | 48.75 |
| | 901.260 | 33.00 | 0.00 | 0.00 | 692.70 | 430.00 | 697.72 | 0.00 | 697.90 | 76.69 | 4.05 | 190.67 | 49.10 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 697.90 | 0.00 | 698.12 | 103.41 | 4.49 | 187.93 | 42.28 |
| | 901.270 | 33.00 | 0.00 | 0.00 | 693.10 | 430.00 | 698.00 | 0.00 | 698.25 | 101.64 | 4.56 | 162.39 | 42.65 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.28 | 698.18 | 698.59 | 140.05 | 5.08 | 159.83 | 36.33 |
| | 901.280 | 33.00 | 0.00 | 0.00 | 693.60 | 430.00 | 698.38 | 0.00 | 698.73 | 139.40 | 5.19 | 132.21 | 36.42 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.80 | 0.00 | 699.02 | 101.06 | 4.44 | 190.12 | 42.77 |
| | 901.290 | 32.00 | 0.00 | 0.00 | 694.00 | 430.00 | 698.92 | 0.00 | 699.16 | 97.51 | 4.47 | 167.42 | 43.55 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.14 | 0.00 | 699.40 | 118.47 | 4.74 | 175.19 | 39.51 |
| | 901.300 | 32.00 | 0.00 | 0.00 | 694.40 | 430.00 | 699.26 | 0.00 | 699.54 | 115.52 | 4.81 | 149.72 | 40.01 |
| * | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.66 | 699.66 | 699.99 | 150.66 | 5.24 | 153.22 | 35.03 |
| | 901.310 | 32.00 | 0.00 | 0.00 | 695.00 | 430.00 | 699.69 | 699.63 | 700.12 | 172.42 | 5.65 | 116.11 | 32.75 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.08 | 0.00 | 700.14 | 104.59 | 2.56 | 252.02 | 42.05 |
| | 901.320 | .50 | 697.60 | 697.20 | 695.00 | 430.00 | 700.25 | 0.00 | 700.31 | 87.63 | 2.43 | 246.68 | 45.93 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.13 | 0.00 | 700.18 | 90.38 | 2.41 | 264.99 | 45.23 |
| | 901.330 | 4.00 | 697.60 | 697.20 | 695.00 | 430.00 | 700.29 | 0.00 | 700.34 | 79.44 | 2.33 | 256.57 | 48.24 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.13 | 0.00 | 700.22 | 45.34 | 3.19 | 272.76 | 63.86 |
| | 901.350 | .50 | 0.00 | 0.00 | 695.00 | 430.00 | 700.29 | 0.00 | 700.38 | 39.82 | 3.09 | 262.16 | 68.15 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.20 | 0.00 | 700.30 | 49.21 | 3.30 | 263.63 | 61.30 |
| | 901.400 | 15.00 | 0.00 | 0.00 | 695.10 | 430.00 | 700.35 | 0.00 | 700.45 | 44.43 | 3.24 | 248.43 | 64.51 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.29 | 0.00 | 700.33 | 84.67 | 2.22 | 274.84 | 46.73 |
| | 901.420 | .50 | 698.20 | 697.50 | 695.10 | 430.00 | 700.44 | 0.00 | 700.49 | 74.47 | 2.15 | 266.77 | 49.83 |

| SECNO | XLCH | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.33 | 0.00 | 700.37 | 78.94 | 2.15 | 281.28 | 48.40 |
| 901.430 | 4.00 | 698.20 | 697.50 | 695.10 | 430.00 | 700.47 | 0.00 | 700.52 | 71.35 | 2.12 | 269.22 | 50.90 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.32 | 0.00 | 700.40 | 36.77 | 2.93 | 297.00 | 70.91 |
| 901.450 | .50 | 0.00 | 0.00 | 695.10 | 430.00 | 700.47 | 0.00 | 700.55 | 33.46 | 2.88 | 283.28 | 74.34 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.68 | 0.00 | 700.74 | 34.20 | 2.79 | 262.77 | 73.53 |
| 901.500 | 95.00 | 0.00 | 0.00 | 695.60 | 430.00 | 700.80 | 0.00 | 700.87 | 33.40 | 2.82 | 245.16 | 74.40 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.70 | 0.00 | 700.75 | 51.76 | 2.35 | 249.19 | 59.77 |
| 901.520 | .50 | 698.50 | 697.60 | 695.60 | 430.00 | 700.82 | 0.00 | 700.88 | 51.32 | 2.41 | 231.71 | 60.02 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.72 | 0.00 | 700.77 | 49.31 | 2.31 | 253.24 | 61.23 |
| 901.530 | 4.00 | 698.50 | 697.60 | 695.60 | 430.00 | 700.84 | 0.00 | 700.90 | 48.68 | 2.36 | 236.74 | 61.63 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.73 | 0.00 | 700.79 | 31.80 | 2.72 | 269.67 | 76.25 |
| 901.550 | .50 | 0.00 | 0.00 | 695.60 | 430.00 | 700.84 | 0.00 | 700.91 | 31.15 | 2.75 | 252.31 | 77.05 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.17 | 0.00 | 701.25 | 40.86 | 2.98 | 246.60 | 67.27 |
| 901.600 | 125.00 | 0.00 | 0.00 | 696.20 | 430.00 | 701.28 | 0.00 | 701.36 | 39.89 | 3.01 | 230.91 | 68.09 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.21 | 0.00 | 701.26 | 66.90 | 2.02 | 239.09 | 52.57 |
| 901.620 | .50 | 699.10 | 698.40 | 696.20 | 430.00 | 701.31 | 0.00 | 701.37 | 66.69 | 2.07 | 223.87 | 52.65 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.24 | 0.00 | 701.29 | 64.22 | 1.99 | 242.29 | 53.66 |
| 901.630 | 4.00 | 699.10 | 698.40 | 696.20 | 430.00 | 701.34 | 0.00 | 701.40 | 64.41 | 2.05 | 225.71 | 53.58 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.24 | 0.00 | 701.30 | 36.56 | 2.86 | 256.58 | 71.12 |
| 901.650 | .50 | 0.00 | 0.00 | 696.20 | 430.00 | 701.34 | 0.00 | 701.42 | 36.28 | 2.91 | 238.05 | 71.39 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.39 | 0.00 | 702.62 | 157.64 | 4.99 | 151.12 | 34.25 |
| 901.800 | 175.00 | 0.00 | 0.00 | 698.10 | 430.00 | 702.48 | 0.00 | 702.75 | 158.68 | 5.14 | 130.58 | 34.14 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.53 | 0.00 | 704.68 | 92.17 | 4.06 | 184.47 | 44.79 |
| 902.200 | 170.00 | 0.00 | 0.00 | 700.00 | 430.00 | 704.64 | 0.00 | 704.80 | 90.13 | 4.13 | 167.71 | 45.29 |
| 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.54 | 0.00 | 704.74 | 650.04 | 4.46 | 126.82 | 16.87 |
| 902.220 | .50 | 704.00 | 703.30 | 700.00 | 430.00 | 704.64 | 0.00 | 704.91 | 705.09 | 4.80 | 106.01 | 16.19 |
| 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 704.84 | 0.00 | 704.95 | 265.22 | 3.12 | 169.20 | 26.40 |
| 902.230 | 4.00 | 704.00 | 703.30 | 700.00 | 430.00 | 705.01 | 0.00 | 705.14 | 243.36 | 3.13 | 152.96 | 27.56 |
| 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 704.89 | 0.00 | 704.97 | 47.12 | 3.15 | 234.38 | 62.64 |
| 902.250 | .50 | 0.00 | 0.00 | 700.00 | 430.00 | 705.08 | 0.00 | 705.16 | 40.17 | 3.03 | 228.56 | 67.84 |
| 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.49 | 0.00 | 707.23 | 216.30 | 6.86 | 62.67 | 29.24 |
| 901.980 | 198.00 | 0.00 | 0.00 | 702.30 | 430.00 | 706.55 | 0.00 | 707.26 | 233.20 | 6.79 | 63.37 | 28.16 |
| 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.33 | 0.00 | 707.98 | 169.67 | 10.30 | 41.75 | 33.01 |
| 901.990 | 1.00 | 710.00 | 709.30 | 702.30 | 430.00 | 706.39 | 0.00 | 707.99 | 163.03 | 10.15 | 42.36 | 33.68 |
| 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.97 | 0.00 | 708.80 | 67.27 | 7.31 | 58.85 | 52.43 |
| 902.010 | 49.00 | 710.00 | 709.30 | 702.30 | 430.00 | 707.95 | 0.00 | 708.79 | 67.82 | 7.33 | 58.67 | 52.22 |
| 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.70 | 0.00 | 709.01 | 57.82 | 4.49 | 95.82 | 56.55 |
| 902.020 | 1.00 | 0.00 | 0.00 | 702.30 | 430.00 | 708.69 | 0.00 | 709.00 | 74.08 | 4.50 | 95.62 | 49.96 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRITWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.26 | 0.00 | 709.31 | 11.37 | 2.19 | 327.74 | 127.54 |
| 902.800 | 85.00 | 0.00 | 0.00 | 702.10 | 430.00 | 709.27 | 0.00 | 709.32 | 12.33 | 2.28 | 283.26 | 122.47 |
| 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.43 | 0.00 | 709.55 | 51.05 | 3.97 | 226.64 | 60.18 |
| 902.980 | 86.00 | 0.00 | 0.00 | 703.90 | 430.00 | 709.45 | 0.00 | 709.59 | 57.32 | 4.22 | 191.94 | 56.80 |
| 903.020 | 24.00 | 708.20 | 706.90 | 703.90 | 430.00 | 709.74 | 0.00 | 709.75 | 3.99 | 1.46 | 579.98 | 215.21 |
| 903.020 | 24.00 | 999999.00 | 0.00 | 703.90 | 430.00 | 709.75 | 0.00 | 709.77 | 4.29 | 1.52 | 551.10 | 207.57 |
| 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.80 | 0.00 | 709.82 | 14.67 | 1.79 | 381.02 | 112.26 |
| 903.100 | 91.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.82 | 0.00 | 709.85 | 16.13 | 1.89 | 346.79 | 107.05 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.79 | 0.00 | 709.85 | 83.39 | 2.48 | 295.61 | 47.09 |
| 903.120 | .50 | 708.30 | 707.40 | 705.20 | 430.00 | 709.80 | 0.00 | 709.92 | 138.51 | 3.21 | 187.13 | 36.54 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.83 | 0.00 | 709.88 | 80.07 | 2.45 | 299.68 | 48.06 |
| 903.130 | 4.00 | 708.30 | 707.40 | 705.20 | 430.00 | 709.86 | 0.00 | 709.97 | 132.02 | 3.17 | 189.55 | 37.42 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.87 | 0.00 | 709.89 | 13.31 | 1.73 | 393.38 | 117.87 |
| 903.150 | .50 | 0.00 | 0.00 | 705.20 | 430.00 | 709.98 | 0.00 | 710.01 | 13.06 | 1.75 | 373.03 | 119.01 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 709.97 | 0.00 | 710.00 | 14.07 | 2.17 | 389.06 | 114.63 |
| 903.280 | 79.00 | 0.00 | 0.00 | 705.20 | 430.00 | 710.09 | 0.00 | 710.12 | 13.94 | 2.20 | 369.45 | 115.19 |
| 903.320 | 15.00 | 709.80 | 708.80 | 705.20 | 430.00 | 710.55 | 0.00 | 710.57 | 6.81 | 1.64 | 494.02 | 164.76 |
| 903.320 | 15.00 | 999999.00 | 0.00 | 705.20 | 430.00 | 710.67 | 0.00 | 710.68 | 6.69 | 1.64 | 480.12 | 166.19 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.60 | 0.00 | 710.63 | 15.42 | 2.25 | 377.28 | 109.50 |
| 903.400 | 50.00 | 0.00 | 0.00 | 705.90 | 430.00 | 710.71 | 0.00 | 710.74 | 15.06 | 2.26 | 360.59 | 110.79 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.72 | 0.00 | 710.81 | 46.40 | 3.52 | 256.31 | 63.13 |
| 903.480 | 55.00 | 0.00 | 0.00 | 706.70 | 430.00 | 710.83 | 0.00 | 710.92 | 45.90 | 3.57 | 232.81 | 63.47 |
| 903.520 | 15.00 | 711.50 | 710.50 | 706.70 | 430.00 | 712.24 | 0.00 | 712.25 | 5.57 | 1.51 | 527.37 | 182.27 |
| 903.520 | 15.00 | 999999.00 | 0.00 | 706.70 | 430.00 | 712.35 | 0.00 | 712.36 | 5.50 | 1.52 | 513.11 | 183.35 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.47 | 0.00 | 712.62 | 96.30 | 3.73 | 190.15 | 43.82 |
| 903.800 | 180.00 | 0.00 | 0.00 | 708.80 | 430.00 | 712.58 | 0.00 | 712.74 | 97.53 | 3.79 | 148.65 | 43.54 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 712.97 | 0.00 | 713.01 | 21.28 | 2.10 | 330.74 | 93.22 |
| 903.810 | 95.00 | 0.00 | 0.00 | 708.50 | 430.00 | 713.09 | 0.00 | 713.13 | 20.79 | 2.13 | 301.13 | 94.30 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 712.98 | 0.00 | 713.01 | 41.11 | 1.57 | 303.62 | 67.07 |
| 903.600 | .50 | 710.40 | 708.90 | 708.50 | 430.00 | 713.10 | 0.00 | 713.13 | 40.55 | 1.61 | 278.49 | 67.52 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.00 | 0.00 | 713.03 | 39.60 | 1.55 | 307.14 | 68.33 |
| 903.650 | 4.00 | 710.40 | 708.90 | 708.50 | 430.00 | 713.11 | 0.00 | 713.15 | 38.77 | 1.59 | 283.42 | 69.06 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 712.99 | 0.00 | 713.03 | 20.18 | 2.06 | 336.80 | 95.73 |
| 903.820 | .50 | 0.00 | 0.00 | 708.50 | 430.00 | 713.11 | 0.00 | 713.15 | 19.63 | 2.08 | 310.43 | 97.05 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.17 | 0.00 | 713.27 | 62.53 | 3.16 | 225.05 | 54.38 |
| 903.830 | 66.00 | 0.00 | 0.00 | 709.30 | 430.00 | 713.28 | 0.00 | 713.39 | 63.44 | 3.19 | 184.05 | 53.99 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.68 | 0.00 | 713.86 | 118.30 | 4.04 | 174.40 | 39.53 |
| 903.840 | 67.00 | 0.00 | 0.00 | 710.10 | 430.00 | 713.79 | 0.00 | 713.99 | 117.32 | 4.08 | 135.33 | 39.70 |

| SECNO | XLCH | ELTRD | ELLC | ELV IN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.52 | 0.00 | 714.72 | 136.94 | 4.27 | 162.58 | 36.74 |
| 903.850 | 67.00 | 0.00 | 0.00 | 711.00 | 430.00 | 714.62 | 0.00 | 714.85 | 138.27 | 4.34 | 125.30 | 36.57 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.73 | 0.00 | 716.86 | 85.00 | 3.56 | 199.88 | 46.64 |
| 903.860 | 200.00 | 0.00 | 0.00 | 713.00 | 430.00 | 716.84 | 0.00 | 716.99 | 84.14 | 3.57 | 159.70 | 46.88 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.90 | 0.00 | 719.65 | 353.99 | 6.95 | 61.85 | 22.85 |
| 903.870 | 150.00 | 0.00 | 0.00 | 714.90 | 430.00 | 718.97 | 0.00 | 719.69 | 334.57 | 6.81 | 63.14 | 23.51 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.94 | 0.00 | 722.22 | 89.86 | 4.31 | 114.44 | 45.36 |
| 903.880 | 150.00 | 0.00 | 0.00 | 716.50 | 430.00 | 721.99 | 0.00 | 722.29 | 95.17 | 4.35 | 98.88 | 44.08 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.40 | 0.00 | 723.93 | 140.00 | 6.27 | 83.41 | 36.34 |
| 903.890 | 136.00 | 0.00 | 0.00 | 718.50 | 430.00 | 723.49 | 0.00 | 724.06 | 139.83 | 6.35 | 79.02 | 36.36 |
| 903.920 | 14.00 | 723.40 | 721.50 | 718.50 | 430.00 | 724.86 | 0.00 | 724.95 | 22.77 | 2.40 | 179.45 | 90.10 |
| 903.920 | 14.00 | 999999.00 | 0.00 | 718.50 | 430.00 | 724.96 | 0.00 | 725.04 | 22.80 | 2.34 | 183.64 | 90.05 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.64 | 0.00 | 725.94 | 99.90 | 4.47 | 105.59 | 43.02 |
| 903.930 | 196.00 | 0.00 | 0.00 | 720.30 | 430.00 | 725.73 | 0.00 | 726.04 | 99.65 | 4.42 | 97.38 | 43.07 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.64 | 0.00 | 725.95 | 100.52 | 4.47 | 105.11 | 42.89 |
| 903.940 | .50 | 726.30 | 726.10 | 720.30 | 430.00 | 725.74 | 0.00 | 726.04 | 99.21 | 4.41 | 97.52 | 43.17 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.68 | 0.00 | 725.98 | 97.18 | 4.42 | 107.82 | 43.62 |
| 903.950 | 3.00 | 726.30 | 726.10 | 720.30 | 430.00 | 725.77 | 0.00 | 726.07 | 96.93 | 4.38 | 98.28 | 43.68 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.69 | 0.00 | 725.99 | 95.78 | 4.40 | 109.03 | 43.94 |
| 903.960 | .50 | 0.00 | 0.00 | 720.30 | 430.00 | 725.78 | 0.00 | 726.08 | 96.05 | 4.36 | 98.58 | 43.88 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.36 | 0.00 | 727.50 | 40.48 | 3.20 | 194.38 | 67.58 |
| 904.000 | 250.00 | 0.00 | 0.00 | 721.30 | 430.00 | 727.48 | 0.00 | 727.62 | 42.13 | 3.22 | 170.13 | 66.25 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.32 | 0.00 | 728.56 | 67.10 | 4.59 | 163.96 | 52.49 |
| 904.200 | 200.00 | 0.00 | 0.00 | 723.00 | 430.00 | 728.45 | 0.00 | 728.69 | 64.67 | 4.58 | 155.28 | 53.47 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.27 | 0.00 | 729.66 | 108.96 | 5.59 | 119.38 | 41.19 |
| 904.480 | 116.00 | 0.00 | 0.00 | 724.30 | 430.00 | 729.37 | 0.00 | 729.78 | 108.12 | 5.64 | 108.57 | 41.35 |
| 904.520 | 14.00 | 729.00 | 727.30 | 724.30 | 430.00 | 729.79 | 0.00 | 729.97 | 52.91 | 4.16 | 187.18 | 59.11 |
| 904.520 | 14.00 | 999999.00 | 0.00 | 724.30 | 430.00 | 729.89 | 0.00 | 730.08 | 52.51 | 4.19 | 175.95 | 59.34 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.25 | 0.00 | 731.64 | 176.69 | 5.20 | 107.42 | 32.35 |
| 904.600 | 170.00 | 0.00 | 0.00 | 727.00 | 430.00 | 731.36 | 0.00 | 731.78 | 181.93 | 5.31 | 88.30 | 31.88 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.49 | 0.00 | 732.76 | 118.32 | 4.48 | 132.71 | 39.53 |
| 904.650 | 75.00 | 0.00 | 0.00 | 728.00 | 430.00 | 732.63 | 0.00 | 732.91 | 115.89 | 4.47 | 117.37 | 39.94 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.24 | 0.00 | 733.33 | 48.99 | 3.19 | 214.89 | 61.44 |
| 904.700 | 75.00 | 0.00 | 0.00 | 729.00 | 430.00 | 733.38 | 0.00 | 733.47 | 47.57 | 3.23 | 192.14 | 62.34 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.56 | 0.00 | 733.75 | 141.06 | 4.70 | 143.03 | 36.20 |
| 904.750 | 50.00 | 0.00 | 0.00 | 730.00 | 430.00 | 733.67 | 0.00 | 733.89 | 139.60 | 4.80 | 126.96 | 36.39 |
| 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.36 | 0.00 | 734.62 | 203.13 | 5.37 | 124.40 | 30.17 |
| 904.800 | 50.00 | 0.00 | 0.00 | 731.00 | 430.00 | 734.48 | 0.00 | 734.74 | 202.96 | 5.22 | 112.50 | 30.18 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 735.92 | 0.00 | 736.07 | 107.92 | 4.26 | 158.51 | 41.39 |
| 904.900 | 100.00 | 0.00 | 0.00 | 732.20 | 430.00 | 736.02 | 0.00 | 736.20 | 108.10 | 4.36 | 140.54 | 41.36 |
| 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.55 | 0.00 | 737.75 | 166.85 | 3.70 | 123.63 | 33.29 |
| 905.200 | 125.00 | 0.00 | 0.00 | 734.20 | 430.00 | 737.65 | 0.00 | 737.87 | 165.79 | 3.81 | 115.15 | 33.40 |
| 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 739.85 | 0.00 | 740.52 | 204.36 | 6.60 | 65.11 | 30.08 |
| 904.980 | 130.00 | 0.00 | 0.00 | 734.40 | 430.00 | 740.06 | 0.00 | 740.69 | 223.97 | 6.35 | 67.73 | 28.73 |
| 905.020 | 65.00 | 743.50 | 738.00 | 734.40 | 430.00 | 741.55 | 0.00 | 741.89 | 64.62 | 4.68 | 91.95 | 53.49 |
| 905.020 | 65.00 | 999999.00 | 0.00 | 734.40 | 430.00 | 741.76 | 0.00 | 742.08 | 87.97 | 4.54 | 94.73 | 45.85 |
| 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.07 | 0.00 | 742.08 | 3.01 | 1.04 | 582.72 | 247.97 |
| 905.800 | 70.00 | 0.00 | 0.00 | 735.60 | 430.00 | 742.25 | 0.00 | 742.26 | 2.82 | 1.03 | 577.10 | 256.00 |
| 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.14 | 0.00 | 742.17 | 13.04 | 1.76 | 361.08 | 119.07 |
| 905.820 | 150.00 | 0.00 | 0.00 | 737.20 | 430.00 | 742.32 | 0.00 | 742.35 | 11.92 | 1.73 | 353.87 | 124.53 |
| 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.48 | 0.00 | 742.61 | 86.44 | 3.57 | 184.14 | 46.25 |
| 905.830 | 150.00 | 0.00 | 0.00 | 738.80 | 430.00 | 742.62 | 0.00 | 742.76 | 81.10 | 3.56 | 164.18 | 47.75 |
| 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 743.96 | 0.00 | 744.12 | 109.07 | 3.90 | 167.88 | 41.17 |
| 905.850 | 155.00 | 0.00 | 0.00 | 740.40 | 430.00 | 744.05 | 0.00 | 744.24 | 111.24 | 4.01 | 143.35 | 40.77 |
| 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.57 | 0.00 | 745.73 | 105.67 | 3.85 | 170.09 | 41.83 |
| 905.860 | 150.00 | 0.00 | 0.00 | 742.00 | 430.00 | 745.68 | 0.00 | 745.86 | 104.49 | 3.92 | 147.12 | 42.07 |
| 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.50 | 0.00 | 746.54 | 31.37 | 2.12 | 316.81 | 76.77 |
| 905.950 | 150.00 | 0.00 | 0.00 | 743.60 | 430.00 | 746.61 | 0.00 | 746.65 | 30.86 | 2.16 | 286.53 | 77.40 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.37 | 0.00 | 747.48 | 152.51 | 3.82 | 182.27 | 34.82 |
| 905.960 | 155.00 | 0.00 | 0.00 | 745.20 | 430.00 | 747.47 | 0.00 | 747.60 | 154.95 | 3.97 | 158.93 | 34.54 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.19 | 0.00 | 749.27 | 89.46 | 3.13 | 220.80 | 45.46 |
| 905.970 | 155.00 | 0.00 | 0.00 | 746.80 | 430.00 | 749.30 | 0.00 | 749.39 | 88.16 | 3.20 | 195.22 | 45.80 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.71 | 0.00 | 750.80 | 108.50 | 3.37 | 206.01 | 41.28 |
| 905.980 | 155.00 | 0.00 | 0.00 | 748.40 | 430.00 | 750.80 | 0.00 | 750.91 | 109.06 | 3.47 | 180.85 | 41.17 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.34 | 0.00 | 752.42 | 100.86 | 3.27 | 211.49 | 42.82 |
| 906.000 | 155.00 | 0.00 | 0.00 | 750.00 | 430.00 | 752.43 | 0.00 | 752.53 | 100.17 | 3.36 | 187.02 | 42.96 |

GIBSON-RENSHAW DRAIN-WES

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 899.000 | 430.00 | 678.30 | 0.00 | 0.00 | -.50 | 82.75 | 0.00 |
| 899.000 | 430.00 | 678.30 | 0.00 | 0.00 | .00 | 40.00 | 0.00 |
| 899.100 | 430.00 | 679.25 | 0.00 | .95 | 0.00 | 23.10 | 65.00 |
| 899.100 | 430.00 | 679.27 | 0.00 | .97 | .02 | 23.17 | 65.00 |
| 899.130 | 430.00 | 680.63 | 0.00 | 1.38 | 0.00 | 252.33 | 5.00 |
| 899.130 | 430.00 | 680.65 | 0.00 | 1.38 | .02 | 166.08 | 5.00 |
| 899.200 | 430.00 | 681.61 | 0.00 | .97 | 0.00 | 251.71 | 195.00 |
| 899.200 | 430.00 | 681.70 | 0.00 | 1.05 | .10 | 161.88 | 195.00 |
| 899.220 | 430.00 | 681.66 | 0.00 | .05 | 0.00 | 252.96 | .50 |
| 899.220 | 430.00 | 681.76 | 0.00 | .06 | .10 | 179.36 | .50 |
| 899.230 | 430.00 | 681.72 | 0.00 | .06 | 0.00 | 254.37 | 4.00 |
| 899.230 | 430.00 | 681.83 | 0.00 | .06 | .10 | 185.15 | 4.00 |
| 899.250 | 430.00 | 681.71 | 0.00 | -.01 | 0.00 | 254.30 | .50 |
| 899.250 | 430.00 | 681.81 | 0.00 | -.01 | .10 | 181.04 | .50 |
| 900.000 | 430.00 | 681.93 | 0.00 | .22 | 0.00 | 249.96 | 50.00 |
| 900.000 | 430.00 | 682.03 | 0.00 | .21 | .10 | 148.43 | 50.00 |
| 900.200 | 430.00 | 683.39 | 0.00 | 1.46 | 0.00 | 25.57 | 175.00 |
| 900.200 | 430.00 | 683.45 | 0.00 | 1.42 | .07 | 25.85 | 175.00 |
| 900.220 | 430.00 | 683.33 | 0.00 | -.05 | 0.00 | 25.35 | .50 |
| 900.220 | 430.00 | 683.40 | 0.00 | -.05 | .07 | 25.61 | .50 |
| 900.230 | 430.00 | 683.83 | 0.00 | .49 | 0.00 | 245.35 | 4.00 |
| 900.230 | 430.00 | 683.78 | 0.00 | .38 | -.05 | 115.53 | 4.00 |
| 900.250 | 430.00 | 683.84 | 0.00 | .02 | 0.00 | 245.73 | .50 |
| 900.250 | 430.00 | 683.87 | 0.00 | .09 | .02 | 99.27 | .50 |
| 900.400 | 430.00 | 686.15 | 0.00 | 2.31 | 0.00 | 243.48 | 255.00 |
| 900.400 | 430.00 | 686.28 | 0.00 | 2.42 | .13 | 45.00 | 255.00 |
| 900.420 | 430.00 | 686.15 | 0.00 | -.00 | 0.00 | 243.60 | .50 |
| 900.420 | 430.00 | 686.29 | 0.00 | .00 | .14 | 84.32 | .50 |
| 900.430 | 430.00 | 686.43 | 0.00 | .28 | 0.00 | 249.70 | 4.00 |
| 900.430 | 430.00 | 686.56 | 0.00 | .27 | .13 | 154.97 | 4.00 |
| 900.450 | 430.00 | 686.42 | 0.00 | -.01 | 0.00 | 249.65 | .50 |
| 900.450 | 430.00 | 686.55 | 0.00 | -.01 | .13 | 144.94 | .50 |
| 900.600 | 430.00 | 688.32 | 0.00 | 1.90 | 0.00 | 260.36 | 315.00 |
| 900.600 | 430.00 | 688.41 | 0.00 | 1.86 | .10 | 208.85 | 315.00 |
| 900.620 | 430.00 | 688.33 | 0.00 | .01 | 0.00 | 260.40 | .50 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 900.620 | 430.00 | 688.42 | 0.00 | .01 | .10 | 208.27 | .50 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 900.630 | 430.00 | 688.38 | 0.00 | .06 | 0.00 | 261.55 | 9.00 |
| 900.630 | 430.00 | 688.48 | 0.00 | .06 | .10 | 211.12 | 9.00 |
| 900.650 | 430.00 | 688.38 | 0.00 | .00 | 0.00 | 261.70 | .50 |
| 900.650 | 430.00 | 688.48 | 0.00 | .00 | .10 | 212.23 | .50 |
| 900.700 | 430.00 | 689.09 | 0.00 | .71 | 0.00 | 254.43 | 160.00 |
| 900.700 | 430.00 | 689.19 | 0.00 | .71 | .10 | 199.64 | 160.00 |
| 900.800 | 430.00 | 690.19 | 0.00 | 1.09 | 0.00 | 247.89 | 155.00 |
| 900.800 | 430.00 | 690.29 | 0.00 | 1.09 | .10 | 163.45 | 155.00 |
| 900.820 | 430.00 | 690.36 | 0.00 | .17 | 0.00 | 250.56 | .50 |
| 900.820 | 430.00 | 690.47 | 0.00 | .19 | .12 | 188.84 | .50 |
| 900.830 | 430.00 | 690.44 | 0.00 | .08 | 0.00 | 251.74 | 4.00 |
| 900.830 | 430.00 | 690.55 | 0.00 | .08 | .11 | 191.52 | 4.00 |
| 900.850 | 430.00 | 690.42 | 0.00 | -.02 | 0.00 | 251.55 | .50 |
| 900.850 | 430.00 | 690.53 | 0.00 | -.02 | .11 | 187.98 | .50 |
| 900.860 | 430.00 | 690.97 | 0.00 | .56 | 0.00 | 249.19 | 66.00 |
| 900.860 | 430.00 | 691.07 | 0.00 | .54 | .10 | 173.33 | 66.00 |
| 900.870 | 430.00 | 691.69 | 0.00 | .72 | 0.00 | 249.43 | 67.00 |
| 900.870 | 430.00 | 691.79 | 0.00 | .72 | .10 | 173.55 | 67.00 |
| 901.000 | 430.00 | 692.36 | 0.00 | .67 | 0.00 | 247.43 | 67.00 |
| 901.000 | 430.00 | 692.46 | 0.00 | .67 | .10 | 155.16 | 67.00 |
| 901.020 | 430.00 | 692.58 | 0.00 | .22 | 0.00 | 251.03 | .50 |
| 901.020 | 430.00 | 692.71 | 0.00 | .25 | .13 | 190.43 | .50 |
| 901.030 | 430.00 | 692.66 | 0.00 | .07 | 0.00 | 252.05 | 4.00 |
| 901.030 | 430.00 | 692.78 | 0.00 | .07 | .12 | 191.46 | 4.00 |
| 901.050 | 430.00 | 692.63 | 0.00 | -.03 | 0.00 | 251.74 | .50 |
| 901.050 | 430.00 | 692.75 | 0.00 | -.03 | .12 | 186.48 | .50 |
| 901.100 | 430.00 | 694.25 | 0.00 | 1.63 | 0.00 | 248.95 | 235.00 |
| 901.100 | 430.00 | 694.34 | 0.00 | 1.59 | .09 | 168.98 | 235.00 |
| 901.120 | 430.00 | 694.42 | 0.00 | .16 | 0.00 | 251.55 | .50 |
| 901.120 | 430.00 | 694.53 | 0.00 | .18 | .11 | 192.95 | .50 |
| 901.130 | 430.00 | 694.48 | 0.00 | .07 | 0.00 | 252.47 | 4.00 |
| 901.130 | 430.00 | 694.59 | 0.00 | .06 | .11 | 193.47 | 4.00 |
| 901.150 | 430.00 | 694.45 | 0.00 | -.03 | 0.00 | 252.17 | .50 |
| 901.150 | 430.00 | 694.56 | 0.00 | -.03 | .11 | 188.55 | .50 |
| 901.170 | 430.00 | 695.54 | 0.00 | 1.06 | 0.00 | 247.08 | 150.00 |
| 901.170 | 430.00 | 695.63 | 0.00 | 1.06 | .09 | 151.55 | 150.00 |
| 901.200 | 430.00 | 697.15 | 0.00 | 1.61 | 0.00 | 248.82 | 145.00 |
| 901.200 | 430.00 | 697.25 | 0.00 | 1.63 | .10 | 167.19 | 145.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 901.220 | 430.00 | 697.27 | 0.00 | .13 | 0.00 | 250.84 | .50 |
| | 901.220 | 430.00 | 697.39 | 0.00 | .14 | .12 | 181.19 | .50 |
| | 901.230 | 430.00 | 697.42 | 0.00 | .15 | 0.00 | 253.25 | 4.00 |
| | 901.230 | 430.00 | 697.54 | 0.00 | .15 | .12 | 195.64 | 4.00 |
| | 901.250 | 430.00 | 697.42 | 0.00 | .00 | 0.00 | 253.38 | .50 |
| | 901.250 | 430.00 | 697.54 | 0.00 | .00 | .12 | 197.70 | .50 |
| | 901.260 | 430.00 | 697.61 | 0.00 | .19 | 0.00 | 249.79 | 33.00 |
| | 901.260 | 430.00 | 697.72 | 0.00 | .18 | .11 | 174.80 | 33.00 |
| | 901.270 | 430.00 | 697.90 | 0.00 | .29 | 0.00 | 247.99 | 33.00 |
| | 901.270 | 430.00 | 698.00 | 0.00 | .28 | .11 | 160.67 | 33.00 |
| | 901.280 | 430.00 | 698.28 | 0.00 | .39 | 0.00 | 246.16 | 33.00 |
| | 901.280 | 430.00 | 698.38 | 0.00 | .38 | .10 | 140.04 | 33.00 |
| | 901.290 | 430.00 | 698.80 | 0.00 | .52 | 0.00 | 248.14 | 32.00 |
| | 901.290 | 430.00 | 698.92 | 0.00 | .54 | .12 | 165.49 | 32.00 |
| | 901.300 | 430.00 | 699.14 | 0.00 | .35 | 0.00 | 247.16 | 32.00 |
| | 901.300 | 430.00 | 699.26 | 0.00 | .33 | .11 | 152.29 | 32.00 |
| * | 901.310 | 430.00 | 699.66 | 0.00 | .51 | 0.00 | 245.73 | 32.00 |
| | 901.310 | 430.00 | 699.69 | 0.00 | .43 | .03 | 133.84 | 32.00 |
| | 901.320 | 430.00 | 700.08 | 0.00 | .42 | 0.00 | 252.57 | .50 |
| | 901.320 | 430.00 | 700.25 | 0.00 | .56 | .17 | 196.67 | .50 |
| | 901.330 | 430.00 | 700.13 | 0.00 | .05 | 0.00 | 253.40 | 4.00 |
| | 901.330 | 430.00 | 700.29 | 0.00 | .04 | .16 | 200.50 | 4.00 |
| | 901.350 | 430.00 | 700.13 | 0.00 | -.00 | 0.00 | 253.45 | .50 |
| | 901.350 | 430.00 | 700.29 | 0.00 | -.00 | .16 | 196.72 | .50 |
| | 901.400 | 430.00 | 700.20 | 0.00 | .07 | 0.00 | 252.87 | 15.00 |
| | 901.400 | 430.00 | 700.35 | 0.00 | .06 | .15 | 191.65 | 15.00 |
| | 901.420 | 430.00 | 700.29 | 0.00 | .09 | 0.00 | 254.36 | .50 |
| | 901.420 | 430.00 | 700.44 | 0.00 | .09 | .15 | 203.87 | .50 |
| | 901.430 | 430.00 | 700.33 | 0.00 | .04 | 0.00 | 254.77 | 4.00 |
| | 901.430 | 430.00 | 700.47 | 0.00 | .03 | .15 | 201.27 | 4.00 |
| | 901.450 | 430.00 | 700.32 | 0.00 | -.00 | 0.00 | 254.99 | .50 |
| | 901.450 | 430.00 | 700.47 | 0.00 | -.00 | .15 | 201.70 | .50 |
| | 901.500 | 430.00 | 700.68 | 0.00 | .36 | 0.00 | 150.39 | 95.00 |
| | 901.500 | 430.00 | 700.80 | 0.00 | .33 | .12 | 113.52 | 95.00 |
| | 901.520 | 430.00 | 700.70 | 0.00 | .02 | 0.00 | 150.69 | .50 |
| | 901.520 | 430.00 | 700.82 | 0.00 | .02 | .12 | 113.93 | .50 |
| | 901.530 | 430.00 | 700.72 | 0.00 | .02 | 0.00 | 151.44 | 4.00 |
| | 901.530 | 430.00 | 700.84 | 0.00 | .02 | .12 | 115.10 | 4.00 |

| SECNC | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 901.550 | 430.00 | 700.73 | 0.00 | .00 | 0.00 | 151.67 | .50 |
| 901.550 | 430.00 | 700.84 | 0.00 | .00 | .12 | 114.83 | .50 |
| 901.600 | 430.00 | 701.17 | 0.00 | .45 | 0.00 | 147.34 | 125.00 |
| 901.600 | 430.00 | 701.28 | 0.00 | .44 | .11 | 112.47 | 125.00 |
| 901.620 | 430.00 | 701.21 | 0.00 | .04 | 0.00 | 148.34 | .50 |
| 901.620 | 430.00 | 701.31 | 0.00 | .03 | .10 | 114.34 | .50 |
| 901.630 | 430.00 | 701.24 | 0.00 | .03 | 0.00 | 148.94 | 4.00 |
| 901.630 | 430.00 | 701.34 | 0.00 | .03 | .10 | 113.79 | 4.00 |
| 901.650 | 430.00 | 701.24 | 0.00 | .00 | 0.00 | 149.23 | .50 |
| 901.650 | 430.00 | 701.34 | 0.00 | .00 | .10 | 113.06 | .50 |
| 901.800 | 430.00 | 702.39 | 0.00 | 1.15 | 0.00 | 134.04 | 175.00 |
| 901.800 | 430.00 | 702.48 | 0.00 | 1.14 | .10 | 84.69 | 175.00 |
| 902.200 | 430.00 | 704.53 | 0.00 | 2.14 | 0.00 | 136.26 | 170.00 |
| 902.200 | 430.00 | 704.64 | 0.00 | 2.15 | .11 | 98.32 | 170.00 |
| 902.220 | 430.00 | 704.54 | 0.00 | .00 | 0.00 | 136.30 | .50 |
| 902.220 | 430.00 | 704.64 | 0.00 | -.00 | .10 | 95.94 | .50 |
| 902.230 | 430.00 | 704.84 | 0.00 | .30 | 0.00 | 143.68 | 4.00 |
| 902.230 | 430.00 | 705.01 | 0.00 | .37 | .17 | 104.54 | 4.00 |
| 902.250 | 430.00 | 704.89 | 0.00 | .05 | 0.00 | 144.99 | .50 |
| 902.250 | 430.00 | 705.08 | 0.00 | .07 | .20 | 110.44 | .50 |
| 901.980 | 430.00 | 706.49 | 0.00 | 1.61 | 0.00 | 15.00 | 198.00 |
| 901.980 | 430.00 | 706.55 | 0.00 | 1.46 | .05 | 15.00 | 198.00 |
| 901.990 | 430.00 | 706.33 | 0.00 | -.16 | 0.00 | 10.42 | 1.00 |
| 901.990 | 430.00 | 706.39 | 0.00 | -.16 | .06 | 10.42 | 1.00 |
| 902.010 | 430.00 | 707.97 | 0.00 | 1.64 | 0.00 | 10.46 | 49.00 |
| 902.010 | 430.00 | 707.95 | 0.00 | 1.56 | -.02 | 10.46 | 49.00 |
| 902.020 | 430.00 | 708.70 | 0.00 | .73 | 0.00 | 15.00 | 1.00 |
| 902.020 | 430.00 | 708.69 | 0.00 | .74 | -.01 | 15.00 | 1.00 |
| 902.800 | 430.00 | 709.26 | 0.00 | .56 | 0.00 | 163.68 | 85.00 |
| 902.800 | 430.00 | 709.27 | 0.00 | .58 | .00 | 82.38 | 85.00 |
| 902.980 | 430.00 | 709.43 | 0.00 | .17 | 0.00 | 176.69 | 86.00 |
| 902.980 | 430.00 | 709.45 | 0.00 | .18 | .02 | 109.55 | 86.00 |
| 903.020 | 430.00 | 709.74 | 0.00 | .31 | 0.00 | 178.00 | 24.00 |
| 903.020 | 430.00 | 709.75 | 0.00 | .31 | .02 | 165.07 | 24.00 |
| 903.100 | 430.00 | 709.80 | 0.00 | .06 | 0.00 | 178.00 | 91.00 |
| 903.100 | 430.00 | 709.82 | 0.00 | .06 | .02 | 151.03 | 91.00 |
| 903.120 | 430.00 | 709.79 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.120 | 430.00 | 709.80 | 0.00 | -.01 | .01 | 94.35 | .50 |

| SECNO | Q | CWSEL | DIFLSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.130 | 430.00 | 709.83 | 0.00 | .04 | 0.00 | 178.00 | 4.00 |
| 903.130 | 430.00 | 709.86 | 0.00 | .06 | .04 | 93.46 | 4.00 |
| 903.150 | 430.00 | 709.87 | 0.00 | .04 | 0.00 | 178.00 | .50 |
| 903.150 | 430.00 | 709.98 | 0.00 | .12 | .12 | 152.70 | .50 |
| 903.280 | 430.00 | 709.97 | 0.00 | .11 | 0.00 | 178.00 | 79.00 |
| 903.280 | 430.00 | 710.09 | 0.00 | .11 | .11 | 151.99 | 79.00 |
| 903.320 | 430.00 | 710.55 | 0.00 | .58 | 0.00 | 178.00 | 15.00 |
| 903.320 | 430.00 | 710.67 | 0.00 | .58 | .11 | 161.88 | 15.00 |
| 903.400 | 430.00 | 710.60 | 0.00 | .05 | 0.00 | 178.00 | 50.00 |
| 903.400 | 430.00 | 710.71 | 0.00 | .05 | .11 | 152.60 | 50.00 |
| 903.480 | 430.00 | 710.72 | 0.00 | .13 | 0.00 | 178.00 | 55.00 |
| 903.480 | 430.00 | 710.83 | 0.00 | .12 | .11 | 129.43 | 55.00 |
| 903.520 | 430.00 | 712.24 | 0.00 | 1.52 | 0.00 | 178.00 | 15.00 |
| 903.520 | 430.00 | 712.35 | 0.00 | 1.52 | .11 | 163.29 | 15.00 |
| 903.800 | 430.00 | 712.47 | 0.00 | .23 | 0.00 | 178.00 | 180.00 |
| 903.800 | 430.00 | 712.58 | 0.00 | .23 | .10 | 77.36 | 180.00 |
| 903.810 | 430.00 | 712.97 | 0.00 | .50 | 0.00 | 178.00 | 95.00 |
| 903.810 | 430.00 | 713.09 | 0.00 | .51 | .12 | 134.31 | 95.00 |
| 903.600 | 430.00 | 712.98 | 0.00 | .01 | 0.00 | 178.00 | .50 |
| 903.600 | 430.00 | 713.10 | 0.00 | .01 | .12 | 138.61 | .50 |
| 903.650 | 430.00 | 713.00 | 0.00 | .02 | 0.00 | 178.00 | 4.00 |
| 903.650 | 430.00 | 713.11 | 0.00 | .02 | .12 | 140.09 | 4.00 |
| 903.820 | 430.00 | 712.99 | 0.00 | -.00 | 0.00 | 178.00 | .50 |
| 903.820 | 430.00 | 713.11 | 0.00 | -.00 | .12 | 138.52 | .50 |
| 903.830 | 430.00 | 713.17 | 0.00 | .18 | 0.00 | 178.00 | 66.00 |
| 903.830 | 430.00 | 713.28 | 0.00 | .17 | .11 | 93.50 | 66.00 |
| 903.840 | 430.00 | 713.68 | 0.00 | .51 | 0.00 | 177.09 | 67.00 |
| 903.840 | 430.00 | 713.79 | 0.00 | .51 | .11 | 70.97 | 67.00 |
| 903.850 | 430.00 | 714.52 | 0.00 | .84 | 0.00 | 172.56 | 67.00 |
| 903.850 | 430.00 | 714.62 | 0.00 | .83 | .10 | 66.92 | 67.00 |
| 903.860 | 430.00 | 716.73 | 0.00 | 2.21 | 0.00 | 178.00 | 200.00 |
| 903.860 | 430.00 | 716.84 | 0.00 | 2.22 | .11 | 82.16 | 200.00 |
| 903.870 | 430.00 | 718.90 | 0.00 | 2.17 | 0.00 | 22.36 | 150.00 |
| 903.870 | 430.00 | 718.97 | 0.00 | 2.12 | .07 | 22.58 | 150.00 |
| 903.880 | 430.00 | 721.94 | 0.00 | 3.04 | 0.00 | 103.73 | 150.00 |
| 903.880 | 430.00 | 721.99 | 0.00 | 3.03 | .05 | 26.00 | 150.00 |
| 903.890 | 430.00 | 723.40 | 0.00 | 1.46 | 0.00 | 25.79 | 136.00 |
| 903.890 | 430.00 | 723.45 | 0.00 | 1.50 | .10 | 18.81 | 136.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFSSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 903.920 | 430.00 | 724.86 | 0.00 | 1.47 | 0.00 | 44.00 | 14.00 |
| 903.920 | 430.00 | 724.96 | 0.00 | 1.47 | .10 | 44.00 | 14.00 |
| 903.930 | 430.00 | 725.64 | 0.00 | .77 | 0.00 | 85.46 | 196.00 |
| 903.930 | 430.00 | 725.73 | 0.00 | .77 | .10 | 26.00 | 196.00 |
| 903.940 | 430.00 | 725.64 | 0.00 | .00 | 0.00 | 84.49 | .50 |
| 903.940 | 430.00 | 725.74 | 0.00 | .01 | .10 | 26.00 | .50 |
| 903.950 | 430.00 | 725.68 | 0.00 | .04 | 0.00 | 89.77 | 3.00 |
| 903.950 | 430.00 | 725.77 | 0.00 | .03 | .09 | 26.00 | 3.00 |
| 903.960 | 430.00 | 725.69 | 0.00 | .01 | 0.00 | 92.03 | .50 |
| 903.960 | 430.00 | 725.78 | 0.00 | .01 | .09 | 26.00 | .50 |
| 904.000 | 430.00 | 727.36 | 0.00 | 1.67 | 0.00 | 145.24 | 250.00 |
| 904.000 | 430.00 | 727.48 | 0.00 | 1.70 | .12 | 78.91 | 250.00 |
| 904.200 | 430.00 | 728.32 | 0.00 | .96 | 0.00 | 134.54 | 200.00 |
| 904.200 | 430.00 | 728.45 | 0.00 | .97 | .13 | 92.80 | 200.00 |
| 904.480 | 430.00 | 729.27 | 0.00 | .95 | 0.00 | 121.75 | 116.00 |
| 904.480 | 430.00 | 729.37 | 0.00 | .92 | .10 | 65.27 | 116.00 |
| 904.520 | 430.00 | 729.79 | 0.00 | .52 | 0.00 | 140.75 | 14.00 |
| 904.520 | 430.00 | 729.89 | 0.00 | .52 | .10 | 101.15 | 14.00 |
| 904.600 | 430.00 | 731.25 | 0.00 | 1.46 | 0.00 | 103.64 | 170.00 |
| 904.600 | 430.00 | 731.36 | 0.00 | 1.46 | .10 | 42.22 | 170.00 |
| 904.650 | 430.00 | 732.49 | 0.00 | 1.24 | 0.00 | 110.97 | 75.00 |
| 904.650 | 430.00 | 732.63 | 0.00 | 1.28 | .15 | 62.50 | 75.00 |
| 904.700 | 430.00 | 733.24 | 0.00 | .76 | 0.00 | 116.43 | 75.00 |
| 904.700 | 430.00 | 733.38 | 0.00 | .74 | .13 | 72.54 | 75.00 |
| 904.750 | 430.00 | 733.56 | 0.00 | .32 | 0.00 | 95.82 | 50.00 |
| 904.750 | 430.00 | 733.67 | 0.00 | .30 | .11 | 59.34 | 50.00 |
| 904.800 | 430.00 | 734.36 | 0.00 | .80 | 0.00 | 89.70 | 50.00 |
| 904.800 | 430.00 | 734.48 | 0.00 | .80 | .12 | 56.75 | 50.00 |
| 904.900 | 430.00 | 735.92 | 0.00 | 1.56 | 0.00 | 100.62 | 100.00 |
| 904.900 | 430.00 | 736.02 | 0.00 | 1.55 | .11 | 62.68 | 100.00 |
| 905.200 | 430.00 | 737.55 | 0.00 | 1.63 | 0.00 | 89.44 | 125.00 |
| 905.200 | 430.00 | 737.65 | 0.00 | 1.63 | .10 | 66.03 | 125.00 |
| 904.980 | 430.00 | 739.85 | 0.00 | 2.30 | 0.00 | 12.00 | 130.00 |
| 904.980 | 430.00 | 740.06 | 0.00 | 2.41 | .21 | 12.00 | 130.00 |
| 905.020 | 430.00 | 741.55 | 0.00 | 1.70 | 0.00 | 13.00 | 65.00 |
| 905.020 | 430.00 | 741.76 | 0.00 | 1.70 | .21 | 13.00 | 65.00 |
| 905.800 | 430.00 | 742.07 | 0.00 | .52 | 0.00 | 145.00 | 70.00 |
| 905.800 | 430.00 | 742.25 | 0.00 | .49 | .19 | 132.77 | 70.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 905.820 | 430.00 | 742.14 | 0.00 | .07 | 0.00 | 145.00 | 150.00 |
| 905.820 | 430.00 | 742.32 | 0.00 | .06 | .18 | 121.62 | 150.00 |
| 905.830 | 430.00 | 742.48 | 0.00 | .34 | 0.00 | 136.54 | 150.00 |
| 905.830 | 430.00 | 742.62 | 0.00 | .30 | .14 | 84.25 | 150.00 |
| 905.850 | 430.00 | 743.96 | 0.00 | 1.48 | 0.00 | 135.18 | 155.00 |
| 905.850 | 430.00 | 744.05 | 0.00 | 1.43 | .10 | 77.52 | 155.00 |
| 905.860 | 430.00 | 745.57 | 0.00 | 1.62 | 0.00 | 135.53 | 150.00 |
| 905.860 | 430.00 | 745.68 | 0.00 | 1.63 | .11 | 78.59 | 150.00 |
| 905.950 | 430.00 | 746.50 | 0.00 | .93 | 0.00 | 198.27 | 150.00 |
| 905.950 | 430.00 | 746.61 | 0.00 | .93 | .11 | 136.44 | 150.00 |
| 905.960 | 430.00 | 747.37 | 0.00 | .87 | 0.00 | 167.40 | 155.00 |
| 905.960 | 430.00 | 747.47 | 0.00 | .85 | .09 | 109.27 | 155.00 |
| 905.970 | 430.00 | 749.19 | 0.00 | 1.82 | 0.00 | 178.39 | 155.00 |
| 905.970 | 430.00 | 749.30 | 0.00 | 1.83 | .10 | 117.10 | 155.00 |
| 905.980 | 430.00 | 750.71 | 0.00 | 1.52 | 0.00 | 174.25 | 155.00 |
| 905.980 | 430.00 | 750.80 | 0.00 | 1.51 | .09 | 114.35 | 155.00 |
| 906.000 | 430.00 | 752.34 | 0.00 | 1.63 | 0.00 | 175.80 | 155.00 |
| 906.000 | 430.00 | 752.43 | 0.00 | 1.63 | .09 | 116.33 | 155.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  901.310  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  901.310  PROFILE= 1  MINIMUM SPECIFIC ENERGY
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FLOODWAY DATA, GIBSON-RENSHAW DRAIN-MES
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 899.000 | 40. | 118. | 3.6 | 678.3 | 678.3 | 0.0 |
| 899.100 | 23. | 74. | 5.8 | 679.2 | 679.2 | 0.0 |
| 899.130 | 166. | 196. | 2.2 | 680.6 | 680.6 | 0.0 |
| 899.200 | 162. | 202. | 2.1 | 681.7 | 681.6 | .1 |
| 899.220 | 179. | 209. | 2.1 | 681.8 | 681.7 | .1 |
| 899.230 | 185. | 225. | 1.9 | 681.8 | 681.7 | .1 |
| 899.250 | 181. | 235. | 1.8 | 681.8 | 681.7 | .1 |
| 900.000 | 148. | 184. | 2.3 | 682.0 | 681.9 | .1 |
| 900.200 | 26. | 91. | 4.7 | 683.5 | 683.4 | .1 |
| 900.220 | 26. | 79. | 5.5 | 683.4 | 683.3 | .1 |
| 900.230 | 116. | 111. | 3.9 | 683.8 | 683.8 | 0.0 |
| 900.250 | 99. | 128. | 3.4 | 683.8 | 683.8 | 0.0 |
| 900.400 | 45. | 110. | 3.9 | 686.3 | 686.2 | .1 |
| 900.420 | 84. | 114. | 3.8 | 686.2 | 686.1 | .1 |
| 900.430 | 155. | 180. | 2.4 | 686.5 | 686.4 | .1 |
| 900.450 | 145. | 185. | 2.3 | 686.5 | 686.4 | .1 |
| 900.600 | 209. | 290. | 1.5 | 688.4 | 688.3 | .1 |
| 900.620 | 208. | 286. | 1.5 | 688.4 | 688.3 | .1 |
| 900.630 | 211. | 302. | 1.4 | 688.5 | 688.4 | .1 |
| 900.650 | 212. | 310. | 1.4 | 688.5 | 688.4 | .1 |
| 900.700 | 200. | 265. | 1.6 | 689.2 | 689.1 | .1 |
| 900.800 | 163. | 161. | 2.7 | 690.3 | 690.2 | .1 |
| 900.820 | 189. | 205. | 2.1 | 690.5 | 690.4 | .1 |
| 900.830 | 192. | 222. | 1.9 | 690.5 | 690.4 | .1 |
| 900.850 | 188. | 222. | 1.9 | 690.5 | 690.4 | .1 |
| 900.860 | 173. | 182. | 2.4 | 691.1 | 691.0 | .1 |
| 900.870 | 174. | 185. | 2.3 | 691.8 | 691.7 | .1 |
| 901.000 | 155. | 152. | 2.8 | 692.5 | 692.4 | .1 |
| 901.020 | 190. | 208. | 2.1 | 692.7 | 692.6 | .1 |
| 901.030 | 191. | 222. | 1.9 | 692.8 | 692.7 | .1 |
| 901.050 | 186. | 225. | 1.9 | 692.7 | 692.6 | .1 |
| 901.100 | 169. | 174. | 2.5 | 694.4 | 694.3 | .1 |
| 901.120 | 193. | 214. | 2.0 | 694.5 | 694.4 | .1 |
| 901.130 | 193. | 225. | 1.9 | 694.6 | 694.5 | .1 |
| 901.150 | 189. | 229. | 1.9 | 694.6 | 694.5 | .1 |
| 901.170 | 152. | 146. | 2.9 | 695.6 | 695.5 | .1 |
| 901.200 | 167. | 175. | 2.5 | 697.2 | 697.1 | .1 |
| 901.220 | 181. | 172. | 2.5 | 697.4 | 697.3 | .1 |
| 901.230 | 196. | 211. | 2.0 | 697.5 | 697.4 | .1 |
| 901.250 | 198. | 253. | 1.7 | 697.5 | 697.4 | .1 |
| 901.260 | 175. | 191. | 2.3 | 697.7 | 697.6 | .1 |
| 901.270 | 161. | 162. | 2.6 | 698.0 | 697.9 | .1 |
| 901.280 | 140. | 132. | 3.3 | 698.4 | 698.3 | .1 |
| 901.290 | 165. | 167. | 2.6 | 698.9 | 698.8 | .1 |
| 901.300 | 152. | 150. | 2.9 | 699.2 | 699.1 | .1 |
| 901.310 | 134. | 116. | 3.7 | 699.7 | 699.7 | 0.0 |
| 901.320 | 197. | 247. | 1.7 | 700.3 | 700.1 | .2 |
| 901.330 | 201. | 257. | 1.7 | 700.3 | 700.1 | .2 |
| 901.350 | 197. | 262. | 1.6 | 700.3 | 700.1 | .2 |
| 901.400 | 192. | 248. | 1.7 | 700.4 | 700.2 | .2 |

FLOODWAY DATA, GIBSON-RENSHAW DRAINAGES
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 901.420 | 204. | 267. | 1.6 | 700.5 | 700.3 | .2 |
| 901.430 | 201. | 269. | 1.6 | 700.4 | 700.3 | .1 |
| 901.450 | 202. | 283. | 1.5 | 700.4 | 700.3 | .1 |
| 901.500 | 114. | 245. | 1.8 | 700.8 | 700.7 | .1 |
| 901.520 | 114. | 232. | 1.9 | 700.8 | 700.7 | .1 |
| 901.530 | 115. | 237. | 1.8 | 700.8 | 700.7 | .1 |
| 901.550 | 115. | 252. | 1.7 | 700.8 | 700.7 | .1 |
| 901.600 | 112. | 231. | 1.9 | 701.3 | 701.2 | .1 |
| 901.620 | 114. | 224. | 1.9 | 701.3 | 701.2 | .1 |
| 901.630 | 114. | 226. | 1.9 | 701.3 | 701.2 | .1 |
| 901.650 | 113. | 238. | 1.8 | 701.3 | 701.2 | .1 |
| 901.800 | 85. | 131. | 3.3 | 702.5 | 702.4 | .1 |
| 902.200 | 98. | 168. | 2.6 | 704.6 | 704.5 | .1 |
| 902.220 | 96. | 106. | 4.1 | 704.6 | 704.5 | .1 |
| 902.230 | 105. | 153. | 2.8 | 705.0 | 704.8 | .2 |
| 902.250 | 110. | 229. | 1.9 | 705.1 | 704.9 | .2 |
| 901.980 | 15. | 63. | 6.8 | 706.6 | 706.5 | .1 |
| 901.990 | 10. | 42. | 10.2 | 706.4 | 706.3 | .1 |
| 902.010 | 10. | 59. | 7.3 | 708.0 | 708.0 | 0.0 |
| 902.020 | 15. | 96. | 4.5 | 708.7 | 708.7 | 0.0 |
| 902.800 | 82. | 283. | 1.5 | 709.3 | 709.3 | 0.0 |
| 902.930 | 110. | 192. | 2.2 | 709.4 | 709.4 | 0.0 |
| 903.020 | 165. | 551. | .8 | 709.7 | 709.7 | 0.0 |
| 903.100 | 151. | 347. | 1.2 | 709.8 | 709.8 | 0.0 |
| 903.120 | 94. | 187. | 2.3 | 709.8 | 709.8 | 0.0 |
| 903.130 | 93. | 190. | 2.3 | 709.8 | 709.8 | 0.0 |
| 903.150 | 153. | 373. | 1.2 | 710.0 | 709.9 | .1 |
| 903.280 | 152. | 369. | 1.2 | 710.1 | 710.0 | .1 |
| 903.320 | 162. | 480. | .9 | 710.7 | 710.6 | .1 |
| 903.400 | 153. | 361. | 1.2 | 710.7 | 710.6 | .1 |
| 903.480 | 129. | 233. | 1.8 | 710.8 | 710.7 | .1 |
| 903.520 | 163. | 513. | .8 | 712.3 | 712.2 | .1 |
| 903.800 | 77. | 149. | 2.9 | 712.6 | 712.5 | .1 |
| 903.810 | 134. | 301. | 1.4 | 713.1 | 713.0 | .1 |
| 903.600 | 139. | 278. | 1.5 | 713.1 | 713.0 | .1 |
| 903.650 | 140. | 283. | 1.5 | 713.1 | 713.0 | .1 |
| 903.820 | 139. | 310. | 1.4 | 713.1 | 713.0 | .1 |
| 903.830 | 93. | 184. | 2.3 | 713.3 | 713.2 | .1 |
| 903.840 | 71. | 135. | 3.2 | 713.8 | 713.7 | .1 |
| 903.850 | 67. | 125. | 3.4 | 714.6 | 714.5 | .1 |
| 903.860 | 82. | 160. | 2.7 | 716.8 | 716.7 | .1 |
| 903.870 | 23. | 63. | 6.8 | 719.0 | 718.9 | .1 |
| 903.880 | 26. | 99. | 4.3 | 722.0 | 721.9 | .1 |
| 903.890 | 19. | 79. | 5.4 | 723.5 | 723.4 | .1 |
| 903.920 | 44. | 184. | 2.3 | 725.0 | 724.9 | .1 |
| 903.930 | 26. | 97. | 4.4 | 725.7 | 725.6 | .1 |
| 903.940 | 26. | 98. | 4.4 | 725.7 | 725.6 | .1 |
| 903.950 | 26. | 98. | 4.4 | 725.8 | 725.7 | .1 |
| 903.960 | 26. | 99. | 4.4 | 725.8 | 725.7 | .1 |
| 904.000 | 79. | 170. | 2.5 | 727.5 | 727.4 | .1 |

FLOODWAY DATA, GIBSON-RENSHAW DRAIN-HES
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 904.200 | 93. | 155. | 2.8 | 728.4 | 728.3 | .1 |
| 904.480 | 65. | 109. | 4.0 | 729.4 | 729.3 | .1 |
| 904.520 | 101. | 176. | 2.4 | 729.9 | 729.8 | .1 |
| 904.600 | 42. | 88. | 4.9 | 731.4 | 731.3 | .1 |
| 904.650 | 62. | 117. | 3.7 | 732.6 | 732.5 | .1 |
| 904.700 | 73. | 192. | 2.2 | 733.3 | 733.2 | .1 |
| 904.750 | 59. | 127. | 3.4 | 733.7 | 733.6 | .1 |
| 904.800 | 57. | 113. | 3.8 | 734.5 | 734.4 | .1 |
| 904.900 | 63. | 141. | 3.1 | 736.0 | 735.9 | .1 |
| 905.200 | 66. | 115. | 3.7 | 737.6 | 737.5 | .1 |
| 904.980 | 12. | 68. | 6.3 | 740.0 | 739.8 | .2 |
| 905.020 | 13. | 95. | 4.5 | 741.7 | 741.5 | .2 |
| 905.800 | 133. | 577. | .7 | 742.3 | 742.1 | .2 |
| 905.820 | 122. | 354. | 1.2 | 742.3 | 742.1 | .2 |
| 905.830 | 84. | 164. | 2.6 | 742.6 | 742.5 | .1 |
| 905.850 | 78. | 143. | 3.0 | 744.1 | 744.0 | .1 |
| 905.860 | 79. | 147. | 2.9 | 745.7 | 745.6 | .1 |
| 905.950 | 136. | 287. | 1.5 | 746.6 | 746.5 | .1 |
| 905.960 | 109. | 159. | 2.7 | 747.5 | 747.4 | .1 |
| 905.970 | 117. | 195. | 2.2 | 749.3 | 749.2 | .1 |
| 905.980 | 114. | 181. | 2.4 | 750.8 | 750.7 | .1 |
| 906.000 | 116. | 187. | 2.3 | 752.4 | 752.3 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON-RENSHAW DRAIN WEST

4) DOCUMENT TYPE: 100YR FLOODWAY

00BREAK00

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************

C
T1      HUD-FIA F-4705
T2      TROY
T3      GIBSON-RENSHAW DRAIN-WEST 100 YR FLOW=430CFS  N * -1.3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.    .010000     0.00      -1.0       0.    678.800    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    0.000     0.000     0.000     0.000     0.000    -1.300     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

   200.000    0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .095      .095      .060      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   245.000   360.000   430.000   590.000   430.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1   899.000     8.000   120.000   160.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   680.000     0.000   670.000   120.000   674.000   131.000   671.200   132.000   671.200   136.000
GR   674.000   137.000   678.000   160.000   680.000   328.000     0.000     0.000     0.000     0.000
NC     0.000     0.000     0.000      .500      .900     0.000     0.000     0.000     0.000     0.000

        ** FOOTBRIDGE 17C

X1   899.100    10.000   174.000   200.000    65.000    65.000    65.000     0.000    -1.400     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   677.400   677.400     0.000
GR   685.700     0.000   681.500    50.000   681.400   174.000   676.200   188.000   673.900   191.000
GR   673.900   193.000   676.200   194.000   681.400   200.000   681.500   290.000   684.000   318.000
SB     0.000     1.600     2.900    25.000     7.350     0.000    36.000     0.000   672.500   672.500

X1   899.130     0.000     0.000     0.000     5.000     5.000     5.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   677.400   679.100     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   679.100   679.100     0.000

X1   899.200     0.000     0.000     0.000   195.000   195.000   195.000     0.000     1.000     0.000
NC     0.000     0.000     0.000      .250      .450     0.000     0.000     0.000     0.000     0.000

        ** FOOTBRIDGE 17D

X1   899.220     0.000     0.000     0.000      .500      .500      .500     0.000     0.000     0.000
X2     0.000     0.000     0.000   678.900   679.800     0.000     0.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 899.230 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 678.900 | 679.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 899.250 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 900.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X1 | 900.200 | 0.000 | 0.000 | 0.000 | 175.000 | 175.000 | 175.000 | 0.000 | 2.100 | 0.000 |

** FOOTBRIDGE 900A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 900.220 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 680.300 | 681.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.230 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 680.300 | 681.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.250 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 900.400 | 0.000 | 0.000 | 0.000 | 255.000 | 255.000 | 255.000 | 0.000 | 2.400 | 0.000 |

** FOOTBRIDGE 900B

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 900.420 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 683.000 | 683.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.430 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 683.000 | 683.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.450 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 900.600 | 10.000 | 217.000 | 240.000 | 315.000 | 315.000 | 315.000 | 0.000 | -5.200 | 0.000 |
| GR | 695.000 | 110.000 | 692.500 | 150.000 | 692.300 | 217.000 | 692.200 | 228.000 | 687.600 | 228.100 |
| GR | 687.600 | 234.900 | 692.200 | 235.000 | 692.300 | 240.000 | 692.500 | 390.000 | 695.000 | 400.000 |

** FOOTBRIDGE 900C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 900.620 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 686.500 | 687.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.630 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 686.500 | 687.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.650 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 900.700 | 10.000 | 217.000 | 240.000 | 160.000 | 160.000 | 160.000 | 0.000 | -3.700 | 0.000 |
| GR | 695.000 | 110.000 | 691.900 | 150.000 | 691.800 | 217.000 | 689.700 | 226.000 | 687.600 | 230.000 |
| GR | 687.600 | 234.000 | 689.600 | 238.000 | 691.800 | 240.000 | 691.900 | 390.000 | 695.000 | 400.000 |
| X1 | 900.800 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.500 | 0.000 |

** FOOTERIDGE 900D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 900.820 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 688.200 | 688.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.830 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 688.200 | 688.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 900.850 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 900.860 | 0.000 | 0.000 | 0.000 | 66.000 | 66.000 | 66.000 | 0.000 | .700 | 0.000 |
| X1 | 900.870 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .700 | 0.000 |
| NC | 0.000 | 0.000 | .050 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.000 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | .800 | 0.000 |

** FOOTERIDGE 901A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.020 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 690.000 | 690.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.030 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 690.000 | 690.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.050 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.100 | 0.000 | 0.000 | 0.000 | 235.000 | 235.000 | 235.000 | 0.000 | 1.800 | 0.000 |

** FOOTERIDGE 901B

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.120 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 692.800 | 693.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.130 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 692.800 | 693.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.150 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.170 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.400 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .500 | .900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.200 | 0.000 | 0.000 | 0.000 | 145.000 | 145.000 | 145.000 | 0.000 | 1.500 | 0.000 |

** FOOTBRIDGE 901C

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.220 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 696.100 | 696.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.230 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 696.100 | 696.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.250 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.260 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .400 | 0.000 |
| X1 | 901.270 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .400 | 0.000 |
| X1 | 901.280 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .500 | 0.000 |
| X1 | 901.290 | 0.000 | 0.000 | 0.000 | 32.000 | 32.000 | 32.000 | 0.000 | .400 | 0.000 |
| X1 | 901.300 | 0.000 | 0.000 | 0.000 | 32.000 | 32.000 | 32.000 | 0.000 | .400 | 0.000 |
| X1 | 901.310 | 0.000 | 0.000 | 0.000 | 32.000 | 32.000 | 32.000 | 0.000 | .600 | 0.000 |

** FOOTBRIDGE 901D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.320 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 697.200 | 697.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.330 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 697.200 | 697.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.350 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.400 | 0.000 | 0.000 | 0.000 | 15.000 | 15.000 | 15.000 | 0.000 | .100 | 0.000 |

** FOOTBRIDGE 901E

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.420 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 697.500 | 698.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.430 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 0.000 | 697.500 | 698.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.450 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.500 | 12.000 | 154.000 | 172.000 | 95.000 | 95.000 | 95.000 | 0.000 | -4.400 | 0.000 |
| GR | 710.000 | 60.000 | 705.400 | 110.000 | 704.600 | 130.000 | 702.900 | 140.000 | 702.500 | 154.000 |
| GR | 702.000 | 162.000 | 700.000 | 164.000 | 700.000 | 166.000 | 702.000 | 168.000 | 702.900 | 172.000 |
| GR | 704.000 | 265.000 | 708.200 | 278.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** FOOTBRIDGE 901F LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.520 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 697.600 | 698.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.530 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 697.600 | 698.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.550 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.600 | 0.000 | 0.000 | 0.000 | 125.000 | 125.000 | 125.000 | 0.000 | .600 | 0.000 |

** FOOTBRIDGE 901G LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.620 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 698.400 | 699.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.630 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 698.400 | 699.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.650 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 901.800 | 0.000 | 0.000 | 0.000 | 175.000 | 175.000 | 175.000 | 0.000 | 1.900 | 0.000 |
| X1 | 902.200 | 0.000 | 0.000 | 0.000 | 170.000 | 170.000 | 170.000 | 0.000 | 1.900 | 0.000 |

** FOOTBRIDGE AT 902.2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 902.220 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 703.300 | 704.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 902.230 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 703.300 | 704.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 902.250 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE SQUARE LAKE ROAD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 901.980 | 10.000 | 145.000 | 160.000 | 198.000 | 198.000 | 198.000 | 0.000 | 2.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 709.300 | 709.300 | 0.000 |
| GR | 710.000 | 68.000 | 705.400 | 110.000 | 704.600 | 130.000 | 702.900 | 140.000 | 702.500 | 145.000 |
| GR | 700.000 | 145.100 | 700.000 | 159.900 | 702.500 | 160.000 | 704.000 | 265.000 | 708.200 | 278.000 |
| NC | 0.000 | 0.000 | .025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 901.990 | 4.000 | 0.000 | 10.500 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 2.000 | 0.000 | 710.100 | 709.300 | 10.500 | 710.000 | 709.300 | 0.000 | 0.000 | 0.000 |
| GR | 709.300 | 0.000 | 702.300 | .100 | 702.300 | 10.400 | 709.300 | 10.500 | 0.000 | 0.000 |
| X1 | 902.010 | 0.000 | 0.000 | 0.000 | 49.000 | 49.000 | 49.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 709.300 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .050 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 902.020 | 12.000 | 355.000 | 370.000 | 1.000 | 1.000 | 1.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 710.600 | 710.600 | 0.000 |
| GR | 710.100 | 238.000 | 709.700 | 272.000 | 708.600 | 330.000 | 706.200 | 354.000 | 704.000 | 355.000 |
| GR | 702.100 | 355.100 | 702.100 | 369.900 | 704.000 | 370.000 | 705.200 | 372.000 | 706.600 | 412.000 |
| GR | 707.800 | 420.000 | 709.400 | 454.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 902.800 | 11.000 | 354.000 | 372.000 | 85.000 | 85.000 | 85.000 | 0.000 | 0.000 | 0.000 |
| GR | 710.000 | 240.000 | 708.600 | 330.000 | 706.200 | 354.000 | 704.000 | 362.000 | 702.100 | 364.000 |
| GR | 702.100 | 367.000 | 704.000 | 370.000 | 705.200 | 372.000 | 706.600 | 412.000 | 707.800 | 420.000 |
| GR | 709.400 | 454.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DRIVEWAY CULVERT AT 903

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 902.980 | 12.000 | 362.000 | 370.000 | 86.000 | 86.000 | 86.000 | 0.000 | 1.800 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 706.900 | 706.900 | 0.000 |
| GR | 710.100 | 238.000 | 707.200 | 272.000 | 707.000 | 330.000 | 705.800 | 354.000 | 704.000 | 362.000 |
| GR | 702.100 | 362.100 | 702.100 | 369.900 | 704.000 | 370.000 | 705.200 | 372.000 | 706.600 | 412.000 |
| GR | 707.000 | 440.000 | 709.400 | 454.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.650 | 2.800 | 0.000 | 4.700 | 0.000 | 14.200 | 0.000 | 703.900 | 703.900 |
| X1 | 903.020 | 11.000 | 284.000 | 294.000 | 24.000 | 24.000 | 24.000 | 0.000 | -4.900 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 706.900 | 708.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 708.200 | 709.200 | 0.000 |
| BT | 5.000 | 168.000 | 709.100 | 0.000 | 280.000 | 708.200 | 0.000 | 284.000 | 709.400 | 0.000 |
| BT | 294.000 | 709.500 | 0.000 | 346.000 | 709.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 712.400 | 168.000 | 711.400 | 188.000 | 711.300 | 214.000 | 711.600 | 280.000 | 709.200 | 284.000 |
| GR | 708.800 | 285.000 | 708.800 | 293.000 | 709.200 | 294.000 | 710.600 | 300.000 | 711.900 | 310.000 |
| GR | 712.300 | 346.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 903.100 | 8.000 | 282.000 | 310.000 | 91.000 | 91.000 | 91.000 | 0.000 | -3.600 | 0.000 |
| GR | 712.400 | 168.000 | 710.700 | 282.000 | 709.200 | 284.000 | 708.800 | 287.000 | 708.800 | 290.000 |
| GR | 709.200 | 294.000 | 711.900 | 310.000 | 710.800 | 346.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** FOOTBRIDGE 903A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 903.120 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |

```
X2      0.000      0.000      0.000    707.400    708.300      0.000      0.000      0.000      0.000      0.000

X1    903.130      0.000      0.000      0.000      4.000      4.000      4.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    707.400    708.300      0.000      0.000      0.000      0.000      0.000

X1    903.150      0.000      0.000      0.000       .500       .500       .500      0.000      0.000      0.000

        ** D/S FACE DRIVEWAY CULVERT 903B

X1    903.280     11.000    284.000    294.000     79.000     79.000     79.000      0.000     -3.600      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    708.800    708.800      0.000
GR    712.400    168.000    711.400    188.000    711.300    214.000    711.600    280.000    709.200    284.000
GR    708.800    285.000    708.800    293.000    709.200    294.000    710.600    300.000    711.900    310.000
GR    712.300    346.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SB      0.000      1.700      2.600    200.000      4.900      0.000     17.700      0.000    705.200    705.200

X1    903.320      0.000      0.000      0.000     15.000     15.000     15.000      0.000      0.000      0.000
X2      0.000      0.000      1.000    708.800    709.800      0.000      0.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    709.800    709.800      0.000

X1    903.400      0.000      0.000      0.000     50.000     50.000     50.000      0.000       .700      0.000

        ** D/S FACE DRIVEWAY CULVERT 903C

X1    903.480      0.000      0.000      0.000     55.000     55.000     55.000      0.000       .800      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    710.000    710.000      0.000
SB      0.000      1.800      2.600    200.000      3.300      0.000     12.400      0.000    706.700    706.700

X1    903.520      0.000      0.000      0.000     15.000     15.000     15.000      0.000      0.000      0.000
X2      0.000      0.000      1.000    710.500    711.500      0.000      0.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    711.500    711.500      0.000

X1    903.800      8.000    282.000    310.000    180.000    180.000    180.000      0.000      0.000      0.000
GR    712.400    168.000    710.700    282.000    709.200    284.000    708.800    287.000    708.800    290.000
GR    709.200    294.000    711.900    310.000    712.300    346.000      0.000      0.000      0.000      0.000
NC      0.000      0.000      0.000       .150       .350      0.000      0.000      0.000      0.000      0.000

X1    903.810      0.000      0.000      0.000     95.000     95.000     95.000      0.000      -.300      0.000

        ** FOOTBRIDGE 903C-2 LOWERED FLTRC TO KEEP BRIDGE AREA WITHIN BANKS

X1    903.600      0.000      0.000      0.000       .500       .500       .500      0.000      0.000      0.000
X2      0.000      0.000      0.000    708.900    710.400      0.000      0.000      0.000      0.000      0.000

X1    903.650      0.000      0.000      0.000      4.000      4.000      4.000      0.000      0.000      0.000
X2      0.000      0.000      0.000    708.900    710.400      0.000      0.000      0.000      0.000      0.000

X1    903.820      0.000      0.000      0.000       .500       .500       .500      0.000      0.000      0.000
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X1    903.830     0.000     0.000     0.000    66.000    66.000    66.000     0.000      .800     0.000

X1    903.840     0.000     0.000     0.000    67.000    67.000    67.000     0.000      .800     0.000

X1    903.850     0.000     0.000     0.000    67.000    67.000    67.000     0.000      .900     0.000

X1    903.860     0.000     0.000     0.000   200.000   200.000   200.000     0.000     2.000     0.000
NC      0.000     0.000     0.000      .400      .800     0.000     0.000     0.000     0.000     0.000

X1    903.870    11.000   348.000   374.000   150.000   150.000   150.000     0.000    -6.400     0.000
GR    730.000   176.000   728.500   182.000   726.800   260.000   726.700   282.000   726.300   348.000
GR    722.600   355.000   721.300   355.100   721.300   366.900   722.600   367.000   726.200   374.000
GR    730.000   392.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    903.880     0.000     0.000     0.000   150.000   150.000   150.000     0.000     1.600     0.000

        ** D/S FACE FOOTBRIDGE(CULVERTS) 903D

X1    903.890    11.000   355.000   367.000   136.000   136.000   136.000     0.000    -2.800     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   721.500   721.500     0.000
GR    730.000   176.000   728.500   182.000   726.800   260.000   726.700   282.000   726.300   348.000
GR    722.600   355.000   721.300   355.100   721.300   366.900   722.600   367.000   726.200   374.000
GR    730.000   392.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
SB      0.000     1.650     2.900    50.000     6.400     0.000    19.200     0.000   718.500   718.500

X1    903.920    11.000   330.000   374.000    14.000    14.000    14.000     0.000    -2.800     0.000
X2      0.000     0.000     1.000   721.500   723.400     0.000     0.000     0.000     0.000     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   725.500   725.500     0.000
GR    730.000   176.000   728.500   182.000   726.800   260.000   726.700   282.000   726.300   330.000
GR    722.600   355.000   721.300   355.100   721.300   366.900   722.600   367.000   726.200   374.000
GR    730.000   392.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    903.930    11.000   348.000   374.000   196.000   196.000   196.000     0.000    -1.000     0.000
GR    730.000   176.000   728.500   182.000   726.800   260.000   726.700   282.000   726.300   348.000
GR    722.600   355.000   721.300   355.100   721.300   366.900   722.600   367.000   726.200   374.000
GR    730.000   392.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      0.000     0.000     0.000      .150      .350     0.000     0.000     0.000     0.000     0.000

        ** FOOTBRIDGE 903E

X1    903.940     0.000     0.000     0.000      .500      .500      .500     0.000     0.000     0.000
X2      0.000     0.000     0.000   726.100   726.300     0.000     0.000     0.000     0.000     0.000

X1    903.950     0.000     0.000     0.000     3.000     3.000     3.000     0.000     0.000     0.000
X2      0.000     0.000     0.000   726.100   726.300     0.000     0.000     0.000     0.000     0.000

X1    903.960     0.000     0.000     0.000      .500      .500      .500     0.000     0.000     0.000
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 904.000 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.000 | 0.000 |
| X1 | 904.200 | 11.000 | 355.000 | 367.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.700 | 0.000 |
| GR | 730.000 | 176.000 | 728.500 | 182.000 | 726.100 | 260.000 | 726.000 | 282.000 | 725.800 | 348.000 |
| GR | 722.600 | 355.000 | 721.300 | 355.100 | 721.300 | 366.900 | 722.600 | 367.000 | 725.800 | 374.000 |
| GR | 730.000 | 392.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE 904A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 904.480 | 0.000 | 0.000 | 0.000 | 116.000 | 116.000 | 116.000 | 0.000 | 1.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 727.300 | 727.300 | 0.000 |
| SB | 0.000 | 1.650 | 2.900 | 120.000 | 6.400 | 0.000 | 19.200 | 0.000 | 724.300 | 724.300 |
| X1 | 904.520 | 0.000 | 0.000 | 0.000 | 14.000 | 14.000 | 14.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 727.300 | 729.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 729.000 | 729.000 | 0.000 |
| X1 | 904.600 | 11.000 | 348.000 | 374.000 | 170.000 | 170.000 | 170.000 | 0.000 | 5.700 | 0.000 |
| GR | 730.000 | 176.000 | 728.500 | 182.000 | 726.000 | 260.000 | 725.200 | 282.000 | 725.000 | 348.000 |
| GR | 722.600 | 355.000 | 721.300 | 355.100 | 721.300 | 366.900 | 722.600 | 367.000 | 725.000 | 374.000 |
| GR | 730.000 | 392.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 904.650 | 0.000 | 0.000 | 0.000 | 75.000 | 75.000 | 75.000 | 0.000 | 1.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 904.700 | 12.000 | 320.000 | 332.000 | 75.000 | 75.000 | 75.000 | 0.000 | -5.200 | 0.000 |
| GR | 742.200 | 168.000 | 740.100 | 206.000 | 740.000 | 246.000 | 736.000 | 276.000 | 735.800 | 320.000 |
| GR | 734.800 | 324.000 | 734.200 | 326.000 | 734.200 | 328.000 | 734.800 | 330.000 | 736.600 | 332.000 |
| GR | 740.000 | 410.000 | 740.100 | 430.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 904.750 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | 1.000 | 0.000 |
| X1 | 904.800 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | 1.000 | 0.000 |
| X1 | 904.900 | 0.000 | 0.000 | 0.000 | 100.000 | 100.000 | 100.000 | 0.000 | 1.200 | 0.000 |
| X1 | 905.200 | 12.000 | 246.000 | 328.000 | 125.000 | 125.000 | 125.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 737.200 | 737.200 | 0.000 |
| GR | 742.200 | 168.000 | 740.100 | 206.000 | 740.000 | 246.000 | 736.000 | 276.000 | 735.800 | 320.000 |
| GR | 734.800 | 324.000 | 734.200 | 326.000 | 734.200 | 328.000 | 734.800 | 330.000 | 736.600 | 332.000 |
| GR | 740.000 | 410.000 | 740.100 | 430.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LIVERNOIS ROAD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 904.980 | 8.000 | 320.000 | 332.000 | 130.000 | 130.000 | 130.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 740.100 | 740.100 | 0.000 |
| GR | 742.200 | 168.000 | 736.500 | 206.000 | 735.800 | 320.000 | 734.200 | 320.100 | 734.200 | 331.900 |
| GR | 736.600 | 332.000 | 736.800 | 410.000 | 739.800 | 430.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SB | 0.000 | 2.560 | 2.600 | 0.000 | 12.000 | 0.000 | 60.000 | 0.000 | 734.400 | 734.400 |
| X1 | 905.020 | 12.000 | 505.000 | 518.000 | 65.000 | 65.000 | 65.000 | 0.000 | -1.900 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 738.000 | 743.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 744.400 | 743.500 | 0.000 |
| BT | 3.000 | 354.000 | 746.200 | 0.000 | 506.000 | 744.400 | 0.000 | 586.000 | 743.500 | 0.000 |
| GR | 741.600 | 354.000 | 740.200 | 426.000 | 740.100 | 436.000 | 739.000 | 444.000 | 737.400 | 478.000 |
| GR | 737.300 | 505.000 | 736.300 | 506.000 | 736.300 | 517.000 | 737.300 | 518.000 | 738.100 | 538.000 |
| GR | 738.700 | 580.000 | 740.700 | 586.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .060 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 905.800 | 12.000 | 498.000 | 522.000 | 70.000 | 70.000 | 70.000 | 0.000 | 0.000 | 0.000 |
| GR | 740.400 | 435.000 | 740.400 | 436.000 | 739.200 | 444.000 | 737.600 | 478.000 | 737.600 | 498.000 |
| GR | 735.800 | 510.000 | 735.600 | 513.000 | 735.600 | 516.000 | 736.000 | 518.000 | 737.500 | 522.000 |
| GR | 738.300 | 538.000 | 738.900 | 580.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 905.820 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.830 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.850 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.860 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.950 | 11.000 | 466.000 | 482.000 | 150.000 | 150.000 | 150.000 | 0.000 | -6.400 | 0.000 |
| GR | 753.000 | 366.000 | 751.200 | 394.000 | 751.100 | 418.000 | 751.200 | 434.000 | 750.600 | 466.000 |
| GR | 750.000 | 468.000 | 750.000 | 478.000 | 750.400 | 482.000 | 750.800 | 500.000 | 752.400 | 554.000 |
| GR | 753.600 | 582.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 905.960 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.970 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.600 | 0.000 |
| X1 | 905.980 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.600 | 0.000 |
| X1 | 906.000 | 0.000 | 0.000 | 0.000 | 155.000 | 155.000 | 155.000 | 0.000 | 1.600 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PRCF 1

CCHV= .150 CEHV= .350
*SECNC 899.000

| SECNC | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLCB | QCH | QROB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLCB | VCH | VRCB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | IDC | ICCNT | CCRAR | TOPWID | ENDST |
| 899.00 | 7.10 | 678.30 | 0.00 | 678.80 | 678.50 | .20 | 0.00 | 0.00 | 678.00 |
| 430. | 1. | 427. | 2. | 3. | 118. | 4. | 0. | 0. | 678.00 |
| 0.00 | .44 | 3.62 | .44 | .095 | .078 | .095 | 0.000 | 671.20 | 102.19 |
| .010021 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 82.75 | 184.94 |

CCHV= .500 CEHV= .900
*SECNC 899.100

** FOOTBRIDGE 170

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 899.10 | 6.75 | 679.25 | 0.00 | 0.00 | 679.77 | .53 | .98 | .29 | 680.00 |
| 430. | 0. | 430. | 0. | 0. | 74. | 0. | 0. | 0. | 680.00 |
| .00 | 0.00 | 5.82 | 0.00 | .095 | .078 | .095 | .077 | 672.50 | 176.03 |
| .025383 | 65. | 65. | 65. | 2 | 0 | 0 | 0.00 | 23.10 | 199.13 |

naturally restricted

SPECIAL BRIDGE

| SB | XK | XKOR | CDFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.60 | 2.90 | 25.00 | 7.35 | 0.00 | 36.00 | 0.00 | 672.50 | 672.50 |

is weir length restrictive

*SECNC 899.130
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 682.79 | 679.77 | 0.00 | 153. | 28C. | 36. | 36. | 677.40 | 679.10 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 899.13 | 8.13 | 680.63 | 0.00 | 0.00 | 680.75 | .11 | .97 | 0.00 | 680.00 |
| 430. | 56. | 333. | 41. | 74. | 109. | 54. | 0. | 0. | 680.00 |
| .00 | .76 | 3.06 | .75 | .095 | .078 | .095 | .076 | 672.50 | 43.65 |
| .004869 | 5. | 5. | 5. | 2 | 0 | 2 | 0.00 | 252.33 | 295.98 |

Flowing down to 166 FT

*SECNC 899.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 899.20 | 8.11 | 681.61 | 0.00 | 0.00 | 681.73 | .12 | .97 | .01 | 681.00 |
| 430. | 53. | 338. | 39. | 71. | 108. | 52. | 1. | 1. | 681.00 |
| .02 | .75 | 3.13 | .75 | .095 | .078 | .095 | .077 | 673.50 | 43.97 |
| .005127 | 195. | 195. | 195. | 4 | 0 | 0 | 0.00 | 251.71 | 295.68 |

CCHV= .250 CEHV= .450
*SECNC 899.220

| SECNC | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLCB | QCH | QROB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |

```
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID    ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  679.80 MAX ELLC=  678.90

        ** FOOTBRIDGE 170

   899.22     8.16    681.66     0.00      0.00    681.74      .08       .00       .01    681.00
     430.      97.     262.      71.       78.      95.       57.       1.        1.     681.00
      .02     1.25     2.75     1.25      .095     .078      .095      .077    673.50     43.32
  .012657      1.       1.       1.         2        0         0     -14.40    252.96    296.28

*SECNO 899.230

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  679.80 MAX ELLC=  678.90

   899.23     8.22    681.72     0.00      0.00    681.79      .07       .05       .00    681.00
     430.     105.     248.      77.       86.      97.       63.       1.        1.     681.00
      .02     1.23     2.56     1.23      .095     .078      .095      .077    673.50     42.60
  .010744      4.       4.       4.         2        0         0     -14.40    254.37    296.96

*SECNO 899.250
   899.25     8.21    681.71     0.00      0.00    681.81      .10       .00       .01    681.00
     430.      65.     318.      47.       85.     111.       62.       1.        1.     681.00
      .02      .76     2.86      .76      .095     .076      .095      .076    673.50     42.63
  .004138      1.       1.       1.         1        0         0       0.00    254.30    296.93

*SECNO 900.000
   900.00     8.03    681.93     0.00      0.00    682.07      .14       .25       .02    681.40
     430.      45.     353.      32.       61.     106.       44.       2.        2.     681.40
      .03      .73     3.32      .73      .095     .078      .095      .076    673.90     44.87
  .005930      50.      50.      50.         2        0         0       0.00    249.96    294.83

*SECNO 900.200
   900.20     7.39    683.39     0.00      0.00    683.74      .36      1.57       .10    683.50
     430.       0.     430.       0.        0.      89.        0.       2.        2.     683.50
      .04     0.00     4.81     0.00      .095     .078      .095      .077    676.00    174.30
  .015254     175.     175.     175.         2        0         0       0.00     25.57    199.87

*SECNO 900.220
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  681.00 MAX ELLC=  680.30

        ** FOOTBRIDGE 900A

   900.22     7.33    683.33     0.00      0.00    683.81      .48       .01       .06    683.50
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     430.        C.      430.        C.        C.       77.        C.        2.        2.    683.50
      .04      C.C0      5.5d      0.00      .095      .078      .C95      .077    676.0C    174.45
  .C63198        1.        1.        1.         2         0         0    -10.97     25.35    199.81

*SECNC 900.23C

3370 NCRMAL BRIDCE,NRC=   0 MIN ELTRD=  681.CC MAX ELLC=  68C.30
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.2 ft loss is reasonable ✓

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   90C.23      7.83    683.83      0.C0      0.00    684.04       .22       .16       .07    683.50
     430.       35.       362.       28.       35.       9C.       26.        2.        2.    683.50
      .C4      1.11      4.03      1.11      .095      .078      .C95      .076    676.0C     47.24
  .027670        4.        4.        4.         4         0         0    -11.20    245.35    292.59

*SECNC 900.25C
   900.25      7.84    683.84      0.CC      C.0C    684.05       .21       .01       .00    683.50
     430.       24.       389.       17.       37.      101.       27.        2.        2.    683.50
      .04       .64      3.83       .64      .095      .078      .095      .076    676.00     47.05
  .008391        1.        1.        1.         C         0         0      0.00    245.73    292.78

*SECNC 900.40C
   900.40      7.75    686.15      0.00      C.CC    686.40       .25      2.33       .02    685.90
     43C.       13.       407.       10.       25.       99.       18.        3.        4.    685.90
      .C6       .53      4.11       .53      .C95      .078      .095      .077    678.40     48.21
  .009994      255.       255.      255.         3         0         0      0.00    243.48    291.69

*SECNO 900.420
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3/

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4575 CRITICAL DEPTH ASSUMED BELCW ELLC OF   683.000 EGLC=   685.609 EGC=   685.618 WSEL=   684.303

4575 CRITICAL CEPTH ASSUMED BELCW ELLC OF   683.0C0 EGLC=   685.609 EGC=   685.613 WSEL=   682.997

3370 NORMAL BRIDGE,NRD=   0 MIN ELTRD=  683.70 MAX ELLC=  683.00

        ** FCOTBRIDGE 90CB

   90C.42      7.75    686.15    683.00      0.00    686.42       .27       .01       .01    685.90
     430.       26.       385.       19.       26.       88.       19.        3.        4.    685.90
      .06      1.01      4.39      1.01      .C55      .C78      .C95      .077    678.40     48.14
  .034279        1.        1.        1.         0        22         0    -11.20    243.60    291.75

*SECNC 900.430
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

337C NCRMAL BRIDGE,NRD=   0 MIN ELTRD=  683.70 MAX ELLC=  683.00

   SCC.43      8.C3    686.43      0.00      0.00    686.55       .12       .09       .04    685.90
     430.       72.       305.       52.       59.       95.       43.        3.        4.    685.90
      .06      1.21      3.22      1.21      .095      .078      .095      .077    678.40     45.00
  .C16757        4.        4.        4.         3         0         0    -11.20    249.70    294.70
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*SECNC 900.450
   900.45      8.02    686.42      0.00      0.00    686.56       .15       .00       .01    685.90
     430.       43.      356.       31.       59.      106.       43.        3.        4.    685.90
      .06       .73      3.35       .73      .095      .078      .095      .076    678.40     45.03
  .006089        1.        1.        1.         2         0         0      0.00    249.65    294.68

*SECNC 900.600
   900.60      5.52    688.32      0.00      0.00    688.35       .04      1.76       .03    687.10
     430.       97.      129.      204.       83.       61.      170.        5.        5.    687.10
      .12      1.16      2.11      1.20      .095      .078      .095      .077    682.40    133.72
  .005157      315.      315.      315.         4         0         0      0.00    260.36    394.07

*SECNC 900.620

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  687.10 MAX ELLC=  686.50

         ** FECTPRICCE 900C

   900.62      5.93    688.33      0.00      0.00    688.36       .03       .00       .00    687.10
     430.      107.       98.      226.       83.       50.      170.        5.        5.    687.10
      .12      1.28      1.73      1.33      .095      .078      .095      .077    682.40    133.68
  .006256        1.        1.        1.         0         0         0     -4.95    260.40    394.08

*SECNO 900.630

3370 NORMAL BRIDGE,NPD=  0 MIN ELTRD=  687.10 MAX ELLC=  686.50

   900.63      5.98    688.38      0.00      0.00    688.41       .03       .05       .00    687.10
     430.      108.       94.      228.       88.       58.      179.        5.        5.    687.10
      .12      1.23      1.63      1.27      .095      .078      .095      .077    682.40    132.76
  .005387        9.        9.        9.         0         0         0     -4.95    261.55    394.31

*SECNC 900.650
   SECNC     DEPTH     CRSEL     CRTWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      VCH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITPIAL    ICC       ICONT     CORAR     TOPWID     ENDST

   900.65      5.98    688.38      0.00      0.00    688.41       .03       .00       .00    687.10
     430.       98.      124.      208.       89.       63.      180.        5.        5.    687.10
      .12      1.11      1.97      1.15      .095      .078      .095      .077    682.40    132.64
  .004374        1.        1.        1.         0         0         0      0.00    261.70    394.34

*SECNC 900.700
   900.70      5.19    689.09      0.00      0.00    689.16       .07       .73       .02    688.10
     430.       69.      212.      148.       68.       77.      143.        6.        6.    688.10
      .14      1.01      2.77      1.04      .095      .078      .095      .077    683.90    138.46
  .004785      160.      160.      160.         2         0         0      0.00    254.43    392.89

*SECNC 900.800
   900.80      4.79    690.19      0.00      0.00    690.39       .20      1.17       .06    689.60
     430.       45.      288.       98.       38.       67.       81.        7.        7.    689.60
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      .16      1.18      4.27      1.20      .095      .078      .095      .077   685.40   143.69
  .013513      155.      155.      155.         3         0         0      0.00   247.89   391.58

*SECNO 900.820

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  688.60 MAX ELLC=  688.20

        ** FOOTBRIDGE 9000

   900.82      4.96   690.36      0.00      0.00   690.43       .07       .01       .03   689.60
     430.       82.      171.      176.       50.       64.      106.        7.        7.   689.60
      .16      1.64      2.65      1.67      .095      .078      .095      .077   685.40   141.55
  .018239        1.        1.        1.         3         0         0     -7.00   250.56   392.11

*SECNO 900.830

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  688.60 MAX ELLC=  688.20

   900.83      5.04   690.44      0.00      0.00   690.49       .06       .06       .00   689.60
     430.       86.      158.      186.       56.       66.      118.        7.        7.   689.60
      .16      1.55      2.40      1.58      .095      .078      .095      .077   685.40   140.61
  .014376        4.        4.        4.         1         0         0     -7.00   251.74   392.35

*SECNO 900.850
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID    ENDST

   900.85      5.02   690.42      0.00      0.00   690.52       .10       .01       .02   689.60
     430.       60.      240.      130.       55.       73.      116.        7.        7.   689.60
      .16      1.10      3.31      1.12      .095      .078      .095      .077   685.40   140.76
  .007368        1.        1.        1.         2         0         0      0.00   251.55   392.31

*SECNO 900.860
   900.86      4.87   690.97      0.00      0.00   691.13       .15       .58       .02   690.30
     430.       51.      269.      110.       44.       69.       94.        7.        8.   690.30
      .16      1.16      3.89      1.18      .095      .078      .095      .077   686.10   142.65
  .010808       66.       66.       66.         2         0         0      0.00   249.19   391.84

*SECNO 900.870
   900.87      4.89   691.69      0.00      0.00   691.84       .15       .71       .00   691.00
     430.       52.      266.      112.       45.       70.       96.        8.        8.   691.00
      .17      1.15      3.82      1.17      .095      .078      .095      .077   686.80   142.45
  .010380       67.       67.       67.         2         0         0      0.00   249.43   391.89

*SECNO 901.000
   901.00      4.76   692.36      0.00      0.00   692.61       .25       .73       .05   691.80
     430.       37.      311.       82.       36.       67.       77.        8.        8.   691.80
      .18      1.05      4.66      1.06      .095      .065      .095      .076   687.60   144.06
  .011345       67.       67.       67.         2         0         0      0.00   247.43   391.49
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*SECNO 901.020

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  690.70 MAX ELLC=  690.00

        ** FOOTERIDGE 901A

   901.02      4.98    692.58      0.00      0.00    692.66       .07       .01       .04    691.80
     430.       82.      172.      177.       52.      60.      111.        8.        8.    691.80
      .18      1.56      2.88      1.60      .095     .065      .095      .076    687.60    141.17
  .015797        1.        1.        1.         4         0         0    -12.25    251.03    392.21

*SECNO 901.030
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID     ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  690.70 MAX ELLC=  690.00

   901.03      5.06    692.66      0.00      0.00    692.72       .06       .06       .00    691.80
     430.       85.      162.      184.       57.      61.      120.        8.        9.    691.80
      .18      1.49      2.64      1.52      .095     .065      .095      .076    687.60    140.36
  .012915        4.        4.        4.         1         0         0    -12.25    252.05    392.41

*SECNO 901.050
   901.05      5.03    692.63      0.00      0.00    692.75       .12       .00       .03    691.80
     430.       55.      257.      118.       56.      73.      118.        8.        9.    691.80
      .18      .98      3.53      1.00      .095     .065      .095      .076    687.60    140.60
  .005789        1.        1.        1.         2         0         0      0.00    251.74    392.35

*SECNO 901.100
   901.10      4.85    694.25      0.00      0.00    694.45       .19      1.66       .03    693.60
     430.       44.      290.       96.       43.      69.       91.        9.       10.    693.60
      .20      1.03      4.21      1.05      .095     .065      .095      .075    689.40    142.84
  .008869      235.      235.      235.         3         0         0      0.00    248.95    391.79

*SECNO 901.120

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  693.50 MAX ELLC=  692.80

        ** FOOTBRIDGE 901B

   901.12      5.02    694.42      0.00      0.00    694.48       .07       .01       .03    693.60
     430.       85.      162.      184.       55.      60.      116.        9.       10.    693.60
      .20      1.55      2.68      1.59      .095     .065      .095      .075    689.40    140.76
  .014757        1.        1.        1.         3         0         0    -12.25    251.55    392.31

*SECNO 901.130

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  693.50 MAX ELLC=  692.80

   901.13      5.08    694.48      0.00      0.00    694.54       .06       .05       .00    693.60
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     430.       88.      153.      169.       59.       62.      124.        9.       10.    693.60
      .20      1.49      2.48      1.52      .095      .065      .095      .074   689.40    140.03
  .012339        4.        4.        4.         1         0         0   -12.25   252.47    392.49

*SECNO 901.150
   SECNO     DEPTH     CHSEL     CRITS    WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB     ALCB      ACH       ARDB      VCL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB     XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR    ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   901.15      5.05    694.45      0.00      0.00    694.57       .11       .00       .03    693.60
     430.       56.      253.      121.       58.       74.      122.        9.       10.    693.60
      .20       .97      3.44       .99      .095      .065      .095      .074   689.40    140.26
  .005440        1.        1.        1.         2         0         0      0.00   252.17    392.43

*SECNO 901.170
   901.17      4.74    695.54      0.00      0.00    695.80       .26      1.17       .07    695.00
     430.       36.      316.       76.       34.       66.       74.       10.       11.    695.00
      .21      1.05      4.77      1.06      .095      .065      .095      .074   690.80    144.34
  .012022      150.      150.      150.         2         0         0      0.00   247.08    391.42

CCHV=    .500 CEHV=    .900
*SECNO 901.200
   901.20      4.85    697.15      0.00      0.00    697.34       .20      1.51       .03    696.50
     430.       43.      292.       95.       42.       69.       90.       11.       12.    696.50
      .22      1.04      4.25      1.03      .095      .065      .095      .073   692.30    142.95
  .009059      145.      145.      145.         3         0         0      0.00   248.82    391.76

*SECNO 901.220

3370 NORMAL BRIDGE,NPD=  0 MIN ELTRD=  696.70 MAX ELLC=  696.10

        ** FOOTBRIDGE 901C

   901.22      4.97    697.27      0.00      0.00    697.39       .12       .01       .04    696.50
     430.       70.      210.      151.       41.       60.       86.       11.       12.    696.50
      .22      1.71      3.50      1.74      .095      .065      .095      .073   692.30    141.33
  .026275        1.        1.        1.         6         0         0   -44.69   250.84    392.17

*SECNO 901.230

3370 NORMAL BRIDGE,NPD=  0 MIN ELTRD=  696.70 MAX ELLC=  696.10

   901.23      5.12    697.42      0.00      0.00    697.49       .07       .08       .02    696.50
     430.       80.      178.      172.       52.       63.      109.       11.       12.    696.50
      .22      1.54      2.81      1.57      .095      .065      .095      .073   692.30    139.40
  .015739        4.        4.        4.         2         0         0   -44.81   253.25    392.65

*SECNO 901.250
   SECNO     DEPTH     CHSEL     CRITS    WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB     ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB     XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR    ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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   901.25      5.12    697.42      0.00      0.00    697.52       .10       .00       .02    696.50
     430.       60.      241.      129.       63.       75.      133.       11.       12.     696.50
      .22       .94      3.21       .97      .095      .065      .095      .072    692.30    139.30
  .004580        1.        1.        1.         0         0         0      0.00    253.38    392.68

*SECNC 901.260
   901.26      4.91    697.61      0.00      0.00    697.77       .17       .19       .06    696.90
     430.       47.      280.      103.       46.       70.       59.       11.       12.     696.90
      .23      1.02      3.99      1.04      .095      .065      .095      .073    692.70    142.17
  .007779       33.       33.       33.         2         0         0      0.00    249.79    391.96

*SECNC 901.270
   901.27      4.80    697.90      0.00      0.00    698.12       .23       .29       .05    697.30
     430.       40.      303.       87.       38.       68.       82.       11.       12.     697.30
      .23      1.04      4.49      1.06      .095      .065      .095      .073    693.10    143.60
  .010341       33.       33.       33.         2         0         0      0.00    247.99    391.60

*SECNC 901.280
   901.28      4.68    698.28    698.18      0.00    698.59       .31       .39       .08    697.80
     430.       31.      330.       69.       30.       65.       65.       11.       12.     697.80
      .23      1.04      5.08      1.06      .095      .065      .095      .073    693.60    145.07
  .014005       33.       33.       33.         4         9         0      0.00    246.16    391.23

*SECNC 901.290
   901.29      4.80    698.80      0.00      0.00    699.02       .22       .38       .05    698.20
     430.       40.      301.       89.       39.       68.       84.       11.       12.     698.20
      .23      1.04      4.44      1.06      .095      .065      .095      .072    694.00    143.49
  .010106       32.       32.       32.         3         0         0      0.00    248.14    391.63

*SECNC 901.300
   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   901.30      4.74    699.14      0.00      0.00    699.40       .26       .35       .04    698.60
     430.       36.      315.       79.       34.       66.       74.       11.       13.     698.60
      .24      1.05      4.74      1.06      .095      .065      .095      .072    694.40    144.27
  .011847       32.       32.       32.         2         0         0      0.00    247.16    391.43

*SECNC 901.310
   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   901.31      4.66    699.66    699.66      0.00    699.99       .34       .43       .07    699.20
     430.       29.      337.       64.       28.       64.       61.       11.       13.     699.20
      .24      1.04      5.24      1.05      .095      .065      .095      .072    695.00    145.42
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  .015066      32.      32.      32.        2        6        0     0.00   245.73   391.15

*SECNC 901.320

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  697.60 MAX ELLC=  697.20

        ** FOOTBRIDGE 901D

   901.32     5.08   700.08     0.00     0.00   700.14      .06      .01      .14   699.20
     430.      82.     172.     177.      60.      67.     125.      11.      13.    699.20
      .24     1.38     2.56     1.41     .095     .065     .095     .072   695.00   139.94
  .010459       1.       1.       1.        5        0        0    -7.00   252.57   392.51

*SECNC 901.330

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  697.60 MAX ELLC=  697.20

   901.33     5.13   700.13     0.00     0.00   700.18      .05      .04      .00   699.20
     430.      84.     164.     181.      63.      68.     133.      12.      13.    699.20
      .24     1.33     2.41     1.36     .095     .065     .095     .072   695.00   139.28
  .009038       4.       4.       4.        0        0        0    -7.00   253.40   392.68

*SECNC 901.350
   901.35     5.13   700.13     0.00     0.00   700.22      .09      .00      .04   699.20
     430.      60.     241.     129.      64.      75.     134.      12.      13.    699.20
      .24      .94     3.19      .97     .095     .065     .095     .072   695.00   139.24
  .004534       1.       1.       1.        0        0        0     0.00   253.45   392.69

*SECNC 901.400
   SECNC     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

   901.40     5.10   700.20     0.00     0.00   700.30      .10      .07      .01   699.30
     430.      58.     246.     126.      61.      75.     128.      12.      13.    699.30
      .24      .96     3.30      .98     .095     .065     .095     .072   695.10   139.70
  .004921      15.      15.      15.        2        0        0     0.00   252.87   392.57

*SECNC 901.420

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.20 MAX ELLC=  697.50

        ** FOOTBRIDGE 901E

   901.42     5.19   700.29     0.00     0.00   700.33      .04      .00      .03   699.30
     430.      91.     143.     196.      68.      64.     142.      12.      13.    699.30
      .24     1.34     2.22     1.38     .095     .065     .095     .072   695.10   138.51
  .008467       1.       1.       1.        2        0        0   -12.25   254.36   392.87

*SECNC 901.430
```

```
3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.20 MAX ELLC=  697.50

   901.43      5.23    700.33      0.00      0.00    700.37       .04       .03       .00    699.30
     430.       92.      140.      198.       70.       65.      146.       12.       13.     699.30
      .24      1.32      2.15      1.35      .095      .065      .095      .072    695.10    138.18
  .007894        4.        4.        4.         0         0         0    -12.25    254.77    392.95

*SECNC 901.450
   901.45      5.22    700.32      0.00      0.00    700.40       .08       .00       .03    699.30
     430.       65.      227.      138.       71.       78.      148.       12.       13.     699.30
      .24       .91      2.93       .93      .095      .065      .095      .072    695.10    138.01
  .003677        1.        1.        1.         0         0         0      0.00    254.99    393.00

*SECNC 901.500
   901.50      5.08    700.68      0.00      0.00    700.74       .06       .34       .01    698.10
     430.       70.      167.      193.       50.       60.      154.       12.       13.     698.50
      .25      1.41      2.79      1.26      .095      .065      .095      .072    695.60    117.96
  .003420       95.       95.       95.         2         0         0      0.00    150.39    268.35

*SECNO 901.520
   SECNC     DEPTH     CPSEL     CRIWS     MSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         OLCB      QCH       QROB      ALCB      ACH       ARCP      VOL       TWA   LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.50 MAX ELLC=  697.60

        ** FCOTBRIDGE 901F LCWERED ELTRD TC KEEP BRIDGE AREA WITHIN BANKS

   901.52      5.10    700.70      0.00      0.00    700.75       .05       .00       .01    698.10
     430.       78.      112.      241.       47.       47.      155.       12.       13.     698.50
      .25      1.65      2.35      1.56      .095      .065      .095      .072    695.60    117.69
  .005176        1.        1.        1.         1         0         0    -15.20    150.69    268.38

*SECNC 901.530

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  698.50 MAX ELLC=  697.60

   901.53      5.12    700.72      0.00      0.00    700.77       .05       .02       .00    698.10
     430.       78.      111.      241.       48.       48.      157.       12.       13.     698.50
      .26      1.62      2.31      1.54      .095      .065      .095      .072    695.60    117.02
  .004931        4.        4.        4.         0         0         0    -15.20    151.44    268.46

*SECNC 901.550
   901.55      5.13    700.73      0.00      0.00    700.79       .06       .00       .01    698.10
     430.       70.      164.      195.       51.       60.      158.       12.       13.     698.50
      .26      1.27      2.72      1.24      .095      .065      .095      .071    695.60    116.82
  .003180        1.        1.        1.         0         0         0      0.00    151.67    268.49

*SECNC 901.600
   901.60      4.97    701.17      0.00      0.00    701.25       .07       .45       .01    698.70
     430.       69.      172.      188.       46.       58.      143.       13.       14.     699.10
```

```
      .27      1.52      2.93      1.32      .095      .065      .095      .071   696.20   120.68
  .004086      125.      125.      125.         2         0         0      0.00   147.34   268.01

*SECNO 901.620

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  699.10 MAX ELLC=  698.40

         ** FOOTBRIDGE 901G LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

   901.62      5.01    701.21      0.00      0.00    701.26       .05       .00       .01   698.70
     430.       82.       98.      251.       44.       48.      147.       13.       14.   699.10
      .27      1.85      2.02      1.71      .095      .065      .095      .071   696.20   119.78
  .006690        1.        1.        1.         2         0         0    -12.80   148.34   268.12

*SECNO 901.630
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  699.10 MAX ELLC=  698.40

   901.63      5.04    701.24      0.00      0.00    701.29       .05       .03       .00   698.70
     430.       82.       97.      251.       45.       49.      149.       13.       14.   699.10
      .27      1.82      1.99      1.69      .095      .065      .095      .071   696.20   119.24
  .006422        4.        4.        4.         0         0         0    -12.80   148.94   268.19

*SECNO 901.650
   901.65      5.04    701.24      0.00      0.00    701.30       .07       .00       .02   698.70
     430.       70.      109.      192.       48.       59.      150.       13.       14.   699.10
      .27      1.45      2.86      1.28      .095      .065      .095      .071   696.20   118.99
  .003656        1.        1.        1.         0         0         0      0.00   149.23   268.22

*SECNO 901.800
   901.80      4.29    702.39      0.00      0.00    702.62       .23      1.17       .15   700.60
     430.       68.      226.      136.       28.       45.       78.       14.       14.   701.00
      .29      2.44      4.99      1.74      .095      .065      .095      .071   698.10   131.85
  .015764      175.      175.      175.         2         0         0      0.00   134.04   265.89

*SECNO 902.200
   902.20      4.53    704.53      0.00      0.00    704.68       .15      2.01       .04   702.50
     430.       68.      202.      160.       34.       50.      101.       15.       15.   702.90
      .30      2.03      4.06      1.58      .095      .065      .095      .070   700.00   130.39
  .009217      170.      170.      170.         4         0         0      0.00   136.26   266.65

*SECNO 902.220

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  704.00 MAX ELLC=  703.30

         ** FOOTBRIDGE AT 902.2
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   902.22      4.54    704.54      0.00      0.00    704.74       .21       .01       .06    702.50
     430.       40.      166.      224.       20.       37.       69.       15.       15.    702.90
      .30      1.94      4.46      3.25      .095      .065      .095      .070    700.00    130.36
  .065004        1.        1.        1.         0         0         0    -58.32    136.30    266.67

*SECNO 902.230
   SECNO     DEPTH     CH SEL    CRIVS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOPL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  704.00 MAX ELLC=  703.30

   902.23      4.84    704.84      0.00      0.00    704.95       .11       .16       .05    702.50
     430.       41.      133.      256.       28.       43.       98.       15.       15.    702.90
      .30      1.45      3.12      2.61      .095      .065      .095      .070    700.00    123.93
  .026522        4.        4.        4.         2         0         0    -58.45    143.68    267.61

*SECNO 902.250
   902.25      4.99    704.89      0.00      0.00    704.97       .08       .00       .02    702.50
     430.       69.      177.      184.       43.       56.      135.       15.       15.    702.90
      .30      1.60      3.15      1.36      .095      .065      .095      .070    700.00    122.77
  .004712        1.        1.        1.         2         0         0      0.00    144.99    267.75


CCHV=    .400 CEHV=    .800
*SECNO 901.980

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      709.30 ELREA=      709.30

        ** D/S FACE SQUARE LAKE ROAD

   901.98      4.19    706.49      0.00      0.00    707.23       .73      1.73       .52    704.80
     430.        0.      430.        0.        0.       63.        0.       15.       15.    704.80
      .31      0.00      6.86      0.00      .095      .065      .095      .070    702.30    145.00
  .021630      198.      198.      198.         3         0         0      0.00     15.00    160.00

*SECNO 901.990

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD=  2 MIN ELTRD=  710.00 MAX ELLC=  709.30

   901.99      4.03    706.33      0.00      0.00    707.98      1.65       .02       .73    709.30
     430.        0.      430.        0.        0.       42.        0.       15.       15.    709.30
      .31      0.00     10.30      0.00      .095      .033      .095      .070    702.30       .04
  .016967        1.        1.        1.         2         0         0      0.00     10.42     10.46

*SECNO 902.010
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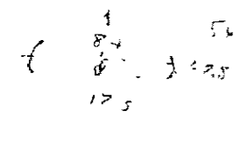
12.5'x8.4' CMP with flat bottom



453
8999
1.397

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRC= 2 MIN ELTRD= 710.00 MAX ELLC= 709.30

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 902.01 | 5.67 | 707.97 | 0.00 | 0.00 | 708.80 | .83 | .50 | .33 | 709.30 |
| 430. | 0. | 430. | 0. | 0. | 59. | 0. | 15. | 15. | 709.30 |
| .31 | 0.00 | 7.31 | 0.00 | .095 | .033 | .095 | .069 | 702.30 | .02 |
| .006727 | 49. | 49. | 49. | 3 | 0 | 0 | 0.00 | 10.46 | 10.48 |

*SECNO 902.020

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROP | ALOB | ACH | AROB | VOL | THA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 710.60 ELREA= 710.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 902.02 | 6.40 | 708.70 | 0.00 | 0.00 | 709.01 | .31 | .01 | .21 | 704.20 |
| 430. | 0. | 430. | 0. | 0. | 96. | 0. | 15. | 15. | 704.20 |
| .31 | 0.00 | 4.49 | 0.00 | .095 | .065 | .095 | .069 | 702.30 | 355.00 |
| .005782 | 1. | 1. | 1. | 3 | 0 | 0 | 0.00 | 15.00 | 370.00 |

709.1

*SECNO 902.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 902.80 | 7.16 | 709.26 | 0.00 | 0.00 | 705.31 | .04 | .19 | .11 | 706.20 |
| 430. | 39. | 208. | 183. | 59. | 95. | 174. | 16. | 15. | 705.20 |
| .33 | .67 | 2.19 | 1.05 | .095 | .065 | .095 | .069 | 702.10 | 287.40 |
| .001137 | 85. | 85. | 85. | 2 | 0 | 0 | 0.00 | 163.68 | 451.08 |

*SECNO 902.980

** D/S FACE DRIVEWAY CULVERT AT 903

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 902.98 | 5.53 | 709.43 | 0.00 | 0.00 | 709.55 | .12 | .18 | .06 | 705.80 |
| 430. | 107. | 175. | 148. | 83. | 44. | 100. | 16. | 16. | 705.80 |
| .34 | 1.29 | 3.97 | 1.48 | .095 | .065 | .095 | .069 | 703.90 | 266.98 |
| .005105 | 86. | 86. | 86. | 2 | 0 | 0 | 0.00 | 176.69 | 443.67 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.65 | 2.80 | 0.00 | 4.70 | 0.00 | 14.20 | 0.00 | 703.90 | 703.90 |

*SECNO 903.020
3280 CROSS SECTION 903.02 EXTENDED 2.34 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | AREA | | |
|---|---|---|---|---|---|---|---|---|---|
| 732.92 | 709.55 | 0.00 | 383. | 50. | 14. | 14. | 706.90 | 708.20 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.02 | 5.84 | 709.74 | 0.00 | 0.00 | 709.75 | .01 | .20 | 0.00 | 704.30 |
| 430. | 246. | 85. | 100. | 368. | 58. | 154. | 16. | 16. | 704.30 |
| .35 | .67 | 1.46 | .65 | .095 | .065 | .095 | .069 | 703.90 | 168.00 |
| .000399 | 24. | 24. | 24. | 1 | 0 | 6 | 0.00 | 178.00 | 346.00 |

[illegible] submerged
neg effect

*SECNO 903.100
3280 CROSS SECTION 903.10 EXTENDED 2.60 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.10 | 4.60 | 709.80 | 0.00 | 0.00 | 709.82 | .03 | .06 | .01 | 707.10 |
| 430. | 189. | 174. | 68. | 210. | 97. | 74. | 17. | 16. | 708.30 |
| .37 | .50 | 1.79 | .92 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .001467 | 91. | 91. | 91. | 2 | 0 | 0 | 0.00 | 178.00 | 346.00 |

*SECNO 903.120
3280 CROSS SECTION 903.12 EXTENDED 2.60 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3370 NORMAL BRIDGE,NRC= 0 MIN ELTRD= 708.30 MAX ELLC= 707.40

** FOOTBRIDGE 903A

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.12 | 4.59 | 709.79 | 0.00 | 0.00 | 709.85 | .05 | .00 | .02 | 707.10 |
| 430. | 169. | 196. | 65. | 159. | 79. | 57. | 17. | 16. | 708.30 |
| .37 | 1.06 | 2.48 | 1.13 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .008339 | 1. | 1. | 1. | 0 | 0 | 0 | -85.50 | 178.00 | 346.00 |

*SECNO 903.130
3280 CROSS SECTION 903.13 EXTENDED 2.62 FEET

3370 NORMAL BRIDGE,NRC= 0 MIN ELTRD= 708.30 MAX ELLC= 707.40

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.13 | 4.63 | 709.83 | 0.00 | 0.00 | 709.88 | .05 | .03 | .00 | 707.10 |
| 430. | 170. | 195. | 65. | 162. | 80. | 58. | 17. | 16. | 708.30 |
| .37 | 1.05 | 2.45 | 1.12 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .008007 | 4. | 4. | 4. | 1 | 0 | 0 | -85.50 | 178.00 | 346.00 |

*SECNO 903.150
3280 CROSS SECTION 903.15 EXTENDED 2.67 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.15 | 4.67 | 709.87 | 0.00 | 0.00 | 709.89 | .03 | .00 | .01 | 707.10 |
| 430. | 191. | 171. | 68. | 218. | 99. | 76. | 17. | 16. | 708.30 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .37 | .87 | 1.73 | .90 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .001331 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 178.00 | 346.00 |

*SECNC 903.280
3280 CROSS SECTION 903.28 EXTENDED 1.27 FEET

** D/S FACE DRIVEWAY CULVERT 903B

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.28 | 4.77 | 709.97 | 0.00 | 0.00 | 710.00 | .03 | .11 | .00 | 705.60 |
| 430. | 234. | 103. | 93. | 244. | 47. | 98. | 18. | 17. | 705.60 |
| .39 | .96 | 2.17 | .95 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .001407 | 79. | 79. | 79. | 2 | 0 | 0 | 0.00 | 178.00 | 346.00 |

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.70 | 2.60 | 200.00 | 4.90 | 0.00 | 17.70 | 0.00 | 705.20 | 705.20 |

*SECNC 903.320
3280 CROSS SECTION 903.32 EXTENDED 1.86 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | OWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 725.55 | 710.80 | 0.00 | 347. | 84. | 18. | 18. | 708.80 | 709.80 |

pressure flow will have no effect on the profile

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.32 | 5.35 | 710.55 | 0.00 | 0.00 | 710.57 | .02 | .57 | 0.00 | 705.60 |
| 430. | 245. | 87. | 98. | 312. | 53. | 129. | 18. | 17. | 705.60 |
| .39 | .78 | 1.64 | .76 | .095 | .072 | .095 | .069 | 705.20 | 168.00 |
| .000681 | 15. | 15. | 15. | 1 | 0 | 6 | 0.00 | 178.00 | 346.00 |

*SECNC 903.400
3280 CROSS SECTION 903.40 EXTENDED 1.20 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | OLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 903.40 | 4.70 | 710.60 | 0.00 | 0.00 | 710.63 | .03 | .05 | .01 | 706.30 |
| 430. | 232. | 105. | 92. | 236. | 47. | 95. | 19. | 17. | 706.30 |
| .40 | .99 | 2.25 | .98 | .095 | .072 | .095 | .069 | 705.90 | 168.00 |
| .001542 | 50. | 50. | 50. | 0 | 0 | 0 | 0.00 | 178.00 | 346.00 |

*SECNC 903.480
3280 CROSS SECTION 903.48 EXTENDED .52 FEET

** D/S FACE DRIVEWAY CULVERT 903C

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.48 | 4.02 | 710.72 | 0.00 | 0.00 | 710.81 | .08 | .14 | .04 | 707.10 |
| 430. | 207. | 140. | 82. | 157. | 40. | 59. | 19. | 17. | 707.10 |
| .41 | 1.32 | 3.52 | 1.39 | .095 | .072 | .095 | .069 | 706.70 | 168.00 |
| .004640 | 55. | 55. | 55. | 2 | 0 | 0 | 0.00 | 178.00 | 346.00 |

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.80 | 2.60 | 200.00 | 3.30 | 0.00 | 12.40 | 0.00 | 706.70 | 706.70 |

*SECNO 903.520
3280 CROSS SECTION 903.52 EXTENDED 2.05 FEET

PRESSURE AND WEIR FLOW

| EGPRS | ECLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRC |
|---|---|---|---|---|---|---|---|---|
| 744.33 | 712.53 | 0.00 | 340. | 92. | 12. | 13. | 710.50 | 711.50 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.52 | 5.54 | 712.24 | 0.00 | 0.00 | 712.25 | .01 | 1.45 | 0.00 | 707.10 |
| 430. | 247. | 83. | 100. | 334. | 55. | 139. | 19. | 17. | 707.10 |
| .41 | .74 | 1.51 | .72 | .095 | .072 | .095 | .069 | 706.70 | 168.00 |
| .000557 | 15. | 15. | 15. | 1 | 0 | 7 | 0.00 | 178.00 | 346.00 |

*SECNO 903.800
3280 CROSS SECTION 903.80 EXTENDED .17 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.80 | 3.67 | 712.47 | 0.00 | 0.00 | 712.62 | .15 | .26 | .11 | 710.70 |
| 430. | 154. | 266. | 11. | 105. | 71. | 13. | 21. | 18. | 711.90 |
| .43 | 1.46 | 3.73 | .80 | .095 | .072 | .095 | .069 | 708.80 | 168.00 |
| .009630 | 180. | 180. | 180. | 2 | 0 | 0 | 0.00 | 178.00 | 346.00 |

CCHV= .150 CEHV= .350
*SECNO 903.810
3280 CROSS SECTION 903.81 EXTENDED .96 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 903.81 | 4.47 | 712.97 | 0.00 | 0.00 | 713.01 | .04 | .37 | .02 | 710.40 |
| 430. | 201. | 196. | 33. | 195. | 93. | 42. | 21. | 18. | 711.60 |
| .45 | 1.03 | 2.10 | .78 | .095 | .072 | .095 | .069 | 708.50 | 168.00 |
| .002128 | 95. | 95. | 95. | 1 | 0 | 0 | 0.00 | 178.00 | 346.00 |

*SECNO 903.600
3280 CROSS SECTION 903.60 EXTENDED .97 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |

```
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID    ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  710.40 MAX ELLC=  708.90

        ** FOOTBRIDGE 903C-2 LOWERED ELTRD TO KEEP BRIDGE AREA WITHIN BANKS

  903.60     4.48    712.98     0.00      0.00    713.01      .03       .00       .00    710.40
    43C.     282.     102.      46.      196.      65.       42.       21.       18.     711.60
     .45     1.43     1.57     1.10      .095     .072      .095      .069    708.50    168.00
 .004111      1.       1.       1.         0        0         0    -28.50    178.00    346.00

*SECNC 903.650
3280 CROSS SECTION    903.65 EXTENDED       .99 FEET

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  710.40 MAX ELLC=  708.90

  903.65     4.50    713.00     0.00      0.00    713.03      .03       .02       .00    710.40
    43C.     282.     102.      47.      199.      66.       43.       21.       18.     711.60
     .45     1.42     1.55     1.09      .095     .072      .095      .069    708.50    168.00
 .003960      4.       4.       4.         0        0         0    -28.50    178.00    346.00

*SECNC 903.820
3280 CROSS SECTION    903.82 EXTENDED      1.00 FEET

  903.82     4.49    712.99     0.00      0.00    713.03      .04       .00       .00    710.40
    430.     202.     194.      34.      199.      94.       43.       21.       18.     711.60
     .45     1.01     2.06      .78      .095     .072      .095      .069    708.50    168.00
 .002018      1.       1.       1.         0        0         0      0.00    178.00    346.00

*SECNC 903.830
3280 CROSS SECTION    903.83 EXTENDED       .27 FEET

  903.83     3.87    713.17     0.00      0.00    713.27      .10       .22       .02    711.20
    430.     170.     242.      17.      128.      77.       21.       22.       19.     712.40
     .46     1.33     3.16      .85      .095     .072      .095      .069    709.30    168.00
 .006253      66.      66.      66.         2        0         0      0.00    178.00    346.00

*SECNC 903.840
3280 CROSS SECTION    903.84 EXTENDED       .09 FEET

  903.84     3.58    713.68     0.00      0.00    713.86      .18       .56       .03    712.00
    430.     145.     278.       8.       95.      69.       10.       22.       19.     713.20
     .46     1.52     4.04      .74      .095     .072      .095      .069    710.10    168.91
 .011830      67.      67.      67.         2        0         0      0.00    177.09    346.00

*SECNC 903.850
3280 CROSS SECTION    903.85 EXTENDED       .02 FEET
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST

   903.85      3.52    714.52      0.00      0.00    714.72       .20       .85       .01    712.90
     430.      140.      285.       5.       88.      67.        8.       22.       19.     714.10
      .47      1.59      4.27      .66      .095     .072      .095      .069    711.00    173.44
  .013694       67.       67.       67.         2        0         0      0.00    172.56    346.00

*SECNO 903.860
3280 CROSS SECTION     903.86 EXTENDED        .23 FEET

   903.86      3.73    716.73      0.00      0.00    716.86       .13      2.13       .01    714.90
     430.      159.      239.       13.      112.      73.       15.       23.       20.     716.10
      .49      1.42      3.56      .82      .095     .072      .095      .069    713.00    168.00
  .008500      200.      200.      200.         3        0         0      0.00    178.00    346.00

CCHV=     .400 CEHV=     .800
*SECNO 903.870

3301 HV CHANGED MORE THAN HVINS

   903.87      4.00    718.90      0.00      0.00    719.65       .75      2.30       .50    719.90
     430.        0.      430.        0.        0.      62.        0.       24.       20.     719.80
      .50      0.00      6.95      0.00      .095     .072      .095      .069    714.90    349.89
  .035399      150.      150.      150.         2        0         0      0.00     22.36    372.25

*SECNO 903.880
   903.88      5.44    721.94      0.00      0.00    722.22       .28      2.38       .19    721.50
     430.        9.      420.        0.       16.      98.        1.       24.       20.     721.40
      .51       .57      4.31      .61      .095     .072      .095      .069    716.50    272.84
  .008986      150.      150.      150.         2        0         0      0.00    103.73    376.57

*SECNO 903.890

        ** D/S FACE FOOTBRIDGE(CULVERTS) 9030

   903.89      4.90    723.40      0.00      0.00    723.93       .54      1.51       .20    719.80
     430.       31.      367.       32.       12.      59.       13.       24.       21.     719.80
      .51      2.52      6.27      2.53      .095     .072      .095      .069    718.50    348.20
  .014000      136.      136.      136.         3        0         0      0.00     25.79    373.99


SPECIAL BRIDGE

SB  XK        XKCR /    CDFQ     , KDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.65      2.90      50.00      6.40      0.00      19.20     0.00     718.50    718.50

*SECNO 903.920
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
```

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   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID    ENDST

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 AREA
   736.25    723.61     0.00      281.       150.       19.       19.      721.50    723.40


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      725.50 ELREA=      725.50

   903.92     6.36    724.66     0.00      0.00    724.95       .09      1.02      0.00    723.50
    430.       0.      430.       0.        0.      179.        0.       24.       21.     723.40
     .51      0.00      2.40     0.00      .095      .072      .095      .069    718.50    330.00
  .002277      14.       14.      14.        2         0         5      0.00     44.00    374.00


*SECNO 903.930
   903.93     5.34    725.64     0.00      0.00    725.94       .31       .82       .17    725.30
    430.       5.      425.       0.       10.       95.        0.       25.       21.     725.20
     .53      .49      4.47      .57      .095      .072      .095      .069    720.30    290.66
  .009990     196.      196.     196.        2         0         0      0.00     85.46    376.12


CCHV=     .150 CEHV=     .350
*SECNO 903.940

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  726.30 MAX ELLC=  726.10

        ** FOOTBRIDGE 903E

   903.94     5.34    725.64     0.00      0.00    725.95       .31       .01       .00    725.30
    430.       5.      425.       0.       10.       95.        0.       25.       21.     725.20
     .53      .48      4.47      .56      .095      .072      .095      .069    720.30    291.60
  .010052       1.        1.       1.        0         0         0      0.00     84.49    376.09


*SECNO 903.950

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  726.30 MAX ELLC=  726.10

   903.95     5.38    725.68     0.00      0.00    725.98       .30       .03       .00    725.30
    430.       6.      424.       0.       11.       96.        1.       25.       21.     725.20
     .53      .50      4.42      .58      .095      .072      .095      .069    720.30    286.47
  .009718       3.        3.       3.        0         0         0      0.00     89.77    376.24


*SECNO 903.960
   903.96     5.39    725.69     0.00      0.00    725.99       .30       .00       .00    725.30
    430.       6.      423.       0.       12.       96.        1.       25.       21.     725.20
     .53      .51      4.40      .59      .095      .072      .095      .069    720.30    284.27
  .009578       1.        1.       1.        0         0         0      0.00     92.03    376.30


*SECNO 904.000
   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EC        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
```

Reasonable

Suspension foot bridge

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TIME | VLCB | VCH | VRCE | XNL | XNCH | XNR | HTN | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |
| 904.00 | 6.06 | 727.36 | 0.00 | 0.00 | 727.50 | .14 | 1.49 | .02 | 726.30 |
| 430. | 64. | 334. | 2. | 77. | 114. | 3. | 26. | 22. | 726.20 |
| .55 | .82 | 3.20 | .68 | .095 | .072 | .095 | .069 | 721.30 | 234.26 |
| .004048 | 250. | 250. | 250. | 3 | 0 | 0 | 0.00 | 145.24 | 379.50 |

*SECNC 904.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 904.20 | 5.32 | 729.32 | 0.00 | 0.00 | 728.56 | .23 | 1.03 | .03 | 724.30 |
| 430. | 100. | 293. | 36. | 82. | 64. | 18. | 27. | 22. | 724.30 |
| .57 | 1.22 | 4.59 | 2.05 | .095 | .072 | .095 | .070 | 723.00 | 242.99 |
| .006710 | 200. | 200. | 200. | 2 | 0 | 0 | 0.00 | 134.54 | 377.53 |

CCHV= .400 CEHV= .800
*SECNC 904.480

** D/S FACE FOOTBRIDGE SC4A

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 904.48 | 4.97 | 729.27 | 0.00 | 0.00 | 729.66 | .39 | .98 | .12 | 725.60 |
| 430. | 60. | 333. | 37. | 45. | 60. | 15. | 27. | 23. | 725.60 |
| .57 | 1.35 | 5.59 | 2.43 | .095 | .072 | .095 | .070 | 724.30 | 254.29 |
| .010896 | 116. | 116. | 116. | 2 | 0 | 0 | 0.00 | 121.75 | 376.04 |

SPECIAL BRIDGE

| SB | XK | XKOR | CDFW | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.65 | 2.90 | 120.00 | 6.40 | 0.00 | 19.20 | 0.00 | 724.30 | 724.30 |

*SECNC 904.520
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | CPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 742.12 | 729.66 | 0.00 | 330. | 100. | 19. | 19. | 727.30 | 729.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 904.52 | 5.49 | 729.79 | 0.00 | 0.00 | 729.97 | .18 | .31 | 0.00 | 725.60 |
| 430. | 118. | 274. | 38. | 101. | 66. | 20. | 27. | 23. | 725.60 |
| .57 | 1.17 | 4.16 | 1.88 | .095 | .072 | .095 | .070 | 724.30 | 237.50 |
| .005291 | 14. | 14. | 14. | 2 | 0 | 6 | 0.00 | 140.75 | 378.25 |

*SECNC 904.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 904.60 | 4.25 | 731.25 | 0.00 | 0.00 | 731.64 | .38 | 1.50 | .16 | 730.70 |
| 430. | 38. | 392. | 0. | 31. | 75. | 1. | 28. | 23. | 730.70 |
| .58 | 1.19 | 5.20 | .86 | .095 | .072 | .095 | .070 | 727.00 | 272.34 |
| .017669 | 170. | 170. | 170. | 2 | 0 | 0 | 0.00 | 103.64 | 375.98 |

*SECNC 904.650

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QRCB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLCB | VCH | VRCB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

```
   904.65      4.49    732.49      0.00      0.00    732.76       .27      1.07       .05    731.70
     430.       64.      365.       1.       50.       82.        1.       28.       23.     731.70
      .59      1.27      4.48       .89      .095      .072      .095      .070    728.00    265.86
  .011832       75.       75.       75.         3         0         0      0.00    110.97    376.83

CCHV=     .150 CEHV=     .350
*SECNO 904.700
   904.70      4.24    733.24      0.00      0.00    733.33       .08       .54       .03    730.60
     430.      255.      135.       40.      134.       42.       39.       28.       24.     731.40
      .60      1.90      3.19      1.03      .095      .072      .095      .070    729.00    257.72
  .004899       75.       75.       75.         2         0         0      0.00    116.43    374.15

*SECNO 904.750
   904.75      3.56    733.56      0.00      0.00    733.75       .19       .39       .04    731.60
     430.      250.      160.       20.       93.       34.       15.       28.       24.     732.40
      .60      2.67      4.70      1.29      .095      .072      .095      .070    730.00    262.80
  .014106       50.       50.       50.         2         0         0      0.00     95.82    358.62

*SECNO 904.800
   904.80      3.36    734.36      0.00      0.00    734.62       .26       .84       .02    732.60
     430.      245.      170.       14.       82.       32.       11.       29.       24.     733.40
      .61      2.99      5.37      1.37      .095      .072      .095      .070    731.00    264.30
  .020313       50.       50.       50.         2         0         0      0.00     89.70    354.01

*SECNO 904.900
   904.90      3.72    735.92      0.00      0.00    736.07       .16      1.44       .02    733.80
     430.      252.      153.       24.      103.       36.       20.       29.       24.     734.60
      .62      2.46      4.26      1.23      .095      .072      .095      .070    732.20    261.62
  .010792      100.      100.      100.         2         0         0      0.00    100.62    362.23

*SECNO 905.200
   SECNO      DEPTH     CLSEL     CRIWS     WSELK      EG        HV        HL       OLOSS    BANK ELEV
   Q          OLOB      GCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN      ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID      ENDST

   905.20      3.35    737.55      0.00      0.00    737.75       .20      1.66       .01    740.00
     430.        0.      383.       47.        0.      103.       20.       29.       24.     734.20
      .63      0.00      3.70      2.34      .095      .072      .095      .070    734.20    264.37
  .016685      125.      125.      125.         2         0         0      0.00     89.44    353.81

                                                                  - extremely high                no effect
CCHV=     .400 CEHV=     .800
*SECNO 904.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      740.10 ELREA=      740.10

        ** D/S FACE LIVERNOIS ROAD

   904.98      5.45    739.85      0.00      0.00    740.52       .68      2.39       .38    736.00
     430.        0.      430.        0.        0.       65.        0.       30.       24.     736.80
      .63      0.00      6.60      0.00      .095      .072      .095      .070    734.40    320.00
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .020436 | 130. | 130. | 130. | 2 | 0 | 0 | 0.00 | 12.00 | 332.00 |

SPECIAL BRIDGE

| SB | XK | XKCR | CDFQ | RDLEN | PWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.56 | 2.60 | 0.00 | 12.00 | 0.00 | 60.00 | 0.00 | 734.40 | 734.40 |

*SECNO 905.020
3280 CROSS SECTION 905.02 EXTENDED 2.75 FEET

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 741.89 | 740.44 | 0.00 | 0. | 430. | 60. | 43. | 738.00 | 743.50 |

Trash rack, twin 5' CMP (A=39.35ft²) imply increasing loss through structure 15-1.7 ft

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 744.40 ELREA= 743.50

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 905.02 | 7.15 | 741.55 | 0.00 | 0.00 | 741.69 ? | .34 | 1.36 | 0.00 | 735.40 |
| 430. | 0. | 430. | 0. | 0. | 92. | 0. | 30. | 24. | 735.40 |
| .63 | 0.00 | 4.68 | 0.00 | .095 | .072 | .095 | .070 | 734.40 | 505.00 |
| .006462 | 65. | 65. | 65. | 2 | 0 | 0 | 0.00 | 13.00 | 518.00 |

may be low by ≈ 17-1.9 ft

*SECNO 905.800
3280 CROSS SECTION 905.80 EXTENDED 3.17 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 905.80 | 6.47 | 742.07 | 0.00 | 0.00 | 742.08 | .01 | .06 | .13 | 737.60 |
| 430. | 155. | 142. | 133. | 234. | 137. | 212. | 30. | 25. | 737.50 |
| .66 | .66 | 1.04 | .63 | .095 | .078 | .095 | .070 | 735.60 | 435.00 |
| .000301 | 70. | 70. | 70. | 2 | 0 | 0 | 0.00 | 145.00 | 580.00 |

CCHV= .150 CEHV= .350
*SECNO 905.820
3280 CROSS SECTION 905.82 EXTENDED 1.64 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 905.82 | 4.94 | 742.14 | 0.00 | 0.00 | 742.17 | .03 | .08 | .01 | 739.20 |
| 430. | 139. | 176. | 115. | 137. | 100. | 124. | 32. | 25. | 739.10 |
| .69 | 1.01 | 1.76 | .93 | .095 | .078 | .095 | .070 | 737.20 | 435.00 |
| .001304 | 150. | 150. | 150. | 2 | 0 | 0 | 0.00 | 145.00 | 580.00 |

*SECNO 905.830
3280 CROSS SECTION 905.83 EXTENDED .38 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

```
   905.83      3.68    742.48      0.00      0.00    742.61       .13       .41       .04    740.80
     430.      109.      249.       72.       64.       70.       51.       33.       26.    740.70
      .71      1.72      3.57      1.42      .095      .078      .095      .070    738.80    443.46
  .008644      150.      150.      150.         2         0         0      0.00    136.54    580.00

*SECNO 905.850
3280 CROSS SECTION    905.85 EXTENDED       .26 FEET

   905.85      3.56    743.90      0.00      0.00    744.12       .16      1.50       .01    742.40
     430.      105.      261.       65.       57.       67.       44.       33.       26.    742.30
      .72      1.83      3.90      1.48      .095      .078      .095      .070    740.40    444.82
  .010907      155.      155.      155.         2         0         0      0.00    135.18    580.00

*SECNO 905.860
3280 CROSS SECTION    905.86 EXTENDED       .28 FEET

   905.86      3.57    743.57      0.00      0.00    745.73       .16      1.61       .00    744.00
     430.      105.      259.       66.       58.       67.       45.       34.       26.    743.90
      .73      1.81      3.85      1.47      .095      .078      .095      .070    742.00    444.47
  .010567      150.      150.      150.         2         0         0      0.00    135.53    580.00

*SECNO 905.950
   905.95      2.90    746.50      0.00      0.00    746.54       .03       .79       .02    744.20
     430.      196.       95.      138.      157.       45.      115.       35.       27.    744.00
      .76      1.25      2.12      1.20      .095      .078      .095      .071    743.60    367.49
  .003137      150.      150.      150.         3         0         0      0.00    198.27    565.76

*SECNO 905.960
   905.96      2.17    747.37      0.00      0.00    747.48       .11       .92       .03    745.80
     430.      181.      127.      122.       89.       33.       60.       36.       28.    745.60
      .78      2.04      3.82      2.02      .095      .078      .095      .071    745.20    378.89
  .015251      155.      155.      155.         2         0         0      0.00    167.40    546.29

*SECNO 905.970
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   905.97      2.39    749.19      0.00      0.00    749.27       .07      1.78       .01    747.40
     430.      189.      116.      125.      109.       37.       75.       36.       28.    747.20
      .80      1.74      3.13      1.66      .095      .078      .095      .071    746.80    375.42
  .008946      155.      155.      155.         4         0         0      0.00    178.39    553.81

*SECNO 905.980
   905.98      2.31    750.71      0.00      0.00    750.80       .09      1.52       .00    749.00
     430.      187.      120.      124.      101.       36.       69.       37.       29.    748.80
      .82      1.84      3.37      1.79      .095      .078      .095      .071    748.40    376.73
  .010850      155.      155.      155.         3         0         0      0.00    174.25    550.98

*SECNO 906.000
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 906.00 | 2.34 | 752.34 | 0.00 | 0.00 | 752.42 | .08 | 1.62 | .00 | 750.60 |
| 430. | 188. | 118. | 124. | 104. | 36. | 71. | 38. | 30. | 750.40 |
| .84 | 1.80 | 3.27 | 1.74 | .095 | .078 | .095 | .071 | 750.00 | 376.24 |
| .010086 | 155. | 155. | 155. | 2 | 0 | 0 | 0.00 | 175.80 | 552.04 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: GIBSON-RENSHAW DRAIN WEST

4) DOCUMENT TYPE: REPORT

00BREAK00

FLOOD INSU[illegible] REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Gibson-Renshaw West

STUDY LIMITS: Confluence with Gibson Drain (downstream limit) to Vernmour Rd. and Fredmoor Rd. extended-location at which drain splits and goes two ways - 90° north-east and 90° south-west (upstream limit)

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/5/79 - 7/12/79 - McNamee, Porter and Seeley fieldcrew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .065 - .078 |
| Overbank "n" | .095 |
| n values thru bridges | .013 - .033 |
| Contraction Coefficients | 0.15-0.50 |
| Expansion Coefficients | 0.35 - 0.90 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description.
Cross-section plots enclosed. IPLOTS for x-sections 899.1, 900.6, and 900.7 are included in the 100 year Convergence Test. These plots represent revisions to other plots at these sections and any repeated sections based on them.

XKOR CALCULATIONS See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. This was assumed since it is expected that Gibson-Renshaw west would be peaking sooner than the main channel, Gibson Drain. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100-year flow by raising and lowering all Manning channel "n" values by 30%. It was determined that due to the steep slope and rough channel conditions, the Manning channel "n" values which were increased by 30% should be used for all flows.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation.

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr designated floodway, (ii) 10, 50 and 500 yr. flood profiles and (iii) convergence test and sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500-year flood plains at this time since this will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile.)

At Livernois Rd. (cross sections 904.98-905.02) the elevation of the low chord (ELLC) was lowered from 739.4 to 738. in order to correctly model pressure flow for the 10-year flow.

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McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: Troy
WATERCOURSE: [illegible]

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 899 | | 4 | Valley Section - Abrams Contour Map |
| 899.1 | A | 3 | D/S Face Footbridge 17C - Repeat 900 |
| 899.13 | | 3 | U/S Face Footbridge 17C - Repeat 900 |
| 899.2 | | 3 | D/S Face Footbridge 17D - Repeat 900 |
| 899.22 | B | 3 | Footbridge Opening - Repeat 900 |
| 899.23 | | 3 | Footbridge Opening - Repeat 900 |
| 899.25 | | 3 | U/S Face Footbridge - Repeat 900 |
| 900 | C | 1 | Valley Section |
| 900.2 | | 3 | D/S Face Footbridge 900A - Repeat 900 |
| 900.22 | D | 3 | Footbridge Opening - Repeat 900 |
| 900.23 | | 3 | Footbridge Opening - Repeat 900 |
| 900.25 | | 3 | U/S Face Footbridge 900A - Repeat 900 |
| 900.4 | | 3 | D/S Face Footbridge 900B - Repeat 900 |
| 900.42 | E | 3 | Footbridge Opening - Repeat 900 |
| 900.43 | | 3 | Footbridge Opening - Repeat 900 |
| 900.45 | | 3 | U/S Face Footbridge - Repeat 900 |
| 900.6 | | 4 | D/S Face Footbridge 900C - Modified from 901 |
| 900.62 | F | 4 | Footbridge Opening - " " " |
| 900.63 | | 4 | Footbridge Opening - " " " |
| 900.65 | | 4 | U/S Face Footbridge - " " " |
| 900.7 | | 3 | Valley Section - Repeat 901 |
| 900.8 | | 3 | D/S Face Footbridge 900D - Repeat 901 |
| 900.82 | G | 3 | Footbridge Opening - " " |
| 900.83 | | 3 | Footbridge Opening - " " |
| 900.85 | | 3 | U/S Face Footbridge - " " |
| 900.86 | | 3 | Valley Section - Repeat 901 |
| 900.87 | | 3 | Valley Section - Repeat 901 |
| 901 | H | 1 | Valley Section - D/S Face Footbridge 901A |
| 901.02 | | 3 | Footbridge Opening - Repeat 901 |
| 901.03 | | 3 | Footbridge Opening - " " |
| 901.05 | | 3 | U/S Face Footbridge - " " |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB HUD-FIA H-4705 SHEET 0
COMMUNITY: Troy
WATERCOURSE: Gibson - [illegible]

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Aprams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 901.1 | | 3 | D/s Face Footbridge 901B - Repeat 901 |
| 901.12 | | 3 | Footbridge Opening - " " |
| 901.13 | I | 3 | Footbridge Opening - " " |
| 901.15 | | 3 | U/s Face Footbridge - " " |
| 901.17 | | 3 | Valley Section - " " |
| 901.2 | | 3 | D/s Face Footbridge 901C - " " |
| 901.22 | | 3 | Footbridge Opening - " " |
| 901.23 | J | 3 | Footbridge Opening - " " |
| 901.25 | | 3 | U/s Face Footbridge - " " |
| 901.26 | | 3 | Valley Section - " " |
| 901.27 | | 3 | " " - " " |
| 901.28 | | 3 | " " - " " |
| 901.29 | | 3 | " " - " " |
| 901.30 | | 3 | " " - " " |
| 901.31 | | 3 | D/s Face Footbridge 901D - " " |
| 901.32 | | 3 | Footbridge Opening - " " |
| 901.33 | K | 3 | Footbridge Opening - " " |
| 901.35 | | 3 | U/s Face Footbridge - " " |
| 901.4 | | 3 | D/s Face Footbridge 901E " " |
| 901.42 | | 3 | Footbridge Opening - " " |
| 901.43 | L | 3 | Footbridge Opening - " " |
| 901.45 | | 3 | U/s Face Footbridge - " " |
| 901.5 | | 3 | Valley Section - D/s Face Footbridge 901F - Repeat 902.2 |
| 901.52 | | 3 | Footbridge Opening - Repeat 902.2 |
| 901.53 | M | 3 | Footbridge Opening - " " |
| 901.55 | | 3 | U/s Face Footbridge - " " |
| 901.6 | | 3 | D/s Face Footbridge 901G " " |
| 901.62 | | 3 | Footbridge Opening " " |
| 901.63 | N | 3 | Footbridge Opening " " |
| 901.65 | | 3 | U/s Face Footbridge " " |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: Troy
WATERCOURSE: Gibson - Ryan Drain

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 901.8 | | 3 | Valley Section - Repeat 902.2 |
| 902.2 | O | 1 | Valley Section - D/s Face Footbridge |
| 902.22 | | 3 | Footbridge Opening - Repeat 902.2 |
| 902.23 | | 3 | Footbridge Opening - " " |
| 902.25 | | 3 | U/s Face Footbridge - " " |
| 901.98 | | 4 | D/s Face Square Lake Rd - Modified From 902.2 |
| 901.99 | | 4 | Bridge Opening - Developed from bridge detail |
| 902.01 | P | 4 | Bridge Opening - Developed from bridge detail |
| 902.02 | | 4 | U/s Face Square Lake Rd - Modified From 902.8 |
| 902.8 | Q | 1 | Valley Section |
| 902.98 | | 4 | D/s Face Driveway Culvert - Modified from 902.8 |
| 903.02 | R | 4 | U/S Face Driveway Culvert - Modified From 903.8 |
| 903.1 | | 3 | Valley Section - D/s Face Footbridge 903A - Repeat 903.8 |
| 903.12 | | 3 | Footbridge Opening - Repeat 903.8 |
| 903.13 | S | 3 | Footbridge Opening - " " |
| 903.15 | | 3 | U/s Face Footbridge - " " |
| 903.28 | | 4 | D/s Face Driveway Culvert 903B - Modified From 903.8 |
| 903.32 | T | 4 | U/s Face Driveway Culverts - Modified from 903.8 |
| 903.4 | | 4 | Valley Section - Modified from 903.8 |
| 903.48 | | 4 | D/s Face Driveway Culvert 903C - Modified From 903.8 |
| 903.52 | U | 4 | U/s Face Driveway Culvert - Modified From 903.8 |
| 903.8 | V | 1 | Valley Section |
| 903.81 | | 3 | D/s Face Footbridge 903C-2 - Repeat 903.8 |
| 903.6 | | 3 | Footbridge Opening - Repeat 903.8 |
| 903.65 | W | 3 | Footbridge Opening - " " |
| 903.82 | | 3 | U/s Face Footbridge - " " |
| 903.83 | | 3 | Valley Section - " " |
| 903.84 | | 3 | " " " " |
| 903.85 | | 3 | " " " " |
| 903.86 | | 3 | " " " " |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY: Troy
WATERCOURSE: Gibson Drain West

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 903.87 | | 3 | Valley Section - Repeat 904 |
| 903.88 | | 3 | Valley Section - Repeat 904 |
| 903.89 | | 3 | D/s Face Footbridge 903 D - Repeat 904 |
| 903.92 | X | 3 | U/S Face Footbridge 903 D - Repeat 904 |
| 903.93 | | 3 | Valley Section - D/s Face Footbridge 903 E - Repeat 904 |
| 903.94 | | 3 | Footbridge opening - Repeat 904 |
| 903.95 | Y | 3 | Footbridge Opening - " " |
| 903.96 | | 3 | U/s Face Footbridge - " " |
| 904 | Z | 1 | Valley Section |
| 904.2 | | 3 | Valley Section - Repeat 904 |
| 904.48 | | 3 | D/s Face Footbridge 904 A - Repeat 904 |
| 904.52 | AA | 3 | U/s Face Footbridge 904A - Repeat 904 |
| 904.6 | | 3 | Valley Section - Repeat 904 |
| 904.65 | | 3 | Valley Section - Repeat 904 |
| 904.7 | | 3 | Valley Section - Repeat 905.2 |
| 904.75 | | 3 | " " " " |
| 904.8 | | 3 | " " " " |
| 904.9 | | 3 | " " " " |
| 905.2 | AB | 1 | Valley Section |
| 904.98 | | 4 | D/s Face Livernois - Modified from 905.2 |
| 905.02 | AC | 4 | U/s Face Livernois - Modified from 905.8 |
| 905.8 | AD | 1 | Valley Section |
| 905.82 | | 3 | Valley Section - Repeat 905.8 |
| 905.83 | | 3 | " " " " |
| 905.85 | | 3 | " " " " |
| 905.86 | | 3 | " " " " |
| 905.95 | | 3 | Valley Section - Repeat 906 |
| 905.96 | | 3 | " " " " |
| 905.97 | | 3 | " " " " |
| 905.98 | | 3 | " " " " |
| 906 | | 1 | Valley Section |

COMMUNITY: Troy
WATER[illegible] OF Gibson Reservoir West

TABLE 2 – XKOR CALCULATIONS

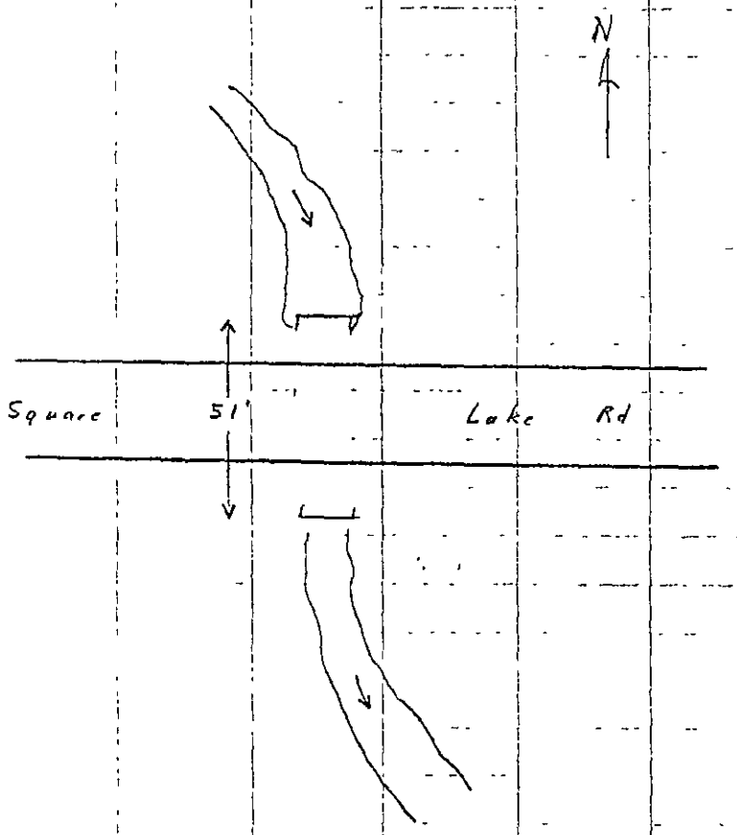
$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 899.1 - 899.13 | 0.2 | 36 | 30 | 1.2 | .06 | 5 | 0.4 | 1.6 | Footbridge 17C - opening is natural channel ∴ n = .06 |
| 902.98 - 903.02 | 0.5 | 14.2 | 18.4 | 0.8 | .013 | 24 | 0.15 | 1.65 | Driveway Culvert |
| 903.28 - 903.32 | 0.5 | 17.7 | 15 | 1.18 | .025 | 15 | 0.2 | 1.7 | Driveway Culvert 903B |
| 903.48 - 903.52 | 0.5 | 12.4 | 12.6 | 0.98 | .025 | 15 | 0.3 | 1.8 | Driveway Culvert 903C |
| 903.89 - 903.92 | 0.5 | 19.2 | 14. | 1.37 | .025 | 14 | 0.15 | 1.65 | Footbridge 903D |
| 904.48 - 904.52 | 0.5 | 19.2 | 14. | 1.37 | .025 | 14 | 0.15 | 1.65 | Footbridge 904A |
| 904.98 - 905.02 | 0.4 | 60. | 34 | 1.76 | .025 | 65 | 0.78 | 2.56 | Livermors - 2 amp's in series with Box culvert (u/s) loss in terms of Box culvert - includes contraction loss coeff of 0.38 |

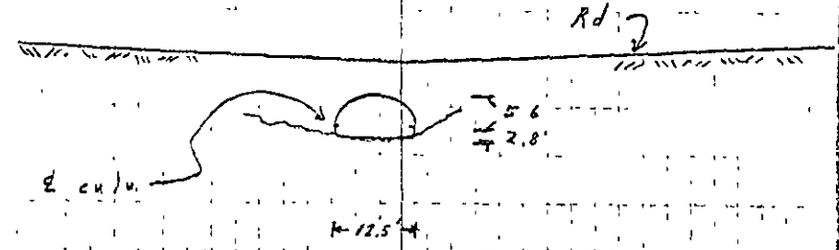
7-12-71

411-C/9

Gibson Renshow
X-sec #902




| Sta | Ht above ℄ culvert | Ht below ℄ culvert |
|---|---|---|
| 2 | 4.0 | |
| 4 | 5.0 | |
| 6 | 5.6 | 2.8' |
| 8 | 5.3 | |
| 10 | 4.5 | |




12.5' x 8.4' flat bottom culvert
12'-6" + 8'-5"

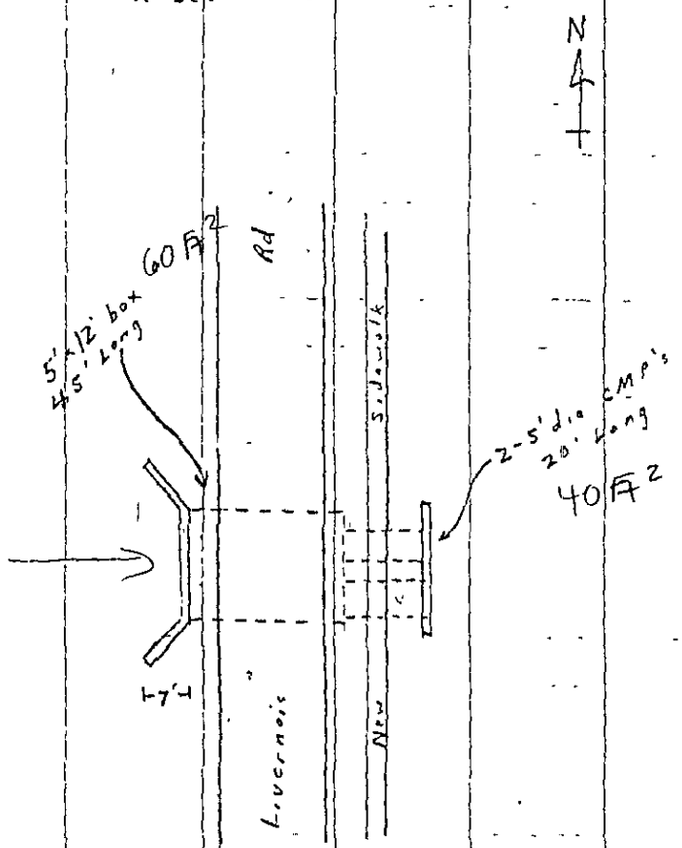
12'-6" x 7'-11"
or

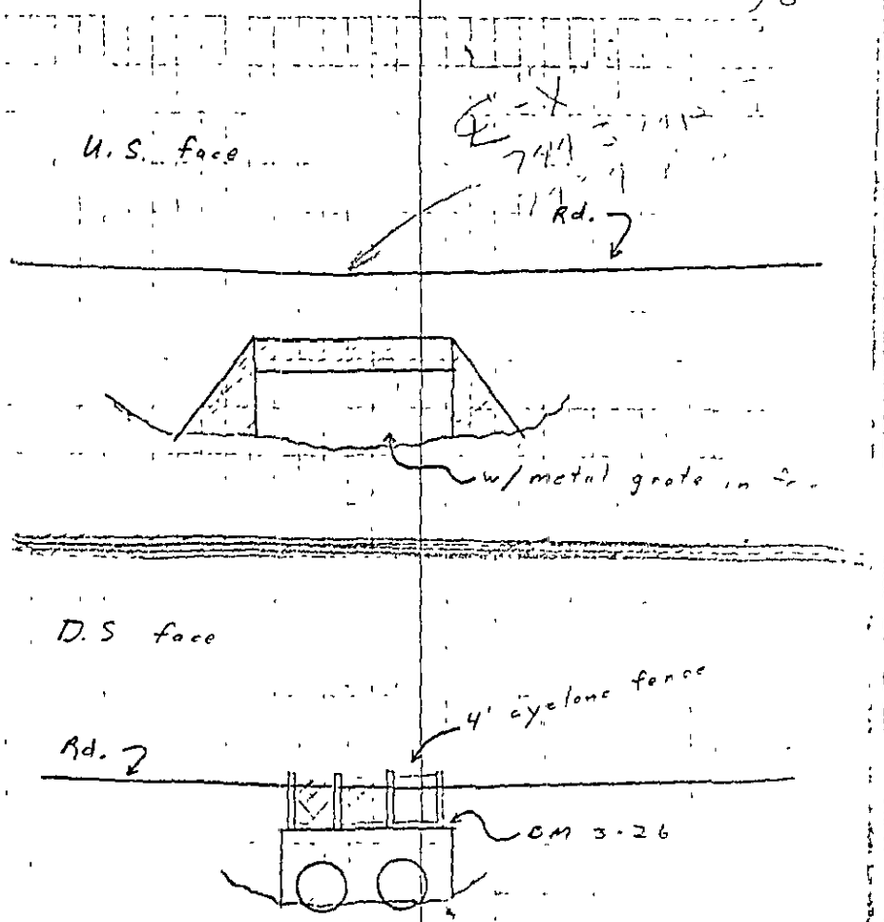
Note: No Stream F. Fabrication - See Photo

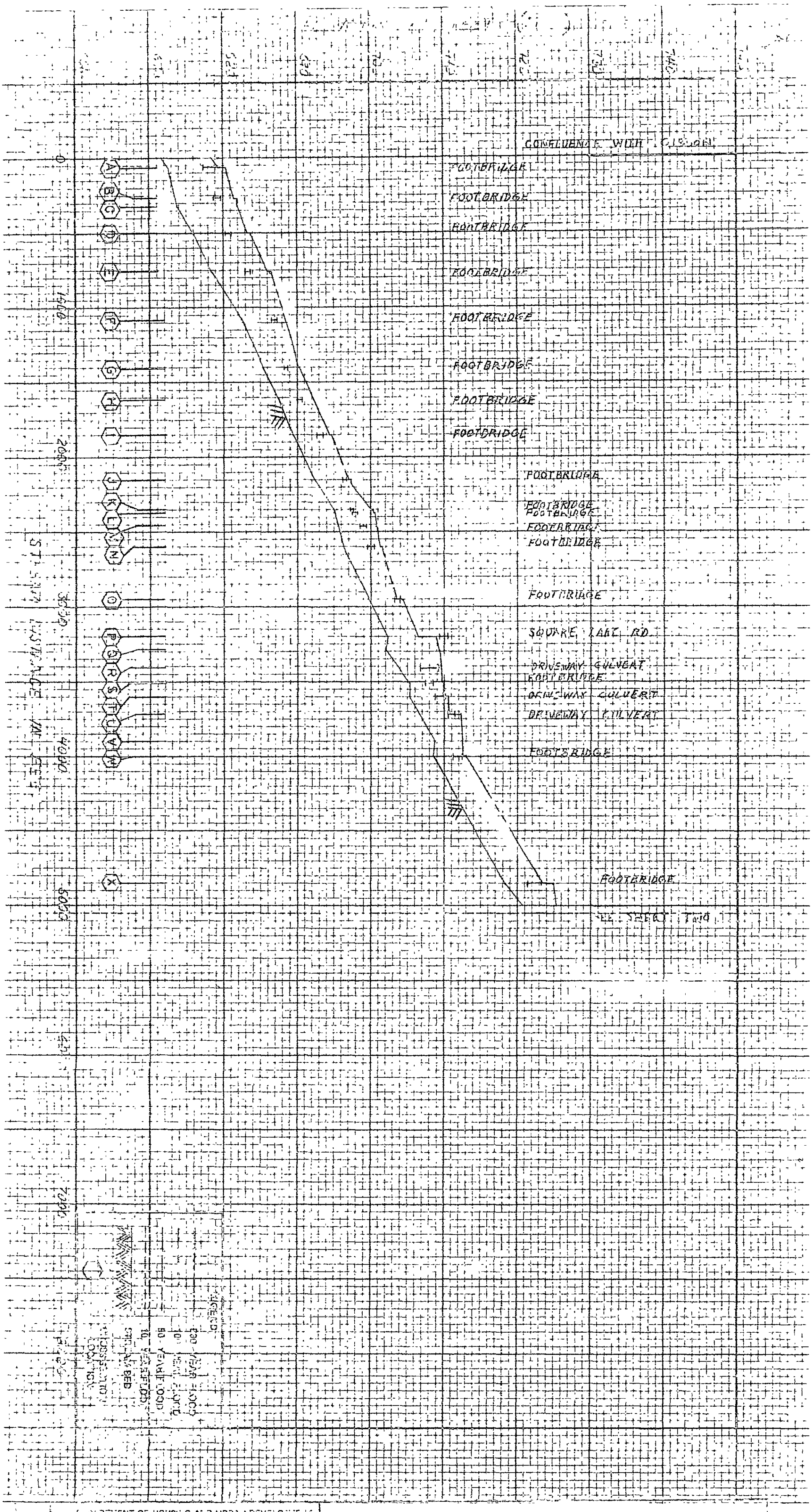
7-11-79

477-C/6

Gibbon Renshaw
X-sec # 905

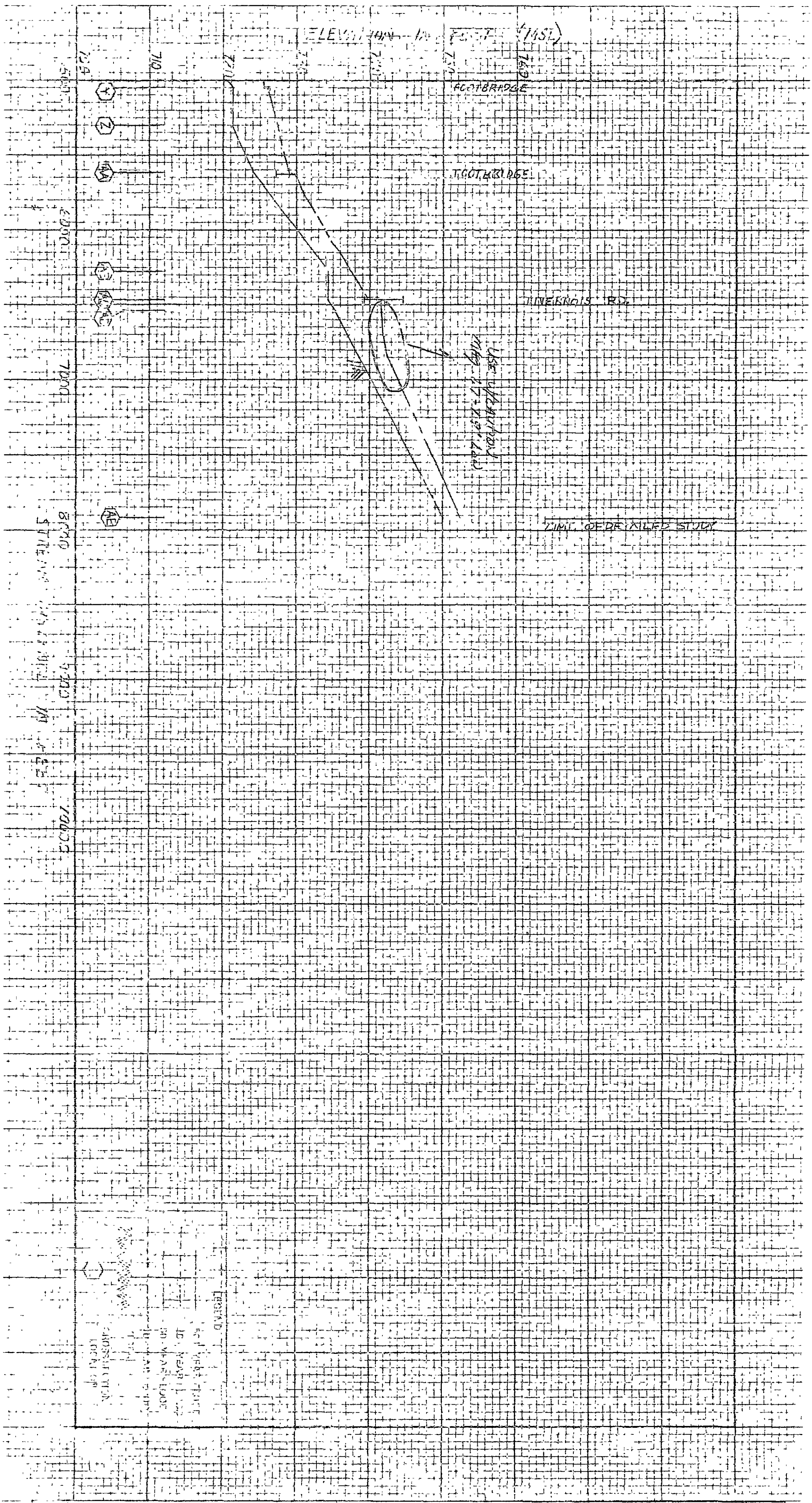





DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

FLOOD PROFILES




FLOOD PROFILES

BOOK HEASHAW WEST

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY.

3) WATERCOURSE: HAWTHORNE DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HAWTHORN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 390.00 | 629.12 | 0.00 | 629.13 | 1.11 | .76 | 718.67 | 369.46 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 500.00 | 629.59 | 0.00 | 629.60 | 1.06 | .80 | 919.66 | 486.61 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 520.00 | 630.21 | 0.00 | 630.22 | .59 | .66 | 1188.74 | 674.22 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 790.00 | 630.84 | 0.00 | 630.85 | .78 | .81 | 1462.16 | 895.16 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 390.00 | 629.14 | 0.00 | 629.15 | 2.05 | .94 | 528.18 | 272.19 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 500.00 | 629.61 | 0.00 | 629.62 | 1.86 | .98 | 712.84 | 366.30 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.22 | 0.00 | 630.23 | .99 | .79 | 975.61 | 523.03 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 790.00 | 630.85 | 0.00 | 630.86 | 1.20 | .95 | 1250.23 | 721.34 |
| 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 390.00 | 629.16 | 0.00 | 629.16 | .97 | .80 | 888.34 | 396.06 |
| 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 500.00 | 629.62 | 0.00 | 629.63 | .96 | .85 | 1094.13 | 510.06 |
| 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 520.00 | 630.23 | 0.00 | 630.24 | .57 | .71 | 1381.06 | 688.10 |
| 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 790.00 | 630.87 | 0.00 | 630.87 | .74 | .86 | 1688.85 | 919.21 |
| 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 390.00 | 629.16 | 0.00 | 629.17 | .97 | .80 | 889.23 | 396.53 |
| 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 500.00 | 629.63 | 0.00 | 629.63 | .96 | .85 | 1094.70 | 510.40 |
| 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.23 | 0.00 | 630.24 | .57 | .71 | 1381.13 | 688.14 |
| 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 790.00 | 630.87 | 0.00 | 630.88 | .74 | .86 | 1688.59 | 919.01 |
| 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 390.00 | 629.21 | 0.00 | 629.26 | 15.63 | 2.16 | 257.69 | 98.65 |
| 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 500.00 | 629.67 | 0.00 | 629.72 | 12.31 | 2.15 | 353.52 | 142.48 |
| 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 520.00 | 630.26 | 0.00 | 630.29 | 5.85 | 1.67 | 513.43 | 214.97 |
| 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 790.00 | 630.90 | 0.00 | 630.94 | 6.08 | 1.90 | 737.28 | 320.26 |
| 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 390.00 | 629.54 | 0.00 | 629.55 | 3.36 | 1.26 | 508.39 | 212.65 |
| 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 500.00 | 629.97 | 0.00 | 629.98 | 3.18 | 1.33 | 653.67 | 280.30 |
| 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 520.00 | 630.43 | 0.00 | 630.44 | 2.03 | 1.14 | 827.91 | 364.60 |
| 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 790.00 | 631.08 | 0.00 | 631.10 | 2.27 | 1.32 | 1119.54 | 524.81 |
| 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 390.00 | 629.79 | 0.00 | 629.83 | 9.79 | 1.84 | 314.07 | 124.64 |
| 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 500.00 | 630.20 | 0.00 | 630.24 | 8.78 | 1.91 | 411.88 | 168.79 |
| 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 520.00 | 630.57 | 0.00 | 630.60 | 5.68 | 1.65 | 520.24 | 218.09 |
| 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 790.00 | 631.24 | 0.00 | 631.27 | 5.74 | 1.86 | 756.83 | 329.72 |
| 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 390.00 | 630.72 | 0.00 | 630.82 | 24.85 | 2.97 | 204.60 | 78.23 |
| 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 500.00 | 631.05 | 0.00 | 631.16 | 24.21 | 3.08 | 254.39 | 101.62 |
| 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 520.00 | 631.18 | 0.00 | 631.28 | 21.67 | 2.97 | 277.59 | 111.71 |
| 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 790.00 | 631.84 | 0.00 | 631.93 | 19.20 | 3.08 | 460.27 | 180.28 |

| | SECNO | XLCH | ELTRD | ELLC | ELFIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 390.00 | 631.66 | 0.00 | 631.75 | 21.47 | 2.91 | 267.05 | 84.16 |
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 500.00 | 631.94 | 0.00 | 632.02 | 19.00 | 2.90 | 365.90 | 114.70 |
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.00 | 0.00 | 632.07 | 18.17 | 2.86 | 386.66 | 122.00 |
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 790.00 | 632.55 | 0.00 | 632.61 | 15.00 | 2.87 | 586.83 | 203.95 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 390.00 | 631.99 | 0.00 | 632.03 | 10.46 | 2.17 | 382.62 | 120.56 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 500.00 | 632.24 | 0.00 | 632.28 | 10.37 | 2.26 | 474.06 | 155.29 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.29 | 0.00 | 632.33 | 10.23 | 2.27 | 491.96 | 162.59 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 790.00 | 632.79 | 0.00 | 632.83 | 10.05 | 2.44 | 679.96 | 249.22 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 390.00 | 633.05 | 633.05 | 633.25 | 304.51 | 5.23 | 140.03 | 22.35 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 500.00 | 633.09 | 633.09 | 633.36 | 421.89 | 6.18 | 150.33 | 24.34 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.08 | 633.08 | 633.39 | 475.78 | 6.56 | 147.77 | 23.84 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 790.00 | 633.33 | 633.33 | 633.59 | 399.80 | 6.21 | 217.63 | 39.51 |
| | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 390.00 | 633.58 | 0.00 | 633.61 | 41.37 | 2.06 | 293.13 | 60.64 |
| | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 500.00 | 633.74 | 0.00 | 633.78 | 41.97 | 2.12 | 343.43 | 77.18 |
| | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.79 | 0.00 | 633.83 | 41.15 | 2.11 | 354.45 | 81.06 |
| | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 790.00 | 634.01 | 0.00 | 634.07 | 55.50 | 2.52 | 420.52 | 106.04 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 390.00 | 633.61 | 0.00 | 633.62 | 1.49 | 1.08 | 684.05 | 319.42 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 500.00 | 633.78 | 0.00 | 633.79 | 2.05 | 1.29 | 732.53 | 349.56 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 520.00 | 633.82 | 0.00 | 633.83 | 2.10 | 1.32 | 746.65 | 358.59 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 790.00 | 634.05 | 0.00 | 634.08 | 3.79 | 1.82 | 817.54 | 405.68 |
| | 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 390.00 | 633.62 | 0.00 | 633.63 | 1.85 | 1.18 | 628.10 | 286.40 |
| | 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 500.00 | 633.78 | 0.00 | 633.80 | 2.51 | 1.40 | 677.61 | 315.52 |
| | 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 520.00 | 633.83 | 0.00 | 633.84 | 2.58 | 1.43 | 690.92 | 323.60 |
| | 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 790.00 | 634.07 | 0.00 | 634.10 | 4.60 | 1.96 | 761.78 | 368.40 |
| | 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 390.00 | 633.87 | 0.00 | 633.93 | 11.58 | 2.39 | 352.57 | 114.60 |
| | 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 500.00 | 634.11 | 0.00 | 634.16 | 12.06 | 2.53 | 431.60 | 143.96 |
| | 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 520.00 | 634.16 | 0.00 | 634.21 | 11.88 | 2.53 | 449.15 | 150.84 |
| | 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 790.00 | 634.57 | 0.00 | 634.63 | 13.20 | 2.83 | 623.87 | 217.45 |
| | 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 390.00 | 634.09 | 0.00 | 634.23 | 23.27 | 3.28 | 196.60 | 80.85 |
| | 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 500.00 | 634.34 | 0.00 | 634.50 | 25.83 | 3.61 | 242.26 | 98.37 |
| | 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 520.00 | 634.39 | 0.00 | 634.55 | 25.96 | 3.64 | 251.20 | 102.05 |
| | 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 790.00 | 634.83 | 0.00 | 635.02 | 30.76 | 4.24 | 355.61 | 142.45 |

HAWTHORN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 800.200 | 390.00 | 629.12 | 0.00 | 0.00 | 0.00 | 412.62 | 0.00 |
| | 800.200 | 500.00 | 629.59 | .47 | 0.00 | 0.00 | 434.00 | 0.00 |
| | 800.200 | 520.00 | 630.21 | .62 | 0.00 | 0.00 | 434.00 | 0.00 |
| | 800.200 | 790.00 | 630.84 | .63 | 0.00 | 0.00 | 434.00 | 0.00 |
| | 800.300 | 390.00 | 629.14 | 0.00 | .02 | 0.00 | 375.71 | 150.00 |
| | 800.300 | 500.00 | 629.61 | .47 | .02 | 0.00 | 411.54 | 150.00 |
| | 800.300 | 520.00 | 630.22 | .61 | .01 | 0.00 | 434.00 | 150.00 |
| | 800.300 | 790.00 | 630.85 | .63 | .01 | 0.00 | 434.00 | 150.00 |
| | 800.700 | 390.00 | 629.16 | 0.00 | .02 | 0.00 | 425.89 | 50.00 |
| | 800.700 | 500.00 | 629.62 | .47 | .01 | 0.00 | 454.82 | 50.00 |
| | 800.700 | 520.00 | 630.23 | .61 | .01 | 0.00 | 484.00 | 50.00 |
| | 800.700 | 790.00 | 630.87 | .63 | .01 | 0.00 | 484.00 | 50.00 |
| | 800.750 | 390.00 | 629.16 | 0.00 | .00 | 0.00 | 426.02 | 50.00 |
| | 800.750 | 500.00 | 629.63 | .47 | .00 | 0.00 | 454.90 | 50.00 |
| | 800.750 | 520.00 | 630.23 | .61 | .00 | 0.00 | 484.00 | 50.00 |
| | 800.750 | 790.00 | 630.87 | .64 | .00 | 0.00 | 484.00 | 50.00 |
| | 800.770 | 390.00 | 629.21 | 0.00 | .05 | 0.00 | 176.21 | 320.00 |
| | 800.770 | 500.00 | 629.67 | .47 | .04 | 0.00 | 234.95 | 320.00 |
| | 800.770 | 520.00 | 630.26 | .59 | .03 | 0.00 | 309.09 | 320.00 |
| | 800.770 | 790.00 | 630.90 | .64 | .03 | 0.00 | 389.87 | 320.00 |
| | 800.800 | 390.00 | 629.54 | 0.00 | .33 | 0.00 | 307.03 | 460.00 |
| | 800.800 | 500.00 | 629.97 | .43 | .29 | 0.00 | 361.81 | 460.00 |
| | 800.800 | 520.00 | 630.43 | .46 | .17 | 0.00 | 417.01 | 460.00 |
| | 800.800 | 790.00 | 631.08 | .66 | .18 | 0.00 | 458.26 | 460.00 |
| | 801.000 | 390.00 | 629.79 | 0.00 | .25 | 0.00 | 212.73 | 500.00 |
| | 801.000 | 500.00 | 630.20 | .41 | .23 | 0.00 | 264.43 | 500.00 |
| | 801.000 | 520.00 | 630.57 | .38 | .15 | 0.00 | 311.85 | 500.00 |
| | 801.000 | 790.00 | 631.24 | .67 | .16 | 0.00 | 396.14 | 500.00 |
| | 802.000 | 390.00 | 630.72 | 0.00 | .93 | 0.00 | 146.97 | 660.00 |
| | 802.000 | 500.00 | 631.05 | .34 | .86 | 0.00 | 163.16 | 660.00 |
| | 802.000 | 520.00 | 631.18 | .13 | .61 | 0.00 | 196.86 | 660.00 |
| | 802.000 | 790.00 | 631.84 | .65 | .59 | 0.00 | 357.67 | 660.00 |
| | 803.200 | 390.00 | 631.66 | 0.00 | .94 | 0.00 | 345.76 | 400.00 |
| | 803.200 | 500.00 | 631.94 | .28 | .89 | 0.00 | 356.64 | 400.00 |
| | 803.200 | 520.00 | 632.00 | .06 | .82 | 0.00 | 358.75 | 400.00 |
| | 803.200 | 790.00 | 632.55 | .54 | .71 | 0.00 | 373.35 | 400.00 |
| | 803.300 | 390.00 | 631.99 | 0.00 | .33 | 0.00 | 358.34 | 183.00 |
| | 803.300 | 500.00 | 632.24 | .25 | .30 | 0.00 | 367.50 | 183.00 |
| | 803.300 | 520.00 | 632.29 | .05 | .29 | 0.00 | 369.27 | 183.00 |
| | 803.300 | 790.00 | 632.79 | .50 | .25 | 0.00 | 373.50 | 183.00 |
| * | 803.400 | 390.00 | 633.05 | 0.00 | 1.06 | 0.00 | 296.44 | 1.00 |
| * | 803.400 | 500.00 | 633.09 | .04 | .85 | 0.00 | 296.48 | 1.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| * | 803.400 | 520.00 | 633.08 | -.01 | .79 | 0.00 | 296.47 | 1.00 |
| * | 803.400 | 790.00 | 633.33 | .25 | .53 | 0.00 | 296.76 | 1.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 803.600 | 390.00 | 633.58 | 0.00 | .53 | 0.00 | 297.06 | 33.00 |
| 803.600 | 500.00 | 633.74 | .16 | .65 | 0.00 | 297.25 | 33.00 |
| 803.600 | 520.00 | 633.79 | .04 | .71 | 0.00 | 297.30 | 33.00 |
| 803.600 | 790.00 | 634.01 | .22 | .68 | 0.00 | 297.55 | 33.00 |
| 803.700 | 390.00 | 633.61 | 0.00 | .03 | 0.00 | 297.39 | 1.00 |
| 803.700 | 500.00 | 633.78 | .16 | .03 | 0.00 | 297.58 | 1.00 |
| 803.700 | 520.00 | 633.82 | .04 | .03 | 0.00 | 297.63 | 1.00 |
| 803.700 | 790.00 | 634.05 | .23 | .04 | 0.00 | 297.90 | 1.00 |
| 803.800 | 390.00 | 633.62 | 0.00 | .01 | 0.00 | 297.18 | 33.00 |
| 803.800 | 500.00 | 633.78 | .17 | .01 | 0.00 | 297.37 | 33.00 |
| 803.800 | 520.00 | 633.83 | .04 | .01 | 0.00 | 297.42 | 33.00 |
| 803.800 | 790.00 | 634.07 | .24 | .01 | 0.00 | 297.69 | 33.00 |
| 803.900 | 390.00 | 633.87 | 0.00 | .26 | 0.00 | 335.45 | 700.00 |
| 803.900 | 500.00 | 634.11 | .23 | .32 | 0.00 | 342.31 | 700.00 |
| 803.900 | 520.00 | 634.16 | .05 | .33 | 0.00 | 360.62 | 700.00 |
| 803.900 | 790.00 | 634.57 | .41 | .50 | 0.00 | 450.00 | 700.00 |
| 804.000 | 390.00 | 634.09 | 0.00 | .22 | 0.00 | 181.90 | 150.00 |
| 804.000 | 500.00 | 634.34 | .25 | .24 | 0.00 | 186.85 | 150.00 |
| 804.000 | 520.00 | 634.39 | .05 | .23 | 0.00 | 187.80 | 150.00 |
| 804.000 | 790.00 | 634.83 | .44 | .26 | 0.00 | 300.00 | 150.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  803.400  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  803.400  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  803.400  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  803.400  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

FLOOD INSURANCE ZONE DATA FOR HAWTHORN OVERFLOW

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 800.200 | 0. | -1.09 | -.62 | .63 |
| 800.300 | 150. | -1.08 | -.61 | .63 |
| 800.700 | 200. | -1.08 | -.61 | .63 |
| 800.750 | 250. | -1.07 | -.61 | .64 |
| 800.770 | 570. | -1.05 | -.59 | .64 |
| 800.800 | 1030. | -.89 | -.46 | .66 |
| 801.000 | 1530. | -.79 | -.38 | .67 |
| 802.000 | 2190. | -.47 | -.13 | .65 |
| 803.200 | 2590. | -.34 | -.06 | .54 |
| 803.300 | 2773. | -.30 | -.05 | .50 |
| 803.400 | 2774. | -.03 | .01 | .25 |
| 803.600 | 2807. | -.21 | -.04 | .22 |
| 803.700 | 2808. | -.21 | -.04 | .23 |
| 803.800 | 2841. | -.21 | -.04 | .24 |
| 803.900 | 3541. | -.28 | -.05 | .41 |
| 804.000 | 3691. | -.30 | -.05 | .44 |
| WEIGHTED AVG FOR REACH | | -.63 | -.28 | .56 |

FHF FOR THE REACH = 005 WITH 99.1_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 1

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: HAWTHORNE DRAIN

4) DOCUMENT TYPE: 100YR ENCROACHER

00BREAK00

```
*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
```

```
T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
```

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 630.210 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .300 CEHV=     .500
*SECNO 800.200
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      538.0      972.0  TYPE=      1  TARGET=      434.000
   800.20      8.31    630.31      0.00    630.21    630.31      .00       0.00       0.00    627.20
     520.       78.      367.       75.      338.      578.     316.         0.         0.    628.00
     0.00      .23       .63       .24      .075      .050     .075      0.000     622.00    538.00
  .000054       0.        0.        0.         0         0        0       0.00     434.00    972.00

*SECNO 800.300

3470 ENCROACHMENT STATIONS=      538.0      972.0  TYPE=      1  TARGET=      434.000
          **D/S FACE DEQUINDRE

   800.30      7.82    630.32      0.00    630.22    630.33      .01        .01       .00    627.70
     520.       63.      395.       62.      255.      521.     243.         4.        1.    628.50
      .07      .25       .76       .26      .075      .050     .075       .050    622.50    538.00
  .000089     150.      150.      150.         0         0        0       0.00     434.00    972.00

SPECIAL BRIDGE

SB  XK       XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     1.00      2.00       3.20       0.00     10.00       0.00      20.00      0.00     622.50     622.50

*SECNO 800.700
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3         QWEIR      QPR        BAREA    TRAPEZOID      ELLC       ELTRD
                                                                    AREA
  651.31    630.34      0.00      506.        14.       20.        35.       626.00     627.40

3470 ENCROACHMENT STATIONS=      974.0     1458.0  TYPE=      1  TARGET=      484.000
   800.70      7.83    630.33      0.00    630.23    630.33      .00        .01       0.00    624.90
     520.      263.      189.       68.      873.      277.     279.         5.        2.    627.10
      .10      .30       .68       .25      .075      .050     .075       .050    622.50    974.00
 .000052       50.       50.       50.         0         0        7       0.00     484.00   1458.00

*SECNO 800.750

3470 ENCROACHMENT STATIONS=      974.0     1458.0  TYPE=      1  TARGET=      484.000
   800.75      7.83    630.33      0.00    630.23    630.34      .00        .00       .00    624.90
     520.      263.      189.       68.      873.      277.     279.         7.        3.    627.10
      .13      .30       .68       .25      .075      .050     .075       .049    622.50    974.00
```

```
.000052      50.      50.      50.        0        0        0     0.00   484.00  1458.00

CCHV=     .100 CEHV=     .300
*SECNO 800.770
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      974.0    1458.0  TYPE=      1  TARGET=      484.000
   800.77      5.76   630.36     0.00   630.26   630.38      .02       .04       .01    627.00
     520.      225.     282.      13.     325.     177.      42.       14.        6.    629.20
      .21       .69     1.60      .31     .075     .050     .075      .050    624.60   1088.53
  .000516      320.     320.     320.        0        0        0      0.00    321.30   1409.83

*SECNO 800.800

3470 ENCROACHMENT STATIONS=      974.0    1458.0  TYPE=      1  TARGET=      484.000
   800.80      6.61   630.51     0.00   630.43   630.52      .01       .13       .00    626.30
     520.      246.     239.      36.     516.     217.     128.       22.        9.    628.50
      .38       .48     1.10      .28     .075     .050     .075      .050    623.90   1036.10
  .000186      460.     460.     460.        1        0        0      0.00    421.90   1458.00

*SECNO 801.000

3470 ENCROACHMENT STATIONS=      974.0    1458.0  TYPE=      1  TARGET=      484.000
   801.00      5.74   630.64     0.00   630.57   630.67      .02       .15       .00    627.30
     520.      224.     283.      13.     323.     176.      42.       30.       14.    629.50
      .49       .69     1.60      .31     .075     .050     .075      .050    624.90   1089.07
  .000521      500.     500.     500.        2        0        0      0.00    320.21   1409.28

*SECNO 802.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      788.0    1292.0  TYPE=      1  TARGET=      504.000
   802.00      4.81   631.21     0.00   631.18   631.30      .09       .61       .02    631.60
     520.        1.     330.     189.       6.     113.     164.       36.       18.    629.20
      .57       .20     2.93     1.16     .075     .050     .075      .050    626.40   1073.47
  .002095      660.     660.     660.        2        0        0      0.00    202.89   1292.00

*SECNO 803.200
 2800 NAT Q1=     122.00  WSEL=     632.00  ENC Q1=     122.00  WSEL=     632.10  RATIO=    .0000
 NAT Q1=     136.  RATIOS LOB,CH,ROB=    .0636    .4732    .4632  WSEL=     632.10

3265 DIVIDED FLOW

3280 CROSS SECTION     803.20 EXTENDED        .44 FEET

3470 ENCROACHMENT STATIONS=      312.4     732.5  TYPE=      4  TARGET=         .100
   803.20      4.84   632.04     0.00   632.00   632.13      .09       .83       .00    630.60
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      520.        8.      281.      231.        8.       92.      233.       39.       20.    629.70
       .63       .97      3.06       .99      .075      .050      .075      .050    627.20    312.38
   .002042      400.      400.      400.         2         0         0      0.00    269.27    732.52

  CCHV=     .400 CEHV=     .800
  *SECNO 803.300
   2800 NAT Q1=     162.59  WSEL=     632.29  ENC Q1=     162.59  WSEL=     632.39  RATIO=    .0000
   NAT Q1=     178.  RATIOS LOB,CH,ROB=    .0748    .4091    .5161  WSEL=     632.39

  3265 DIVIDED FLOW

  3280 CROSS SECTION     803.30 EXTENDED        .76 FEET

      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

  3470 ENCROACHMENT STATIONS=      305.4      742.7  TYPE=      4  TARGET=         .088

          **D/S FACE MINNESOTA

      803.30      5.16    632.36      0.00    632.29    632.41       .04       .26       .02    630.60
       520.       18.      236.      266.       21.      100.      323.       40.       21.    629.70
        .66       .84      2.35       .82      .075      .050      .075      .050    627.20    305.44
   .001072      183.      183.      183.         2         0         0      0.00    286.53    742.73

  *SECNO 803.400
   2800 NAT Q1=      23.84  WSEL=     633.08  ENC Q1=      23.84  WSEL=     633.18  RATIO=    .0000
   NAT Q1=      30.  RATIOS LOB,CH,ROB=    .2139    .2662    .5199  WSEL=     633.18

  3265 DIVIDED FLOW

      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

  3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  632.10 MAX ELLC=  632.00

  3685 20 TRIALS ATTEMPTED WSEL,CWSEL
  3693 PROBABLE MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED

  3470 ENCROACHMENT STATIONS=      247.3      446.7  TYPE=      4  TARGET=         .194
      803.40      5.90    633.20    633.20    633.08    633.60       .39       .00       .28    632.00
       520.       52.      177.      291.       21.       26.       73.       40.       21.    632.00
        .66      2.50      6.84      3.98      .075      .050      .075      .050    627.30    247.28
   .050039        1.        1.        1.        20        10         0    -80.98    163.30    446.70

  *SECNO 803.600
   2800 NAT Q1=      81.06  WSEL=     633.79  ENC Q1=      81.06  WSEL=     633.89  RATIO=    .0000
   NAT Q1=      92.  RATIOS LOB,CH,ROB=    .3827    .1071    .5102  WSEL=     633.89
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3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  632.10 MAX ELLC=  632.00

3470 ENCROACHMENT STATIONS=     200.1     499.6  TYPE=     4  TARGET=        .118

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS   482.8   499.6
     803.60     6.69   633.99     0.00   633.79   634.03      .04      .29      .14   632.00
       520.     184.      60.     276.     139.      30.     171.      41.      21.   632.00
        .67     1.32     2.01     1.61     .075     .050     .075     .050   627.30   200.14
   .003557      33.      33.      33.        2        0        0  -112.47   231.99   499.58

*SECNO 803.700
 2800 NAT Q1=    358.59  WSEL=    633.82  ENC Q1=    358.59  WSEL=    633.92  RATIO=   .0000
 NAT Q1=    379.  RATIOS LOB,CH,ROB=   .2394   .4315   .3292  WSEL=    633.92

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=     210.1     515.5  TYPE=     4  TARGET=        .054
     803.70     6.73   634.03     0.00   633.82   634.04      .01      .00      .01   631.30
       520.     120.     233.     167.     262.     181.     279.      41.      21.   630.10
        .67      .46     1.29      .60     .075     .050     .075     .050   627.30   210.12
   .000190       1.       1.       1.        2        0        0     0.00   238.17   515.49

*SECNO 803.800
 2800 NAT Q1=    323.60  WSEL=    633.83  ENC Q1=    323.60  WSEL=    633.93  RATIO=  0.0000
 NAT Q1=    342.  RATIOS LOB,CH,ROB=   .2238   .4515   .3247  WSEL=    633.93

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=     213.6     511.4  TYPE=     4  TARGET=        .054
     803.80     6.53   634.03     0.00   633.83   634.05      .02      .01      .00   631.50
       520.     112.     243.     164.     233.     175.     256.      41.      21.   630.30
        .68      .48     1.39      .64     .075     .050     .075     .050   627.50   213.63
   .000233      33.      33.      33.        0        0        0     0.00   230.45   511.43

*SECNO 803.900
 2800 NAT Q1=    150.84  WSEL=    634.16  ENC Q1=    150.84  WSEL=    634.26  RATIO=   .0000
 NAT Q1=    165.  RATIOS LOB,CH,ROB=   .0315   .5029   .4657  WSEL=    634.26
3280 CROSS SECTION    803.90 EXTENDED      1.23 FEET

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=     340.0     613.8  TYPE=     4  TARGET=        .087
     803.90     5.53   634.33     0.00   634.16   634.38      .05      .31      .03   632.60
       520.       0.     272.     248.       0.     113.     321.      50.      25.   633.00
        .80     0.00     2.40      .77     .075     .050     .075     .050   628.80   340.00
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 .001096     700.     700.     700.        2        0        0     0.00   273.84   613.84

*SECNO 804.000
2800 NAT Q1=    102.05  WSEL=   634.39  ENC Q1=    102.05  WSEL=    634.49  RATIO=   .0000
 NAT Q1=    110.  RATIOS LOB,CH,ROB=    .0328    .7090    .2582  WSEL=    634.49
3280 CROSS SECTION    804.00 EXTENDED      1.05 FEET


3470 ENCROACHMENT STATIONS=     340.0     477.9  TYPE=     4  TARGET=        .073

        **OVERFLOW POINT AT HENRY GRAHAM DRAIN

    804.00      5.35   634.55     0.00   634.39   634.70      .15      .24      .08   633.00
      520.        0.     387.     133.       0.     109.     125.      51.      26.   633.40
       .81      0.00     3.55     1.06     .075     .050     .075     .050   629.20   340.00
  .002526      150.     150.     150.        2        0        0     0.00   137.88   477.88
```

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  01,02,03
 MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HAWTHORN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 520.00 | 630.21 | 0.00 | 630.22 | .59 | .66 | 1188.74 | 674.22 |
| | 800.200 | 0.00 | 0.00 | 0.00 | 622.00 | 520.00 | 630.31 | 0.00 | 630.31 | .54 | .63 | 1232.14 | 707.32 |
| | 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.22 | 0.00 | 630.23 | .99 | .79 | 975.61 | 523.03 |
| | 800.300 | 150.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.32 | 0.00 | 630.33 | .89 | .76 | 1018.66 | 552.00 |
| | 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 520.00 | 630.23 | 0.00 | 630.24 | .57 | .71 | 1381.06 | 688.10 |
| | 800.700 | 50.00 | 627.40 | 626.00 | 622.50 | 520.00 | 630.33 | 0.00 | 630.33 | .52 | .68 | 1428.71 | 721.85 |
| | 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.23 | 0.00 | 630.24 | .57 | .71 | 1381.13 | 688.14 |
| | 800.750 | 50.00 | 0.00 | 0.00 | 622.50 | 520.00 | 630.33 | 0.00 | 630.34 | .52 | .68 | 1428.73 | 721.87 |
| | 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 520.00 | 630.26 | 0.00 | 630.29 | 5.85 | 1.67 | 513.43 | 214.97 |
| | 800.770 | 320.00 | 0.00 | 0.00 | 624.60 | 520.00 | 630.36 | 0.00 | 630.38 | 5.16 | 1.60 | 543.94 | 229.01 |
| | 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 520.00 | 630.43 | 0.00 | 630.44 | 2.03 | 1.14 | 827.91 | 364.60 |
| | 800.800 | 460.00 | 0.00 | 0.00 | 623.90 | 520.00 | 630.51 | 0.00 | 630.52 | 1.86 | 1.10 | 861.04 | 381.73 |
| | 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 520.00 | 630.57 | 0.00 | 630.60 | 5.68 | 1.65 | 520.24 | 218.09 |
| | 801.000 | 500.00 | 0.00 | 0.00 | 624.90 | 520.00 | 630.64 | 0.00 | 630.67 | 5.21 | 1.60 | 541.17 | 227.73 |
| | 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 520.00 | 631.18 | 0.00 | 631.28 | 21.67 | 2.97 | 277.59 | 111.71 |
| | 802.000 | 660.00 | 0.00 | 0.00 | 626.40 | 520.00 | 631.21 | 0.00 | 631.30 | 20.95 | 2.93 | 282.20 | 113.60 |
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.00 | 0.00 | 632.07 | 18.17 | 2.86 | 386.66 | 122.00 |
| | 803.200 | 400.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.04 | 0.00 | 632.13 | 20.42 | 3.06 | 332.84 | 115.08 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.29 | 0.00 | 632.33 | 10.23 | 2.27 | 491.96 | 162.59 |
| | 803.300 | 183.00 | 0.00 | 0.00 | 627.20 | 520.00 | 632.36 | 0.00 | 632.41 | 10.72 | 2.35 | 444.54 | 158.79 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.08 | 633.08 | 633.39 | 475.78 | 6.56 | 147.77 | 23.84 |
| * | 803.400 | 1.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.20 | 633.20 | 633.60 | 500.39 | 6.84 | 119.67 | 23.25 |
| | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.79 | 0.00 | 633.83 | 41.15 | 2.11 | 354.45 | 81.06 |
| * | 803.600 | 33.00 | 632.10 | 632.00 | 627.30 | 520.00 | 633.99 | 0.00 | 634.03 | 35.57 | 2.01 | 340.24 | 87.19 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 520.00 | 633.82 | 0.00 | 633.83 | 2.10 | 1.32 | 746.65 | 358.59 |
| | 803.700 | 1.00 | 0.00 | 0.00 | 627.30 | 520.00 | 634.03 | 0.00 | 634.04 | 1.90 | 1.29 | 721.40 | 376.80 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 520.00 | 633.83 | 0.00 | 633.84 | 2.58 | 1.43 | 690.92 | 323.60 |
| 803.800 | 33.00 | 0.00 | 0.00 | 627.50 | 520.00 | 634.03 | 0.00 | 634.05 | 2.33 | 1.39 | 663.88 | 340.62 |
| 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 520.00 | 634.16 | 0.00 | 634.21 | 11.88 | 2.53 | 449.15 | 150.84 |
| 803.900 | 700.00 | 0.00 | 0.00 | 628.80 | 520.00 | 634.33 | 0.00 | 634.38 | 10.96 | 2.40 | 434.00 | 157.05 |
| 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 520.00 | 634.39 | 0.00 | 634.55 | 25.96 | 3.64 | 251.20 | 102.05 |
| 804.000 | 150.00 | 0.00 | 0.00 | 629.20 | 520.00 | 634.55 | 0.00 | 634.70 | 25.26 | 3.55 | 234.16 | 103.47 |

HAWTHORN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 800.200 | 520.00 | 630.21 | 0.00 | 0.00 | 0.00 | 434.00 | 0.00 |
| | 800.200 | 520.00 | 630.31 | .10 | 0.00 | .10 | 434.00 | 0.00 |
| | 800.300 | 520.00 | 630.22 | 0.00 | .01 | 0.00 | 434.00 | 150.00 |
| | 800.300 | 520.00 | 630.32 | .10 | .01 | .10 | 434.00 | 150.00 |
| | 800.700 | 520.00 | 630.23 | 0.00 | .01 | 0.00 | 484.00 | 50.00 |
| | 800.700 | 520.00 | 630.33 | .10 | .01 | .10 | 484.00 | 50.00 |
| | 800.750 | 520.00 | 630.23 | 0.00 | .00 | 0.00 | 484.00 | 50.00 |
| | 800.750 | 520.00 | 630.33 | .10 | .00 | .10 | 484.00 | 50.00 |
| | 800.770 | 520.00 | 630.26 | 0.00 | .03 | 0.00 | 309.09 | 320.00 |
| | 800.770 | 520.00 | 630.36 | .10 | .02 | .10 | 321.30 | 320.00 |
| | 800.800 | 520.00 | 630.43 | 0.00 | .17 | 0.00 | 417.01 | 460.00 |
| | 800.800 | 520.00 | 630.51 | .08 | .15 | .08 | 421.90 | 460.00 |
| | 801.000 | 520.00 | 630.57 | 0.00 | .15 | 0.00 | 311.85 | 500.00 |
| | 801.000 | 520.00 | 630.64 | .07 | .14 | .07 | 320.21 | 500.00 |
| | 802.000 | 520.00 | 631.18 | 0.00 | .61 | 0.00 | 196.86 | 660.00 |
| | 802.000 | 520.00 | 631.21 | .02 | .57 | .02 | 202.89 | 660.00 |
| | 803.200 | 520.00 | 632.00 | 0.00 | .82 | 0.00 | 358.75 | 400.00 |
| | 803.200 | 520.00 | 632.04 | .04 | .83 | .04 | 269.27 | 400.00 |
| | 803.300 | 520.00 | 632.29 | 0.00 | .29 | 0.00 | 369.27 | 183.00 |
| | 803.300 | 520.00 | 632.36 | .07 | .32 | .07 | 286.53 | 183.00 |
| * | 803.400 | 520.00 | 633.08 | 0.00 | .79 | 0.00 | 296.47 | 1.00 |
| * | 803.400 | 520.00 | 633.20 | .12 | .84 | .12 | 163.30 | 1.00 |
| | 803.600 | 520.00 | 633.79 | 0.00 | .71 | 0.00 | 297.30 | 33.00 |
| * | 803.600 | 520.00 | 633.99 | .20 | .79 | .20 | 231.99 | 33.00 |
| | 803.700 | 520.00 | 633.82 | 0.00 | .03 | 0.00 | 297.63 | 1.00 |
| | 803.700 | 520.00 | 634.03 | .21 | .03 | .21 | 238.17 | 1.00 |
| | 803.800 | 520.00 | 633.83 | 0.00 | .01 | 0.00 | 297.42 | 33.00 |
| | 803.800 | 520.00 | 634.03 | .21 | .01 | .21 | 230.45 | 33.00 |
| | 803.900 | 520.00 | 634.16 | 0.00 | .33 | 0.00 | 360.62 | 700.00 |
| | 803.900 | 520.00 | 634.33 | .18 | .30 | .18 | 273.84 | 700.00 |
| | 804.000 | 520.00 | 634.39 | 0.00 | .23 | 0.00 | 187.80 | 150.00 |
| | 804.000 | 520.00 | 634.55 | .16 | .22 | .16 | 137.88 | 150.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  803.400  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  803.400  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  803.400  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  803.400  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  803.600  PROFILE= 2  BRIDGE DECK DEFINITION ERROR
```

FLOODWAY DATA, HAWTHORN OVERFLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 800.200 | 434. | 1232. | .4 | 630.3 | 630.2 | .1 |
| 800.300 | 434. | 1019. | .5 | 630.3 | 630.2 | .1 |
| 800.700 | 484. | 1429. | .4 | 630.3 | 630.2 | .1 |
| 800.750 | 484. | 1429. | .4 | 630.3 | 630.2 | .1 |
| 800.770 | 321. | 544. | 1.0 | 630.4 | 630.3 | .1 |
| 800.800 | 422. | 861. | .6 | 630.5 | 630.4 | .1 |
| 801.000 | 320. | 541. | 1.0 | 630.7 | 630.6 | .1 |
| 802.000 | 219. | 282. | 1.8 | 631.2 | 631.2 | 0.0 |
| 803.200 | 420. | 333. | 1.6 | 632.0 | 632.0 | 0.0 |
| 803.300 | 437. | 445. | 1.2 | 632.4 | 632.3 | .1 |
| 803.400 | 199. | 120. | 4.3 | 633.2 | 633.1 | .1 |
| 803.600 | 299. | 340. | 1.5 | 634.0 | 633.8 | .2 |
| 803.700 | 305. | 721. | .7 | 634.0 | 633.8 | .2 |
| 803.800 | 298. | 664. | .8 | 634.0 | 633.8 | .2 |
| 803.900 | 274. | 434. | 1.2 | 634.4 | 634.2 | .2 |
| 804.000 | 138. | 234. | 2.2 | 634.6 | 634.4 | .2 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: HAWTHORNE DRAIN

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  01,02,03
 MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA H-4705
T2      TROY FIS
T3      HAWTHORN OVERFLOW
```

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 4. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 630.210 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 200.000 | 0.000 | 150.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .075 | .075 | .050 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 5.000 | 390.000 | 500.000 | 520.000 | 790.000 | 520.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 800.200 | 18.000 | 706.000 | 822.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 538.000 | 0.000 | 972.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 631.000 | 0.000 | 629.700 | 324.000 | 629.400 | 538.000 | 627.200 | 706.000 | 622.000 | 732.000 |
| GR | 622.000 | 736.000 | 624.800 | 756.000 | 628.000 | 822.000 | 628.400 | 972.000 | 630.400 | 1456.000 |
| GR | 630.800 | 1990.000 | 629.400 | 2172.000 | 622.800 | 2194.000 | 622.800 | 2202.000 | 626.400 | 2214.000 |
| GR | 629.200 | 2240.000 | 630.800 | 2388.000 | 632.000 | 2794.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**D/S FACE DEQUINDRE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 800.300 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | .500 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 538.000 | 0.000 | 972.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.000 | 2.000 | 3.200 | 0.000 | 10.000 | 0.000 | 20.000 | 0.000 | 622.500 | 622.500 |
| X1 | 800.700 | 28.000 | 1288.000 | 1336.000 | 50.000 | 50.000 | 50.000 | 0.000 | -1.500 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 626.000 | 627.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 974.000 | 0.000 | 1458.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 6.000 | 0.000 | 631.200 | 0.000 | 452.000 | 629.200 | 0.000 | 726.000 | 627.400 | 0.000 |
| BT | 818.000 | 627.400 | 0.000 | 870.000 | 628.000 | 0.000 | 1300.000 | 629.400 | 0.000 | 0.000 |
| GR | 633.100 | 184.000 | 632.200 | 284.000 | 631.100 | 314.000 | 631.200 | 840.000 | 631.600 | 974.000 |
| GR | 627.400 | 1234.000 | 626.400 | 1288.000 | 625.300 | 1298.000 | 624.000 | 1302.000 | 628.600 | 1336.000 |
| GR | 630.500 | 1458.000 | 633.000 | 1554.000 | 632.500 | 1600.000 | 628.100 | 1784.000 | 630.800 | 2088.000 |
| GR | 630.600 | 2208.000 | 630.400 | 2234.000 | 628.800 | 2258.000 | 627.400 | 2306.000 | 626.000 | 2340.000 |
| GR | 623.200 | 2350.000 | 623.200 | 2358.000 | 627.200 | 2364.000 | 628.200 | 2388.000 | 630.200 | 2644.000 |
| GR | 631.000 | 2824.000 | 631.400 | 3256.000 | 631.700 | 3394.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 800.750 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 974.000 | 0.000 | 1458.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 800.770 | 0.000 | 0.000 | 0.000 | 320.000 | 320.000 | 320.000 | 0.000 | 2.100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 974.000 | 0.000 | 1458.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 800.800 | 0.000 | 0.000 | 0.000 | 460.000 | 460.000 | 460.000 | 0.000 | -.700 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 974.000 | 0.000 | 1458.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 801.000 | 0.000 | 0.000 | 0.000 | 500.000 | 500.000 | 500.000 | 0.000 | 1.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 974.000 | 0.000 | 1458.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 802.000 | 25.000 | 1142.000 | 1178.000 | 660.000 | 660.000 | 660.000 | 0.000 | 0.000 | 1.000 |
| X3 | 0.000 | 0.000 | 0.000 | 788.000 | 0.000 | 1292.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X4 | 1.000 | 631.000 | 1120.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 634.000 | 304.000 | 632.500 | 334.000 | 632.500 | 788.000 | 631.600 | 1142.000 | 626.400 | 1160.000 |
| GR | 626.400 | 1168.000 | 629.200 | 1178.000 | 629.700 | 1200.000 | 630.000 | 1292.000 | 631.800 | 1382.000 |
| GR | 633.000 | 1532.000 | 630.600 | 1848.000 | 632.300 | 2092.000 | 632.800 | 2224.000 | 631.200 | 2292.000 |
| GR | 631.200 | 2638.000 | 631.300 | 2724.000 | 630.500 | 2814.000 | 630.500 | 2878.000 | 624.900 | 2896.000 |
| GR | 624.900 | 2908.000 | 628.400 | 2916.000 | 628.200 | 3006.000 | 630.300 | 3176.000 | 631.800 | 3192.000 |
| X1 | 803.200 | 19.000 | 318.000 | 344.000 | 400.000 | 400.000 | 400.000 | 0.000 | 0.000 | 0.000 |
| GR | 637.000 | 50.000 | 633.200 | 51.000 | 633.200 | 214.000 | 637.000 | 215.000 | 637.000 | 255.000 |
| GR | 632.400 | 256.000 | 631.900 | 274.000 | 630.800 | 304.000 | 630.600 | 318.000 | 627.200 | 332.000 |
| GR | 627.200 | 336.000 | 629.700 | 344.000 | 630.000 | 374.000 | 631.800 | 410.000 | 637.000 | 411.000 |
| GR | 637.000 | 560.000 | 631.600 | 561.000 | 631.000 | 735.000 | 631.600 | 780.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**D/S FACE MINNESOTA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 803.300 | 0.000 | 0.000 | 0.000 | 183.000 | 183.000 | 183.000 | 0.000 | 0.000 | 0.000 |
| X1 | 803.400 | 22.000 | 409.000 | 415.000 | 1.000 | 1.000 | 1.000 | .870 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | .870 | 0.000 |
| BT | 19.000 | 0.000 | 637.000 | 0.000 | 180.000 | 637.000 | 0.000 | 181.000 | 633.000 | 0.000 |
| BT | 294.000 | 632.500 | 0.000 | 295.000 | 637.000 | 0.000 | 335.000 | 637.000 | 0.000 | 336.000 |
| BT | 632.700 | 0.000 | 372.000 | 632.900 | 0.000 | 390.000 | 633.400 | 0.000 | 409.000 | 633.000 |
| BT | 632.000 | 415.000 | 632.700 | 632.000 | 460.000 | 632.100 | 0.000 | 495.000 | 632.400 | 0.000 |
| BT | 518.000 | 632.400 | 0.000 | 519.000 | 637.000 | 0.000 | 554.000 | 637.000 | 0.000 | 555.000 |
| BT | 632.500 | 0.000 | 600.000 | 632.900 | 0.000 | 601.000 | 637.000 | 0.000 | 0.000 | 0.000 |
| GR | 637.000 | 0.000 | 637.000 | 180.000 | 633.000 | 181.000 | 632.000 | 244.000 | 632.000 | 294.000 |
| GR | 637.000 | 295.000 | 637.000 | 335.000 | 632.000 | 336.000 | 632.000 | 372.000 | 632.200 | 390.000 |
| GR | 632.000 | 409.000 | 627.300 | 409.100 | 627.300 | 414.900 | 632.000 | 415.000 | 632.100 | 460.000 |
| GR | 632.400 | 495.000 | 632.400 | 518.000 | 637.000 | 519.000 | 637.000 | 554.000 | 632.500 | 555.000 |
| GR | 632.900 | 600.000 | 637.000 | 601.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 803.600 | 22.000 | 409.000 | 415.000 | 33.000 | 33.000 | 33.000 | .870 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | .870 | 0.000 |
| BT | 19.000 | 0.000 | 637.000 | 0.000 | 180.000 | 637.000 | 0.000 | 181.000 | 633.000 | 0.000 |
| BT | 294.000 | 632.500 | 0.000 | 295.000 | 637.000 | 0.000 | 335.000 | 637.000 | 0.000 | 336.000 |
| BT | 632.700 | 0.000 | 372.000 | 632.900 | 0.000 | 390.000 | 633.400 | 0.000 | 409.000 | 633.000 |
| BT | 632.000 | 415.000 | 632.700 | 632.000 | 460.000 | 632.100 | 0.000 | 495.000 | 632.400 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 518.000 | 632.400 | 0.000 | 519.000 | 637.000 | 0.000 | 554.000 | 637.000 | 0.000 | 555.000 |
| BT | 632.500 | 0.000 | 600.000 | 632.900 | 0.000 | 601.000 | 637.000 | 0.000 | 0.000 | 0.000 |
| GR | 637.000 | 0.000 | 637.000 | 180.000 | 633.000 | 181.000 | 632.000 | 244.000 | 632.000 | 294.000 |
| GR | 637.000 | 295.000 | 637.000 | 335.000 | 632.000 | 336.000 | 632.000 | 372.000 | 632.200 | 390.000 |
| GR | 632.000 | 409.000 | 627.300 | 409.100 | 627.300 | 414.900 | 632.000 | 415.000 | 632.100 | 460.000 |
| GR | 632.400 | 495.000 | 632.400 | 518.000 | 637.000 | 519.000 | 637.000 | 554.000 | 632.500 | 555.000 |
| GR | 632.900 | 600.000 | 637.000 | 601.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 803.700 | 19.000 | 392.000 | 428.000 | 1.000 | 1.000 | 1.000 | .870 | -.200 | 0.000 |
| GR | 637.000 | 180.000 | 633.000 | 181.000 | 632.000 | 244.000 | 632.000 | 294.000 | 637.000 | 295.000 |
| GR | 637.000 | 335.000 | 632.000 | 336.000 | 632.000 | 372.000 | 631.500 | 392.000 | 627.500 | 402.000 |
| GR | 627.500 | 418.000 | 630.300 | 428.000 | 631.200 | 502.000 | 631.700 | 518.000 | 637.000 | 519.000 |
| GR | 637.000 | 554.000 | 632.500 | 555.000 | 632.900 | 600.000 | 637.000 | 601.000 | 0.000 | 0.000 |
| X1 | 803.800 | 0.000 | 0.000 | 0.000 | 33.000 | 33.000 | 33.000 | 0.000 | .200 | 0.000 |
| X1 | 803.900 | 7.000 | 340.000 | 365.000 | 700.000 | 700.000 | 700.000 | 0.000 | -.400 | 0.000 |
| GR | 634.800 | 200.000 | 634.500 | 310.000 | 633.000 | 340.000 | 629.200 | 342.000 | 629.200 | 355.000 |
| GR | 633.400 | 365.000 | 633.500 | 650.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**OVERFLOW POINT AT HENRY GRAHAM DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 804.000 | 7.000 | 340.000 | 365.000 | 150.000 | 150.000 | 150.000 | 0.000 | 0.000 | 0.000 |
| GR | 634.800 | 200.000 | 634.500 | 310.000 | 633.000 | 340.000 | 629.200 | 342.000 | 629.200 | 355.000 |
| GR | 633.400 | 365.000 | 633.500 | 500.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO 800.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      538.0     972.0  TYPE=      1  TARGET=     434.000
   800.20     8.21    630.21     0.00    630.21    630.22      .01      0.00      0.00    627.20
     520.      75.      372.      73.      321.      566.     301.        0.        0.    628.00
     0.00      .23       .66      .24      .075      .050     .075     0.000    622.00    538.00
  .000059       0.        0.       0.        0         0        0      0.00    434.00    972.00

*SECNO 800.300

3470 ENCROACHMENT STATIONS=      538.0     972.0  TYPE=      1  TARGET=     434.000
          **D/S FACE DEQUINDRE

   800.30     7.72    630.22     0.00      0.00    630.23      .01       .01       .00    627.70
     520.      59.      402.      59.      238.      509.     228.        4.        1.    628.50
      .06      .25       .79      .26      .075      .050     .075      .050    622.50    538.00
  .000099     150.      150.     150.        0         0        0      0.00    434.00    972.00

SPECIAL BRIDGE

 SB  XK      XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      2.00      3.20      0.00     10.00      0.00     20.00      0.00    622.50    622.50

*SECNO 800.700
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID    ELLC      ELTRD
                                                             AREA
 651.21    630.23    0.00      506.      14.       20.       35.       626.00    627.40

3470 ENCROACHMENT STATIONS=      974.0    1458.0  TYPE=      1  TARGET=     484.000
   800.70     7.73    630.23     0.00      0.00    630.24      .00       .01      0.00    624.90
     520.     261.      193.      67.      842.      272.     267.        5.        2.    627.10
      .09      .31       .71      .25      .075      .050     .075      .050    622.50    974.00
  .000057      50.       50.      50.        0         0        7      0.00    484.00   1458.00

*SECNO 800.750

3470 ENCROACHMENT STATIONS=      974.0    1458.0  TYPE=      1  TARGET=     484.000
   800.75     7.73    630.23     0.00      0.00    630.24      .00       .00       .00    624.90
     520.     261.      193.      67.      842.      272.     267.        7.        3.    627.10
      .12      .31       .71      .25      .075      .050     .075      .049    622.50    974.00
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.000057      50.      50.      50.        0        0        0     0.00   484.00  1458.00

CCHV=     .100 CEHV=     .300
*SECNO 800.770
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      974.0     1458.0  TYPE=      1  TARGET=      484.000
   800.77      5.66   630.26      0.00      0.00   630.29      .03       .04       .01    627.00
     520.      221.     287.      11.      306.     172.      36.       14.        5.    629.20
      .20       .72     1.67      .31      .075     .050     .075      .050    624.60   1094.53
  .000585      320.     320.     320.        0        0        0      0.00    309.09   1403.62

*SECNO 800.800

3470 ENCROACHMENT STATIONS=      974.0     1458.0  TYPE=      1  TARGET=      484.000
   800.80      6.53   630.43      0.00      0.00   630.44      .01       .15       .00    626.30
     520.      244.     243.      33.      496.     214.     118.       21.        9.    628.50
      .36       .49     1.14      .28      .075     .050     .075      .050    623.90   1040.99
  .000203      460.     460.     460.        1        0        0      0.00    417.01   1458.00

*SECNO 801.000

3470 ENCROACHMENT STATIONS=      974.0     1458.0  TYPE=      1  TARGET=      484.000
   801.00      5.67   630.57      0.00      0.00   630.60      .03       .16       .00    627.30
     520.      222.     286.      12.      310.     173.      37.       28.       14.    629.50
      .47       .72     1.65      .31      .075     .050     .075      .050    624.90   1093.17
  .000568      500.     500.     500.        2        0        0      0.00    311.85   1405.02

*SECNO 802.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      788.0     1292.0  TYPE=      1  TARGET=      504.000
   802.00      4.78   631.18      0.00      0.00   631.28      .09       .66       .02    631.60
     520.        1.     332.     187.        5.     112.     161.       34.       17.    629.20
      .55       .19     2.97     1.16      .075     .050     .075      .050    626.40   1078.57
  .002167      660.     660.     660.        2        0        0      0.00    196.86   1292.00

*SECNO 803.200

3265 DIVIDED FLOW

3280 CROSS SECTION     803.20 EXTENDED        .40 FEET

   803.20      4.80   632.00      0.00      0.00   632.07      .07       .79       .00    630.60
     520.       31.     261.     229.       38.      91.     258.       38.       20.    629.70
      .61       .81     2.86      .89      .075     .050     .075      .050    627.20    270.36
  .001817      400.     400.     400.        2        0        0      0.00    358.75    780.00
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CCHV=     .400 CEHV=     .800
*SECNO 803.300

3265 DIVIDED FLOW

3280 CROSS SECTION    803.30 EXTENDED       .69 FEET

      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

**D/S FACE MINNESOTA

    803.30      5.09    632.29      0.00      0.00    632.33       .04       .24       .01    630.60
      520.       37.      223.      260.       53.       99.      340.       39.       21.    629.70
       .65       .69      2.27       .76      .075      .050      .075      .050    627.20    259.95
   .001023      183.      183.      183.         2         0         0      0.00    369.27    780.00

*SECNO 803.400

3265 DIVIDED FLOW

      SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  632.10 MAX ELLC=  632.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    803.40      5.78    633.08    633.08      0.00    633.39       .31       .00       .22    632.00
      520.       89.      166.      265.       42.       25.       81.       39.       21.    632.00
       .65      2.12      6.56      3.29      .075      .050      .075      .050    627.30    157.45
   .047578        1.        1.        1.        20         7         0   -120.59    296.47    522.04

*SECNO 803.600

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  632.10 MAX ELLC=  632.00

    803.60      6.49    633.79      0.00      0.00    633.83       .04       .32       .11    632.00
      520.      192.       61.      267.      153.       29.      172.       40.       22.    632.00
       .65      1.25      2.11      1.55      .075      .050      .075      .050    627.30    157.30
   .004115       33.       33.       33.         4         0         0   -124.43    297.30    522.19

*SECNO 803.700
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3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 803.70 | 6.52 | 633.82 | 0.00 | 0.00 | 633.83 | .01 | .00 | .01 | 631.30 |
| 520. | 120. | 230. | 170. | 274. | 174. | 298. | 40. | 22. | 630.10 |
| .65 | .44 | 1.32 | .57 | .075 | .050 | .075 | .050 | 627.30 | 180.65 |
| .000210 | 1. | 1. | 1. | 0 | 0 | 0 | 0.00 | 297.63 | 545.64 |

*SECNO 803.800

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 803.80 | 6.33 | 633.83 | 0.00 | 0.00 | 633.84 | .02 | .01 | .00 | 631.50 |
| 520. | 112. | 241. | 168. | 246. | 169. | 276. | 40. | 22. | 630.30 |
| .66 | .45 | 1.43 | .61 | .075 | .050 | .075 | .050 | 627.50 | 180.69 |
| .000258 | 33. | 33. | 33. | 2 | 0 | 0 | 0.00 | 297.42 | 545.60 |

*SECNO 803.900
3280 CROSS SECTION 803.90 EXTENDED 1.06 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 803.90 | 5.36 | 634.16 | 0.00 | 0.00 | 634.21 | .06 | .34 | .03 | 632.60 |
| 520. | 14. | 276. | 230. | 25. | 109. | 315. | 49. | 27. | 633.00 |
| .78 | .58 | 2.53 | .73 | .075 | .050 | .075 | .050 | 628.80 | 289.38 |
| .001188 | 700. | 700. | 700. | 2 | 0 | 0 | 0.00 | 360.62 | 650.00 |

*SECNO 804.000
3280 CROSS SECTION 804.00 EXTENDED .89 FEET

**OVERFLOW POINT AT HENRY GRAHAM DRAIN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 804.00 | 5.19 | 634.39 | 0.00 | 0.00 | 634.55 | .16 | .25 | .08 | 633.00 |
| 520. | 15. | 382. | 122. | 19. | 105. | 127. | 51. | 28. | 633.40 |
| .79 | .79 | 3.64 | .96 | .075 | .050 | .075 | .050 | 629.20 | 312.20 |
| .002596 | 150. | 150. | 150. | 2 | 0 | 0 | 0.00 | 187.80 | 500.00 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: HAWTHORNE DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland County, Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Spencer-Barnard Drain and Hawthorne Drain: East of Henry Graham Drain

STUDY LIMITS: Dequindre Road (downstream limit) to junction with Henry Graham Drive (upstream limit)

DATE OF AERIAL SURVEY: November 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/30/79 - 8/17/79 McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revision to Hydrology in August 1980 enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" = 1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | 0.05 - 0.075 |
| Overbank "n" | 0.075 - 0.094 |
| n values thru bridges | (See "Comments") |
| Contraction Coefficients | 0.1 - 0.5 |
| Expansion Coefficients | 0.3 - 1.0 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting conditions were determined by utilizing the Sterling Heights Flood Insurance Study computer data. Data was obtained for Spencer Drain in Sterling Heights extending from the confluence with Big Beaver Drain to just downstream of Dequindre Road, the downstream limit of study. This reach is approximately 4550 feet long. Starting elevations on this reach were obtained using the slope-area method. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%. The computer run showed convergence downstream of Dequindre Road. Starting elevations for Hawthorne Drain were interpolated from the computer results between cross sections 2750 and 3450 (see attached plan for Sterling Heights). The Hawthorne Drain analysis started just downstream of Dequindre Road. Starting elevations for Spencer-Barnard Drain were obtained from the computer results at the upstream cross section, number 5660 (see attached plan for Sterling Heights). The Spencer-Barnard Drain analysis started just downstream of Dequindre Road.

## High Water Marks and Calibration

There was no high water information available, therefore a calibration test was not possible.

## Designated Floodway

Engineering judgment along with the aid of encroachment methods 1 and 4 in the HEC-2 program were used to determine encroachment stations based on an allowable surcharge of 0.1 feet.

At field surveyed sections the designated floodway was established using the computer determined encroachment stations in conjunction with engineering judgment. Between field surveyed sections, available topographic information in conjunction with engineering judgment was used to complete the floodway. (See the enclosed 1" = 400' topographic map for floodway delineation.)

Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations, and (iii) convergence test and starting elevation determination for Spencer Drain in Sterling Heights for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 10, 50, 100 and 500 year natural computed water surface profiles).

We have designated an area east of Henry Graham Drain as shallow flooding. This area is bounded by Minnesota on the west, Wisconsin on the north, Dequindre on the east and Dashwood on the south. Some overflow from the Spencer-Barnard Drain is expected to get into this area. The majority of the flow will travel south over the top of Henry Graham Drain and get into the open channel east of the old Spencer-

Barnard entrance to Henry Graham Drain. Hand calculations were performed to determine floodway width and profile elevations over this overland route (See attached sheets). Various footbridges, noted in the cross section tables, were not modeled as no significant loss is expected to occur over them. All footbridges not modeled are submerged. (See attached field notes with bridge data). In addition, XKOR's for Dequindre (both drains) and a walk bridge on Spencer-Barnard were estimated and not calculated as these bridges are submerged and minimal flow is expected through the culverts. Lovington Road on Spencer-Barnard was modeled as a weir by eliminating area below the top of the road. Minnesota was modeled as a normal bridge and included the opening. In modeling the latter two roads, homes were taken into account as ineffective flow area by modeling them at the appropriate cross sections upstream and downstream of the roads.

TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remark |
| 4 | Synthetic - Developed from two surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 800.2 | | 1 | Valley Section |
| 800.3 | | 3 | D/S Face Degundide Rd - Repeat 800.2 |
| 800.7 | A | 3 | U/S Face Degundide Rd - Repeat 800.8 |
| 800.75 | | 3 | Valley Section - Repeat 800.6 |
| 800.772 | | 3 | Valley Section - Repeat 800.8 |
| | B,C,D,E | | Footbridges not modeled |
| 800.8 | F | 1 | Valley Section |
| | G,H,I,J | | Footbridges not modeled |
| 801 | | 3 | Valley Section - Repeat 800.8 |
| | K,L,M,N | | Footbridges not modeled |
| 802 | O | 1 | Valley Section |
| 803.2 | P | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.3 | | 3 | Valley Section - Repeat 803.2 |
| 803.4 | | 4 | D/S Face Minnesota Rd - Developed from Bridge Data and modeled to include buildings which constitute ineffective flow areas |
| | Q | | |
| 803.6 | | 4 | U/S Face Minnesota Rd - Repeat 803.4 |
| 803.7 | | 3 | Valley Section - Repeat 803.8 |
| 803.8 | R | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.9 | | 3 | Valley Section - Repeat 804 |
| 804 | S | 1 | Valley Section |

7-17-77

Hawthorne Dr., D.S. of Hwy. [illegible]

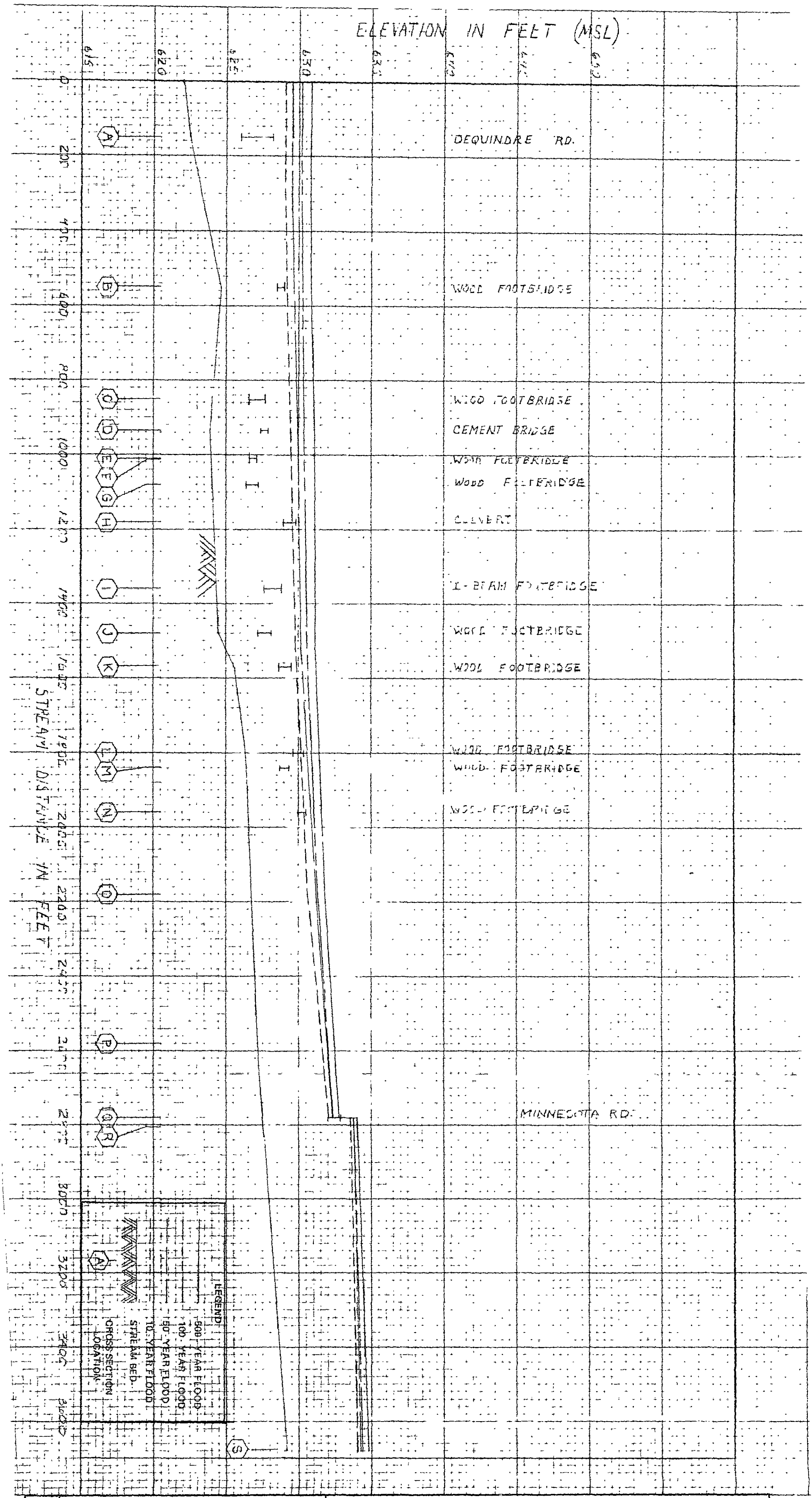
Hawthorne #1

Field Bridge [illegible] plotting

X = invert to [illegible] bottom
Y = [illegible]
Z = railing

| # | Fig # | X | Y | Z | Roll # | |
|---|---|---|---|---|---|---|
| 800 | 17 | 3.5 | 2.2 | 4.3 | 150 | 3.5' dia. R.C.P. w/ grate |
| 800A | 18 | 3.9 | 0.5 | | " | On Abrams map |
| 800B | 19 | 2.6 | 1.1 | 3.0 | " | ± 20' U.S. of [illegible] |
| 800C | 20 | 2.4 | 0.6 | | " | ± 85' U.S. of 800B, cement bridge |
| ~~[illegible]~~ | 1 | | | | 151 | Roll # on cards |
| 800D | 2 | 2.7 | 0.5 | | " | ± 78' U.S. of # 800C |
| 800E | 3 | 2.4 | 0.9 | 3.0 | " | ± 68' U.S. of # 800D |
| 800F | 4 | 4.8 | [illegible] | | " | ± 105' U.S. of [illegible] |
| | | | | | | ± 80' U.S. [illegible] |
| 800G | 5 | 3.3 | 1.2 | | 151 | ± 170' U.S. of # [illegible] |
| 800H | 6 | [illegible] | 0.9 | 3.2 | " | ± 90' U.S. of # [illegible] |
| 800.1 | 7 | [illegible] | 0.8 | 3.5 | " | ± 80' U.S. of # 800H |
| 800.2 | 8 | 3.3 | 0.8 | | " | ± 230' U.S. of # 800. |
| | | | | | | Resident states that flooded above bank 2 yrs ago |
| 800.3 | 9 | 2.3 | 0.7 | | 151 | ± 46' U.S. of # 800.2 |
| 800.4 | 10 | 2.5 | 0.5 | | " | ± 118' U.S. of # 800.3 |
| 803 | 11 | 4.7 | 0.8 | 2.0 | " | 6' dia. R.C.P., [illegible], 35' long |

PERFECT CROSS SECTION
10 X 10 - ONE INCH
EUGENE DIETZGEN CO




| | | |
|---|---|---|
| | DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT<br>Federal Insurance Administration<br>CITY OF ROY, MI.<br>(OAKLAND CO.) | FLOOD PROFILES<br>THORN #1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: KIRTS DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

MP&S

SH&G

2223 Packard Road
Ann Arbor, Michigan
48104
(313) 769-9220

455 W. Fort St.
Detroit, Michigan
48226
(313) 964-3000

A Joint Venture

FLOOD INSURANCE STUDY

H-4705

TRANSMITTAL

RECEIVED
MAR 17 1980
WATER MANAGEMENT

To: Michigan DNR
Water Management Division
P.O.Box 30028
Lansing, Michigan 48909

Attn: Mr. Daniel Morgan, P.E.

Date: 3/13/80

Re: City of Troy FIS
Limited Detail for
Kirts Drain

Gentlemen:

We are enclosing herewith X

We are sending under separate cover ___

We acknowledge receipt of ___

The following: ___ Drawings ___ Specifications ___

Limited detail study report on the Kirts Drain. Including plans, profile and backup computations for normal depth and starting elevation.

For X Your approval ___ Your corrections ___ Your comments

___ Your use X Your files

Remarks:

Distribution:

Very truly yours,

MP&S/SH&G, A JOINT VENTURE

Duane R. Meyer, P.E.

Duane R. Meyer, P.E.
Project Engineer for
McNamee, Porter and Seeley

# FLOOD INSURANCE STUDY HYDRAULIC REPORT
(Limited Detail Methods)

PROJECT: HUD-FIA-H-4705 - City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Kirts Drain

STUDY LIMITS: Enclosure 200 ft. south of Kirts Rd. (d/s limit) to Crooks Rd. (u/s limit).

DATE OF LAND SURVEY: March 1980

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G

TOPOGRAPHIC INFORMATION: USGS topographic maps 1" = 400' 2' contours

METHOD OF ANALYSIS: Where no bridges or culverts are present, the 100-year flood elevation at each x-section was determined via the uniform flow method using the channel-bed slope to compute normal depth. Where bridges or culverts were present, appropriate standard techniques to establish the 100-year flood elevations at each bridge were used.

PHOTOGRAPHS: Not enclosed.

CROSS-SECTIONS: See hydraulic notes for sections considered representative of each reach.

REFERENCES:


1. Concrete Pipe Design Manual, American Concrete Pipe Association, February 1974.

2. Handbook of Steel Drainage and Highway Construction Products. American Iron and Steel Institute, 1971.

3. Handbook of Hydraulics. H.W. King and E.F. Brater, McGraw Hill Book Company, 6th Ed., 1976.

4. Open Channel Hydraulics. Ven Te Chow, McGraw Hill Book Company, 1959.

JOB HUD-FIH

CONSULTING ENGINEERS SUBJ TROY TOG

ANN ARBOR COMP VPK 1-31-80

Lirts Drain - Limited Detail

Drainage area -

at Crooks Rd $A = .63 mi^2$

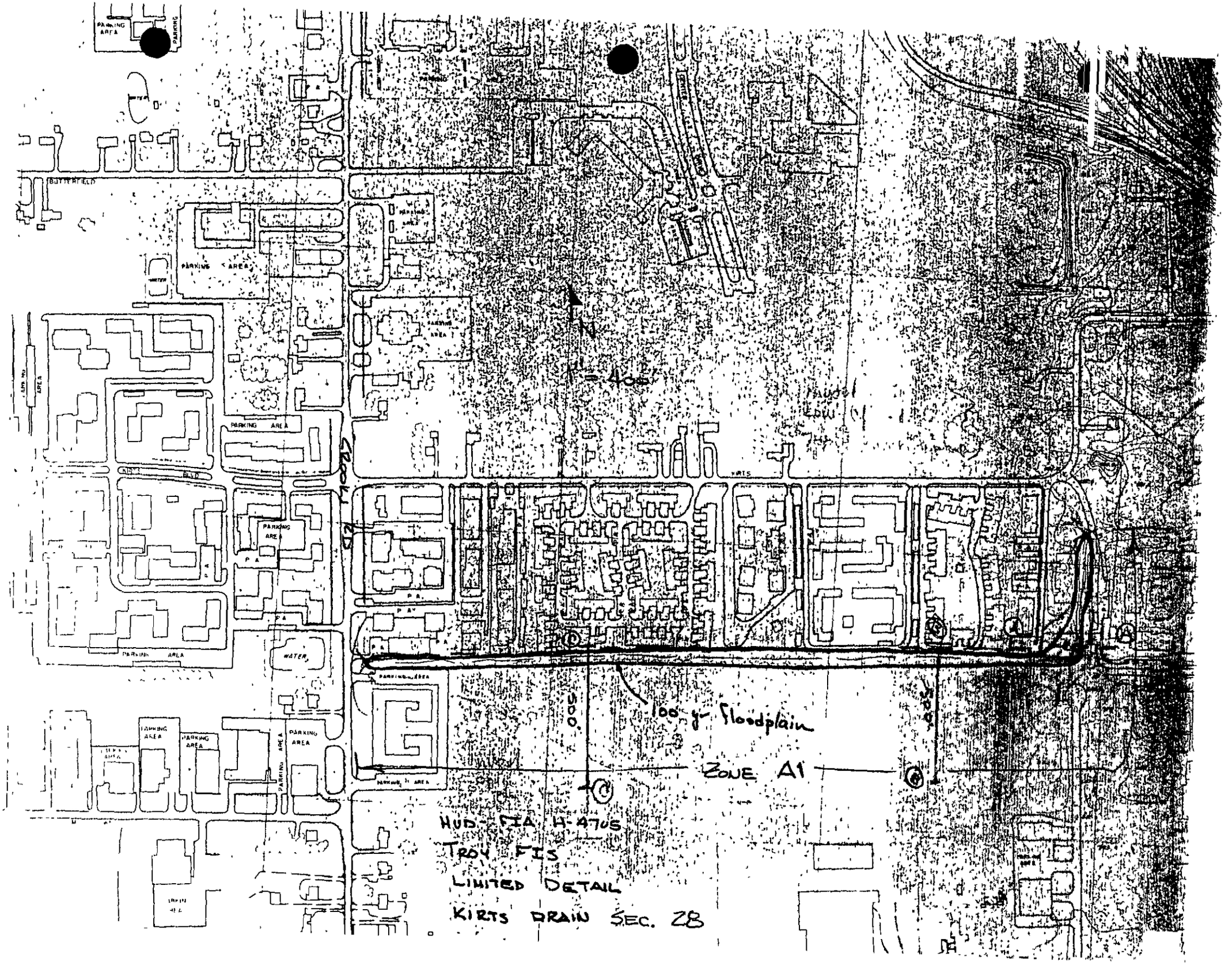
at entrance to Mastin Drain $A = .80 mi^2$

Upstream area appears to be mainly residential w/ some commercial. However, upstream is enclosed and some storage is available on-line, therefore, use $P_d = 2000$ p/mi²

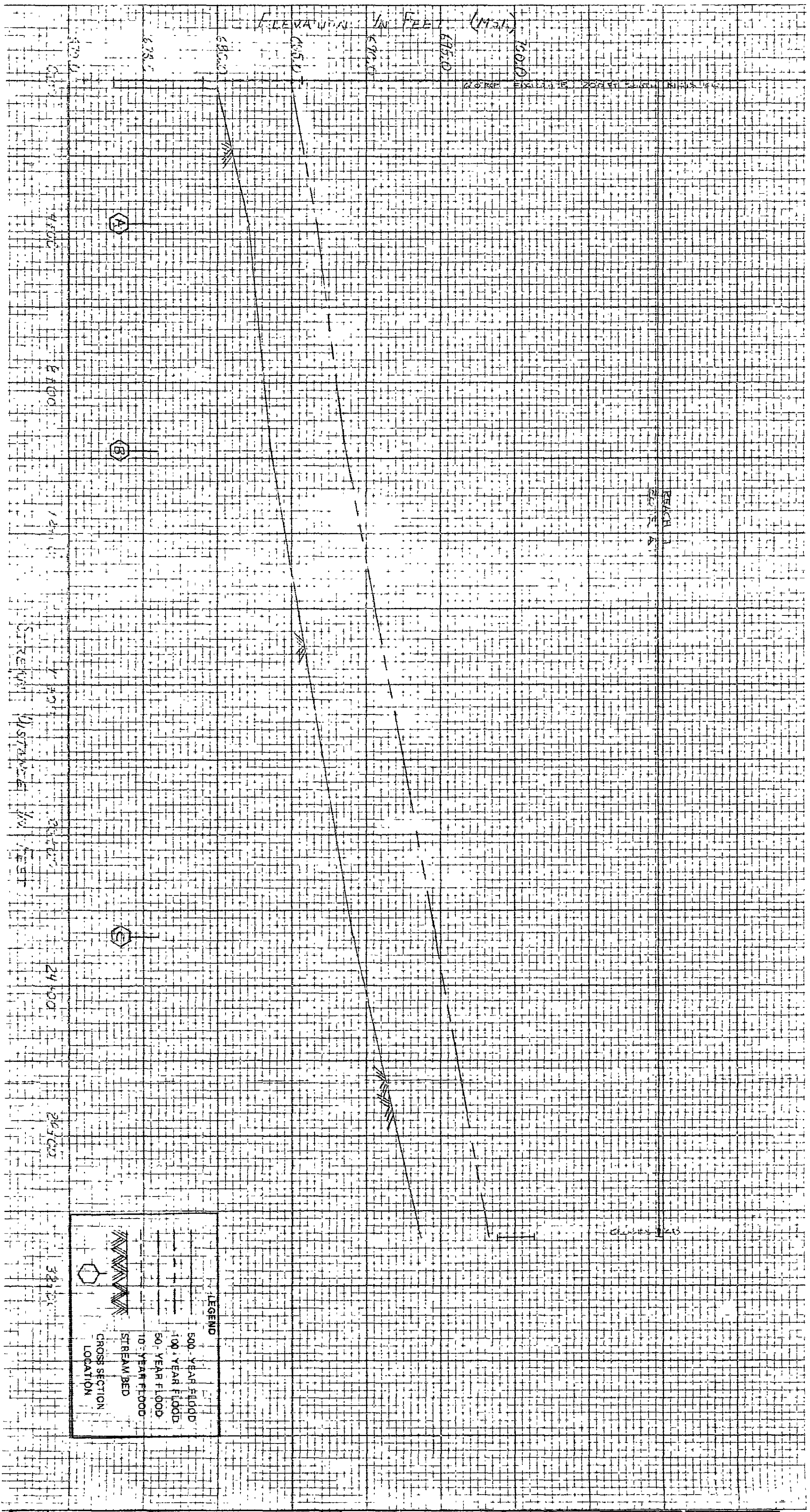
| | | | | |
|---|---|---|---|---|
| | 10 | 50 | 100 | 500 |
| A = .63 | | | | |
| $P_d$ = 2000 | | | | |
| Q = | 170 | 260 | 300 | 430 |
| A = .80 | | | | |
| $P_d$ = 2000 | | | | |
| Q = | 190 | 300 | 330 | 490 |

Since basin is long and narrow use upstream values.

| | | | | |
|---|---|---|---|---|
| * Q = | 170 | 260 | 300 | 430 |


BUTTERFIELD
PARKING AREA
WATER
KIRTS BLVD
100 yr floodplain
ZONE A1
HUD-FIA H-4705
TROY FIS
LIMITED DETAIL
KIRTS DRAIN SEC. 28

"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO.




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY, MI
(OAKLAND CO.)

**FLOOD PROFILES**

TROY - MIN

MPG

# STARTING ELEVATION COMPUTATIONS

HGL computations from Halfpenny @ Spencer Drain back to Kirts Drain

HGL inside Halfpenny @ Barnard = 658.6 (per Spencer Hydraulic Computations)

$Q_{100}$ = 1600 cfs (500 cfs from Halfpenny and 1100 from Mastin)

13' 0" $S_f = \left[\frac{(1600\,cfs)(.012)}{1.49\left(\frac{13^2\pi}{4}\right)\left(\frac{13}{4}\right)^{2/3}}\right]^2 = 0.002$ $V = \left(\frac{1600}{\frac{13^2\pi}{4}}\right) = 12$ fps $h_{v_p} = 2.5$

L = 2233' pipe to junction with Mastin @ Troy Dr.

$h_f = 2233(.002) = 4.5'$

HGL inside Halfpenny @ Mastin = 663.1 (Ground elev ≅ 665)

$Q_{100}$ = 1100 cfs (in Mastin)

$S_f = \left[\frac{(1100\,cfs)(.012)}{1.49\left(\frac{12^2\pi}{4}\right)\left(\frac{12}{4}\right)^{2/3}}\right]^2 = 0.0014$ $V = \frac{1100}{\frac{12^2\pi}{4}} = 9.7$ fps $h_{v_p} = 1.5$

Loss @ Junction 10' 0" → 12' 0" ↓ → 13' 0" $h_L = 1.2\,h_{v_{12}} = 1.2(1.5) = 1.8'$

HGL inside Mastin @ Halfpenny = 664.9 (Grnd elev. ≈ 665)

3 · 90° Bends back to Morse St $h_L = 3(0.3)1.5 = 1.4'$

L = 4730 ft from junction w/ Halfpenny to tributary from North on Morse Rd.

$h_f = 4730(.0014) = 6.6'$

HGL in Mastin d/s Trib from North on Morse = 672.9 (Crown elev = 672.5)

Pipe changes to 11' 0" Heide St Structure is only 1363 ft u/s so use same $S_f$

Tee loss @ Morse Rd structure 11' 0" → ↓ 12' 0" → $h_L = 0.5\,h_{v_{12}} = 0.5(1.5) = 0.7$

$h_f = 1363(.0014) = 1.9'$

HGL in Mastin @ Heide St. Structure = 675.5' (Crown = 680) ⇒ Assume running full.

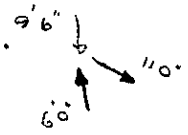
Proj FIS - Limited Detail Kirts Drain

$Q_{100}$ = 300 cfs from Kirts Drain

Pipe is 6'0" $S_f = \left[\frac{300\,(.012)}{1.49\left(\frac{6^2\pi}{4}\right)\left(\frac{6}{4}\right)^{2/3}}\right]^2 = 0.004$

$V = \frac{Q}{A} = \frac{300}{\frac{6^2\pi}{4}} = 10.6$ fps $h_{v_p} = 1.74$

Loss @ Heide Street Structure




$h_L = 1.2\,h_{v_p} = 1.2(1.74) = 2.0'$

HGL u/s Heide St. Structure in 6'0" = 680 + 3.0 = 682.0

L = 120' $h_f = 0.004(120) = 0.5'$

HGL inside 6'0" pipe just d/s Kirts Drain entrance = 682.5

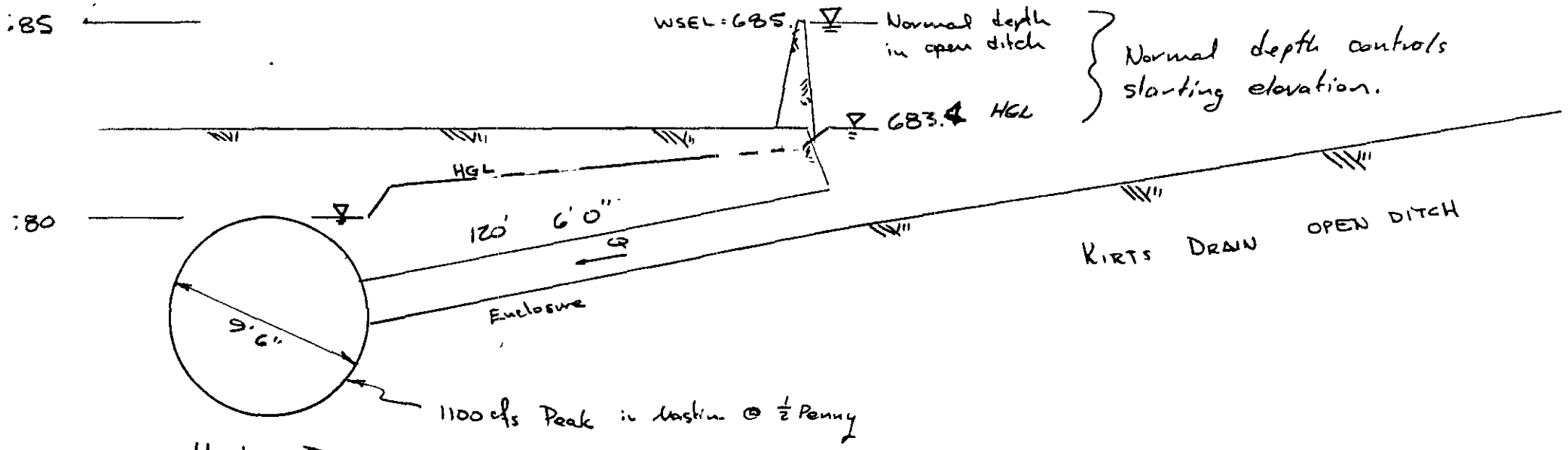
Entrance Loss into 6'0" line $h_L = 0.5\,h_{v_p} = 0.5(1.74) = 0.9$

HGL in Kirts Drain outside entrance = 683.4

Normal depth in Kirts Drain open channel = 685 ⇒ Enclosure does not contro.

5/11/80
MPG

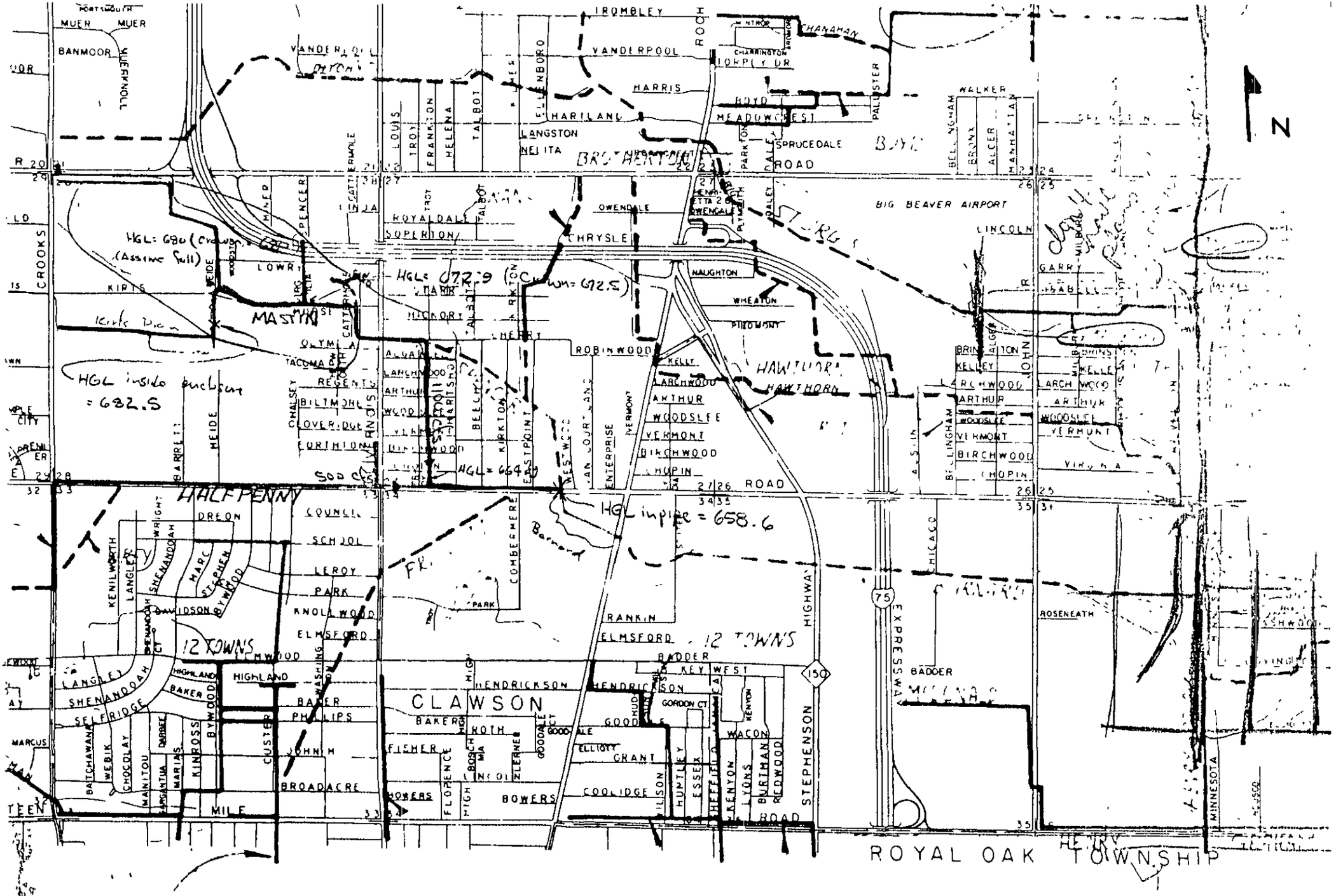
Profile from Mastin Drain Structure
@ Heide St. to Kirts Drain open ditch.




Mastin Drain
@ Heide St. Structure
(Assuming flowing full)

No Scale

HUD - FIA H-4705
TROY FIS
LIMITED DETAIL


N
BIG BEAVER AIRPORT
HGL: 680 (Crown) (Assume full)
HGL: 672.9 (Crown = 672.5)
HGL inside enclosure = 682.5
HGL = 664
HGL in pipe = 658.6
MASTIN
HALFPENNY
HAWTHORN
CLAWSON
12 TOWNS
ROYAL OAK TOWNSHIP
BROADACRE
BOWERS
COOLIDGE
GRANT
ELMSFORD
RANKIN
ROBINWOOD
CHRYSLER
ROYALDALE
SOUTHFIELD
STEPHENSON
HIGHWAY
EXPRESSWAY
CROOKS
ROCHESTER
ROSENEATH
LAWSON
CLAWSON
EAST CLAWSON
12 TOWNS
Kirk Drain Limited Detail
CITY OF TR
OAKLAND COUNTY

CONSULTING ENGINEERS

ANN ARBOR MICHIGAN

TROY LIMITED DETAIL

Girls Drain

CP

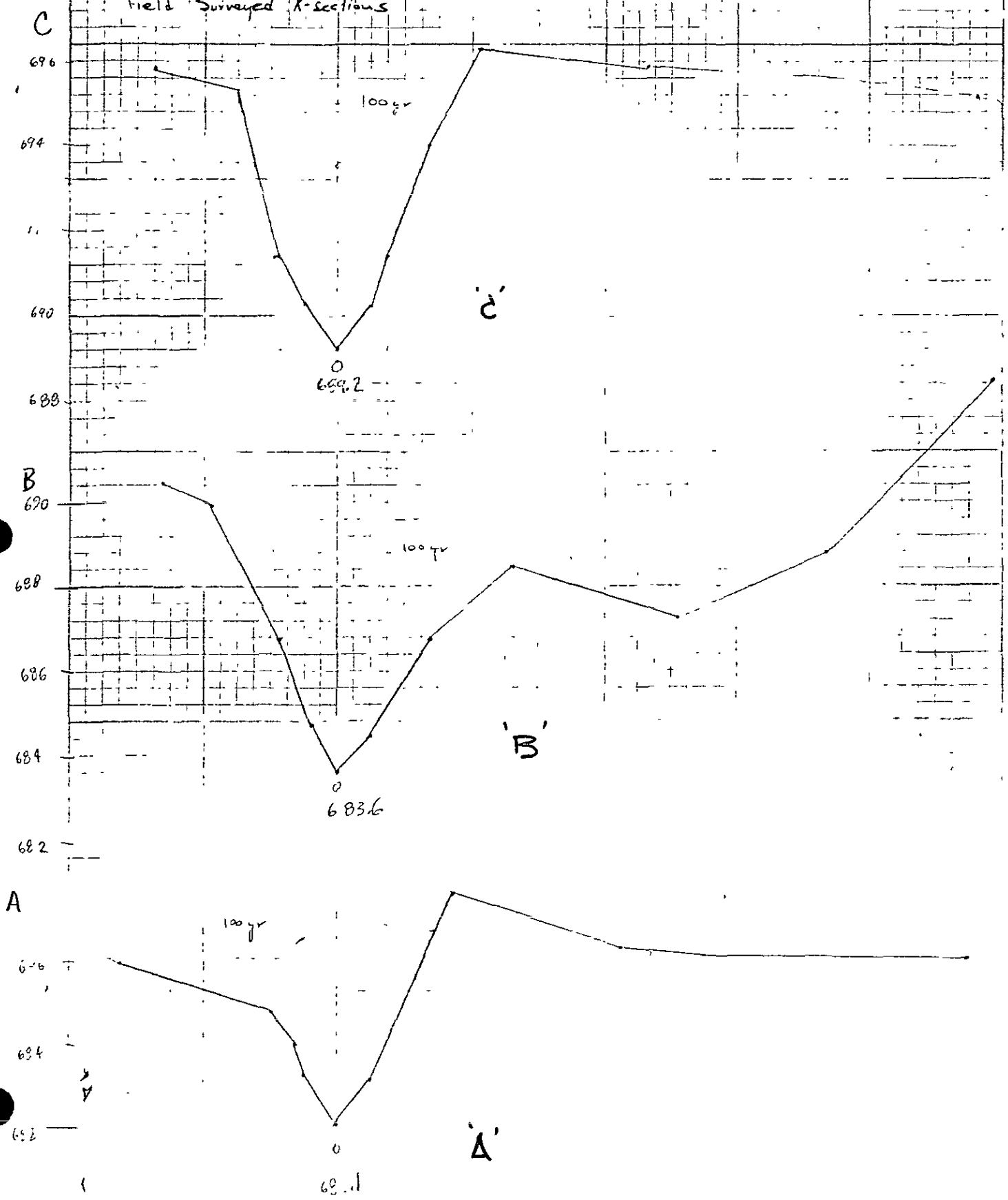
3-7-80

Looking D/S

$S_{AVE} = \frac{692.8 - 1679.8}{3070} = .0042$

Horiz Scale = 1" = 16'

Field Surveyed X-sections



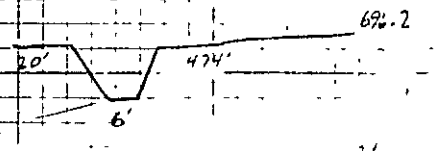
CONSULTING ENGINEERS

# Normal Depth Computations:

$S_{AVE} = \frac{692.8 - 679.8}{30.70} = .0042$

$m = \frac{2.39 + 1.92}{2} = 2.18$

modelling "c"




Section

Area Ditch $= 2.18(6.8)^2 + 6(6.8) = 141.6$

$R = 3.6$

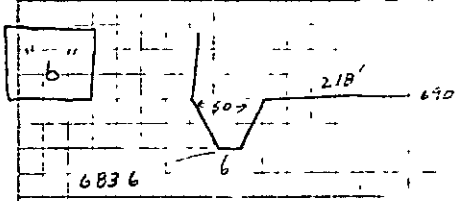
$Q = \frac{C_m}{n} A (R)^{2/3} (S_{ave})^{1/2}$ $Q = 500$ if section full

$y = 4'$ Area $= 59$ $R = 1.7$ $Q = 125$ use $n = 0.065$

$y = 5$ Area $= 85$ R [illegible] Q [illegible]

$y = 5.5'$ $\rightarrow$ $y = 6$ Area $= 115$ $R = 3.3$ Q [illegible]

"b"




$A_{ditch} = 3.15(6.4)^2 + 6(6.4) = 167.42$ $R = 3.39$

$Q\ (full) = \frac{1.49}{.065}(3.4)^{2/3}(.0042)^{1/2}(167) = 560$

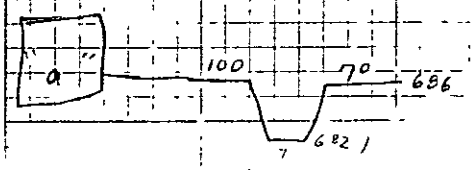
$m_1 = 20/5.2 = 3.8$ $\rightarrow$ 3.15

$m_2 = 16/6.4 = 2.5$

$y = 5'$ $A = 108$ $R = 2.72$ $Q = 314$ ok

$y = 5'$

"a"




$A_{ditch} = 2.94(3.9)^2 + 7(3.9) = 70.5$ $R = \frac{70.5}{30.5} = 2.31$

$Q_{ditch} = \frac{1.49}{.065}(.0042)^{1/2}(70.5)(2.31)^{2/3} = 183$

$m_1 = \frac{689.7 - 682.1}{3} = 3.08$ $\rightarrow$ 3.04

$\frac{687.5 - 682.1}{1.5} = 2.6$

$300 - 33 - 1.7 = 265$

$117 = \frac{1.49}{.065}(.0042)^{1/2}(200y)\left(\frac{200y}{6+2y}\right)^{2/3} = 7.3$ ; $200 + 2y$

$y_{total} = 3.9 + .6 = 4.5$

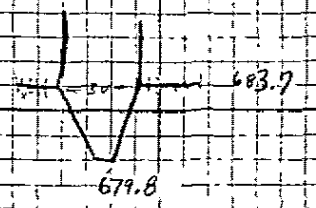
$y_{added} = .6$

Kirts Drain Lowland Lake

Normal Depth Comps.

@ D/S point @ structure same section as "a"

$S = \frac{682.1 - 679.8}{30} = .065$




$Q_{ditch}$ w/new Save = 220.5

300 - 220.5 = 79.5

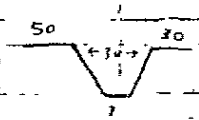
$$79.5 = \frac{1.49}{.065}(.0061)^{1/2}(30y)\left(\frac{30y}{1+2y}\right)^{2/3}$$

$$1.48 = y\left(\frac{30y}{\frac{1}{2}+2y}\right)^{2/3}$$

$$y \cong 1.3$$

$Y_{total} = 3.9 + 1.3 = 5.2$

@ A (continued)




$Q_{ditch} = 183$

$$117 = \frac{1.49}{.065}(.006)^{1/2}(110y)\left(\frac{110y}{110+2y}\right)^{2/3}$$

$$234 = y\left(\frac{110y}{110+2y}\right)^{2/3}$$

$\Delta y = .85$ ft

$y = .85 + 3.9 = 4.75 \rightarrow y_{added} = .85$

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: LANE DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
```

```
T1      JOB HUD-FIA F-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      100 YEAR FLOW  ENCROACHMENT OPTION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 665.230 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .150 CEHV=     .350
*SECNO 600.100
 2800 NAT Q1=     741.27  WSEL=     665.23  ENC Q1=     741.27  WSEL=     665.33  RATIO=    .0000
 NAT Q1=     764.  RATIOS LOB,CH,ROB=    .0502    .9445    .0053  WSEL=     665.33
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      142.0      292.0  TYPE=      4  TARGET=          .030

         ** CONFLUENCE WITH STURGIS DRAIN

   600.10      9.83    665.23      0.00    665.23    665.23       .00      0.00      0.00    662.50
     450.       12.      438.        0.       68.      768.        0.        0.        0.    663.80
     0.00       .17       .57      0.00      .095      .055      .095     0.000    655.40    142.00
  .000039        0.        0.        0.         0         0         0      0.00    149.99    292.00


*SECNO 600.150
 2800 NAT Q1=     287.07  WSEL=     665.24  ENC Q1=     287.07  WSEL=     665.34  RATIO=   0.0000
 NAT Q1=     304.  RATIOS LOB,CH,ROB=    .0522    .7819    .1659  WSEL=     665.34

3470 ENCROACHMENT STATIONS=      231.7      460.9  TYPE=      4  TARGET=          .055
   600.15      9.34    665.24      0.00    665.24    665.27       .02       .02       .01    664.00
     450.       11.      377.       62.       38.      301.      192.        5.        1.    664.90
      .08       .29      1.26       .32      .095      .055      .095      .055    655.90    231.72
  .000270      300.      300.      300.         2         0         0      0.00    229.18    460.90


*SECNO 600.200
 2800 NAT Q1=     200.06  WSEL=     665.33  ENC Q1=     200.28  WSEL=     665.43  RATIO=  -.0011
 NAT Q1=     207.  RATIOS LOB,CH,ROB=    .0324    .9676   0.0000  WSEL=     665.43

3470 ENCROACHMENT STATIONS=      262.0      322.0  TYPE=      4  TARGET=          .032

3455 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      664.60 ELREA=      665.50

   600.20      8.84    665.34      0.00    665.33    665.38       .04       .11       .01    664.60
     450.        0.      450.        0.        0.      271.        0.        7.        2.    665.50
      .13      0.00      1.66      0.00      .095      .055      .095      .055    656.50    262.00
  .000538      300.      300.      300.         1         0         0      0.00     58.88    320.88


CCHV=     .400 CEHV=     .800
*SECNO 599.980
 2800 NAT Q1=     130.13  WSEL=     665.48  ENC Q1=     130.13  WSEL=     665.58  RATIO=    .0000
 NAT Q1=     135.  RATIOS LOB,CH,ROB=    .2116    .4731    .3154  WSEL=     665.58

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      270.4      387.5  TYPE=      4  TARGET=          .034

         ** D/S FACE ELLENBORO RD.
```

100yr stage on Sturgis is 665.23

```
  599.98      7.99    665.49      0.00    665.48    665.61       .12       .16       .06    658.30
    45C.       92.      221.      137.       67.       61.       91.        9.        3.    658.3C
     .15      1.28      3.63      1.51      .C95      .055      .C95      .055    657.50    270.42
 .001243      21C.      210.      210.         2         0         0      0.00     66.9C    387.50


SPECIAL BRIDGE

SB  XK          XKCR        COFQ        RDLEN       BWC         BWP         BAREA       SS          ELCHU       ELCHD
     0.00        2.25        2.75      275.00        4.89        0.00       27.40        0.00      657.50      657.50

*SECNO 600.020
 2800 NAT Q1=     246.99  WSEL=     666.24  ENC Q1=     246.99  WSEL=     666.34  RATIO=    .0000
 NAT Q1=     259.  RATIOS LOB,CH,RCB=    .3136    .3063    .3801  WSEL=     666.34
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IEC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      254.9      431.4  TYPE=      4  TARGET=        .045
   600.02      8.75    666.25      0.00    666.24    666.28       .03       .02       .04    657.80
    45C.       138.      147.      165.      164.       69.      294.        9.        3.    657.8C
     .16       .84      2.13       .56      .C95      .055      .095      .055    657.50    254.92
 .000354       40.       40.       40.         0         0         6      0.00    176.45    431.37


*SECNC 600.800
 2800 NAT Q1=     333.91  WSEL=     666.29  ENC Q1=     333.91  WSEL=     666.39  RATIO=    .0000
 NAT Q1=     350.  RATIOS LOB,CH,RCB=    .0139    .7685    .2175  WSEL=     666.39
3280 CROSS SECTION     600.80 EXTENDED        .10 FEET


3470 ENCROACHMENT STATIONS=      244.0      423.2  TYPE=      4  TARGET=        .046
   600.80      9.01    666.31      0.00    666.29    666.32       .02       .04       .01    665.30
    450.         C.      364.       86.         C.      338.      233.       11.        3.    663.40
     .20      0.00      1.08       .37      .C95      .055      .095      .055    657.3C    244.00
 .00C198      14C.      140.      14C.         1         0         0      0.00    179.17    423.17


CCHV=     .200 CEHV=     .400
*SECNO 600.820
 2800 NAT Q1=     319.43  WSEL=     666.29  ENC Q1=     319.43  WSEL=     666.39  RATIO=    .0000
 NAT Q1=     335.  RATIOS LOB,CH,RCB=    .0112    .7789    .2100  WSEL=     666.39
3280 CROSS SECTION     600.82 EXTENDED        .02 FEET


3470 ENCROACHMENT STATIONS=      244.0      417.9  TYPE=      4  TARGET=        .046
   60C.82      8.92    666.32      0.C0    666.29    666.33       .02       .01       .00    665.40
    450.         C.      369.       81.         C.      332.      216.       11.        3.    663.50
     .21      0.00      1.11       .37      .095      .055      .C95      .055    657.4C    244.00
 .00C215       3C.       3C.       3C.         0         0         0      0.00    173.88    417.88


*SECNC 600.83C
```

4 WSEL was used
from natural run = .76 ft

Wei. 275 ft

334

274

456

CL = 665.45

≈ 417

```
 2800 NAT Q1=     202.81  WSEL=     666.30  ENC Q1=     202.81  WSEL=     666.40  RATIO=    .0000
 NAT Q1=     215.  RATIOS LOB,CH,ROB=    .0176    .6549    .3276  WSEL=     666.40
3280 CROSS SECTION     600.83 EXTENDED        .02 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  662.70 MAX ELLC=  662.10


3470 ENCROACHMENT STATIONS=      244.0      427.5  TYPE=      4  TARGET=         .058

         ** D/S FACE FOOTBRIDE

   600.83      8.92    666.32      0.00    666.30    666.33       .01       .00       .00    665.40
     450.        0.      316.      134.        0.      308.      230.       11.        3.    663.50
      .21      0.00      1.02       .58      .095      .055      .095      .055    657.40    244.00
  .000537        1.        1.        1.         0         0         0    -24.21    183.47    427.47


*SECNO 600.840
 2800 NAT Q1=     203.41  WSEL=     666.30  ENC Q1=     203.41  WSEL=     666.40  RATIO=    .0000
 NAT Q1=     216.  RATIOS LOB,CH,ROB=    .0176    .6546    .3278  WSEL=     666.40
3280 CROSS SECTION     600.84 EXTENDED        .02 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  662.70 MAX ELLC=  662.10


3470 ENCROACHMENT STATIONS=      244.0      428.8  TYPE=      4  TARGET=         .056
   600.84      8.92    666.32      0.00    666.30    666.33       .01       .00       .00    665.40
     450.        0.      315.      135.        0.      308.      232.       11.        3.    663.50
      .21      0.00      1.02       .58      .095      .055      .095      .055    657.40    244.00
  .000532        4.        4.        4.         0         0         0    -24.21    184.82    428.82


*SECNO 600.850
 2800 NAT Q1=     320.00  WSEL=     666.30  ENC Q1=     320.00  WSEL=     666.40  RATIO=    .0000
 NAT Q1=     335.  RATIOS LOB,CH,ROB=    .0113    .7784    .2103  WSEL=     666.40
3280 CROSS SECTION     600.85 EXTENDED        .02 FEET


   SECNO     DEPTH     OWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      244.0      417.9  TYPE=      4  TARGET=         .046
   600.85      8.92    666.32      0.00    666.30    666.34       .02       .00       .00    665.40
     450.        0.      369.       81.        0.      333.      217.       11.        3.    663.50
      .21      0.00      1.11       .37      .095      .055      .095      .055    657.40    244.00
  .000214        1.        1.        1.         0         0         0      0.00    173.88    417.88


COHV=     .150 CEHV=     .350
*SECNO 600.870
 2800 NAT Q1=     295.34  WSEL=     666.33  ENC Q1=     295.34  WSEL=     666.43  RATIO=    .0000
 NAT Q1=     310.  RATIOS LOB,CH,ROB=    .0072    .7963    .1965  WSEL=     666.43
```

```
3470 ENCROACHMENT STATIONS=      244.0      406.C  TYPE=      4  TARGET=          .047
   600.87      8.76    566.36      0.00    666.33    666.38      .02       .04       .00    665.60
     45C.        0.      378.       72.        0.      321.     183.       13.        4.    663.70
      .26      C.CO      1.18       .39      .C95      .055     .095      .055    657.60    244.00
  .000251      175.      175.      175.         0         0        0      0.00    161.98    405.98
```

```
CCHV=     .300 CEHV=     .800
*SECNC 600.980
 2800 NAT Q1=     282.67  WSEL=     666.35  ENC Q1=     282.67  WSEL=     666.45  RATIO=    .0000
 NAT Q1=     297.  RATIOS LOB,CH,ROB=    .0056    .8059    .1886  WSEL=     666.45

3470 ENCROACHMENT STATIONS=      244.0      399.3  TYPE=      4  TARGET=          .048

         ** D/S FACE KILMER RD.

   600.98      8.67    666.37      0.00    666.35    666.39      .02       .01       .00    665.70
     45C.        0.      383.       67.        0.      316.     166.       14.        4.    663.80
      .27      C.CO      1.21       .40      .C95      .055     .095      .055    657.70    244.00
  .000273       50.       50.       50.         0         0        0      0.00    155.26    399.26
```

```
SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.70      2.75    275.00      3.93      0.00     19.63      0.00    657.70    657.70
```

```
*SECNO 601.020
 2800 NAT Q1=     233.52  WSEL=     666.87  ENC Q1=     233.52  WSEL=     666.97  RATIO=    .0000
 NAT Q1=     242.  RATIOS LOB,CH,ROB=    .0731    .9262    .0007  WSEL=     666.97
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      221.0      286.0  TYPE=      4  TARGET=          .036
   601.02      9.20    666.90      0.00    666.87    666.94      .04       .02       .02    664.70
     45C.       17.      433.        0.       37.      265.       0.       14.        4.    666.80
      .28       .45      1.63      C.CO      .095      .055     .095      .054    657.70    221.00
  .000390       55.       55.       55.         C         0        6      0.00     65.00    286.00
```

```
*SECNO 601.800
 2800 NAT Q1=     206.15  WSEL=     666.91  ENC Q1=     206.15  WSEL=     667.01  RATIO=  C.0000
 NAT Q1=     213.  RATIOS LOB,CH,RCB=    .0480    .9520  0.0000  WSEL=     667.01

3470 ENCROACHMENT STATIONS=      232.1      286.0  TYPE=      4  TARGET=          .034
   601.80      8.84    666.94      0.00    666.91    666.99      .05       .04       .01    665.10
     450.        6.      444.        0.       14.      248.       0.       15.        5.    667.20
      .29       .44      1.79      0.00      .095      .055     .C95      .054    658.10    232.15
  .00C497       9C.       90.       90.         0         0        0      0.00     53.16    285.31
```

```
CCHV=     .150 CEHV=     .350
*SECNO 602.100
 2800 NAT Q1=     138.07  WSEL=     667.03  ENC Q1=     142.86  WSEL=     667.13  RATIO=  -.0347
 NAT Q1=     143.  RATIOS LOB,CH,RCB=  0.0000    .9982    .0018  WSEL=     667.13
   SECNC     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST
```

```
3470 ENCROACHMENT STATIONS=      264.0      315.0  TYPE=      4  TARGET=          .002
   602.10      8.46    667.06      0.00    667.03    667.14       .08       .14       .01    668.60
     450.        0.      450.        0.        0.      203.        0.       16.        5.    666.80
      .32      0.00      2.22      0.00      .095      .055      .095      .055    658.60    267.98
  .001047      205.      205.      205.         2         0         0      0.00     47.02    315.00


*SECNO 602.200
 2800 NAT Q1=     122.06  WSEL=     667.28  ENC Q1=     126.12  WSEL=     667.38  RATIO=  -.0333
 NAT Q1=     126.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     667.38

3470 ENCROACHMENT STATIONS=      264.0      315.0  TYPE=      4  TARGET=         0.000
   602.20      8.11    667.31      0.00    667.28    667.40       .09       .25       .00    669.20
     450.        0.      450.        0.        0.      186.        0.       17.        5.    667.40
      .34      0.00      2.41      0.00      .095      .055      .095      .055    659.20    268.89
  .001329      215.      215.      215.         0         0         0      0.00     45.85    314.73


CCHV=     .400 CEHV=     .800
*SECNO 601.980
 2800 NAT Q1=     146.56  WSEL=     667.37  ENC Q1=     146.56  WSEL=     667.47  RATIO=   .0000
 NAT Q1=     151.  RATIOS LOB,CH,ROB=   .1391   .6722   .1887  WSEL=     667.47

3470 ENCROACHMENT STATIONS=      273.3      311.4  TYPE=      4  TARGET=          .027

         ** D/S FACE TALBOT RD.

   601.98      8.60    667.40      0.00    667.37    667.52       .12       .10       .02    660.30
     450.       59.      309.       82.       52.       95.       69.       17.        5.    660.10
      .35      1.14      3.26      1.18      .095      .055      .095      .055    658.80    273.30
  .000956       85.       85.       85.         0         0         0      0.00     38.11    311.41


SPECIAL BRIDGE
```

ELTRD = 667.5

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.10 | 2.70 | 140.00 | 8.38 | 0.00 | 60.30 | 0.00 | 658.80 | 658.80 |

(27)(.55)(EG-667.5)^3/2 = 121

603 (EG-667.4)(121) = 3.4

≈ 668.4 ≈ +.3 ft

```
*SECNO 602.020
 2800 NAT Q1=     191.02  WSEL=     668.00  ENC Q1=     191.02  WSEL=     668.10  RATIO=   .0000
 NAT Q1=     197.  RATIOS LOB,CH,ROB=   .1784   .6774   .1441  WSEL=     668.10
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      133.2      187.9  TYPE=      4  TARGET=          .029
   602.02      9.22    668.02      0.00    668.00    668.11       .09       .04       .01    658.80
     450.       74.      313.       63.       92.      111.       65.       18.        5.    658.80
      .36       .81      2.83       .97      .095      .055      .095      .055    658.80    133.21
  .000567       50.       50.       50.         0         0         4      0.00     54.73    187.94


*SECNO 602.800
 2800 NAT Q1=     145.84  WSEL=     668.04  ENC Q1=     147.94  WSEL=     668.14  RATIO=  -.0144
 NAT Q1=     150.  RATIOS LOB,CH,ROB=   .0143   .9857  0.0000  WSEL=     668.14

3470 ENCROACHMENT STATIONS=      156.0      192.0  TYPE=      4  TARGET=          .014
   602.80      8.17    668.07      0.00    668.04    668.16       .09       .04       .00    666.80
     450.        0.      450.        0.        0.      187.        0.       18.        5.    669.00
      .37      0.00      2.40      0.00      .095      .055      .095      .055    659.90    156.00
  .001004       60.       60.       60.         0         0         0      0.00     34.36    190.36
```

```
CCHV=     .150 CEHV=     .350
*SECNO 602.850
 2800 NAT Q1=     132.88  WSEL=     668.33  ENC Q1=     135.86  WSEL=     668.43  RATIO=  -.0224
 NAT Q1=     137.  RATIOS LOB,CH,ROB=    .0077    .9923   0.0000  WSEL=     668.43
   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      156.0      192.0  TYPE=      4  TARGET=          .008
   602.85      7.67    668.37      0.00    668.33    668.47       .10       .31       .00    667.40
     450.        0.      450.        0.        0.      177.        0.       19.        5.    669.60
      .40      0.00      2.54      0.00      .095      .055      .095      .055    660.50    156.00
  .001175      285.      285.      285.         0         0         0      0.00     33.83    189.83


CCHV=     .300 CEHV=     .500
*SECNO 602.900
 2800 NAT Q1=    5707.62  WSEL=     668.46  ENC Q1=    5707.62  WSEL=     668.56  RATIO=   0.0000
 NAT Q1=    5898.  RATIOS LOB,CH,ROB=    .8199    .0356    .1445  WSEL=     668.56

3470 ENCROACHMENT STATIONS=      363.6     2618.0  TYPE=      4  TARGET=          .032
   602.90      7.30    668.50      0.00    668.46    668.50       .00       .00       .03    664.70
     450.      373.      17.        60.    10027.      268.     1715.       61.       13.    664.70
     2.60       .04       .06       .04      .100      .065      .100      .056    661.20    362.57
  .000001      300.      300.      300.         2         0         0      0.00   2254.48   2618.05


*SECNO 603.000
 2800 NAT Q1=    4803.96  WSEL=     668.46  ENC Q1=    4803.96  WSEL=     668.56  RATIO=   0.0000
 NAT Q1=    4978.  RATIOS LOB,CH,ROB=    .8239    .0370    .1390  WSEL=     668.56

3470 ENCROACHMENT STATIONS=      439.0     2588.1  TYPE=      4  TARGET=          .035
   603.00      6.80    668.50      0.00    668.46    668.50       .00       .00       .00    665.20
     450.      376.      17.        57.     8938.      248.     1444.      124.       25.    665.20
     4.16       .04       .07       .04      .100      .065      .100      .056    661.70    438.95
  .000001      240.      240.      240.         0         0         0      0.00   2149.14   2588.09


*SECNO 603.300
 2800 NAT Q1=    4381.88  WSEL=     668.46  ENC Q1=    4381.88  WSEL=     668.56  RATIO=   0.0000
 NAT Q1=    4549.  RATIOS LOB,CH,ROB=    .8260    .0378    .1363  WSEL=     668.56

3470 ENCROACHMENT STATIONS=      482.0     2573.1  TYPE=      4  TARGET=          .037
   603.30      6.55    668.50      0.00    668.46    668.50       .00       .00       .00    665.45
     450.      377.      18.        56.     8400.      238.     1316.      173.       36.    665.45
     5.43       .04       .07       .04      .100      .065      .100      .057    661.95    482.01
  .000001      210.      210.      210.         0         0         0      0.00   2091.09   2573.10


CCHV=     .150 CEHV=     .350
*SECNO 603.400
 2800 NAT Q1=      80.80  WSEL=     668.38  ENC Q1=      84.19  WSEL=     668.48  RATIO=  -.0419
 NAT Q1=      84.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     668.48

3470 ENCROACHMENT STATIONS=      252.0      307.0  TYPE=      4  TARGET=         0.000
   603.40      6.13    668.43      0.00    668.38    668.54       .11       .00       .04    668.80
     450.        0.      450.        0.        0.      168.        0.      196.       41.    668.90
```

AROB CH LOB
21.7 247.7 207.1
678 1812.4

```
    5.45      0.00      2.68      0.C0      .1CC      .C65      .100      .058    662.30    253.99
  .002986     200.      200.      200.         2         0         0      0.00     51.81    305.79


*SECNC 604.200
 2800 NAT Q1=      89.72  WSEL=     669.04  ENC Q1=      93.41  WSEL=     669.14  RATIO=  -.0411
 NAT Q1=      93.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     669.14
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      252.0      3C7.C  TYPE=      4  TARGET=        0.000

3495 CVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      669.50 ELREA=      669.50

   604.20      6.37    669.07      0.00    669.04    669.17       .10       .62       .0C    669.20
     45C.        0.      450.        0.        0.      181.        0.      197.       41.     669.30
     5.48      0.00      2.49      C.C0      .1CC      .C65      .1C0      .058    662.70    252.70
  .C02463      23C.      230.      230.         2         0         0      0.00     53.7C    306.41


CCHV=     .300 CEHV=     .500
*SECNC 603.980
 2800 NAT Q1=      63.99  WSEL=     669.18  ENC Q1=      65.44  WSEL=     669.28  RATIO=  -.0226
 NAT Q1=      65.  RATICS LOB,CH,ROB=  0.0000  1.0000  0.00CC  WSEL=     669.28
3280 CROSS SECTICN     603.98 EXTENDED        .82 FEET


3470 ENCROACHMENT STATIONS=      284.0      294.C  TYPE=      4  TARGET=        0.000

3495 CVERBANK AREA ASSUMED NCN-EFFECTIVE,ELLEA=      669.50 ELREA=      669.50


         ** D/S FACE LIVERNOIS

   603.98      7.52    669.32      C.CC    669.18    669.88       .56       .48       .23    661.80
     45C.        0.      450.        0.        0.       75.        0.      198.       41.     661.80
     5.49      C.CC      5.98      0.00      .1CC      .065      .100      .058    661.80    284.00
  .009814      110.      110.      11C.         2         0         C      0.00     10.00    294.00


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.0J      1.75      2.8C      0.0C     10.00      0.00     69.00      0.00    661.80    661.80

*SECNO 604.02C
 2800 NAT Q1=      66.16  WSEL=     669.90  ENC Q1=      67.7C  WSEL=     670.00  RATIO=  -.0232
 NAT Q1=      68.  RATICS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     670.00
 WATER EL=CHANGE FRCM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      262.0      274.0  TYPE=      4  TARGET=        0.CCC

3495 CVERBANK AREA ASSUMED NCN-EFFECTIVE,ELLEA=      670.5C ELREA=      67C.50

   604.C2      8.23    67C.03      0.CC    669.9C    670.46       .43       .65       .04    664.20
```

All pressure flow

```
     450.        0.      450.        0.        0.       86.        0.      198.       41.    664.50
     5.49      0.00      5.24      C.00      .100      .065      .100      .058   661.80   262.00
  .006911       80.       80.       80.         0         0         0      0.00    12.00   274.00


*SECNO 604.500
 2800 NAT Q1=     110.78  WSEL=     670.38  ENC Q1=     114.90  WSEL=     670.48  RATIO=  -.0371
 NAT Q1=     115.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     670.48

3470 ENCROACHMENT STATIONS=      245.0      300.0  TYPE=      4  TARGET=        0.000
   604.50      8.11    670.51      0.00    670.38    670.58       .07       .01       .11   669.20
     450.        0.      450.        C.        C.      210.        0.      198.       41.    670.90
     5.49      0.00      2.15      C.00      .100      .065      .100      .058   662.40   245.00
  .001552        4.        4.        4.         2         0         0      0.00    53.24   298.24


*SECNO 604.680
 2800 NAT Q1=      86.88  WSEL=     670.38  ENC Q1=      90.62  WSEL=     670.48  RATIO=  -.0430
 NAT Q1=      91.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     670.48

3470 ENCROACHMENT STATIONS=      245.0      300.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.60 ELREA=      670.60

   604.68      7.50    670.50      C.C0    670.38    670.60       .10       .01       .01   669.80
     450.        0.      450.        0.        C.      179.        0.      198.       41.    671.50
     5.49      0.00      2.52      0.00      .100      .065      .100      .058   663.00   245.00
  .002402        5.        5.        5.         1         0         0      0.00    50.56   295.56


*SECNO 604.690
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS     BANK ELEV
   Q         QLCB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID       ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.40 MAX ELLC=  668.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.40 ELREA=      670.40

        ** D/S FACE FOOTBRIDGE

   604.69      7.39    670.39      C.00    670.27    670.72       .34       .00       .12   669.80
     450.        0.      450.        0.        C.       97.        0.      198.       41.    671.50
     5.49      C.00      4.65      0.00      .100      .065      .100      .058   663.00   245.00
  .C31303        I.        1.        1.         2         0         0    -75.76    50.02   295.02


*SECNO 604.710
 2800 NAT Q1=      19.95  WSEL=     670.51  ENC Q1=      21.60  WSEL=     670.61  RATIO=  -.0826
 NAT Q1=      22.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     670.61

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.40 MAX ELLC=  668.70

3470 ENCROACHMENT STATIONS=      245.0      300.0  TYPE=      4  TARGET=        0.000
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ELTRD - 670.4

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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.70 ELREA=      670.70

   604.71      7.66    670.66      0.00    670.51    670.52       .26       .18       .02    669.80
     450.        0.     450.        0.        0.     110.        0.      198.       41.    671.50
     5.49      0.00      4.09      0.00      .100      .065      .100      .058   663.00    245.00
  .039861        5.        5.        5.         2         0         0    -76.30     51.25    296.25


*SECNO 604.720
 2800 NAT Q1=     102.94  WSEL=     670.79  ENC Q1=     106.97  WSEL=     670.89  RATIO=  -.0391
 NAT Q1=     107.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     670.89

3470 ENCROACHMENT STATIONS=      245.0      300.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.00 ELREA=      671.00

   604.72      7.90    670.90      0.00    670.79    670.98       .08       .00       .05    669.80
     450.        0.     450.        0.        0.     199.        0.      198.       41.    671.50
     5.49      0.00      2.27      0.00      .100      .065      .100      .058   663.00    245.00
  .001761        1.        1.        1.         2         0         0      0.00     52.30    297.30


*SECNO 604.800
 2800 NAT Q1=     118.14  WSEL=     670.95  ENC Q1=     121.81  WSEL=     671.05  RATIO=  -.0310
 NAT Q1=     122.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     671.05

3470 ENCROACHMENT STATIONS=      238.0      274.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.20 ELREA=      671.20

   604.80      8.56    671.06      0.00    670.95    671.15       .09       .17       .01    669.30
     450.        0.     450.        0.        0.     185.        0.      198.       41.    665.20
     5.50      0.00      2.44      0.00      .100      .065      .100      .058   662.50    238.00
  .001653      100.      100.      100.         0         0         0      0.00     36.00    274.00


CCHV=     .400 CEHV=     .800
*SECNO 604.880
 2800 NAT Q1=      55.52  WSEL=     671.00  ENC Q1=      56.99  WSEL=     671.10  RATIO=  -.0265
 NAT Q1=      57.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     671.10

3470 ENCROACHMENT STATIONS=      262.0      274.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.50 ELREA=      671.50


        ** D/S FACE DRIVEWAY AT TROY HIGH SCHOOL.

   604.88      7.54    671.14      0.00    671.00    671.66       .52       .16       .34    666.00
     450.        0.     450.        0.        0.      78.        0.      198.       41.    666.30
     5.50      0.00      5.80      0.00      .100      .065      .100      .059   663.60    262.00
  .009234       50.       50.       50.         2         0         0      0.00     12.00    274.00


*SECNO 604.890
 2800 NAT Q1=      41.05  WSEL=     670.79  ENC Q1=      41.25  WSEL=     670.89  RATIO=  -.0058
 NAT Q1=      41.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     670.89
3280 CROSS SECTION     604.89 EXTENDED       3.35 FEET
```

```
3301 HV CHANGED MORE THAN HVINS

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST


3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  676.40 MAX ELLC=  671.60

   604.89      7.35    670.95      0.00    670.79    672.59      1.64       .03       .89    667.60
     450.        0.      450.        0.        0.       44.        0.      198.       41.    667.60
     5.50      0.00     10.26      0.00      .100      .025      .100      .058    663.60      0.00
  .013421        3.        3.        3.         2         0         0     -2.57      8.00      8.00

*SECNO 604.910
3280 CROSS SECTION    604.91 EXTENDED      2.82 FEET


3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  676.40 MAX ELLC=  672.70

   604.91      6.82    671.52      0.00    671.29    673.40      1.88       .62       .19    668.70
     450.        0.      450.        0.        0.       41.        0.      198.       41.    668.70
     5.51      0.00     11.00      0.00      .100      .025      .100      .058    664.70      0.00
  .014740       44.       44.       44.         2         0         0     -1.23      8.00      8.00

*SECNO 604.920
 2800 NAT Q1=      79.81  WSEL=     673.64  ENC Q1=      81.66  WSEL=     673.74  RATIO=  -.0233
 NAT Q1=      82.  RATIOS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     673.74
3280 CROSS SECTION    604.92 EXTENDED      .38 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      262.0      274.0  TYPE=      4  TARGET=        0.000

3455 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      676.40 ELREA=      676.40

   604.92      8.98    673.68      0.00    673.64    674.03       .35       .02       .61    667.10
     450.        0.      450.        0.        0.       95.        0.      198.       41.    667.40
     5.51      0.00      4.74      0.00      .100      .065      .100      .058    664.70    262.00
  .005235        3.        3.        3.         3         0         0      0.00     12.00    274.00

*SECNO 604.950
 2800 NAT Q1=     120.51  WSEL=     674.59  ENC Q1=     120.51  WSEL=     674.69  RATIO=   .0000
 NAT Q1=     126.  RATIOS LOB,CH,RCB=   .2707   .5384   .1908  WSEL=     674.69

3470 ENCROACHMENT STATIONS=      229.5      289.6  TYPE=      4  TARGET=        .040
   604.95      8.22    674.72      0.00    674.59    674.81       .08       .67       .11    668.90
     450.       118.      252.       80.       98.       86.       64.      200.       41.    669.20
     5.54      1.20      2.93      1.25      .100      .065      .100      .059    666.50    229.52
  .001364       280.      280.      280.         2         0         0      0.00     60.03    289.56
```

4' CMP

see loss

loss appears reasonably
hand comps show 679.06

```
CCHV=    .150 CEHV=    .350
*SECNO 605.000
 2800 NAT Q1=     119.71  WSEL=     674.93  ENC Q1=     120.24  WSEL=     675.03  RATIO=  -.0045
 NAT Q1=     126.  RATIOS LOB,CH,ROB=  0.0000   .9579   .0421  WSEL=     675.03
3280 CROSS SECTION    605.00 EXTENDED        .06 FEET


3470 ENCROACHMENT STATIONS=      226.0      272.0  TYPE=      4  TARGET=        .042
   605.00      7.06    675.06      0.00    674.93    675.14      .08       .33       .00    679.60
     450.        0.      450.        0.        0.      197.       0.      201.       42.    674.00
     5.57      0.00      2.28      0.00      .100      .065     .100      .059    668.00    230.93
  .001415      240.      240.      240.         2         0        0      0.00     41.07    272.00

*SECNO 605.300
 2800 NAT Q1=      62.88  WSEL=     676.32  ENC Q1=      65.77  WSEL=     676.42  RATIO=  -.0459
 NAT Q1=      66.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     676.42
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      231.0      272.0  TYPE=      4  TARGET=       0.000
   605.30      5.41    676.41      0.00    676.32    676.59      .18      1.42       .03    676.70
     450.        0.      450.        0.        0.      133.       0.      203.       42.    677.00
     5.62      0.00      3.38      0.00      .100      .065     .100      .060    671.00    231.43
  .004695      600.      600.      600.         2         0        0      0.00     39.61    271.05
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

LANE DRAIN 100 YR FLOW=4

SUMMARY PRINTOUT TABLE 150

| SECNO | XLOF | ELTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 665.23 | 0.00 | 665.23 | .37 | .56 | 975.81 | 741.27 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 665.23 | 0.00 | 665.23 | .39 | .57 | 836.22 | 716.12 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 665.24 | 0.00 | 665.26 | 2.46 | 1.20 | 634.74 | 287.07 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 665.24 | 0.00 | 665.27 | 2.70 | 1.26 | 530.62 | 273.97 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 665.33 | 0.00 | 665.37 | 5.06 | 1.62 | 314.40 | 200.06 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 665.34 | 0.00 | 665.38 | 5.38 | 1.66 | 270.99 | 194.04 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 665.48 | 0.00 | 665.58 | 11.96 | 3.56 | 248.77 | 130.13 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 665.49 | 0.00 | 665.61 | 12.43 | 3.63 | 218.46 | 127.65 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 450.00 | 666.24 | 0.00 | 666.26 | 3.32 | 2.06 | 592.37 | 246.99 |
| 600.020 | 40.00 | 999999.00 | 0.00 | 657.50 | 450.00 | 666.25 | 0.00 | 666.28 | 3.54 | 2.13 | 526.33 | 239.13 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.29 | 0.00 | 666.30 | 1.82 | 1.04 | 661.76 | 333.91 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.31 | 0.00 | 666.32 | 1.98 | 1.08 | 571.29 | 319.53 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.29 | 0.00 | 666.31 | 1.98 | 1.07 | 633.93 | 319.43 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.32 | 0.00 | 666.33 | 2.15 | 1.11 | 548.43 | 306.95 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.92 | .98 | 608.96 | 202.81 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.32 | 0.00 | 666.33 | 5.37 | 1.02 | 537.86 | 194.25 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.89 | .98 | 610.50 | 203.41 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.32 | 0.00 | 666.33 | 5.32 | 1.02 | 540.75 | 195.15 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 1.98 | 1.07 | 635.05 | 320.00 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.32 | 0.00 | 666.34 | 2.14 | 1.11 | 549.54 | 307.76 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.33 | 0.00 | 666.35 | 2.32 | 1.14 | 586.52 | 295.34 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.36 | 0.00 | 666.38 | 2.51 | 1.18 | 504.92 | 284.06 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.35 | 0.00 | 666.36 | 2.53 | 1.17 | 561.52 | 282.67 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.37 | 0.00 | 666.39 | 2.73 | 1.21 | 482.04 | 272.16 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 450.00 | 666.87 | 0.00 | 666.91 | 3.71 | 1.59 | 352.81 | 233.52 |
| 601.020 | 55.00 | 999999.00 | 0.00 | 657.70 | 450.00 | 666.90 | 0.00 | 666.94 | 3.90 | 1.63 | 301.92 | 227.86 |

| SECNC | XLCH | EL TRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 666.91 | 0.00 | 666.96 | 4.77 | 1.75 | 306.74 | 206.15 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 666.94 | 0.00 | 666.99 | 4.97 | 1.79 | 262.02 | 201.94 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.03 | 0.00 | 667.11 | 10.62 | 2.23 | 203.87 | 138.07 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.06 | 0.00 | 667.14 | 10.47 | 2.22 | 202.81 | 139.07 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.28 | 0.00 | 667.37 | 13.59 | 2.43 | 184.94 | 122.06 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.31 | 0.00 | 667.40 | 13.29 | 2.41 | 186.50 | 123.43 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.37 | 0.00 | 667.48 | 9.43 | 3.23 | 232.94 | 146.56 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.40 | 0.00 | 667.52 | 9.56 | 3.26 | 215.85 | 145.55 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 450.00 | 668.00 | 0.00 | 668.08 | 5.55 | 2.79 | 294.01 | 191.02 |
| 602.020 | 50.00 | 999999.00 | 0.00 | 658.80 | 450.00 | 668.02 | 0.00 | 668.11 | 5.67 | 2.83 | 267.18 | 189.02 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.04 | 0.00 | 668.13 | 9.52 | 2.38 | 201.99 | 145.84 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.07 | 0.00 | 668.16 | 10.04 | 2.40 | 187.48 | 142.02 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.33 | 0.00 | 668.43 | 11.47 | 2.54 | 184.53 | 132.88 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.37 | 0.00 | 668.47 | 11.75 | 2.54 | 177.19 | 131.28 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .06 | 13115.61 | 5707.62 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.50 | 0.00 | 668.50 | .01 | .06 | 12010.88 | 5617.47 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 11652.31 | 4803.96 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.50 | 0.00 | 668.50 | .01 | .07 | 10629.58 | 4722.09 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 10935.54 | 4381.88 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.50 | 0.00 | 668.50 | .01 | .07 | 9953.27 | 4303.48 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.38 | 0.00 | 668.50 | 31.02 | 2.72 | 165.63 | 80.80 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.43 | 0.00 | 668.54 | 29.86 | 2.68 | 168.02 | 82.36 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.04 | 0.00 | 669.14 | 25.16 | 2.51 | 179.16 | 89.72 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.07 | 0.00 | 669.17 | 24.63 | 2.49 | 180.60 | 90.68 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.18 | 0.00 | 669.76 | 49.45 | 6.10 | 73.82 | 63.99 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.32 | 0.00 | 669.88 | 98.14 | 5.98 | 75.23 | 45.42 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 450.00 | 669.90 | 0.00 | 670.34 | 46.26 | 5.34 | 84.28 | 66.16 |
| 604.020 | 80.00 | 999999.00 | 0.00 | 661.80 | 450.00 | 670.03 | 0.00 | 670.46 | 69.11 | 5.24 | 85.92 | 54.13 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.38 | 0.00 | 670.46 | 16.50 | 2.22 | 203.05 | 110.78 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.51 | 0.00 | 670.58 | 15.52 | 2.15 | 209.58 | 114.21 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.38 | 0.00 | 670.48 | 26.83 | 2.62 | 171.88 | 86.88 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.50 | 0.00 | 670.60 | 24.02 | 2.52 | 178.51 | 91.83 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.27 | 0.00 | 670.60 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.39 | 0.00 | 670.72 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.51 | 0.00 | 670.81 | 508.57 | 4.41 | 102.03 | 19.95 |
| 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.66 | 0.00 | 670.92 | 398.61 | 4.09 | 110.01 | 22.54 |
| 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.79 | 0.00 | 670.88 | 19.11 | 2.33 | 193.05 | 102.94 |
| 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.90 | 0.00 | 670.98 | 17.61 | 2.27 | 198.54 | 107.23 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 670.95 | 0.00 | 671.05 | 14.51 | 2.48 | 181.23 | 118.14 |
| 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 671.06 | 0.00 | 671.15 | 16.53 | 2.44 | 184.67 | 110.69 |
| 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.00 | 0.00 | 671.54 | 65.69 | 5.93 | 75.86 | 55.52 |
| 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.14 | 0.00 | 671.66 | 92.34 | 5.80 | 77.59 | 46.83 |
| 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.79 | 0.00 | 672.49 | 120.18 | 10.45 | 43.06 | 41.05 |
| 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.95 | 0.00 | 672.59 | 134.21 | 10.26 | 43.84 | 38.84 |
| 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.29 | 0.00 | 673.31 | 135.17 | 11.42 | 39.42 | 38.71 |
| 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.52 | 0.00 | 673.40 | 147.40 | 11.00 | 40.93 | 37.06 |
| 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.64 | 0.00 | 674.00 | 31.79 | 4.77 | 94.31 | 79.81 |
| 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.68 | 0.00 | 674.03 | 52.35 | 4.74 | 94.85 | 62.19 |
| 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.59 | 0.00 | 674.67 | 13.94 | 2.93 | 273.78 | 120.51 |
| 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.72 | 0.00 | 674.81 | 13.64 | 2.93 | 247.89 | 121.86 |
| 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 674.93 | 0.00 | 675.01 | 14.13 | 2.28 | 238.03 | 119.71 |
| 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 675.06 | 0.00 | 675.14 | 14.15 | 2.28 | 197.14 | 119.61 |
| 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.32 | 0.00 | 676.50 | 51.21 | 3.48 | 129.25 | 62.88 |
| 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.41 | 0.00 | 676.59 | 46.95 | 3.38 | 133.13 | 65.67 |

LANE DRAIN 100 YR FLOW=4

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 600.100 | 450.00 | 665.23 | 0.00 | 0.00 | 0.00 | 292.30 | 0.00 |
| 600.100 | 450.00 | 665.23 | 0.00 | 0.00 | 0.00 | 149.99 | 0.00 |
| 600.150 | 450.00 | 665.24 | 0.00 | .01 | 0.00 | 394.17 | 300.00 |
| 600.150 | 450.00 | 665.24 | .00 | .01 | .00 | 229.18 | 300.00 |
| 600.200 | 450.00 | 665.33 | 0.00 | .09 | 0.00 | 127.86 | 300.00 |
| 600.200 | 450.00 | 665.34 | .01 | .10 | .01 | 58.88 | 300.00 |
| 599.980 | 450.00 | 665.48 | 0.00 | .14 | 0.00 | 130.18 | 210.00 |
| 599.980 | 450.00 | 665.49 | .02 | .15 | .02 | 66.90 | 210.00 |
| 600.020 | 450.00 | 666.24 | 0.00 | .76 | 0.00 | 284.90 | 40.00 |
| 600.020 | 450.00 | 666.25 | .02 | .76 | .02 | 176.45 | 40.00 |
| 600.800 | 450.00 | 666.29 | 0.00 | .05 | 0.00 | 302.61 | 140.00 |
| 600.800 | 450.00 | 666.31 | .02 | .05 | .02 | 179.17 | 140.00 |
| 600.820 | 450.00 | 666.29 | 0.00 | .01 | 0.00 | 300.15 | 30.00 |
| 600.820 | 450.00 | 666.32 | .02 | .01 | .02 | 173.88 | 30.00 |
| 600.830 | 450.00 | 666.30 | 0.00 | .00 | 0.00 | 299.91 | .50 |
| 600.830 | 450.00 | 666.32 | .02 | .00 | .02 | 183.47 | .50 |
| 600.840 | 450.00 | 666.30 | 0.00 | .00 | 0.00 | 300.41 | 4.00 |
| 600.840 | 450.00 | 666.32 | .02 | .00 | .02 | 184.82 | 4.00 |
| 600.850 | 450.00 | 666.30 | 0.00 | -.00 | 0.00 | 300.50 | 1.00 |
| 600.850 | 450.00 | 666.32 | .02 | -.00 | .02 | 173.88 | 1.00 |
| 600.870 | 450.00 | 666.33 | 0.00 | .04 | 0.00 | 284.41 | 175.00 |
| 600.870 | 450.00 | 666.36 | .02 | .04 | .02 | 161.98 | 175.00 |
| 600.980 | 450.00 | 666.35 | 0.00 | .01 | 0.00 | 275.74 | 50.00 |
| 600.980 | 450.00 | 666.37 | .03 | .01 | .03 | 155.26 | 50.00 |
| 601.020 | 450.00 | 666.87 | 0.00 | .53 | 0.00 | 160.17 | 55.00 |
| 601.020 | 450.00 | 666.90 | .03 | .53 | .03 | 65.00 | 55.00 |
| 601.800 | 450.00 | 666.91 | 0.00 | .04 | 0.00 | 111.64 | 90.00 |
| 601.800 | 450.00 | 666.94 | .03 | .04 | .03 | 53.16 | 90.00 |
| 602.100 | 450.00 | 667.03 | 0.00 | .12 | 0.00 | 69.47 | 205.00 |
| 602.100 | 450.00 | 667.06 | .03 | .12 | .03 | 47.02 | 205.00 |
| 602.200 | 450.00 | 667.28 | 0.00 | .25 | 0.00 | 45.66 | 215.00 |
| 602.200 | 450.00 | 667.31 | .03 | .24 | .03 | 45.85 | 215.00 |
| 601.980 | 450.00 | 667.37 | 0.00 | .09 | 0.00 | 84.34 | 85.00 |
| 601.980 | 450.00 | 667.40 | .03 | .09 | .03 | 38.11 | 85.00 |
| 602.020 | 450.00 | 668.00 | 0.00 | .63 | 0.00 | 123.01 | 50.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 602.020 | 450.00 | 668.02 | .03 | .63 | .03 | 54.73 | 50.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 602.800 | 450.00 | 668.04 | 0.00 | .04 | 0.00 | 59.14 | 60.00 |
| 602.800 | 450.00 | 668.07 | .03 | .05 | .03 | 34.36 | 60.00 |
| 602.850 | 450.00 | 668.33 | 0.00 | .29 | 0.00 | 52.32 | 285.00 |
| 602.850 | 450.00 | 668.37 | .04 | .30 | .04 | 33.83 | 285.00 |
| 602.900 | 450.00 | 668.46 | 0.00 | .13 | 0.00 | 2966.78 | 300.00 |
| 602.900 | 450.00 | 668.50 | .04 | .13 | .04 | 2254.48 | 300.00 |
| 603.000 | 450.00 | 668.46 | 0.00 | .00 | 0.00 | 2888.47 | 240.00 |
| 603.000 | 450.00 | 668.50 | .04 | .00 | .04 | 2149.14 | 240.00 |
| 603.300 | 450.00 | 668.46 | 0.00 | .00 | 0.00 | 2849.33 | 210.00 |
| 603.300 | 450.00 | 668.50 | .04 | .00 | .04 | 2091.09 | 210.00 |
| 603.400 | 450.00 | 668.38 | 0.00 | -.07 | 0.00 | 51.44 | 200.00 |
| 603.400 | 450.00 | 668.43 | .05 | -.07 | .05 | 51.81 | 200.00 |
| 604.200 | 450.00 | 669.04 | 0.00 | .66 | 0.00 | 53.49 | 230.00 |
| 604.200 | 450.00 | 669.07 | .02 | .64 | .02 | 53.70 | 230.00 |
| 603.980 | 450.00 | 669.18 | 0.00 | .14 | 0.00 | 10.00 | 110.00 |
| 603.980 | 450.00 | 669.32 | .14 | .25 | .14 | 10.00 | 110.00 |
| 604.020 | 450.00 | 669.90 | 0.00 | .71 | 0.00 | 12.00 | 80.00 |
| 604.020 | 450.00 | 670.03 | .14 | .71 | .14 | 12.00 | 80.00 |
| 604.500 | 450.00 | 670.38 | 0.00 | .49 | 0.00 | 52.69 | 4.00 |
| 604.500 | 450.00 | 670.51 | .12 | .47 | .12 | 53.24 | 4.00 |
| 604.680 | 450.00 | 670.38 | 0.00 | -.00 | 0.00 | 49.97 | 5.00 |
| 604.680 | 450.00 | 670.50 | .12 | -.00 | .12 | 50.56 | 5.00 |
| 604.690 | 450.00 | 670.27 | 0.00 | -.11 | 0.00 | 49.47 | .50 |
| 604.690 | 450.00 | 670.39 | .12 | -.12 | .12 | 50.02 | .50 |
| 604.710 | 450.00 | 670.51 | 0.00 | .24 | 0.00 | 50.54 | 5.00 |
| 604.710 | 450.00 | 670.66 | .15 | .28 | .15 | 51.25 | 5.00 |
| 604.720 | 450.00 | 670.79 | 0.00 | .29 | 0.00 | 51.83 | .50 |
| 604.720 | 450.00 | 670.90 | .11 | .24 | .11 | 52.30 | .50 |
| 604.800 | 450.00 | 670.95 | 0.00 | .16 | 0.00 | 36.00 | 100.00 |
| 604.800 | 450.00 | 671.06 | .11 | .16 | .11 | 36.00 | 100.00 |
| 604.880 | 450.00 | 671.00 | 0.00 | .04 | 0.00 | 12.00 | 50.00 |
| 604.880 | 450.00 | 671.14 | .14 | .08 | .14 | 12.00 | 50.00 |
| 604.890 | 450.00 | 670.79 | 0.00 | -.20 | 0.00 | 8.00 | 3.00 |
| 604.890 | 450.00 | 670.95 | .16 | -.19 | .16 | 8.00 | 3.00 |
| 604.910 | 450.00 | 671.29 | 0.00 | .49 | 0.00 | 8.00 | 44.00 |
| 604.910 | 450.00 | 671.52 | .23 | .57 | .23 | 8.00 | 44.00 |
| 604.920 | 450.00 | 673.64 | 0.00 | 2.36 | 0.00 | 12.00 | 3.00 |
| 604.920 | 450.00 | 673.68 | .04 | 2.16 | .04 | 12.00 | 3.00 |

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 604.950 | 450.00 | 674.59 | 0.00 | .95 | 0.00 | 99.54 | 280.00 |
| 604.950 | 450.00 | 674.72 | .13 | 1.04 | .13 | 60.03 | 280.00 |
| 605.000 | 450.00 | 674.93 | 0.00 | .34 | 0.00 | 218.44 | 240.00 |
| 605.000 | 450.00 | 675.06 | .13 | .34 | .13 | 41.07 | 240.00 |
| 605.300 | 450.00 | 676.32 | 0.00 | 1.39 | 0.00 | 39.31 | 600.00 |
| 605.300 | 450.00 | 676.41 | .10 | 1.35 | .10 | 39.61 | 600.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, LANE DRAIN 100 YR FLOW=4
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 600.100 | 150. | 836. | .5 | 665.2 | 665.2 | 0.0 |
| 600.150 | 229. | 531. | .8 | 665.2 | 665.2 | 0.0 |
| 600.200 | 59. | 271. | 1.7 | 665.3 | 665.3 | 0.0 |
| 599.980 | 117. | 218. | 2.1 | 665.5 | 665.5 | 0.0 |
| 600.020 | 176. | 526. | .9 | 666.2 | 666.2 | 0.0 |
| 600.800 | 179. | 571. | .8 | 666.3 | 666.3 | 0.0 |
| 600.820 | 174. | 548. | .8 | 666.3 | 666.3 | 0.0 |
| 600.830 | 183. | 538. | .8 | 666.3 | 666.3 | 0.0 |
| 600.840 | 185. | 541. | .8 | 666.3 | 666.3 | 0.0 |
| 600.850 | 174. | 550. | .8 | 666.3 | 666.3 | 0.0 |
| 600.870 | 162. | 505. | .9 | 666.3 | 666.3 | 0.0 |
| 600.980 | 155. | 482. | .9 | 666.3 | 666.3 | 0.0 |
| 601.020 | 65. | 302. | 1.5 | 666.9 | 666.9 | 0.0 |
| 601.800 | 53. | 262. | 1.7 | 666.9 | 666.9 | 0.0 |
| 602.100 | 47. | 203. | 2.2 | 667.0 | 667.0 | 0.0 |
| 602.200 | 46. | 186. | 2.4 | 667.3 | 667.3 | 0.0 |
| 601.980 | 38. | 216. | 2.1 | 667.4 | 667.4 | 0.0 |
| 602.020 | 55. | 267. | 1.7 | 668.0 | 668.0 | 0.0 |
| 602.800 | 34. | 187. | 2.4 | 668.0 | 668.0 | 0.0 |
| 602.850 | 34. | 177. | 2.5 | 668.3 | 668.3 | 0.0 |
| 602.900 | 2254. | 12011. | .0 | 668.5 | 668.5 | 0.0 |
| 603.000 | 2149. | 10630. | .0 | 668.5 | 668.5 | 0.0 |
| 603.300 | 2091. | 9953. | .0 | 668.5 | 668.5 | 0.0 |
| 603.400 | 52. | 168. | 2.7 | 668.4 | 668.4 | 0.0 |
| 604.200 | 54. | 181. | 2.5 | 669.0 | 669.0 | 0.0 |
| 603.980 | 10. | 75. | 6.0 | 669.3 | 669.2 | .1 |
| 604.020 | 12. | 86. | 5.2 | 670.0 | 669.9 | .1 |
| 604.500 | 53. | 210. | 2.1 | 670.5 | 670.4 | .1 |
| 604.680 | 51. | 179. | 2.5 | 670.5 | 670.4 | .1 |
| 604.690 | 50. | 97. | 4.7 | 670.4 | 670.3 | .1 |
| 604.710 | 51. | 110. | 4.1 | 670.7 | 670.5 | .2 |
| 604.720 | 52. | 199. | 2.3 | 670.9 | 670.8 | .1 |
| 604.800 | 36. | 185. | 2.4 | 671.1 | 671.0 | .1 |
| 604.880 | 12. | 73. | 5.8 | 671.1 | 671.0 | .1 |
| 604.890 | 8. | 44. | 10.3 | 671.0 | 670.8 | .2 |
| 604.910 | 8. | 41. | 11.0 | 671.5 | 671.3 | .2 |
| 604.920 | 12. | 95. | 4.7 | 673.6 | 673.6 | 0.0 |
| 604.950 | 60. | 248. | 1.8 | 674.7 | 674.6 | .1 |
| 605.000 | 41. | 197. | 2.3 | 675.0 | 674.9 | .1 |
| 605.300 | 40. | 133. | 3.4 | 676.4 | 676.3 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ~~SEURETS~~ LANE DRAIN

4) DOCUMENT TYPE: 100 YR FLOODWAY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA F-4705
T2      TROY
T3      LANE DRAIN 100 YR FLOW=450 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.  0.000000     0.00      -1.0       0.   665.230    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000    0.000   150.000    0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .095      .095      .055      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   190.000   340.000   450.000   750.000   450.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** CONFLUENCE WITH STURGIS DRAIN

X1   600.100     6.000   170.000   292.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   666.000     0.000   662.500   170.000   655.400   230.000   655.400   240.000   663.800   292.000
GR   666.000   350.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   600.150    12.000   262.000   322.000   300.000   300.000   300.000     0.000     -.600     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   667.000   154.000   664.600   210.000   664.600   262.000   657.300   284.000   656.500   288.000
GR   657.300   292.000   659.900   304.000   663.600   308.000   665.500   322.000   663.800   394.000
GR   665.000   482.000   666.200   615.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   600.200     0.000     0.000     0.000   300.000   300.000   300.000     0.000      .600     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC     0.000     0.000     0.000      .400      .800     0.000     0.000     0.000     0.000     0.000

        ** D/S FACE ELLENBORO RD.

X1   599.980    12.000   284.000   292.000   210.000   210.000   210.000     0.000     1.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   664.000   664.000     0.000
GR   667.000   154.000   664.600   210.000   664.600   262.000   657.300   284.000   656.500   288.000
GR   657.300   292.000   659.900   304.000   663.600   308.000   665.500   322.000   663.800   394.000
GR   665.000   482.000   666.200   615.000     0.000     0.000     0.000     0.000     0.000     0.000
SB     0.000     2.250     2.750   275.000     4.890     0.000    27.400     0.000   657.500   657.500

X1   600.020    11.000   290.000   298.000    40.000    40.000    40.000     0.000      .200     0.000
X2     0.000     0.000     1.000   663.100   665.700     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   665.700   665.700     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 666.200 | 178.000 | 665.300 | 244.000 | 661.700 | 274.000 | 657.600 | 290.000 | 657.300 | 295.000 |
| GR | 657.600 | 298.000 | 663.400 | 312.000 | 664.000 | 354.000 | 664.400 | 370.000 | 665.000 | 450.000 |
| GR | 666.600 | 488.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 600.800 | 11.000 | 244.000 | 312.000 | 140.000 | 140.000 | 140.000 | 0.000 | 0.000 | 0.000 |
| GR | 666.200 | 178.000 | 665.300 | 244.000 | 661.700 | 274.000 | 657.600 | 292.000 | 657.300 | 295.000 |
| GR | 657.600 | 298.000 | 663.400 | 312.000 | 664.000 | 354.000 | 664.400 | 370.000 | 665.000 | 450.000 |
| GR | 666.600 | 488.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 600.820 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | .100 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 600.830 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 662.100 | 662.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 600.840 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 662.100 | 662.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 600.850 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 600.870 | 0.000 | 0.000 | 0.000 | 175.000 | 175.000 | 175.000 | 0.000 | .200 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE KILMER RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 600.980 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.700 | 2.750 | 275.000 | 3.930 | 0.000 | 19.630 | 0.000 | 657.700 | 657.700 |
| X1 | 601.020 | 7.000 | 240.000 | 286.000 | 55.000 | 55.000 | 55.000 | 0.000 | -.400 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 662.700 | 666.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 666.300 | 666.300 | 0.000 |
| GR | 667.700 | 130.000 | 667.000 | 170.000 | 665.100 | 240.000 | 658.100 | 254.000 | 658.100 | 262.000 |
| GR | 667.200 | 286.000 | 667.500 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 601.800 | 7.000 | 240.000 | 286.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.700 | 130.000 | 667.000 | 170.000 | 665.100 | 240.000 | 658.100 | 254.000 | 658.100 | 262.000 |
| GR | 667.200 | 286.000 | 667.500 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 602.100 | 8.000 | 264.000 | 315.000 | 205.000 | 205.000 | 205.000 | 0.000 | -.600 | 0.000 |
| GR | 669.400 | 200.000 | 669.200 | 264.000 | 660.700 | 286.000 | 659.200 | 290.000 | 660.500 | 294.000 |
| GR | 667.400 | 315.000 | 668.800 | 452.000 | 669.500 | 505.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 602.200 | 0.000 | 0.000 | 0.000 | 215.000 | 215.000 | 215.000 | 0.000 | .600 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE TALBOT RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 601.980 | 8.000 | 284.000 | 296.000 | 85.000 | 85.000 | 85.000 | 0.000 | -.400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 666.900 | 666.900 | 0.000 |
| GR | 669.400 | 200.000 | 669.200 | 264.000 | 660.700 | 284.000 | 659.200 | 290.000 | 660.500 | 296.000 |
| GR | 667.400 | 315.000 | 668.800 | 452.000 | 669.500 | 505.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.100 | 2.700 | 140.000 | 8.375 | 0.000 | 60.300 | 0.000 | 658.800 | 658.800 |
| X1 | 602.020 | 9.000 | 165.000 | 177.000 | 50.000 | 50.000 | 50.000 | 0.000 | -1.100 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 666.000 | 667.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 667.500 | 667.500 | 0.000 |
| GR | 670.600 | 6.000 | 669.600 | 24.000 | 668.600 | 120.000 | 666.800 | 156.000 | 659.900 | 165.000 |
| GR | 659.900 | 177.000 | 669.000 | 192.000 | 669.400 | 206.000 | 669.800 | 250.000 | 0.000 | 0.000 |
| X1 | 602.800 | 9.000 | 156.000 | 152.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 670.600 | 6.000 | 669.600 | 24.000 | 668.600 | 120.000 | 666.800 | 156.000 | 659.900 | 166.000 |
| GR | 659.900 | 176.000 | 669.000 | 192.000 | 669.400 | 206.000 | 669.800 | 400.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 602.850 | 0.000 | 0.000 | 0.000 | 285.000 | 285.000 | 285.000 | 0.000 | .600 | 0.000 |
| NC | .100 | .100 | .065 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 602.900 | 18.000 | 2240.000 | 2281.000 | 300.000 | 300.000 | 300.000 | 0.000 | -.500 | 0.000 |
| GR | 670.000 | 0.000 | 668.000 | 100.000 | 666.000 | 500.000 | 662.500 | 1000.000 | 663.000 | 1950.000 |
| GR | 665.000 | 2175.000 | 665.200 | 2185.000 | 665.500 | 2192.000 | 665.700 | 2200.000 | 665.900 | 2222.000 |
| GR | 665.200 | 2240.000 | 662.500 | 2245.000 | 661.700 | 2260.000 | 662.900 | 2280.000 | 665.200 | 2281.000 |
| GR | 665.000 | 2300.000 | 662.500 | 2330.000 | 670.000 | 3130.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 603.000 | 0.000 | 0.000 | 0.000 | 240.000 | 240.000 | 240.000 | 0.000 | .500 | 0.000 |
| X1 | 603.300 | 0.000 | 0.000 | 0.000 | 210.000 | 210.000 | 210.000 | 0.000 | .250 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 603.400 | 10.000 | 252.000 | 307.000 | 200.000 | 200.000 | 200.000 | 0.000 | -.400 | 0.000 |
| GR | 669.400 | 0.000 | 669.300 | 100.000 | 669.300 | 165.000 | 669.200 | 204.000 | 669.200 | 252.000 |
| GR | 662.700 | 287.000 | 662.700 | 290.000 | 669.300 | 307.000 | 669.400 | 400.000 | 669.500 | 600.000 |
| X1 | 604.200 | 0.000 | 0.000 | 0.000 | 230.000 | 230.000 | 230.000 | 0.000 | .400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 669.500 | 669.500 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LIVERNOIS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 603.980 | 10.000 | 284.000 | 294.000 | 110.000 | 110.000 | 110.000 | 0.000 | -.900 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 669.500 | 669.500 | 0.000 |
| GR | 669.400 | 0.000 | 669.300 | 100.000 | 669.300 | 165.000 | 669.200 | 204.000 | 669.200 | 252.000 |
| GR | 662.700 | 284.000 | 662.700 | 294.000 | 669.300 | 307.000 | 669.400 | 400.000 | 669.500 | 600.000 |
| SB | 0.000 | 1.750 | 2.800 | 0.000 | 10.000 | 0.000 | 69.000 | 0.000 | 661.800 | 661.800 |
| X1 | 604.020 | 11.000 | 262.000 | 274.000 | 80.000 | 80.000 | 80.000 | 0.000 | -.700 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 1.000 | 667.000 | 670.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.500 | 670.500 | 0.000 |
| BT | 8.000 | 0.000 | 671.600 | 0.000 | 188.000 | 670.500 | 0.000 | 238.000 | 670.500 | 0.000 |
| BT | 262.000 | 672.000 | 0.000 | 268.000 | 672.000 | 0.000 | 274.000 | 670.500 | 0.000 | 306.000 |
| BT | 670.500 | 0.000 | 400.000 | 670.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 671.900 | 0.000 | 671.600 | 100.000 | 671.500 | 188.000 | 669.800 | 218.000 | 669.300 | 238.000 |
| GR | 664.900 | 262.000 | 662.500 | 266.000 | 662.500 | 268.000 | 665.200 | 274.000 | 671.000 | 306.000 |
| GR | 671.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 604.500 | 11.000 | 245.000 | 300.000 | 4.000 | 4.000 | 4.000 | 0.000 | -.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.500 | 670.500 | 0.000 |
| GR | 671.900 | 0.000 | 671.600 | 100.000 | 671.500 | 188.000 | 669.800 | 218.000 | 669.300 | 245.000 |
| GR | 664.900 | 262.000 | 662.500 | 266.000 | 662.500 | 268.000 | 665.200 | 274.000 | 671.000 | 300.000 |
| GR | 671.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 604.680 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | .600 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.600 | 670.600 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 604.690 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 668.700 | 670.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.400 | 670.400 | 0.000 |
| X1 | 604.710 | 0.000 | 0.000 | 0.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 668.700 | 670.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.700 | 670.700 | 0.000 |
| X1 | 604.720 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 671.000 | 671.000 | 0.000 |
| X1 | 604.800 | 11.000 | 238.000 | 274.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 671.200 | 671.200 | 0.000 |
| GR | 671.900 | 0.000 | 671.600 | 100.000 | 671.500 | 188.000 | 669.800 | 218.000 | 669.300 | 238.000 |
| GR | 664.900 | 262.000 | 662.500 | 266.000 | 662.500 | 268.000 | 665.200 | 274.000 | 671.000 | 306.000 |
| GR | 671.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DRIVEWAY AT TROY HIGH SCHOOL.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 604.880 | 11.000 | 262.000 | 274.000 | 50.000 | 50.000 | 50.000 | 0.000 | 1.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 671.500 | 671.500 | 0.000 |
| GR | 671.900 | 0.000 | 671.600 | 100.000 | 671.500 | 188.000 | 669.800 | 218.000 | 669.300 | 238.000 |
| GR | 664.900 | 262.000 | 662.500 | 266.000 | 662.500 | 268.000 | 665.200 | 274.000 | 671.000 | 306.000 |
| GR | 671.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 604.890 | 5.000 | 0.000 | 8.000 | 3.000 | 3.000 | 3.000 | 0.000 | -1.100 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 671.600 | 676.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 5.000 | 0.000 | 676.400 | 668.700 | .600 | 676.400 | 670.200 | 4.000 | 676.400 | 672.700 |
| BT | 7.400 | 676.400 | 670.200 | 8.000 | 676.400 | 668.700 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 668.700 | 0.000 | 667.200 | .600 | 664.700 | 4.000 | 667.200 | 7.400 | 668.700 | 8.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 604.910 | 0.000 | 0.000 | 0.000 | 44.000 | 44.000 | 44.000 | 0.000 | 1.100 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 672.700 | 676.400 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .065 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 604.920 | 11.000 | 262.000 | 274.000 | 3.000 | 3.000 | 3.000 | 0.000 | 2.200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 676.400 | 676.400 | 0.000 |
| GR | 671.900 | 0.000 | 671.600 | 100.000 | 671.500 | 188.000 | 669.800 | 218.000 | 669.300 | 238.000 |
| GR | 664.900 | 262.000 | 662.500 | 266.000 | 662.500 | 268.000 | 665.200 | 274.000 | 671.000 | 306.000 |
| GR | 671.100 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 604.950 | 0.000 | 0.000 | 0.000 | 280.000 | 280.000 | 280.000 | 0.000 | 1.800 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 605.000 | 10.000 | 226.000 | 272.000 | 240.000 | 240.000 | 240.000 | 0.000 | 0.000 | 0.000 |
| GR | 679.600 | 226.000 | 670.400 | 236.000 | 669.800 | 250.000 | 668.000 | 256.000 | 668.000 | 258.000 |
| GR | 670.300 | 266.000 | 674.000 | 272.000 | 674.600 | 294.000 | 674.700 | 382.000 | 675.000 | 470.000 |
| X1 | 605.300 | 11.000 | 231.000 | 272.000 | 600.000 | 600.000 | 600.000 | 0.000 | 3.000 | 0.000 |
| GR | 679.800 | 5.000 | 673.700 | 231.000 | 670.400 | 236.000 | 669.800 | 250.000 | 668.000 | 256.000 |
| GR | 668.000 | 258.000 | 670.300 | 266.000 | 674.000 | 272.000 | 674.600 | 294.000 | 674.700 | 382.000 |
| GR | 675.000 | 470.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNC 600.100
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

          ** CONFLUENCE WITH STURGIS DRAIN

   600.10      9.83    665.23      0.00    665.23    665.23       .00      0.00      0.00    662.50
     450.       21.      427.        2.      181.      768.       27.        0.        0.    663.80
     0.00       .12       .56       .08      .095      .055      .095     0.000    655.40     37.40
  .000037        0.        0.        0.         0         0         0      0.00    292.30    329.70

*SECNC 600.150
   600.15      9.34    665.24      0.00      0.00    665.26       .02       .02       .00    664.00
     450.       21.      360.       69.       83.      300.      252.        6.        2.    664.90
      .08       .26      1.20       .27      .095      .055      .095      .055    655.90    181.04
  .000246      300.      300.      300.         0         0         0      0.00    394.17    575.22

*SECNO 600.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      664.60 ELREA=      665.50

   600.20      8.83    665.33      0.00      0.00    665.37       .04       .10       .01    664.60
     450.       12.      438.        0.       44.      270.        0.        9.        4.    665.50
      .13       .27      1.62      0.00      .095      .055      .095      .055    656.50    192.91
  .000506      300.      300.      300.         2         0         0      0.00    127.86    320.77

CCHV=     .400 CEHV=     .800
*SECNO 599.980

3265 DIVIDED FLOW

          ** D/S FACE ELLENBORO RD.

   599.98      7.98    665.48      0.00      0.00    665.58       .11       .16       .05    658.30
     450.       95.      216.      139.       78.       61.      111.       10.        5.    658.30
      .16      1.22      3.56      1.26      .095      .055      .095      .055    657.50    262.38
  .001196      210.      210.      210.         2         0         0      0.00    130.18    443.51


SPECIAL BRIDGE

SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.25      2.75    275.00      4.89      0.00     27.40      0.00    657.50    657.50

*SECNO 600.020
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
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   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID    ENDST

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                             AREA
   674.90    666.28     0.00      320.      130.      27.      27.      663.10    665.70
                                                                        663.10    665.70

   600.02     8.74   666.24     0.00      0.00   666.26      .02       .68      0.00   657.80
     450.     141.     142.     167.      198.     69.     325.       11.       5.    657.80
      .17      .71     2.06      .51      .095    .055     .095      .055   657.50   189.78
  .000332     40.      40.      40.        2       0        6      0.00   284.90   474.68

*SECNC 600.800
3280 CROSS SECTION    600.80 EXTENDED       .09 FEET

   600.80     8.99   666.29     0.00      0.00   666.30      .01       .03      .00   665.30
     450.       5.     351.      94.       36.    337.     289.       13.       6.    663.40
      .21      .14     1.04      .33      .095    .055     .095      .055   657.30   178.00
  .000182    140.     140.     140.        2       0        0      0.00   302.61   480.61

CCHV=    .200 CEHV=    .400
*SECNC 600.820
   600.82     8.89   666.29     0.00      0.00   666.31      .01       .01      .00   665.40
     450.       4.     355.      91.       29.    331.     274.       13.       6.    663.50
      .22      .13     1.07      .33      .095    .055     .095      .055   657.40   178.26
  .000198     30.      30.      30.        0       0        0      0.00   300.15   478.42

*SECNC 600.830

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  662.70 MAX ELLC=  662.10

        ** D/S FACE FOOTBRIDE

   600.83     8.90   666.30     0.00      0.00   666.31      .01       .00      .00   665.40
     450.       6.     301.     143.       29.    307.     273.       13.       6.    663.50
      .22      .20      .98      .52      .095    .055     .095      .055   657.40   178.45
  .000492       1.       1.       1.        0       0        0    -24.21   299.91   478.35

*SECNC 600.840

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  662.70 MAX ELLC=  662.10

   600.84     8.90   666.30     0.00      0.00   666.31      .01       .00      .00   665.40
     450.       6.     301.     143.       30.    307.     274.       13.       6.    663.50
      .22      .20      .98      .52      .095    .055     .095      .055   657.40   178.07
  .000489       4.       4.       4.        0       0        0    -24.21   300.41   478.48

*SECNC 600.850
3280 CROSS SECTION    600.85 EXTENDED       .00 FEET
```

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QRCB | ALCB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLCBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | ENDST |
| 600.85 | 8.90 | 666.30 | 0.00 | 0.00 | 666.31 | .01 | .00 | .00 | 665.40 |
| 450. | 4. | 355. | 91. | 30. | 331. | 274. | 13. | 6. | 663.50 |
| .23 | .13 | 1.07 | .33 | .095 | .055 | .095 | .055 | 657.40 | 178.00 |
| .000198 | 1. | 1. | 1. | 0 | 0 | 0 | 0.00 | 300.50 | 478.50 |

CCHV= .150 CEHV= .350
*SECNO 600.870

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 600.87 | 8.73 | 666.33 | 0.00 | 0.00 | 666.35 | .02 | .04 | .00 | 665.60 |
| 450. | 2. | 363. | 84. | 20. | 320. | 247. | 16. | 7. | 663.70 |
| .27 | .12 | 1.14 | .34 | .095 | .055 | .095 | .055 | 657.60 | 190.16 |
| .000232 | 175. | 175. | 175. | 2 | 0 | 0 | 0.00 | 284.41 | 474.56 |

CCHV= .300 CEHV= .800
*SECNO 600.980

** D/S FACE KILMER RD.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 600.98 | 8.65 | 666.35 | 0.00 | 0.00 | 666.36 | .02 | .01 | .00 | 665.70 |
| 450. | 2. | 368. | 81. | 15. | 314. | 232. | 16. | 8. | 663.80 |
| .29 | .12 | 1.17 | .35 | .095 | .055 | .095 | .055 | 657.70 | 196.70 |
| .000253 | 50. | 50. | 50. | 0 | 0 | 0 | 0.00 | 275.74 | 472.44 |

SPECIAL BRIDGE

| SB | XK | XKCR | CDFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.70 | 2.75 | 275.00 | 3.93 | 0.00 | 19.63 | 0.00 | 657.70 | 657.70 |

*SECNO 601.020
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 680.22 | 666.36 | 0.00 | 362. | 91. | 20. | 20. | 662.70 | 666.30 |
| 601.02 | 9.17 | 666.87 | 0.00 | 0.00 | 666.91 | .04 | .55 | 0.00 | 664.70 |
| 450. | 30. | 420. | 0. | 88. | 264. | 1. | 17. | 8. | 666.80 |
| .30 | .34 | 1.59 | .03 | .095 | .055 | .095 | .054 | 657.70 | 154.29 |
| .000371 | 55. | 55. | 55. | 2 | 0 | 6 | 0.00 | 160.17 | 314.46 |

*SECNO 601.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 601.80 | 8.81 | 666.91 | 0.00 | 0.00 | 666.96 | .05 | .04 | .01 | 665.10 |
| 450. | 19. | 431. | 0. | 60. | 247. | 0. | 17. | 8. | 667.20 |
| .31 | .32 | 1.75 | 0.00 | .095 | .055 | .095 | .054 | 658.10 | 173.57 |
| .000477 | 90. | 90. | 90. | 0 | 0 | 0 | 0.00 | 111.64 | 285.22 |

```
CCHV=     .150 CEHV=     .350
*SECNC 602.100
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLCB       QCH        QROB       ALCB       ACH        ARCB       VOL        TWA     LEFT/RIGHT
   TIME       VLCB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

   602.10      8.43     667.03       C.CO       C.CC     667.11       .08        .14        .01     668.60
     450.        0.       450.        0.         0.       201.        3.        19.         9.      666.80
      .34      C.CO       2.23       .12       .095       .055      .095       .055     658.60     268.06
  .001062      205.       205.      205.          2          0         0       0.00      69.47     337.53

*SECNO 602.200
   602.20      8.08     667.28       C.00       C.CO     667.37       .09        .26        .01     669.20
     45C.        0.       450.        0.         0.       185.        0.        20.         9.      667.40
      .36      C.CC       2.43      C.00       .C95       .055      .095       .055     659.20     268.97
  .001359      215.       215.      215.          2          0         0       0.00      45.66     314.63

CCHV=     .400 CEHV=     .800
*SECNC 601.980

        ** D/S FACE TALBOT RD.

   601.98      8.57     667.37       0.00       0.00     667.48       .11        .10        .02     660.30
     450.       62.       305.       83.        59.       94.       80.        20.         9.      660.10
      .37      1.06       3.23      1.04       .095       .055      .C95       .055     658.8C     267.35
  .00C943       85.        85.       85.          1          0         0       0.00      84.34     351.69

SPECIAL BRIDGE

SB  XK        XKCR       CDFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00      2.1C       2.70     140.00       8.38       0.00      60.30      0.00     658.80     658.80

*SECNC 602.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3         QWEIR      QPR        BAREA    TRAPEZOID      ELLC       ELTRD
                                                                    AREA
   669.19     667.67      0.00       168.       282.       60.       60.       666.00     667.50

   602.02      9.20     668.00       0.00       C.CC     668.C8       .09        .60       0.00     658.80
     45C.       77.       308.       64.       114.       110.       70.        20.         9.      658.80
      .38       .68       2.79      .92       .C95       .055      .095       .055     658.80      72.36
  .000555       50.        50.       50.          2          0         4       0.00     123.01     195.37

*SECNC 602.800
   602.80      8.14     668.04       0.00       0.00     668.13       .09        .04        .00     666.80
     45C.        5.       445.        C.        15.       187.        0.        21.         9.      669.00
      .39       .35       2.38      C.00       .C95       .055      .C95       .055     659.90     131.18
  .000952       60.        60.       6C.          0          0         0       0.00      59.14     190.31

CCHV=     .150 CEHV=     .350
```

```
*SECNO 602.850
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   602.85      7.83    668.33      0.00      0.00    668.43       .10       .30       .00    667.40
     450.        3.      447.        0.        9.     176.        0.       22.       10.     669.60
      .42       .32      2.54      0.00      .095     .055      .095      .055    660.50    137.44
  .001147      285.      285.      285.         2         0         0      0.00     52.32    189.76

CCHV=     .300 CEHV=     .500
*SECNO 602.900
   602.90      7.26    668.46      0.00      0.00    668.46       .00       .00       .03    664.70
     450.      369.       16.       65.     10395.     266.     2454.       68.       20.     664.70
     2.79       .04       .06       .03      .100     .065      .100      .056    661.20     52.09
  .000001      300.      300.      300.         2         0         0      0.00   2966.78   3018.87

*SECNO 603.000
   603.00      6.76    668.46      0.00      0.00    668.46       .00       .00       .00    665.20
     450.      371.       17.       62.      9308.     246.     2098.      136.       36.     665.20
     4.48       .04       .07       .03      .100     .065      .100      .056    661.70     77.08
  .000001      240.      240.      240.         2         0         0      0.00   2888.47   2965.56

*SECNO 603.300
   603.30      6.51    668.46      0.00      0.00    668.46       .00       .00       .00    665.45
     450.      372.       17.       61.      8769.     236.     1931.      190.       50.     665.45
     5.86       .04       .07       .03      .100     .065      .100      .057    661.95     89.58
  .000001      210.      210.      210.         0         0         0      0.00   2849.33   2938.91

CCHV=     .150 CEHV=     .350
*SECNO 603.400
   603.40      6.08    668.38      0.00      0.00    668.50       .11       .00       .04    668.80
     450.        0.      450.        0.        0.     166.        0.      216.       57.     668.90
     5.88      0.00      2.72      0.00      .100     .065      .100      .058    662.30    254.24
  .003102      200.      200.      200.         2         0         0      0.00     51.44    305.67

*SECNO 604.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      669.50 ELREA=      669.50

   604.20      6.34    669.04      0.00      0.00    669.14       .10       .64       .00    669.20
     450.        0.      450.        0.        0.     179.        0.      217.       57.     669.30
     5.91      0.00      2.51      0.00      .100     .065      .100      .058    662.70    252.85
  .002515      230.      230.      230.         2         0         0      0.00     53.49    306.34

CCHV=     .300 CEHV=     .500
*SECNO 603.980
```

3280 CROSS SECTION 603.98 EXTENDED .68 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 669.50 ELREA= 669.50

** D/S FACE LIVERNOIS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 603.98 | 7.38 | 669.18 | 0.00 | 0.00 | 669.76 | .58 | .38 | .24 | 661.80 |
| 450. | 0. | 450. | 0. | 0. | 74. | 0. | 217. | 57. | 661.80 |
| 5.92 | 0.00 | 6.10 | 0.00 | .100 | .065 | .100 | .058 | 661.80 | 284.00 |
| .004945 | 110. | 110. | 110. | 2 | 0 | 0 | 0.00 | 10.00 | 294.00 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.75 | 2.80 | 0.00 | 10.00 | 0.00 | 69.00 | 0.00 | 661.80 | 661.80 |

*SECNO 604.020
PRESSURE FLOW

| EGPRS | EGLWC | H3 | CWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 670.34 | 669.73 | 0.00 | 0. | 450. | 69. | 52. | 667.00 | 670.50 |

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 670.50 ELREA= 670.50

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 604.02 | 8.10 | 669.90 | 0.00 | 0.00 | 670.34 | .44 | .58 | 0.00 | 664.20 |
| 450. | 0. | 450. | 0. | 0. | 84. | 0. | 217. | 57. | 664.50 |
| 5.92 | 0.00 | 5.34 | 0.00 | .100 | .065 | .100 | .058 | 661.80 | 262.00 |
| .004626 | 80. | 80. | 80. | 2 | 0 | 0 | 0.00 | 12.00 | 274.00 |

*SECNO 604.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 670.50 ELREA= 670.50

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 604.50 | 7.98 | 670.38 | 0.00 | 0.00 | 670.46 | .08 | .01 | .11 | 669.20 |
| 450. | 0. | 450. | 0. | 0. | 203. | 0. | 217. | 57. | 670.90 |
| 5.92 | 0.00 | 2.22 | 0.00 | .100 | .065 | .100 | .058 | 662.40 | 245.00 |
| .001650 | 4. | 4. | 4. | 2 | 0 | 0 | 0.00 | 52.69 | 297.69 |

*SECNO 604.680

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 670.60 ELREA= 670.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 604.68 | 7.38 | 670.38 | 0.00 | 0.00 | 670.48 | .11 | .01 | .02 | 669.80 |
| 450. | 0. | 450. | 0. | 0. | 172. | 0. | 217. | 57. | 671.50 |
| 5.92 | 0.00 | 2.62 | 0.00 | .100 | .065 | .100 | .058 | 663.00 | 245.00 |
| .002683 | 5. | 5. | 5. | 2 | 0 | 0 | 0.00 | 49.97 | 294.97 |

*SECNO 604.690

| SECNO | DEPTH | CHSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|

```
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VCL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.40 MAX ELLC=  668.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.40 ELREA=      670.40

        ** D/S FACE FOOTBRIDGE

   604.69      7.27    670.27      0.00      0.00    670.60      .34       .00       .11    669.80
     450.        0.     450.        0.        0.      97.        0.      217.       57.     671.50
     5.92      0.00      4.65      0.00      .100      .065      .100      .058    663.00    245.00
  .031308        1.        1.        1.         2         0         0    -69.62     49.47    294.47

*SECNO 604.710

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.40 MAX ELLC=  668.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.70 ELREA=      670.70

   604.71      7.51    670.51      0.00      0.00    670.81      .30       .20       .01    669.80
     450.        0.     450.        0.        0.     102.        0.      217.       57.     671.50
     5.92      0.00      4.41      0.00      .100      .065      .100      .058    663.00    245.00
  .050857        5.        5.        5.         6         0         0    -76.30     50.54    295.54

*SECNO 604.720

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.00 ELREA=      671.00

   604.72      7.79    670.79      0.00      0.00    670.88      .08       .00       .07    669.80
     450.        0.     450.        0.        0.     193.        0.      217.       57.     671.50
     5.92      0.00      2.33      0.00      .100      .065      .100      .058    663.00    245.00
  .001911        1.        1.        1.         2         0         0      0.00     51.83    296.83

*SECNO 604.800

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.20 ELREA=      671.20

   604.80      8.45    670.95      0.00      0.00    671.05      .10       .17       .01    669.30
     450.        0.     450.        0.        0.     181.        0.      218.       57.     665.20
     5.93      0.00      2.48      0.00      .100      .065      .100      .058    662.50    238.00
  .001451      100.      100.      100.         2         0         0      0.00     36.00    274.00

CCHV=    .400 CEHV=    .800
*SECNO 604.880

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      671.50 ELREA=      671.50

        ** D/S FACE DRIVEWAY AT TROY HIGH SCHOOL.
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   604.88      7.40    671.00      0.00      0.00    671.54       .55       .13       .36    666.00
     450.        0.     450.        0.        0.       76.        0.      218.       57.    666.30
     5.93      0.00      5.93      0.00      .100      .065      .100      .059    663.60    262.00
  .006569       50.       50.       50.         2         0         0      0.00     12.00    274.00

*SECNO 604.890
3280 CROSS SECTION    604.89 EXTENDED      3.19 FEET


3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  676.40 MAX ELLC=  671.60

   604.89      7.19    670.79      0.00      0.00    672.49      1.70       .03       .92    667.60
     450.        0.     450.        0.        0.       43.        0.      218.       57.    667.60
     5.93      0.00     10.45      0.00      .100      .025      .100      .058    663.60      0.00
  .012018        3.        3.        3.         2         0         0     -2.09      8.00      8.00

*SECNO 604.910
3280 CROSS SECTION    604.91 EXTENDED      2.59 FEET


3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  676.40 MAX ELLC=  672.70

   604.91      6.59    671.29      0.00      0.00    673.31      2.02       .56       .26    668.70
     450.        0.     450.        0.        0.       39.        0.      218.       57.    668.70
     5.94      0.00     11.42      0.00      .100      .025      .100      .058    664.70      0.00
  .013517       44.       44.       44.         2         0         0     -.89      8.00      8.00

*SECNO 604.920
3280 CROSS SECTION    604.92 EXTENDED       .33 FEET


3301 HV CHANGED MORE THAN HVINS


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      676.40 ELREA=      676.40

   604.92      8.94    673.64      0.00      0.00    674.00       .35       .02       .67    667.10
     450.        0.     450.        0.        0.       94.        0.      218.       57.    667.40
     5.94      0.00      4.77      0.00      .100      .065      .100      .058    664.70    262.00
  .003179        3.        3.        3.         3         0         0      0.00     12.00    274.00


*SECNO 604.950
   604.95      8.09    674.59      0.00      0.00    674.67       .08       .57       .11    668.90
     450.      119.      246.       85.      110.       84.       80.      219.       58.    669.20
     5.97      1.08      2.93      1.06      .100      .065      .100      .059    666.50    204.17
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  .001354      280.      280.      280.         2         0         0      0.00     99.54    303.70


CCHV=     .150 CEHV=     .350
*SECNO 605.000
   605.00      6.93    674.93      0.00      0.00    675.01       .08       .34       .00    679.60
     450.        0.      437.       13.        0.      192.       46.      221.       58.    674.00
     6.00      0.00      2.28       .27      .100      .065      .100      .059    668.00    231.08
  .001413      240.      240.      240.         2         0         0      0.00    218.44    449.52


*SECNO 605.300
   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   605.30      5.32    676.32      0.00      0.00    676.50       .19      1.46       .04    676.70
     450.        0.      450.        0.        0.      129.        0.      223.       60.    677.00
     6.05      0.00      3.48      0.00      .100      .065      .100      .060    671.00    231.58
  .005121      600.      600.      600.         2         0         0      0.00     39.31    270.89
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: LANE DRAIN

4) DOCUMENT TYPE: CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

LANE DRAIN 100 YR FLOW=4

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 665.23 | 0.00 | 665.23 | .37 | .56 | 975.81 | 741.27 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 666.70 | 0.00 | 666.70 | .16 | .42 | 1468.10 | 1139.57 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 663.80 | 0.00 | 663.81 | .95 | .75 | 634.44 | 462.36 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 665.24 | 0.00 | 665.26 | 2.46 | 1.20 | 634.74 | 287.07 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 666.71 | 0.00 | 666.71 | .56 | .68 | 1286.66 | 600.92 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 663.83 | 0.00 | 663.89 | 8.96 | 2.05 | 219.98 | 150.35 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 665.33 | 0.00 | 665.37 | 5.06 | 1.62 | 314.40 | 200.06 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 666.73 | 0.00 | 666.73 | .97 | .84 | 1016.86 | 455.84 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 664.11 | 0.00 | 664.19 | 10.55 | 2.20 | 204.20 | 138.53 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 665.48 | 0.00 | 665.58 | 11.96 | 3.56 | 248.77 | 130.13 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 666.76 | 0.00 | 666.79 | 3.71 | 2.20 | 599.50 | 233.72 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 664.41 | 0.00 | 664.60 | 23.51 | 4.51 | 172.61 | 92.82 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 450.00 | 666.24 | 0.00 | 666.26 | 3.32 | 2.06 | 592.37 | 246.99 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 450.00 | 666.81 | 0.00 | 666.83 | 1.95 | 1.65 | 767.71 | 322.28 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 450.00 | 666.16 | 0.00 | 666.18 | 3.58 | 2.13 | 569.51 | 237.82 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.29 | 0.00 | 666.30 | 1.82 | 1.04 | 661.76 | 333.91 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.84 | 0.00 | 666.85 | 1.09 | .87 | 833.50 | 430.94 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.21 | 0.00 | 666.23 | 1.96 | 1.07 | 638.53 | 321.79 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.29 | 0.00 | 666.31 | 1.98 | 1.07 | 633.93 | 319.43 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.84 | 0.00 | 666.85 | 1.19 | .89 | 802.02 | 412.07 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.22 | 0.00 | 666.23 | 2.14 | 1.10 | 611.27 | 307.91 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.92 | .98 | 608.96 | 202.81 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.85 | 0.00 | 666.85 | 2.69 | .78 | 777.35 | 274.61 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.22 | 0.00 | 666.23 | 5.38 | 1.02 | 586.27 | 194.08 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.89 | .98 | 610.50 | 203.41 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.85 | 0.00 | 666.85 | 2.67 | .78 | 778.56 | 275.17 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.22 | 0.00 | 666.24 | 5.34 | 1.01 | 587.82 | 194.68 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 1.98 | 1.07 | 635.05 | 320.00 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.85 | 0.00 | 666.86 | 1.19 | .89 | 802.95 | 412.62 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.22 | 0.00 | 666.24 | 2.13 | 1.10 | 612.40 | 308.48 |

| SECNO | XLCF | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.33 | 0.00 | 666.35 | 2.32 | 1.14 | 586.52 | 295.34 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.87 | 0.00 | 666.88 | 1.39 | .95 | 749.04 | 381.43 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.26 | 0.00 | 666.28 | 2.50 | 1.16 | 565.84 | 284.86 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.35 | 0.00 | 666.36 | 2.53 | 1.17 | 561.52 | 282.67 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.87 | 0.00 | 666.89 | 1.53 | .98 | 718.33 | 364.37 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.27 | 0.00 | 666.29 | 2.72 | 1.20 | 541.70 | 272.62 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 450.00 | 666.87 | 0.00 | 666.91 | 3.71 | 1.59 | 352.81 | 233.52 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 450.00 | 666.99 | 0.00 | 667.03 | 3.40 | 1.55 | 374.83 | 243.98 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 450.00 | 666.87 | 0.00 | 666.91 | 3.73 | 1.60 | 351.87 | 233.01 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 666.91 | 0.00 | 666.96 | 4.77 | 1.75 | 306.74 | 206.15 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 667.03 | 0.00 | 667.07 | 4.42 | 1.70 | 320.18 | 214.08 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 666.91 | 0.00 | 666.95 | 4.78 | 1.75 | 306.18 | 205.82 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.03 | 0.00 | 667.11 | 10.62 | 2.23 | 203.87 | 138.07 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.14 | 0.00 | 667.21 | 9.84 | 2.18 | 211.80 | 143.42 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.02 | 0.00 | 667.10 | 10.66 | 2.24 | 203.50 | 137.80 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.28 | 0.00 | 667.37 | 13.59 | 2.43 | 184.94 | 122.06 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.37 | 0.00 | 667.46 | 12.82 | 2.38 | 189.03 | 125.67 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.27 | 0.00 | 667.37 | 13.63 | 2.44 | 184.73 | 121.88 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.37 | 0.00 | 667.48 | 9.43 | 3.23 | 232.94 | 146.56 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.45 | 0.00 | 667.56 | 8.98 | 3.17 | 240.33 | 150.19 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.36 | 0.00 | 667.48 | 9.45 | 3.23 | 232.59 | 146.38 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 450.00 | 668.00 | 0.00 | 668.08 | 5.55 | 2.79 | 294.01 | 191.02 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 450.00 | 668.02 | 0.00 | 668.11 | 5.46 | 2.78 | 297.49 | 192.59 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 450.00 | 667.99 | 0.00 | 668.08 | 5.55 | 2.79 | 293.84 | 190.94 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.04 | 0.00 | 668.13 | 9.52 | 2.38 | 201.99 | 145.84 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.07 | 0.00 | 668.15 | 9.37 | 2.37 | 203.56 | 146.97 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.04 | 0.00 | 668.12 | 9.53 | 2.38 | 201.92 | 145.79 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.33 | 0.00 | 668.43 | 11.47 | 2.54 | 184.53 | 132.88 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.35 | 0.00 | 668.45 | 11.31 | 2.53 | 185.73 | 133.80 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.33 | 0.00 | 668.43 | 11.48 | 2.54 | 184.47 | 132.84 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .06 | 13115.61 | 5707.62 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.48 | 0.00 | 668.48 | .01 | .06 | 13179.66 | 5748.40 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .06 | 13112.42 | 5705.59 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 11652.31 | 4803.96 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.48 | 0.00 | 668.48 | .01 | .07 | 11714.67 | 4841.33 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 11649.21 | 4802.10 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 10935.54 | 4381.88 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.48 | 0.00 | 668.48 | .01 | .07 | 10997.04 | 4417.53 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 10932.48 | 4380.10 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.38 | 0.00 | 668.50 | 31.02 | 2.72 | 165.63 | 80.80 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.41 | 0.00 | 668.52 | 30.45 | 2.70 | 166.79 | 81.56 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.38 | 0.00 | 668.50 | 31.05 | 2.72 | 165.57 | 80.76 |

| SECNO | XLCH | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.04 | 0.00 | 669.14 | 25.16 | 2.51 | 179.16 | 89.72 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.06 | 0.00 | 669.15 | 24.91 | 2.50 | 179.83 | 90.17 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.04 | 0.00 | 669.14 | 25.17 | 2.51 | 179.13 | 89.70 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.18 | 0.00 | 669.76 | 49.45 | 6.10 | 73.82 | 63.99 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.19 | 0.00 | 669.77 | 49.22 | 6.09 | 73.93 | 64.14 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.18 | 0.00 | 669.76 | 49.46 | 6.10 | 73.82 | 63.99 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 450.00 | 669.90 | 0.00 | 670.34 | 46.26 | 5.34 | 84.28 | 66.16 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 450.00 | 669.91 | 0.00 | 670.35 | 46.01 | 5.33 | 84.41 | 66.34 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 450.00 | 669.89 | 0.00 | 670.34 | 46.27 | 5.34 | 84.27 | 66.15 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.38 | 0.00 | 670.46 | 16.50 | 2.22 | 203.05 | 110.78 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.39 | 0.00 | 670.47 | 16.37 | 2.21 | 203.58 | 111.21 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.38 | 0.00 | 670.46 | 16.51 | 2.22 | 203.02 | 110.76 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.38 | 0.00 | 670.48 | 26.83 | 2.62 | 171.88 | 86.88 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.39 | 0.00 | 670.49 | 26.60 | 2.61 | 172.39 | 87.26 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.38 | 0.00 | 670.48 | 26.84 | 2.62 | 171.86 | 86.86 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.27 | 0.00 | 670.60 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.28 | 0.00 | 670.61 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.27 | 0.00 | 670.60 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.51 | 0.00 | 670.81 | 508.57 | 4.41 | 102.03 | 19.95 |
| 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.52 | 0.00 | 670.82 | 495.48 | 4.38 | 102.85 | 20.22 |
| 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.51 | 0.00 | 670.81 | 509.06 | 4.41 | 102.00 | 19.94 |
| 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.79 | 0.00 | 670.88 | 19.11 | 2.33 | 193.05 | 102.94 |
| 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.80 | 0.00 | 670.88 | 18.99 | 2.33 | 193.47 | 103.26 |
| 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.79 | 0.00 | 670.88 | 19.12 | 2.33 | 193.03 | 102.92 |
| 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 670.95 | 0.00 | 671.05 | 14.51 | 2.48 | 181.23 | 118.14 |
| 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 670.96 | 0.00 | 671.05 | 14.43 | 2.48 | 181.52 | 118.45 |
| 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 670.95 | 0.00 | 671.05 | 14.51 | 2.48 | 181.22 | 118.12 |
| 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.00 | 0.00 | 671.54 | 65.69 | 5.93 | 75.86 | 55.52 |
| 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.00 | 0.00 | 671.55 | 65.46 | 5.93 | 75.94 | 55.62 |
| 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.00 | 0.00 | 671.54 | 65.70 | 5.93 | 75.86 | 55.52 |
| 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.79 | 0.00 | 672.49 | 120.18 | 10.45 | 43.06 | 41.05 |
| 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.80 | 0.00 | 672.49 | 120.08 | 10.44 | 43.09 | 41.07 |
| 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.79 | 0.00 | 672.49 | 120.19 | 10.45 | 43.06 | 41.05 |
| 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.29 | 0.00 | 673.31 | 135.17 | 11.42 | 39.42 | 38.71 |
| 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.29 | 0.00 | 673.31 | 134.87 | 11.40 | 39.46 | 38.75 |
| 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.29 | 0.00 | 673.31 | 135.18 | 11.42 | 39.41 | 38.70 |
| 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.64 | 0.00 | 674.00 | 31.79 | 4.77 | 94.31 | 79.81 |
| 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.64 | 0.00 | 674.00 | 31.79 | 4.77 | 94.31 | 79.81 |
| 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.64 | 0.00 | 674.00 | 31.80 | 4.77 | 94.31 | 79.81 |
| 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.59 | 0.00 | 674.67 | 13.94 | 2.93 | 273.78 | 120.51 |
| 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.59 | 0.00 | 674.67 | 13.94 | 2.93 | 273.80 | 120.51 |
| 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.59 | 0.00 | 674.67 | 13.94 | 2.93 | 273.78 | 120.51 |

| SECNC | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 674.93 | 0.00 | 675.01 | 14.13 | 2.28 | 238.03 | 119.71 |
| 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 674.93 | 0.00 | 675.01 | 14.13 | 2.28 | 238.04 | 119.71 |
| 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 674.93 | 0.00 | 675.01 | 14.13 | 2.28 | 238.03 | 119.71 |
| 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.32 | 0.00 | 676.50 | 51.21 | 3.48 | 129.25 | 62.88 |
| 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.32 | 0.00 | 676.50 | 51.21 | 3.48 | 129.25 | 62.88 |
| 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.32 | 0.00 | 676.50 | 51.21 | 3.48 | 129.25 | 62.88 |

LANE DRAIN 100 YR FLOW=4

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 600.100 | 450.00 | 665.23 | 0.00 | 0.00 | 0.00 | 292.30 | 0.00 |
| 600.100 | 450.00 | 666.70 | 1.47 | 0.00 | 0.00 | 350.00 | 0.00 |
| 600.100 | 450.00 | 663.80 | -2.90 | 0.00 | 0.00 | 185.14 | 0.00 |
| 600.150 | 450.00 | 665.24 | 0.00 | .01 | 0.00 | 394.17 | 300.00 |
| 600.150 | 450.00 | 666.71 | 1.46 | .01 | 0.00 | 461.00 | 300.00 |
| 600.150 | 450.00 | 663.83 | -2.88 | .03 | 0.00 | 51.59 | 300.00 |
| 600.200 | 450.00 | 665.33 | 0.00 | .09 | 0.00 | 127.86 | 300.00 |
| 600.200 | 450.00 | 666.73 | 1.39 | .02 | 0.00 | 454.41 | 300.00 |
| 600.200 | 450.00 | 664.11 | -2.61 | .28 | 0.00 | 48.31 | 300.00 |
| 599.980 | 450.00 | 665.48 | 0.00 | .14 | 0.00 | 130.18 | 210.00 |
| 599.980 | 450.00 | 666.76 | 1.28 | .03 | 0.00 | 381.99 | 210.00 |
| 599.980 | 450.00 | 664.41 | -2.35 | .30 | 0.00 | 42.20 | 210.00 |
| 600.020 | 450.00 | 666.24 | 0.00 | .76 | 0.00 | 284.90 | 40.00 |
| 600.020 | 450.00 | 666.81 | .57 | .06 | 0.00 | 310.00 | 40.00 |
| 600.020 | 450.00 | 666.16 | -.66 | 1.75 | 0.00 | 277.00 | 40.00 |
| 600.800 | 450.00 | 666.29 | 0.00 | .05 | 0.00 | 302.61 | 140.00 |
| 600.800 | 450.00 | 666.84 | .55 | .03 | 0.00 | 310.00 | 140.00 |
| 600.800 | 450.00 | 666.21 | -.63 | .05 | 0.00 | 300.78 | 140.00 |
| 600.820 | 450.00 | 666.29 | 0.00 | .01 | 0.00 | 300.15 | 30.00 |
| 600.820 | 450.00 | 666.84 | .55 | .00 | 0.00 | 310.00 | 30.00 |
| 600.820 | 450.00 | 666.22 | -.63 | .01 | 0.00 | 292.73 | 30.00 |
| 600.830 | 450.00 | 666.30 | 0.00 | .00 | 0.00 | 299.91 | .50 |
| 600.830 | 450.00 | 666.85 | .55 | .00 | 0.00 | 310.00 | .50 |
| 600.830 | 450.00 | 666.22 | -.63 | .00 | 0.00 | 292.47 | .50 |
| 600.840 | 450.00 | 666.30 | 0.00 | .00 | 0.00 | 300.41 | 4.00 |
| 600.840 | 450.00 | 666.85 | .55 | .00 | 0.00 | 310.00 | 4.00 |
| 600.840 | 450.00 | 666.22 | -.62 | .00 | 0.00 | 292.99 | 4.00 |
| 600.850 | 450.00 | 666.30 | 0.00 | -.00 | 0.00 | 300.50 | 1.00 |
| 600.850 | 450.00 | 666.85 | .55 | -.00 | 0.00 | 310.00 | 1.00 |
| 600.850 | 450.00 | 666.22 | -.62 | -.00 | 0.00 | 293.11 | 1.00 |
| 600.870 | 450.00 | 666.33 | 0.00 | .04 | 0.00 | 284.41 | 175.00 |
| 600.870 | 450.00 | 666.87 | .53 | .02 | 0.00 | 309.38 | 175.00 |
| 600.870 | 450.00 | 666.26 | -.61 | .04 | 0.00 | 277.26 | 175.00 |
| 600.980 | 450.00 | 666.35 | 0.00 | .01 | 0.00 | 275.74 | 50.00 |
| 600.980 | 450.00 | 666.87 | .53 | .01 | 0.00 | 307.02 | 50.00 |
| 600.980 | 450.00 | 666.27 | -.60 | .01 | 0.00 | 268.67 | 50.00 |
| 601.020 | 450.00 | 666.87 | 0.00 | .53 | 0.00 | 160.17 | 55.00 |
| 601.020 | 450.00 | 666.99 | .12 | .12 | 0.00 | 211.91 | 55.00 |
| 601.020 | 450.00 | 666.87 | -.12 | .60 | 0.00 | 157.57 | 55.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 601.800 | 450.00 | 666.91 | 0.00 | .04 | 0.00 | 111.64 | 90.00 |
| 601.800 | 450.00 | 667.03 | .12 | .03 | 0.00 | 116.72 | 90.00 |
| 601.800 | 450.00 | 666.91 | -.12 | .04 | 0.00 | 111.44 | 90.00 |
| 602.100 | 450.00 | 667.03 | 0.00 | .12 | 0.00 | 69.47 | 205.00 |
| 602.100 | 450.00 | 667.14 | .11 | .11 | 0.00 | 80.11 | 205.00 |
| 602.100 | 450.00 | 667.02 | -.11 | .12 | 0.00 | 68.92 | 205.00 |
| 602.200 | 450.00 | 667.28 | 0.00 | .25 | 0.00 | 45.66 | 215.00 |
| 602.200 | 450.00 | 667.37 | .09 | .23 | 0.00 | 46.16 | 215.00 |
| 602.200 | 450.00 | 667.27 | -.09 | .25 | 0.00 | 45.63 | 215.00 |
| 601.980 | 450.00 | 667.37 | 0.00 | .09 | 0.00 | 84.34 | 85.00 |
| 601.980 | 450.00 | 667.45 | .08 | .09 | 0.00 | 92.70 | 85.00 |
| 601.980 | 450.00 | 667.36 | -.09 | .09 | 0.00 | 83.92 | 85.00 |
| 602.020 | 450.00 | 668.00 | 0.00 | .63 | 0.00 | 123.01 | 50.00 |
| 602.020 | 450.00 | 668.02 | .03 | .57 | 0.00 | 126.66 | 50.00 |
| 602.020 | 450.00 | 667.99 | -.03 | .63 | 0.00 | 122.82 | 50.00 |
| 602.800 | 450.00 | 668.04 | 0.00 | .04 | 0.00 | 59.14 | 60.00 |
| 602.800 | 450.00 | 668.07 | .03 | .04 | 0.00 | 59.71 | 60.00 |
| 602.800 | 450.00 | 668.04 | -.03 | .04 | 0.00 | 59.11 | 60.00 |
| 602.850 | 450.00 | 668.33 | 0.00 | .29 | 0.00 | 52.32 | 285.00 |
| 602.850 | 450.00 | 668.35 | .02 | .28 | 0.00 | 52.82 | 285.00 |
| 602.850 | 450.00 | 668.33 | -.02 | .29 | 0.00 | 52.29 | 285.00 |
| 602.900 | 450.00 | 668.46 | 0.00 | .13 | 0.00 | 2966.78 | 300.00 |
| 602.900 | 450.00 | 668.48 | .02 | .13 | 0.00 | 2970.16 | 300.00 |
| 602.900 | 450.00 | 668.46 | -.02 | .13 | 0.00 | 2966.61 | 300.00 |
| 603.000 | 450.00 | 668.46 | 0.00 | .00 | 0.00 | 2888.47 | 240.00 |
| 603.000 | 450.00 | 668.48 | .02 | .00 | 0.00 | 2891.85 | 240.00 |
| 603.000 | 450.00 | 668.46 | -.02 | .00 | 0.00 | 2888.30 | 240.00 |
| 603.300 | 450.00 | 668.46 | 0.00 | .00 | 0.00 | 2849.33 | 210.00 |
| 603.300 | 450.00 | 668.48 | .02 | .00 | 0.00 | 2852.71 | 210.00 |
| 603.300 | 450.00 | 668.46 | -.02 | .00 | 0.00 | 2849.16 | 210.00 |
| 603.400 | 450.00 | 668.38 | 0.00 | -.07 | 0.00 | 51.44 | 200.00 |
| 603.400 | 450.00 | 668.41 | .02 | -.07 | 0.00 | 51.62 | 200.00 |
| 603.400 | 450.00 | 668.38 | -.02 | -.07 | 0.00 | 51.43 | 200.00 |
| 604.200 | 450.00 | 669.04 | 0.00 | .66 | 0.00 | 53.49 | 230.00 |
| 604.200 | 450.00 | 669.06 | .01 | .65 | 0.00 | 53.59 | 230.00 |
| 604.200 | 450.00 | 669.04 | -.01 | .66 | 0.00 | 53.49 | 230.00 |
| 603.980 | 450.00 | 669.18 | 0.00 | .14 | 0.00 | 10.00 | 110.00 |
| 603.980 | 450.00 | 669.19 | .01 | .14 | 0.00 | 10.00 | 110.00 |
| 603.980 | 450.00 | 669.18 | -.01 | .14 | 0.00 | 10.00 | 110.00 |
| 604.020 | 450.00 | 669.90 | 0.00 | .71 | 0.00 | 12.00 | 80.00 |
| 604.020 | 450.00 | 669.91 | .01 | .71 | 0.00 | 12.00 | 80.00 |
| 604.020 | 450.00 | 669.89 | -.01 | .71 | 0.00 | 12.00 | 80.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 604.500 | 450.00 | 670.38 | 0.00 | .49 | 0.00 | 52.69 | 4.00 |
| 604.500 | 450.00 | 670.39 | .01 | .49 | 0.00 | 52.73 | 4.00 |
| 604.500 | 450.00 | 670.38 | -.01 | .49 | 0.00 | 52.69 | 4.00 |
| 604.680 | 450.00 | 670.38 | 0.00 | -.00 | 0.00 | 49.97 | 5.00 |
| 604.680 | 450.00 | 670.39 | .01 | -.00 | 0.00 | 50.01 | 5.00 |
| 604.680 | 450.00 | 670.38 | -.01 | -.00 | 0.00 | 49.97 | 5.00 |
| 604.690 | 450.00 | 670.27 | 0.00 | -.11 | 0.00 | 49.47 | .50 |
| 604.690 | 450.00 | 670.28 | .01 | -.11 | 0.00 | 49.51 | .50 |
| 604.690 | 450.00 | 670.27 | -.01 | -.11 | 0.00 | 49.46 | .50 |
| 604.710 | 450.00 | 670.51 | 0.00 | .24 | 0.00 | 50.54 | 5.00 |
| 604.710 | 450.00 | 670.52 | .01 | .25 | 0.00 | 50.62 | 5.00 |
| 604.710 | 450.00 | 670.51 | -.01 | .24 | 0.00 | 50.54 | 5.00 |
| 604.720 | 450.00 | 670.79 | 0.00 | .29 | 0.00 | 51.83 | .50 |
| 604.720 | 450.00 | 670.80 | .01 | .28 | 0.00 | 51.87 | .50 |
| 604.720 | 450.00 | 670.79 | -.01 | .29 | 0.00 | 51.83 | .50 |
| 604.800 | 450.00 | 670.95 | 0.00 | .16 | 0.00 | 36.00 | 100.00 |
| 604.800 | 450.00 | 670.96 | .01 | .16 | 0.00 | 36.00 | 100.00 |
| 604.800 | 450.00 | 670.95 | -.01 | .16 | 0.00 | 36.00 | 100.00 |
| 604.880 | 450.00 | 671.00 | 0.00 | .04 | 0.00 | 12.00 | 50.00 |
| 604.880 | 450.00 | 671.00 | .01 | .04 | 0.00 | 12.00 | 50.00 |
| 604.880 | 450.00 | 671.00 | -.01 | .04 | 0.00 | 12.00 | 50.00 |
| 604.890 | 450.00 | 670.79 | 0.00 | -.20 | 0.00 | 8.00 | 3.00 |
| 604.890 | 450.00 | 670.80 | .01 | -.20 | 0.00 | 8.00 | 3.00 |
| 604.890 | 450.00 | 670.79 | -.01 | -.20 | 0.00 | 8.00 | 3.00 |
| 604.910 | 450.00 | 671.29 | 0.00 | .49 | 0.00 | 8.00 | 44.00 |
| 604.910 | 450.00 | 671.29 | .01 | .49 | 0.00 | 8.00 | 44.00 |
| 604.910 | 450.00 | 671.29 | -.01 | .49 | 0.00 | 8.00 | 44.00 |
| 604.920 | 450.00 | 673.64 | 0.00 | 2.36 | 0.00 | 12.00 | 3.00 |
| 604.920 | 450.00 | 673.64 | .00 | 2.35 | 0.00 | 12.00 | 3.00 |
| 604.920 | 450.00 | 673.64 | -.00 | 2.36 | 0.00 | 12.00 | 3.00 |
| 604.950 | 450.00 | 674.59 | 0.00 | .95 | 0.00 | 99.54 | 280.00 |
| 604.950 | 450.00 | 674.59 | .00 | .95 | 0.00 | 99.54 | 280.00 |
| 604.950 | 450.00 | 674.59 | -.00 | .95 | 0.00 | 99.54 | 280.00 |
| 605.000 | 450.00 | 674.93 | 0.00 | .34 | 0.00 | 218.44 | 240.00 |
| 605.000 | 450.00 | 674.93 | .00 | .34 | 0.00 | 218.45 | 240.00 |
| 605.000 | 450.00 | 674.93 | -.00 | .34 | 0.00 | 218.44 | 240.00 |
| 605.300 | 450.00 | 676.32 | 0.00 | 1.39 | 0.00 | 39.31 | 600.00 |
| 605.300 | 450.00 | 676.32 | .00 | 1.39 | 0.00 | 39.31 | 600.00 |
| 605.300 | 450.00 | 676.32 | -.00 | 1.39 | 0.00 | 39.31 | 600.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: LANE DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Lane Drain

STUDY LIMITS: Confluence with Sturgis Drain (downstream limit) to about 1300 feet upstream of Livernois Rd. (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY:

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to hydrology in December, 1979, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" =1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .055-.065 |
| Overbank "n" | .095-.10 |
| n values thru bridges | .013-.025 |
| Contraction Coefficients | .15 - .4 |
| Expansion Coefficients | .35 - .8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review,please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Lane Drain flows were determined to be coincident with Sturgis Drain flows, therefore Lane Drain was started at the elevation in Sturgis Drain at their confluence point. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%.

## High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. The floodway was modified per engineering judgement at cross sections 602.8 to 604.2 (I to K). (See the enclosed 1" = 400' topographic map for floodway delineation). The floodway was modified in this reach due to the large north-south storage area available. (See comments).

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations and (iii) convergence test and sensitivity analysis for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

We have however, delineated a portion of the 100 year floodplain in the large storage area discussed previously and also explained in the revised hydrology section. (See the enclosed 1" = 400' topographic map). The floodway in this reach was modified to a more expected width than what the computer analysis resulted in. At Livernois (603.98-604.02) the elevation of the low chord was lowered from 668.7 to 667.0 in order to correctly model pressure flow for the 10 year flow.

Revised Hydrology

See Sturgis and Land Drain Routings in the Sturgis Drain report.

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: LANE DRAIN
DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 600.1 | | 4 | Valley Section - Confluence with Sturgis Drain - Developed from Abrams Topo. |
| 600.15 | | 3 | Valley Section - Repeat 600.2 |
| 600.2 | A | 1 | Valley Section |
| 599.98 | | 3 | D/s Face Ellenboro Road - Repeat 600.2 |
| 600.02 | B | 3 | u/s Face Ellenboro Road - Repeat 600.8 |
| 600.8 | C | 1 | Valley Section |
| 600.82 | | 3 | Valley Section - Repeat 600.8 |
| 600.83 | | 3 | D/s Face Footbridge - Repeat 600.8 |
| 600.84 | D | 3 | u/s Face Footbridge - Repeat 600.8 |
| 600.85 | | 3 | Valley Section - Repeat 600.8 |
| 600.87 | | 3 | Valley Section - Repeat 600.8 |
| 600.98 | | 3 | D/s Face Kilmer Road - Repeat 600.8 |
| 601.02 | E | 3 | u/s Face Kilmer Road - Repeat 601.8 |
| 601.8 | F | 1 | Valley Section |
| 602.1 | | 3 | Valley Section - Repeat 602.2 |
| 602.2 | G | 1 | Valley Section |
| 601.98 | | 3 | D/s Face Talbot Road - Repeat 602.2 |
| 602.02 | H | 4 | u/s Face Talbot Road - Developed From 602.8 |
| 602.8 | I | 1 | Valley Section |
| 602.85 | | 3 | Valley Section - Repeat 602.8 |
| 602.9 | | 3 | Valley Section - Repeat 603 |
| 603 | J | 2 | Valley Section - Overbanks extended by use of Abrams Topo. |
| 603.3 | | 3 | Valley Section - Repeat 603 |
| 603.4 | | 3 | Valley Section - Repeat 604.2 |
| 604.2 | K | 2 | Valley Section - Overbanks modified from Abrams TOPO |
| 603.98 | | 3 | D/s Face Livernois - Repeat 604.2 |
| 604.02 | L | 4 | u/s Face Livernois - Developed from 604.8 and Bridge Detail |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO.
WATERCOURSE: LANE DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

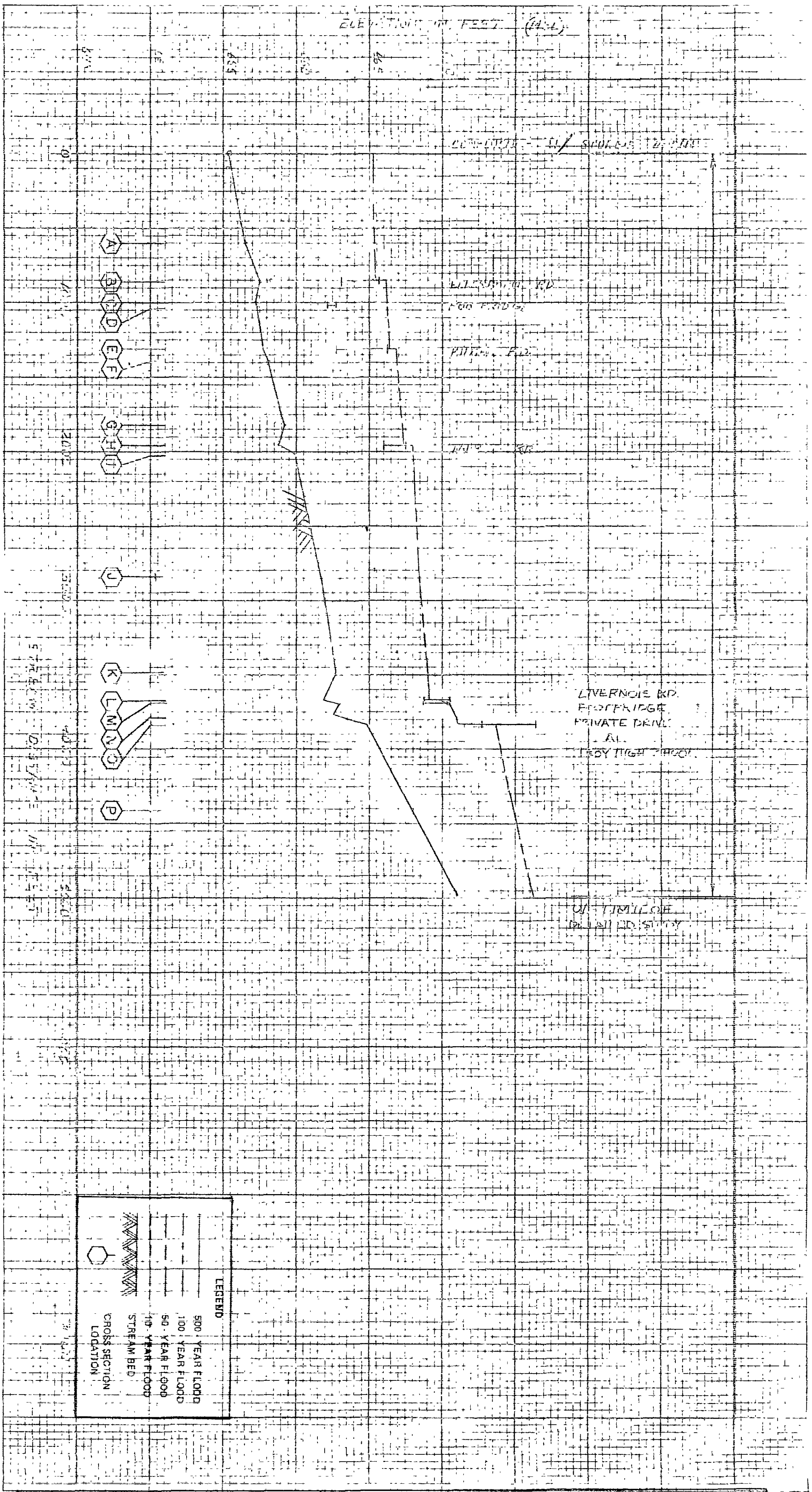
| SECTION No. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 604.5 | | 4 | Valley Section - Modified from 604.8 |
| 604.68 | | 4 | Valley Section - Repeat 604.5 |
| 604.69 | | 4 | D/s Face Footbridge - Repeat 604.5 |
| 604.71 | M | 4 | U/s Face Footbridge - Repeat 604.5 |
| 604.72 | | 4 | Valley Section - Repeat 604.5 |
| 604.8 | N | 1 | Valley Section |
| 604.88 | | 3 | Valley Section - Repeat 604.8 |
| 604.89 | | 4 | D/s Face Footbridge at Troy High School - Developed from Bridge Detail |
| 604.91 | O | 4 | U/s Face Footbridge at Troy High School - Repeat 604.89 |
| 604.92 | | 3 | Valley Section - Repeat 604.8 |
| 604.95 | | 3 | Valley Section - Repeat 604.8 |
| 605 | P | 1 | Valley Section |
| 605.3 | | 4 | Valley Section - Developed from 605 and Abrams Topo. |

COMMUNITY: TROY
WATERCOURSE: LANE DRAIN

## TABLE 2 – XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

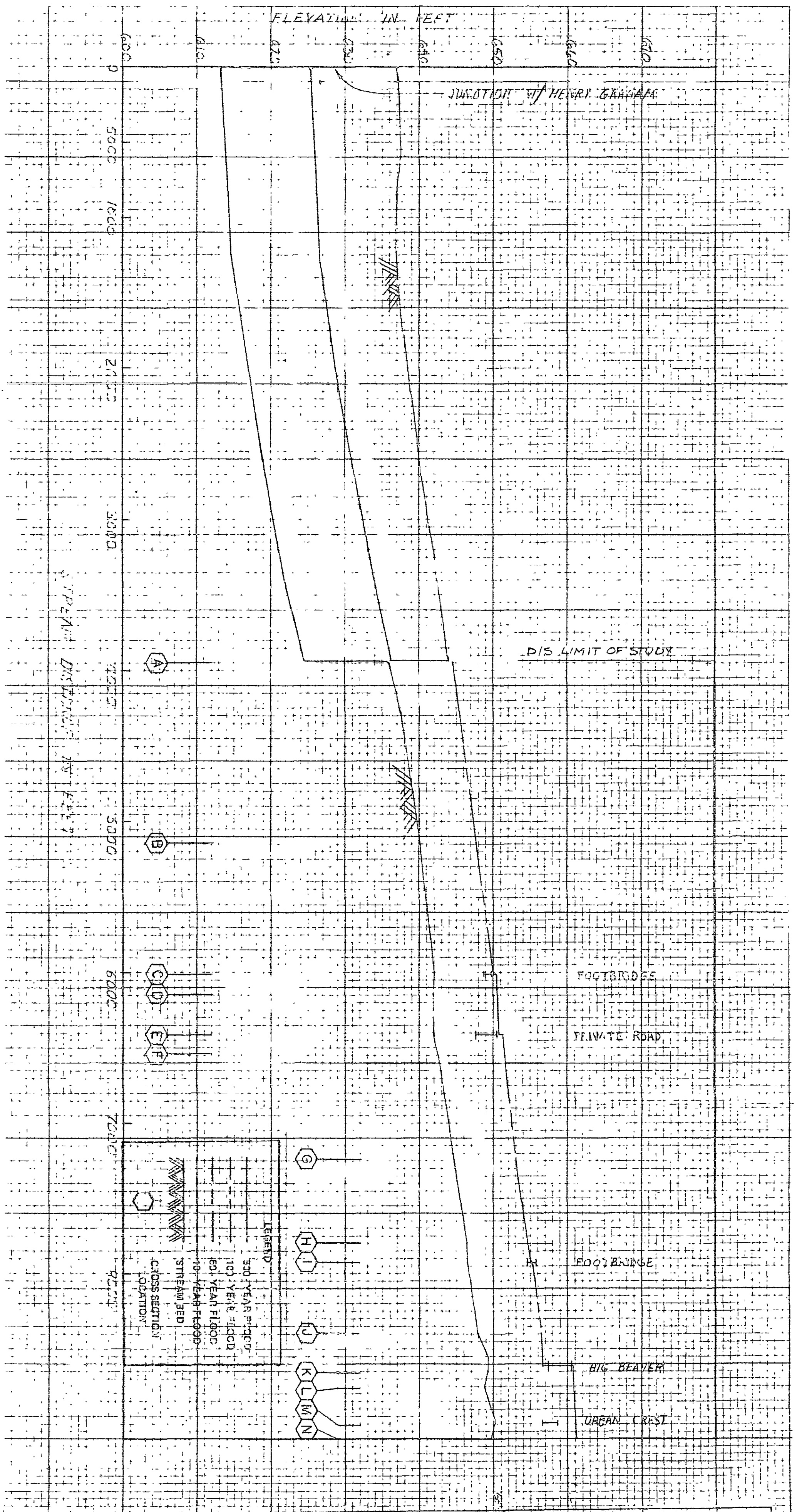
| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 599.98-600.02 | 0.9 | 27.4 | 15.66 | 1.75 | .025 | 40 | 0.35 | 2.25 | Ellenboro Road |
| 600.98-601.02 | 0.5 | 19.63 | 15.71 | 1.25 | .013 | 55 | 0.2 | 1.7 | Kilmer Road |
| 601.98-602.02 | 0.9 | 60.3 | 27.52 | 2.19 | .025 | 50 | 0.2 | 2.1 | Talbot Road |
| 603.98-604.02 | 0.4 | 69.0 | 33.8 | 2.04 | .020 | 80 | 0.35 | 1.75 | Livernois Road |




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF TROY, MI.
(OAKLAND CO.)

FLOOD PROFILES

MAP PANEL




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY, MI.
(OAKLAND CO.)

FLOOD PROFILES

SOUTH BRANCH STUDY

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE:

4) DOCUMENT TYPE: REPORTS

00BREAK00

MP&S
SH
&G

2223 Packard Road
Ann Arbor, Michigan
48104
(313) 769-9220

455 W. Fort St.
Detroit, Michigan
48226
(313) 964-3000

A Joint Venture

March 11, 1980

Mr. Daniel Morgan, P.E.
Water Management Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

Re: City of Troy FIS
Oakland County, Michigan
Hydraulics Submittal

Dear Mr. Morgan:

Please find enclosed the hydraulic submittal for all drains in the City of Troy that are tributary to the Henry Graham Drain. A write up on the starting elevations is also included. This should answer the questions you raised in your letter of March 3, 1980. on the Shanahan Drain.

The Spencer-Barnard and Hawthorn Drain overflows (between Henry Graham and Dequindre) were not quite ready at this time. We hope to submit them within two weeks.

As per our previous telephone conversations, it should be understood that the study is based on the latest field information we had at the time of submittal. The City of Troy is experiencing very rapid growth and it is possible that changes are taking place of which we are unaware. To the best of our knowlege, the study takes into account all major changes that have recently been planned or implemented.

Please feel free to call if you have any questions.

Very truly yours,

MP&S/SH&G, A JOINT VENTURE

BY Duane R Meyer P.E.
Duane R. Meyer, P.E.
Project Engineer for
McNamee, Porter and Seeley

DRM:dr
cc: Mr. Daryl Flatt, SH&G
Files - 3
Enc

# McNamee Porter & Seeley

**Transmittal**

CONSULTING ENGINEERS
2223 Packard Road • Ann Arbor, Michigan 48104 • Phone (313) 769-9220

To: Michigan DNR
Water Management Division
P.O Box 30028
Lansing, Michigan

Date: March 11, 1980

By: John Wise

Attn: Daniel Morgan, P.E

Project: Troy FIS

Project No.:

Contract No.: H-4705

Subject: CITY OF TROY FIS : HOUGHTON, STURGIS, LANE, SPENCER-BARNARD, AND SHANAHAN (E. OF HENRY GRAHAM)

Specification:

Drawing:

☐ Enclosed ☐ Sending Seperate Cover ☐ Receipt ☐

For Your: ☐ Approval ☐ Corrections ☐ Comments ☐ Use ☐ File

| Quantity | Description | Sheet No. | Date | Action |
|---|---|---|---|---|
| 1. | Starting elevation report for drains tributary to Henry Graham Drain (Houghton, Shanahan Sturgis, + Spencer-Barnard) | | Houghton/Shanahan E. of H. Gr | |
| 2. | Hydraulic Reports and 100 year profiles for Houghton, Sturgis, Lane, and Spencer-Barnard Drains (reports include any revisions to hydrology) | | | |
| 3. | Photographs, bridge sketches, and cross sections for above mentioned drains | | | |
| 4. | Computer Output (100 year Floodway; 10, 50, 100 + 500 year Flood elevations, 100 year convergence, + 100 year sensitivity) for above mentioned drains. | | | |
| 5 | Two (2) prints of Abram's Aerial Survey topographic map with 100 year Floodways, along with partial delineation of 100 year Floodplain and shallow Flooding areas (see specific hydraulic reports), for above mentioned drains. One map is to be used for Spencer-Barnard review, and the other for Houghton, Sturgis, + Lane Drain review. Two maps were sent as overlays had to be used. Copy of Lane Drain 100 year floodway west of Livernois. | | | |
| 6 | Henry Graham Drain plans | | | |

A - Approved AN - Approved as Noted RR - Revise & Resubmit NA - Not Approved

CC

mps

CITY OF TROY FLOOD INSURANCE STUDY

Starting Elevations in Drains Tributary to Henry Graham Drain

Henry Graham drain is tributary to the Red Run Drain. Outflow from Henry Graham is restricted to 800 cfs when the elevation in Red Run reaches a predetermined point. This restriction will cause Henry Graham Drain to back up and overflow through the Spencer-Barnard Drain and Hawthorn Drain entrances.

The following 100 year flows have been determined for the Henry Graham tributaries:

| | |
|---|---|
| Houghton Drain (upstream end of Henry Graham) | 600 cfs |
| Shanahan Drain (6700 feet further downstream) | 560 cfs |
| Sturgis Drain (4600 feet further downstream) | 1030 cfs |
| Hawthorn Drain (2200 feet further downstream) | 680 cfs |
| Spencer-Barnard Drain (2400 feet further downstream) | 1900 cfs |

The outlet of the Henry Graham Drain is another 9200 feet downstream. Hawthorn Drain is currently being enclosed, and therefore is being deleted from detailed study. The existing open drain entrance to Henry Graham Drain is expected to be left in existence. Therefore back up flow from Henry Graham Drain will still be able to escape at this particular junction.

The expected hydraulic gradeline elevation in Henry Graham Drain at the Hawthorn Drain existing entrance due to the Henry Graham Drain back up is expected to be about 636.5, allowing about 1 foot of overland flow depth. The hydraulic gradeline elevation at the Shanahan Drain entrance in Henry Graham Drain is expected to be about 639.0. Considering a Manning roughness of 0.015 in the

14'-3" x 14'-3" Henry Graham Drain, a hydraulic gradeline slope of .0004, the capacity in Henry Graham Drain is expected to be about ~~2110~~ 950 cfs in this reach (Shanahan Drain to Hawthorn Drain). The hydraulic gradeline elevation at the Houghton Drain entrance in Henry Graham Drain is expected to be about 642.5, and with the gradeline elevation at the Shanahan Drain entrance in Henry Graham Drain being about 639., the resulting hydraulic gradeline slope is .0005. The capacity in Henry Graham is expected to be ~~1800~~ 680 cfs in this reach. (Henry Graham in this reach is a 12 foot by 12 foot box culvert).

With the above capacity in Henry Graham, it is expected that the flows from Houghton Drain, Shanahan Drain, and Sturgis Drain will be able to get into Henry Graham Drain, considering the fact that the timing of the peaks will not be simultaneous.

HOUGHTON DRAIN:

The expected hydraulic gradeline elevation in Henry Graham Drain at the upstream end is about 642.5. The entrance to Henry Graham Drain is a 5 foot by 14 foot vault with a bar screen covering it. The loss expected across the vault and bar screen is expected to be about 2 feet (velocity head of about 1.1 feet and loss coefficient of about 1.7). Normal depth is computed to be 5.3 feet at an elevation of 645.4, and therefore expected to be a reasonable starting elevation.

SHANAHAN DRAIN:

The expected hydraulic gradeline elevation in Henry Graham Drain at this point is about 639.0. The entrance to Henry Graham Drain is a 5 foot by 12 foot vault with a bar screen covering it.

The loss expected across the vault and bar screen is expected to be about 3.7 feet (velocity head of about 2.5 feet and loss coefficient of about 1.5). Normal depth is computed to be 6.8 feet at an elevation of 642.4, and therefore expected to be a reasonable starting elevation.

STURGIS DRAIN:

The expected hydraulic gradeline elevation in Henry Graham Drain at this point is 638., which is the ground elevation above the Henry Graham Drain. The entrance from Sturgis Drain to Henry Graham Drain is a 3850 foot long enclosure called Douglas Drain. This is a 12 foot by 12 foot box enclosure. The invert elevation of Douglas Drain at Henry Graham Drain is 613.2. (Invert elevation in Henry Graham Drain is 671.8). The invert of Douglas Drain at the upstream end is 624.45. The channel invert in Sturgis Drain at the Douglas Drain entrance is 636.4. There is a 12 foot long by 25 foot wide vault at the entrance. The hydraulic gradeline slope is 0.0012 for a flow of 1030 cfs. This results in a head loss of about 4.75 feet through the Douglas Drain. The hydraulic gradeline elevation at the upstream end of Douglas Drain will therefore be about 642.75. The area of Douglas Drain is the limiting factor where the entrance loss is concerned (area of Douglas Drain is 144 squre feet as opposed to the vault area of 300 square feet). A bar screen is located across the top of the vault. The expected entrance loss is 1.4 feet (velocity head of about 0.8 feet and loss coefficient of about 1.75). The hydraulic gradeline elevation in the channel must therefore be approximately 644.15. Normal depth is computed to be 8.3 feet at an elevation of 644.7, and therefore is expected to be a reasonable starting elevation.

Spencer-Barnard Drain:

The starting elevation at Spencer-Barnard Drain is dependent on the overflow conditions at this point caused by the back up of flow in Henry Graham Drain. It is assumed that 800 cfs will be able to enter the Henry Graham Drain at this point and outlet to Red Run Drain. The remaining flow will back up and flow over the new subdivision road as weir flow. The weir flows expected over the new subdivision road, along with the calculated starting elevations, are as follows:

| | | | | |
|---|---|---|---|---|
| 10 year | - | 300 cfs | - | 634.8 |
| 50 year | - | 800 cfs | - | 634.9 |
| 100 year | - | 1100 cfs | - | 635.2 |
| 500 year | - | 1800 cfs | - | 635.5 |

The weir equation used in the above calculation is:

$$Q = CL\,H^{3/2}$$

with

$C = 3.0$

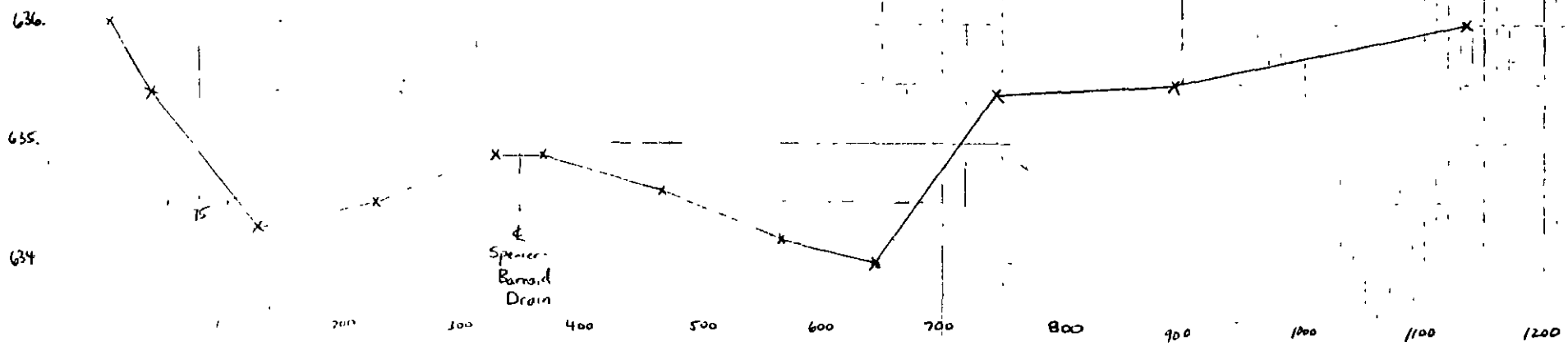
$L = 650$ feet

The weir used appears in the following figure.

MUD-FIA H-4705 T-06

TROY - SPENCER-BARNARD DRAIN

Milverton Rd Profile at Spencer-Henry Graham Drain Junction



# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Houghton Drain downstream of Henry Graham

STUDY LIMITS: Confluence with Shanahan Drain (D/S limit) to just upstream of Wattles Rd. (u/S limit). Note: Houghton Drain is enclosed u/s Wattles Rd. and d/s Henry Graham.

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 6/18/79 - 7/10/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. Flows have been revised and are attached.

TOPOGRAPHIC INFORMATION: USGS topographic maps; contours. 1"=400'-2 ft. Interval by Abrams. contour.

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:
Channel "n" 0.060
Overbank "n" 0.10
n values thru bridges .025
Contraction Coefficients 0.15-0.3
Expansion Coefficients 0.35-0.5

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. This was assumed since it is expected that Houghton Drain would be peaking sooner than the main channel, Shanahan Drain. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot. This two ft. difference converged to a 0.27 ft. difference at the first field measured section 1200 ft. upstream of the confluence.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation).

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood plain elevations and (iii) convergence and, sensitivity analysis for your review.

## Comments

The final delineation of the 100 and 500 year flood plains will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile). However, to aid in the review process an approximate 100 yr. has been delineated at this time.

Shanahan and Houghton Drain overflow hydrology

Field information and hydraulic computations have shown that the original hydrologic estimates should be revised.

Hydraulic computations have shown that the Houghton Drain upstream of Henry Graham Drain and the Gibson Drain upstream of Post Road will overflow to the area bounded by Wattles Road, Post Road, Gibson Drain, and Henry Graham Drain. This will cause increased flow into the old Houghton Drain. However, field information has shown that the old Houghton Drain between Wattles Road and the Henry Graham Drain has been filled.

Since the Gibson and Houghton Drain overflows will be coming much later than the local and retention pond runoff, and since overland flow will signficantly attentuate them, it is not expected that they will significantly add to the peaks downstream of Wattles Road. Furthermore, the retention pond overflow and local runoff would be attentuated due to the overland flow route.

Therefore, an effective population density of 1500 persons per square mile seems more appropriate to use.

From the Shanahan Drain, it was expected that some overflow would occur during the 100 and 500 year events. Hydraulic computations have shown that the flow should be able to enter Henry Graham Drain without any significant overflow. Furthermore, the overflow from a retention pond right at the Henry Graham Drain and Shanahan Drain junction should be able to enter the Henry Graham Drain.

A table of revised flows is attached.

CONSULTING ENGINEERS SUBJECT TROY TOG

COMPUTED BY VPK DATE 2/4/80

Revised hydrology - northern overflows

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| Dequindre to confluence Q = | 200 | 310 | 400 | 560 |
| Old Shenaton Q = | 150 | 200 | 340 | 500 |
| Old Houghton Q = | 110 | 170 | 200 | 280 |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 1003.5 | 3 | Repeat of 1004 |
| 1004 | 4 | Developed from 2' topo and sec. 1005.2 |
| 1004.5 | 3 | Repeat of 1004 |
| A 1005.2 | 2 | O'bank on left modified due to bldg. |
| 1005.3 | 4 | Face section developed from field info. |
| B 1005.7 | 3 | Repeat of 1005.3 |

COMMUNITY: TROY

WATERCOURSE: HOUGHTON DRAIN E. OF HENRY GRAHAM

## TABLE 3 - XKOR CALCULATIONS

$$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 \ell}{R^{4/3}} \qquad R = \frac{A}{P}$$

| Cross Section Location | $K_e$ | A | P | R | n | $\ell$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1065 WATTLES RD | 0.9 | 32 ft² | 32 ft | 1.0 | 0.025 | 42 | 0.76 | 2.66 | 2: 5.5' Φ CMP FILLED 2' WITH SEDIMENT. ASSUME SEDIMENT REMAINS. |

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Shanahan Drain downstream of Henry Graham

STUDY LIMITS: Dequindre Rd. (D/S limit) to Henry Graham Drain (u/s limit)

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 6/18/79-7/10/79 - McNamee, Porter and Seeley field crew.

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. Flows have been revised and are attached.

TOPOGRAPHIC INFORMATION: USGS topographic maps; contours. 1"=400' 2 ft. contour interval by Abrams

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | 0.060 |
| Overbank "n" | 0.065-0.10 |
| n values thru bridges | 0.020 |
| Contraction Coefficients | 0.2-0.5 |
| Expansion Coefficients | 0.4-1.0 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section I- plots enclosed due to many cross-sections being modified using X4 cards.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

The Shanahan Drain is tributary to the Big Beaver Creek. Prior to construction of the Henry Graham Drain, the tributary area at Dequindre was about 14 square miles. After construction of the Henry Graham Drain, the area directly tributary to Big Beaver Creek was reduced to less than two square miles. A subdivision was then built east of Dequindre Road over the old drain. An enclosure was provided to carry the remaining flow beneath the subdivision. We were unable to obtain plans of the subdivision and the drainage provided.

During the 100 year event, the areas tributary to the Henry Graham Drain will provide some flow to the old channel (see hydrology write-up). Since the builders of the subdivision thought that the area was less than 2 square miles, it is not expected that the enclosure would provide much capacity relative to the 100 year flow. Therefore, it is expected that overland flow will control the starting elevation upstream of Dequindre Road.

Since no overland cross-section is available after the subdivision was built, it is expected that the profile of Dequindre Road would be a good approximation of the overland flow cross-section. A visit to the site confirmed that there were no large changes in elevation or serious constrictions that would violate this assumption. Normal depth calculations on the road are enclosed. A roughness of .06 was used.

For inputting the starting elevation to the HEC-2 model, a weir coefficient of 1.0 was used.

## HIGH WATER MARKS AND CALIBRATION

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation).

Computer Outputs

Enclosed are complete computer outputs for (i) and 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood plain elevations, convergence runs and (iii) sensitivity analysis for your review.

Comments

The delineation of the final 100 and 500 year flood plains will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. However, to aid in the review process an approximate 100 yr. floodplain has been delineated at this time.

At the Fernleigh road bridge (cross sections 1003.3-1003.7) the elevation of the low chord (ELLC) was lowered from 639.2 to 638.6 in order to correctly model pressure flow,

Convergence runs were made by changing the weir coefficient at Dequindre Rd. to 0.5 and 2.0. As mentioned earlier the weir coefficient used for the natural run was 1.0. The computed water surface elevations upstream of Dequindre Rd. were 636.1 and 637.0 (C = 2.0 and 0.5 respectively) and converged to within 0.1' of the natural run at Section 1002.1 approximately 2200 ft. upstream of Dequindre Rd.

Shanahan and Houghton Drain overflow hydrology

Field information and hydraulic computations have shown that the original hydrologic estimates should be revised.

Hydraulic computations have shown that the Houghton Drain upstream of Henry Graham Drain and the Gibson Drain upstream of Post Road will overflow to the area bounded by Wattles Road, Post Road, Gibson Drain, and Henry Graham Drain. This will cause increased flow into the old Houghton Drain. However, field information has shown that the old Houghton Drain between Wattles Road and the Henry Graham Drain has been filled.

Since the Gibson and Houghton Drain overflows will be coming much later than the local and retention pond runoff, and since overland flow will signficantly attentuate them, it is not expected that they will significantly add to the peaks downstream of Wattles Road. Furthermore, the retention pond overflow and local runoff would be attentuated due to the overland flow route.

Therefore, an effective population density of 1500 persons per square mile seems more appropriate to use.

From the Shanahan Drain, it was expected that some overflow would occur during the 100 and 500 year events. Hydraulic computations have shown that the flow should be able to enter Henry Graham Drain without any significant overflow. Furthermore, the overflow from a retention pond right at the Henry Graham Drain and Shanahan Drain junction should be able to enter the Henry Graham Drain.

A table of revised flows is attached.

JOB HUD-F-14 11-4703

CONSULTING ENGINEERS

SUBJECT TROY T06

COMPUTED BY VPK DATE 2/4/80

Revised hydrology - northern overflows

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| Dequindre to confluence | | | | |
| Q = | 200 | 310 | 400 | 560 |

Old Shonatan

| | | | | |
|---|---|---|---|---|
| Q = | 150 | 260 | 340 | 500 |

Old Houghten

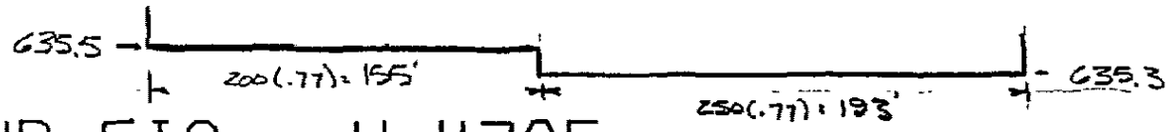
| | | | | |
|---|---|---|---|---|
| Q = | 110 | 170 | 200 | 280 |

KEY

— Cross section used to compute normal depth downstream of Dequindre

— Dequindre Rd. profile obtained by aerial survey.

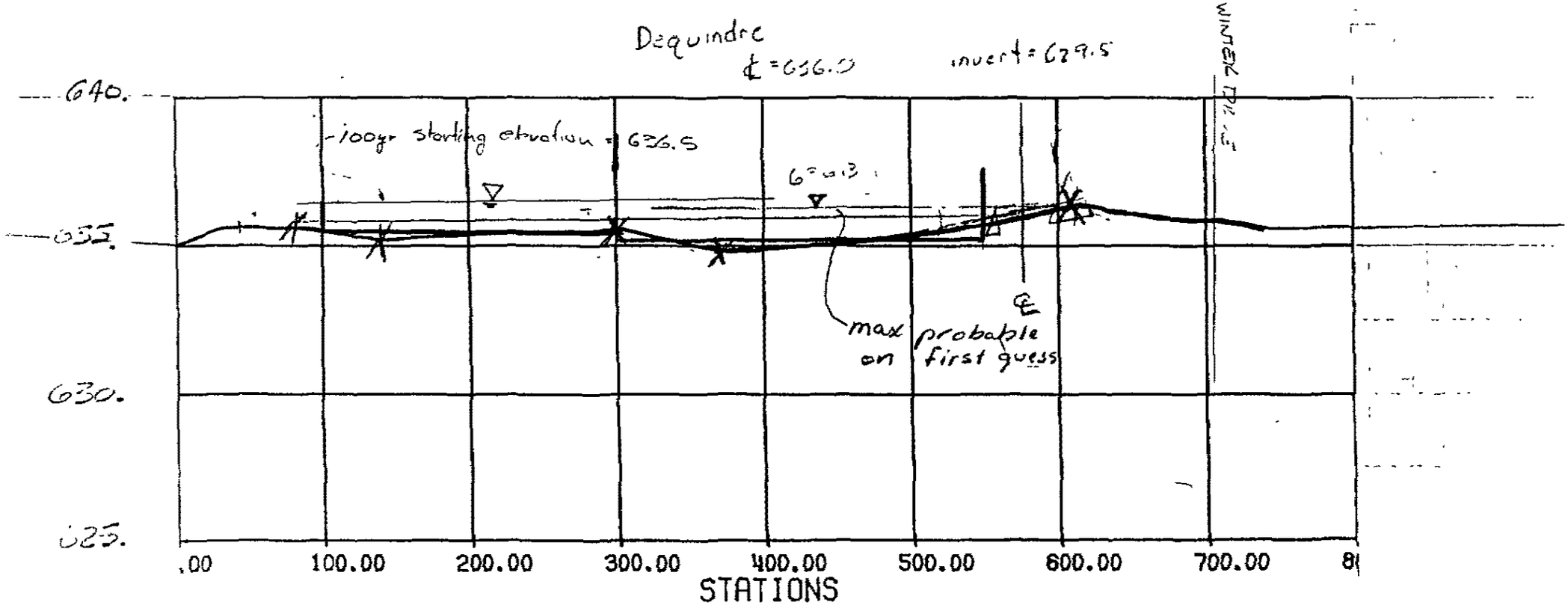
X BT points used to describe top of road points. Note: BT points were skewed 0.77 in the model




Manning 'n' used = 0.060
Overbank Slope = 0.0014

# HUD-FIA H-4705

## BIG BEAVER DRAIN SECTION 1000.00




... 0.77

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO. 4
COMMUNITY: FILE NO.
WATERCOURSE: DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD | Section No. | Section Type | Remarks |
|---|---|---|---|
| A | 1000.3 | | Face @ Dagwidne |
| | 1000.7 | | " " " |
| B | 1000.8 | 4 | Field surveyed section modified per 2' to improve alignment with major flows. |
| | 1001.3 | 4 | Face section - bldgs on ROB modeled. |
| C | 1001.4, 1001.6 and 1001.7 | 3 | All repeats of 1001.3 |
| D | 1001.8 | 2 | Bldgs on ROB modelled |
| E | 1001.9, | 3 | Repeats of 1001.8 but bldg on ROB not modelled. |
| | 1002.0 | 3 | Repeat of 1002.1 |
| F | 1002.1 | 1 | Built up berms approx. representative from photos and 2' topo. |
| | 1002.5 | 3 | Repeat of 1002.1 |
| | 1002.9 | 3 | Repeat of 1002.1 |
| G | 1003.2 | 1 | Floodway inside of bldgs d/s |
| H | 1003.3, 1003.7 | 3 | Repeat of 1003.2 - Faces & Tenleigh |
| I | 1003.8 | 1 | Section chopped @ bldgs on ROB |
| J | FOOTBRIDGE - NOT MODELLED | | |
| K | 1004 | 1 | Overbank n increased to account for bldg on ROB between 1002.9 and 1004 |
| | 1004.5 | 3 | Repeat of 1004 |

COMMUNITY :
WATERCOURSE :

TABLE - [illegible] CALCULATIONS

$XKOR = 1 + K_e + K_f$ . $K_f = \frac{29.\ell}{R^{4/3}}$ . R = A/P

| Cross Section Location | $K_e$ | A | P | R | n | $\ell$ | $K_f$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Dequindre (1000.3, 1000.7) | | | | | | | | 2.0 | Force was [illegible] by inputting E =1.0 due to enclosure. |
| Fernleigh (1003.3, 1003.7) | 0.3 | 28.3 | 88.5 | 1.5 | .020 | 34 | 0.23 | 1.53 | 6' ϕ RCP |

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland County, Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Spencer-Barnard Drain and Hawthorne Drain: East of Henry Graham Drain

STUDY LIMITS: Dequindre Road (downstream limit) to junction with Henry Graham Drive (upstream limit)

DATE OF AERIAL SURVEY: November 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/30/79 - 8/17/79 McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revision to Hydrology in August 1980 enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" = 1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | 0.05 - 0.075 |
| Overbank "n" | 0.075 - 0.094 |
| n values thru bridges | (See "Comments") |
| Contraction Coefficients | 0.1 - 0.5 |
| Expansion Coefficients | 0.3 - 1.0 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review,please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting conditions were determined by utilizing the Sterling Heights Flood Insurance Study computer data. Data was obtained for Spencer Drain in Sterling Heights extending from the confluence with Big Beaver Drain to just downstream of Dequindre Road, the downstream limit of study. This reach is approximately 4550 feet long. Starting elevations on this reach were obtained using the slope-area method. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%. The computer run showed convergence downstream of Dequindre Road. Starting elevations for Hawthorne Drain were interpolated from the computer results between cross sections 2750 and 3450 (see attached plan for Sterling Heights). The Hawthorne Drain analysis started just downstream of Dequindre Road. Starting elevations for Spencer-Barnard Drain were obtained from the computer results at the upstream cross section, number 5660 (see attached plan for Sterling Heights). The Spencer-Barnard Drain analysis started just downstream of Dequindre Road.

## High Water Marks and Calibration

There was no high water information available, therefore a calibration test was not possible.

## Designated Floodway

Engineering judgment along with the aid of encroachment methods 1 and 4 in the HEC-2 program were used to determine encroachment stations based on an allowable surcharge of 0.1 feet.

At field surveyed sections the designated floodway was established using the computer determined encroachment stations in conjunction with engineering judgment. Between field surveyed sections, available topographic information in conjunction with engineering judgment was used to complete the floodway. (See the enclosed 1" = 400' topographic map for floodway delineation.)

Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations, and (iii) convergence test and starting elevation determination for Spencer Drain in Sterling Heights for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 10, 50, 100 and 500 year natural computed water surface profiles).

We have designated an area east of Henry Graham Drain as shallow flooding. This area is bounded by Minnesota on the west, Wisconsin on the north, Dequindre on the east and Dashwood on the south. Some overflow from the Spencer-Barnard Drain is expected to get into this area. The majority of the flow will travel south over the top of Henry Graham Drain and get into the open channel east of the old Spencer-

Barnard entrance to Henry Graham Drain. Hand calculations were performed to determine floodway width and profile elevations over this overland route (See attached sheets). Various footbridges, noted in the cross section tables, were not modeled as no significant loss is expected to occur over them. All footbridges not modeled are submerged. (See attached field notes with bridge data). In addition, XKOR's for Dequindre (both drains) and a walk bridge on Spencer-Barnard were estimated and not calculated as these bridges are submerged and minimal flow is expected through the culverts. Lovington Road on Spencer-Barnard was modeled as a weir by eliminating area below the top of the road. Minnesota was modeled as a normal bridge and included the opening. In modeling the latter two roads, homes were taken into account as ineffective flow area by modeling them at the appropriate cross sections upstream and downstream of the roads.

## Overflows from Henry Graham Drain through the Old Spencer and Hawthorne Drains

Because of revisions to the hydrology on the drains tributary to the Henry Graham, the overflow hydrology also had to be revised. The effect of the population density reductions for the individual drains was to reduce the overall Henry Graham Drain effective population density to 2500 persons per square mile. As had been done previously, the Henry Graham overflow hydrograph was computed by assuming that the gates close when the Red Run Drain is flowing at greater than 6400 cfs. The overflow hydrograph was routed through the storage available near the overflow outlet to determine the peak flow rates that would be seen in the overflow channels. The 100 year hydrographs for Red Run and Henry Graham are shown in Figure 1. The peak overflow rates and the routed values are shown in Table 1.

In meetings with the DNR, the question was raised if using an overall population density for the Henry Graham Basin is applicable, since the Spencer-Barnard Drain has a high effective population density and possibly could peak earlier than the Red Run Drain, thereby reducing the amount of flow during the period when the gates would be closed. To get an idea of the magnitude of the possible change this might make, separate unit hydrographs were drawn for 6 basins. The parameters used are shown in Table 2. Using these separate unit hydrographs, an overall 100 year hydrograph was computed and is shown in Figure 2 with the Red Run hydrograph. The Shanahan and Houghton Drain hydrograph was translated 1 hour and the Sturgis and Lane Drain hydrograph was translated 1/2 hour.

It can be seen that the unrouted overflow hydrograph peak would be about 2700 cfs. Although routing would substantially lower the peak rate, it is not expected that the final outflow would be much less than the flow of 2120 cfs computed using just the overall unit hydrograph. Therefore, the calculations based on using an overall hydrograph are considered reasonable for use for the Troy FIS.

For developing the flow split between the old Hawthorne and Spencer channels downstream of Henry Graham, approximate flow schematics were made for the 10, 50, 100 and 500 year events to represent the time of peak overflow rates to the old channels. These are shown in Figures 2-5. Using rating curves developed for the downstream channels, losses were developed through the enclosures to a common point just upstream of the old Hawthorne Drain entrance to Henry Graham. Computations are included. Losses were also computed back to each of the tributaries to see if a backwater condition might exist at the entrance to Henry Graham. The only drain affected by this condition was found to be Spencer-Barnard Drain. A small additional backwater effect will therefore be shown on the profile. A summary of the overflow rates is shown in Table 3.

HUD - FIA H-4705
TROY TOG
MPG 1/28/80

# TABLE 1

RESULTS:

Routing of Heavy Gradient Flows @ Red Run Drain

Area = 12.2 $mi^2$
$P_d$ = 2500 pers/$mi^2$

TOTAL HYDROGRAPHS

| | 10 YR | 50 YR | 100 YR | 500 YR |
|---|---|---|---|---|
| Peak before routing cfs | 940 | 1740 | 2160 | 3120 |
| Peak after routing cfs | 918 | 1385 | 2118 | 3076 |

TROY TOG
OVERFLOW HYDROGRAPHS
VPK 7/23/80

TABLE 1.

| | | | |
|---|---|---|---|
| 1) | $A = 4.2\ mi^2$ | $P_d = 4500$ | Spencer - Barnard |
| 2) | $A = 1.0\ mi^2$ | $P_d = 4100$ | Hawthorne |
| 3) | $A = 5.2\ mi^2$ | $P_d = 1800$ | Sturgis - Lane |
| 4) | $A = 4.0\ mi^2$ | $P_d = 2300$ | Shanahan & Houghten |
| 5) | $A = 1.6\ mi^2$ | $P_d = 2300$ | d/s portions of southern 3 |
| 6) | $A = 2.2\ mi^2$ | $P_d = 2500$ | other minor portions |

$A = 18.2$

HUD-FIA 11-1705
[illegible]
VII 2/1/80

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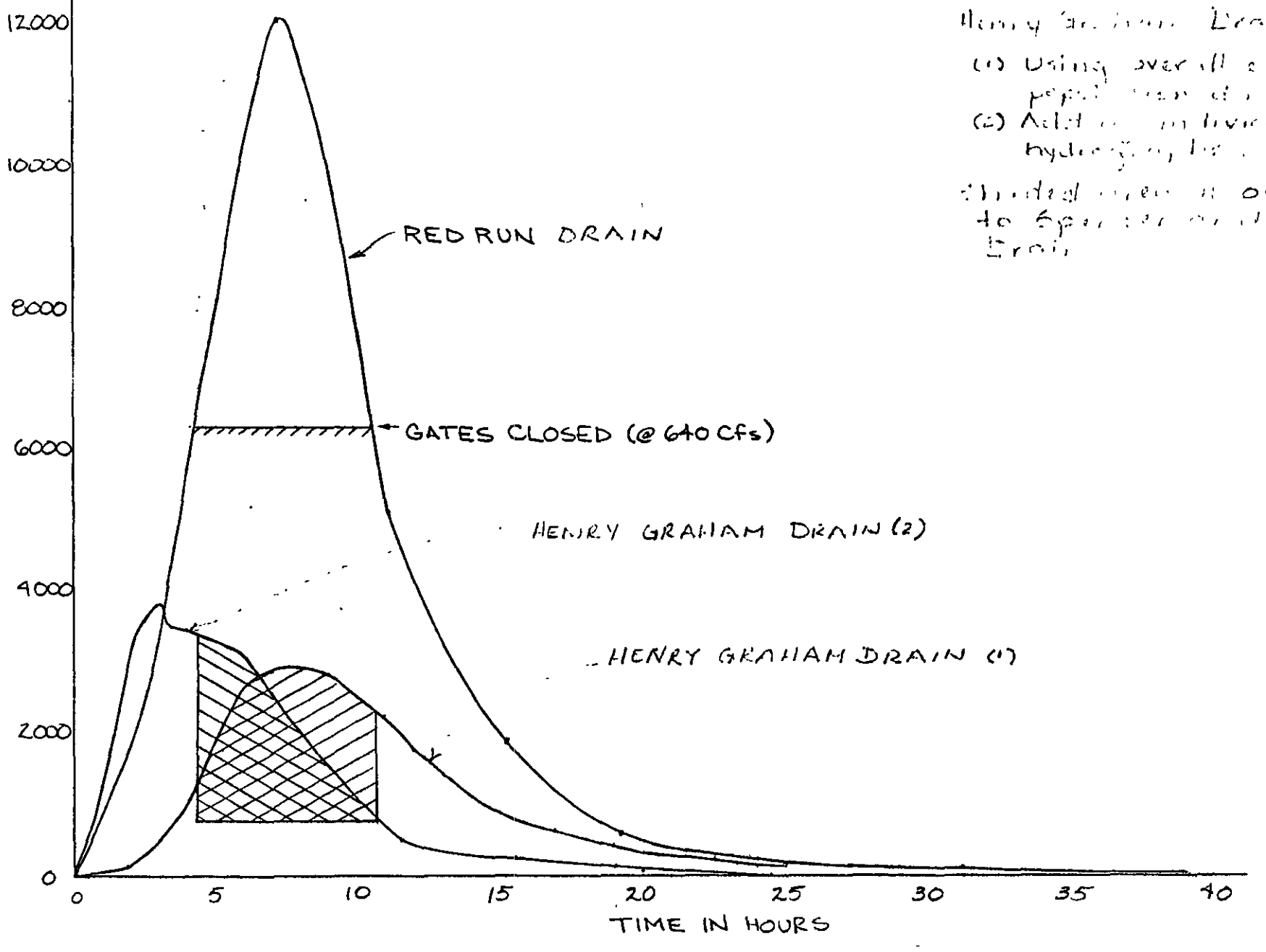
TABLE 3

[illegible]

| | 10 Yr | 50 Yr | 100 Yr | 500 Yr |
|---|---|---|---|---|
| [illegible] from [illegible] to Dequindre Rd. | 390 | 500 | ~~600~~ 520 | 790 |
| [illegible] from [illegible] to Dequindre Rd. | 530 | 890 | ~~1520~~ 1600 | 2290 |

FIGURE 1




Henry Graham Drain
(1) Using overall effective population density
(2) Adjusted for individual hydrography
Shaded area is overflow to Spencer and Hawthorne Drain

HUD-FIA 11-4705
CITY OF TROY FIG

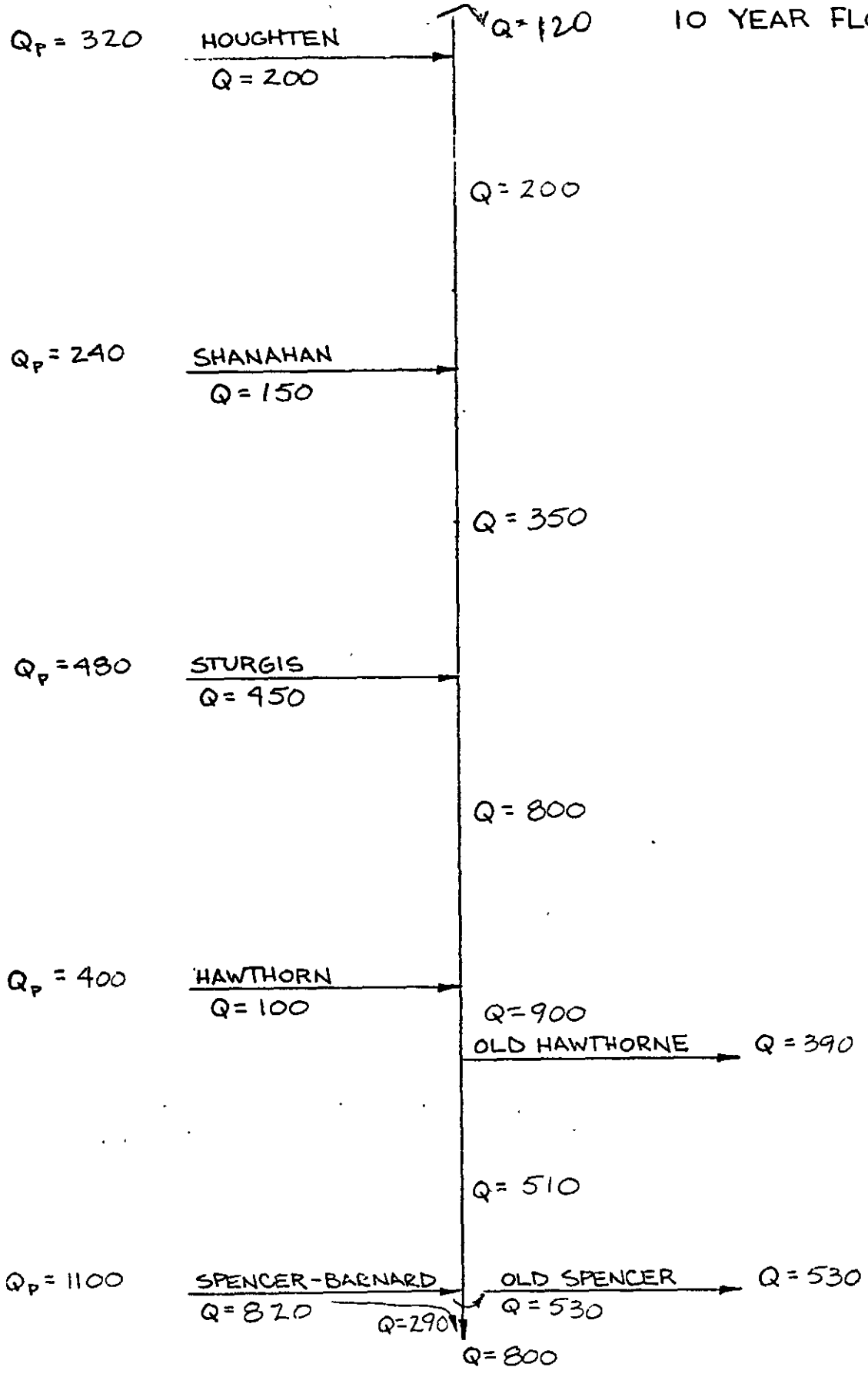


57

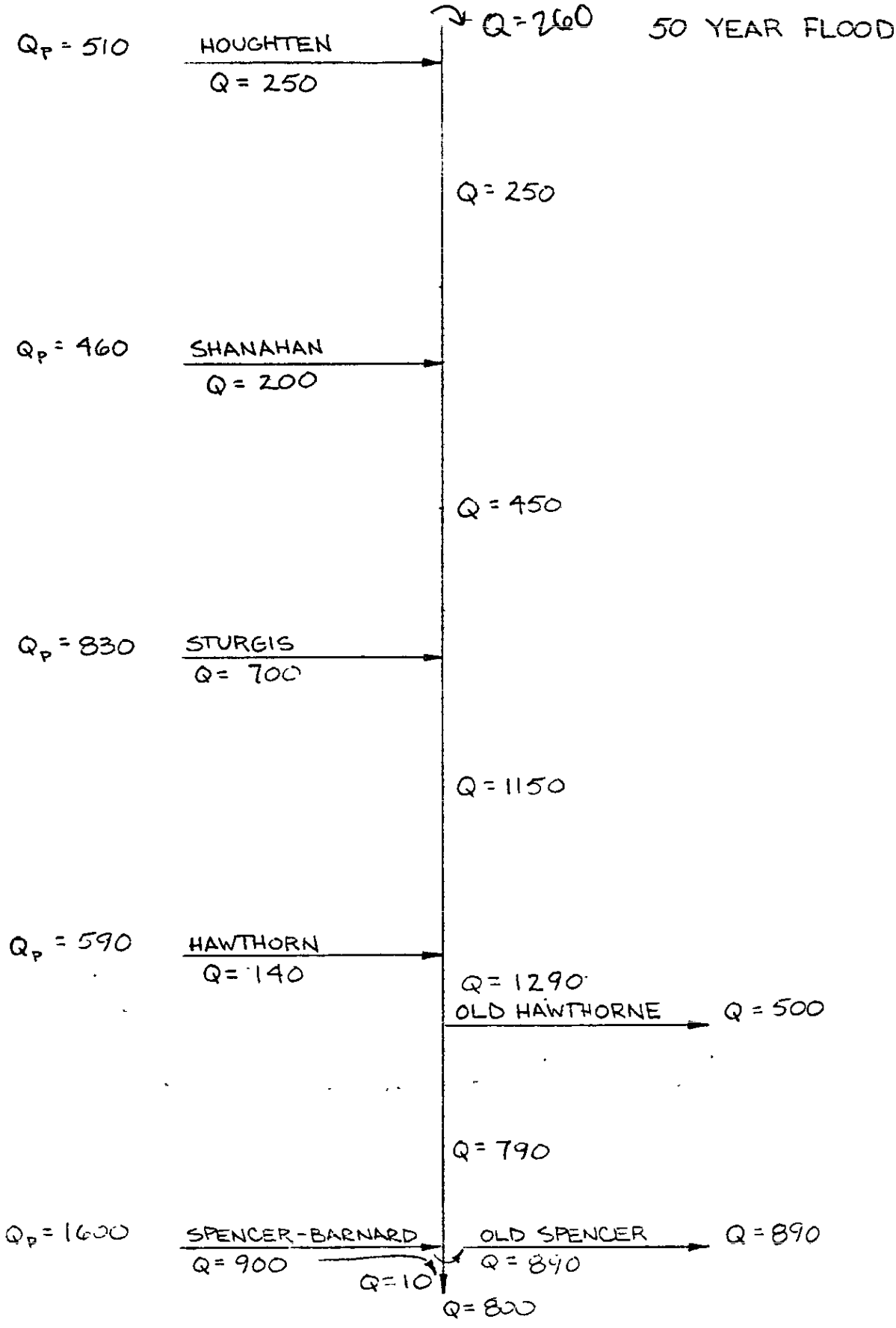
Fig. 2

OVERALL HENRY GRAHAM DRAIN PEAKING

10 YEAR FLOOD



OVERALL HENRY GRAHAM DRAIN PEAKING



# OVERALL HENRY GRAHAM DRAIN PEAKING

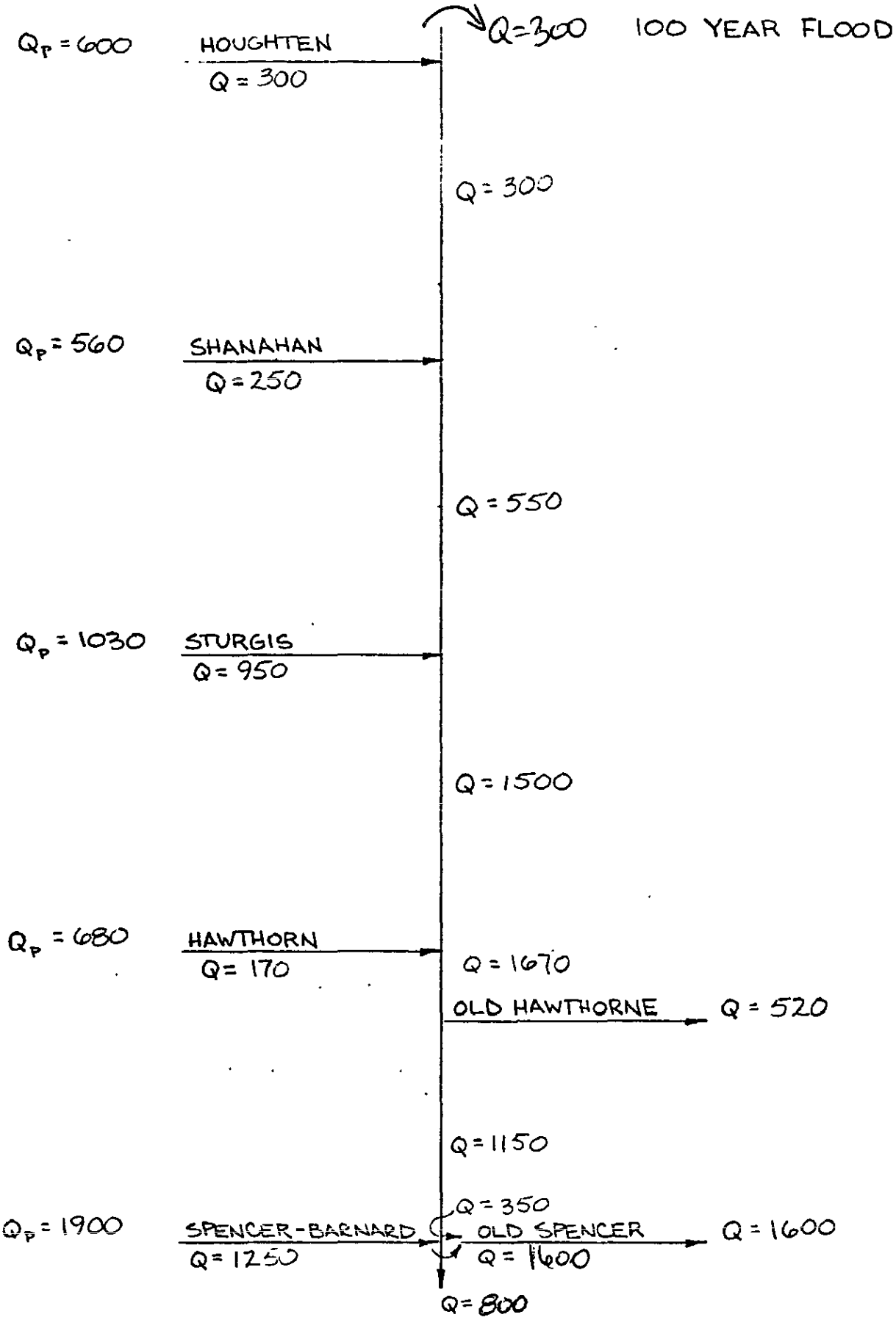
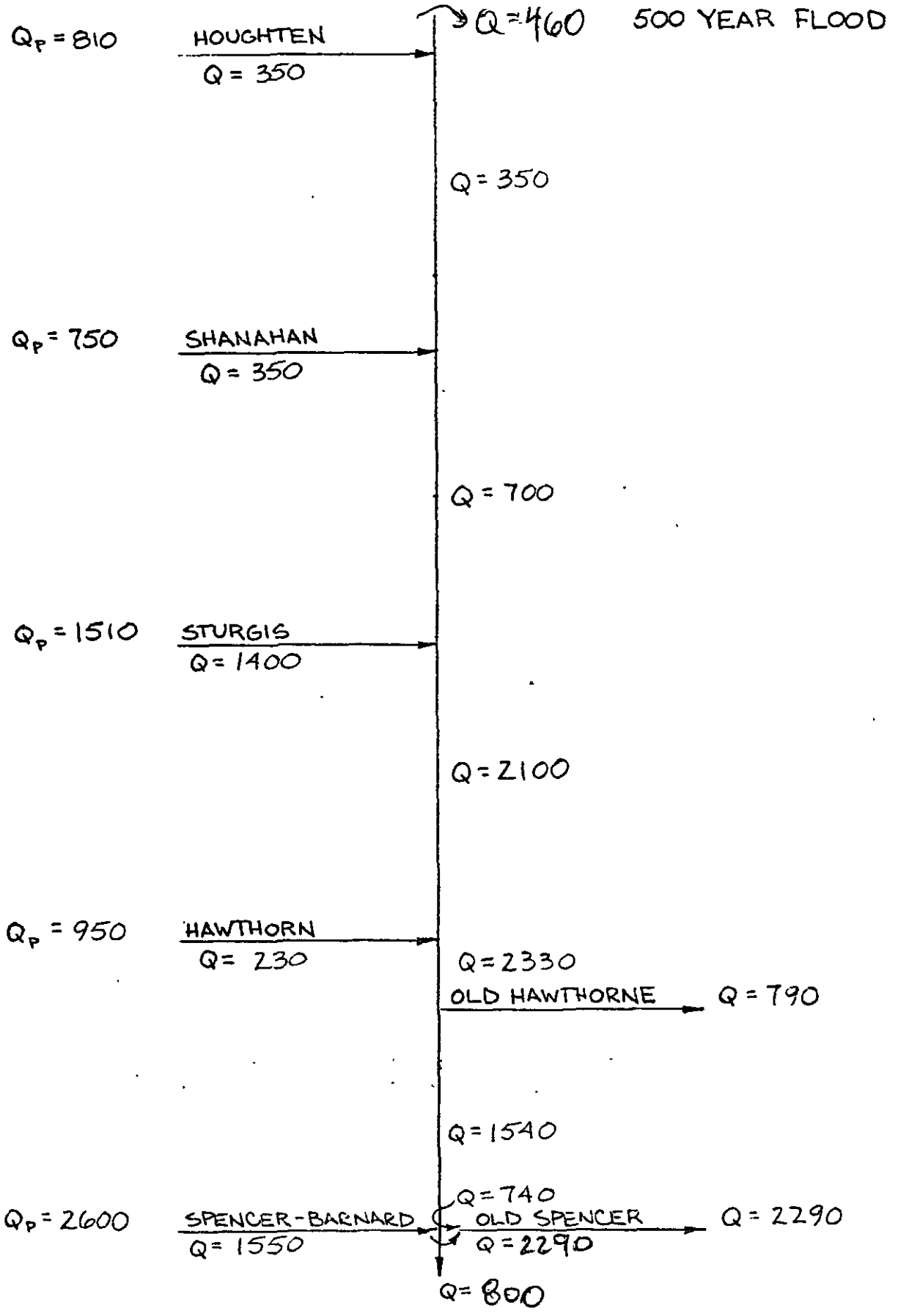


Fig. 5

OVERALL HENRY GRAHAM DRAIN PEAKING



Computing rating curve for Spencer-Rancord overflow, corrected back to just upstream of the Hawthorne Drain.

| | $Q_1$ (cfs) (old Spencer) | Elev. | Henry Gr exit loss (ft) $Q_2 = Q_1 - 1250$ | | Henry Gr. friction loss $Q_3 = Q_2 - 1500$ | | Elev. @ Hawth |
|---|---|---|---|---|---|---|---|
| 100 yr | 1500 | 635.4 | (250 cfs) | .1 | (1050 cfs) | 1.2' | 636.7 |
| | 1750 | 635.5 | (500) | .2 | (1300) | 1.8 | 637.5 |
| 500 yr | 2250 | 635.6 | (700) | .4 | (1500) | 2.4 | 638.4 |

Starting elevations

original Δh Hawth to new Hawth entrance

ΔL = 1100' Q = 1670 cfs => 1.4' loss

Elev. = 637.6

Δh new Hawth to Douglas

ΔL = 1150' Q = 1500 cfs => 1.4' loss

635.0 Elev. = 639.0

Δh Douglas to Shan.

ΔL = 4600' Q = 550 cfs => 0.6' loss

639.0 Elev. = 639.6

Δh normal depth to prev. H.G. calc. = .65'

Δh Shan to Hough

Δh = 0.5' (from previous)

Δh normal depth to prev. H.G. calc. = -0.3'

642.5 Elev = 642.1

From Henry Graham peaking condition, work back to tributary "back-up" elevation.

Sturgis $\Delta h$ from H.G to open channel, through Douglas Drain

$$\Delta h = \left(\frac{950}{1030}\right)^2 \times 6.15' = 5.2'$$

Elev. = 644.2

Start elev. used = 644.7 OK - no change

Shanahan $\Delta h$ from H.G. to open channel

$$\Delta h = \left(\frac{250}{560}\right)^2 \times 3.7 = 0.7'$$

Elev. = 640.3

Start elev used = 642.2 OK - no change

100 Year

say $Q_{HAMTH} = 600$ cfs  Elev. = 636.8

$\Rightarrow Q_{SPEN-BRIDGE} = 1520$ cfs  Elev = 635.4

$Q_{EVIT.\ LOSS} = 270$ cfs  $\Delta h = \frac{\left(\frac{270}{1471}\right)^2}{2g} = .1'$

$Q_{IN\ H.G.} = 1070$ cfs  $\Delta h = 1.3'$

$\Rightarrow$ Elev. = 636.8 OK

50 Year

say $Q_{HAWTH}$ = 450 cfs  Elev. = 635.6

=> $Q_{SPENCE\ BARN.}$ = 940 cfs  Elev. = 635.1

$Q_{IN\ H.G}$ = 540 cfs  $\Delta h$ = 0.9'

say $Q_{HAWTH}$ = 500 cfs  Elev. = 635.9

=> $Q_{SPENC\cdot BARN}$ = 890 cfs  Elev = 635.1

$Q_{IN\ H.G}$ = 790 cfs  $\Delta h$ = 0.7'  OK

10 Year.

say $Q_{HAWTH}$ = 390 cfs  Elev = 635.1

=> $Q_{SP.\ BA}$ = 530 cfs  Elev = 634.8

$Q_{IN\ H.G.}$ = 510 cfs  $\Delta h$ = 0.3'  OK

500 Year

say $Q_{HAWTH}$ = 790 cfs  Elev = 638.5

=> $Q_{SP\ B.A.}$ = 2290 cfs  Elev = 635.6

$Q_{ENT}$ = 740 cfs  $\Delta h$ = .5'

$Q_{IN\ HG}$ = 1540 cfs  $\Delta h$ = 24'  OK

Note: Henry Gr. exit loss taken as 1.0 hv at Hawthorne and Spen-Barn. Drains. Spen-Bar. Drain started from subdivision rd. weir equation.

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY: TROY
WATERCOURSE: SPENCER DRAIN - East of Henry Graham Drain

FILE NO. 66
COMPUTED BY ____ DATE ____ CHK BY ____ DATE ____

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Aerome) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remar |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 0 | | Cross Sections Data in Sterling Heights (east of Dequindre Rd.) were obtained from Johnson & Anderson, Inc. Pontiac, Michigan, who performed the Flood Insurance Study in Sterling Hts. |
| 700 | A | |
| 743 | | |
| 785 | | |
| 816 | B | |
| 995 | | |
| 996 | | |
| 1004 | C | |
| 1005 | | |
| 1314 | | |
| 1616 | D | |
| 1280 | | |
| 1320 | E | |
| 1493 | | |
| 1494 | | |
| 1506 | F | |
| 1681 | | |
| 1682 | | |
| 1718 | G | |
| 1719 | | |
| 1800 | H | |
| 1849 | | |
| 1850 | | |
| 1865 | I | |
| 1866 | | |
| 2750 | J | |
| 3450 | K | |
| 3950 | L | |
| 4550 | M | |

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CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

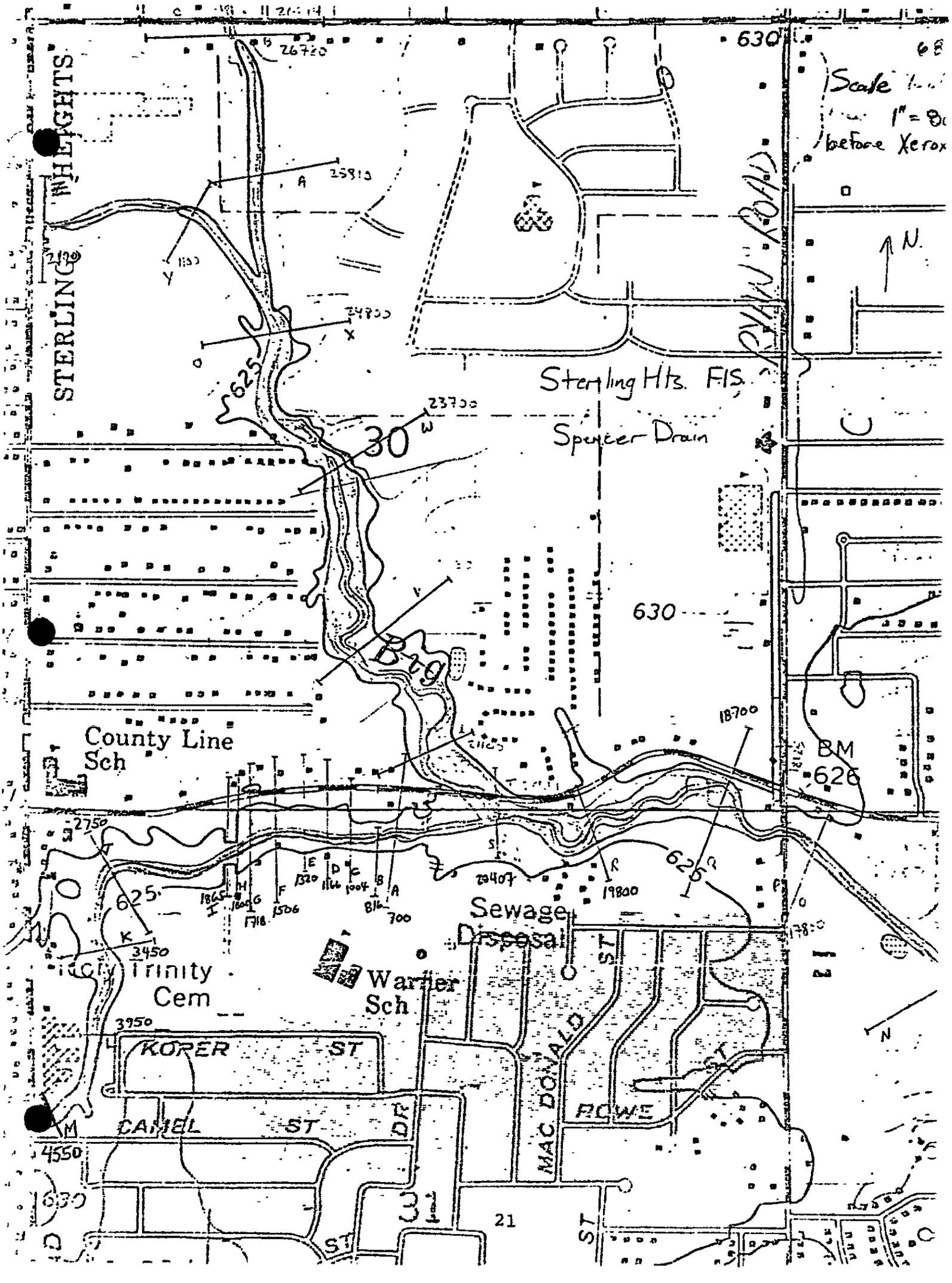
JOB: HUD-FIA H-4705
COMMUNITY: TROY
WATERCOURSE: SPENCER DRAIN - East of Henry Graham Drain

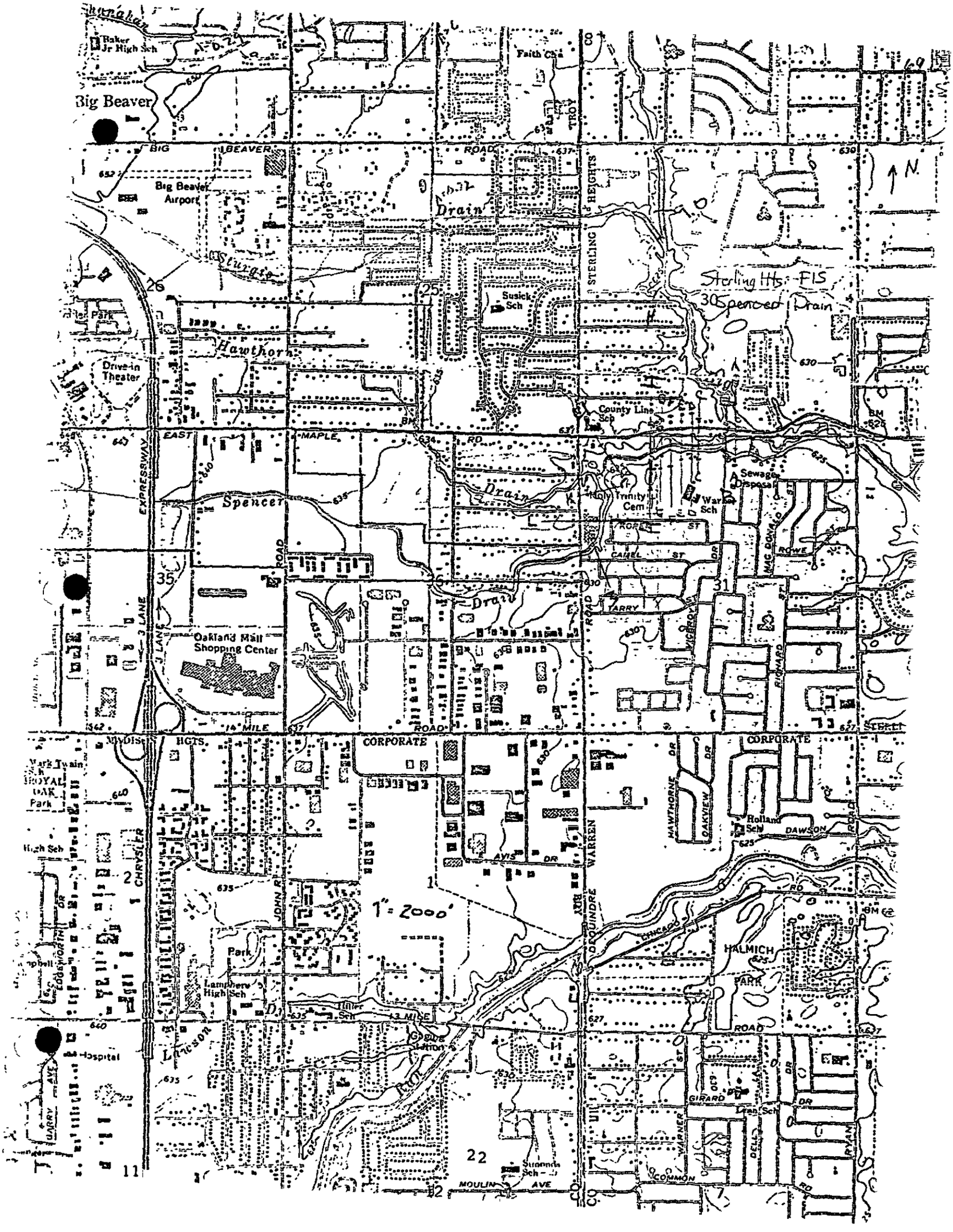
FILE NO. 67
DATE ____ CHK. BY ____ DATE ____

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remar |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| Section No. | | Section Type | Remarks |
|---|---|---|---|
| 800.2 | | 1 | Valley Section |
| 800.3 | | 3 | D/S Face Deguindre Rd - Repeat 800.2 |
| 800.7 | A | 3 | U/S Face Deguindre Rd - Repeat 800.8 |
| 800.71 | | 3 | Valley Section - Repeat 800.8 |
| 800.72 | | 3 | D/S Face Sidewalk Culvert - Repeat 800.8 |
| 800.73 | B | 3 | U/S Face Sidewalk Culvert - Repeat 800.8 |
| 800.714 | | 3 | Valley Section - Repeat 800.8 |
| 800.8 | C | 1 | Valley Section |
| 800.9 | | 3 | Valley Section - Repeat 800.8 |
| 801.2 | D | 1 | Valley Section |
| 801.3 | | 4 | Valley Section - Repeat 801.2 - Modified to include buildings obstructing flow area. |
| 801.4 | | 3 | Valley Section - Repeat 801.2 |
| 801.5 | | 4 | D/S Face Lorington - Developed from Bridge Details - Opening not modeled as flow area is insignificant. |
| 801.55 | E | 4 | U/S Face Lorington - Repeat 801.5 |
| 801.59 | | 3 | Valley Section - Repeat 801.8 |
| 801.6 | | 3 | Valley Section - Repeat 801.8 |
| 801.7 | | 4 | Valley Section - Repeat 801.8 - Modified to include buildings obstructing flow area. |
| 801.8 | F | 1 | Valley Section |
| 801.9 | | 3 | Valley Section - Repeat 802.2 Roadway bridges not modeled. |
| 802 | G,H,I,J K | 1 | Valley Section |
| 802.2 | | 3 | Valley Section - Repeat 802 |
| 802.4 | | 3 | Valley Section - Repeat 802 |
| 802.6 | | 3 | Valley Section - Repeat 802 |


STERLING HEIGHTS
Scale
1" = 80
before Xerox
N.
Sterling Hts. F.I.S.
Spencer Drain
630
625
30
B-9
County Line
Sch
BM
626
Sewage
Disposal
Warner
Sch
Holy Trinity
Cem
KOREN ST
CAMEL ST
DR
MAC DONALD
ROWE
ST
31
21


Big Beaver
Baker Jr High Sch
Faith Ch
TROY
BIG BEAVER ROAD
Big Beaver Airport
Sturgis Drain
STERLING HEIGHTS
N.
Sterling Hts. FIS
Spencer Drain
Susick Sch
Hawthorn
Drive-in Theater
County Line Sch
EAST MAPLE RD
EXPRESSWAY
Spencer Drain
Holy Trinity Cem
Sewage Disposal
War Sch
ROBERT ST
CAMEL ST
MAC DONALD ST
ROWE
Drain
TARRY
MCGROVE
RICHARD
Oakland Mall Shopping Center
14 MILE ROAD
STERLING
MADISON HGTS.
CORPORATE
Mark Twain Sch
ROYAL OAK Park
High Sch
CHRYSLER
JOHN R
AVIS DR
WARREN
DEQUINDRE
HAWTHORNE DR
OAKVIEW DR
Rolland Sch
DAWSON RD
1" = 2000'
Park
Lamphere High Sch
Miller Sch
13 MILE ROAD
Grove Station
CHICAGO
HALMICH PARK
Hospital
LARRY AVE
GIRARD
Lash Sch
WARNER ST
DELL DR
RYAN RD
COMMON
Stronach Sch
MOULIN AVE
11
12
22
25
26
30
31
35
36

HUD-FIA H-4705
TROY

JSW
8/4/80

# Overflow at Barnard Drain

Overflow from new entrance to Henry Graham Drain to open drain on east side of Henry Graham Drain.

slope $\frac{632.4 - 628}{900'} = .005$ (invert from sub plans; inv from Field data)

Assume width $\approx 200'$ $n \approx .055$

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Assume Depth = 1'
Area = 200 ft²
Perimeter = 202'

Q = 400 cfs
width = 250'

y = 1' P = 252 A = 250 Q = 480 cfs
(n = .04 → 660)
(n = .03 → 880)

y = 2' P = 254 A = 500 Q = 1505
(n = .04 → 2070)
(n = .03 → 2760)

y = 2.2 P = 254.5 A = 550 Q = 1760

Try with D/S invert from sub plans.

$\frac{632.4 - 631.1}{900'} = .00144$

width = 250'

| | | | | S = .002 |
|---|---|---|---|---|
| y = 2' | P = 254 | A = 500 | Q = 810 | 955 |
| y = 3' | P = 256 | A = 750 | Q = 1580 | 1860 |

HUD-FIA H-4705
TROY
Overflow at Barnard Drain

JSW
8/4/80

u/s Portion of O'Flow Area

$l = 650'$ $\quad s = \frac{632.4 - 631.5}{650} = .0014$

$w = 400'$

$n = .055$

D/s portion

$l = 250'$ $\quad s = \frac{631.5 - 628}{250} = .014$

$w = 250'$

$n = .055$

u/s

$Q = 1.014\ AR^{2/3}$

D/s

$Q = 3.205\ AR^{2/3}$

| y | A | P | Q |
|---|---|---|---|
| 1.0 | 400 | .995 | 405 |
| 2.0 | 800 | 1.98 | 1280 |
| * 1.2 | 480 | 1.19 | 545 |
| 1.7 | 680 | 1.69 | 980 |
| * 1.6 | 640 | 1.59 | 885 |
| * 2.3 | 920 | 2.27 | 1615 |
| * 2.8 | 1120 | 2.76 | 2240 |

| y | A | P | Q |
|---|---|---|---|
| 1.0 | 250 | .99 | 800 |
| 2.0 | 500 | 1.97 | 2515 |
| * 0.8 | 200 | .79 | 550 |
| * 1.1 | 275 | 1.09 | 930 |
| * 1.5 | 375 | 1.48 | 1560 |
| * 1.9 | 475 | 1.87 | 2310 |

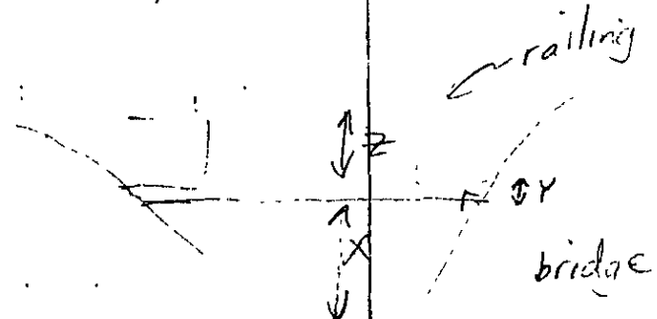
3 · 17 · 79

Barnard Drain D.S of Heavy Graham
Footbridge Measurements Photos

Refer to Pictures

| # | Picture | X | Y | Z | Roll # | |
|---|---|---|---|---|---|---|
| 800 | 12 | 5.0 | 1.9 | 2.5 | 151 | on Deguindre Rd. |
| 800A | 13 | 2.5 | 4.5 | | " | ± 25' u.s. of #800, 30" cmp, 4.5' to wat |
| 801 | 14 | 3.0 | 2.8 | 1.0 | " | 3 - 36" cmp's under Rd |
| * 801A | 15 | 3.9 | 0.5 | | | driveway extension |
| * 801B | 16 | 4.8 | 0.8 | | | ± 60 u/s of #801A |
| * 801C | 17 | 4.4 | 1.0 | | | ± 222' u/s. of #801B |
| * 801D | 18 | 4.4 | 0.9 | | " | ± 131' u/s. of #801C |

* Not modeled - would result in insignificant losses



CONSULTING ENGINEERS

ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4105

COMMUNITY: TROY

FILE NO. 7

WATERCOURSE: HAWTHORN DRAIN - EAST OF HENRY GRAHAM DRAIN

DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remark |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION No. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 800.2 | | 1 | Valley Section |
| 800.3 | | 3 | D/S Face Deguindre Rd - Repeat 800.2 |
| 800.7 | A | 3 | W/S Face Deguindre Rd - Repeat 800.8 |
| 800.75 | | 3 | Valley Section - Repeat 800.8 |
| 800.77 | | 3 | Valley Section - Repeat 800.8 |
| | B,C,D,E | | Footbridges not modeled |
| 800.8 | F | 1 | Valley Section |
| | G,H,I,J | | Footbridges not modeled |
| 801 | | 3 | Valley Section - Repeat 800.8 |
| | K,L,M,N | | Footbridges not modeled |
| 802 | O | 1 | Valley Section |
| 803.2 | P | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.3 | | 3 | Valley Section - Repeat 803.2 |
| 803.4 | | 4 | D/S Face Minnesota Rd - Developed from Bridge Data and modeled to include buildings which constitute ineffective flow areas |
| | Q | | |
| 803.6 | | 4 | W/S Face Minnesota Rd - Repeat 803.4 |
| 803.7 | | 3 | Valley Section - Repeat 803.8 |
| 803.8 | R | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.9 | | 3 | Valley Section - Repeat 804 |
| 804 | S | 1 | Valley Section |

1-17-77

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Hawthorne Dr., D.S. of [illegible], Gresham

Hawthorne #1

Feet bridge [illegible] photos

X = invert to [illegible] bottom
Y = deck thickness
Z = railing

| # | Photo # | X | Y | Z | Roll # | |
|---|---|---|---|---|---|---|
| 800 | 17 | 3.2 | 2.2 | 4.3 | 150 | 2.5' dia R.C.P. w/ grate |
| 800A | 18 | 3.7 | 0.5 | | " | On Abrams map |
| 800B | 19 | 2.1 | 1.1 | 3.0 | | ± 20' U.S. of [illegible] |
| 800C | 20 | 3.4 | 0.5 | | | ± 85' U.S. of 800B, cement bridge |
| ~~[illegible]~~ | 1 | | | | 151 | Roll # on cards |
| 800D | 2 | 2.7 | 0.5 | | | ± 78' U.S. of #800C |
| 800E | 3 | 2.4 | 0.9 | 3.0 | | ± 68' U.S. of #800D |
| 800F | 4 | 4.8 | [illegible] | | | ± 105' U.S. of [illegible] CMP |
| | | | | | | ± 80' U.S. to [illegible] |
| 800G | 5 | 3.3 | 1.2 | | 151 | ± 170' U.S. of #[illegible] [illegible] w/ 2 [illegible] |
| 800H | 6 | [illegible] | 0.9 | 3.2 | | ± 70' U.S. of #[illegible], [illegible] |
| 800.1 | 7 | 3.[illegible] | 1.8 | 3.5 | | ± 80' U.S. of #800[illegible] |
| 800.2 | 8 | 3.3 | 0.8 | | " | ± 230' U.S. of #800[illegible] |
| | | | | | | • Resident states that flooded above banks 2 yrs ago |
| 800.3 | 9 | 2.3 | 0.7 | | 151 | ± 46' U.S. of #800.2 |
| 800.4 | 10 | 2.5 | 0.5 | | " | ± 118' U.S. of #800.3 |
| 803 | 11 | 4.7 | 0.8 | 2.0 | " | 6' dia R.C.P., [illegible], 35' Long |

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FLOOD I[illegible]

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Gibson Drain

STUDY LIMITS: Corporate boundary of City of Troy with Sterling Heights at Dequindre Rd. (downstream limit) to Corporate boundary of City of Troy with Avon Twp. at South Blvd. (upstream limit)

DATE OF AERIAL SURVEY: November, 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 6/18/79 - 7/10/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to Hydrology in November, 1979 enclosed.

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps 1" = 1000', Abrams 2' topographic map 1"=400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045 - .055 |
| Overbank "n" | .065 - .09 |
| n values thru bridges | .025 - .03 |
| Contraction Coefficients | 0.15 - 0.4 |
| Expansion Coefficients | 0.35 - 0.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting elevations were available from the Sterline Hts. FIS. The Sterling Hts. FIS went to 200 feet downstream of Dequindre Rd., the downstream limit of this study. Therefore the Gibson Drain model was started 200 feet downstream of Dequindre with the Sterling Hts. FIS elevations.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation.)

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood plain elevations and (iii) sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile).

At the private road on the golf course (cross sections 15.98-16.02) the elevation of the low chord (ELLC) was lowered from 677.4 to 674. in order to correctly model pressure flow the 10 and 50 year flows. The culvert is flowing over 80% full for the 100 year flow, therefore pressure flow was used to model the loss through this culvert, but the ELLC, as mentioned earlier, was lowered in order to correctly model pressure flow.

The 500 year flow is not finalized in the downstream portion of Gibson Drain (from cross sections 0.9 to 6.0). The 500 year flow may be interacting with Houghton Drain and/or may be overflowing to the southeast of cross section 4.2. Houghton Drain is being studied at present and results of that study along with the Gibson Drain 500 year will be sent together.

Gibson Drain routing

The field information has shown that a significant amount of storage is available on Gibson Drain near Emerald Lake. Flood hydrographs were developed using Brater's method (inflow area = 6.4 square miles, population density = 1100 persons per square mile) and routed through this area using the HEC-1 computer program. It is proposed that the routed peak outflows be used for the reach between the storage area and the tributary just downstream of the Rochester Road and Square Lake Road intersection.

To compute flows further downstream, the drainage area was converted to an effective area. This was done by finding the area (of population density 1100) from which the peak outflows would occur had there been no routing effects. The 200 year summer hydrographs were drawn up at the confluence to see the relative timing of the hydrographs. It was found that the tributary peaked earlier than the routed outflow hydrograph, thereby contributing very little to the peak. During winter events, the contribution from the tributary would be relatively more significant since the hydrographs would be flatter. Further downstream, the drainage area is long and narrow and the contribution to the peak is expected to be small.

Therefore, it is expected that the use of the effective area method at the tributary near Rochester and Square Lake Roads would be adequate for the reach from the tributary to Dequindre Rd. (See Table 3 for revised flows).

JOB : HUD-FIA H-4705

COMMUNITY : [illegible]

WATERCOURSE : [illegible]

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Fibrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from Topo, surveyed sections, or other information |

| Section No. | Section Type | | Remarks |
|---|---|---|---|
| 0.9 | | 2 | Valley Section - Sterling Heights FIS |
| 0.98 | | 4 | D/S Face Deguindre - Modified from x-sec 1.8 Corporate Bdry between Troy and Sterling Hts. |
| 1.02 | A | 3 | U/S Face Deguindre - Repeat 1.8 |
| 1.8 | B | 1 | Valley Section |
| 1.9 | | 3 | Valley Section - Repeat 2.0 |
| 2.0 | C | 1 | Valley Section |
| 3.2 | D | 1 | Valley Section |
| 2.98 | | 4 | D/S Face Forsythe - Modified from 3.2 |
| 3.02 | E | 3 | U/S Face Forsythe - Repeat 3.8 |
| 3.8 | F | 1 | Valley Section |
| 4.2 | G | 1 | Valley Section |
| 3.98 | | 4 | D/S Face London - Modified from 4.2 |
| 4.02 | H | 4 | U/S Face London - Modified from 4.8 |
| 4.8 | I | 1 | Valley Section |
| 5.2 | J | 1 | Valley Section |
| 4.98 | | 4 | D/S Face Post Rd - Modified from 5.2 |
| 5.02 | K | 4 | U/S Face Post Rd - Modified From 5.8 |
| 5.8 | L | 1 | Valley Section |
| 5.9 | | 3 | Valley Section - Repeat 5.8 |
| 5.95 | | 3 | Valley Section - Repeat 6.0 |
| 6.0 | M | 1 | D/S Face Footbridge |
| 6.1 | | 3 | U/S Face Footbridge |
| 6.2 | | 4 | Valley Section - Modified from 7.0 |
| 6.5 | | 3 | Valley Section - Repeat 7.0 |
| 7.0 | N | 1 | Valley Section |
| 8.2 | O | 1 | Valley Section |
| 7.98 | | 4 | D/S Face Long Lake Rd - From 8.2 and Bridge Detail at F |
| 7.99 | P | 4 | Bridge Opening |
| 8.01 | | 4 | Bridge Opening |

CONSULTING ENGINEERS

ANN ARBOR MICHIGAN

COMMUNITY: Troy

WATERCOURSE: Gibson Drain

FILE NO. 29

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 8.02 | | 4 | U/S Face Long Lake Rd - Modified from 8.8 |
| 8.8 | Q | 1 | Valley Section |
| 9.2 | R | 1 | Valley Section |
| 8.98 | | 4 | D/S Face John R Rd - Modified From 9.2 |
| 9.02 | S | 4 | U/S Face John R Rd - Modified from 9.8 |
| 9.8 | T | 1 | Valley Section |
| 9.9 | | 3 | Valley Section - Repeat 10.0 |
| 10.0 | U | 1 | Valley Section |
| 10.05 | | 3 | D/S Face Footbridge - Repeat 10.0 |
| 10.06 | | 3 | Footbridge Opening - Repeat 10.0 |
| 10.07 | V | 3 | Footbridge Opening - Repeat 10.0 |
| 10.1 | | 3 | U/S Face Footbridge - Repeat 10.0 |
| 10.5 | | 3 | Valley Section - Repeat 10.0 |
| 10.7 | | 3 | Valley Section - Repeat 11.0 |
| 11.0 | W | 1 | Valley Section |
| 11.2 | | 3 | Valley Section - Repeat 11.0 |
| 11.8 | | 3 | Valley Section - Repeat 12.0 |
| 12.0 | X | 1 | Valley Section |
| 12.2 | | 3 | Valley Section - Repeat 12.0 |
| 12.8 | | 4 | Valley Section - Developed from 12.0 and 13.0 |
| 13.0 | Y | 1 | Valley Section |
| 13.2 | | 3 | Valley Section - Repeat 13.0 |
| 13.8 | | 3 | Valley Section - Repeat 14.2 |
| 14.2 | Z | 1 | Valley Section |
| 13.98 | | 4 | D/S Face Private Drive - Modified from 14.2 |
| 14.02 | AA | 4 | U/S Face Private Drive - Modified from 14.5 |
| 14.1 | | 3 | Valley Section - Repeat 14.5 |
| 14.5 | AB | 1 | Valley Section |
| 14.6 | | 4 | Valley Section - Repeat 14.5 (slightly Modified) |

JOB: HUD-FIA H-470.5

COMMUNITY:

WATERCOURSE:

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| Section No. | | Section Type | Remarks |
|---|---|---|---|
| 14.98 | | 4 | D/S Face Rochester Rd - Modified from 14.5 |
| 15.02 | AC | 4 | U/S Face Rochester Rd - Modified from 14.5 |
| 15.8 | AD | 1 | Valley Section |
| 16.2 | AE | 1 | Valley Section |
| 16.3 | | 3 | Valley Section - Repeat 16.2 |
| 15.98 | | 4 | D/S Face Private Rd on Golfcourse - Modified From 16.2 |
| | AF | | |
| 16.02 | | 4 | U/S Face Private Rd on Golfcourse - Modified From 16.8 |
| 16.8 | AG | 1 | Valley Section |
| 16.85 | | 3 | D/S Face Footbridge on Golfcourse - Repeat 16.8 |
| 16.86 | | 3 | Footbridge Opening - Repeat 16.8 |
| | AH | | |
| 16.87 | | 3 | Footbridge Opening - Repeat 16.8 |
| 16.88 | | 3 | U/S Face Footbridge - Repeat 16.8 |
| 16.95 | | 3 | D/S Face Footbridge on Golfcourse - Repeat 16.8 |
| 16.96 | | 3 | Footbridge Opening - Repeat 16.8 |
| | AI | | |
| 16.97 | | 3 | Footbridge Opening - Repeat 16.8 |
| 16.98 | | 3 | U/S Face Footbridge - Repeat 16.8 |
| 17 | AJ | 1 | Valley Section |
| 17.2 | | 3 | D/S Face Footbridge on Golfcourse - Repeat 17 |
| 17.22 | | 3 | Footbridge Opening - Repeat 17 |
| | AK | | |
| 17.23 | | 3 | Footbridge Opening - Repeat 17 |
| 17.25 | | 3 | U/S Face Footbridge - Repeat 17 |
| 17.3 | | 3 | D/S Face Footbridge on Golfcourse - Repeat 17 |
| 17.32 | | 3 | Footbridge Opening - Repeat 17 |
| | AL | | |
| 17.33 | | 3 | Footbridge Opening - Repeat 17 |
| 17.35 | | 3 | U/S Face Footbridge - Repeat 17 |
| 18.2 | AM | 1 | Valley Section (about 150' D/S confluence with Gibson-Renshaw) |
| 18.28 | | 4 | D/S Face Footbridge - Modified from 18.2 |
| 18.29 | | 4 | Footbridge Opening - Bridge Detail and 18.2 Modelled as trapezoid - see bridge sketch |
| | AN | | |
| 18.31 | | 4 | Footbridge Opening - Bridge Detail and 18.2 |
| 18.32 | | 4 | U/S Face Footbridge - Bridge Detail and 18.2 |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 18.4 | | 4 | Valley Section - Modified from 18.2 |
| 17.98 | | 4 | D/S Face Rochester Rd - Modified from 18.2 |
| 17.99 | | 4 | Bridge Opening - Developed from bridge detail |
| 18.01 | AO | 4 | Bridge Opening - Developed from bridge detail |
| 18.02 | | 4 | U/S Face Rochester Rd - Modified from 18.8 |
| 18.8 | AP | 1 | Valley Section |
| 19.2 | AQ | 1 | Valley Section |
| 19.3 | | 4 | Valley Section - Modified from 19.2 |
| 18.98 | | 4 | D/S Face Square Lake Rd |
| 18.99 | | 4 | Bridge Opening - Developed from 19.2, 19.8, bridge detail |
| 19.01 | AR | 4 | Modelled as trapezoid - see bridge sketch<br>Bridge Opening - Developed from 19.2, 19.8, bridge detail |
| 19.02 | | 4 | U/S Face Square Lake Rd - Modified from 19.8 |
| 19.8 | AS | 1 | Valley Section |
| 19.9 | | 3 | D/S Face Footbridge - Repeat 20 |
| 19.92 | | 3 | Footbridge Opening - Repeat 20 |
| 19.93 | AT | 3 | Footbridge Opening - Repeat 20 |
| 19.95 | | 3 | U/S Face Footbridge - Repeat 20 |
| 20 | AU | 1 | Valley Section |
| 20.1 | | 3 | Valley Section - Repeat 20 |
| 20.5 | | 3 | Valley Section - Repeat 21.2 |
| 21.2 | AV | 1 | Valley Section |
| 20.98 | | 4 | D/S Face Diane Lane - Modified from 21.2 |
| 21.02 | AW | 4 | U/S Face Diane Lane - Modified from 21.8 |
| 21.8 | AX | 1 | Valley Section |
| 21.85 | | 3 | Valley Section - Repeat 21.8 |
| 21.9 | | 3 | Valley Section - Repeat 22.0 |
| 22 | AY | 1 | Valley Section |
| 22.2 | | 3 | Valley Section - Repeat 22 |
| 22.8 | | 3 | Valley Section - Repeat 22 |
| 23.2 | AZ | 1 | Valley Section |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 22.9B | | 4 | D/S Face Lovell Rd - Modified 23.2 |
| 23.02 | BA | 4 | U/S Face Lovell Rd - Modified 23.8 |
| 23.8 | BB | 1 | Valley Section |
| 23.9 | | 3 | Valley Section - Repeat 24.0 |
| 24 | BC | 1 | Valley Section |
| 24.5 | | 3 | Valley Section - Repeat 25.0 |
| 25 | BD | 1 | Valley Section |

COMMUNITY:
WATERCOURSE

TABLE 2 — XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0.98 - 1.02 | 0.4 | 119.6 | 56.4 | 2.12 | .025 | 45 | 0.3 | 1.7 | Deguindre |
| 2.98 - 3.02 | 0.9 | 82.2 | 56.4 | 1.46 | .025 | 36 | 0.4 | 2.3 | Forsythe |
| 3.98 - 4.02 | 0.4 | 158.4 | 98.4 | 1.61 | .025 | 68 | 0.65 | 2.05 | London |
| 4.98 - 5.02 | 0.4 | 138. | 87.6 | 1.58 | .025 | 62 | 0.60 | 2.0 | Post |
| 6.0 - 6.1 | 0.2 | 165.3 | 69.4 | 2.38 | .055 | 10 | 0.25 | 1.45 | Footbridge - opening is natural channel ∴ n=.055 |
| 8.98 - 9.02 | 0.5 | 168.2 | 69.6 | 2.42 | .025 | 59 | 0.35 | 1.85 | John R |
| 13.98 - 14.02 | 0.4 | 99.4 | 42.2 | 2.36 | .025 | 9 | 0.05 | 1.45 | Private Dr. |
| 14.98 - 15.02 | 0.4 | 152. | 55.2 | 2.75 | .025 | 45 | 0.2 | 1.6 | Rochester Rd |
| 15.98 - 16.02 | 0.7 | 110. | 37.1 | 2.96 | .025 | 40 | 0.2 | 1.9 | Private Rd on Golfcourse |
| 20.98 - 21.02 | 0.9 | 95. | 56.6 | 1.68 | .025 | 60 | 0.55 | 2.45 | Diane Lane |
| 22.98 - 23.02 | 0.9 | 90.2 | 43. | 2.1 | .025 | 177 | 1.2 | 3.3 | Lovell Rd - XKOR includes 0.2 extra for 90° bend in culvert |

TABLE ~~#~~ 3

Summary of Proposed Discharges (Revised)

| Flooding Source and Location | Drainage Area (Square Miles) | Peak Discharge (cfs) 10-Yr. | 50-Yr. | 100-Yr. | 500-Y |
|---|---|---|---|---|---|
| ibson Drain | | | | | |
| From quindre Road | 12.2 | | | | |
| ~~To~~ | | ~~760~~ | ~~1300~~ | ~~1580~~ | ~~2100~~ |
| ~~Hardy Drain D/S~~ ~~H/S~~ | ~~10.4~~ ~~10.1~~ | 490 | 720 | 850 | 1150 |
| | | ~~700~~ | ~~1090~~ | ~~1760~~ | ~~1730~~ |
| To named Tributary @ Square Lake Rd.-Rochester Rd Intersection | 9.16 | | | | |
| ~~To~~ | | ~~670~~ | ~~1040~~ | ~~1220~~ | ~~1670~~ |
| ~~named Tributary @ Walker Rd (w/ Sandshores Rd Intersection~~ | ~~6.79~~ | 380 | 560 | 660 | 920 |
| | | (routed outflows) | | | |
| ~~To~~ | | ~~580~~ | ~~890~~ | ~~1030~~ | ~~1400~~ |
| ~~named Tributary @ 90° Bend in Walker Rd~~ | ~~6.41~~ | | | | |
| | | ~~540~~ | ~~820~~ | ~~950~~ | ~~1300~~ |
| To named Tributary @ Emerald Lake Rd | 5.78 | | | | |
| TO South Blvd. | 4.98 | 510 | 770 | 910 | 1220 |
| ~~named Tributary to Gibson Drain~~ | | | | | |
| ~~From confluence w/ Gibson Drain~~ | ~~1.75~~ | | | | |
| ~~To named Tributary @ Square Lake Rd~~ | ~~1.46~~ | ~~245~~ | ~~360~~ | ~~430~~ | ~~590~~ |
| ~~To Vernmoor Rd and Fredmoor Rd Extended~~ | ~~1.17~~ | ~~215~~ | ~~325~~ | ~~390~~ | ~~535~~ |

# FLOOD INSU[illegible] HYDRAULIC [illegible]

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Gibson-Renshaw West

STUDY LIMITS: Confluence with Gibson Drain (downstream limit) to Vernmour Rd. and Fredmoor Rd. extended-location at which drain splits and goes two ways - 90° north-east and 90° south-west (upstream limit)

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/5/79 - 7/12/79 - McNamee, Porter and Seeley fieldcrew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .065 - .078 |
| Overbank "n" | .095 |
| n values thru bridges | .013 - .033 |
| Contraction Coefficients | 0.15-0.50 |
| Expansion Coefficients | 0.35 - 0.90 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed. IPLOTS for x-sections 899.1, 900.6, and 900.7 are included in the 100 Year Convergence Test. These plots represent revisions to other plots at these sections and any repeated sections based on them.

XKOR CALCULATIONS See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. This was assumed since it is expected that Gibson-Renshaw west would be peaking sooner than the main channel, Gibson Drain. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100-year flow by raising and lowering all Manning channel "n" values by 30%. It was determined that due to the steep slope and rough channel conditions, the Manning channel "n" values which were increased by 30% should be used for all flows.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation.

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr designated floodway, (ii) 10, 50 and 500 yr. flood profiles and (iii) convergence test and sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500-year flood plains at this time since this will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile.)

At Livernois Rd. (cross sections 904.98-905.02) the elevation of the low chord (ELLC) was lowered from 739.4 to 738. in order to correctly model pressure flow for the 10-year flow.

Starting Conditions

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## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from Topo, surveyed sections, or other information |

| Section No. | | Section Type | Remarks |
|---|---|---|---|
| 899 | | 4 | Valley Section - Abrams Contour Map |
| 899.1 | A | 3 | D/S Face Footbridge 17C - Repeat 900 |
| 899.13 | | 3 | U/S Face Footbridge 17C - Repeat 900 |
| 899.2 | | 3 | D/S Face Footbridge 17D - Repeat 900 |
| 899.22 | B | 3 | Footbridge Opening - Repeat 900 |
| 899.23 | | 3 | Footbridge Opening - Repeat 900 |
| 899.25 | | 3 | U/S Face Footbridge - Repeat 900 |
| 900 | C | 1 | Valley Section |
| 900.2 | | 3 | D/S Face Footbridge 900A - Repeat 900 |
| 900.22 | D | 3 | Footbridge Opening - Repeat 900 |
| 900.23 | | 3 | Footbridge Opening - Repeat 900 |
| 900.25 | | 3 | U/S Face Footbridge 900A - Repeat 900 |
| 900.4 | | 3 | D/S Face Footbridge 900B - Repeat 900 |
| 900.42 | E | 3 | Footbridge Opening - Repeat 900 |
| 900.43 | | 3 | Footbridge Opening - Repeat 900 |
| 900.45 | | 3 | U/S Face Footbridge - Repeat 900 |
| 900.6 | | 4 | D/S Face Footbridge 900C - Modified from 901 |
| 900.62 | F | 4 | Footbridge Opening - " " " |
| 900.63 | | 4 | Footbridge Opening - " " " |
| 900.65 | | 4 | U/S Face Footbridge - " " " |
| 900.7 | | 3 | Valley Section - Repeat 901 |
| 900.8 | | 3 | D/S Face Footbridge 900D - Repeat 901 |
| 900.82 | G | 3 | Footbridge Opening - " " |
| 900.83 | | 3 | Footbridge Opening - " " |
| 900.85 | | 3 | U/S Face Footbridge - " " |
| 900.86 | | 3 | Valley Section - Repeat 901 |
| 900.87 | | 3 | Valley Section - Repeat 901 |
| 901 | H | 1 | Valley Section - D/S Face Footbridge 901A |
| 901.02 | | 3 | Footbridge Opening - Repeat 901 |
| 901.03 | | 3 | Footbridge Opening - " " |
| 901.05 | | 3 | U/S Face Footbridge - " " |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO.
COMMUNITY: Troy FILE NO.
WATERCOURSE: Gibson Drain West DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section; Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| Section No. | | Section Type | Remarks |
|---|---|---|---|
| 901.1 | | 3 | D/S Face Footbridge 901B - Repeat 901 |
| 901.12 | | 3 | Footbridge Opening - " " |
| 901.13 | I | 3 | Footbridge Opening - " " |
| 901.15 | | 3 | U/S Face Footbridge - " " |
| 901.17 | | 3 | Valley Section - " " |
| 901.2 | | 3 | D/S Face Footbridge 901C - " " |
| 901.22 | | 3 | Footbridge Opening - " " |
| 901.23 | J | 3 | Footbridge Opening - " " |
| 901.25 | | 3 | U/S Face Footbridge - " " |
| 901.26 | | 3 | Valley Section - " " |
| 901.27 | | 3 | " " - " " |
| 901.28 | | 3 | " " - " " |
| 901.29 | | 3 | " " - " " |
| 901.30 | | 3 | " " - " " |
| 901.31 | | 3 | D/S Face Footbridge 901D - " " |
| 901.32 | | 3 | Footbridge Opening - " " |
| 901.33 | K | 3 | Footbridge Opening - " " |
| 901.35 | | 3 | U/S Face Footbridge - " " |
| 901.4 | | 3 | D/S Face Footbridge 901E " " |
| 901.42 | | 3 | Footbridge Opening - " " |
| 901.43 | L | 3 | Footbridge Opening - " " |
| 901.45 | | 3 | U/S Face Footbridge - " " |
| 901.5 | | 3 | Valley Section - D/S Face Footbridge 901F - Repeat 902.2 |
| 901.52 | | 3 | Footbridge Opening - Repeat 902.2 |
| 901.53 | M | 3 | Footbridge Opening - " " |
| 901.55 | | 3 | U/S Face Footbridge - " " |
| 901.6 | | 3 | D/S Face Footbridge 901G " " |
| 901.62 | | 3 | Footbridge Opening " " |
| 901.63 | N | 3 | Footbridge Opening " " |
| 901.65 | | 3 | U/S Face Footbridge " " |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 901.8 | | 3 | Valley Section - Repeat 902.2 |
| 902.2 | O | 1 | Valley Section - D/s Face Footbridge |
| 902.22 | | 3 | Footbridge Opening - Repeat 902.2 |
| 902.23 | | 3 | Footbridge Opening - " " |
| 902.25 | | 3 | U/s Face Footbridge - " " |
| 901.98 | | 4 | D/s Face Square Lake Rd - Modified From 902.2 |
| 901.99 | | 4 | Bridge Opening - Developed from bridge detail |
| 902.01 | P | 4 | Bridge Opening - Developed from bridge detail |
| 902.02 | | 4 | U/s Face Square Lake Rd - Modified From 902.8 |
| 902.8 | Q | 1 | Valley Section |
| 902.98 | | 4 | D/s Face Driveway Culvert - Modified from 902.8 |
| 903.02 | R | 4 | U/s Face Driveway Culvert - Modified From 903.8 |
| 903.1 | | 3 | Valley Section - D/s Face Footbridge 903A - Repeat 903.8 |
| 903.12 | | 3 | Footbridge Opening - Repeat 903.8 |
| 903.13 | S | 3 | Footbridge Opening - " " |
| 903.15 | | 3 | U/s Face Footbridge - " " |
| 903.28 | | 4 | D/s Face Driveway Culvert 903B - Modified from 903.8 |
| 903.32 | T | 4 | U/s Face Driveway Culverts - Modified from 903.8 |
| 903.4 | | 4 | Valley Section - Modified from 903.8 |
| 903.48 | | 4 | D/s Face Driveway Culvert 903C - Modified from 903.8 |
| 903.52 | U | 4 | U/s Face Driveway Culvert - Modified From 903.8 |
| 903.8 | V | 1 | Valley Section |
| 903.81 | | 3 | D/s Face Footbridge 903C-2 - Repeat 903.8 |
| 903.6 | | 3 | Footbridge Opening - Repeat 903.8 |
| 903.65 | W | 3 | Footbridge Opening - " " |
| 903.82 | | 3 | U/s Face Footbridge - " " |
| 903.83 | | 3 | Valley Section - " " |
| 903.84 | | 3 | " " " " |
| 903.85 | | 3 | " " " " |
| 903.86 | | 3 | " " " " |

McNAMEE PORTER & SEELEY
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ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO.
COMMUNITY: Troy
WATERCOURSE: Gilson - Rochester West

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
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| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 903.87 | | 3 | Valley Section - Repeat 904 |
| 903.88 | | 3 | Valley Section - Repeat 904 |
| 903.89 | | 3 | D/S Face Footbridge 903 D - Repeat 904 |
| 903.92 | X | 3 | U/S Face Footbridge 903 D - Repeat 904 |
| 903.93 | | 3 | Valley Section - D/S Face Footbridge 903 E - Repeat 904 |
| 903.94 | | 3 | Footbridge opening - Repeat 904 |
| 903.95 | Y | 3 | Footbridge Opening - " " |
| 903.96 | | 3 | U/S Face Footbridge - " " |
| 904 | Z | 1 | Valley Section |
| 904.2 | | 3 | Valley Section - Repeat 904 |
| 904.48 | | 3 | D/S Face Footbridge 904 A - Repeat 904 |
| 904.52 | AA | 3 | U/S Face Footbridge 904A - Repeat 904 |
| 904.6 | | 3 | Valley Section - Repeat 904 |
| 904.65 | | 3 | Valley Section - Repeat 904 |
| 904.7 | | 3 | Valley Section - Repeat 905.2 |
| 904.75 | | 3 | " " " " |
| 904.8 | | 3 | " " " " |
| 904.9 | | 3 | " " " " |
| 905.2 | AB | 1 | Valley Section |
| 904.98 | | 4 | D/S Face Livernois - Modified from 905.2 |
| 905.02 | AC | 4 | U/S Face Livernois - Modified from 905.8 |
| 905.8 | AD | 1 | Valley Section |
| 905.82 | | 3 | Valley Section - Repeat 905.8 |
| 905.83 | | 3 | " " " " |
| 905.85 | | 3 | " " " " |
| 905.86 | | 3 | " " " " |
| 905.95 | | 3 | Valley Section - Repeat 906 |
| 905.96 | | 3 | " " " " |
| 905.97 | | 3 | " " " " |
| 905.98 | | 3 | " " " " |
| 906 | AE | 1 | Valley Section |

COMMUNITY Troy
WATERCOURSE Gibson - Renshaw West

# TABLE 2 - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 899.1-899.13 | 0.2 | 36 | 30 | 1.2 | .06 | 5 | 0.4 | 1.6 | Footbridge 17C - opening is natural channel ∴ n = .06 |
| 902.98-903.02 | 0.5 | 14.2 | 18.4 | 0.8 | .013 | 24 | 0.15 | 1.65 | Driveway Culvert |
| 903.28-903.32 | 0.5 | 17.7 | 15 | 1.18 | .025 | 15 | 0.2 | 1.7 | Driveway Culvert 903B |
| 903.48-903.52 | 0.5 | 12.4 | 12.6 | 0.98 | .025 | 15 | 0.3 | 1.8 | Driveway Culvert 903C |
| 903.89-903.92 | 0.5 | 19.2 | 14. | 1.37 | .025 | 14 | 0.15 | 1.65 | Footbridge 903D |
| 904.48-904.52 | 0.5 | 19.2 | 14. | 1.37 | .025 | 14 | 0.15 | 1.65 | Footbridge 904A |
| 904.98-905.02 | 0.4 | 60. | 34 | 1.76 | .025 | 65 | 0.78 | 2.56 | Livernois - 2 cmp's in series with Box culvert (u/s) ∴ loss in terms of Box culvert - includes contraction loss coeff of 0.38 |

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Houghton Drain

STUDY LIMITS: Junction with Henry Graham Drain (downstream limit) to upstream of Long Lake Road (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 5/79 - 6/79, 8/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. (Revisions to Hydrology in January, 1980, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps. 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .05-.055 |
| Overbank "n" | .08-.095 |
| n values thru bridges | .013-.025 |
| Contraction Coefficients | .15-.6 |
| Expansion Coefficients | .35-.9 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

Starting Conditions

Starting conditions are discussed in the introductory section on Drains Tributary to Henry Graham Drain. A convergence test was run on the 100 year flow by changing the starting elevation by ±15%.

High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. The floodway was modified per engineering judgement at cross sections 102 and 102.8 (F and H). Shallow flooding was determined to be the condition in the area south and east of the Houghton Drain entrance to Henry Graham. Shallow flooding was also determined to be the condition in the area south of Eckford Road, as well as about a 400 foot wide section carrying overland flow (depth not greater than 0.5 feet) from the Page Drain entrance north-east back into Houghton Drain at a point about 1500 feet east of Rochester Road. (See the enclosed 1" = 400' topographic map for the floodway and shallow flooding delineation).

Computer Outputs

Enclosed are complete computer outputs for (i) 100-year natural and 100 year deisgnated floodway, (ii) 10, 50 and 500 year flood plain elevations and (ii) convergence test and sensitivity analysis for your review.

Comments

We have not delineated the 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

At Calvert Rd. (cross sections 104.98-105.02) the elevation of the low chord (ELLC) was lowered from 661.2 to 659.3 in order to correctly model pressure flow for the 10, 50 and 100 year flows. The same procedure was used at Belzair Road in order to correctly model pressure flow for the 10 and 50 year flows. The ELLC was lowered from 682.6 to 681.2.

Houghton Drain revised hydrology

From the hydraulic runs, it has become obvious that the Houghton Drain, upstream of Page Drain, has a very limited capacity because of a change in the topography and the construction of several restrictive culverts. The expected capacity will be less than the predicted 10 year flow. The flow not able to continue in Houghton Drain will flow south across Eckford Street. Some shallow flooding will most likely be created by this flow. More detailed information would be necessary to quantify the extent and depth of flooding.

Downstream of the easternmost culvert upstream of Page Drain, the flow is expected to be about 200 cfs during the 100 year event. With the drainage area of 1.2 square miles, this would correspond to an approximate population density of 100 persons per square mile. Since this is a flow that would be occurring for a longer period of time, it was directly added to the peaks that would be occurring from the Lanni Drain (tributary from the north at Rochester Rd.).

During hydraulic runs, it was found that the predicted flows could not all get into Page Drain. Some overland flow would occur from Page Drain to Hubbard Road. This flow was taken to be the difference between the 10 year flow and the flow just upstream of Page Drain. The overland flow is expected to be all in the channel by about cross-section 107 near Hubbard Road extended.

To compute the flows further downstream, an equivalent population density was computed. Using the total area up to Hubbard Road, flows were computed. Since the basin is narrow and the upstream problems would considerably slow down the upstream peaks, no further increase downstream was computed.

A table of revised flows and detailed computations are attached.

REVISED HYDROLOGY
HOUGHTEN DRAIN
~~(Preliminary)~~

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| Henry Graham to ~~Hubbard~~ ~~Rd extended~~ cross-section 107 | 320 | 510 | 600 | 810 |
| ~~Hubbard Rd~~ Cross-Section 107 ~~extended~~ to Rochester Rd (junction w/Lona) | 250 | ~~400~~ 370 | ~~470~~ 370 | ~~560~~ 460 |
| Rochester Rd. to last restrictive driveway | 140 | 200 | 240 | 320 |
| From driveway w/s limit (or Lona Cr.) | 245 | 420 | 550 | 750 |
| Overland flow from upstream end of Page Drain to cross-section 107 | 0 | 60 | 100 | 180 |

Assume 100 year discharge into Page Drain
≈ 200 cfs

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| $A = 1.2\ mi^2$ | | | | |
| $P_d = 100$ | | | | |
| Q = | 140 | 200 | 240 | 320 |

Land Drain
approx $A = 0.3\ mi^2$
$P_d \approx 3000/mi^2$

① Total coming out of Page Drain
$A = 1.5\ mi^2$
$P_d = 700$

| | | | | |
|---|---|---|---|---|
| Q = | 210 | 300 | 350 | 500 |

② Try using Houghten as base flow added to peak flow from land

| | | | | |
|---|---|---|---|---|
| Q = | 140 + 110 = 250 | 200 + 200 = 400 | 230 + 240 = 470 | 320 + 320 = 640 |

It appears that ② is slightly conservative. However since we are quite uncertain as to what happens in the open channel upstream of the Page Drain, go with the slightly higher flows (②).

Converting ② to equivalent $P_d$'s

$A = 1.5\ mi^2$

| | | | | |
|---|---|---|---|---|
| $P_d$ = | 1400 | 1100 | 1600 | 1500 |

Use $P_d$ = 1500 all the way across

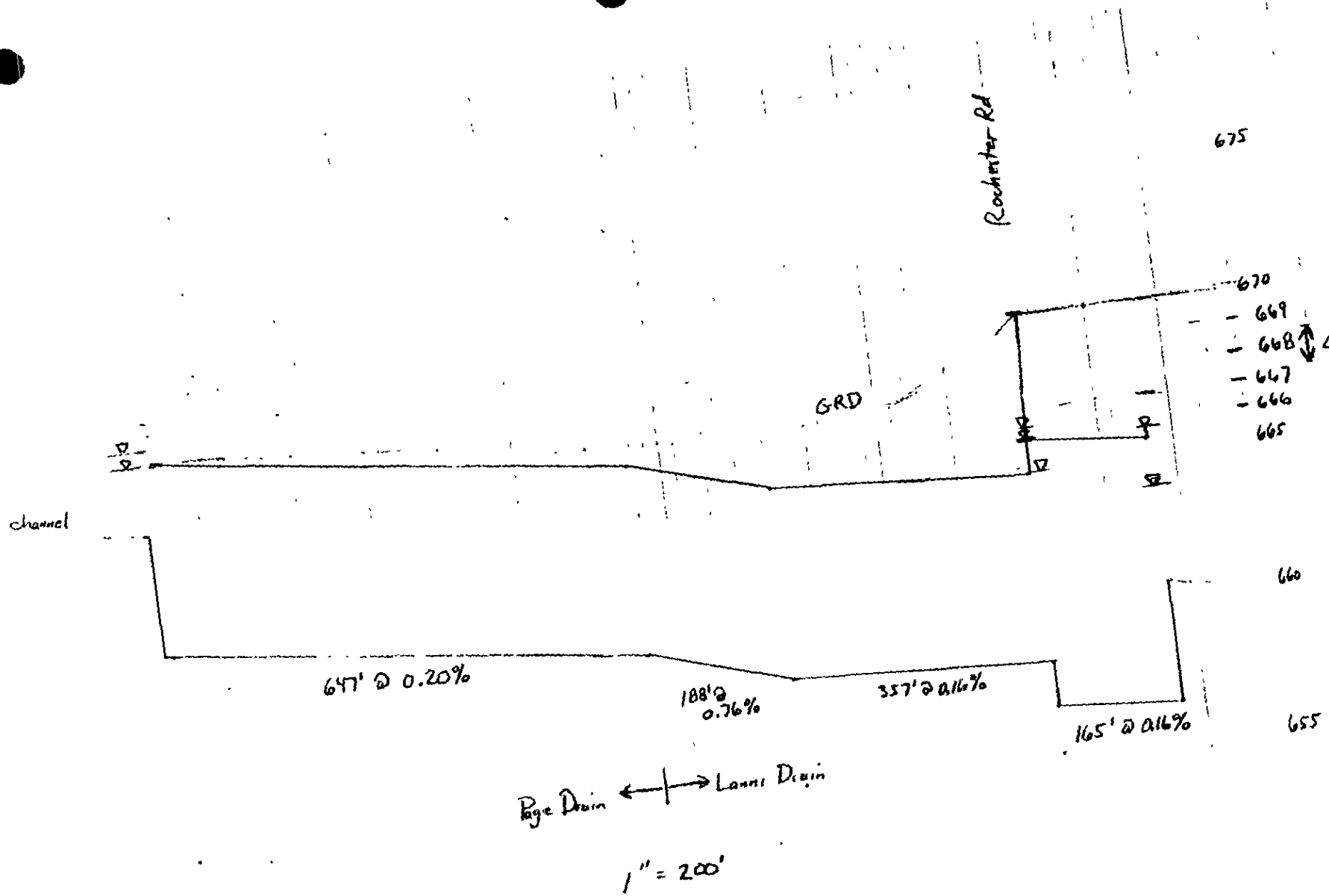
| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| @ Hubbard Co. | | | | |
| extended | | | | |
| A = 2.0 | | | | |
| $P_d = \frac{(1500 \times 1.5 + 1000 \times .5)}{2.0} = 1875$ use 1900 | | | | |
| Q = | 220 | 510 | 600 | 810 |
| @ Henry Graham | | | | |
| A = 2.8 | | | | |
| $P_d$ 10 year | | | | |
| $P_d = \frac{2.0 \times 1900 + .8 \times 1500}{2.8} = 1785$ use 1800 | | | | |
| 50, 100, 500 | | | | |
| $P_d = \frac{2.0 \times 1900 + .8 \times 2500}{2.8} = 2070$ use 2100 | | | | |
| A = 2.8 | | | | |
| $P_d$ = | 1800 | 2100 | 2100 | 2100 |
| Q = | 420 | 680 | 770 | 1010 |

Loss Through Page Drain and Lanni Drain

The model for Houghton Drain was run in two steps; from the entrance of Henry Graham Drain back to the downstream end of Lanni Drain, (just downstream of Rochester Road), and from the entrance to Page Drain back to the upstream limit of the study. Hand calculations were performed on Page Drain and Lanni Drain (enclosures) to determine the quantity of flow which would be allowed through them and the overland flow path followed by the remaining flow.

From previous hydraulic runs, it was found that the driveways located upstream of Page Drain on Houghton Drain would cause a change in the hydrology. (See "comments" - Hydrology Change). However, even though the flows were substantially reduced, it was found that only the ten year would be successfully passed through the enclosure. From careful study of the topography, a flow path was determined for the excess flow generated by the 50, 100 and 500 year floods, and the resulting depth of flow this would create. The 100 year flow resulted in 100 cfs overland flow, creating a depth of about 0.5 feet. The following five pages indicate assumptions and calculations used to develop the starting elevations upstream of the enclosure.

HUD-FIA H-4705 T-06
Troy - Houghton Drain (Page + Lanni Drain Enclosure) 1/5
12/19/79
JSW



McNAMEE, PORTER & SEELEY — CONSULTING ENGINEERS — ANN ARBOR MICHIGAN

JOB: HUD - FIA H-4705 — SHEET NO 2/5 102

SUBJECT: Troy - Lanni + Page Drains — FILE NO

COMPUTED BY: JBW — DATE 1/28/80 — CHK BY — DATE

Loss Thru Enclosure
Assuming All Flow
Thru Enclosure.

| | | Flow | Flow |
|---|---|---|---|
| **Lanni Drain** | | | |
| 9' ϕ Pipe (165' @ 0.16%) | | 470 cfs | 240 cfs |
| (108") | $h_f$ = | 1.87 | .54 |
| Exit Loss* (partial bulkhead | 1.0 $h_v$* = 2.55 | | .66 |
| $A_{exit}$ = 36.7 ft²) | | | |
| 9' × 7'-6" × 6'-6" | 1.3 | | |
| Flow in terms of larger $h_v$ | $h_L$ = 1 × 2.55 + (.165) × 1.87 = | 2.86 | 0.75 |
| 6'-6" ϕ Pipe (357' @ 0.16%) | | 240 cfs | |
| (78") | $h_f$ = | 2.62 | |
| | $h_v$ = | 0.81 | |
| 6'-6" ϕ Pipe (188' @ 0.76%) | | | |
| | $h_L$ = 1.3 × 0.81 + 2.62 (.545) | 2.48 | |
| **Page Drain** | | | |
| 6'-6" ϕ Pipe (647' @ 0.20%) | | | |
| 90° bend | ~~1.2~~ .3 | | |
| Entrance Loss | 0.6 | | |
| | $h_L$ = 1.8 (0.81) + .647 (2.62) | 3.15 | |

$Q = CA\sqrt{2gh}$

$h = 7 \quad A = 63.6 \quad Q = 240$

$C = \frac{240}{63.6\sqrt{2g \times 7}} = .18 = .2$

$h_1 = \frac{Q^2/A^2}{2g} \qquad \frac{h_1}{h_2} = \frac{Q_1^2/A^2}{Q_2^2/A^2}$

$h_1 \frac{Q_2^2}{Q^2} = h_2 \longleftarrow \frac{h_1}{h_2} = \frac{Q^2}{Q_2^2}$

McNAMEE, PORTER & SEELEY — CONSULTING ENGINEERS — ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705 — SHEET NO. 3/5 103

SUBJECT: Troy - Lanni + Page Drains — FILE NO.

COMPUTED BY: JSW — DATE: 1/28/80 — CHK BY: — DATE:

Full Flow Thru Enclosure

| | | | | |
|---|---|---|---|---|
| | | 250cfs | 400 | 470 |
| Lanni 9'Ø | $h_v$* | .72 | 1.84 | 2.55 |
| $h_L = 1.0 \times h_v + .165 \times h_F$ | $h_F$ | .36 ~~.28~~ | .85 ~~.87~~ | ~~1.07~~ 1.15 |
| *A = 36.7 C = 130 | $h_L$ | .78 ~~.32~~ | 1.98 ~~1.27~~ | ~~2.86~~ 2.74 |
| Lanni 6'-6"Ø | | 140 cfs | 200 | 240 |
| $h_L = 1.3 \times h_v + .545 \times h_F$ | $h_v$ | .218 | .56 | .81 |
| | $h_F$ | .60 ~~.96~~ | 1.16 ~~1.87~~ | ~~2.60~~ 1.62 |
| Page Drain 6'-6"Ø | $h_L$ | .69 ~~.89~~ | 1.75 ~~1.36~~ | ~~2.48~~ 1.94 |
| $h_L = 1.8 \times h_v + .647 \times h_F$ | $h_v$ | .64 ~~.43~~ | 1.23 ~~2.22~~ | ~~2.15~~ 1.78 |
| 0.9 | | | 4.59 | |
| | $h_L$ Total | 2.1 ~~2.64~~ | 6.24 | ~~8.45~~ 6.46 |
| | D/S elev | 667.31 | 667.25 | 667.88 |
| | U/S elev | ~~670.7~~ | 673.9 | 674.5 |
| | | 669.3 | 672.4 | 674.5 |

Flow Routed Around Enclosure (see pages 4 + 5)

| elev. D/S enclosure | | elev. U/S enclosure |
|---|---|---|
| 667.31 | 10 yr | 669 |
| 667.75 | 50 yr | 669.3 |
| 667.88 | 100 yr | 669.5 |
| 668.23 | 500 yr | 669.7 |

| | Q a U/S face enclosure | available cap. of enclosure | excess Q (overland Q) | Q D/S of enclosure | Q a x-sec 107 |
|---|---|---|---|---|---|
| 10 yr | 190 | 140 | 0 | 250 | 250 |
| 50 yr | 200 | 140 | 60 | 340 | 400 |
| 100 yr | 240 | 140 | 100 | 370 | 470 |
| 500 yr | 320 | 140 | 180 | 460 | 640 |

Will change Flow at 107 to 250, 340, 370, + 460

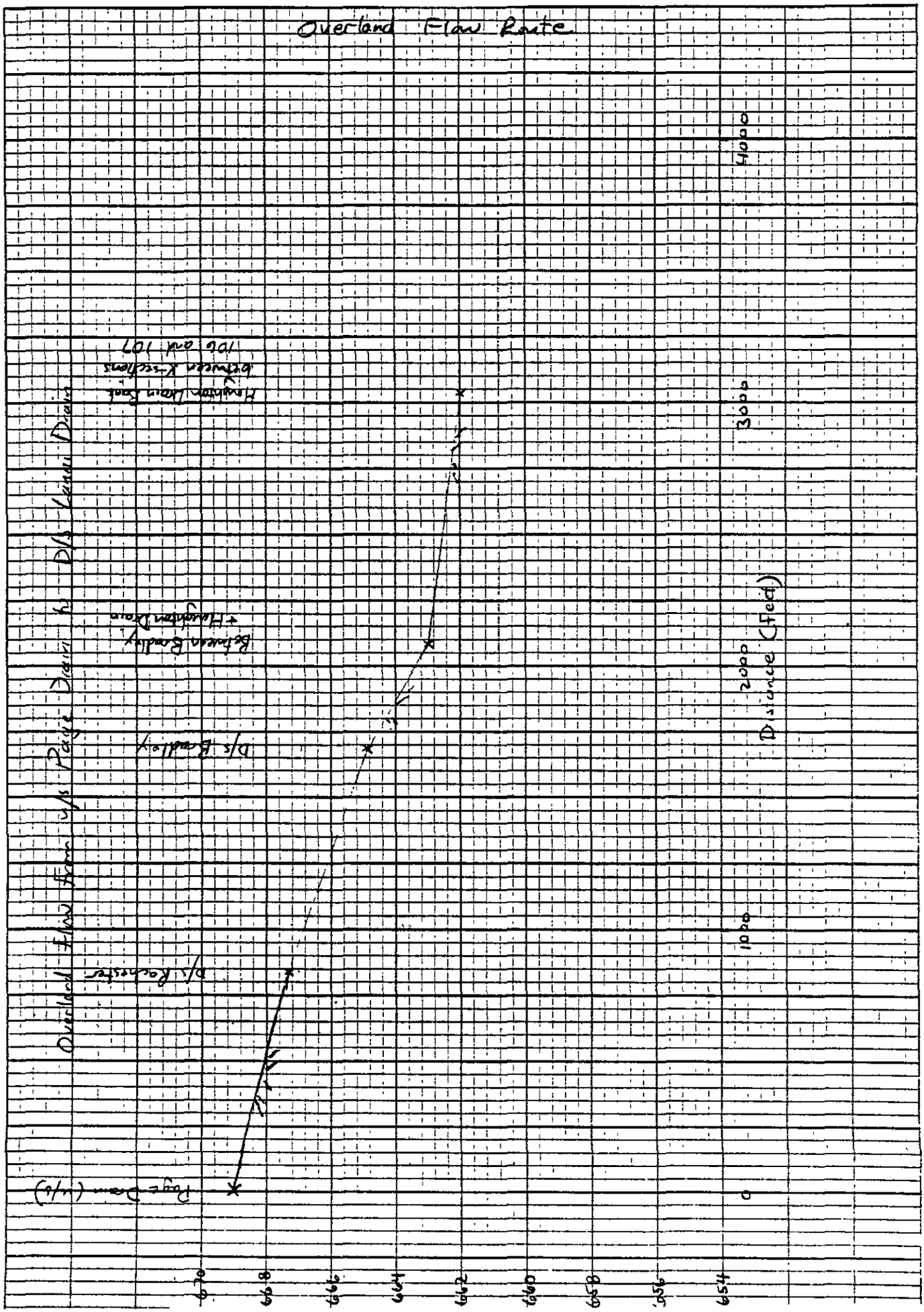
Leave Flow at 320, 510, 600, + 810 for remainder of reach D/S of 107

McNAMEE, PORTER & SEELEY — JOB HUD FIA H-4705 T-06 — SHEET NO 4/5 104

CONSULTING ENGINEERS — SUBJECT TROY - HOUGHTON OVERLAND FLOW AT PAGE DRAIN — FILE NO

ANN ARBOR MICHIGAN — COMPUTED BY RW — DATE 1/29/80 — CHK BY — DATE

Overland Flow Route



$$\text{slope} = \frac{668-662}{3040} = \frac{6}{3040} = .0023$$

$n = .08$ width = 400' (overland Flow width assumed)

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

$$Q = \frac{1.49}{n}(h \times w)\left(\frac{(h \times w)}{(2h+w)}\right)^{2/3} S^{1/2} = \frac{1.49}{n}\frac{(h \times w)^{5/3}}{(2h+w)^{2/3}} S^{1/2}$$

$$Q = \frac{1.49}{.08}\frac{(h \times 400)^{5/3}}{(2h+400)^{2/3}}(.0023)^{1/2} = .893\frac{(h \times 400)^{5/3}}{(2h+400)^{2/3}}$$

100 yr

≈100 cfs overFlow

$h = 1 \rightarrow Q = 330$ cfs 355

$h = .5 \rightarrow Q = 105$ cfs 112 ∴ 100 yr elev = 669.5

10 yr, no overflow → 669.

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section; partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 4.2 | | 3 | Valley Section - Repeat 100.2 Entrance to Henry Graham Drain |
| 100.2 | A | 1 | Valley Section |
| 99.98 | | 3 | D/S Face Post Road - Repeat 100.2 |
| 100.02 | B | 4 | U/S Face Post Road - Developed From 100.8, Bridge Detail, and Abrams Topo |
| 100.8 | C | 1 | Valley Section |
| 100.9 | | 3 | Valley Section - Repeat 100.8 |
| 101 | D | 1 | Valley Section |
| 101.5 | | 3 | Valley Section - Repeat 101 |
| 102.2 | E | 1 | Valley Section |
| 101.98 | | 3 | D/S Face John R Road - Repeat 102.2 |
| 102.02 | F | 3 | U/S Face John R. Road - Repeat 102.8 |
| 102.5 | | 3 | Valley Section - Repeat 102.8 |
| 102.54 | | 3 | D/S Face Footbridge - Repeat 102.8 |
| 102.56 | G | 3 | U/S Face Footbridge - Repeat 102.8 |
| 102.6 | | 3 | Valley Section - Repeat 102.8 |
| 102.8 | H | 2 | Valley Section - Right overbank modified due to retention pond and extended from Abrams Topo. |
| 103 | I | 1 | Valley Section |
| 103.3 | | 3 | Valley Section - Repeat 103 |
| 103.4 | | 3 | Valley Section - Repeat 103 |
| 103.58 | | 4 | D/S Face Private Drive - Developed from 103 and Abrams Topo. |
| 103.62 | J | 3 | U/S Face Private Drive - Repeat 104.2 |
| 104.2 | K | 1 | Valley Section |
| 103.98 | | 3 | D/S Face Hamman Road - Repeat 104.2 - modified for top width |
| 104.02 | L | 3 | U/S Face Hamman Road - Repeat 104.8 |
| 104.8 | M | 1 | Valley Section |
| 104.9 | | 3 | Valley Section - Repeat 104.8 |
| 105.2 | N | 1 | Valley Section |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO. 107
WATERCOURSE: HOUGHTON DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from Topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 104.98 | | 4 | D/S Face Calvert Rd - Developed from 105.2 and Bridge Detail |
| | O | | |
| 105.02 | | 4 | U/S Face Calvert Rd - Developed from 105.8 and Bridge Detail |
| 105.8 | P | 1 | Valley Section |
| 105.85 | | 3 | Valley Section - Repeat 105.8 |
| 105.9 | | 3 | Valley Section - Repeat 106 |
| 106 | Q | 1 | Valley Section |
| 106.5 | | 3 | Valley Section - Repeat 107 |
| 107 | R | 1 | Valley Section |
| 107.2 | | 3 | Valley Section - Repeat 107 |
| 107.5 | | 3 | Valley Section - Repeat 108.2 |
| 108.2 | S | 1 | Valley Section - D/S end Lanni Drain |
| See Section on "Comments" for details on starting water elevations developed for upstream of Lanni and Page Drains | | | |
| 108.89 | | 3 | Valley Section - U/S End of Page Drain - Repeat 109 |
| 109 | T | 1 | Valley Section |
| 109.1 | | 3 | Valley Section - Repeat 109 |
| 109.2 | | 4 | Valley Section - Developed from 110.5 and Abrams Topo |
| 109.22 | | 3 | Valley Section - Repeat 110.5 |
| 109.23 | | 3 | D/S Face Driveway Bridge - Repeat 110.5 |
| 109.24 | U | 3 | U/S Face Driveway Bridge - Repeat 110.5 |
| 109.25 | | 3 | Valley Section - Repeat 110.5 |
| 110.5 | V | 2 | Valley Section - Right overbank developed from Abrams TOPO and bridge profile (109.22 |
| 110.98 | | 3 | Valley Section - Repeat 110.5 |
| 110.99 | | | D/S Face Driveway Bridge - Repeat 110.5 |
| 111.01 | W | 3 | U/S Face Driveway Bridge - Repeat 110.5 |
| 111.02 | | 3 | Valley Section - Repeat 110.5 |
| 111.5 | | 3 | Valley Section - Repeat 110.5 |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO.
COMMUNITY: TROY FILE NO. 108
WATERCOURSE: HOUGHTON DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 111.98 | 3 | Valley Section - Repeat 110.5 |
| 111.99 | 3 | D/s Face Driveway Bridge - Repeat 110.5 |
| 112.01 | 3 | u/s Face Driveway Bridge - Repeat 110.5 |
| 112.02 | 3 | Valley Section - Repeat 110.5 |
| 112.5 | 3 | Valley Section - Repeat 110.5 |
| 112.98 | 3 | Valley Section - Repeat 110.5 |
| 112.99 | 3 | D/s Face Driveway Bridge - Repeat 110.5 |
| 113.01 | 3 | u/s Face Driveway Bridge - Repeat 110.5 |
| 113.02 | 3 | Valley Section - Repeat 110.5 |
| 113.2 | 3 | Valley Section - Repeat 110.5 |
| 113.5 | 4 | Valley Section - Developed From 110.5, 114.2, and Abrams Topo |
| 113.9 | 3 | Valley Section - Repeat 104.2 |
| 113.95 | 3 | Valley Section - Repeat 104.2 |
| 114.2 | Z 1 | Valley Section |
| 113.98 | 3 | D/s Face Private Drive - Repeat 114.2 |
| 114.02 | AA 3 | u/s Face Private Drive - Repeat 114.8 |
| 114.8 | AB 1 | Valley Section |
| 114.85 | 3 | Valley Section - Repeat 114.8 |
| 114.92 | 3 | Valley Section - Repeat 115.2 |
| 114.93 | 3 | D/s Face Footbridge - Repeat 115.2 |
| 114.94 | AC 3 | u/s Face Footbridge - Repeat 115.2 |
| 114.95 | 3 | Valley Section - Repeat 115.2 |
| 115.2 | AD 1 | Valley Section |
| 114.98 | 3 | D/s Face Belzair Road - Repeat 115.2 |
| 115.02 | AE 3 | u/s Face Belzair Road - Repeat 115.8 |
| 115.8 | AF 1 | Valley Section |
| 116 | AG 1 | Valley Section |
| 117.2 | AH 1 | Valley Section |
| 116.98 | 3 | D/s Face Long Lake Road - Repeat 117.2 |
| 117.02 | AI 3 | u/s Face Long Lake Road - Repeat 117.8 |
| 117.8 | AJ 1 | Valley Section |

COMMUNITY: TROY
WATERCOURSE: HOUGHTON DRAIN

## TABLE 2 - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F$, $K_F = \frac{29 n^2 l}{R^{4/3}}$ $R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 99.98-100.02 | 1.9 | 58.9 | 47.1 | 1.25 | .025 | 48 | 0.65 | 3.55 | Post Rd - grati. on upstream side |
| 101.98-102.02 | 0.35 | 57.2 | 33.4 | 1.71 | .020 | 40 | 0.25 | 1.6 | John R. Road |
| 103.58-103.62 | 0.9 | 47.2 | 36. | 1.31 | .025 | 20 | 0.25 | 2.15 | Private Drive |
| 103.98-104.02 | 0.9 | 46.2 | 28. | 1.65 | .025 | 90 | 0.85 | 2.75 | Hamman Rd. |
| 104.98-105.02 | 0.9 | 56.6 | 44. | 1.29 | .025 | 82 | 1.05 | 2.95 | Calvert Rd. |
| 113.98-114.02 | 0.4 | 11.2 | 11.2 | 1. | .013 | 33 | 0.15 | 1.55 | Private Drive |
| 114.98-115.02 | 0.5 | 34.6 | 15. | 2.3 | .025 | 38 | 0.25 | 1.75 | Belzair Road |
| 116.98-117.02 | Loss thru bridge culvert (see bridge sketch for visual aid) | | | | | | | | Long Lake Rd |
| 4'ø 100yr (2350 cfs) hr = 19.73 | (partially filled w/debris) | 9.82 | 8.2 | 1.2 | .015 | 20 | .10 | | |
| | | | $K_e = 0.4$, Tee = 1.3, Expansion = 0.5 | | | | | | |
| 100y (550 cfs) 5'ø hr = 56.72 | (partially filled w/debris) | 9.1 | 7.58 | 1.2 | .015 | 42 | .20 | | |
| | | | | $K_{exit} = 1.0$ | | | | | |
| | | | | $X_{KOR_{5'ø}} = 1.2$ | | | | | |
| | | | $X_{KOR_{4'ø}}$ in terms of 5'ø $= 2.3 \times \frac{19.73_{4'}}{56.72_{5'}} = .8$ | | | | | | |
| | | | | | | | | $X_{KOR\,TOTAL}$ (in terms of 5'ø) = 2.0 | |

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Shanahan Drain

STUDY LIMITS: Entrance to Henry Graham Drain (downstream limit) to John R. Road (upstream limit)

DATE OF AERIAL SURVEY: Abrams Aerial Survey - November 1975

DATE OF LAND SURVEY: McNamee Porter and Seeley Field crew 5/21/79, 7/16/79

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/18/79

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic map 1"=2000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

Channel "n" .055
Overbank "n" .080
n values thru bridges .025
Contraction Coefficients 0.15-0.3
Expansion Coefficients 0.35-0.5

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100-year flow by raising and lowering all Manning channel "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation.

## Computer Outputs

Enclosed are complete computer outputs for (i). 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood profiles and (iii) convergence test and sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500-year flood plains at this time since this will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile).

The 100 year and 500 year floodplains will cover a large area upstream of cross section 401.8. However, it has been determined that there would be less than 0.5 feet of depth on the floodplain for the 100 year flow, therefore storage will not be significant.

EE. PORTER & SEELEY
ONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-470S
COMMUNITY:
WATERCOURSE:
SHEET NO
FILE NO
DATE 2-27-80
CHK BY
DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 400.3 | 3 | Valley Section - Repeat 401.2 |
| 400.5 | 3 | Valley Section - Repeat 401.2 |
| 401.2 | ~~J~~ ~~K~~ L 1 | Valley Section |
| 400.98 | ~~J~~ ~~K~~ M 3 | D/S Face Anvil Drive - Repeat 401.2 |
| 401.02 | ~~J~~ ~~K~~ M 3 | U/S Face Anvil Drive - Repeat 401.8 |
| 401.8 | ~~J~~ ~~K~~ N 1 | Valley Section |
| 401.85 | 3 | Valley Section |
| 401.9 | 3 | Valley Section - Repeat 402 |
| 402 | ~~J~~ ~~K~~ O 2 | Valley Section - Modified to eliminate ineffective overbank area |
| 402.5 | 3 | Valley Section - Repeat 402 |
| 403 | ~~J~~ ~~K~~ P 1 | Valley Section |

U/S REACH ADDED TO D/S REACH ON PROFILE ∴ LETTERS CHANGED

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY:
WATERCOURSE:

SHEET NO
FILE NO
DATE
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DATE



# TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 400.3 | | 3 | Valley Section - Repeat 401.2 |
| 400.5 | | 3 | Valley Section - Repeat 401.2 |
| 401.2 | A | 1 | Valley Section |
| 400.98 | | 3 | D/S Face Anvil Drive - Repeat 401.2 |
| 401.02 | B | 3 | U/S Face Anvil Drive - Repeat 401.8 |
| 401.8 | C | 1 | Valley Section |
| 401.85 | | 3 | Valley Section |
| 401.9 | | 3 | Valley Section - Repeat 402 |
| 402 | D | 2 | Valley Section - Modified to eliminate ineffective overbank area |
| 402.5 | | 3 | Valley Section - Repeat 402 |
| 403 | E | 1 | Valley Section |

COMMUNITY:

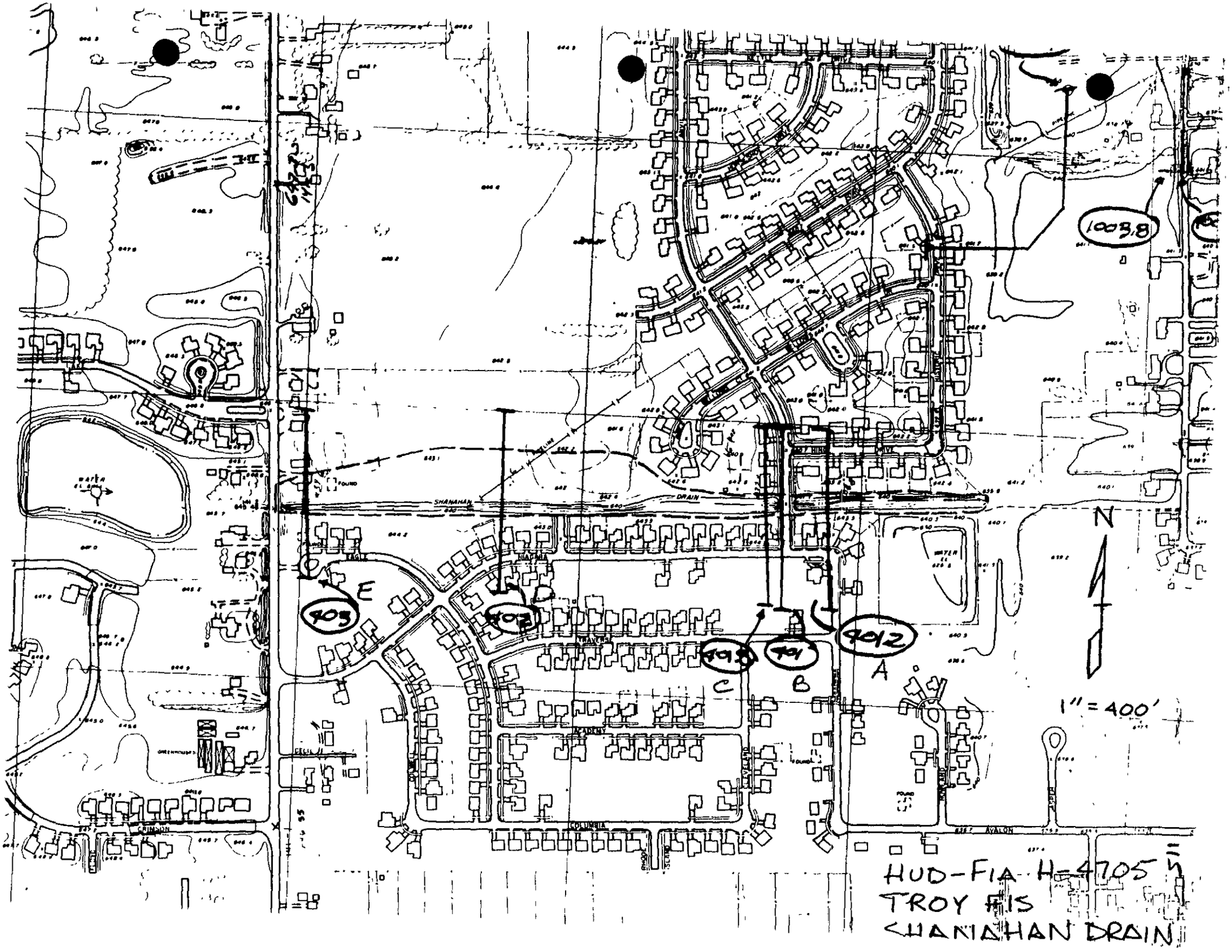
WATERCOURSE:



## TABLE 2 – XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 400.98-401.02 | 0.5 | 28.3 | 30.8 | 0.92 | .025 | 49 | 1.0 | 2.5 | Anvil Rd. |


1003.8
N
1" = 400'
E
403
402
401
B
C
A
SHANAHAN
DRAIN
EAGLE
MAPLE
TRAVERSE
ACADEMY
COLUMBIA
CRIMSON
AVALON
HUD-FIA H-4705
TROY #15
SHANAHAN DRAIN

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland County, Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Sturgis Drain

STUDY LIMITS: Junction with Douglas Drain (enclosure from Henry Graham West to Eldridge Rd.), downstream limit, to upstream of Livernois Road, upstream limit.

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/16/79 - 7/30/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to hydrology in December, 1979 enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" =1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045-.055 |
| Overbank "n" | .08-.095 |
| n values thru bridges | .013-.027 |
| Contraction Coefficients | 0.15-0.4 |
| Expansion Coefficients | 0.35-0.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review,please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

Starting Conditions

Starting conditions are discussed in the introductory section on Drains Tributary to Henry Graham Drain. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%.

High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. (See the enclosed 1" = 400' topographic map for floodway delineation).

Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations and (iii) convergence test and sensitivity analysis for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

We have, however, delineated a portion of the 100 year flood plain in the large storage area discussed in the revised hydrology section. (See the enclosed 1" = 400' topographic map).

At concrete footbridge C (502.98-503.02) the elevation of the low chord was lowered from 648.8 to 648.0 in order to correctly model pressure flow for the 10 year flow. The ELLC at Big Beaver (506.98-507.02) was lowered from 657.3 to 654.2 in order to correctly model pressure flow for the 10 and 50 year flows. The ELLC at Urban Crest (507.98-508.02) was lowered from 656.6 to 656.0 in order to correctly model pressure flow for the 10 year flow. The ELLC at Wilton Road (520.48 - 520.52) was lowered from 680.1 to 679.5 in order to correctly model pressure for the 10 year flow.

Sturgis and Lane Drain routings

The field information has shown that there is a significant amount of storage available on Lane and Sturgis Drains a little upstream of their confluence. Since this storage is common to both drains, hydrographs for each drain were computed using Brater's method, combined and routed through the storage using HEC-1. It was found that the total outflow was about equal to the total outflow values previously reported. This occurred because the peaks occur almost simultaneously, which had not previously been taken into account. Therefore, the routing versus the simultaneous peaks had off-setting effects. Between the outlet from the storage and the confluence, the flows were split according to the elevation-outflow curves for each drain. Downstream of the confluence, the additional drainage area is small and narrow. Therefore, no additional increase to the peak was computed. The revised flows are shown in the attached table. The drains at their confluence will be started at coincident elevations since the peaks are expected to occur almost simultaneously.

Table 12 (cont.)

Summary of Proposed Drainage

| Flooding Source and Location | Drainage Area (mi²) | Peak Discharge (cfs) 10yr | 50yr | 100yr | 500yr |
|---|---|---|---|---|---|
| **Houghten Drain** | | | | | |
| From Henry Graham Drain | 2.82 | | | | |
| To | | 480 | 750 | 960 | 1310 |
| Long Lake Village Sub (Hubbard Rd Extended) | 1.98 | | | | |
| To | | 410 | 630 | 790 | 1070 |
| Rochester Rd | 1.45 | | | | |
| TO | | 315 | 520 | 660 | 900 |
| D/S Long Lake Rd | 1.07 | | | | |
| **Shanahan Drain** | | | | | |
| FROM Henry Graham Drain | 1.15 | | | | |
| To | | 240 | 460 | 560 | 750 |
| John R. Rd. | 0.97 | | | | |
| **Sturgis Drain** | | | | | |
| FROM Henry Graham Drain | 5.71 | | | | |
| To | | ~~520~~ | ~~880~~ | ~~1220~~ | ~~1700~~ |
| Lane Drain - D/s | 5.71 | 480 | 830 | 1030 | 1510 |
| To | | | | | |
| Lane Drain - u/s | 3.03 | | | | |
| To | | ~~360~~ | ~~640~~ | ~~820~~ | ~~1150~~ |
| Wattles Rd - D/S | 2.63 | 290 | 490 | 580 | 760 |
| To | | ~~340~~ | ~~590~~ | ~~760~~ | ~~1050~~ |
| Wattles Rd - (750' u/s) | 2.23 | | | | |
| To | | ~~320~~ | ~~530~~ | ~~680~~ | ~~960~~ |
| Unnamed Tributary North of Randall Rd - D/S | 1.47 | | | | |
| To | | | | | |
| Unnamed Tributary North of Randall Rd - u/s | 1.20 | | | | |
| To | | 195 | 315 | 400 | 580 |
| [illegible] Rd | [illegible] | | | | |

Table 12 (cont)

Summary of Proposed Discharges

| Flooding Source and Location | Drainage Area ($mi^2$) | Peak Discharge (cfs) 10yr | 50yr | 100yr | 500yr |
|---|---|---|---|---|---|
| **Lane Drain** | | | | | |
| FROM | | | | | |
| Sturgis Drain | 2.18 | | | | |
| To | | ~~300~~ | ~~460~~ | ~~550~~ | ~~740~~ |
| Troy High School | 1.61 | 190 | 340 | 450 | 750 |
| **Hawthorn Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | 1.27 | | | | |
| To | | 400 | 750 | 870 | 1200 |
| John R | 1.0 | | | | |
| **Spencer-Barnard Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | 4.99 | | | | |
| To | | 1550 | 2800 | 3200 | 4600 |
| I-75 | 4.63 | | | | |
| To | | 1480 | 2700 | 3100 | 4400 |
| East of Livernois Rd. | 3.3 | | | | |
| **Overflows** | | | | | |
| **Houghten Drain** | | | | | |
| overflow to Gibson Drain | | — | — | 200 | 550 |
| From | | | | | |
| Confluence with Shanahan | 0.42 | | | | |
| To | | 180 | 250 | 300 | 430 |
| Mt. Vernon retention pond outlet | 0.22 | | | | |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section; Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from Topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 501 | A | 2 | Valley Section - Modified Width and Local high spot Entrance to Douglas Drain |
| 501.1 | | 4 | Valley Section - Developed from 501, 502, and Abrams Topo |
| 501.2 | | 4 | Valley Section - Developed from 501, 502, and Abrams Topo |
| 501.4 | | 3 | Valley Section - Repeat 502 |
| 502 | B | 2 | Valley Section - Modified left o'bank to eliminate retention pond area |
| 502.2 | | 3 | Valley Section - Repeat 502 |
| 502.4 | | 3 | Valley Section - Repeat 502 |
| 502.98 | | 3 | D/S Face Concrete Footbridge - Repeat 502 |
| 503.02 | C | 3 | U/S Face Concrete Footbridge - Repeat 502 |
| 504.2 | D | 1 | Valley Section |
| 503.98 | | 3 | D/S Face Private Rd - Repeat 504.2 |
| 504.02 | E | 3 | U/S Face Private Rd - Repeat 504.2 |
| 504.8 | F | 1 | Valley Section |
| 504.9 | | 3 | Valley Section - Repeat 505 |
| 505 | G | 1 | Valley Section |
| 506 | H | 2 | Valley Section - Limited Width due to structures |
| 506.1 | | 3 | Valley Section - Repeat 506 |
| 506.15 | | 3 | D/S Face Footbridge - Repeat 506 |
| 506.16 | I | 3 | U/S Face Footbridge - Repeat 506 |
| 506.17 | | 3 | Valley Section - Repeat 506 |
| 507.2 | J | 1 | Valley Section |
| 506.98 | | 3 | D/S Face Big Beaver - Repeat 507.2 |
| 507.02 | K | 3 | U/S Face Big Beaver - Repeat 507.8 |
| 507.8 | L | 1 | Valley Section |
| 507.98 | | 3 | D/S Face Urban Crest - Repeat 507.8 |
| 508.02 | M | 3 | U/S Face Urban Crest - Repeat 508.8 |
| 508.8 | N | 1 | Valley Section |
| 508.98 | | 3 | D/S Face Rochester Rd - Repeat 508.8 |
| 509.02 | O | 3 | U/S Face Rochester Rd - Repeat 509.8 |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 509.8 | P | 1 | Valley Section |
| 510 | Q | 1 | Valley Section |
| 511.2 | R | 1 | Valley Section |
| 510.98 | | 3 | D/S Face Hartland Rd - Repeat 511.2 |
| 511.02 | S | 3 | U/S Face Hartland Rd - Repeat 511.8 |
| 511.8 | T | 1 | Valley Section |
| 512 | U | 1 | Valley Section |
| 512.2 | | 3 | Valley Section - Repeat 512 |
| 513 | V | 1 | Confluence w/ Lane Drain<br>Valley Section |
| 513.1 | | 3 | Valley Section - Repeat 513 |
| 513.15 | | 3 | D/S Face Footbridge - Repeat 513 |
| 513.16 | W | 3 | U/S Face Footbridge - Repeat 513 |
| 513.17 | | 3 | Valley Section - Repeat 513 |
| 514.2 | X | 1 | Valley Section |
| 513.98 | | 3 | D/S Face Trombley Rd - Repeat 514.2 |
| 514.02 | Y | 3 | U/S Face Trombley Rd - Repeat 514.8 |
| 514.8 | Z | 1 | Valley Section |
| 514.9 | | 3 | Valley Section Repeat 514.8 |
| 514.91 | | 3 | D/S Face Footbridge - Repeat 514.8 |
| 514.92 | AA | 3 | U/S Face Footbridge - Repeat 514.8 |
| 514.93 | | 3 | Valley Section - Repeat 514.8 |
| 514.98 | | 3 | D/S Face Colebrook Rd - Repeat 514.8 |
| 515.02 | AB | 4 | U/S Face Colebrook Rd - Developed from 515.8 and bridge profile |
| 515.8 | AC | 1 | Valley Section |
| 515.85 | | 3 | Valley Section - Repeat 515.8 |
| 515.9 | | 3 | Valley Section - Repeat 516 |
| 515.95 | | 3 | D/S Face Footbridge - Repeat 516 |
| 515.96 | AD | 3 | U/S Face Footbridge - Repeat 516 |
| 515.97 | | 3 | Valley Section - Repeat 516 |
| 516 | AE | 1 | Valley Section |

McNAMEE, PORTER & SEELEY
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JOB: HUD-FIA H-4705 SHEET NO 124
COMMUNITY: TROY FILE NO
WATERCOURSE: STURGIS DRAIN
DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 516.2 | | 3 | Valley Section - Repeat 516 |
| 516.4 | | 3 | Valley Section - Repeat 517 |
| 517 | AF | 1 | Valley Section |
| 517.2 | | 3 | Valley Section - Repeat 517 |
| 517.8 | | 3 | Valley Section - Repeat 518.2 |
| 518.2 | AG | 1 | Valley Section |
| 517.98 | | 3 | D/S Face Whittles Road - Repeat 518.2 |
| 518.02 | AH | 3 | U/S Face Whittles Road - Repeat 518.8 |
| 518.8 | AI | 1 | Valley Section |
| 518.85 | | 3 | Valley Section - Repeat 518.8 |
| 518.9 | | 3 | Valley Section - Repeat 519.2 |
| 519.2 | AJ | 1 | Valley Section |
| 519.39 | | 3 | D/S Face Footbridge - Repeat 519.2 |
| 519.41 | AK | 3 | U/S Face Footbridge - Repeat 519.2 |
| 519.42 | | 3 | Valley Section - Repeat 519.2 |
| 519.5 | | 3 | Valley Section - Repeat 519.2 |
| 518.98 | | 3 | D/S Face Randall Road - Repeat 519.2 |
| 519.02 | AL | 4 | U/S Face Randall Road - Developed from 519.8, Bridge Profile, and Abrams Topo. |
| 519.8 | AM | 1 | Valley Section |
| 519.9 | | 3 | Valley Section - Repeat 520 |
| 519.92 | | 3 | D/S Face Footbridge - Repeat 520 |
| 519.93 | AN | 3 | U/S Face Footbridge - Repeat 520 |
| 519.94 | | 3 | Valley Section - Repeat 520 |
| 520 | AO | 1 | Valley Section |
| 520.1 | | 3 | Valley Section - Repeat 520 |
| 520.3 | | 3 | Valley Section - Repeat 520 |
| 520.4 | AP | 2 | Valley Section - Overbanks developed from 520 and Abrams Topo |
| 520.48 | | 3 | D/S Face Wilton Rd - Repeat 520.4 |
| 520.52 | AQ | 4 | U/S Face Wilton Rd - Developed from 520.4 and Vault Detail at Wilton Rd. |

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ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 125
COMMUNITY: TROY FILE NO.
WATERCOURSE: STURGIS DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 520.53 | | 4 | Vault Section u/s of Wilton Rd. - Repeat 520.52 |
| 520.54 | | 4 | D/S Face Vault at u/s Face of Wilton Rd. - Repeat 520.52 |
| | AR | | |
| 520.55 | | 3 | U/S Face Vault at u/s Face of Wilton Rd - Repeat 520.6 |
| 520.6 | AS | 2 | Valley Section - Overbanks developed from Abrams Topo |
| 521 | AT | 1 | Valley Section |
| 521.1 | | 3 | Valley Section - Repeat 521 |
| 521.2 | | 3 | Valley Section - Repeat 521 |
| 521.6 | | 4 | Valley Section - Developed from 522.2 and Abrams Topo |
| 521.7 | | 3 | Valley Section - Repeat 522.2 |
| 521.8 | | 3 | Valley Section - Repeat 522.2 |
| 522.2 | AU | 1 | Valley Section |
| 522.25 | | 3 | Valley Section - Repeat 522.2 |
| 521.98 | | 3 | D/S Face Livernois Rd. - Repeat 522.2 |
| | AV | | |
| 522.02 | | 4 | U/S Face Livernois Rd - Developed from 522.2, Vault Detail, and Abrams Topo |
| 522.3 | | 4 | Vault Section U/S of Livernois Rd - Repeat 522.02 |
| 522.4 | | 4 | D/S Face Vault at U/S Face of Livernois Rd. - Repeat 522.02 |
| | AW | | |
| 522.5 | | | U/S Face Vault at u/s Face of Livernois Rd - Repeat 522.02 |

COMMUNITY:

WATERCOURSE:

## TABLE 2 – XKOR CALCULATIONS

$$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 502.98-503.02 | 0.4 | 108.8 | 45.6 | 2.39 | .025 | 15 | 0.1 | 1.5 | Concrete Footbridge |
| 503.98-504.02 | 0.9 | 73.6 | 30.5 | 2.41 | .025 | 20 | 0.1 | 2.0 | Private Road |
| 506.98-507.02 | 0.5 | 76.6 | 30.3 | 2.63 | .025 | 116 | 0.6 | 2.1 | Big Beaver |
| 507.98-508.02 | 0.5 | 77.6 | 35. | 2.22 | .025 | 37 | 0.25 | 1.75 | Urban Crest |
| 508.98-509.02 | 0.35 | 194.4 | 80.4 | 2.42 | .020 | 190 | 0.7 | 2.05 | Rochester Road |
| 510.98-511.02 | 0.90 | 64.4 | 31.4 | 2.05 | .027 | 30 | 0.25 | 2.15 | Hartland Road |
| 513.98-514.02 | 0.50 | 23.8 | 17.3 | 1.38 | .013 | 50 | 0.15 | 1.65 | Trombley Road |
| 514.98-515.02 | 0.5 | 23.8 | 17.3 | 1.38 | .013 | 50 | 0.15 | 1.65 | Coleebrook Road |
| 517.98-518.02 | | 2.0 | | | | 50 | | 1.0 | Wattles Road - opening filled with concrete debris |
| 518.98-519.02 | 0.5 | 35.54 | 29.84 | 1.19 | .025 | 80 | 1.15 | 2.65 | Randall Road |
| 520.48-520.52 | 0.45 | 23.76 | 17.28 | 1.38 | .015 | 65 | 0.25 | 1.7 | Wilton Road - grating on u/s face (over top of vault) |
| 520.54-520.55 | 1.4 | 12.57 | 12.57 | 1.0 | .015 | 1.0 | — | 2.4 | Vault at u/s Face Wilton Rd - grating on circular vault opening |
| 521.98-522.02 | 0.9 | 14.2 | 18.84 | 0.75 | .015 | 90 | 0.85 | 2.75 | Livernois Road - grating on u/s face (over top of vault) |
| 522.4-522.5 | 0.4 | 6.66 | 22.68 | 0.29 | .015 | 1.0 | 0.05 | 1.45 | Vault at u/s Face Livernois Rd. |

Project: HUD-FIA-H-4705 City of Troy, Oakland County, MI

Sturgis Drain Hydrology Revision

Due to the construction of a subdivision along Sturgis Drain between Livernois Road and Randall Road, concerns were raised on the extent of the floodway shown on the original hydraulic submittal. It is felt that near Livernois Road, the reach lengths used for the hydrology were too long, yielding flows that were too high in the upper lengths of the reach. The revised hydrology which is expected to give more realistic results in the upper reaches is attached.

Enclosed are complete computer outputs for the 100-year natural and 100-year designated floodway; and the 10, 50 and 500 year flood plain elevations for your review. The computer runs were made starting downstream of Wattles Road to the upstream limit of study. Attached is a xerox of this reach in plan with the revised floodway shown in red. The enclosed print of the Troy workmap includes the revised floodway for this reach of Sturgis Drain.

# Revised Discharges - Sturgis Drain

| | Peak Discharge (cfs) | | | |
|---|---|---|---|---|
| | 10yr | 50 yr | 100yr | 500yr |
| From | | | | |
| Lane Drain To | 290 | 490 | 580 | 760 |
| Wattles Rd. To | 260 | 400 | 510 | 730 |
| Landall Rd. To | 195 | 315 | 400 | 580 |
| Wilton Rd To | 125 | 210 | 265 | 400 |
| Livernois Rd | | | | |

HUD-FIA H-4705
Sturgis Drain - Revised

JSW 7/24/80

Re-ran Sturgis Drain from D/s of Wattles to u/s Limit of study w/ revised flows (see attached sheet)

Elevations + Floodway widths were lowered, most significantly from D/s of Wilton Rd to u/s limit of study.

Special Bridge Routine was used at Randall Rd - however low flow computations were used. This was checked and is all right as the majority of flow is weir flow (submerged), so calculation with normal bridge is practical.

Wilton Road - modeling of vault at u/s side of Road - cross sections indicate wide Floodway width. Field data in this area is not good. cross section D/s of Wilton Rd (520.4) and cross section 521 (≈400 Feet u/s of Wilton) indicate all flow is in channel.

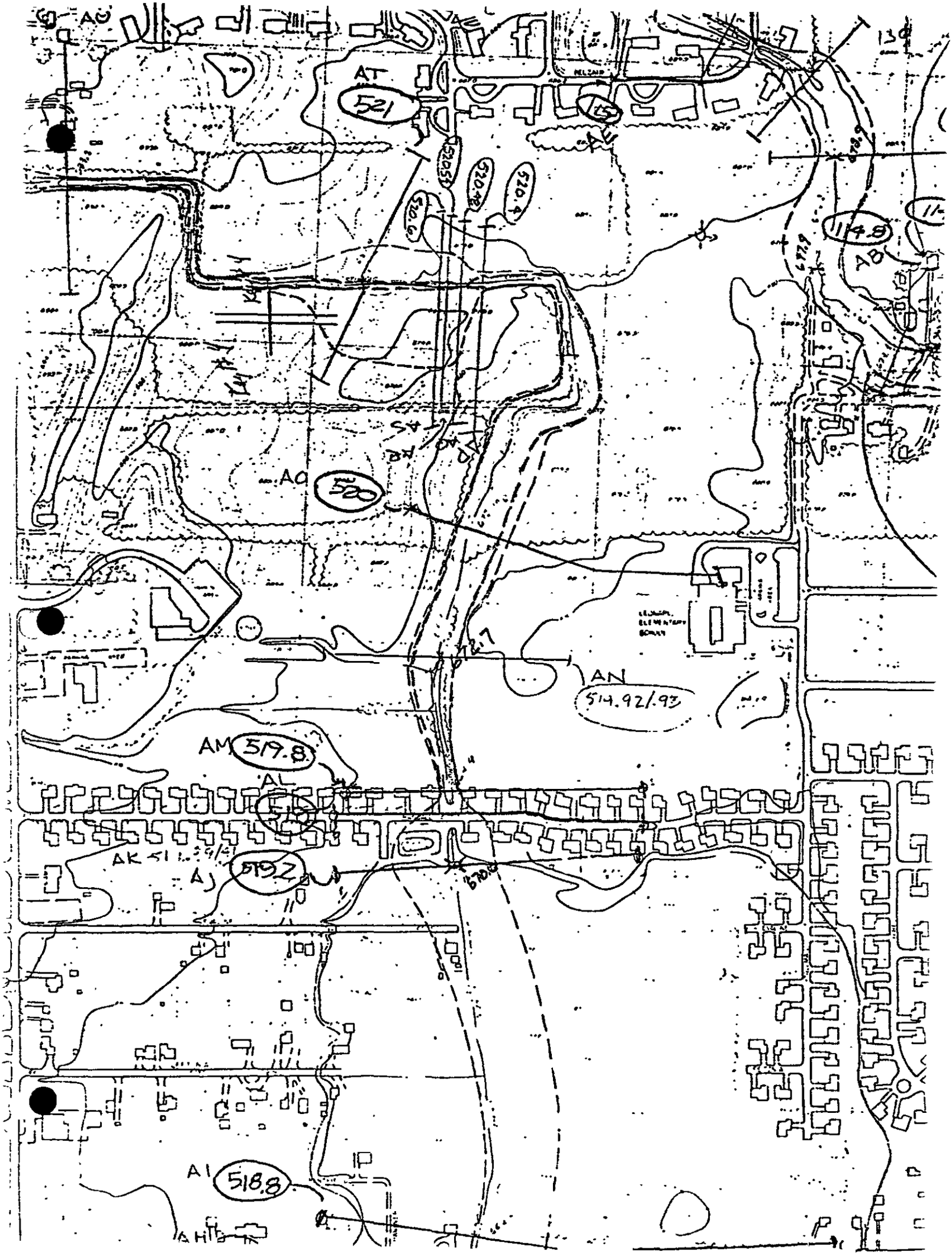
Check loss through vault by limiting flow area to vault width (17')

Flow depth ≈ 7.3' Area = 125 Ft²

$h_v = (265/125)^2/2g = .07$

XKOR for vault = 2.4 → $h_L \approx 0.15$

loss is not large enough to cause concern. Floodway width is to be contained with channel area both u/s and D/s of Wilton Rd.


AT
521
520.4
520.6
520.9
AQ
520
AN
514.92/.93
AM
519.8
AL
AK
AJ
519.2
AI
518.8
AB
514.9

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Lane Drain

STUDY LIMITS: Confluence with Sturgis Drain (downstream limit) to about 1300 feet upstream of Livernois Rd. (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY:

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to hydrology in December, 1979, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" =1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .055-.065 |
| Overbank "n" | .095-.10 |
| n values thru bridges | .013-.025 |
| Contraction Coefficients | .15 - .4 |
| Expansion Coefficients | .35 - .8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review,please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Lane Drain flows were determined to be coincident with Sturgis Drain flows, therefore Lane Drain was started at the elevation in Sturgis Drain at their confluence point. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%.

## High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. The floodway was modified per engineering judgement at cross sections 602.8 to 604.2 (I to K). (See the enclosed 1" = 400' topographic map for floodway delineation). The floodway was modified in this reach due to the large north-south storage area available. (See comments).

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations and (iii) convergence test and sensitivity analysis for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

We have however, delineated a portion of the 100 year floodplain in the large storage area discussed previously and also explained in the revised hydrology section. (See the enclosed 1" = 400' topographic map). The floodway in this reach was modified to a more expected width than what the computer analysis resulted in. At Livernois (603.98-604.02) the elevation of the low chord was lowered from 668.7 to 667.0 in order to correctly model pressure flow for the 10 year flow.

Revised Hydrology

See Sturgis and Land Drain Routings in the Sturgis Drain report.

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified For modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 600.1 | | 4 | Valley Section - Confluence with Sturgis Drain - Developed from Abrams Topo. |
| 600.15 | | 3 | Valley Section - Repeat 600.2 |
| 600.2 | A | 1 | Valley Section |
| 599.98 | | 3 | D/S Face Ellenboro Road - Repeat 600.2 |
| 600.02 | B | 3 | U/S Face Ellenboro Road - Repeat 600.8 |
| 600.8 | C | 1 | Valley Section |
| 600.82 | | 3 | Valley Section - Repeat 600.8 |
| 600.83 | | 3 | D/S Face Footbridge - Repeat 600.8 |
| 600.84 | D | 3 | U/S Face Footbridge - Repeat 600.8 |
| 600.85 | | 3 | Valley Section - Repeat 600.8 |
| 600.87 | | 3 | Valley Section - Repeat 600.8 |
| 600.98 | | 3 | D/S Face Kilmer Road - Repeat 600.8 |
| 601.02 | E | 3 | U/S Face Kilmer Road - Repeat 601.8 |
| 601.8 | F | 1 | Valley Section |
| 602.1 | | 3 | Valley Section - Repeat 602.2 |
| 602.2 | G | 1 | Valley Section |
| 601.98 | | 3 | D/S Face Talbot Road - Repeat 602.2 |
| 602.02 | H | 4 | U/S Face Talbot Road - Developed From 602.8 |
| 602.8 | I | 1 | Valley Section |
| 602.85 | | 3 | Valley Section - Repeat 602.8 |
| 602.9 | | 3 | Valley Section - Repeat 603 |
| 603 | J | 2 | Valley Section - Overbanks extended by use of Abrams Topo. |
| 603.3 | | 3 | Valley Section - Repeat 603 |
| 603.4 | | 3 | Valley Section - Repeat 604.2 |
| 604.2 | K | 2 | Valley Section - Overbanks modified From Abrams TOPO |
| 603.98 | | 3 | D/S Face Livernois - Repeat 604.2 |
| 604.02 | L | 4 | U/S Face Livernois - Developed from 604.8 and Bridge Detail |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 13
COMMUNITY: TROY FILE NO.
WATERCOURSE: LANE DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 604.5 | | 4 | Valley Section - Modified from 604.8 |
| 604.68 | | 4 | Valley Section - Repeat 604.5 |
| 604.69 | | 4 | D/S Face Footbridge - Repeat 604.5 |
| 604.71 | M | 4 | U/S Face Footbridge - Repeat 604.5 |
| 604.72 | | 4 | Valley Section - Repeat 604.5 |
| 604.8 | N | 1 | Valley Section |
| 604.88 | | 3 | Valley Section - Repeat 604.8 |
| 604.89 | | 4 | D/S Face Footbridge at Troy High School - Developed from Bridge Detail |
| 604.91 | O | 4 | U/S Face Footbridge at Troy High School - Repeat 604.89 |
| 604.92 | | 3 | Valley Section - Repeat 604.8 |
| 604.95 | | 3 | Valley Section - Repeat 604.8 |
| 605 | P | 1 | Valley Section |
| 605.3 | | 4 | Valley Section - Developed from 605 and Abrams Topo. |

COMMUNITY: TROY
WATERCOURSE: LANE DRAIN

## TABLE 2 — XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 599.98-600.02 | 0.9 | 27.4 | 15.66 | 1.75 | .025 | 40 | 0.35 | 2.25 | Ellenboro Road |
| 600.98-601.02 | 0.5 | 19.63 | 15.71 | 1.25 | .013 | 55 | 0.2 | 1.7 | Kilmer Road |
| 601.98-602.02 | 0.9 | 60.3 | 27.52 | 2.19 | .025 | 50 | 0.2 | 2.1 | Talbot Road |
| 603.98-604.02 | 0.4 | 69.0 | 33.8 | 2.04 | .020 | 80 | 0.35 | 1.75 | Livernois Road |

I-75
CHRYSLER
LANE DR.
FLOODWAY
(WEST OF
LIVERNOIS)
0.5 KM
N
MAP
COPY

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Spencer-Barnard Drain

STUDY LIMITS: Junction with Henry Graham Drain (downstream limit) to about 800 feet downstream of Livernois Ave., at exit from an enclosure (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/30/79-8/17/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to Hydrology in December, 1979, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045-.055 |
| Overbank "n" | .065-.090 |
| n values thru bridges | .02-.025 |
| Contraction Coefficients | .15-.4 |
| Expansion Coefficients | .35-.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

Ignore marks + hand written notes – report is as it is typed!

use this

Starting Conditions

Normal depth starting conditions were used for the Stonycroft Drain. ~~Using~~ Use of coincident timing of flood peaks at the Quarton/Stonycroft confluence resulted in critical depth at the downstream section. The water surface at the upstream end of the drain was insensitive to the starting condition employed.

~~Starting conditions are discussed in the introductory section on Drains Tributary to Henry Graham Drain. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%.~~

High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. ~~(See the enclosed 1" = 400' topographic map for floodway delineation).~~

Computer Outputs

Enclosed are complete computer outputs for (i) 100-year natural and 100-year ~~designed~~ designated floodway, (ii) 10, 50 and 500 year flood plain elevations and (iii) ~~convergence test and~~ the sensitivity analysis for your review.

Comments

~~We have not delineated the 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).~~ We have delineated only the 10-year flood plain at this time since the entire Stonycroft Drain within the city of Bloomfield Hills, which is not included in the study area. Stonycroft Drain was modelled to obtain [illegible] starting elevations for the two upstream [illegible]

Spencer-Barnard Drain revised hydrology

During hydraulic investigation, it has been found that several enclosures, which we were not previously aware of, will affect the hydrology of the system. The majority of the tributary area comes to the drain upstream of Maple Road through several large enclosures. Any flow in excess of the capacity of the enclosures will be forced to flow overland. Unless there is a reasonably efficient overland flow path, the contribution of this flow to the peak flow in the downstream open channel will be greatly reduced. Along Maple Road, upstream of Livernois, it is estimated that about 500 cfs can flow through the Halfpenny Drain enclosure and about 400 cfs can flow over the road. Therefore, unplanned retention and slow overland routes would tend to have the same effect on the 100 year as the planned retention ponds have on the 10 year. For this branch, an effective population density of 6000 was used for all frequencies. Another enclosure, Mastin Drain, flows along the old channel upstream of Livernois and then turns south to join Halfpenny Drain east of Livernois. There is no well defined overland flow route. It is expected that a little flow will go along Livernois to Maple Road and that some will flow into the open channel just downstream of Livernois. An effective population density of 4000 was used for the flow to Halfpenny Drain. Additionally, a little increase in area was allowed for the open channel from Maple Road to a little downstream of Livernois. At Maple Road, an overall area with a weighted population density was used. Because the drainage area is very narrow, no further increase was allowed for in the peak flows downstream of Maple Road. A table of calculated areas and flows are included, as well as a table of the proposed flows.

| | | | | | |
|---|---|---|---|---|---|
| | | 10 | 50 | 100 | 5 |
| Halfway Drain | | | | | |
| A = 1.1 | $P_d$ = 6000 | 530 | 780 | 900 | 1100 |
| Main Drain | | | | | |
| A = 2.2 | $P_d$ = 4000 | 650 | 900 | 1100 | 1500 |
| Local to remaining open drain plus some consideration for upstream overland flow | | | | | |
| A = 1.0 | $P_d$ = 4000 | 370 | 580 | 660 | 850 |
| Overall | | | | | |
| A = 4.2 | $P_d$ = 4500 | 1100 | 1600 | 1900 | 2600 |

# Summary of Proposed Discharges

| Flooding Source and Location | Drainage Area (mi²) | Peak Discharge (cfs) 10 yr | 50 yr | 100 yr | 500 yr |
|---|---|---|---|---|---|
| **Lane Drain** | | | | | |
| FROM | | | | | |
| Sturgis Drain | 2.18 | | | | |
| To | | 300 | 460 | 550 | 740 |
| Troy High School | 1.61 | | | | |
| **Hawthorn Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | 1.27 | | | | |
| To | | 400 | 750 | 870 | 1200 |
| John R | 1.0 | | | | |
| **Spencer-Barnard Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | ~~4.99~~ 5.0 | 1100 | 1600 | 1900 | 2600 |
| To | | ~~1550~~ | ~~2800~~ | ~~3200~~ | ~~4600~~ |
| ~~I-75~~ Maple Rd. | ~~4.63~~ 4.2 | 370 | 580 | 660 | 850 |
| To | | ~~1480~~ | ~~2700~~ | ~~3100~~ | ~~4400~~ |
| East of Livernois Rd. | ~~3.3~~ | | | | |
| **Overflows** | | | | | |
| **Houghten Drain** | | | | | |
| overflow to Gibson Drain | | — | — | 200 | 550 |
| From | | | | | |
| Confluence with Shanahan | 0.42 | | | | |
| To | | 180 | 250 | 300 | 430 |
| Mt Vernon retention pond outlet | 0.22 | | | | |

Loss Through Enclosure Between Rochester Rd. and Maple Road

The model for Spencer-Barnard Drain was run in two segments; from the junction with Henry Graham Drain to the enclosure exit just downstream of Rochester Road, and from the enclosure entrance upstream of Maple Road to the upstream limit of the study.

A simple hand calculation was performed in order to determine the loss through the enclosure, and the amount of flow which would occur over Maple Road. The following calculations determine the loss through the enclosure and set starting elevations at the upstream side of Maple Road. The calculations support the conclusions stated in the revised Hydrology section.

HUD-FIA H-4705 T-06
TROY - SPENCER DRAIN
ENCLOSURE (ROCH. to MAPLE RDS)

JSW
2/4/80

Exit Loss:

Area opening (w/ screen)
26.75' × 11' = 294.25 ft²
15' ENCLOSURE → Area = 176.7 ft²

| | | coeff. |
|---|---|---|
| screen | | 0.8.2 |
| opening | | 1.0 |

| | | | |
|---|---|---|---|
| 3 - 45° | 3 × .2 | = | ~~.6~~ .3 |
| 1 - 22° | 1 × .1 | = | .1 |
| | | | ~~2.5~~ 1.6 |

$$h_F = 4.74\, Q^{1.85} \frac{L}{d^{4.87} C^{1.85}}$$

$L_{act.} = 1857$ $L = 1000'$

$$h_F = 4.74\, Q^{1.85} \frac{(1000)}{15^{4.87}\, 100^{1.85}} = Q^{1.85} \times 1.8 \times 10^{-6}$$

$h_{F_{1100}} = .762$ / $h_{F_{1600}} = 1.52$ / $h_{F_{1900}} = 2.09$ / $h_{F_{2600}} = 3.74$
$h_{v_{1100}} = .60$ $h_{v_{1600}} = 1.27$ $h_{v_{1900}} = 1.80$ $h_{v_{2600}} = 3.36$

| | | D/s Elev | u/s Elev |
|---|---|---|---|
| $h_{L_{1100}}$ | $= 2.5(.6) + .762(1.857) = 2.92$ <br> 1.5 + 1.42 | 651.85 | 654.77 |
| $h_{L_{1600}}$ | $= 2.5(1.27) + 1.52(1.857) = 6.0$ <br> 3.18 + 2.82 | 653.27 | 659.27 |
| $h_{L_{1900}}$ | $= 2.5(1.80) + 2.09(1.857) = 8.38$ <br> 4.5 + 3.88 | 653.83 | 662.21 |
| $h_{L_{2600}}$ | $= 2.5(3.36) + 3.74(1.857) = 15.35$ <br> 8.4 + 6.95 | 655.06 | 670.41 |

TPRD - Maple Rd ~~657.7~~ 658.8 (grd above intersection of 15'Ø, 13'Ø, + 10'Ø = 659.5)

$h_{F_{1500}} = 1.39$ $h_v = 1.12$ $h_L = 2.5(1.12) + 1.857(1.39) = 5.38$
u/s elev = 658.6

for 100 yr - about 1500 will go thru 15'Ø, 400 cfs overland.

HUD-FIA H-4705 T-06
TROY - SPENCER DRAIN
ENCLOSURE (ROCH. TO MAPE RDS)

JSW
2/4/80

85' - 10'Ø (u/s from 1857' - 15'Ø) to u/s face @ Maple Rd.

100 yr Flow = 660 cfs

10' Ø → A = 78.54 ft² + screen coeff = 1.2
Area vault = 14'×14' = 196'
enlargement 10' → 15' $k_e$ = .3
7.5

$h_{F_{660}} = \frac{4.74\,Q^{1.85}(1000)}{10^{4.87}\cdot 100^{1.85}} = 1.28\times10^{-5}\times Q^{1.85} = 2.106$

$h_{v_{660}} = 1.10$

Q = 260 ⇒ $h_F$ = .38, $h_{v_{260}}$ = .17 } $h_L$ = .29 elev = 658.9 ie @ TPRD

weir flow of 400

$h_{L_{660}} = 15(1.1) + .085(2.106) = 7.65 + .18 = 1.83$

(all flow thru culv.) u/s elev = 660.4

∴ 400 cfs over
400 = 2.8×75 fzgh
$h_L$ = .1
elev = 66.
for 1

For 100 yr ~~-~~ some flow will be over Maple Rd ..... , use

Assume 100 yr strt elev u/s enclosure ~~@ 660.4~~ 659.

10 yr

elev @ intersec of 3 Ø pipes = 651.85

$h_{F_{370}}$ = .72 $h_{v_{370}}$ = .34 $h_L$ = .34(1.5) + .72(.085) = .57

u/s elev = 652.4

Not all flow thru the culvert; calculations show this; so elevations must be mod. for weir.

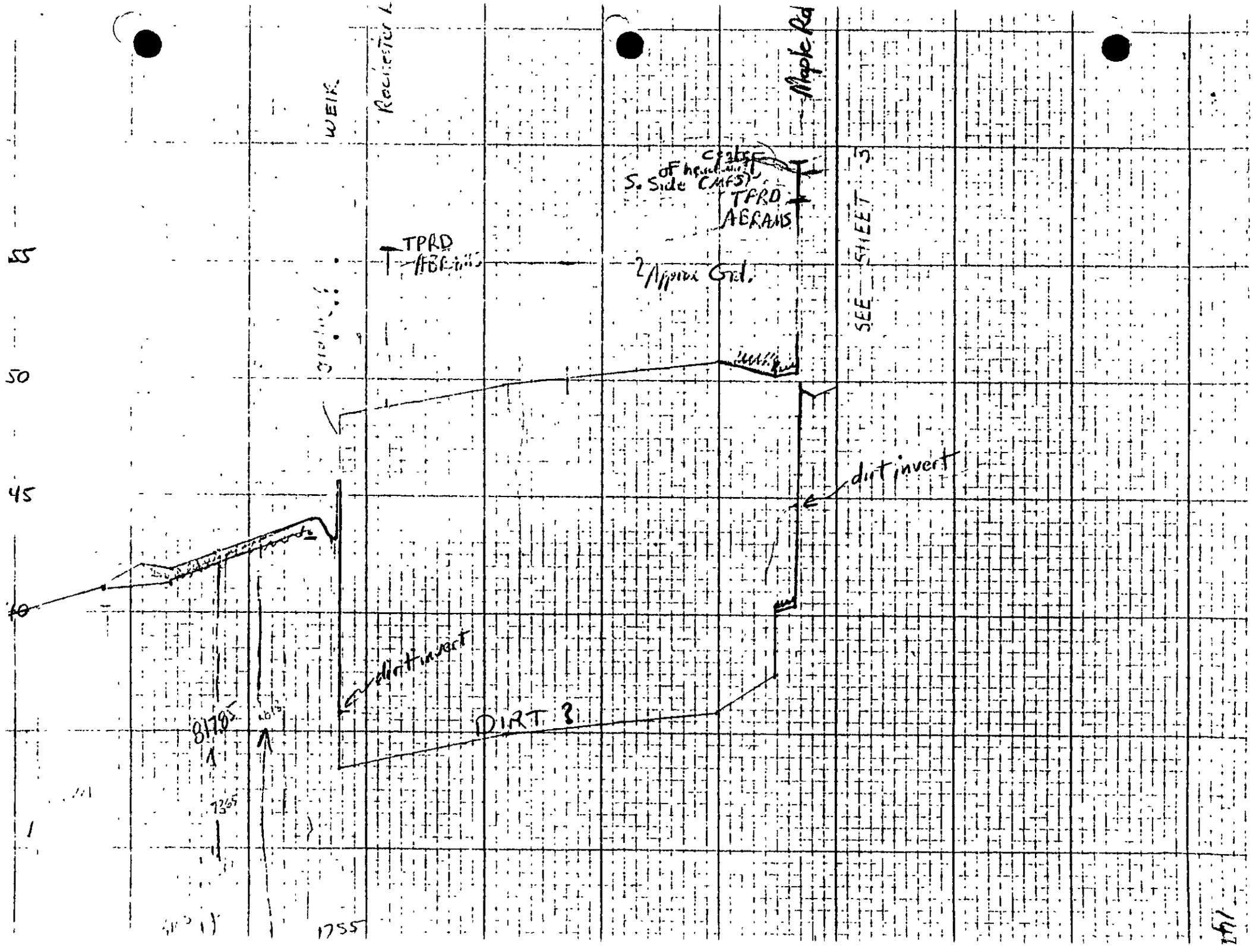
50 yr elev of 3 Ø same as 100 yr, ie 658.6

$h_{F_{580}}$ = 1.66 $h_v$ = .85 $h_L$ = .85(1.5) + 1.66(.085) = 1.42

u/s elev = ~~660.~~ 658.7

500 yr

Assume @ ~~660.4~~ 659.2


WEIR
Rochester
Maple Rd
S. Side
TPRD
AERIALS
TPRD
AERIALS
Approx Grd.
SEE SHEET 3
dirt invert
dirt invert
DIRT ?
55
50
45
40
1
1755

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 147
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPENCER-BARNARD DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 804 | | 3 | Valley Section - Repeat 805.2 - Junction with Henry Graham Drain |
| 805.2 | A | 1 | Valley Section |
| 804.98 | | 3 | D/s Face Bridge - Repeat 805.2 |
| 805.02 | B | 4 | U/s Face Bridge - Developed from 805.8 and Bridge Profile |
| 805.8 | C | 1 | Valley Section |
| 805.98 | | 3 | D/s Face Bridge - Repeat 805.8 |
| 806 | D E | 1 | U/s Face Bridge (Valley Section) |
| 806.5 | | 3 | Valley Section - Repeat 806 |
| 806.6 | | 3 | Valley Section - Repeat 807 |
| 807 | F | 1 | Valley Section |
| 807.5 | | 3 | Valley Section - Repeat 807 |
| 807.6 | | 3 | Valley Section - Repeat 808.2 |
| 808.2 | G | 1 | Valley Section |
| 807.98 | | 3 | D/s Face John R Road - Repeat 808.2 |
| 808.02 | H | 3 | U/s Face John R. Road - Repeat 808.8 |
| 808.8 | I | 1 | Valley Section |
| 808.9 | | 3 | Valley Section - Repeat 808.8 |
| 809 | J | 1 | Valley Section |
| 809.5 | | 3 | Valley Section - Repeat 809 |
| 809.6 | | 3 | Valley Section - Repeat 810.2 |
| 810.2 | K | 1 | Valley Section |
| 809.98 | | 3 | D/s Face Chicago Road - Repeat 810.2 |
| 810.02 | L | 3 | U/s Face Chicago Road - Repeat 810.8 |
| 810.8 | M | 1 | Valley Section |
| 810.9 | | 3 | Valley Section - Repeat 811.2 |
| 811.2 | N | 1 | Valley Section |
| 810.98 | | 3 | D/s Face I-75 Culvert and Tunnel - Repeat 811.2 |
| 811.02 | O | 4 | U/s Face I-75 Culvert and Tunnel - Developed from 811.8 and Bridge Detail |
| 811.28 | | 4 | Valley Section - Repeat 811.02 |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 811.29 | P | 4 | Weir D/S of Retention Ponds - Developed From Weir Detail and 811.8 |
| 811.31 | | 4 | U/S Face of Weir - Repeat 811.29 |
| 811.32 | | 4 | Valley Section U/S of Weir - Developed from 811.8 and Weir information |
| 811.8 | Q | 1 | Valley Section - D/S End Retention Pond |
| 812 | R | 1 | Valley Section - Retention Pond |
| 812.1 | | 3 | Valley Section - Retention Pond - Repeat 812 |
| 812.8 | S | 1 | Valley Section - Retention Pond |
| 812.98 | | 4 | D/S Face Culverts separating two retention ponds - Developed from 812.8 and Bridge Detail |
| 813.02 | T | 4 | U/S Face Culverts separating two retention ponds - Repeat 812.98 |
| 813.7 | | 3 | Valley Section - D/S End Retention Pond - Repeat 812.8 |
| 813.8 | | 3 | Valley Section - Retention Pond - Repeat 814.2 |
| 814.2 | U | 1 | Valley Section - Retention Pond |
| 814.3 | | 3 | Valley Section - Retention Pond - Repeat 812.8 |
| 813.98 | | 4 | D/S Face Stephenson Hwy. - Developed from 814.2 and Bridge Details |
| 814.02 | V | 4 | U/S Face Stephenson Hwy - Developed from 814.8 and Bridge Details. |
| 814.8 | W | 1 | Valley Section |
| 814.85 | | 3 | Valley Section - Repeat 814.8 |
| 814.98 | X | 4 | Weir D/S of On-Line Retention Ponds - Developed from 815 and Weir Detail |
| 815.02 | | 4 | U/S Face of Weir - Repeat 814.98 |
| 815.5 | | 3 | Valley Section - Retention Pond - Repeat 814.8 |
| 815.8 | Y | 1 | Valley Section - D/S End Retention Pond |
| 815.85 | | 3 | Valley Section - Repeat 815.8 |
| 815.9 | | 3 | Valley Section - Repeat 815.8 |
| 815.98 | | 3 | D/S Face Allen Street - Repeat 815.98 |
| 816.02 | Z | 3 | U/S Face Allen Street - Repeat 816.8 |
| 816.8 | AA | 1 | Valley Section |
| 816.9 | | 3 | Valley Section |

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CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 149
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPENCER-BARNARD DRAIN
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 817.1 | | 3 | Valley Section - Repeat 817.2 |
| 817.2 | AB | 1 | Valley Section |
| 816.98 | | 3 | D/S Face Souter Road - Repeat 817.2 |
| 817.02 | AC | 3 | U/S Face Souter Road - Repeat 817.8 |
| 817.8 | AD | 1 | Valley Section |
| 817.85 | | 3 | Valley Section - Repeat 817.8 |
| 818.1 | | 3 | Valley Section - Repeat 818.2 |
| 818.2 | AE | 1 | Valley Section |
| 818.98 | | 3 | D/S Face 1600 Foot long enclosure between Rochester and Maple Roads - Repeat 818.2 |
| | See Section on "Comments" for details on starting water elevations developed for upstream of 1600 foot long enclosure | | |
| | AF | 1 | Rochester Road Profile |
| | AG | 1 | Valley Section over 1600 foot long enclosure |
| | AH AI | 1 | Valley Section over 1600 foot long enclosure MAPLE Rd |
| 819.02 | | 3 | U/S Face 1600 Foot Long Enclosure between Rochester and Maple Roads - Repeat 820.8 |
| 820.8 | AJ | 1 | Valley Section |
| 820.9 | | 3 | Valley Section - Repeat 820.8 |
| 820.91 | | 3 | Valley Section - Repeat 821 |
| 820.93 | | 3 | Valley Section - Repeat 821 |
| 820.94 | | 3 | D/S Face Footbridge - Repeat 821 |
| 820.95 | AK | 3 | U/S Face Footbridge - Repeat 821 |
| 820.96 | | 3 | Valley Section - Repeat 821 |
| 821 | AL | 1 | Valley Section |
| 821.1 | | 3 | Valley Section - Repeat 821 |
| 821.9 | | 3 | Valley Section - Repeat 822 |
| 822 | AM | 1 | Valley Section |
| 822.1 | | 3 | Valley Section - Repeat 822 |
| 822.2 | | 3 | Valley Section - Repeat 822 |

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ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 150
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPENCER-BARNARD DRAIN
CALCULATED DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified For modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 822.38 | 3 | D/S Face Footbridge - Repeat 822 |
| 822.42 | 3 | U/S Face Footbridge - Repeat 823 |
| 822.9 | 3 | Valley Section - Repeat 823 |
| 823 | 1 | Valley Section |

COMMUNITY : TROY
WATERCOURSE : SPENCER-BARNARD DRAIN

## TABLE - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 804.98-805.02 | 0.35 | 227.2 | 92.4 | 2.46 | .020 | 14 | 0.05 | 1.4 | Bridge |
| 805.98-806 | 0.35 | 220.8 | 91.6 | 2.41 | .020 | 14 | 0.05 | 1.4 | Bridge |
| 807.98-808.02 | 0.35 | 224. | 92. | 2.43 | .020 | 80 | 0.3 | 1.65 | John R. Road |
| 809.98-810.02 | 0.35 | 224. | 92. | 2.43 | .020 | 65 | 0.25 | 1.60 | Chicago Road |
| 810.98-811.02 | | | | | | | | | I-75 |
| ↳ Culvert | 0.4 | 91. | 41. | 2.22 | .02 | 160 | 0.65 | 2.05 | |
| ↳ Tunnel | 2.4 | 320. | 72. | 4.44 | .02 | 200 | 0.3 | 3.70 | |
| | ↳ grating upstream and downstream | | | | | | | | |
| | | $XKOR_{equiv} = \left[\frac{411^2}{\left(\frac{91^2}{2.05}\right)^{1/2} + \left(\frac{320^2}{3.7}\right)^{1/2}}\right] = 3.2$ | | | | | | | |
| | *(put in pier and pier coefficient to induce 10 yr. flow to be modelled by low flow by normal bridge correctly) | | | | | | | | |
| 812.98-813.02 | 0.4 | 196 | 84 | 2.33 | .02 | 90 | 0.35 | 1.75 | Culverts Separator Retention Ponds |
| 813.98-814.02 | 0.4 | 196 | 84 | 2.33 | .02 | 170 | 0.65 | 2.05 | Stephenson Hwy |
| 815.98-816.02 | 0.4 | 224 | 88 | 2.55 | .02 | 72 | 0.25 | 1.65 | Allen Street |
| 816.98-817.02 | 0.4 | 207 | 85.6 | 2.42 | .02 | 63 | 0.25 | 1.65 | Souter Road |
| 822.38-822.42 | 0.9 | 19.63 | 15.7 | 1.25 | .025 | 30 | 0.4 | 2.3 | Footbridge |

PROJECT: HUD-FIA-H-4705 Troy FIS, Oakland Co., Mi.

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: River Rouge

STUDY LIMITS: Adams Rd. to Square Lake Rd.

DATE OF AERIAL SURVEY: 4/75 Abrams Aerial Survey (where a large amount of change is known to have taken place, more recent, but less accurate photos were used)

DATE OF LAND SURVEY:

5/79 - 11/79 MPS Field Crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79

TOPOGRAPHIC INFORMATION: USGS topographic maps; 10' contours
Abrams 2' topo 1"=400' (for most of Troy)-1975 4' topo 1"=200' (for other portions 1966

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045-.075 |
| Overbank "n" | .065-.10 |
| n values thru bridges | See XKOR Table |
| Contraction Coefficients | .1-.4 |
| Expansion Coefficients | .3-.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed. Please return (Note: X4 points not plotted CX #207.3 & 207.8 not completely correct)

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## HIGH WATER MARKS AND CALIBRATION

For this reach of study only one highwater mark was found. At cross-section 207, a resident said that water was over this bridge in the spring of 1976 or 1977 and that was the only time it occurred in the past 8 years. The model showed that about 1.5 feet of depth over the weir occurs during a 10 year event.

### Starting Conditions

The study starts at the upstream limits of the Bloomfield Township FIS. Therefore the Bloomfield Township elevations were used.

### Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation.) After delineation of the natural 100 yr. flood plain by Abrams Aerial Survey, the floodway between field surveyed sections may be slightly modified.

### Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood profiles (iii) sensitivity analysis and (iv) separate runs for the loss through Wattles Rd. for your review.

### Comments

We have not delineated the 100 year flood plain at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

Three separate runs were made for the Wattles Road crossing. The flow through the culvert was computed using the special bridge routine. The flow over the road and between the houses was computed using the normal bridge routine and using the special bridge routine with C=2.5. The results are shown on the enclosed graph.

Although the enclosed computer output includes the reach from Square Lake Road to South Blvd., this has not yet been finalized because of many changes in this region and should not, therefore,be considered a part of this submission.

COMMUNITY: Bloomfield Twp

WATERCOURSE: [illegible]

TABLE - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F$ $\quad K_f = \frac{29 n^2 l}{R^{4/3}}$ $\quad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| GTWRR | 0.5 | 129 | 64 | 2.01 | .020 | 104 | .5 | 2.0 | |
| Kensington | 0.5 | 101 | 66 | 1.53 | .025 | 39 | .4 | 1.9 | |
| Adams | 0.4 | 143 | 53 | | .020 | 43 | .1 | 1.5 | |

COMMUNITY: Troy
WATERCOURSE: [illegible]

TABLE - XKOR CALCULATIONS

$XKOR = 1.7 K_e + K_F$ $\quad k_F = \frac{29 n^2 l}{R^{4/3}}$ $\quad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | l | $k_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Wattles Rd. | .7 | 85 | 82 | | .025 | 31 | .5 | 2.2 | |
| Beach Rd. | .4 | 75 | 43 | | .020 | 16 | .1 | 1.5 | |
| Long Lake Rd | .4 | 104 | 48 | | .020 | 31 | .1 | 1.5 | |
| Coolidge Rd. | .3 | 122 | 48 | | .020 | 106 | .4 | 1.7 | |
| Northfield Pkwy. | .2 | 109 | 50 | | .020 | 92 | .4 | 1.6 | |
| I-75 | .3 | 59 | 22 | | .020 | 180 | .6 | 1.9 | |
| Square Lk. Rd. | .8 | 74 | 74 | | .025 | 40 | .7 | 2.5 | |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| A | 200 | | ADAMS H.S. |
| B | 200.8 | 2 | Topwidth considerations just d/s. |
| C | 201 | 2 | Topwidth considerations for home just d/s |
| D | 202 | 1 | |
| E | 203.2 | 2 | Homes just d/s inserted to give better representation of effective flow areas. |
| F | 203.4, 203.5, 203.6, 203.7 | 2 | Skewed bridge. Some weir length considered ineffective due to homes d/s. |
| | 203.75 | 3 | R(203.8) |
| G | 203.8 | 1 | |
| H | 204 | 2 | Small amount of overbank considered ineffective. |
| | 204.12 | 3 | R(204) but only invert raised. |
| H&K | 204.14 to 204.38 | 4 | Repeats of 204.12, plus field information on foot bridges |
| L | 205.2 | 2 | Topwidth considerations for home u/s |
| M | 205.3, 205.4, 205.5, 205.6 | 2 | Home on right overbank, so overbank area ineffective. |
| N | 205.8 | 2 | Topwidth consideration for home d/s. |
| O | 205.9, 206.0 | 2 | Topwidth considerations for homes u/s & d/s. |

ENGINEER PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO. 21
COMMUNITY: 7
WATERCOURSE: DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| P | 206.8 | 2 | Topwidth considerations for home d/s. |
| Q | 207.2 | 2 | Right overbank ineffective because of home. |
| R | 207.3, 207.4, 207.5, 207.6 | 4 | Topwidth considerations for home d/s. |
| S | 207.8 | 2 | Topwidth considerations for home d/s. |
| T | 208.2 | 2 | Topwidth considerations for home u/s. |
| U | 208.3, 208.4, 208.5, 208.6 | 2 | Right overbank ineffective because of home. |
| V | 208.8 | 2 | Canal depression on overbank considered ineffective. |
| W | 209.0 | 2 | Topwidth considerations for homes d/s. |
| X | 210.0 | 1 | |
| Y | 210.2, 210.3, 210.5, 210.7 | 4 | R(211.2) plus field info on footbridge. |
| Z | 211.2 | 1 | |
| AA | 211.4, 211.6 | 1 | |
| AB | 211.8 | 1 | |

# TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|---|
| AC | 212.2 | | 2 | Topwidth considerations for structures u/s. |
| AD | 212.4, 213.0 | | 2 | Portions of Coolidge Hwy. are depressed, but are not expected to contribute to flow because of containment further u/s. |
| | 213.2 | | 3 | R(213.0) |
| | 213.4 | | 1 | Weir section |
| AE | 213.5 | | 1 | |
| AF | 214.0 | | 1 | |
| AG | 214.6 | | 3 | R(214.0) Location of very high, unrestrictive footbridge. |
| AH | 215.0 | | 1 | |
| AI | 216.0 | | 1 | |
| AJ | 217.2 | | 1 | |
| | 217.4 | | 3 | R(217.6) |
| AK | 217.6 | | 1 | |
| AL | 217.8 | | 2 | Portion of R013 considered ineffective |
| AM | 218.2 | | 1 | |
| AN & AO | 218.4 | 218.6 | 2 | I-75 |

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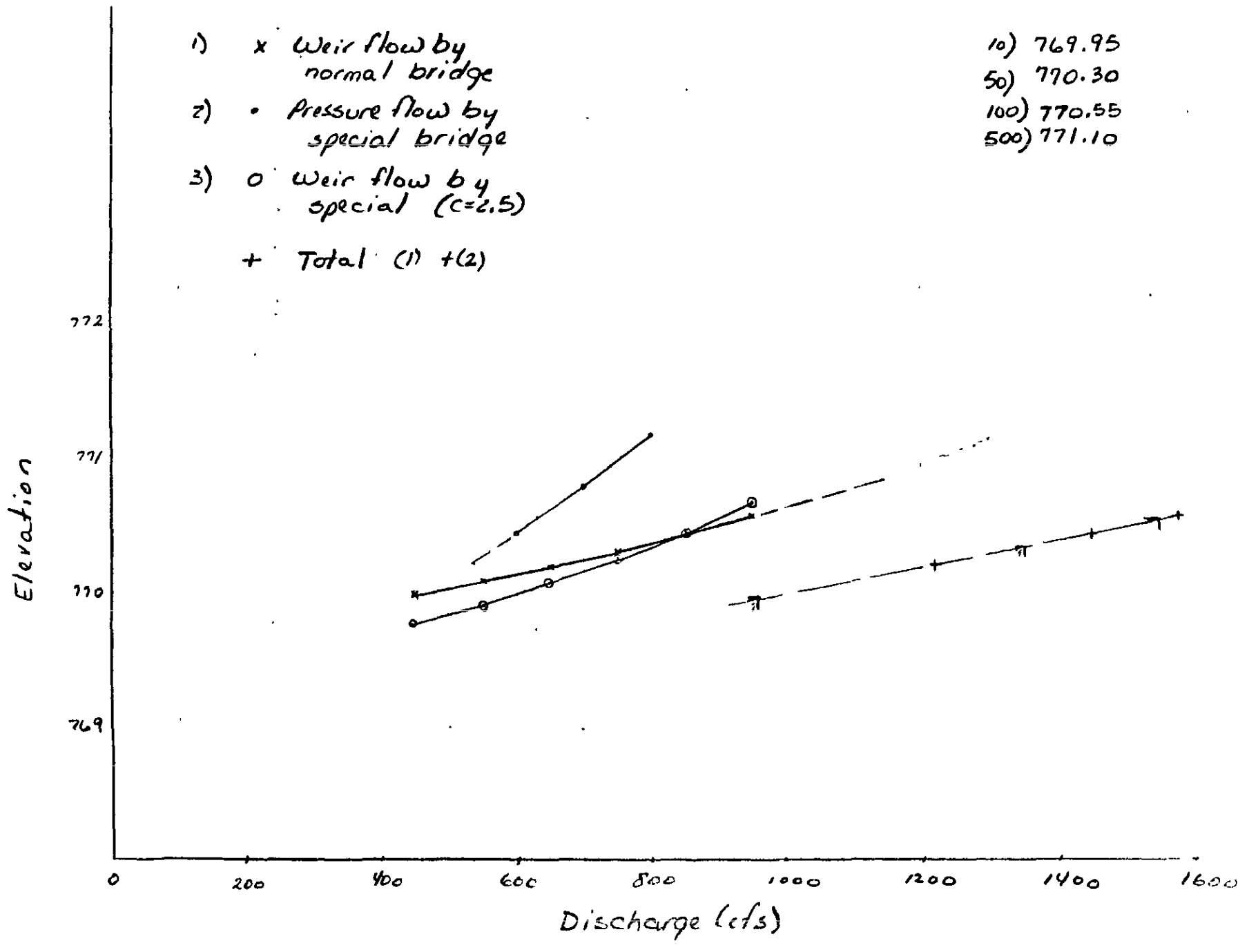
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO 16
COMMUNITY:
WATERCOURSE: DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MRS and/or Abrams) |
| 2 | Field Survey Section; Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| AP | 220.2 | 2 | Topwidth considerations not completely consistent because of nature of I-75 & Square Lake Rd bridges |
| AQ | 220.4 | 4 | R(220.2) and road info. |
| | 220.6 | 4 | R (220.8) and road info. |
| AR | 220.8 | 1 | |


1) x Weir flow by normal bridge
2) • Pressure flow by special bridge
3) o Weir flow by special (C=2.5)
+ Total (1) + (2)
10) 769.95
50) 770.30
100) 770.55
500) 771.10
Elevation
772
771
770
769
0
200
400
600
800
1000
1200
1400
1600
Discharge (cfs)

MP&S
SH
&G

2223 Packard Road
Ann Arbor, Michigan
48104
(313) 769-9220

455 W. Fort St.
Detroit, Michigan
48226
(313) 964-3000

A Joint Venture

March 26, 1980

Mr. Frank Finch, Director
Region V - FIMH
One N. Dearborn
Chicago, Illinois 60602

Dear Mr. Finch:

This letter is in response to questions and comments raised by the DNR in their review letter of March 20, 1980 for the River Rouge hydraulic analysis.

1. At Adams Rd., the topography is shown incorrectly on the base map. The computer model is based on the revised information.

2. Flow can occur between the four homes on Kingsbury. There is about 110 feet of open area between the homes that would contribute to the flow. There would be less than 1 foot of depth on this area. Since there is already about 200 feet of weir length at the same elevation, or lower, the additional 100 feet of weir would probably cause a maximum reduction in the upstream water surface elevation of 0.2 foot. Furthermore, this additional 100 feet would not act as weir flow, but as overland flow with high roughness and shock loss. Therefore, it is expected that the maximum decrease that would occur by consideration of the larger overbank would be 0.1 foot. Since this is the increase allowed for in delineation of the floodway, the floodway was no further reduced than the 100 year natural run. This accounted for the confusion in question 2B. The final floodway data table will correspond to the delineation on the work map.

3. We will include a note to the tech. that cross-section "F" should not be used to plot the profile.

We trust the above clarifies the comments from the DNR. If there are any additional questions, please let us know.

MP&S/SH&G, A JOINT VENTURE

BY_____
Duane R. Meyer, P.E.
Project Engineer for
McNamee, Porter and Seeley

DRM:dr
cc: Dan Morgan - DNR Files - 2

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

**PROJECT:** HUD-FIA-H-4705, Troy FIS, Oakland Co., MI

**CONSULTING FIRM:** McNamee, Porter and Seeley/Smith, Hinchman and Grylls

**WATERCOURSE:** River Rouge (from Square Lake Rd. to confluence with Sprague Branch and Sprague Drain)

**STUDY LIMITS:** Sprague Branch (from confluence with River Rouge to Adams Rd.)

Sprague Drain (from confluence with River Rouge to South Blvd.)

**DATE OF AERIAL SURVEY:** 4/75 Abrams Aerial Survey

**DATE OF LAND SURVEY:** 5/79 - 11/79 MP&S field crew

**SOURCE OF FLOWS:** Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79
See attached revisions.

**TOPOGRAPHIC INFORMATION:** USGS topographic maps; 10' contours.
Abrams 2' topo, except Sec. 5 where Forest Creek Sub. info was used

**METHOD OF ANALYSIS:** HEC-2 water surface profile computer program

**VARIABLES AND COEFFICIENTS:**

| | |
|---|---|
| Channel "n" | .035 - .095 |
| Overbank "n" | .035 - .14 |
| n values thru bridges | See XKOR table |
| Contraction Coefficients | .1 - .3 |
| Expansion Coefficients | .3 - .6 |

Bridge loss coefficients were chosen per References 1 and 2.

**PHOTOGRAPHS:** Enclosed for your review, please return.

**CROSS-SECTIONS:** See Table 1 for cross-section description. Cross-section plots enclosed. Please return.

**REFERENCES:**


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

Revised Hydrology - Sprague Branch and Sprague Drain

The hydraulic investigations have shown that there is a little more storage available in the upper portion of Sprague Branch than was previously anticipated. There is significant storage upstream of Adams Road, as well as a little storage in some ponds just downstream of Adams. Calculations for the revised flows are attached. Drainage areas have also been revised slightly. The results are shown in the attached tables. The effect of these changes on the River Rouge flows is expected to be insignificant.

TABLE 9

Results from Using Bastel's Unit Hydrograph Method

Main Rouge, Sprague Drain, Sprague Branch

| Location | Drainage Area (mi²) | Population Density (p/mi²) | Resultant Flows (cfs) 10-Yr | 50-Yr | 100-Yr | 500-Yr |
|---|---|---|---|---|---|---|
| **Main Rouge-Sprague Drain** | | | | | | |
| at Squaretake Road | 7.3 | 1300 | 640 | 950 | 1120 | 1500 |
| just d/s of confluence with Sprague Branch | 1.0 | 1300 | 620 | 920 | 1080 | 1440 |
| just u/s of confluence with Sprague Branch | 2.8 ~~2.6~~ | 1000 | 320 ~~310~~ | 480 ~~460~~ | 570 ~~540~~ | 780 ~~750~~ |
| at South Blvd | 2.2 ~~2.0~~ | 1000 | 270 ~~265~~ | 410 ~~395~~ | 490 ~~465~~ | 660 ~~640~~ |
| **Sprague Branch** | | | | | | |
| just u/s of confluence with Sprague Drain | 4.0 ~~3.4~~ | 1500 | 480 ~~505~~ | 700 ~~750~~ | 820 ~~870~~ | 1100 ~~1180~~ |
| just u/s of small tributary from north (@ Coolidge) | 2.0 ~~2.6~~ | *1200 ~~1500~~ | 270 ~~365~~ | 400 ~~540~~ | 490 ~~630~~ | 670 ~~870~~ |
| at Troy Corp boundary | 1.0 | *600 ~~1500~~ | 160 ~~210~~ | 230 ~~305~~ | 280 ~~360~~ | 340 ~~500~~ |

*Due to storage upstream of Adams.

COMMUNITY: Troy
WATERCOURSE: Sprague Branch

TABLE 3 — XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \quad K_F = \frac{29 n^2 \ell}{R^{4/3}} \quad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $\ell$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Coolidge Rd. | .3 | 26 | 22 | 1.18 | .020 | 26 | .2 | 1.5 | |
| Beach Rd. | .7 | 7 | 11.5 | .6 | .028 | 82 | 3.6 | 5.3 | |
| Limerick Rd. | .9 | 13 | 13 | 1 | .025 | 40 | .7 | 2.6 | |
| Adams Rd. | .2 | 15.9 | 14.1 | 1.1 | .013 | 50 | .2 | 1.4 | |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO. 215 171
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPRAGUE BRANCH
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | Section No. | Section Type | Remarks |
|---|---|---|---|
| | 301.86 | 3 | 301.85 + .9' |
| N | 301.87 | 4 | Footbridge R(301.86) + road info |
| | 301.88 | 3 | " 301.87 |
| | 301.89 | 3 | 301.88 |
| O | 302.0 | 1 | |
| P | 302.1 | 4 | Footbridge R(302.0) + road info |
| | 302.12 | 3 | " 302.1 |
| | 302.14 | 3 | 302.12 |
| | 302.2 | 3 | 302.14 + 1.0' |
| | 302.4 | 3 | 302.2 + .9' |
| Q | 303.0 | 1 | |
| | 303.2 | 3 | 303.0 + 1.7' |
| | 303.4 | 3 | 303.2 + 1.6' |
| | 303.6 | 3 | 303.4 + 1.7' |
| | 303.8 | 3 | 303.6 + 1.6' |
| R | 304.2 | 1 | |
| | 304.4 | 3 | 304.2 + 1.0' |
| S | 304.5 | 1 | Beach Rd. |
| T | 304.8 | 1 | |
| | 305.2 | 3 | 304.8 + 1.0' |

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JOB: HUD-FIA H-4705 SHEET NO 4/5
COMMUNITY: TROY FILE NO. 73
WATERCOURSE: SPRAGUE BRANCH
CALCULATED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | Section No. | Section Type | Remarks |
|---|---|---|---|
| | 306.96 | 3 | 307.0 |
| AB | 306.97 | 4 | Footbridge R(307.0) troad info |
| | 306.98 | 3 | 306.97 |
| | 306.99 | 3 | 307.0 |
| AC | 307.0 | 1 | |
| | 307.2 | 3 | 307.0 |
| AD | 307.4 | 1 | Adams Rd. |

Sprague Branch

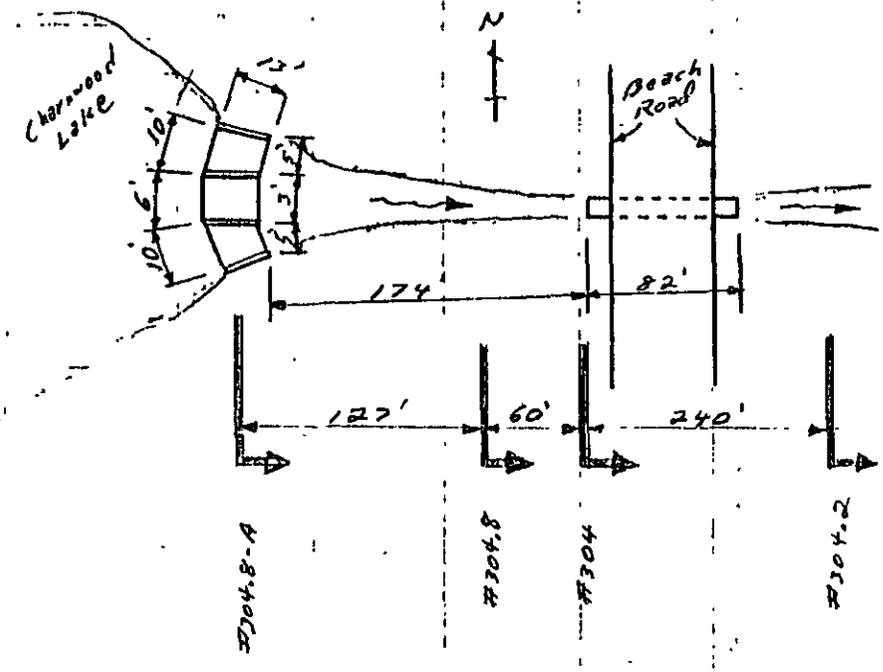
X-Sections 304.2, 304, 304.8 & 304.8-A

12 May '79

D. Cain ϕ

D. Jeffries ϕ

M. Shamart ϕ




Culvert is 5' Dia cmp ½ filled with dirt or

weir @ Lake is concrete

| Sta | +S | HI | -S | Elev. | Remarks |
|---|---|---|---|---|---|
| TP A | | | | 820.93 | on headwall, pg 53 this book. |
| | +6.12 | 827.05 (+27.1) | | | |
| | | | 2.4 | 824.7 | Top of weirs at #304.8-A |
| | | | 4.7 | 822.4 | Bottom of channel at #304.8-A (on conc.) |
| | | | 6.1 | 821.0 | Creek Invert just D/S of #304.8 |

HUD-FIA H-4705
TROY T06
VPK 1-31-80

Lirts Drain - Limited Detail

Drainage area -

at Crooks Rd $A = .63 mi^2$

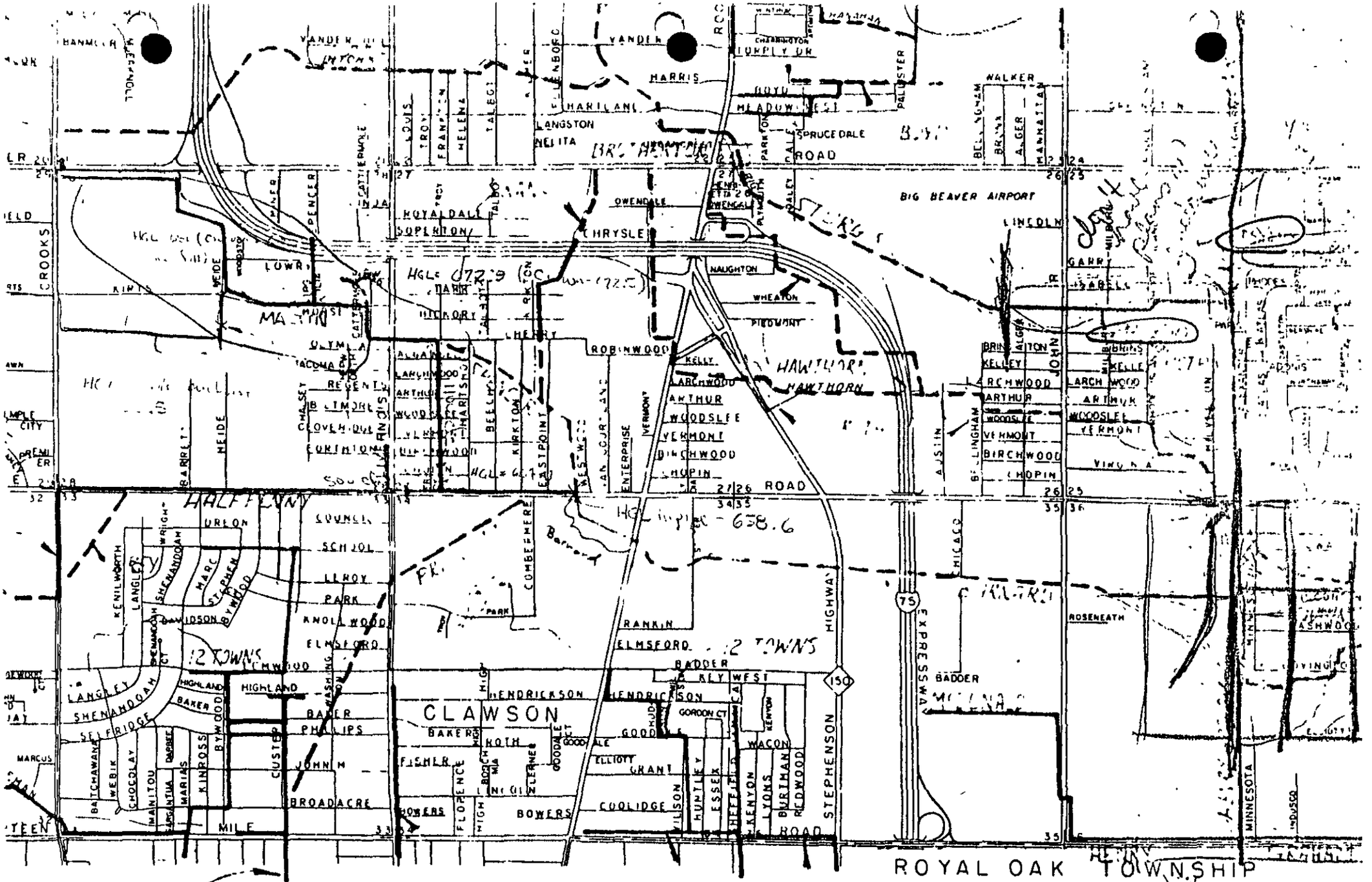
at entrance to Mastin Drain $A = .80 mi^2$

Upstream area appears to be mainly residential w/ some commercial. However, upstream is enclosed and some storage is available on-line. Therefore, use $P_d = 2000$ p/mi².

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| $A = .63$, $P_d = 2000$ | | | | |
| Q = | 170 | 260 | 300 | 430 |
| $A = .80$, $P_d = 2000$ | | | | |
| Q = | 190 | 300 | 330 | 490 |

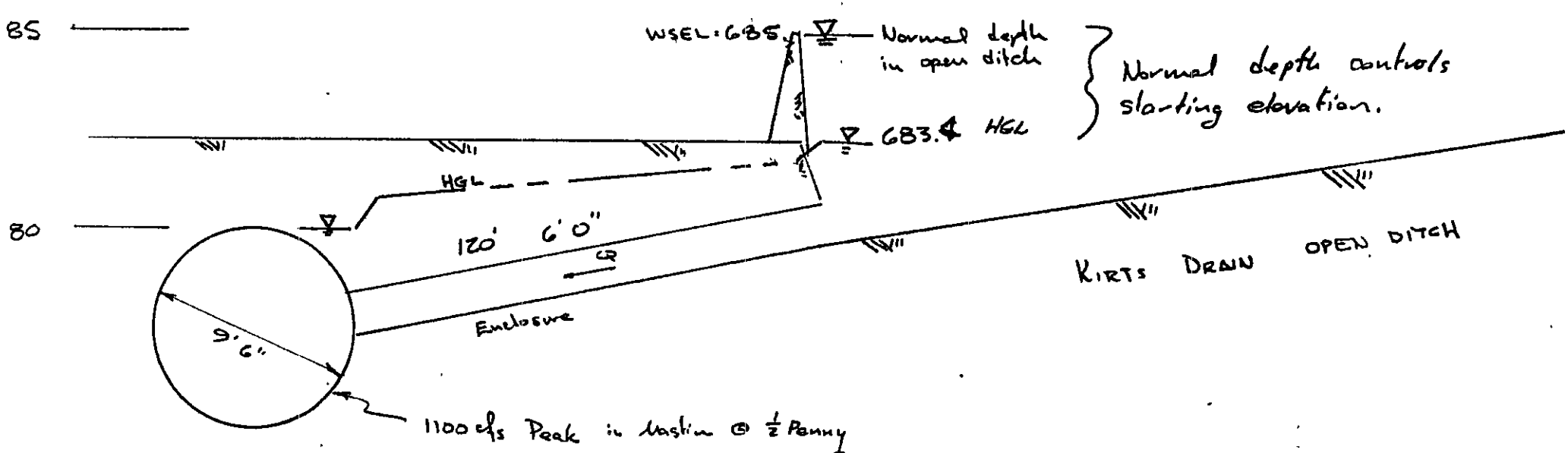
Since basin is long and narrow use upstream values.

| | | | | | |
|---|---|---|---|---|---|
| * | Q = | 170 | 260 | 300 | 430 |


BIG BEAVER AIRPORT
CLAWSON
ROYAL OAK TOWNSHIP
12 TOWNS
HALFENNY
MAPLE
ROAD
MILE
ROAD
CROOKS
JOHN R
STEPHENSON
HIGHWAY
EXPRESSWAY
CHICAGO
MINNESOTA
LAWSON
CLAWSON
EAST CLAWSON
12 TOWNS
CITY OF TF

MPG

Profile from Mastin Drain Structure
@ Heide St. to Kirts Drain open ditch.




Mastin Drain
@ Heide St. Structure
(Assuming flowing full)

No Scale

HUD-FIA H-4705
TROY FIS
LIMITED DETAIL

181

Troy FIS - Limited Detail Kirts Drain

3/12/80
MPG
182

STARTING ELEVATION COMPUTATIONS

HGL computations from Halfpenny @ Spencer Drain back to Kirts Drain

HGL inside Halfpenny @ Barnard = 658.6 (per Spencer Hydraulic Computations)

$Q_{100}$ = 1600 cfs (500 cfs from Halfpenny and 1100 from Mastin)

13'0" $S_f = \left[\frac{(1600\,cfs)(.012)}{1.49\left(\frac{13^2\pi}{4}\right)\left(\frac{13}{4}\right)^{2/3}}\right]^2 = 0.002$ $V = \left(\frac{1600}{\frac{13^2\pi}{4}}\right) = 12$ fps $h_{v_p} = 2.5$

L = 2233' pipe to junction with Mastin @ Troy Ave.

$h_f = 2233(.002) = 4.5'$

HGL inside Halfpenny @ Mastin = 663.1 (Ground elev ≅ 665)

$Q_{100}$ = 1100 cfs (in Mastin)

$S_f = \left[\frac{(1100\,cfs)(.012)}{1.49\left(\frac{12^2\pi}{4}\right)\left(\frac{12}{4}\right)^{2/3}}\right]^2 = 0.0014$ $V = \frac{1100}{\frac{12^2\pi}{4}} = 9.7$ fps $h_{v_p} = 1.5$

Loss @ Junction 11'0" → 12'0" → 13'0" $h_L = 1.2\,h_{v_{12}} = 1.2(1.5) = 1.8'$

HGL inside Mastin @ Halfpenny ℄ = 664.9 (Grnd elev. = 665

3 90° Bends back to Morse St $h_L = 3(0.3)1.5 = 1.4'$

L = 4730 ft from junction w/ Halfpenny to tributary from North on Morse Rd.

$h_f = 4730(.0014) = 6.6'$

HGL in Mastin o/s Trib from North on Morse = 672.9 (Crown elev = 672.5)

Pipe changes to 11'0" Heide St. Structure is only 1363 ft u/s so use same $S_f$.

Tee loss @ Morse Rd structure 11'0" → 12'0" → $h_L = 0.5\,h_{v_{12}} = 0.5(1.5) = 0.7$

$h_f = 1363(.0014) = 1.9'$

HGL Mastin @ Heide St Structure = 675.5' (Crown ≅ elev ⇒ Assume [illegible] full.

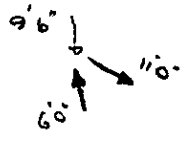
Troy FIS - Limited Detail Kirts Drain

$Q_{100}$ = 300 cfs from Kirts Drain

Pipe is 6'0" $S_f = \left[\frac{300\,(.012)}{1.49\left(\frac{6^2\pi}{4}\right)\left(\frac{6}{4}\right)^{2/3}}\right]^2 = 0.004$

$V = \frac{Q}{A} = \frac{300}{\frac{6^2\pi}{4}} = 10.6$ fps $h_{v_p} = 1.74$

Loss @ Heide Street Structure




$h_L = 1.2\,h_{v_p} = 1.2(1.74) = 2.0'$

HGL o/s Heide St. Structure in 6'0" = 680 + 3.0 = 682.0

L = 120' $h_f = 0.004\,(120) = 0.5'$

HGL inside 6'0" pipe just dls. Kirts Drain entrance = 682.5

Entrance Loss into 6'0" line $h_L = 0.5\,h_{v_p} = 0.5(1.74) = 0.9$

HGL in Kirts Drain outside entrance = 683.4

Normal depth in Kirts Drain open channel = 685 ⇒ Enclosure does not cont

TROY LIMITED DETAIL

Kirts Drain

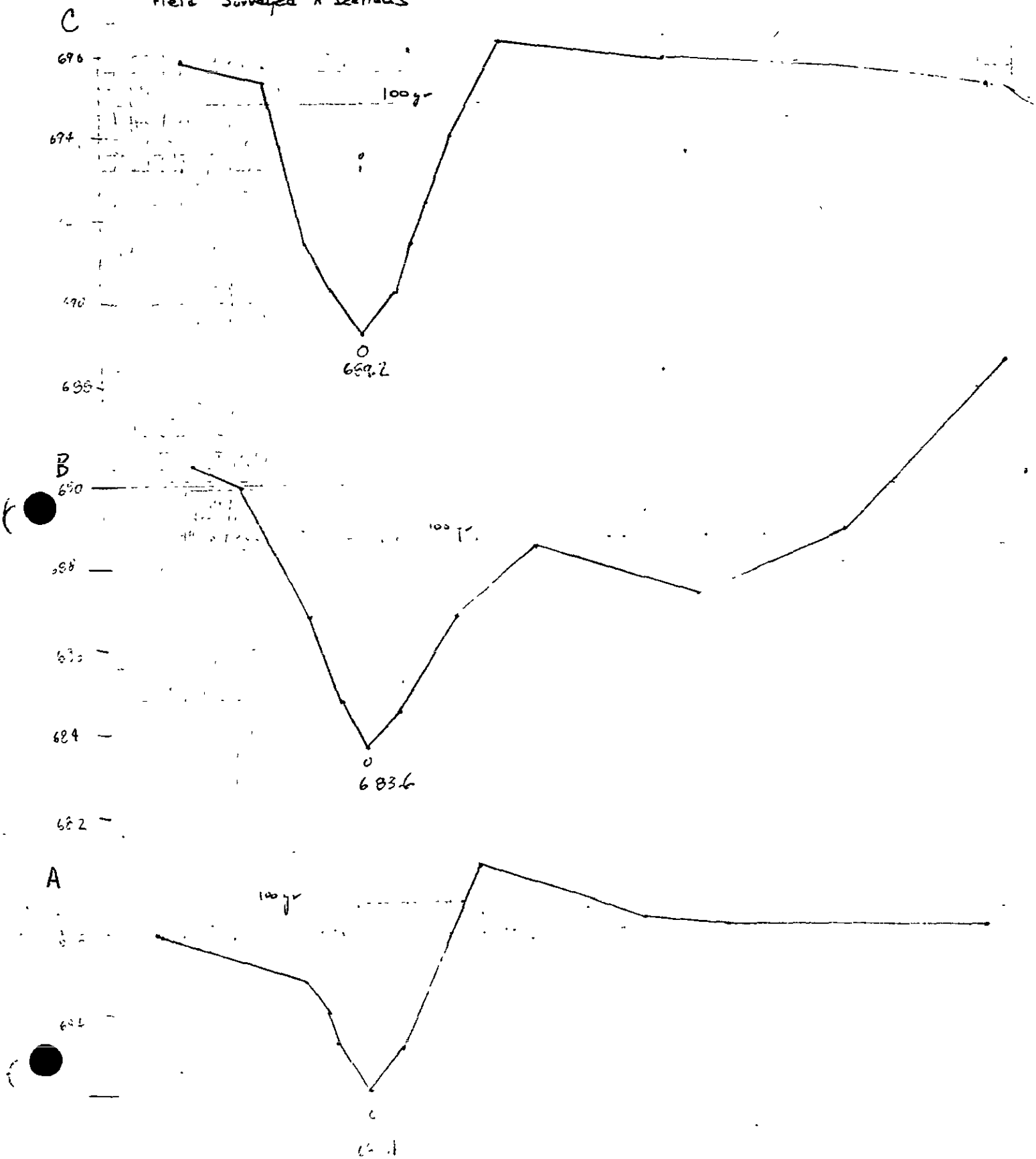
Looking D/S

CP 3-7-80

$S_{AVE} = \frac{692.8 - 679.8}{3070} = .0042$

Horiz. Scale = 1" = 16'

Field Surveyed K-sections

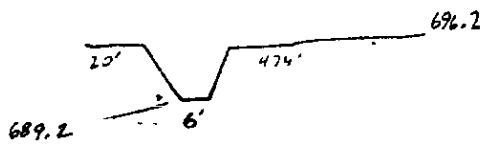


## Normal Depth Computations:

$S_{AVE} = \frac{692.8 - 678.8}{3070} = .0042$

$m = \frac{2.32 + 1.92}{2} = 2.18$

modelling Section "c"




Area Ditch $= 2.18(6.8)^2 + 6(6.8) = 141.6$

$R = 3.6$

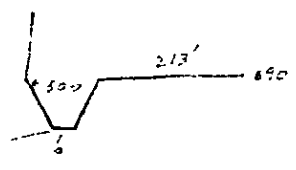
$Q = \frac{C_m}{n} A (R)^{2/3} (S_{ave})^{1/2}$  $Q = 500$ if section full

$y = 4'$  Area $= 59$  $R = 1.7$  $Q = 125$  use $n = .065$

$y = 5'$  Area $= 85$  $R = 2.83$  $Q = 233$

$y = 5.5' \rightarrow y = 6$  Area $= 115$  $R = 3.3$  $Q = 350$

"b"




$m_1 = 20/5.2 = 3.8$
$m_2 = 16/6.4 = 2.5$  $\rangle$ 3.15

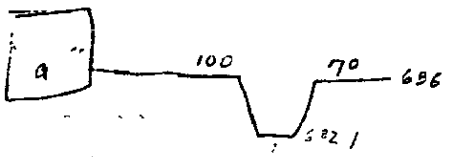
$A_{ditch} = 3.15(6.4)^2 + 6(6.4) = 167.42$  $R = 3.39$

$Q\ (full) = \frac{1.49}{.065}(3.4)^{2/3}(.0042)^{1/2}(167) = 560$

$y = 5'$  $A = 1.95$  $Q = 314$  ok

$y = 5'$

"a"




$m_1 = \frac{684.7 - 682.1}{1} = 3.08$
$m_2 = \frac{687.5 - 682.1}{1.5} = 3.6$  $\rangle$ 2.5

$A_{ditch} = 2.94(3.9)^2 + 7(3.9) = 70.5$  $R = \frac{70.5}{30.5} = 2.31$

$Q_{ditch} = \frac{1.49}{.065}(.0042)^{1/2}(70.5)(2.31)^{2/3} = 183$

$300 - 183 = 117$ cfs

$117 = \frac{1.49}{.065}(.0042)^{1/2}(200y)\left(\frac{200y}{6+2y}\right)^{2/3} \rightarrow .394 \rightarrow \left(\frac{200}{300}\right)$

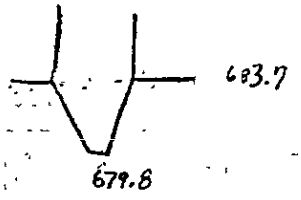
$y_{total} = 3.9 + .6 = 4.5$

$y_{added} = .6$

Kirts Drain Limited Detail
Normal Depth Comps.



@ D/S point @ structure same section as "a" $S = \frac{682.1 - 679.8}{330} = .0$




Qditch w/new Sare = 220.5 $\quad 300 - 220.5 = 79.5$

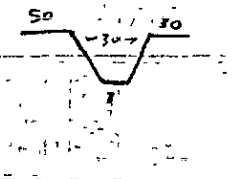
$$79.5 = \frac{1.49}{.065}(.0061)^{1/2}(30y)\left(\frac{30y}{b+2y}\right)^{2/3}$$

$$1.48 = y\left(\frac{30y}{\underset{30}{b}+2y}\right)^{2/3}$$

$$y \cong 1.3$$

$Y_{total} = 3.9 + 1.3 = 5.2$

@ A (cont'd)



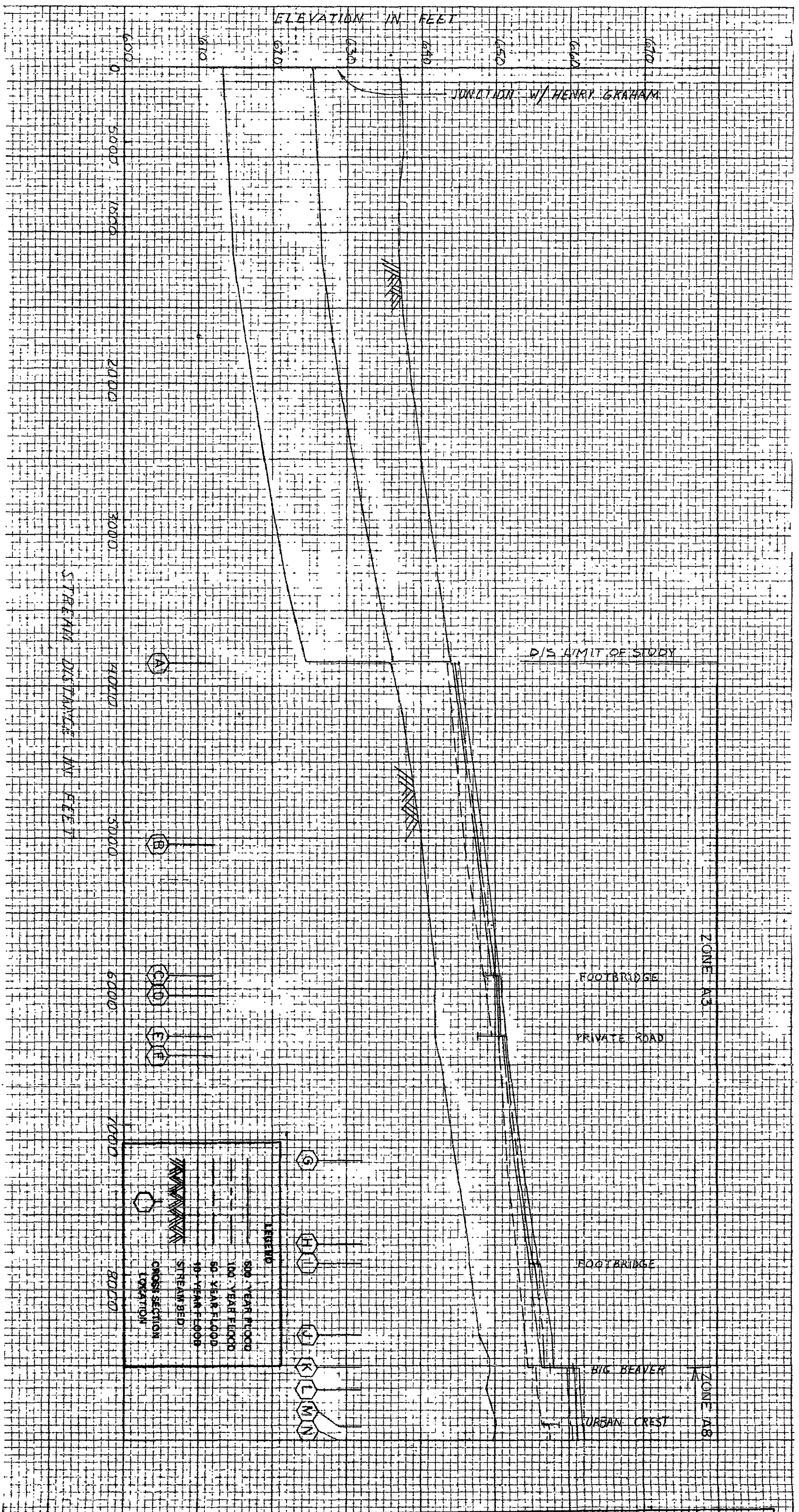

$Q_{ditch} = 133$

$$117 = \frac{1.49}{.065}(.004)^{1/2}(110y)\left(\frac{110y}{110+2y}\right)^{2/3}$$

$$.734 = y\left(\frac{110y}{110+2y}\right)^{2/3}$$

$\Delta\ y = .85$

$\therefore 5 + 3.9 + .85 \Rightarrow Y_{total}\ .85$

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**FLOOD PROFILES**

DOUGLAS DRAIN - STURGIS

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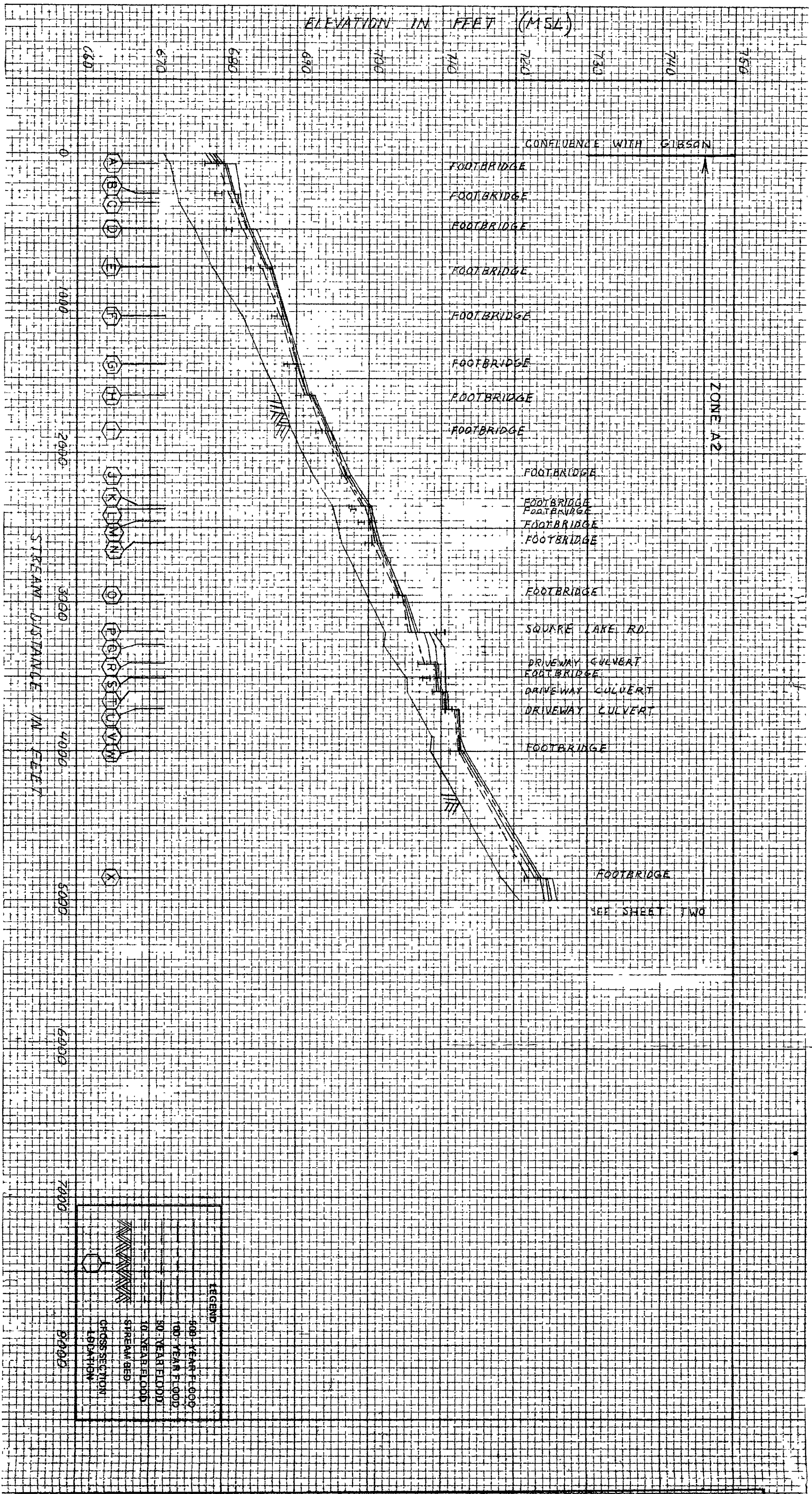


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FLOOD PROFILES

GIBSON RENSHAW WEST

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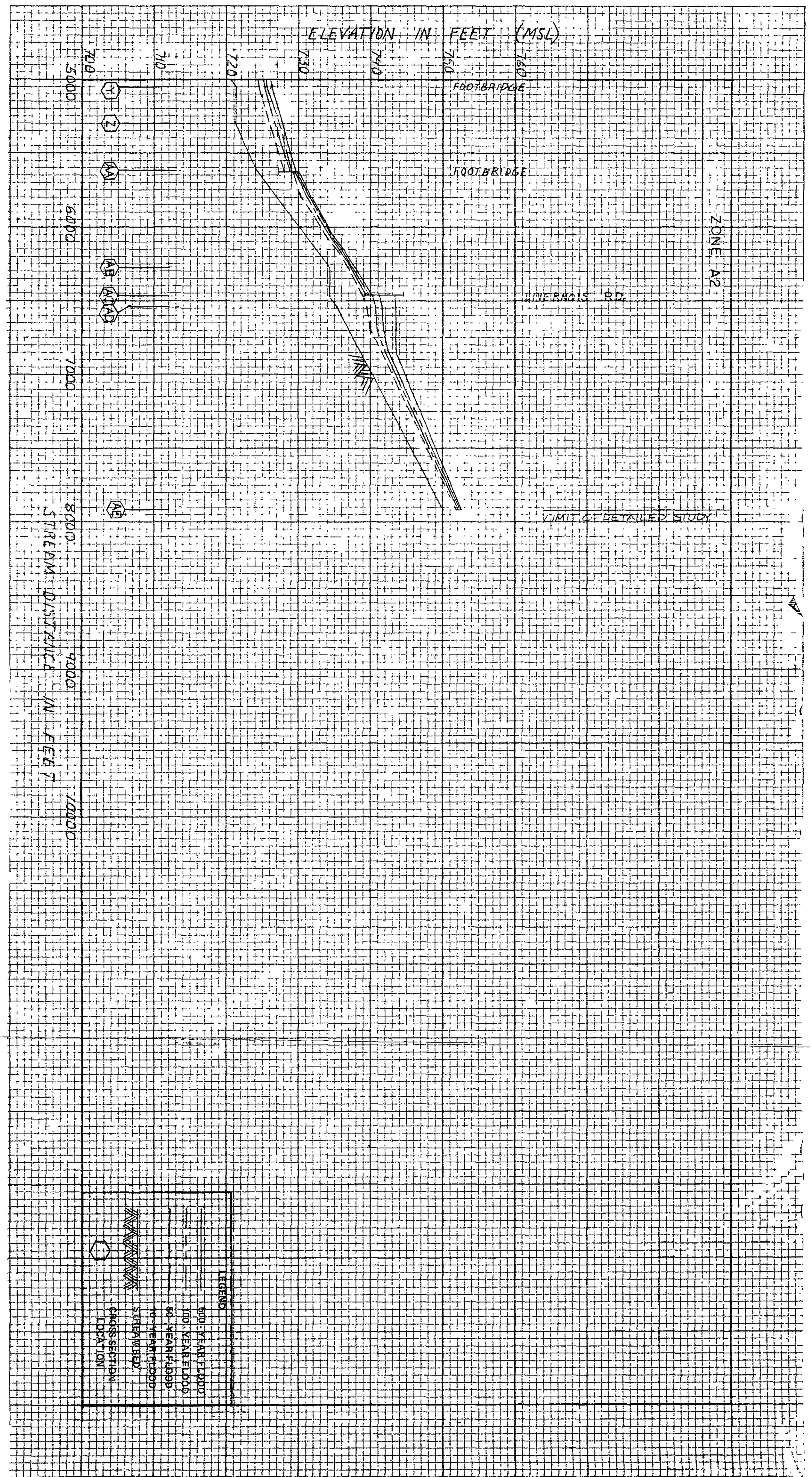


"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO.

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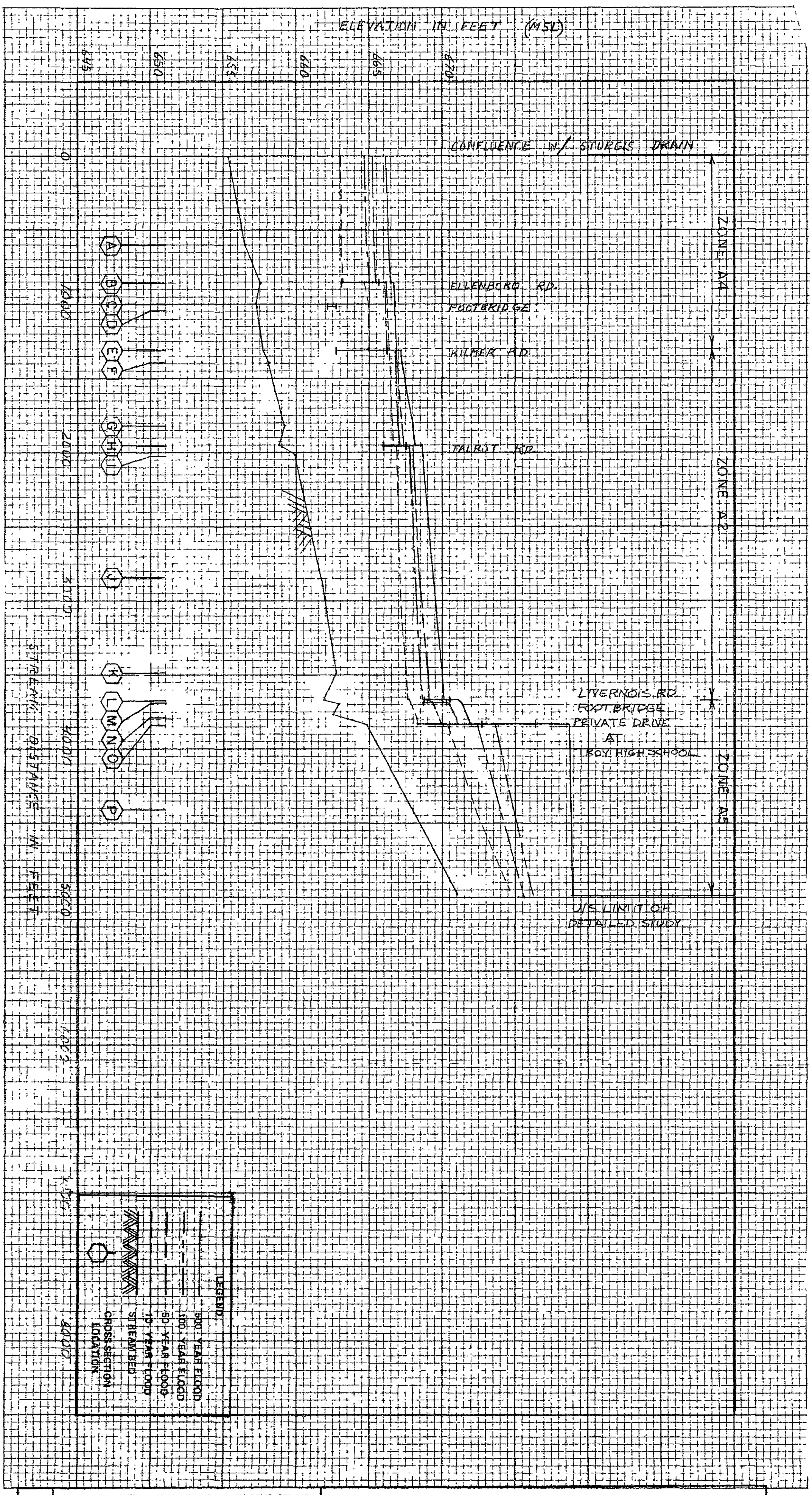


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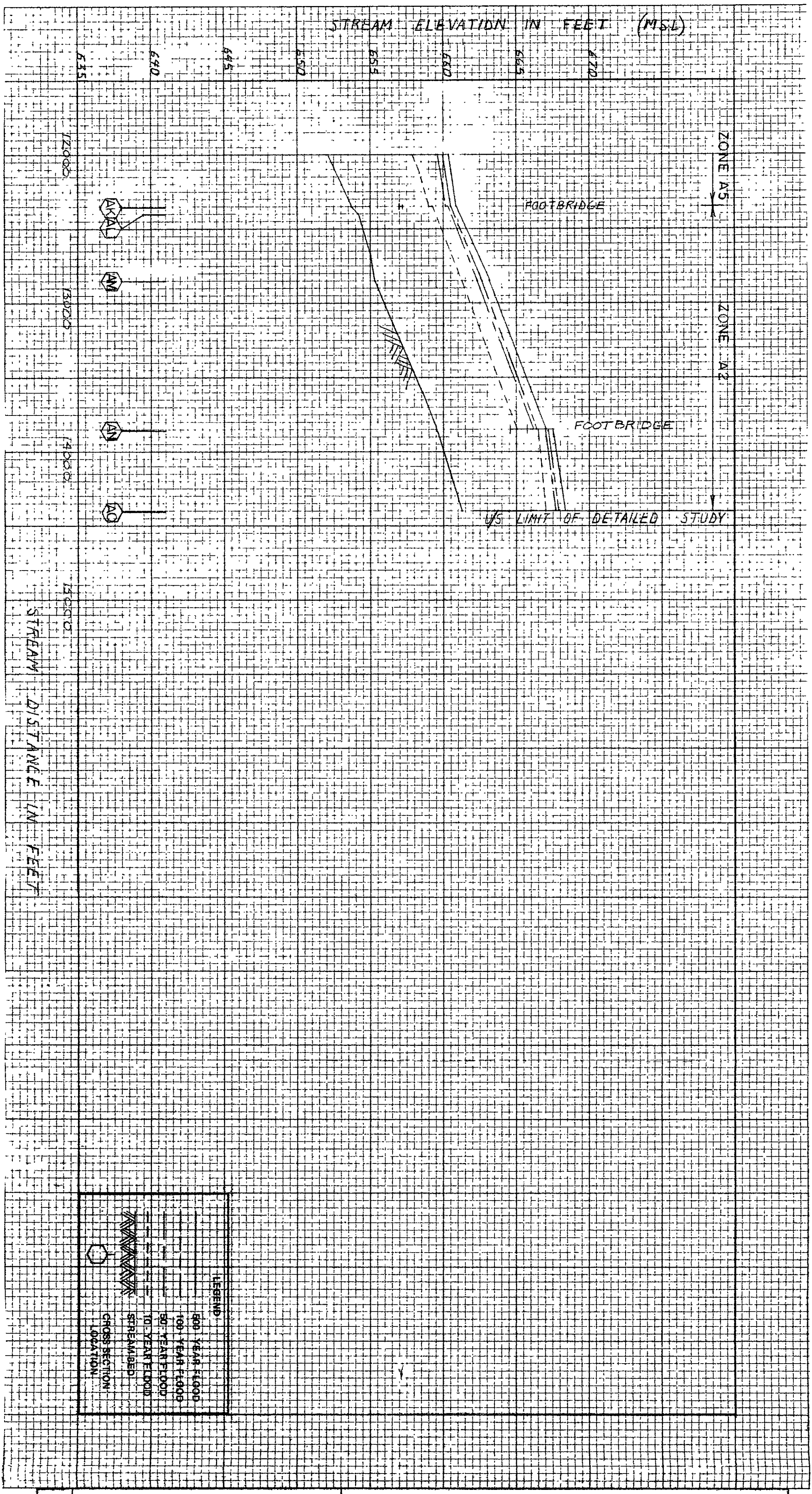
LANE DRAIN

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BARNARD DRAIN U/S HENRY GRAHAM DRAIN

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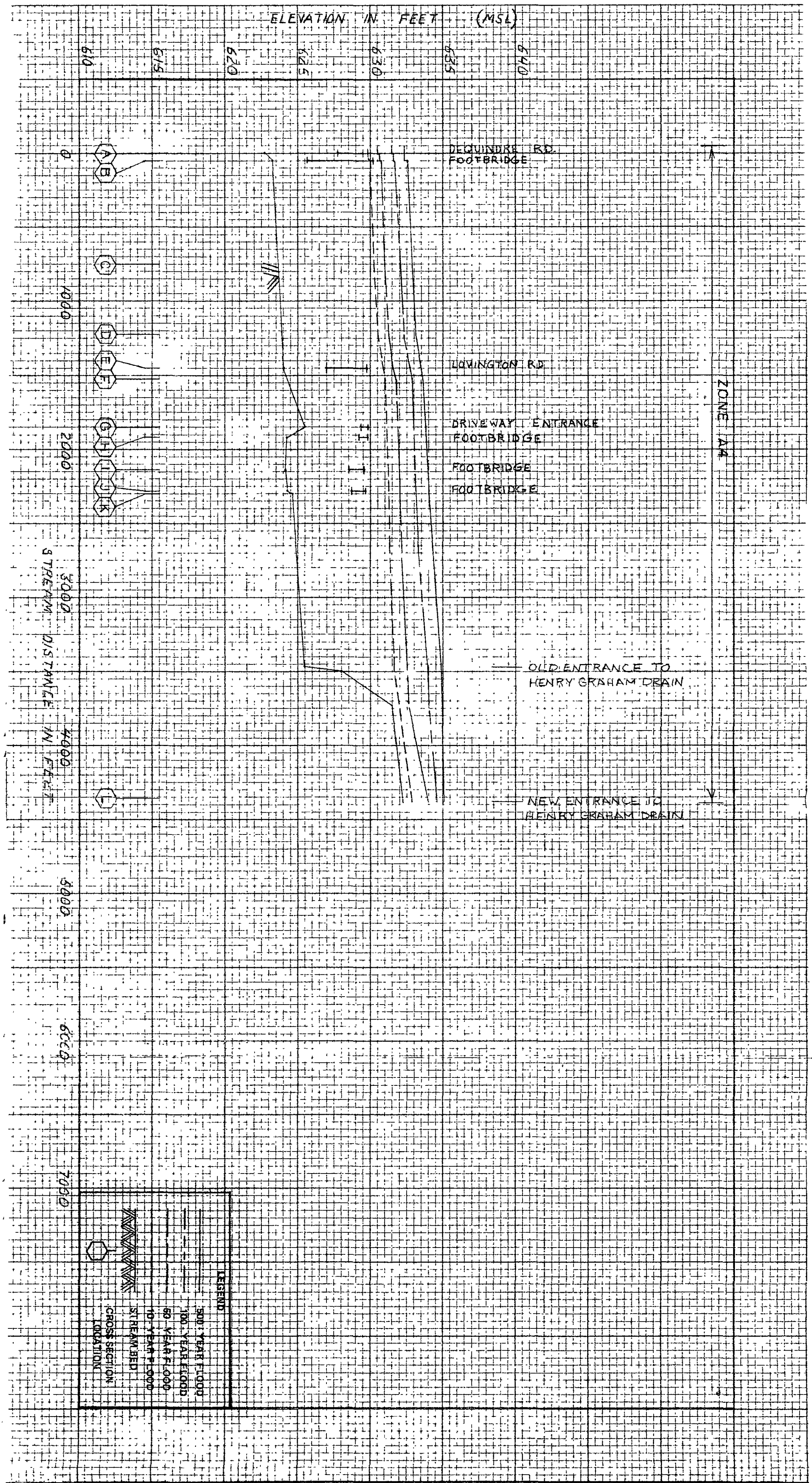


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[redacted]

BARNARD DRAIN D/S HENRY GRAHAM DRAIN

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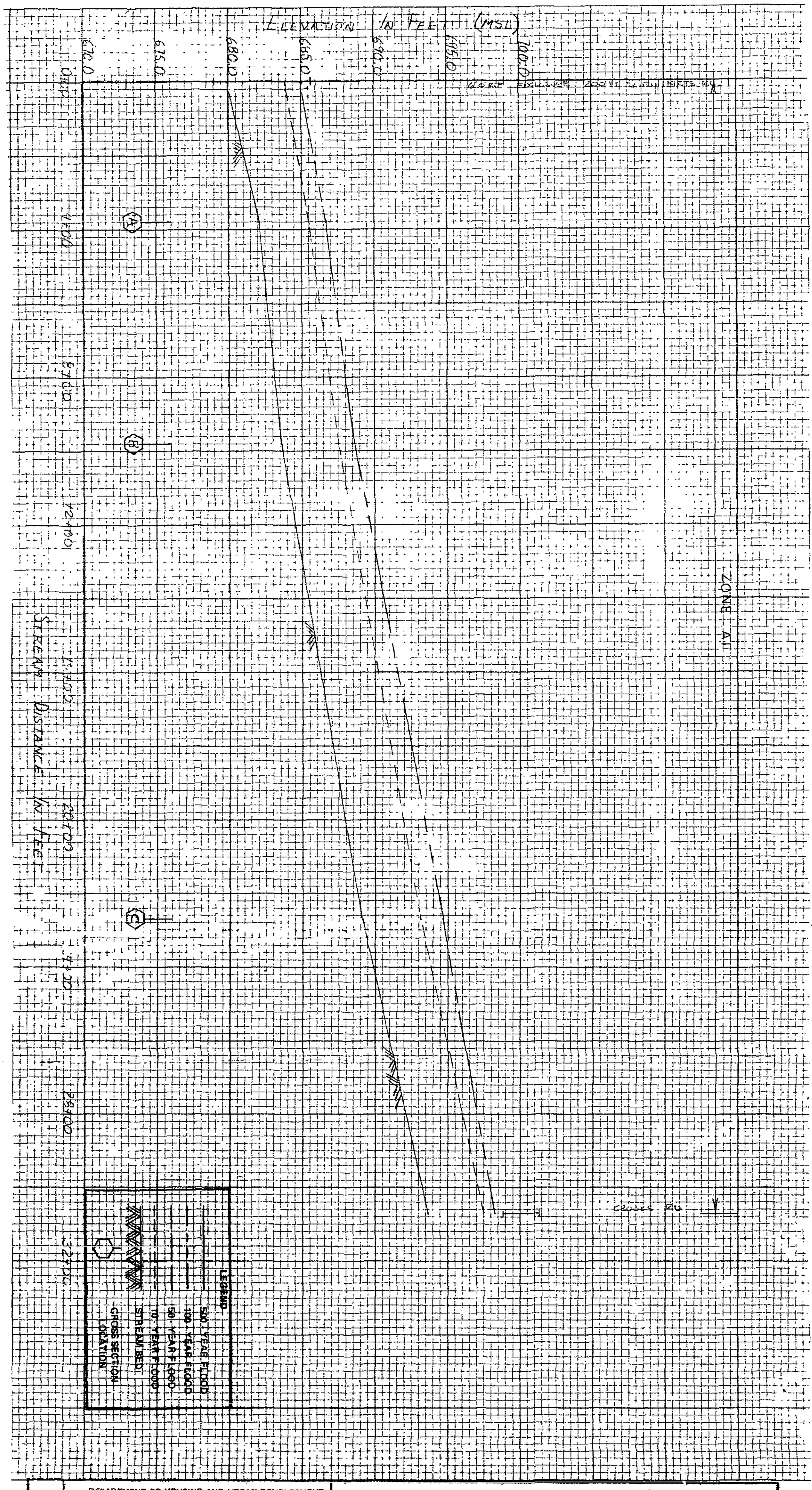


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KIRTS DRAIN - [illegible]

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10 X 10 = 0
EUGENE DIE
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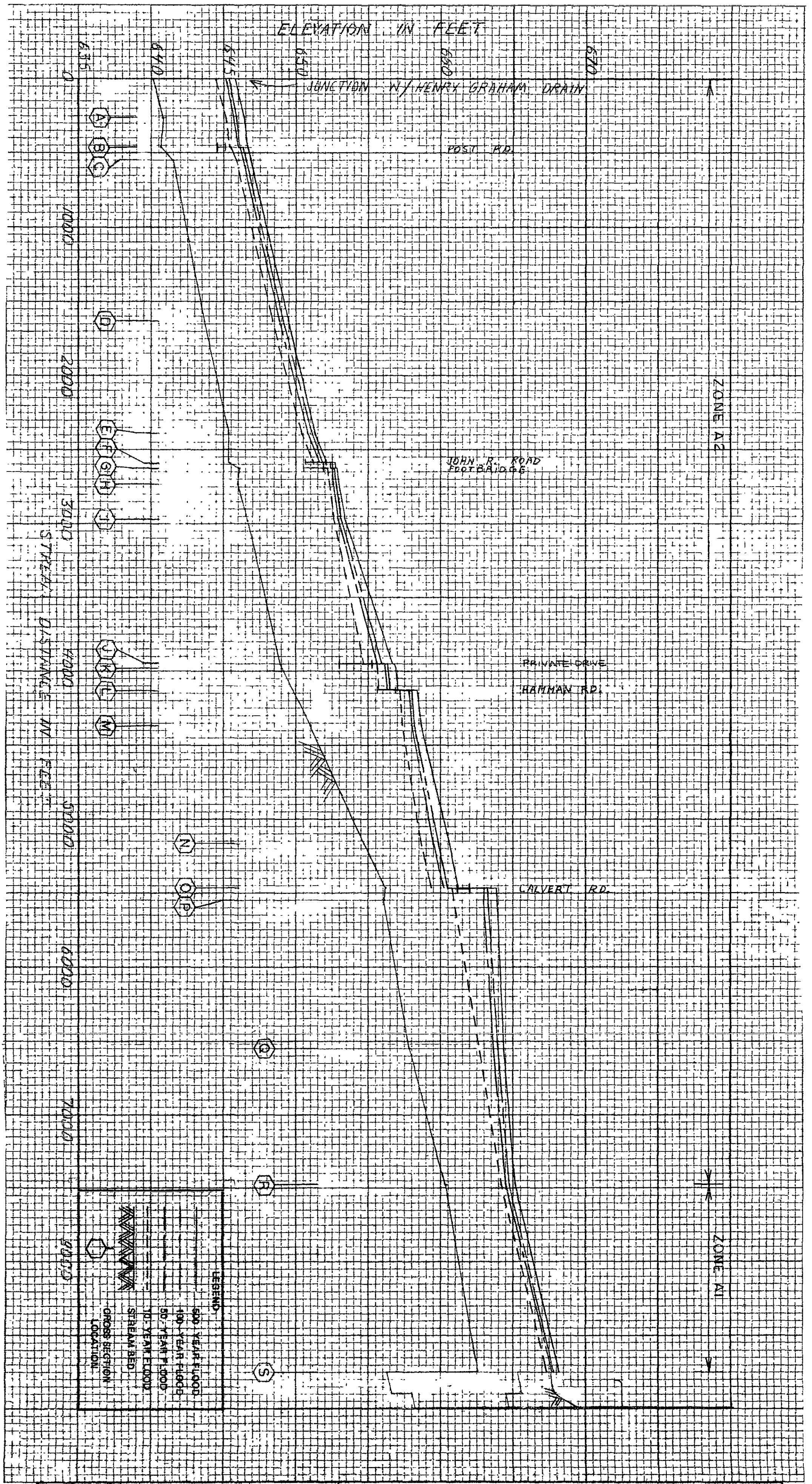


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HOUGHTON DRAIN U/S HENRY GRAHAM DRAIN

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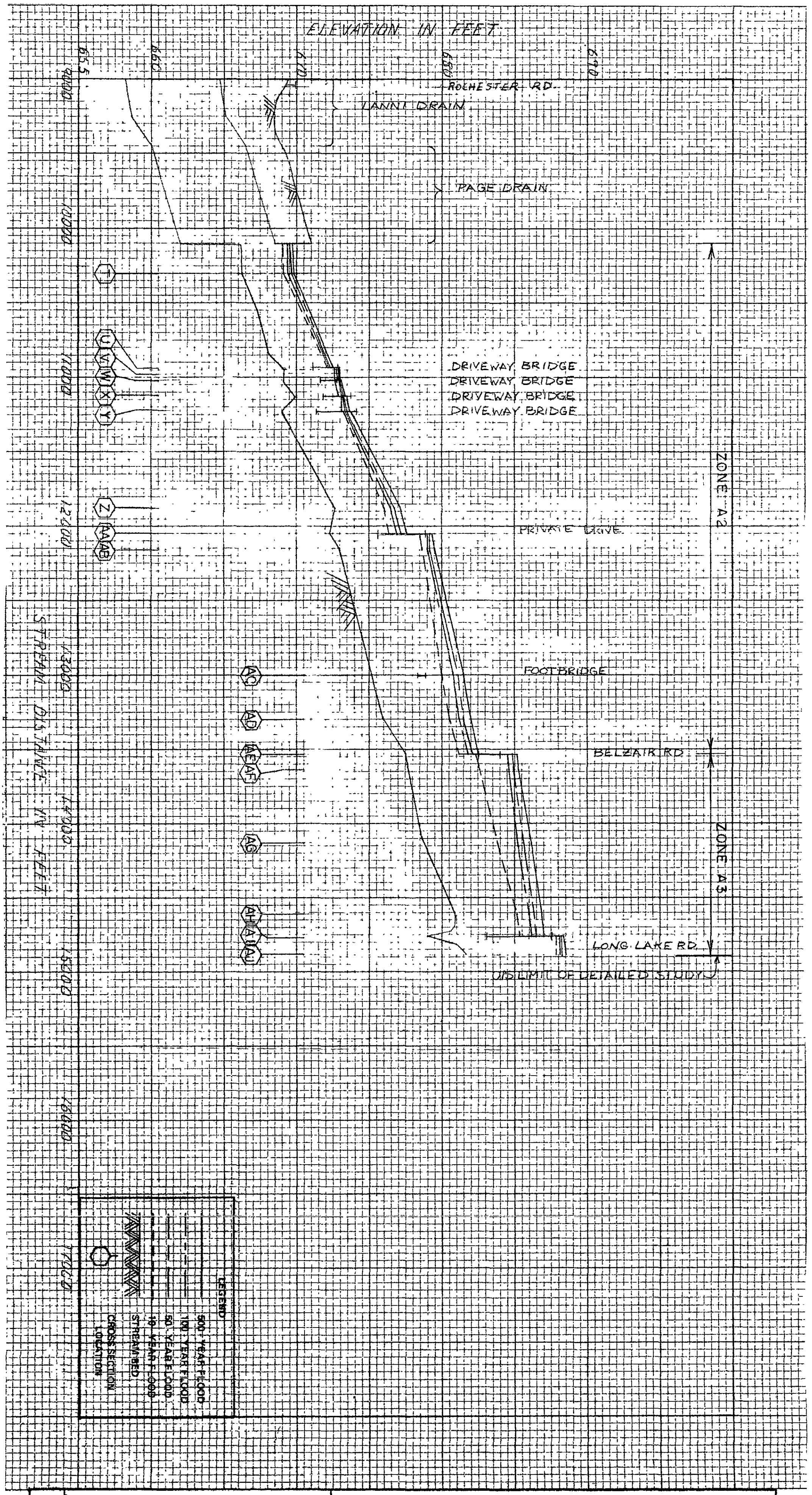
10 X 10 = ONE INCH
EUGENE DIETZGEN CO

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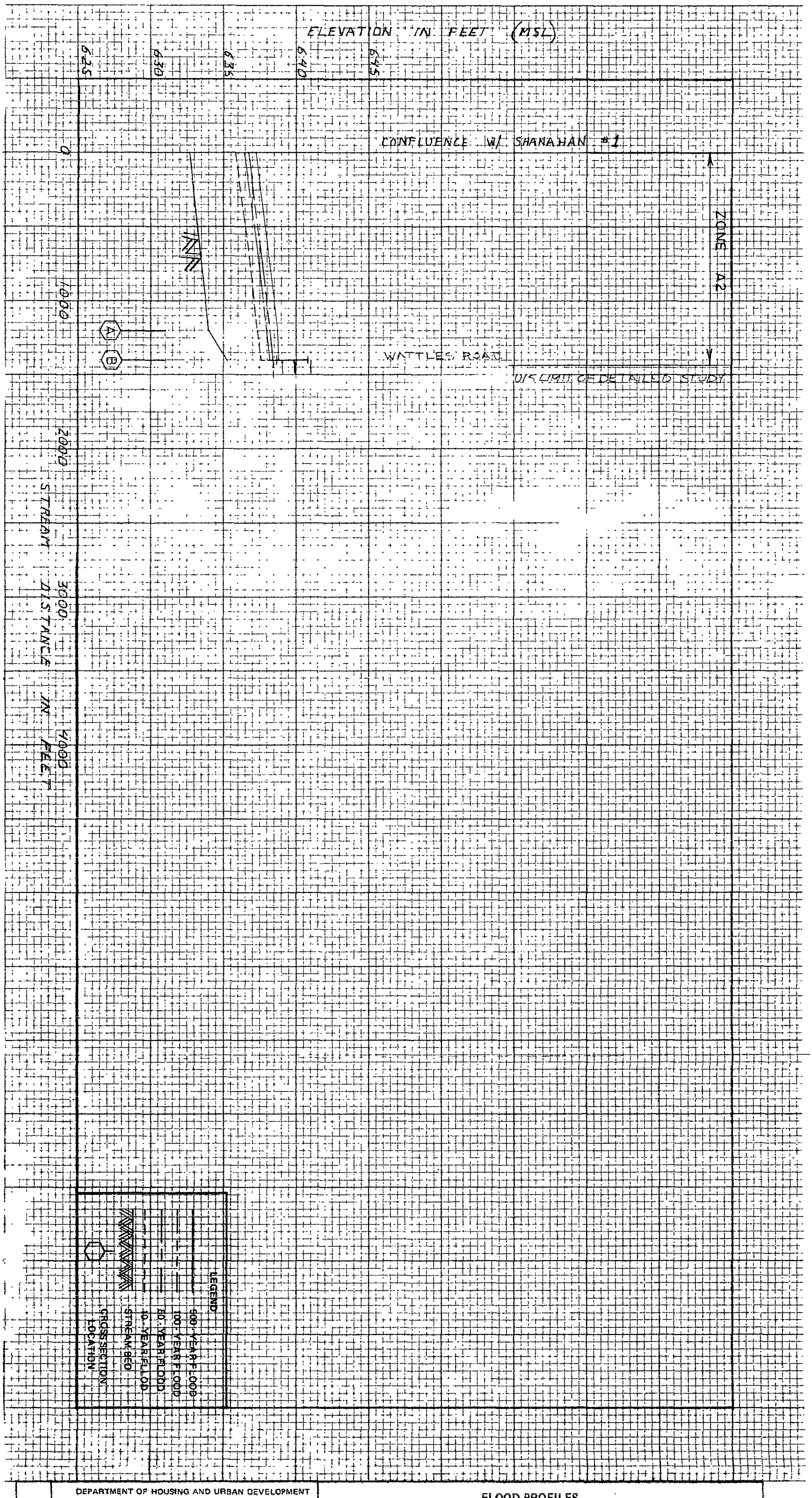
HOUGHTON DRAIN U/S HENRY GRAHAM DRAIN

"PERFECT" CROSS SECTION
10 X 10 — ONE INCH
EUGENE DIETZGEN CO
IN U S A

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HOUGHTON DRAIN

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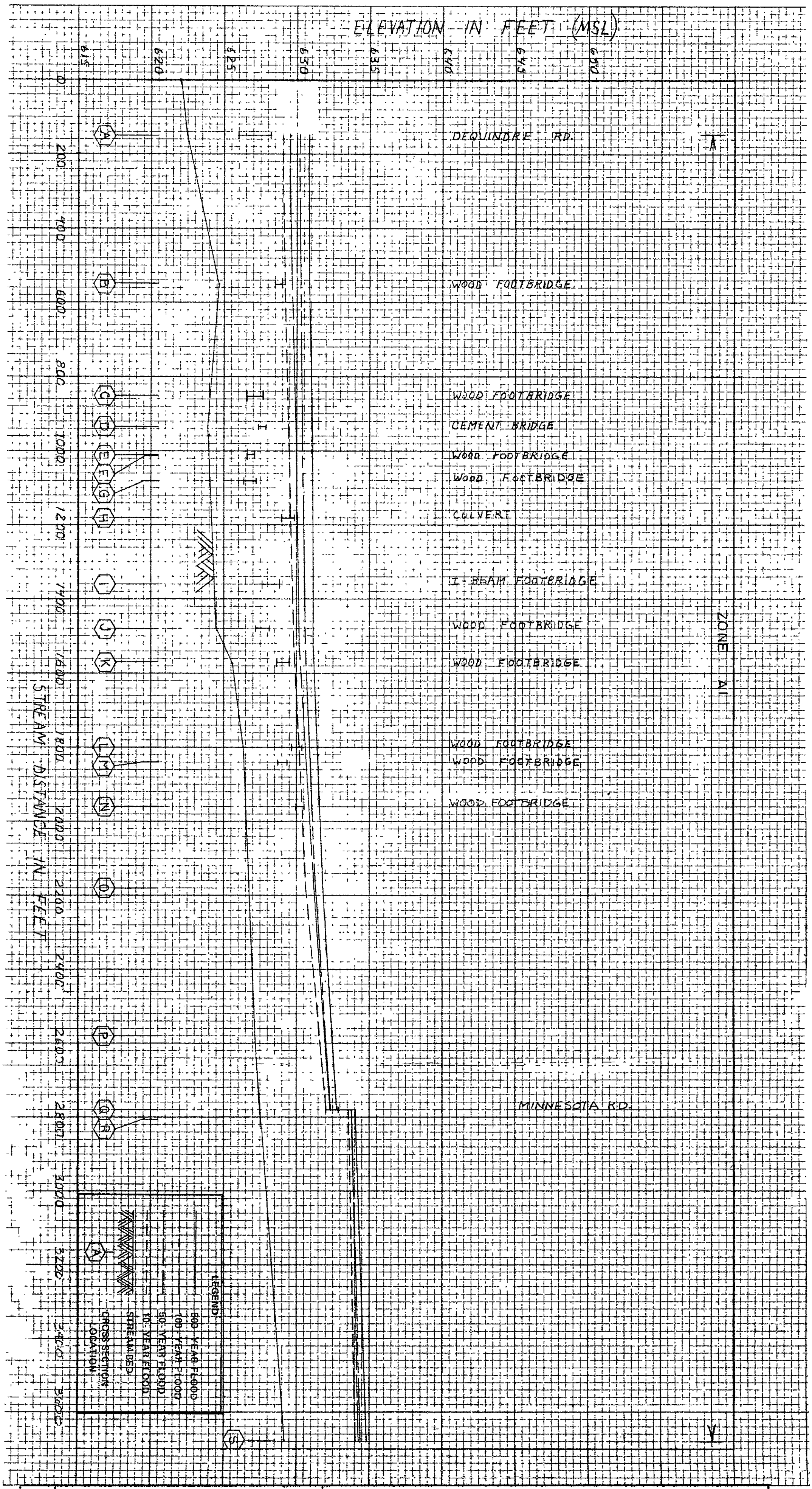


| | | |
|---|---|---|
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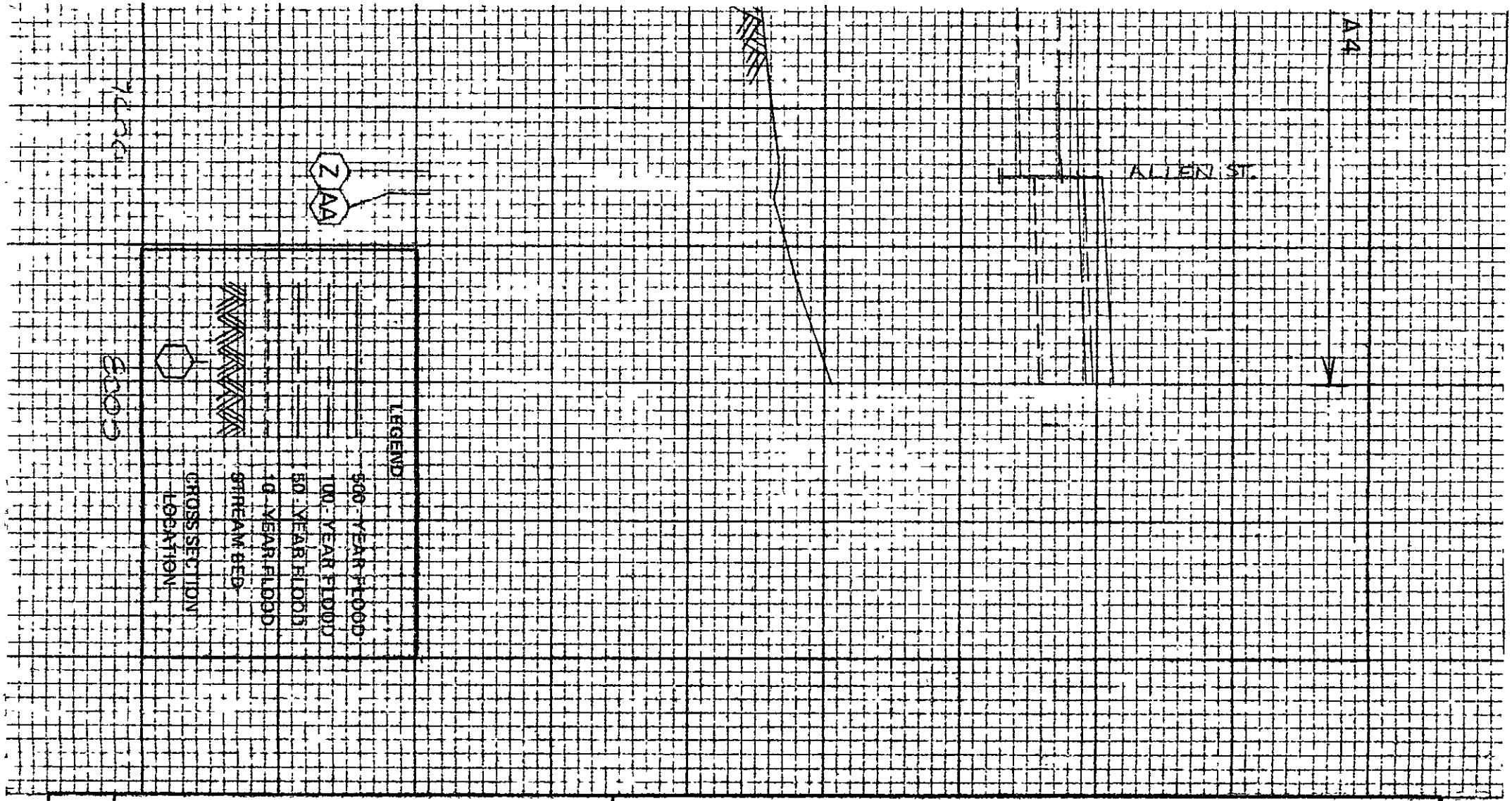


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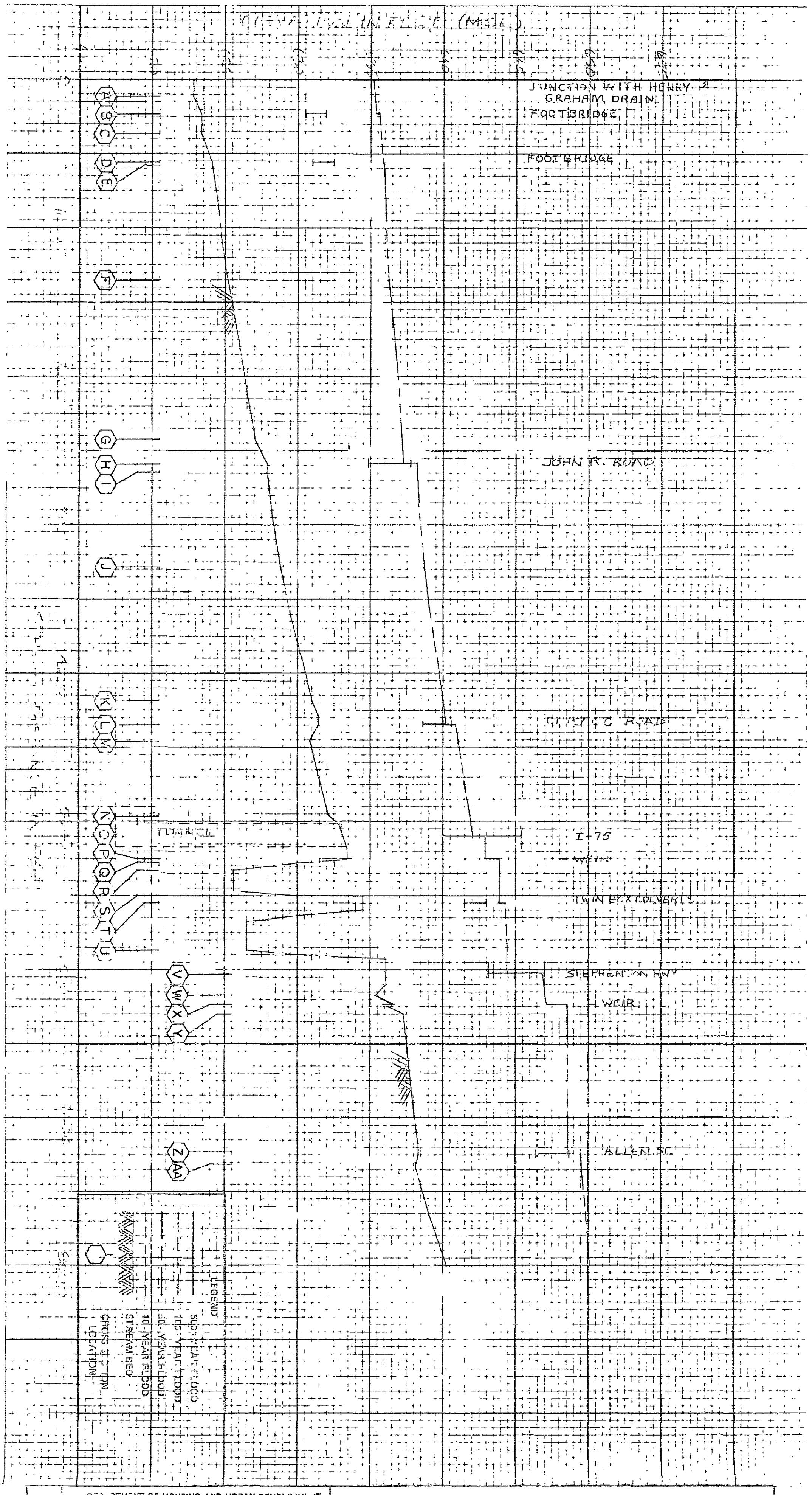
(OAKLAND CO.)

**FLOOD PROFILES**

BARNARD DRAIN U/S HENRY GRAHAM DRAIN

"PERFECT" CROSS SECTION
10 X 10 — ONE INCH
EUGENE DIETZGEN CO



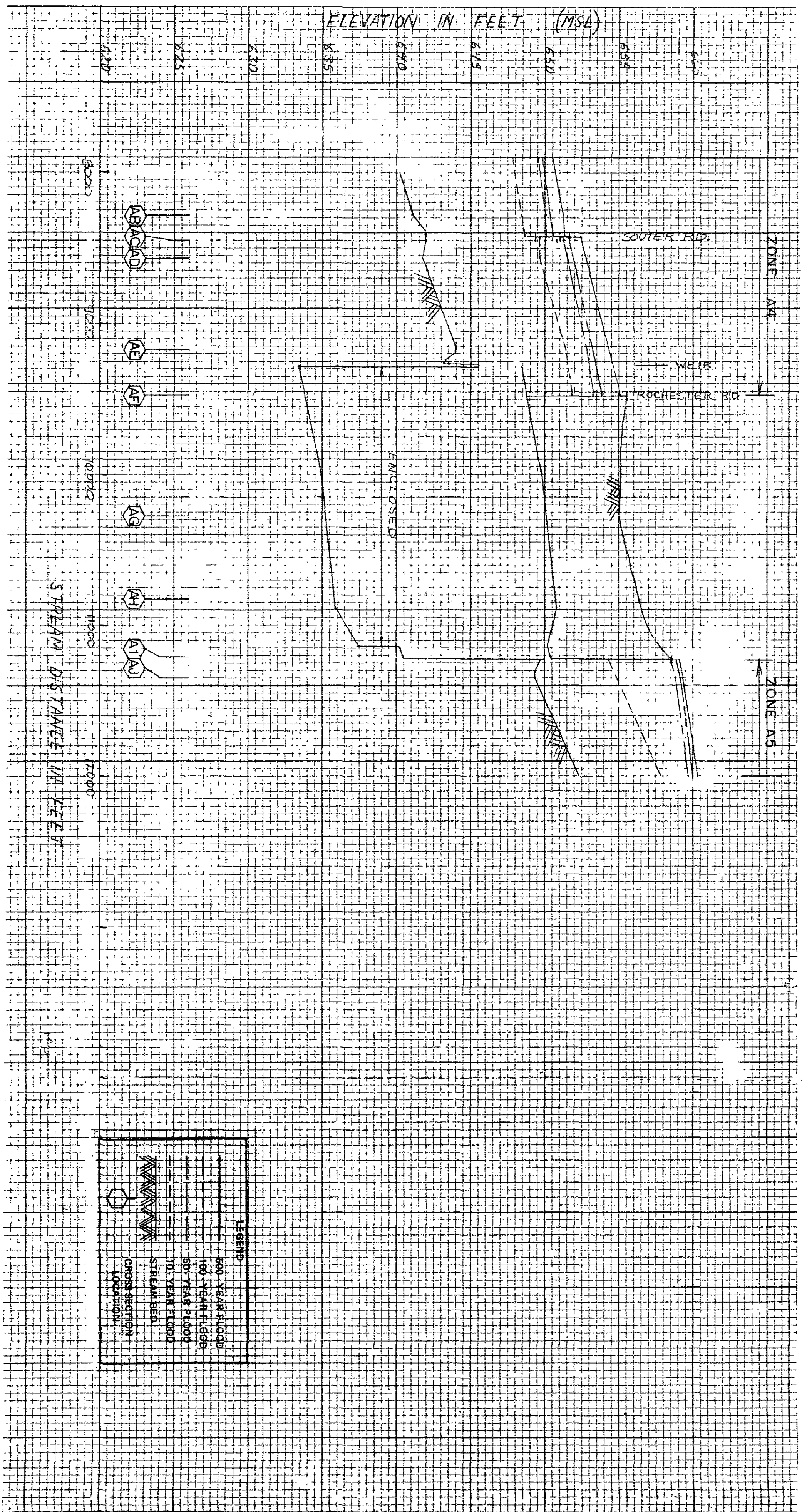

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

TROY, MICHIGAN

FLOOD PROFILES

SPENCER-

"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO.

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Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

BARNARD DRAIN U/S HENRY GRAHAM DRAIN

"PERFECT" CROSS SECTION
10 X 10 TO ONE INCH
EUGENE DIETZGEN CO.

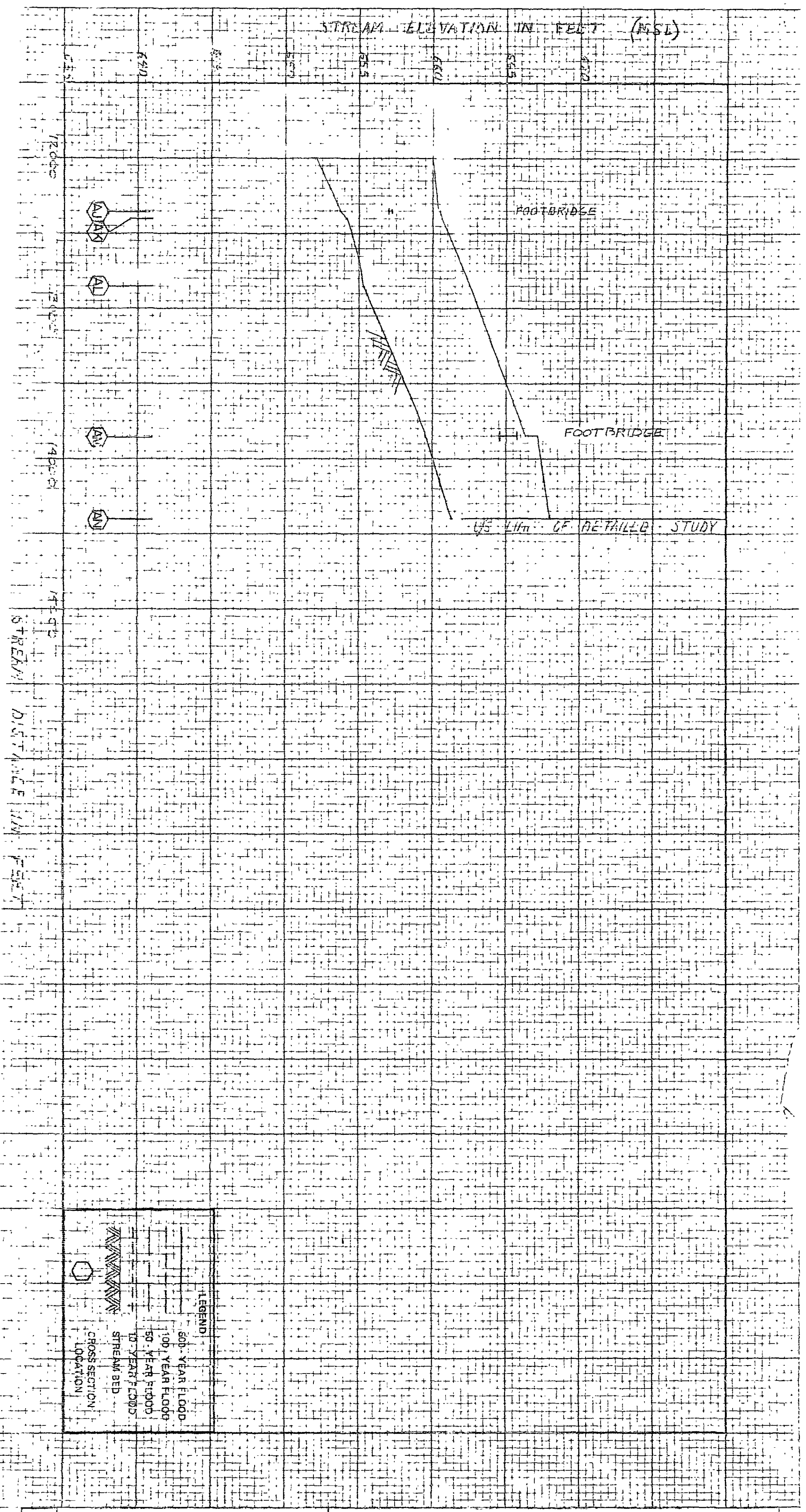



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

SPENCER

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FLOOD PROFILES

SPENCER BARNARD DRAIN

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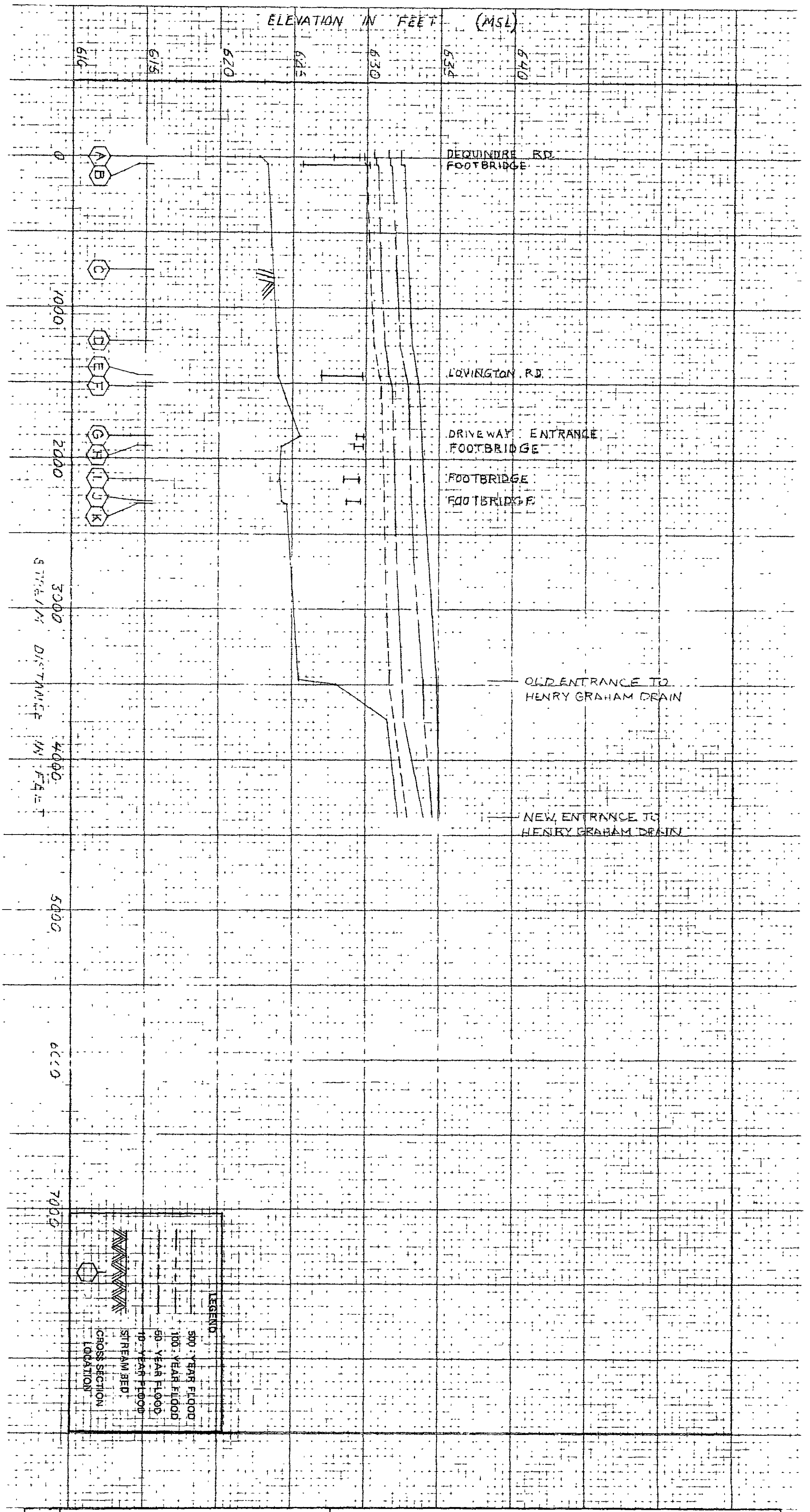


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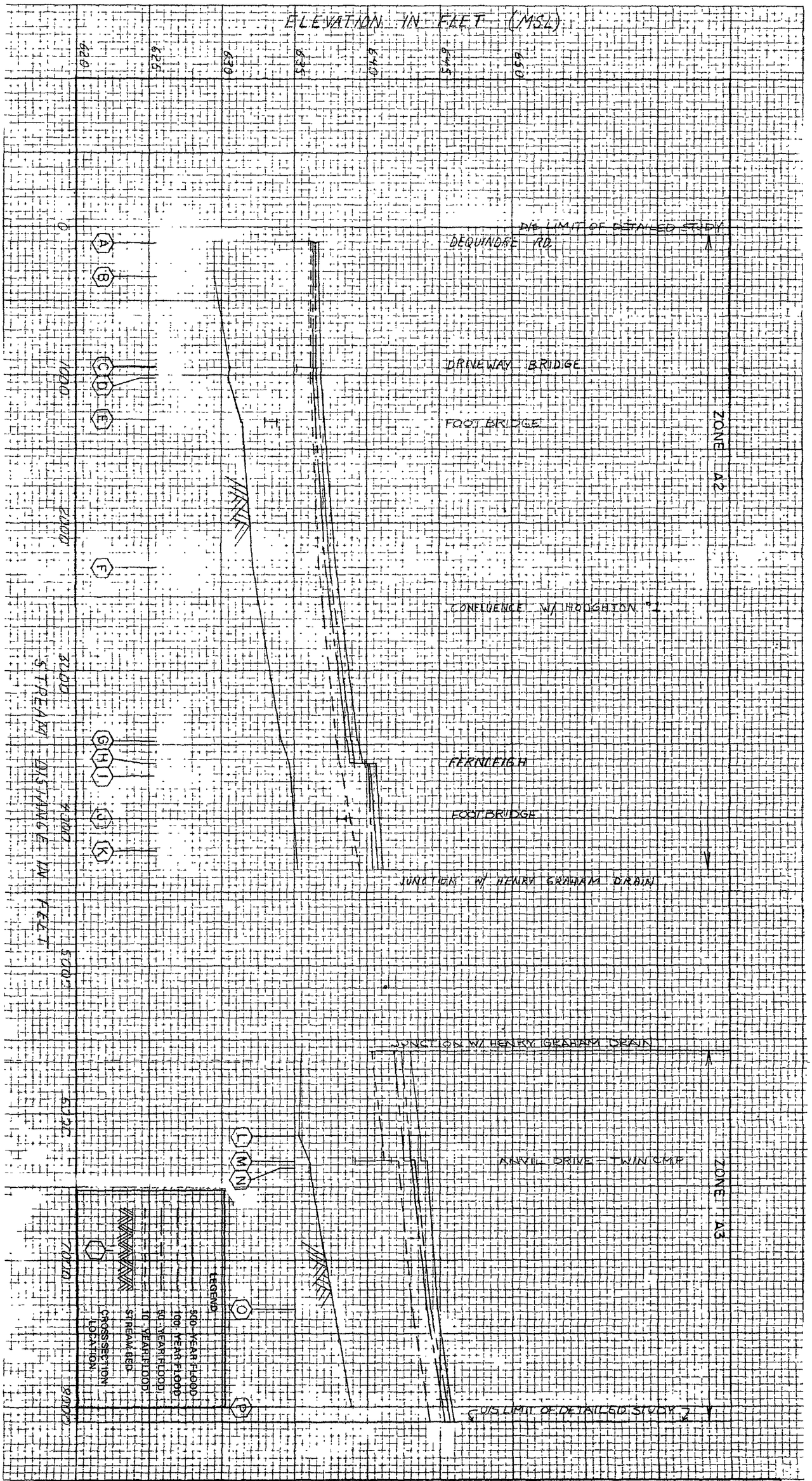
CITY OF TROY, MI.
(OAKLAND CO.)

**FLOOD PROFILES**

[redacted]

SPENCER BARNARD DRAIN #1 E. OF HENRY GRAHAM

"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO

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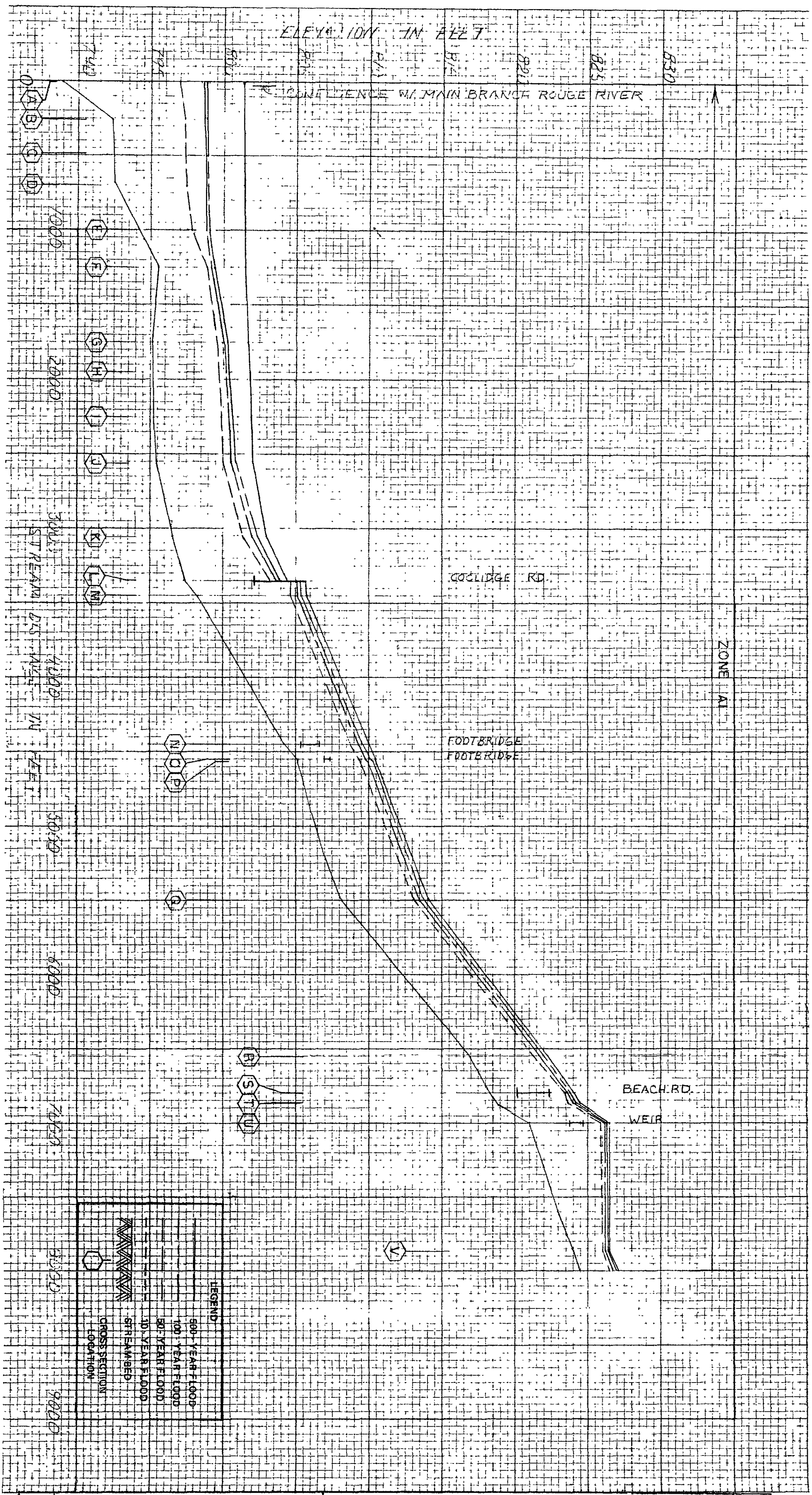
(OAKLAND CO.)

FLOOD PROFILES

SHENAHAN DRAIN

"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO.

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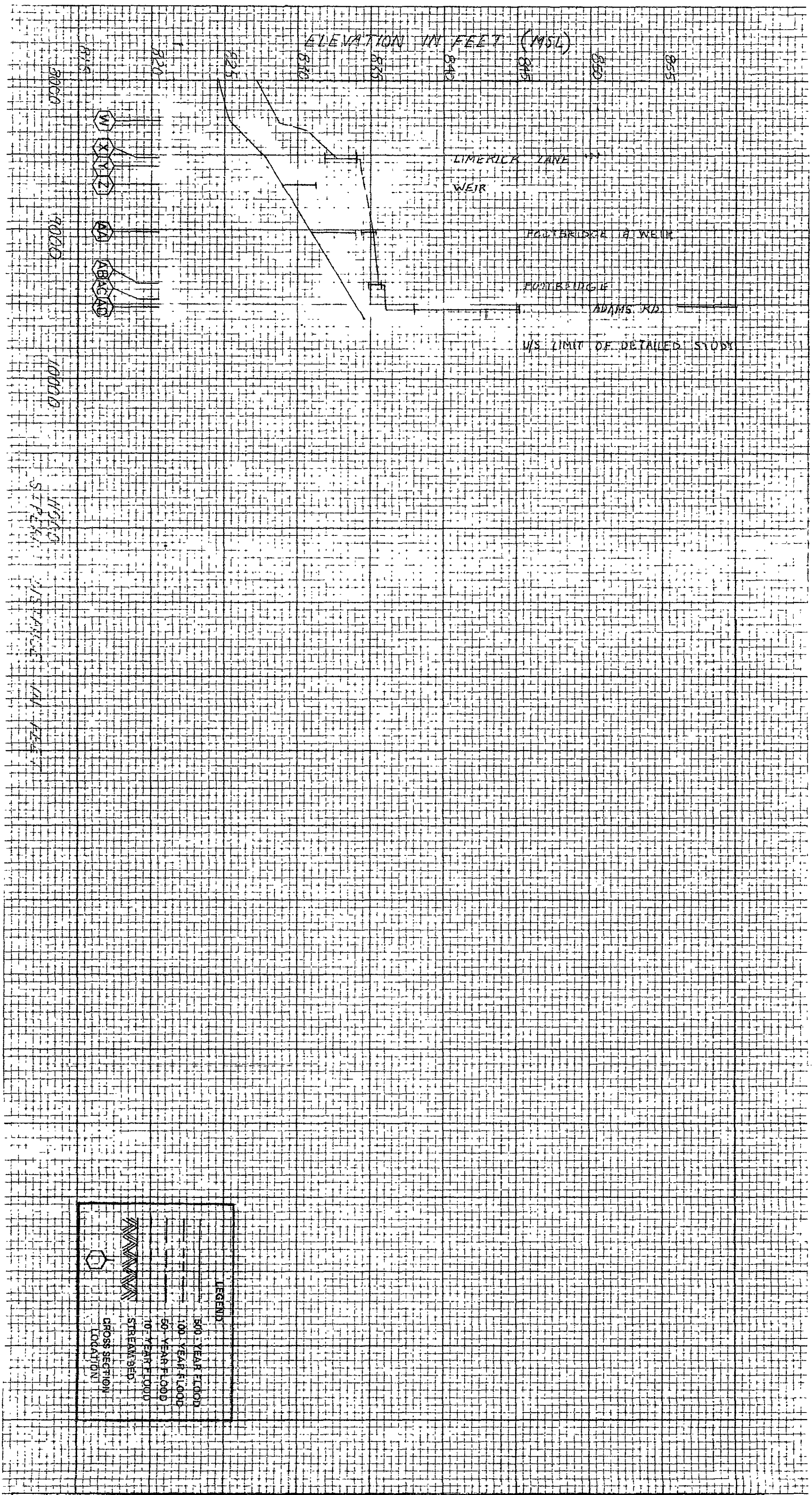
(OAKLAND CO.)

FLOOD PROFILES

SPRAGUE BRANCH - ROUGE RIVER

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FLOOD PROFILES

SPRUCE BRANCH - RANGE LINE

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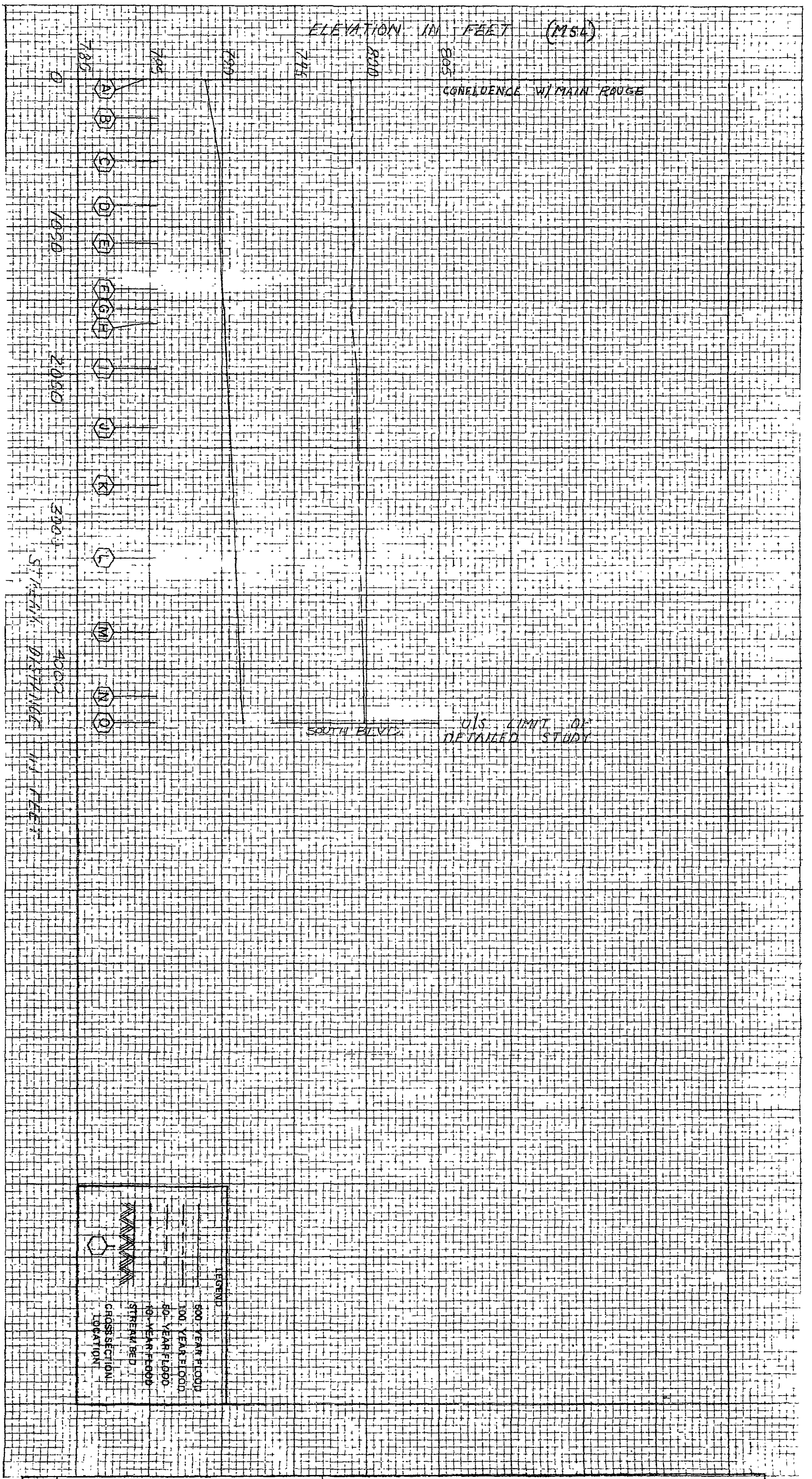
"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO

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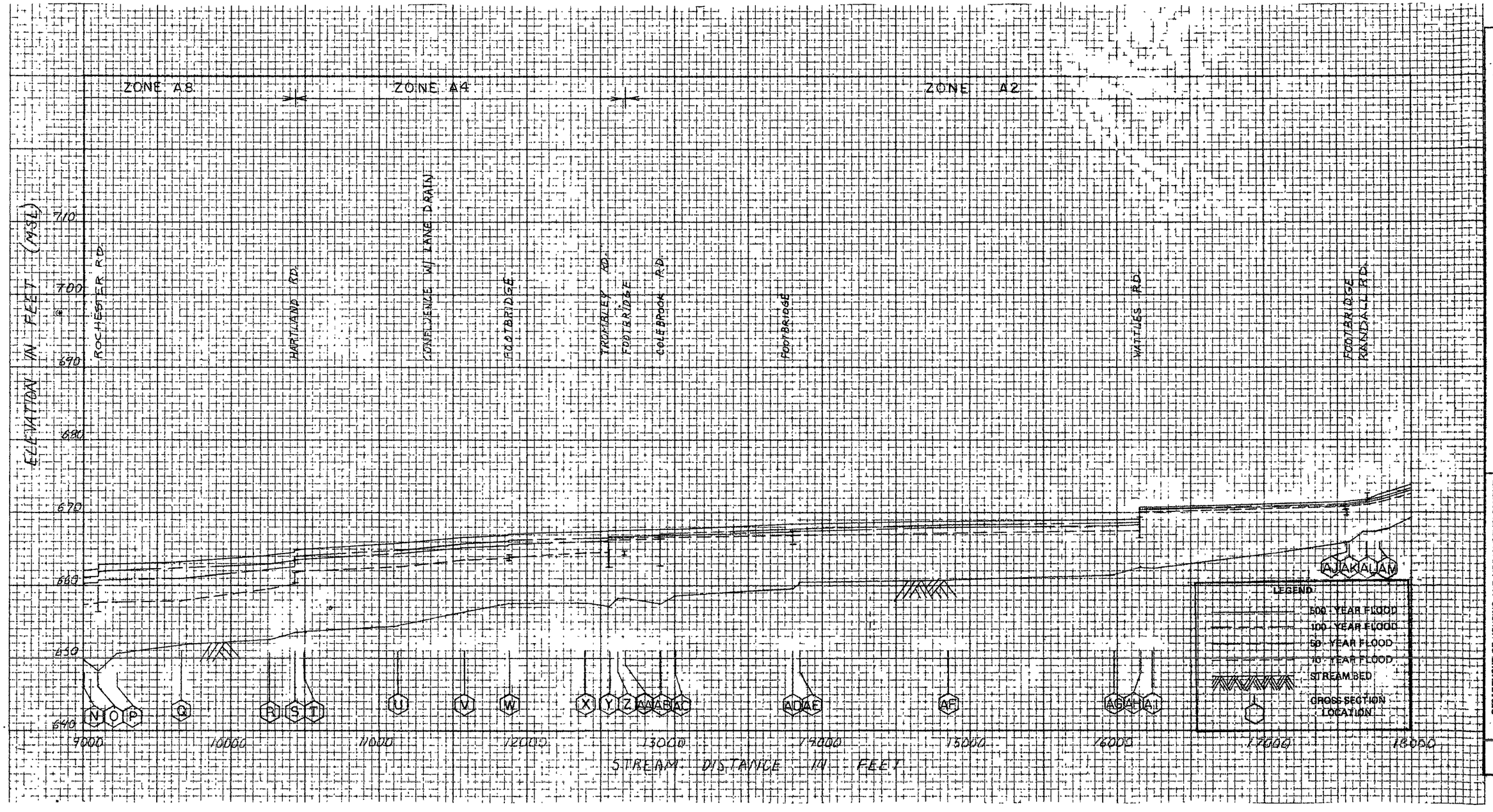
FLOOD PROFILES

SPRAGUE DRAIN




FLOOD PROFILES

STURGIS DRAIN

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"PERFECT" CROSS SECTION
TOYO & ONE INCH
EUGENE DIETZGEN CO

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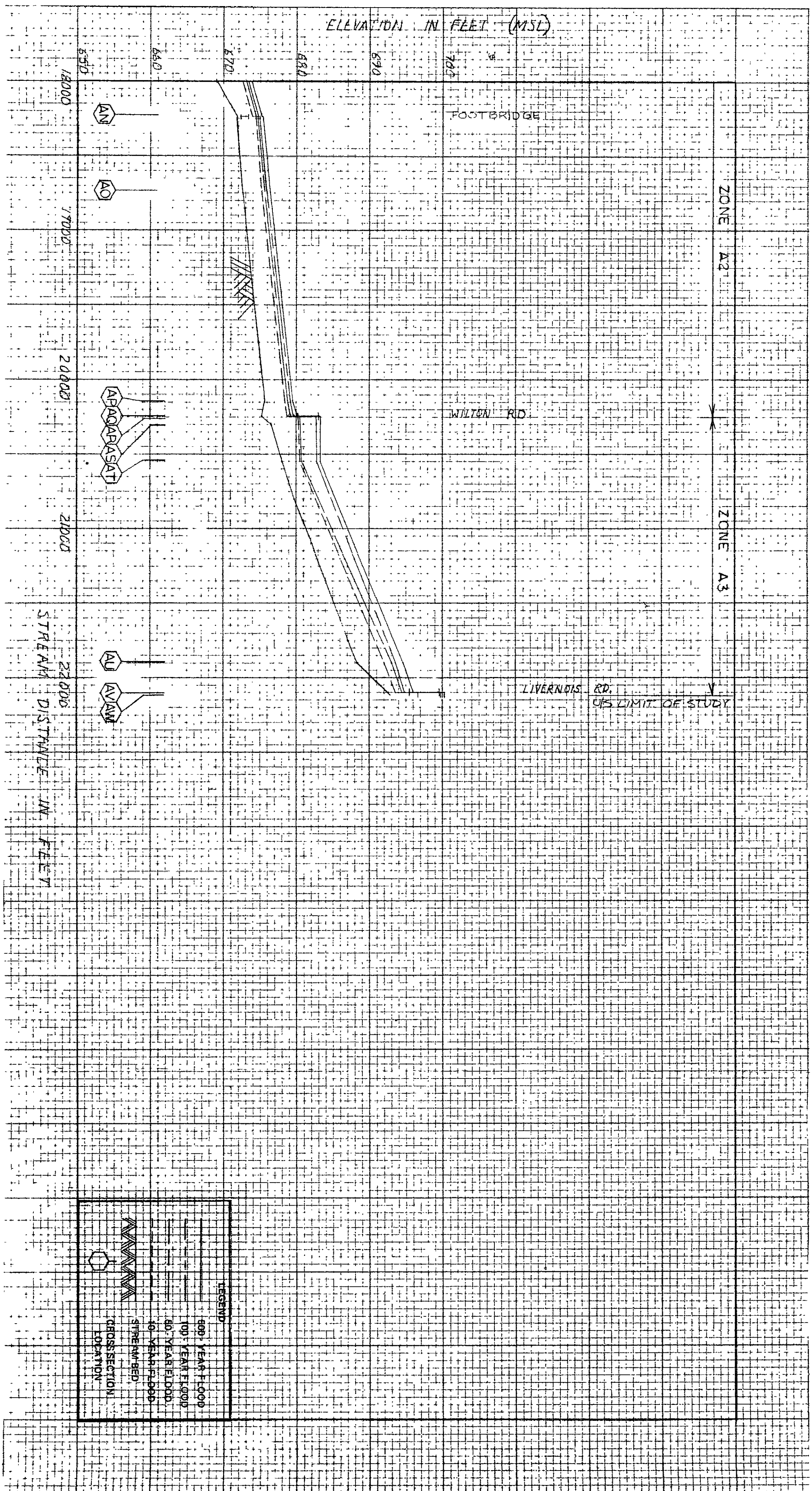


DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY, MI.
(OAKLAND CO.)

FLOOD PROFILES

STURGIS DRAIN

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: RIVER ROUGE

4) DOCUMENT TYPE: REPORT

00BREAK00

Sprague Branch

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

River Rouge

**PROJECT:** HUD-FIA-H-4705, Troy FIS, Oakland Co., MI

**CONSULTING FIRM:** McNamee, Porter and Seeley/Smith, Hinchman and Grylls

**WATERCOURSE:** River Rouge (from Square Lake Rd. to confluence with Sprague Branch and Sprague Drain)

**STUDY LIMITS:** Sprague Branch (from confluence with River Rouge to Adams Rd.) (Westerly Branch)

Sprague Drain (from confluence with River Rouge to South Blvd.) Easterly Branch

**DATE OF AERIAL SURVEY:** 4/75 Abrams Aerial Survey

**DATE OF LAND SURVEY:** 5/79 - 11/79 MP&S field crew

**SOURCE OF FLOWS:** Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79

**TOPOGRAPHIC INFORMATION:** USGS topographic maps; See attached revisions 10' contours. Abrams 2' topo, except Sec. 5 where Forest Creek Sub. info was used

**METHOD OF ANALYSIS:** HEC-2 water surface profile computer program

**VARIABLES AND COEFFICIENTS:**

| | |
|---|---|
| Channel "n" | .035 - .095 |
| Overbank "n" | .035 - .14 |
| n values thru bridges | See XKOR table |
| Contraction Coefficients | .1 - .3 |
| Expansion Coefficients | .3 - .6 |

Bridge loss coefficients were chosen per References 1 and 2.

**PHOTOGRAPHS:** Enclosed for your review, please return.

**CROSS-SECTIONS:** See Table 1 for cross-section description. Cross-section plots enclosed. Please return.

**REFERENCES:**


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## HIGH WATER MARKS AND CALIBRATION

No high water data was found for this reach of study.

### Starting Conditions

This study is a continuation of a previous study submitted 12/79. The Sprague Branch and Sprague Drain are expected to peak relatively close together. Therefore, these runs were started at the River Rouge elevation at the upstream end.

### Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation). After delineation of the natural 100 yr. flood plain by Abrams Aerial Survey, the floodway between field surveyed sections may be slightly modified. Since the topography in Section 25 has changed since the aerial survey, the subdivision plans were used for designation of flood plain and floodway.

### Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood profiles (iii) sensitivity analysis.

### Comments

We have not delineated the 100 year flood plain at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile). All hydraulic runs in Section 5 are based on previously approved information from the Forest Creek Subdivision supplied by the DNR.

Revised Hydrology - Sprague Branch and Sprague Drain

The hydraulic investigations have shown that there is a little more storage available in the upper portion of Sprague Branch than was previously anticipated. There is significant storage upstream of Adams Road, as well as a little storage in some ponds just downstream of Adams. Calculations for the revised flows are attached. Drainage areas have also been revised slightly. The results are shown in the attached tables. The effect of these changes on the River Rouge flows is expected to be insignificant.

Try to approximate the 100 year flow downstream of Adams Rd.

At top of road, elevation 843.20, storage is approximately 1.7 inches. The outflow at this elevation would be about 295 cfs. The storage at this elevation would be about 1.7 inches. Therefore, it is obvious that weir flow will not occur.

Check on sensitivity of the downstream flow.

| Elevation upstream | Approximate elevation downstream | Flow (cfs) | Storage (inches) |
|---|---|---|---|
| 843.2 | 835.8 | 295 | 1.7 |
| 842 | 835.6 | 275 | .94 |
| 840 | 835.4 | 233 | .34 |

It appears that the downstream flow will be about 280 cfs. Since the upstream study is approximate, this should be good enough. For other frequencies, convert to an effective population density based on 100 year.

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| A = 1.0<br>$P_d$ = 600<br>Q = | 160 | 230 | 280 | 340 |

The flows further downstream will also be affected somewhat. At Coolidge, the effective population density would be about 1200. The flows will not be significantly affected downstream of Coolidge Rd.

TABLE 9

Results From Using Snyder's Unit Hydrograph Method

Main Rouge, Sprague Drain, Sprague Branch

| Location | Drainage Area (mi²) | Population Density (p/mi²) | Resultant Flows (cfs) 10-Yr | 50-Yr | 100-Yr | 500-Yr |
|---|---|---|---|---|---|---|
| **Main Rouge-Sprague Drain** | | | | | | |
| at Squarelake Road | 7.3 | 1300 | 640 | 950 | 1120 | 1500 |
| just d/s of confluence with Sprague Branch | 1.0 | 1300 | 620 | 920 | 1080 | 1440 |
| just u/s of confluence with Sprague Branch | 2.8 ~~2.6~~ | 1000 | 320 ~~310~~ | 480 ~~460~~ | 570 ~~540~~ | 780 ~~750~~ |
| at South Blvd | 2.2 ~~2.0~~ | 1000 | 270 ~~265~~ | 410 ~~395~~ | 490 ~~465~~ | 660 ~~640~~ |
| **Sprague Branch** | | | | | | |
| just u/s of confluence with Sprague Drain | 4.0 ~~4.4~~ | 1500 | 480 ~~505~~ | 700 ~~750~~ | 820 ~~870~~ | 1100 ~~1180~~ |
| just u/s of small tributary from north (@ Coolidge) | 2.0 ~~2.6~~ | *1200 ~~1500~~ | 270 ~~365~~ | 400 ~~540~~ | 490 ~~630~~ | 670 ~~870~~ |
| at Troy Corp boundary | 1.0 | *600 ~~1500~~ | 160 ~~210~~ | 230 ~~305~~ | 280 ~~360~~ | 340 ~~500~~ |

*Due to storage upstream of Adams.

TABLE 11 (cont)

Summary of Proposed Discharges

| Flooding Source and Location | Drainage Area (Square Miles) | Peak Discharge (cfs) 10-Yr. | 50-Yr. | 100-Yr. | 500- |
|---|---|---|---|---|---|
| Square Lake Road | 7.3 | | | | |
| To | | 640 | 950 | 1120 | 150 |
| Confluence with Sprague Branch | D/s = 7.0<br>U/s = 2.6 | | | | |
| | | 320 | 480 | 570 | 78 |
| | | ~~210~~ | ~~460~~ | ~~540~~ | ~~75~~ |
| To | | | | | |
| South Blvd. | 2.0 | | | | |
| **Sprague Branch** | | | | | |
| from | | | | | |
| Just u/s confluence with Sprague Drain | 4.4 | 480 | 700 | 820 | 110 |
| | | ~~505~~ | ~~750~~ | ~~870~~ | ~~110~~ |
| To | | | | | |
| Small tributary from north (Just u/s of Coolidge) | ~~2.6~~ 2.0 | 270 | 400 | 490 | 670 |
| | | ~~365~~ | ~~540~~ | ~~630~~ | 870 |
| To | | | | | |
| ~~Troy Corporate Boundary~~ | ~~1.0~~ | | | | |
| Just d/s of Lake Charnwood | 1.5 | 160 | 230 | 280 | 34 |
| To | | | | | |
| Troy Corporate Boundary (Adams Rd). | 1.6 | | | | |

COMMUNITY: Troy

WATERCOURSE: Sprague Branch

## TABLE 3 - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Coolidge Rd. | .3 | 26 | 22 | 1.18 | .020 | 26 | .2 | 1.5 | |
| Beach Rd. | .7 | 7 | 11.5 | .6 | .028 | 82 | 3.6 | 5.3 | |
| Limerick Rd. | .9 | 13 | 13 | 1 | .025 | 40 | .7 | 2.6 | |
| Adams Rd | .2 | 15.9 | 14.1 | 1.1 | .013 | 50 | .2 | 1.4 | |

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JOB: HUD-FIA H-4705 SHEET NO 1/5
COMMUNITY: TROY FILE NO
WATERCOURSE: RIVER ROUGE, SPRAGUE BRANCH DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| AS | 7.0 | 1 | From Forest Creek subdivision study |
| AT | 8.0 | 1 | " |
| AU | 9.0 | 1 | " |
| AV | 10.0 | 1 | " |
| | Sprague Branch | | |
| A | 11.0 | 1 | " |
| B | 12.0 | 1 | " |
| C | 13.0 | 1 | " |
| D | 13.5 | 1 | " |
| E | 14.0 | 1 | " |
| F | 15.0 | 1 | " |
| G | 16.0 | 1 | " |
| H | 17.0 | 1 | " |
| I | 18.0 | 1 | " |
| J | 19.0 | 1 | " |
| K | 20.0 | 1 | " |
| L | 301.6 | 1 | Coolidge Rd. |
| M | 301.8 | 1 | |
| | 301.82 | 3 | 301.8 + 1.8' |
| | 301.84 | 3 | 301.82 + 1.8' |
| | 301.85 | 3 | 301.84 + 1.4' |

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COMMUNITY: TROY FILE NO
WATERCOURSE: SPRAGUE BRANCH
COMPUTED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section; partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | Section No. | Section Type | Remarks |
|---|---|---|---|
| U | 305.6 | 4 | Lake Chornwood Outlet |
| | 305.8 | 4 | Developed from 305.0 with adjustments on invert and topwidth |
| | 305.9 | 4 | " |
| V | 305.0 | 1 | |
| | 306.1 | 3 | 305.0 + 1.2' |
| W | 306.2 | 1 | |
| | 306.3 | 3 | 306.2 + .4' |
| | 306.4 | 3 | 306.8 |
| X | 306.6 | 1 | Limerick Lane |
| Y | 306.8 | 1 | |
| | 306.82 | 3 | 306.8 + 1.0' |
| Z | 306.84 | 4 | Small weir |
| | 306.86 | 3 | 306.8 + 1.0' |
| | 306.92 | 4 | Developed from topo |
| AA | 306.93 | 4 | Developed from topo and survey information Footbridge and weir. |
| | 306.94 | 3 | 306.92 |
| | 306.95 | 3 | 307.0 with invert change |

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JOB: HUD-FIA H-4705 SHEET NO 2/5
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPRAGUE BRANCH
COMPUTED BY DATE CHK BY DATE

TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| | 301.86 | 3 | 301.85 + .9' |
| N | 301.87 | 4 | Footbridge R(301.86) + road info |
| | 301.88 | 3 | " 301.87 |
| | 301.89 | 3 | 301.88 |
| O | 302.0 | 1 | |
| P | 302.1 | 4 | Footbridge R(302.0) + road info |
| | 302.12 | 3 | " 302.1 |
| | 302.14 | 3 | 302.12 |
| | 302.2 | 3 | 302.14 + 1.0' |
| | 302.4 | 3 | 302.2 + .9' |
| Q | 303.0 | 1 | |
| | 303.2 | 3 | 303.0 + 1.7' |
| | 303.4 | 3 | 303.2 + 1.6' |
| | 303.6 | 3 | 303.4 + 1.7' |
| | 303.8 | 3 | 303.6 + 1.6' |
| R | 304.2 | 1 | |
| | 304.4 | 3 | 304.2 + 1.0' |
| S | 304.5 | 1 | Beach Rd. |
| T | 304.8 | 1 | |
| | 305.2 | 3 | 304.8 + 1.0' |

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JOB: HUD-FIA H-4705 SHEET NO 5/5
COMMUNITY: TROY FILE NO
WATERCOURSE: SPRAGUE DRAIN
CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified For modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| | 10.0 (River Rouge) | 1 | From Forest Creek subdivision study |
| A | 111.0 | 1 | " |
| B | 112.0 | 1 | " |
| C | 113.0 | 1 | " |
| D | 114.0 | 1 | " |
| E | 21.0 | 1 | " |
| F | 21.1 | 1 | " |
| G | 21.2 | 1 | " |
| H | 21.3 | 1 | " |
| I | 21.4 | 1 | " |
| J | 22.0 | 1 | " |
| K | 23.0 | 1 | " |
| L | 24.0 | 1 | " |
| M | 25.0 | 1 | " |
| N | 26.0 | 1 | " |
| O | 27.0 | 1 | " |
| P | 28.0 | 1 | " |

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JOB: HUD-FIA H-4705 SHEET NO 4/5
COMMUNITY: TROY FILE NO.
WATERCOURSE: SPRAGUE BRANCH
WRITTEN DATE CHK BY DATE

## TABLE 1 - SECNO

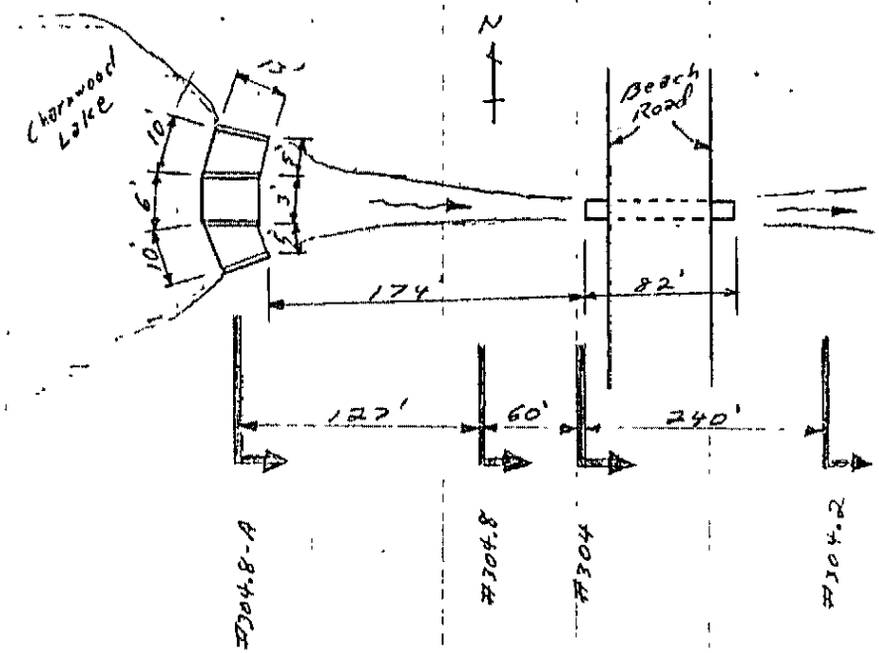
| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | Section No. | Section Type | Remarks |
|---|---|---|---|
| | 306.96 | 3 | 307.0 |
| AB | 306.97 | 4 | Footbridge R(307.0) +road info |
| | 306.98 | 3 | 306.97 |
| | 306.99 | 3 | 307.0 |
| AC | 307.0 | 1 | |
| | 307.2 | 3 | 307.0 |
| AD | 307.4 | 1 | Adams Rd. |

Sprague Branch

X-Sections 304.2, 304, 304.8 & 304.8-A

12 may '29 D. Cain ϕ
D. Jeffries T ϕ
N. Shamart ϕ

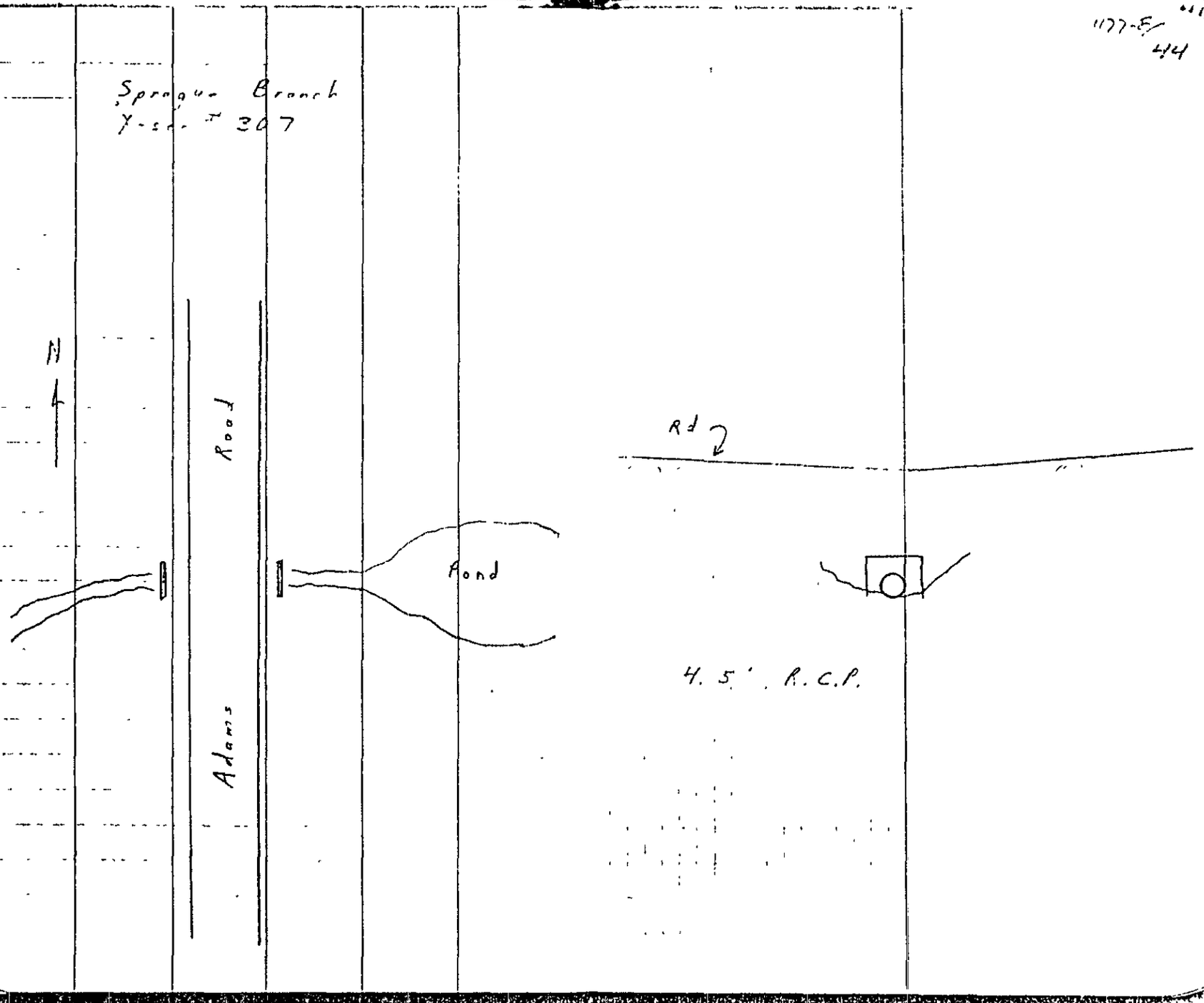


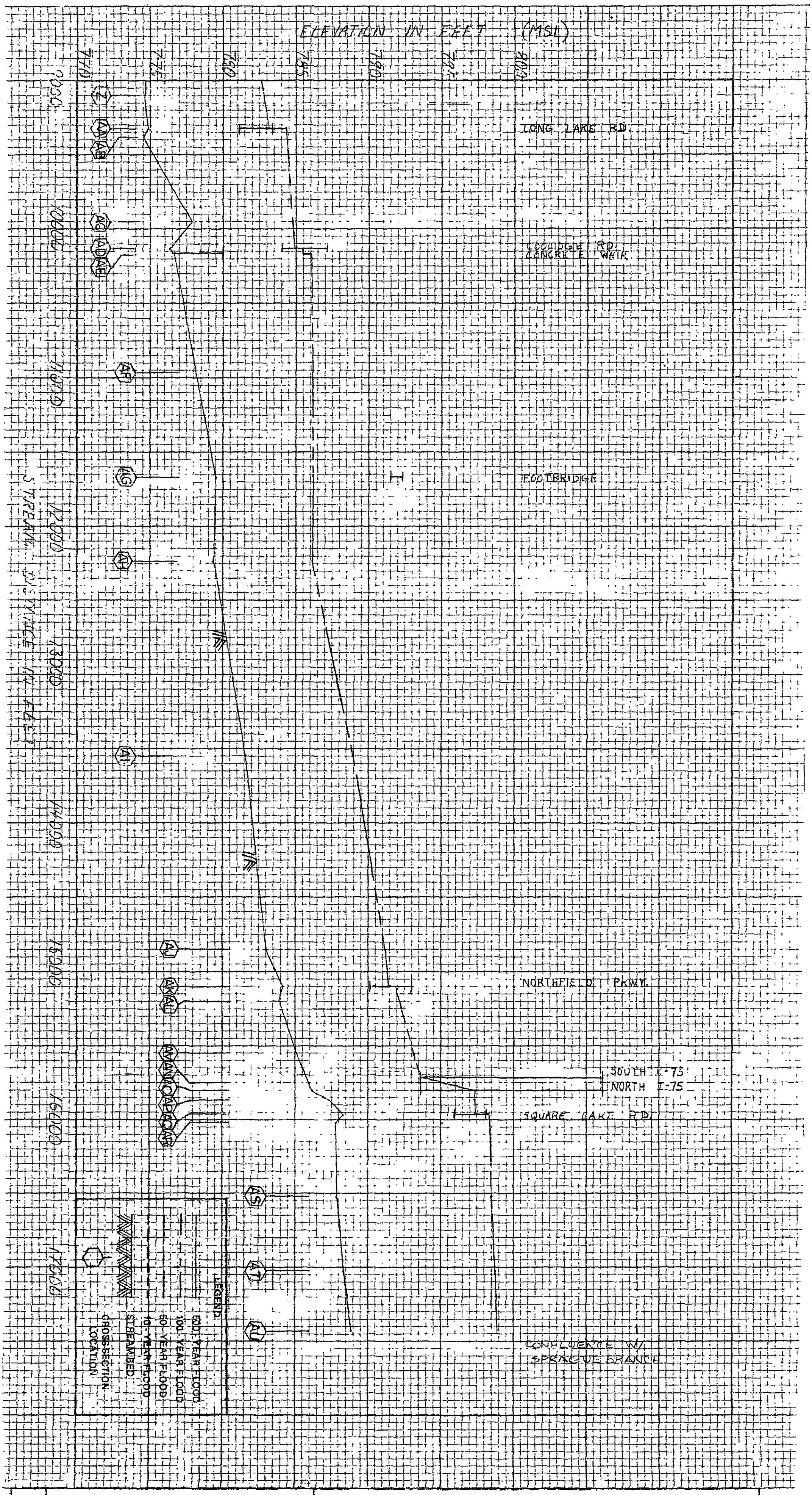

Culvert is 5' Dia cmp.
½ filled with dirt or

weir @ Lake is concrete.

| Sta | +S | HI | -S | Elev | Remarks |
|---|---|---|---|---|---|
| TP A | | | | 820.93 | on headwall; pg 53 this book. |
| | 6.12 | 827.05 | | | |
| | | | 2.4 | 824.7 | Top of weirs at #304.8-A |
| | | | 4.7 | 822.4 | Bottom of channel at #304.8-A (on conc.) |
| | | | 6.1 | 821.0 | Creek Invert just d/s of #304.8 |

1177-E/
4/4



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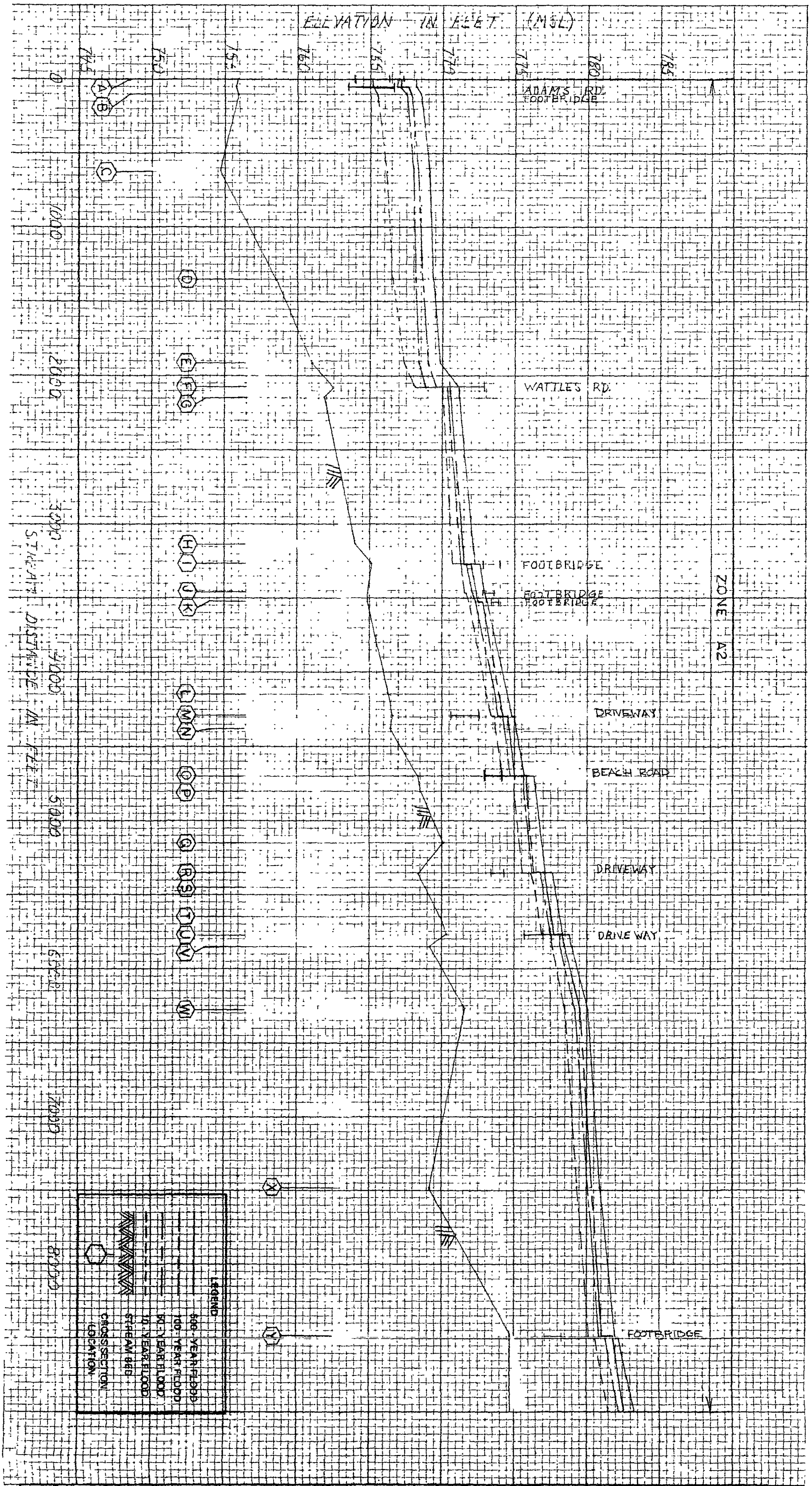


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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: 100YR ENCROACHED

00BREAK00

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  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | G | WSEL | FQ | |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 768.420 | 0.000 | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE | |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |

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*PROF 2

CCHV=    .400 CEHV=    .800
*SECNO 200.800
 2800 NAT Q1=    407.02  WSEL=    768.42  ENC Q1=    407.02  WSEL=    768.52  RATIO=    .0000
 NAT Q1=    418.  RATIOS LOB,CH,ROB=    .0873    .9085    .0042  WSEL=    768.52
3280 CROSS SECTION    200.80 EXTENDED      2.92 FEET


   SECNO     DEPTH     CRSEL     CRIPS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     218.4     316.0  TYPE=     4  TARGET=        .026

       ***MATCH LINE TO BLOOMFIELD TWP. FIS HYDRAULICS X-SECT.7.80

   200.80    11.42   768.42     0.00   768.42   768.58      .16      0.00      0.00   764.50
    1830.     124.    1706.       0.      84.     521.       0.        0.        0.    767.30
     0.00     1.48     3.28     0.00     .100     .075     .100    0.000   757.00   218.41
  .002163       0.       0.       0.        0        0        0     0.00    97.59   316.00


CCHV=    .200 CEHV=    .400
*SECNO 201.000
 2800 NAT Q1=   1273.40  WSEL=    768.82  ENC Q1=   1273.40  WSEL=    768.92  RATIO=    .0000
 NAT Q1=   1303.  RATIOS LOB,CH,ROB=    .3313    .4333    .2355  WSEL=    768.92
3280 CROSS SECTION    201.00 EXTENDED      5.14 FEET


3470 ENCROACHMENT STATIONS=     111.1     337.4  TYPE=     4  TARGET=        .022
   201.00    14.14   768.84     0.00   768.82   768.86      .02       .26       .03   760.60
    1830.     597.     814.     419.     619.     542.     483.       13.        2.    761.90
      .12      .96     1.50      .87     .080     .065     .080      .065   754.70   111.12
  .000214     520.     520.     520.        2        0        0      0.00   226.27   337.38


*SECNO 202.000
 2800 NAT Q1=    841.57  WSEL=    769.03  ENC Q1=    841.57  WSEL=    769.13  RATIO=  0.0000
 NAT Q1=    865.  RATIOS LOB,CH,ROB=    .1261    .3980    .4759  WSEL=    769.13

3470 ENCROACHMENT STATIONS=     250.2     446.4  TYPE=     4  TARGET=        .027
   202.00    10.55   769.05     0.00   769.03   769.10      .04       .23       .01   763.00
    1830.     210.     753.     867.     181.     373.     658.       37.        5.    761.90
      .25     1.16     2.02     1.32     .080     .065     .080      .065   758.50   250.17
  .000493     730.     730.     730.        2        0        0      0.00   196.22   446.39


CCHV=    .400 CEHV=    .800
*SECNO 203.200
 2800 NAT Q1=    511.52  WSEL=    769.37  ENC Q1=    511.52  WSEL=    769.47  RATIO=  0.0000
 NAT Q1=    527.  RATIOS LOB,CH,ROB=    .0557    .5927    .3516  WSEL=    769.47

3265 DIVIDED FLOW
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3470 ENCROACHMENT STATIONS=      174.8      495.6  TYPE=      4  TARGET=          .030
  203.20      8.41    769.41      0.00    769.37    769.51      .10       .37       .05    765.00
   1550.       65.      950.      535.       68.      303.     434.       51.        8.    764.00
     .32       .97      3.14      1.23      .100      .055     .100      .062    761.00    174.77
 .000949      570.      570.      570.         2         0        0      0.00    165.53    495.56

*SECNO 203.400
 2800 NAT Q1=     382.83  WSEL=     769.58  ENC Q1=     382.83  WSEL=     769.68  RATIO=    .0000
 NAT Q1=     401.  RATIOS LOB,CH,ROB=  0.0000    .2428    .7572  WSEL=     769.68
   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      199.5      510.7  TYPE=      4  TARGET=          .046

        ***WATTLES RD.

  203.40      6.93    769.63      0.00    769.58    769.68      .06       .15       .02    772.00
   1550.        0.      399.     1151.        0.      133.     877.       53.        8.    764.70
     .34      0.00      3.00      1.31      .100      .055     .100      .061    762.70    201.00
 .001717      120.      120.      120.         2         0        0      0.00    309.66    510.66

*SECNO 203.500
 2800 NAT Q1=     135.00  WSEL=     769.56  ENC Q1=     135.00  WSEL=     769.66  RATIO=  0.0000
 NAT Q1=     139.  RATIOS LOB,CH,ROB=  0.0000    .6167    .3833  WSEL=     769.66

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 30 MIN ELTRD=  767.00 MAX ELLC=  781.30

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      199.5      470.5  TYPE=      4  TARGET=          .030
  203.50      6.81    769.51    769.51    769.56    770.46      .94       .00       .71    772.00
   1550.        0.     1014.      536.        0.      107.     218.       53.        9.    764.70
     .34      0.00      9.47      2.46      .100      .035     .100      .061    762.70    201.07
 .014247        1.        1.        1.         4        23        0  -549.19    269.41    470.48

*SECNO 203.600
 2800 NAT Q1=     173.31  WSEL=     770.41  ENC Q1=     173.31  WSEL=     770.51  RATIO=  0.0000
 NAT Q1=     179.  RATIOS LOB,CH,ROB=  0.0000    .5083    .4917  WSEL=     770.51

3370 NORMAL BRIDGE,NRD= 30 MIN ELTRD=  767.00 MAX ELLC=  781.30


3470 ENCROACHMENT STATIONS=      199.5      474.3  TYPE=      4  TARGET=          .029
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  203.60      7.80    770.50      0.00    770.41    770.96       .47       .31       .19    772.00
   1550.        0.      812.      738.        0.     113.      311.       53.        9.     764.70
     .34      0.00      7.22      2.37      .100      .035      .100      .061    762.70    200.45
 .008026       30.       30.       30.         4         0         0   -728.95    273.87    474.33


*SECNO 203.700
 2800 NAT Q1=     671.11  WSEL=     771.03  ENC Q1=     671.11  WSEL=     771.13  RATIO=  0.0000
 NAT Q1=     695.  RATIOS LOB,CH,ROB=  0.0000   .1647   .8353  WSEL=     771.13

3470 ENCROACHMENT STATIONS=      199.5      525.0  TYPE=      4  TARGET=         .034
F  203.70      8.43    771.13      0.00    771.03    771.14       .02       .00       .18    772.00
   1550.        0.      264.     1286.        0.     167.     1368.       53.        9.     764.70
     .34      0.00      1.59       .94      .100      .065      .100      .061    762.70    200.05
 .000533        1.        1.        1.         2         0         0      0.00    324.96    525.02


*SECNO 203.750
 WATER EL=X5 CARD=    770.550
 2800 NAT Q1=     770.50  WSEL=     770.55  ENC Q1=     770.50  WSEL=     770.65  RATIO=  0.0000
 NAT Q1=     798.  RATIOS LOB,CH,ROB=   .1897   .3113   .4990  WSEL=     770.65

3470 ENCROACHMENT STATIONS=      157.5      507.0  TYPE=      4  TARGET=         .035

        ***SEE SEPARATE RUNS FOR WATTLES RD. LOSS

  203.75      8.95    770.55      0.00    770.55    770.57       .02       .01       .00    764.60
   1550.      276.      506.      768.      337.      279.      972.       54.        9.     765.80
     .34       .82      1.81       .79      .100      .065      .100      .061    761.60    157.49
 .000432       30.       30.       30.         0         0         0      0.00    349.50    506.98


CCHV=     .200 CEHV=     .400
*SECNO 203.800
 2800 NAT Q1=     780.39  WSEL=     770.58  ENC Q1=     780.39  WSEL=     770.68  RATIO=   .0000
 NAT Q1=     808.  RATIOS LOB,CH,ROB=   .1947   .2965   .5089  WSEL=     770.68
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      157.9      504.7  TYPE=      4  TARGET=         .035
G  203.80      8.78    770.58      0.00    770.53    770.61       .02       .03       .00    764.80
   1550.      284.      482.      784.      323.      273.      526.       57.       10.     766.00
     .35       .88      1.77       .85      .090      .065      .090      .061    761.80    157.91
 .000422       75.       75.       75.         0         0         0      0.00    346.77    504.69


*SECNO 204.000
 2800 NAT Q1=     238.72  WSEL=     771.45  ENC Q1=     238.72  WSEL=     771.55  RATIO=   .0000
 NAT Q1=     252.  RATIOS LOB,CH,ROB=   .5198   .2697   .2105  WSEL=     771.55

3470 ENCROACHMENT STATIONS=      183.8      433.2  TYPE=      4  TARGET=         .054
H  204.00      7.50    771.50      0.00    771.45    771.64       .14       .99       .05    768.60
   1550.      800.      448.      302.      428.       97.      133.       82.       16.     767.50
     .46      1.87      4.60      2.28      .090      .065      .090      .062    764.00    183.83
 .004438     1000.     1000.     1000.         2         0         0      0.00    249.41    433.24
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*SECNO 204.120
 2800 NAT Q1=     257.08  WSEL=     771.90  ENC Q1=     257.08  WSEL=     772.00  RATIO=   0.0000
 NAT Q1=     273.  RATIOS LOB,CH,ROB=    .5396    .2451    .2154  WSEL=     772.00

3470 ENCROACHMENT STATIONS=      182.8      434.2  TYPE=      4  TARGET=          .059
   204.12      6.88    771.98      0.00    771.90    772.09      .11       .45       .00    768.90
    1550.      837.      406.      307.      464.       96.     143.       84.       17.    767.80
      .48      1.80      4.23      2.15      .090      .065     .090      .062    765.10    182.79
  .003729      111.      111.      111.         2         0        0      0.00    251.42    434.22


CCHV=     .300 CEHV=     .600
*SECNO 204.140
 2800 NAT Q1=     195.40  WSEL=     771.94  ENC Q1=     195.40  WSEL=     772.04  RATIO=    .0000
 NAT Q1=     209.  RATIOS LOB,CH,ROB=    .6966    .1388    .1647  WSEL=     772.04

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  769.00 MAX ELLC=  767.80


3470 ENCROACHMENT STATIONS=      179.2      429.2  TYPE=      4  TARGET=          .067

        ***FOOTBRIDGE 204A

   204.14      6.92    772.02      0.00    771.94    772.11      .09       .00       .01    768.90
    1550.     1061.      223.      266.      468.       79.     109.       84.       17.    767.80
      .48      2.27      2.82      2.45      .090      .065     .090      .062    765.10    179.23
  .005980        1.        1.        1.         2         0        0    -50.26    249.97    429.20


*SECNO 204.160
 2800 NAT Q1=     200.99  WSEL=     771.98  ENC Q1=     200.99  WSEL=     772.08  RATIO=    .0000
 NAT Q1=     216.  RATIOS LOB,CH,ROB=    .6979    .1366    .1655  WSEL=     772.08

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  769.00 MAX ELLC=  767.80


3470 ENCROACHMENT STATIONS=      179.5      429.1  TYPE=      4  TARGET=          .070
   204.16      6.96    772.06      0.00    771.98    772.15      .09       .04       .00    768.90
    1550.     1064.      221.      265.      475.       80.     110.       84.       17.    767.80
      .48      2.24      2.77      2.41      .090      .065     .090      .062    765.10    179.46
  .005709        7.        7.        7.         0         0        0    -50.17    249.61    429.07


*SECNO 204.180
 2800 NAT Q1=     270.79  WSEL=     771.98  ENC Q1=     270.79  WSEL=     772.08  RATIO=    .0000
 NAT Q1=     286.  RATIOS LOB,CH,ROB=    .5446    .2393    .2161  WSEL=     772.08
   SECNO     DEPTH     CISEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      179.5      436.3  TYPE=      4  TARGET=          .052
   204.18      6.96    772.06      0.00    771.98    772.16      .10       .00       .01    768.90
    1550.      846.      393.      312.      487.       98.     152.       84.       17.    767.80
      .48      1.74      4.03      2.06      .090      .065     .090      .062    765.10    179.45
  .003325        1.        1.        1.         0         0        0      0.00    256.86    436.32


*SECNO 204.220
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 2800 NAT Q1=     325.89  WSEL=     772.32  ENC Q1=     325.89  WSEL=     772.42  RATIO=  C.0000
 NAT Q1=     344.  RATIOS LOB,CH,ROB=   .563C   .2174   .2196  WSEL=     772.42

3470 ENCROACHMENT STATIONS=      175.5      440.1  TYPE=      4  TARGET=         .C52
   204.22      7.30    772.40      0.00    772.32    772.48      .07       .31       .01    768.90
    1550.      876.      356.      317.      561.      103.     177.       86.       18.    767.80
      .49      1.56      3.46      1.79      .090      .065     .090      .062    765.10    175.53
  .002290      112.      112.      112.         2         0        0      0.00    264.57    440.09


*SECNO 204.240
 2800 NAT Q1=     272.73  WSEL=     772.34  ENC Q1=     272.73  WSEL=     772.44  RATIO=   .0000
 NAT Q1=     289.  RATIOS LOB,CH,ROB=   .6790   .1279   .1930  WSEL=     772.44

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.60 MAX ELLC=  767.80


3470 ENCROACHMENT STATIONS=      173.7      437.5  TYPE=      4  TARGET=         .057

        ***FOOTBRIDGE 204B

   204.24      7.33    772.43      0.00    772.34    772.48      .06       .00       .01    768.90
    1550.     1045.      206.      299.      570.       92.     153.       86.       18.    767.80
      .49      1.83      2.25      1.96      .090      .065     .090      .062    765.10    173.74
  .003125        1.        1.        1.         2         0        0    -30.19    263.74    437.48


*SECNC 204.260
 2800 NAT Q1=     275.40  WSEL=     772.36  ENC Q1=     275.40  WSEL=     772.46  RATIO=   .0000
 NAT Q1=     292.  RATIOS LOB,CH,ROB=   .6795   .1272   .1933  WSEL=     772.46
 3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.60 MAX ELLC=  767.80


3470 ENCROACHMENT STATIONS=      174.0      437.3  TYPE=      4  TARGET=         .C58
   204.26      7.35    772.45      0.00    772.36    772.50      .06       .02       .00    768.90
    1550.     1046.      205.      299.      573.       92.     153.       86.       18.    767.80
      .49      1.83      2.23      1.95      .090      .065     .090      .062    765.10    173.99
  .003073        6.        6.        6.         0         0        0    -30.13    263.35    437.33


*SECNO 204.28C
 2800 NAT Q1=     334.16  WSEL=     772.36  ENC Q1=     334.16  WSEL=     772.46  RATIO=   .0000
 NAT Q1=     351.  RATICS LOB,CH,ROB=   .5649   .2151   .220C  WSEL=     772.46

3470 ENCROACHMENT STATIONS=      174.0      441.3  TYPE=      4  TARGET=         .049
   204.28      7.34    772.44      0.00    772.36    772.51      .07       .00       .01    768.90
    1550.      880.      351.      320.      573.      104.     182.       86.       18.    767.80
      .49      1.53      3.38      1.75      .090      .065     .090      .062    765.10    173.99
  .002164        1.        1.        1.         0         0        0      0.00    267.32    441.32


*SECNC 204.320
 2800 NAT Q1=     359.23  WSEL=     772.50  ENC Q1=     359.23  WSEL=     772.60  RATIO=   .0000
 NAT Q1=     378.  RATIOS LOB,CH,ROB=   .5712   .2072   .2216  WSEL=     772.60
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        FV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST
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3470 ENCROACHMENT STATIONS=      173.0      442.7  TYPE=      4  TARGET=          .050
   204.32      7.49    772.59     0.00    772.50    772.65      .06       .14       .00    768.90
    1550.      889.      339.     322.      602.      106.     193.       88.       18.    767.80
      .50      1.48      3.21     1.67      .090      .065     .090      .062    765.10    173.03
  .001893       67.       67.      67.         1         0        0      0.00    269.62    442.65


*SECNC 204.340
 2800 NAT Q1=     311.47  WSEL=     772.52  ENC Q1=     311.47  WSEL=     772.62  RATIO=    .0000
 NAT Q1=     329.  RATIOS LOB,CH,ROB=   .6651   .1117   .2233  WSEL=     772.62

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.80 MAX ELLC=  768.40


3470 ENCROACHMENT STATIONS=      171.7      442.0  TYPE=      4  TARGET=          .053

        ***FOOTBRIDGE 204C

   204.34      7.51    772.61     0.00    772.52    772.66      .05       .00       .00    768.90
    1550.     1035.      181.     335.      612.      100.     182.       88.       18.    767.80
      .50      1.69      1.80     1.84      .090      .065     .090      .062    765.10    171.67
  .002427        1.        1.       1.         2         0        0    -16.01    270.36    442.03


*SECNO 204.360
 2800 NAT Q1=     313.73  WSEL=     772.54  ENC Q1=     313.73  WSEL=     772.64  RATIO=    .0000
 NAT Q1=     332.  RATIOS LOB,CH,ROB=   .6654   .1112   .2234  WSEL=     772.64

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.80 MAX ELLC=  768.40


3470 ENCROACHMENT STATIONS=      171.8      442.0  TYPE=      4  TARGET=          .054
   204.36      7.53    772.63     0.00    772.54    772.67      .05       .01       .00    768.90
    1550.     1035.      180.     335.      614.      101.     183.       88.       18.    767.80
      .51      1.69      1.79     1.83      .090      .065     .090      .062    765.10    171.78
  .002395        6.        6.       6.         0         0        0    -16.00    270.21    441.99


*SECNO 204.380
 2800 NAT Q1=     366.85  WSEL=     772.53  ENC Q1=     366.85  WSEL=     772.63  RATIO=    .0000
 NAT Q1=     385.  RATIOS LOB,CH,ROB=   .5726   .2054   .2220  WSEL=     772.63

3470 ENCROACHMENT STATIONS=      171.7      443.8  TYPE=      4  TARGET=          .046
   204.38      7.52    772.62     0.00    772.53    772.68      .06       .00       .01    768.90
    1550.      894.      333.     323.      615.      107.     198.       88.       18.    767.80
      .51      1.45      3.13     1.63      .090      .065     .090      .062    765.10    171.71
  .001780        1.        1.       1.         0         0        0      0.00    272.09    443.80


*SECNO 205.200
 2800 NAT Q1=     288.65  WSEL=     773.88  ENC Q1=     288.65  WSEL=     773.98  RATIO=  0.0000
 NAT Q1=     302.  RATIOS LOB,CH,ROB=   .5347   .2916   .1736  WSEL=     773.98
3280 CROSS SECTION     205.20 EXTENDED       2.77 FEET


3470 ENCROACHMENT STATIONS=      243.3      435.3  TYPE=      4  TARGET=          .046
   205.20      7.58    773.98     0.00    773.88    774.08      .10      1.37       .03    770.40
    1550.      829.      474.     246.      423.      130.     127.       99.       21.    770.40
      .57      1.96      3.66     1.94      .090      .065     .090      .063    766.40    243.34
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  .002913      610.      610.      610.         0         0         0      0.00    191.93    435.27

*SECNO 205.300
 2800 NAT Q1=     335.14  WSEL=     774.21  ENC Q1=     335.14  WSEL=     774.31  RATIO=   0.0000
 NAT Q1=     350.  RATIOS LOB,CH,ROB=    .5472    .2781    .1747  WSEL=     774.31
3280 CROSS SECTION     205.30 EXTENDED       3.11 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      239.8      436.0  TYPE=      4  TARGET=         .042
   205.30      7.91    774.31      0.00    774.21    774.39       .08       .31       .01    770.40
    1550.      849.      450.      250.      477.      138.      142.      101.       22.    770.40
      .59      1.78      3.27      1.76      .090      .065      .090      .063    766.40    239.83
  .002143      123.      123.      123.         2         0         0      0.00    196.15    435.98


CCHV=     .400 CEHV=     .800
*SECNO 205.400
 2800 NAT Q1=     153.34  WSEL=     774.20  ENC Q1=     153.34  WSEL=     774.30  RATIO=    .0000
 NAT Q1=     163.  RATIOS LOB,CH,ROB=    .7037    .1598    .1365  WSEL=     774.30
3280 CROSS SECTION     205.40 EXTENDED       3.11 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  771.40 MAX ELLC=  771.60


3470 ENCROACHMENT STATIONS=      235.4      437.1  TYPE=      4  TARGET=         .058

        ***DRIVEWAY D/S BEACH RD.

   205.40      7.90    774.30      0.00    774.20    774.44       .14       .00       .04    770.40
    1550.     1097.      260.      192.      356.       89.       87.      101.       22.    770.40
      .59      3.08      2.92      2.21      .090      .065      .090      .063    766.40    235.39
  .009978        1.        1.        1.         1         0         0   -238.71    201.72    437.11


*SECNO 205.500
 2800 NAT Q1=     169.06  WSEL=     774.36  ENC Q1=     169.06  WSEL=     774.46  RATIO=    .0000
 NAT Q1=     180.  RATIOS LOB,CH,ROB=    .7073    .1552    .1374  WSEL=     774.46
3280 CROSS SECTION     205.50 EXTENDED       3.26 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  771.40 MAX ELLC=  771.60


3470 ENCROACHMENT STATIONS=      234.7      436.9  TYPE=      4  TARGET=         .060
   205.50      8.06    774.46      0.00    774.36    774.58       .12       .14       .01    770.40
    1550.     1104.      254.      192.      378.       93.       92.      101.       22.    770.40
      .59      2.92      2.74      2.08      .090      .065      .090      .063    766.40    234.66
  .008302       15.       15.       15.         2         0         0   -238.50    202.24    436.90
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*SECNC 205.600
 2800 NAT Q1=    367.74  WSEL=    774.43  ENC Q1=    367.74  WSEL=    774.53  RATIO=   .0000
 NAT Q1=    383.  RATICS LOB,CH,ROB=   .5546   .2703   .1751  WSEL=    774.53
3280 CROSS SECTION    205.60 EXTENDED      3.33 FEET


3470 ENCROACHMENT STATIONS=     237.6     436.4  TYPE=     4  TARGET=        .040
   205.60     8.13   774.53     0.00   774.43   774.60      .07      .00      .02   770.40
    1550.     861.     436.     252.     513.     143.     152.     101.      22.   770.40
      .59     1.68     3.05     1.66     .090     .065     .090     .063   766.40   237.55
  .001773       1.       1.       1.        2        0        0     0.00   198.82   436.37

*SECNC 205.800
 2800 NAT Q1=    392.29  WSEL=    774.56  ENC Q1=    392.29  WSEL=    774.66  RATIO=   .0000
 NAT Q1=    408.  RATICS LOB,CH,ROB=   .0388   .4185   .5426  WSEL=    774.66
3280 CROSS SECTION    205.80 EXTENDED      1.46 FEET


3470 ENCROACHMENT STATIONS=     120.8     299.9  TYPE=     4  TARGET=        .038
   205.80     8.16   774.66     0.00   774.56   774.74      .08      .13      .01   771.10
    1550.      32.     674.     844.      28.     227.     524.     103.      22.   770.60
      .60     1.16     2.97     1.61     .090     .065     .090     .063   766.50   120.79
  .001560      80.      80.      80.        0        0        0     0.00   179.13   299.92

*SECNC 205.900
 2800 NAT Q1=    438.00  WSEL=    775.02  ENC Q1=    438.00  WSEL=    775.12  RATIO=  0.0000
 NAT Q1=    457.  RATICS LOB,CH,ROB=   .6187   .3418   .0395  WSEL=    775.12
3280 CROSS SECTION    205.90 EXTENDED      3.32 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     329.8     578.3  TYPE=     4  TARGET=        .041

        ***BEACH RD.

   205.90     6.72   775.12     0.00   775.02   775.17      .04      .41      .01   771.00
    1440.     898.     513.      29.     712.     225.      29.     109.      24.   771.60
      .65     1.26     2.28     .99     .090     .065     .090     .063   768.40   329.80
  .001076     314.     314.     314.        2        0        0     0.00   248.54   578.33


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.50      2.30      0.00     18.00      0.00     75.00      0.00    768.40    768.40

*SECNO 206.000
 2800 NAT Q1=    611.11  WSEL=    775.88  ENC Q1=    611.11  WSEL=    775.98  RATIO=   .0000
 NAT Q1=    633.  RATICS LOB,CH,ROB=   .6431   .3165   .0404  WSEL=    775.98
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Bridge to be replaced,
See File no. 8009503
Profile may be .5ft high
u/s due to modeling technique

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WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    206.00 EXTENDED      4.18 FEET


3470 ENCROACHMENT STATIONS=      326.1      580.0  TYPE=      4  TARGET=          .034
   206.00      7.58   775.98      0.00   775.88   776.01      .03       .01       .01    771.00
    1440.      936.     469.      35.     897.     261.      43.      109.       24.     771.60
      .66      1.04     1.80      .81     .090     .065     .090      .063   768.40    326.12
  .000548       16.      16.      16.        0        0        5      0.00   253.90    580.02

*SECNO 206.800
 2800 NAT Q1=     623.05  WSEL=     775.94  ENC Q1=     623.05  WSEL=     776.04  RATIO=    .0000
 NAT Q1=     645.  RATIOS LOB,CH,ROB=    .6445    .3152    .0404  WSEL=     776.04
3280 CROSS SECTION    206.80 EXTENDED      4.24 FEET


3470 ENCROACHMENT STATIONS=      325.9      580.1  TYPE=      4  TARGET=          .034
   206.80      7.64   776.04      0.00   775.94   776.07      .03       .05       .00    771.00
    1440.      937.     467.      35.     909.     264.      44.      112.       25.     771.60
      .68      1.03     1.77      .80     .090     .065     .090      .063   768.40    325.90
  .000528      100.     100.     100.        0        0        0      0.00   254.18    580.09

*SECNO 207.200
 2800 NAT Q1=     279.87  WSEL=     776.27  ENC Q1=     279.87  WSEL=     776.37  RATIO=    .0000
 NAT Q1=     294.  RATIOS LOB,CH,ROB=    .2769    .5948    .1283  WSEL=     776.37
3280 CROSS SECTION    207.20 EXTENDED      1.87 FEET


3470 ENCROACHMENT STATIONS=      214.0      393.6  TYPE=      4  TARGET=          .047
   207.20      6.47   776.37      0.00   776.27   776.50      .13       .35       .08    773.40
    1440.      383.     898.     159.     249.     258.      91.      119.       26.     772.80
      .72      1.54     3.48     1.75     .090     .065     .090      .063   769.90    213.99
  .002645      350.     350.     350.        2        0        0      0.00   179.62    393.61

*SECNO 207.300
 2800 NAT Q1=     237.91  WSEL=     776.82  ENC Q1=     237.91  WSEL=     776.92  RATIO=    .0000
 NAT Q1=     253.  RATIOS LOB,CH,ROB=    .4219    .3855    .1926  WSEL=     776.92
3280 CROSS SECTION    207.30 EXTENDED      1.52 FEET


3470 ENCROACHMENT STATIONS=      134.4      407.3  TYPE=      4  TARGET=          .058
   207.30      8.52   776.92      0.00   776.82   777.06      .14       .55       .00    774.80
    1440.      601.     589.     250.     369.     140.     159.      122.       27.     774.80
      .73      1.63     4.21     1.57     .090     .065     .090      .063   768.40    134.41
  .003663      179.     179.     179.        2        0        0      0.00   272.87    407.28

*SECNO 207.400
 2800 NAT Q1=     192.65  WSEL=     776.92  ENC Q1=     192.65  WSEL=     777.02  RATIO=    .0000
 NAT Q1=     206.  RATIOS LOB,CH,ROB=    .5548    .1913    .2540  WSEL=     777.02
3280 CROSS SECTION    207.40 EXTENDED      1.62 FEET


   SECNO     DEPTH     CVSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
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   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICCNT      CORAR      TOPWID       ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  774.80 MAX ELLC=  773.30


3470 ENCROACHMENT STATIONS=      132.5      409.4  TYPE=      4  TARGET=         .067

        ***DRIVEWAY 207

   207.40      8.62    777.02      0.00    776.92    777.09       .07       .00       .03    774.80
    1440.      805.      295.      340.      390.      115.      170.      122.       27.    774.80
      .73      2.06      2.57      2.00      .090      .065      .090      .063    768.40    132.45
  .005564       1.        1.        1.         2         0         0    -27.00    276.91    409.36

*SECNO 207.500
 2800 NAT Q1=     206.13  WSEL=     777.02  ENC Q1=     206.13  WSEL=     777.12  RATIO=    .0000
 NAT Q1=     222.  RATIOS LOB,CH,ROB=    .5597    .1833    .2570  WSEL=     777.12
3280 CROSS SECTION    207.50 EXTENDED       1.72 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  774.80 MAX ELLC=  773.30


3470 ENCROACHMENT STATIONS=      132.8      409.0  TYPE=      4  TARGET=         .071
   207.50      8.73    777.13      0.00    777.02    777.19       .07       .10       .00    774.80
    1440.      812.      285.      343.      407.      117.      177.      122.       27.    774.80
      .74      2.00      2.44      1.93      .090      .065      .090      .063    768.40    132.77
  .004909       19.       19.       19.         1         0         0    -27.00    276.18    408.95

*SECNO 207.600
 2800 NAT Q1=     268.33  WSEL=     777.02  ENC Q1=     268.33  WSEL=     777.12  RATIO=    .0000
 NAT Q1=     282.  RATIOS LOB,CH,ROB=    .4384    .3604    .2013  WSEL=     777.12
3280 CROSS SECTION    207.60 EXTENDED       1.73 FEET


3470 ENCROACHMENT STATIONS=      131.5      410.4  TYPE=      4  TARGET=         .049
   207.60      8.72    777.12      0.00    777.02    777.23       .11       .00       .03    774.80
    1440.      626.      543.      271.      412.      144.      181.      122.       27.    774.80
      .74      1.52      3.77      1.49      .090      .065      .090      .063    768.40    131.46
  .002833       1.        1.        1.         0         0         0      0.00    278.91    410.37

*SECNO 207.800
 2800 NAT Q1=     431.61  WSEL=     777.26  ENC Q1=     431.61  WSEL=     777.36  RATIO=    .0000
 NAT Q1=     451.  RATIOS LOB,CH,ROB=    .4572    .3691    .1737  WSEL=     777.36
3280 CROSS SECTION    207.80 EXTENDED       1.37 FEET


3470 ENCROACHMENT STATIONS=      125.0      408.5  TYPE=      4  TARGET=         .044
   207.80      8.47    777.37      0.00    777.26    777.42       .05       .17       .02    773.80
    1440.      656.      556.      227.      599.      222.      154.      124.       28.    772.80
      .75      1.10      2.50      1.48      .090      .065      .090      .063    768.90    124.99
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  .001114      100.      100.      100.         2         0         0      0.00    283.49    408.47

CCHV=     .200 CEHV=     .400
*SECNC 208.200
 2800 NAT Q1=     305.67  WSEL=     777.54  ENC Q1=     305.67  WSEL=     777.64  RATIO=    .0000
 NAT Q1=     321.  RATICS LOB,CH,ROB=    .1470    .5350    .3180  WSEL=     777.64
3280 CROSS SECTION     208.20 EXTENDED        .43 FEET


3470 ENCROACHMENT STATIONS=      206.6      433.0  TYPE=      4  TARGET=          .049
   208.20      7.73    777.63      0.00    777.54    777.75       .11       .31       .02    775.10
    1440.      186.      811.      443.      137.      240.      310.      128.       29.    774.00
      .78      1.36      3.37      1.43      .090      .065      .090      .063    769.90    206.61
  .002226      200.      200.      200.         2         0         0      0.00    226.39    432.99

CCHV=     .400 CEHV=     .800
*SECNO 208.300
 2800 NAT Q1=     343.15  WSEL=     777.77  ENC Q1=     343.15  WSEL=     777.87  RATIO=    .0000
 NAT Q1=     360.  RATICS LOB,CH,ROB=    .1558    .5105    .3337  WSEL=     777.87
3280 CROSS SECTION     208.30 EXTENDED        .67 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      205.9      437.5  TYPE=      4  TARGET=          .047
   208.30      7.97    777.87      0.00    777.77    777.96       .09       .21       .01    775.10
    1440.      200.      772.      468.      152.      250.      349.      130.       30.    774.00
      .79      1.32      3.08      1.34      .090      .065      .090      .063    769.90    205.92
  .001763      104.      104.      104.         2         0         0      0.00    231.53    437.45

*SECNO 208.400
3280 CROSS SECTION     208.40 EXTENDED        .65 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  772.20 MAX ELLC=  778.40

        ***DRIVEWAY 208

   208.40      7.95    777.85      0.00    777.73    778.07       .23       .00       .11    775.10
    1440.        0.      632.      808.        0.      147.      239.      130.       30.    774.00
      .79      0.00      4.30      3.38      .090      .065      .090      .063    769.90    170.10
  .022711        1.        1.        1.         2         0         0   -446.62    299.90    470.00

*SECNO 208.500
 2800 NAT Q1=     119.72  WSEL=     778.15  ENC Q1=     119.72  WSEL=     778.25  RATIO=    .0000
 NAT Q1=     128.  RATICS LOB,CH,ROB=    .0013    .3858    .6129  WSEL=     778.25
3280 CROSS SECTION     208.50 EXTENDED        .96 FEET
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3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  772.20 MAX ELLC=  778.40

3470 ENCROACHMENT STATIONS=      264.0      445.6  TYPE=      4  TARGET=          .065
   208.50      8.26    778.16     0.00    778.15    778.36      .19       .27       .01    775.10
    1440.       0.      600.     840.       0.      159.     255.      130.       30.    774.00
      .79      0.00     3.78     3.29      .090      .065     .090      .063    769.90    264.00
  .016497       14.      14.      14.        2         0        0   -253.63    181.55    445.55

*SECNO 208.600
 2800 NAT Q1=     438.23  WSEL=     778.30  ENC Q1=     438.23  WSEL=     778.40  RATIO=    .0000
 NAT Q1=     457.  RATIOS LOB,CH,ROB=    .1733    .4639    .3628  WSEL=     778.40
3280 CROSS SECTION    208.60 EXTENDED       1.15 FEET


3470 ENCROACHMENT STATIONS=      200.1      445.9  TYPE=      4  TARGET=          .042
   208.60      8.45    778.35     0.00    778.30    778.41      .06       .00       .05    775.10
    1440.     226.      704.     511.     196.      270.     431.      130.       30.    774.00
      .79      1.15     2.60     1.18      .090      .065     .090      .063    769.90    200.14
  .001132        1.       1.       1.        2         0        0      0.00    245.73    445.88

*SECNO 208.800
 2800 NAT Q1=     191.73  WSEL=     778.43  ENC Q1=     191.73  WSEL=     778.53  RATIO=    .0000
 NAT Q1=     200.  RATIOS LOB,CH,ROB=    .0878    .4846    .4276  WSEL=     778.53

3470 ENCROACHMENT STATIONS=      102.2      205.0  TYPE=      4  TARGET=          .042
   208.80      9.27    778.47     0.00    778.43    778.78      .31       .18       .20    775.60
    1440.      97.      736.     607.      42.      131.     217.      131.       30.    774.60
      .79      2.32     5.63     2.80      .090      .065     .090      .063    769.20    102.16
  .005885       80.      80.      80.        2         0        0      0.00    102.84    205.00


CCHV=     .150 CEHV=     .300
*SECNO 209.000
 2800 NAT Q1=     465.40  WSEL=     779.49  ENC Q1=     465.40  WSEL=     779.59  RATIO=    .0000
 NAT Q1=     496.  RATIOS LOB,CH,ROB=    .0721    .3449    .5830  WSEL=     779.59
3280 CROSS SECTION    209.00 EXTENDED       1.98 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      162.1      527.5  TYPE=      4  TARGET=          .061
   209.00      7.99    779.59     0.00    779.49    779.64      .06       .82       .04    777.20
    1440.      64.      530.     846.      67.      194.     716.      138.       33.    776.80
      .86      .95      2.74     1.18      .070      .055     .070      .063    771.60    162.14
  .000967     420.      420.     420.        2         0        0      0.00    365.40    527.53


*SECNO 210.000
 2800 NAT Q1=     608.32  WSEL=     780.34  ENC Q1=     608.32  WSEL=     780.44  RATIO=    .0000
 NAT Q1=     629.  RATIOS LOB,CH,ROB=    .0241    .7134    .2625  WSEL=     780.44
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3470 ENCROACHMENT STATIONS=      199.2      431.4  TYPE=      4  TARGET=          .033
   210.00     11.14    780.44      0.00    780.34    780.51       .07       .87       .00    778.10
    1440.       11.     1063.      367.       15.      432.      404.      163.       41.    776.90
     1.02       .71      2.46       .91      .070      .055      .070      .061    769.30    199.25
  .000560     1200.     1200.     1200.         2         0         0      0.00    232.13    431.37

*SECNO 210.200
 2800 NAT Q1=     241.37  WSEL=     781.34  ENC Q1=     241.37  WSEL=     781.44  RATIO=    .0000
 NAT Q1=     251.  RATIOS LOB,CH,ROB=    .0398    .9559    .0043  WSEL=     781.44

3470 ENCROACHMENT STATIONS=      356.2      424.0  TYPE=      4  TARGET=          .039
   210.20      6.73    781.43      0.00    781.34    781.76       .32      1.17       .07    780.00
    1440.        7.     1433.        0.        5.      314.        0.      176.       44.    780.40
     1.09      1.31      4.57      0.00      .070      .055      .070      .061    774.70    356.23
  .003649     1010.     1010.     1010.         2         0         0      0.00     67.77    424.00

*SECNO 210.300
 2800 NAT Q1=      93.21  WSEL=     781.26  ENC Q1=      93.21  WSEL=     781.36  RATIO=    .0000
 NAT Q1=      99.  RATIOS LOB,CH,ROB=    .0897    .9014    .0089  WSEL=     781.36

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  778.30 MAX ELLC=  777.20

3470 ENCROACHMENT STATIONS=      345.6      424.0  TYPE=      4  TARGET=          .054

        ***FOOTBRIDGE 210A

   210.30      6.65    781.35      0.00    781.26    781.81       .46       .01       .04    780.00
    1440.       67.     1373.        0.       18.      250.        0.      176.       44.    780.40
     1.09      3.68      5.49      0.00      .070      .055      .070      .061    774.70    345.59
  .024344        1.        1.        1.         2         0         0    -58.30     78.41    424.00

*SECNO 210.500
 2800 NAT Q1=     107.90  WSEL=     781.52  ENC Q1=     107.90  WSEL=     781.62  RATIO=    .0000
 NAT Q1=     114.  RATIOS LOB,CH,ROB=    .1159    .8682    .0158  WSEL=     781.62

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  778.30 MAX ELLC=  777.20

3470 ENCROACHMENT STATIONS=      338.2      424.0  TYPE=      4  TARGET=          .053
   210.50      6.92    781.62      0.00    781.52    781.99       .37       .17       .01    780.00
    1440.      118.     1322.        0.       33.      267.        0.      177.       44.    780.40
     1.09      3.63      4.94      0.00      .070      .055      .070      .061    774.70    338.16
  .018067        8.        8.        8.         2         0         0    -58.30     85.84    424.00

*SECNO 210.700
 2800 NAT Q1=     270.26  WSEL=     781.62  ENC Q1=     270.26  WSEL=     781.72  RATIO=    .0000
 NAT Q1=     281.  RATIOS LOB,CH,ROB=    .0538    .9375    .0087  WSEL=     781.72
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCER     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      345.4      424.0  TYPE=      4  TARGET=          .039
   210.70      7.04    781.74      0.00    781.62    782.01       .27       .01       .01    780.00
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   1440.      36.     1404.       0.       24.      333.       0.      177.      44.     780.40
    1.09     1.49      4.22     0.00      .070      .055     .070      .061   774.70    345.39
 .002890       1.        1.       1.         2         0        0      0.00    78.61    424.00

*SECNC 211.200
 2800 NAT Q1=     438.72  WSEL=     782.79  ENC Q1=     438.72  WSEL=     782.89  RATIO=    .0000
 NAT Q1=     457.  RATIOS LOB,CH,ROB=    .1121    .8097    .0782  WSEL=     782.89

3470 ENCROACHMENT STATIONS=      315.9      493.2  TYPE=      4  TARGET=         .041
   211.20     8.21    782.91     0.00    782.79    783.03      .12     1.00      .02    780.00
    1440.     139.     1212.      89.      111.      409.      99.     183.      46.     780.40
     1.15     1.25      2.97      .89      .070      .055     .070     .060   774.70    315.90
 .001057     610.      610.     610.         0         0        0     0.00   177.35    493.24


CCHV=     .300 CEHV=     .600
*SECNO 211.400
 2800 NAT Q1=     478.28  WSEL=     783.00  ENC Q1=     478.28  WSEL=     783.10  RATIO=    .0000
 NAT Q1=     498.  RATIOS LOB,CH,ROB=    .1215    .7837    .0948  WSEL=     783.10

3470 ENCROACHMENT STATIONS=      312.1      507.4  TYPE=      4  TARGET=         .040

        ***LONG LAKE RD.

   211.40     8.42    783.12     0.00    783.00    783.22      .10      .18      .00    780.00
    1440.     153.     1174.     113.      128.      421.     130.     186.      47.     780.40
     1.17     1.20      2.79      .87      .070      .055     .070     .060   774.70    312.05
 .000896     189.      189.     189.         2         0        0     0.00   195.36    507.41


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK         XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.50       2.80     280.00     18.00       0.00     104.00      0.00     774.70     774.70

*SECNO 211.600
 2800 NAT Q1=     785.94  WSEL=     784.26  ENC Q1=     785.94  WSEL=     784.36  RATIO=    .0000
 NAT Q1=     816.  RATIOS LOB,CH,ROB=    .1700    .6413    .1886  WSEL=     784.36
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      288.5      559.8  TYPE=      4  TARGET=         .036
   211.60     9.67    784.37     0.00    784.26    784.42      .04      .02      .02    780.00
    1440.     228.      956.     256.      256.      502.     349.     187.      47.     780.40
     1.18      .89      1.91      .73      .070      .055     .070     .060   774.70    288.55
 .000332      31.       31.      31.         0         0        4     0.00   271.24    559.79


*SECNO 211.800
 2800 NAT Q1=     677.93  WSEL=     784.30  ENC Q1=     677.93  WSEL=     784.40  RATIO=    .0000
 NAT Q1=     708.  RATIOS LOB,CH,ROB=    .4877    .2510    .2613  WSEL=     784.40

3470 ENCROACHMENT STATIONS=      308.8      601.8  TYPE=      4  TARGET=         .043
   211.80     9.91    784.41     0.00    784.30    784.44      .03      .02      .00    778.40
    1440.     702.      377.     361.      588.      183.     385.     188.      47.     780.60
     1.19     1.19      2.06      .94      .070      .055     .070     .060   774.50    308.83
 .000448      60.       60.      60.         1         0        0     0.00   293.01    601.84
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*SECNO 212.200
 2800 NAT Q1=     234.90  WSEL=     784.72  ENC Q1=     234.90  WSEL=     784.82  RATIO=    .0000
 NAT Q1=     248.  RATIOS LOB,CH,ROB=    .0088    .6456    .3456  WSEL=     784.82
3280 CROSS SECTION     212.20 EXTENDED        .84 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      216.0      371.1  TYPE=      4  TARGET=         .054
   212.20      7.04    784.84      0.00    784.72    784.99       .15       .48       .07    783.20
    1200.        0.      811.      389.        0.      224.      220.      199.       50.    782.40
     1.24      0.00      3.62      1.77      .070      .055      .070      .060    777.80    216.00
  .002653      570.      570.      570.         2         0         0      0.00    155.13    371.13


*SECNO 212.400
 2800 NAT Q1=     267.93  WSEL=     784.97  ENC Q1=     267.93  WSEL=     785.07  RATIO=    .0000
 NAT Q1=     282.  RATIOS LOB,CH,ROB=    .0112    .6200    .3687  WSEL=     785.07
3280 CROSS SECTION     212.40 EXTENDED       1.08 FEET


3470 ENCROACHMENT STATIONS=      216.0      374.4  TYPE=      4  TARGET=         .051

        ***COOLIDGE RD.
   212.40      7.28    785.08      0.00    784.97    785.21       .12       .21       .01    783.20
    1200.        0.      775.      425.        0.      236.      252.      200.       51.    782.40
     1.25      0.00      3.28      1.68      .070      .055      .070      .060    777.80    216.00
  .002039       90.       90.       90.         2         0         0      0.00    158.37    374.37


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      1.70      2.70    140.00     35.50      1.50    244.00      0.00    777.80    777.80

*SECNO 213.000
 2800 NAT Q1=     317.57  WSEL=     785.42  ENC Q1=     323.93  WSEL=     785.52  RATIO=   -.0200
 NAT Q1=     324.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     785.52
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      426.0      470.0  TYPE=      4  TARGET=        0.000

3455 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      786.90 ELREA=      786.90

   213.00      8.94    785.54      0.00    785.42    785.72       .18       .18       .04    785.50
    1200.        0.     1200.        0.        0.      350.        0.      201.       51.    785.00
     1.26      0.00      3.43      0.00      .070      .055      .070      .060    776.60    426.00
  .001386      106.      106.      106.         0         0         0      0.00     44.00    470.00


*SECNO 213.200
 2800 NAT Q1=     322.10  WSEL=     785.47  ENC Q1=     327.81  WSEL=     785.57  RATIO=   -.0177
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 NAT Q1=     329.  RATIOS LOB,CH,ROB=    .0000    .9972    .0028  WSEL=     785.57

3470 ENCROACHMENT STATIONS=      426.0      470.0  TYPE=      4  TARGET=          .003
   213.20      8.99    785.59      0.00    785.47    785.77      .18       .05       .00    785.50
    1200.        0.     1200.        0.        C.      352.       0.      201.       51.    785.00
     1.26      0.00      3.41      0.00      .070      .055      .070      .060    776.60    426.00
  .001362       36.       36.       36.         0         0         0      0.00     44.00    470.00


*SECNO 213.40C
 2800 NAT Q1=      86.41  WSEL=     785.21  ENC Q1=      9D.72  WSEL=     785.31  RATIO=  -.0499
 NAT Q1=      91.  RATIOS LOB,CH,ROB=  0.0000    .9975    .0025  WSEL=     785.31

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      426.0      478.C  TYPE=      4  TARGET=          .002

        ***BEECHWOOD LAKE RETENTION POND OUTLET

   213.40      5.35    785.35      0.00    785.21    786.13      .78       .00       .36    785.50
    1200.        C.     1200.        0.        0.      170.       0.      201.       51.    785.00
     1.26      0.00      7.07      0.00      .C70      .055      .070      .060    780.00    426.06
  .016926        1.        1.        1.         2         0         0      0.00     51.94    478.00


CCHV=     .100 CEHV=     .300
*SECNO 213.500
 2800 NAT Q1=    2281.63  WSEL=     786.13  ENC Q1=    2328.10  WSEL=     786.23  RATIO=  -.0204
 NAT Q1=    2332.  RATIOS LOB,CH,ROB=  0.0000    .9981    .0019  WSEL=     786.23

3301 HV CHANGED MORE THAN HVINS

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALCB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLCB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     ICC        ICONT      CORAR      TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      370.0      672.C  TYPE=      4  TARGET=          .002
   213.50      9.70    786.20      0.00    786.13    786.21      .01       .00       .08    790.50
    1200.        C.     1200.        0.        0.     1905.       0.      201.       51.    785.20
     1.26      0.C0       .63      0.00      .065      .045      .065      .060    776.50    403.00
  .000027        1.        1.        1.         2         0         0      0.00    269.00    672.00


*SECNO 214.000
 2800 NAT Q1=    1641.64  WSEL=     786.16  ENC Q1=    1677.97  WSEL=     786.26  RATIO=  -.0221
 NAT Q1=    1678.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     786.26

347C ENCROACHMENT STATIONS=      370.0      672.0  TYPE=      4  TARGET=          0.000
   214.00      8.23    786.23      0.00    786.16    786.24      .01       .03       .00    792.00
    1200.        0.     1200.        0.        0.     1520.       0.      233.       56.    786.70
     1.54      0.C0       .79      0.00      .065      .045      .065      .058    778.00    414.27
  .000052      800.      800.      8C0.         0         0         0      0.00    249.61    663.88


*SECNO 214.600
 2800 NAT Q1=    1174.36  WSEL=     786.21  ENC Q1=    1209.28  WSEL=     786.31  RATIO=  -.0297
 NAT Q1=    1209.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     786.31
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3470 ENCROACHMENT STATIONS=      370.0      672.0  TYPE=      4  TARGET=        0.000

        ***FOOTBRIDGE

   214.60      6.77    786.27      0.00    786.21    786.29       .02       .05       .00    793.50
    1200.        0.     1200.        0.        0.     1183.        0.      254.       59.    788.20
     1.74      0.00      1.01      0.00      .065      .045      .065      .058    779.50    425.41
  .000100      700.      700.      700.         0         0         0      0.00    218.39    643.81


*SECNO 215.000
 2800 NAT Q1=     232.62  WSEL=     786.17  ENC Q1=     233.83  WSEL=     786.27  RATIO=  -.0052
 NAT Q1=     242.  RATIOS LOB,CH,ROB=    .0183    .9643    .0174  WSEL=     786.27

3470 ENCROACHMENT STATIONS=      414.0      472.0  TYPE=      4  TARGET=        .036
   215.00      7.22    786.22      0.00    786.17    786.54       .33       .16       .09    784.40
    1200.        0.     1200.        0.        0.      261.        0.      264.       61.    784.80
     1.77      0.00      4.60      0.00      .065      .045      .065      .057    779.00    414.00
  .002941      570.      570.      570.         2         0         0      0.00     58.00    472.00


*SECNO 216.000
 2800 NAT Q1=     307.24  WSEL=     788.95  ENC Q1=     307.24  WSEL=     789.05  RATIO=   .0000
 NAT Q1=     324.  RATIOS LOB,CH,ROB=    .1573    .7615    .0812  WSEL=     789.05

3470 ENCROACHMENT STATIONS=      490.8      626.6  TYPE=      4  TARGET=        .052
   216.00      7.48    789.08      0.00    788.95    789.24       .16      2.68       .02    786.40
    1200.       168.      961.       71.      119.      273.       48.      274.       64.    786.40
     1.89      1.41      3.53      1.46      .065      .045      .065      .056    781.60    490.81
  .001482     1320.     1320.     1320.         1         0         0      0.00    135.75    626.56


CCHV=     .300 CEHV=     .600
*SECNO 217.200
 2800 NAT Q1=     285.86  WSEL=     791.11  ENC Q1=     295.86  WSEL=     791.21  RATIO=  -.0350
 NAT Q1=     296.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     791.21
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      260.0      388.0  TYPE=      4  TARGET=        0.000
   217.20      8.18    791.18      0.00    791.11    791.30       .12      2.05       .01    793.10
    1200.        0.     1200.        0.        0.      430.        0.      287.       68.    792.60
     2.02      0.00      2.79      0.00      .065      .055      .065      .056    783.00    271.58
  .001682     1300.     1300.     1300.         2         0         0      0.00    106.01    377.59


*SECNO 217.400
 2800 NAT Q1=     260.27  WSEL=     791.42  ENC Q1=     266.91  WSEL=     791.52  RATIO=  -.0255
 NAT Q1=     267.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     791.52

3470 ENCROACHMENT STATIONS=      304.0      350.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      792.00 ELREA=      792.00


        ***NORTHFIELD PKWY.
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  217.40      8.01    791.51      0.00    791.42    791.77       .26       .39       .08    786.30
   1200.        C.     1200.        0.        C.     296.        0.      289.       68.    786.10
    2.03      0.00      4.06      0.00      .065      .055      .065      .056    783.50    304.00
 .002522      190.      190.      190.         1         0         0      0.00     46.00    350.00


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      1.60      2.70    110.00     39.00      1.00    218.00      0.00    783.50    783.50

*SECNC 217.600
CLASS A LOW FLOW

3420 BRIDGE W.S.=    791.50 BRIDGE VELOCITY=,      3.95      CALCULATED CHANNEL AREA=,      304.

 EGPRS      EGLWC       H3        QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
   792.27    792.27      .03         C.     1200.      218.      251.      790.10    792.80


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      795.90 ELREA=      795.90

   217.60      7.79    791.99      0.00    791.89    792.27       .27       .50      0.00    787.00
   1200.        0.     1200.        0.        C.     285.        0.      290.       68.    786.80
    2.04      0.00      4.21      0.00      .065      .055      .065      .056    784.20    304.00
 .002275       92.       92.       92.         0         0         0      0.00     46.00    350.00


*SECNO 217.800
 2800 NAT Q1=     289.45  WSEL=     792.20  ENC Q1=     298.15  WSEL=     792.30  RATIO=  -.0301
 NAT Q1=     298.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     792.30

3470 ENCROACHMENT STATIONS=      226.0      336.0  TYPE=      4  TARGET=        0.000
   217.80      8.49    792.29      0.00    792.20    792.43       .13       .11       .04    795.40
   1200.        0.     1200.        0.        0.     408.        0.      290.       68.    792.90
    2.04      0.00      2.94      0.00      .065      .055      .065      .056    783.80    243.07
 .001630       60.       60.       60.         2         0         0      0.00     90.24    333.31


*SECNC 218.200
 2800 NAT Q1=     144.37  WSEL=     793.16  ENC Q1=     149.60  WSEL=     793.26  RATIO=  -.0362
 NAT Q1=     150.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     793.26

3470 ENCROACHMENT STATIONS=      218.0      310.0  TYPE=      4  TARGET=        0.000
   218.20      8.10    793.20      0.00    793.16    793.62       .41      1.02       .17    796.90
   1200.        0.     1200.        0.        0.     232.        0.      293.       69.    794.10
    2.06      0.00      5.16      0.00      .065      .055      .065      .056    785.10    242.76
 .006697      350.      350.      350.         2         0         0      0.00     62.96    305.72


*SECNO 218.400
 2800 NAT Q1=      90.19  WSEL=     793.83  ENC Q1=      91.86  WSEL=     793.93  RATIO=  -.0186
 NAT Q1=      92.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     793.93

3301 HV CHANGED MORE THAN HVINS
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   SECNO      DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLCB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLCBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


        ***I-75

   218.40      8.35    793.85      0.00    793.83    795.21      1.36      1.02       .57    805.50
    1200.        0.     1200.        0.        0.     128.        0.      293.       69.    805.50
     2.06      0.00      9.36      0.00      .065      .055      .065      .056    785.50       .63
  .017568      100.      100.      100.         2         0         0      0.00     17.69     18.33


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK         XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     1.60       1.90       3.00       0.00      19.00       1.00     118.00      0.00     785.50     785.50

*SECNO 218.600
CLASS A LOW FLOW

3420 BRIDGE W.S.=     793.71 BRIDGE VELOCITY=,       8.12      CALCULATED CHANNEL AREA=,       148.

 EGPRS      EGLWC       H3        QWEIR      QPR        BAREA   TRAPEZOID      ELLC      ELTRD
                                                                   AREA
   796.90    796.96      .60         0.     1200.       118.      146.      793.60    806.10

   218.60      9.95    796.05      0.00    795.95    796.96       .91      1.75      0.00    806.10
    1200.        0.     1200.        0.        0.     157.        0.      294.       69.    806.10
     2.07      0.00      7.66      0.00      .065      .055      .065      .056    786.10       .55
  .010306      180.      180.      180.         0         0         0      0.00     17.87     18.42


CCHV=     .400 CEHV=     .800
*SECNO 220.200
 2800 NAT Q1=    1055.69  WSEL=     797.24  ENC Q1=    1055.69  WSEL=     797.34  RATIO=    .0000
 NAT Q1=    1087.  RATIOS LOB,CH,ROB=    .3933    .3070    .2997  WSEL=     797.34
3280 CROSS SECTION     220.20 EXTENDED       3.91 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      343.0      589.5  TYPE=      4  TARGET=         .029
   220.20     10.01    797.31      0.00    797.24    797.33       .02       .01       .36    790.20
    1200.      467.      380.      352.      597.      237.      483.      294.       69.    790.30
     2.08       .78      1.60       .73      .065      .045      .065      .056    787.30    342.96
  .000131       30.       30.       30.         2         0         0      0.00    246.53    589.49


*SECNO 220.400
 2800 NAT Q1=    1026.98  WSEL=     797.25  ENC Q1=    1026.98  WSEL=     797.35  RATIO=    .0000
 NAT Q1=    1058.  RATIOS LOB,CH,ROB=    .3915    .3102    .2984  WSEL=     797.35
3280 CROSS SECTION     220.40 EXTENDED       3.82 FEET
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3470 ENCROACHMENT STATIONS=      344.3      589.3  TYPE=      4  TARGET=         .030

        ***SQUARE LAKE RD.

   220.40      9.92    797.32      0.00    797.25    797.34       .02       .01       .00    790.30
    1120.      434.      359.      327.      582.      235.      473.      296.       70.    790.40
     2.10       .74      1.53       .69      .065      .045      .065      .056    787.40    344.34
  .000121       60.       60.       60.         0         0         0      0.00    244.91    589.25


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     3WC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      2.50      2.70     240.00     12.00     0.00      74.00     0.00     787.40    787.40

*SECNO 220.600
 2800 NAT Q1=     749.52  WSEL=     798.35  ENC Q1=     749.52  WSEL=     798.45  RATIO=    .0000
 NAT Q1=     783.  RATIOS LOB,CH,RCB=    .1276    .4122    .4602  WSEL=     798.45
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     220.60 EXTENDED       1.92 FEET


3470 ENCROACHMENT STATIONS=      373.7      678.9  TYPE=      4  TARGET=         .042
   220.60     10.62    798.42      0.00    798.35    798.45       .02       .01       .00    795.40
    1120.      124.      484.      512.      181.      297.      651.      297.       70.    794.00
     2.10       .68      1.63       .79      .065      .045      .065      .056    787.80    373.71
  .000229       40.       40.       40.         0         0         5      0.00    305.18    678.89

*SECNO 220.800
 2800 NAT Q1=     752.90  WSEL=     798.37  ENC Q1=     752.90  WSEL=     798.47  RATIO=    .0000
 NAT Q1=     787.  RATIOS LOB,CH,RCB=    .1281    .4113    .4606  WSEL=     798.47
3280 CROSS SECTION     220.80 EXTENDED       1.94 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICCNT     CORAR     TOPWID       ENDST


3470 ENCROACHMENT STATIONS=      374.0      678.4  TYPE=      4  TARGET=         .044
   220.80     10.64    798.44      0.00    798.37    798.46       .02       .01       .00    795.40
    1120.      124.      484.      513.      182.      298.      653.      299.       70.    794.00
     2.12       .68      1.62       .79      .065      .045      .065      .056    787.80    374.03
  .000227       60.       60.       60.         0         0         0      0.00    304.39    678.42


CCHV=     .100 CEHV=     .300
*SECNO 221.000
 2800 NAT Q1=     288.92  WSEL=     798.89  ENC Q1=     288.92  WSEL=     798.99  RATIO=    .0000
 NAT Q1=     306.  RATIOS LOB,CH,RCB=    .0589    .6817    .2595  WSEL=     798.99

3470 ENCROACHMENT STATIONS=      483.3      712.0  TYPE=      4  TARGET=         .055
   221.00     11.37    798.97      0.00    798.89    799.08       .11       .59       .03    797.90
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   1120.      38.     810.     273.      54.     265.     246.     323.      78.    796.40
    2.26      .70     3.06     1.11    .080     .060     .080     .056   787.60   483.31
 .001525    1250.    1250.    1250.       2        0        0     0.00   228.73   712.03

*SECNC 221.200
 2800 NAT Q1=     355.07  WSEL=     799.23  ENC Q1=     355.07  WSEL=     799.33  RATIO=  0.0000
 NAT Q1=     377.  RATIOS LOB,CH,ROB=   .1077   .6007   .2916  WSEL=     799.33
3280 CROSS SECTION     221.20 EXTENDED        .32 FEET


3470 ENCROACHMENT STATIONS=      419.7      728.7  TYPE=      4  TARGET=         .059

        ***CONFLUENCE OF RIVER ROUGE, SPRAGUE BRANCH & SPRAGUE DRAIN

  221.20    11.72   799.32     0.00   799.23   799.39      .07      .31      .00   797.90
   1120.      92.     717.     311.     141.     279.     316.     327.      79.    796.40
    2.29      .65     2.57      .99    .080     .060     .080     .056   787.60   419.67
 .001007     250.     250.     250.       2        0        0     0.00   309.07   728.74

*SECNO 221.400
 2800 NAT Q1=     368.76  WSEL=     799.29  ENC Q1=     368.76  WSEL=     799.39  RATIO=   .0000
 NAT Q1=     392.  RATIOS LOB,CH,ROB=   .1161   .5871   .2967  WSEL=     799.39
3280 CROSS SECTION     221.40 EXTENDED        .38 FEET


3470 ENCROACHMENT STATIONS=      409.3      732.2  TYPE=      4  TARGET=         .059

        ***SPRAGUE DRAIN

  221.40    11.78   799.38     0.00   799.29   799.40      .02      .01      .01   797.90
     540.      49.     337.     153.     159.     281.     330.     327.      79.    796.40
    2.30      .31     1.20      .46    .080     .060     .080     .056   787.60   409.32
 .000216      10.      10.      10.       2        0        0     0.00   322.90   732.22

*SECNC 222.000
 2800 NAT Q1=     136.46  WSEL=     799.85  ENC Q1=     140.11  WSEL=     799.95  RATIO=  -.0268
 NAT Q1=     140.  RATIOS LOB,CH,ROB=   .0008   .9992  0.0000  WSEL=     799.95

3470 ENCROACHMENT STATIONS=      470.0      506.0  TYPE=      4  TARGET=         .001
  222.00     8.44   799.94     0.00   799.85   800.05      .11      .62      .03   799.50
     540.       0.     540.       0.       0.     202.       0.     342.      85.    800.20
    2.44     0.00     2.67     0.00    .080     .060     .080     .056   791.50   470.00
 .001516    1370.    1370.    1370.       2        0        0     0.00    35.63   505.63

*SECNO 223.000
 2800 NAT Q1=     418.23  WSEL=     800.68  ENC Q1=     429.30  WSEL=     800.78  RATIO=  -.0265
 NAT Q1=     429.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     800.78
   SECNO     DEPTH     CWSEL     CRITS     WSELK      EG        HV        HL      OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

  223.00    10.24   800.74     0.00   800.68   800.76      .01      .70      .01   802.20
     540.       0.     540.       0.       0.     555.       0.     359.      88.    800.90
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     2.98      0.00       .97      0.00      .080      .060      .080      .057    790.50      2.09
  .000162     1900.     1900.     1900.         2         0         0      0.00     96.90     98.99


*SECNO 223.800
 2800 NAT Q1=     229.25  WSEL=     800.97  ENC Q1=     236.49  WSEL=     801.07  RATIO=  -.0316
 NAT Q1=     236.  RATICS LOB,CH,RCB=  0.0000  1.0000  0.0000  WSEL=     801.07
   223.80      8.02    801.02      0.00    800.97    801.06       .04       .29       .01    804.70
     540.        0.      540.        0.        0.      359.        0.      370.       90.    803.40
     3.18      0.00      1.50      0.00      .080      .060      .080      .057    793.00      5.26
  .000536     1080.     1080.     1080.         2         0         0      0.00     80.13     85.38
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 1830.00 | 768.42 | 0.00 | 768.57 | 20.21 | 3.20 | 641.43 | 407.02 |
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 1830.00 | 768.42 | 0.00 | 768.58 | 21.63 | 3.28 | 604.45 | 393.45 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 1830.00 | 768.82 | 0.00 | 768.84 | 2.07 | 1.47 | 1731.45 | 1273.40 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 1830.00 | 768.84 | 0.00 | 768.86 | 2.14 | 1.50 | 1645.12 | 1252.40 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 1830.00 | 769.03 | 0.00 | 769.06 | 4.73 | 1.98 | 1301.80 | 841.57 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 1830.00 | 769.05 | 0.00 | 769.10 | 4.93 | 2.02 | 1210.80 | 824.59 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.18 | 3.07 | 852.64 | 511.52 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.41 | 0.00 | 769.51 | 9.49 | 3.14 | 804.81 | 503.28 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.39 | 2.92 | 1058.55 | 382.83 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.63 | 0.00 | 769.68 | 17.17 | 3.00 | 1009.97 | 374.10 |
| * | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 769.56 | 769.56 | 770.41 | 131.83 | 9.12 | 344.31 | 135.00 |
| * | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 769.51 | 769.51 | 770.46 | 142.47 | 9.47 | 324.81 | 129.86 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 770.41 | 0.00 | 770.87 | 79.99 | 7.20 | 439.62 | 173.31 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 770.50 | 0.00 | 770.96 | 80.26 | 7.22 | 423.83 | 173.02 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 771.03 | 0.00 | 771.04 | 5.33 | 1.57 | 1564.80 | 671.11 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 771.13 | 0.00 | 771.14 | 5.33 | 1.59 | 1534.41 | 671.28 |
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.55 | 0.00 | 770.57 | 4.05 | 1.75 | 1729.47 | 770.50 |
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.55 | 0.00 | 770.57 | 4.32 | 1.81 | 1587.99 | 745.96 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 1550.00 | 770.58 | 0.00 | 770.60 | 3.94 | 1.71 | 1654.94 | 780.39 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 1550.00 | 770.58 | 0.00 | 770.61 | 4.22 | 1.77 | 1522.01 | 754.30 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 1550.00 | 771.45 | 0.00 | 771.57 | 42.16 | 4.46 | 741.81 | 238.72 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 1550.00 | 771.50 | 0.00 | 771.64 | 44.38 | 4.60 | 657.70 | 232.68 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 771.90 | 0.00 | 772.00 | 36.35 | 4.14 | 787.85 | 257.08 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 771.98 | 0.00 | 772.09 | 37.29 | 4.23 | 702.67 | 253.83 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 771.94 | 0.00 | 772.01 | 62.92 | 2.86 | 710.89 | 195.40 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 772.02 | 0.00 | 772.11 | 59.80 | 2.82 | 655.48 | 200.43 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 771.98 | 0.00 | 772.06 | 59.47 | 2.80 | 724.36 | 200.99 |
| 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 772.06 | 0.00 | 772.15 | 57.09 | 2.77 | 664.53 | 205.14 |
| 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 771.98 | 0.00 | 772.07 | 32.76 | 3.96 | 817.91 | 270.79 |
| 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.06 | 0.00 | 772.16 | 33.25 | 4.03 | 735.71 | 268.80 |
| 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.32 | 0.00 | 772.38 | 22.62 | 3.41 | 934.08 | 325.89 |
| 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.40 | 0.00 | 772.48 | 22.90 | 3.46 | 840.56 | 323.93 |
| 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.34 | 0.00 | 772.39 | 32.30 | 2.26 | 886.28 | 272.73 |
| 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.43 | 0.00 | 772.48 | 31.25 | 2.25 | 813.86 | 277.25 |
| 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.36 | 0.00 | 772.41 | 31.68 | 2.24 | 892.10 | 275.40 |
| 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.45 | 0.00 | 772.50 | 30.73 | 2.23 | 817.67 | 279.62 |
| 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.36 | 0.00 | 772.42 | 21.52 | 3.34 | 950.97 | 334.16 |
| 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.44 | 0.00 | 772.51 | 21.64 | 3.38 | 859.54 | 333.23 |
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.50 | 0.00 | 772.56 | 18.62 | 3.16 | 1001.34 | 359.23 |
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.59 | 0.00 | 772.65 | 18.93 | 3.21 | 900.45 | 356.27 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.52 | 0.00 | 772.56 | 24.76 | 1.80 | 980.85 | 311.47 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.61 | 0.00 | 772.66 | 24.27 | 1.80 | 894.43 | 314.65 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.54 | 0.00 | 772.58 | 24.41 | 1.79 | 985.61 | 313.73 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.63 | 0.00 | 772.67 | 23.95 | 1.79 | 897.82 | 316.74 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.53 | 0.00 | 772.59 | 17.85 | 3.10 | 1016.44 | 366.85 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.62 | 0.00 | 772.68 | 17.80 | 3.13 | 919.74 | 367.42 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 773.88 | 0.00 | 773.98 | 28.83 | 3.60 | 717.04 | 288.65 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 773.98 | 0.00 | 774.08 | 29.18 | 3.66 | 680.25 | 286.96 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.21 | 0.00 | 774.29 | 21.39 | 3.23 | 793.42 | 335.14 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.31 | 0.00 | 774.39 | 21.43 | 3.27 | 757.05 | 334.81 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.20 | 0.00 | 774.33 | 102.17 | 2.91 | 550.41 | 153.34 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.30 | 0.00 | 774.44 | 99.78 | 2.92 | 531.92 | 155.17 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.36 | 0.00 | 774.48 | 84.06 | 2.71 | 586.04 | 169.06 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.46 | 0.00 | 774.58 | 83.02 | 2.74 | 563.43 | 170.11 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.43 | 0.00 | 774.50 | 17.77 | 3.02 | 844.90 | 367.74 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.53 | 0.00 | 774.60 | 17.73 | 3.05 | 807.97 | 368.11 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 1550.00 | 774.56 | 0.00 | 774.64 | 15.61 | 2.93 | 809.76 | 392.29 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 1550.00 | 774.66 | 0.00 | 774.74 | 15.60 | 2.97 | 779.56 | 392.49 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 775.02 | 0.00 | 775.06 | 10.81 | 2.25 | 991.11 | 438.00 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 775.12 | 0.00 | 775.17 | 10.76 | 2.28 | 966.20 | 438.90 |
| 206.000 | 16.00 | 773.00 | 770.70 | 768.40 | 1440.00 | 775.88 | 0.00 | 775.91 | 5.55 | 1.79 | 1227.18 | 611.11 |
| 206.000 | 16.00 | 999999.00 | 0.00 | 768.40 | 1440.00 | 775.98 | 0.00 | 776.01 | 5.48 | 1.80 | 1202.15 | 615.34 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 775.94 | 0.00 | 775.96 | 5.34 | 1.76 | 1242.46 | 623.05 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 776.04 | 0.00 | 776.07 | 5.28 | 1.77 | 1216.51 | 626.62 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | LOK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 776.27 | 0.00 | 776.40 | 26.47 | 3.44 | 637.71 | 279.87 |
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 776.37 | 0.00 | 776.50 | 26.45 | 3.48 | 597.58 | 280.02 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 776.82 | 0.00 | 776.96 | 36.64 | 4.18 | 694.33 | 237.91 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 776.92 | 0.00 | 777.06 | 36.63 | 4.21 | 667.62 | 237.94 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 776.92 | 0.00 | 776.98 | 55.87 | 2.55 | 695.97 | 192.65 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 777.02 | 0.00 | 777.09 | 55.64 | 2.57 | 674.77 | 193.05 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 777.02 | 0.00 | 777.09 | 48.80 | 2.41 | 725.97 | 206.13 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 777.13 | 0.00 | 777.19 | 49.09 | 2.44 | 700.77 | 205.53 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 777.02 | 0.00 | 777.12 | 28.80 | 3.77 | 757.61 | 268.33 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 777.12 | 0.00 | 777.23 | 28.33 | 3.77 | 736.73 | 270.56 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 1440.00 | 777.26 | 0.00 | 777.31 | 11.13 | 2.47 | 1008.38 | 431.61 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 1440.00 | 777.37 | 0.00 | 777.42 | 11.14 | 2.50 | 975.38 | 431.47 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.54 | 0.00 | 777.64 | 22.19 | 3.33 | 739.44 | 305.67 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.63 | 0.00 | 777.75 | 22.26 | 3.37 | 687.28 | 305.22 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.77 | 0.00 | 777.85 | 17.61 | 3.05 | 808.48 | 343.15 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.87 | 0.00 | 777.96 | 17.63 | 3.08 | 751.32 | 342.99 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 777.73 | 0.00 | 778.02 | 210.76 | 5.18 | 365.67 | 99.19 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 777.85 | 0.00 | 778.07 | 227.11 | 4.30 | 385.82 | 95.55 |
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 778.15 | 0.00 | 778.31 | 144.66 | 3.60 | 449.70 | 119.72 |
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 778.16 | 0.00 | 778.36 | 164.97 | 3.78 | 414.06 | 112.12 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 778.30 | 0.00 | 778.36 | 10.80 | 2.53 | 970.67 | 438.23 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 778.35 | 0.00 | 778.41 | 11.32 | 2.60 | 897.23 | 427.97 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 1440.00 | 778.43 | 0.00 | 778.70 | 56.41 | 5.49 | 439.91 | 191.73 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 1440.00 | 778.47 | 0.00 | 778.78 | 58.85 | 5.63 | 389.21 | 187.71 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 1440.00 | 779.49 | 0.00 | 779.54 | 9.57 | 2.69 | 1040.72 | 465.40 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 1440.00 | 779.59 | 0.00 | 779.64 | 9.67 | 2.74 | 977.27 | 463.02 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 1440.00 | 780.34 | 0.00 | 780.41 | 5.60 | 2.44 | 922.13 | 608.32 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 1440.00 | 780.44 | 0.00 | 780.51 | 5.60 | 2.46 | 850.87 | 608.25 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.34 | 0.00 | 781.64 | 35.59 | 4.50 | 357.02 | 241.37 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.43 | 0.00 | 781.76 | 36.49 | 4.57 | 319.09 | 238.39 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.26 | 0.00 | 781.68 | 238.69 | 5.38 | 288.83 | 93.21 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.35 | 0.00 | 781.81 | 243.44 | 5.49 | 268.17 | 92.29 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.52 | 0.00 | 781.86 | 178.12 | 4.86 | 324.31 | 107.90 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.62 | 0.00 | 781.99 | 180.67 | 4.94 | 299.91 | 107.13 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.62 | 0.00 | 781.88 | 28.39 | 4.18 | 397.62 | 270.26 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.74 | 0.00 | 782.01 | 28.90 | 4.22 | 357.14 | 267.85 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 782.79 | 0.00 | 782.91 | 10.77 | 2.95 | 693.42 | 438.72 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 782.91 | 0.00 | 783.03 | 10.57 | 2.97 | 619.11 | 442.94 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 783.00 | 0.00 | 783.10 | 9.06 | 2.77 | 759.88 | 478.28 |
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 783.12 | 0.00 | 783.22 | 8.96 | 2.79 | 679.33 | 481.20 |
| 211.600 | 31.00 | 783.40 | 781.10 | 774.70 | 1440.00 | 784.26 | 0.00 | 784.30 | 3.36 | 1.90 | 1236.82 | 785.94 |
| 211.600 | 31.00 | 999999.00 | 0.00 | 774.70 | 1440.00 | 784.37 | 0.00 | 784.42 | 3.32 | 1.91 | 1106.88 | 790.44 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 1440.00 | 784.30 | 0.00 | 784.32 | 4.51 | 2.05 | 1273.39 | 677.93 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 1440.00 | 784.41 | 0.00 | 784.44 | 4.48 | 2.06 | 1155.98 | 680.36 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 784.72 | 0.00 | 784.87 | 26.10 | 3.61 | 473.39 | 234.90 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 784.84 | 0.00 | 784.99 | 26.53 | 3.62 | 443.57 | 232.99 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 784.97 | 0.00 | 785.09 | 20.06 | 3.28 | 521.37 | 267.93 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 785.08 | 0.00 | 785.21 | 20.39 | 3.28 | 488.61 | 265.76 |
| 213.000 | 106.00 | 786.90 | 784.00 | 776.60 | 1200.00 | 785.42 | 0.00 | 785.60 | 14.28 | 3.48 | 344.75 | 317.57 |
| 213.000 | 106.00 | 999999.00 | 0.00 | 776.60 | 1200.00 | 785.54 | 0.00 | 785.72 | 13.86 | 3.43 | 349.94 | 322.37 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 1200.00 | 785.47 | 0.00 | 785.66 | 13.88 | 3.45 | 353.21 | 322.10 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 1200.00 | 785.59 | 0.00 | 785.77 | 13.62 | 3.41 | 352.10 | 325.10 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 1200.00 | 785.21 | 0.00 | 786.06 | 192.86 | 7.38 | 163.98 | 86.41 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 1200.00 | 785.35 | 0.00 | 786.13 | 169.26 | 7.07 | 169.65 | 92.24 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 1200.00 | 786.13 | 0.00 | 786.14 | .28 | .63 | 1911.70 | 2281.63 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 1200.00 | 786.20 | 0.00 | 786.21 | .27 | .63 | 1904.91 | 2304.45 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 1200.00 | 786.16 | 0.00 | 786.17 | .53 | .80 | 1501.41 | 1641.64 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 1200.00 | 786.23 | 0.00 | 786.24 | .52 | .79 | 1519.97 | 1667.24 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 1200.00 | 786.21 | 0.00 | 786.23 | 1.04 | 1.03 | 1165.48 | 1174.36 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 1200.00 | 786.27 | 0.00 | 786.29 | 1.00 | 1.01 | 1182.84 | 1199.86 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 1200.00 | 786.17 | 0.00 | 786.48 | 26.61 | 4.50 | 293.96 | 232.62 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 1200.00 | 786.22 | 0.00 | 786.54 | 29.41 | 4.60 | 261.04 | 221.27 |
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 1200.00 | 788.95 | 0.00 | 789.10 | 15.25 | 3.51 | 485.10 | 307.24 |
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 1200.00 | 789.08 | 0.00 | 789.24 | 14.82 | 3.53 | 440.15 | 311.67 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 1200.00 | 791.11 | 0.00 | 791.24 | 17.62 | 2.84 | 422.08 | 285.86 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 1200.00 | 791.18 | 0.00 | 791.30 | 16.82 | 2.79 | 429.51 | 292.55 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 1200.00 | 791.42 | 0.00 | 791.69 | 21.26 | 4.12 | 291.37 | 260.27 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 1200.00 | 791.51 | 0.00 | 791.77 | 25.22 | 4.06 | 295.80 | 238.96 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 1200.00 | 791.89 | 0.00 | 792.18 | 23.97 | 4.27 | 280.77 | 245.12 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 1200.00 | 791.99 | 0.00 | 792.27 | 22.75 | 4.21 | 285.33 | 251.60 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 1200.00 | 792.20 | 0.00 | 792.34 | 17.19 | 3.00 | 399.63 | 289.45 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 1200.00 | 792.29 | 0.00 | 792.43 | 16.30 | 2.94 | 407.64 | 297.23 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 1200.00 | 793.16 | 0.00 | 793.58 | 69.09 | 5.22 | 229.74 | 144.37 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 1200.00 | 793.20 | 0.00 | 793.62 | 66.97 | 5.16 | 232.47 | 146.64 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 1200.00 | 793.83 | 0.00 | 795.20 | 177.04 | 9.39 | 127.84 | 90.19 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 1200.00 | 793.85 | 0.00 | 795.21 | 175.68 | 9.36 | 128.21 | 90.54 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 1200.00 | 795.95 | 0.00 | 796.88 | 106.21 | 7.75 | 154.83 | 116.44 |
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 1200.00 | 796.05 | 0.00 | 796.96 | 103.06 | 7.66 | 156.61 | 118.21 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 1200.00 | 797.24 | 0.00 | 797.26 | 1.29 | 1.58 | 1373.51 | 1055.69 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 1200.00 | 797.31 | 0.00 | 797.33 | 1.31 | 1.60 | 1317.92 | 1047.53 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 1120.00 | 797.25 | 0.00 | 797.27 | 1.19 | 1.51 | 1347.76 | 1026.98 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 1120.00 | 797.32 | 0.00 | 797.34 | 1.21 | 1.53 | 1290.16 | 1017.64 |
| 220.600 | 40.00 | 797.30 | 796.00 | 787.80 | 1120.00 | 798.35 | 0.00 | 798.38 | 2.23 | 1.60 | 1211.12 | 749.52 |
| 220.600 | 40.00 | 999999.00 | 0.00 | 787.80 | 1120.00 | 798.42 | 0.00 | 798.45 | 2.29 | 1.63 | 1129.93 | 740.38 |
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 1120.00 | 798.37 | 0.00 | 798.39 | 2.21 | 1.59 | 1214.98 | 752.90 |
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 1120.00 | 798.44 | 0.00 | 798.46 | 2.27 | 1.62 | 1132.15 | 743.55 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 798.89 | 0.00 | 798.99 | 15.03 | 3.01 | 674.01 | 288.92 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 798.97 | 0.00 | 799.08 | 15.25 | 3.06 | 564.32 | 286.83 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 799.23 | 0.00 | 799.30 | 9.95 | 2.54 | 864.37 | 355.07 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 799.32 | 0.00 | 799.39 | 10.07 | 2.57 | 735.20 | 352.99 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 540.00 | 799.29 | 0.00 | 799.31 | 2.14 | 1.18 | 900.31 | 368.76 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 540.00 | 799.38 | 0.00 | 799.40 | 2.16 | 1.20 | 770.62 | 367.31 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 540.00 | 799.85 | 0.00 | 799.96 | 15.66 | 2.72 | 199.62 | 136.46 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 540.00 | 799.94 | 0.00 | 800.05 | 15.16 | 2.67 | 201.88 | 138.69 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 540.00 | 800.68 | 0.00 | 800.69 | 1.67 | .98 | 549.00 | 418.23 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 540.00 | 800.74 | 0.00 | 800.76 | 1.62 | .97 | 555.32 | 424.84 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 540.00 | 800.97 | 0.00 | 801.00 | 5.55 | 1.52 | 354.80 | 229.25 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 540.00 | 801.02 | 0.00 | 801.06 | 5.36 | 1.50 | 359.28 | 233.27 |

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 200.800 | 1830.00 | 768.42 | 0.00 | 0.00 | 0.00 | 119.00 | 0.00 |
| | 200.800 | 1830.00 | 768.42 | 0.00 | 0.00 | 0.00 | 97.59 | 0.00 |
| | 201.000 | 1830.00 | 768.82 | 0.00 | .40 | 0.00 | 268.30 | 520.00 |
| | 201.000 | 1830.00 | 768.84 | 0.00 | .42 | .02 | 226.27 | 520.00 |
| | 202.000 | 1830.00 | 769.03 | 0.00 | .21 | 0.00 | 252.97 | 730.00 |
| | 202.000 | 1830.00 | 769.05 | 0.00 | .22 | .03 | 196.22 | 730.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | .34 | 0.00 | 207.94 | 570.00 |
| | 203.200 | 1550.00 | 769.41 | 0.00 | .36 | .04 | 165.53 | 570.00 |
| | 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| | 203.400 | 1550.00 | 769.63 | 0.00 | .21 | .05 | 309.66 | 120.00 |
| * | 203.500 | 1550.00 | 769.56 | 0.00 | -.02 | 0.00 | 348.48 | 1.00 |
| * | 203.500 | 1550.00 | 769.51 | 0.00 | -.11 | -.05 | 269.41 | 1.00 |
| | 203.600 | 1550.00 | 770.41 | 0.00 | .85 | 0.00 | 349.12 | 30.00 |
| | 203.600 | 1550.00 | 770.50 | 0.00 | .98 | .09 | 273.87 | 30.00 |
| | 203.700 | 1550.00 | 771.03 | 0.00 | .62 | 0.00 | 349.59 | 1.00 |
| | 203.700 | 1550.00 | 771.13 | 0.00 | .63 | .10 | 324.96 | 1.00 |
| * | 203.750 | 1550.00 | 770.55 | 0.00 | -.48 | 0.00 | 455.52 | 30.00 |
| * | 203.750 | 1550.00 | 770.55 | 0.00 | -.58 | 0.00 | 349.50 | 30.00 |
| | 203.800 | 1550.00 | 770.58 | 0.00 | .03 | 0.00 | 448.87 | 75.00 |
| | 203.800 | 1550.00 | 770.58 | 0.00 | .03 | .00 | 346.77 | 75.00 |
| | 204.000 | 1550.00 | 771.45 | 0.00 | .87 | 0.00 | 339.07 | 1000.00 |
| | 204.000 | 1550.00 | 771.50 | 0.00 | .92 | .05 | 249.41 | 1000.00 |
| | 204.120 | 1550.00 | 771.90 | 0.00 | .46 | 0.00 | 345.07 | 111.00 |
| | 204.120 | 1550.00 | 771.98 | 0.00 | .48 | .08 | 251.42 | 111.00 |
| | 204.140 | 1550.00 | 771.94 | 0.00 | .03 | 0.00 | 346.46 | 1.00 |
| | 204.140 | 1550.00 | 772.02 | 0.00 | .04 | .08 | 249.97 | 1.00 |
| | 204.160 | 1550.00 | 771.98 | 0.00 | .05 | 0.00 | 348.11 | 7.00 |
| | 204.160 | 1550.00 | 772.06 | 0.00 | .04 | .08 | 249.61 | 7.00 |
| | 204.180 | 1550.00 | 771.98 | 0.00 | -.00 | 0.00 | 348.62 | 1.00 |
| | 204.180 | 1550.00 | 772.06 | 0.00 | -.00 | .08 | 256.86 | 1.00 |
| | 204.220 | 1550.00 | 772.32 | 0.00 | .33 | 0.00 | 362.00 | 112.00 |
| | 204.220 | 1550.00 | 772.40 | 0.00 | .34 | .09 | 264.57 | 112.00 |
| | 204.240 | 1550.00 | 772.34 | 0.00 | .02 | 0.00 | 362.96 | 1.00 |
| | 204.240 | 1550.00 | 772.43 | 0.00 | .03 | .09 | 263.74 | 1.00 |
| | 204.260 | 1550.00 | 772.36 | 0.00 | .02 | 0.00 | 363.63 | 6.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 204.260 | 1550.00 | 772.45 | 0.00 | .02 | .09 | 263.35 | 6.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 204.280 | 1550.00 | 772.36 | 0.00 | -.00 | 0.00 | 363.91 | 1.00 |
| 204.280 | 1550.00 | 772.44 | 0.00 | -.00 | .09 | 267.32 | 1.00 |
| 204.320 | 1550.00 | 772.50 | 0.00 | .14 | 0.00 | 369.53 | 67.00 |
| 204.320 | 1550.00 | 772.59 | 0.00 | .15 | .09 | 269.62 | 67.00 |
| 204.340 | 1550.00 | 772.52 | 0.00 | .02 | 0.00 | 370.48 | 1.00 |
| 204.340 | 1550.00 | 772.61 | 0.00 | .02 | .09 | 270.36 | 1.00 |
| 204.360 | 1550.00 | 772.54 | 0.00 | .02 | 0.00 | 371.01 | 6.00 |
| 204.360 | 1550.00 | 772.63 | 0.00 | .01 | .09 | 270.21 | 6.00 |
| 204.380 | 1550.00 | 772.53 | 0.00 | -.00 | 0.00 | 371.20 | 1.00 |
| 204.380 | 1550.00 | 772.62 | 0.00 | -.00 | .09 | 272.09 | 1.00 |
| 205.200 | 1550.00 | 773.86 | 0.00 | 1.35 | 0.00 | 229.69 | 610.00 |
| 205.200 | 1550.00 | 773.98 | 0.00 | 1.35 | .09 | 191.93 | 610.00 |
| 205.300 | 1550.00 | 774.21 | 0.00 | .33 | 0.00 | 234.26 | 123.00 |
| 205.300 | 1550.00 | 774.31 | 0.00 | .33 | .10 | 196.15 | 123.00 |
| 205.400 | 1550.00 | 774.20 | 0.00 | -.01 | 0.00 | 234.29 | 1.00 |
| 205.400 | 1550.00 | 774.30 | 0.00 | -.01 | .10 | 201.72 | 1.00 |
| 205.500 | 1550.00 | 774.36 | 0.00 | .16 | 0.00 | 236.40 | 15.00 |
| 205.500 | 1550.00 | 774.46 | 0.00 | .16 | .10 | 202.24 | 15.00 |
| 205.600 | 1550.00 | 774.43 | 0.00 | .06 | 0.00 | 237.29 | 1.00 |
| 205.600 | 1550.00 | 774.53 | 0.00 | .07 | .10 | 198.82 | 1.00 |
| 205.800 | 1550.00 | 774.56 | 0.00 | .13 | 0.00 | 216.19 | 80.00 |
| 205.800 | 1550.00 | 774.66 | 0.00 | .13 | .10 | 179.13 | 80.00 |
| 205.900 | 1440.00 | 775.02 | 0.00 | .46 | 0.00 | 271.58 | 314.00 |
| 205.900 | 1440.00 | 775.12 | 0.00 | .46 | .10 | 248.54 | 314.00 |
| 206.000 | 1440.00 | 775.88 | 0.00 | .86 | 0.00 | 275.46 | 16.00 |
| 206.000 | 1440.00 | 775.98 | 0.00 | .86 | .10 | 253.90 | 16.00 |
| 206.800 | 1440.00 | 775.94 | 0.00 | .06 | 0.00 | 275.71 | 100.00 |
| 206.800 | 1440.00 | 776.04 | 0.00 | .05 | .10 | 254.18 | 100.00 |
| 207.200 | 1440.00 | 776.27 | 0.00 | .34 | 0.00 | 240.00 | 350.00 |
| 207.200 | 1440.00 | 776.37 | 0.00 | .33 | .10 | 179.62 | 350.00 |
| 207.300 | 1440.00 | 776.82 | 0.00 | .55 | 0.00 | 307.74 | 179.00 |
| 207.300 | 1440.00 | 776.92 | 0.00 | .55 | .10 | 272.87 | 179.00 |
| 207.400 | 1440.00 | 776.92 | 0.00 | .09 | 0.00 | 308.16 | 1.00 |
| 207.400 | 1440.00 | 777.02 | 0.00 | .09 | .10 | 276.91 | 1.00 |
| 207.500 | 1440.00 | 777.02 | 0.00 | .11 | 0.00 | 308.61 | 19.00 |
| 207.500 | 1440.00 | 777.13 | 0.00 | .11 | .10 | 276.18 | 19.00 |
| 207.600 | 1440.00 | 777.02 | 0.00 | -.00 | 0.00 | 308.67 | 1.00 |
| 207.600 | 1440.00 | 777.12 | 0.00 | -.00 | .10 | 278.91 | 1.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 207.800 | 1440.00 | 777.26 | 0.00 | .25 | 0.00 | 311.79 | 100.00 |
| 207.800 | 1440.00 | 777.37 | 0.00 | .24 | .10 | 283.49 | 100.00 |
| 208.200 | 1440.00 | 777.54 | 0.00 | .27 | 0.00 | 295.31 | 200.00 |
| 208.200 | 1440.00 | 777.63 | 0.00 | .27 | .10 | 226.39 | 200.00 |
| 208.300 | 1440.00 | 777.77 | 0.00 | .23 | 0.00 | 298.72 | 104.00 |
| 208.300 | 1440.00 | 777.87 | 0.00 | .23 | .10 | 231.53 | 104.00 |
| 208.400 | 1440.00 | 777.73 | 0.00 | -.04 | 0.00 | 298.19 | 1.00 |
| 208.400 | 1440.00 | 777.85 | 0.00 | -.02 | .12 | 299.90 | 1.00 |
| 208.500 | 1440.00 | 778.15 | 0.00 | .42 | 0.00 | 304.40 | 14.00 |
| 208.500 | 1440.00 | 778.16 | 0.00 | .32 | .02 | 181.55 | 14.00 |
| 208.600 | 1440.00 | 778.30 | 0.00 | .15 | 0.00 | 306.58 | 1.00 |
| 208.600 | 1440.00 | 778.35 | 0.00 | .18 | .04 | 245.73 | 1.00 |
| 208.800 | 1440.00 | 778.43 | 0.00 | .12 | 0.00 | 208.99 | 80.00 |
| 208.800 | 1440.00 | 778.47 | 0.00 | .13 | .05 | 102.84 | 80.00 |
| 209.000 | 1440.00 | 779.49 | 0.00 | 1.06 | 0.00 | 442.00 | 420.00 |
| 209.000 | 1440.00 | 779.59 | 0.00 | 1.11 | .10 | 365.40 | 420.00 |
| 210.000 | 1440.00 | 780.34 | 0.00 | .85 | 0.00 | 343.70 | 1200.00 |
| 210.000 | 1440.00 | 780.44 | 0.00 | .86 | .10 | 232.13 | 1200.00 |
| 210.200 | 1440.00 | 781.34 | 0.00 | 1.00 | 0.00 | 132.18 | 1010.00 |
| 210.200 | 1440.00 | 781.43 | 0.00 | .99 | .10 | 67.77 | 1010.00 |
| 210.300 | 1440.00 | 781.26 | 0.00 | -.08 | 0.00 | 128.65 | 1.00 |
| 210.300 | 1440.00 | 781.35 | 0.00 | -.09 | .09 | 78.41 | 1.00 |
| 210.500 | 1440.00 | 781.52 | 0.00 | .26 | 0.00 | 145.39 | 8.00 |
| 210.500 | 1440.00 | 781.62 | 0.00 | .27 | .10 | 85.84 | 8.00 |
| 210.700 | 1440.00 | 781.62 | 0.00 | .10 | 0.00 | 166.76 | 1.00 |
| 210.700 | 1440.00 | 781.74 | 0.00 | .12 | .11 | 78.61 | 1.00 |
| 211.200 | 1440.00 | 782.79 | 0.00 | 1.17 | 0.00 | 312.74 | 610.00 |
| 211.200 | 1440.00 | 782.91 | 0.00 | 1.18 | .12 | 177.35 | 610.00 |
| 211.400 | 1440.00 | 783.00 | 0.00 | .21 | 0.00 | 329.23 | 189.00 |
| 211.400 | 1440.00 | 783.12 | 0.00 | .21 | .12 | 195.36 | 189.00 |
| 211.600 | 1440.00 | 784.26 | 0.00 | 1.26 | 0.00 | 429.38 | 31.00 |
| 211.600 | 1440.00 | 784.37 | 0.00 | 1.26 | .12 | 271.24 | 31.00 |
| 211.800 | 1440.00 | 784.30 | 0.00 | .04 | 0.00 | 435.83 | 60.00 |
| 211.800 | 1440.00 | 784.41 | 0.00 | .04 | .11 | 293.01 | 60.00 |
| 212.200 | 1200.00 | 784.72 | 0.00 | .43 | 0.00 | 197.73 | 570.00 |
| 212.200 | 1200.00 | 784.84 | 0.00 | .43 | .11 | 155.13 | 570.00 |
| 212.400 | 1200.00 | 784.97 | 0.00 | .24 | 0.00 | 199.90 | 90.00 |
| 212.400 | 1200.00 | 785.08 | 0.00 | .25 | .12 | 158.37 | 90.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 213.000 | 1200.00 | 785.42 | 0.00 | .45 | 0.00 | 43.97 | 106.00 |
| 213.000 | 1200.00 | 785.54 | 0.00 | .45 | .12 | 44.00 | 106.00 |
| 213.200 | 1200.00 | 785.47 | 0.00 | .06 | 0.00 | 61.21 | 36.00 |
| 213.200 | 1200.00 | 785.59 | 0.00 | .05 | .11 | 44.00 | 36.00 |
| 213.400 | 1200.00 | 785.21 | 0.00 | -.26 | 0.00 | 66.05 | 1.00 |
| 213.400 | 1200.00 | 785.35 | 0.00 | -.24 | .14 | 51.94 | 1.00 |
| 213.500 | 1200.00 | 786.13 | 0.00 | .92 | 0.00 | 320.40 | 1.00 |
| 213.500 | 1200.00 | 786.20 | 0.00 | .85 | .07 | 269.00 | 1.00 |
| 214.000 | 1200.00 | 786.16 | 0.00 | .03 | 0.00 | 247.74 | 800.00 |
| 214.000 | 1200.00 | 786.23 | 0.00 | .03 | .06 | 249.61 | 800.00 |
| 214.600 | 1200.00 | 786.21 | 0.00 | .05 | 0.00 | 217.36 | 700.00 |
| 214.600 | 1200.00 | 786.27 | 0.00 | .04 | .06 | 218.39 | 700.00 |
| 215.000 | 1200.00 | 786.17 | 0.00 | -.04 | 0.00 | 106.98 | 570.00 |
| 215.000 | 1200.00 | 786.22 | 0.00 | -.06 | .04 | 58.00 | 570.00 |
| 216.000 | 1200.00 | 788.95 | 0.00 | 2.78 | 0.00 | 209.44 | 1320.00 |
| 216.000 | 1200.00 | 789.08 | 0.00 | 2.86 | .13 | 135.75 | 1320.00 |
| 217.200 | 1200.00 | 791.11 | 0.00 | 2.16 | 0.00 | 105.07 | 1300.00 |
| 217.200 | 1200.00 | 791.18 | 0.00 | 2.10 | .07 | 106.01 | 1300.00 |
| 217.400 | 1200.00 | 791.42 | 0.00 | .31 | 0.00 | 46.00 | 190.00 |
| 217.400 | 1200.00 | 791.51 | 0.00 | .33 | .09 | 46.00 | 190.00 |
| 217.600 | 1200.00 | 791.89 | 0.00 | .47 | 0.00 | 46.00 | 92.00 |
| 217.600 | 1200.00 | 791.99 | 0.00 | .48 | .10 | 46.00 | 92.00 |
| 217.800 | 1200.00 | 792.20 | 0.00 | .31 | 0.00 | 89.36 | 60.00 |
| 217.800 | 1200.00 | 792.29 | 0.00 | .30 | .09 | 90.24 | 60.00 |
| 218.200 | 1200.00 | 793.16 | 0.00 | .96 | 0.00 | 62.57 | 350.00 |
| 218.200 | 1200.00 | 793.20 | 0.00 | .91 | .04 | 62.96 | 350.00 |
| 218.400 | 1200.00 | 793.83 | 0.00 | .67 | 0.00 | 17.69 | 100.00 |
| 218.400 | 1200.00 | 793.85 | 0.00 | .65 | .02 | 17.69 | 100.00 |
| 218.600 | 1200.00 | 795.95 | 0.00 | 2.12 | 0.00 | 17.86 | 180.00 |
| 218.600 | 1200.00 | 796.05 | 0.00 | 2.20 | .10 | 17.87 | 180.00 |
| 220.200 | 1200.00 | 797.24 | 0.00 | 1.29 | 0.00 | 282.00 | 30.00 |
| 220.200 | 1200.00 | 797.31 | 0.00 | 1.26 | .07 | 246.53 | 30.00 |
| 220.400 | 1120.00 | 797.25 | 0.00 | .01 | 0.00 | 282.00 | 60.00 |
| 220.400 | 1120.00 | 797.32 | 0.00 | .01 | .07 | 244.91 | 60.00 |
| 220.600 | 1120.00 | 798.35 | 0.00 | 1.10 | 0.00 | 376.00 | 40.00 |
| 220.600 | 1120.00 | 798.42 | 0.00 | 1.10 | .07 | 305.18 | 40.00 |
| 220.800 | 1120.00 | 798.37 | 0.00 | .01 | 0.00 | 376.00 | 60.00 |
| 220.800 | 1120.00 | 798.44 | 0.00 | .01 | .07 | 304.39 | 60.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 221.000 | 1120.00 | 798.89 | 0.00 | .52 | 0.00 | 518.62 | 1250.00 |
| 221.000 | 1120.00 | 798.97 | 0.00 | .53 | .08 | 228.73 | 1250.00 |
| 221.200 | 1120.00 | 799.23 | 0.00 | .34 | 0.00 | 577.68 | 250.00 |
| 221.200 | 1120.00 | 799.32 | 0.00 | .35 | .09 | 309.07 | 250.00 |
| 221.400 | 540.00 | 799.29 | 0.00 | .06 | 0.00 | 583.51 | 10.00 |
| 221.400 | 540.00 | 799.38 | 0.00 | .07 | .09 | 322.90 | 10.00 |
| 222.000 | 540.00 | 799.85 | 0.00 | .56 | 0.00 | 41.49 | 1370.00 |
| 222.000 | 540.00 | 799.94 | 0.00 | .56 | .09 | 35.63 | 1370.00 |
| 223.000 | 540.00 | 800.68 | 0.00 | .83 | 0.00 | 96.40 | 1900.00 |
| 223.000 | 540.00 | 800.74 | 0.00 | .80 | .06 | 96.90 | 1900.00 |
| 223.800 | 540.00 | 800.97 | 0.00 | .29 | 0.00 | 79.70 | 1080.00 |
| 223.800 | 540.00 | 801.02 | 0.00 | .28 | .06 | 80.13 | 1080.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  203.500  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  203.500  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  203.500  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  203.500  PROFILE= 2  MINIMUM SPECIFIC ENERGY
NOTE     SECNO=  203.750  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=  203.750  PROFILE= 2  WSEL BASED ON X5 CARD
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FLOODWAY DATA, MAIN RIVER ROUGE
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 200.800 | 98. | 604. | 3.0 | 768.4 | 768.4 | 0.0 |
| 201.000 | 226. | 1645. | 1.1 | 768.8 | 768.8 | 0.0 |
| 202.000 | 196. | 1211. | 1.5 | 769.0 | 769.0 | 0.0 |
| 203.200 | 166. | 805. | 1.9 | 769.4 | 769.4 | 0.0 |
| 203.400 | 310. | 1010. | 1.5 | 769.6 | 769.6 | 0.0 |
| 203.500 | 269. | 325. | 4.8 | 769.6 | 769.6 | 0.0 |
| 203.600 | 274. | 424. | 3.7 | 770.5 | 770.4 | .1 |
| 203.700 | 325. | 1534. | 1.0 | 771.1 | 771.0 | .1 |
| 203.750 | 349. | 1588. | 1.0 | 770.5 | 770.6 | 0.0 |
| 203.800 | 347. | 1522. | 1.0 | 770.6 | 770.6 | 0.0 |
| 204.000 | 249. | 658. | 2.4 | 771.5 | 771.4 | .1 |
| 204.120 | 251. | 703. | 2.2 | 772.0 | 771.9 | .1 |
| 204.140 | 250. | 655. | 2.4 | 772.0 | 771.9 | .1 |
| 204.160 | 250. | 665. | 2.3 | 772.1 | 772.0 | .1 |
| 204.180 | 257. | 736. | 2.1 | 772.1 | 772.0 | .1 |
| 204.220 | 265. | 841. | 1.8 | 772.4 | 772.3 | .1 |
| 204.240 | 264. | 814. | 1.9 | 772.4 | 772.3 | .1 |
| 204.260 | 263. | 818. | 1.9 | 772.5 | 772.4 | .1 |
| 204.280 | 267. | 860. | 1.8 | 772.5 | 772.4 | .1 |
| 204.320 | 270. | 900. | 1.7 | 772.6 | 772.5 | .1 |
| 204.340 | 270. | 894. | 1.7 | 772.6 | 772.5 | .1 |
| 204.360 | 270. | 898. | 1.7 | 772.6 | 772.5 | .1 |
| 204.380 | 272. | 920. | 1.7 | 772.6 | 772.5 | .1 |
| 205.200 | 192. | 680. | 2.3 | 774.0 | 773.9 | .1 |
| 205.300 | 196. | 757. | 2.0 | 774.3 | 774.2 | .1 |
| 205.400 | 202. | 532. | 2.9 | 774.3 | 774.2 | .1 |
| 205.500 | 202. | 563. | 2.8 | 774.5 | 774.4 | .1 |
| 205.600 | 199. | 808. | 1.9 | 774.5 | 774.4 | .1 |
| 205.800 | 179. | 780. | 2.0 | 774.7 | 774.6 | .1 |
| 205.900 | 249. | 966. | 1.5 | 775.1 | 775.0 | .1 |
| 206.000 | 254. | 1202. | 1.2 | 776.0 | 775.9 | .1 |
| 206.800 | 254. | 1217. | 1.2 | 776.0 | 775.9 | .1 |
| 207.200 | 180. | 598. | 2.4 | 776.4 | 776.3 | .1 |
| 207.300 | 273. | 668. | 2.2 | 776.9 | 776.8 | .1 |
| 207.400 | 277. | 675. | 2.1 | 777.0 | 776.9 | .1 |
| 207.500 | 276. | 701. | 2.1 | 777.1 | 777.0 | .1 |
| 207.600 | 279. | 737. | 2.0 | 777.1 | 777.0 | .1 |
| 207.800 | 283. | 975. | 1.5 | 777.4 | 777.3 | .1 |
| 208.200 | 226. | 687. | 2.1 | 777.6 | 777.5 | .1 |
| 208.300 | 232. | 751. | 1.9 | 777.9 | 777.8 | .1 |
| 208.400 | 300. | 386. | 3.7 | 777.8 | 777.7 | .1 |
| 208.500 | 182. | 414. | 3.5 | 778.1 | 778.1 | 0.0 |
| 208.600 | 246. | 897. | 1.6 | 778.3 | 778.3 | 0.0 |
| 208.800 | 103. | 389. | 3.7 | 778.4 | 778.4 | 0.0 |
| 209.000 | 365. | 977. | 1.5 | 779.6 | 779.5 | .1 |
| 210.000 | 232. | 851. | 1.7 | 780.4 | 780.3 | .1 |
| 210.200 | 68. | 319. | 4.5 | 781.4 | 781.3 | .1 |
| 210.300 | 78. | 268. | 5.4 | 781.4 | 781.3 | .1 |
| 210.500 | 86. | 300. | 4.8 | 781.6 | 781.5 | .1 |
| 210.700 | 79. | 357. | 4.0 | 781.7 | 781.6 | .1 |

FLOODWAY DATA, MAIN RIVER ROUGE
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 211.200 | 177. | 619. | 2.3 | 782.9 | 782.8 | .1 |
| 211.400 | 195. | 679. | 2.1 | 783.1 | 783.0 | .1 |
| 211.600 | 271. | 1107. | 1.3 | 784.4 | 784.3 | .1 |
| 211.800 | 293. | 1156. | 1.2 | 784.4 | 784.3 | .1 |
| 212.200 | 155. | 444. | 2.7 | 784.8 | 784.7 | .1 |
| 212.400 | 158. | 489. | 2.5 | 785.1 | 785.0 | .1 |
| 213.000 | 44. | 350. | 3.4 | 785.5 | 785.4 | .1 |
| 213.200 | 44. | 352. | 3.4 | 785.6 | 785.5 | .1 |
| 213.400 | 52. | 170. | 7.1 | 785.3 | 785.2 | .1 |
| 213.500 | 269. | 1905. | .6 | 786.2 | 786.1 | .1 |
| 214.000 | 250. | 1520. | .8 | 786.3 | 786.2 | .1 |
| 214.600 | 218. | 1183. | 1.0 | 786.3 | 786.2 | .1 |
| 215.000 | 58. | 261. | 4.6 | 786.2 | 786.2 | 0.0 |
| 216.000 | 136. | 440. | 2.7 | 789.0 | 788.9 | .1 |
| 217.200 | 106. | 430. | 2.8 | 791.2 | 791.1 | .1 |
| 217.400 | 46. | 296. | 4.1 | 791.5 | 791.4 | .1 |
| 217.600 | 46. | 285. | 4.2 | 792.0 | 791.9 | .1 |
| 217.800 | 90. | 408. | 2.9 | 792.3 | 792.2 | .1 |
| 218.200 | 63. | 232. | 5.2 | 793.2 | 793.2 | 0.0 |
| 218.400 | 18. | 128. | 9.4 | 793.8 | 793.8 | 0.0 |
| 218.600 | 18. | 157. | 7.7 | 796.0 | 795.9 | .1 |
| 220.200 | 247. | 1318. | .9 | 797.3 | 797.2 | .1 |
| 220.400 | 245. | 1290. | .9 | 797.4 | 797.3 | .1 |
| 220.600 | 305. | 1130. | 1.0 | 798.5 | 798.4 | .1 |
| 220.800 | 304. | 1132. | 1.0 | 798.5 | 798.4 | .1 |
| 221.000 | 229. | 564. | 2.0 | 799.0 | 798.9 | .1 |
| 221.200 | 309. | 735. | 1.5 | 799.3 | 799.2 | .1 |
| 221.400 | 323. | 771. | .7 | 799.4 | 799.3 | .1 |
| 222.000 | 36. | 202. | 2.7 | 799.9 | 799.8 | .1 |
| 223.000 | 97. | 555. | 1.0 | 800.8 | 800.7 | .1 |
| 223.800 | 80. | 359. | 1.5 | 801.1 | 801.0 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CODE -  01
  MODIFICATION -  50,51,52
*********************************************
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FLOODWAY

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C
T1      HUD-FIA F-4705
T2      TROY FIS
T3      MAIN RIVER ROUGE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.   0.000000     0.00      -1.0       0.    768.420    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .100      .100      .075      .400      .800     0.000     0.000     0.000     0.000     0.000
QT     7.000  1180.000  1630.000  1830.000  2270.000  1830.000  1830.000  1830.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     2.400     5.400     0.000     0.000

       ***MATCH LINE TO BLOOMFIELD TWP. FIS HYDRAULICS X-SECT.7.80

X1   200.800    10.000   242.000   316.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   765.500   210.000   764.500   242.000   759.600   254.000   757.000   264.000   758.900   274.000
GR   760.400   279.000   763.900   305.000   766.600   314.000   767.300   316.000   767.800   329.000
NC      .080      .080      .065      .200      .400     0.000     0.000     0.000     0.000     0.000

X1   201.000     9.000   204.000   258.000   520.000   520.000   520.000     0.000     0.000     0.000
GR   774.200    18.000   762.600   138.000   761.000   182.000   760.600   204.000   757.600   206.000
GR   754.700   213.000   757.600   220.000   761.900   258.000   763.700   342.000     0.000     0.000

X1   202.000    11.000   286.000   332.000   730.000   730.000   730.000     0.000     0.000     0.000
GR   777.400   138.000   763.400   272.000   763.000   286.000   760.800   310.000   759.800   316.000
GR   758.500   321.000   759.800   326.000   761.900   332.000   762.500   346.000   764.100   436.000
GR   772.800   498.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
QT     7.000   960.000  1350.000  1550.000  2050.000  1550.000  1550.000  1550.000     0.000     0.000
NC      .100      .100      .055      .400      .800     0.000     0.000     0.000     0.000     0.000

X1   203.200    23.000   194.000   234.000   570.000   570.000   570.000     0.000     0.000     0.000
GR   778.000   134.000   767.800   164.000   765.000   194.000   762.200   198.000   761.000   214.000
GR   761.200   224.000   762.200   230.000   764.000   234.000   764.200   280.000   766.200   308.000
GR   775.000   324.000   775.000   411.000   767.000   412.000   767.000   430.000   775.000   431.000
GR   775.000   487.000   767.000   488.000   767.000   505.000   775.000   506.000   775.000   563.000
GR   768.700   564.000   769.400   582.000   775.000   583.000     0.000     0.000     0.000     0.000
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***WATTLES RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.400 | 30.000 | 285.000 | 318.700 | 120.000 | 120.000 | 120.000 | .700 | 0.000 | 0.000 |
| GR | 781.300 | 0.000 | 772.000 | 285.000 | 764.700 | 291.600 | 763.100 | 292.000 | 762.900 | 294.000 |
| GR | 762.700 | 298.000 | 762.900 | 302.000 | 763.100 | 304.000 | 764.700 | 304.400 | 764.700 | 305.900 |
| GR | 763.100 | 306.300 | 762.900 | 308.300 | 762.700 | 312.300 | 762.900 | 316.300 | 763.100 | 318.300 |
| GR | 764.700 | 318.700 | 767.000 | 470.000 | 767.000 | 471.000 | 767.000 | 541.000 | 767.000 | 542.000 |
| GR | 767.000 | 566.000 | 767.000 | 567.000 | 767.000 | 649.000 | 767.000 | 650.000 | 767.000 | 675.000 |
| GR | 767.000 | 676.000 | 767.000 | 759.000 | 768.700 | 760.000 | 769.400 | 785.000 | 775.000 | 786.000 |
| NC | 0.000 | 0.000 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.500 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | .700 | 0.000 |
| BT | 30.000 | 0.000 | 781.300 | 781.300 | 285.000 | 772.000 | 772.000 | 291.600 | 771.800 | 764.700 |
| BT | 292.000 | 771.800 | 767.100 | 294.000 | 771.800 | 769.500 | 298.000 | 771.800 | 770.700 | 302.000 |
| BT | 771.800 | 769.500 | 304.000 | 771.800 | 767.100 | 304.400 | 771.800 | 764.700 | 305.900 | 771.800 |
| BT | 764.700 | 306.300 | 771.800 | 767.100 | 308.300 | 771.800 | 769.500 | 312.300 | 771.800 | 770.700 |
| BT | 316.300 | 771.800 | 769.500 | 318.300 | 771.800 | 767.100 | 318.700 | 771.800 | 764.700 | 470.000 |
| BT | 767.000 | 767.000 | 471.000 | 775.000 | 767.000 | 541.000 | 775.000 | 767.000 | 542.000 | 767.000 |
| BT | 767.000 | 566.000 | 767.000 | 767.000 | 567.000 | 775.000 | 767.000 | 649.000 | 775.000 | 767.000 |
| BT | 650.000 | 767.000 | 767.000 | 675.000 | 767.000 | 767.000 | 676.000 | 775.000 | 767.000 | 759.000 |
| BT | 775.000 | 767.000 | 760.000 | 768.700 | 768.700 | 785.000 | 769.400 | 769.400 | 786.000 | 775.000 |
| BT | 775.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.600 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .065 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.700 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

***SEE SEPARATE RUNS FOR WATTLES RD. LOSS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.750 | 10.000 | 232.000 | 268.000 | 30.000 | 30.000 | 30.000 | 0.000 | -.200 | 0.000 |
| X5 | 5.000 | 769.950 | 770.300 | 770.550 | 771.100 | 770.550 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 776.500 | 90.000 | 767.800 | 154.000 | 764.800 | 232.000 | 763.800 | 234.000 | 761.800 | 250.000 |
| GR | 763.800 | 266.000 | 766.000 | 268.000 | 766.100 | 300.000 | 767.000 | 464.000 | 772.300 | 639.000 |
| NC | .090 | .090 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 203.800 | 0.000 | 0.000 | 0.000 | 75.000 | 75.000 | 75.000 | 0.000 | .200 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 204.000 | 8.000 | 375.000 | 391.000 | 1000.000 | 1000.000 | 1000.000 | 0.000 | 0.000 | 0.000 |
| GR | 777.400 | 52.000 | 770.000 | 173.000 | 768.600 | 375.000 | 765.100 | 378.000 | 764.000 | 382.000 |
| GR | 764.700 | 386.000 | 767.500 | 391.000 | 776.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 204.120 | 8.000 | 375.000 | 391.000 | 111.000 | 111.000 | 111.000 | 0.000 | .300 | 0.000 |
| GR | 777.400 | 52.000 | 770.000 | 173.000 | 768.600 | 375.000 | 765.100 | 378.000 | 764.800 | 382.000 |
| GR | 764.900 | 386.000 | 767.500 | 391.000 | 776.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***FOOTBRIDGE 204A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 204.140 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 0.000 | 767.800 | 769.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.160 | 0.000 | 0.000 | 0.000 | 7.000 | 7.000 | 7.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 767.800 | 769.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.180 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.220 | 0.000 | 0.000 | 0.000 | 112.000 | 112.000 | 112.000 | 0.000 | 0.000 | 0.000 |
| ***FOOTBRIDGE 204B | | | | | | | | | | |
| X1 | 204.240 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 767.800 | 768.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.260 | 0.000 | 0.000 | 0.000 | 6.000 | 6.000 | 6.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 767.800 | 768.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.280 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.320 | 0.000 | 0.000 | 0.000 | 67.000 | 67.000 | 67.000 | 0.000 | 0.000 | 0.000 |
| ***FOOTBRIDGE 204C | | | | | | | | | | |
| X1 | 204.340 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 768.400 | 768.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.360 | 0.000 | 0.000 | 0.000 | 6.000 | 6.000 | 6.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 768.400 | 768.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 204.380 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 205.200 | 10.000 | 374.000 | 398.000 | 610.000 | 610.000 | 610.000 | 0.000 | 0.000 | 0.000 |
| GR | 780.600 | 119.000 | 771.600 | 244.000 | 770.400 | 314.000 | 770.400 | 374.000 | 769.400 | 376.000 |
| GR | 766.400 | 384.000 | 769.400 | 392.000 | 770.400 | 398.000 | 770.400 | 416.000 | 771.200 | 442.000 |
| X1 | 205.300 | 0.000 | 0.000 | 0.000 | 123.000 | 123.000 | 123.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ***DRIVEWAY D/S BEACH RD. | | | | | | | | | | |
| X1 | 205.400 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 7.000 | 244.000 | 771.600 | 771.600 | 314.000 | 771.400 | 770.400 | 374.000 | 772.600 | 770.400 |
| BT | 376.000 | 772.600 | 770.600 | 392.000 | 772.600 | 770.600 | 398.000 | 772.600 | 770.400 | 416.000 |
| BT | 773.200 | 771.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 205.500 | 0.000 | 0.000 | 0.000 | 15.000 | 15.000 | 15.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 205.600 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 205.800 | 9.000 | 130.000 | 167.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 776.700 | 60.000 | 773.200 | 112.000 | 771.100 | 130.000 | 769.800 | 134.000 | 766.500 | 156.000 |
| GR | 770.600 | 167.000 | 770.700 | 278.000 | 771.400 | 300.000 | 773.200 | 308.000 | 0.000 | 0.000 |
| QT | 7.000 | 870.000 | 1240.000 | 1440.000 | 1920.000 | 1440.000 | 1440.000 | 1440.000 | 0.000 | 0.000 |

***BEACH RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 205.900 | 14.000 | 528.000 | 570.000 | 314.000 | 314.000 | 314.000 | 0.000 | 0.000 | 0.000 |
| GR | 776.000 | 310.000 | 772.000 | 328.000 | 771.400 | 456.000 | 771.300 | 491.000 | 771.100 | 510.000 |
| GR | 771.000 | 528.000 | 770.700 | 534.000 | 769.400 | 540.000 | 768.400 | 545.000 | 768.500 | 551.000 |
| GR | 770.000 | 562.000 | 770.700 | 564.000 | 771.600 | 570.000 | 771.800 | 586.000 | 772.300 | 620.000 |
| SB | 0.000 | 1.500 | 2.300 | 0.000 | 18.000 | 0.000 | 75.000 | 0.000 | 0.000 | 0.000 |
| X1 | 206.000 | 0.000 | 0.000 | 0.000 | 16.000 | 16.000 | 16.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 770.700 | 773.000 | 0.000 | 0.000 | 0.000 | .800 | 0.000 |
| BT | 10.000 | 310.000 | 776.000 | 776.000 | 456.000 | 773.000 | 771.400 | 491.000 | 773.000 | 771.300 |
| BT | 510.000 | 775.400 | 771.100 | 540.000 | 775.400 | 769.400 | 545.000 | 775.400 | 772.900 | 562.000 |
| BT | 775.400 | 772.900 | 564.000 | 775.400 | 770.700 | 586.000 | 775.400 | 771.800 | 620.000 | 773.500 |
| BT | 772.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 206.800 | 0.000 | 0.000 | 0.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| X1 | 207.200 | 10.000 | 314.000 | 364.000 | 350.000 | 350.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| GR | 774.500 | 200.000 | 773.400 | 314.000 | 771.200 | 330.000 | 769.900 | 341.000 | 770.400 | 354.000 |
| GR | 772.800 | 364.000 | 773.000 | 378.000 | 775.200 | 404.000 | 775.700 | 414.000 | 776.200 | 440.000 |
| X1 | 207.300 | 10.000 | 310.000 | 329.000 | 179.000 | 179.000 | 179.000 | 0.000 | 0.000 | 0.000 |
| X4 | 2.000 | 774.900 | 125.000 | 774.800 | 220.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 778.200 | 110.000 | 774.800 | 310.000 | 770.800 | 311.000 | 769.200 | 314.000 | 768.400 | 320.000 |
| GR | 769.400 | 326.000 | 770.600 | 328.000 | 774.800 | 329.000 | 775.000 | 410.000 | 775.400 | 424.000 |

***DRIVEWAY 207

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 207.400 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 773.300 | 774.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 207.500 | 0.000 | 0.000 | 0.000 | 19.000 | 19.000 | 19.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 773.300 | 774.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 207.600 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 207.800 | 9.000 | 338.000 | 374.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| X4 | 2.000 | 775.000 | 115.000 | 774.400 | 290.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 780.000 | 100.000 | 773.800 | 338.000 | 771.200 | 343.000 | 768.900 | 353.000 | 770.200 | 358.000 |
| GR | 772.200 | 364.000 | 772.800 | 374.000 | 773.000 | 408.000 | 776.000 | 420.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 208.200 | 14.000 | 264.000 | 306.000 | 200.000 | 200.000 | 200.000 | 0.000 | 0.000 | 0.000 |
| GR | 778.400 | 162.000 | 775.400 | 206.000 | 775.100 | 264.000 | 774.400 | 270.000 | 772.400 | 276.000 |
| GR | 770.800 | 279.000 | 769.900 | 289.000 | 770.300 | 296.000 | 772.300 | 301.000 | 774.000 | 306.000 |
| GR | 774.400 | 322.000 | 775.300 | 344.000 | 775.600 | 430.000 | 777.200 | 470.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 208.300 | 0.000 | 0.000 | 0.000 | 104.000 | 104.000 | 104.000 | 0.000 | 0.000 | 0.000 |

***DRIVEWAY 208

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 208.400 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 7.000 | 162.000 | 779.800 | 778.400 | 206.000 | 778.800 | 775.400 | 270.000 | 778.000 | 774.400 |
| BT | 276.000 | 777.800 | 775.700 | 302.000 | 777.800 | 775.700 | 306.000 | 777.800 | 774.000 | 470.000 |
| BT | 772.200 | 772.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 208.500 | 0.000 | 0.000 | 0.000 | 14.000 | 14.000 | 14.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 208.600 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 208.800 | 14.000 | 118.000 | 134.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 784.600 | 30.000 | 776.000 | 104.000 | 775.600 | 118.000 | 771.400 | 119.000 | 770.600 | 120.000 |
| GR | 769.200 | 126.000 | 769.400 | 130.000 | 770.400 | 132.000 | 771.400 | 133.000 | 774.600 | 134.000 |
| GR | 774.600 | 152.000 | 775.400 | 184.000 | 777.600 | 200.000 | 778.500 | 300.000 | 0.000 | 0.000 |
| NC | .070 | .070 | .055 | .150 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 209.000 | 11.000 | 200.000 | 230.000 | 420.000 | 420.000 | 420.000 | 0.000 | 0.000 | 0.000 |
| GR | 779.000 | 108.000 | 778.100 | 150.000 | 777.900 | 186.000 | 777.200 | 200.000 | 775.000 | 202.000 |
| GR | 771.800 | 210.000 | 771.600 | 215.000 | 772.300 | 223.000 | 775.000 | 228.000 | 776.800 | 230.000 |
| GR | 777.600 | 550.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 210.000 | 10.000 | 206.000 | 260.000 | 1200.000 | 1200.000 | 1200.000 | 0.000 | 0.000 | 0.000 |
| GR | 782.200 | 154.000 | 779.000 | 184.000 | 778.100 | 206.000 | 770.400 | 219.000 | 769.300 | 232.000 |
| GR | 772.800 | 247.000 | 776.900 | 260.000 | 778.000 | 316.000 | 778.600 | 410.000 | 782.100 | 620.000 |
| X1 | 210.200 | 15.000 | 360.000 | 424.000 | 1010.000 | 1010.000 | 1010.000 | 0.000 | 0.000 | 0.000 |
| GR | 787.000 | 77.000 | 785.000 | 188.000 | 780.200 | 342.000 | 780.000 | 360.000 | 777.000 | 376.000 |
| GR | 775.700 | 379.000 | 774.700 | 381.000 | 775.300 | 393.000 | 775.600 | 413.000 | 777.000 | 418.000 |
| GR | 780.400 | 424.000 | 781.500 | 440.000 | 781.700 | 478.000 | 782.300 | 548.000 | 789.700 | 900.000 |

***FOOTBRIDGE 210A

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 210.300 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 777.200 | 778.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 210.500 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 777.200 | 778.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 210.700 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 211.200 | 0.000 | 0.000 | 0.000 | 610.000 | 610.000 | 610.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***LONG LAKE RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 211.400 | 0.000 | 0.000 | 0.000 | 189.000 | 189.000 | 189.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 782.500 | 782.500 | 0.000 |
| SB | 0.000 | 1.500 | 2.800 | 280.000 | 18.000 | 0.000 | 104.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 211.600 | 0.000 | 0.000 | 0.000 | 31.000 | 31.000 | 31.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 781.100 | 783.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 783.400 | 783.400 | 0.000 |
| | | | | | | | | | | |
| X1 | 211.800 | 16.000 | 448.000 | 472.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 785.000 | 223.000 | 780.600 | 346.000 | 780.600 | 372.000 | 779.200 | 416.000 | 779.000 | 436.000 |
| GR | 778.400 | 448.000 | 777.200 | 450.000 | 774.500 | 457.000 | 774.800 | 462.000 | 777.200 | 464.000 |
| GR | 780.600 | 472.000 | 780.600 | 494.000 | 781.500 | 526.000 | 781.800 | 572.000 | 784.200 | 676.000 |
| GR | 787.100 | 752.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 7.000 | 690.000 | 1020.000 | 1200.000 | 1690.000 | 1200.000 | 1200.000 | 1200.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 212.200 | 13.000 | 216.000 | 266.000 | 570.000 | 570.000 | 570.000 | 0.000 | 0.000 | 0.000 |
| GR | 786.800 | 154.000 | 786.200 | 178.000 | 785.200 | 198.000 | 783.200 | 216.000 | 779.600 | 232.000 |
| GR | 777.800 | 241.000 | 778.400 | 249.000 | 779.700 | 250.000 | 781.200 | 254.000 | 782.400 | 266.000 |
| GR | 782.600 | 282.000 | 783.000 | 374.000 | 784.000 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***COOLIDGE RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 212.400 | 0.000 | 0.000 | 0.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 784.700 | 784.700 | 0.000 |
| SB | 1.600 | 1.700 | 2.700 | 140.000 | 35.500 | 1.500 | 244.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 213.000 | 12.000 | 426.000 | 470.000 | 106.000 | 106.000 | 106.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 784.000 | 786.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 786.900 | 786.900 | 0.000 |
| GR | 787.200 | 363.000 | 786.800 | 388.000 | 785.600 | 406.000 | 785.500 | 426.000 | 779.800 | 428.000 |
| GR | 777.700 | 429.000 | 776.600 | 449.000 | 777.100 | 467.000 | 779.800 | 468.000 | 785.000 | 470.000 |
| GR | 785.200 | 484.000 | 787.800 | 514.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 213.200 | 0.000 | 0.000 | 0.000 | 36.000 | 36.000 | 36.000 | 0.000 | 0.000 | 0.000 |

***BEECHWOOD LAKE RETENTION POND OUTLET

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 213.400 | 17.000 | 426.000 | 478.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 787.200 | 363.000 | 786.800 | 388.000 | 785.600 | 406.000 | 785.500 | 426.000 | 783.000 | 427.000 |
| GR | 783.000 | 442.000 | 780.500 | 443.000 | 780.500 | 455.000 | 780.000 | 455.100 | 780.000 | 458.900 |
| GR | 780.500 | 459.000 | 780.500 | 461.000 | 783.000 | 462.000 | 783.000 | 477.000 | 785.000 | 478.000 |
| GR | 785.200 | 492.000 | 787.800 | 522.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .065 | .065 | .045 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 213.500 | 11.000 | 370.000 | 672.000 | 1.000 | 1.000 | 1.000 | 0.000 | -1.500 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 792.000 | 370.000 | 783.400 | 436.000 | 783.200 | 446.000 | 780.600 | 458.000 | 778.000 | 470.000 |
| GR | 778.000 | 610.000 | 780.600 | 622.000 | 785.200 | 646.000 | 786.700 | 672.000 | 788.700 | 783.000 |
| GR | 792.100 | 818.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 214.000 | 0.000 | 0.000 | 0.000 | 800.000 | 800.000 | 800.000 | 0.000 | 1.500 | 0.000 |

***FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 214.600 | 0.000 | 0.000 | 0.000 | 700.000 | 700.000 | 700.000 | 0.000 | 1.500 | 0.000 |
| X1 | 215.000 | 12.000 | 414.000 | 472.000 | 570.000 | 570.000 | 570.000 | 0.000 | 0.000 | 0.000 |
| GR | 791.100 | 330.000 | 790.100 | 348.000 | 784.400 | 414.000 | 781.600 | 424.000 | 780.000 | 426.000 |
| GR | 779.400 | 436.000 | 779.000 | 441.000 | 780.200 | 447.000 | 781.600 | 448.000 | 784.800 | 472.000 |
| GR | 785.700 | 488.000 | 788.200 | 554.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 216.000 | 14.000 | 548.000 | 606.000 | 1320.000 | 1320.000 | 1320.000 | 0.000 | 0.000 | 0.000 |
| GR | 795.400 | 290.000 | 793.000 | 374.000 | 789.000 | 444.000 | 788.200 | 462.000 | 786.400 | 548.000 |
| GR | 785.000 | 560.000 | 783.600 | 568.000 | 781.600 | 576.000 | 782.000 | 581.000 | 783.600 | 584.000 |
| GR | 784.900 | 592.000 | 786.400 | 606.000 | 787.100 | 628.000 | 790.000 | 670.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | .300 | .600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 217.200 | 10.000 | 260.000 | 388.000 | 1300.000 | 1300.000 | 1300.000 | 0.000 | 0.000 | 0.000 |
| GR | 795.800 | 224.000 | 793.600 | 236.000 | 793.100 | 260.000 | 785.800 | 304.000 | 784.000 | 314.000 |
| GR | 783.000 | 322.000 | 784.000 | 330.000 | 785.500 | 336.000 | 792.600 | 388.000 | 795.100 | 546.000 |

***NORTHFIELD PKWY.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 217.400 | 11.000 | 304.000 | 350.000 | 190.000 | 190.000 | 190.000 | 0.000 | .500 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 792.000 | 792.000 | 0.000 |
| GR | 795.800 | 224.000 | 793.600 | 236.000 | 793.100 | 260.000 | 785.800 | 304.000 | 784.000 | 314.000 |
| GR | 783.000 | 322.000 | 784.000 | 330.000 | 785.500 | 336.000 | 785.600 | 350.000 | 792.600 | 388.000 |
| GR | 795.100 | 546.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.600 | 1.600 | 2.700 | 110.000 | 39.000 | 1.000 | 218.000 | 0.000 | 0.000 | 0.000 |
| X1 | 217.600 | 0.000 | 0.000 | 0.000 | 92.000 | 92.000 | 92.000 | 0.000 | .700 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 790.100 | 792.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 795.900 | 795.900 | 0.000 |
| X1 | 217.800 | 8.000 | 226.000 | 336.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 796.200 | 202.000 | 795.400 | 226.000 | 785.200 | 282.000 | 783.800 | 287.000 | 783.900 | 292.000 |
| GR | 785.200 | 302.000 | 792.900 | 336.000 | 797.500 | 516.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 218.200 | 9.000 | 218.000 | 310.000 | 350.000 | 350.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| GR | 797.300 | 200.000 | 796.900 | 218.000 | 795.300 | 234.000 | 788.600 | 262.000 | 787.400 | 264.000 |
| GR | 785.100 | 271.000 | 787.400 | 278.000 | 794.100 | 310.000 | 794.600 | 450.000 | 0.000 | 0.000 |

***I-75

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 218.400 | 8.000 | 0.000 | 19.000 | 100.000 | 100.000 | 100.000 | 0.000 | -.600 | 0.000 |
| GR | 806.100 | 0.000 | 787.700 | 1.000 | 787.500 | 3.000 | 787.300 | 6.000 | 786.100 | 12.000 |
| GR | 787.000 | 16.000 | 788.800 | 18.000 | 806.100 | 19.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SB | 1.600 | 1.900 | 3.000 | 0.000 | 19.000 | 1.000 | 118.000 | 0.000 | 0.000 | 0.000 |
| X1 | 218.600 | 0.000 | 0.000 | 0.000 | 180.000 | 180.000 | 180.000 | 0.000 | .600 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 793.600 | 806.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .045 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 220.200 | 12.000 | 462.000 | 488.000 | 30.000 | 30.000 | 30.000 | 0.000 | 0.000 | 0.000 |
| GR | 796.500 | 314.000 | 793.400 | 364.000 | 792.200 | 408.000 | 790.200 | 462.000 | 788.400 | 464.000 |
| GR | 787.300 | 473.000 | 787.300 | 479.000 | 788.400 | 482.000 | 790.300 | 488.000 | 792.300 | 500.000 |
| GR | 792.600 | 542.000 | 793.400 | 596.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 7.000 | 640.000 | 950.000 | 1120.000 | 1500.000 | 1120.000 | 1120.000 | 1120.000 | 0.000 | 0.000 |

***SQUARE LAKE RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 220.400 | 0.000 | 0.000 | 0.000 | 60.000 | 60.000 | 60.000 | 0.000 | .100 | 0.000 |
| SB | 0.000 | 2.500 | 2.700 | 240.000 | 12.000 | 0.000 | 74.000 | 0.000 | 0.000 | 0.000 |
| X1 | 220.600 | 13.000 | 438.000 | 486.000 | 40.000 | 40.000 | 40.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 796.000 | 797.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 793.000 | 324.000 | 795.500 | 396.000 | 795.400 | 438.000 | 794.600 | 450.000 | 789.800 | 462.000 |
| GR | 787.800 | 467.000 | 789.800 | 473.000 | 792.800 | 478.000 | 794.000 | 486.000 | 794.600 | 514.000 |
| GR | 795.000 | 614.000 | 795.800 | 642.000 | 796.500 | 700.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 220.800 | 0.000 | 0.000 | 0.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| NC | .080 | .080 | .060 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 221.000 | 13.000 | 540.000 | 580.000 | 1250.000 | 1250.000 | 1250.000 | 0.000 | 0.000 | 0.000 |
| GR | 799.000 | 270.000 | 797.900 | 540.000 | 796.000 | 548.000 | 791.600 | 550.000 | 787.700 | 555.000 |
| GR | 787.600 | 563.000 | 790.100 | 567.000 | 791.600 | 568.000 | 795.200 | 574.000 | 796.400 | 580.000 |
| GR | 796.600 | 596.000 | 797.600 | 694.000 | 800.000 | 920.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***CONFLUENCE OF RIVER ROUGE, SPRAGLE BRANCE & SPRAGUE DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 221.200 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 0.000 | 0.000 |
| QT | 7.000 | 310.000 | 460.000 | 540.000 | 750.000 | 540.000 | 540.000 | 540.000 | 0.000 | 0.000 |

***SPRAGUE DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 221.400 | 0.000 | 0.000 | 0.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| X1 | 222.000 | 12.000 | 470.000 | 506.000 | 1370.000 | 1370.000 | 1370.000 | 0.000 | 0.000 | 0.000 |
| GR | 801.000 | 334.000 | 800.200 | 458.000 | 799.500 | 470.000 | 792.900 | 472.000 | 792.000 | 478.000 |
| GR | 791.500 | 480.000 | 791.600 | 483.000 | 792.500 | 483.000 | 796.000 | 500.000 | 800.200 | 506.000 |
| GR | 801.200 | 540.000 | 801.200 | 792.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 223.000 | 5.000 | 0.000 | 100.000 | 1900.000 | 1900.000 | 1900.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.200 | 0.000 | 793.100 | 13.000 | 792.400 | 19.000 | 790.500 | 20.000 | 790.500 | 33.000 |
| GR | 792.400 | 34.000 | 792.800 | 35.000 | 793.900 | 57.000 | 800.900 | 100.000 | 0.000 | 0.000 |
| X1 | 223.800 | 0.000 | 0.000 | 0.000 | 1080.000 | 1080.000 | 1080.000 | 0.000 | 2.500 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=    .400 CEHV=    .800
*SECNO 200.800
3280 CROSS SECTION    200.80 EXTENDED      2.92 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        ***MATCH LINE TO BLOOMFIELD TWP. FIS HYDRAULICS X-SECT.7.80

   200.80    11.42    768.42     0.00    768.42    768.57      .15      0.00      0.00    764.50
    1830.     157.     1667.       7.      109.      521.      11.        0.        0.    767.30
     0.00     1.43      3.20      .59      .100      .075     .100     0.000    757.00    210.00
  .002021       0.        0.       0.         0         0        0      0.00    119.00    329.00

CCHV=    .200 CEHV=    .400
*SECNO 201.000
3280 CROSS SECTION    201.00 EXTENDED      5.12 FEET

   201.00    14.12    768.82     0.00      0.00    768.84      .02       .25       .03    760.60
    1830.     604.      797.     429.      685.      541.     505.       14.        2.    761.90
      .13      .88      1.47      .85      .080      .065     .080      .065    754.70     73.70
  .000207     520.      520.     520.         2         0        0      0.00    268.30    342.00

*SECNO 202.000
   202.00    10.53    769.03     0.00      0.00    769.06      .04       .22       .01    763.00
    1830.     228.      733.     868.      233.      371.     697.       40.        7.    761.90
      .26      .98      1.98     1.25      .080      .065     .080      .065    758.50    218.14
  .000473     730.      730.     730.         2         0        0      0.00    252.97    471.11

CCHV=    .400 CEHV=    .800
*SECNO 203.200

3265 DIVIDED FLOW

   203.20     8.37    769.37     0.00      0.00    769.47      .10       .36       .05    765.00
    1550.      84.      926.     540.       93.      301.     459.       54.       10.    764.00
      .33      .91      3.07     1.18      .100      .055     .100      .062    761.00    159.38
  .000918     570.      570.     570.         2         0        0      0.00    207.94    581.26

*SECNO 203.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST
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        ***WATTLES RD.

   203.40      6.88    769.58      0.00      0.00    769.63       .05       .14       .02    772.00
    1550.        0.      385.     1165.        0.      132.      927.       56.       10.    764.70
      .35      0.00      2.92      1.26      .100      .055      .100      .061    762.70    201.03
  .001639      120.      120.      120.         2         0         0      0.00    348.49    549.52

*SECNO 203.500

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD= 30 MIN ELTRD=  767.00 MAX ELLC=  781.30

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   203.50      6.86    769.56    769.56      0.00    770.41       .85       .00       .64    772.00
    1550.        0.      978.      572.        0.      107.      237.       56.       10.    764.70
      .35      0.00      9.12      2.41      .100      .035      .100      .061    762.70    201.04
  .013183        1.        1.        1.         4        23         0   -707.79    348.48    549.52

*SECNO 203.600

3370 NORMAL BRIDGE,NRD= 30 MIN ELTRD=  767.00 MAX ELLC=  781.30

   203.60      7.71    770.41      0.00      0.00    770.87       .46       .30       .16    772.00
    1550.        0.      806.      744.        0.      112.      328.       57.       11.    764.70
      .35      0.00      7.20      2.27      .100      .035      .100      .061    762.70    200.51
  .007999       30.       30.       30.         3         0         0   -907.91    349.12    549.63

*SECNO 203.700
   203.70      8.33    771.03      0.00      0.00    771.04       .02       .00       .18    772.00
    1550.        0.      259.     1291.        0.      164.     1400.       57.       11.    764.70
      .35      0.00      1.57       .92      .100      .065      .100      .061    762.70    200.11
  .000533        1.        1.        1.         2         0         0      0.00    349.59    549.70

*SECNO 203.750
 WATER EL=X5 CARD=   770.550

        ***SEE SEPARATE RUNS FOR WATTLES RD. LOSS

   203.75      8.95    770.55      0.00      0.00    770.57       .02       .01       .00    764.60
    1550.      293.      489.      768.      379.      279.     1071.       58.       11.    765.80
      .36       .77      1.75       .72      .100      .065      .100      .061    761.60    132.30
  .000405       30.       30.       30.         0         0         0      0.00    455.52    587.82


CCHV=    .200 CEHV=    .400
*SECNO 203.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
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   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID    ENDST

   203.80     8.78   770.58      0.00      0.00    770.60      .02       .03       .00    764.80
    1550.     301.     466.      783.      363.     273.    1019.       61.       12.    766.00
      .38      .83     1.71      .77      .090     .065     .090      .061    761.80    133.51
  .000394      75.      75.      75.         0        0        0      0.00    448.87    582.38

*SECNO 204.000
   204.00     7.45   771.45      0.00      0.00    771.57      .12       .93       .04    768.60
    1550.     794.     431.      325.      453.      97.     192.       88.       21.    767.50
      .49     1.75     4.46     1.69      .090     .065     .090      .062    764.00    149.20
  .004216    1000.    1000.    1000.         2        0        0      0.00    339.07    488.27

*SECNO 204.120
   204.12     6.80   771.90      0.00      0.00    772.00      .10       .43       .00    768.90
    1550.     825.     392.      332.      486.      95.     207.       90.       22.    767.80
      .51     1.70     4.14     1.61      .090     .065     .090      .062    765.10    146.80
  .003635     111.     111.     111.         2        0        0      0.00    345.07    491.87

CCHV=     .300 CEHV=     .600
*SECNO 204.140

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  769.00 MAX ELLC=  767.80

        ***FOOTBRIDGE 204A

   204.14     6.84   771.94      0.00      0.00    772.01      .08       .00       .01    768.90
    1550.    1075.     223.      252.      484.      78.     149.       90.       22.    767.80
      .51     2.22     2.86     1.69      .090     .065     .090      .062    765.10    146.25
  .006292       1.       1.       1.         2        0        0    -88.67    346.46    492.70

*SECNO 204.160

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  769.00 MAX ELLC=  767.80

   204.16     6.88   771.98      0.00      0.00    772.06      .08       .04       .00    768.90
    1550.    1077.     220.      254.      493.      79.     153.       90.       22.    767.80
      .51     2.18     2.80     1.66      .090     .065     .090      .062    765.10    145.58
  .005947       7.       7.       7.         1        0        0    -89.27    348.11    493.70

*SECNO 204.180
   SECND     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   204.18     6.88   771.98      0.00      0.00    772.07      .09       .00       .01    768.90
    1550.     835.     382.      334.      506.      96.     216.       90.       22.    767.80
      .51     1.65     3.96     1.55      .090     .065     .090      .062    765.10    145.38
  .003276       1.       1.       1.         0        0        0      0.00    348.62    494.00
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*SECNO 204.220
   204.22      7.22    772.32      0.00      0.00    772.38       .07       .30       .01    768.90
    1550.      865.      346.      339.      582.      102.      251.       93.       23.     767.80
      .52      1.49      3.41      1.35      .090      .065      .090      .062    765.10    140.04
  .002262      112.      112.      112.         2         0         0      0.00    362.00    502.04

*SECNO 204.240

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.60 MAX ELLC=  767.80

        ***FOOTBRIDGE 204B

   204.24      7.24    772.34      0.00      0.00    772.39       .05       .00       .00    768.90
    1550.     1049.      204.      297.      587.       90.      209.       93.       23.     767.80
      .52      1.79      2.26      1.42      .090      .065      .090      .062    765.10    139.66
  .003230        1.        1.        1.         2         0         0   -56.24    362.96    502.61

*SECNO 204.260

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.60 MAX ELLC=  767.80

   204.26      7.26    772.36      0.00      0.00    772.41       .05       .02       .00    768.90
    1550.     1049.      203.      297.      591.       91.      210.       93.       23.     767.80
      .52      1.78      2.24      1.41      .090      .065      .090      .062    765.10    139.39
  .003168        6.        6.        6.         0         0         0   -56.41    363.63    503.02

*SECNO 204.280
   204.28      7.26    772.36      0.00      0.00    772.42       .06       .00       .01    768.90
    1550.      869.      342.      339.      593.      102.      256.       93.       23.     767.80
      .52      1.47      3.34      1.33      .090      .065      .090      .062    765.10    139.28
  .002152        1.        1.        1.         0         0         0      0.00    363.91    503.18

*SECNO 204.320
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   204.32      7.40    772.50      0.00      0.00    772.56       .06       .13       .00    768.90
    1550.      879.      330.      342.      625.      104.      272.       94.       23.     767.80
      .54      1.41      3.16      1.26      .090      .065      .090      .062    765.10    137.03
  .001862       67.       67.       67.         2         0         0      0.00    369.53    506.56

*SECNO 204.340

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.80 MAX ELLC=  768.40

        ***FOOTBRIDGE 204C

   204.34      7.42    772.52      0.00      0.00    772.56       .04       .00       .00    768.90
    1550.     1027.      178.      345.      631.       99.      251.       94.       23.     767.80
      .54      1.63      1.80      1.37      .090      .065      .090      .062    765.10    136.65
  .002476        1.        1.        1.         2         0         0   -29.03    370.48    507.13
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*SECNO 204.360

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  768.80 MAX ELLC=  768.40

   204.36      7.44    772.54      C.CO      C.CO    772.58       .04       .01       .00    768.90
    1550.     1028.      177.      345.      634.      99.      252.       94.       23.     767.80
      .54      1.62      1.79      1.37      .090      .065      .090      .062    765.10    136.44
  .002441        6.        6.        6.         0         0         0    -29.09    371.01    507.45


*SECNO 204.380
   204.38      7.43    772.53      0.00      0.00    772.59       .05       .00       .01    768.90
    1550.      881.      326.      342.      635.      105.      276.       94.       23.     767.80
      .54      1.39      3.10      1.24      .090      .065      .090      .062    765.10    136.36
  .001785        1.        1.        1.         0         0         0      0.00    371.20    507.56


*SECNC 205.200
3280 CROSS SECTION    205.20 EXTENDED      2.68 FEET


   205.20      7.48    773.88      0.00      0.00    773.98       .10      1.36       .03    770.40
    1550.      822.      459.      268.      447.      128.      143.      107.       28.     770.40
      .61      1.84      3.60      1.88      .090      .065      .090      .063    766.40    212.32
  .002883      610.      610.      610.         2         0         0      0.00    229.69    442.00


*SECNC 205.300
3280 CROSS SECTION    205.30 EXTENDED      3.01 FEET

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


   205.30      7.81    774.21      0.00      0.00    774.29       .08       .30       .01    770.40
    1550.      843.      437.      270.      501.      135.      157.      109.       28.     770.40
      .62      1.68      3.23      1.72      .090      .065      .090      .063    766.40    207.74
  .002139      123.      123.      123.         2         0         0      0.00    234.26    442.00


CCHV=    .400 CEHV=    .800
*SECNO 205.400
3280 CROSS SECTION    205.40 EXTENDED      3.01 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  771.40 MAX ELLC=  771.60

        ***DRIVEWAY D/S BEACH RD.

   205.40      7.80    774.20      0.CO      0.CO    774.33       .13       .00       .04    770.40
    1550.     1087.      252.      210.      370.       87.       94.      109.       28.     770.40
      .62      2.94      2.91      2.25      .090      .065      .090      .063    766.40    207.71
  .010217        1.        1.        1.         0         0         0  -243.60    234.29    442.00
```

```
*SECNO 205.500
3280 CROSS SECTION    205.50 EXTENDED      3.16 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  771.40 MAX ELLC=  771.60

   205.50      7.96   774.36      0.00      0.00   774.48      .11      .14      .01   770.40
    1550.     1093.     245.      212.      395.     90.      100.     109.      28.    770.40
      .63      2.76     2.71      2.12      .090    .065      .090     .063   766.40   205.60
  .008406      15.      15.       15.        2       0         0   -243.60   236.40   442.00

*SECNO 205.600
3280 CROSS SECTION    205.60 EXTENDED      3.23 FEET

   205.60      8.03   774.43      0.00      0.00   774.50      .07      .00      .02   770.40
    1550.     854.     424.      271.      537.    141.      167.     109.      28.    770.40
      .63      1.59     3.02      1.63      .090    .065      .090     .063   766.40   204.71
  .001777       1.       1.        1.        2       0         0      0.00   237.29   442.00

*SECNO 205.800
3280 CROSS SECTION    205.80 EXTENDED      1.36 FEET

   205.80      8.06   774.56      0.00      0.00   774.64      .08      .13      .01   771.10
    1550.      58.     656.      837.       57.    224.      529.     110.      29.    770.60
      .64      1.01     2.93      1.58      .090    .065      .090     .063   766.50    91.81
  .001561      80.      80.       80.        2       0         0      0.00   216.19   308.00


*SECNO 205.900
3280 CROSS SECTION    205.90 EXTENDED      3.22 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     FG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        ***BEACH RD.

   205.90      6.62   775.02      0.00      0.00   775.06      .04      .41      .01   771.00
    1440.     886.     497.       57.      717.    221.       53.     117.      31.    771.60
      .69      1.24     2.25      1.07      .090    .065      .090     .063   768.40   314.42
  .001081     314.     314.      314.        2       0         0      0.00   271.58   586.00


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.50      2.30      0.00     18.00      0.00     75.00      0.00    768.40    768.40

*SECNO 206.000
3280 CROSS SECTION    206.00 EXTENDED      4.08 FEET
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PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 783.60 | 775.06 | 0.00 | 978. | 464. | 75. | 41. | 770.70 | 773.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 206.00 | 7.48 | 775.88 | 0.00 | 0.00 | 775.91 | .03 | .85 | 0.00 | 771.00 |
| 1440. | 923. | 459. | 58. | 903. | 257. | 67. | 117. | 31. | 771.60 |
| .70 | 1.02 | 1.79 | .87 | .090 | .065 | .090 | .063 | 768.40 | 310.54 |
| .000555 | 16. | 16. | 16. | 2 | 0 | 5 | 0.00 | 275.46 | 586.00 |

Profile may be .5ft high due to modeling technique BEMM

Bridge to be replaced see file no. 8009 503

*SECNC 206.800
3280 CROSS SECTION 206.80 EXTENDED 4.14 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 206.80 | 7.54 | 775.94 | 0.00 | 0.00 | 775.96 | .03 | .05 | .00 | 771.00 |
| 1440. | 925. | 457. | 58. | 915. | 259. | 68. | 120. | 31. | 771.60 |
| .72 | 1.01 | 1.76 | .86 | .090 | .065 | .090 | .063 | 768.40 | 310.29 |
| .000534 | 100. | 100. | 100. | 2 | 0 | 0 | 0.00 | 275.71 | 586.00 |

*SECNC 207.200
3280 CROSS SECTION 207.20 EXTENDED 1.77 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 207.20 | 6.37 | 776.27 | 0.00 | 0.00 | 776.40 | .12 | .36 | .08 | 773.40 |
| 1440. | 390. | 870. | 180. | 265. | 253. | 120. | 128. | 33. | 772.80 |
| .75 | 1.47 | 3.44 | 1.50 | .090 | .065 | .090 | .063 | 769.90 | 200.00 |
| .002647 | 350. | 350. | 350. | 2 | 0 | 0 | 0.00 | 240.00 | 440.00 |

*SECNC 207.300
3280 CROSS SECTION 207.30 EXTENDED 1.42 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 207.30 | 8.42 | 776.82 | 0.00 | 0.00 | 776.96 | .13 | .55 | .01 | 774.80 |
| 1440. | 594. | 576. | 270. | 378. | 138. | 178. | 130. | 34. | 774.80 |
| .77 | 1.57 | 4.18 | 1.51 | .090 | .065 | .090 | .063 | 768.40 | 116.26 |
| .003664 | 179. | 179. | 179. | 2 | 0 | 0 | 0.00 | 307.74 | 424.00 |

*SECNO 207.400
3280 CROSS SECTION 207.40 EXTENDED 1.52 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VRCB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOER | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 774.80 MAX ELLC= 773.30

***DRIVEWAY 207

```
   207.40      8.52    776.92      0.00      0.00    776.98       .07       .00       .02    774.80
    1440.      792.      287.      361.      396.      113.      187.      130.       34.    774.80
      .77      2.00      2.55      1.93      .090      .065      .090      .063    768.40    115.84
  .005587        1.        1.        1.         2         0         0    -27.00    308.16    424.00

*SECNO 207.500
3280 CROSS SECTION    207.50 EXTENDED       1.61 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  774.80 MAX ELLC=  773.30

   207.50      8.62    777.02      0.00      0.00    777.09       .06       .10       .00    774.80
    1440.      799.      276.      366.      415.      115.      197.      131.       35.    774.80
      .78      1.93      2.41      1.86      .090      .065      .090      .063    768.40    115.39
  .004880       19.       19.       19.         1         0         0    -27.00    308.61    424.00

*SECNO 207.600
3280 CROSS SECTION    207.60 EXTENDED       1.63 FEET

   207.60      8.62    777.02      0.00      0.00    777.12       .10       .00       .03    774.80
    1440.      621.      535.      284.      418.      142.      198.      131.       35.    774.80
      .78      1.49      3.77      1.44      .090      .065      .090      .063    768.40    115.33
  .002880        1.        1.        1.         0         0         0      0.00    308.67    424.00

*SECNO 207.800
3280 CROSS SECTION    207.80 EXTENDED       1.26 FEET

   207.80      8.36    777.26      0.00      0.00    777.31       .05       .17       .02    773.80
    1440.      648.      541.      251.      608.      219.      182.      133.       35.    772.80
      .79      1.07      2.47      1.38      .090      .065      .090      .063    768.90    108.21
  .001113      100.      100.      100.         2         0         0      0.00    311.79    420.00

CCHV=    .200 CEHV=    .400
*SECNO 208.200
3280 CROSS SECTION    208.20 EXTENDED        .34 FEET

   208.20      7.64    777.54      0.00      0.00    777.64       .11       .31       .02    775.10
    1440.      206.      787.      447.      166.      236.      337.      137.       37.    774.00
      .82      1.24      3.33      1.33      .090      .065      .090      .063    769.90    174.69
  .002219      200.      200.      200.         2         0         0      0.00    295.31    470.00

CCHV=    .400 CEHV=    .800
*SECNO 208.300
3280 CROSS SECTION    208.30 EXTENDED        .57 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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   208.30      7.87   777.77      0.00      0.00   777.85       .09       .20       .01   775.10
    1440.      219.     750.      471.      187.     246.      375.      139.       37.    774.00
      .83      1.17     3.05      1.26      .090     .065      .090      .063   769.90   171.28
  .001761      104.     104.      104.         2        0         0      0.00   298.72   470.00

*SECNO 208.400
3280 CROSS SECTION    208.40 EXTENDED       .53 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  772.20 MAX ELLC=  778.40

       ***DRIVEWAY 208

   208.40      7.83   777.73      0.00      0.00   778.02       .29       .00       .16   775.10
    1440.        0.     754.      686.        0.     145.      220.      139.       37.    774.00
      .83      0.00     5.18      3.12      .090     .065      .090      .063   769.90   171.81
  .021076        1.       1.        1.         2        0         0  -431.89   298.19   470.00

*SECNO 208.500
3280 CROSS SECTION    208.50 EXTENDED       .95 FEET


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  772.20 MAX ELLC=  778.40

   208.50      8.25   778.15      0.00      0.00   778.31       .16       .24       .05   775.10
    1440.        1.     570.      869.        2.     158.      289.      139.       38.    774.00
      .83       .23     3.60      3.01      .090     .065      .090      .063   769.90   165.60
  .014466       14.      14.       14.         2        0         0  -475.40   304.40   470.00

*SECNO 208.600
3280 CROSS SECTION    208.60 EXTENDED      1.10 FEET


   208.60      8.40   778.30      0.00      0.00   778.36       .06       .00       .04   775.10
    1440.      245.     679.      516.      239.     269.      463.      139.       38.    774.00
      .83      1.03     2.53      1.11      .090     .065      .090      .063   769.90   163.42
  .001080        1.       1.        1.         2        0         0      0.00   306.58   470.00

*SECNO 208.800
   208.80      9.23   778.43      0.00      0.00   778.70       .28       .17       .18   775.60
    1440.      123.     714.      604.       62.     130.      248.      140.       38.    774.60
      .84      1.97     5.49      2.44      .090     .065      .090      .063   769.20    83.10
  .005641       80.      80.       80.         2        0         0      0.00   208.99   292.09

CCHV=    .150 CEHV=    .300
*SECNO 209.000
3280 CROSS SECTION    209.00 EXTENDED      1.88 FEET


   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
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   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

   209.00     7.89   779.49      0.00      0.00   779.54      .05       .81       .03   777.20
   1440.      97.     514.      828.      120.     191.     730.      147.       41.    776.80
     .91      .82     2.69      1.13      .070     .055     .070      .063    771.60   108.00
  .000957    420.     420.      420.         2        0        0      0.00    442.00   550.00

*SECNO 210.000
   210.00    11.04   780.34      0.00      0.00   780.41      .07       .86       .01   778.10
   1440.      33.    1043.      365.       48.     427.     447.      174.       52.    776.90
    1.07      .68     2.44       .82      .070     .055     .070      .061    769.30   171.34
  .000550   1200.    1200.     1200.         3        0        0      0.00    343.70   515.04

*SECNO 210.200
   210.20     6.64   781.34      0.00      0.00   781.64      .30      1.16       .07   780.00
   1440.      51.    1384.        5.       43.     308.       6.      189.       57.    780.40
    1.14     1.18     4.50       .76      .070     .055     .070      .061    774.70   305.47
  .003559   1010.    1010.     1010.         2        0        0      0.00    132.18   437.65

*SECNO 210.300

3370 NORMAL BRIDGE,NRD=   0 MIN ELTRD=  778.30 MAX ELLC=  777.20

        ***FOOTBRIDGE 210A

   210.30     6.56   781.26      0.00      0.00   781.68      .42       .01       .04   780.00
   1440.     115.    1315.       10.       39.     244.       5.      189.       57.    780.40
    1.14     2.94     5.38      1.87      .070     .055     .070      .061    774.70   307.90
  .023869      1.       1.        1.         2        0        0    -58.30    128.65   436.55

*SECNO 210.500

3370 NORMAL BRIDGE,NRD=   0 MIN ELTRD=  778.30 MAX ELLC=  777.20

   210.50     6.82   781.52      0.00      0.00   781.86      .34       .16       .01   780.00
   1440.     153.    1269.       18.       54.     261.       9.      189.       57.    780.40
    1.14     2.84     4.86      1.94      .070     .055     .070      .061    774.70   299.47
  .017812      8.       8.        8.         2        0        0    -58.30    145.39   444.86

*SECNO 210.700
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   210.70     6.92   781.62      0.00      0.00   781.88      .26       .01       .01   780.00
   1440.      70.    1360.       10.       60.     326.      12.      189.       57.    780.40
    1.14     1.17     4.18       .79      .070     .055     .070      .061    774.70   296.38
  .002839      1.       1.        1.         2        0        0      0.00    166.76   463.14

*SECNO 211.200
   211.20     8.09   782.79      0.00      0.00   782.91      .11      1.01       .02   780.00
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    1440.      155.     1184.      101.      156.      401.      136.      197.       61.    780.40
     1.20       .59      2.95       .74      .070      .055      .070      .060   774.70    258.77
  .001077      610.      610.      610.         4         0         0      0.00   312.74    571.51


CCHV=     .300 CEHV=     .600
*SECNO 211.400

        ***LONG LAKE RD.

   211.40      8.30    783.00      0.00      0.00    783.10       .10       .19       .00    780.00
    1440.      169.     1146.      125.      178.      414.      168.      200.       62.    780.40
     1.23       .95      2.77       .74      .070      .055      .070      .060   774.70    252.13
  .000906      189.      189.      189.         2         0         0      0.00   329.23    581.36


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK         XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.50       2.80     280.00      18.00       0.00     104.00      0.00     774.70     774.70

*SECNO 211.600
PRESSURE AND WEIR FLOW


 EGPRS       EGLWC       H3        QWEIR       QPR        BAREA    TRAPEZOID      ELLC       ELTRD
                                                                      AREA
   787.47    783.19      0.00       667.       776.       104.       115.      781.10     783.40


   211.60      9.56    784.26      0.00      0.00    784.30       .04      1.20      0.00    780.00
    1440.      240.      938.      262.      339.      494.      403.      201.       63.    780.40
     1.23       .71      1.90       .65      .070      .055      .070      .060   774.70    211.79
  .000336       31.       31.       31.         2         0         4      0.00   429.38    641.17


*SECNO 211.800
   211.80      9.80    784.30      0.00      0.00    784.32       .03       .02       .00    778.40
    1440.      703.      369.      368.      652.      180.      442.      202.       63.    780.60
     1.24      1.08      2.05       .83      .070      .055      .070      .060   774.50    242.68
  .000451       60.       60.       60.         0         0         0      0.00   435.83    678.51


*SECNO 212.200
3280 CROSS SECTION     212.20 EXTENDED        .73 FEET


   SECNO      DEPTH      CRSEL      CRITS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST


   212.20      6.92    784.72      0.00      0.00    784.87       .15       .48       .07    783.20
    1200.        9.      739.      402.       10.      218.      245.      214.       67.    782.40
     1.30       .90      3.61      1.64      .070      .055      .070      .060   777.80    202.27
  .002610      570.      570.      570.         2         0         0      0.00   197.73    400.00
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*SECNO 212.400
3280 CROSS SECTION    212.40 EXTENDED       .97 FEET


        ***COOLIDGE RD.

   212.40      7.17    784.97      0.00      0.00    785.09       .12       .21       .01    783.20
    1200.       12.      756.      432.       14.      230.      277.      215.       68.    782.40
     1.31       .87      3.28      1.56      .070      .055      .070      .060   777.80    200.10
  .002006       90.       90.       90.         2         0         0      0.00   199.90    400.00


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      COFW      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      1.70      2.70    140.00     35.50      1.50    244.00      0.00    777.80    777.80

*SECNO 213.000
PRESSURE FLOW


 EGPRS      EGLWC      H3        CWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                AREA
   785.60    785.20       .02        0.      1200.      244.      211.      784.00    786.90


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      786.90 ELREA=      786.90
   213.00      8.82    785.42      0.00      0.00    785.60       .19       .52      0.00    785.50
    1200.        0.      1200.        0.        0.      345.        0.      216.       68.    785.00
     1.32      0.00      3.48      0.00      .070      .055      .070      .060   776.60    426.03
  .001428      106.      106.      106.         2         0         0      0.00    43.97    470.00


*SECNO 213.200
   213.20      8.87    785.47      0.00      0.00    785.66       .18       .05       .00    785.50
    1200.        0.      1198.       2.        0.      347.        6.      216.       68.    785.00
     1.32      0.00      3.45       .40      .070      .055      .070      .060   776.60    426.01
  .001388       36.       36.       36.         0         0         0      0.00    61.21    487.21


*SECNO 213.400

3301 HV CHANGED MORE THAN HVINS


        ***BEECHWOOD LAKE RETENTION POND OUTLET

   213.40      5.21    785.21      0.00      0.00    786.06       .85       .00       .40    785.50
    1200.        0.      1199.       1.        0.      162.        2.      216.       68.    785.00
     1.32      0.00      7.38       .69      .070      .055      .070      .060   780.00    426.11
  .019286        1.        1.        1.         2         0         0      0.00    66.05    492.17


CCHV=     .100 CEHV=     .300
*SECNO 213.500
```

3301 HV CHANGED MORE THAN HVINS

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |
| 213.50 | 9.63 | 786.13 | 0.00 | 0.00 | 786.14 | .01 | .00 | .08 | 790.50 |
| 1200. | 0. | 1198. | 2. | 0. | 1887. | 24. | 216. | 68. | 785.20 |
| 1.32 | 0.00 | .63 | .07 | .065 | .045 | .065 | .060 | 776.50 | 403.50 |
| .000028 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 320.40 | 723.90 |
| *SECNO 214.000 | | | | | | | | | |
| 214.00 | 8.16 | 786.16 | 0.00 | 0.00 | 786.17 | .01 | .03 | .00 | 792.00 |
| 1200. | 0. | 1200. | 0. | 0. | 1501. | 0. | 248. | 73. | 786.70 |
| 1.60 | 0.00 | .80 | 0.00 | .065 | .045 | .065 | .058 | 778.00 | 414.84 |
| .000053 | 800. | 800. | 800. | 2 | 0 | 0 | 0.00 | 247.74 | 662.58 |
| *SECNO 214.600 | | | | | | | | | |
| ***FOOTBRIDGE | | | | | | | | | |
| 214.60 | 6.71 | 786.21 | 0.00 | 0.00 | 786.23 | .02 | .05 | .00 | 793.50 |
| 1200. | 0. | 1200. | 0. | 0. | 1165. | 0. | 269. | 77. | 788.20 |
| 1.79 | 0.00 | 1.03 | 0.00 | .065 | .045 | .065 | .058 | 779.50 | 426.03 |
| .000104 | 700. | 700. | 700. | 1 | 0 | 0 | 0.00 | 217.36 | 643.39 |
| *SECNO 215.000 | | | | | | | | | |
| 215.00 | 7.17 | 786.17 | 0.00 | 0.00 | 786.48 | .31 | .17 | .09 | 784.40 |
| 1200. | 20. | 1162. | 18. | 18. | 258. | 18. | 279. | 79. | 784.80 |
| 1.82 | 1.09 | 4.50 | 1.01 | .065 | .045 | .065 | .057 | 779.00 | 393.48 |
| .002661 | 570. | 570. | 570. | 2 | 0 | 0 | 0.00 | 106.98 | 500.46 |
| *SECNO 216.000 | | | | | | | | | |
| 216.00 | 7.35 | 788.95 | 0.00 | 0.00 | 789.10 | .15 | 2.61 | .02 | 786.40 |
| 1200. | 179. | 928. | 94. | 148. | 265. | 73. | 290. | 84. | 786.40 |
| 1.95 | 1.21 | 3.51 | 1.28 | .065 | .045 | .065 | .056 | 781.60 | 445.27 |
| .001525 | 1320. | 1320. | 1320. | 3 | 0 | 0 | 0.00 | 209.44 | 654.70 |

CCHV= .300 CEHV= .600

*SECNO 217.200

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 217.20 | 8.11 | 791.11 | 0.00 | 0.00 | 791.24 | .13 | 2.13 | .01 | 793.10 |
| 1200. | 0. | 1200. | 0. | 0. | 422. | 0. | 304. | 89. | 792.60 |
| 2.07 | 0.00 | 2.84 | 0.00 | .065 | .055 | .065 | .056 | 783.00 | 272.00 |
| .001762 | 1300. | 1300. | 1300. | 2 | 0 | 0 | 0.00 | 105.07 | 377.08 |

*SECNO 217.400

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 792.00 ELREA= 792.00

***NORTHFIELD PKWY.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 217.40 | 7.92 | 791.42 | 0.00 | 0.00 | 791.69 | .26 | .37 | .08 | 786.30 |
| 1200. | 0. | 1200. | 0. | 0. | 291. | 0. | 305. | 89. | 786.10 |
| 2.09 | 0.00 | 4.12 | 0.00 | .065 | .055 | .065 | .056 | 783.50 | 304.00 |
| .002126 | 190. | 190. | 190. | 0 | 0 | 0 | 0.00 | 46.00 | 350.00 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.60 | 1.60 | 2.70 | 110.00 | 39.00 | 1.00 | 218.00 | 0.00 | 783.50 | 783.50 |

*SECNO 217.600
PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 792.18 | 791.78 | .03 | 0. | 1200. | 218. | 251. | 790.10 | 792.80 |

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 795.90 ELREA= 795.90

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 217.60 | 7.69 | 791.89 | 0.00 | 0.00 | 792.18 | .28 | .49 | 0.00 | 787.00 |
| 1200. | 0. | 1200. | 0. | 0. | 281. | 0. | 306. | 89. | 786.80 |
| 2.09 | 0.00 | 4.27 | 0.00 | .065 | .055 | .065 | .056 | 784.20 | 304.00 |
| .002397 | 92. | 92. | 92. | 2 | 0 | 0 | 0.00 | 46.00 | 350.00 |

*SECNO 217.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 217.80 | 8.40 | 792.20 | 0.00 | 0.00 | 792.34 | .14 | .12 | .04 | 795.40 |
| 1200. | 0. | 1200. | 0. | 0. | 400. | 0. | 307. | 89. | 792.90 |
| 2.10 | 0.00 | 3.00 | 0.00 | .065 | .055 | .065 | .056 | 783.80 | 243.56 |
| .001719 | 60. | 60. | 60. | 2 | 0 | 0 | 0.00 | 89.36 | 332.92 |

*SECNO 218.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 218.20 | 8.06 | 793.16 | 0.00 | 0.00 | 793.58 | .42 | 1.07 | .17 | 796.90 |
| 1200. | 0. | 1200. | 0. | 0. | 230. | 0. | 309. | 90. | 794.10 |
| 2.12 | 0.00 | 5.22 | 0.00 | .065 | .055 | .065 | .056 | 785.10 | 242.94 |
| .006909 | 350. | 350. | 350. | 2 | 0 | 0 | 0.00 | 62.57 | 305.51 |

*SECNO 218.400

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VRCB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLCBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

***I-75

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 218.40 | 8.33 | 793.83 | 0.00 | 0.00 | 795.20 | 1.37 | 1.05 | .57 | 805.50 |
| 1200. | 0. | 1200. | 0. | 0. | 128. | 0. | 309. | 90. | 805.50 |
| 2.12 | 0.00 | 9.39 | 0.00 | .065 | .055 | .065 | .056 | 785.50 | .63 |
| .017704 | 100. | 100. | 100. | 2 | 0 | 0 | 0.00 | 17.69 | 18.33 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.60 | 1.90 | 3.00 | 0.00 | 19.00 | 1.00 | 118.00 | 0.00 | 785.50 | 785.50 |

*SECNO 218.600
PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 796.88 | 795.80 | .61 | 0. | 1200. | 118. | 146. | 793.60 | 806.10 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 218.60 | 9.85 | 795.95 | 0.00 | 0.00 | 796.88 | .93 | 1.68 | 0.00 | 806.10 |
| 1200. | 0. | 1200. | 0. | 0. | 155. | 0. | 310. | 90. | 806.10 |
| 2.13 | 0.00 | 7.75 | 0.00 | .065 | .055 | .065 | .056 | 786.10 | .55 |
| .010621 | 180. | 180. | 180. | 3 | 0 | 0 | 0.00 | 17.86 | 18.41 |

CCHV= .400 CEHV= .800
*SECNC 220.200
3280 CROSS SECTION 220.20 EXTENDED 3.84 FEET

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 220.20 | 9.94 | 797.24 | 0.00 | 0.00 | 797.26 | .02 | .01 | .37 | 790.20 |
| 1200. | 470. | 373. | 358. | 636. | 236. | 502. | 311. | 90. | 790.30 |
| 2.13 | .74 | 1.58 | .71 | .065 | .045 | .065 | .056 | 787.30 | 314.00 |
| .000129 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 282.00 | 596.00 |

*SECNC 220.400
3280 CROSS SECTION 220.40 EXTENDED 3.75 FEET

***SQUARE LAKE RD.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 220.40 | 9.85 | 797.25 | 0.00 | 0.00 | 797.27 | .02 | .01 | .00 | 790.30 |
| 1120. | 436. | 351. | 332. | 623. | 233. | 492. | 312. | 90. | 790.40 |
| 2.15 | .70 | 1.51 | .68 | .065 | .045 | .065 | .056 | 787.40 | 314.00 |
| .000119 | 60. | 60. | 60. | 2 | 0 | 0 | 0.00 | 282.00 | 596.00 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | CCFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.50 | 2.70 | 240.00 | 12.00 | 0.00 | 74.00 | 0.00 | 787.40 | 787.40 |

*SECNO 220.600
3280 CROSS SECTION 220.60 EXTENDED 1.85 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 806.14 | 797.30 | 0.00 | 723. | 398. | 74. | 103. | 796.00 | 797.30 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 220.60 | 10.55 | 798.35 | 0.00 | 0.00 | 798.38 | .02 | 1.11 | 0.00 | 795.40 |
| 1120. | 139. | 469. | 512. | 237. | 294. | 680. | 314. | 91. | 794.00 |
| 2.16 | .58 | 1.60 | .75 | .065 | .045 | .065 | .056 | 787.80 | 324.00 |
| .000223 | 40. | 40. | 40. | 2 | 0 | 5 | 0.00 | 376.00 | 700.00 |

*SECNO 220.800
3280 CROSS SECTION 220.80 EXTENDED 1.86 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 220.80 | 10.57 | 798.37 | 0.00 | 0.00 | 798.39 | .02 | .01 | .00 | 795.40 |
| 1120. | 139. | 468. | 512. | 239. | 295. | 682. | 315. | 91. | 794.00 |
| 2.18 | .58 | 1.59 | .75 | .065 | .045 | .065 | .056 | 787.80 | 324.00 |
| .000221 | 60. | 60. | 60. | 0 | 0 | 0 | 0.00 | 376.00 | 700.00 |

CCHV= .100 CEHV= .300
*SECNO 221.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 221.00 | 11.29 | 798.89 | 0.00 | 0.00 | 798.99 | .10 | .58 | .02 | 797.90 |
| 1120. | 54. | 788. | 278. | 120. | 262. | 292. | 342. | 104. | 796.40 |
| 2.32 | .45 | 3.01 | .95 | .080 | .060 | .080 | .056 | 787.60 | 296.90 |
| .001503 | 1250. | 1250. | 1250. | 2 | 0 | 0 | 0.00 | 518.62 | 815.51 |

*SECNO 221.200
3280 CROSS SECTION 221.20 EXTENDED .23 FEET

***CONFLUENCE OF RIVER ROUGE, SPRAGUE BRANCH & SPRAGUE DRAIN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 221.20 | 11.63 | 799.23 | 0.00 | 0.00 | 799.30 | .07 | .30 | .00 | 797.90 |
| 1120. | 105. | 698. | 317. | 211. | 275. | 378. | 347. | 107. | 796.40 |
| 2.36 | .50 | 2.54 | .84 | .080 | .060 | .080 | .056 | 787.60 | 270.00 |
| .000995 | 250. | 250. | 250. | 2 | 0 | 0 | 0.00 | 577.68 | 847.68 |

*SECNO 221.400
3280 CROSS SECTION 221.40 EXTENDED .29 FEET

***SPRAGUE DRAIN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 221.40 | 11.69 | 799.29 | 0.00 | 0.00 | 799.31 | .01 | .01 | .01 | 797.90 |
| 540. | 55. | 329. | 156. | 228. | 278. | 395. | 347. | 107. | 796.40 |
| 2.36 | .24 | 1.18 | .39 | .080 | .060 | .080 | .056 | 787.60 | 270.00 |
| .000214 | 10. | 10. | 10. | 2 | 0 | 0 | 0.00 | 583.51 | 853.51 |

*SECNO 222.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 222.00 | 8.35 | 799.85 | 0.00 | 0.00 | 799.96 | .11 | .63 | .03 | 799.50 |
| 540. | 0. | 540. | 0. | 1. | 199. | 0. | 364. | 117. | 800.20 |
| 2.50 | .23 | 2.72 | 0.00 | .080 | .060 | .080 | .056 | 791.50 | 464.01 |
| .001566 | 1370. | 1370. | 1370. | 2 | 0 | 0 | 0.00 | 41.49 | 505.50 |

*SECNO 223.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 223.00 | 10.18 | 800.68 | 0.00 | 0.00 | 800.69 | .02 | .72 | .01 | 802.20 |
| 540. | 0. | 540. | 0. | 0. | 549. | 0. | 381. | 120. | 800.90 |
| 3.04 | 0.00 | .98 | 0.00 | .080 | .060 | .080 | .057 | 790.50 | 2.19 |
| .000167 | 1900. | 1900. | 1900. | 2 | 0 | 0 | 0.00 | 96.40 | 98.59 |

*SECNO 223.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 223.80 | 7.97 | 800.97 | 0.00 | 0.00 | 801.00 | .04 | .30 | .01 | 804.70 |
| 540. | 0. | 540. | 0. | 0. | 355. | 0. | 392. | 122. | 803.40 |
| 3.24 | 0.00 | 1.52 | 0.00 | .080 | .060 | .080 | .057 | 793.00 | 5.34 |
| .000555 | 1080. | 1080. | 1080. | 2 | 0 | 0 | 0.00 | 79.70 | 85.04 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: REPORT

00BREAK00

PROJECT: HUD-FIA-H-4705 Troy FIS, Oakland Co., Mi.

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: River Rouge

STUDY LIMITS: Adams Rd. to Square Lake Rd.

DATE OF AERIAL SURVEY: 4/75 Abrams Aerial Survey (where a large amount of change is known to have taken place, more recent, but less accurate photos were used)

DATE OF LAND SURVEY:

5/79 - 11/79 MPS Field Crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79

TOPOGRAPHIC INFORMATION: USGS topographic maps; 10' contours
Abrams 2' topo 1"=400' (for most of Troy)-1975 4' topo 1"=200' (for other portions) 1966

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045-.075 |
| Overbank "n" | .065-.10 |
| n values thru bridges | See XKOR Table |
| Contraction Coefficients | .1-.4 |
| Expansion Coefficients | .3-.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed. Please return (Note: X4 points not plotted CX #207.3 & 207.8 not completely correct)

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## HIGH WATER MARKS AND CALIBRATION

For this reach of study only one highwater mark was found. At cross-section 207, a resident said that water was over this bridge in the spring of (1976 or 1977) and that was the only time it occurred in the past 8 years. The model showed that about 1.5 feet of depth over the weir occurs during a 10 year event.

## Starting Conditions

The study starts at the upstream limits of the Bloomfield Township FIS. Therefore the Bloomfield Township elevations were used.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation.) After delineation of the natural 100 yr. flood plain by Abrams Aerial Survey, the floodway between field surveyed sections may be slightly modified.

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood profiles (iii) sensitivity analysis and (iv) separate runs for the loss through Wattles Rd. for your review.

## Comments

We have not delineated the 100 year flood plain at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

Three separate runs were made for the Wattles Road crossing. The flow through the culvert was computed using the special bridge routine. The flow over the road and between the houses was computed using the normal bridge routine and using the special bridge routine with C=2.5. The results are shown on the enclosed graph.

Although the enclosed computer output includes the reach from Square Lake Road to South Blvd., this has not yet been finalized because of many changes in this region and should not, therefore, be considered a part of this submission.

COMMUNITY: Bloomfield Twp

WATERCOURSE: Main Drain

TABLE - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_f$ $\quad k_f = \frac{29 n^2 l}{R^{4/3}}$ $\quad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_f$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| GTWRR | 0.5 | 129 | 64 | 2.01 | .020 | 104 | .5 | 2.0 | |
| Kensington | 0.5 | 101 | 66 | 1.53 | .025 | 39 | .4 | 1.9 | |
| Adams | 0.4 | 143 | 53 | | .020 | 43 | .1 | 1.5 | |

COMMUNITY : Troy

WATERCOURSE :

TABLE - XKOR CALCULATIONS

$XKOR = 1.7 K_e + K_f$ $\quad K_f = \frac{29 n^2 l}{R^{4/3}}$ $\quad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_f$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Wattles Rd. | .7 | 85 | 82 | | .025 | 31 | .5 | 2.2 | |
| Beach Rd. | .4 | 75 | 43 | | .020 | 16 | .1 | 1.5 | |
| Long Lake Rd. | .4 | 104 | 48 | | .020 | 31 | .1 | 1.5 | |
| Coolidge Rd. | .3 | 122 | 48 | | .020 | 106 | .4 | 1.7 | |
| (2) Northfield Pkwy. | .2 | 109 | 50 | | .020 | 92 | .4 | 1.6 | |
| (2) I-75 | .3 | 59 | 22 | | .020 | 180 | .6 | 1.9 | |
| Square Lk. Rd. | .8 | 74 | 74 | | .025 | 40 | .7 | 2.5 | |

PORTER & SEELEY

JOB: HUD-FIA H-4705 SHEET NO. 1

COMMUNITY: [illegible]

WATERCOURSE: RIVER ROUGE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA Letter | Section No. | Section Type | Remarks |
|---|---|---|---|
| A | 200.0 | | ABAMS H.C. |
| B | 200.8 | 2 | Topwidth considerations just d/s. |
| C | 201 | 2 | Topwidth considerations for home just d/s |
| D | 202 | 1 | |
| E | 203.2 | 2 | Homes just d/s inserted to give better representation of effective flow areas. |
| F | 203.4, 203.5, 203.6, 203.7 | 2 | Skewed bridge. Some weir length considered ineffective due to homes d/s. |
| | 203.75 | 3 | R(203.8) |
| G | 203.8 | 1 | |
| H | 204 | 2 | Small amount of overbank considered ineffective. |
| | 204.12 | 3 | R(204) but only invert raised. |
| K4H | 204.14 to 204.38 | 4 | Repeats of 204.12, plus field information on foot bridges |
| L | 205.2 | 2 | Topwidth considerations for home u/s |
| M | 205.3, 205.4, 205.5, 205.6 | 2 | Home on right overbank, so overbank area ineffective. |
| N | 205.8 | 2 | Topwidth consideration for home d/s. |
| O | 205.9, 206.0 | 2 | Topwidth considerations for homes u/s & d/s. |

# TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| P | 206.6 | 2 | Topwidth considerations for home d/s. |
| Q | 207.2 | 2 | Right overbank ineffective because of home. |
| R | 207.3, 207.4, 207.5, 207.6 | 4 | Topwidth considerations for home d/s. |
| S | 207.8 | 2 | Topwidth considerations for home d/s. |
| T | 208.2 | 2 | Topwidth considerations for home u/s. |
| U | 208.3, 208.4, 208.5, 208.6 | 2 | Right overbank ineffective because of home. |
| V | 208.8 | 2 | Local depression on overbank considered ineffective. |
| W | 209.0 | 2 | Topwidth considerations for homes d/s. |
| X | 210.0 | 1 | |
| Y | 210.2, 210.3, 210.5, 210.7 | 4 | R(211.2) plus field into an footbridge. |
| Z | 211.2 | 1 | |
| AA | 211.4, 211.6 | 1 | |
| AB | 211.8 | 1 | |

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified For modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|---|
| AC | 210.0 | | 2 | Topwidth considerations for structures u/s. |
| AD | 212.4, 213.0 | | 2 | Portions of Coolidge Hwy. are depressed, but are not expected to contribute to flow because of containment further u/s. |
| | 213.2 | | 3 | R(213.0) |
| | 213.4 | | 1 | Weir section |
| AE | 213.5 | | 1 | |
| AF | 214.0 | | 1 | |
| AG | 214.6 | | 3 | R(214.0) Location of very high, unrestrictive footbridge. |
| AH | 215.0 | | 1 | |
| AI | 216.0 | | 1 | |
| AJ | 217.2 | | 1 | |
| | 217.4 | | 3 | R(217.6) |
| AK | 217.6 | | 1 | |
| AL | 217.8 | | 2 | Portion of ROB considered ineffective |
| AM | 218.2 | | 1 | |
| AN | 218.4 | 218.6 | 2 | I-75 |
| AO | | | | |

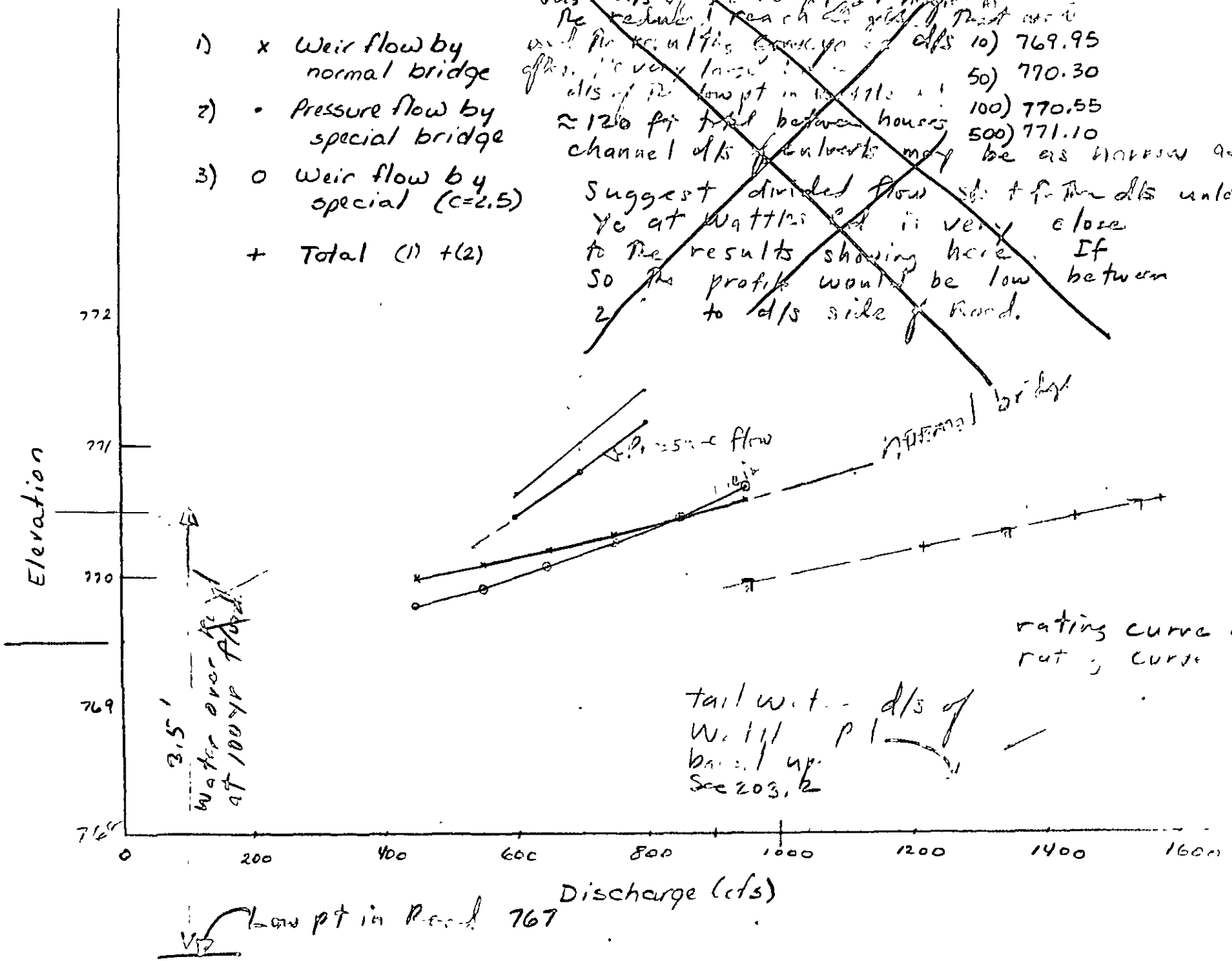
McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB HUD-FIA H-4705 SHEET NO
COMMUNITY:
WATERCOURSE: BY CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD-FIA LETTER | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| AP | 220.2 | 2 | Topwidth considerations not completely consistent because of nature of I-75 & Square Lake Rd bridges |
| AQ | 220.4 | 4 | R(220.2) and road info. |
| | 220.6 | 4 | R(220.8) and road info. |
| AR | 220.8 | 1 | |


1) x Weir flow by normal bridge
2) • Pressure flow by special bridge
3) o Weir flow by special (c=2.5)
+ Total (1) + (2)
Elevation
772
771
770
769
768
0
200
400
600
800
1000
1200
1400
1600
Discharge (cfs)
3.5' Water over the road at 1000 cfs
Low pt in Road 767
Pressure flow
normal bridge
rating curve at 203.75
tail water d/s of Wattles bridge up. See 203.2
10) 769.95
50) 770.30
100) 770.55
500) 771.10
≈ 120 ft total between houses
channel d/s of culverts may be as narrow as 90 ft.
Suggest divided flow
Yc at Wattles
to the results showing here
So the profile would be low between 2 to d/s side of road.

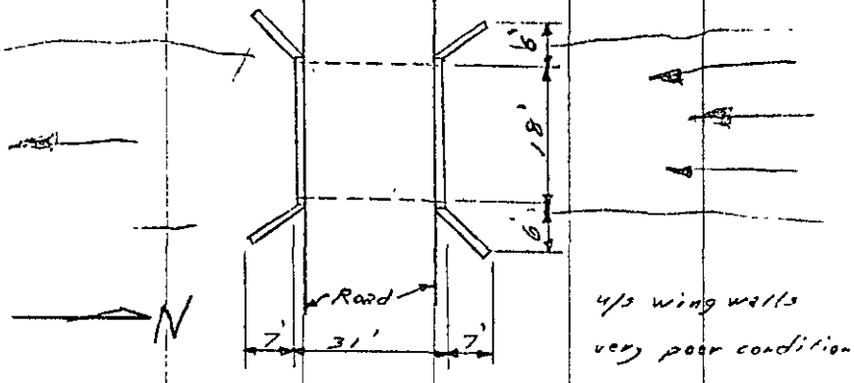
Troy, City of
Oakland Co

477/35

Rouge River
Bridge @ Long Lake Rd. # 211

15 May '79
clear 70°

D. Cain T. ⊕
M. Stewart . ϕ
D. Jeffries ϕ




u/s wing walls
very poor condition

x-sections 210 to 211.8

guardrails each side 26' long
centered on bridge

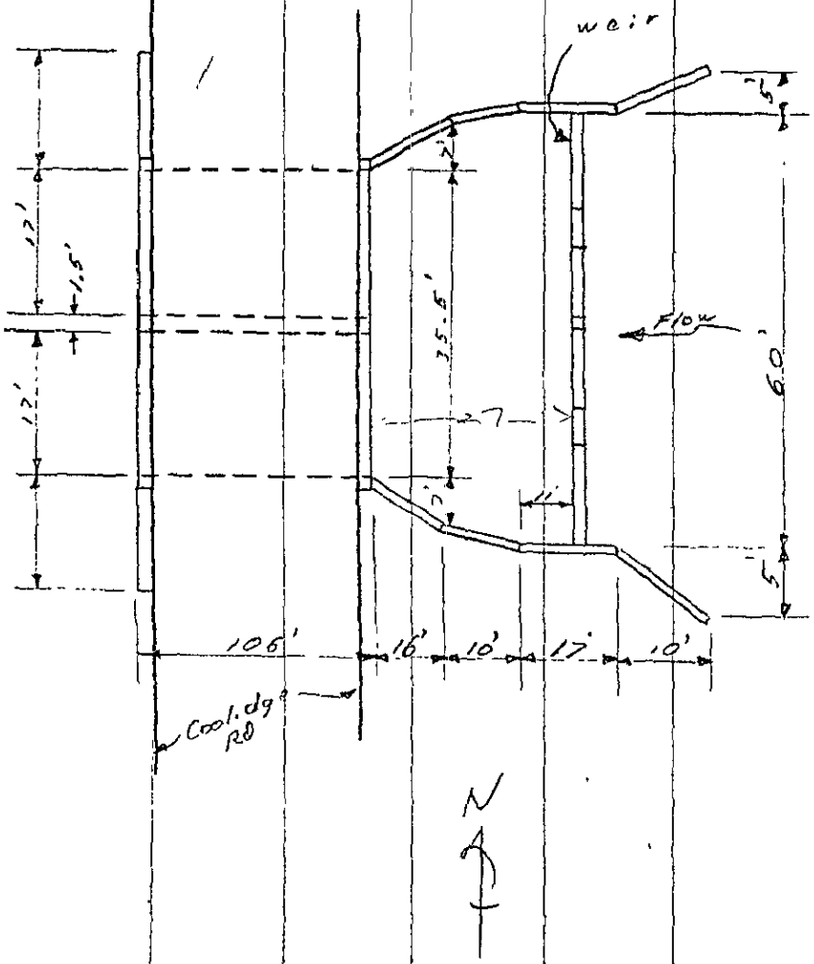
| Sta | +S | HI | -S | Elev | Remarks |
|---|---|---|---|---|---|
| BM 7-23 | | | | 780.41 | |
| | 6.18 | 786.59 | | | |
| TP | | | 6.35 | 780.24 | mk |
| | 4.59 | 784.83 | | | |
| TP | | | 6.54 | 778.29 | Top bridge deck # 210-A |
| | 5.13 | 783.42 | | | |
| | | | 9.9 | 773.5 | creek invert just d/s of rock rapids |
| TP | | | 4.06 | 779.36 | @ # 210-A |
| | 3.22 | 782.58 | | | |

477/39

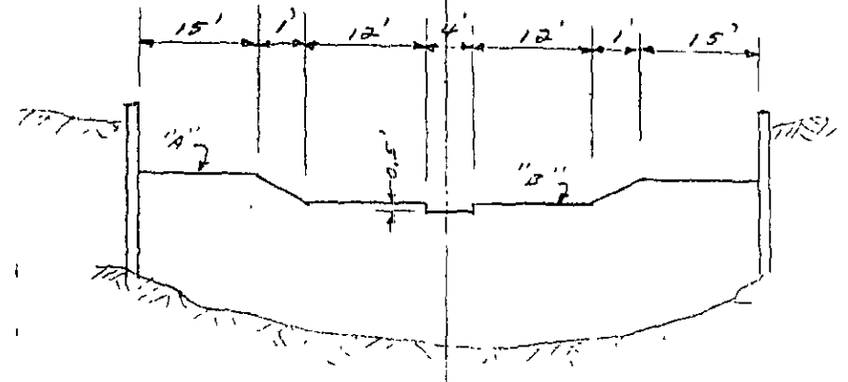
Rouge River

x-sections 212.2 to 213

15 May '39



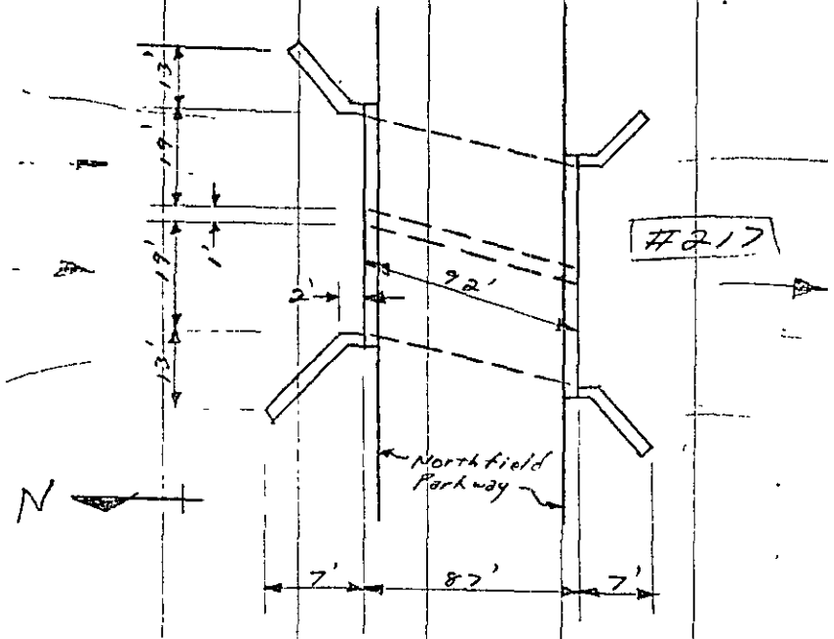

Face of weir



Rouge River 15 may '79

X-sections & bridges : photos & Descriptions

Looking D/S at face of Bridge #217 photo #9 Film 137




railing 40' long

(For photo of D/S area from bridge #219 see background in photo #8 Film 137)

Looking D/S at face of Bridge #219 under I-75 x-way photo #10 Film 137

Looking D/S from top of Bridge #220 #219 in background photo #11 Film 137

Rouge River 15. May '77

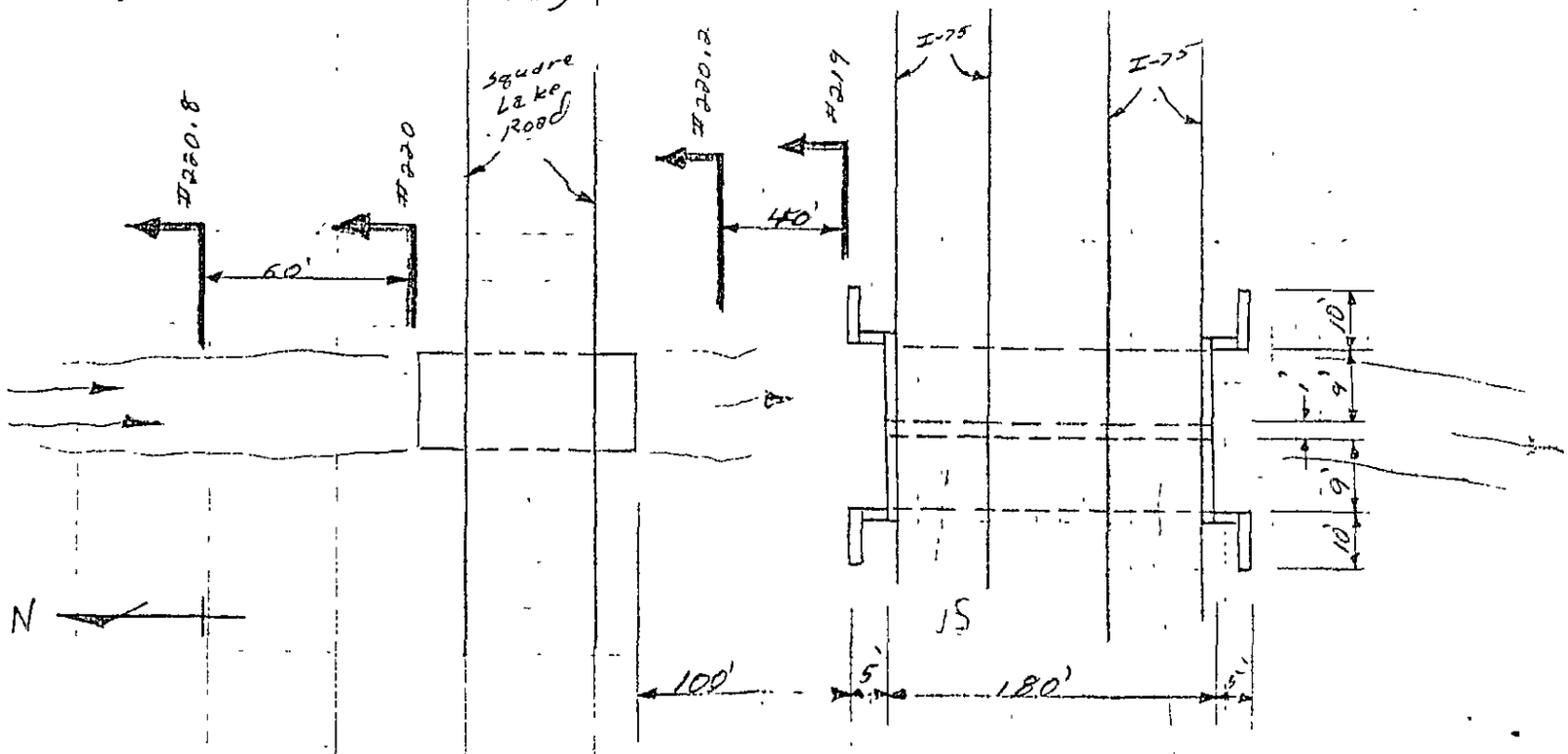
X-Sections & bridges & photos & Descriptions

Looking u/s from bridge # 220 toward # 220.8 = 60' u/s from # 220 — photo #12 — Film 137

Looking d/s at bridge # 220 — photo #13 — Film 137

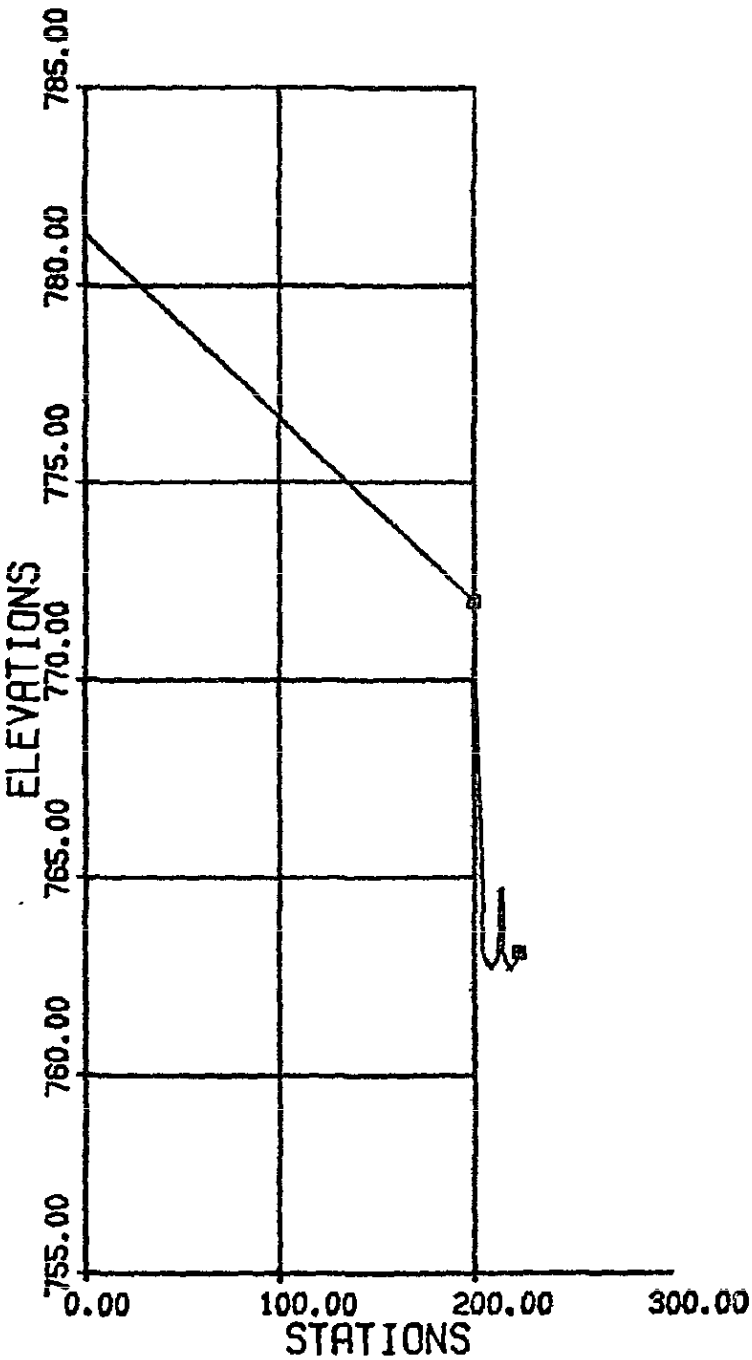
12' wide x 8' high x 40' long
flat bottom CMP
guard rail = 95' long

Elev. on pg 50 this book



# HUD-FIA H-4705

## MAIN RIVER ROUGE

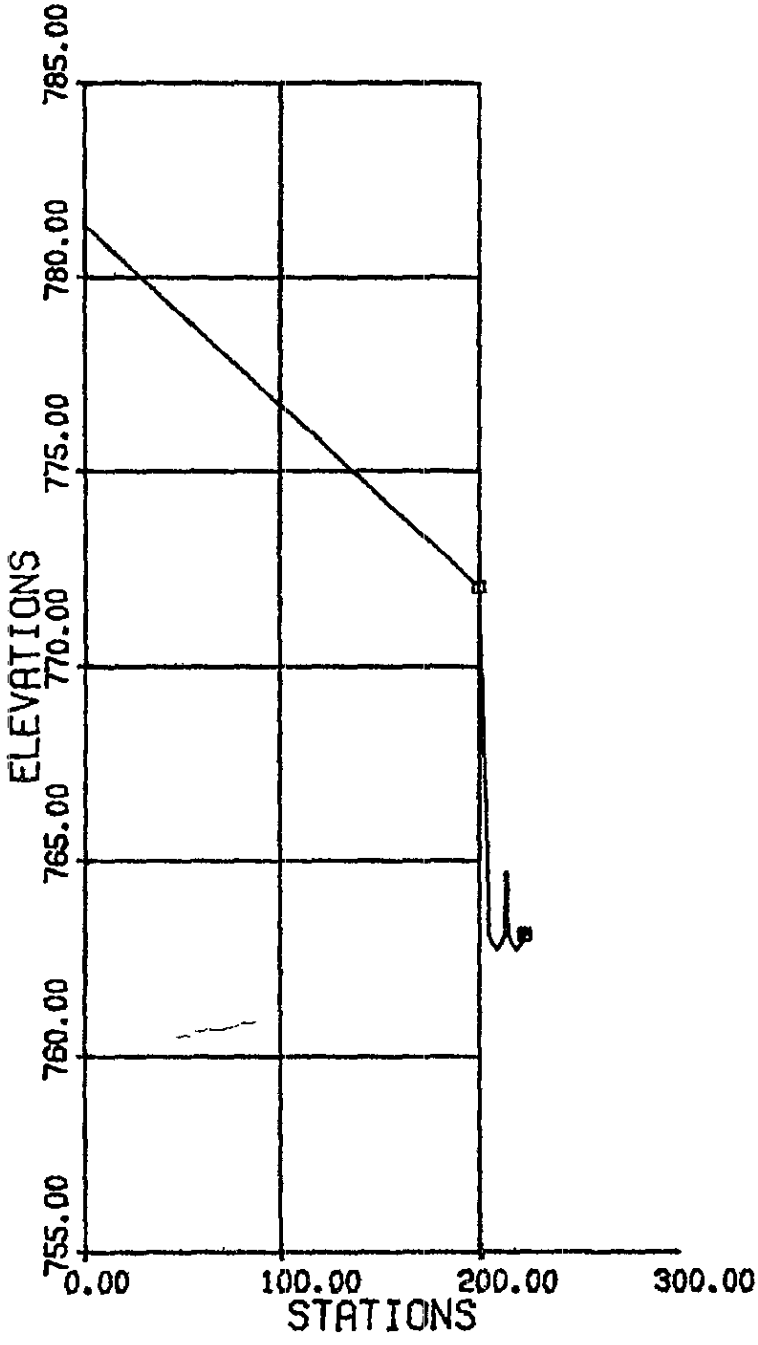



ceipt 704509, Plot 065 XSNL 16:11:33 12-04-79

704509, Plot 065

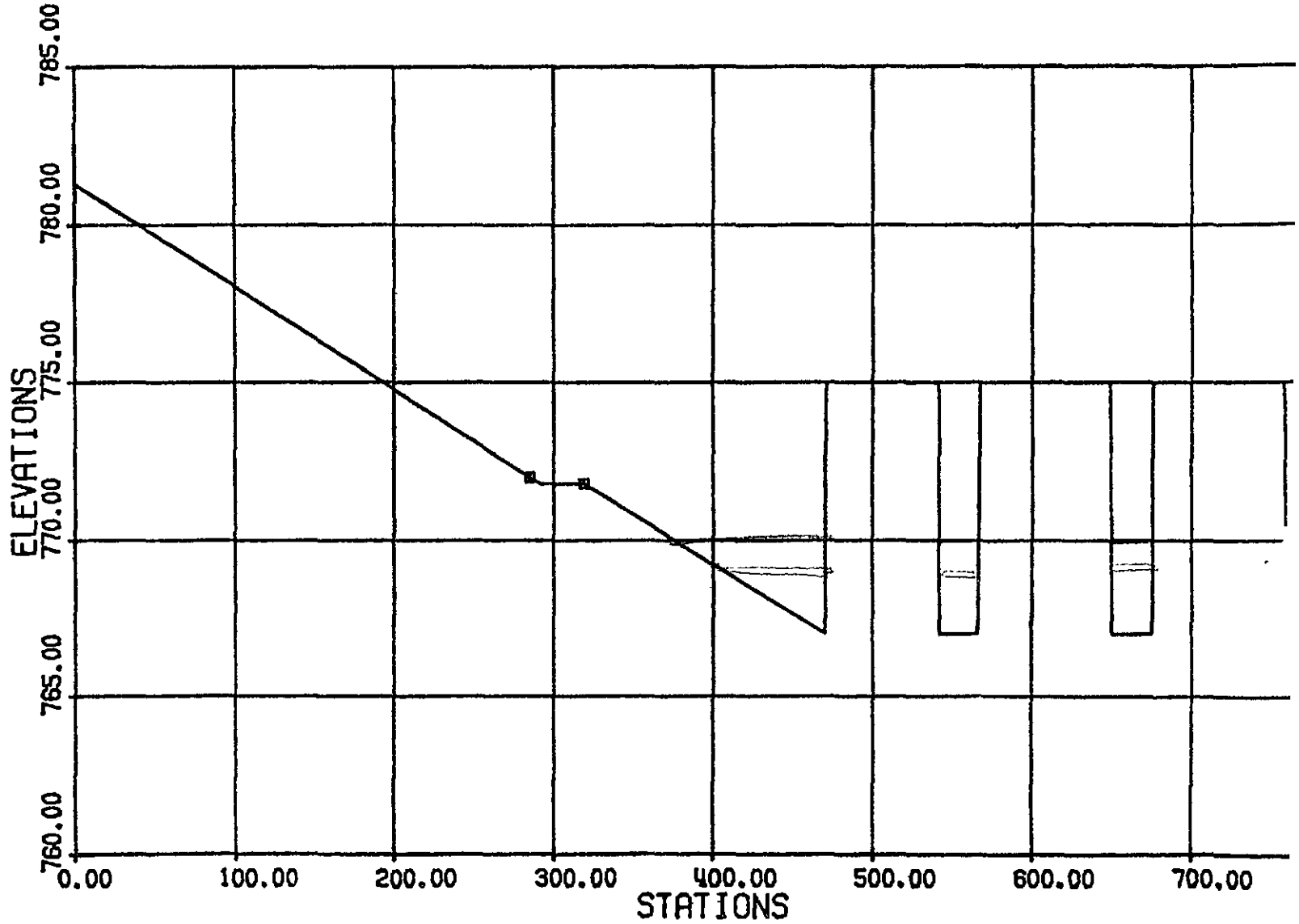
12-04-79

MAIN RIVER ROUGE SECTION 203.40



HUD-FIA H-4705

MAIN RIVER ROUGE SECTION 203.50

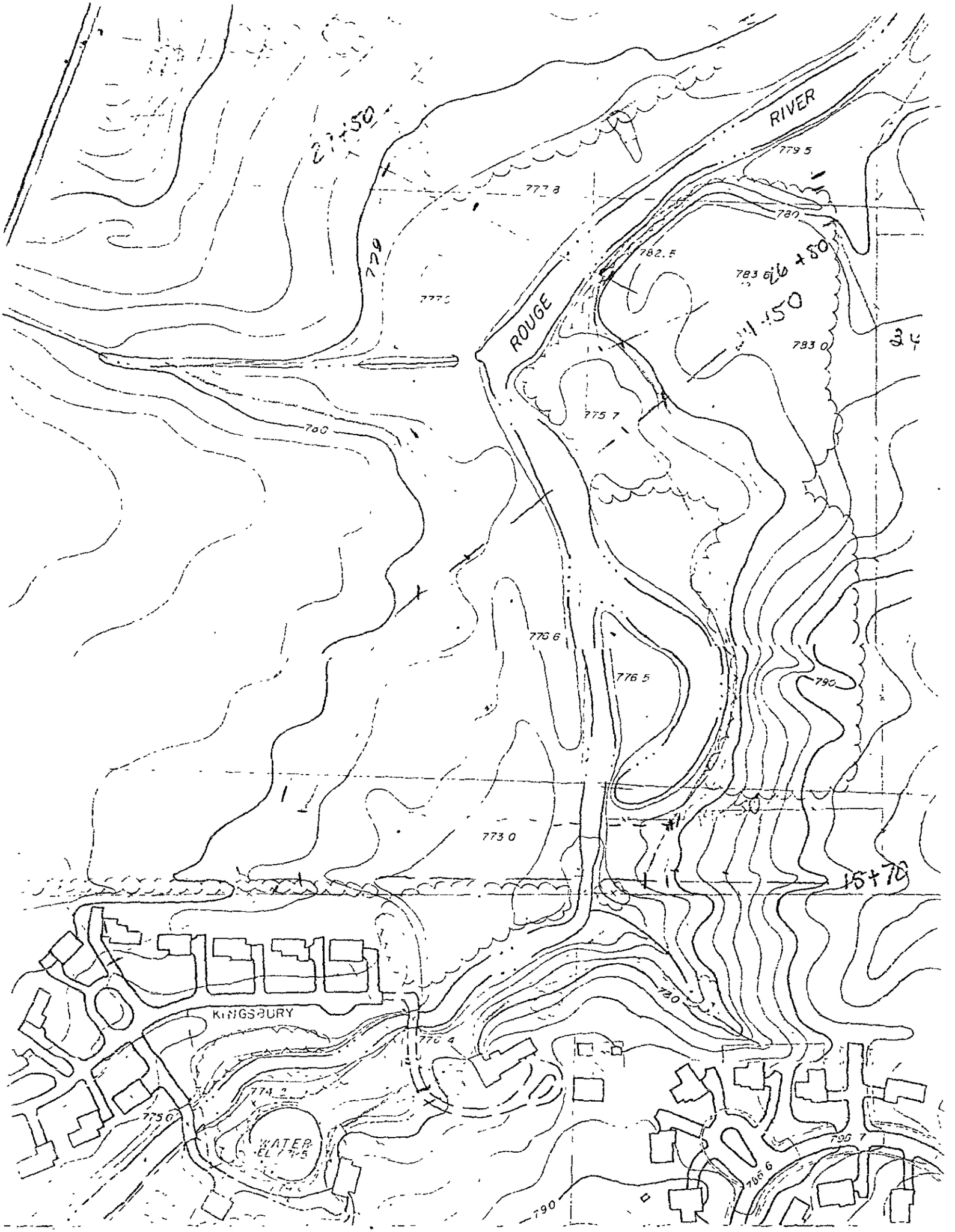



704509, Plot 067 XSNL 16:11:33 12-04-79

704509, Plot 067

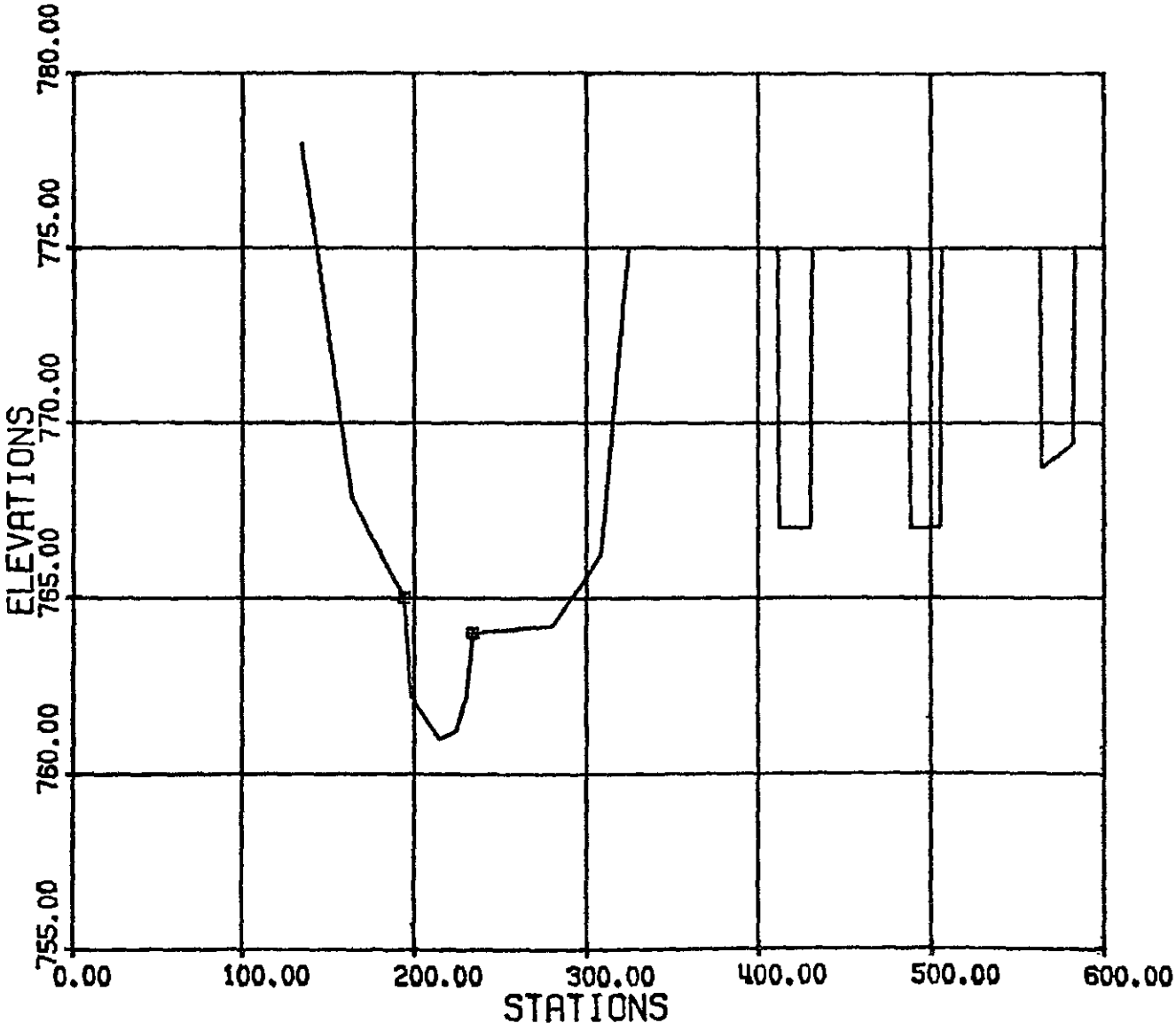
-04-79 6024 \ 0420 3

4


RIVER
ROUGE
KINGSBURY
WATER
EL 774.5
21+50
11+50
15+70
779.5
777.8
780
782.5
783.0
775.7
776.6
776.5
773.0
776.4
774.2
775.0
790
785.6
790.7

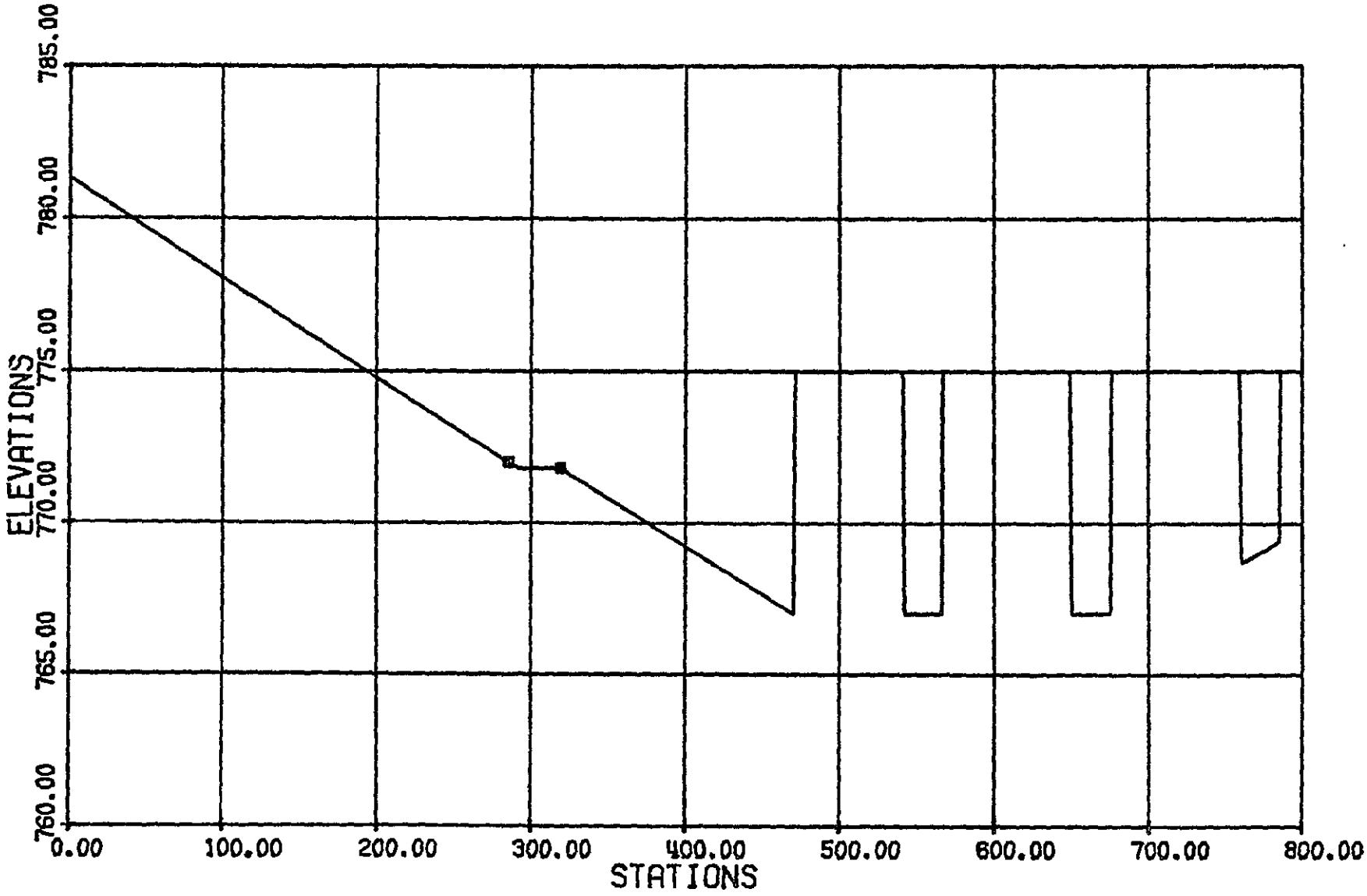
HUD-FIA H-4705

MAIN RIVER ROUGE SECTION 203.20



HUD-FIA H-4705

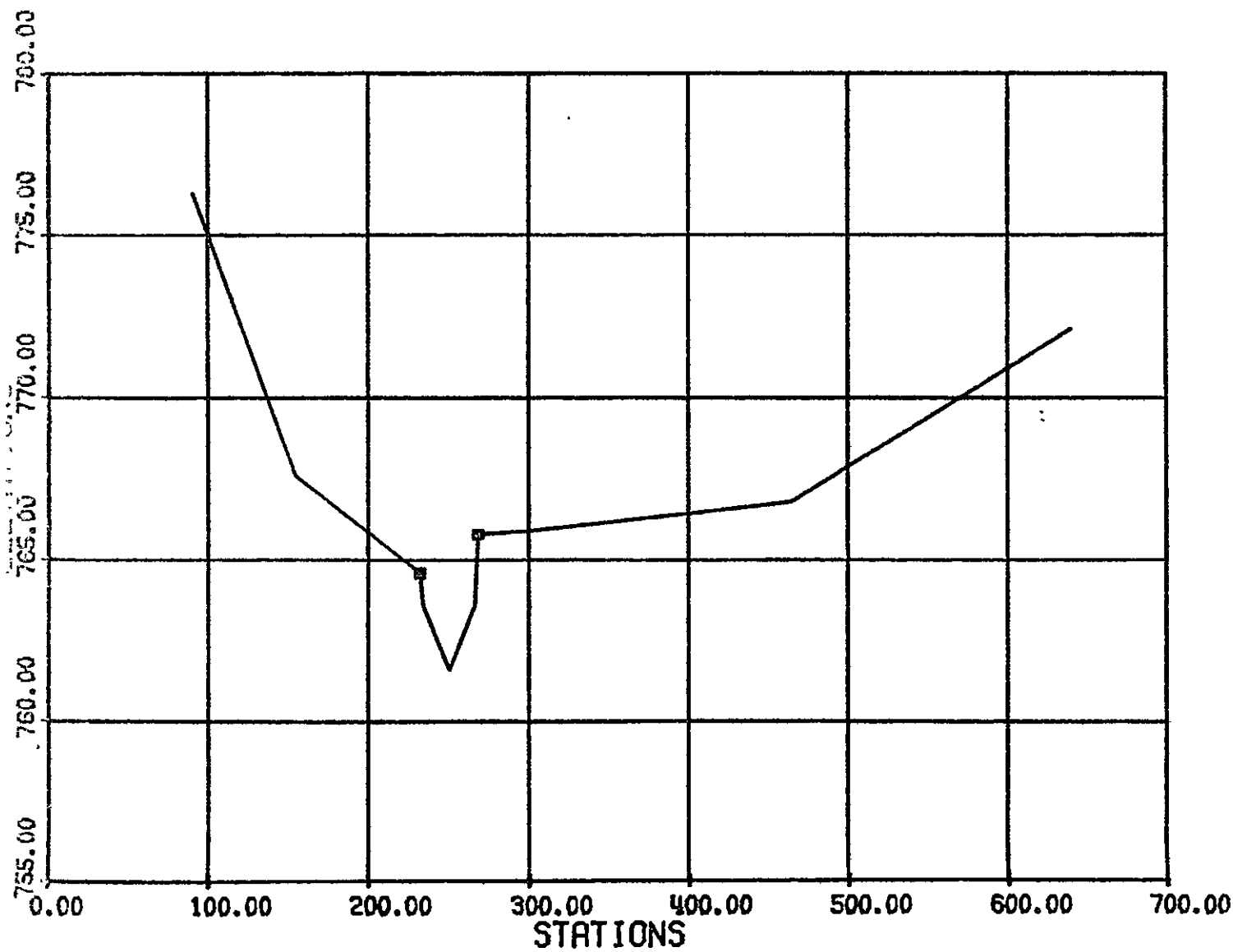
MAIN RIVER ROUGE SECTION 203.60

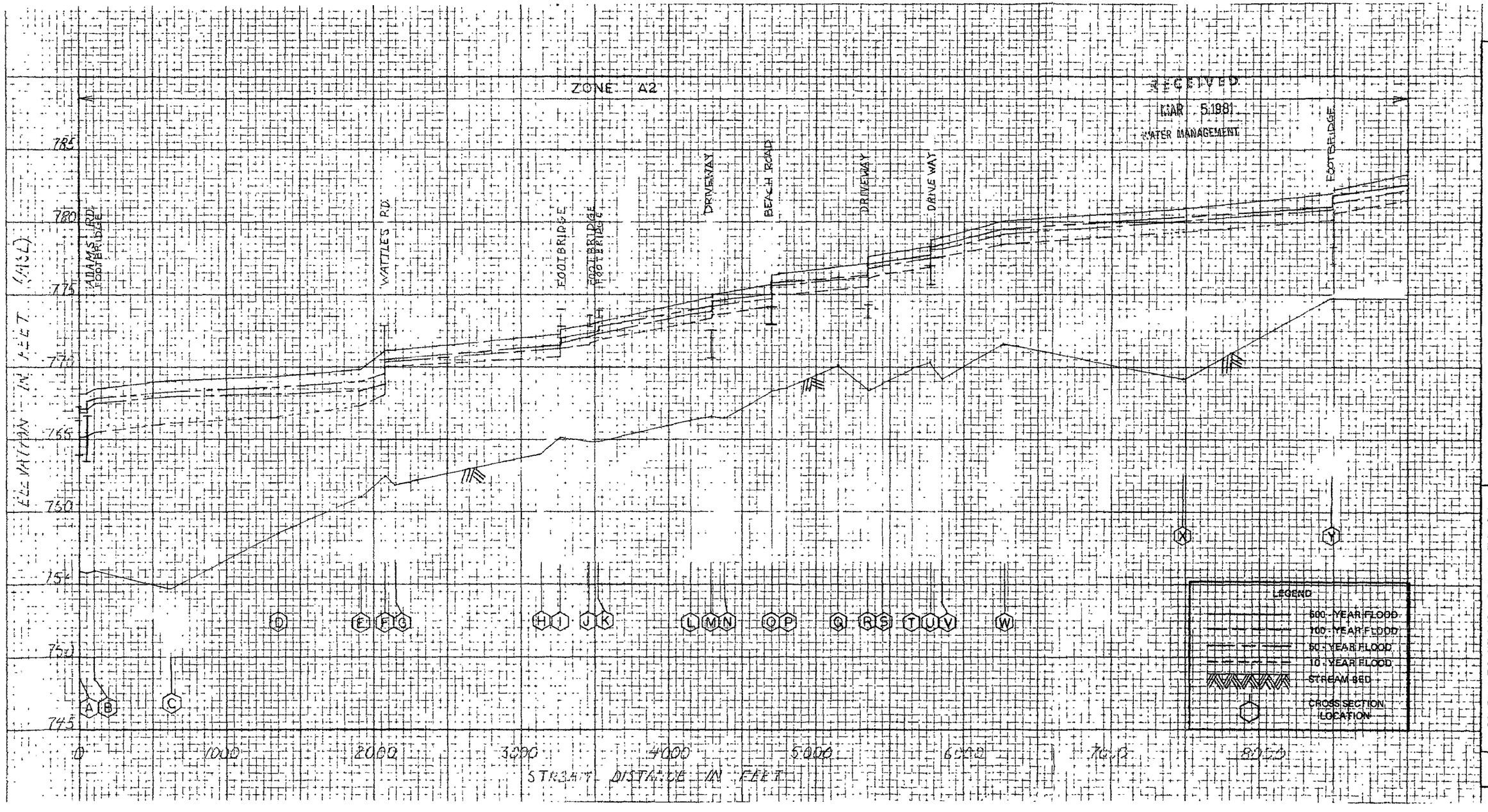


HUD-FIA H-4705

MAIN RIVER ROUGE SECTION 203.75*

* X5 cord added here



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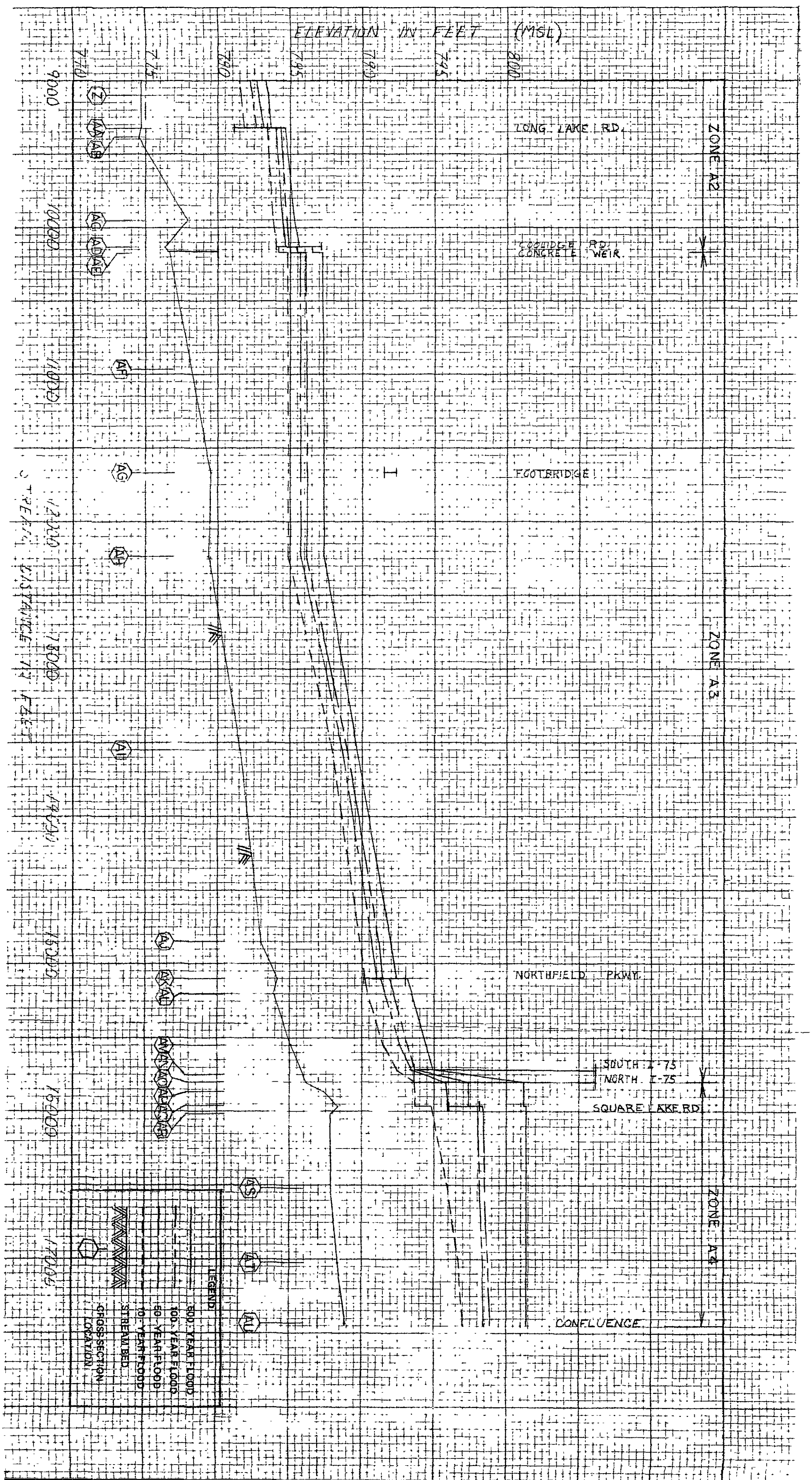
PRINTED IN U.S.A.




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

RIVER ROUGE

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: SUMMARY

00BREAK00

```
*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 1180.00 | 765.51 | 0.00 | 765.73 | 50.20 | 3.77 | 326.52 | 166.54 |
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 1630.00 | 767.47 | 0.00 | 767.64 | 27.34 | 3.38 | 529.80 | 311.74 |
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 1830.00 | 767.77 | 0.00 | 767.96 | 28.90 | 3.59 | 564.09 | 340.39 |
| | 200.800 | 0.00 | 0.00 | 0.00 | 757.00 | 2270.00 | 768.53 | 0.00 | 768.75 | 29.37 | 3.90 | 654.52 | 418.86 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 1180.00 | 766.19 | 0.00 | 766.22 | 3.46 | 1.56 | 1064.00 | 634.76 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 1630.00 | 767.95 | 0.00 | 767.97 | 2.47 | 1.52 | 1500.38 | 1036.47 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 1830.00 | 768.29 | 0.00 | 768.31 | 2.64 | 1.61 | 1589.31 | 1125.85 |
| | 201.000 | 520.00 | 0.00 | 0.00 | 754.70 | 2270.00 | 769.10 | 0.00 | 769.13 | 2.82 | 1.75 | 1805.68 | 1352.63 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 1180.00 | 766.58 | 0.00 | 766.63 | 10.03 | 2.26 | 732.38 | 372.55 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 1630.00 | 768.20 | 0.00 | 768.25 | 6.05 | 2.08 | 1099.20 | 662.58 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 1830.00 | 768.56 | 0.00 | 768.60 | 6.17 | 2.17 | 1184.85 | 736.81 |
| | 202.000 | 730.00 | 0.00 | 0.00 | 758.50 | 2270.00 | 769.38 | 0.00 | 769.43 | 6.04 | 2.30 | 1390.82 | 923.81 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 960.00 | 767.26 | 0.00 | 767.38 | 15.79 | 3.24 | 456.50 | 241.59 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1350.00 | 768.64 | 0.00 | 768.74 | 11.12 | 3.16 | 708.17 | 404.80 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.00 | 0.00 | 769.12 | 11.54 | 3.33 | 778.01 | 456.21 |
| | 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 2050.00 | 769.83 | 0.00 | 769.96 | 12.29 | 3.70 | 948.18 | 584.85 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 960.00 | 767.60 | 0.00 | 767.84 | 82.84 | 5.35 | 396.65 | 105.47 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1350.00 | 768.87 | 0.00 | 768.95 | 26.11 | 3.46 | 817.39 | 264.20 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.26 | 0.00 | 769.32 | 22.60 | 3.33 | 947.17 | 326.03 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 2050.00 | 770.11 | 0.00 | 770.17 | 17.78 | 3.18 | 1243.20 | 486.11 |
| * | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 960.00 | 768.11 | 768.11 | 769.29 | 127.12 | 9.40 | 186.53 | 85.15 |
| * | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 1350.00 | 768.83 | 768.83 | 770.12 | 140.00 | 10.42 | 261.21 | 114.10 |
| * | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 769.56 | 769.56 | 770.41 | 131.83 | 9.12 | 344.31 | 135.00 |
| | 203.500 | 1.00 | 767.00 | 781.30 | 762.70 | 2050.00 | 769.89 | 769.69 | 771.05 | 188.80 | 10.97 | 381.97 | 149.19 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 960.00 | 769.38 | 0.00 | 769.81 | 47.04 | 6.27 | 323.04 | 139.97 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 1350.00 | 770.42 | 0.00 | 770.76 | 60.60 | 6.26 | 439.89 | 173.42 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 1550.00 | 770.41 | 0.00 | 770.87 | 79.99 | 7.20 | 439.62 | 173.31 |
| | 203.600 | 30.00 | 767.00 | 781.30 | 762.70 | 2050.00 | 771.35 | 0.00 | 771.74 | 92.78 | 7.10 | 542.36 | 212.83 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 960.00 | 769.96 | 0.00 | 769.98 | 4.73 | 1.37 | 1193.83 | 441.33 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 1350.00 | 770.88 | 0.00 | 770.90 | 4.49 | 1.43 | 1513.76 | 637.07 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 771.03 | 0.00 | 771.04 | 5.33 | 1.57 | 1564.80 | 671.11 |
| | 203.700 | 1.00 | 0.00 | 0.00 | 762.70 | 2050.00 | 771.87 | 0.00 | 771.89 | 5.42 | 1.68 | 1858.09 | 880.90 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 960.00 | 769.95 | 0.00 | 769.96 | 2.44 | 1.29 | 1463.43 | 614.59 |
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1350.00 | 770.30 | 0.00 | 770.32 | 3.68 | 1.64 | 1616.85 | 703.28 |
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.55 | 0.00 | 770.57 | 4.05 | 1.75 | 1729.47 | 770.50 |
| * | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 2050.00 | 771.10 | 0.00 | 771.13 | 4.86 | 2.01 | 1986.12 | 929.86 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 960.00 | 769.97 | 0.00 | 769.98 | 2.44 | 1.27 | 1389.37 | 614.03 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 1350.00 | 770.33 | 0.00 | 770.35 | 3.63 | 1.60 | 1542.00 | 708.23 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 1550.00 | 770.58 | 0.00 | 770.60 | 3.94 | 1.71 | 1654.94 | 780.39 |
| | 203.800 | 75.00 | 0.00 | 0.00 | 761.80 | 2050.00 | 771.14 | 0.00 | 771.16 | 4.66 | 1.94 | 1909.51 | 950.04 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 960.00 | 770.55 | 0.00 | 770.72 | 59.62 | 4.76 | 451.87 | 124.33 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 1350.00 | 771.15 | 0.00 | 771.28 | 47.60 | 4.58 | 640.50 | 195.66 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 1550.00 | 771.45 | 0.00 | 771.57 | 42.16 | 4.46 | 741.81 | 238.72 |
| | 204.000 | 1000.00 | 0.00 | 0.00 | 764.00 | 2050.00 | 772.09 | 0.00 | 772.20 | 35.50 | 4.38 | 966.64 | 344.05 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.16 | 0.00 | 771.26 | 38.46 | 3.89 | 542.44 | 154.80 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 771.66 | 0.00 | 771.76 | 37.49 | 4.08 | 704.81 | 220.47 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 771.90 | 0.00 | 772.00 | 36.35 | 4.14 | 787.85 | 257.08 |
| | 204.120 | 111.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 772.48 | 0.00 | 772.58 | 33.22 | 4.21 | 994.24 | 355.66 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 960.00 | 771.20 | 0.00 | 771.27 | 79.83 | 2.89 | 477.87 | 107.45 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 1350.00 | 771.69 | 0.00 | 771.77 | 68.16 | 2.88 | 631.51 | 163.52 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 771.94 | 0.00 | 772.01 | 62.92 | 2.86 | 710.89 | 195.40 |
| | 204.140 | 1.00 | 769.00 | 767.80 | 765.10 | 2050.00 | 772.51 | 0.00 | 772.59 | 53.05 | 2.83 | 907.10 | 281.45 |
| | 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 960.00 | 771.26 | 0.00 | 771.32 | 72.68 | 2.78 | 492.99 | 112.60 |
| | 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 1350.00 | 771.74 | 0.00 | 771.82 | 63.79 | 2.80 | 645.56 | 169.02 |
| | 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 1550.00 | 771.98 | 0.00 | 772.06 | 59.47 | 2.80 | 724.36 | 200.99 |
| | 204.160 | 7.00 | 769.00 | 767.80 | 765.10 | 2050.00 | 772.55 | 0.00 | 772.63 | 51.22 | 2.79 | 917.83 | 286.43 |
| | 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.26 | 0.00 | 771.34 | 32.89 | 3.65 | 575.24 | 167.39 |
| | 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 771.74 | 0.00 | 771.83 | 33.30 | 3.89 | 735.90 | 233.96 |
| | 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 771.98 | 0.00 | 772.07 | 32.76 | 3.96 | 817.91 | 270.79 |
| | 204.180 | 1.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 772.55 | 0.00 | 772.64 | 30.87 | 4.08 | 1020.60 | 368.96 |
| | 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.58 | 0.00 | 771.64 | 20.90 | 3.02 | 680.19 | 209.99 |
| | 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 772.08 | 0.00 | 772.14 | 22.37 | 3.31 | 849.43 | 285.42 |
| | 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.32 | 0.00 | 772.38 | 22.62 | 3.41 | 934.08 | 325.89 |
| | 204.220 | 112.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 772.87 | 0.00 | 772.94 | 22.62 | 3.61 | 1140.08 | 431.05 |
| | 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 960.00 | 771.61 | 0.00 | 771.65 | 32.80 | 2.08 | 639.71 | 167.62 |
| | 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 1350.00 | 772.10 | 0.00 | 772.15 | 32.75 | 2.21 | 804.09 | 235.92 |
| | 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.34 | 0.00 | 772.39 | 32.30 | 2.26 | 886.28 | 272.73 |
| | 204.240 | 1.00 | 768.60 | 767.80 | 765.10 | 2050.00 | 772.89 | 0.00 | 772.95 | 31.19 | 2.36 | 1082.86 | 367.06 |
| | 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 960.00 | 771.63 | 0.00 | 771.67 | 32.01 | 2.06 | 644.92 | 169.67 |
| | 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 1350.00 | 772.12 | 0.00 | 772.17 | 32.06 | 2.19 | 809.77 | 238.41 |
| | 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 1550.00 | 772.36 | 0.00 | 772.41 | 31.68 | 2.24 | 892.10 | 275.40 |
| | 204.260 | 6.00 | 768.60 | 767.80 | 765.10 | 2050.00 | 772.91 | 0.00 | 772.97 | 30.40 | 2.34 | 1092.31 | 371.80 |
| | 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.63 | 0.00 | 771.68 | 19.58 | 2.94 | 696.63 | 216.97 |
| | 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 772.12 | 0.00 | 772.18 | 21.18 | 3.24 | 866.34 | 293.37 |
| | 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.36 | 0.00 | 772.42 | 21.52 | 3.34 | 950.97 | 334.16 |
| | 204.280 | 1.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 772.91 | 0.00 | 772.97 | 21.72 | 3.55 | 1156.71 | 439.92 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.76 | 0.00 | 771.80 | 16.69 | 2.76 | 738.17 | 234.95 |
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 772.26 | 0.00 | 772.31 | 18.21 | 3.04 | 914.40 | 316.33 |
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.50 | 0.00 | 772.56 | 18.62 | 3.16 | 1001.34 | 359.23 |
| 204.320 | 67.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 773.05 | 0.00 | 773.11 | 19.08 | 3.37 | 1211.18 | 469.34 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 960.00 | 771.78 | 0.00 | 771.81 | 23.92 | 1.62 | 720.83 | 196.29 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 1350.00 | 772.28 | 0.00 | 772.32 | 24.70 | 1.75 | 895.01 | 271.62 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.52 | 0.00 | 772.56 | 24.76 | 1.80 | 980.85 | 311.47 |
| 204.340 | 1.00 | 768.80 | 768.40 | 765.10 | 2050.00 | 773.07 | 0.00 | 773.12 | 24.75 | 1.90 | 1184.03 | 412.06 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 960.00 | 771.80 | 0.00 | 771.82 | 23.52 | 1.61 | 724.91 | 197.97 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 1350.00 | 772.30 | 0.00 | 772.34 | 24.33 | 1.74 | 899.59 | 273.71 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 1550.00 | 772.54 | 0.00 | 772.58 | 24.41 | 1.79 | 985.61 | 313.73 |
| 204.360 | 6.00 | 768.80 | 768.40 | 765.10 | 2050.00 | 773.09 | 0.00 | 773.13 | 24.21 | 1.88 | 1192.97 | 416.67 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 960.00 | 771.79 | 0.00 | 771.83 | 15.86 | 2.70 | 752.00 | 241.05 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 1350.00 | 772.30 | 0.00 | 772.35 | 17.41 | 2.99 | 929.23 | 323.52 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 1550.00 | 772.53 | 0.00 | 772.59 | 17.85 | 3.10 | 1016.44 | 366.85 |
| 204.380 | 1.00 | 0.00 | 0.00 | 765.10 | 2050.00 | 773.08 | 0.00 | 773.15 | 18.41 | 3.32 | 1226.69 | 477.83 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 960.00 | 773.03 | 0.00 | 773.10 | 27.44 | 3.12 | 525.97 | 183.26 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 1350.00 | 773.62 | 0.00 | 773.71 | 28.35 | 3.45 | 656.58 | 253.53 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 773.88 | 0.00 | 773.98 | 28.83 | 3.60 | 717.04 | 288.65 |
| 205.200 | 610.00 | 0.00 | 0.00 | 766.40 | 2050.00 | 774.47 | 0.00 | 774.59 | 29.95 | 3.94 | 855.57 | 374.61 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 960.00 | 773.33 | 0.00 | 773.39 | 19.33 | 2.74 | 593.02 | 218.33 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 1350.00 | 773.94 | 0.00 | 774.01 | 20.76 | 3.08 | 729.90 | 296.32 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.21 | 0.00 | 774.29 | 21.39 | 3.23 | 793.42 | 335.14 |
| 205.300 | 123.00 | 0.00 | 0.00 | 766.40 | 2050.00 | 774.82 | 0.00 | 774.91 | 22.75 | 3.56 | 938.98 | 429.77 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 960.00 | 773.32 | 0.00 | 773.44 | 161.29 | 3.03 | 348.75 | 75.59 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 1350.00 | 773.93 | 0.00 | 774.05 | 113.51 | 2.91 | 486.87 | 126.71 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.20 | 0.00 | 774.33 | 102.17 | 2.91 | 550.41 | 153.34 |
| 205.400 | 1.00 | 771.40 | 771.60 | 766.40 | 2050.00 | 774.82 | 0.00 | 774.95 | 86.17 | 2.96 | 696.02 | 220.84 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 960.00 | 773.56 | 0.00 | 773.65 | 105.65 | 2.59 | 399.98 | 93.40 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 1350.00 | 774.11 | 0.00 | 774.21 | 89.56 | 2.67 | 525.41 | 142.65 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 1550.00 | 774.36 | 0.00 | 774.48 | 84.06 | 2.71 | 586.04 | 169.06 |
| 205.500 | 15.00 | 771.40 | 771.60 | 766.40 | 2050.00 | 774.95 | 0.00 | 775.08 | 75.10 | 2.82 | 727.57 | 236.56 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 960.00 | 773.63 | 0.00 | 773.67 | 14.18 | 2.44 | 659.00 | 254.91 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 1350.00 | 774.17 | 0.00 | 774.23 | 16.79 | 2.85 | 784.33 | 329.49 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 1550.00 | 774.43 | 0.00 | 774.50 | 17.77 | 3.02 | 844.90 | 367.74 |
| 205.600 | 1.00 | 0.00 | 0.00 | 766.40 | 2050.00 | 775.01 | 0.00 | 775.10 | 19.68 | 3.38 | 986.37 | 462.15 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 960.00 | 773.73 | 0.00 | 773.78 | 12.10 | 2.34 | 634.30 | 275.95 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 1350.00 | 774.30 | 0.00 | 774.36 | 14.62 | 2.76 | 752.59 | 353.01 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 1550.00 | 774.56 | 0.00 | 774.64 | 15.61 | 2.93 | 809.76 | 392.29 |
| 205.800 | 80.00 | 0.00 | 0.00 | 766.50 | 2050.00 | 775.16 | 0.00 | 775.26 | 17.63 | 3.32 | 942.59 | 488.18 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 870.00 | 774.10 | 0.00 | 774.13 | 9.55 | 1.86 | 743.67 | 281.46 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 1240.00 | 774.73 | 0.00 | 774.76 | 10.36 | 2.12 | 912.25 | 385.19 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 775.02 | 0.00 | 775.06 | 10.81 | 2.25 | 991.11 | 438.00 |
| 205.900 | 314.00 | 0.00 | 0.00 | 768.40 | 1920.00 | 775.67 | 0.00 | 775.72 | 11.47 | 2.51 | 1169.51 | 566.82 |

| SECNO | XLCF | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 206.000 | 16.00 | 773.00 | 770.70 | 768.40 | 870.00 | 774.97 | 0.00 | 774.99 | 4.08 | 1.38 | 980.34 | 430.63 |
| 206.000 | 16.00 | 773.00 | 770.70 | 768.40 | 1240.00 | 775.62 | 0.00 | 775.64 | 4.98 | 1.64 | 1154.86 | 555.77 |
| 206.000 | 16.00 | 773.00 | 770.70 | 768.40 | 1440.00 | 775.88 | 0.00 | 775.91 | 5.55 | 1.79 | 1227.18 | 611.11 |
| 206.000 | 16.00 | 773.00 | 770.70 | 768.40 | 1920.00 | 776.41 | 0.00 | 776.44 | 6.93 | 2.11 | 1372.75 | 729.11 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 870.00 | 775.01 | 0.00 | 775.03 | 3.97 | 1.36 | 989.21 | 436.70 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 1240.00 | 775.67 | 0.00 | 775.69 | 4.80 | 1.62 | 1168.48 | 566.04 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 775.94 | 0.00 | 775.96 | 5.34 | 1.76 | 1242.46 | 623.05 |
| 206.800 | 100.00 | 0.00 | 0.00 | 768.40 | 1920.00 | 776.48 | 0.00 | 776.51 | 6.64 | 2.08 | 1391.90 | 745.27 |
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 870.00 | 775.28 | 0.00 | 775.40 | 28.29 | 3.08 | 419.88 | 163.57 |
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 1240.00 | 775.98 | 0.00 | 776.10 | 26.36 | 3.30 | 568.35 | 241.53 |
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 776.27 | 0.00 | 776.40 | 26.47 | 3.44 | 637.71 | 279.87 |
| 207.200 | 350.00 | 0.00 | 0.00 | 769.90 | 1920.00 | 776.87 | 0.00 | 777.01 | 27.25 | 3.76 | 781.80 | 367.84 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 870.00 | 775.91 | 0.00 | 776.10 | 47.24 | 4.34 | 416.55 | 126.58 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 1240.00 | 776.54 | 0.00 | 776.68 | 38.85 | 4.19 | 607.17 | 198.93 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 776.82 | 0.00 | 776.96 | 36.64 | 4.18 | 694.33 | 237.91 |
| 207.300 | 179.00 | 0.00 | 0.00 | 768.40 | 1920.00 | 777.44 | 0.00 | 777.56 | 33.00 | 4.18 | 884.19 | 334.24 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 870.00 | 776.08 | 0.00 | 776.15 | 84.72 | 2.84 | 441.00 | 94.52 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 1240.00 | 776.65 | 0.00 | 776.71 | 61.92 | 2.60 | 613.46 | 157.58 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 776.92 | 0.00 | 776.98 | 55.87 | 2.55 | 695.97 | 192.65 |
| 207.400 | 1.00 | 774.80 | 773.30 | 768.40 | 1920.00 | 777.51 | 0.00 | 777.58 | 46.88 | 2.49 | 878.52 | 280.41 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 870.00 | 776.24 | 0.00 | 776.29 | 62.32 | 2.48 | 487.85 | 110.21 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 1240.00 | 776.77 | 0.00 | 776.82 | 51.63 | 2.41 | 649.62 | 172.58 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 1440.00 | 777.02 | 0.00 | 777.09 | 48.80 | 2.41 | 725.97 | 206.13 |
| 207.500 | 19.00 | 774.80 | 773.30 | 768.40 | 1920.00 | 777.60 | 0.00 | 777.67 | 42.67 | 2.39 | 904.41 | 293.93 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 870.00 | 776.23 | 0.00 | 776.34 | 28.97 | 3.51 | 515.05 | 161.65 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 1240.00 | 776.76 | 0.00 | 776.86 | 29.13 | 3.70 | 676.71 | 229.75 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 1440.00 | 777.02 | 0.00 | 777.12 | 28.80 | 3.77 | 757.61 | 268.33 |
| 207.600 | 1.00 | 0.00 | 0.00 | 768.40 | 1920.00 | 777.59 | 0.00 | 777.70 | 28.03 | 3.91 | 935.19 | 362.62 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 870.00 | 776.48 | 0.00 | 776.51 | 8.92 | 2.02 | 764.74 | 291.22 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 1240.00 | 777.01 | 0.00 | 777.05 | 10.49 | 2.33 | 928.60 | 382.92 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 1440.00 | 777.26 | 0.00 | 777.31 | 11.13 | 2.47 | 1008.38 | 431.61 |
| 207.800 | 100.00 | 0.00 | 0.00 | 768.90 | 1920.00 | 777.83 | 0.00 | 777.89 | 12.21 | 2.75 | 1186.68 | 549.37 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 870.00 | 776.71 | 0.00 | 776.80 | 20.46 | 2.87 | 502.63 | 192.34 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 1240.00 | 777.27 | 0.00 | 777.37 | 21.85 | 3.20 | 660.63 | 265.27 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.54 | 0.00 | 777.64 | 22.19 | 3.33 | 739.44 | 305.67 |
| 208.200 | 200.00 | 0.00 | 0.00 | 769.90 | 1920.00 | 778.12 | 0.00 | 778.24 | 22.46 | 3.58 | 916.04 | 405.16 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 870.00 | 776.92 | 0.00 | 776.99 | 15.88 | 2.61 | 561.23 | 218.32 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 1240.00 | 777.49 | 0.00 | 777.58 | 17.15 | 2.91 | 727.59 | 299.42 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 777.77 | 0.00 | 777.85 | 17.61 | 3.05 | 808.48 | 343.15 |
| 208.300 | 104.00 | 0.00 | 0.00 | 769.90 | 1920.00 | 778.36 | 0.00 | 778.46 | 18.28 | 3.31 | 988.21 | 449.07 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 870.00 | 776.88 | 0.00 | 777.17 | 179.21 | 4.78 | 241.06 | 64.99 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 1240.00 | 777.46 | 0.00 | 777.75 | 209.64 | 5.17 | 322.74 | 85.64 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 777.73 | 0.00 | 778.02 | 210.76 | 5.18 | 365.67 | 99.19 |
| 208.400 | 1.00 | 772.20 | 778.40 | 769.90 | 1920.00 | 778.33 | 0.00 | 778.58 | 199.51 | 4.37 | 492.14 | 135.93 |

| SECNO | XLCH | ELTRD | ELLC | FLMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 870.00 | 777.23 | 0.00 | 777.42 | 129.74 | 4.07 | 288.97 | 76.38 |
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 1240.00 | 777.90 | 0.00 | 778.06 | 155.01 | 3.58 | 396.71 | 99.60 |
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 1440.00 | 778.15 | 0.00 | 778.31 | 144.66 | 3.60 | 449.70 | 119.72 |
| 208.500 | 14.00 | 772.20 | 778.40 | 769.90 | 1920.00 | 778.64 | 0.00 | 778.83 | 133.66 | 3.76 | 564.66 | 166.07 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 870.00 | 777.45 | 0.00 | 777.49 | 8.88 | 2.08 | 713.16 | 291.90 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 1240.00 | 778.06 | 0.00 | 778.11 | 9.96 | 2.37 | 895.23 | 392.84 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 1440.00 | 778.30 | 0.00 | 778.36 | 10.80 | 2.53 | 970.67 | 438.23 |
| 208.600 | 1.00 | 0.00 | 0.00 | 769.90 | 1920.00 | 778.81 | 0.00 | 778.88 | 12.64 | 2.88 | 1126.69 | 540.07 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 870.00 | 777.55 | 0.00 | 777.75 | 43.59 | 4.47 | 302.09 | 131.78 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 1240.00 | 778.17 | 0.00 | 778.42 | 52.11 | 5.16 | 390.07 | 171.77 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 1440.00 | 778.43 | 0.00 | 778.70 | 56.41 | 5.49 | 439.91 | 191.73 |
| 208.800 | 80.00 | 0.00 | 0.00 | 769.20 | 1920.00 | 778.96 | 0.00 | 779.26 | 63.02 | 6.05 | 555.43 | 241.86 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 870.00 | 778.58 | 0.00 | 778.64 | 12.00 | 2.72 | 645.41 | 251.13 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 1240.00 | 779.21 | 0.00 | 779.27 | 9.98 | 2.67 | 919.29 | 392.50 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 1440.00 | 779.49 | 0.00 | 779.54 | 9.57 | 2.69 | 1040.72 | 465.40 |
| 209.000 | 420.00 | 0.00 | 0.00 | 771.60 | 1920.00 | 780.05 | 0.00 | 780.11 | 9.12 | 2.78 | 1292.66 | 635.77 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 870.00 | 779.40 | 0.00 | 779.45 | 4.25 | 1.95 | 627.88 | 421.83 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 1240.00 | 780.05 | 0.00 | 780.11 | 5.20 | 2.29 | 823.68 | 543.85 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 1440.00 | 780.34 | 0.00 | 780.41 | 5.60 | 2.44 | 922.13 | 608.32 |
| 210.000 | 1200.00 | 0.00 | 0.00 | 769.30 | 1920.00 | 780.94 | 0.00 | 781.02 | 6.41 | 2.74 | 1141.45 | 758.24 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 870.00 | 780.22 | 0.00 | 780.43 | 33.75 | 3.69 | 237.96 | 149.76 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 1240.00 | 780.99 | 0.00 | 781.27 | 35.02 | 4.25 | 314.20 | 209.53 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.34 | 0.00 | 781.64 | 35.59 | 4.50 | 357.02 | 241.37 |
| 210.200 | 1010.00 | 0.00 | 0.00 | 774.70 | 1920.00 | 782.04 | 0.00 | 782.39 | 36.04 | 4.96 | 482.09 | 319.80 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 870.00 | 780.09 | 0.00 | 780.50 | 349.62 | 5.12 | 170.19 | 46.53 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 1240.00 | 780.89 | 0.00 | 781.32 | 270.38 | 5.35 | 244.54 | 75.41 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.26 | 0.00 | 781.68 | 238.69 | 5.38 | 288.83 | 93.21 |
| 210.300 | 1.00 | 778.30 | 777.20 | 774.70 | 1920.00 | 782.03 | 0.00 | 782.40 | 176.37 | 5.23 | 423.77 | 144.58 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 870.00 | 780.43 | 0.00 | 780.74 | 232.46 | 4.51 | 197.70 | 57.06 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 1240.00 | 781.18 | 0.00 | 781.52 | 193.16 | 4.78 | 279.04 | 89.22 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 1440.00 | 781.52 | 0.00 | 781.86 | 178.12 | 4.86 | 324.31 | 107.90 |
| 210.500 | 8.00 | 778.30 | 777.20 | 774.70 | 1920.00 | 782.23 | 0.00 | 782.53 | 140.14 | 4.79 | 472.22 | 162.19 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 870.00 | 780.60 | 0.00 | 780.77 | 24.21 | 3.32 | 271.73 | 176.81 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 1240.00 | 781.31 | 0.00 | 781.54 | 27.00 | 3.91 | 353.32 | 238.64 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 781.62 | 0.00 | 781.88 | 28.39 | 4.18 | 397.62 | 270.26 |
| 210.700 | 1.00 | 0.00 | 0.00 | 774.70 | 1920.00 | 782.24 | 0.00 | 782.54 | 30.48 | 4.67 | 532.95 | 347.78 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 870.00 | 781.61 | 0.00 | 781.70 | 10.43 | 2.53 | 396.18 | 269.33 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 1240.00 | 782.44 | 0.00 | 782.55 | 10.80 | 2.84 | 586.56 | 377.32 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 782.79 | 0.00 | 782.91 | 10.77 | 2.95 | 693.42 | 438.72 |
| 211.200 | 610.00 | 0.00 | 0.00 | 774.70 | 1920.00 | 783.49 | 0.00 | 783.61 | 10.85 | 3.18 | 929.05 | 583.01 |
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 870.00 | 781.80 | 0.00 | 781.91 | 10.42 | 2.58 | 337.30 | 269.54 |
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 1240.00 | 782.64 | 0.00 | 782.74 | 9.07 | 2.67 | 646.94 | 411.65 |
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 1440.00 | 783.00 | 0.00 | 783.10 | 9.06 | 2.77 | 759.88 | 478.28 |
| 211.400 | 189.00 | 0.00 | 0.00 | 774.70 | 1920.00 | 783.70 | 0.00 | 783.80 | 9.18 | 2.98 | 1008.28 | 633.82 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 211.600 | 31.00 | 783.40 | 781.10 | 774.70 | 870.00 | 783.36 | 0.00 | 783.42 | 4.45 | 1.99 | 436.59 | 412.26 |
| 211.600 | 31.00 | 783.40 | 781.10 | 774.70 | 1240.00 | 784.03 | 0.00 | 784.07 | 2.95 | 1.74 | 1142.27 | 722.06 |
| 211.600 | 31.00 | 783.40 | 781.10 | 774.70 | 1440.00 | 784.26 | 0.00 | 784.30 | 3.36 | 1.90 | 1236.82 | 785.94 |
| 211.600 | 31.00 | 783.40 | 781.10 | 774.70 | 1920.00 | 784.71 | 0.00 | 784.76 | 4.31 | 2.23 | 1436.59 | 924.94 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 870.00 | 783.43 | 0.00 | 783.45 | 3.67 | 1.71 | 922.24 | 454.10 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 1240.00 | 784.07 | 0.00 | 784.09 | 4.09 | 1.91 | 1176.38 | 613.31 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 1440.00 | 784.30 | 0.00 | 784.32 | 4.51 | 2.05 | 1273.39 | 677.93 |
| 211.800 | 60.00 | 0.00 | 0.00 | 774.50 | 1920.00 | 784.75 | 0.00 | 784.79 | 5.47 | 2.35 | 1474.96 | 820.62 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 690.00 | 783.80 | 0.00 | 783.53 | 28.48 | 3.22 | 293.99 | 129.29 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 1020.00 | 784.46 | 0.00 | 784.60 | 25.71 | 3.44 | 421.31 | 201.18 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 784.72 | 0.00 | 784.87 | 26.10 | 3.61 | 473.39 | 234.90 |
| 212.200 | 570.00 | 0.00 | 0.00 | 777.80 | 1690.00 | 785.27 | 0.00 | 785.46 | 29.14 | 4.13 | 583.09 | 313.07 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 690.00 | 784.05 | 0.00 | 784.26 | 35.30 | 3.74 | 184.34 | 116.13 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 1020.00 | 784.68 | 0.00 | 785.02 | 45.72 | 4.72 | 215.97 | 150.85 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 1200.00 | 784.97 | 0.00 | 785.09 | 20.06 | 3.28 | 521.37 | 267.93 |
| 212.400 | 90.00 | 0.00 | 0.00 | 777.80 | 1690.00 | 785.55 | 0.00 | 785.70 | 22.47 | 3.76 | 639.42 | 356.49 |
| 213.000 | 106.00 | 786.90 | 784.00 | 776.60 | 690.00 | 784.18 | 0.00 | 784.26 | 7.90 | 2.37 | 290.58 | 245.45 |
| 213.000 | 106.00 | 786.90 | 784.00 | 776.60 | 1020.00 | 784.99 | 0.00 | 785.14 | 12.30 | 3.13 | 325.90 | 290.83 |
| 213.000 | 106.00 | 786.90 | 784.00 | 776.60 | 1200.00 | 785.42 | 0.00 | 785.60 | 14.28 | 3.48 | 344.75 | 317.57 |
| 213.000 | 106.00 | 786.90 | 784.00 | 776.60 | 1690.00 | 786.53 | 0.00 | 786.81 | 18.69 | 4.29 | 393.57 | 390.96 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 690.00 | 784.21 | 0.00 | 784.29 | 7.80 | 2.36 | 291.84 | 247.04 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 1020.00 | 785.03 | 0.00 | 785.18 | 12.07 | 3.11 | 327.97 | 293.62 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 1200.00 | 785.47 | 0.00 | 785.66 | 13.88 | 3.45 | 353.21 | 322.10 |
| 213.200 | 36.00 | 0.00 | 0.00 | 776.60 | 1690.00 | 786.63 | 0.00 | 786.89 | 16.39 | 4.10 | 461.17 | 417.43 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 690.00 | 783.92 | 0.00 | 784.72 | 340.65 | 7.15 | 96.53 | 37.38 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 1020.00 | 784.76 | 0.00 | 785.60 | 228.83 | 7.32 | 139.30 | 67.43 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 1200.00 | 785.21 | 0.00 | 786.06 | 192.86 | 7.38 | 163.98 | 86.41 |
| 213.400 | 1.00 | 0.00 | 0.00 | 780.00 | 1690.00 | 786.45 | 0.00 | 787.16 | 110.38 | 6.96 | 278.57 | 160.86 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 690.00 | 784.79 | 0.00 | 784.80 | .17 | .45 | 1535.70 | 1689.04 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 1020.00 | 785.67 | 0.00 | 785.68 | .25 | .58 | 1770.79 | 2055.14 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 1200.00 | 786.13 | 0.00 | 786.14 | .28 | .63 | 1911.70 | 2281.63 |
| 213.500 | 1.00 | 0.00 | 0.00 | 776.50 | 1690.00 | 787.22 | 0.00 | 787.23 | .35 | .77 | 2297.33 | 2872.87 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 690.00 | 784.81 | 0.00 | 784.82 | .33 | .58 | 1188.63 | 1208.41 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 1020.00 | 785.70 | 0.00 | 785.71 | .47 | .73 | 1388.94 | 1488.67 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 1200.00 | 786.16 | 0.00 | 786.17 | .53 | .80 | 1501.41 | 1641.64 |
| 214.000 | 800.00 | 0.00 | 0.00 | 778.00 | 1690.00 | 787.26 | 0.00 | 787.27 | .65 | .95 | 1793.87 | 2092.84 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 690.00 | 784.84 | 0.00 | 784.85 | .77 | .78 | 880.86 | 786.60 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 1020.00 | 785.74 | 0.00 | 785.75 | .98 | .96 | 1065.23 | 1030.15 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 1200.00 | 786.21 | 0.00 | 786.23 | 1.04 | 1.03 | 1165.48 | 1174.36 |
| 214.600 | 700.00 | 0.00 | 0.00 | 779.50 | 1690.00 | 787.31 | 0.00 | 787.33 | 1.23 | 1.19 | 1417.28 | 1526.84 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 690.00 | 784.82 | 0.00 | 785.05 | 31.35 | 3.84 | 180.62 | 123.23 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 1020.00 | 785.71 | 0.00 | 786.00 | 28.78 | 4.35 | 248.29 | 190.14 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 1200.00 | 786.17 | 0.00 | 786.48 | 26.61 | 4.50 | 293.96 | 232.62 |
| 215.000 | 570.00 | 0.00 | 0.00 | 779.00 | 1690.00 | 787.28 | 0.00 | 787.61 | 22.14 | 4.77 | 436.29 | 359.14 |

| SECNO | XLCH | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 690.00 | 787.87 | 0.00 | 788.01 | 16.74 | 3.07 | 283.79 | 168.64 |
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 1020.00 | 788.61 | 0.00 | 788.76 | 15.72 | 3.38 | 416.81 | 257.23 |
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 1200.00 | 788.95 | 0.00 | 789.10 | 15.25 | 3.51 | 485.10 | 307.24 |
| 216.000 | 1320.00 | 0.00 | 0.00 | 781.60 | 1690.00 | 789.76 | 0.00 | 789.92 | 14.01 | 3.75 | 666.08 | 451.51 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 690.00 | 789.91 | 0.00 | 789.99 | 13.70 | 2.26 | 305.71 | 186.41 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 1020.00 | 790.74 | 0.00 | 790.85 | 16.33 | 2.65 | 384.33 | 252.45 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 1200.00 | 791.11 | 0.00 | 791.24 | 17.62 | 2.84 | 422.08 | 285.86 |
| 217.200 | 1300.00 | 0.00 | 0.00 | 783.00 | 1690.00 | 791.95 | 0.00 | 792.11 | 20.67 | 3.28 | 514.46 | 371.75 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 690.00 | 790.15 | 0.00 | 790.29 | 14.55 | 2.96 | 232.91 | 180.88 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 1020.00 | 791.03 | 0.00 | 791.25 | 18.85 | 3.73 | 273.53 | 234.95 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 1200.00 | 791.42 | 0.00 | 791.69 | 21.26 | 4.12 | 291.37 | 260.27 |
| 217.400 | 190.00 | 0.00 | 0.00 | 783.50 | 1690.00 | 792.27 | 0.00 | 792.47 | 15.42 | 3.92 | 541.50 | 430.32 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 690.00 | 790.23 | 0.00 | 790.40 | 22.45 | 3.38 | 204.00 | 145.64 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 1020.00 | 791.33 | 0.00 | 791.57 | 23.79 | 4.01 | 254.60 | 209.12 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 1200.00 | 791.89 | 0.00 | 792.18 | 23.97 | 4.27 | 280.77 | 245.12 |
| 217.600 | 92.00 | 792.80 | 790.10 | 784.20 | 1690.00 | 793.09 | 0.00 | 793.48 | 26.72 | 5.03 | 335.69 | 326.97 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 690.00 | 790.43 | 0.00 | 790.55 | 18.48 | 2.68 | 257.06 | 160.51 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 1020.00 | 791.60 | 0.00 | 791.73 | 18.03 | 2.93 | 347.57 | 240.21 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 1200.00 | 792.20 | 0.00 | 792.34 | 17.19 | 3.00 | 399.63 | 289.45 |
| 217.800 | 60.00 | 0.00 | 0.00 | 783.80 | 1690.00 | 793.51 | 0.00 | 793.67 | 15.88 | 3.22 | 531.74 | 424.14 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 690.00 | 791.53 | 0.00 | 791.91 | 84.61 | 4.94 | 139.64 | 75.01 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 1020.00 | 792.62 | 0.00 | 793.04 | 74.52 | 5.17 | 197.35 | 118.16 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 1200.00 | 793.16 | 0.00 | 793.58 | 69.05 | 5.22 | 229.74 | 144.37 |
| 218.200 | 350.00 | 0.00 | 0.00 | 785.10 | 1690.00 | 794.36 | 0.00 | 794.82 | 59.73 | 5.42 | 320.87 | 218.68 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 690.00 | 792.35 | 0.00 | 793.06 | 109.02 | 6.78 | 101.81 | 66.08 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 1020.00 | 793.37 | 0.00 | 794.50 | 152.76 | 8.52 | 119.73 | 82.53 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 1200.00 | 793.83 | 0.00 | 795.20 | 177.04 | 9.39 | 127.84 | 90.19 |
| 218.400 | 100.00 | 0.00 | 0.00 | 785.50 | 1690.00 | 794.78 | 0.00 | 796.90 | 252.22 | 11.68 | 144.66 | 106.41 |
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 690.00 | 792.60 | 0.00 | 793.41 | 129.79 | 7.22 | 95.61 | 60.57 |
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 1020.00 | 794.64 | 0.00 | 795.57 | 118.31 | 7.75 | 131.60 | 93.77 |
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 1200.00 | 795.95 | 0.00 | 796.88 | 106.21 | 7.75 | 154.83 | 116.44 |
| 218.600 | 180.00 | 806.10 | 793.60 | 786.10 | 1690.00 | 799.97 | 0.00 | 800.83 | 77.71 | 7.42 | 227.76 | 191.71 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 690.00 | 793.68 | 0.00 | 793.76 | 8.43 | 2.89 | 431.93 | 237.64 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 1020.00 | 795.93 | 0.00 | 795.96 | 2.23 | 1.87 | 1007.33 | 682.76 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 1200.00 | 797.24 | 0.00 | 797.26 | 1.29 | 1.58 | 1373.51 | 1055.69 |
| 220.200 | 30.00 | 0.00 | 0.00 | 787.30 | 1690.00 | 801.16 | 0.00 | 801.17 | .43 | 1.15 | 2479.07 | 2589.35 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 640.00 | 793.74 | 0.00 | 793.81 | 7.56 | 2.73 | 423.61 | 232.79 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 950.00 | 795.95 | 0.00 | 795.97 | 2.07 | 1.79 | 983.59 | 660.94 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 1120.00 | 797.25 | 0.00 | 797.27 | 1.19 | 1.51 | 1347.76 | 1026.98 |
| 220.400 | 60.00 | 0.00 | 0.00 | 787.40 | 1500.00 | 801.17 | 0.00 | 801.17 | .35 | 1.04 | 2452.20 | 2545.70 |
| 220.600 | 40.00 | 797.30 | 796.00 | 787.80 | 640.00 | 793.66 | 0.00 | 794.51 | 143.80 | 7.41 | 86.36 | 53.37 |
| 220.600 | 40.00 | 797.30 | 796.00 | 787.80 | 950.00 | 798.01 | 0.00 | 798.03 | 2.17 | 1.52 | 1087.15 | 644.78 |
| 220.600 | 40.00 | 797.30 | 796.00 | 787.80 | 1120.00 | 798.35 | 0.00 | 798.38 | 2.23 | 1.60 | 1211.12 | 749.52 |
| 220.600 | 40.00 | 797.30 | 796.00 | 787.80 | 1500.00 | 801.30 | 0.00 | 801.30 | .57 | 1.05 | 2320.37 | 1986.26 |

| SECNO | XLCH | ELTRC | FLLC | FLMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 640.00 | 794.82 | 0.00 | 795.18 | 50.15 | 4.90 | 147.71 | 90.38 |
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 950.00 | 798.03 | 0.00 | 798.05 | 2.17 | 1.51 | 1088.20 | 645.64 |
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 1120.00 | 798.37 | 0.00 | 798.39 | 2.21 | 1.59 | 1214.98 | 752.90 |
| 220.800 | 60.00 | 0.00 | 0.00 | 787.80 | 1500.00 | 801.30 | 0.00 | 801.31 | .57 | 1.05 | 2318.19 | 1983.36 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 640.00 | 797.96 | 0.00 | 798.05 | 12.91 | 2.52 | 339.99 | 178.13 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 950.00 | 798.54 | 0.00 | 798.65 | 15.92 | 2.99 | 514.48 | 238.11 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 798.89 | 0.00 | 798.99 | 15.03 | 3.01 | 674.01 | 288.92 |
| 221.000 | 1250.00 | 0.00 | 0.00 | 787.60 | 1500.00 | 801.41 | 0.00 | 801.43 | 1.82 | 1.30 | 2255.30 | 1113.16 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 640.00 | 798.27 | 0.00 | 798.33 | 9.65 | 2.26 | 416.55 | 206.06 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 950.00 | 798.91 | 0.00 | 798.98 | 10.62 | 2.54 | 682.00 | 291.47 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 1120.00 | 799.23 | 0.00 | 799.30 | 9.95 | 2.54 | 864.37 | 355.07 |
| 221.200 | 250.00 | 0.00 | 0.00 | 787.60 | 1500.00 | 801.46 | 0.00 | 801.47 | 1.76 | 1.29 | 2279.66 | 1130.52 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 310.00 | 798.33 | 0.00 | 798.34 | 2.13 | 1.07 | 436.06 | 212.61 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 460.00 | 798.97 | 0.00 | 798.99 | 2.30 | 1.19 | 718.44 | 303.14 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 540.00 | 799.29 | 0.00 | 799.31 | 2.14 | 1.18 | 900.31 | 368.76 |
| 221.400 | 10.00 | 0.00 | 0.00 | 787.60 | 750.00 | 801.47 | 0.00 | 801.47 | .44 | .64 | 2285.74 | 1134.87 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 310.00 | 798.83 | 0.00 | 798.89 | 9.18 | 1.90 | 163.19 | 102.31 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 460.00 | 799.55 | 0.00 | 799.64 | 13.42 | 2.45 | 188.05 | 125.55 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 540.00 | 799.85 | 0.00 | 799.96 | 15.66 | 2.72 | 199.62 | 136.46 |
| 222.000 | 1370.00 | 0.00 | 0.00 | 791.50 | 750.00 | 801.58 | 0.00 | 801.65 | 8.67 | 2.40 | 528.11 | 254.78 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 310.00 | 799.34 | 0.00 | 799.35 | 1.09 | .73 | 427.23 | 296.35 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 460.00 | 800.27 | 0.00 | 800.28 | 1.48 | .90 | 510.47 | 378.53 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 540.00 | 800.68 | 0.00 | 800.69 | 1.67 | .98 | 549.00 | 418.23 |
| 223.000 | 1900.00 | 0.00 | 0.00 | 790.50 | 750.00 | 802.22 | 0.00 | 802.23 | 1.52 | 1.07 | 701.70 | 607.82 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 310.00 | 799.55 | 0.00 | 799.57 | 4.88 | 1.24 | 249.55 | 140.35 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 460.00 | 800.53 | 0.00 | 800.56 | 5.32 | 1.43 | 321.00 | 199.50 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 540.00 | 800.97 | 0.00 | 801.00 | 5.55 | 1.52 | 354.80 | 229.25 |
| 223.800 | 1080.00 | 0.00 | 0.00 | 793.00 | 750.00 | 802.47 | 0.00 | 802.50 | 4.57 | 1.55 | 483.10 | 350.95 |

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 200.800 | 1180.00 | 765.51 | 0.00 | 0.00 | 0.00 | 100.37 | 0.00 |
| | 200.800 | 1630.00 | 767.47 | 0.00 | 0.00 | 0.00 | 110.47 | 0.00 |
| | 200.800 | 1830.00 | 767.77 | 0.00 | 0.00 | 0.00 | 118.22 | 0.00 |
| | 200.800 | 2270.00 | 768.53 | 0.00 | 0.00 | 0.00 | 119.00 | 0.00 |
| | 201.000 | 1180.00 | 766.19 | 0.00 | .68 | 0.00 | 241.20 | 520.00 |
| | 201.000 | 1630.00 | 767.95 | 0.00 | .48 | 0.00 | 259.24 | 520.00 |
| | 201.000 | 1830.00 | 768.29 | 0.00 | .52 | 0.00 | 262.76 | 520.00 |
| | 201.000 | 2270.00 | 769.10 | 0.00 | .57 | 0.00 | 271.15 | 520.00 |
| | 202.000 | 1180.00 | 766.58 | 0.00 | .38 | 0.00 | 212.08 | 730.00 |
| | 202.000 | 1630.00 | 768.20 | 0.00 | .26 | 0.00 | 239.22 | 730.00 |
| | 202.000 | 1830.00 | 768.56 | 0.00 | .27 | 0.00 | 245.13 | 730.00 |
| | 202.000 | 2270.00 | 769.38 | 0.00 | .28 | 0.00 | 258.78 | 730.00 |
| | 203.200 | 960.00 | 767.26 | 0.00 | .68 | 0.00 | 175.21 | 570.00 |
| | 203.200 | 1350.00 | 768.64 | 0.00 | .43 | 0.00 | 186.71 | 570.00 |
| | 203.200 | 1550.00 | 769.00 | 0.00 | .44 | 0.00 | 196.45 | 570.00 |
| | 203.200 | 2050.00 | 769.83 | 0.00 | .45 | 0.00 | 211.22 | 570.00 |
| | 203.400 | 960.00 | 767.60 | 0.00 | .34 | 0.00 | 329.26 | 120.00 |
| | 203.400 | 1350.00 | 768.87 | 0.00 | .24 | 0.00 | 334.91 | 120.00 |
| | 203.400 | 1550.00 | 769.26 | 0.00 | .25 | 0.00 | 344.70 | 120.00 |
| | 203.400 | 2050.00 | 770.11 | 0.00 | .28 | 0.00 | 348.89 | 120.00 |
| * | 203.500 | 960.00 | 768.11 | 0.00 | .51 | 0.00 | 329.80 | 1.00 |
| * | 203.500 | 1350.00 | 768.83 | 0.00 | -.04 | 0.00 | 333.86 | 1.00 |
| * | 203.500 | 1550.00 | 769.56 | 0.00 | .30 | 0.00 | 348.48 | 1.00 |
| | 203.500 | 2050.00 | 769.89 | 0.00 | -.21 | 0.00 | 348.73 | 1.00 |
| | 203.600 | 960.00 | 769.38 | 0.00 | 1.27 | 0.00 | 347.82 | 30.00 |
| | 203.600 | 1350.00 | 770.42 | 0.00 | 1.58 | 0.00 | 349.12 | 30.00 |
| | 203.600 | 1550.00 | 770.41 | 0.00 | .85 | 0.00 | 349.12 | 30.00 |
| | 203.600 | 2050.00 | 771.35 | 0.00 | 1.46 | 0.00 | 349.83 | 30.00 |
| | 203.700 | 960.00 | 769.96 | 0.00 | .58 | 0.00 | 348.78 | 1.00 |
| | 203.700 | 1350.00 | 770.88 | 0.00 | .47 | 0.00 | 349.48 | 1.00 |
| | 203.700 | 1550.00 | 771.03 | 0.00 | .62 | 0.00 | 349.59 | 1.00 |
| | 203.700 | 2050.00 | 771.87 | 0.00 | .51 | 0.00 | 350.22 | 1.00 |
| * | 203.750 | 960.00 | 769.95 | 0.00 | -.01 | 0.00 | 431.30 | 30.00 |
| * | 203.750 | 1350.00 | 770.30 | 0.00 | -.58 | 0.00 | 445.43 | 30.00 |
| * | 203.750 | 1550.00 | 770.55 | 0.00 | -.48 | 0.00 | 455.52 | 30.00 |
| * | 203.750 | 2050.00 | 771.10 | 0.00 | -.77 | 0.00 | 477.73 | 30.00 |
| | 203.800 | 960.00 | 769.97 | 0.00 | .02 | 0.00 | 424.31 | 75.00 |
| | 203.800 | 1350.00 | 770.33 | 0.00 | .03 | 0.00 | 438.59 | 75.00 |
| | 203.800 | 1550.00 | 770.58 | 0.00 | .03 | 0.00 | 448.87 | 75.00 |
| | 203.800 | 2050.00 | 771.14 | 0.00 | .04 | 0.00 | 471.21 | 75.00 |
| | 204.000 | 960.00 | 770.55 | 0.00 | .58 | 0.00 | 302.04 | 1000.00 |
| | 204.000 | 1350.00 | 771.15 | 0.00 | .82 | 0.00 | 326.61 | 1000.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 204.000 | 1550.00 | 771.45 | 0.00 | .87 | 0.00 | 339.07 | 1000.00 |
| 204.000 | 2050.00 | 772.09 | 0.00 | .95 | 0.00 | 365.21 | 1000.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 204.120 | 960.00 | 771.16 | 0.00 | .61 | 0.00 | 314.61 | 111.00 |
| 204.120 | 1350.00 | 771.66 | 0.00 | .51 | 0.00 | 335.07 | 111.00 |
| 204.120 | 1550.00 | 771.90 | 0.00 | .46 | 0.00 | 345.07 | 111.00 |
| 204.120 | 2050.00 | 772.48 | 0.00 | .39 | 0.00 | 368.74 | 111.00 |
| 204.140 | 960.00 | 771.20 | 0.00 | .04 | 0.00 | 316.33 | 1.00 |
| 204.140 | 1350.00 | 771.69 | 0.00 | .04 | 0.00 | 336.51 | 1.00 |
| 204.140 | 1550.00 | 771.94 | 0.00 | .03 | 0.00 | 346.46 | 1.00 |
| 204.140 | 2050.00 | 772.51 | 0.00 | .02 | 0.00 | 369.85 | 1.00 |
| 204.160 | 960.00 | 771.26 | 0.00 | .06 | 0.00 | 318.37 | 7.00 |
| 204.160 | 1350.00 | 771.74 | 0.00 | .05 | 0.00 | 338.29 | 7.00 |
| 204.160 | 1550.00 | 771.98 | 0.00 | .05 | 0.00 | 348.11 | 7.00 |
| 204.160 | 2050.00 | 772.55 | 0.00 | .04 | 0.00 | 371.08 | 7.00 |
| 204.180 | 960.00 | 771.26 | 0.00 | -.00 | 0.00 | 318.85 | 1.00 |
| 204.180 | 1350.00 | 771.74 | 0.00 | -.00 | 0.00 | 338.85 | 1.00 |
| 204.180 | 1550.00 | 771.98 | 0.00 | -.00 | 0.00 | 348.62 | 1.00 |
| 204.180 | 2050.00 | 772.55 | 0.00 | -.00 | 0.00 | 371.66 | 1.00 |
| 204.220 | 960.00 | 771.58 | 0.00 | .33 | 0.00 | 332.05 | 112.00 |
| 204.220 | 1350.00 | 772.08 | 0.00 | .34 | 0.00 | 352.30 | 112.00 |
| 204.220 | 1550.00 | 772.32 | 0.00 | .33 | 0.00 | 362.00 | 112.00 |
| 204.220 | 2050.00 | 772.87 | 0.00 | .32 | 0.00 | 384.60 | 112.00 |
| 204.240 | 960.00 | 771.61 | 0.00 | .03 | 0.00 | 333.11 | 1.00 |
| 204.240 | 1350.00 | 772.10 | 0.00 | .02 | 0.00 | 353.30 | 1.00 |
| 204.240 | 1550.00 | 772.34 | 0.00 | .02 | 0.00 | 362.96 | 1.00 |
| 204.240 | 2050.00 | 772.89 | 0.00 | .02 | 0.00 | 385.06 | 1.00 |
| 204.260 | 960.00 | 771.63 | 0.00 | .02 | 0.00 | 333.77 | 6.00 |
| 204.260 | 1350.00 | 772.12 | 0.00 | .02 | 0.00 | 353.97 | 6.00 |
| 204.260 | 1550.00 | 772.36 | 0.00 | .02 | 0.00 | 363.63 | 6.00 |
| 204.260 | 2050.00 | 772.91 | 0.00 | .02 | 0.00 | 386.09 | 6.00 |
| 204.280 | 960.00 | 771.63 | 0.00 | -.00 | 0.00 | 334.07 | 1.00 |
| 204.280 | 1350.00 | 772.12 | 0.00 | -.00 | 0.00 | 354.26 | 1.00 |
| 204.280 | 1550.00 | 772.36 | 0.00 | -.00 | 0.00 | 363.91 | 1.00 |
| 204.280 | 2050.00 | 772.91 | 0.00 | -.00 | 0.00 | 386.36 | 1.00 |
| 204.320 | 960.00 | 771.76 | 0.00 | .13 | 0.00 | 339.12 | 67.00 |
| 204.320 | 1350.00 | 772.26 | 0.00 | .14 | 0.00 | 359.77 | 67.00 |
| 204.320 | 1550.00 | 772.50 | 0.00 | .14 | 0.00 | 369.53 | 67.00 |
| 204.320 | 2050.00 | 773.05 | 0.00 | .15 | 0.00 | 392.09 | 67.00 |
| 204.340 | 960.00 | 771.78 | 0.00 | .02 | 0.00 | 340.09 | 1.00 |
| 204.340 | 1350.00 | 772.28 | 0.00 | .02 | 0.00 | 360.73 | 1.00 |
| 204.340 | 1550.00 | 772.52 | 0.00 | .02 | 0.00 | 370.48 | 1.00 |
| 204.340 | 2050.00 | 773.07 | 0.00 | .02 | 0.00 | 392.56 | 1.00 |
| 204.360 | 960.00 | 771.80 | 0.00 | .01 | 0.00 | 340.59 | 6.00 |
| 204.360 | 1350.00 | 772.30 | 0.00 | .02 | 0.00 | 361.26 | 6.00 |
| 204.360 | 1550.00 | 772.54 | 0.00 | .02 | 0.00 | 371.01 | 6.00 |
| 204.360 | 2050.00 | 773.09 | 0.00 | .02 | 0.00 | 393.51 | 6.00 |

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 204.380 | 960.00 | 771.79 | 0.00 | -.00 | 0.00 | 340.79 | 1.00 |
| 204.380 | 1350.00 | 772.30 | 0.00 | -.00 | 0.00 | 361.45 | 1.00 |
| 204.380 | 1550.00 | 772.53 | 0.00 | -.00 | 0.00 | 371.20 | 1.00 |
| 204.380 | 2050.00 | 773.08 | 0.00 | -.00 | 0.00 | 393.71 | 1.00 |
| 205.200 | 960.00 | 773.03 | 0.00 | 1.24 | 0.00 | 217.82 | 610.00 |
| 205.200 | 1350.00 | 773.62 | 0.00 | 1.32 | 0.00 | 226.00 | 610.00 |
| 205.200 | 1550.00 | 773.88 | 0.00 | 1.35 | 0.00 | 229.69 | 610.00 |
| 205.200 | 2050.00 | 774.47 | 0.00 | 1.39 | 0.00 | 237.91 | 610.00 |
| 205.300 | 960.00 | 773.33 | 0.00 | .30 | 0.00 | 222.06 | 123.00 |
| 205.300 | 1350.00 | 773.94 | 0.00 | .32 | 0.00 | 230.46 | 123.00 |
| 205.300 | 1550.00 | 774.21 | 0.00 | .33 | 0.00 | 234.26 | 123.00 |
| 205.300 | 2050.00 | 774.82 | 0.00 | .35 | 0.00 | 242.74 | 123.00 |
| 205.400 | 960.00 | 773.32 | 0.00 | -.01 | 0.00 | 222.02 | 1.00 |
| 205.400 | 1350.00 | 773.93 | 0.00 | -.01 | 0.00 | 230.50 | 1.00 |
| 205.400 | 1550.00 | 774.20 | 0.00 | -.01 | 0.00 | 234.29 | 1.00 |
| 205.400 | 2050.00 | 774.82 | 0.00 | -.00 | 0.00 | 242.77 | 1.00 |
| 205.500 | 960.00 | 773.56 | 0.00 | .23 | 0.00 | 225.20 | 15.00 |
| 205.500 | 1350.00 | 774.11 | 0.00 | .17 | 0.00 | 232.81 | 15.00 |
| 205.500 | 1550.00 | 774.36 | 0.00 | .16 | 0.00 | 236.40 | 15.00 |
| 205.500 | 2050.00 | 774.95 | 0.00 | .14 | 0.00 | 244.57 | 15.00 |
| 205.600 | 960.00 | 773.63 | 0.00 | .07 | 0.00 | 226.15 | 1.00 |
| 205.600 | 1350.00 | 774.17 | 0.00 | .07 | 0.00 | 233.72 | 1.00 |
| 205.600 | 1550.00 | 774.43 | 0.00 | .06 | 0.00 | 237.29 | 1.00 |
| 205.600 | 2050.00 | 775.01 | 0.00 | .06 | 0.00 | 245.43 | 1.00 |
| 205.800 | 960.00 | 773.73 | 0.00 | .10 | 0.00 | 203.78 | 80.00 |
| 205.800 | 1350.00 | 774.30 | 0.00 | .12 | 0.00 | 212.22 | 80.00 |
| 205.800 | 1550.00 | 774.56 | 0.00 | .13 | 0.00 | 216.19 | 80.00 |
| 205.800 | 2050.00 | 775.16 | 0.00 | .15 | 0.00 | 225.13 | 80.00 |
| 205.900 | 870.00 | 774.10 | 0.00 | .37 | 0.00 | 267.44 | 314.00 |
| 205.900 | 1240.00 | 774.73 | 0.00 | .43 | 0.00 | 270.27 | 314.00 |
| 205.900 | 1440.00 | 775.02 | 0.00 | .46 | 0.00 | 271.58 | 314.00 |
| 205.900 | 1920.00 | 775.67 | 0.00 | .51 | 0.00 | 274.52 | 314.00 |
| 206.000 | 870.00 | 774.97 | 0.00 | .87 | 0.00 | 271.40 | 16.00 |
| 206.000 | 1240.00 | 775.62 | 0.00 | .89 | 0.00 | 274.28 | 16.00 |
| 206.000 | 1440.00 | 775.88 | 0.00 | .86 | 0.00 | 275.46 | 16.00 |
| 206.000 | 1920.00 | 776.41 | 0.00 | .74 | 0.00 | 276.00 | 16.00 |
| 206.800 | 870.00 | 775.01 | 0.00 | .04 | 0.00 | 271.54 | 100.00 |
| 206.800 | 1240.00 | 775.67 | 0.00 | .05 | 0.00 | 274.50 | 100.00 |
| 206.800 | 1440.00 | 775.94 | 0.00 | .06 | 0.00 | 275.71 | 100.00 |
| 206.800 | 1920.00 | 776.48 | 0.00 | .07 | 0.00 | 276.00 | 100.00 |
| 207.200 | 870.00 | 775.28 | 0.00 | .27 | 0.00 | 205.70 | 350.00 |
| 207.200 | 1240.00 | 775.98 | 0.00 | .31 | 0.00 | 228.42 | 350.00 |
| 207.200 | 1440.00 | 776.27 | 0.00 | .34 | 0.00 | 240.00 | 350.00 |
| 207.200 | 1920.00 | 776.87 | 0.00 | .40 | 0.00 | 240.00 | 350.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 207.300 | 870.00 | 775.91 | 0.00 | .63 | 0.00 | 303.61 | 179.00 |
| 207.300 | 1240.00 | 776.54 | 0.00 | .56 | 0.00 | 306.45 | 179.00 |
| 207.300 | 1440.00 | 776.82 | 0.00 | .55 | 0.00 | 307.74 | 179.00 |
| 207.300 | 1920.00 | 777.44 | 0.00 | .56 | 0.00 | 310.53 | 179.00 |
| 207.400 | 870.00 | 776.08 | 0.00 | .16 | 0.00 | 304.38 | 1.00 |
| 207.400 | 1240.00 | 776.65 | 0.00 | .11 | 0.00 | 306.94 | 1.00 |
| 207.400 | 1440.00 | 776.92 | 0.00 | .09 | 0.00 | 308.16 | 1.00 |
| 207.400 | 1920.00 | 777.51 | 0.00 | .07 | 0.00 | 310.84 | 1.00 |
| 207.500 | 870.00 | 776.24 | 0.00 | .16 | 0.00 | 305.08 | 19.00 |
| 207.500 | 1240.00 | 776.77 | 0.00 | .12 | 0.00 | 307.48 | 19.00 |
| 207.500 | 1440.00 | 777.02 | 0.00 | .11 | 0.00 | 308.61 | 19.00 |
| 207.500 | 1920.00 | 777.60 | 0.00 | .09 | 0.00 | 311.22 | 19.00 |
| 207.600 | 870.00 | 776.23 | 0.00 | -.01 | 0.00 | 305.08 | 1.00 |
| 207.600 | 1240.00 | 776.76 | 0.00 | -.01 | 0.00 | 307.48 | 1.00 |
| 207.600 | 1440.00 | 777.02 | 0.00 | -.00 | 0.00 | 308.67 | 1.00 |
| 207.600 | 1920.00 | 777.59 | 0.00 | -.00 | 0.00 | 311.28 | 1.00 |
| 207.800 | 870.00 | 776.48 | 0.00 | .25 | 0.00 | 309.44 | 100.00 |
| 207.800 | 1240.00 | 777.01 | 0.00 | .25 | 0.00 | 311.02 | 100.00 |
| 207.800 | 1440.00 | 777.26 | 0.00 | .25 | 0.00 | 311.79 | 100.00 |
| 207.800 | 1920.00 | 777.83 | 0.00 | .24 | 0.00 | 313.50 | 100.00 |
| 208.200 | 870.00 | 776.71 | 0.00 | .23 | 0.00 | 270.80 | 200.00 |
| 208.200 | 1240.00 | 777.27 | 0.00 | .26 | 0.00 | 291.37 | 200.00 |
| 208.200 | 1440.00 | 777.54 | 0.00 | .27 | 0.00 | 295.31 | 200.00 |
| 208.200 | 1920.00 | 778.12 | 0.00 | .29 | 0.00 | 303.96 | 200.00 |
| 208.300 | 870.00 | 776.92 | 0.00 | .21 | 0.00 | 279.25 | 104.00 |
| 208.300 | 1240.00 | 777.49 | 0.00 | .23 | 0.00 | 294.73 | 104.00 |
| 208.300 | 1440.00 | 777.77 | 0.00 | .23 | 0.00 | 298.72 | 104.00 |
| 208.300 | 1920.00 | 778.36 | 0.00 | .24 | 0.00 | 307.42 | 104.00 |
| 208.400 | 870.00 | 776.88 | 0.00 | -.04 | 0.00 | 277.63 | 1.00 |
| 208.400 | 1240.00 | 777.46 | 0.00 | -.04 | 0.00 | 294.15 | 1.00 |
| 208.400 | 1440.00 | 777.73 | 0.00 | -.04 | 0.00 | 298.19 | 1.00 |
| 208.400 | 1920.00 | 778.33 | 0.00 | -.03 | 0.00 | 307.04 | 1.00 |
| 208.500 | 870.00 | 777.23 | 0.00 | .35 | 0.00 | 290.95 | 14.00 |
| 208.500 | 1240.00 | 777.90 | 0.00 | .45 | 0.00 | 300.71 | 14.00 |
| 208.500 | 1440.00 | 778.15 | 0.00 | .42 | 0.00 | 304.40 | 14.00 |
| 208.500 | 1920.00 | 778.64 | 0.00 | .31 | 0.00 | 308.00 | 14.00 |
| 208.600 | 870.00 | 777.45 | 0.00 | .21 | 0.00 | 294.01 | 1.00 |
| 208.600 | 1240.00 | 778.06 | 0.00 | .15 | 0.00 | 302.95 | 1.00 |
| 208.600 | 1440.00 | 778.30 | 0.00 | .15 | 0.00 | 306.58 | 1.00 |
| 208.600 | 1920.00 | 778.81 | 0.00 | .17 | 0.00 | 308.00 | 1.00 |
| 208.800 | 870.00 | 777.55 | 0.00 | .10 | 0.00 | 108.94 | 80.00 |
| 208.800 | 1240.00 | 778.17 | 0.00 | .11 | 0.00 | 178.17 | 80.00 |
| 208.800 | 1440.00 | 778.43 | 0.00 | .12 | 0.00 | 208.99 | 80.00 |
| 208.800 | 1920.00 | 778.96 | 0.00 | .15 | 0.00 | 221.45 | 80.00 |

| SECNC | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 209.000 | 870.00 | 778.58 | 0.00 | 1.03 | 0.00 | 422.32 | 420.00 |
| 209.000 | 1240.00 | 779.21 | 0.00 | 1.04 | 0.00 | 442.00 | 420.00 |
| 209.000 | 1440.00 | 779.49 | 0.00 | 1.06 | 0.00 | 442.00 | 420.00 |
| 209.000 | 1920.00 | 780.05 | 0.00 | 1.10 | 0.00 | 442.00 | 420.00 |
| 210.000 | 870.00 | 779.40 | 0.00 | .82 | 0.00 | 278.03 | 1200.00 |
| 210.000 | 1240.00 | 780.05 | 0.00 | .83 | 0.00 | 323.22 | 1200.00 |
| 210.000 | 1440.00 | 780.34 | 0.00 | .85 | 0.00 | 343.70 | 1200.00 |
| 210.000 | 1920.00 | 780.94 | 0.00 | .89 | 0.00 | 385.43 | 1200.00 |
| 210.200 | 870.00 | 780.22 | 0.00 | .82 | 0.00 | 82.26 | 1010.00 |
| 210.200 | 1240.00 | 780.99 | 0.00 | .95 | 0.00 | 116.10 | 1010.00 |
| 210.200 | 1440.00 | 781.34 | 0.00 | 1.00 | 0.00 | 132.18 | 1010.00 |
| 210.200 | 1920.00 | 782.04 | 0.00 | 1.09 | 0.00 | 234.41 | 1010.00 |
| 210.300 | 870.00 | 780.09 | 0.00 | -.13 | 0.00 | 71.73 | 1.00 |
| 210.300 | 1240.00 | 780.89 | 0.00 | -.10 | 0.00 | 111.44 | 1.00 |
| 210.300 | 1440.00 | 781.26 | 0.00 | -.08 | 0.00 | 128.65 | 1.00 |
| 210.300 | 1920.00 | 782.03 | 0.00 | -.01 | 0.00 | 234.40 | 1.00 |
| 210.500 | 870.00 | 780.43 | 0.00 | .34 | 0.00 | 89.73 | 8.00 |
| 210.500 | 1240.00 | 781.18 | 0.00 | .29 | 0.00 | 125.05 | 8.00 |
| 210.500 | 1440.00 | 781.52 | 0.00 | .26 | 0.00 | 145.39 | 8.00 |
| 210.500 | 1920.00 | 782.23 | 0.00 | .20 | 0.00 | 263.36 | 8.00 |
| 210.700 | 870.00 | 780.60 | 0.00 | .17 | 0.00 | 97.56 | 1.00 |
| 210.700 | 1240.00 | 781.31 | 0.00 | .13 | 0.00 | 130.87 | 1.00 |
| 210.700 | 1440.00 | 781.62 | 0.00 | .10 | 0.00 | 166.76 | 1.00 |
| 210.700 | 1920.00 | 782.24 | 0.00 | .00 | 0.00 | 264.73 | 1.00 |
| 211.200 | 870.00 | 781.61 | 0.00 | 1.01 | 0.00 | 164.83 | 610.00 |
| 211.200 | 1240.00 | 782.44 | 0.00 | 1.12 | 0.00 | 284.22 | 610.00 |
| 211.200 | 1440.00 | 782.79 | 0.00 | 1.17 | 0.00 | 312.74 | 610.00 |
| 211.200 | 1920.00 | 783.49 | 0.00 | 1.25 | 0.00 | 367.89 | 610.00 |
| 211.400 | 870.00 | 781.80 | 0.00 | .19 | 0.00 | 64.00 | 189.00 |
| 211.400 | 1240.00 | 782.64 | 0.00 | .21 | 0.00 | 300.67 | 189.00 |
| 211.400 | 1440.00 | 783.00 | 0.00 | .21 | 0.00 | 329.23 | 189.00 |
| 211.400 | 1920.00 | 783.70 | 0.00 | .21 | 0.00 | 384.66 | 189.00 |
| 211.600 | 870.00 | 783.36 | 0.00 | 1.55 | 0.00 | 64.00 | 31.00 |
| 211.600 | 1240.00 | 784.03 | 0.00 | 1.39 | 0.00 | 411.47 | 31.00 |
| 211.600 | 1440.00 | 784.26 | 0.00 | 1.26 | 0.00 | 429.38 | 31.00 |
| 211.600 | 1920.00 | 784.71 | 0.00 | 1.01 | 0.00 | 464.97 | 31.00 |
| 211.800 | 870.00 | 783.43 | 0.00 | .08 | 0.00 | 375.91 | 60.00 |
| 211.800 | 1240.00 | 784.07 | 0.00 | .03 | 0.00 | 421.36 | 60.00 |
| 211.800 | 1440.00 | 784.30 | 0.00 | .04 | 0.00 | 435.83 | 60.00 |
| 211.800 | 1920.00 | 784.75 | 0.00 | .05 | 0.00 | 460.20 | 60.00 |
| 212.200 | 690.00 | 783.80 | 0.00 | .36 | 0.00 | 184.05 | 570.00 |
| 212.200 | 1020.00 | 784.46 | 0.00 | .39 | 0.00 | 195.34 | 570.00 |
| 212.200 | 1200.00 | 784.72 | 0.00 | .43 | 0.00 | 197.73 | 570.00 |
| 212.200 | 1690.00 | 785.27 | 0.00 | .52 | 0.00 | 203.46 | 570.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 212.400 | 690.00 | 784.05 | 0.00 | .25 | 0.00 | 50.00 | 90.00 |
| 212.400 | 1020.00 | 784.68 | 0.00 | .22 | 0.00 | 50.00 | 90.00 |
| 212.400 | 1200.00 | 784.97 | 0.00 | .24 | 0.00 | 199.90 | 90.00 |
| 212.400 | 1690.00 | 785.55 | 0.00 | .27 | 0.00 | 208.93 | 90.00 |
| 213.000 | 690.00 | 784.18 | 0.00 | .13 | 0.00 | 43.22 | 106.00 |
| 213.000 | 1020.00 | 784.99 | 0.00 | .31 | 0.00 | 43.82 | 106.00 |
| 213.000 | 1200.00 | 785.42 | 0.00 | .45 | 0.00 | 43.97 | 106.00 |
| 213.000 | 1690.00 | 786.53 | 0.00 | .98 | 0.00 | 44.00 | 106.00 |
| 213.200 | 690.00 | 784.21 | 0.00 | .03 | 0.00 | 43.24 | 36.00 |
| 213.200 | 1020.00 | 785.03 | 0.00 | .05 | 0.00 | 46.20 | 36.00 |
| 213.200 | 1200.00 | 785.47 | 0.00 | .06 | 0.00 | 61.21 | 36.00 |
| 213.200 | 1690.00 | 786.63 | 0.00 | .11 | 0.00 | 110.02 | 36.00 |
| 213.400 | 690.00 | 783.92 | 0.00 | -.28 | 0.00 | 50.84 | 1.00 |
| 213.400 | 1020.00 | 784.76 | 0.00 | -.27 | 0.00 | 51.59 | 1.00 |
| 213.400 | 1200.00 | 785.21 | 0.00 | -.26 | 0.00 | 66.05 | 1.00 |
| 213.400 | 1690.00 | 786.45 | 0.00 | -.18 | 0.00 | 113.32 | 1.00 |
| 213.500 | 690.00 | 784.79 | 0.00 | .87 | 0.00 | 251.18 | 1.00 |
| 213.500 | 1020.00 | 785.67 | 0.00 | .91 | 0.00 | 291.30 | 1.00 |
| 213.500 | 1200.00 | 786.13 | 0.00 | .92 | 0.00 | 320.40 | 1.00 |
| 213.500 | 1690.00 | 787.22 | 0.00 | .77 | 0.00 | 388.07 | 1.00 |
| 214.000 | 690.00 | 784.81 | 0.00 | .02 | 0.00 | 218.73 | 800.00 |
| 214.000 | 1020.00 | 785.70 | 0.00 | .02 | 0.00 | 236.11 | 800.00 |
| 214.000 | 1200.00 | 786.16 | 0.00 | .03 | 0.00 | 247.74 | 800.00 |
| 214.000 | 1690.00 | 787.26 | 0.00 | .03 | 0.00 | 296.26 | 800.00 |
| 214.600 | 690.00 | 784.84 | 0.00 | .03 | 0.00 | 197.00 | 700.00 |
| 214.600 | 1020.00 | 785.74 | 0.00 | .04 | 0.00 | 211.34 | 700.00 |
| 214.600 | 1200.00 | 786.21 | 0.00 | .05 | 0.00 | 217.36 | 700.00 |
| 214.600 | 1690.00 | 787.31 | 0.00 | .06 | 0.00 | 239.10 | 700.00 |
| 215.000 | 690.00 | 784.82 | 0.00 | -.02 | 0.00 | 63.19 | 570.00 |
| 215.000 | 1020.00 | 785.71 | 0.00 | -.03 | 0.00 | 89.31 | 570.00 |
| 215.000 | 1200.00 | 786.17 | 0.00 | -.04 | 0.00 | 106.98 | 570.00 |
| 215.000 | 1690.00 | 787.28 | 0.00 | -.03 | 0.00 | 149.19 | 570.00 |
| 216.000 | 690.00 | 787.87 | 0.00 | 3.06 | 0.00 | 161.72 | 1320.00 |
| 216.000 | 1020.00 | 788.61 | 0.00 | 2.90 | 0.00 | 197.01 | 1320.00 |
| 216.000 | 1200.00 | 788.95 | 0.00 | 2.78 | 0.00 | 209.44 | 1320.00 |
| 216.000 | 1690.00 | 789.76 | 0.00 | 2.47 | 0.00 | 235.71 | 1320.00 |
| 217.200 | 690.00 | 789.91 | 0.00 | 2.03 | 0.00 | 89.07 | 1300.00 |
| 217.200 | 1020.00 | 790.74 | 0.00 | 2.13 | 0.00 | 100.16 | 1300.00 |
| 217.200 | 1200.00 | 791.11 | 0.00 | 2.16 | 0.00 | 105.07 | 1300.00 |
| 217.200 | 1690.00 | 791.95 | 0.00 | 2.19 | 0.00 | 116.22 | 1300.00 |
| 217.400 | 690.00 | 790.15 | 0.00 | .25 | 0.00 | 46.00 | 190.00 |
| 217.400 | 1020.00 | 791.03 | 0.00 | .29 | 0.00 | 46.00 | 190.00 |
| 217.400 | 1200.00 | 791.42 | 0.00 | .31 | 0.00 | 46.00 | 190.00 |
| 217.400 | 1690.00 | 792.27 | 0.00 | .33 | 0.00 | 115.53 | 190.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 217.600 | 690.00 | 790.23 | 0.00 | .07 | 0.00 | 46.00 | 92.00 |
| 217.600 | 1020.00 | 791.33 | 0.00 | .29 | 0.00 | 46.00 | 92.00 |
| 217.600 | 1200.00 | 791.89 | 0.00 | .47 | 0.00 | 46.00 | 92.00 |
| 217.600 | 1690.00 | 793.09 | 0.00 | .82 | 0.00 | 46.00 | 92.00 |
| 217.800 | 690.00 | 790.43 | 0.00 | .21 | 0.00 | 71.84 | 60.00 |
| 217.800 | 1020.00 | 791.60 | 0.00 | .27 | 0.00 | 83.39 | 60.00 |
| 217.800 | 1200.00 | 792.20 | 0.00 | .31 | 0.00 | 89.36 | 60.00 |
| 217.800 | 1690.00 | 793.51 | 0.00 | .42 | 0.00 | 123.60 | 60.00 |
| 218.200 | 690.00 | 791.53 | 0.00 | 1.09 | 0.00 | 47.97 | 350.00 |
| 218.200 | 1020.00 | 792.62 | 0.00 | 1.02 | 0.00 | 57.75 | 350.00 |
| 218.200 | 1200.00 | 793.16 | 0.00 | .96 | 0.00 | 62.57 | 350.00 |
| 218.200 | 1690.00 | 794.36 | 0.00 | .85 | 0.00 | 145.45 | 350.00 |
| 218.400 | 690.00 | 792.35 | 0.00 | .82 | 0.00 | 17.53 | 100.00 |
| 218.400 | 1020.00 | 793.37 | 0.00 | .75 | 0.00 | 17.64 | 100.00 |
| 218.400 | 1200.00 | 793.83 | 0.00 | .67 | 0.00 | 17.69 | 100.00 |
| 218.400 | 1690.00 | 794.78 | 0.00 | .41 | 0.00 | 17.80 | 100.00 |
| 218.600 | 690.00 | 792.60 | 0.00 | .25 | 0.00 | 17.49 | 180.00 |
| 218.600 | 1020.00 | 794.64 | 0.00 | 1.27 | 0.00 | 17.71 | 180.00 |
| 218.600 | 1200.00 | 795.95 | 0.00 | 2.12 | 0.00 | 17.86 | 180.00 |
| 218.600 | 1690.00 | 799.97 | 0.00 | 5.20 | 0.00 | 18.31 | 180.00 |
| 220.200 | 690.00 | 793.68 | 0.00 | 1.08 | 0.00 | 236.43 | 30.00 |
| 220.200 | 1020.00 | 795.93 | 0.00 | 1.29 | 0.00 | 272.87 | 30.00 |
| 220.200 | 1200.00 | 797.24 | 0.00 | 1.29 | 0.00 | 282.00 | 30.00 |
| 220.200 | 1690.00 | 801.16 | 0.00 | 1.19 | 0.00 | 282.00 | 30.00 |
| 220.400 | 640.00 | 793.74 | 0.00 | .06 | 0.00 | 235.86 | 60.00 |
| 220.400 | 950.00 | 795.95 | 0.00 | .02 | 0.00 | 271.47 | 60.00 |
| 220.400 | 1120.00 | 797.25 | 0.00 | .01 | 0.00 | 282.00 | 60.00 |
| 220.400 | 1500.00 | 801.17 | 0.00 | .00 | 0.00 | 282.00 | 60.00 |
| 220.600 | 640.00 | 793.66 | 0.00 | -.08 | 0.00 | 31.39 | 40.00 |
| 220.600 | 950.00 | 798.01 | 0.00 | 2.07 | 0.00 | 376.00 | 40.00 |
| 220.600 | 1120.00 | 798.35 | 0.00 | 1.10 | 0.00 | 376.00 | 40.00 |
| 220.600 | 1500.00 | 801.30 | 0.00 | .13 | 0.00 | 376.00 | 40.00 |
| 220.800 | 640.00 | 794.82 | 0.00 | 1.16 | 0.00 | 122.55 | 60.00 |
| 220.800 | 950.00 | 798.03 | 0.00 | .01 | 0.00 | 376.00 | 60.00 |
| 220.800 | 1120.00 | 798.37 | 0.00 | .01 | 0.00 | 376.00 | 60.00 |
| 220.800 | 1500.00 | 801.30 | 0.00 | .00 | 0.00 | 376.00 | 60.00 |
| 221.000 | 640.00 | 797.96 | 0.00 | 3.14 | 0.00 | 205.14 | 1250.00 |
| 221.000 | 950.00 | 798.54 | 0.00 | .51 | 0.00 | 400.75 | 1250.00 |
| 221.000 | 1120.00 | 798.89 | 0.00 | .52 | 0.00 | 518.62 | 1250.00 |
| 221.000 | 1500.00 | 801.41 | 0.00 | .12 | 0.00 | 650.00 | 1250.00 |
| 221.200 | 640.00 | 798.27 | 0.00 | .30 | 0.00 | 306.73 | 250.00 |
| 221.200 | 950.00 | 798.91 | 0.00 | .36 | 0.00 | 523.82 | 250.00 |
| 221.200 | 1120.00 | 799.23 | 0.00 | .34 | 0.00 | 577.68 | 250.00 |
| 221.200 | 1500.00 | 801.46 | 0.00 | .05 | 0.00 | 650.00 | 250.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 221.400 | 310.00 | 798.33 | 0.00 | .06 | 0.00 | 327.62 | 10.00 |
| 221.400 | 460.00 | 798.97 | 0.00 | .07 | 0.00 | 546.94 | 10.00 |
| 221.400 | 540.00 | 799.29 | 0.00 | .06 | 0.00 | 583.51 | 10.00 |
| 221.400 | 750.00 | 801.47 | 0.00 | .01 | 0.00 | 650.00 | 10.00 |
| 222.000 | 310.00 | 798.83 | 0.00 | .50 | 0.00 | 33.84 | 1370.00 |
| 222.000 | 460.00 | 799.55 | 0.00 | .58 | 0.00 | 35.94 | 1370.00 |
| 222.000 | 540.00 | 799.85 | 0.00 | .56 | 0.00 | 41.49 | 1370.00 |
| 222.000 | 750.00 | 801.58 | 0.00 | .11 | 0.00 | 458.00 | 1370.00 |
| 223.000 | 310.00 | 799.34 | 0.00 | .51 | 0.00 | 86.31 | 1900.00 |
| 223.000 | 460.00 | 800.27 | 0.00 | .72 | 0.00 | 93.33 | 1900.00 |
| 223.000 | 540.00 | 800.68 | 0.00 | .83 | 0.00 | 96.40 | 1900.00 |
| 223.000 | 750.00 | 802.22 | 0.00 | .64 | 0.00 | 100.00 | 1900.00 |
| 223.800 | 310.00 | 799.55 | 0.00 | .21 | 0.00 | 68.98 | 1080.00 |
| 223.800 | 460.00 | 800.53 | 0.00 | .26 | 0.00 | 76.43 | 1080.00 |
| 223.800 | 540.00 | 800.97 | 0.00 | .29 | 0.00 | 79.70 | 1080.00 |
| 223.800 | 750.00 | 802.47 | 0.00 | .25 | 0.00 | 91.08 | 1080.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  203.500  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  203.500  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  203.500  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  203.500  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  203.500  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  203.500  PROFILE= 3  MINIMUM SPECIFIC ENERGY

NOTE     SECNO=  203.750  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=  203.750  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=  203.750  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=  203.750  PROFILE= 4  WSEL BASED ON X5 CARD
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FLOOD INSURANCE ZONE DATA FOR MAIN RIVER ROUGE

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 200.800 | 0. | -2.3 | -.3 | .8 |
| 201.000 | 520. | -2.1 | -.3 | .8 |
| 202.000 | 1250. | -2.0 | -.4 | .8 |
| 203.200 | 1820. | -1.7 | -.4 | .9 |
| 203.400 | 1940. | -1.7 | -.4 | .9 |
| 203.500 | 1941. | -1.4 | -.7 | .3 |
| 203.600 | 1971. | -1.0 | .0 | .9 |
| 203.700 | 1972. | -1.1 | -.1 | .8 |
| 203.750 | 2002. | -.6 | -.3 | .5 |
| 203.800 | 2077. | -.6 | -.3 | .6 |
| 204.000 | 3077. | -.9 | -.3 | .6 |
| 204.120 | 3188. | -.7 | -.2 | .6 |
| 204.140 | 3189. | -.7 | -.2 | .6 |
| 204.160 | 3196. | -.7 | -.2 | .6 |
| 204.180 | 3197. | -.7 | -.2 | .6 |
| 204.220 | 3309. | -.7 | -.2 | .6 |
| 204.240 | 3310. | -.7 | -.2 | .5 |
| 204.260 | 3316. | -.7 | -.2 | .5 |
| 204.280 | 3317. | -.7 | -.2 | .5 |
| 204.320 | 3384. | -.7 | -.2 | .6 |
| 204.340 | 3385. | -.7 | -.2 | .5 |
| 204.360 | 3391. | -.7 | -.2 | .5 |
| 204.380 | 3392. | -.7 | -.2 | .6 |
| 205.200 | 4002. | -.9 | -.3 | .6 |
| 205.300 | 4125. | -.9 | -.3 | .6 |
| 205.400 | 4126. | -.9 | -.3 | .6 |
| 205.500 | 4141. | -.8 | -.3 | .6 |
| 205.600 | 4142. | -.8 | -.3 | .6 |
| 205.800 | 4222. | -.8 | -.3 | .6 |
| 205.900 | 4536. | -.9 | -.3 | .7 |
| 206.000 | 4552. | -.9 | -.3 | .5 |
| 206.800 | 4652. | -.9 | -.3 | .5 |
| 207.200 | 5002. | -1.0 | -.3 | .6 |
| 207.300 | 5181. | -.9 | -.3 | .6 |
| 207.400 | 5182. | -.8 | -.3 | .6 |
| 207.500 | 5201. | -.8 | -.3 | .6 |
| 207.600 | 5202. | -.8 | -.3 | .6 |
| 207.800 | 5302. | -.8 | -.3 | .6 |
| 208.200 | 5502. | -.8 | -.3 | .6 |
| 208.300 | 5606. | -.8 | -.3 | .6 |
| 208.400 | 5607. | -.9 | -.3 | .6 |
| 208.500 | 5621. | -.9 | -.2 | .5 |
| 208.600 | 5622. | -.9 | -.2 | .5 |
| 208.800 | 5702. | -.9 | -.3 | .5 |
| 209.000 | 6122. | -.9 | -.3 | .6 |
| 210.000 | 7322. | -.9 | -.3 | .6 |
| 210.200 | 8332. | -1.1 | -.3 | .7 |
| 210.300 | 8333. | -1.2 | -.4 | .8 |
| 210.500 | 8341. | -1.1 | -.3 | .7 |

| | | | | |
|---|---|---|---|---|
| 210.700 | 8342. | -1.0 | -.3 | .6 |
| 211.200 | 8952. | -1.2 | -.4 | .7 |
| 211.400 | 9141. | -1.2 | -.4 | .7 |
| 211.600 | 9172. | -.9 | -.2 | .4 |
| 211.800 | 9232. | -.9 | -.2 | .5 |
| 212.200 | 9802. | -.9 | -.3 | .5 |
| 212.400 | 9892. | -.9 | -.3 | .6 |
| 213.000 | 9998. | -1.2 | -.4 | 1.1 |
| 213.200 | 10034. | -1.3 | -.4 | 1.2 |
| 213.400 | 10035. | -1.3 | -.4 | 1.2 |
| 213.500 | 10036. | -1.3 | -.5 | 1.1 |
| 214.000 | 10836. | -1.4 | -.5 | 1.1 |
| 214.600 | 11536. | -1.4 | -.5 | 1.1 |
| 215.000 | 12106. | -1.4 | -.5 | 1.1 |
| 216.000 | 13426. | -1.1 | -.3 | .8 |
| 217.200 | 14726. | -1.2 | -.4 | .8 |
| 217.400 | 14916. | -1.3 | -.4 | .8 |
| 217.600 | 15008. | -1.7 | -.6 | 1.2 |
| 217.800 | 15068. | -1.8 | -.6 | 1.3 |
| 218.200 | 15418. | -1.6 | -.5 | 1.2 |
| 218.400 | 15518. | -1.5 | -.5 | .9 |
| 218.600 | 15698. | -3.4 | -1.3 | 4.0 |
| 220.200 | 15728. | -3.6 | -1.3 | 3.9 |
| 220.400 | 15788. | -3.5 | -1.3 | 3.9 |
| 220.600 | 15828. | -4.7 | -.3 | 2.9 |
| 220.800 | 15888. | -3.5 | -.3 | 2.9 |
| 221.000 | 17138. | -.9 | -.3 | 2.5 |
| 221.200 | 17388. | -1.0 | -.3 | 2.2 |
| 221.400 | 17398. | -1.0 | -.3 | 2.2 |
| 222.000 | 18768. | -1.0 | -.3 | 1.7 |
| 223.000 | 20668. | -1.3 | -.4 | 1.5 |
| 223.800 | 21748. | -1.4 | -.4 | 1.5 |
| WEIGHTED AVG FOR REACH | | -1.3 | -.4 | 1.1 |

FHF FOR THE REACH = 015 WITH 78.3_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 200.800 | |
| 1 | 100. | 765.6 | 767.8 | -2.2 | -2.2 | 020 | 100. |
| 2 | 200. | 765.7 | 767.9 | -2.2 | -2.2 | 020 | 100. |
| 3 | 300. | 765.8 | 768.0 | -2.2 | -2.2 | 020 | 100. |
| 4 | 400. | 766.0 | 768.1 | -2.1 | -2.2 | 020 | 100. |
| 5 | 500. | 766.1 | 768.2 | -2.1 | -2.2 | 020 | 100. |
| | 520. | | | | SEC. | 201.000 | |
| 6 | 600. | 766.2 | 768.3 | -2.1 | -2.2 | 020 | 100. |
| 7 | 700. | 766.3 | 768.3 | -2.1 | -2.2 | 020 | 100. |
| 8 | 800. | 766.3 | 768.4 | -2.1 | -2.1 | 020 | 100. |
| 9 | 900. | 766.4 | 768.4 | -2.0 | -2.1 | 020 | 100. |
| 10 | 1000. | 766.4 | 768.4 | -2.0 | -2.1 | 020 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 1100. | 766.5 | 768.5 | -2.0 | -2.1 | 020 | 100. |
| 12 | 1200. | 766.5 | 768.5 | -2.0 | -2.1 | 020 | 100. |
| | 1250. | | | | SEC. | 202.000 | |
| 13 | 1300. | 766.6 | 768.6 | -2.0 | -2.1 | 020 | 100. |
| 14 | 1400. | 766.7 | 768.6 | -1.9 | -2.1 | 020 | 100. |
| 15 | 1500. | 766.8 | 768.7 | -1.9 | -2.1 | 020 | 100. |
| 16 | 1600. | 766.9 | 768.8 | -1.9 | -2.1 | 020 | 100. |
| 17 | 1700. | 767.1 | 768.9 | -1.8 | -2.0 | 020 | 100. |
| 18 | 1800. | 767.2 | 768.9 | -1.8 | -2.0 | 020 | 100. |
| | 1820. | | | | SEC. | 203.200 | |
| 19 | 1900. | 767.4 | 769.1 | -1.7 | -2.0 | 020 | 100. |
| | 1940. | | | | SEC. | 203.400 | |
| | 1941. | | | | SEC. | 203.500 | |
| | 1971. | | | | SEC. | 203.600 | |
| | 1972. | | | | SEC. | 203.700 | |
| 20 | 2000. | 770.0 | 770.8 | -.8 | -2.0 | 020 | 95. |
| | 2002. | | | | SEC. | 203.750 | |
| | 2077. | | | | SEC. | 203.800 | |
| 21 | 2100. | 770.0 | 770.6 | -.6 | -1.9 | 020 | 90. |
| 22 | 2200. | 770.0 | 770.6 | -.6 | -1.8 | 020 | 86. |
| 23 | 2300. | 770.1 | 770.7 | -.7 | -1.8 | 020 | 83. |
| 24 | 2400. | 770.1 | 770.8 | -.7 | -1.7 | 015 | 75. |
| 25 | 2500. | 770.2 | 770.9 | -.7 | -1.7 | 015 | 68. |
| 26 | 2600. | 770.2 | 771.0 | -.7 | -1.7 | 015 | 62. |
| 27 | 2700. | 770.3 | 771.1 | -.8 | -1.6 | 015 | 56. |
| 28 | 2800. | 770.4 | 771.2 | -.8 | -1.6 | 015 | 50. |
| 29 | 2900. | 770.4 | 771.2 | -.8 | -1.6 | 015 | 41. |
| 30 | 3000. | 770.5 | 771.3 | -.9 | -1.5 | 015 | 37. |
| | 3077. | | | | SEC. | 204.000 | |
| 31 | 3100. | 770.6 | 771.5 | -.9 | -1.5 | 015 | 29. |
| | 3188. | | | | SEC. | 204.120 | |
| | 3189. | | | | SEC. | 204.140 | |
| | 3196. | | | | SEC. | 204.160 | |
| | 3197. | | | | SEC. | 204.180 | |
| 32 | 3200. | 771.3 | 772.0 | -.7 | -1.5 | 015 | 25. |
| 33 | 3300. | 771.4 | 772.1 | -.7 | -1.5 | 015 | 21. |
| | 3309. | | | | SEC. | 204.220 | |
| | 3310. | | | | SEC. | 204.240 | |
| | 3316. | | | | SEC. | 204.260 | |
| | 3317. | | | | SEC. | 204.280 | |
| | 3384. | | | | SEC. | 204.320 | |
| | 3385. | | | | SEC. | 204.340 | |
| | 3391. | | | | SEC. | 204.360 | |
| | 3392. | | | | SEC. | 204.380 | |
| 34 | 3400. | 771.8 | 772.5 | -.7 | -1.5 | 015 | 18. |
| 35 | 3500. | 771.9 | 772.7 | -.8 | -1.4 | 015 | 14. |
| 36 | 3600. | 772.1 | 772.9 | -.8 | -1.4 | 015 | 14. |
| 37 | 3700. | 772.3 | 773.1 | -.8 | -1.4 | 015 | 11. |
| 38 | 3800. | 772.5 | 773.3 | -.8 | -1.4 | 015 | 11. |
| 39 | 3900. | 772.7 | 773.5 | -.8 | -1.4 | 015 | 10. |
| 40 | 4000. | 772.9 | 773.8 | -.8 | -1.4 | 015 | 13. |
| | 4002. | | | | SEC. | 205.200 | |
| 41 | 4100. | 773.1 | 774.0 | -.9 | -1.3 | 015 | 20. |
| | 4125. | | | | SEC. | 205.300 | |
| | 4126. | | | | SEC. | 205.400 | |
| | 4141. | | | | SEC. | 205.500 | |
| | 4142. | | | | SEC. | 205.600 | |
| 42 | 4200. | 773.7 | 774.5 | -.8 | -1.3 | 015 | 19. |
| | 4222. | | | | SEC. | 205.800 | |
| 43 | 4300. | 773.8 | 774.6 | -.8 | -1.3 | 015 | 26. |
| 44 | 4400. | 773.9 | 774.7 | -.9 | -1.3 | 015 | 27. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 45 | 4500. | 774.0 | 774.9 | -.9 | -1.3 | 015 | 33. |
| | 4536. | | | | SEC. | 205.900 | |
| | 4552. | | | | SEC. | 206.000 | |
| 46 | 4600. | 775.0 | 775.9 | -.9 | -1.3 | 015 | 35. |
| | 4652. | | | | SEC. | 206.800 | |
| 47 | 4700. | 775.0 | 775.9 | -.9 | -1.3 | 015 | 38. |
| 48 | 4800. | 775.1 | 776.0 | -.9 | -1.3 | 015 | 40. |
| 49 | 4900. | 775.2 | 776.1 | -1.0 | -1.3 | 015 | 43. |
| 50 | 5000. | 775.2 | 776.2 | -1.0 | -1.3 | 015 | 44. |
| | 5002. | | | | SEC. | 207.200 | |
| 51 | 5100. | 775.5 | 776.4 | -1.0 | -1.3 | 015 | 45. |
| | 5181. | | | | SEC. | 207.300 | |
| | 5182. | | | | SEC. | 207.400 | |
| 52 | 5200. | 776.2 | 777.0 | -.8 | -1.2 | 010 | 48. |
| | 5201. | | | | SEC. | 207.500 | |
| | 5202. | | | | SEC. | 207.600 | |
| 53 | 5300. | 776.4 | 777.1 | -.8 | -1.2 | 010 | 53. |
| | 5302. | | | | SEC. | 207.800 | |
| 54 | 5400. | 776.5 | 777.3 | -.8 | -1.2 | 010 | 54. |
| 55 | 5500. | 776.6 | 777.5 | -.8 | -1.2 | 010 | 56. |
| | 5502. | | | | SEC. | 208.200 | |
| 56 | 5600. | 776.8 | 777.6 | -.8 | -1.2 | 010 | 57. |
| | 5606. | | | | SEC. | 208.300 | |
| | 5607. | | | | SEC. | 208.400 | |
| | 5621. | | | | SEC. | 208.500 | |
| | 5622. | | | | SEC. | 208.600 | |
| 57 | 5700. | 777.5 | 778.4 | -.9 | -1.2 | 010 | 60. |
| | 5702. | | | | SEC. | 208.800 | |
| 58 | 5800. | 777.7 | 778.5 | -.9 | -1.2 | 010 | 60. |
| 59 | 5900. | 777.9 | 778.8 | -.9 | -1.2 | 010 | 61. |
| 60 | 6000. | 778.2 | 779.1 | -.9 | -1.2 | 010 | 62. |
| 61 | 6100. | 778.4 | 779.3 | -.9 | -1.2 | 010 | 62. |
| | 6122. | | | | SEC. | 209.000 | |
| 62 | 6200. | 778.6 | 779.5 | -.9 | -1.2 | 010 | 65. |
| 63 | 6300. | 778.7 | 779.6 | -.9 | -1.2 | 010 | 65. |
| 64 | 6400. | 778.7 | 779.7 | -.9 | -1.2 | 010 | 66. |
| 65 | 6500. | 778.8 | 779.7 | -.9 | -1.2 | 010 | 66. |
| 66 | 6600. | 778.9 | 779.8 | -.9 | -1.2 | 010 | 67. |
| 67 | 6700. | 778.9 | 779.9 | -.9 | -1.2 | 010 | 67. |
| 68 | 6800. | 779.0 | 779.9 | -.9 | -1.2 | 010 | 68. |
| 69 | 6900. | 779.1 | 780.0 | -.9 | -1.2 | 010 | 70. |
| 70 | 7000. | 779.1 | 780.1 | -.9 | -1.2 | 010 | 70. |
| 71 | 7100. | 779.2 | 780.1 | -.9 | -1.2 | 010 | 70. |
| 72 | 7200. | 779.3 | 780.2 | -.9 | -1.2 | 010 | 71. |
| 73 | 7300. | 779.3 | 780.3 | -.9 | -1.1 | 010 | 71. |
| | 7322. | | | | SEC. | 210.000 | |
| 74 | 7400. | 779.4 | 780.4 | -1.0 | -1.1 | 010 | 72. |
| 75 | 7500. | 779.5 | 780.5 | -1.0 | -1.1 | 010 | 72. |
| 76 | 7600. | 779.6 | 780.6 | -1.0 | -1.1 | 010 | 72. |
| 77 | 7700. | 779.7 | 780.7 | -1.0 | -1.1 | 010 | 73. |
| 78 | 7800. | 779.7 | 780.8 | -1.0 | -1.1 | 010 | 73. |
| 79 | 7900. | 779.8 | 780.9 | -1.0 | -1.1 | 010 | 73. |
| 80 | 8000. | 779.9 | 781.0 | -1.1 | -1.1 | 010 | 74. |
| 81 | 8100. | 780.0 | 781.1 | -1.1 | -1.1 | 010 | 74. |
| 82 | 8200. | 780.1 | 781.2 | -1.1 | -1.1 | 010 | 74. |
| 83 | 8300. | 780.2 | 781.3 | -1.1 | -1.1 | 010 | 75. |
| | 8332. | | | | SEC. | 210.200 | |
| | 8333. | | | | SEC. | 210.300 | |
| | 8341. | | | | SEC. | 210.500 | |
| | 8342. | | | | SEC. | 210.700 | |
| 84 | 8400. | 780.6 | 781.7 | -1.0 | -1.1 | 010 | 76. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 85 | 8500. | 780.8 | 781.8 | -1.1 | -1.1 | 010 | 76. |
| 86 | 8600. | 780.9 | 782.0 | -1.1 | -1.1 | 010 | 77. |
| 87 | 8700. | 781.1 | 782.2 | -1.1 | -1.1 | 010 | 77. |
| 88 | 8800. | 781.3 | 782.4 | -1.1 | -1.1 | 010 | 77. |
| 89 | 8900. | 781.4 | 782.6 | -1.2 | -1.1 | 010 | 78. |
| | 8952. | | | | SEC. | 211.200 | |
| 90 | 9000. | 781.6 | 782.8 | -1.2 | -1.1 | 010 | 78. |
| 91 | 9100. | 781.7 | 782.9 | -1.2 | -1.1 | 010 | 78. |
| | 9141. | | | | SEC. | 211.400 | |
| | 9172. | | | | SEC. | 211.600 | |
| 92 | 9200. | 783.4 | 784.3 | -.9 | -1.1 | 010 | 78. |
| | 9232. | | | | SEC. | 211.800 | |
| 93 | 9300. | 783.4 | 784.3 | -.9 | -1.1 | 010 | 78. |
| 94 | 9400. | 783.5 | 784.4 | -.9 | -1.1 | 010 | 79. |
| 95 | 9500. | 783.6 | 784.5 | -.9 | -1.1 | 010 | 79. |
| 96 | 9600. | 783.6 | 784.5 | -.9 | -1.1 | 010 | 79. |
| 97 | 9700. | 783.7 | 784.6 | -.9 | -1.1 | 010 | 79. |
| 98 | 9800. | 783.8 | 784.7 | -.9 | -1.1 | 010 | 81. |
| | 9802. | | | | SEC. | 212.200 | |
| | 9892. | | | | SEC. | 212.400 | |
| 99 | 9900. | 784.1 | 785.0 | -.9 | -1.1 | 010 | 81. |
| | 9998. | | | | SEC. | 213.000 | |
| 100 | 10000. | 784.1 | 785.2 | -1.1 | -1.1 | 010 | 81. |
| | 10034. | | | | SEC. | 213.200 | |
| | 10035. | | | | SEC. | 213.400 | |
| | 10036. | | | | SEC. | 213.500 | |
| 101 | 10100. | 784.8 | 786.1 | -1.3 | -1.1 | 010 | 81. |
| 102 | 10200. | 784.8 | 786.1 | -1.3 | -1.1 | 010 | 80. |
| 103 | 10300. | 784.8 | 786.1 | -1.3 | -1.1 | 010 | 81. |
| 104 | 10400. | 784.8 | 786.1 | -1.3 | -1.1 | 010 | 81. |
| 105 | 10500. | 784.8 | 786.1 | -1.3 | -1.1 | 010 | 81. |
| 106 | 10600. | 784.8 | 786.2 | -1.3 | -1.1 | 010 | 81. |
| 107 | 10700. | 784.8 | 786.2 | -1.3 | -1.1 | 010 | 81. |
| 108 | 10800. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 81. |
| | 10836. | | | | SEC. | 214.000 | |
| 109 | 10900. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| 110 | 11000. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 81. |
| 111 | 11100. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 81. |
| 112 | 11200. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 81. |
| 113 | 11300. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 81. |
| 114 | 11400. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| 115 | 11500. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| | 11536. | | | | SEC. | 214.600 | |
| 116 | 11600. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| 117 | 11700. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| 118 | 11800. | 784.8 | 786.2 | -1.4 | -1.1 | 010 | 82. |
| 119 | 11900. | 784.8 | 786.2 | -1.4 | -1.2 | 010 | 82. |
| 120 | 12000. | 784.8 | 786.2 | -1.4 | -1.2 | 010 | 83. |
| 121 | 12100. | 784.8 | 786.2 | -1.4 | -1.2 | 010 | 83. |
| | 12106. | | | | SEC. | 215.000 | |
| 122 | 12200. | 784.9 | 786.3 | -1.3 | -1.2 | 010 | 83. |
| 123 | 12300. | 785.2 | 786.5 | -1.3 | -1.2 | 010 | 83. |
| 124 | 12400. | 785.4 | 786.7 | -1.3 | -1.2 | 010 | 83. |
| 125 | 12500. | 785.6 | 786.9 | -1.3 | -1.2 | 010 | 83. |
| 126 | 12600. | 785.8 | 787.1 | -1.3 | -1.2 | 010 | 83. |
| 127 | 12700. | 786.1 | 787.3 | -1.2 | -1.2 | 010 | 83. |
| 128 | 12800. | 786.3 | 787.5 | -1.2 | -1.2 | 010 | 83. |
| 129 | 12900. | 786.5 | 787.7 | -1.2 | -1.2 | 010 | 83. |
| 130 | 13000. | 786.8 | 787.9 | -1.2 | -1.2 | 010 | 83. |
| 131 | 13100. | 787.0 | 788.2 | -1.2 | -1.2 | 010 | 83. |
| 132 | 13200. | 787.2 | 788.4 | -1.1 | -1.2 | 010 | 83. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 133 | 13300. | 787.5 | 788.6 | -1.1 | -1.2 | C10 | 83. |
| 134 | 13400. | 787.7 | 788.8 | -1.1 | -1.2 | C10 | 84. |
| | 13426. | | | | SEC. | 216.000 | |
| 135 | 13500. | 787.9 | 789.0 | -1.1 | -1.2 | C10 | 84. |
| 136 | 13600. | 788.1 | 789.2 | -1.1 | -1.2 | C10 | 85. |
| 137 | 13700. | 788.2 | 789.3 | -1.1 | -1.2 | C10 | 85. |
| 138 | 13800. | 788.4 | 789.5 | -1.1 | -1.2 | C10 | 85. |
| 139 | 13900. | 788.5 | 789.7 | -1.1 | -1.2 | C10 | 85. |
| 140 | 14000. | 788.7 | 789.8 | -1.1 | -1.2 | C10 | 85. |
| 141 | 14100. | 788.9 | 790.0 | -1.1 | -1.2 | C10 | 85. |
| 142 | 14200. | 789.0 | 790.2 | -1.1 | -1.2 | C10 | 85. |
| 143 | 14300. | 789.2 | 790.3 | -1.2 | -1.2 | C10 | 85. |
| 144 | 14400. | 789.3 | 790.5 | -1.2 | -1.2 | C10 | 85. |
| 145 | 14500. | 789.5 | 790.7 | -1.2 | -1.2 | C10 | 86. |
| 146 | 14600. | 789.6 | 790.8 | -1.2 | -1.2 | C10 | 86. |
| 147 | 14700. | 789.8 | 791.0 | -1.2 | -1.2 | C10 | 86. |
| | 14726. | | | | SEC. | 217.200 | |
| 148 | 14800. | 789.9 | 791.2 | -1.2 | -1.2 | C10 | 86. |
| 149 | 14900. | 790.1 | 791.3 | -1.2 | -1.2 | C10 | 86. |
| | 14916. | | | | SEC. | 217.400 | |
| 150 | 15000. | 790.2 | 791.6 | -1.4 | -1.2 | C10 | 85. |
| | 15008. | | | | SEC. | 217.600 | |
| | 15068. | | | | SEC. | 217.800 | |
| 151 | 15100. | 790.5 | 792.2 | -1.8 | -1.2 | C10 | 85. |
| 152 | 15200. | 790.7 | 792.4 | -1.7 | -1.2 | C10 | 84. |
| 153 | 15300. | 791.0 | 792.7 | -1.7 | -1.2 | C10 | 84. |
| 154 | 15400. | 791.3 | 793.0 | -1.7 | -1.2 | C10 | 84. |
| | 15418. | | | | SEC. | 218.200 | |
| 155 | 15500. | 791.8 | 793.4 | -1.6 | -1.2 | C10 | 84. |
| | 15518. | | | | SEC. | 218.400 | |
| 156 | 15600. | 792.3 | 794.3 | -1.9 | -1.2 | C10 | 83. |
| | 15698. | | | | SEC. | 218.600 | |
| 157 | 15700. | 792.6 | 795.4 | -2.8 | -1.2 | C10 | 82. |
| | 15728. | | | | SEC. | 220.200 | |
| | 15788. | | | | SEC. | 220.400 | |
| 158 | 15800. | 793.7 | 797.4 | -3.7 | -1.2 | C10 | 82. |
| | 15828. | | | | SEC. | 220.600 | |
| | 15888. | | | | SEC. | 220.800 | |
| 159 | 15900. | 794.8 | 798.4 | -3.5 | -1.2 | C10 | 82. |
| 160 | 16000. | 795.0 | 798.4 | -3.4 | -1.2 | C10 | 81. |
| 161 | 16100. | 795.2 | 798.4 | -3.2 | -1.3 | C15 | 79. |
| 162 | 16200. | 795.5 | 798.5 | -3.0 | -1.3 | C15 | 78. |
| 163 | 16300. | 795.7 | 798.5 | -2.8 | -1.3 | C15 | 78. |
| 164 | 16400. | 796.0 | 798.6 | -2.6 | -1.3 | C15 | 77. |
| 165 | 16500. | 796.2 | 798.6 | -2.4 | -1.3 | C15 | 76. |
| 166 | 16600. | 796.5 | 798.6 | -2.2 | -1.3 | C15 | 75. |
| 167 | 16700. | 796.7 | 798.7 | -1.9 | -1.3 | C15 | 74. |
| 168 | 16800. | 797.0 | 798.7 | -1.7 | -1.3 | C15 | 74. |
| 169 | 16900. | 797.2 | 798.8 | -1.5 | -1.3 | C15 | 74. |
| 170 | 17000. | 797.5 | 798.8 | -1.3 | -1.3 | C15 | 74. |
| 171 | 17100. | 797.7 | 798.9 | -1.1 | -1.3 | C15 | 74. |
| | 17138. | | | | SEC. | 221.000 | |
| 172 | 17200. | 798.0 | 798.9 | -1.0 | -1.3 | C15 | 75. |
| 173 | 17300. | 798.1 | 799.0 | -.9 | -1.3 | C15 | 75. |
| | 17388. | | | | SEC. | 221.200 | |
| | 17398. | | | | SEC. | 221.400 | |
| 174 | 17400. | 798.3 | 799.3 | -1.0 | -1.3 | C15 | 75. |
| 175 | 17500. | 798.3 | 799.3 | -1.0 | -1.3 | C15 | 76. |
| 176 | 17600. | 798.4 | 799.4 | -1.0 | -1.3 | C15 | 76. |
| 177 | 17700. | 798.4 | 799.4 | -1.0 | -1.3 | C15 | 77. |
| 178 | 17800. | 798.5 | 799.4 | -1.0 | -1.3 | C15 | 77. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 179 | 17900. | 798.5 | 799.5 | -1.0 | -1.3 | 015 | 77. |
| 180 | 18000. | 798.5 | 799.5 | -1.0 | -1.3 | 015 | 77. |
| 181 | 18100. | 798.6 | 799.6 | -1.0 | -1.3 | 015 | 77. |
| 182 | 18200. | 798.6 | 799.6 | -1.0 | -1.3 | 015 | 77. |
| 183 | 18300. | 798.6 | 799.6 | -1.0 | -1.3 | 015 | 78. |
| 184 | 18400. | 798.7 | 799.7 | -1.0 | -1.3 | 015 | 77. |
| 185 | 18500. | 798.7 | 799.7 | -1.0 | -1.3 | 015 | 78. |
| 186 | 18600. | 798.8 | 799.8 | -1.0 | -1.3 | 015 | 78. |
| 187 | 18700. | 798.8 | 799.8 | -1.0 | -1.3 | 015 | 79. |
| | 18768. | | | | SEC. | 222.000 | |
| 188 | 18800. | 798.8 | 799.8 | -1.0 | -1.3 | 015 | 79. |
| 189 | 18900. | 798.9 | 799.9 | -1.0 | -1.3 | 015 | 79. |
| 190 | 19000. | 798.9 | 799.9 | -1.0 | -1.3 | 015 | 79. |
| 191 | 19100. | 798.9 | 800.0 | -1.1 | -1.3 | 015 | 79. |
| 192 | 19200. | 798.9 | 800.0 | -1.1 | -1.3 | 015 | 79. |
| 193 | 19300. | 799.0 | 800.1 | -1.1 | -1.3 | 015 | 79. |
| 194 | 19400. | 799.0 | 800.1 | -1.1 | -1.3 | 015 | 79. |
| 195 | 19500. | 799.0 | 800.1 | -1.1 | -1.3 | 015 | 79. |
| 196 | 19600. | 799.0 | 800.2 | -1.2 | -1.3 | 015 | 79. |
| 197 | 19700. | 799.1 | 800.2 | -1.2 | -1.3 | 015 | 79. |
| 198 | 19800. | 799.1 | 800.3 | -1.2 | -1.3 | 015 | 79. |
| 199 | 19900. | 799.1 | 800.3 | -1.2 | -1.3 | 015 | 79. |
| 200 | 20000. | 799.1 | 800.4 | -1.2 | -1.3 | 015 | 80. |
| 201 | 20100. | 799.2 | 800.4 | -1.2 | -1.3 | 015 | 80. |
| 202 | 20200. | 799.2 | 800.5 | -1.3 | -1.3 | 015 | 80. |
| 203 | 20300. | 799.2 | 800.5 | -1.3 | -1.3 | 015 | 80. |
| 204 | 20400. | 799.3 | 800.5 | -1.3 | -1.3 | 015 | 80. |
| 205 | 20500. | 799.3 | 800.6 | -1.3 | -1.3 | 015 | 80. |
| 206 | 20600. | 799.3 | 800.6 | -1.3 | -1.3 | 015 | 80. |
| | 20668. | | | | SEC. | 223.000 | |
| 207 | 20700. | 799.3 | 800.7 | -1.3 | -1.3 | 015 | 80. |
| 208 | 20800. | 799.4 | 800.7 | -1.3 | -1.3 | 015 | 80. |
| 209 | 20900. | 799.4 | 800.7 | -1.4 | -1.3 | 015 | 80. |
| 210 | 21000. | 799.4 | 800.8 | -1.4 | -1.3 | 015 | 81. |
| 211 | 21100. | 799.4 | 800.8 | -1.4 | -1.3 | 015 | 81. |
| 212 | 21200. | 799.4 | 800.8 | -1.4 | -1.3 | 015 | 81. |
| 213 | 21300. | 799.5 | 800.8 | -1.4 | -1.3 | 015 | 81. |
| 214 | 21400. | 799.5 | 800.9 | -1.4 | -1.3 | 015 | 81. |
| 215 | 21500. | 799.5 | 800.9 | -1.4 | -1.3 | 015 | 81. |
| 216 | 21600. | 799.5 | 800.9 | -1.4 | -1.3 | 015 | 81. |
| 217 | 21700. | 799.5 | 800.9 | -1.4 | -1.3 | 015 | 82. |
| | 21748. | | | | SEC. | 223.800 | |

THIS REACH CAN BE SUBDIVIDED BY INC NO. TO MEET FIA REQUIREMENTS
INPUT 20N WHERE N IS THE NUMBER OF REACHES AND THEN INPUT THE END
OF EACH REACH BY INC NO. FOR EXAMPLE 202 217 217
A NEGATIVE INC NO. WILL SUPPRESS INTERMEDIATE INC OUTPUT.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: WATTLES R.D. NORMAL BRIDGE

00BREAK00

JOB NO. UM8332 UNIVERSITY OF MICHIGAN TERMINAL SYSTEM MERIT NET 10:58:09 12-05-79

NORM

WATTLES RD.
WEIR FLOW W/
NORMAL BRIDGE
ROUTINE

PARAMETERS: ,ID=XSAL,PW=,ROUTE=NUES

```
MM        MM  NN        NN  EEEEEEEEEEEE  TTTTTTTTTTTT
MMM      MMM  NNN       NN  EEEEEEEEEEEE  TTTTTTTTTTTT
MMMM    MMMM  NNNN      NN  EE                TT
MM MM  MM MM  NN NN     NN  EE                TT
MM  MMMM  MM  NN  NN    NN  EE                TT
MM   MM   MM  NN   NN   NN  EEEEEEEE          TT
MM        MM  NN    NN  NN  EEEEEEEE          TT
MM        MM  NN     NN NN  EE                TT
MM        MM  NN      NNNN  EE                TT
MM        MM  NN       NNN  EE                TT
MM        MM  NN        NN  EEEEEEEEEEEE      TT
MM        MM  NN         N  EEEEEEEEEEEE      TT

XX        XX   SSSSSSSSS   NN        NN  LL
XX        XX  SSSSSSSSSSS  NNN       NN  LL
 XX      XX   SS       SS  NNNN      NN  LL
  XX    XX    SS           NN NN     NN  LL
   XX  XX     SSS          NN  NN    NN  LL
    XXXX       SSSSSSSS    NN   NN   NN  LL
    XXXX        SSSSSSSS   NN    NN  NN  LL
   XX  XX              SSS NN     NN NN  LL
  XX    XX              SS NN      NNNN  LL
 XX      XX   SS       SS  NN       NNN  LL
XX        XX  SSSSSSSSSSS  NN        NN  LLLLLLLLLLLL
XX        XX   SSSSSSSSS   NN         N  LLLLLLLLLLLL
```

TROY

```
*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************

T1       HUD-FIA H-4705
T2       TROY FIS
T3       MAIN RIVER REACH

J1  ICHECK    INQ       NINV      IDIP      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        2.        0.        0.  0.000000      0.00     -1.0        0.   769.370     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      7.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000     0.000     0.000
NC       .100      .100      .055      .400      .900     0.000     0.000     0.000     0.000     0.000

X1    203.200    23.000   194.000   234.000   570.000   570.000   570.000     0.000     0.000     0.000
GR    778.000   134.000   767.800   164.000   765.000   194.000   762.200   198.000   761.000   214.000
GR    761.200   224.000   762.200   230.000   764.000   234.000   764.200   280.000   766.200   308.000
GR    775.000   324.000   775.000   411.000   767.000   412.000   767.000   430.000   775.000   431.000
GR    775.000   487.000   767.000   488.000   767.000   505.000   775.000   506.000   775.000   563.000
GR    768.700   564.000   769.400   582.000   775.000   583.000     0.000     0.000     0.000     0.000

X1    203.400    30.000   285.000   318.700   120.000   120.000   120.000      .700     0.000     0.000
GR    781.300     0.000   772.000   285.000   764.700   291.600   763.100   292.000   762.900   294.000
GR    762.700   298.000   762.900   302.000   763.100   304.000   764.700   304.400   764.700   305.900
GR    763.100   306.300   762.900   308.300   762.700   312.300   762.900   316.300   763.100   318.300
GR    764.700   318.700   767.000   470.000   767.000   471.000   767.000   541.000   767.000   542.000
GR    767.000   566.000   767.000   567.000   767.000   649.000   767.000   650.000   767.000   675.000
GR    767.000   676.000   767.000   759.000   768.700   760.000   769.400   785.000   775.000   786.000
QT      7.000   950.000   850.000   750.000   650.000   550.000   450.000   350.000     0.000     0.000

X1    203.500    18.000   285.000   318.700     1.000     1.000     1.000     0.000     0.000     0.000
GR    781.300     0.000   772.000   285.000   771.800   291.600   771.800   318.700   767.000   470.000
GR    775.000   471.000   775.000   541.000   767.000   542.000   767.000   566.000   775.000   567.000
GR    775.000   649.000   767.000   650.000   767.000   675.000   775.000   676.000   775.000   759.000
GR    768.700   760.000   769.400   785.000   775.000   786.000     0.000     0.000     0.000     0.000

X1    203.600     0.000     0.000     0.000    30.000    30.000    30.000     0.000     0.000     0.000
QT      7.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000     0.000     0.000

X1    203.700    30.000   285.000   318.700   120.000   120.000   120.000      .700     0.000     0.000
GR    781.300     0.000   772.000   285.000   764.700   291.600   763.100   292.000   762.900   294.000
GR    762.700   298.000   762.900   302.000   763.100   304.000   764.700   304.400   764.700   305.900
GR    763.100   306.300   762.900   308.300   762.700   312.300   762.900   316.300   763.100   318.300
GR    764.700   318.700   767.000   470.000   767.000   471.000   767.000   541.000   767.000   542.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 767.000 | 566.000 | 767.000 | 567.000 | 767.000 | 649.000 | 767.000 | 650.000 | 767.000 | 675.000 |
| GR | 767.000 | 676.000 | 767.000 | 759.000 | 768.700 | 760.000 | 769.400 | 785.000 | 775.000 | 786.000 |
| X1 | 203.750 | 10.000 | 232.000 | 268.000 | 30.000 | 30.000 | 30.000 | 0.000 | -.200 | 0.000 |
| GR | 776.500 | 90.300 | 767.800 | 154.000 | 764.800 | 232.000 | 763.800 | 234.000 | 761.800 | 250.000 |
| GR | 763.800 | 266.000 | 766.000 | 268.000 | 766.100 | 300.000 | 767.000 | 464.000 | 772.300 | 639.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PROF 1

CCHV= .400 CEHV= .800
*SECNO 203.200

3265 DIVIDED FLOW

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | ARCB | VCL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICCNT | CORAR | TOPWID | ENDST |
| 203.20 | 8.37 | 769.37 | 0.00 | 769.37 | 769.47 | .10 | 0.00 | 0.00 | 765.00 |
| 1550. | 84. | 926. | 540. | 93. | 301. | 458. | 0. | 0. | 764.00 |
| 0.00 | .91 | 3.08 | 1.18 | .100 | .055 | .100 | 0.000 | 761.00 | 159.38 |
| .000919 | 570. | 570. | 570. | 0 | 0 | 0 | 0.00 | 207.90 | 581.23 |

*SECNO 203.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.40 | 6.88 | 769.58 | 0.00 | 0.00 | 769.63 | .05 | .14 | .02 | 772.00 |
| 1550. | 0. | 385. | 1165. | 0. | 132. | 926. | 3. | 1. | 764.70 |
| .02 | 0.00 | 2.92 | 1.26 | .100 | .055 | .100 | .055 | 762.70 | 201.03 |
| .001641 | 120. | 120. | 120. | 2 | 0 | 0 | 0.00 | 348.49 | 549.52 |

*SECNO 203.500

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.50 | 2.54 | 769.54 | 0.00 | 0.00 | 769.78 | .24 | .00 | .15 | 772.00 |
| 950. | 0. | 0. | 950. | 0. | 0. | 241. | 3. | 1. | 771.80 |
| .02 | 0.00 | 0.00 | 3.55 | .100 | .055 | .100 | .054 | 767.00 | 389.88 |
| .031589 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 155.87 | 785.03 |

*SECNO 203.600

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.60 | 3.25 | 770.25 | 0.00 | 0.00 | 770.36 | .11 | .52 | .05 | 772.00 |
| 950. | 0. | 0. | 950. | 0. | 0. | 358. | 3. | 1. | 771.80 |
| .02 | 0.00 | 0.00 | 2.65 | .100 | .055 | .100 | .054 | 767.00 | 367.71 |
| .010895 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 178.71 | 785.15 |

*SECNO 203.700

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | ARCB | VCL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICCNT | CORAR | TOPWID | ENDST |
| 203.70 | 7.83 | 770.53 | 0.00 | 0.00 | 770.56 | .03 | .17 | .03 | 772.00 |
| 1550. | 0. | 320. | 1230. | 0. | 153. | 1238. | 5. | 2. | 764.70 |
| .05 | 0.00 | 2.09 | .99 | .100 | .055 | .100 | .054 | 762.70 | 200.43 |
| .000722 | 120. | 120. | 120. | 3 | 0 | 0 | 0.00 | 349.21 | 549.64 |

```
*SECNC 203.75C
   203.75      8.95    770.55      C.CO      C.CO    77C.57       .03       .01       .00    764.60
    155C.      277.      547.      726.      379.      279.    1C70.        6.        2.    765.80
      .C6       .73      1.96       .68      .100      .055      .100      .054    761.60    132.33
  .000363       3C.       30.       30.         2         C         C     C.00    455.36    587.69
```

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1      JOB HUD-FIA H-4705  TO6
T2      FLOOD INSURANCE STUDIES
T3      10 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 3. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSFCH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 2.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 2

CCFV=    .400 CEFV=    .800
*SECNO 203.200

3265 DIVIDED FLCW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.     458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .100      .055     .100     0.000    761.00    159.38
  .000919      570.      570.      570.         0         0        0      0.00    207.90    581.23

*SECNO 203.400
   203.40      6.88    769.58      0.00      0.00    769.63      .05       .14       .02    772.00
    1550.        0.      385.     1165.        0.      132.     926.        3.        1.    764.70
      .02      0.00      2.92      1.26      .100      .055     .100      .055    762.70    201.03
  .001641      120.      120.      120.         2         0        0      0.00    348.49    549.52

*SECNO 203.500

3265 DIVIDED FLCW

   203.50      2.55    769.55      0.00      0.00    769.74      .19       .00       .11    772.00
     850.        0.        0.      850.        0.        0.     242.        3.        1.    771.80
      .02      0.00      0.00      3.51      .100      .055     .100      .054    767.00    389.57
  .024872        1.        1.        1.         2         0        0      0.00    156.19    785.03

*SECNO 203.600

3265 DIVIDED FLCW

   203.60      3.14    770.14      0.00      0.00    770.23      .10       .45       .04    772.00
     850.        0.        0.      850.        0.        0.     339.        3.        1.    771.80
      .02      0.00      0.00      2.51      .100      .055     .100      .054    767.00    371.18
  .010149       30.       30.       30.         2         0        0      0.00    175.14    785.13

*SECNO 203.700
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

   203.70      7.71    770.41      0.00      0.00    770.43      .03       .17       .03    772.00
    1550.        0.      327.     1223.        0.      150.    1197.        5.        2.    764.70
      .05      0.00      2.18      1.02      .100      .055     .100      .054    762.70    200.51
  .000796      120.      120.      120.         3         0        0      0.00    349.12    549.63
```

```
*SECNC 203.75C
   203.75      8.82    770.42      C.CC      0.CC    770.45       .03       .02       .00    764.60
    155C.      275.      557.      718.      366.      274.     1031.        6.        2.     765.80
      .06       .75      2.03       .70      .1CC      .055      .100      .054    761.60    133.24
  .000396       3C.       3C.       3C.         2         0         0      0.00    450.36    583.6C
```

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*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*********************************************
```

```
T1       JOB HUD-FIA F-4705  TC6
T2       FLOOD INSURANCE STUDIES
T3       50 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 4. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 3.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 3

CCHV=     .400 CEHV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.37    769.47       .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.      458.        0.        0.     764.00
     0.00       .91      3.08      1.18      .100      .055      .100     0.000    761.00    159.38
  .000919      570.      570.      570.         0         0         0      0.00    207.90    581.23

*SECNO 203.400
   203.40      6.88    769.58      0.00      0.00    769.63       .05       .14       .02    772.00
    1550.        0.      385.     1165.        0.      132.      926.        3.        1.     764.70
      .02      0.00      2.92      1.26      .100      .055      .100      .055    762.70    201.03
  .001641      120.      120.      120.         2         0         0      0.00    348.49    549.52

*SECNO 203.500

3265 DIVIDED FLOW

   203.50      2.56    769.56      0.00      0.00    769.71       .15       .00       .08    772.00
     750.        0.        0.      750.        0.        0.      245.        3.        1.     771.80
      .02      0.00      0.00      3.06      .100      .055      .100      .054    767.00    389.01
  .018797        1.        1.        1.         1         0         0      0.00    156.77    785.03

*SECNO 203.600

3265 DIVIDED FLOW

   203.60      3.03    770.03      0.00      0.00    770.11       .09       .38       .02    772.00
     750.        0.        0.      750.        0.        0.      320.        3.        1.     771.80
      .02      0.00      0.00      2.34      .100      .055      .100      .054    767.00    374.58
  .009216       30.       30.       30.         2         0         0      0.00    171.63    785.11

*SECNO 203.700
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   203.70      7.58    770.28      0.00      0.00    770.31       .03       .18       .02    772.00
    1550.        0.      334.     1216.        0.      147.     1156.        5.        2.     764.70
      .05      0.00      2.27      1.05      .100      .055      .100      .054    762.70    200.59
  .000881      120.      120.      120.         3         0         0      0.00    349.02    549.61
```

```
*SECNC 203.75C
   203.75      8.70    770.30      0.00      0.00    770.33       .03       .02       .00    764.60
    155C.      274.      566.      71C.      354.      270.      992.        6.        2.    765.8C
      .06       .77      2.10       .72      .1CC      .055      .100      .054    761.60    134.15
  .000433       3C.       3C.       3C.         2         0         0     C.00    445.37    579.52
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1       JOB HUD-FIA F-4705  TC6
T2       FLOOD INSURANCE STUDIES
T3       500 YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        5.        0.        0.  0.000000     0.00      -1.0        0.   769.370    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    4.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 4

CCHV=     .400 CEHV=     .800
*SECNC 203.200

3265 DIVIDED FLCW

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      C.CO    769.37    769.47       .10      0.00      0.0C    765.00
    155C.       84.      926.      54C.       93.      301.      458.        0.        0.     764.00
     0.0C       .91      3.08      1.18      .1CC      .055      .100     0.000    761.00    159.38
  .0C0919      57C.      570.      57C.         0         0         C      0.00    207.90    581.23

*SECNC 203.40C
   203.40      6.88    769.5o      0.0C      0.00    769.63       .C5       .14       .02    772.0C
    155C.        C.      385.     1165.        C.      132.      926.        3.        1.     764.70
      .02      0.00      2.92      1.26      .1CC      .C55      .1C0      .055    762.7C    2C1.03
  .C01641      12C.      12C.      12C.         2         0         0      0.00    348.45    545.52

*SECNC 203.50C

3265 DIVIDED FLOW

   203.5C      2.57    769.57      0.00      C.00    769.68       .11       .00       .C5    772.0C
     650.        C.        C.     65C.        C.        C.      246.        3.        1.     771.80
      .02      0.00      0.00      2.65      .100      .055      .1C0      .054    767.CC    388.9C
  .014C37        1.        1.        1.         1         0         0      0.00    156.88    785.03

*SECNC 203.600

3265 CIVIDED FLCW

   2C3.60      2.93    769.93      C.C0      C.00    770.00       .07       .31       .C2    772.0C
     650.        C.        0.     65C.        C.        0.      304.        3.        1.     771.80
      .C2      0.C0      0.0C      2.14      .100      .055      .100      .054    767.C0    377.60
  .CC7968       3C.       3C.       3C.         2         0         0      0.00    168.52    785.09

*SECNC 203.7CC
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CCKAR     TCPWIC      ENCST

   203.70      7.46    770.16      C.CC      C.CC    770.20       .03       .18       .02    772.0C
    1550.        C.      341.     12C9.        C.      145.     1118.        5.        2.     764.70
      .05      C.C0      2.36      1.C8      .1CC      .055      .100      .054    762.7C    2CC.66
  .000970      12C.      120.      12C.         3         C         0      0.00    348.93    549.60
```

```
*SECNO 203.750
   203.75      8.58    770.18      0.00      C.CC    770.22       .03       .C2       .0C    764.60
    155C.      272.      576.      7C2.      343.      266.      956.        6.        2.    765.8C
      .05       .79      2.17       .73      .1CC      .C55      .100      .054    761.60    134.99
  .000471       3C.       5C.       3C.         2         0         0      0.00    440.73    575.72
```

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  5C,51,52
*************************************************
```

```
T1       JOB HUD-FIA F-4705  T06
T2       FLOOD INSURANCE STUDIES
T3       10 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 5.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 5

CCEV=    .40C CEEV=    .8CO
*SECNC 203.200

3265 DIVIDED FLCW

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCh      XLCER     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.CO    769.37    769.47      .10      C.CC      0.00    765.CO
    155C.       84.      926.      54C.       93.      301.     458.       0.        0.     764.00
     0.00       .91     3.08      1.18      .1CC      .C55     .1CO    0.000    761.00    159.38
  .COC919      57C.      570.      570.         0         0        0     0.00    207.90    581.23

*SECNC 203.400
   203.40      6.88    769.58      0.CO      0.00    769.63      .05      .14      .02    772.CC
    1550.        C.      385.    1165.        C.      132.     926.       3.       1.     764.70
      .02      0.CO     2.92      1.26      .1CJ      .055     .100     .055    762.7C    2C1.03
  .001641      12C.      12C.      12C.         2         0        0     0.00    348.49    549.52

*SECNC 203.50C

3265 CIVIDED FLCW
   203.50      2.57    7c9.57      C.CO      0.00    769.65      .08      .00      .02    772.CO
     550.        C.        0.      55C.        C.        C.     246.       3.       1.     771.80
      .C2      C.CO      0.00      2.23      .1CO      .055     .1CC     .054    767.CC    38E.74
  .CCS966        1.        1.        1.         C         0        0     0.00    157.04    785.03

*SECNC 203.60C

3265 CIVIDED FLCW

   203.6C      2.84    769.84      C.CO      0.CC    769.SO      .06      .24      .01    772.00
     550.        C.        0.      55C.        C.        C.     289.       3.       1.     771.80
      .C2      0.CO      0.00      1.SO      .1CO      .055     .100     .054    767.0C    3EC.4C
  .006524       3C.       30.       3C.         2         C        0     0.00    165.64    785.08

*SECNC 203.70C
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   C         WLCB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLCER     ITRIAL    ICC       ICCNT     CORAR     TCPWID      ENCST

   203.70      7.35    770.C5      C.CC      C.CC    77C.CS      .04      .18      .01    772.00
    155C.        C.      349.    1201.        0.      142.    1C78.       5.       2.     764.7C
      .C5      C.CC     2.46      1.11      .1CC      .C55     .100     .054    762.70    20C.74
  .001074      12C.      120.      12C.         2         0        0     0.00    348.84    549.58
```

```
*SECNC 203.75C
  203.75      8.47    770.07      0.00      0.00    770.11       .04       .02       .00    764.60
   1550.      27C.      585.      c95.      333.      262.      923.        6.        2.    765.80
     .05       .81      2.23       .75      .1CC      .055      .1CC      .054    761.6C    135.8C
 .000512       3C.       30.       3C.         2         0         0      0.00    436.33    572.13
```

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*****************************************************
```

```
T1       JOB FUD-FIA F-4705  T06
T2       FLOOD INSURANCE STUDIES
T3       500 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 7. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 6

CCHV=     .400 CEHV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRITWS    WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.     458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .100      .055     .100     0.000    761.00    159.38
  .000919      570.      570.      570.         0         0        0      0.00    207.90    581.23

*SECNO 203.400
   203.40      6.88    769.58      0.00      0.00    769.63      .05       .14       .02    772.00
    1550.        0.      385.     1165.        0.      132.     526.        3.        1.    764.70
      .02      0.00      2.92      1.26      .100      .055     .100      .055    762.70    201.03
  .001641      120.      120.      120.         2         0        0      0.00    348.49    549.52

*SECNO 203.500

3265 DIVIDED FLOW

   203.50      2.58    769.58      0.00      0.00    769.63      .05       .00       .00    772.00
     450.        0.        0.     450.        0.        0.     246.        3.        1.    771.80
      .02      0.00      0.00      1.83      .100      .055     .100      .054    767.00    388.74
  .006671        1.        1.        1.         0         0        0      0.00    157.04    785.03

*SECNO 203.600

3265 DIVIDED FLOW

   203.60      2.76    769.76      0.00      0.00    769.81      .04       .17       .00    772.00
     450.        0.        0.     450.        0.        0.     276.        3.        1.    771.80
      .03      0.00      0.00      1.63      .100      .055     .100      .054    767.00    382.86
  .004930       30.       30.       30.         2         0        0      0.00    163.10    785.07

*SECNO 203.700
   SECNO     DEPTH     CWSEL     CRITWS    WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

   203.70      7.25    769.95      0.00      0.00    769.99      .04       .18       .00    772.00
    1550.        0.      356.     1194.        0.      140.    1046.        5.        2.    764.70
      .05      0.00      2.54      1.14      .100      .055     .100      .054    762.70    200.80
  .001171      120.      120.      120.         2         0        0      0.00    348.77    549.57
```

```
*SECNC 203.750
   203.75      8.37    769.97      0.00      0.00    770.01       .04       .02       .00    764.60
    1550.      268.      594.      687.      323.      258.      892.        6.        2.    765.80
      .05       .83      2.30       .77      .100      .055      .100      .054    761.60    136.55
  .000553       30.       30.       30.         2         0         0      0.00    432.21    568.76
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| SECNO | XLOB | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 570.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.41 | 2.92 | 1058.16 | 382.62 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.41 | 2.92 | 1058.16 | 382.62 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.41 | 2.92 | 1058.16 | 382.62 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.41 | 2.92 | 1058.16 | 382.62 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.58 | 0.00 | 769.63 | 16.41 | 2.92 | 1058.16 | 382.62 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 950.00 | 769.54 | 0.00 | 769.78 | 315.89 | 0.00 | 240.76 | 53.45 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 850.00 | 769.55 | 0.00 | 769.74 | 248.72 | 0.00 | 242.30 | 53.90 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 750.00 | 769.56 | 0.00 | 769.71 | 187.97 | 0.00 | 245.07 | 54.70 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 650.00 | 769.57 | 0.00 | 769.68 | 140.37 | 0.00 | 245.61 | 54.86 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 550.00 | 769.57 | 0.00 | 769.65 | 99.66 | 0.00 | 246.40 | 55.09 |
| 203.500 | 1.00 | 0.00 | 0.00 | 767.00 | 450.00 | 769.58 | 0.00 | 769.63 | 66.71 | 0.00 | 246.40 | 55.09 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 950.00 | 770.25 | 0.00 | 770.36 | 108.95 | 0.00 | 358.41 | 91.01 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 850.00 | 770.14 | 0.00 | 770.23 | 101.49 | 0.00 | 338.95 | 84.37 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 750.00 | 770.03 | 0.00 | 770.11 | 92.16 | 0.00 | 320.22 | 78.13 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 650.00 | 769.93 | 0.00 | 770.00 | 79.68 | 0.00 | 303.93 | 72.82 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 550.00 | 769.84 | 0.00 | 769.90 | 65.24 | 0.00 | 289.10 | 68.09 |
| 203.600 | 30.00 | 0.00 | 0.00 | 767.00 | 450.00 | 769.76 | 0.00 | 769.81 | 49.30 | 0.00 | 276.28 | 64.09 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 770.53 | 0.00 | 770.56 | 7.22 | 2.09 | 1391.33 | 576.83 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 770.41 | 0.00 | 770.43 | 7.96 | 2.18 | 1347.42 | 549.23 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 770.28 | 0.00 | 770.31 | 8.81 | 2.27 | 1303.57 | 522.26 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 770.16 | 0.00 | 770.20 | 9.70 | 2.36 | 1262.68 | 497.66 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 770.05 | 0.00 | 770.09 | 10.74 | 2.46 | 1220.57 | 472.86 |
| 203.700 | 120.00 | 0.00 | 0.00 | 762.70 | 1550.00 | 769.95 | 0.00 | 769.99 | 11.71 | 2.54 | 1185.93 | 452.89 |

| SECNO | XLCH | ELTRO | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.55 | 0.00 | 770.57 | 3.63 | 1.96 | 1727.70 | 813.63 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.42 | 0.00 | 770.45 | 3.96 | 2.03 | 1671.58 | 778.76 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.30 | 0.00 | 770.33 | 4.33 | 2.10 | 1616.23 | 744.78 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.18 | 0.00 | 770.22 | 4.71 | 2.17 | 1565.26 | 713.87 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.07 | 0.00 | 770.11 | 5.12 | 2.23 | 1517.52 | 685.27 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 769.97 | 0.00 | 770.01 | 5.53 | 2.30 | 1473.24 | 659.04 |

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLOF |
|---|---|---|---|---|---|---|---|
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 570.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.400 | 1550.00 | 769.58 | 0.00 | .21 | 0.00 | 348.49 | 120.00 |
| 203.500 | 950.00 | 769.54 | 0.00 | -.03 | 0.00 | 155.87 | 1.00 |
| 203.500 | 850.00 | 769.55 | 0.00 | -.02 | 0.00 | 156.19 | 1.00 |
| 203.500 | 750.00 | 769.56 | 0.00 | -.02 | 0.00 | 156.77 | 1.00 |
| 203.500 | 650.00 | 769.57 | 0.00 | -.01 | 0.00 | 156.88 | 1.00 |
| 203.500 | 550.00 | 769.57 | 0.00 | -.00 | 0.00 | 157.04 | 1.00 |
| 203.500 | 450.00 | 769.58 | 0.00 | .00 | 0.00 | 157.04 | 1.00 |
| 203.600 | 950.00 | 770.25 | 0.00 | .70 | 0.00 | 178.71 | 30.00 |
| 203.600 | 850.00 | 770.14 | 0.00 | .58 | 0.00 | 175.14 | 30.00 |
| 203.600 | 750.00 | 770.03 | 0.00 | .47 | 0.00 | 171.63 | 30.00 |
| 203.600 | 650.00 | 769.93 | 0.00 | .36 | 0.00 | 168.52 | 30.00 |
| 203.600 | 550.00 | 769.84 | 0.00 | .27 | 0.00 | 165.64 | 30.00 |
| 203.600 | 450.00 | 769.76 | 0.00 | .19 | 0.00 | 163.10 | 30.00 |
| 203.700 | 1550.00 | 770.53 | 0.00 | .28 | 0.00 | 349.21 | 120.00 |
| 203.700 | 1550.00 | 770.41 | 0.00 | .27 | 0.00 | 349.12 | 120.00 |
| 203.700 | 1550.00 | 770.28 | 0.00 | .25 | 0.00 | 349.02 | 120.00 |
| 203.700 | 1550.00 | 770.16 | 0.00 | .23 | 0.00 | 348.93 | 120.00 |
| 203.700 | 1550.00 | 770.05 | 0.00 | .21 | 0.00 | 348.84 | 120.00 |
| 203.700 | 1550.00 | 769.95 | 0.00 | .18 | 0.00 | 348.77 | 120.00 |
| 203.750 | 1550.00 | 770.55 | 0.00 | .02 | 0.00 | 455.36 | 30.00 |
| 203.750 | 1550.00 | 770.42 | 0.00 | .02 | 0.00 | 450.36 | 30.00 |
| 203.750 | 1550.00 | 770.30 | 0.00 | .02 | 0.00 | 445.37 | 30.00 |
| 203.750 | 1550.00 | 770.18 | 0.00 | .02 | 0.00 | 440.73 | 30.00 |
| 203.750 | 1550.00 | 770.07 | 0.00 | .02 | 0.00 | 436.33 | 30.00 |
| 203.750 | 1550.00 | 769.97 | 0.00 | .02 | 0.00 | 432.21 | 30.00 |

SUMMARY OF ERRORS

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: WATTLES RD. S.B. - PRESSURE FLOW

00BREAK00

JOB NO. UM8334 UNIVERSITY OF MICHIGAN TERMINAL SYSTEM MERIT NET 11:06:09 12-05-79

PRE

WATTLES RD.
S.B. FOR PRESSURE
FLOW THRU CULVERT

PARAMETERS: ,ID=XSNL,PW=,ROUTE=NUBS

```
MM          MM   NN          NN   EEEEEEEEEEEE   TTTTTTTTTTTT
MMM        MMM   NNN         NN   EEEEEEEEEEEE   TTTTTTTTTTTT
MMMM      MMMM   NNNN        NN   EE                 TT
MM MM    MM MM   NN NN       NN   EE                 TT
MM  MMMM  MM     NN  NN      NN   EE                 TT
MM   MM   MM     NN   NN     NN   EEEEEEEE           TT
MM        MM     NN    NN    NN   EEEEEEEE           TT
MM        MM     NN     NN   NN   EE                 TT
MM        MM     NN      NN  NN   EE                 TT
MM        MM     NN       NNNN   EE                 TT
MM        MM     NN        NNN   EE                 TT
MM        MM     NN         NN   EEEEEEEEEEEE       TT
MM        MM     NN          N   EEEEEEEEEEEE       TT

XX        XX   SSSSSSSSS   NN         NN   LL
XX        XX  SSSSSSSSSSS  NNN        NN   LL
 XX      XX   SS       SS  NNNN       NN   LL
  XX    XX    SS           NN NN      NN   LL
   XX  XX     SSS          NN  NN     NN   LL
    XXXX       SSSSSSSS    NN   NN    NN   LL
    XXXX        SSSSSSSS   NN    NN   NN   LL
   XX  XX             SSS  NN     NN NN   LL
  XX    XX             SS  NN      NNNN   LL
 XX      XX   SS       SS  NN       NNN   LL
XX        XX  SSSSSSSSSSS  NN        NN   LLLLLLLLLLLL
XX        XX   SSSSSSSSS   NN         N   LLLLLLLLLLLL
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

T1 HUD-FIA H-4705
T2 TROY FIS
T3 MAIN RIVER ROUGE

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0. | 2. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 7.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 0.000 | 0.000 |
| NC | .100 | .100 | .055 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 203.200 | 23.000 | 194.000 | 234.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 778.000 | 134.000 | 767.800 | 164.000 | 765.000 | 194.000 | 762.200 | 198.000 | 761.000 | 214.000 |
| GR | 761.200 | 224.000 | 762.200 | 230.000 | 764.000 | 234.000 | 764.200 | 280.000 | 766.200 | 308.000 |
| GR | 775.000 | 324.000 | 775.000 | 411.000 | 767.000 | 412.000 | 767.000 | 430.000 | 775.000 | 431.000 |
| GR | 775.000 | 487.000 | 767.000 | 498.000 | 767.000 | 505.000 | 775.000 | 506.000 | 775.000 | 563.000 |
| GR | 768.700 | 564.000 | 769.400 | 582.000 | 775.000 | 583.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 7.000 | 600.000 | 700.000 | 800.000 | 900.000 | 1000.000 | 1100.000 | 1200.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 203.400 | 15.000 | 285.000 | 318.300 | 120.000 | 120.000 | 120.000 | .700 | 0.000 | 0.000 |
| GR | 781.300 | 0.000 | 772.000 | 285.000 | 764.700 | 291.600 | 763.100 | 292.000 | 762.900 | 294.000 |
| GR | 762.700 | 298.000 | 762.900 | 302.000 | 763.100 | 304.000 | 764.700 | 304.400 | 764.700 | 305.900 |
| GR | 763.100 | 306.300 | 762.900 | 308.300 | 762.700 | 312.300 | 762.900 | 316.300 | 763.100 | 318.300 |
| SB | 1.600 | 2.200 | 3.200 | 100.000 | 27.500 | 1.500 | 119.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 203.600 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 769.300 | 790.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 7.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 1550.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 203.750 | 10.000 | 232.000 | 268.000 | 30.000 | 30.000 | 30.000 | 0.000 | -.200 | 0.000 |
| GR | 776.500 | 90.000 | 767.800 | 154.000 | 764.800 | 232.000 | 763.800 | 234.000 | 761.800 | 250.000 |
| GR | 763.800 | 266.000 | 766.000 | 268.000 | 766.100 | 300.000 | 767.000 | 464.000 | 772.300 | 639.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PROF 1

CCHV= .400 CEHV= .800
*SECNO 203.200

3265 DIVIDED FLOW

| SECNO<br>Q<br>TIME<br>SLOPE | DEPTH<br>QLOB<br>VLOB<br>XLOBL | CESEL<br>QCH<br>VCH<br>XLCH | CRIWS<br>QROB<br>VROB<br>XLOBR | WSELK<br>ALOB<br>XNL<br>ITRIAL | EG<br>ACH<br>XNCH<br>IDC | HV<br>APOB<br>XNR<br>ICONT | HL<br>VOL<br>WTN<br>CORAR | OLOSS<br>TWA<br>ELMIN<br>TOPWID | BANK ELEV<br>LEFT/RIGHT<br>SSTA<br>ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 203.20 | 8.37 | 769.37 | 0.00 | 769.37 | 769.47 | .10 | 0.00 | 0.00 | 765.00 |
| 1550. | 84. | 926. | 540. | 93. | 301. | 458. | 0. | 0. | 764.00 |
| 0.00 | .91 | 3.08 | 1.18 | .100 | .055 | .100 | 0.000 | 761.00 | 159.38 |
| .000919 | 0. | 0. | 0. | 0 | 0 | 0 | 0.00 | 207.90 | 581.23 |

*SECNO 203.400
3280 CROSS SECTION 203.40 EXTENDED 6.38 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.40 | 6.77 | 769.47 | 0.00 | 0.00 | 769.81 | .34 | .15 | .20 | 772.00 |
| 600. | 0. | 600. | 0. | 0. | 128. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 4.69 | 0.00 | .100 | .055 | .100 | .055 | 762.70 | 201.09 |
| .004050 | 120. | 120. | 120. | 0 | 0 | 0 | 0.00 | 21.72 | 222.81 |

New section [illegible] between
Secno [illegible] of bridge
[illegible] have [illegible]
flow [illegible] to [illegible]
[illegible] and
[illegible] of [illegible]
as [illegible] [illegible]

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.60 | 2.20 | 3.20 | 100.00 | 27.50 | 1.50 | 119.00 | 0.00 | 762.70 | 762.70 |

*SECNO 203.600
3280 CROSS SECTION 203.60 EXTENDED 6.96 FEET

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 770.34 | 769.89 | .09 | 0. | 600. | 119. | 172. | 769.30 | 790.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.60 | 7.36 | 770.06 | 0.00 | 0.00 | 770.34 | .28 | .53 | 0.00 | 772.00 |
| 600. | 0. | 600. | 0. | 0. | 141. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 4.26 | 0.00 | .100 | .055 | .100 | .054 | 762.70 | 200.73 |
| .003052 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 22.08 | 222.81 |

*SECNO 203.750

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 8.83 | 770.43 | 0.00 | 0.00 | 770.46 | .03 | .02 | .10 | 764.60 |
| 1550. | 275. | 556. | 719. | 367. | 275. | 1034. | 2. | 0. | 765.80 |
| .02 | .75 | 2.02 | .70 | .100 | .055 | .100 | .054 | 761.60 | 133.16 |
| .000393 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 450.77 | 583.94 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      10 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIF | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 3. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 759.370 | 0.000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 2.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PROF 2

CCHV= .400 CDHV= .800
*SECNO 203.200

3265 DIVIDED FLOW

| SECNO<br>Q<br>TIME<br>SLOPE | DEPTH<br>QLOB<br>VLOB<br>XLOBL | CWSEL<br>QCH<br>VCH<br>XLCH | CRIWS<br>QROB<br>VROB<br>XLOBR | WSELK<br>ALOB<br>XNL<br>ITRIAL | EG<br>ACH<br>XNCH<br>IDC | HV<br>AROB<br>XNR<br>ICONT | HL<br>VOL<br>WTN<br>CORAR | OLOSS<br>TWA<br>ELMIN<br>TOPWID | BANK ELEV<br>LEFT/RIGHT<br>SSTA<br>ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 203.20 | 8.37 | 769.37 | 0.00 | 769.37 | 769.47 | .10 | 0.00 | 0.00 | 765.00 |
| 1550. | 84. | 926. | 540. | 93. | 301. | 458. | 0. | 0. | 764.00 |
| 0.00 | .91 | 3.08 | 1.18 | .100 | .055 | .100 | 0.000 | 761.00 | 159.38 |
| .000919 | 0. | 0. | 0. | 0 | 0 | 0 | 0.00 | 207.90 | 581.23 |

*SECNO 203.400
3280 CROSS SECTION 203.40 EXTENDED 6.37 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.40 | 6.76 | 769.46 | 0.00 | 0.00 | 769.93 | .47 | .17 | .30 | 772.00 |
| 700. | 0. | 700. | 0. | 0. | 128. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 5.48 | 0.00 | .100 | .055 | .100 | .055 | 762.70 | 201.10 |
| .005539 | 120. | 120. | 120. | 1 | 0 | 0 | 0.00 | 21.71 | 222.81 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.60 | 2.20 | 3.20 | 100.00 | 27.50 | 1.50 | 119.00 | 0.00 | 762.70 | 762.70 |

*SECNO 203.600
3280 CROSS SECTION 203.60 EXTENDED 7.19 FEET

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 770.64 | 770.05 | .14 | 0. | 700. | 119. | 172. | 769.30 | 790.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.60 | 7.59 | 770.29 | 0.00 | 0.00 | 770.64 | .36 | .72 | 0.00 | 772.00 |
| 700. | 0. | 700. | 0. | 0. | 146. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 4.80 | 0.00 | .100 | .055 | .100 | .054 | 762.70 | 200.58 |
| .003739 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 22.23 | 222.81 |

*SECNO 203.750

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 9.17 | 770.77 | 0.00 | 0.00 | 770.79 | .02 | .02 | .13 | 764.60 |
| 1550. | 280. | 531. | 739. | 401. | 287. | 1143. | 2. | 0. | 765.80 |
| .02 | .70 | 1.85 | .65 | .100 | .055 | .100 | .054 | 761.60 | 130.67 |
| .000311 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 464.44 | 595.12 |

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
**************************************************
```

```
T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      50 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 4. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 3.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

*PROF 3

CCHV= .400 CEHV= .800
*SECNO 203.200

3265 DIVIDED FLOW

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 203.20 | 8.37 | 769.37 | 0.00 | 769.37 | 769.47 | .10 | 0.00 | 0.00 | 765.00 |
| 1550. | 84. | 926. | 540. | 93. | 301. | 458. | 0. | 0. | 764.00 |
| 0.00 | .91 | 3.08 | 1.18 | .100 | .055 | .100 | 0.000 | 761.00 | 159.38 |
| .000919 | 0. | 0. | 0. | 0 | 0 | 0 | 0.00 | 207.90 | 581.23 |

*SECNO 203.400
3280 CROSS SECTION 203.40 EXTENDED 6.35 FEET

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.40 | 6.75 | 769.45 | 0.00 | 0.00 | 770.06 | .61 | .18 | .41 | 772.00 |
| 800. | 0. | 800. | 0. | 0. | 127. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 6.28 | 0.00 | .100 | .055 | .100 | .055 | 762.70 | 201.12 |
| .007321 | 120. | 120. | 120. | 2 | 0 | 0 | 0.00 | 21.70 | 222.81 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.60 | 2.20 | 3.20 | 100.00 | 27.50 | 1.50 | 119.00 | 0.00 | 762.70 | 762.70 |

*SECNO 203.600
3280 CROSS SECTION 203.60 EXTENDED 7.46 FEET

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 770.99 | 770.22 | .20 | 0. | 800. | 119. | 172. | 769.30 | 790.00 |
| 203.60 | 7.86 | 770.56 | 0.00 | 0.00 | 770.99 | .43 | .93 | 0.00 | 772.00 |
| 800. | 0. | 800. | 0. | 0. | 152. | 0. | 1. | 0. | 763.10 |
| .01 | 0.00 | 5.27 | 0.00 | .100 | .055 | .100 | .054 | 762.70 | 200.41 |
| .004317 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 22.40 | 222.81 |

*SECNO 203.750

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 9.55 | 771.15 | 0.00 | 0.00 | 771.17 | .02 | .01 | .16 | 764.60 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1550. | 284. | 507. | 759. | 440. | 301. | 1270. | 2. | 1. | 765.80 |
| .02 | .64 | 1.69 | .60 | .100 | .055 | .100 | .054 | 761.60 | 127.87 |
| .000242 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 479.82 | 607.69 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1       JOB HUD-FIA H-4705  T06
T2       FLOOD INSURANCE STUDIES
T3       500 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 5. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 4.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 4

CCHV=    .400 CEHV=    .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.     458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .100      .055     .100     0.000    761.00    159.38
  .000919       0.        0.        0.         0         0        0      0.00    207.90    581.23

*SECNO 203.400
3280 CROSS SECTION    203.40 EXTENDED      6.33 FEET


3301 HV CHANGED MORE THAN HVINS

   203.40      6.73    769.43      0.00      0.00    770.21      .78       .20       .55    772.00
     900.        0.      900.        0.        0.      127.       0.        1.        0.    763.10
      .00      0.00      7.09      0.00      .100      .055     .100      .055    762.70    201.13
  .009349      120.      120.      120.         2         0        0      0.00     21.68    222.81


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      2.20      3.20    100.00     27.50      1.50    119.00      0.00    762.70    762.70

*SECNO 203.600
3280 CROSS SECTION    203.60 EXTENDED      7.79 FEET


PRESSURE FLOW

 EGPRS      EGLWC      H3        QPEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                               AREA
   771.38    770.43      .29        0.       900.      119.     172.      769.30    790.00


   203.60      8.19    770.89      0.00      0.00    771.38      .50      1.17      0.00    772.00
     900.        0.      900.        0.        0.      159.       0.        1.        0.    763.10
      .01      0.00      5.65      0.00      .100      .055     .100      .054    762.70    200.20
  .004744       30.       30.       30.         2         0        0      0.00     22.61    222.81


*SECNO 203.750
   203.75      9.97    771.57      0.00      0.00    771.59      .01       .01       .19    764.60
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1550. | 288. | 483. | 779. | 485. | 316. | 1416. | 2. | 1. | 765.80 |
| .02 | .59 | 1.53 | .55 | .100 | .055 | .100 | .054 | 761.60 | 124.77 |
| .000187 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 496.84 | 621.61 |

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
**************************************************
```

```
T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      10 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIP | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 5.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 5

CCHV=     .400 CEHV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     VSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   203.20      8.37    769.37      0.00    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.     458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .100      .055     .100     0.000    761.00    159.38
  .000919        0.        0.        0.         0         0        0      0.00    207.90    581.23


*SECNO 203.400
3280 CROSS SECTION     203.40 EXTENDED       6.31 FEET


3301 HV CHANGED MORE THAN HVINS

   203.40      6.71    769.41      0.00      0.00    770.38      .97       .21       .70    772.00
    1000.        0.     1000.        0.        0.      127.       0.        1.        0.    763.10
      .00      0.00      7.90      0.00      .100      .055     .100      .055    762.70    201.14
  .011669      120.      120.      120.         2         0        0      0.00     21.67    222.81


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB   XK        XKOR      COFQ      RDLEN     BFC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      2.20      3.20    100.00     27.50      1.50    119.00      0.00    762.70    762.70

*SECNO 203.600
3280 CROSS SECTION     203.60 EXTENDED       8.18 FEET


PRESSURE FLOW

 EGPRS      EGLNC      H3        QWFIR     QPF       BAREA    TRAPEZOID     ELLC      ELTRD
                                                              AREA
   771.82    770.67      .42        0.     1000.      119.      172.      769.30    790.00


   203.60      8.57    771.27      0.00      0.00    771.82      .55      1.44      0.00    772.00
    1000.        0.     1000.        0.        0.      168.       0.        1.        0.    763.10
      .01      0.00      5.95      0.00      .100      .055     .100      .054    762.70    199.96
  .005003       30.       30.       30.         2         0        0      0.00     22.85    222.81


*SECNO 203.750
```

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 10.43 | 772.03 | 0.00 | 0.00 | 772.05 | .01 | .01 | .22 | 764.60 |
| 1550. | 291. | 460. | 799. | 535. | 332. | 1583. | 2. | 1. | 765.80 |
| .02 | .54 | 1.38 | .50 | .100 | .055 | .100 | .054 | 761.60 | 121.38 |
| .000143 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 515.46 | 636.84 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      500 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIP | STPT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 7. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 6

CCHV=     .400 CEHV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.      93.      301.     458.        0.        0.     764.00
     0.00      .91      3.08      1.18     .100      .055     .100     0.000    761.00    159.38
  .000919       0.        0.        0.        0         0        0      0.00    207.90    581.23

*SECNO 203.400
3280 CROSS SECTION     203.40 EXTENDED       6.28 FEET


3301 HV CHANGED MORE THAN HVINS

   203.40      6.68    769.38      0.00      0.00    770.57     1.18       .23       .87    772.00
    1100.        0.     1100.        0.        0.      126.       0.        1.        0.     763.10
      .00      0.00      8.73      0.00      .100      .055     .100      .055    762.70    201.16
  .014304      120.      120.      120.         2         0        0      0.00     21.66    222.81


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      FDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.60      2.20      3.20    100.00     27.50      1.50    119.00      0.00    762.70    762.70

*SECNO 203.600
3280 CROSS SECTION     203.60 EXTENDED       8.62 FEET


3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

 EGPRS      EGLWC      H3        QWEIR     OPP       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  772.30    770.94      .57        0.     1100.      119.     172.      769.30    790.00


   203.60      9.01    771.71      0.00      0.00    772.30      .59      1.73      0.00    772.00
    1100.        0.     1100.        0.        0.      178.       0.        1.        0.     763.10
      .01      0.00      6.17      0.00      .100      .055     .100      .054    762.70    199.68
  .005096       30.       30.       30.         2         0        0      0.00     23.13    222.81
```

*SECNO 203.750
3290 CROSS SECTION 203.75 EXTENDED .43 FEET

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 10.93 | 772.53 | 0.00 | 0.00 | 772.54 | .01 | .01 | .23 | 764.60 |
| 1550. | 293. | 437. | 821. | 591. | 350. | 1768. | 2. | 1. | 765.80 |
| .02 | .50 | 1.25 | .46 | .100 | .055 | .100 | .054 | 761.60 | 117.70 |
| .000108 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 521.30 | 639.00 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 600.00 | 769.47 | 0.00 | 769.81 | 40.50 | 4.69 | 128.05 | 94.28 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 700.00 | 769.46 | 0.00 | 769.93 | 55.39 | 5.48 | 127.85 | 94.06 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 800.00 | 769.45 | 0.00 | 770.06 | 73.21 | 6.28 | 127.34 | 93.50 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 900.00 | 769.43 | 0.00 | 770.21 | 93.49 | 7.09 | 126.97 | 93.08 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1000.00 | 769.41 | 0.00 | 770.38 | 116.69 | 7.90 | 126.51 | 92.57 |
| 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 1100.00 | 769.38 | 0.00 | 770.57 | 143.04 | 8.73 | 125.96 | 91.97 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 600.00 | 770.06 | 0.00 | 770.34 | 30.52 | 4.26 | 140.73 | 108.61 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 700.00 | 770.29 | 0.00 | 770.64 | 37.39 | 4.80 | 145.78 | 114.48 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 800.00 | 770.56 | 0.00 | 770.99 | 43.17 | 5.27 | 151.95 | 121.76 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 900.00 | 770.89 | 0.00 | 771.38 | 47.44 | 5.65 | 159.34 | 130.66 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 1000.00 | 771.27 | 0.00 | 771.82 | 50.03 | 5.95 | 168.06 | 141.38 |
| 203.600 | 30.00 | 790.00 | 769.30 | 762.70 | 1100.00 | 771.71 | 0.00 | 772.30 | 50.96 | 6.17 | 178.17 | 154.09 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.43 | 0.00 | 770.46 | 3.93 | 2.02 | 1676.18 | 781.60 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.77 | 0.00 | 770.79 | 3.11 | 1.85 | 1831.12 | 878.98 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 771.15 | 0.00 | 771.17 | 2.42 | 1.69 | 2010.88 | 995.76 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 771.57 | 0.00 | 771.59 | 1.87 | 1.53 | 2216.78 | 1134.16 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 772.03 | 0.00 | 772.05 | 1.43 | 1.38 | 2450.19 | 1296.58 |
| 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 772.53 | 0.00 | 772.54 | 1.08 | 1.25 | 2709.83 | 1492.74 |

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| 203.400 | 600.00 | 769.47 | 0.00 | .10 | 0.00 | 21.72 | 120.00 |
| 203.400 | 700.00 | 769.46 | 0.00 | .09 | 0.00 | 21.71 | 120.00 |
| 203.400 | 800.00 | 769.45 | 0.00 | .08 | 0.00 | 21.70 | 120.00 |
| 203.400 | 900.00 | 769.43 | 0.00 | .06 | 0.00 | 21.68 | 120.00 |
| 203.400 | 1000.00 | 769.41 | 0.00 | .04 | 0.00 | 21.67 | 120.00 |
| 203.400 | 1100.00 | 769.38 | 0.00 | .01 | 0.00 | 21.66 | 120.00 |
| 203.600 | 600.00 | 770.06 | 0.00 | .59 | 0.00 | 22.08 | 30.00 |
| 203.600 | 700.00 | 770.29 | 0.00 | .82 | 0.00 | 22.23 | 30.00 |
| 203.600 | 800.00 | 770.56 | 0.00 | 1.11 | 0.00 | 22.40 | 30.00 |
| 203.600 | 900.00 | 770.89 | 0.00 | 1.46 | 0.00 | 22.61 | 30.00 |
| 203.600 | 1000.00 | 771.27 | 0.00 | 1.86 | 0.00 | 22.85 | 30.00 |
| 203.600 | 1100.00 | 771.71 | 0.00 | 2.33 | 0.00 | 23.13 | 30.00 |
| 203.750 | 1550.00 | 770.43 | 0.00 | .37 | 0.00 | 450.77 | 30.00 |
| 203.750 | 1550.00 | 770.77 | 0.00 | .48 | 0.00 | 464.44 | 30.00 |
| 203.750 | 1550.00 | 771.15 | 0.00 | .59 | 0.00 | 479.82 | 30.00 |
| 203.750 | 1550.00 | 771.57 | 0.00 | .68 | 0.00 | 496.84 | 30.00 |
| 203.750 | 1550.00 | 772.03 | 0.00 | .76 | 0.00 | 515.46 | 30.00 |
| 203.750 | 1550.00 | 772.53 | 0.00 | .82 | 0.00 | 521.30 | 30.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: ROUGE RIVER

4) DOCUMENT TYPE: WATTLES RD WEIR FLOW

00BREAK00

JOB NO. UM8336 UNIVERSITY OF MICHIGAN TERMINAL SYSTEM MERIT NET 11:17:30 12-05-79

Weir

WATTLES RD.
WEIR FLOW W/
SB., C=2.5

PARAMETERS: ,ID=XSNL,FL=,ROUTE=NLES

```
MM          MM  NN          NN  EEEEEEEEEEEE  TTTTTTTTTTTT
MMM        MMM  NNN         NN  EEEEEEEEEEEE  TTTTTTTTTTTT
MMMM      MMMM  NNNN        NN  EE                TT
MM MM    MM MM  NN NN       NN  EE                TT
MM  MMMM  MM    NN  NN      NN  EE                TT
MM   MM   MM    NN   NN     NN  EEEEEEEE          TT
MM        MM    NN    NN    NN  EEEEEEEE          TT
MM        MM    NN     NN   NN  EE                TT
MM        MM    NN      NN  NN  EE                TT
MM        MM    NN       NNNN   EE                TT
MM        MM    NN        NNN   EE                TT
MM        MM    NN         NN   EEEEEEEEEEEE      TT
MM        MM    NN          N   EEEEEEEEEEEE      TT

XX        XX     SSSSSSSSS   NN         NN  LL
XX        XX    SSSSSSSSSSS  NNN        NN  LL
 XX      XX     SS       SS  NNNN       NN  LL
  XX    XX      SS           NN NN      NN  LL
   XX  XX       SSS          NN  NN     NN  LL
    XXXX         SSSSSSSSS   NN   NN    NN  LL
    XXXX          SSSSSSSS   NN    NN   NN  LL
   XX  XX               SSS  NN     NN  NN  LL
  XX    XX               SS  NN      NNNN  LL
 XX      XX     SS       SS  NN       NNN  LL
XX        XX    SSSSSSSSSSS  NN        NN  LLLLLLLLLLLL
XX        XX     SSSSSSSSS   NN         N  LLLLLLLLLLLL
```

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************

T1      HUD-FIA F-4705
T2      TROY FIS
T3      MAIN RIVER RCLGE

J1  ICHECK    INQ       NINV      IDIP      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       2.       0.        0.   0.000000     0.00     -1.0       0.   769.370    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      7.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000     0.000     0.000
NC       .100      .100      .055      .400      .800     0.000     0.000     0.000     0.000     0.000

X1    203.200    23.000   194.000   234.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    778.000   134.000   767.800   164.000   765.000   194.000   762.200   198.000   761.000   214.000
GR    761.200   224.000   762.200   230.000   764.000   234.000   764.200   280.000   766.200   308.000
GR    775.000   324.000   775.000   411.000   767.000   412.000   767.000   430.000   775.000   431.000
GR    775.000   487.000   767.000   488.000   767.000   505.000   775.000   506.000   775.000   563.000
GR    768.700   564.000   769.400   582.000   775.000   583.000     0.000     0.000     0.000     0.000
QT      7.000   950.000   850.000   750.000   650.000   550.000   450.000   350.000     0.000     0.000

X1    203.400    15.000   285.000   318.300   120.000   120.000   120.000      .700     0.000     0.000
GR    781.300     0.000   772.000   285.000   764.700   291.600   763.100   292.000   762.900   294.000
GR    762.700   298.000   762.900   302.000   763.100   304.000   764.700   304.400   764.700   305.900
GR    763.100   306.300   762.900   308.300   762.700   312.300   762.900   316.300   763.100   318.300
SB      3.000     2.200     2.500     0.000     2.200     1.500     5.000     0.000   762.700   762.700

X1    203.600     0.000     0.000     0.000    30.000    30.000    30.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   770.700     0.000     0.000     0.000     0.000      .700     0.000
BT     20.000   306.300   771.800   767.100   308.300   771.800   769.500   312.300   771.800   770.700
BT    316.300   771.800   769.500   318.300   771.800   767.100   318.700   771.800   764.700   470.000
BT    767.000   767.000   471.000   775.000   767.000   541.000   775.000   767.000   542.000   767.000
BT    767.000   566.000   767.000   767.000   567.000   775.000   767.000   649.000   775.000   767.000
BT    650.000   767.000   767.000   675.000   767.000   767.000   676.000   775.000   767.000   759.000
BT    775.000   767.000   760.000   768.700   768.700   785.000   769.400   769.400   786.000   775.000
BT    775.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
QT      7.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000  1550.000     0.000     0.000

X1    203.750    10.000   232.000   268.000    30.000    30.000    30.000     0.000     -.200     0.000
GR    776.500    90.000   767.800   154.000   764.800   232.000   763.800   234.000   761.800   250.000
GR    763.800   266.000   766.000   268.000   766.100   300.000   767.000   464.000   772.300   639.000
EJ      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 1

CCFV=    .400 CEFV=    .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        CLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CCRAR     TOPWID     ENDST

   203.20      8.37    769.37      0.00    769.37    769.47       .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.      458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .100      .055      .100     0.000    761.00    159.38
  .000919        0.        0.        0.         0         0         0      0.00    207.90    581.23

*SECNO 203.400
3280 CROSS SECTION    203.40 EXTENDED      6.32 FEET


3301 HV CHANGED MORE THAN HVINS

   203.40      6.72    769.42      0.00      0.00    770.29       .87       .21       .62    772.00
     950.        0.      950.        0.        0.      127.        0.        1.        0.    763.10
      .00      0.00      7.50      0.00      .100      .055      .100      .055    762.70    201.13
  .010471      120.      120.      120.         2         0         0      0.00     21.68    222.81


SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    767.40 ,NOT    769.42 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB  XK        XKCR      CDFQ      KDLEN     BWC       BWP       BAREA     SS        ELCFU     ELCFD
     3.00      2.20      2.50      0.00      2.20      1.50      5.00      0.00    762.70    762.70

*SECNO 203.600
3840 SECTION NOT HIGH ENOUGH   850.076   813.100   762.700   831.300   769.451        1
 PRESS FLOW BECAUSE EGLWC OF    850.95  EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW


 EGPRS      EGLWC       H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 AREA
  2002.65    850.95     0.00      922.       26.        5.        9.      775.00    767.00


   203.60      6.77    769.47      0.00      0.00    770.33       .86       .04      0.00    772.00
     950.        0.      950.        0.        0.      128.        0.        1.        0.    763.10
      .01      0.00      7.43      0.00      .100      .055      .100      .054    762.70    201.10
  .010195       30.       30.       30.         3         0        10      0.00     21.71    222.81


*SECNO 203.750
```

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 9.06 | 770.66 | 0.00 | 0.00 | 770.68 | .02 | .02 | .33 | 764.60 |
| 1550. | 278. | 539. | 733. | 390. | 283. | 1107. | 2. | 0. | 765.80 |
| .01 | .71 | 1.90 | .66 | .100 | .055 | .100 | .054 | 761.60 | 131.49 |
| .000335 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 459.98 | 591.47 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1       JOB HUD-FIA F-4705  TC6
T2       FLOOD INSURANCE STUDIES
T3       10 YEAR FLOW

J1  ICHECK    INQ       NINV      ICIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        3.        0.        0.   0.000000     0.00     -1.0        0.    769.370    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSFCH     FN        ALLOC     IEW       CHNIM     ITRACE

    2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 2

CCHV=     .400 CEHV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


   203.20      8.37    769.37      0.00    769.37    769.47       .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.      458.        0.        0.    764.00
     0.00       .51      3.08      1.18      .100      .055      .100     0.000    761.00    159.38
  .000919        0.        0.        0.         0         0         0      0.00    207.90    581.23


*SECNO 203.400
3280 CROSS SECTION    203.40 EXTENDED      6.34 FEET


3301 HV CHANGED MORE THAN HVINS

   203.40      6.74    769.44      0.00      0.00    770.13       .69       .19       .48    772.00
     850.        0.      850.        0.        0.      127.        0.        1.        0.    763.10
      .00      0.00      6.68      0.00      .100      .055      .100      .055    762.70    201.12
  .008300      120.      120.      120.         2         0         0      0.00     21.69    222.81


SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    767.28 ,NOT    769.44 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB   XK        XKOR      OCFG      ROLEN     BWC       BWP       BAREA     SS        ELCHL     ELCHD
     3.00      2.20      2.50      0.00      2.20      1.50      5.00      0.00    762.70    762.70

*SECNO 203.600
3840 SECTION NOT HIGH ENOUGH   841.855   813.100   762.700   831.300   769.461        1
 PRESS FLOW BECAUSE EGLWC OF    842.55  EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW


 EGPRS      EGLWC       H3        QWEIR      QPR       EAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
  1756.71    842.55      0.00      827.       23.        5.        9.      775.00    767.00


   203.60      6.78    769.48      0.00      0.00    770.17       .68       .03      0.00    772.00
     850.        0.      850.        0.        0.      128.        0.        1.        0.    763.10
      .01      0.00      6.64      0.00      .100      .055      .100      .054    762.70    201.09
  .008122       30.       30.       30.         3         0        11      0.00     21.72    222.81


*SECNO 203.750
```

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 203.75 | 8.82 | 770.42 | 0.00 | 0.00 | 770.45 | .03 | .02 | .26 | 764.60 |
| 1550. | 275. | 556. | 718. | 367. | 274. | 1031. | 2. | 0. | 765.80 |
| .01 | .75 | 2.03 | .70 | .100 | .055 | .100 | .054 | 761.60 | 133.22 |
| .000396 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 450.44 | 583.67 |

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*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*********************************************
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T1      JOB HLD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      50 YEAR FLOW
```

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ | |
| | -1. | 4. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE | |
| | 3.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |

```
*PROF 3

CCEV=     .400 CEEV=     .800
*SECNO 203.200

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOEL     XLOH      XLOBR     ITRIAL    IDC       ICONT     COARAR    TOPWID      ENDST


   203.20      8.37    769.37      0.00    769.37    769.47       .10      0.00      0.00    765.00
    1550.       84.      926.      540.       93.      301.      458.        0.        0.     764.00
     0.00       .91      3.08      1.18      .100      .055      .100     0.000    761.00    159.38
  .000919        0.        0.        0.         0         0         0      0.00    207.90    581.23


*SECNO 203.400
3280 CROSS SECTION    203.40 EXTENDED      6.36 FEET


   203.40      6.76    769.46      0.00      0.00    769.99       .54       .17       .35    772.00
     750.        0.      750.        0.        0.      128.        0.        1.        0.     763.10
      .01      0.00      5.88      0.00      .100      .055      .100      .055    762.70    201.11
  .006410      120.      120.      120.         2         0         0      0.00     21.70    222.81


SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    767.16 ,NOT    769.46 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB  XK        XKOR      COEW      KOLEN     BWC       BWP       BAREA     SS        ELCHL     ELCHD
     3.00      2.20      2.50      0.00      2.20      1.50      5.00      0.00    762.70    762.70

*SECNO 203.600
3840 SECTION NOT HIGH ENOUGH    833.413    813.100    762.700    831.300    769.468          1
 PRESS FLOW BECAUSE EGLWC OF     833.95  EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW


 EGPRS      EGLWC       H3       QWEIR       QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
  1538.09    833.95     0.00      729.       21.        5.        9.      775.00    767.00


   203.60      6.83    769.53      0.00      0.00    770.05       .52       .06      0.00    772.00
     750.        0.      750.        0.        0.      129.        0.        1.        0.     763.10
      .01      0.00      5.80      0.00      .100      .055      .100      .054    762.70    201.06
  .006160       30.       30.       30.         2         0        11      0.00     21.75    222.81


*SECNO 203.750
   203.75      8.64    770.24      0.00      0.00    770.27       .03       .02       .20    764.60
    1550.      273.      571.      706.      349.      268.      974.        2.        0.     765.80
      .01       .78      2.13       .73      .100      .055      .100      .054    761.60    134.57
  .000452       30.       30.       30.         2         0         0      0.00    443.05    577.62
```

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

```
T1       JOB HUD-FIA F-4705  TC6
T2       FLOOD INSURANCE STUDIES
T3       500 YEAR FLOW
```

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | G | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | -1. | 5. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 4

CCFV=     .400 CEFV=     .800
*SECNC 203.20C

3265 DIVIDED FLCW

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLCB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCEL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TCPWID      ENDST

   203.20      8.37    769.37      C.CC    769.37    769.47      .10      0.00      0.00    765.00
    1550.       84.      926.      540.      93.      301.     458.        0.        0.     764.00
     0.00      .91      3.08      1.18     .100      .055     .100     0.000    761.00    159.38
  .000919       0.        0.        C.        C         0        C      0.00    207.90    581.23

*SECNC 203.40C
3280 CRCSS SECTICN    203.40 EXTENDED      6.37 FEET

   203.40      6.77    769.47      C.0C      C.CC    769.87      .40       .16       .24    772.00
     650.        C.      650.        0.        0.      128.       C.        1.        C.     763.10
      .C1     C.CC      5.08      C.CC     .1CC      .055     .100      .055    762.70    201.10
  .004769     120.      120.      120.         1         C        0      0.00     21.71    222.81

SPECIAL BRIDGE

5227 DCINSTREAM ELEV IS    767.C4 ,NCT    769.47 HYDRAULIC JUMP CCCURS DCWNSTREAM (IF LCW FLOW CONTROLS)

SB  XK        XKCR      CCFW      RCLEN     BWC       BWP       BAREA     SS        ELCHC     ELCFD
     3.00      2.2C      2.5C      0.00      2.20      1.5C      5.00      0.00    762.70    762.70

*SECNC 203.60C
384C SECTION NOT HIGH ENOUGH    824.779   813.10C   762.700   831.300   769.480        1
 PRESS FLOW BECAUSE EGLWC OF     825.18  EXCEEDS 1.5 DEPTH
PRESSLRE AND WEIR FLCW

 EGPRS      EGLWC       H3        CWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
  1346.80    825.18      0.0C      632.       18.        5.        9.      775.0C    767.00

   203.60      6.84    769.54      0.00      C.CC    769.93      .39       .06      0.00    772.00
     650.        C.      650.        0.        0.      129.       0.        1.        C.     763.10
      .01     0.C0      5.02      C.C0     .1CC      .055     .100      .054    762.70    201.06
  .004605      30.       30.       3C.         2         0       11      0.00     21.76    222.81

*SECNC 203.75C
   203.75      8.46    770.06      C.00      0.C0    770.10      .04       .02       .14    764.60
    155C.      27C.      586.      694.      332.      262.     920.        2.        0.     765.80
      .01       .81      2.24       .75     .1CC      .C55     .1CC      .054    761.60    135.87
  .CCC516      3C.       30.       3C.         2         0        0      C.00    435.91    571.78
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  C1
  MODIFICATION -  50,51,52
*************************************************
```

```
T1      JOB HUD-FIA F-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      10 YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ
     -1.       6.        0.        0.  0.000000      0.00      -1.0       0.   765.370    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    5.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PRCF 5

CCHV=     .400 CEHV=     .800
*SECNC 203.200

3265 DIVIDED FLCW

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       ARCB      VCL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      C.CO    769.37    769.47       .10      0.00      0.0C    765.CC
    1550.       84.      926.      54C.       93.      3C1.      45E.        0.        0.     764.00
     0.00       .91      3.08      1.18      .1C0      .055      .100     0.CCC    761.0C    159.38
  .CCC919        C.        C.        C.         J         C         0      0.00    207.90    581.23

*SECNC 203.40C
328C CROSS SECTICN     2C3.40 EXTENDED       6.38 FEET

   2J3.40      6.78    769.48      C.CC      0.C0    769.76       .29       .14       .15    772.0C
     550.        C.      55C.        C.        C.      12E.        C.        1.        0.     763.10
      .C1      C.CO      4.30      0.00      .1CJ      .055      .100      .055    762.7C    2C1.C9
  .CC3403      12C.      12C.      12C.         C         0         0      0.00     21.72    222.81

SPECIAL BRIDGE

5227 DCWNSTREAM ELEV IS     766.91 ,NCT     769.48 HYDRAULIC JUMP OCCURS DCWNSTREAM (IF LCW FLCW CONTROLS)

SB  XK        XKER      CDFQ      KDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     3.00      2.2C      2.5C      0.00      2.20      1.5C      5.00      0.0C    762.70    762.70

*SECNC 203.6C0
384C SECTICN NCT HIGH ENCUGH    816.015   813.1CC   762.700   831.300     0.CC0        1
 PRESS FLCW BECAUSE EGLWC OF     816.3C  EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLCW

 EGPRS      EGLNC       H3       QWEIR       QPR       BAREA   TRAPEZOID      ELLC      ELTRC
                                                                  AREA
  1182.83    816.3C      C.J0      532.       16.        5.        9.      775.00    767.00

   203.6C      6.82    769.52      C.CC      C.C0    769.80       .28       .04      J.00    772.00
     55C.        C.      550.        U.        C.      129.        0.        1.        0.     763.10
      .C1      C.CC      4.26      C.C0      .1C0      .055      .100      .054    762.7C    2C1.C7
  .003329       3C.       30.       3C.         2         C        1C      C.00     21.74    222.81

*SECNC 203.75C
   203.75      8.29    769.89      C.CU      C.CC    769.53       .04       .02       .10    764.60
    155C.       267.      602.      681.      315.      255.      E67.        2.        0.     765.80
      .02       .E5      2.36       .79      .1CC      .055      .100      .054    761.60    137.17
  .C00591       3J.       30.       3C.         2         C         C      0.00    428.76    565.94
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  CI
  MODIFICATION -  5C,51,52
*************************************************
```

```
T1      JOB HUD-FIA F-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      500 YEAR FLOW
```

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | -1. | 7. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 769.370 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 6

CCHV=     .400 CEHV=     .800
*SECNC 203.200

3265 DIVIDED FLCW

   SECNC     DEPTH     CWSEL     CRITS     WSELK     EG        HV        AL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLCER     INITIAL   ICC       ICCNT     CORAR     TOPWID      ENDST

   203.20      8.37    769.37      0.00    769.27    769.47       .10      0.00      0.00    765.00
    155C.       84.      926.      54C.       93.      301.      458.        0.        0.    764.00
     0.00       .91      3.08      1.18      .1CC      .C55      .100     0.000    761.00    159.38
  .CCC919        C.        0.        0.         C         0         0      0.00    207.9C    581.23

*SECNC 203.400
3280 CROSS SECTICN     203.40 EXTENDED       6.38 FEET

   203.4C      6.78    769.48      0.CC      0.CC    769.67       .19       .13       .08    772.CC
     45C.        C.      45C.        C.        C.     128.        0.        1.        0.    763.10
      .01      0.CC      3.51      C.CC      .1CC      .C55      .1CC      .055    762.7C    2C1.C9
  .CC2278      12C.      12C.      12C.         0         0         0      0.00     21.72    222.81

SPECIAL BRIDGE

5227 DCWNSTREAM ELEV IS     766.75 ,NOT     769.48 HYDRALLIC JLMP OCCURS DCWNSTREAM (IF LCW FLCW CCNTROLS)

SB   XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     3.00      2.20      2.5U      0.0C      2.20      1.5C      5.00      C.00    762.7C    762.70

*SECNC 203.60C
 PRESS FLCW BECALSE EGLWC CF     8C7.35  EXCEEDS 1.5 DEPTH
3280 CRCSS SECTICN     203.60 EXTENDED       6.42 FEET

PRESSLRE AND WEIR FLCW

 EGPRS       EGLWC       H3        CWEIR       CPR       BAREA   TRAPEZOID      ELLC      ELTRC
                                                                    AREA
  1046.19     807.35      0.00      435.        13.        5.        9.      775.CC    767.CC

   203.60      6.82    769.52      C.0C      C.CC    769.71       .19       .04      0.00    772.00
     45C.        C.      450.        0.        0.     129.        0.        1.        C.    763.1C
      .01      0.00      3.49      C.CC      .1C3      .055      .100      .054    762.70    2C1.07
  .002230       3C.       30.       3C.         2         0        12      C.0C     21.74    222.81

*SECNU 203.75C
   203.75      6.15    769.75      C.00      0.C0    769.79       .C4       .02       .06    764.60
    155C.       264.      616.      67C.      302.      250.      826.        2.        0.    765.80
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .02 | .88 | 2.46 | .81 | .100 | .055 | .100 | .054 | 761.60 | 138.18 |
| .000659 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 423.23 | 561.42 |

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLOB | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.200 | 0.00 | 0.00 | 0.00 | 761.00 | 1550.00 | 769.37 | 0.00 | 769.47 | 9.19 | 3.08 | 852.40 | 511.34 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 950.00 | 769.42 | 0.00 | 770.29 | 104.71 | 7.50 | 126.75 | 92.84 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 850.00 | 769.44 | 0.00 | 770.13 | 83.00 | 6.68 | 127.17 | 93.30 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 750.00 | 769.46 | 0.00 | 769.99 | 64.10 | 5.88 | 127.50 | 93.68 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 650.00 | 769.47 | 0.00 | 769.87 | 47.69 | 5.08 | 127.91 | 94.12 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 550.00 | 769.48 | 0.00 | 769.76 | 34.03 | 4.30 | 128.05 | 94.28 |
| | 203.400 | 120.00 | 0.00 | 0.00 | 762.70 | 450.00 | 769.48 | 0.00 | 769.67 | 22.78 | 3.51 | 128.05 | 94.28 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 950.00 | 769.47 | 0.00 | 770.33 | 101.96 | 7.43 | 127.87 | 94.08 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 850.00 | 769.48 | 0.00 | 770.17 | 81.22 | 6.64 | 128.09 | 94.32 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 750.00 | 769.53 | 0.00 | 770.05 | 61.60 | 5.80 | 129.20 | 95.56 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 650.00 | 769.54 | 0.00 | 769.93 | 46.05 | 5.02 | 129.41 | 95.78 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 550.00 | 769.52 | 0.00 | 769.80 | 33.29 | 4.26 | 128.99 | 95.32 |
| * | 203.600 | 30.00 | 767.00 | 775.00 | 762.70 | 450.00 | 769.52 | 0.00 | 769.71 | 22.30 | 3.49 | 128.97 | 95.29 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.66 | 0.00 | 770.68 | 3.35 | 1.90 | 1780.02 | 846.52 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.42 | 0.00 | 770.45 | 3.96 | 2.03 | 1672.50 | 779.32 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.24 | 0.00 | 770.27 | 4.52 | 2.13 | 1590.64 | 729.22 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 770.06 | 0.00 | 770.10 | 5.16 | 2.24 | 1512.96 | 682.55 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 769.89 | 0.00 | 769.93 | 5.91 | 2.36 | 1436.44 | 637.46 |
| | 203.750 | 30.00 | 0.00 | 0.00 | 761.60 | 1550.00 | 769.75 | 0.00 | 769.79 | 6.59 | 2.46 | 1378.11 | 603.70 |

MAIN RIVER ROUGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLOF |
|---|---|---|---|---|---|---|---|---|
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.200 | 1550.00 | 769.37 | 0.00 | 0.00 | 0.00 | 207.90 | 0.00 |
| | 203.400 | 950.00 | 769.42 | 0.00 | .05 | 0.00 | 21.68 | 120.00 |
| | 203.400 | 850.00 | 769.44 | 0.00 | .07 | 0.00 | 21.69 | 120.00 |
| | 203.400 | 750.00 | 769.46 | 0.00 | .09 | 0.00 | 21.70 | 120.00 |
| | 203.400 | 650.00 | 769.47 | 0.00 | .10 | 0.00 | 21.71 | 120.00 |
| | 203.400 | 550.00 | 769.48 | 0.00 | .11 | 0.00 | 21.72 | 120.00 |
| | 203.400 | 450.00 | 769.48 | 0.00 | .11 | 0.00 | 21.72 | 120.00 |
| * | 203.600 | 950.00 | 769.47 | 0.00 | .05 | 0.00 | 21.71 | 30.00 |
| * | 203.600 | 850.00 | 769.48 | 0.00 | .04 | 0.00 | 21.72 | 30.00 |
| * | 203.600 | 750.00 | 769.53 | 0.00 | .07 | 0.00 | 21.75 | 30.00 |
| * | 203.600 | 650.00 | 769.54 | 0.00 | .07 | 0.00 | 21.76 | 30.00 |
| * | 203.600 | 550.00 | 769.52 | 0.00 | .05 | 0.00 | 21.74 | 30.00 |
| * | 203.600 | 450.00 | 769.52 | 0.00 | .04 | 0.00 | 21.74 | 30.00 |
| | 203.750 | 1550.00 | 770.66 | 0.00 | 1.19 | 0.00 | 459.98 | 30.00 |
| | 203.750 | 1550.00 | 770.42 | 0.00 | .94 | 0.00 | 450.44 | 30.00 |
| | 203.750 | 1550.00 | 770.24 | 0.00 | .71 | 0.00 | 443.05 | 30.00 |
| | 203.750 | 1550.00 | 770.06 | 0.00 | .52 | 0.00 | 435.91 | 30.00 |
| | 203.750 | 1550.00 | 769.89 | 0.00 | .36 | 0.00 | 428.76 | 30.00 |
| | 203.750 | 1550.00 | 769.75 | 0.00 | .23 | 0.00 | 423.23 | 30.00 |

SUMMARY OF ERRORS

CAUTION SECNO= 203.600 PROFILE= 1 HYDRAULIC JUMP D.S.
CAUTION SECNO= 203.600 PROFILE= 2 HYDRAULIC JUMP D.S.
CAUTION SECNO= 203.600 PROFILE= 3 HYDRAULIC JUMP D.S.
CAUTION SECNO= 203.600 PROFILE= 4 HYDRAULIC JUMP D.S.
CAUTION SECNO= 203.600 PROFILE= 5 HYDRAULIC JUMP D.S.
CAUTION SECNO= 203.600 PROFILE= 6 HYDRAULIC JUMP D.S.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SHANAHAN DRAIN - U/S HEN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 240.00 | 640.41 | 0.00 | 640.46 | 13.93 | 1.84 | 130.37 | 64.30 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 460.00 | 641.79 | 0.00 | 641.86 | 13.96 | 2.17 | 212.01 | 123.10 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 642.30 | 0.00 | 642.38 | 13.81 | 2.27 | 246.71 | 150.71 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 750.00 | 643.01 | 0.00 | 643.11 | 14.03 | 2.50 | 302.25 | 200.20 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 240.00 | 640.71 | 0.00 | 640.75 | 9.69 | 1.61 | 149.32 | 77.08 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 460.00 | 642.11 | 0.00 | 642.17 | 10.38 | 1.94 | 236.90 | 142.76 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 642.61 | 0.00 | 642.68 | 10.43 | 2.05 | 273.50 | 173.37 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 750.00 | 643.33 | 0.00 | 643.41 | 10.34 | 2.28 | 340.62 | 233.27 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 240.00 | 640.98 | 0.00 | 641.02 | 7.10 | 1.43 | 167.82 | 90.09 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 460.00 | 642.41 | 0.00 | 642.46 | 7.93 | 1.76 | 262.08 | 163.36 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 642.91 | 0.00 | 642.97 | 7.83 | 1.87 | 302.17 | 200.12 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 750.00 | 643.63 | 0.00 | 643.70 | 7.82 | 2.09 | 386.29 | 268.16 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 240.00 | 641.09 | 0.00 | 641.14 | 14.27 | 1.86 | 129.21 | 63.53 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 460.00 | 642.52 | 0.00 | 642.59 | 13.64 | 2.15 | 213.88 | 124.55 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.02 | 0.00 | 643.10 | 13.53 | 2.25 | 248.62 | 152.27 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 750.00 | 643.74 | 0.00 | 643.84 | 13.68 | 2.48 | 305.04 | 202.80 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 240.00 | 642.21 | 0.00 | 642.23 | 3.25 | 1.05 | 229.41 | 133.17 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 460.00 | 643.04 | 0.00 | 643.08 | 6.07 | 1.58 | 292.48 | 186.75 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 560.00 | 643.38 | 0.00 | 643.43 | 6.80 | 1.75 | 322.20 | 214.81 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 750.00 | 644.08 | 0.00 | 644.14 | 7.01 | 1.98 | 400.10 | 283.28 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 240.00 | 642.23 | 0.00 | 642.25 | 3.22 | 1.04 | 230.08 | 133.70 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 460.00 | 643.08 | 0.00 | 643.11 | 5.90 | 1.56 | 295.32 | 189.40 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.42 | 0.00 | 643.47 | 6.53 | 1.73 | 326.58 | 219.11 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 750.00 | 644.12 | 0.00 | 644.18 | 6.74 | 1.96 | 413.08 | 288.81 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 240.00 | 642.32 | 0.00 | 642.34 | 3.87 | 1.12 | 214.92 | 121.95 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 460.00 | 643.24 | 0.00 | 643.28 | 6.64 | 1.62 | 283.64 | 178.46 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 643.60 | 0.00 | 643.65 | 7.31 | 1.79 | 314.47 | 207.14 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 750.00 | 644.30 | 0.00 | 644.37 | 7.44 | 2.02 | 386.24 | 274.92 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 240.00 | 642.54 | 0.00 | 642.60 | 16.75 | 2.07 | 115.88 | 58.65 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 460.00 | 643.56 | 0.00 | 643.64 | 16.05 | 2.37 | 315.85 | 114.84 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 643.92 | 0.00 | 643.98 | 12.45 | 2.23 | 445.07 | 158.74 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 750.00 | 644.60 | 0.00 | 644.64 | 7.81 | 1.97 | 698.82 | 268.29 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSFL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 240.00 | 643.11 | 0.00 | 643.17 | 17.28 | 2.10 | 114.51 | 57.73 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 460.00 | 644.12 | 0.00 | 644.20 | 17.42 | 2.45 | 300.26 | 110.20 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.38 | 0.00 | 644.46 | 15.92 | 2.46 | 394.20 | 140.36 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 750.00 | 644.91 | 0.00 | 644.96 | 11.99 | 2.34 | 587.18 | 216.57 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 240.00 | 643.73 | 0.00 | 643.80 | 16.92 | 2.08 | 115.45 | 58.35 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 460.00 | 644.75 | 0.00 | 644.82 | 16.76 | 2.41 | 307.62 | 112.37 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 644.97 | 0.00 | 645.05 | 16.30 | 2.48 | 389.43 | 138.71 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 750.00 | 645.38 | 0.00 | 645.45 | 14.60 | 2.53 | 539.85 | 196.32 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 240.00 | 644.23 | 0.00 | 644.28 | 12.47 | 1.80 | 139.51 | 67.97 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 460.00 | 645.23 | 0.00 | 645.30 | 12.22 | 2.20 | 300.36 | 131.58 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.46 | 0.00 | 645.53 | 13.05 | 2.37 | 376.29 | 155.01 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 750.00 | 645.84 | 0.00 | 645.92 | 13.13 | 2.53 | 534.32 | 207.01 |

SHANAHAN DRAIN - U/S HEN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 400.300 | 240.00 | 640.41 | 0.00 | 0.00 | -3.09 | 51.94 | 0.00 |
| 400.300 | 460.00 | 641.79 | 0.00 | 0.00 | -1.71 | 66.11 | 0.00 |
| 400.300 | 560.00 | 642.30 | 0.00 | 0.00 | -1.20 | 71.29 | 0.00 |
| 400.300 | 750.00 | 643.01 | 0.00 | 0.00 | -.49 | 90.86 | 0.00 |
| 400.500 | 240.00 | 640.71 | 0.00 | .30 | 0.00 | 55.55 | 250.00 |
| 400.500 | 460.00 | 642.11 | 0.00 | .32 | 0.00 | 69.86 | 250.00 |
| 400.500 | 560.00 | 642.61 | 0.00 | .32 | 0.00 | 76.12 | 250.00 |
| 400.500 | 750.00 | 643.33 | 0.00 | .32 | 0.00 | 117.26 | 250.00 |
| 401.200 | 240.00 | 640.98 | 0.00 | .27 | 0.00 | 58.87 | 320.00 |
| 401.200 | 460.00 | 642.41 | 0.00 | .30 | 0.00 | 73.46 | 320.00 |
| 401.200 | 560.00 | 642.91 | 0.00 | .30 | 0.00 | 90.80 | 320.00 |
| 401.200 | 750.00 | 643.63 | 0.00 | .30 | 0.00 | 142.44 | 320.00 |
| 400.980 | 240.00 | 641.09 | 0.00 | .11 | 0.00 | 51.71 | 121.00 |
| 400.980 | 460.00 | 642.52 | 0.00 | .11 | 0.00 | 66.40 | 121.00 |
| 400.980 | 560.00 | 643.02 | 0.00 | .11 | 0.00 | 71.56 | 121.00 |
| 400.980 | 750.00 | 643.74 | 0.00 | .11 | 0.00 | 93.03 | 121.00 |
| 401.020 | 240.00 | 642.21 | 0.00 | 1.12 | 0.00 | 71.78 | 49.00 |
| 401.020 | 460.00 | 643.04 | 0.00 | .52 | 0.00 | 83.40 | 49.00 |
| 401.020 | 560.00 | 643.38 | 0.00 | .36 | 0.00 | 92.24 | 49.00 |
| 401.020 | 750.00 | 644.08 | 0.00 | .34 | 0.00 | 240.25 | 49.00 |
| 401.800 | 240.00 | 642.23 | 0.00 | .02 | 0.00 | 71.88 | 55.00 |
| 401.800 | 460.00 | 643.08 | 0.00 | .03 | 0.00 | 84.16 | 55.00 |
| 401.800 | 560.00 | 643.42 | 0.00 | .04 | 0.00 | 93.98 | 55.00 |
| 401.800 | 750.00 | 644.12 | 0.00 | .04 | 0.00 | 275.50 | 55.00 |
| 401.850 | 240.00 | 642.32 | 0.00 | .09 | 0.00 | 69.60 | 265.00 |
| 401.850 | 460.00 | 643.24 | 0.00 | .16 | 0.00 | 80.98 | 265.00 |
| 401.850 | 560.00 | 643.60 | 0.00 | .18 | 0.00 | 89.11 | 265.00 |
| 401.850 | 750.00 | 644.30 | 0.00 | .18 | 0.00 | 115.80 | 265.00 |
| 401.900 | 240.00 | 642.54 | 0.00 | .22 | 0.00 | 42.95 | 350.00 |
| 401.900 | 460.00 | 643.56 | 0.00 | .32 | 0.00 | 350.97 | 350.00 |
| 401.900 | 560.00 | 643.92 | 0.00 | .32 | 0.00 | 363.94 | 350.00 |
| 401.900 | 750.00 | 644.60 | 0.00 | .30 | 0.00 | 388.10 | 350.00 |
| 402.000 | 240.00 | 643.11 | 0.00 | .57 | 0.00 | 42.70 | 335.00 |
| 402.000 | 460.00 | 644.12 | 0.00 | .56 | 0.00 | 349.37 | 335.00 |
| 402.000 | 560.00 | 644.39 | 0.00 | .46 | 0.00 | 358.89 | 335.00 |
| 402.000 | 750.00 | 644.91 | 0.00 | .31 | 0.00 | 377.70 | 335.00 |
| 402.500 | 240.00 | 643.73 | 0.00 | .63 | 0.00 | 42.97 | 365.00 |
| 402.500 | 460.00 | 644.75 | 0.00 | .63 | 0.00 | 350.12 | 365.00 |
| 402.500 | 560.00 | 644.97 | 0.00 | .59 | 0.00 | 358.41 | 365.00 |
| 402.500 | 750.00 | 645.38 | 0.00 | .47 | 0.00 | 373.18 | 365.00 |
| 403.000 | 240.00 | 644.23 | 0.00 | .50 | 0.00 | 86.92 | 335.00 |
| 403.000 | 460.00 | 645.23 | 0.00 | .49 | 0.00 | 294.67 | 335.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 403.000 | 560.00 | 645.46 | 0.00 | .49 | 0.00 | 376.76 | 335.00 |
| 403.000 | 750.00 | 645.84 | 0.00 | .46 | 0.00 | 438.53 | 335.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

C
T1      HUD-FIA H-4705
T2      TROY
T3      SHANAHAN DRAIN - U/S HENRY GRAHAM - 100 YR FLOW=560 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.    .001400     0.00      -1.0       0.    643.500    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000    0.000   150.000    0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .080      .080      .055      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   240.000   460.000   560.000   750.000   560.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** JUNCTION WITH HENRY GRAHAM DRAIN

X1   400.300    12.000   222.000   298.000     0.000     0.000     0.000     0.000      .100     0.000
GR   644.400     0.000   644.200    54.000   644.100    78.000   644.000   120.000   643.900   168.000
GR   642.800   222.000   636.800   254.000   635.400   262.000   636.800   270.000   642.500   298.000
GR   644.100   334.000   644.500   372.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   400.500     0.000     0.000     0.000   250.000   250.000   250.000     0.000     -.050     0.000

X1   401.200     0.000     0.000     0.000   320.000   320.000   320.000     0.000     -.050     0.000
NC     0.000     0.000     0.000      .300      .500     0.000     0.000     0.000     0.000     0.000

        ** D/S FACE ANVIL DRIVE

X1   400.980     0.000     0.000     0.000   121.000   121.000   121.000     0.000      .800     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   639.200   639.200     0.000
SB     1.250     2.500     2.850    80.000    10.430     1.000    28.300     0.000   636.200   636.200

X1   401.020     9.000   240.000   320.000    49.000    49.000    49.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   639.200   641.700     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   641.700   641.700     0.000
GR   644.100    60.000   644.000   218.000   642.800   240.000   637.000   278.000   636.200   283.000
GR   637.000   288.000   638.400   300.000   643.300   320.000   644.900   350.000     0.000     0.000

X1   401.800     9.000   240.000   320.000    55.000    55.000    55.000     0.000     0.000     0.000
GR   644.100    60.000   644.000   218.000   642.800   240.000   637.000   278.000   636.200   283.000
GR   637.000   288.000   638.400   300.000   643.300   320.000   644.900   350.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 401.850 | 0.000 | 0.000 | 0.000 | 265.000 | 265.000 | 265.000 | 0.000 | .300 | 0.000 |
| X1 | 401.900 | 10.000 | 338.000 | 386.000 | 350.000 | 350.000 | 350.000 | 0.000 | -.600 | 0.000 |
| GR | 645.000 | 25.000 | 643.700 | 50.000 | 643.600 | 312.000 | 643.600 | 338.000 | 638.500 | 344.000 |
| GR | 637.700 | 347.000 | 638.500 | 350.000 | 643.800 | 386.000 | 645.000 | 406.000 | 645.900 | 438.000 |
| X1 | 402.000 | 0.000 | 0.000 | 0.000 | 335.000 | 335.000 | 335.000 | 0.000 | .600 | 0.000 |
| X1 | 402.500 | 0.000 | 0.000 | 0.000 | 365.000 | 365.000 | 365.000 | 0.000 | .600 | 0.000 |
| X1 | 403.000 | 10.000 | 338.000 | 388.000 | 335.000 | 335.000 | 335.000 | 0.000 | 0.000 | 0.000 |
| GR | 645.600 | 20.000 | 644.800 | 272.000 | 643.900 | 338.000 | 639.600 | 348.000 | 638.900 | 351.000 |
| GR | 639.600 | 354.000 | 642.800 | 376.000 | 643.800 | 388.000 | 645.200 | 428.000 | 646.200 | 476.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 400.300
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


         ** JUNCTION WITH HENRY GRAHAM DRAIN

   400.30      6.80    642.30      0.00    643.50    642.38       .08      0.00      0.00    642.90
     560.        0.      560.        0.        0.      247.        0.        0.        0.     642.60
     0.00      0.00      2.27      0.00      .080      .055      .080     0.000    635.50    225.22
  .001381        0.        0.        0.         0         0         4      0.00     71.29    296.51


*SECNO 400.500
   400.50      7.16    642.61      0.00      0.00    642.68       .07       .30       .00    642.85
     560.        0.      560.        0.        0.      273.        0.        1.        0.     642.55
      .03      0.00      2.05       .01      .080      .055      .080      .055    635.45    223.27
  .001043      250.      250.      250.         2         0         0      0.00     76.12    299.39


*SECNO 401.200
   401.20      7.51    642.91      0.00      0.00    642.97       .05       .29       .00    642.80
     560.        0.      560.        0.        0.      300.        2.        4.        1.     642.50
      .08       .08      1.87       .18      .080      .055      .080      .055    635.40    216.48
  .000783      320.      320.      320.         2         0         0      0.00     90.80    307.28

CCHV=     .300 CEHV=     .500
*SECNO 400.980

         ** D/S FACE ANVIL DRIVE

   400.98      6.82    643.02      0.00      0.00    643.10       .08       .12       .01    643.60
     560.        0.      560.        0.        0.      249.        0.        4.        1.     643.30
      .10      0.00      2.25      0.00      .080      .055      .080      .055    636.20    225.08
  .001353      121.      121.      121.         0         0         0      0.00     71.56    296.64


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      BDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.50      2.85     80.00     10.43      1.00     28.30      0.00    636.20    636.20

*SECNO 401.020
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


PRESSURE AND WEIR FLOW
```

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 658.22 | 643.12 | .01 | 468. | 92. | 28. | 28. | 639.20 | 641.70 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 401.02 | 7.18 | 643.38 | 0.00 | 0.00 | 643.43 | .05 | .33 | 0.00 | 642.80 |
| 560. | 1. | 559. | 0. | 3. | 319. | 0. | 5. | 1. | 643.30 |
| .10 | .21 | 1.75 | .00 | .080 | .055 | .080 | .055 | 636.20 | 229.32 |
| .000680 | 49. | 49. | 49. | 2 | 0 | 5 | 0.00 | 92.24 | 321.55 |

*SECNO 401.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 401.80 | 7.22 | 643.42 | 0.00 | 0.00 | 643.47 | .05 | .04 | .00 | 642.80 |
| 560. | 1. | 559. | 0. | 4. | 323. | 0. | 5. | 1. | 643.30 |
| .11 | .22 | 1.73 | .08 | .080 | .055 | .080 | .055 | 636.20 | 228.45 |
| .000653 | 55. | 55. | 55. | 1 | 0 | 0 | 0.00 | 93.98 | 322.43 |

CCHV= .150 CEHV= .350

*SECNO 401.850

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 401.85 | 7.10 | 643.60 | 0.00 | 0.00 | 643.65 | .05 | .18 | .00 | 643.10 |
| 560. | 0. | 560. | 0. | 2. | 312. | 0. | 7. | 2. | 643.60 |
| .15 | .20 | 1.79 | 0.00 | .080 | .055 | .080 | .055 | 636.50 | 230.88 |
| .000731 | 265. | 265. | 265. | 0 | 0 | 0 | 0.00 | 89.11 | 319.99 |

*SECNO 401.900

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 401.90 | 6.82 | 643.92 | 0.00 | 0.00 | 643.98 | .06 | .33 | .00 | 643.00 |
| 560. | 155. | 404. | 1. | 260. | 181. | 4. | 10. | 4. | 643.20 |
| .21 | .60 | 2.23 | .33 | .080 | .055 | .080 | .055 | 637.10 | 34.14 |
| .001245 | 350. | 350. | 350. | 2 | 0 | 0 | 0.00 | 363.94 | 398.08 |

*SECNO 402.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 402.00 | 6.68 | 644.38 | 0.00 | 0.00 | 644.46 | .07 | .47 | .01 | 643.60 |
| 560. | 130. | 429. | 1. | 217. | 174. | 3. | 13. | 7. | 643.80 |
| .25 | .60 | 2.46 | .33 | .080 | .055 | .080 | .055 | 637.70 | 36.84 |
| .001592 | 335. | 335. | 335. | 2 | 0 | 0 | 0.00 | 358.89 | 395.74 |

*SECNO 402.500

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 402.50 | 6.67 | 644.97 | 0.00 | 0.00 | 645.05 | .08 | .59 | .00 | 644.20 |
| 560. | 128. | 431. | 1. | 213. | 173. | 3. | 17. | 10. | 644.40 |
| .30 | .60 | 2.48 | .32 | .080 | .055 | .080 | .055 | 638.30 | 37.10 |
| .001630 | 365. | 365. | 365. | 2 | 0 | 0 | 0.00 | 358.41 | 395.51 |

*SECNO 403.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 403.00 | 6.56 | 645.46 | 0.00 | 0.00 | 645.53 | .07 | .49 | .00 | 643.90 |
| 560. | 75. | 460. | 25. | 142. | 194. | 40. | 20. | 12. | 643.80 |
| .35 | .53 | 2.37 | .63 | .080 | .055 | .080 | .055 | 638.90 | 63.77 |
| .001305 | 335. | 335. | 335. | 2 | 0 | 0 | 0.00 | 376.76 | 440.53 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************
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T1      HUD-FIA H-4705
T2      TROY
T3      SHANAHAN DRAIN - U/S HENRY GRAHAM - 100 YR FLOW=560 CFS  ENCROACHMENT
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STPT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 642.300 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=    .150 CEHV=    .350
*SECNO 400.300
 2800 NAT Q1=     150.71  WSEL=     642.30  ENC Q1=     156.59  WSEL=     642.40  RATIO=  -.0390
 NAT Q1=     157.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     642.40
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDSF


3470 ENCROACHMENT STATIONS=     222.0     298.0  TYPE=     4  TARGET=       0.000

         ** JUNCTION WITH HENRY GRAHAM DRAIN

   400.30      6.80   642.30      0.00   642.30   642.38      .08      0.00      0.00   642.90
     560.        0.     560.        0.       0.     247.       0.        0.        0.    642.60
     0.00      0.00     2.27      0.00     .080     .055     .080     0.000    635.50   225.20
  .001377        0.       0.        0.        0        0        0      0.00     71.33   296.53


*SECNO 400.500
 2800 NAT Q1=     173.37  WSEL=     642.61  ENC Q1=     180.51  WSEL=     642.71  RATIO=  -.0412
 NAT Q1=     181.  RATIOS LOB,CH,ROB=  0.0000   .9999   .0001  WSEL=     642.71

3470 ENCROACHMENT STATIONS=     222.0     298.0  TYPE=     4  TARGET=       .000
   400.50      7.17   642.62      0.00   642.61   642.68      .06       .30       .00   642.85
     560.        0.     560.        0.       0.     274.       0.        1.        0.    642.55
      .03      0.00     2.05      0.00     .080     .055     .080     .055    635.45   223.25
  .001044      250.     250.      250.        2        0        0      0.00     74.75   298.00


*SECNO 401.200
 2800 NAT Q1=     200.12  WSEL=     642.91  ENC Q1=     208.51  WSEL=     643.01  RATIO=  -.0419
 NAT Q1=     209.  RATIOS LOB,CH,ROB=   .0002   .9987   .0011  WSEL=     643.01

3470 ENCROACHMENT STATIONS=     222.0     298.0  TYPE=     4  TARGET=       .001
   401.20      7.52   642.92      0.00   642.91   642.97      .05       .29       .00   642.80
     560.        0.     560.        0.       0.     300.       0.        4.        1.    642.50
      .08      0.00     1.87      0.00     .080     .055     .080     .055    635.40   222.00
  .000796      320.     320.      320.        1        0        0      0.00     76.00   298.00


CCHV=    .300 CEHV=    .500
*SECNO 400.980
 2800 NAT Q1=     152.27  WSEL=     643.02  ENC Q1=     158.15  WSEL=     643.12  RATIO=  -.0386
 NAT Q1=     158.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     643.12

3470 ENCROACHMENT STATIONS=     222.0     298.0  TYPE=     4  TARGET=       0.000

         ** D/S FACE ANVIL DRIVE

   400.98      6.83   643.03      0.00   643.02   643.11      .08       .12       .01   643.60
     560.        0.     560.        0.       0.     250.       0.        4.        1.    643.30
      .10      0.00     2.24      0.00     .080     .055     .080     .055    636.20   225.01
  .001340      121.     121.      121.        1        0        0      0.00     71.69   296.70
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SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      2.50      2.85     80.00     10.43      1.00     28.30      0.00    636.20    636.20

*SECNO 401.020
 2800 NAT Q1=     214.81  WSEL=     643.38  ENC Q1=     223.59  WSEL=     643.48  RATIO=  -.0409
 NAT Q1=     224.  RATIOS LOB,CH,ROB=    .0017   .9982   .0001  WSEL=     643.48
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDSP


3470 ENCROACHMENT STATIONS=      240.0     320.0  TYPE=      4  TARGET=        .002
   401.02      7.19    643.39     0.00    643.38    643.44      .05       .05       .01    642.80
     560.        0.      560.       0.        0.      320.       0.        5.        1.    643.30
      .10      0.00      1.75     0.00      .080      .055     .080      .055    636.20    240.00
  .000687       49.       49.      49.         0         0        5      0.00     80.00    320.00


*SECNO 401.800
 2800 NAT Q1=     219.11  WSEL=     643.42  ENC Q1=     227.08  WSEL=     643.52  RATIO=  -.0364
 NAT Q1=     228.  RATIOS LOB,CH,ROB=    .0020   .9979   .0001  WSEL=     643.52

3470 ENCROACHMENT STATIONS=      240.0     320.0  TYPE=      4  TARGET=        .002
   401.80      7.23    643.43     0.00    643.42    643.47      .05       .04       .00    642.80
     560.        0.      560.       0.        0.      322.       0.        5.        1.    643.30
      .11      0.00      1.74     0.00      .080      .055     .080      .055    636.20    240.00
  .000668       55.       55.      55.         0         0        0      0.00     80.00    320.00


CCHV=     .150 CEHV=     .350
*SECNO 401.850
 2800 NAT Q1=     207.14  WSEL=     643.60  ENC Q1=     216.25  WSEL=     643.70  RATIO=  -.0440
 NAT Q1=     217.  RATIOS LOB,CH,ROB=    .0013   .9987   .0000  WSEL=     643.70

3470 ENCROACHMENT STATIONS=      240.0     320.0  TYPE=      4  TARGET=        .001
   401.85      7.11    643.61     0.00    643.60    643.66      .05       .19       .00    643.10
     560.        0.      560.       0.        0.      313.       0.        7.        2.    643.60
      .15      0.00      1.79     0.00      .080      .055     .080      .055    636.50    240.00
  .000737      265.      265.     265.         0         0        0      0.00     80.00    320.00


*SECNO 401.900
 2800 NAT Q1=     158.74  WSEL=     643.92  ENC Q1=     158.74  WSEL=     644.02  RATIO=   .0000
 NAT Q1=     173.  RATIOS LOB,CH,ROB=    .3044   .6922   .0034  WSEL=     644.02

3470 ENCROACHMENT STATIONS=      124.1     386.0  TYPE=      4  TARGET=        .081
   401.90      6.85    643.95     0.00    643.92    644.02      .07       .35       .01    643.00
     560.       129.      431.       0.      196.      182.       0.       10.        3.    643.20
      .20       .66      2.37     0.00      .080      .055     .080      .055    637.10    124.11
  .001419      350.      350.     350.         2         0        0      0.00    261.89    386.00


*SECNO 402.000
 2800 NAT Q1=     140.36  WSEL=     644.38  ENC Q1=     140.36  WSEL=     644.48  RATIO=   .0000
```

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 NAT Q1=     153.   RATIOS LOB,CH,ROB=    .2642    .7335    .0023   WSEL=     644.48

3470 ENCROACHMENT STATIONS=      142.5      386.0  TYPE=      4  TARGET=          .084
   402.00      6.76    644.46      0.00    644.38    644.54      .08       .52       .00    643.60
     560.      109.      451.        0.      162.      178.       0.       13.        5.    643.80
      .25       .67      2.54      0.00      .080      .055     .080      .055    637.70    142.50
  .001686      335.      335.      335.         2         0        0      0.00    243.50    386.00


*SECNO 402.500
 2800 NAT Q1=     138.71  WSEL=     644.97  ENC Q1=     138.71  WSEL=     645.07  RATIO=    .0000
 NAT Q1=     152.   RATIOS LOB,CH,ROB=    .2602    .7376    .0022   WSEL=     645.07
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      144.6      386.0  TYPE=      4  TARGET=          .084
   402.50      6.77    645.07      0.00    644.97    645.15      .08       .61       .00    644.20
     560.      109.      451.        0.      163.      178.       0.       15.        7.    644.40
      .29       .67      2.53      0.00      .080      .055     .080      .055    638.30    144.59
  .001663      365.      365.      365.         2         0        0      0.00    241.41    386.00


*SECNO 403.000
 2800 NAT Q1=     155.01  WSEL=     645.46  ENC Q1=     155.01  WSEL=     645.56  RATIO=    .0000
 NAT Q1=     167.   RATIOS LOB,CH,ROB=    .1544    .7954    .0502   WSEL=     645.56

3470 ENCROACHMENT STATIONS=      242.5      394.1  TYPE=      4  TARGET=          .071
   403.00      6.66    645.56      0.00    645.46    645.64      .08       .49       .00    643.90
     560.       72.      480.        8.      101.      199.      10.       18.        9.    643.80
      .34       .71      2.41       .81      .080      .055     .080      .055    638.90    242.48
 .001302      335.      335.      335.         2         0        0      0.00    151.62    394.10
```

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SHANAHAN DRAIN - U/S HEN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | ES | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 642.30 | 0.00 | 642.38 | 13.81 | 2.27 | 246.71 | 150.71 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 642.30 | 0.00 | 642.38 | 13.77 | 2.27 | 246.98 | 150.92 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 642.61 | 0.00 | 642.68 | 10.43 | 2.05 | 273.50 | 173.37 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 642.62 | 0.00 | 642.68 | 10.44 | 2.05 | 273.71 | 173.31 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 642.91 | 0.00 | 642.97 | 7.83 | 1.87 | 302.17 | 200.12 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 642.92 | 0.00 | 642.97 | 7.96 | 1.87 | 299.64 | 198.43 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.02 | 0.00 | 643.10 | 13.53 | 2.25 | 248.62 | 152.27 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.03 | 0.00 | 643.11 | 13.40 | 2.24 | 249.53 | 153.01 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 560.00 | 643.38 | 0.00 | 643.43 | 5.80 | 1.75 | 322.20 | 214.81 |
| 401.020 | 49.00 | 999999.00 | 0.00 | 636.20 | 560.00 | 643.39 | 0.00 | 643.44 | 6.87 | 1.75 | 319.57 | 213.60 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.42 | 0.00 | 643.47 | 6.53 | 1.73 | 326.58 | 219.11 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.43 | 0.00 | 643.47 | 6.68 | 1.74 | 322.41 | 216.68 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 643.60 | 0.00 | 643.65 | 7.31 | 1.79 | 314.47 | 207.14 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 643.61 | 0.00 | 643.66 | 7.37 | 1.79 | 312.80 | 206.27 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 643.92 | 0.00 | 643.98 | 12.45 | 2.23 | 445.07 | 158.74 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 643.95 | 0.00 | 644.02 | 14.19 | 2.37 | 378.09 | 148.65 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.38 | 0.00 | 644.46 | 15.92 | 2.46 | 394.20 | 140.36 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.46 | 0.00 | 644.54 | 16.86 | 2.54 | 339.57 | 136.40 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 644.97 | 0.00 | 645.05 | 16.30 | 2.48 | 389.43 | 138.71 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 645.07 | 0.00 | 645.15 | 16.63 | 2.53 | 340.74 | 137.31 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.46 | 0.00 | 645.53 | 13.05 | 2.37 | 376.29 | 155.01 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.56 | 0.00 | 645.64 | 13.02 | 2.41 | 310.50 | 155.17 |

SHANAHAN DRAIN - U/S HEN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | KLCH |
|---|---|---|---|---|---|---|---|
| 400.300 | 560.00 | 642.30 | 0.00 | 0.00 | -1.20 | 71.29 | 0.00 |
| 400.300 | 560.00 | 642.30 | 0.00 | 0.00 | .00 | 71.33 | 0.00 |
| 400.500 | 560.00 | 642.61 | 0.00 | .32 | 0.00 | 76.12 | 250.00 |
| 400.500 | 560.00 | 642.62 | 0.00 | .32 | .00 | 74.75 | 250.00 |
| 401.200 | 560.00 | 642.91 | 0.00 | .30 | 0.00 | 90.80 | 320.00 |
| 401.200 | 560.00 | 642.92 | 0.00 | .30 | .01 | 76.00 | 320.00 |
| 400.980 | 560.00 | 643.02 | 0.00 | .11 | 0.00 | 71.56 | 121.00 |
| 400.980 | 560.00 | 643.03 | 0.00 | .11 | .01 | 71.69 | 121.00 |
| 401.020 | 560.00 | 643.38 | 0.00 | .36 | 0.00 | 92.24 | 49.00 |
| 401.020 | 560.00 | 643.39 | 0.00 | .36 | .01 | 80.00 | 49.00 |
| 401.800 | 560.00 | 643.42 | 0.00 | .04 | 0.00 | 93.98 | 55.00 |
| 401.800 | 560.00 | 643.43 | 0.00 | .04 | .01 | 80.00 | 55.00 |
| 401.850 | 560.00 | 643.60 | 0.00 | .18 | 0.00 | 89.11 | 265.00 |
| 401.850 | 560.00 | 643.61 | 0.00 | .18 | .01 | 80.00 | 265.00 |
| 401.900 | 560.00 | 643.92 | 0.00 | .32 | 0.00 | 363.94 | 350.00 |
| 401.900 | 560.00 | 643.95 | 0.00 | .34 | .02 | 261.89 | 350.00 |
| 402.000 | 560.00 | 644.38 | 0.00 | .46 | 0.00 | 358.89 | 335.00 |
| 402.000 | 560.00 | 644.46 | 0.00 | .51 | .07 | 243.50 | 335.00 |
| 402.500 | 560.00 | 644.97 | 0.00 | .59 | 0.00 | 358.41 | 365.00 |
| 402.500 | 560.00 | 645.07 | 0.00 | .61 | .10 | 241.41 | 365.00 |
| 403.000 | 560.00 | 645.46 | 0.00 | .49 | 0.00 | 376.76 | 335.00 |
| 403.000 | 560.00 | 645.56 | 0.00 | .49 | .10 | 151.62 | 335.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, SHANAHAN DRAIN - U/S HEN
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 400.300 | 71. | 247. | 2.3 | 642.3 | 642.3 | 0.0 |
| 400.500 | 75. | 274. | 2.0 | 642.6 | 642.6 | 0.0 |
| 401.200 | 76. | 300. | 1.9 | 642.9 | 642.9 | 0.0 |
| 400.980 | 72. | 250. | 2.2 | 643.0 | 643.0 | 0.0 |
| 401.020 | 80. | 320. | 1.8 | 643.4 | 643.4 | 0.0 |
| 401.800 | 80. | 322. | 1.7 | 643.4 | 643.4 | 0.0 |
| 401.850 | 80. | 313. | 1.8 | 643.6 | 643.6 | 0.0 |
| 401.900 | 262. | 378. | 1.5 | 643.9 | 643.9 | 0.0 |
| 402.000 | 244. | 340. | 1.6 | 644.5 | 644.4 | .1 |
| 402.500 | 241. | 341. | 1.6 | 645.1 | 645.0 | .1 |
| 403.000 | 152. | 311. | 1.8 | 645.6 | 645.5 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN

4) DOCUMENT TYPE: CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SHANAHAN DRAIN - U/S FEN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 642.30 | 0.00 | 642.38 | 13.81 | 2.27 | 246.71 | 150.71 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 643.30 | 0.00 | 643.35 | 6.16 | 1.73 | 331.24 | 225.62 |
| 400.300 | 0.00 | 0.00 | 0.00 | 635.50 | 560.00 | 641.30 | 0.00 | 641.45 | 31.67 | 3.10 | 180.78 | 99.50 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 642.61 | 0.00 | 642.68 | 10.43 | 2.05 | 273.50 | 173.37 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 643.45 | 0.00 | 643.49 | 5.23 | 1.65 | 355.45 | 244.96 |
| 400.500 | 250.00 | 0.00 | 0.00 | 635.45 | 560.00 | 641.94 | 0.00 | 642.03 | 17.60 | 2.49 | 225.26 | 133.47 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 642.91 | 0.00 | 642.97 | 7.83 | 1.87 | 302.17 | 200.12 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 643.61 | 0.00 | 643.64 | 4.46 | 1.57 | 382.36 | 265.27 |
| 401.200 | 320.00 | 0.00 | 0.00 | 635.40 | 560.00 | 642.42 | 0.00 | 642.49 | 11.64 | 2.13 | 263.05 | 164.17 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.02 | 0.00 | 643.10 | 13.53 | 2.25 | 248.62 | 152.27 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.67 | 0.00 | 643.72 | 8.16 | 1.89 | 297.90 | 196.05 |
| 400.980 | 121.00 | 0.00 | 0.00 | 636.20 | 560.00 | 642.58 | 0.00 | 642.68 | 19.06 | 2.56 | 218.63 | 128.26 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 560.00 | 643.38 | 0.00 | 643.43 | 6.80 | 1.75 | 322.20 | 214.81 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 560.00 | 643.88 | 0.00 | 643.91 | 4.56 | 1.55 | 372.21 | 262.14 |
| 401.020 | 49.00 | 641.70 | 639.20 | 636.20 | 560.00 | 643.24 | 0.00 | 643.29 | 7.65 | 1.82 | 309.46 | 202.52 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.42 | 0.00 | 643.47 | 6.53 | 1.73 | 326.58 | 219.11 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.90 | 0.00 | 643.94 | 4.44 | 1.54 | 376.10 | 265.70 |
| 401.800 | 55.00 | 0.00 | 0.00 | 636.20 | 560.00 | 643.28 | 0.00 | 643.33 | 7.39 | 1.80 | 313.24 | 206.01 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 643.60 | 0.00 | 643.65 | 7.31 | 1.79 | 314.47 | 207.14 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 644.03 | 0.00 | 644.07 | 5.15 | 1.61 | 355.51 | 246.69 |
| 401.850 | 265.00 | 0.00 | 0.00 | 636.50 | 560.00 | 643.49 | 0.00 | 643.54 | 8.01 | 1.85 | 304.40 | 197.84 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 643.92 | 0.00 | 643.98 | 12.45 | 2.23 | 445.07 | 158.74 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 644.25 | 0.00 | 644.28 | 7.35 | 1.81 | 564.02 | 206.54 |
| 401.900 | 350.00 | 0.00 | 0.00 | 637.10 | 560.00 | 643.84 | 0.00 | 643.91 | 14.31 | 2.36 | 415.89 | 148.03 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.38 | 0.00 | 644.46 | 15.92 | 2.46 | 354.20 | 140.36 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.54 | 0.00 | 644.60 | 12.06 | 2.20 | 451.80 | 161.26 |
| 402.000 | 335.00 | 0.00 | 0.00 | 637.70 | 560.00 | 644.36 | 0.00 | 644.43 | 16.77 | 2.51 | 383.74 | 136.75 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 644.97 | 0.00 | 645.05 | 16.30 | 2.48 | 389.43 | 138.71 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 645.02 | 0.00 | 645.09 | 14.88 | 2.40 | 407.92 | 145.19 |
| 402.500 | 365.00 | 0.00 | 0.00 | 638.30 | 560.00 | 644.96 | 0.00 | 645.04 | 16.52 | 2.50 | 386.73 | 137.78 |

| SECNO | XLCH | ELTKD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.46 | 0.00 | 645.53 | 13.05 | 2.37 | 376.29 | 155.01 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.48 | 0.00 | 645.55 | 12.81 | 2.35 | 381.02 | 156.44 |
| 403.000 | 335.00 | 0.00 | 0.00 | 638.90 | 560.00 | 645.46 | 0.00 | 645.53 | 13.09 | 2.37 | 375.47 | 154.76 |

SHANAHAN DRAIN - U/S FEN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 400.300 | 560.00 | 642.30 | 0.00 | 0.00 | -1.20 | 71.29 | 0.00 |
| 400.300 | 560.00 | 643.30 | 0.00 | 0.00 | 0.00 | 111.39 | 0.00 |
| 400.300 | 560.00 | 641.30 | 0.00 | 0.00 | 0.00 | 61.08 | 0.00 |
| 400.500 | 560.00 | 642.61 | 0.00 | .32 | 0.00 | 76.12 | 250.00 |
| 400.500 | 560.00 | 643.45 | 0.00 | .15 | 0.00 | 125.99 | 250.00 |
| 400.500 | 560.00 | 641.94 | 0.00 | .64 | 0.00 | 68.13 | 250.00 |
| 401.200 | 560.00 | 642.91 | 0.00 | .30 | 0.00 | 90.80 | 320.00 |
| 401.200 | 560.00 | 643.61 | 0.00 | .16 | 0.00 | 140.45 | 320.00 |
| 401.200 | 560.00 | 642.42 | 0.00 | .48 | 0.00 | 73.60 | 320.00 |
| 400.980 | 560.00 | 643.02 | 0.00 | .11 | 0.00 | 71.56 | 121.00 |
| 400.980 | 560.00 | 643.67 | 0.00 | .06 | 0.00 | 87.37 | 121.00 |
| 400.980 | 560.00 | 642.58 | 0.00 | .16 | 0.00 | 67.13 | 121.00 |
| 401.020 | 560.00 | 643.38 | 0.00 | .36 | 0.00 | 92.24 | 49.00 |
| 401.020 | 560.00 | 643.88 | 0.00 | .21 | 0.00 | 110.53 | 49.00 |
| 401.020 | 560.00 | 643.24 | 0.00 | .66 | 0.00 | 87.84 | 49.00 |
| 401.800 | 560.00 | 643.42 | 0.00 | .04 | 0.00 | 93.98 | 55.00 |
| 401.800 | 560.00 | 643.90 | 0.00 | .03 | 0.00 | 111.83 | 55.00 |
| 401.800 | 560.00 | 643.28 | 0.00 | .04 | 0.00 | 88.80 | 55.00 |
| 401.850 | 560.00 | 643.60 | 0.00 | .18 | 0.00 | 89.11 | 265.00 |
| 401.850 | 560.00 | 644.03 | 0.00 | .12 | 0.00 | 104.78 | 265.00 |
| 401.850 | 560.00 | 643.49 | 0.00 | .20 | 0.00 | 86.54 | 265.00 |
| 401.900 | 560.00 | 643.92 | 0.00 | .32 | 0.00 | 363.94 | 350.00 |
| 401.900 | 560.00 | 644.25 | 0.00 | .22 | 0.00 | 375.49 | 350.00 |
| 401.900 | 560.00 | 643.84 | 0.00 | .36 | 0.00 | 361.05 | 350.00 |
| 402.000 | 560.00 | 644.38 | 0.00 | .46 | 0.00 | 358.89 | 335.00 |
| 402.000 | 560.00 | 644.54 | 0.00 | .30 | 0.00 | 364.61 | 335.00 |
| 402.000 | 560.00 | 644.36 | 0.00 | .51 | 0.00 | 357.84 | 335.00 |
| 402.500 | 560.00 | 644.97 | 0.00 | .59 | 0.00 | 358.41 | 365.00 |
| 402.500 | 560.00 | 645.02 | 0.00 | .48 | 0.00 | 360.26 | 365.00 |
| 402.500 | 560.00 | 644.96 | 0.00 | .61 | 0.00 | 358.14 | 365.00 |
| 403.000 | 560.00 | 645.46 | 0.00 | .49 | 0.00 | 376.76 | 335.00 |
| 403.000 | 560.00 | 645.48 | 0.00 | .46 | 0.00 | 381.30 | 335.00 |
| 403.000 | 560.00 | 645.46 | 0.00 | .50 | 0.00 | 375.97 | 335.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, SHANAHAN DRAIN - U/S HEN
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 400.300 | 111. | 331. | 1.7 | 643.3 | 642.3 | 1.0 |
| 400.500 | 126. | 355. | 1.6 | 643.4 | 642.6 | .8 |
| 401.200 | 140. | 382. | 1.5 | 643.6 | 642.9 | .7 |
| 400.980 | 87. | 298. | 1.9 | 643.6 | 643.0 | .6 |
| 401.020 | 111. | 372. | 1.5 | 643.9 | 643.4 | .5 |
| 401.800 | 112. | 376. | 1.5 | 643.9 | 643.4 | .5 |
| 401.850 | 105. | 356. | 1.6 | 644.0 | 643.6 | .4 |
| 401.900 | 375. | 564. | 1.0 | 644.2 | 643.9 | .3 |
| 402.000 | 365. | 452. | 1.2 | 644.6 | 644.4 | .2 |
| 402.500 | 360. | 408. | 1.4 | 645.1 | 645.0 | .1 |
| 403.000 | 381. | 381. | 1.5 | 645.5 | 645.5 | 0.0 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN D/S HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

DNR

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Shanahan Drain downstream of Henry Graham

STUDY LIMITS: Dequindre Rd. (D/S limit) to Henry Graham Drain (u/s limit)

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 6/18/79-7/10/79 - McNamee, Porter and Seeley field crew.

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. Flows have been revised and are attached.

TOPOGRAPHIC INFORMATION: USGS topographic maps; contours. 1"=400' 2 ft. contour interval by Abrams

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | 0.060 |
| Overbank "n" | 0.065-0.10 |
| n values thru bridges | 0.020 |
| Contraction Coefficients | 0.2-0.5 |
| Expansion Coefficients | 0.4-1.0 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section I- plots enclosed due to many cross-sections being modified using X4 cards.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

The Shanahan Drain is tributary to the Big Beaver Creek. Prior to construction of the Henry Graham Drain, the tributary area at Dequindre was about 14 square miles. After construction of the Henry Graham Drain, the area directly tributary to Big Beaver Creek was reduced to less than two square miles. A subdivision was then built east of Dequindre Road over the old drain. An enclosure was provided to carry the remaining flow beneath the subdivision. We were unable to obtain plans of the subdivision and the drainage provided. appears to be Wm Flagg Sub No 2 File No A10-12. by MCS

During the 100 year event, the areas tributary to the Henry Graham Drain will provide some flow to the old channel (see hydrology write-up). Since the builders of the subdivision thought that the area was less than 2 square miles, it is not expected that the enclosure would provide much capacity relative to the 100 year flow. Therefore, it is expected that overland flow will control the starting elevation upstream of Dequindre Road.

Since no overland cross-section is available after the subdivision lots could not [illegible] Drain, was built, it is expected that the profile of Dequindre Road would be a good approximation of the overland flow cross-section. A visit to the site confirmed that there were no large changes in elevation or serious constrictions that would violate this assumption. Normal depth calculations on the road are enclosed. A roughness of .06 was used.

For inputting the starting elevation to the HEC-2 model, a weir coefficient of 1.0 was used.

## HIGH WATER MARKS AND CALIBRATION

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation).

## Computer Outputs

Enclosed are complete computer outputs for (i) and 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood plain elevations, convergence runs and (iii) sensitivity analysis for your review.

## Comments

The delineation of the final 100 and 500 year flood plains will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. However, to aid in the review process an approximate 100 yr. floodplain has been delineated at this time.

At the Fernleigh road bridge (cross sections 1003.3-1003.7) the elevation of the low chord (ELLC) was lowered from 639.2 to 638.6 in order to correctly model pressure flow.

Convergence runs were made by changing the weir coefficient at Dequindre Rd. to 0.5 and 2.0. As mentioned earlier the weir coefficient used for the natural run was 1.0. The computed water surface elevations upstream of Dequindre Rd. were 636.1 and 637.0 (C = 2.0 and 0.5 respectively) and converged to within 0.1' of the natural run at Section 1002.1 approximately 2200 ft. upstream of Dequindre Rd.

Shanahan and Houghton Drain overflow hydrology

Field information and hydraulic computations have shown that the original hydrologic estimates should be revised.

Hydraulic computations have shown that the Houghton Drain upstream of Henry Graham Drain and the Gibson Drain upstream of Post Road will overflow to the area bounded by Wattles Road, Post Road, Gibson Drain, and Henry Graham Drain. This will cause increased flow into the old Houghton Drain. However, field information has shown that the old Houghton Drain between Wattles Road and the Henry Graham Drain has been filled.

Since the Gibson and Houghton Drain overflows will be coming much later than the local and retention pond runoff, and since overland flow will signficantly attentuate them, it is not expected that they will significantly add to the peaks downstream of Wattles Road. Furthermore, the retention pond overflow and local runoff would be attentuated due to the overland flow route.

Therefore, an effective population density of 1500 persons per square mile seems more appropriate to use.

From the Shanahan Drain, it was expected that some overflow would occur during the 100 and 500 year events. Hydraulic computations have shown that the flow should be able to enter Henry Graham Drain without any significant overflow. Furthermore, the overflow from a retention pond right at the Henry Graham Drain and Shanahan Drain junction should be able to enter the Henry Graham Drain.

A table of revised flows is attached.

HUD-FIA 11-4105

CONSULTING ENGINEERS SUBJECT TROY TOG FILE NO

CONSULTING ENGINEERS CHECKED BY VPK DATE 2/4/80 COPY BY DATE

Revised hydrology - northern overflows

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| Dequindre to confluence Q = | 200 | 310 | 400 | 560 |

Old Shanahan

| | | | | |
|---|---|---|---|---|
| Q = | 150 | 260 | 340 | 500 |

Old Houghten

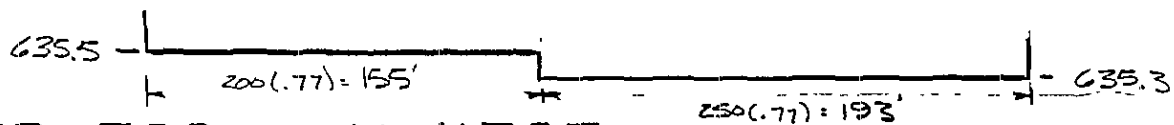
| | | | | |
|---|---|---|---|---|
| Q = | 110 | 170 | 200 | 280 |

KEY

— Cross section used to compute normal depth downstream of Dequindre

— Dequindre Rd profile obtained by aerial survey.

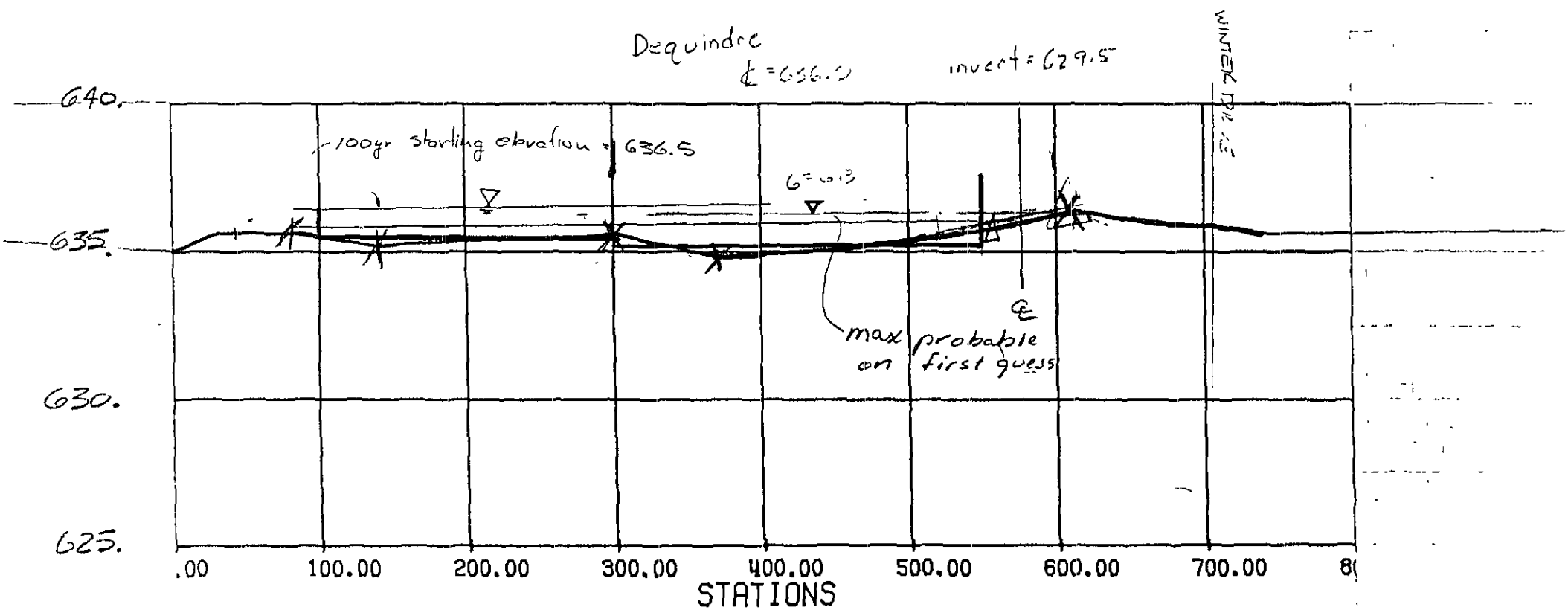
X BT points used to describe top of road points. Note: BT points were skewed 0.77 in the model




Manning 'n' used = 0.060
Overbank Slope = 0.0014

# HUD-FIA H-4705

## BIG BEAVER DRAIN SECTION 1000.00




If [illegible] should be skewed 40° or 0.77.

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY:
WATERCOURSE:

SHEET NO
FILE NO
DATE
CHK BY
DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| HUD | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| A | 1000.3 | | Face @ Dequindre |
| | 1000.7 | | " " " |
| B | 1000.8 | 4 | Field surveyed section modified per 2' topo to improve alignment with major flow. |
| | 1001.3 | 4 | Face section - bldgs on ROB modeled. |
| C | 1001.4, 1001.6 and 1001.7 | 3 | All repeats of 1001.3 |
| D | 1001.8 | 2 | Bldgs on ROB modelled |
| | 1001.9 | 3 | Repeats of 1001.8 but bldg on ROB not modelled. |
| | 1002.0 | 3 | Repeat of 1002.1 |
| E | 1002.1 | 1 | Built up berms appear representative on photos and 2' topo. |
| | 1002.5 | 3 | Repeat of 1002.1 |
| | 1002.9 | 3 | Repeat of 1002.1 |
| F | 1003.2 | 1 | Floodway inside of bldgs d/s |
| G | 1003.3, 1003.7 | 3 | Repeat of 1003.2 - Faces & Tern leigh |
| H | 1003.8 | 1 | Section chopped @ bldgs on ROB |
| I | 1004 | 1 | overbank n increased to account for bldg. on ROB between 1003.9 and 1004 |
| | 1004.5 | 3 | Repeat of 1004 |

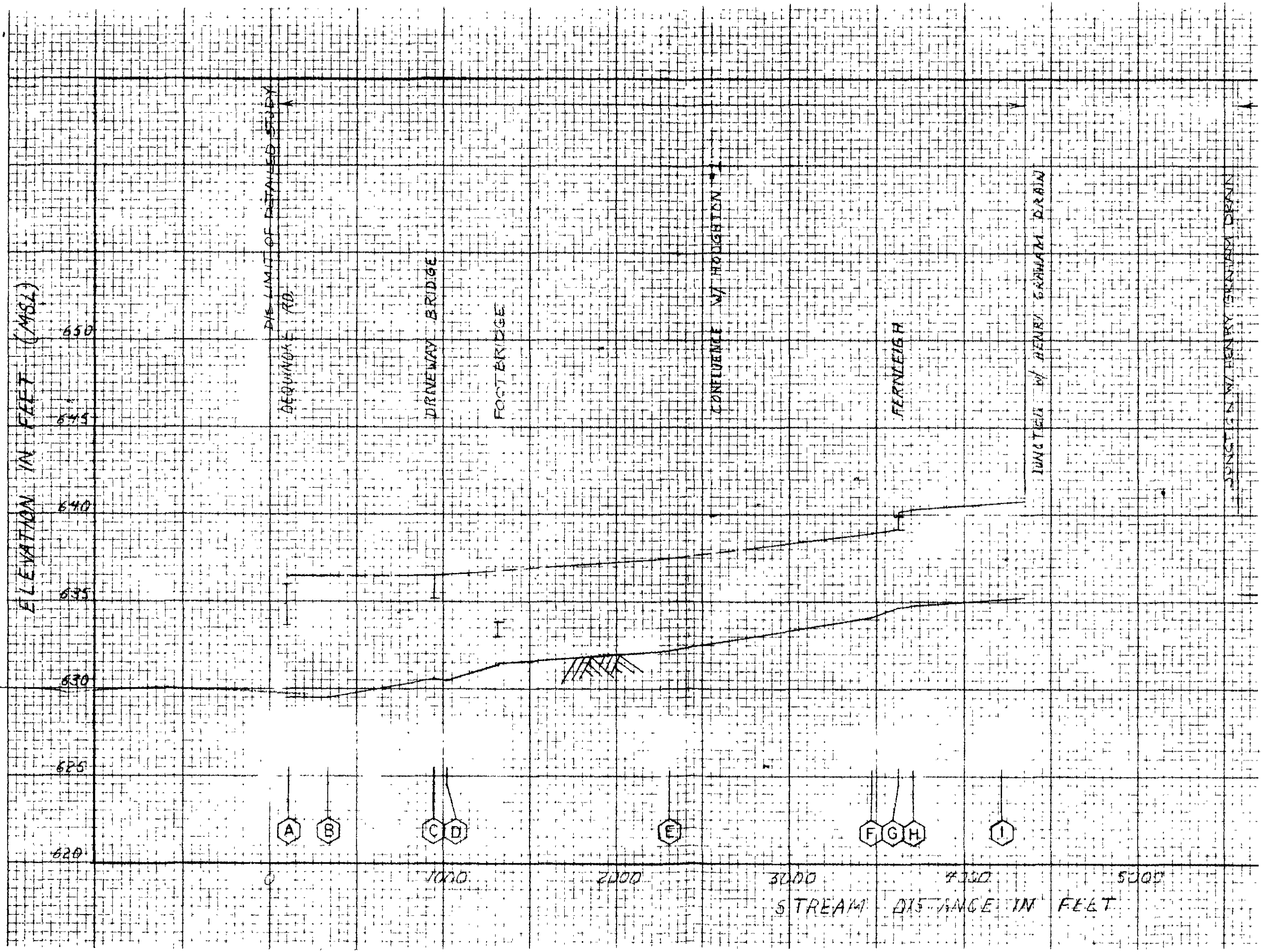
COMMUNITY :

WATERCOURSE :

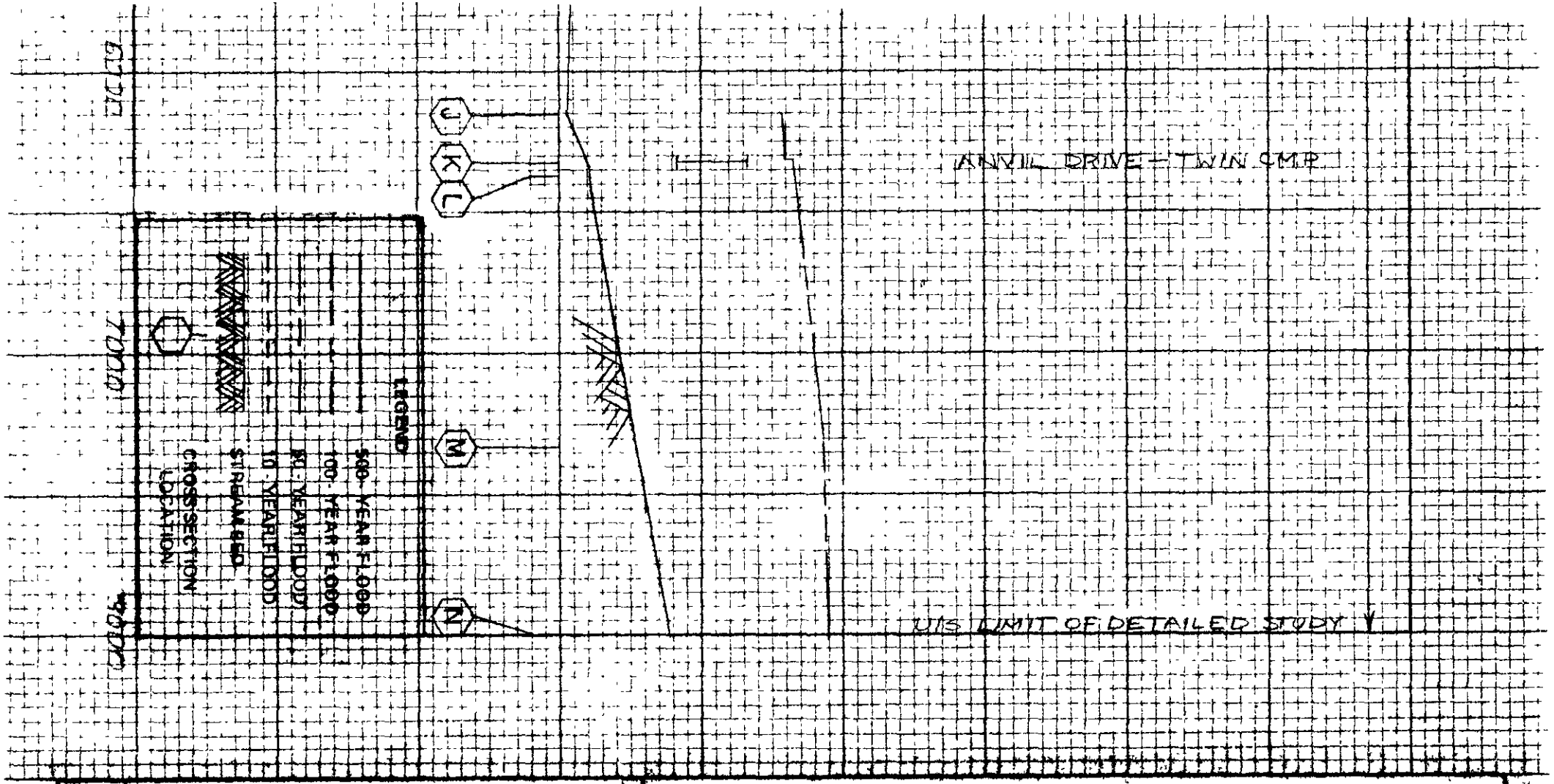
TABLE - : CALCULATIONS

$XKOR = 1 + K_e + K_f$ . $K_f = \frac{29 \cdot n^2 \cdot l}{R^{4/3}}$ . $R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_f$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Depulidrin (1000.3, 10[illegible]) | | | | | | | | 2.0 | Force weir flow by inputing B = 1.0 due to d/ enclosure. |
| Fernle[illegible] (1003 [illegible] 3.7) | 0.3 | 28.3 | 88.5 | 1.5 | .020 | 34 | 0.23 | 1.53 | 6' ϕ RCP |




"PERFECT" CROSS SECTION
10 X 10 — ONE INCH
EUGENE DIETZGEN CO




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF TROY
(OAKLAND CO.)

FLOOD PROFILES

SHANAHAN DRAIN

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN D/S HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON-SHANAHAN OVERFL

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 400.00 | 634.80 | 0.00 | 634.80 | 1.93 | .78 | 939.91 | 287.92 |
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 200.00 | 634.80 | 0.00 | 634.80 | .48 | .39 | 939.91 | 287.92 |
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 310.00 | 634.80 | 0.00 | 634.80 | 1.16 | .60 | 939.91 | 287.92 |
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 560.00 | 634.80 | 0.00 | 634.81 | 3.78 | 1.09 | 939.91 | 287.92 |
| 1000.700 | 45.00 | 634.80 | 0.00 | 629.50 | 400.00 | 636.46 | 0.00 | 636.46 | .35 | .43 | 1683.22 | 678.80 |
| 1000.700 | 45.00 | 634.80 | 0.00 | 629.50 | 200.00 | 636.05 | 0.00 | 636.05 | .12 | .24 | 1501.33 | 568.58 |
| 1000.700 | 45.00 | 634.80 | 0.00 | 629.50 | 310.00 | 636.29 | 0.00 | 636.29 | .24 | .35 | 1607.94 | 632.18 |
| 1000.700 | 45.00 | 634.80 | 0.00 | 629.50 | 560.00 | 636.70 | 0.00 | 636.71 | .56 | .56 | 1794.54 | 750.27 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 400.00 | 636.47 | 0.00 | 636.47 | .24 | .34 | 1510.45 | 810.28 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 200.00 | 636.06 | 0.00 | 636.06 | .09 | .20 | 1324.34 | 661.03 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 310.00 | 636.30 | 0.00 | 636.30 | .17 | .28 | 1432.51 | 746.19 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 560.00 | 636.72 | 0.00 | 636.72 | .38 | .44 | 1619.29 | 903.51 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.48 | 0.00 | 636.49 | 3.55 | 1.14 | 786.89 | 212.26 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 200.00 | 636.06 | 0.00 | 636.07 | 1.99 | .79 | 578.78 | 141.74 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 310.00 | 636.31 | 0.00 | 636.32 | 2.93 | 1.01 | 700.11 | 180.95 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 560.00 | 636.75 | 0.00 | 636.76 | 4.45 | 1.33 | 920.70 | 265.35 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.49 | 0.00 | 636.50 | 5.98 | .67 | 758.40 | 163.58 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 200.00 | 636.07 | 0.00 | 636.07 | 3.98 | .51 | 547.49 | 100.21 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 310.00 | 636.32 | 0.00 | 636.32 | 5.26 | .61 | 670.36 | 135.20 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 560.00 | 636.75 | 0.00 | 636.76 | 7.04 | .77 | 891.17 | 211.13 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.50 | 0.00 | 636.50 | 5.83 | .67 | 764.48 | 165.64 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 200.00 | 636.07 | 0.00 | 636.08 | 3.91 | .50 | 551.18 | 101.18 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 310.00 | 636.32 | 0.00 | 636.32 | 5.14 | .61 | 675.54 | 136.80 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 560.00 | 636.76 | 0.00 | 636.77 | 6.85 | .76 | 898.50 | 213.91 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.50 | 0.00 | 636.51 | 3.41 | 1.12 | 798.53 | 216.65 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 200.00 | 636.07 | 0.00 | 636.08 | 1.94 | .79 | 584.98 | 143.60 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 310.00 | 636.32 | 0.00 | 636.33 | 2.83 | .99 | 709.51 | 184.22 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 560.00 | 636.76 | 0.00 | 636.77 | 4.29 | 1.31 | 932.67 | 270.37 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 400.00 | 636.51 | 0.00 | 636.52 | 1.03 | .62 | 1208.61 | 394.74 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 200.00 | 636.08 | 0.00 | 636.08 | .48 | .40 | 985.40 | 288.07 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 310.00 | 636.34 | 0.00 | 636.34 | .79 | .53 | 1116.12 | 348.71 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 560.00 | 636.78 | 0.00 | 636.79 | 1.43 | .77 | 1346.98 | 468.24 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 400.00 | 636.59 | 0.00 | 636.60 | 6.35 | 1.30 | 548.53 | 158.75 |
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 200.00 | 636.12 | 0.00 | 636.13 | 4.34 | .97 | 373.22 | 96.01 |
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 310.00 | 636.39 | 0.00 | 636.40 | 5.70 | 1.18 | 470.71 | 129.87 |
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 560.00 | 636.88 | 0.00 | 636.90 | 7.17 | 1.47 | 666.96 | 209.15 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 400.00 | 636.93 | 0.00 | 636.96 | 11.51 | 1.88 | 341.09 | 117.92 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 200.00 | 636.35 | 0.00 | 636.37 | 7.42 | 1.37 | 224.63 | 73.40 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 310.00 | 636.69 | 0.00 | 636.72 | 10.04 | 1.68 | 291.84 | 97.85 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 560.00 | 637.27 | 0.00 | 637.31 | 13.58 | 2.17 | 419.35 | 151.96 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 400.00 | 637.45 | 0.00 | 637.48 | 9.47 | 1.75 | 369.50 | 130.00 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 200.00 | 636.72 | 0.00 | 636.75 | 7.71 | 1.40 | 220.65 | 72.01 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 310.00 | 637.17 | 0.00 | 637.19 | 8.87 | 1.60 | 307.46 | 104.08 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 560.00 | 637.86 | 0.00 | 637.90 | 10.24 | 1.95 | 468.16 | 175.02 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 340.00 | 637.78 | 0.00 | 637.81 | 10.38 | 1.74 | 311.35 | 105.54 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 150.00 | 636.98 | 0.00 | 637.00 | 8.03 | 1.36 | 163.03 | 52.95 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 260.00 | 637.48 | 0.00 | 637.51 | 10.08 | 1.63 | 249.70 | 81.89 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 500.00 | 638.22 | 0.00 | 638.26 | 11.46 | 1.98 | 408.26 | 147.71 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 340.00 | 638.62 | 0.00 | 638.67 | 16.06 | 2.08 | 257.77 | 84.84 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 150.00 | 637.69 | 0.00 | 637.73 | 15.24 | 1.78 | 112.70 | 38.43 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 260.00 | 638.31 | 0.00 | 638.36 | 16.13 | 1.98 | 200.90 | 64.74 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 500.00 | 639.11 | 0.00 | 639.16 | 15.78 | 2.24 | 359.27 | 125.88 |
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 340.00 | 638.87 | 0.00 | 638.94 | 21.93 | 2.42 | 172.56 | 72.60 |
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 150.00 | 637.91 | 0.00 | 637.95 | 15.88 | 1.81 | 93.19 | 37.64 |
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 260.00 | 638.55 | 0.00 | 638.61 | 19.78 | 2.20 | 143.48 | 58.46 |
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 500.00 | 639.35 | 0.00 | 639.45 | 24.60 | 2.81 | 226.71 | 100.80 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 340.00 | 639.13 | 0.00 | 639.19 | 15.47 | 2.13 | 197.73 | 86.45 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 150.00 | 638.10 | 0.00 | 638.14 | 11.99 | 1.62 | 107.82 | 43.31 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 260.00 | 638.79 | 0.00 | 638.84 | 14.43 | 1.94 | 164.57 | 68.45 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 500.00 | 639.65 | 0.00 | 639.72 | 16.71 | 2.44 | 274.26 | 122.32 |
| 1003.700 | 34.00 | 639.90 | 638.60 | 634.00 | 340.00 | 640.27 | 0.00 | 640.29 | 3.50 | 1.23 | 385.85 | 181.86 |
| 1003.700 | 34.00 | 639.90 | 638.60 | 634.00 | 150.00 | 638.14 | 0.00 | 638.18 | 11.47 | 1.59 | 110.25 | 44.29 |
| 1003.700 | 34.00 | 639.90 | 638.60 | 634.00 | 260.00 | 640.09 | 0.00 | 640.10 | 2.56 | 1.03 | 352.36 | 162.44 |
| 1003.700 | 34.00 | 639.90 | 638.60 | 634.00 | 500.00 | 640.55 | 0.00 | 640.58 | 5.61 | 1.62 | 432.72 | 211.08 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 340.00 | 640.31 | 0.00 | 640.34 | 7.07 | 1.66 | 342.33 | 127.85 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 150.00 | 638.26 | 0.00 | 638.34 | 29.53 | 2.31 | 64.94 | 27.60 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 260.00 | 640.11 | 0.00 | 640.13 | 5.71 | 1.44 | 295.33 | 108.80 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 500.00 | 640.60 | 0.00 | 640.64 | 9.60 | 2.02 | 413.37 | 161.37 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 340.00 | 640.66 | 0.00 | 640.68 | 6.52 | 1.59 | 521.48 | 133.11 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 150.00 | 639.25 | 0.00 | 639.29 | 13.15 | 1.80 | 116.65 | 41.36 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 260.00 | 640.41 | 0.00 | 640.42 | 5.94 | 1.45 | 418.45 | 106.71 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 500.00 | 641.04 | 0.00 | 641.06 | 7.22 | 1.77 | 683.38 | 186.14 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 340.00 | 640.78 | 0.00 | 640.79 | 5.06 | 1.38 | 490.84 | 151.12 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 150.00 | 639.50 | 0.00 | 639.53 | 10.89 | 1.64 | 122.30 | 45.45 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 260.00 | 640.52 | 0.00 | 640.53 | 4.89 | 1.30 | 386.99 | 117.60 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 500.00 | 641.17 | 0.00 | 641.18 | 5.13 | 1.48 | 653.25 | 220.84 |

HOUGHTON-SHANAHAN OVERFL

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1000.300 | 400.00 | 634.80 | 0.00 | 0.00 | 0.00 | 428.57 | 0.00 |
| 1000.300 | 200.00 | 634.80 | 0.00 | 0.00 | 0.00 | 428.57 | 0.00 |
| 1000.300 | 310.00 | 634.80 | 0.00 | 0.00 | 0.00 | 428.57 | 0.00 |
| 1000.300 | 560.00 | 634.80 | 0.00 | 0.00 | 0.00 | 428.57 | 0.00 |
| 1000.700 | 400.00 | 636.46 | 0.00 | 1.66 | 0.00 | 450.00 | 45.00 |
| 1000.700 | 200.00 | 636.05 | -.40 | 1.25 | 0.00 | 450.00 | 45.00 |
| 1000.700 | 310.00 | 636.29 | .24 | 1.49 | 0.00 | 450.00 | 45.00 |
| 1000.700 | 560.00 | 636.70 | .41 | 1.90 | 0.00 | 450.00 | 45.00 |
| 1000.800 | 400.00 | 636.47 | 0.00 | .01 | 0.00 | 450.00 | 400.00 |
| 1000.800 | 200.00 | 636.06 | -.41 | .00 | 0.00 | 450.00 | 400.00 |
| 1000.800 | 310.00 | 636.30 | .24 | .01 | 0.00 | 450.00 | 400.00 |
| 1000.800 | 560.00 | 636.72 | .42 | .01 | 0.00 | 450.00 | 400.00 |
| 1001.300 | 400.00 | 636.48 | 0.00 | .02 | 0.00 | 505.38 | 400.00 |
| 1001.300 | 200.00 | 636.06 | -.42 | .01 | 0.00 | 498.36 | 400.00 |
| 1001.300 | 310.00 | 636.31 | .25 | .01 | 0.00 | 502.46 | 400.00 |
| 1001.300 | 560.00 | 636.75 | .44 | .03 | 0.00 | 509.84 | 400.00 |
| 1001.400 | 400.00 | 636.49 | 0.00 | .01 | 0.00 | 505.53 | 1.00 |
| 1001.400 | 200.00 | 636.07 | -.42 | .00 | 0.00 | 498.42 | 1.00 |
| 1001.400 | 310.00 | 636.32 | .25 | .01 | 0.00 | 502.57 | 1.00 |
| 1001.400 | 560.00 | 636.75 | .44 | .01 | 0.00 | 509.95 | 1.00 |
| 1001.600 | 400.00 | 636.50 | 0.00 | .01 | 0.00 | 505.73 | 12.00 |
| 1001.600 | 200.00 | 636.07 | -.43 | .00 | 0.00 | 498.55 | 12.00 |
| 1001.600 | 310.00 | 636.32 | .25 | .01 | 0.00 | 502.75 | 12.00 |
| 1001.600 | 560.00 | 636.76 | .44 | .01 | 0.00 | 510.20 | 12.00 |
| 1001.700 | 400.00 | 636.50 | 0.00 | .00 | 0.00 | 505.77 | 1.00 |
| 1001.700 | 200.00 | 636.07 | -.43 | .00 | 0.00 | 498.57 | 1.00 |
| 1001.700 | 310.00 | 636.32 | .25 | .00 | 0.00 | 502.78 | 1.00 |
| 1001.700 | 560.00 | 636.76 | .44 | .00 | 0.00 | 510.23 | 1.00 |
| 1001.800 | 400.00 | 636.51 | 0.00 | .02 | 0.00 | 514.72 | 50.00 |
| 1001.800 | 200.00 | 636.08 | -.43 | .01 | 0.00 | 514.57 | 50.00 |
| 1001.800 | 310.00 | 636.34 | .25 | .01 | 0.00 | 514.66 | 50.00 |
| 1001.800 | 560.00 | 636.78 | .45 | .02 | 0.00 | 514.82 | 50.00 |
| 1001.900 | 400.00 | 636.59 | 0.00 | .07 | 0.00 | 405.00 | 380.00 |
| 1001.900 | 200.00 | 636.12 | -.47 | .04 | 0.00 | 335.10 | 380.00 |
| 1001.900 | 310.00 | 636.39 | .27 | .06 | 0.00 | 385.94 | 380.00 |
| 1001.900 | 560.00 | 636.88 | .49 | .10 | 0.00 | 405.00 | 380.00 |
| 1002.000 | 400.00 | 636.93 | 0.00 | .34 | 0.00 | 219.46 | 420.00 |
| 1002.000 | 200.00 | 636.35 | -.58 | .23 | 0.00 | 180.28 | 420.00 |
| 1002.000 | 310.00 | 636.69 | .35 | .30 | 0.00 | 205.81 | 420.00 |
| 1002.000 | 560.00 | 637.27 | .57 | .39 | 0.00 | 239.42 | 420.00 |
| 1002.100 | 400.00 | 637.45 | 0.00 | .53 | 0.00 | 226.91 | 500.00 |
| 1002.100 | 200.00 | 636.72 | -.73 | .38 | 0.00 | 178.65 | 500.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1002.100 | 310.00 | 637.17 | .45 | .48 | 0.00 | 210.30 | 500.00 |
| 1002.100 | 560.00 | 637.86 | .70 | .60 | 0.00 | 255.84 | 500.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1002.500 | 340.00 | 637.78 | 0.00 | .33 | 0.00 | 211.38 | 330.00 |
| 1002.500 | 150.00 | 636.98 | -.80 | .26 | 0.00 | 149.24 | 330.00 |
| 1002.500 | 260.00 | 637.48 | .50 | .31 | 0.00 | 190.20 | 330.00 |
| 1002.500 | 500.00 | 638.22 | .74 | .36 | 0.00 | 236.70 | 330.00 |
| 1002.900 | 340.00 | 638.62 | 0.00 | .85 | 0.00 | 193.29 | 670.00 |
| 1002.900 | 150.00 | 637.69 | -.93 | .71 | 0.00 | 115.03 | 670.00 |
| 1002.900 | 260.00 | 638.31 | .62 | .83 | 0.00 | 170.35 | 670.00 |
| 1002.900 | 500.00 | 639.11 | .80 | .89 | 0.00 | 224.26 | 670.00 |
| 1003.200 | 340.00 | 638.87 | 0.00 | .24 | 0.00 | 94.25 | 140.00 |
| 1003.200 | 150.00 | 637.91 | -.96 | .21 | 0.00 | 69.52 | 140.00 |
| 1003.200 | 260.00 | 638.55 | .64 | .24 | 0.00 | 87.31 | 140.00 |
| 1003.200 | 500.00 | 639.35 | .80 | .24 | 0.00 | 141.71 | 140.00 |
| 1003.300 | 340.00 | 639.13 | 0.00 | .26 | 0.00 | 111.14 | 130.00 |
| 1003.300 | 150.00 | 638.10 | -1.03 | .19 | 0.00 | 75.13 | 130.00 |
| 1003.300 | 260.00 | 638.79 | .69 | .24 | 0.00 | 92.86 | 130.00 |
| 1003.300 | 500.00 | 639.65 | .86 | .30 | 0.00 | 175.00 | 130.00 |
| 1003.700 | 340.00 | 640.27 | 0.00 | 1.15 | 0.00 | 175.00 | 34.00 |
| 1003.700 | 150.00 | 638.14 | -2.13 | .04 | 0.00 | 76.02 | 34.00 |
| 1003.700 | 260.00 | 640.09 | 1.95 | 1.30 | 0.00 | 175.00 | 34.00 |
| 1003.700 | 500.00 | 640.55 | .47 | .91 | 0.00 | 175.00 | 34.00 |
| 1003.800 | 340.00 | 640.31 | 0.00 | .03 | 0.00 | 240.00 | 80.00 |
| 1003.800 | 150.00 | 638.26 | -2.05 | .12 | 0.00 | 27.57 | 80.00 |
| 1003.800 | 260.00 | 640.11 | 1.85 | .02 | 0.00 | 230.25 | 80.00 |
| 1003.800 | 500.00 | 640.60 | .49 | .05 | 0.00 | 240.00 | 80.00 |
| 1004.000 | 340.00 | 640.66 | 0.00 | .35 | 0.00 | 425.00 | 500.00 |
| 1004.000 | 150.00 | 639.25 | -1.40 | 1.00 | 0.00 | 129.22 | 500.00 |
| 1004.000 | 260.00 | 640.41 | 1.15 | .30 | 0.00 | 385.42 | 500.00 |
| 1004.000 | 500.00 | 641.04 | .63 | .44 | 0.00 | 425.00 | 500.00 |
| 1004.500 | 340.00 | 640.78 | 0.00 | .12 | 0.00 | 422.03 | 200.00 |
| 1004.500 | 150.00 | 639.50 | -1.28 | .25 | 0.00 | 139.53 | 200.00 |
| 1004.500 | 260.00 | 640.52 | 1.02 | .11 | 0.00 | 368.38 | 200.00 |
| 1004.500 | 500.00 | 641.17 | .65 | .13 | 0.00 | 425.00 | 200.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN D/S HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: 100YR ENCROACHED

00BREAK00

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  C1,C2,03
 MODIFICATION -  50,51,52,53
*************************************************
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T1      JOB HUD-FIA F-4705  106
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 634.800 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO 1000.300
 2800 NAT Q1=    287.92  WSEL=    634.80  ENC Q1=    287.92  WSEL=    634.90  RATIO=    .0000
 NAT Q1=    306.  RATIOS LOB,CH,ROB=    .0056    .2537    .7407  WSEL=    634.90
3280 CROSS SECTION   1000.30 EXTENDED       .40 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      28.0     285.7  TYPE=     4  TARGET=        .058

        **D/S FACE DEQUINORE

  1000.30      5.30   634.80      C.CO   634.80   634.81      .01      0.00      0.00   634.00
     400.        0.     107.      293.       0.     132.     652.        0.        0.   631.60
     0.00      C.CO      .81       .45      .1CC     .060     .130     0.000   629.50    28.00
  .000215        0.       0.        C.        0        0        0      0.00   257.74   285.74


SPECIAL BRIDGE

SB  XK        XKCR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      2.00      1.00      0.00      10.00     0.00      1.00      0.00      630.50    630.50

*SECNO 1000.700
 2800 NAT Q1=    678.80  WSEL=    636.46  ENC Q1=    678.8C  WSEL=    636.56  RATIC=    .0000
 NAT Q1=    707.  RATIOS LOB,CH,RCB=    .0217    .2071    .7712  WSEL=    636.56
 WATER EL=CHANGE FRCM NATURAL PROFILES BRIDGE
3280 CROSS SECTICN   1000.70 EXTENDED      2.06 FEET


3470 ENCROACHMENT STATIONS=      25.7     396.2  TYPE=     4  TARGET=        .040
  1000.70      6.96   636.46      0.00   636.46   636.46      .00       .00       .00   634.00
     400.        1.       87.      312.       6.     195.    1335.        1.        0.   631.60
      .C4       .10       .45       .23      .100     .060     .100     .059   629.5C    25.65
  .000038       45.       45.       45.        0        0        9      0.00   370.56   396.21


*SECNO 1000.800
 2800 NAT Q1=    81C.28  WSEL=    636.47  ENC Q1=    810.28  WSEL=    636.57  RATIO=    .0000
 NAT Q1=    845.  RATIOS LOB,CH,RCB=    .0133    .1522    .8345  WSEL=    636.57
3280 CROSS SECTION   1000.80 EXTENDED      1.66 FEET


3470 ENCROACHMENT STATIONS=      28.0     373.2  TYPE=     4  TARGET=        .041
  1000.80      6.57   636.47      0.00   636.47   636.47      .00       .01       .00   634.40
     40C.        0.       62.      338.       0.     180.    1162.       10.        3.   632.00
      .30      0.00       .35       .29      .1CC     .06C     .065     .082   629.90    28.00
  .000027       50.      400.      250.        0        0        0      0.00   345.21   373.21
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"weir" length = 400

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*SECNO 1001.300
 2800 NAT Q1=     212.26  WSEL=     636.48  ENC Q1=     212.26  WSEL=     636.58  RATIO=    .0000
 NAT Q1=     233.  RATIOS LOB,CH,ROB=    .5490    .3281    .1229  WSEL=     636.58

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.30 EXTENDED       1.99 FEET


3470 ENCROACHMENT STATIONS=       21.5      546.3  TYPE=      4  TARGET=         .091

        **D/S FACE DRIVEWAY

  1001.30      5.89    636.49      0.00    636.48    636.50       .01       .02       .00    635.20
     400.      218.      150.       32.      513.      121.       67.       19.        5.    635.20
      .44       .42      1.24       .48      .100      .060      .065      .073    630.60     21.49
  .000416      100.      400.      500.         2         0         0      0.00    410.40    546.32


CCHV=    .500 CEHV=   1.000
*SECNO 1001.400
 2800 NAT Q1=     163.58  WSEL=     636.49  ENC Q1=     163.58  WSEL=     636.59  RATIO=    .0000
 NAT Q1=     182.  RATIOS LOB,CH,ROB=    .6867    .1714    .1419  WSEL=     636.59

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.40 EXTENDED       1.99 FEET


   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  634.50 MAX ELLC=  635.20


3470 ENCROACHMENT STATIONS=       18.8      558.8  TYPE=      4  TARGET=         .102
  1001.40      5.89    636.49      0.00    636.49    636.50       .01       .00       .00    635.20
     400.      282.       80.       37.      506.      108.       67.       19.        5.    635.20
      .44       .56       .75       .56      .100      .060      .065      .073    630.60     18.77
  .000729        1.        1.        1.         0         0         0    -33.00    425.59    558.78


*SECNO 1001.600
 2800 NAT Q1=     165.64  WSEL=     636.50  ENC Q1=     165.64  WSEL=     636.60  RATIO=    .0000
 NAT Q1=     183.  RATIOS LOB,CH,ROB=    .6865    .1708    .1428  WSEL=     636.60

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.60 EXTENDED       2.00 FEET


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  634.50 MAX ELLC=  635.20
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```
3470 ENCROACHMENT STATIONS=       17.9      563.0  TYPE=      4  TARGET=          .097
  1001.60      5.90    636.50      0.00    636.50    636.51       .01       .01       .00    635.20
     400.      282.       79.       38.      513.      108.       71.       19.        5.    635.20
      .45       .55       .73       .55      .100      .060      .065      .073    630.60     17.89
  .000700       12.       12.       12.         0         0         0    -33.00    430.92    562.98


*SECNO 1001.700
 2800 NAT Q1=     216.65  WSEL=     636.50  ENC Q1=     216.65  WSEL=     636.60  RATIO=    .0000
 NAT Q1=     236.  RATIOS LOB,CH,ROB=    .5496    .3260    .1244  WSEL=     636.60

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.70 EXTENDED      2.00 FEET


3470 ENCROACHMENT STATIONS=       19.6      556.0  TYPE=      4  TARGET=          .083
  1001.70      5.90    636.50      0.00    636.50    636.51       .01       .00       .00    635.20
     400.      219.      148.       34.      522.      122.       74.       19.        5.    635.20
      .45       .42      1.21       .46      .100      .060      .065      .073    630.60     19.65
  .000397        1.        1.        1.         0         0         0      0.00    422.21    556.00


CCHV=     .300 CEHV=     .500
*SECNO 1001.800
 2800 NAT Q1=     394.74  WSEL=     636.51  ENC Q1=     394.74  WSEL=     636.61  RATIO=  0.0000
 NAT Q1=     420.  RATIOS LOB,CH,ROB=    .5562    .2114    .2324  WSEL=     636.61

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.80 EXTENDED      2.82 FEET


3470 ENCROACHMENT STATIONS=       14.7      575.8  TYPE=      4  TARGET=          .059
  1001.80      6.02    636.52      0.00    636.51    636.53       .00       .01       .00    634.40
     400.      223.       92.       85.      766.      139.      216.       20.        6.    634.20
      .48       .29       .66       .39      .100      .060      .065      .072    630.50     14.70
  .000116       50.       50.       50.         0         0         0      0.00    460.83    575.81


CCHV=     .200 CEHV=     .400
*SECNO 1001.900
3280 CROSS SECTION   1001.90 EXTENDED      1.11 FEET


3470 ENCROACHMENT STATIONS=      210.0      615.0  TYPE=      1  TARGET=     -210.000
  1001.90      5.10    636.60      0.00    636.59    636.62       .01       .09       .00    635.40
     400.      118.      139.      143.      214.      108.      234.       28.       10.    635.20
      .61       .55      1.29       .61      .100      .060      .065      .068    631.50    210.00
  .000611      380.      380.      380.         1         0         0      0.00    405.00    615.00


*SECNO 1002.000
 2800 NAT Q1=     117.92  WSEL=     636.93  ENC Q1=     117.92  WSEL=     637.03  RATIO=  0.0000
 NAT Q1=     127.  RATIOS LOB,CH,ROB=    .0986    .5211    .3802  WSEL=     637.03
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
```

```
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      335.8      467.7  TYPE=      4  TARGET=          .074
  1002.00      5.24    636.94     0.00    636.93    636.99      .04       .36       .01    636.70
     400.       25.      229.     146.      41.      115.     122.       32.       12.     636.20
      .68       .62      2.00     1.20     .100      .060     .065      .066    631.70    335.75
  .001286      420.      420.     420.        0         0        0      0.00    131.94    467.69


*SECNC 1002.100
 2800 NAT Q1=     130.00  WSEL=     637.45  ENC Q1=     130.00  WSEL=     637.55  RATIO=    .0000
 NAT Q1=     140.  RATIOS LOB,CH,ROB=    .1049    .5018    .3933  WSEL=     637.55

3470 ENCROACHMENT STATIONS=      334.0      470.6  TYPE=      4  TARGET=          .072
  1002.10      5.42    637.52     0.00    637.45    637.55      .04       .56       .00    637.10
     400.       29.      217.     153.      50.      120.     138.       35.       14.     636.60
      .78       .59      1.81     1.11     .100      .060     .065      .064    632.10    334.00
  .000988      500.      500.     500.         2         0        0      0.00    136.63    470.63


*SECNO 1002.500
 2800 NAT Q1=     105.54  WSEL=     637.78  ENC Q1=     105.54  WSEL=     637.88  RATIO=    .0000
 NAT Q1=     114.  RATIOS LOB,CH,ROB=    .1395    .5454    .3151  WSEL=     637.88

3470 ENCROACHMENT STATIONS=      331.7      463.6  TYPE=      4  TARGET=          .072

        **100 FT U/S CONFLUENCE WITH HOUGHTEN

  1002.50      5.15    637.85     0.00    637.78    637.89      .03       .34       .00    637.70
     340.       37.      200.     102.      44.      112.     110.       37.       15.     637.20
      .84       .85      1.79      .93     .065      .060     .075      .064    632.70    331.67
  .001069      330.      330.     330.         2         0        0      0.00    131.94    463.61


*SECNO 1002.900
 2800 NAT Q1=      84.84  WSEL=     638.62  ENC Q1=      84.84  WSEL=     638.72  RATIO=    .0000
 NAT Q1=      92.  RATIOS LOB,CH,ROB=    .1168    .5961    .2871  WSEL=     638.72

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      335.7      457.3  TYPE=      4  TARGET=          .080
  1002.90      4.92    638.72     0.00    638.62    638.77      .05       .87       .01    638.80
     340.       28.      220.      91.      31.      104.      87.       41.       17.     638.30
      .95       .92      2.11     1.05     .065      .060     .075      .063    633.80    335.65
  .001616      670.      670.     670.         2         0        0      0.00    120.43    457.32


*SECNO 1003.200
 2800 NAT Q1=      72.60  WSEL=     638.87  ENC Q1=      72.60  WSEL=     638.97  RATIO=    .0000
 NAT Q1=      78.  RATIOS LOB,CH,ROB=    .2276    .7724   0.0000  WSEL=     638.97
3280 CROSS SECTION   1003.20 EXTENDED        .06 FEET


3470 ENCROACHMENT STATIONS=      244.1      315.0  TYPE=      4  TARGET=          .066
  1003.20      4.96    638.96     0.00    638.87    639.04      .08       .26       .01    638.70
     340.       59.      281.       0.      47.      114.       0.       42.       17.     639.00
      .97      1.26      2.47     0.00     .065      .060     .075      .063    634.00    244.08
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 .002199     140.     140.     140.        0        0        0     0.00    70.85   314.93

CCHV=    .300 CEHV=    .500
*SECNO 1003.300
 2800 NAT Q1=     86.45  WSEL=    639.13  ENC Q1=     86.45  WSEL=    639.23  RATIO=    .0000
 NAT Q1=     93.  RATIOS LOB,CH,ROB=   .2645   .7338   .0017  WSEL=    639.23
3280 CROSS SECTION   1003.30 EXTENDED       .32 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TCPWID      ENDST


3470 ENCROACHMENT STATIONS=     241.7     315.0  TYPE=     4  TARGET=        .070

        **D/S FACE FERNLEIGH

  1003.30      5.22    639.22      0.00    639.13    639.29       .06       .24       .01    638.70
     340.       72.      268.        0.      60.      123.        0.       42.       17.    639.00
      .99      1.19      2.18       .01      .065      .060      .075      .063    634.00-   241.66
 .001555      130.      130.      130.         2         0         0      0.00     73.34    315.01


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.53      2.90     200.00      6.00      0.00     28.30      0.00    634.00    634.00

*SECNO 1003.700
 2800 NAT Q1=    181.86  WSEL=    640.27  ENC Q1=    181.86  WSEL=    640.37  RATIO=    .0000
 NAT Q1=    192.  RATIOS LOB,CH,ROB=   .3378   .5695   .0927  WSEL=    640.37
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION   1003.70 EXTENDED      1.47 FEET


3470 ENCROACHMENT STATIONS=     227.8     364.5  TYPE=     4  TARGET=        .051
  1003.70      6.37    640.37      0.00    640.27    640.39       .02       .02       .01    638.70
     340.      112.      204.       24.      139.      163.       59.       42.       17.    639.00
      .99       .81      1.25       .41      .065      .060      .075      .063    634.00    227.82
 .000351       34.       34.       34.         0         0         5      0.00    136.65    364.47

*SECNO 1003.800
 2800 NAT Q1=    127.85  WSEL=    640.31  ENC Q1=    127.85  WSEL=    640.41  RATIO=    .0000
 NAT Q1=    139.  RATIOS LOB,CH,ROB=   .1500   .5877   .2624  WSEL=    640.41
3280 CROSS SECTION   1003.80 EXTENDED      1.41 FEET


3470 ENCROACHMENT STATIONS=     186.6     335.5  TYPE=     4  TARGET=        .078
  1003.80      5.60    640.40      0.00    640.31    640.43       .03       .04       .01    639.00
     340.       41.      216.       82.       62.      129.      112.       43.       18.    638.50
     1.01       .66      1.68       .74      .065      .060      .075      .062    634.80    186.60
 .000705       80.       80.       80.         0         0         0      0.00    148.87    335.47
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ELTRD 639.5

Flood way @ Road approp. ste to be = 146

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CCHV=    .200 CEHV=    .400
*SECNO 1004.000
 2800 NAT Q1=     133.11  WSEL=     640.66  ENC Q1=     133.11  WSEL=     640.76  RATIO=    .0000
 NAT Q1=     146.  RATIOS LOB,CH,ROB=    .2588   .4511   .2901  WSEL=     640.76
3280 CROSS SECTION   1004.00 EXTENDED        .15 FEET


3470 ENCROACHMENT STATIONS=      129.9      339.5  TYPE=      4  TARGET=          .089
  1004.00      5.55    640.75      0.00    640.66    640.77      .02       .34       .00    639.80
     340.       80.      168.       92.      169.      104.     139.       47.       20.    635.20
     1.14       .47      1.61       .66      .100      .060     .100      .062    635.20    129.85
  .000654      500.      500.      500.         2         0        0      0.00    209.66    339.51

*SECNO 1004.500
 2800 NAT Q1=     151.12  WSEL=     640.78  ENC Q1=     151.12  WSEL=     640.88  RATIO=   0.0000
 NAT Q1=     167.  RATIOS LOB,CH,ROB=    .3053   .3833   .3114  WSEL=     640.88
3280 CROSS SECTION   1004.50 EXTENDED        .07 FEET


3470 ENCROACHMENT STATIONS=      132.4      336.5  TYPE=      4  TARGET=          .092
  1004.50      5.47    640.87      0.00    640.78    640.89      .02       .12       .00    640.00
     340.       97.      144.      100.      156.      102.     130.       49.       21.    635.40
     1.19       .62      1.41       .77      .065      .060     .075      .062    635.40    132.40
  .000511      200.      200.      200.         1         0        0      0.00    204.13    336.53
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON-SHANAHAN OVERFL

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 400.00 | 634.80 | 0.00 | 634.80 | 1.93 | .78 | 939.91 | 287.92 |
| 1000.300 | 0.00 | 0.00 | 0.00 | 629.50 | 400.00 | 634.80 | 0.00 | 634.81 | 2.15 | .81 | 783.50 | 272.98 |
| 1000.700 | 45.00 | 634.80 | 0.00 | 629.50 | 400.00 | 636.46 | 0.00 | 636.46 | .35 | .43 | 1683.22 | 678.80 |
| 1000.700 | 45.00 | 999999.00 | 0.00 | 629.50 | 400.00 | 636.46 | 0.00 | 636.46 | .38 | .45 | 1535.08 | 652.04 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 400.00 | 636.47 | 0.00 | 636.47 | .24 | .34 | 1510.45 | 810.28 |
| 1000.800 | 400.00 | 0.00 | 0.00 | 629.90 | 400.00 | 636.47 | 0.00 | 636.47 | .27 | .35 | 1341.47 | 771.29 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.48 | 0.00 | 636.49 | 3.55 | 1.14 | 786.89 | 212.26 |
| 1001.300 | 400.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.49 | 0.00 | 636.50 | 4.16 | 1.24 | 701.48 | 196.23 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.49 | 0.00 | 636.50 | 5.98 | .67 | 758.40 | 163.58 |
| 1001.400 | 1.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.49 | 0.00 | 636.50 | 7.29 | .75 | 680.94 | 148.17 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.50 | 0.00 | 636.50 | 5.83 | .67 | 764.48 | 165.64 |
| 1001.600 | 12.00 | 634.50 | 635.20 | 630.60 | 400.00 | 636.50 | 0.00 | 636.51 | 7.00 | .73 | 691.59 | 151.16 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.50 | 0.00 | 636.51 | 3.41 | 1.12 | 798.53 | 216.65 |
| 1001.700 | 1.00 | 0.00 | 0.00 | 630.60 | 400.00 | 636.50 | 0.00 | 636.51 | 3.97 | 1.21 | 717.84 | 200.77 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 400.00 | 636.51 | 0.00 | 636.52 | 1.03 | .62 | 1208.61 | 394.74 |
| 1001.800 | 50.00 | 0.00 | 0.00 | 630.50 | 400.00 | 636.52 | 0.00 | 636.53 | 1.16 | .66 | 1121.24 | 370.94 |
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 400.00 | 636.59 | 0.00 | 636.60 | 6.35 | 1.30 | 548.53 | 158.75 |
| 1001.900 | 380.00 | 0.00 | 0.00 | 631.50 | 400.00 | 636.60 | 0.00 | 636.62 | 6.11 | 1.29 | 556.27 | 161.81 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 400.00 | 636.93 | 0.00 | 636.96 | 11.51 | 1.88 | 341.09 | 117.92 |
| 1002.000 | 420.00 | 0.00 | 0.00 | 631.70 | 400.00 | 636.94 | 0.00 | 636.99 | 12.86 | 2.00 | 277.36 | 111.54 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 400.00 | 637.45 | 0.00 | 637.48 | 9.47 | 1.75 | 369.50 | 130.00 |
| 1002.100 | 500.00 | 0.00 | 0.00 | 632.10 | 400.00 | 637.52 | 0.00 | 637.55 | 9.88 | 1.81 | 308.17 | 127.25 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 340.00 | 637.78 | 0.00 | 637.81 | 10.38 | 1.74 | 311.35 | 105.54 |
| 1002.500 | 330.00 | 0.00 | 0.00 | 632.70 | 340.00 | 637.85 | 0.00 | 637.89 | 10.69 | 1.79 | 266.39 | 104.01 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 340.00 | 638.62 | 0.00 | 638.67 | 16.06 | 2.08 | 257.77 | 84.84 |
| 1002.900 | 670.00 | 0.00 | 0.00 | 633.80 | 340.00 | 638.72 | 0.00 | 638.77 | 16.16 | 2.11 | 222.46 | 84.58 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 340.00 | 638.87 | 0.00 | 638.94 | 21.93 | 2.42 | 172.56 | 72.60 |
| 1003.200 | 140.00 | 0.00 | 0.00 | 634.00 | 340.00 | 638.96 | 0.00 | 639.04 | 21.99 | 2.47 | 160.52 | 72.51 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 340.00 | 639.13 | 0.00 | 639.19 | 15.47 | 2.13 | 197.73 | 86.45 |
| 1003.300 | 130.00 | 0.00 | 0.00 | 634.00 | 340.00 | 639.22 | 0.00 | 639.29 | 15.55 | 2.18 | 183.14 | 86.23 |
| 1003.700 | 34.00 | 639.90 | 638.60 | 634.00 | 340.00 | 640.27 | 0.00 | 640.29 | 3.50 | 1.23 | 385.85 | 181.86 |
| 1003.700 | 34.00 | 999999.00 | 0.00 | 634.00 | 340.00 | 640.37 | 0.00 | 640.39 | 3.51 | 1.25 | 360.36 | 181.54 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 340.00 | 640.31 | 0.00 | 640.34 | 7.07 | 1.66 | 342.33 | 127.85 |
| 1003.800 | 80.00 | 0.00 | 0.00 | 634.80 | 340.00 | 640.40 | 0.00 | 640.43 | 7.05 | 1.68 | 302.30 | 128.04 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 340.00 | 640.66 | 0.00 | 640.68 | 6.52 | 1.59 | 521.48 | 133.11 |
| 1004.000 | 500.00 | 0.00 | 0.00 | 635.20 | 340.00 | 640.75 | 0.00 | 640.77 | 6.54 | 1.61 | 412.62 | 132.96 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 340.00 | 640.78 | 0.00 | 640.79 | 5.06 | 1.38 | 490.84 | 151.12 |
| 1004.500 | 200.00 | 0.00 | 0.00 | 635.40 | 340.00 | 640.87 | 0.00 | 640.89 | 5.11 | 1.41 | 388.03 | 150.37 |

HOUGHTON-SHANAHAN OVERFL

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1000.300 | 400.00 | 634.80 | 0.00 | 0.00 | 0.00 | 428.57 | 0.00 |
| 1000.300 | 400.00 | 634.80 | 0.00 | 0.00 | 0.00 | 257.74 | 0.00 |
| 1000.700 | 400.00 | 636.46 | 0.00 | 1.66 | 0.00 | 450.00 | 45.00 |
| 1000.700 | 400.00 | 636.46 | 0.00 | 1.66 | 0.00 | 370.56 | 45.00 |
| 1000.800 | 400.00 | 636.47 | 0.00 | .01 | 0.00 | 450.00 | 400.00 |
| 1000.800 | 400.00 | 636.47 | .00 | .01 | .00 | 345.21 | 400.00 |
| 1001.300 | 400.00 | 636.48 | 0.00 | .02 | 0.00 | 505.38 | 400.00 |
| 1001.300 | 400.00 | 636.49 | .00 | .02 | .00 | 410.40 | 400.00 |
| 1001.400 | 400.00 | 636.49 | 0.00 | .01 | 0.00 | 505.53 | 1.00 |
| 1001.400 | 400.00 | 636.49 | .00 | .01 | .00 | 425.59 | 1.00 |
| 1001.600 | 400.00 | 636.50 | 0.00 | .01 | 0.00 | 505.73 | 12.00 |
| 1001.600 | 400.00 | 636.50 | .01 | .01 | .01 | 430.92 | 12.00 |
| 1001.700 | 400.00 | 636.50 | 0.00 | .00 | 0.00 | 505.77 | 1.00 |
| 1001.700 | 400.00 | 636.50 | .01 | .00 | .01 | 422.21 | 1.00 |
| 1001.800 | 400.00 | 636.51 | 0.00 | .02 | 0.00 | 514.72 | 50.00 |
| 1001.800 | 400.00 | 636.52 | .01 | .02 | .01 | 460.83 | 50.00 |
| 1001.900 | 400.00 | 636.59 | 0.00 | .07 | 0.00 | 405.00 | 380.00 |
| 1001.900 | 400.00 | 636.60 | .02 | .08 | .02 | 405.00 | 380.00 |
| 1002.000 | 400.00 | 636.93 | 0.00 | .34 | 0.00 | 219.46 | 420.00 |
| 1002.000 | 400.00 | 636.94 | .02 | .34 | .02 | 131.94 | 420.00 |
| 1002.100 | 400.00 | 637.45 | 0.00 | .53 | 0.00 | 226.91 | 500.00 |
| 1002.100 | 400.00 | 637.52 | .06 | .57 | .06 | 136.63 | 500.00 |
| 1002.500 | 340.00 | 637.78 | 0.00 | .33 | 0.00 | 211.38 | 330.00 |
| 1002.500 | 340.00 | 637.85 | .08 | .34 | .08 | 131.94 | 330.00 |
| 1002.900 | 340.00 | 638.62 | 0.00 | .85 | 0.00 | 193.29 | 670.00 |
| 1002.900 | 340.00 | 638.72 | .09 | .86 | .09 | 120.43 | 670.00 |
| 1003.200 | 340.00 | 638.87 | 0.00 | .24 | 0.00 | 94.25 | 140.00 |
| 1003.200 | 340.00 | 638.96 | .09 | .24 | .09 | 70.85 | 140.00 |
| 1003.300 | 340.00 | 639.13 | 0.00 | .26 | 0.00 | 111.14 | 130.00 |
| 1003.300 | 340.00 | 639.22 | .10 | .26 | .10 | 73.34 | 130.00 |
| 1003.700 | 340.00 | 640.27 | 0.00 | 1.15 | 0.00 | 175.00 | 34.00 |
| 1003.700 | 340.00 | 640.37 | .10 | 1.15 | .10 | 136.65 | 34.00 |
| 1003.800 | 340.00 | 640.31 | 0.00 | .03 | 0.00 | 240.00 | 80.00 |
| 1003.800 | 340.00 | 640.40 | .09 | .03 | .09 | 148.87 | 80.00 |
| 1004.000 | 340.00 | 640.66 | 0.00 | .35 | 0.00 | 425.00 | 500.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1004.000 | 340.00 | 640.75 | .09 | .35 | .09 | 209.66 | 500.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1004.500 | 340.00 | 640.78 | 0.00 | .12 | 0.00 | 422.03 | 200.00 |
| 1004.500 | 340.00 | 640.87 | .09 | .12 | .09 | 204.13 | 200.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, HOLGHTON-SHANAHAN OVERFL
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 1000.300 | 258. | 784. | .5 | 634.8 | 634.8 | 0.0 |
| 1000.700 | 371. | 1535. | .3 | 636.5 | 636.5 | 0.0 |
| 1000.800 | 345. | 1341. | .3 | 636.5 | 636.5 | 0. |
| 1001.300 | 525. | 701. | .6 | 636.5 | 636.5 | 0.0 |
| 1001.400 | 540. | 681. | .6 | 636.5 | 636.5 | 0. |
| 1001.600 | 545. | 692. | .6 | 636.5 | 636.5 | 0.0 |
| 1001.700 | 536. | 718. | .6 | 636.5 | 636.5 | 0.0 |
| 1001.800 | 561. | 1121. | .4 | 636.5 | 636.5 | 0.0 |
| 1001.900 | 405. | 556. | .7 | 636.6 | 636.6 | 0.0 |
| 1002.000 | 132. | 277. | 1.4 | 636.9 | 636.9 | 0.0 |
| 1002.100 | 137. | 308. | 1.3 | 637.6 | 637.5 | .1 |
| 1002.500 | 132. | 266. | 1.3 | 637.9 | 637.8 | .1 |
| 1002.900 | 122. | 222. | 1.5 | 638.7 | 638.6 | .1 |
| 1003.200 | 71. | 161. | 2.1 | 639.0 | 638.9 | .1 |
| 1003.300 | 73. | 183. | 1.9 | 639.2 | 639.1 | .1 |
| 1003.700 | 137. | 360. | .9 | 640.4 | 640.3 | .1 |
| 1003.800 | 149. | 302. | 1.1 | 640.4 | 640.3 | .1 |
| 1004.000 | 210. | 413. | .8 | 640.8 | 640.7 | .1 |
| 1004.500 | 204. | 388. | .9 | 640.9 | 640.8 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN D/S HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA F-4705
T2      TROY FIS
T3      HOUGHTON-SHANAHAN OVERFLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.  0.000000     0.00      -1.0        0.   634.800     0.000

J2  NPROF     IPLOT     PROFVS    XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .100      .100      .060      .300      .500     0.000     0.000     0.000     0.000     0.000
QT     5.000   200.000   310.000   400.000   560.000   400.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

      **D/S FACE DEQUINDRE

X1  1000.300     9.000    28.000    66.000     0.000     0.000     0.000     0.000     -.400     0.000
GR   634.800     0.000   634.800    16.000   634.400    28.000   631.700    40.000   629.900    49.000
GR   631.700    58.000   632.000    66.000   632.000   200.000   635.500   450.000     0.000     0.000
SB     0.000     2.000     1.000     0.000    10.000     0.000     1.000     0.000   630.500   630.500

X1  1000.700     0.000     0.000     0.000    45.000    45.000    45.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   631.500     0.000     0.000     0.000     0.000      .770     0.000
BT     5.000    80.000   635.600     0.000   140.000   635.300     0.000   300.000   635.600     0.000
BT   370.000   634.800     0.000   610.000   636.400     0.000     0.000     0.000     0.000     0.000
NC      .100      .065      .060     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1  1000.800     0.000     0.000     0.000    50.000   250.000   400.000     0.000      .400     0.000

      **D/S FACE DRIVEWAY

X1  1001.300    12.000   330.000   360.000   100.000   500.000   400.000     0.000     0.000     0.000
GR   634.500     0.000   635.000   280.000   635.200   330.000   630.600   342.000   630.600   348.000
GR   635.200   360.000   635.200   395.000   637.000   425.000   640.000   426.000   640.000   530.000
GR   636.000   531.000   635.700   620.000     0.000     0.000     0.000     0.000     0.000     0.000
NC     0.000     0.000     0.000      .500     1.000     0.000     0.000     0.000     0.000     0.000

X1  1001.400     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 10.000 | 0.000 | 634.500 | 0.000 | 280.000 | 635.000 | 0.000 | 330.000 | 635.700 | 635.200 |
| BT | 360.000 | 635.600 | 635.200 | 395.000 | 635.200 | 0.000 | 425.000 | 637.000 | 0.000 | 426.000 |
| BT | 640.000 | 0.000 | 530.000 | 640.000 | 0.000 | 531.000 | 636.000 | 0.000 | 620.000 | 635.700 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1001.600 | 0.000 | 0.000 | 0.000 | 12.000 | 12.000 | 12.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1001.700 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1001.800 | 13.000 | 328.000 | 362.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X4 | 2.000 | 640.000 | 421.000 | 640.000 | 520.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 633.700 | 0.000 | 634.700 | 210.000 | 633.500 | 240.000 | 633.500 | 290.000 | 634.400 | 328.000 |
| GR | 634.000 | 338.000 | 631.700 | 342.000 | 630.500 | 350.000 | 631.700 | 358.000 | 634.200 | 362.000 |
| GR | 634.000 | 420.000 | 635.000 | 521.000 | 635.500 | 615.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1001.900 | 13.000 | 328.000 | 362.000 | 380.000 | 380.000 | 380.000 | 0.000 | 1.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 210.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 633.700 | 0.000 | 634.700 | 210.000 | 633.500 | 240.000 | 633.500 | 290.000 | 634.400 | 328.000 |
| GR | 634.000 | 338.000 | 631.700 | 342.000 | 630.500 | 350.000 | 631.700 | 358.000 | 634.200 | 362.000 |
| GR | 634.000 | 420.000 | 635.000 | 521.000 | 635.500 | 615.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1002.000 | 8.000 | 368.000 | 400.000 | 420.000 | 420.000 | 420.000 | 0.000 | -.400 | 0.000 |
| X4 | 4.000 | 637.500 | 295.000 | 635.500 | 330.000 | 635.200 | 350.000 | 634.500 | 425.000 | 0.000 |
| GR | 639.600 | 168.000 | 638.700 | 234.000 | 637.100 | 368.000 | 632.100 | 382.000 | 632.100 | 392.000 |
| GR | 636.600 | 400.000 | 637.800 | 544.000 | 639.500 | 740.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1002.100 | 0.000 | 0.000 | 0.000 | 500.000 | 500.000 | 500.000 | 0.000 | .400 | 0.000 |
| QT | 5.000 | 150.000 | 260.000 | 340.000 | 500.000 | 340.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .065 | .075 | .060 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**100 FT U/S CONFLUENCE WITH HOUGHTEN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1002.500 | 0.000 | 0.000 | 0.000 | 330.000 | 330.000 | 330.000 | 0.000 | .600 | 0.000 |
| X1 | 1002.900 | 0.000 | 0.000 | 0.000 | 670.000 | 670.000 | 670.000 | 0.000 | 1.100 | 0.000 |
| X1 | 1003.200 | 7.000 | 280.000 | 315.000 | 140.000 | 140.000 | 140.000 | 0.000 | 0.000 | 0.000 |
| X4 | 2.000 | 637.500 | 240.000 | 637.500 | 270.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 638.900 | 220.000 | 638.700 | 280.000 | 635.500 | 290.000 | 634.000 | 295.000 | 634.000 | 305.000 |
| GR | 639.000 | 315.000 | 639.600 | 395.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**D/S FACE FERNLEIGH

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1003.300 | 0.000 | 0.000 | 0.000 | 130.000 | 130.000 | 130.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 1.530 | 2.900 | 200.000 | 6.000 | 0.000 | 28.300 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 1003.700 | 0.000 | 0.000 | 0.000 | 34.000 | 34.000 | 34.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 638.600 | 639.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 1003.800 | 6.000 | 240.000 | 270.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 640.200 | 110.000 | 639.000 | 240.000 | 634.800 | 250.000 | 634.800 | 260.000 | 638.500 | 270.000 |
| GR | 639.000 | 350.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .100 | .100 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 1004.000 | 7.000 | 250.000 | 275.000 | 500.000 | 500.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 640.600 | 0.000 | 639.000 | 220.000 | 639.800 | 250.000 | 635.200 | 265.000 | 635.200 | 275.000 |
| GR | 638.500 | 285.000 | 640.600 | 425.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .065 | .075 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 1004.500 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | .200 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=    .300 CEHV=    .500
*SECNO 1000.300
3280 CROSS SECTION   1000.30 EXTENDED       .40 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


        **D/S FACE DEQUINDRE

  1000.30      5.30    634.80      0.00    634.80    634.80       .00      0.00      0.00    634.00
     400.        2.     103.      296.       14.      132.      795.        0.        0.    631.60
     0.00       .13       .78       .37      .100      .060      .100     0.000    629.50      0.00
  .000193        0.        0.        0.         0         0         0      0.00    428.57    428.57


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.00      1.00      0.00     10.00      0.00      1.00      0.00    630.50    630.50

*SECNO 1000.700
3280 CROSS SECTION   1000.70 EXTENDED       2.06 FEET


PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
 5603.74    635.80     0.00      395.        7.        1.    -6305.        0.00    634.80


  1000.70      6.56    636.46      0.00      0.00    636.46       .00      1.65      0.00    634.00
     400.        8.       84.      308.       60.      195.     1428.        1.        0.    631.60
      .05       .14       .43       .22      .100      .060      .100      .059    629.50      0.00
  .000035       45.       45.       45.         0         0         9      0.00    450.00    450.00


*SECNO 1000.800
3280 CROSS SECTION   1000.80 EXTENDED       1.67 FEET


  1000.80      6.57    636.47      0.00      0.00    636.47       .00       .01       .00    634.40
     400.        5.       62.      333.       45.      180.     1281.       11.        3.    632.00
      .33       .10       .34       .26      .100      .060      .065      .083    629.90      0.00
  .000024       50.      400.      250.         1         0         0      0.00    450.00    450.00


*SECNO 1001.300

3265 DIVIDED FLOW
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3280 CROSS SECTION   1001.30 EXTENDED      1.98 FEET

        **D/S FACE DRIVEWAY

  1001.30      5.88   636.48      0.00      0.00   636.49       .01       .02       .00   635.20
     400.      218.     138.       44.      552.     121.      114.       21.        7.   635.20
      .48       .39     1.14       .39      .100     .060      .065      .074   630.60     0.00
  .000355      100.     400.      500.         0        0         0      0.00   505.38   620.00

CCHV=    .500 CEHV=   1.000
*SECNO 1001.400

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.40 EXTENDED      1.98 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  634.50 MAX ELLC=  635.20

  1001.40      5.89   636.49      0.00      0.00   636.50       .00       .00       .00   635.20
     400.      276.      73.       51.      542.     108.      108.       21.        7.   635.20
      .48       .51      .67       .47      .100     .060      .065      .074   630.60     0.00
  .000598        1.       1.        1.         0        0         0   -33.00   505.53   620.00

*SECNO 1001.600

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.60 EXTENDED      2.00 FEET


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  634.50 MAX ELLC=  635.20

  1001.60      5.90   636.50      0.00      0.00   636.50       .00       .01       .00   635.20
     400.      276.      72.       52.      546.     108.      110.       21.        7.   635.20
      .49       .50      .67       .47      .100     .060      .065      .073   630.60     0.00
  .000583       12.      12.       12.         0        0         0   -33.00   505.73   620.00

*SECNO 1001.700

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.70 EXTENDED      2.00 FEET

  1001.70      5.90   636.50      0.00      0.00   636.51       .01       .00       .00   635.20
     400.      218.     137.       45.      560.     122.      117.       21.        7.   635.20
```

```
      .49       .39      1.12       .39      .100      .060      .065      .073   630.60      0.00
  .000341        1.        1.        1.         0         0         0      0.00   505.77    620.00

CCHV=     .300 CEHV=     .500
*SECNO 1001.800

3265 DIVIDED FLOW

3280 CROSS SECTION   1001.80 EXTENDED      2.82 FEET

  1001.80      6.01   636.51      0.00      0.00   636.52       .00       .01       .00   634.40
     400.      222.      87.       91.      809.     139.      261.       22.        8.   634.20
      .53       .27      .62       .35      .100     .060      .065      .072   630.50     0.00
  .000103       50.      50.       50.         0        0         0      0.00   514.72   615.00

CCHV=     .200 CEHV=     .400
*SECNO 1001.900
3280 CROSS SECTION   1001.90 EXTENDED      1.09 FEET

3470 ENCROACHMENT STATIONS=      210.0      615.0  TYPE=      1  TARGET=     -210.000
  1001.90      5.09   636.59      0.00      0.00   636.60       .01       .08       .00   635.40
     400.      118.     140.      142.      212.     107.      229.       30.       12.   635.20
      .66       .56     1.30       .62      .100     .060      .065      .068   631.50   210.00
  .000635      380.     380.      380.         1        0         0      0.00   405.00   615.00

*SECNO 1002.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       ITN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

  1002.00      5.23   636.93      0.00      0.00   636.96       .03       .35       .01   636.70
     400.       37.     215.      148.       67.     114.      160.       34.       15.   636.20
      .74       .56     1.88       .92      .100     .060      .065      .066   631.70   305.06
  .001151      420.     420.      420.         2        0         0      0.00   219.46   524.52

*SECNO 1002.100
  1002.10      5.35   637.45      0.00      0.00   637.48       .03       .52       .00   637.10
     400.       40.     207.      153.       75.     118.      176.       38.       17.   636.60
      .85       .53     1.75       .87      .100     .060      .065      .064   632.10   302.83
  .000947      500.     500.      500.         2        0         0      0.00   226.91   529.74

*SECNO 1002.500

        **100 FT U/S CONFLUENCE WITH HOUGHTEN

  1002.50      5.08   637.78      0.00      0.00   637.81       .03       .33       .00   637.70
     340.       45.     191.      104.       58.     110.      143.       41.       19.   637.20
      .92       .77     1.74       .73      .065     .060      .075      .064   632.70   307.48
  .001038      330.     330.      330.         1        0         0      0.00   211.38   518.85
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*SECNC 1002.900

3265 DIVIDED FLOW

  1002.90      4.82    638.62      0.00      0.00    638.67       .05       .85       .01    638.80
     340.       37.      210.       93.       43.      101.      113.       45.       22.     638.30
     1.03       .85      2.08       .82      .065      .060      .075      .063    633.80    312.10
  .001606      670.      670.      670.         2         0         0      0.00    193.29    508.01


*SECNO 1003.200
  1003.20      4.87    638.87      0.00      0.00    638.94       .08       .26       .01    638.70
     340.       72.      268.        0.       62.      111.        0.       46.       22.     639.00
     1.05      1.16      2.42      0.00      .065      .060      .075      .063    634.00    220.48
  .002193      140.      140.      140.         2         0         0      0.00     94.25    314.73


CCHV=    .300 CEHV=    .500
*SECNO 1003.300
3280 CROSS SECTION   1003.30 EXTENDED       .22 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


        **D/S FACE FERNLEIGH

  1003.30      5.13    639.13      0.00      0.00    639.19       .06       .24       .01    638.70
     340.       85.      255.        0.       77.      119.        1.       47.       23.     639.00
     1.07      1.10      2.13       .12      .065      .060      .075      .063    634.00    220.00
  .001547      130.      130.      130.         1         0         0      0.00    111.14    331.14


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.53      2.90    200.00      6.00      0.00     28.30      0.00    634.00    634.00

*SECNO 1003.700
3280 CROSS SECTION   1003.70 EXTENDED      1.38 FEET


PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                                  AREA
   642.56    639.19     0.00      142.      198.      28.       28.       638.60    639.90


  1003.70      6.27    640.27      0.00      0.00    640.29       .02      1.11      0.00    638.70
     340.      114.      197.       29.      147.      160.       79.       47.       23.     639.00
     1.08       .78      1.23       .36      .065      .060      .075      .063    634.00    220.00
  .000350       34.       34.       34.         1         0         5      0.00    175.00    395.00
```

```
*SECNO 1003.800
3280 CROSS SECTION   1003.80 EXTENDED      1.31 FEET

  1003.80      5.51   640.31      0.00      0.00   640.34      .03      .04      .01   639.00
     340.       44.     208.       87.       92.     126.     125.      48.      23.   638.50
     1.10       .48     1.66       .70      .065     .060     .075     .063   634.80   110.00
  .000707       80.      80.       80.         2        0        0     0.00   240.00   350.00

CCHV=     .200 CEHV=     .400
*SECNO 1004.000
3280 CROSS SECTION   1004.00 EXTENDED       .06 FEET

  1004.00      5.46   640.66      0.00      0.00   640.68      .02      .34      .00   639.80
     340.       81.     162.       97.      226.     102.     193.      52.      27.   635.20
     1.24       .36     1.59       .50      .100     .060     .100     .062   635.20     0.00
  .000652      500.     500.      500.         2        0        0     0.00   425.00   425.00

*SECNO 1004.500
  1004.50      5.38   640.78      0.00      0.00   640.79      .01      .11      .00   640.00
     340.       97.     138.      105.      208.     100.     182.      55.      29.   635.40
     1.30       .46     1.38       .58      .065     .060     .075     .062   635.40     2.00
  .000506      200.     200.      200.         1        0        0     0.00   422.03   424.03
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SHANAHAN DRAIN U/S HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Shanahan Drain (upstream of Henry Graham Drain)

STUDY LIMITS: Entrance to Henry Graham Drain (downstream limit) to John R. Road (upstream limit)

DATE OF AERIAL SURVEY: Abrams Aerial Survey - November 1975

DATE OF LAND SURVEY: McNamee Porter and Seeley Field crew 5/21/79, 7/16/79

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/18/79

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic map 1"=2000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:
Channel "n" .055
Overbank "n" .080
n values thru bridges .025
Contraction Coefficients 0.15-0.3
Expansion Coefficients 0.35-0.5

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100-year flow by raising and lowering all Manning channel "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation.

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood profiles and (iii) convergence test and sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500-year flood plains at this time since this will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile).

The 100 year and 500 year floodplains will cover a large area upstream of cross section 401.8. However, it has been determined that there would be less than 0.5 feet of depth on the floodplain for the 100 year flow, therefore storage will not be significant.

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: FILE NO
WATERCOURSE: DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, Partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION No. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 400.3 | | 3 | Valley Section - Repeat 401.2 |
| 400.5 | | 3 | Valley Section - Repeat 401.2 |
| 401.2 | A | 1 | Valley Section |
| 400.98 | B | 3 | D/S Face Anvil Drive - Repeat 401.2 |
| 401.02 | | 3 | U/S Face Anvil Drive - Repeat 401.8 |
| 401.8 | C | 1 | Valley Section |
| 401.85 | | 3 | Valley Section |
| 401.9 | | 3 | Valley Section - Repeat 402 |
| 402 | D | 2 | Valley Section - Modified to eliminate ineffective overbank area |
| 402.5 | | 3 | Valley Section - Repeat 402 |
| 403 | E | 1 | Valley Section |

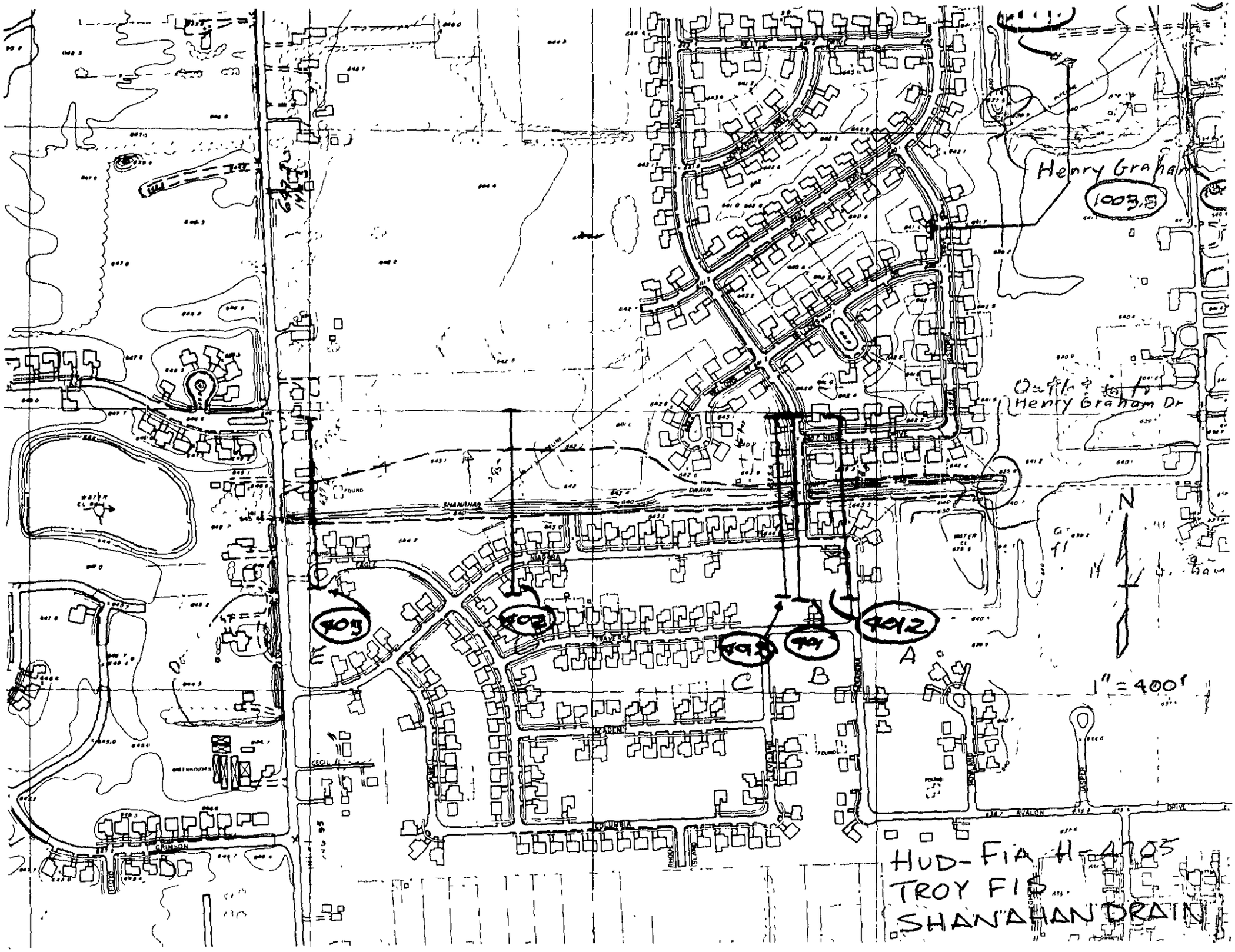
COMMUNITY:

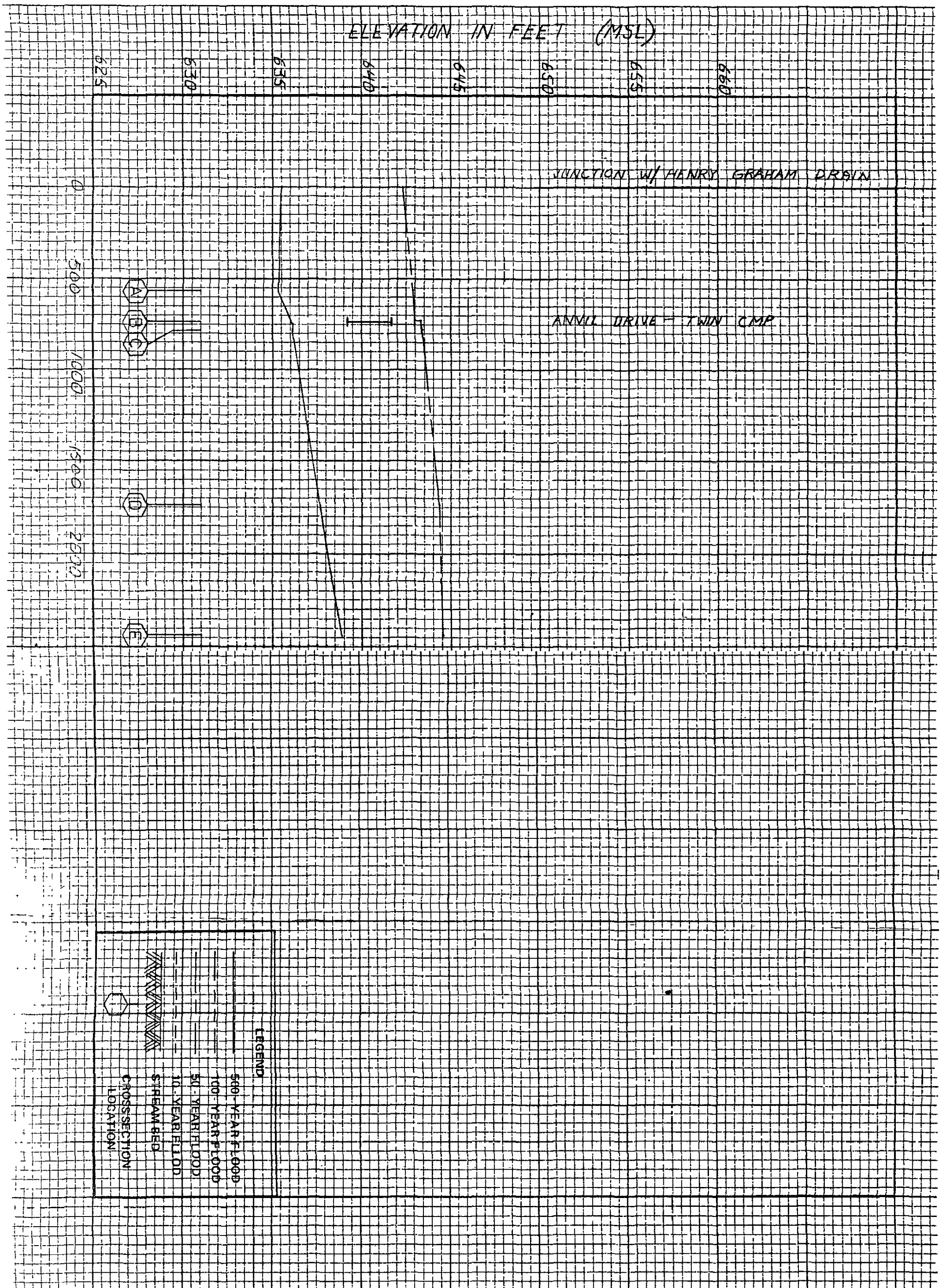
WATERCOURSE:

TABLE 2 – XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 400.98-401.02 | 0.5 | 28.3 | 30.8 | 0.92 | .025 | 49 | 1.0 | 2.5 | Anvil Rd. |


Henry Graham
1003.8
Henry Graham Dr
SHANAHAN DRAIN
WATER
FOUND
EAGLE
NIAGARA
TRAVERSE
ACADEMY
COLUMBIA
AVALON
CRIMSON
GREENHOUSES
CECIL
403
402
401
A
B
C
N
1" = 400'
HUD-FIA H-4105
TROY FIA
SHANAHAN DRAIN




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF TROY, MI.
(OAKLAND CO.)

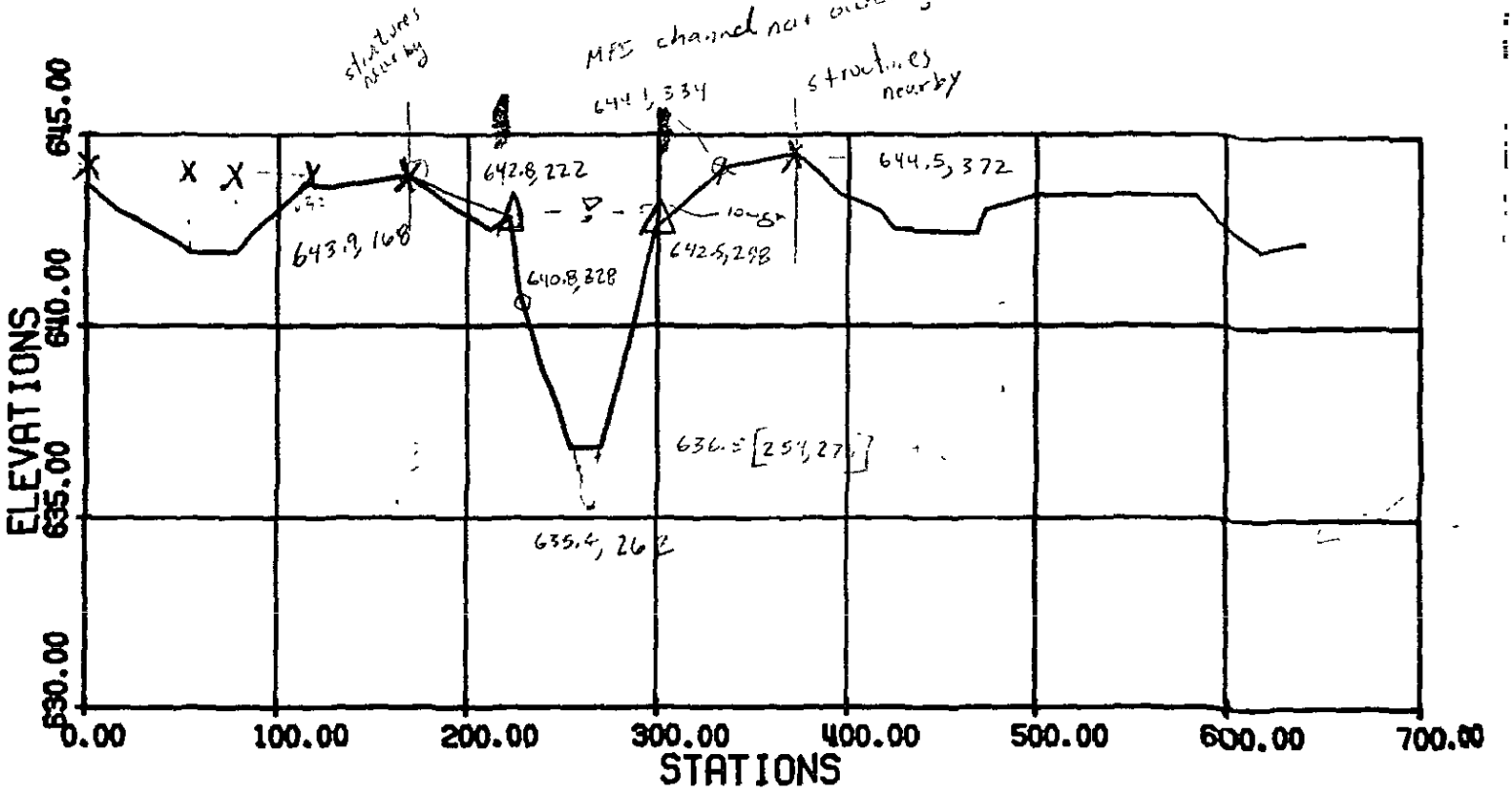
FLOOD PROFILES

SHANAHAN DRAIN

PRINTED IN U.S.A.

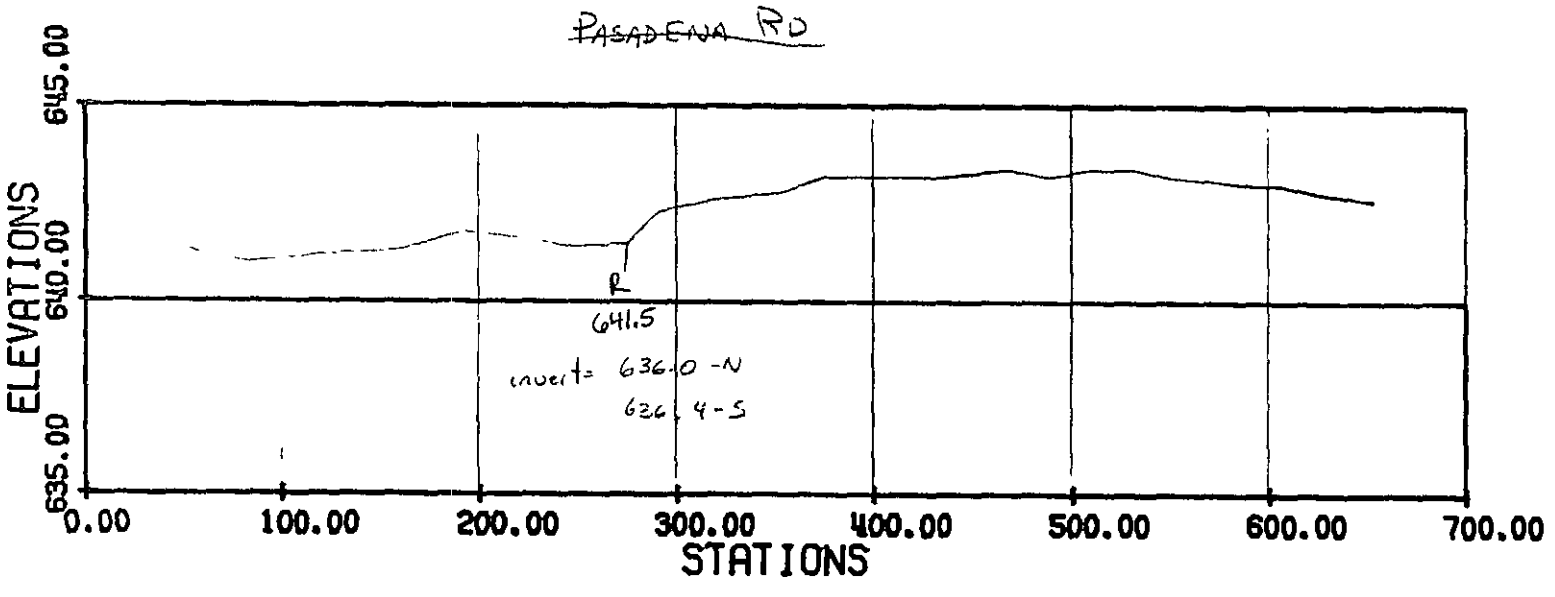
HUD-FIA H-4705

SHANAHAN DRAIN SECTION 401.2



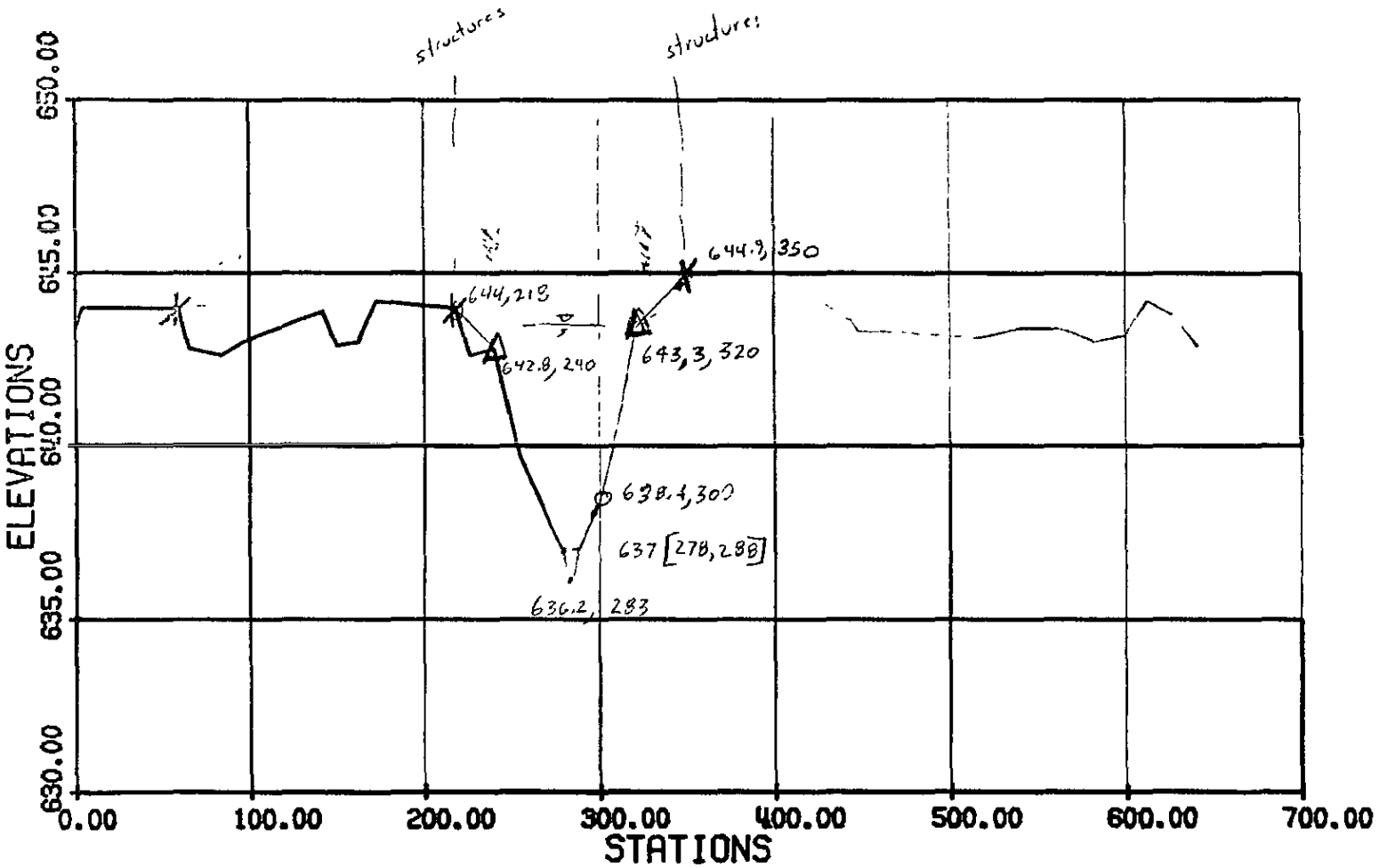
HUD-FIA H-4705

SHANAHAN DRAIN SECTION 401.00



HUD-FIA H-4705

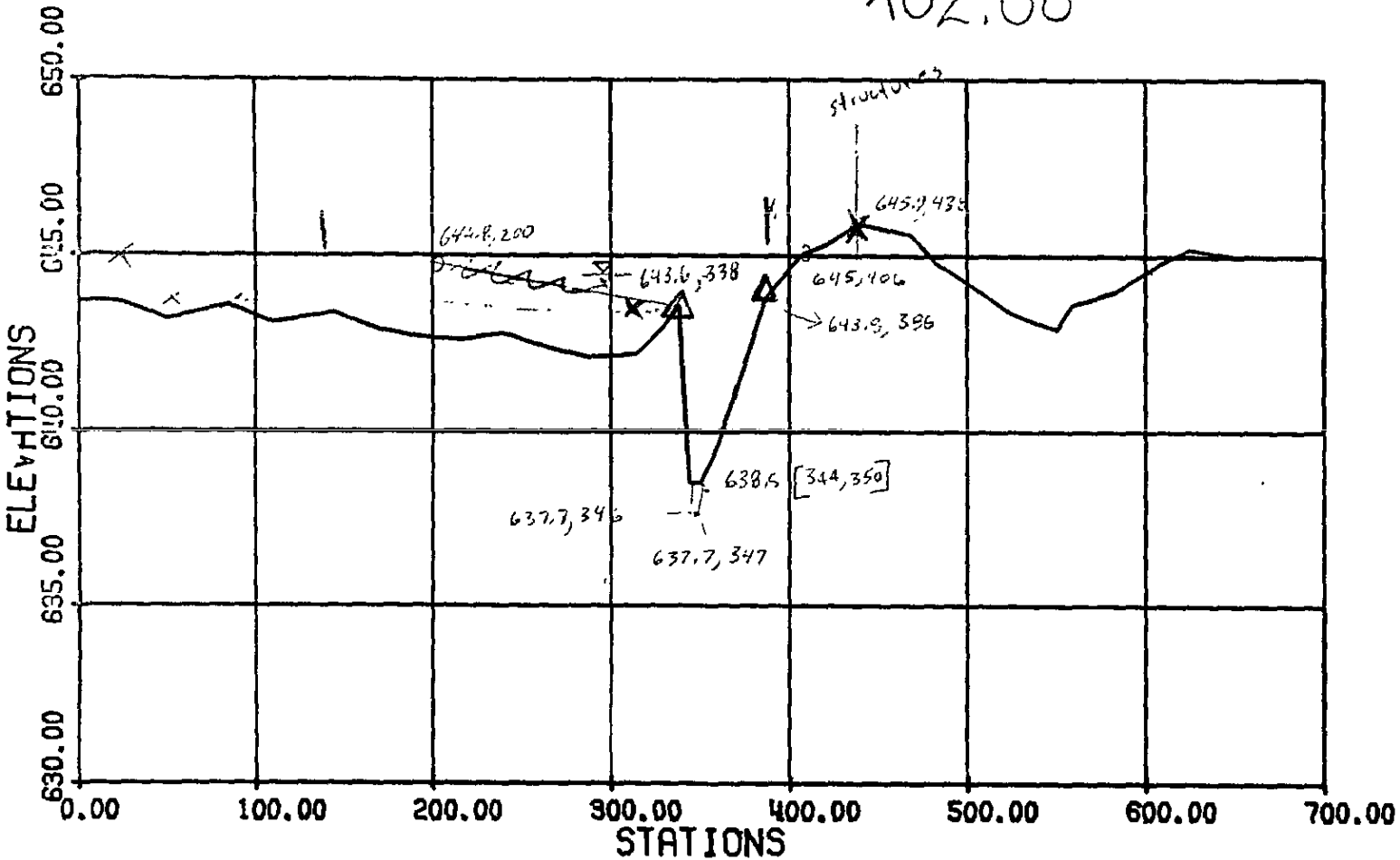
SHANAHAN DRAIN SECTION 401.80



HUD-1 1H 11-4/05

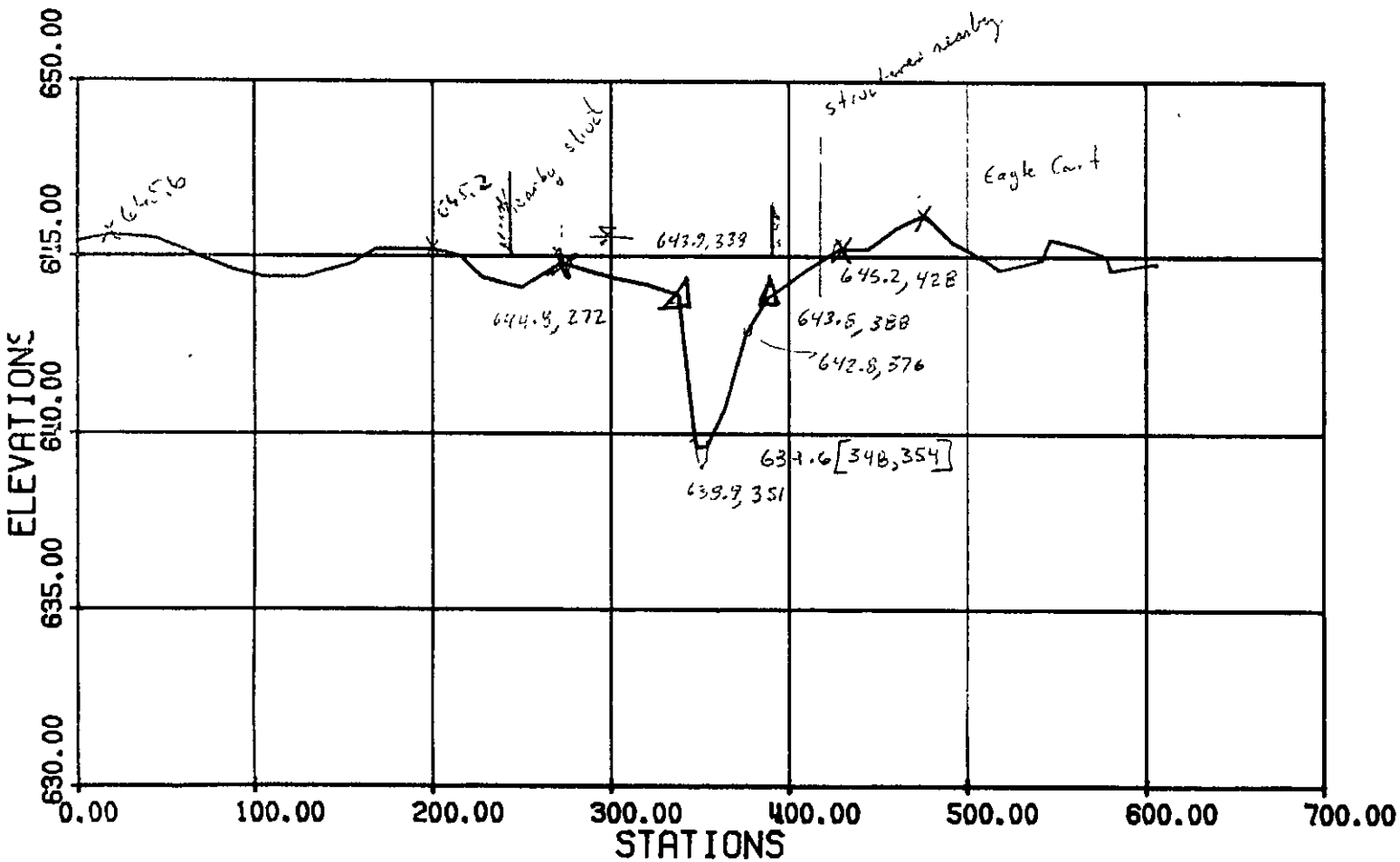
SHANAHAN DRAIN SECTION 402.(

402.00



HUD-FIA H-4705

SHANAHAN DRAIN SECTION 403.00



00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE BRANCH

4) DOCUMENT TYPE: 100YR ENCROACHED

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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T1      JCB HUD-FIA H-4705  106
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 803.450 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO 20.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      AICE      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     960.0    1140.0  TYPE=     1  TARGET=     180.000
 ELENCL=    810.00  ELENCR=    810.00

       ***COOLIDGE RD.

    20.00      6.25    803.55      0.00    803.45    803.69       .14      0.00      0.00    802.00
     820.       15.      436.      369.       11.      116.      194.        0.        0.    802.00
     0.00      1.38      3.75      1.91      .070      .080      .080     0.000    797.30    976.05
  .005971        0.        0.        0.         0         0         0      0.00    163.95   1140.00


CCHV=    .200 CEHV=    .400

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      1.50      1.50    200.00      8.00      0.00     26.00      0.00    797.30    797.30

*SECNO 301.600
 2800 NAT Q1=     457.40  WSEL=    805.26  ENC Q1=     457.40  WSEL=    805.36  RATIO=    .0000
 NAT Q1=     478.  RATIOS LOB,CH,ROB=    .0277    .2508    .7215  WSEL=    805.36
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     301.60 EXTENDED      1.36 FEET


3470 ENCROACHMENT STATIONS=     987.3    1274.1  TYPE=     4  TARGET=        .044
   301.60      8.06    805.36      0.00    805.26    805.37       .01       .02       .03    802.00
     820.        4.      215.      601.        9.      162.      829.        0.        0.    802.00
      .01       .44      1.33       .72      .080      .065      .080      .063    797.30    987.26
  .000322       26.       26.       26.         0         0         6      0.00    286.80   1274.06
                                                                                   1180

*SECNO 301.800
 2800 NAT Q1=     187.17  WSEL=    805.30  ENC Q1=     187.17  WSEL=    805.40  RATIO=    .0000
 NAT Q1=     197.  RATIOS LOB,CH,ROB=    .1958    .2954    .5088  WSEL=    805.40
3280 CROSS SECTION     301.80 EXTENDED      1.41 FEET


3470 ENCROACHMENT STATIONS=     345.8     497.5  TYPE=     4  TARGET=        .048
   301.80      7.10    805.40      0.00    805.30    805.42       .02       .04       .00    800.70
     490.       88.      152.      250.      102.       94.      310.        2.        1.    801.00
      .03       .86      1.61       .81      .100      .075      .100      .072    798.30    345.77
  .000681      100.      100.      100.         0         0         0      0.00    151.70    497.47
```

Rd Length ~200'

```
*SECNO 301.820
 2800 NAT Q1=      78.01  WSEL=     805.67  ENC Q1=      78.01  WSEL=     805.77  RATIO=    .0000
 NAT Q1=      84.  RATIOS LOB,CH,ROB=    .1689    .4362    .3948  WSEL=     805.77

3470 ENCROACHMENT STATIONS=      357.5      464.5  TYPE=      4  TARGET=        .069
   301.82      5.66    805.76      0.00    805.67    805.85      .09       .41       .03    802.50
     490.       71.      237.      189.       45.       71.     133.        5.        2.    802.80
      .07      1.59      3.22      1.42      .100      .075     .100      .074    800.10    357.54
  .003964      300.      300.      300.         2         0        0      0.00    106.99    464.53


*SECNO 301.840
 2800 NAT Q1=      60.57  WSEL=     807.14  ENC Q1=      60.57  WSEL=     807.24  RATIO=  0.0000
 NAT Q1=      65.  RATIOS LOB,CH,ROB=    .1602    .4908    .3489  WSEL=     807.24
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      AICB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VICB      VCH       VROB      XNL       XNCH      XNF       WTN       ELMIN       SSTA
   SLOPE     XIOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      360.8      450.3  TYPE=      4  TARGET=        .075
   301.84      5.33    807.23      0.00    807.14    807.39      .15      1.51       .02    804.30
     490.       66.      267.      164.       34.       66.      96.        6.        2.    804.60
      .10      1.93      3.95      1.71      .100      .075     .100      .074    801.90    360.80
  .006598      300.      300.      300.         1         0        0      0.00     89.51    450.32


*SECNO 301.850
 2800 NAT Q1=      66.37  WSEL=     808.65  ENC Q1=      66.37  WSEL=     808.75  RATIO=    .0000
 NAT Q1=      72.  RATIOS LOB,CH,ROB=    .1635    .4703    .3662  WSEL=     808.75

3470 ENCROACHMENT STATIONS=      359.6      455.5  TYPE=      4  TARGET=        .073
   301.85      5.46    808.76      0.00    808.65    808.88      .13      1.49       .01    805.70
     490.       68.      248.      174.       38.       68.     109.        7.        3.    806.00
      .13      1.79      3.65      1.59      .100      .075     .100      .074    803.30    359.64
  .005409      250.      250.      250.         2         0        0      0.00     95.84    455.48


*SECNO 301.860
 2800 NAT Q1=      63.62  WSEL=     809.50  ENC Q1=      63.62  WSEL=     809.60  RATIO=    .0000
 NAT Q1=      69.  RATIOS LOB,CH,ROB=    .1620    .4795    .3585  WSEL=     809.60

3470 ENCROACHMENT STATIONS=      360.3      453.0  TYPE=      4  TARGET=        .075

        ***FOOTBRIDGE

   301.86      5.40    809.66      0.00    809.50    809.73      .14       .85       .00    806.60
     490.       67.      254.      170.       36.       67.     103.        8.        3.    806.90
      .14      1.86      3.78      1.65      .100      .075     .100      .074    804.20    360.25
  .005923      150.      150.      150.         2         0        0      0.00     92.71    452.96


*SECNO 301.870
 2800 NAT Q1=      47.81  WSEL=     809.56  ENC Q1=      47.81  WSEL=     809.66  RATIO=    .0000
 NAT Q1=      52.  RATIOS LOB,CH,ROB=    .2250    .2677    .5073  WSEL=     809.66

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  806.60 MAX ELLC=  805.30


3470 ENCROACHMENT STATIONS=      358.7      458.1  TYPE=      4  TARGET=        .088
```

Dups

```
   301.87      5.46    809.66      0.00    809.56    809.75       .09       .01       .01    806.60
     490.       98.      144.      248.       39.       53.      112.        8.        3.    806.90
      .14      2.48      2.71      2.21      .100      .075      .100      .074    804.20    358.72
 .010571        1.        1.        1.         2         0         0    -14.87     99.35    458.06

*SECNO 301.880
 2800 NAT Q1=      51.88  WSEL=     809.65  ENC Q1=      51.88  WSEL=     809.75  RATIO=    .0000
 NAT Q1=      57.  RATIOS LOB,CH,ROB=    .2250    .2580    .5170  WSEL=     809.75

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  806.60 MAX ELLC=  805.30

3470 ENCROACHMENT STATIONS=      357.9      461.8  TYPE=      4  TARGET=        .086
   301.88      5.55    809.75      0.00    809.65    809.83       .08       .08       .00    806.60
     490.       98.      139.      253.       42.       54.      122.        8.        3.    806.90
      .14      2.33      2.55      2.08      .100      .075      .100      .074    804.20    357.91
 .009069        8.        8.        8.         1         0         0    -14.87    103.88    461.79

*SECNO 311.890
 2800 NAT Q1=      70.86  WSEL=     809.64  ENC Q1=      70.86  WSEL=     809.74  RATIO=    .0000
 NAT Q1=      76.  RATIOS LOB,CH,ROB=    .1658    .4560    .3782  WSEL=     809.74
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNR       ETN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     COPAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      358.9      459.0  TYPE=      4  TARGET=        .072
   301.89      5.54    809.74      0.00    809.64    809.85       .11       .01       .01    806.60
     490.       69.      240.      181.       41.       69.      119.        8.        3.    806.90
      .14      1.70      3.45      1.52      .100      .075      .100      .074    804.20    358.87
 .004705        1.        1.        1.         1         0         0      0.00    100.15    459.02

*SECNO 302.000
 2800 NAT Q1=      79.09  WSEL=     810.06  ENC Q1=      79.09  WSEL=     810.16  RATIO=   0.0000
 NAT Q1=      86.  RATIOS LOB,CH,ROB=    .1813    .4972    .3215  WSEL=     810.16

3470 ENCROACHMENT STATIONS=      149.4      287.5  TYPE=      4  TARGET=        .085

        ***FOOTBRIDGE

   302.00      5.06    810.16      0.00    810.06    810.24       .08       .38       .01    807.70
     490.       76.      266.      149.       54.       94.      125.        9.        3.    808.10
      .15      1.40      2.83      1.19      .100      .075      .100      .074    805.10    149.45
 .003824       90.       90.       90.         2         0         0      0.00    138.03    287.47

*SECNO 302.100
 2800 NAT Q1=      60.44  WSEL=     810.10  ENC Q1=      60.44  WSEL=     810.20  RATIO=    .0000
 NAT Q1=      67.  RATIOS LOB,CH,ROB=    .2451    .3152    .4397  WSEL=     810.20

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  807.40 MAX ELLC=  807.00

3470 ENCROACHMENT STATIONS=      148.0      296.8  TYPE=      4  TARGET=        .098
   302.10      5.10    810.20      0.00    810.10    810.25       .05       .00       .01    807.70
     490.      106.      172.      212.       57.       87.      136.        9.        3.    808.10
```

```
     .15      1.85      1.97      1.56      .100      .075      .100      .074   805.10   148.01
 .006636       1.        1.        1.         2         0         0     -7.88   148.77   296.78


*SECNO 302.120
 2800 NAT Q1=      63.51  WSEL=    810.16  ENC Q1=      63.51  WSEL=    810.26  RATIO=    .0000
 NAT Q1=      71.  RATIOS LOB,CH,ROB=   .2460   .3063   .4477  WSEL=    810.26

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  807.40 MAX ELLC=  807.00


3470 ENCROACHMENT STATIONS=      147.9     300.0  TYPE=      4  TARGET=        .102
   302.12      5.15   810.25      0.00   810.16   810.30      .05       .05       .00   807.70
     490.      105.      168.      217.      59.      88.     144.        9.        3.   808.10
      .15      1.79      1.90      1.51     .100     .075     .100      .074   805.10   147.87
 .006055        8.        8.        8.        0        0        0     -7.88   152.16   300.03


*SECNO 302.140
 2800 NAT Q1=      86.04  WSEL=    810.15  ENC Q1=      86.04  WSEL=    810.25  RATIO=    .0000
 NAT Q1=      93.  RATIOS LOB,CH,ROB=   .1848   .4797   .3355  WSEL=    810.25

3470 ENCROACHMENT STATIONS=      147.9     299.3  TYPE=      4  TARGET=        .077
   302.14      5.15   810.25      0.00   810.15   810.31      .07       .00       .01   807.70
     490.       77.      255.      158.      59.      96.     144.        9.        3.   808.10
      .15      1.31      2.64      1.10     .100     .075     .100      .074   805.10   147.94
 .003224        1.        1.        1.        1        0        0      0.00   151.32   299.27


*SECNO 302.200
 2800 NAT Q1=      82.91  WSEL=    811.12  ENC Q1=      82.91  WSEL=    811.22  RATIO=    .0000
 NAT Q1=      91.  RATIOS LOB,CH,ROB=   .1838   .4851   .3312  WSEL=    811.22
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QRCB      AICE      ACH       ARCB      VOL       THA     LEFT/RIGHT
   TIME      VICB      VCH       VROB      XNL       XNCH      XNB       WTN       ELHIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      149.2     290.7  TYPE=      4  TARGET=        .089
   302.20      5.11   811.21      0.00   811.12   811.29      .07       .97       .00   808.70
     490.       76.      261.      153.      56.      95.     132.       11.        4.   809.10
      .19      1.36      2.73      1.16     .100     .075     .100      .074   806.10   149.24
 .003494      290.      290.      290.        2        0        0      0.00   141.46   290.70


*SECNO 302.400
 2800 NAT Q1=      89.76  WSEL=    812.10  ENC Q1=      89.76  WSEL=    812.20  RATIO=    .0000
 NAT Q1=      97.  RATIOS LOB,CH,ROB=   .1867   .4699   .3433  WSEL=    812.20

3470 ENCROACHMENT STATIONS=      147.3     301.3  TYPE=      4  TARGET=        .077
   302.40      5.20   812.20      0.00   812.10   812.26      .06       .97       .00   809.60
     490.       78.      250.      162.      61.      98.     150.       13.        5.   810.00
      .24      1.28      2.56      1.08     .100     .075     .100      .074   807.00   147.26
 .002992      300.      300.      300.        2        0        0      0.00   154.04   301.30


*SECNO 303.000
 2800 NAT Q1=      51.41  WSEL=    813.74  ENC Q1=      51.41  WSEL=    813.84  RATIO=   0.0000
 NAT Q1=      56.  RATIOS LOB,CH,ROB=   .3592   .4844   .1563  WSEL=    813.84
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3470 ENCROACHMENT STATIONS=      154.4      246.5  TYPE=      4  TARGET=          .085
   303.00      5.64    813.84      0.00    813.74    813.98       .14      1.69       .03    811.80
     490.      173.      259.       61.       87.       69.       32.       15.        6.    811.80
      .27      1.95      3.77      1.93      .100      .075      .100      .074    808.20    154.40
  .009090      350.      350.      350.         2         0         0      0.00     92.11    246.51


*SECNO 303.200
 2800 NAT Q1=      53.70  WSEL=     815.49  ENC Q1=      53.70  WSEL=     815.59  RATIO=    .0000
 NAT Q1=      59.  RATIOS LOB,CH,ROB=   .3655    .4749    .1596  WSEL=     815.59

3470 ENCROACHMENT STATIONS=      153.1      247.1  TYPE=      4  TARGET=          .086
   303.20      5.69    815.59      0.00    815.49    815.72       .13      1.74       .00    813.50
     490.      173.      254.       63.       91.       70.       33.       16.        7.    813.50
      .29      1.93      3.64      1.87      .100      .075      .100      .074    809.90    153.09
  .008305      200.      200.      200.         2         0         0      0.00     94.04    247.12


*SECNO 303.400
 2800 NAT Q1=      55.15  WSEL=     817.12  ENC Q1=      55.15  WSEL=     817.22  RATIO=    .0000
 NAT Q1=      60.  RATIOS LOB,CH,ROB=   .3689    .4697    .1614  WSEL=     817.22

3470 ENCROACHMENT STATIONS=      152.0      247.7  TYPE=      4  TARGET=          .084
   303.40      5.71    817.21      0.00    817.12    817.34       .13      1.62       .00    815.10
     490.      175.      251.       64.       94.       70.       35.       17.        7.    815.10
      .31      1.86      3.56      1.84      .100      .075      .100      .074    811.50    151.99
  .007895      200.      200.      200.         2         0         0      0.00     95.74    247.73


*SECNO 303.600
 2800 NAT Q1=      52.62  WSEL=     818.77  ENC Q1=      52.62  WSEL=     818.87  RATIO=  0.0000
 NAT Q1=      58.  RATIOS LOB,CH,ROB=   .3625    .4795    .1580  WSEL=     818.87
   SECNO     DEPTH     CHSEL     CRIWS     WSEIK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITERIAI   IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      153.6      246.9  TYPE=      4  TARGET=          .085
   303.60      5.66    818.86      0.00    818.77    819.00       .14      1.65       .00    816.80
     490.      172.      256.       62.       89.       69.       33.       17.        8.    816.80
      .33      1.92      3.70      1.90      .100      .075      .100      .074    813.20    153.63
  .008679      200.      200.      200.         2         0         0      0.00     93.26    246.90


*SECNO 303.800
 2800 NAT Q1=      55.34  WSEL=     820.43  ENC Q1=      55.34  WSEL=     820.53  RATIO=    .0000
 NAT Q1=      61.  RATIOS LOB,CH,ROB=   .3700    .4681    .1619  WSEL=     820.53

3470 ENCROACHMENT STATIONS=      152.3      247.4  TYPE=      4  TARGET=          .087
   303.80      5.72    820.52      0.00    820.43    820.65       .13      1.65       .00    818.40
     490.      176.      251.       64.       94.       71.       35.       18.        8.    818.40
      .35      1.86      3.55      1.84      .100      .075      .100      .074    814.80    152.29
  .007829      200.      200.      200.         2         0         0      0.00     95.15    247.44


*SECNO 304.200
 2800 NAT Q1=      73.97  WSEL=     821.91  ENC Q1=      73.97  WSEL=     822.01  RATIO=    .0000
 NAT Q1=      81.  RATIOS LOB,CH,ROB=   .4414    .4502    .1083  WSEL=     822.01
3280 CROSS SECTION     304.20 EXTENDED        .41 FEET
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3470 ENCROACHMENT STATIONS=      237.3      350.3  TYPE=      4  TARGET=          .087
   304.20      5.01    822.01      0.00    821.91    822.09      .08      1.43      .01    819.50
     490.      214.      241.       35.      132.      83.       32.       20.       9.     820.60
      .38      1.61      2.92      1.09      .100      .075      .100      .074   817.00    237.33
  .004372      250.      250.      250.         1         0         0      0.00   112.98    350.30


CCHV=     .300 CDHV=     .600
*SECNO 304.400
 2800 NAT Q1=      63.94  WSEL=     822.74  ENC Q1=      63.94  WSEL=     822.84  RATIO=    .0000
 NAT Q1=      70.  RATIOS LOB,CH,ROB=   .4332    .4791    .0876  WSEL=     822.84
3280 CROSS SECTION     304.40 EXTENDED        .24 FEET


3470 ENCROACHMENT STATIONS=      242.0      341.4  TYPE=      4  TARGET=          .091

        ***BEACH RD.

   304.40      4.84    822.84      0.00    822.74    822.95      .11       .85      .02    820.50
     490.      2 9.      258.       23.      116.      79.       19.       21.       9.     821.60
      .40      1.80      3.28      1.18      .100      .075      .100      .074   818.00    242.05
  .005876      168.      168.      168.         2         0         0      0.00    99.34    341.39


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     EWC       BWF       EAREA     SS        ELCHU     ELCHD
     0.00      5.30      2.80      0.00      5.00      0.00      7.00      0.00    818.40    818.00

*SECNO 304.500
 2800 NAT Q1=      54.85  WSEL=     823.72  ENC Q1=      54.85  WSEL=     823.82  RATIO=    .0000
 NAT Q1=      60.  RATIOS LOB,CH,ROB=   .2307    .7654    .0339  WSEL=     823.82
 WATER EL=CHANGE FROM NATURAL ERCFILES BRIDGE
3280 CROSS SECTION     304.50 EXTENDED       1.12 FEET


3470 ENCROACHMENT STATIONS=      326.8      426.0  TYPE=      4  TARGET=          .085
   304.50      5.42    823.82      0.00    823.72    823.96      .14       .57      .02    822.50
     490.       81.      409.       0.       56.      128.       0.        21.       9.     823.00
      .41      1.46      3.21      0.00      .100      .075      .100      .074   818.40    326.85
  .008134       83.       83.       83.         0         0         9      0.00    99.15    426.00


*SECNO 304.800
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        DLOSS     BANK ELEV
   Q         QLOB      QCH       CROB      AICB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      342.7      390.0  TYPE=      1  TARGET=        48.000
  -304.80      5.47    824.27      0.00    824.18    824.61      .33       .53      .12    824.20
     490.       0.       465.       25.       0.       98.       15.       21.       9.     822.70
      .41      0.00      4.74      1.71      .080      .050      .080      .074   818.80    342.00
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 .007093      70.      70.      70.        2        0        0     0.00    48.00   390.00

*SECNO 305.200

3470 ENCROACHMENT STATIONS=      342.0      390.0  TYPE=      1  TARGET=      48.000

        ***LAKE CHARNWOOD OUTLET

  305.20     5.32   825.12     0.00   825.10   825.24      .12      .58      .06   825.20
    280.       0.     267.      13.       0.      93.      13.      21.      10.   823.70
     .43     0.00     2.88      .99     .080     .050     .080     .073  819.80   342.34
 .002796     120.     120.     120.        2        0        0     0.00    47.65   390.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      3.00      2.80      0.00     10.00      1.00      2.00      0.00    821.00    820.60

*SECNO 305.600
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
 1738.16    827.28      .02      270.      10.        2.    -7389.        0.00     824.70


3470 ENCROACHMENT STATIONS=      200.0      407.0  TYPE=      1  TARGET=      207.000
   305.60     5.31   826.31     0.00   826.31   826.31      .00     1.07     0.00100000.00
    280.       0.     280.       0.       0.     1100.       0.      22.      10. 100000.00
     .44     0.00      .25     0.00     .080     .050     .080     .073   821.00   200.00
 .000078      10.      10.      10.        0        0       13     0.00   207.00   407.00


CCHV=    .100 CEHV=    .30
*SECNO 305.800

3470 ENCROACHMENT STATIONS=      200.0      370.0  TYPE=      1  TARGET=      170.000
   305.80     4.32   826.32     0.00   826.32   826.32      .00      .00     .00100000.00
    280.       0.     280.       0.       0.      734.       0.      28.      11. 100000.00
     .66     0.00      .38     0.00     .080     .050     .080     .071   822.00   200.00
 .000025     300.     300.     300.        2        0        0     0.00   170.00   370.00


*SECNO 305.900

3470 ENCROACHMENT STATIONS=      200.0      335.0  TYPE=      1  TARGET=      135.000
   305.90     3.33   826.33     0.00   826.33   826.33      .01      .01     .00100000.00
    280.       0.     280.       0.       0.      448.       0.      32.      12. 100000.00
     .79     0.00      .62     0.00     .080     .050     .080     .070   823.00   200.00
 .000095     300.     300.     300.        0        0        0     0.00   135.00   335.00


*SECNO 305.000
 2800 NAT Q1=     110.53  WSEL=     826.37  ENC Q1=     118.65  WSEL=     826.47  RATIO=  -.0735
 NAT Q1=     119.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     826.47
   SECNO     DEPTH     CWSEL     CRIWS     WSEIK     EG        HV        HL        OLOSS     BANK ELEV
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   Q          QLOB       QCH        QROB       ALOB       ACH        ARCB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNB        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICCNT      CORAR      TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      430.0      565.0  TYPE=      4  TARGET=        0.000
   305.00      2.37     826.37      0.00     826.37     826.39      .02        .05        .01     830.00
     280.        0.       280.        0.        0.       225.       0.        34.        13.      830.00
      .85      0.00       1.25      0.00      .080       .050      .080       .069     824.00     445.14
  .000641      270.       270.      270.         2          0         0       0.00     104.72     549.86


*SECNO 306.100
 2800 NAT Q1=       53.66  WSEL=     826.75  ENC Q1=       59.68  WSEL=     826.85  RATIO=  -.1121
 NAT Q1=      60.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     826.85

3470 ENCROACHMENT STATIONS=      430.0      565.0  TYPE=      4  TARGET=        0.000
   306.10      1.55     826.75      0.00     826.75     826.81      .06        .41        .01     831.20
     280.        0.       280.        0.        0.       142.       0.        36.        13.      831.20
      .90      0.00       1.98      0.00      .080       .050      .080       .067     825.20     448.55
  .002722      350.       350.      350.         2          0         0       0.00      97.90     546.45


CCHV=     .300 CEHV=     .600
*SECNO 306.200
 2800 NAT Q1=       11.94  WSEL=     828.72  ENC Q1=       12.77  WSEL=     828.82  RATIO=  -.0692
 NAT Q1=      13.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     828.82

3301 HV CHANGED MORE THAN HVINS

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        ARCB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNB        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICCNT      CORAR      TOPWID      ENDST


3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      232.0      294.0  TYPE=      4  TARGET=        0.000
   306.20      3.42     828.72    828.72     828.72     829.63      .92        .36        .51     832.10
     280.        0.       280.        0.        0.        36.       0.        36.        14.      831.90
      .90      0.00       7.68      0.00      .090       .065      .090       .067     825.30     254.15
  .055007      50.        50.       50.        20         17         0       0.00      19.94     274.09


*SECNO 306.300
 2800 NAT Q1=       28.69  WSEL=     830.56  ENC Q1=       30.25  WSEL=     830.66  RATIO=  -.0544
 NAT Q1=      30.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     830.66

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      232.0      294.0  TYPE=      4  TARGET=        0.000
   306.30      4.86     830.56      0.00     830.56     830.79      .23        .95        .21     832.50
     280.        0.       280.        0.        0.        73.       0.        36.        14.      832.30
      .90      0.00       3.85      0.00      .090       .065      .090       .067     825.70     250.84
  .009550      50.        50.       50.         2          0         0       0.00      30.45     281.30
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"Floodway" on Lake

naturally restricted

SE study

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*SECNO 306.400
 2800 NAT Q1=      26.13  WSEL=     832.80  ENC Q1=      26.13  WSEL=     832.90  RATIO=    .0000
 NAT Q1=      29.  RATIOS LOB,CH,ROB=    .0049    .8696    .1255  WSEL=     832.90

3470 ENCROACHMENT STATIONS=      294.0      332.5  TYPE=      4  TARGET=        .097

        ***LIMERICK LANE

   306.40      5.06    832.86      0.00    832.80    833.09      .24      2.30      .00    832.50
     280.        0.     270.       10.        3.       68.       5.       36.      14.     831.60
      .92      0.00      3.95      1.80      .090      .065     .090      .067   827.80    294.00
  .012652      210.     210.      210.         3         0        0      0.00    38.53    332.53
```

ELCC = 830
ELZRD = 833.7

SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS  831.41 ,NOT  832.86 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.00 | 2.67 | 3.10 | 160.00 | 4.00 | 1.00 | 13.00 | 0.00 | 827.80 | 827.80 |

78 press
202 weir

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*SECNO 306.600
 2800 NAT Q1=      90.88  WSEL=     834.22  ENC Q1=      90.88  WSEL=     834.32  RATIO=   0.0000
 NAT Q1=      98.  RATIOS LOB,CH,ROB=    .0831    .6180    .2990  WSEL=     834.32
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
    SECNO     DEPTH     CWSEL     CRIWS     FSEIK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLCB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
    TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITERIAL   IDC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      280.2      377.6  TYPE=      4  TARGET=        .070
   306.60      6.48    834.28      0.00    834.22    834.31      .03       .10       .06    832.50
     280.       14.     187.       79.       21.      117.      98.       36.      14.     831.60
      .93       .66      1.60      .81      .090      .065     .090      .067   827.80    280.24
  .001003       40.      40.       40.         0         0        7      0.00    97.35    377.59
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Delineated as ≈160 ft

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*SECNO 306.800
 2800 NAT Q1=      94.78  WSEL=     834.28  ENC Q1=      94.78  WSEL=     834.38  RATIO=    .0000
 NAT Q1=     102.  RATIOS LOB,CH,ROB=    .0866    .6096    .3038  WSEL=     834.38

3470 ENCROACHMENT STATIONS=      279.1      379.4  TYPE=      4  TARGET=        .069
   306.80      6.54    834.34      0.00    834.28    834.37      .03       .06       .00    832.50
     280.       15.     184.       80.       24.      119.     102.       36.      14.     831.60
      .94       .65      1.55      .78      .090      .065     .090      .067   827.80    279.06
  .000924       60.      60.       60.         0         0        0      0.00   100.30    379.37

*SECNO 306.820
 2800 NAT Q1=      48.48  WSEL=     834.46  ENC Q1=      48.48  WSEL=     834.56  RATIO=    .0000
 NAT Q1=      53.  RATIOS LOB,CH,ROB=    .0360    .7549    .2091  WSEL=     834.56

3470 ENCROACHMENT STATIONS=      294.0      352.2  TYPE=      4  TARGET=        .085
   306.82      5.73    834.53      0.00    834.46    834.62      .09       .21       .03    833.50
     280.        0.     230.       50.        0.       92.      38.       37.      14.     832.60
      .96      0.00      2.52      1.30      .090      .065     .090      .067   828.80    294.00
  .003580      130.     130.      130.         2         0        0      0.00    58.17    352.17
```

```
*SECNO 306.840
 2800 NAT Q1=      41.87  WSEL=     834.48  ENC Q1=      41.87  WSEL=     834.58  RATIO=    .0000
 NAT Q1=      46.  RATIOS LOB,CH,ROB=   .0426   .7132   .2442  WSEL=     834.58

3470 ENCROACHMENT STATIONS=      294.0      352.5  TYPE=      4  TARGET=         .099

        ***SMALL WEIR

   306.84      3.34    834.54      0.00    834.48    834.64      .10       .02       .01    833.50
     280.        0.      221.       59.        0.      81.      39.       37.       14.    832.60
      .96      0.00      2.74      1.51      .090      .065     .090      .067    831.20    294.00
  .004802        5.        5.        5.         2         0        0      0.00     58.53    352.53


*SECNO 306.860
 2800 NAT Q1=      50.29  WSEL=     834.51  ENC Q1=      50.29  WSEL=     834.61  RATIO=    .0000
 NAT Q1=      55.  RATIOS LOB,CH,ROB=   .0391   .7438   .2171  WSEL=     834.61

3470 ENCROACHMENT STATIONS=      294.0      352.4  TYPE=      4  TARGET=         .094
   306.86      5.79    834.59      0.00    834.51    834.67      .08       .02       .01    833.50
     280.        0.      229.       51.        0.      94.      40.       37.       14.    832.60
      .96      0.00      2.45      1.27      .090      .065     .090      .067    828.80    294.00
  .003298        5.        5.        5.         2         0        0      0.00     58.43    352.43


*SECNO 306.920
   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNB       UTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=     190.000
   306.92      4.20    835.20      0.00    835.13    835.22      .03       .54       .02    834.00
     280.       39.      234.       7.        85.      162.      16.       38.       15.    834.00
     1.12       .45      1.44       .46      .090      .065     .090      .067    831.00    330.00
  .001070      310.      310.      310.         3         0        0      0.00    190.00    520.00


*SECNO 306.930

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=     190.000

        ***FOOTBRIDGE AND WEIR

   306.93      1.19    835.19      0.00    835.12    835.27      .08       .01       .03    834.00
     280.      188.       57.       35.        85.       22.      16.       39.       15.    834.00
     1.02      2.20      2.57      2.22      .090      .065     .090      .067    834.00    330.00
  .024980        5.        5.        5.         1         0        0      0.00    166.90    520.00


*SECNO 306.940

3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=     190.000
   306.94      4.28    835.28      0.00    835.23    835.30      .02       .01       .02    834.00
     280.       43.      229.       8.        94.      167.      18.       39.       15.    834.00
```

```
    1.03       .45      1.38       .46      .090      .065      .090      .067   831.00   330.00
 .000937        5.        5.        5.         2         0         0      0.00   190.00   520.00


*SECNO 306.950
 2800 NAT Q1=     174.32  WSEL=     835.26  ENC Q1=     181.82  WSEL=     835.36  RATIO=  -.0430
 NAT Q1=     182.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     835.36

3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=       0.000
   306.95      4.10    835.30      0.00    835.26    835.31       .01       .00       .00    836.30
     280.        0.      280.        0.        0.      334.        0.       39.       15.     836.00
     1.03      0.00       .84      0.00      .090      .065      .090      .067   831.20   368.69
 .000251        10.       10.       10.         1         0         0      0.00    93.24   461.93


*SECNO 306.960
 2800 NAT Q1=      48.06  WSEL=     835.46  ENC Q1=      52.22  WSEL=     835.56  RATIO=  -.0866
 NAT Q1=      52.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     835.56

3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=       0.000

        ***FOOTBRIDGE

   306.96      1.90    835.50      0.00    835.46    835.55       .05       .21       .02    836.30
     280.        0.      280.        0.        0.      153.        0.       41.       16.     836.00
     1.08      0.00      1.82      0.00      .090      .065      .090      .067   833.60   369.28
 .003225       350.      350.      350.         2         0         0      0.00    91.79   461.07


*SECNO 306.970
   SECNO     DEPTH     CWSEL     CRIES     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      AICE      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNB       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

                 ?
3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  835.60 MAX ELLC=  834.90

   306.97      1.88    835.48      0.00    835.44    835.60       .12       .01       .04    836.30
     280.        0.      280.        0.        0.      101.        0.       41.       16.     836.00
     1.08      0.00      2.78      0.00      .090      .065      .090      .067   833.60   369.43
 .029751         1.        1.        1.         1         0         0    -50.35    91.49   460.91


*SECNO 306.980
 2800 NAT Q1=      14.75  WSEL=     835.74  ENC Q1=      16.82  WSEL=     835.84  RATIO=  -.1402
 NAT Q1=      17.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     835.84

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  835.60 MAX ELLC=  834.90


3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=       0.000
   306.98      2.17    835.77      0.00    835.74    835.86       .09       .25       .01    836.30
     280.        0.      280.        0.        0.      116.        0.       41.       16.     836.00
     1.08      0.00      2.41      0.00      .090      .065      .090      .067   833.60   367.75
 .033159         8.        8.        8.         2         0         0    -62.27    94.89   462.64


*SECNO 306.990
 2800 NAT Q1=      64.65  WSEL=     835.82  ENC Q1=      69.64  WSEL=     835.92  RATIO=  -.0773
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Pond

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 NAT Q1=      70.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    835.92

3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=        0.000
   306.99      2.24    835.84      0.00    835.82    835.88      .04       .00       .02    836.30
     280.        0.      280.        0.        0.      186.       0.       41.       16.    836.00
     1.08      0.00      1.51      0.00      .090      .065     .090      .067    833.60    367.32
  .001802        1.        1.        1.         2         0        0      0.00     95.76    463.08


*SECNO 307.000
 2800 NAT Q1=      73.51  WSEL=    836.11  ENC Q1=      78.34  WSEL=    836.11  RATIO=  -.0657
 NAT Q1=      78.  RATIOS LOB,CH,ROB=  0.0000  1.0000   .0000  WSEL=    836.11

3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=        .000
   307.00      2.43    836.03      0.00    836.01    836.06      .03       .18       .00    836.30
     280.        0.      280.        0.        0.      203.       0.       41.       16.    836.00
     1.11      0.00      1.38      0.00      .090      .065     .090      .067    833.60    363.72
  .001427      110.      110.      110.         1         0        0      0.00    100.28    464.00


*SECNO 307.200
 2800 NAT Q1=      79.58  WSEL=    836.13  ENC Q1=      84.66  WSEL=    836.23  RATIO=  -.0639
 NAT Q1=      85.  RATIOS LOB,CH,ROB=  0.0000   .9998   .0002  WSEL=    836.23

3470 ENCROACHMENT STATIONS=      356.0      464.0  TYPE=      4  TARGET=        .000

        ***ADAMS RD.

   307.20      2.55    836.15      0.00    836.13    836.18      .03       .12       .00    836.30
     280.        0.      280.        0.        0.      215.       0.       42.       16.    836.00
     1.13      0.00      1.38      0.00      .090      .065     .090      .067    833.60    360.42
  .001227       90.       90.       90.         0         0        0      0.00    103.59    464.00


SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      1.40      3.10    150.00      5.00      1.00     16.00      0.00    833.60    833.60

*SECNO 307.400
 PRESS FLOW BECAUSE EGLWC OF     842.89  EXCEEDS 1.5 DEPTH
 2800 NAT Q1=    1339.82  WSEL=    842.79  ENC Q1=    1339.82  WSEL=    842.89  RATIO=  0.0000
 NAT Q1=    1373.  RATIOS LOB,CH,ROB=   .2433   .6651   .0916  WSEL=    842.89
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     307.40 EXTENDED       1.31 FEET
```

ELTKD = 843.2
ELLS = 835
All Pressure Flow

| SECNO | DEPTH | CWSEL | CRIWS | USEIK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | AICB | ACH | APCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

```
3470 ENCROACHMENT STATIONS=      227.6      510.8  TYPE=      4  TARGET=        .024
   307.40      9.21    842.81      0.00    842.79    842.81      .00       .00       .01    836.30
     280.       66.      191.       23.      640.      935.     233.       43.       17.    836.00
     1.21       .10       .20       .10      .090      .065     .090      .067    833.60    227.62
  .000005       50.       50.       50.         0         0        0      0.00    283.13    510.76
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPRAGUE BRANCH

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 820.00 | 803.45 | 0.00 | 803.61 | 68.89 | 3.97 | 304.51 | 98.79 |
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 820.00 | 803.55 | 0.00 | 803.69 | 59.71 | 3.75 | 320.86 | 106.12 |
| 301.600 | 26.00 | 803.70 | 802.10 | 797.30 | 820.00 | 805.26 | 0.00 | 805.27 | 3.21 | 1.32 | 1045.26 | 457.40 |
| 301.600 | 26.00 | 999999.00 | 0.00 | 797.30 | 820.00 | 805.36 | 0.00 | 805.37 | 3.22 | 1.33 | 999.22 | 456.79 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 490.00 | 805.30 | 0.00 | 805.31 | 6.85 | 1.60 | 541.43 | 187.17 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 490.00 | 805.40 | 0.00 | 805.42 | 6.81 | 1.61 | 506.16 | 187.73 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 490.00 | 805.67 | 0.00 | 805.75 | 39.46 | 3.17 | 276.80 | 78.01 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 490.00 | 805.76 | 0.00 | 805.85 | 39.64 | 3.22 | 248.89 | 77.83 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 490.00 | 807.14 | 0.00 | 807.27 | 65.45 | 3.87 | 223.33 | 60.57 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 490.00 | 807.23 | 0.00 | 807.39 | 65.98 | 3.95 | 195.93 | 60.32 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 490.00 | 808.65 | 0.00 | 808.77 | 54.51 | 3.60 | 241.47 | 66.37 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 490.00 | 808.76 | 0.00 | 808.88 | 54.09 | 3.65 | 215.07 | 66.63 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.50 | 0.00 | 809.62 | 59.33 | 3.73 | 232.92 | 63.62 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.60 | 0.00 | 809.73 | 59.23 | 3.78 | 205.97 | 63.67 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.56 | 0.00 | 809.64 | 105.06 | 2.65 | 228.57 | 47.81 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.66 | 0.00 | 809.75 | 105.71 | 2.71 | 204.76 | 47.66 |
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.65 | 0.00 | 809.72 | 89.21 | 2.48 | 242.79 | 51.88 |
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.75 | 0.00 | 809.83 | 90.69 | 2.55 | 218.02 | 51.45 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.64 | 0.00 | 809.74 | 47.82 | 3.42 | 255.27 | 70.86 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.74 | 0.00 | 809.85 | 47.05 | 3.45 | 229.25 | 71.44 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.06 | 0.00 | 810.13 | 38.39 | 2.78 | 317.92 | 79.09 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.16 | 0.00 | 810.24 | 38.24 | 2.83 | 272.81 | 79.23 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.10 | 0.00 | 810.14 | 65.73 | 1.93 | 321.50 | 60.44 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.20 | 0.00 | 810.25 | 66.36 | 1.97 | 280.93 | 60.15 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.16 | 0.00 | 810.19 | 59.52 | 1.85 | 334.55 | 63.51 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.25 | 0.00 | 810.30 | 60.55 | 1.90 | 290.74 | 62.97 |

| | SECNC | XLCH | FLTPI | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.15 | 0.00 | 810.21 | 32.43 | 2.60 | 343.66 | 86.04 |
| | 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.25 | 0.00 | 810.31 | 32.24 | 2.64 | 298.95 | 86.30 |
| | 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 490.00 | 811.12 | 0.00 | 811.18 | 34.93 | 2.68 | 332.11 | 82.91 |
| | 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 490.00 | 811.21 | 0.00 | 811.29 | 34.94 | 2.73 | 283.97 | 82.90 |
| | 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 490.00 | 812.10 | 0.00 | 812.15 | 29.80 | 2.51 | 357.30 | 89.76 |
| | 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 490.00 | 812.20 | 0.00 | 812.26 | 29.92 | 2.56 | 308.37 | 89.57 |
| | 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 490.00 | 813.74 | 0.00 | 813.87 | 90.83 | 3.69 | 231.91 | 51.41 |
| | 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 490.00 | 813.84 | 0.00 | 813.98 | 90.90 | 3.77 | 187.51 | 51.40 |
| | 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 490.00 | 815.49 | 0.00 | 815.61 | 83.27 | 3.57 | 240.95 | 53.70 |
| | 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 490.00 | 815.59 | 0.00 | 815.72 | 83.05 | 3.64 | 194.74 | 53.77 |
| | 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 490.00 | 817.12 | 0.00 | 817.23 | 78.95 | 3.50 | 246.64 | 55.15 |
| | 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 490.00 | 817.21 | 0.00 | 817.34 | 78.95 | 3.56 | 199.36 | 55.15 |
| | 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 490.00 | 818.77 | 0.00 | 818.89 | 86.71 | 3.63 | 236.70 | 52.62 |
| | 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 490.00 | 818.86 | 0.00 | 819.00 | 86.79 | 3.70 | 191.30 | 52.60 |
| | 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 490.00 | 820.43 | 0.00 | 820.54 | 78.40 | 3.49 | 247.40 | 55.34 |
| | 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 490.00 | 820.52 | 0.00 | 820.65 | 78.29 | 3.55 | 199.49 | 55.38 |
| | 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 490.00 | 821.91 | 0.00 | 821.98 | 43.88 | 2.87 | 293.16 | 73.97 |
| | 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 490.00 | 822.01 | 0.00 | 822.09 | 43.72 | 2.92 | 247.00 | 74.11 |
| | 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 490.00 | 822.74 | 0.00 | 822.84 | 58.73 | 3.21 | 260.69 | 63.94 |
| | 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 490.00 | 822.84 | 0.00 | 822.95 | 58.76 | 3.28 | 214.08 | 63.92 |
| | 304.500 | 83.00 | 822.40 | 0.00 | 818.40 | 490.00 | 823.72 | 0.00 | 823.85 | 79.80 | 3.13 | 205.71 | 54.85 |
| | 304.500 | 83.00 | 999999.00 | 0.00 | 818.40 | 490.00 | 823.82 | 0.00 | 823.96 | 81.34 | 3.21 | 183.18 | 54.33 |
| | 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 490.00 | 824.18 | 0.00 | 824.54 | 79.33 | 4.91 | 108.62 | 55.01 |
| | 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 490.00 | 824.27 | 0.00 | 824.61 | 70.93 | 4.74 | 112.87 | 58.18 |
| | 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 280.00 | 825.10 | 0.00 | 825.23 | 28.54 | 2.90 | 104.76 | 52.41 |
| | 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 280.00 | 825.12 | 0.00 | 825.24 | 27.96 | 2.88 | 105.57 | 52.95 |
| | 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 280.00 | 826.31 | 0.00 | 826.31 | .08 | .25 | 1099.77 | 962.58 |
| | 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 280.00 | 826.31 | 0.00 | 826.31 | .08 | .25 | 1099.86 | 962.71 |
| | 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 280.00 | 826.32 | 0.00 | 826.32 | .25 | .38 | 733.57 | 559.11 |
| | 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 280.00 | 826.32 | 0.00 | 826.32 | .25 | .38 | 733.64 | 559.21 |
| | 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 280.00 | 826.33 | 0.00 | 826.33 | .95 | .62 | 448.22 | 287.14 |
| | 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 280.00 | 826.33 | 0.00 | 826.33 | .95 | .62 | 448.28 | 287.20 |
| | 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 280.00 | 826.37 | 0.00 | 826.39 | 6.42 | 1.25 | 224.48 | 110.53 |
| | 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 280.00 | 826.37 | 0.00 | 826.39 | 6.41 | 1.25 | 224.53 | 110.56 |
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 280.00 | 826.75 | 0.00 | 826.81 | 27.23 | 1.98 | 141.55 | 53.66 |
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 280.00 | 826.75 | 0.00 | 826.81 | 27.22 | 1.98 | 141.57 | 53.67 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 280.00 | 828.72 | 828.72 | 829.63 | 550.05 | 7.68 | 36.45 | 11.94 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 280.00 | 828.72 | 828.72 | 829.63 | 550.07 | 7.68 | 36.44 | 11.94 |

| | SECNO | XLCH | ELTBL | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 280.00 | 830.56 | 0.00 | 830.79 | 95.26 | 3.84 | 72.85 | 28.69 |
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 280.00 | 830.56 | 0.00 | 830.79 | 95.50 | 3.85 | 72.78 | 28.65 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 280.00 | 832.80 | 0.00 | 832.99 | 114.83 | 3.72 | 92.99 | 26.13 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 280.00 | 832.86 | 0.00 | 833.09 | 126.52 | 3.95 | 73.83 | 24.89 |
| * | 306.600 | 40.00 | 833.70 | 830.00 | 827.80 | 280.00 | 834.22 | 0.00 | 834.25 | 9.49 | 1.54 | 279.91 | 90.88 |
| * | 306.600 | 40.00 | 999999.00 | 0.00 | 827.80 | 280.00 | 834.28 | 0.00 | 834.31 | 10.00 | 1.60 | 236.14 | 88.53 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 280.00 | 834.28 | 0.00 | 834.31 | 8.73 | 1.49 | 290.05 | 94.78 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 280.00 | 834.34 | 0.00 | 834.37 | 9.24 | 1.55 | 245.17 | 92.13 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.46 | 0.00 | 834.53 | 33.36 | 2.43 | 163.69 | 48.48 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.53 | 0.00 | 834.62 | 35.80 | 2.52 | 129.74 | 46.80 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 280.00 | 834.48 | 0.00 | 834.56 | 44.71 | 2.64 | 153.45 | 41.87 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 280.00 | 834.54 | 0.00 | 834.64 | 48.02 | 2.74 | 119.64 | 40.41 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.51 | 0.00 | 834.58 | 30.99 | 2.37 | 169.29 | 50.29 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.59 | 0.00 | 834.67 | 32.98 | 2.45 | 133.53 | 48.75 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.13 | 0.00 | 835.16 | 12.05 | 1.51 | 250.28 | 80.66 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.20 | 0.00 | 835.22 | 10.70 | 1.44 | 263.10 | 85.58 |
| | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 280.00 | 835.12 | 0.00 | 835.22 | 359.70 | 2.94 | 110.12 | 14.76 |
| | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 280.00 | 835.19 | 0.00 | 835.27 | 249.80 | 2.57 | 123.50 | 17.72 |
| | 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.23 | 0.00 | 835.26 | 10.10 | 1.42 | 269.48 | 88.09 |
| | 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.28 | 0.00 | 835.30 | 9.37 | 1.38 | 277.94 | 91.48 |
| | 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 280.00 | 835.26 | 0.00 | 835.27 | 2.58 | .85 | 330.66 | 174.32 |
| | 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 280.00 | 835.30 | 0.00 | 835.31 | 2.51 | .84 | 333.86 | 176.88 |
| | 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.46 | 0.00 | 835.51 | 33.95 | 1.86 | 150.91 | 48.06 |
| | 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.50 | 0.00 | 835.55 | 32.25 | 1.82 | 153.46 | 49.30 |
| | 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.44 | 0.00 | 835.56 | 297.51 | 2.78 | 100.71 | 16.23 |
| | 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.48 | 0.00 | 835.60 | 297.51 | 2.78 | 100.71 | 16.23 |
| | 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.74 | 0.00 | 835.83 | 360.12 | 2.47 | 113.49 | 14.75 |
| | 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.77 | 0.00 | 835.86 | 331.59 | 2.41 | 116.40 | 15.38 |
| | 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.82 | 0.00 | 835.85 | 18.76 | 1.53 | 183.44 | 64.65 |
| | 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.84 | 0.00 | 835.88 | 18.02 | 1.51 | 185.89 | 65.95 |
| | 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.01 | 0.00 | 836.04 | 14.51 | 1.39 | 201.79 | 73.51 |
| | 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.03 | 0.00 | 836.06 | 14.27 | 1.38 | 203.13 | 74.13 |
| | 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.13 | 0.00 | 836.16 | 12.38 | 1.31 | 214.60 | 79.58 |
| | 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.15 | 0.00 | 836.18 | 12.27 | 1.30 | 215.36 | 79.92 |
| | 307.400 | 50.00 | 843.20 | 835.00 | 833.60 | 280.00 | 842.79 | 0.00 | 842.79 | .04 | .20 | 1905.41 | 1339.82 |
| | 307.400 | 50.00 | 999999.00 | 0.00 | 833.60 | 280.00 | 842.81 | 0.00 | 842.81 | .05 | .20 | 1807.33 | 1314.87 |

SPRAGUE BRANCH

SUMMARY PRINTOUT TABLE 15C

| SECNO | Q | CWSEI | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 20.000 | 820.00 | 803.45 | 0.00 | 0.00 | 0.00 | 163.05 | 0.00 |
| 20.000 | 820.00 | 803.55 | .10 | 0.00 | .10 | 163.95 | 0.00 |
| 301.600 | 820.00 | 805.26 | 0.00 | 1.81 | 0.00 | 328.00 | 26.00 |
| 301.600 | 820.00 | 805.36 | .10 | 1.81 | .10 | 286.80 | 26.00 |
| 301.800 | 490.00 | 805.30 | 0.00 | .04 | 0.00 | 195.64 | 100.00 |
| 301.800 | 490.00 | 805.40 | .10 | .04 | .10 | 151.70 | 100.00 |
| 301.820 | 490.00 | 805.67 | 0.00 | .37 | 0.00 | 170.17 | 300.00 |
| 301.820 | 490.00 | 805.76 | .09 | .36 | .09 | 106.99 | 300.00 |
| 301.840 | 490.00 | 807.14 | 0.00 | 1.47 | 0.00 | 153.02 | 300.00 |
| 301.840 | 490.00 | 807.23 | .10 | 1.47 | .10 | 89.51 | 300.00 |
| 301.850 | 490.00 | 808.65 | 0.00 | 1.52 | 0.00 | 159.05 | 250.00 |
| 301.850 | 490.00 | 808.76 | .10 | 1.52 | .10 | 95.84 | 250.00 |
| 301.860 | 490.00 | 809.50 | 0.00 | .85 | 0.00 | 156.23 | 150.00 |
| 301.860 | 490.00 | 809.60 | .10 | .84 | .10 | 92.71 | 150.00 |
| 301.870 | 490.00 | 809.56 | 0.00 | .07 | 0.00 | 159.69 | 1.00 |
| 301.870 | 490.00 | 809.66 | .10 | .06 | .10 | 99.35 | 1.00 |
| 301.880 | 490.00 | 809.65 | 0.00 | .09 | 0.00 | 164.24 | 8.00 |
| 301.880 | 490.00 | 809.75 | .10 | .09 | .10 | 103.88 | 8.00 |
| 301.890 | 490.00 | 809.64 | 0.00 | -.01 | 0.00 | 163.48 | 1.00 |
| 301.890 | 490.00 | 809.74 | .10 | -.01 | .10 | 100.15 | 1.00 |
| 302.000 | 490.00 | 810.06 | 0.00 | .42 | 0.00 | 264.73 | 90.00 |
| 302.000 | 490.00 | 810.16 | .10 | .42 | .10 | 138.03 | 90.00 |
| 302.100 | 490.00 | 810.10 | 0.00 | .04 | 0.00 | 270.90 | 1.00 |
| 302.100 | 490.00 | 810.20 | .10 | .04 | .10 | 148.77 | 1.00 |
| 302.120 | 490.00 | 810.16 | 0.00 | .05 | 0.00 | 277.77 | 8.00 |
| 302.120 | 490.00 | 810.25 | .10 | .05 | .10 | 152.16 | 8.00 |
| 302.140 | 490.00 | 810.15 | 0.00 | -.01 | 0.00 | 278.41 | 1.00 |
| 302.140 | 490.00 | 810.25 | .10 | -.01 | .10 | 151.32 | 1.00 |
| 302.200 | 490.00 | 811.12 | 0.00 | .97 | 0.00 | 272.35 | 290.00 |
| 302.200 | 490.00 | 811.21 | .10 | .97 | .10 | 141.46 | 290.00 |
| 302.400 | 490.00 | 812.10 | 0.00 | .98 | 0.00 | 285.40 | 300.00 |
| 302.400 | 490.00 | 812.20 | .10 | .98 | .10 | 154.04 | 300.00 |
| 303.000 | 490.00 | 813.74 | 0.00 | 1.65 | 0.00 | 185.39 | 350.00 |
| 303.000 | 490.00 | 813.84 | .10 | 1.64 | .10 | 92.11 | 350.00 |
| 303.200 | 490.00 | 815.49 | 0.00 | 1.75 | 0.00 | 189.37 | 200.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 303.200 | 490.00 | 815.59 | .10 | 1.75 | .10 | 94.04 | 200.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 303.400 | 490.00 | 817.12 | 0.00 | 1.63 | 0.00 | 191.84 | 200.00 |
| | 303.400 | 490.00 | 817.21 | .10 | 1.63 | .10 | 95.74 | 200.00 |
| | 303.600 | 490.00 | 818.77 | 0.00 | 1.65 | 0.00 | 187.51 | 200.00 |
| | 303.600 | 490.00 | 818.86 | .10 | 1.65 | .10 | 93.26 | 200.00 |
| | 303.800 | 490.00 | 820.43 | 0.00 | 1.66 | 0.00 | 192.16 | 200.00 |
| | 303.800 | 490.00 | 820.52 | .10 | 1.66 | .10 | 95.15 | 200.00 |
| | 304.200 | 490.00 | 821.91 | 0.00 | 1.48 | 0.00 | 207.73 | 250.00 |
| | 304.200 | 490.00 | 822.01 | .10 | 1.48 | .10 | 112.98 | 250.00 |
| | 304.400 | 490.00 | 822.74 | 0.00 | .84 | 0.00 | 201.63 | 168.00 |
| | 304.400 | 490.00 | 822.84 | .10 | .84 | .10 | 99.34 | 168.00 |
| | 304.500 | 490.00 | 823.72 | 0.00 | .98 | 0.00 | 140.00 | 83.00 |
| | 304.500 | 490.00 | 823.82 | .10 | .98 | .10 | 99.15 | 83.00 |
| | 304.800 | 490.00 | 824.18 | 0.00 | .46 | 0.00 | 47.93 | 70.00 |
| | 304.800 | 490.00 | 824.27 | .09 | .45 | .09 | 48.00 | 70.00 |
| | 305.200 | 280.00 | 825.10 | 0.00 | .92 | 0.00 | 47.58 | 120.00 |
| | 305.200 | 280.00 | 825.12 | .02 | .85 | .02 | 47.65 | 120.00 |
| | 305.600 | 280.00 | 826.31 | 0.00 | 1.21 | 0.00 | 207.00 | 10.00 |
| | 305.600 | 280.00 | 826.31 | .00 | 1.19 | .00 | 207.00 | 10.00 |
| | 305.800 | 280.00 | 826.32 | 0.00 | .00 | 0.00 | 170.00 | 300.00 |
| | 305.800 | 280.00 | 826.32 | .00 | .01 | .00 | 170.00 | 300.00 |
| | 305.900 | 280.00 | 826.33 | 0.00 | .01 | 0.00 | 135.00 | 300.00 |
| | 305.900 | 280.00 | 826.33 | .00 | .01 | .00 | 135.00 | 300.00 |
| | 305.000 | 280.00 | 826.37 | 0.00 | .04 | 0.00 | 104.72 | 270.00 |
| | 305.000 | 280.00 | 826.37 | .00 | .04 | .00 | 104.72 | 270.00 |
| | 306.100 | 280.00 | 826.75 | 0.00 | .38 | 0.00 | 97.90 | 350.00 |
| | 306.100 | 280.00 | 826.75 | .00 | .38 | .00 | 97.90 | 350.00 |
| * | 306.200 | 280.00 | 828.72 | 0.00 | 1.97 | 0.00 | 19.94 | 50.00 |
| * | 306.200 | 280.00 | 828.72 | -.00 | 1.97 | -.00 | 19.94 | 50.00 |
| | 306.300 | 280.00 | 830.56 | 0.00 | 1.84 | 0.00 | 30.47 | 50.00 |
| | 306.300 | 280.00 | 830.56 | .00 | 1.84 | .00 | 30.45 | 50.00 |
| | 306.400 | 280.00 | 832.80 | 0.00 | 2.24 | 0.00 | 85.01 | 210.00 |
| | 306.400 | 280.00 | 832.86 | .06 | 2.29 | .06 | 38.53 | 210.00 |
| * | 306.600 | 280.00 | 834.22 | 0.00 | 1.43 | 0.00 | 175.05 | 40.00 |
| * | 306.600 | 280.00 | 834.28 | .06 | 1.43 | .06 | 97.35 | 40.00 |
| | 306.800 | 280.00 | 834.28 | 0.00 | .06 | 0.00 | 178.51 | 60.00 |
| | 306.800 | 280.00 | 834.34 | .06 | .06 | .06 | 100.30 | 60.00 |
| | 306.820 | 280.00 | 834.46 | 0.00 | .18 | 0.00 | 128.77 | 130.00 |
| | 306.820 | 280.00 | 834.53 | .07 | .19 | .07 | 58.17 | 130.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 306.840 | 280.00 | 834.48 | 0.00 | .02 | 0.00 | 129.47 | 5.00 |
| 306.840 | 280.00 | 834.54 | .07 | .01 | .07 | 58.53 | 5.00 |
| 306.860 | 280.00 | 834.51 | 0.00 | .04 | 0.00 | 131.60 | 5.00 |
| 306.860 | 280.00 | 834.59 | .08 | .04 | .08 | 58.43 | 5.00 |
| 306.920 | 280.00 | 835.13 | 0.00 | .62 | 0.00 | 190.00 | 310.00 |
| 306.920 | 280.00 | 835.20 | .07 | .61 | .07 | 190.00 | 310.00 |
| 306.930 | 280.00 | 835.12 | 0.00 | -.01 | 0.00 | 164.42 | 5.00 |
| 306.930 | 280.00 | 835.19 | .07 | -.01 | .07 | 166.90 | 5.00 |
| 306.940 | 280.00 | 835.23 | 0.00 | .11 | 0.00 | 190.00 | 5.00 |
| 306.940 | 280.00 | 835.28 | .04 | .09 | .04 | 190.00 | 5.00 |
| 306.950 | 280.00 | 835.26 | 0.00 | .02 | 0.00 | 93.05 | 10.00 |
| 306.950 | 280.00 | 835.30 | .04 | .02 | .04 | 93.24 | 10.00 |
| 306.960 | 280.00 | 835.46 | 0.00 | .21 | 0.00 | 91.47 | 350.00 |
| 306.960 | 280.00 | 835.50 | .04 | .20 | .04 | 91.79 | 350.00 |
| 306.970 | 280.00 | 835.44 | 0.00 | -.02 | 0.00 | 91.16 | 1.00 |
| 306.970 | 280.00 | 835.48 | .03 | -.02 | .03 | 91.49 | 1.00 |
| 306.980 | 280.00 | 835.74 | 0.00 | .29 | 0.00 | 94.54 | 8.00 |
| 306.980 | 280.00 | 835.77 | .03 | .29 | .03 | 94.89 | 8.00 |
| 306.990 | 280.00 | 835.82 | 0.00 | .08 | 0.00 | 95.47 | 1.00 |
| 306.990 | 280.00 | 835.84 | .03 | .08 | .03 | 95.76 | 1.00 |
| 307.000 | 280.00 | 836.01 | 0.00 | .15 | 0.00 | 99.99 | 110.00 |
| 307.000 | 280.00 | 836.03 | .02 | .18 | .02 | 100.28 | 110.00 |
| 307.200 | 280.00 | 836.13 | 0.00 | .12 | 0.00 | 105.02 | 90.00 |
| 307.200 | 280.00 | 836.15 | .02 | .12 | .02 | 103.59 | 90.00 |
| 307.400 | 280.00 | 842.79 | 0.00 | 6.66 | 0.00 | 338.70 | 50.00 |
| 307.400 | 280.00 | 842.81 | .02 | 6.66 | .02 | 283.13 | 50.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  306.200  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  306.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  306.600  PROFILE= 1  HYDRAULIC JUMP D.S.
CAUTION  SECNO=  306.600  PROFILE= 2  HYDRAULIC JUMP D.S.
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FLOODWAY DATA, SPRAGUE BRANCH
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 20.000 | 164. | 321. | 2.6 | 803.6 | 803.5 | .1 |
| 301.600 | 287. | 999. | .8 | 805.4 | 805.3 | .1 |
| 301.800 | 152. | 506. | 1.0 | 805.4 | 805.3 | .1 |
| 301.820 | 107. | 249. | 2.0 | 805.8 | 805.7 | .1 |
| 301.840 | 90. | 196. | 2.5 | 807.2 | 807.1 | .1 |
| 301.850 | 96. | 215. | 2.3 | 808.8 | 808.7 | .1 |
| 301.860 | 93. | 206. | 2.4 | 809.6 | 809.5 | .1 |
| 301.870 | 99. | 205. | 2.4 | 809.7 | 809.6 | .1 |
| 301.880 | 104. | 218. | 2.2 | 809.8 | 809.7 | .1 |
| 301.890 | 100. | 229. | 2.1 | 809.7 | 809.6 | .1 |
| 302.000 | 138. | 273. | 1.8 | 810.2 | 810.1 | .1 |
| 302.100 | 149. | 281. | 1.7 | 810.2 | 810.1 | .1 |
| 302.120 | 152. | 291. | 1.7 | 810.3 | 810.2 | .1 |
| 302.140 | 151. | 299. | 1.6 | 810.2 | 810.1 | .1 |
| 302.200 | 141. | 284. | 1.7 | 811.2 | 811.1 | .1 |
| 302.400 | 154. | 308. | 1.6 | 812.2 | 812.1 | .1 |
| 303.000 | 92. | 188. | 2.6 | 813.8 | 813.7 | .1 |
| 303.200 | 94. | 195. | 2.5 | 815.6 | 815.5 | .1 |
| 303.400 | 96. | 199. | 2.5 | 817.2 | 817.1 | .1 |
| 303.600 | 93. | 191. | 2.6 | 818.9 | 818.8 | .1 |
| 303.800 | 95. | 199. | 2.5 | 820.5 | 820.4 | .1 |
| 304.200 | 113. | 247. | 2.0 | 822.0 | 821.9 | .1 |
| 304.400 | 99. | 214. | 2.3 | 822.8 | 822.7 | .1 |
| 304.500 | 99. | 183. | 2.7 | 823.8 | 823.7 | .1 |
| 304.800 | 48. | 113. | 4.3 | 824.3 | 824.2 | .1 |
| 305.200 | 48. | 106. | 2.7 | 825.1 | 825.1 | 0.0 |
| 305.600 | 207. | 1100. | .3 | 826.3 | 826.3 | 0.0 |
| 305.800 | 170. | 734. | .4 | 826.3 | 826.3 | 0.0 |
| 305.900 | 135. | 448. | .6 | 826.3 | 826.3 | 0.0 |
| 305.000 | 105. | 225. | 1.2 | 826.4 | 826.4 | 0.0 |
| 306.100 | 98. | 142. | 2.0 | 826.7 | 826.7 | 0.0 |
| 306.200 | 20. | 36. | 7.7 | 828.7 | 828.7 | 0.0 |
| 306.300 | 30. | 73. | 3.8 | 830.6 | 830.6 | 0.0 |
| 306.400 | 39. | 74. | 3.8 | 832.9 | 832.8 | .1 |
| 306.600 | 97. | 236. | 1.2 | 834.3 | 834.2 | .1 |
| 306.800 | 100. | 245. | 1.1 | 834.4 | 834.3 | .1 |
| 306.820 | 58. | 130. | 2.2 | 834.6 | 834.5 | .1 |
| 306.840 | 59. | 120. | 2.3 | 834.6 | 834.5 | .1 |
| 306.860 | 58. | 134. | 2.1 | 834.6 | 834.5 | .1 |
| 306.920 | 190. | 263. | 1.1 | 835.2 | 835.1 | .1 |
| 306.930 | 190. | 123. | 2.3 | 835.2 | 835.1 | .1 |
| 306.940 | 190. | 278. | 1.0 | 835.2 | 835.2 | 0.0 |
| 306.950 | 93. | 334. | .8 | 835.3 | 835.3 | 0.0 |
| 306.960 | 92. | 153. | 1.8 | 835.5 | 835.5 | 0.0 |
| 306.970 | 91. | 101. | 2.8 | 835.4 | 835.4 | 0.0 |
| 306.980 | 95. | 116. | 2.4 | 835.7 | 835.7 | 0.0 |
| 306.990 | 96. | 186. | 1.5 | 835.8 | 835.8 | 0.0 |
| 307.000 | 100. | 203. | 1.4 | 836.0 | 836.0 | 0.0 |
| 307.200 | 104. | 215. | 1.3 | 836.1 | 836.1 | 0.0 |
| 307.400 | 283. | 1857. | .2 | 842.8 | 842.8 | 0.0 |

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE BRANCH

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CODE -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************
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C
T1      HUD-FIA H-4705
T2      TRCY FIS
T3      SPRAGUE BRANCH

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        4.        0.        0.  0.000000      0.00     -1.0        0.   803.450     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

   200.000     0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .070      .080      .080      .300      .500     0.000     0.000     0.000     0.000     0.000
QT     5.000   480.000   700.000   820.000  1100.000   820.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     2.400     5.400     0.000     0.000

       ***COOLIDGE RD.

X1    20.000     7.000   990.000  1015.000     0.000     0.000     0.000     0.000     0.000     0.000
X3     0.000     0.000     0.000   960.000   810.000  1140.000   810.000     0.000     0.000     0.000
GR   804.000   972.000   802.000   990.000   797.300   996.000   797.300  1004.000   802.000  1015.000
GR   802.000  1215.000   804.000  1300.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .080      .080      .065      .200      .400     0.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     2.400     5.400     0.000     0.000
SE     0.000     1.500     1.500   200.000     8.000     0.000    26.000     0.000     0.000     0.000

X1   301.600     0.000     0.000     0.000    26.000    26.000    26.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   802.100   803.700     0.000     0.000     0.000     0.000     0.000
QT     5.000   270.000   400.000   490.000   670.000   490.000     0.000     0.000     0.000     0.000
NC      .100      .100      .075     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   301.800    10.000   376.000   392.000   100.000   100.000   100.000     0.000     0.000     0.000
GR   805.600   312.000   802.600   355.000   800.700   376.000   799.400   378.000   798.300   385.000
GR   799.400   386.000   801.000   392.000   801.800   408.000   803.200   482.000   804.000   512.000

X1   301.820     0.000     0.000     0.000   300.000   300.000   300.000     0.000     1.800     0.000

X1   301.840     0.000     0.000     0.000   300.000   300.000   300.000     0.000     1.800     0.000
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 301.850 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.400 | 0.000 |

***FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 301.860 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | .900 | 0.000 |
| X1 | 301.870 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 805.300 | 806.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 301.880 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 805.300 | 806.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 301.890 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |

***FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 302.000 | 13.000 | 178.000 | 204.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| GR | 812.800 | 0.000 | 810.800 | 62.000 | 810.400 | 98.000 | 808.800 | 150.000 | 807.700 | 178.000 |
| GR | 806.400 | 188.000 | 805.900 | 192.000 | 805.100 | 193.000 | 805.900 | 198.000 | 808.100 | 204.000 |
| GR | 809.400 | 300.000 | 811.500 | 535.000 | 815.400 | 640.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 302.100 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 807.000 | 807.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 302.120 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 807.000 | 807.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 302.140 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 302.200 | 0.000 | 0.000 | 0.000 | 290.000 | 290.000 | 290.000 | 0.000 | 1.000 | 0.000 |
| X1 | 302.400 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | .900 | 0.000 |
| X1 | 303.000 | 13.000 | 208.000 | 228.000 | 350.000 | 350.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| GR | 821.000 | 0.000 | 814.200 | 72.000 | 812.000 | 192.000 | 811.800 | 208.000 | 811.300 | 214.000 |
| GR | 808.600 | 214.000 | 808.200 | 218.000 | 808.900 | 221.000 | 811.300 | 222.000 | 811.800 | 228.000 |
| GR | 815.800 | 349.000 | 818.400 | 410.000 | 827.300 | 512.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 303.200 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.700 | 0.000 |
| X1 | 303.400 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.600 | 0.000 |
| X1 | 303.600 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.700 | 0.000 |
| X1 | 303.800 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.600 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 304.200 | 9.000 | 300.000 | 324.000 | 250.000 | 250.000 | 250.000 | 0.000 | 0.000 | 0.000 |
| GR | 821.600 | 200.000 | 819.600 | 276.000 | 819.500 | 300.000 | 817.500 | 308.000 | 817.000 | 310.000 |
| GR | 817.500 | 312.000 | 820.600 | 324.000 | 821.700 | 400.000 | 823.000 | 450.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***BEACH RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 304.400 | 0.000 | 0.000 | 0.000 | 168.000 | 168.000 | 168.000 | 0.000 | 1.000 | 0.000 |
| SB | 0.000 | 5.300 | 2.800 | 0.000 | 5.000 | 0.000 | 7.000 | 0.000 | 818.400 | 818.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 304.500 | 7.000 | 375.000 | 426.000 | 83.000 | 83.000 | 83.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 820.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 7.000 | 310.000 | 822.700 | 0.000 | 358.000 | 822.700 | 0.000 | 375.000 | 822.500 | 0.000 |
| BT | 390.000 | 822.400 | 0.000 | 395.000 | 822.500 | 0.000 | 426.000 | 823.000 | 0.000 | 450.000 |
| BT | 823.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 822.700 | 310.000 | 822.700 | 358.000 | 822.500 | 375.000 | 818.400 | 390.000 | 821.000 | 395.000 |
| GR | 823.000 | 426.000 | 823.200 | 450.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .080 | .080 | .250 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 304.800 | 8.000 | 342.000 | 378.000 | 70.000 | 70.000 | 70.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 342.000 | 0.000 | 390.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 825.000 | 316.000 | 824.200 | 342.000 | 819.600 | 362.000 | 818.800 | 363.000 | 819.600 | 366.000 |
| GR | 821.300 | 368.000 | 822.700 | 378.000 | 825.000 | 418.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 5.000 | 160.000 | 230.000 | 280.000 | 340.000 | 280.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***LAKE CHARNEGOD OUTLET

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 305.200 | 0.000 | 0.000 | 0.000 | 120.000 | 120.000 | 120.000 | 0.000 | 1.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 342.000 | 0.000 | 390.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.000 | 3.000 | 2.800 | 0.000 | 10.000 | 1.000 | 2.000 | 0.000 | 821.000 | 820.600 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 305.600 | 7.000 | 100.000 | 584.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 821.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 200.000 | 0.000 | 407.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 8.000 | 200.000 | 826.400 | 0.000 | 232.000 | 826.200 | 0.000 | 270.000 | 825.100 | 0.000 |
| BT | 271.000 | 824.700 | 0.000 | 297.000 | 824.700 | 0.000 | 298.000 | 825.100 | 0.000 | 359.000 |
| BT | 826.900 | 0.000 | 407.000 | 826.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 836.500 | 100.000 | 824.800 | 172.000 | 821.000 | 200.000 | 821.000 | 516.000 | 824.800 | 544.000 |
| GR | 828.800 | 570.000 | 829.700 | 584.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 305.800 | 7.000 | 100.000 | 584.000 | 300.000 | 300.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 200.000 | 0.000 | 370.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 836.500 | 100.000 | 824.800 | 172.000 | 822.000 | 195.000 | 822.000 | 521.000 | 824.800 | 544.000 |
| GR | 828.800 | 570.000 | 829.700 | 584.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 305.900 | 7.000 | 100.000 | 584.000 | 300.000 | 300.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 200.000 | 0.000 | 335.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 836.500 | 100.000 | 824.800 | 172.000 | 823.000 | 185.000 | 823.000 | 531.000 | 824.800 | 544.000 |
| GR | 828.800 | 570.000 | 829.700 | 584.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 2.400 | 5.400 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 305.000 | 4.000 | 430.000 | 565.000 | 270.000 | 270.000 | 270.000 | 0.000 | 0.000 | 0.000 |
| GR | 830.000 | 430.000 | 824.000 | 455.000 | 824.000 | 540.000 | 830.000 | 565.000 | 0.000 | 0.000 |
| X1 | 306.100 | 0.000 | 0.000 | 0.000 | 350.000 | 350.000 | 350.000 | 0.000 | 1.200 | 0.000 |
| NC | .090 | .090 | .065 | .300 | .600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.200 | 10.000 | 232.000 | 294.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| GR | 834.200 | 144.000 | 833.400 | 184.000 | 832.100 | 232.000 | 831.400 | 248.000 | 826.600 | 259.000 |
| GR | 825.300 | 266.000 | 828.300 | 272.000 | 831.100 | 286.000 | 831.900 | 294.000 | 833.000 | 320.000 |
| X1 | 306.300 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |

***LIMERICK LANE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 306.400 | 9.000 | 294.000 | 328.000 | 210.000 | 210.000 | 210.000 | 0.000 | 0.000 | 0.000 |
| GR | 835.300 | 206.000 | 832.500 | 294.000 | 831.400 | 308.000 | 829.800 | 314.000 | 827.800 | 318.000 |
| GR | 830.400 | 322.000 | 831.600 | 328.000 | 833.500 | 394.000 | 836.000 | 466.000 | 0.000 | 0.000 |
| SB | 1.000 | 2.600 | 3.100 | 160.000 | 4.000 | 1.000 | 13.000 | 0.000 | 827.800 | 827.800 |
| X1 | 306.600 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 830.000 | 833.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.800 | 0.000 | 0.000 | 0.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.820 | 0.000 | 0.000 | 0.000 | 130.000 | 130.000 | 130.000 | 0.000 | 1.000 | 0.000 |

***SMALL WEIR

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 306.840 | 9.000 | 294.000 | 328.000 | 5.000 | 5.000 | 5.000 | 0.000 | 1.000 | 0.000 |
| GR | 835.300 | 206.000 | 832.500 | 294.000 | 831.400 | 308.000 | 830.200 | 314.000 | 830.200 | 318.000 |
| GR | 830.400 | 322.000 | 831.600 | 328.000 | 833.500 | 394.000 | 836.000 | 466.000 | 0.000 | 0.000 |
| X1 | 306.860 | 9.000 | 294.000 | 328.000 | 5.000 | 5.000 | 5.000 | 0.000 | 1.000 | 0.000 |
| GR | 835.300 | 206.000 | 832.500 | 294.000 | 831.400 | 308.000 | 829.800 | 314.000 | 827.800 | 318.000 |
| GR | 830.400 | 322.000 | 831.600 | 328.000 | 833.500 | 394.000 | 836.000 | 466.000 | 0.000 | 0.000 |
| X1 | 306.920 | 7.000 | 440.000 | 500.000 | 310.000 | 310.000 | 310.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 330.000 | 0.000 | 520.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.000 | 0.000 | 836.000 | 180.000 | 834.000 | 440.000 | 831.000 | 470.000 | 834.000 | 500.000 |
| GR | 836.000 | 550.000 | 838.000 | 630.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

***FOOTBRIDGE AND WEIR

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 306.930 | 8.000 | 440.000 | 500.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 330.000 | 0.000 | 520.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.000 | 0.000 | 836.000 | 180.000 | 834.000 | 440.000 | 835.300 | 465.000 | 835.300 | 485.000 |
| GR | 834.000 | 500.000 | 836.000 | 550.000 | 838.000 | 630.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.940 | 7.000 | 440.000 | 500.000 | 5.000 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 0.000 | 0.000 | 0.000 | 330.000 | 0.000 | 520.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 838.000 | 0.000 | 836.000 | 180.000 | 834.000 | 440.000 | 831.300 | 470.000 | 834.000 | 500.000 |
| GR | 836.000 | 550.000 | 838.000 | 630.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 2.400 | 5.400 | 0.000 | 0.000 |
| X1 | 306.950 | 9.000 | 356.000 | 464.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| GR | 841.500 | 200.000 | 838.800 | 247.000 | 836.300 | 356.000 | 835.900 | 367.000 | 831.200 | 380.000 |
| GR | 831.200 | 450.000 | 836.000 | 464.000 | 840.000 | 515.000 | 850.000 | 600.000 | 0.000 | 0.000 |

***FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 306.960 | 9.000 | 356.000 | 464.000 | 350.000 | 350.000 | 350.000 | 0.000 | 0.000 | 0.000 |
| GR | 841.500 | 200.000 | 838.800 | 247.000 | 836.300 | 356.000 | 835.900 | 367.000 | 833.600 | 380.000 |
| GR | 833.600 | 450.000 | 836.000 | 464.000 | 840.000 | 515.000 | 850.000 | 600.000 | 0.000 | 0.000 |
| X1 | 306.970 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 834.900 | 835.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.980 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 834.900 | 835.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 306.990 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 307.000 | 0.000 | 0.000 | 0.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |

***ADAMS RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 307.200 | 0.000 | 0.000 | 0.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.000 | 1.400 | 3.100 | 150.000 | 5.000 | 1.000 | 16.000 | 0.000 | 833.600 | 833.600 |
| X1 | 307.400 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 835.000 | 843.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=    .300 CEHV=    .500
*SECNO 20.000
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNF       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     960.0    1140.0  TYPE=     1  TARGET=     180.000
 ELENCL=    810.00  ELENCR=    810.00

        ***COOLIDGE RD.

    20.00      6.15    803.45      0.00    803.45    803.61       .16      0.00      0.00    802.00
     820.       13.      451.      355.       9.      114.      181.        0.        0.    802.00
     0.00      1.42      3.97      1.96      .070      .080      .080     0.000    797.30    976.95
  .006889        0.        0.        0.         0         0         0      0.00    163.05   1140.00


CCHV=    .200 CEHV=    .400

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWF       BAREA     SS        ELCHU     ELCHD
    0.00      1.50      1.50    200.00      8.00      0.00     26.00      0.00    797.30    797.30

*SECNO 301.600
3280 CROSS SECTION     301.60 EXTENDED      1.26 FEET

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPB       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
  826.62    803.54     0.00      590.      230.       26.       38.      802.10    803.70

  301.60      7.96    805.26      0.00      0.00    805.27       .01      1.66      0.00    802.00
    820.       22.      210.      588.       41.      159.      845.        0.        0.    802.00
     .01       .55      1.32       .70      .080      .065      .080      .063    797.30    972.00
 .003321       26.       26.       26.         1         0         6      0.00    328.00   1300.00

*SECNO 301.800
3280 CROSS SECTION     301.80 EXTENDED      1.30 FEET

  301.80      7.00    805.30      0.00      0.00    805.31       .02       .04       .00    800.70
    490.       95.      148.      247.      129.       93.      320.        2.        1.    801.00
     .04       .74      1.60       .77      .100      .075      .100      .072    798.30    316.36
 .000685      100.      100.      100.         2         0         0      0.00    195.64    512.00

*SECNO 301.820
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Floodway was checked

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   301.82      5.57    805.67      0.00      0.00    805.75       .08       .41       .03    802.50
     490.       82.      221.      187.       58.       70.      149.        5.        2.     802.80
      .07      1.41      3.17      1.26      .100      .075      .100      .074    800.10    336.84
 .003946      300.      300.      300.         2         0         0      0.00    170.17    507.01

*SECNO 301.840
   SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS    BANK ELEV
   Q         QLOB      QCH       CROB      AICE       ACH       ARCB      VOL      TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI        XNCH      XNF       WTN      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR    TOPWID     ENDST

   301.84      5.24    807.14      0.00      0.00    807.27       .14      1.50       .02    804.30
     490.       77.      250.      163.       46.       64.      113.        7.        3.     804.60
      .11      1.68      3.87      1.44      .100      .075      .100      .074    801.90    341.58
 .006545      300.      300.      300.         2         0         0      0.00    153.02    494.60

*SECNO 301.850
   301.85      5.35    808.65      0.00      0.00    808.77       .11      1.49       .00    805.70
     490.       79.      239.      172.       50.       66.      125.        8.        4.     806.00
      .13      1.58      3.67      1.38      .100      .075      .100      .074    803.30    339.92
 .005451      250.      250.      250.         2         0         0      0.00    159.05    498.96

*SECNO 301.860

      ***FOOTBRIDGE

   301.86      5.30    809.50      0.00      0.00    809.62       .12       .85       .00    806.60
     490.       78.      244.      168.       48.       65.      119.        9.        5.     806.90
      .15      1.62      3.73      1.41      .100      .075      .100      .074    804.20    340.69
 .005933      150.      150.      150.         2         0         0      0.00    156.23    496.93

*SECNO 301.870

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  806.60 MAX ELLC=  805.30

   301.87      5.36    809.56      0.00      0.00    809.64       .08       .01       .01    806.60
     490.      110.      137.      243.       50.       52.      126.        9.        5.     806.90
      .15      2.19      2.65      1.92      .100      .075      .100      .074    804.20    339.74
 .010506        1.        1.        1.         2         0         0    -14.87    159.69    499.43

*SECNO 301.880

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  806.60 MAX ELLC=  805.30

   301.88      5.45    809.65      0.00      0.00    809.72       .07       .08       .00    806.60
     490.      110.      132.      248.       54.       53.      136.        9.        5.     806.90
      .15      2.05      2.48      1.82      .100      .075      .100      .074    804.20    338.48
 .008921        8.        8.        8.         2         0         0    -14.87    164.24    502.72

*SECNO 301.890
   SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      OLOSS    BANK ELEV
   Q         QLOB      QCH       CROB      ALOB       ACH       ARCB      VOL      TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI        XNCH      XNF       WTN      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICCNT     CORAR    TOPWID     ENDST
```

```
   301.89      5.44    809.64      0.00      0.00    809.74       .10       .01       .01    806.60
     490.       80.       232.      178.       53.       68.      134.        9.        5.    806.90
      .15      1.50      3.42      1.33      .100      .075      .100      .074    804.20    338.69
 .004782        1.        1.        1.         2         0         0      0.00    163.48    502.17

*SECNO 302.000

        ***FCCTBBIDGE

   302.00      4.96    810.06      0.00      0.00    810.13       .07       .38       .01    807.70
     490.       87.       254.      149.       76.       91.      150.       10.        5.    808.10
      .16      1.13      2.78       .99      .100      .075      .100      .074    805.10    109.07
 .003839       90.       90.       90.         2         0         0      0.00    264.73    373.79

*SECNO 302.100

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  807.40 MAX ELLC=  807.00

   302.10      5.00    810.10      0.00      0.00    810.14       .04       .00       .01    807.70
     490.      119.       163.      208.       79.       85.      157.       10.        5.    808.10
      .16      1.50      1.93      1.32      .100      .075      .100      .074    805.10    107.68
 .006573        1.        1.        1.         2         0         0     -7.88    270.90    378.58

*SECNO 302.120

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  807.40 MAX ELLC=  807.00

   302.12      5.06    810.16      0.00      0.00    810.19       .04       .05       .00    807.70
     490.      120.       159.      212.       83.       86.      166.       10.        5.    808.10
      .17      1.44      1.85      1.28      .100      .075      .100      .074    805.10    106.13
 .005952        8.        8.        8.         1         0         0     -7.88    277.77    383.90

*SECNO 302.140
   302.14      5.05    810.15      0.00      0.00    810.21       .06       .00       .01    807.70
     490.       89.       244.      157.       83.       94.      167.       10.        5.    808.10
      .17      1.07      2.60       .94      .100      .075      .100      .074    805.10    105.99
 .003243        1.        1.        1.         1         0         0      0.00    278.41    384.40

*SECNO 302.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      AICE      ACH       AFCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       ETN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITERAI    IDC       ICCNT     CORAR     TOPWID      ENDST

   302.20      5.02    811.12      0.00      0.00    811.18       .06       .98       .00    808.70
     490.       88.       249.      154.       83.       93.      159.       12.        7.    809.10
      .21      1.10      2.68       .97      .100      .075      .100      .074    806.10    107.35
 .003493      290.      290.      290.         2         0         0      0.00    272.35    379.71

*SECNO 302.400
   302.40      5.10    812.10      0.00      0.00    812.15       .06       .97       .00    809.60
     490.       90.       239.      161.       87.       95.      175.       14.        9.    810.00
```

```
      .26      1.04      2.51       .92      .100      .075      .100      .074    807.00    104.42
  .002980      300.      300.      300.         1         0         0      0.00    285.40    389.82

*SECNO 303.000
   303.00      5.54    813.74      0.00      0.00    813.87       .12      1.69       .03    811.80
     490.      170.      247.       73.      112.       67.       53.       17.       11.    811.80
      .29      1.51      3.69      1.39      .100      .075      .100      .074    808.20     96.99
  .009083      350.      350.      350.         2         0         0      0.00    185.39    282.37

*SECNO 303.200
   303.20      5.59    815.49      0.00      0.00    815.61       .11      1.74       .00    813.50
     490.      173.      242.       75.      118.       68.       55.       18.       12.    813.50
      .32      1.47      3.57      1.35      .100      .075      .100      .074    809.90     94.35
  .008327      200.      200.      200.         3         0         0      0.00    189.37    283.72

*SECNO 303.400
   303.40      5.62    817.12      0.00      0.00    817.23       .11      1.62       .00    815.10
     490.      175.      239.       76.      121.       68.       57.       19.       12.    815.10
      .34      1.44      3.50      1.33      .100      .075      .100      .074    811.50     92.72
  .007895      200.      200.      200.         2         0         0      0.00    191.84    284.56

*SECNO 303.600
   SECNO     DEPTH     CWSEL     CRIWS     WSEIK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       CROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNF       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   303.60      5.57    818.77      0.00      0.00    818.89       .12      1.65       .00    816.80
     490.      171.      245.       74.      115.       67.       54.       20.       13.    816.80
      .36      1.49      3.63      1.37      .100      .075      .100      .074    813.20     95.58
  .008671      200.      200.      200.         2         0         0      0.00    187.51    283.09

*SECNO 303.800
   303.80      5.63    820.43      0.00      0.00    820.54       .11      1.65       .00    818.40
     490.      175.      239.       76.      122.       69.       57.       21.       14.    818.40
      .38      1.44      3.49      1.33      .100      .075      .100      .074    814.80     92.51
  .007840      200.      200.      200.         0         0         0      0.00    192.16    284.67

*SECNO 304.200
3280 CROSS SECTION     304.20 EXTENDED        .30 FEET

   304.20      4.91    821.91      0.00      0.00    821.98       .07      1.44       .01    819.50
     490.      214.      230.       47.      155.       80.       58.       23.       15.    820.60
      .42      1.38      2.87       .81      .100      .075      .100      .074    817.00    200.00
  .004388      250.      250.      250.         1         0         0      0.00    207.73    407.73

CCHV=     .300 CEHV=     .600
*SECNO 304.400
3280 CROSS SECTION     304.40 EXTENDED        .14 FEET
```

***BEACH RD.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 304.40 | 4.74 | 822.74 | 0.00 | 0.00 | 822.84 | .10 | .85 | .01 | 820.50 |
| 490. | 29. | 245. | 36. | 139. | 76. | 45. | 24. | 16. | 821.60 |
| .44 | 1.50 | 3.21 | .80 | .100 | .075 | .100 | .074 | 818.00 | 200.00 |
| .005873 | 168. | 168. | 168. | 2 | 0 | 0 | 0.00 | 201.63 | 401.63 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | BDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 5.30 | 2.80 | 0.00 | 5.00 | 0.00 | 7.00 | 0.00 | 818.40 | 818.00 |

*SECNO 304.500
3280 CROSS SECTION 304.50 EXTENDED 1.02 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | CPF | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 1226.01 | 823.24 | 0.00 | 466. | 26. | 7. | -4092. | 0.00 | 822.40 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 304.50 | 5.32 | 823.72 | 0.00 | 0.00 | 823.85 | .12 | 1.01 | 0.00 | 822.50 |
| 490. | 93. | 383. | 14. | 68. | 123. | 15. | 24. | 16. | 823.00 |
| .45 | 1.36 | 3.13 | .95 | .100 | .075 | .100 | .074 | 818.40 | 310.00 |
| .007983 | 83. | 83. | 83. | 2 | 0 | 0 | 0.00 | 140.00 | 450.00 |

*SECNO 304.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | AICB | ACH | ABCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

3470 ENCROACHMENT STATIONS= 342.0 390.0 TYPE= 1 TARGET= 48.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 304.80 | 5.38 | 824.18 | 0.00 | 0.00 | 824.54 | .36 | .56 | .14 | 824.20 |
| 490. | 0. | 466. | 24. | 0. | 95. | 14. | 24. | 17. | 822.70 |
| .45 | 0.00 | 4.91 | 1.73 | .080 | .050 | .080 | .074 | 818.80 | 342.07 |
| .007933 | 70. | 70. | 70. | 2 | 0 | 0 | 0.00 | 47.93 | 390.00 |

*SECNO 305.200

3470 ENCROACHMENT STATIONS= 342.0 390.0 TYPE= 1 TARGET= 48.000

***LAKE CHARNWOOD OUTLET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 305.20 | 5.30 | 825.10 | 0.00 | 0.00 | 825.23 | .13 | .62 | .07 | 825.20 |
| 280. | 0. | 267. | 13. | 0. | 92. | 13. | 25. | 17. | 823.70 |
| .46 | 0.00 | 2.90 | .99 | .080 | .050 | .080 | .073 | 819.80 | 342.42 |
| .002854 | 120. | 120. | 120. | 2 | 0 | 0 | 0.00 | 47.58 | 390.00 |

SPECIAL BRIDGE

```
SB   XK        XKOR      COFQ      RDLEN     BEC       BUP       BAREA     SS        ELCHU     ELCHD
     1.00      3.16      2.80      0.00      10.00     1.00      2.00      0.00      821.00    820.60

*SECNO 305.600
PRESSURE AND WEIR FLOW

 EGPRS      EGLOC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
 1738.15    825.25     .02       270.      10.       2.      -7389.         0.00      824.70


3470 ENCROACHMENT STATIONS=      200.0     407.0  TYPE=      1  TARGET=      207.000
   305.60     5.31    826.31     0.00      0.00    826.31     .00       1.08      0.00100000.00
     280.       0.     280.       0.        0.     1100.      0.        25.       17. 100000.00
      .47      0.00     .25      0.00     .080      .050     .080      .073    821.00    200.00
  .000008      10.      10.      10.        0         0       13      0.00    207.00    407.00


CCHV=    .100 CEHV=    .300
*SECNO 305.800

3470 ENCROACHMENT STATIONS=      200.0     370.0  TYPE=      1  TARGET=      170.000
   305.80     4.32    826.32     0.00      0.00    826.32     .00       .00       .00100000.00
     280.       0.     280.       0.        0.      734.      0.        31.       18. 100000.00
      .69      0.00     .38      0.00     .080      .050     .080      .071    822.00    200.00
  .000025     300.     300.     300.        2         0        0      0.00    170.00    370.00


*SECNO 305.900

3470 ENCROACHMENT STATIONS=      200.0     335.0  TYPE=      1  TARGET=      135.000
   305.90     3.33    826.33     0.00      0.00    826.33     .01       .01       .00100000.00
     280.       0.     280.       0.        0.      448.      0.        35.       19. 100000.00
      .83      0.00     .62      0.00     .080      .050     .080      .070    823.00    200.00
  .000095     300.     300.     300.        0         0        0      0.00    135.00    335.00


*SECNO 305.000
   SECNO     DEPTH     CHSEL     CRIWS     ESELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALCE      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       BTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITERIAL   IDC       ICCNT     CORAR     TOPWID      ENDST


   305.00     2.37    826.37     0.00      0.00    826.39     .02       .05       .01     830.00
     280.       0.     280.       0.        0.      224.      0.        37.       20.      830.00
      .89      0.00     1.25     0.00     .080      .050     .080      .069    824.00    445.14
  .000642     270.     270.     270.        2         0        0      0.00    104.72    549.86


*SECNO 306.100
   306.10     1.55    826.75     0.00      0.00    826.81     .06       .41       .01     831.20
     280.       0.     280.       0.        0.      142.      0.        39.       21.      831.20
      .94      0.00     1.98     0.00     .080      .050     .080      .067    825.20    448.55
  .002723     350.     350.     350.        2         0        0      0.00     97.90    546.45


CCHV=    .300 CEHV=    .600
```

*SECNO 306.200

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL,CHSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 306.20 | 3.42 | 828.72 | 828.72 | 0.00 | 829.63 | .92 | .36 | .51 | 832.10 |
| 280. | 0. | 280. | 0. | 0. | 36. | 0. | 39. | 21. | 831.90 |
| .94 | 0.00 | 7.68 | 0.00 | .090 | .065 | .090 | .067 | 825.30 | 254.15 |
| .355005 | 50. | 50. | 50. | 20 | 17 | 0 | 0.00 | 19.94 | 274.09 |

*SECNO 306.300

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 306.30 | 4.86 | 830.56 | 0.00 | 0.00 | 830.79 | .23 | .95 | .21 | 832.50 |
| 280. | 0. | 280. | 0. | 0. | 73. | 0. | 39. | 21. | 832.30 |
| .94 | 0.00 | 3.84 | 0.00 | .090 | .065 | .090 | .067 | 825.70 | 250.84 |
| .009526 | 50. | 50. | 50. | 3 | 0 | 0 | 0.00 | 30.47 | 281.31 |

*SECNO 306.400

***LIMERICK LANE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 306.40 | 5.00 | 832.80 | 0.00 | 0.00 | 832.99 | .19 | 2.19 | .01 | 832.50 |
| 280. | 1. | 248. | 31. | 1. | 67. | 25. | 39. | 21. | 831.60 |
| .96 | .50 | 3.72 | 1.26 | .090 | .065 | .090 | .067 | 827.80 | 284.62 |
| .011483 | 210. | 210. | 210. | 5 | 0 | 0 | 0.00 | 85.01 | 369.63 |

SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS 831.41 ,NOT 832.80 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

| SB | XK | XKOR | COEQ | RDLEN | BWC | BWF | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.00 | 2.60 | 3.10 | 160.00 | 4.00 | 1.00 | 13.00 | 0.00 | 827.80 | 827.80 |

*SECNO 306.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 851.53 | 837.69 | 0.00 | 202. | 78. | 13. | 7. | 830.00 | 833.70 |

```
   306.60      6.42    834.22      0.00      0.00    834.25       .03      1.26      0.00    832.50
     280.       22.       177.       81.       47.      115.      118.       39.       21.    831.60
      .97       .46      1.54       .69      .090      .065      .090      .067    827.80    239.81
 .000949       40.       40.       40.         2         0         7      0.00    175.05    414.86

*SECNO 306.800
   306.80      6.48    834.28      0.00      0.00    834.31       .02       .05       .00    832.50
     280.       23.       175.       83.       50.      117.      123.       40.       21.    831.60
      .98       .45      1.49       .67      .090      .065      .090      .067    827.80    238.01
 .000873       60.       60.       60.         2         0         0      0.00    178.51    416.51

*SECNO 306.820
   306.82      5.66    834.46      0.00      0.00    834.53       .07       .20       .03    833.50
     280.        8.       217.       55.       14.       89.       60.       41.       22.    832.60
     1.00       .58      2.43       .91      .090      .065      .090      .067    828.80    263.83
 .003336      130.      130.      130.         2         0         0      0.00    128.77    392.61

*SECNO 306.840

      ***SMALL WEIR

   306.84      3.28    834.48      0.00      0.00    834.56       .08       .02       .01    833.50
     280.       10.       206.       64.       15.       78.       61.       41.       22.    832.60
     1.00       .68      2.64      1.06      .090      .065      .090      .067    831.20    263.50
 .004471        5.        5.        5.         0         0         0      0.00    129.47    392.97

*SECNO 306.860
   306.86      5.71    834.51      0.00      0.00    834.58       .07       .02       .00    833.50
     280.        9.       215.       56.       16.       91.       63.       41.       22.    832.60
     1.00       .58      2.37       .89      .090      .065      .090      .067    828.80    262.48
 .003099        5.        5.        5.         1         1         0      0.00    131.60    394.08

*SECNO 306.920
   SECNO     DEPTH     CWSEL     CRIWS     USELK      EG        HV        HL       OLOSS    BANK ELEV
   Q         QLOB      QCH       CROB      AICB       ACH       AFCB      VOL      TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL        XNCH      XNF       WTN      ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL     IDC       ICCNT     CORAR    TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=      190.000
   306.92      4.13    835.13      0.00      0.00    835.16       .03       .57       .01    834.00
     280.       35.       238.        7.       78.      158.       15.       42.       23.    834.00
     1.06       .45      1.51       .46      .090      .065      .090      .067    831.00    330.00
 .001205      310.      310.      310.         3         0         0      0.00    190.00    520.00

*SECNO 306.930

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=      190.000

      ***FOOTBRIDGE AND WEIR
```

```
   306.93      1.12    835.12      0.00      0.00    835.22      .10       .02       .04    834.00
     280.      188.      57.       36.       77.       19.       14.       42.       23.     834.00
     1.06      2.45      2.94      2.48      .090      .065      .090      .067    834.00    330.00
  .035970        5.        5.        5.         2         0         0      0.00    164.42    520.00


*SECNO 306.940

3470 ENCROACHMENT STATIONS=      330.0      520.0  TYPE=      1  TARGET=      190.000
   306.94      4.23    835.23      0.00      0.00    835.26      .03       .01       .02    834.00
     280.      40.       232.       8.       89.      164.       17.       42.       23.     834.00
     1.07      .45       1.42      .46       .090      .065      .090      .067    831.00    330.00
  .001010        5.        5.        5.         2         0         0      0.00    190.00    520.00


*SECNO 306.950
   306.95      4.06    835.26      0.00      0.00    835.27      .01       .00       .00    836.30
     280.       0.       280.       0.        0.      331.       0.       42.       23.     836.00
     1.07      0.00       .85      0.00      .090      .065      .090      .067    831.20    368.78
  .000258       10.       10.       10.         2         0         0      0.00     93.05    461.83


*SECNO 306.960

        ***FCCTBRIDGE

   306.96      1.86    835.46      0.00      0.00    835.51      .05       .22       .03    836.30
     280.       0.       280.       0.        0.      151.       0.       44.       24.     836.00
     1.12      0.00       1.86      0.00      .090      .065      .090      .067    833.60    369.44
  .003395      350.      350.      350.         1         0         0      0.00     91.47    460.90


*SECNO 306.970
   SECNO     DEPTH     CWSEL     CRIWS     PSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  835.60 MAX ELLC=  834.90

   306.97      1.84    835.44      0.00      0.00    835.56      .12       .01       .04    836.30
     280.       0.       280.       0.        0.      101.       0.       44.       24.     836.00
     1.12      0.00       2.78      0.00      .090      .065      .090      .067    833.60    369.59
  .029751        1.        1.        1.         2         0         0    -47.72     91.16    460.74


*SECNO 306.980

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  835.60 MAX ELLC=  834.90

   306.98      2.14    835.74      0.00      0.00    835.83      .09       .26       .01    836.30
     280.       0.       280.       0.        0.      113.       0.       44.       24.     836.00
     1.12      0.00       2.47      0.00      .090      .065      .090      .067    833.60    367.92
  .036012        8.        8.        8.         5         0         0    -62.27     94.54    462.46


*SECNO 306.990
   306.99      2.22    835.82      0.00      0.00    835.85      .04       .00       .02    836.30
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 280. | 0. | 280. | 0. | 0. | 183. | 0. | 44. | 24. | 836.00 |
| 1.12 | 0.00 | 1.53 | 0.00 | .090 | .065 | .090 | .067 | 833.60 | 367.47 |
| .001876 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 95.47 | 462.93 |

*SECNO 307.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 307.00 | 2.41 | 836.01 | 0.00 | 0.00 | 836.04 | .03 | .18 | .00 | 836.30 |
| 280. | 0. | 280. | 0. | 0. | 202. | 0. | 45. | 24. | 836.00 |
| 1.14 | 0.00 | 1.39 | 0.00 | .090 | .065 | .090 | .067 | 833.60 | 364.08 |
| .001451 | 110. | 110. | 110. | 3 | 0 | 0 | 0.00 | 99.99 | 464.08 |

*SECNO 307.200

***ADAMS RD.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 307.20 | 2.53 | 836.13 | 0.00 | 0.00 | 836.16 | .03 | .12 | .00 | 836.30 |
| 280. | 0. | 280. | 0. | 0. | 214. | 0. | 45. | 24. | 836.00 |
| 1.16 | 0.00 | 1.31 | .09 | .090 | .065 | .090 | .067 | 833.60 | 360.65 |
| .001238 | 90. | 90. | 90. | 2 | 0 | 0 | 0.00 | 105.02 | 465.67 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.00 | 1.40 | 3.10 | 150.00 | 5.00 | 1.00 | 16.00 | 0.00 | 833.60 | 833.60 |

*SECNO 307.400
3280 CROSS SECTION 307.40 EXTENDED 1.29 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CNSEL | CRIWS | ESELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNI | XNCH | XNF | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 842.79 | 836.16 | .01 | 0. | 280. | 16. | 6. | 835.00 | 843.20 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 307.40 | 9.19 | 842.79 | 0.00 | 0.00 | 842.79 | .00 | 6.63 | 0.00 | 836.30 |
| 280. | 67. | 187. | 25. | 695. | 933. | 277. | 46. | 25. | 836.00 |
| 1.25 | .10 | .20 | .09 | .090 | .065 | .090 | .067 | 833.60 | 200.00 |
| .000004 | 50. | 50. | 50. | 0 | 0 | 0 | 0.00 | 338.70 | 538.70 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE BRANCH AND RIVER ROUGE

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CODE -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPRAGUE BRANCH

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 480.00 | 802.94 | 0.00 | 803.06 | 52.97 | 3.21 | 222.53 | 65.95 |
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 700.00 | 803.27 | 0.00 | 803.42 | 65.76 | 3.77 | 275.31 | 86.32 |
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 820.00 | 803.45 | 0.00 | 803.61 | 68.89 | 3.97 | 304.51 | 98.79 |
| 20.000 | 0.00 | 0.00 | 0.00 | 797.30 | 1100.00 | 803.84 | 0.00 | 804.02 | 72.78 | 4.31 | 368.78 | 128.94 |
| 301.600 | 26.00 | 803.70 | 802.10 | 797.30 | 480.00 | 804.60 | 0.00 | 804.61 | 2.20 | 1.02 | 830.57 | 323.43 |
| 301.600 | 26.00 | 803.70 | 802.10 | 797.30 | 700.00 | 805.05 | 0.00 | 805.06 | 2.87 | 1.22 | 977.43 | 412.87 |
| 301.600 | 26.00 | 803.70 | 802.10 | 797.30 | 820.00 | 805.26 | 0.00 | 805.27 | 3.21 | 1.32 | 1045.26 | 457.40 |
| 301.600 | 26.00 | 803.70 | 802.10 | 797.30 | 1100.00 | 805.72 | 0.00 | 805.73 | 3.81 | 1.50 | 1195.91 | 563.21 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 270.00 | 804.63 | 0.00 | 804.64 | 4.33 | 1.17 | 413.95 | 129.71 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 400.00 | 805.09 | 0.00 | 805.10 | 5.67 | 1.42 | 500.62 | 167.92 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 490.00 | 805.30 | 0.00 | 805.31 | 6.85 | 1.60 | 541.43 | 187.17 |
| 301.800 | 100.00 | 0.00 | 0.00 | 798.30 | 670.00 | 805.76 | 0.00 | 805.78 | 8.21 | 1.84 | 633.64 | 233.83 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 270.00 | 804.88 | 0.00 | 804.97 | 42.28 | 2.87 | 159.39 | 41.52 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 400.00 | 805.40 | 0.00 | 805.48 | 39.19 | 3.03 | 233.79 | 63.90 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 490.00 | 805.67 | 0.00 | 805.75 | 39.46 | 3.17 | 276.80 | 78.01 |
| 301.820 | 300.00 | 0.00 | 0.00 | 800.10 | 670.00 | 806.18 | 0.00 | 806.26 | 36.41 | 3.28 | 367.91 | 111.04 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 270.00 | 806.42 | 0.00 | 806.55 | 66.05 | 3.42 | 128.22 | 33.22 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 400.00 | 806.88 | 0.00 | 807.01 | 66.66 | 3.74 | 185.79 | 48.99 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 490.00 | 807.14 | 0.00 | 807.27 | 65.45 | 3.87 | 223.33 | 60.57 |
| 301.840 | 300.00 | 0.00 | 0.00 | 801.90 | 670.00 | 807.56 | 0.00 | 807.70 | 64.13 | 4.10 | 293.52 | 83.66 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 270.00 | 807.94 | 0.00 | 808.04 | 53.97 | 3.16 | 141.58 | 36.75 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 400.00 | 808.40 | 0.00 | 808.51 | 54.02 | 3.44 | 203.65 | 54.43 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 490.00 | 808.65 | 0.00 | 808.77 | 54.51 | 3.60 | 241.47 | 66.37 |
| 301.850 | 250.00 | 0.00 | 0.00 | 803.30 | 670.00 | 809.07 | 0.00 | 809.19 | 55.07 | 3.86 | 312.51 | 90.28 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 270.00 | 808.78 | 0.00 | 808.90 | 59.56 | 3.28 | 134.91 | 34.98 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 400.00 | 809.25 | 0.00 | 809.37 | 59.56 | 3.58 | 195.18 | 51.83 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.50 | 0.00 | 809.62 | 59.33 | 3.73 | 232.92 | 63.62 |
| 301.860 | 150.00 | 0.00 | 0.00 | 804.20 | 670.00 | 809.92 | 0.00 | 810.05 | 59.11 | 3.97 | 303.62 | 87.14 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 270.00 | 808.83 | 0.00 | 808.91 | 151.91 | 2.72 | 126.34 | 21.91 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 400.00 | 809.31 | 0.00 | 809.39 | 115.89 | 2.65 | 189.85 | 37.16 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.56 | 0.00 | 809.64 | 105.06 | 2.65 | 228.57 | 47.81 |
| 301.870 | 1.00 | 806.60 | 805.30 | 804.20 | 670.00 | 809.99 | 0.00 | 810.07 | 93.37 | 2.69 | 300.64 | 69.34 |

| SECNO | XLCH | ELTRD | ELLC | EIMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 270.00 | 808.96 | 0.00 | 809.02 | 114.40 | 2.44 | 141.52 | 25.24 |
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 400.00 | 809.41 | 0.00 | 809.47 | 95.07 | 2.45 | 204.20 | 41.02 |
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 490.00 | 809.65 | 0.00 | 809.72 | 89.21 | 2.48 | 242.79 | 51.88 |
| 301.880 | 8.00 | 806.60 | 805.30 | 804.20 | 670.00 | 810.07 | 0.00 | 810.14 | 83.45 | 2.58 | 313.01 | 73.35 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 270.00 | 808.95 | 0.00 | 809.04 | 44.65 | 2.94 | 155.25 | 40.41 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 400.00 | 809.39 | 0.00 | 809.49 | 46.61 | 3.25 | 217.05 | 58.59 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 490.00 | 809.64 | 0.00 | 809.74 | 47.82 | 3.42 | 255.27 | 70.86 |
| 301.890 | 1.00 | 0.00 | 0.00 | 804.20 | 670.00 | 810.05 | 0.00 | 810.16 | 49.30 | 3.70 | 326.73 | 95.42 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 270.00 | 809.37 | 0.00 | 809.44 | 44.87 | 2.60 | 169.27 | 40.31 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 400.00 | 809.81 | 0.00 | 809.89 | 40.34 | 2.71 | 257.16 | 62.98 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.06 | 0.00 | 810.13 | 38.39 | 2.78 | 317.92 | 79.09 |
| 302.000 | 90.00 | 0.00 | 0.00 | 805.10 | 670.00 | 810.47 | 0.00 | 810.54 | 35.16 | 2.86 | 440.14 | 112.99 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 270.00 | 809.41 | 0.00 | 809.46 | 103.93 | 2.09 | 168.38 | 26.49 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 400.00 | 809.86 | 0.00 | 809.90 | 74.94 | 1.96 | 259.41 | 46.21 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.10 | 0.00 | 810.14 | 65.73 | 1.93 | 321.50 | 60.44 |
| 302.100 | 1.00 | 807.40 | 807.00 | 805.10 | 670.00 | 810.51 | 0.00 | 810.55 | 54.26 | 1.88 | 445.57 | 90.96 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 270.00 | 809.49 | 0.00 | 809.53 | 82.98 | 1.90 | 183.28 | 29.64 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 400.00 | 809.92 | 0.00 | 809.95 | 66.41 | 1.87 | 272.20 | 49.08 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 490.00 | 810.16 | 0.00 | 810.19 | 59.52 | 1.85 | 334.55 | 63.51 |
| 302.120 | 8.00 | 807.40 | 807.00 | 805.10 | 670.00 | 810.56 | 0.00 | 810.59 | 50.71 | 1.83 | 457.73 | 94.08 |
| 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 270.00 | 809.49 | 0.00 | 809.55 | 34.57 | 2.35 | 191.39 | 45.92 |
| 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 400.00 | 809.91 | 0.00 | 809.97 | 33.19 | 2.51 | 281.71 | 69.44 |
| 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 490.00 | 810.15 | 0.00 | 810.21 | 32.43 | 2.60 | 343.66 | 86.04 |
| 302.140 | 1.00 | 0.00 | 0.00 | 805.10 | 670.00 | 810.55 | 0.00 | 810.61 | 30.69 | 2.71 | 467.80 | 120.94 |
| 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 270.00 | 810.49 | 0.00 | 810.55 | 34.75 | 2.35 | 190.92 | 45.80 |
| 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 400.00 | 810.90 | 0.00 | 810.96 | 35.12 | 2.57 | 274.36 | 67.50 |
| 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 490.00 | 811.12 | 0.00 | 811.18 | 34.93 | 2.68 | 332.11 | 82.91 |
| 302.200 | 290.00 | 0.00 | 0.00 | 806.10 | 670.00 | 811.49 | 0.00 | 811.55 | 34.59 | 2.85 | 443.38 | 113.92 |
| 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 270.00 | 811.46 | 0.00 | 811.51 | 29.64 | 2.21 | 205.61 | 49.60 |
| 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 400.00 | 811.87 | 0.00 | 811.93 | 29.52 | 2.40 | 297.47 | 73.62 |
| 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 490.00 | 812.10 | 0.00 | 812.15 | 29.80 | 2.51 | 357.30 | 89.76 |
| 302.400 | 300.00 | 0.00 | 0.00 | 807.00 | 670.00 | 812.46 | 0.00 | 812.52 | 30.14 | 2.69 | 471.61 | 122.04 |
| 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 270.00 | 813.12 | 0.00 | 813.24 | 93.52 | 3.27 | 132.60 | 27.92 |
| 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 400.00 | 813.52 | 0.00 | 813.64 | 92.04 | 3.55 | 192.36 | 41.69 |
| 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 490.00 | 813.74 | 0.00 | 813.87 | 90.83 | 3.69 | 231.91 | 51.41 |
| 303.000 | 350.00 | 0.00 | 0.00 | 808.20 | 670.00 | 814.11 | 0.00 | 814.24 | 89.49 | 3.93 | 306.26 | 70.83 |
| 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 270.00 | 814.89 | 0.00 | 814.99 | 82.03 | 3.11 | 141.12 | 29.81 |
| 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 400.00 | 815.28 | 0.00 | 815.39 | 82.84 | 3.41 | 201.70 | 43.95 |
| 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 490.00 | 815.49 | 0.00 | 815.61 | 83.27 | 3.57 | 240.95 | 53.70 |
| 303.200 | 200.00 | 0.00 | 0.00 | 809.90 | 670.00 | 815.85 | 0.00 | 815.97 | 83.77 | 3.83 | 315.02 | 73.20 |
| 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 270.00 | 816.50 | 0.00 | 816.60 | 78.74 | 3.06 | 143.87 | 30.43 |
| 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 400.00 | 816.90 | 0.00 | 817.00 | 78.90 | 3.34 | 206.16 | 45.03 |
| 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 490.00 | 817.12 | 0.00 | 817.23 | 78.95 | 3.50 | 246.64 | 55.15 |
| 303.400 | 200.00 | 0.00 | 0.00 | 811.50 | 670.00 | 817.49 | 0.00 | 817.60 | 79.17 | 3.75 | 322.69 | 75.30 |

| SECNO | XLCH | ELTRD | ELLC | EIMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 270.00 | 818.15 | 0.00 | 818.26 | 87.44 | 3.19 | 136.91 | 28.87 |
| 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 400.00 | 818.55 | 0.00 | 818.66 | 86.94 | 3.47 | 197.37 | 42.90 |
| 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 490.00 | 818.77 | 0.00 | 818.89 | 86.71 | 3.63 | 236.70 | 52.62 |
| 303.600 | 200.00 | 0.00 | 0.00 | 813.20 | 670.00 | 819.13 | 0.00 | 819.26 | 86.02 | 3.87 | 311.48 | 72.24 |
| 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 270.00 | 819.81 | 0.00 | 819.90 | 76.93 | 3.03 | 145.46 | 30.78 |
| 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 400.00 | 820.21 | 0.00 | 820.31 | 77.89 | 3.33 | 207.34 | 45.32 |
| 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 490.00 | 820.43 | 0.00 | 820.54 | 78.40 | 3.49 | 247.40 | 55.34 |
| 303.800 | 200.00 | 0.00 | 0.00 | 814.80 | 670.00 | 820.79 | 0.00 | 820.90 | 78.79 | 3.74 | 323.35 | 75.48 |
| 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 270.00 | 821.26 | 0.00 | 821.32 | 43.40 | 2.48 | 173.26 | 40.98 |
| 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 400.00 | 821.68 | 0.00 | 821.75 | 43.78 | 2.74 | 248.80 | 60.45 |
| 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 490.00 | 821.91 | 0.00 | 821.98 | 43.88 | 2.87 | 293.16 | 73.97 |
| 304.200 | 250.00 | 0.00 | 0.00 | 817.00 | 670.00 | 822.28 | 0.00 | 822.36 | 44.33 | 3.09 | 372.48 | 100.63 |
| 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 270.00 | 822.10 | 0.00 | 822.18 | 59.31 | 2.78 | 149.29 | 35.06 |
| 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 400.00 | 822.52 | 0.00 | 822.61 | 59.30 | 3.07 | 216.95 | 51.94 |
| 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 490.00 | 822.74 | 0.00 | 822.84 | 58.73 | 3.21 | 260.69 | 63.94 |
| 304.400 | 168.00 | 0.00 | 0.00 | 818.00 | 670.00 | 823.11 | 0.00 | 823.21 | 57.35 | 3.42 | 337.36 | 88.47 |
| 304.500 | 83.00 | 822.40 | 0.00 | 818.40 | 270.00 | 823.38 | 0.00 | 823.44 | 48.07 | 2.19 | 157.53 | 38.94 |
| 304.500 | 83.00 | 822.40 | 0.00 | 818.40 | 400.00 | 823.59 | 0.00 | 823.69 | 67.73 | 2.78 | 187.79 | 48.60 |
| 304.500 | 83.00 | 822.40 | 0.00 | 818.40 | 490.00 | 823.72 | 0.00 | 823.85 | 79.80 | 3.13 | 205.71 | 54.85 |
| 304.500 | 83.00 | 822.40 | 0.00 | 818.40 | 670.00 | 823.96 | 0.00 | 824.13 | 98.10 | 3.69 | 239.51 | 67.65 |
| 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 270.00 | 823.67 | 0.00 | 823.84 | 46.93 | 3.42 | 84.31 | 39.41 |
| 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 400.00 | 823.99 | 0.00 | 824.28 | 66.92 | 4.36 | 99.44 | 48.90 |
| 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 490.00 | 824.18 | 0.00 | 824.54 | 79.33 | 4.91 | 108.62 | 55.01 |
| 304.800 | 70.00 | 0.00 | 0.00 | 818.80 | 670.00 | 824.51 | 0.00 | 825.03 | 99.58 | 5.91 | 124.28 | 67.14 |
| 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 160.00 | 824.25 | 0.00 | 824.34 | 30.88 | 2.52 | 65.52 | 28.79 |
| 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 230.00 | 824.78 | 0.00 | 824.89 | 28.81 | 2.75 | 89.94 | 42.85 |
| 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 280.00 | 825.10 | 0.00 | 825.23 | 28.54 | 2.90 | 104.76 | 52.41 |
| 305.200 | 120.00 | 0.00 | 0.00 | 819.80 | 340.00 | 825.65 | 0.00 | 825.77 | 21.82 | 2.85 | 131.17 | 72.78 |
| 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 160.00 | 825.93 | 0.00 | 825.93 | .04 | .16 | 1020.93 | 852.34 |
| 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 230.00 | 826.18 | 0.00 | 826.18 | .06 | .21 | 1072.13 | 923.35 |
| 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 280.00 | 826.31 | 0.00 | 826.31 | .08 | .25 | 1099.77 | 962.58 |
| 305.600 | 10.00 | 824.70 | 0.00 | 821.00 | 340.00 | 826.46 | 0.00 | 826.46 | .11 | .30 | 1131.08 | 1007.75 |
| 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 160.00 | 825.93 | 0.00 | 825.93 | .11 | .24 | 668.62 | 480.44 |
| 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 230.00 | 826.18 | 0.00 | 826.18 | .19 | .32 | 710.78 | 530.99 |
| 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 280.00 | 826.32 | 0.00 | 826.32 | .25 | .38 | 733.57 | 559.11 |
| 305.800 | 300.00 | 0.00 | 0.00 | 822.00 | 340.00 | 826.47 | 0.00 | 826.47 | .33 | .45 | 759.38 | 591.62 |
| 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 160.00 | 825.94 | 0.00 | 825.94 | .46 | .40 | 396.26 | 234.68 |
| 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 230.00 | 826.19 | 0.00 | 826.19 | .74 | .53 | 429.94 | 268.24 |
| 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 280.00 | 826.33 | 0.00 | 826.33 | .95 | .62 | 448.22 | 287.14 |
| 305.900 | 300.00 | 0.00 | 0.00 | 823.00 | 340.00 | 826.48 | 0.00 | 826.49 | 1.21 | .73 | 468.94 | 309.16 |
| 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 160.00 | 825.96 | 0.00 | 825.97 | 4.04 | .88 | 181.85 | 79.60 |
| 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 230.00 | 826.22 | 0.00 | 826.24 | 5.46 | 1.10 | 208.35 | 98.44 |
| 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 280.00 | 826.37 | 0.00 | 826.39 | 6.42 | 1.25 | 224.48 | 110.53 |
| 305.000 | 270.00 | 0.00 | 0.00 | 824.00 | 340.00 | 826.53 | 0.00 | 826.56 | 7.51 | 1.41 | 241.86 | 124.04 |

| | SECNO | XLCH | ELTRT | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 160.00 | 826.25 | 0.00 | 826.29 | 33.18 | 1.71 | 93.67 | 27.78 |
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 230.00 | 826.57 | 0.00 | 826.62 | 28.08 | 1.86 | 123.84 | 43.40 |
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 280.00 | 826.75 | 0.00 | 826.81 | 27.23 | 1.98 | 141.55 | 53.66 |
| | 306.100 | 350.00 | 0.00 | 0.00 | 825.20 | 340.00 | 826.95 | 0.00 | 827.02 | 26.40 | 2.10 | 161.66 | 66.17 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 160.00 | 827.93 | 827.93 | 828.69 | 598.37 | 7.00 | 22.87 | 6.54 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 230.00 | 828.40 | 828.40 | 829.28 | 570.54 | 7.53 | 30.54 | 9.63 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 280.00 | 828.72 | 828.72 | 829.63 | 550.05 | 7.68 | 36.45 | 11.94 |
| * | 306.200 | 50.00 | 0.00 | 0.00 | 825.30 | 340.00 | 829.02 | 829.02 | 830.00 | 542.76 | 7.94 | 42.85 | 14.59 |
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 160.00 | 829.64 | 0.00 | 829.81 | 90.62 | 3.34 | 47.94 | 16.81 |
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 230.00 | 830.22 | 0.00 | 830.43 | 93.20 | 3.65 | 63.06 | 23.82 |
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 280.00 | 830.56 | 0.00 | 830.79 | 95.26 | 3.84 | 72.85 | 28.69 |
| | 306.300 | 50.00 | 0.00 | 0.00 | 825.70 | 340.00 | 830.92 | 0.00 | 831.17 | 96.51 | 4.04 | 84.22 | 34.61 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 160.00 | 832.08 | 0.00 | 832.28 | 155.97 | 3.63 | 47.20 | 12.81 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 230.00 | 832.55 | 0.00 | 832.74 | 131.28 | 3.64 | 74.03 | 20.07 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 280.00 | 832.80 | 0.00 | 832.99 | 114.83 | 3.72 | 92.99 | 26.13 |
| | 306.400 | 210.00 | 0.00 | 0.00 | 827.80 | 340.00 | 833.07 | 0.00 | 833.26 | 100.53 | 3.79 | 117.80 | 33.91 |
| * | 306.600 | 40.00 | 833.70 | 830.00 | 827.80 | 160.00 | 833.96 | 0.00 | 833.97 | 4.58 | 1.02 | 237.06 | 74.73 |
| * | 306.600 | 40.00 | 833.70 | 830.00 | 827.80 | 230.00 | 834.13 | 0.00 | 834.15 | 7.29 | 1.33 | 264.96 | 85.19 |
| * | 306.600 | 40.00 | 833.70 | 830.00 | 827.80 | 280.00 | 834.22 | 0.00 | 834.25 | 9.49 | 1.54 | 279.91 | 90.88 |
| * | 306.600 | 40.00 | 833.70 | 830.00 | 827.80 | 340.00 | 834.33 | 0.00 | 834.36 | 12.02 | 1.77 | 298.56 | 98.07 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 160.00 | 833.99 | 0.00 | 834.00 | 4.43 | 1.00 | 240.58 | 76.04 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 230.00 | 834.17 | 0.00 | 834.19 | 6.92 | 1.30 | 270.83 | 87.42 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 280.00 | 834.28 | 0.00 | 834.31 | 8.73 | 1.49 | 290.05 | 94.78 |
| | 306.800 | 60.00 | 0.00 | 0.00 | 827.80 | 340.00 | 834.40 | 0.00 | 834.43 | 10.84 | 1.70 | 311.86 | 103.26 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 160.00 | 834.09 | 0.00 | 834.13 | 21.29 | 1.76 | 120.23 | 34.67 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 230.00 | 834.32 | 0.00 | 834.38 | 28.88 | 2.18 | 145.95 | 42.80 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.46 | 0.00 | 834.53 | 33.36 | 2.43 | 163.69 | 48.48 |
| | 306.820 | 130.00 | 0.00 | 0.00 | 828.80 | 340.00 | 834.62 | 0.00 | 834.70 | 37.25 | 2.67 | 184.64 | 55.71 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 160.00 | 834.10 | 0.00 | 834.15 | 31.60 | 1.97 | 109.30 | 28.46 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 230.00 | 834.33 | 0.00 | 834.40 | 40.09 | 2.40 | 135.42 | 36.32 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 280.00 | 834.48 | 0.00 | 834.56 | 44.71 | 2.64 | 153.45 | 41.87 |
| | 306.840 | 5.00 | 0.00 | 0.00 | 831.20 | 340.00 | 834.63 | 0.00 | 834.73 | 48.12 | 2.87 | 174.70 | 49.02 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 160.00 | 834.12 | 0.00 | 834.16 | 20.17 | 1.72 | 123.26 | 35.62 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 230.00 | 834.36 | 0.00 | 834.42 | 27.02 | 2.13 | 150.51 | 44.25 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 280.00 | 834.51 | 0.00 | 834.58 | 30.99 | 2.37 | 169.29 | 50.29 |
| | 306.860 | 5.00 | 0.00 | 0.00 | 828.80 | 340.00 | 834.67 | 0.00 | 834.75 | 34.29 | 2.59 | 191.25 | 58.06 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 160.00 | 834.59 | 0.00 | 834.61 | 10.87 | 1.23 | 151.90 | 48.54 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 230.00 | 834.93 | 0.00 | 834.96 | 11.74 | 1.41 | 212.38 | 67.11 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.13 | 0.00 | 835.16 | 12.05 | 1.51 | 250.28 | 80.66 |
| | 306.920 | 310.00 | 0.00 | 0.00 | 831.00 | 340.00 | 835.34 | 0.00 | 835.37 | 12.47 | 1.61 | 289.59 | 96.27 |
| * | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 160.00 | 834.72 | 834.72 | 834.90 | 1432.38 | 4.36 | 47.73 | 4.23 |
| | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 230.00 | 834.90 | 0.00 | 835.05 | 825.70 | 3.85 | 74.99 | 8.00 |
| | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 280.00 | 835.12 | 0.00 | 835.22 | 359.70 | 2.94 | 110.12 | 14.76 |
| | 306.930 | 5.00 | 0.00 | 0.00 | 834.00 | 340.00 | 835.33 | 0.00 | 835.42 | 226.54 | 2.09 | 148.28 | 22.59 |

| SECNO | XLCH | ELTRI | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 160.00 | 834.95 | 0.00 | 834.96 | 5.48 | .97 | 215.99 | 68.34 |
| 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 230.00 | 835.08 | 0.00 | 835.11 | 8.85 | 1.28 | 241.33 | 77.32 |
| 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 280.00 | 835.23 | 0.00 | 835.26 | 10.10 | 1.42 | 269.48 | 88.09 |
| 306.940 | 5.00 | 0.00 | 0.00 | 831.00 | 340.00 | 835.42 | 0.00 | 835.45 | 10.99 | 1.54 | 304.44 | 102.56 |
| 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 160.00 | 834.96 | 0.00 | 834.97 | 1.09 | .53 | 303.66 | 153.16 |
| 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 230.00 | 835.11 | 0.00 | 835.11 | 1.98 | .73 | 316.70 | 163.27 |
| 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 280.00 | 835.26 | 0.00 | 835.27 | 2.58 | .85 | 330.66 | 174.32 |
| 306.950 | 10.00 | 0.00 | 0.00 | 831.20 | 340.00 | 835.44 | 0.00 | 835.46 | 3.26 | .98 | 347.99 | 188.33 |
| 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 160.00 | 835.06 | 0.00 | 835.09 | 26.09 | 1.40 | 114.26 | 31.33 |
| 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 230.00 | 835.27 | 0.00 | 835.32 | 33.81 | 1.73 | 132.90 | 39.56 |
| 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.46 | 0.00 | 835.51 | 33.95 | 1.86 | 150.91 | 48.06 |
| 306.960 | 350.00 | 0.00 | 0.00 | 833.60 | 340.00 | 835.69 | 0.00 | 835.75 | 33.95 | 1.98 | 171.44 | 58.35 |
| 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 160.00 | 835.06 | 0.00 | 835.10 | 97.15 | 1.59 | 100.71 | 16.23 |
| 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 230.00 | 835.26 | 0.00 | 835.34 | 200.74 | 2.28 | 100.71 | 16.23 |
| 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.44 | 0.00 | 835.56 | 297.51 | 2.78 | 100.71 | 16.23 |
| 306.970 | 1.00 | 835.60 | 834.90 | 833.60 | 340.00 | 835.66 | 0.00 | 835.82 | 660.37 | 3.20 | 106.16 | 13.23 |
| 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 160.00 | 835.14 | 0.00 | 835.18 | 97.15 | 1.59 | 100.71 | 16.23 |
| 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 230.00 | 835.42 | 0.00 | 835.50 | 200.74 | 2.28 | 100.71 | 16.23 |
| 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 280.00 | 835.74 | 0.00 | 835.83 | 360.12 | 2.47 | 113.49 | 14.75 |
| 306.980 | 8.00 | 835.60 | 834.90 | 833.60 | 340.00 | 836.06 | 0.00 | 836.14 | 245.18 | 2.35 | 144.59 | 21.71 |
| 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 160.00 | 835.16 | 0.00 | 835.18 | 21.06 | 1.31 | 122.44 | 34.86 |
| 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 230.00 | 835.49 | 0.00 | 835.52 | 22.13 | 1.51 | 152.63 | 48.90 |
| 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 280.00 | 835.82 | 0.00 | 835.85 | 18.76 | 1.53 | 183.44 | 64.65 |
| 306.990 | 1.00 | 0.00 | 0.00 | 833.60 | 340.00 | 836.12 | 0.00 | 836.16 | 18.71 | 1.60 | 212.55 | 78.60 |
| 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 160.00 | 835.35 | 0.00 | 835.37 | 14.05 | 1.15 | 139.66 | 42.69 |
| 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 230.00 | 835.70 | 0.00 | 835.73 | 15.32 | 1.34 | 172.23 | 58.76 |
| 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.01 | 0.00 | 836.04 | 14.51 | 1.39 | 201.79 | 73.51 |
| 307.000 | 110.00 | 0.00 | 0.00 | 833.60 | 340.00 | 836.31 | 0.00 | 836.34 | 14.56 | 1.46 | 234.18 | 89.10 |
| 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 160.00 | 835.47 | 0.00 | 835.49 | 11.11 | 1.06 | 150.81 | 48.01 |
| 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 230.00 | 835.83 | 0.00 | 835.85 | 12.46 | 1.25 | 184.39 | 65.15 |
| 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 280.00 | 836.13 | 0.00 | 836.16 | 12.38 | 1.31 | 214.60 | 79.58 |
| 307.200 | 90.00 | 0.00 | 0.00 | 833.60 | 340.00 | 836.43 | 0.00 | 836.46 | 12.09 | 1.38 | 248.51 | 97.79 |
| 307.400 | 50.00 | 843.20 | 835.00 | 833.60 | 160.00 | 837.64 | 0.00 | 837.64 | .61 | .41 | 433.74 | 205.54 |
| 307.400 | 50.00 | 843.20 | 835.00 | 833.60 | 230.00 | 840.32 | 0.00 | 840.32 | .13 | .27 | 1107.12 | 646.52 |
| 307.400 | 50.00 | 843.20 | 835.00 | 833.60 | 280.00 | 842.79 | 0.00 | 842.79 | .04 | .20 | 1905.41 | 1339.82 |
| 307.400 | 50.00 | 843.20 | 835.00 | 833.60 | 340.00 | 843.44 | 0.00 | 843.44 | .05 | .22 | 2128.24 | 1565.69 |

SPRAGUE BRANCH

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKES | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 20.000 | 480.00 | 802.94 | 0.00 | 0.00 | 0.00 | 158.46 | 0.00 |
| 20.000 | 700.00 | 803.27 | .33 | 0.00 | 0.00 | 161.43 | 0.00 |
| 20.000 | 820.00 | 803.45 | .18 | 0.00 | 0.00 | 163.05 | 0.00 |
| 20.000 | 1100.00 | 803.84 | .39 | 0.00 | 0.00 | 166.56 | 0.00 |
| 301.600 | 480.00 | 804.60 | 0.00 | 1.66 | 0.00 | 328.00 | 26.00 |
| 301.600 | 700.00 | 805.05 | .45 | 1.78 | 0.00 | 328.00 | 26.00 |
| 301.600 | 820.00 | 805.26 | .21 | 1.81 | 0.00 | 328.00 | 26.00 |
| 301.600 | 1100.00 | 805.72 | .46 | 1.88 | 0.00 | 328.00 | 26.00 |
| 301.800 | 270.00 | 804.63 | 0.00 | .03 | 0.00 | 186.07 | 100.00 |
| 301.800 | 400.00 | 805.09 | .46 | .03 | 0.00 | 192.63 | 100.00 |
| 301.800 | 490.00 | 805.30 | .21 | .04 | 0.00 | 195.64 | 100.00 |
| 301.800 | 670.00 | 805.76 | .46 | .04 | 0.00 | 200.00 | 100.00 |
| 301.820 | 270.00 | 804.88 | 0.00 | .25 | 0.00 | 127.72 | 300.00 |
| 301.820 | 400.00 | 805.40 | .52 | .32 | 0.00 | 156.52 | 300.00 |
| 301.820 | 490.00 | 805.67 | .26 | .37 | 0.00 | 170.17 | 300.00 |
| 301.820 | 670.00 | 806.18 | .51 | .42 | 0.00 | 182.49 | 300.00 |
| 301.840 | 270.00 | 806.42 | 0.00 | 1.54 | 0.00 | 110.11 | 300.00 |
| 301.840 | 400.00 | 806.88 | .46 | 1.47 | 0.00 | 139.73 | 300.00 |
| 301.840 | 490.00 | 807.14 | .26 | 1.47 | 0.00 | 153.02 | 300.00 |
| 301.840 | 670.00 | 807.56 | .43 | 1.39 | 0.00 | 175.19 | 300.00 |
| 301.850 | 270.00 | 807.94 | 0.00 | 1.52 | 0.00 | 117.98 | 250.00 |
| 301.850 | 400.00 | 808.40 | .47 | 1.53 | 0.00 | 146.20 | 250.00 |
| 301.850 | 490.00 | 808.65 | .25 | 1.52 | 0.00 | 159.05 | 250.00 |
| 301.850 | 670.00 | 809.07 | .42 | 1.51 | 0.00 | 178.08 | 250.00 |
| 301.860 | 270.00 | 808.78 | 0.00 | .84 | 0.00 | 114.12 | 150.00 |
| 301.860 | 400.00 | 809.25 | .47 | .84 | 0.00 | 143.17 | 150.00 |
| 301.860 | 490.00 | 809.50 | .25 | .85 | 0.00 | 156.23 | 150.00 |
| 301.860 | 670.00 | 809.92 | .42 | .85 | 0.00 | 177.37 | 150.00 |
| 301.870 | 270.00 | 808.83 | 0.00 | .05 | 0.00 | 117.77 | 1.00 |
| 301.870 | 400.00 | 809.31 | .48 | .07 | 0.00 | 146.58 | 1.00 |
| 301.870 | 490.00 | 809.56 | .25 | .07 | 0.00 | 159.69 | 1.00 |
| 301.870 | 670.00 | 809.99 | .42 | .07 | 0.00 | 178.33 | 1.00 |
| 301.880 | 270.00 | 808.96 | 0.00 | .12 | 0.00 | 126.13 | 8.00 |
| 301.880 | 400.00 | 809.41 | .45 | .10 | 0.00 | 151.57 | 8.00 |
| 301.880 | 490.00 | 809.65 | .24 | .09 | 0.00 | 164.24 | 8.00 |
| 301.880 | 670.00 | 810.07 | .41 | .08 | 0.00 | 179.32 | 8.00 |
| 301.890 | 270.00 | 808.95 | 0.00 | -.01 | 0.00 | 125.52 | 1.00 |
| 301.890 | 400.00 | 809.39 | .44 | -.01 | 0.00 | 150.88 | 1.00 |
| 301.890 | 490.00 | 809.64 | .24 | -.01 | 0.00 | 163.48 | 1.00 |
| 301.890 | 670.00 | 810.05 | .41 | -.02 | 0.00 | 179.23 | 1.00 |
| 302.000 | 270.00 | 809.37 | 0.00 | .42 | 0.00 | 166.03 | 90.00 |
| 302.000 | 400.00 | 809.81 | .45 | .42 | 0.00 | 229.20 | 90.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 302.000 | 490.00 | 810.06 | .25 | .42 | 0.00 | 264.73 | 90.00 |
| 302.000 | 670.00 | 810.47 | .41 | .42 | 0.00 | 328.79 | 90.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKES | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 302.100 | 270.00 | 809.41 | 0.00 | .04 | 0.00 | 170.78 | 1.00 |
| 302.100 | 400.00 | 809.86 | .45 | .04 | 0.00 | 235.49 | 1.00 |
| 302.100 | 490.00 | 810.10 | .25 | .04 | 0.00 | 270.90 | 1.00 |
| 302.100 | 670.00 | 810.51 | .41 | .04 | 0.00 | 336.86 | 1.00 |
| 302.120 | 270.00 | 809.49 | 0.00 | .08 | 0.00 | 182.95 | 8.00 |
| 302.120 | 400.00 | 809.92 | .42 | .06 | 0.00 | 243.21 | 8.00 |
| 302.120 | 490.00 | 810.16 | .24 | .05 | 0.00 | 277.77 | 8.00 |
| 302.120 | 670.00 | 810.56 | .40 | .04 | 0.00 | 344.08 | 8.00 |
| 302.140 | 270.00 | 809.49 | 0.00 | -.01 | 0.00 | 183.13 | 1.00 |
| 302.140 | 400.00 | 809.91 | .42 | -.01 | 0.00 | 244.17 | 1.00 |
| 302.140 | 490.00 | 810.15 | .24 | -.01 | 0.00 | 278.41 | 1.00 |
| 302.140 | 670.00 | 810.55 | .40 | -.01 | 0.00 | 345.36 | 1.00 |
| 302.200 | 270.00 | 810.49 | 0.00 | 1.00 | 0.00 | 182.76 | 290.00 |
| 302.200 | 400.00 | 810.90 | .41 | .99 | 0.00 | 239.79 | 290.00 |
| 302.200 | 490.00 | 811.12 | .22 | .97 | 0.00 | 272.35 | 290.00 |
| 302.200 | 670.00 | 811.49 | .37 | .94 | 0.00 | 330.77 | 290.00 |
| 302.400 | 270.00 | 811.46 | 0.00 | .97 | 0.00 | 194.02 | 300.00 |
| 302.400 | 400.00 | 811.87 | .41 | .98 | 0.00 | 253.33 | 300.00 |
| 302.400 | 490.00 | 812.10 | .22 | .98 | 0.00 | 285.40 | 300.00 |
| 302.400 | 670.00 | 812.46 | .37 | .98 | 0.00 | 347.58 | 300.00 |
| 303.000 | 270.00 | 813.12 | 0.00 | 1.66 | 0.00 | 134.07 | 350.00 |
| 303.000 | 400.00 | 813.52 | .39 | 1.64 | 0.00 | 166.85 | 350.00 |
| 303.000 | 490.00 | 813.74 | .23 | 1.65 | 0.00 | 185.39 | 350.00 |
| 303.000 | 670.00 | 814.11 | .37 | 1.65 | 0.00 | 215.97 | 350.00 |
| 303.200 | 270.00 | 814.89 | 0.00 | 1.77 | 0.00 | 139.21 | 200.00 |
| 303.200 | 400.00 | 815.28 | .39 | 1.76 | 0.00 | 171.41 | 200.00 |
| 303.200 | 490.00 | 815.49 | .22 | 1.75 | 0.00 | 189.37 | 200.00 |
| 303.200 | 670.00 | 815.85 | .36 | 1.74 | 0.00 | 219.29 | 200.00 |
| 303.400 | 270.00 | 816.50 | 0.00 | 1.61 | 0.00 | 140.83 | 200.00 |
| 303.400 | 400.00 | 816.90 | .40 | 1.62 | 0.00 | 173.54 | 200.00 |
| 303.400 | 490.00 | 817.12 | .22 | 1.63 | 0.00 | 191.84 | 200.00 |
| 303.400 | 670.00 | 817.49 | .37 | 1.64 | 0.00 | 222.16 | 200.00 |
| 303.600 | 270.00 | 818.15 | 0.00 | 1.65 | 0.00 | 136.70 | 200.00 |
| 303.600 | 400.00 | 818.55 | .40 | 1.65 | 0.00 | 169.31 | 200.00 |
| 303.600 | 490.00 | 818.77 | .22 | 1.65 | 0.00 | 187.51 | 200.00 |
| 303.600 | 670.00 | 819.13 | .36 | 1.64 | 0.00 | 217.96 | 200.00 |
| 303.800 | 270.00 | 819.81 | 0.00 | 1.65 | 0.00 | 141.76 | 200.00 |
| 303.800 | 400.00 | 820.21 | .40 | 1.66 | 0.00 | 174.11 | 200.00 |
| 303.800 | 490.00 | 820.43 | .22 | 1.66 | 0.00 | 192.16 | 200.00 |
| 303.800 | 670.00 | 820.79 | .36 | 1.66 | 0.00 | 222.41 | 200.00 |
| 304.200 | 270.00 | 821.26 | 0.00 | 1.46 | 0.00 | 156.80 | 250.00 |
| 304.200 | 400.00 | 821.68 | .41 | 1.47 | 0.00 | 198.82 | 250.00 |
| 304.200 | 490.00 | 821.91 | .23 | 1.48 | 0.00 | 207.73 | 250.00 |
| 304.200 | 670.00 | 822.28 | .37 | 1.49 | 0.00 | 221.93 | 250.00 |

| | SECNO | Q | CWSEI | DIFWSE | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 304.400 | 270.00 | 822.10 | 0.00 | .84 | 0.00 | 139.47 | 168.00 |
| | 304.400 | 400.00 | 822.52 | .42 | .84 | 0.00 | 184.24 | 168.00 |
| | 304.400 | 490.00 | 822.74 | .23 | .84 | 0.00 | 201.63 | 168.00 |
| | 304.400 | 670.00 | 823.11 | .37 | .84 | 0.00 | 215.76 | 168.00 |
| | 304.500 | 270.00 | 823.38 | 0.00 | 1.28 | 0.00 | 140.00 | 83.00 |
| | 304.500 | 400.00 | 823.59 | .22 | 1.08 | 0.00 | 140.00 | 83.00 |
| | 304.500 | 490.00 | 823.72 | .13 | .98 | 0.00 | 140.00 | 83.00 |
| | 304.500 | 670.00 | 823.96 | .24 | .85 | 0.00 | 140.00 | 83.00 |
| | 304.800 | 270.00 | 823.67 | 0.00 | .29 | 0.00 | 45.67 | 70.00 |
| | 304.800 | 400.00 | 823.99 | .33 | .40 | 0.00 | 47.09 | 70.00 |
| | 304.800 | 490.00 | 824.18 | .19 | .46 | 0.00 | 47.93 | 70.00 |
| | 304.800 | 670.00 | 824.51 | .33 | .55 | 0.00 | 48.00 | 70.00 |
| | 305.200 | 160.00 | 824.25 | 0.00 | .58 | 0.00 | 41.24 | 120.00 |
| | 305.200 | 230.00 | 824.78 | .53 | .79 | 0.00 | 46.21 | 120.00 |
| | 305.200 | 280.00 | 825.10 | .33 | .92 | 0.00 | 47.58 | 120.00 |
| | 305.200 | 340.00 | 825.65 | .55 | 1.14 | 0.00 | 48.00 | 120.00 |
| | 305.600 | 160.00 | 825.93 | 0.00 | 1.69 | 0.00 | 207.00 | 10.00 |
| | 305.600 | 230.00 | 826.18 | .25 | 1.40 | 0.00 | 207.00 | 10.00 |
| | 305.600 | 280.00 | 826.31 | .13 | 1.21 | 0.00 | 207.00 | 10.00 |
| | 305.600 | 340.00 | 826.46 | .15 | .81 | 0.00 | 207.00 | 10.00 |
| | 305.800 | 160.00 | 825.93 | 0.00 | .00 | 0.00 | 170.00 | 300.00 |
| | 305.800 | 230.00 | 826.18 | .25 | .00 | 0.00 | 170.00 | 300.00 |
| | 305.800 | 280.00 | 826.32 | .13 | .00 | 0.00 | 170.00 | 300.00 |
| | 305.800 | 340.00 | 826.47 | .15 | .00 | 0.00 | 170.00 | 300.00 |
| | 305.900 | 160.00 | 825.94 | 0.00 | .00 | 0.00 | 135.00 | 300.00 |
| | 305.900 | 230.00 | 826.19 | .25 | .01 | 0.00 | 135.00 | 300.00 |
| | 305.900 | 280.00 | 826.33 | .14 | .01 | 0.00 | 135.00 | 300.00 |
| | 305.900 | 340.00 | 826.48 | .15 | .01 | 0.00 | 135.00 | 300.00 |
| | 305.000 | 160.00 | 825.96 | 0.00 | .02 | 0.00 | 101.27 | 270.00 |
| | 305.000 | 230.00 | 826.22 | .26 | .03 | 0.00 | 103.43 | 270.00 |
| | 305.000 | 280.00 | 826.37 | .15 | .04 | 0.00 | 104.72 | 270.00 |
| | 305.000 | 340.00 | 826.53 | .16 | .05 | 0.00 | 106.09 | 270.00 |
| | 306.100 | 160.00 | 826.25 | 0.00 | .29 | 0.00 | 93.73 | 350.00 |
| | 306.100 | 230.00 | 826.57 | .32 | .34 | 0.00 | 96.38 | 350.00 |
| | 306.100 | 280.00 | 826.75 | .18 | .38 | 0.00 | 97.90 | 350.00 |
| | 306.100 | 340.00 | 826.95 | .20 | .42 | 0.00 | 99.60 | 350.00 |
| * | 306.200 | 160.00 | 827.93 | 0.00 | 1.69 | 0.00 | 15.33 | 50.00 |
| * | 306.200 | 230.00 | 828.40 | .47 | 1.84 | 0.00 | 17.65 | 50.00 |
| * | 306.200 | 280.00 | 828.72 | .31 | 1.97 | 0.00 | 19.94 | 50.00 |
| * | 306.200 | 340.00 | 829.02 | .30 | 2.07 | 0.00 | 22.16 | 50.00 |
| | 306.300 | 160.00 | 829.64 | 0.00 | 1.70 | 0.00 | 23.77 | 50.00 |
| | 306.300 | 230.00 | 830.22 | .59 | 1.82 | 0.00 | 28.03 | 50.00 |
| | 306.300 | 280.00 | 830.56 | .34 | 1.84 | 0.00 | 30.47 | 50.00 |
| | 306.300 | 340.00 | 830.92 | .36 | 1.90 | 0.00 | 33.08 | 50.00 |

| | SECNO | Q | CWSEI | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 306.400 | 160.00 | 832.08 | 0.00 | 2.44 | 0.00 | 45.18 | 210.00 |
| | 306.400 | 230.00 | 832.55 | .47 | 2.33 | 0.00 | 68.69 | 210.00 |
| | 306.400 | 280.00 | 832.80 | .25 | 2.24 | 0.00 | 85.01 | 210.00 |
| | 306.400 | 340.00 | 833.07 | .27 | 2.15 | 0.00 | 102.52 | 210.00 |
| * | 306.600 | 160.00 | 833.96 | 0.00 | 1.89 | 0.00 | 159.63 | 40.00 |
| * | 306.600 | 230.00 | 834.13 | .17 | 1.58 | 0.00 | 169.83 | 40.00 |
| * | 306.600 | 280.00 | 834.22 | .10 | 1.43 | 0.00 | 175.05 | 40.00 |
| * | 306.600 | 340.00 | 834.33 | .10 | 1.26 | 0.00 | 181.36 | 40.00 |
| | 306.800 | 160.00 | 833.59 | 0.00 | .03 | 0.00 | 160.95 | 60.00 |
| | 306.800 | 230.00 | 834.17 | .18 | .04 | 0.00 | 171.90 | 60.00 |
| | 306.800 | 280.00 | 834.28 | .11 | .06 | 0.00 | 178.51 | 60.00 |
| | 306.800 | 340.00 | 834.40 | .12 | .07 | 0.00 | 185.72 | 60.00 |
| | 306.820 | 160.00 | 834.09 | 0.00 | .10 | 0.00 | 104.07 | 130.00 |
| | 306.820 | 230.00 | 834.32 | .23 | .15 | 0.00 | 119.31 | 130.00 |
| | 306.820 | 280.00 | 834.46 | .14 | .18 | 0.00 | 128.77 | 130.00 |
| | 306.820 | 340.00 | 834.62 | .16 | .22 | 0.00 | 138.45 | 130.00 |
| | 306.840 | 160.00 | 834.10 | 0.00 | .01 | 0.00 | 104.50 | 5.00 |
| | 306.840 | 230.00 | 834.33 | .23 | .01 | 0.00 | 119.90 | 5.00 |
| | 306.840 | 280.00 | 834.48 | .15 | .02 | 0.00 | 129.47 | 5.00 |
| | 306.840 | 340.00 | 834.63 | .16 | .02 | 0.00 | 139.17 | 5.00 |
| | 306.860 | 160.00 | 834.12 | 0.00 | .03 | 0.00 | 105.98 | 5.00 |
| | 306.860 | 230.00 | 834.36 | .24 | .03 | 0.00 | 121.81 | 5.00 |
| | 306.860 | 280.00 | 834.51 | .15 | .04 | 0.00 | 131.60 | 5.00 |
| | 306.860 | 340.00 | 834.67 | .16 | .04 | 0.00 | 141.29 | 5.00 |
| | 306.920 | 160.00 | 834.59 | 0.00 | .47 | 0.00 | 150.96 | 310.00 |
| | 306.920 | 230.00 | 834.93 | .34 | .57 | 0.00 | 190.00 | 310.00 |
| | 306.920 | 280.00 | 835.13 | .20 | .62 | 0.00 | 190.00 | 310.00 |
| | 306.920 | 340.00 | 835.34 | .21 | .66 | 0.00 | 190.00 | 310.00 |
| * | 306.930 | 160.00 | 834.72 | 0.00 | .12 | 0.00 | 133.16 | 5.00 |
| | 306.930 | 230.00 | 834.90 | .18 | -.03 | 0.00 | 157.71 | 5.00 |
| | 306.930 | 280.00 | 835.12 | .22 | -.01 | 0.00 | 164.42 | 5.00 |
| | 306.930 | 340.00 | 835.33 | .22 | -.00 | 0.00 | 190.00 | 5.00 |
| | 306.940 | 160.00 | 834.95 | 0.00 | .23 | 0.00 | 190.00 | 5.00 |
| | 306.940 | 230.00 | 835.08 | .13 | .18 | 0.00 | 190.00 | 5.00 |
| | 306.940 | 280.00 | 835.23 | .15 | .11 | 0.00 | 190.00 | 5.00 |
| | 306.940 | 340.00 | 835.42 | .18 | .08 | 0.00 | 190.00 | 5.00 |
| | 306.950 | 160.00 | 834.96 | 0.00 | .01 | 0.00 | 91.38 | 10.00 |
| | 306.950 | 230.00 | 835.11 | .14 | .02 | 0.00 | 92.19 | 10.00 |
| | 306.950 | 280.00 | 835.26 | .15 | .02 | 0.00 | 93.05 | 10.00 |
| | 306.950 | 340.00 | 835.44 | .19 | .03 | 0.00 | 94.10 | 10.00 |
| | 306.960 | 160.00 | 835.06 | 0.00 | .09 | 0.00 | 86.74 | 350.00 |
| | 306.960 | 230.00 | 835.27 | .21 | .16 | 0.00 | 89.18 | 350.00 |
| | 306.960 | 280.00 | 835.46 | .19 | .21 | 0.00 | 91.47 | 350.00 |
| | 306.960 | 340.00 | 835.69 | .23 | .25 | 0.00 | 94.01 | 350.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 306.970 | 160.00 | 835.06 | 0.00 | .00 | 0.00 | 86.76 | 1.00 |
| 306.970 | 230.00 | 835.26 | .20 | -.01 | 0.00 | 89.20 | 1.00 |
| 306.970 | 280.00 | 835.44 | .18 | -.02 | 0.00 | 91.16 | 1.00 |
| 306.970 | 340.00 | 835.66 | .22 | -.03 | 0.00 | 93.64 | 1.00 |
| 306.980 | 160.00 | 835.14 | 0.00 | .08 | 0.00 | 87.65 | 8.00 |
| 306.980 | 230.00 | 835.42 | .29 | .16 | 0.00 | 90.94 | 8.00 |
| 306.980 | 280.00 | 835.74 | .31 | .29 | 0.00 | 94.54 | 8.00 |
| 306.980 | 340.00 | 836.06 | .32 | .40 | 0.00 | 102.01 | 8.00 |
| 306.990 | 160.00 | 835.16 | 0.00 | .02 | 0.00 | 87.82 | 1.00 |
| 306.990 | 230.00 | 835.49 | .33 | .06 | 0.00 | 91.68 | 1.00 |
| 306.990 | 280.00 | 835.82 | .33 | .08 | 0.00 | 95.47 | 1.00 |
| 306.990 | 340.00 | 836.12 | .30 | .06 | 0.00 | 104.24 | 1.00 |
| 307.000 | 160.00 | 835.35 | 0.00 | .20 | 0.00 | 90.05 | 110.00 |
| 307.000 | 230.00 | 835.70 | .35 | .21 | 0.00 | 94.11 | 110.00 |
| 307.000 | 280.00 | 836.01 | .31 | .19 | 0.00 | 99.99 | 110.00 |
| 307.000 | 340.00 | 836.31 | .30 | .19 | 0.00 | 112.46 | 110.00 |
| 307.200 | 160.00 | 835.47 | 0.00 | .12 | 0.00 | 91.46 | 90.00 |
| 307.200 | 230.00 | 835.83 | .36 | .13 | 0.00 | 95.58 | 90.00 |
| 307.200 | 280.00 | 836.13 | .30 | .12 | 0.00 | 105.02 | 90.00 |
| 307.200 | 340.00 | 836.43 | .30 | .12 | 0.00 | 119.42 | 90.00 |
| 307.400 | 160.00 | 837.64 | 0.00 | 2.17 | 0.00 | 187.45 | 50.00 |
| 307.400 | 230.00 | 840.32 | 2.68 | 4.49 | 0.00 | 297.16 | 50.00 |
| 307.400 | 280.00 | 842.79 | 2.47 | 6.66 | 0.00 | 338.70 | 50.00 |
| 307.400 | 340.00 | 843.44 | .65 | 7.01 | 0.00 | 344.25 | 50.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  306.200  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  306.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  306.200  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  306.200  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.200  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.200  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  306.600  PROFILE= 1  HYDRAULIC JUMP D.S.
CAUTION  SECNO=  306.600  PROFILE= 2  HYDRAULIC JUMP D.S.
CAUTION  SECNO=  306.600  PROFILE= 3  HYDRAULIC JUMP D.S.
CAUTION  SECNO=  306.600  PROFILE= 4  HYDRAULIC JUMP D.S.

CAUTION  SECNO=  306.930  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  306.930  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  306.930  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  306.930  PROFILE= 1  SLOPE TOO STEEP
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FLOOD INSURANCE ZONE DATA FOR SPRAGUE BRANCH

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 20.000 | 0. | -.51 | -.18 | .39 |
| 301.600 | 26. | -.66 | -.21 | .46 |
| 301.800 | 126. | -.67 | -.21 | .46 |
| 301.820 | 426. | -.78 | -.26 | .51 |
| 301.840 | 726. | -.71 | -.26 | .43 |
| 301.850 | 976. | -.71 | -.25 | .42 |
| 301.860 | 1126. | -.72 | -.25 | .42 |
| 301.870 | 1127. | -.73 | -.25 | .42 |
| 301.880 | 1135. | -.69 | -.24 | .41 |
| 301.890 | 1136. | -.69 | -.24 | .41 |
| 302.000 | 1226. | -.69 | -.25 | .41 |
| 302.100 | 1227. | -.69 | -.25 | .41 |
| 302.120 | 1235. | -.66 | -.24 | .40 |
| 302.140 | 1236. | -.66 | -.24 | .40 |
| 302.200 | 1526. | -.63 | -.22 | .37 |
| 302.400 | 1826. | -.63 | -.22 | .37 |
| 303.000 | 2176. | -.62 | -.23 | .37 |
| 303.200 | 2376. | -.60 | -.22 | .36 |
| 303.400 | 2576. | -.62 | -.22 | .37 |
| 303.600 | 2776. | -.62 | -.22 | .36 |
| 303.800 | 2976. | -.62 | -.22 | .36 |
| 304.200 | 3226. | -.64 | -.23 | .37 |
| 304.400 | 3394. | -.64 | -.23 | .37 |
| 304.500 | 3477. | -.34 | -.13 | .24 |
| 304.800 | 3547. | -.52 | -.19 | .33 |
| 305.200 | 3667. | -.86 | -.33 | .55 |
| 305.600 | 3677. | -.38 | -.13 | .15 |
| 305.800 | 3977. | -.38 | -.13 | .15 |
| 305.900 | 4277. | -.39 | -.14 | .15 |
| 305.000 | 4547. | -.41 | -.15 | .16 |
| 306.100 | 4897. | -.50 | -.18 | .20 |
| 306.200 | 4947. | -.78 | -.31 | .30 |
| 306.300 | 4997. | -.92 | -.34 | .36 |
| 306.400 | 5207. | -.72 | -.25 | .27 |
| 306.600 | 5247. | -.26 | -.10 | .10 |
| 306.800 | 5307. | -.29 | -.11 | .12 |
| 306.820 | 5437. | -.37 | -.14 | .16 |
| 306.840 | 5442. | -.38 | -.15 | .16 |
| 306.860 | 5447. | -.39 | -.15 | .16 |
| 306.920 | 5757. | -.54 | -.20 | .21 |
| 306.930 | 5762. | -.40 | -.22 | .22 |
| 306.940 | 5767. | -.28 | -.15 | .18 |
| 306.950 | 5777. | -.29 | -.15 | .19 |
| 306.960 | 6127. | -.40 | -.19 | .23 |
| 306.970 | 6128. | -.38 | -.18 | .22 |
| 306.980 | 6136. | -.60 | -.31 | .32 |
| 306.990 | 6137. | -.66 | -.33 | .30 |
| 307.000 | 6247. | -.65 | -.31 | .30 |
| 307.200 | 6337. | -.66 | -.30 | .30 |

| | | | | |
|---|---|---|---|---|
| 307.400 | 6387. | -5.15 | -2.47 | .65 |
| WEIGHTED AVG FOR REACH | | -.59 | -.22 | .31 |

FHF FOR THE REACH = 005 WITH 99.2_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 1

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 640.00 | 794.82 | 0.00 | 795.07 | 41.82 | 4.00 | 160.14 | 98.96 |
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 950.00 | 798.03 | 0.00 | 798.06 | 2.53 | 1.45 | 775.15 | 596.81 |
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 1120.00 | 798.37 | 0.00 | 798.40 | 2.66 | 1.57 | 847.23 | 687.17 |
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 1500.00 | 801.30 | 0.00 | 801.32 | .82 | 1.21 | 1468.39 | 1652.39 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 640.00 | 795.94 | 0.00 | 796.06 | 11.34 | 3.06 | 314.87 | 190.09 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 950.00 | 798.17 | 0.00 | 798.20 | 3.07 | 1.96 | 957.01 | 542.63 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 1120.00 | 798.51 | 0.00 | 798.55 | 3.09 | 2.02 | 1113.52 | 637.16 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 1500.00 | 801.35 | 0.00 | 801.35 | .57 | 1.05 | 3006.00 | 1981.73 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 640.00 | 796.58 | 0.00 | 796.64 | 11.27 | 2.31 | 511.86 | 190.63 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 950.00 | 798.35 | 0.00 | 798.36 | 3.26 | 1.48 | 1396.96 | 525.96 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 1120.00 | 798.70 | 0.00 | 798.71 | 3.20 | 1.52 | 1608.24 | 626.01 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 1500.00 | 801.38 | 0.00 | 801.39 | .72 | .89 | 3490.08 | 1772.25 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 640.00 | 797.00 | 0.00 | 797.09 | 14.63 | 2.79 | 386.36 | 167.34 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 950.00 | 798.45 | 0.00 | 798.47 | 3.63 | 1.61 | 1067.30 | 498.89 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 1120.00 | 798.79 | 0.00 | 798.81 | 3.20 | 1.56 | 1277.48 | 626.37 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 1500.00 | 801.40 | 0.00 | 801.41 | .42 | .69 | 3167.70 | 2314.03 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 320.00 | 797.30 | 0.00 | 797.32 | 3.84 | .83 | 337.29 | 163.30 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 480.00 | 798.53 | 0.00 | 798.55 | 2.15 | .73 | 539.50 | 327.18 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 570.00 | 798.86 | 0.00 | 798.88 | 2.18 | .76 | 620.76 | 385.75 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 780.00 | 801.41 | 0.00 | 801.42 | .43 | .43 | 1508.20 | 1183.79 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 320.00 | 797.34 | 0.00 | 797.34 | .39 | .27 | 971.44 | 510.26 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 480.00 | 798.56 | 0.00 | 798.56 | .22 | .24 | 1549.91 | 1025.37 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 570.00 | 798.89 | 0.00 | 798.89 | .23 | .26 | 1718.66 | 1198.27 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 780.00 | 801.42 | 0.00 | 801.42 | .07 | .19 | 3044.30 | 2918.51 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 320.00 | 797.36 | 0.00 | 797.36 | 2.19 | .58 | 649.63 | 216.34 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 480.00 | 798.57 | 0.00 | 798.57 | .48 | .33 | 1350.18 | 689.74 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 570.00 | 798.90 | 0.00 | 798.90 | .44 | .33 | 1547.91 | 861.35 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 780.00 | 801.42 | 0.00 | 801.42 | .09 | .19 | 3045.21 | 2626.38 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 320.00 | 797.55 | 0.00 | 797.57 | 19.42 | 1.65 | 333.69 | 72.62 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 480.00 | 798.61 | 0.00 | 798.62 | 3.72 | .88 | 833.48 | 248.81 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 570.00 | 798.94 | 0.00 | 798.94 | 3.05 | .84 | 998.56 | 326.18 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 780.00 | 801.43 | 0.00 | 801.43 | .43 | .42 | 2254.38 | 1184.01 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 320.00 | 798.60 | 798.38 | 798.68 | 170.26 | 3.03 | 155.88 | 24.52 |
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 480.00 | 798.83 | 0.00 | 798.92 | 168.01 | 3.15 | 209.91 | 37.03 |
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 570.00 | 799.12 | 0.00 | 799.18 | 101.89 | 2.59 | 282.11 | 56.47 |
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 780.00 | 801.45 | 0.00 | 801.46 | 4.59 | .77 | 962.85 | 363.89 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 320.00 | 799.21 | 0.00 | 799.25 | 3.74 | 2.00 | 278.08 | 165.53 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 480.00 | 799.60 | 0.00 | 799.66 | 5.02 | 2.47 | 335.26 | 214.34 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 570.00 | 799.83 | 0.00 | 799.89 | 5.36 | 2.64 | 369.99 | 246.16 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 780.00 | 801.58 | 0.00 | 801.61 | 1.97 | 1.99 | 655.38 | 555.57 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 320.00 | 799.29 | 0.00 | 799.32 | 3.69 | 1.98 | 248.77 | 166.63 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 480.00 | 799.70 | 0.00 | 799.76 | 5.22 | 2.52 | 293.58 | 210.09 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 570.00 | 799.94 | 0.00 | 800.01 | 5.79 | 2.75 | 319.86 | 236.91 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 780.00 | 801.61 | 0.00 | 801.66 | 2.69 | 2.31 | 529.71 | 475.83 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 320.00 | 799.40 | 0.00 | 799.43 | 3.09 | 1.82 | 298.03 | 181.94 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 480.00 | 799.86 | 0.00 | 799.90 | 4.08 | 2.25 | 359.70 | 237.62 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 570.00 | 800.11 | 0.00 | 800.16 | 4.42 | 2.43 | 394.44 | 271.03 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 780.00 | 801.70 | 0.00 | 801.73 | 2.16 | 2.07 | 631.23 | 530.64 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 320.00 | 799.52 | 0.00 | 799.60 | 8.10 | 2.75 | 164.88 | 112.46 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 480.00 | 800.01 | 0.00 | 800.13 | 10.29 | 3.38 | 205.60 | 149.66 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 570.00 | 800.27 | 0.00 | 800.41 | 10.90 | 3.63 | 229.83 | 172.64 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 780.00 | 801.77 | 0.00 | 801.85 | 5.16 | 3.05 | 412.45 | 343.48 |
| * 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 320.00 | 800.53 | 800.53 | 801.08 | 431.55 | 6.25 | 65.04 | 15.40 |
| 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 480.00 | 801.34 | 801.06 | 801.55 | 164.13 | 4.47 | 155.89 | 37.47 |
| 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 570.00 | 801.64 | 801.11 | 801.81 | 125.08 | 4.08 | 193.92 | 50.97 |
| 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 780.00 | 802.41 | 0.00 | 802.53 | 64.41 | 3.27 | 295.13 | 97.19 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 320.00 | 802.94 | 0.00 | 802.99 | 23.55 | 2.14 | 222.47 | 65.94 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 480.00 | 803.27 | 0.00 | 803.34 | 30.99 | 2.59 | 275.05 | 86.22 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 570.00 | 803.45 | 0.00 | 803.52 | 33.18 | 2.75 | 304.87 | 98.95 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 780.00 | 803.84 | 0.00 | 803.93 | 36.02 | 3.03 | 370.86 | 129.97 |

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 7.000 | 640.00 | 794.82 | 0.00 | 0.00 | 0.00 | 70.64 | 0.00 |
| 7.000 | 950.00 | 798.03 | 3.21 | 0.00 | 0.00 | 212.00 | 0.00 |
| 7.000 | 1120.00 | 798.37 | .34 | 0.00 | 0.00 | 212.00 | 0.00 |
| 7.000 | 1500.00 | 801.30 | 2.93 | 0.00 | 0.00 | 212.00 | 0.00 |
| 8.000 | 640.00 | 795.94 | 0.00 | 1.12 | 0.00 | 182.75 | 500.00 |
| 8.000 | 950.00 | 798.17 | 2.22 | .14 | 0.00 | 411.24 | 500.00 |
| 8.000 | 1120.00 | 798.51 | .35 | .14 | 0.00 | 479.09 | 500.00 |
| 8.000 | 1500.00 | 801.35 | 2.84 | .05 | 0.00 | 790.00 | 500.00 |
| 9.000 | 640.00 | 796.58 | 0.00 | .64 | 0.00 | 333.76 | 500.00 |
| 9.000 | 950.00 | 798.35 | 1.77 | .18 | 0.00 | 597.72 | 500.00 |
| 9.000 | 1120.00 | 798.70 | .35 | .18 | 0.00 | 618.97 | 500.00 |
| 9.000 | 1500.00 | 801.38 | 2.69 | .04 | 0.00 | 760.00 | 500.00 |
| 10.000 | 640.00 | 797.00 | 0.00 | .42 | 0.00 | 317.96 | 410.00 |
| 10.000 | 950.00 | 798.45 | 1.45 | .11 | 0.00 | 592.78 | 410.00 |
| 10.000 | 1120.00 | 798.79 | .34 | .10 | 0.00 | 640.17 | 410.00 |
| 10.000 | 1500.00 | 801.40 | 2.61 | .02 | 0.00 | 784.58 | 410.00 |
| 11.000 | 320.00 | 797.30 | 0.00 | .30 | 0.00 | 142.95 | 270.00 |
| 11.000 | 480.00 | 798.53 | 1.23 | .08 | 0.00 | 220.93 | 270.00 |
| 11.000 | 570.00 | 798.86 | .33 | .07 | 0.00 | 264.77 | 270.00 |
| 11.000 | 780.00 | 801.41 | 2.55 | .01 | 0.00 | 363.00 | 270.00 |
| 12.000 | 320.00 | 797.34 | 0.00 | .04 | 0.00 | 440.44 | 240.00 |
| 12.000 | 480.00 | 798.56 | 1.22 | .03 | 0.00 | 501.58 | 240.00 |
| 12.000 | 570.00 | 798.89 | .33 | .03 | 0.00 | 514.37 | 240.00 |
| 12.000 | 780.00 | 801.42 | 2.53 | .01 | 0.00 | 525.00 | 240.00 |
| 13.000 | 320.00 | 797.36 | 0.00 | .02 | 0.00 | 552.11 | 21.00 |
| 13.000 | 480.00 | 798.57 | 1.21 | .01 | 0.00 | 595.00 | 21.00 |
| 13.000 | 570.00 | 798.90 | .33 | .01 | 0.00 | 595.00 | 21.00 |
| 13.000 | 780.00 | 801.42 | 2.52 | .00 | 0.00 | 595.00 | 21.00 |
| 13.500 | 320.00 | 797.55 | 0.00 | .19 | 0.00 | 390.58 | 290.00 |
| 13.500 | 480.00 | 798.61 | 1.06 | .04 | 0.00 | 502.79 | 290.00 |
| 13.500 | 570.00 | 798.94 | .33 | .04 | 0.00 | 505.00 | 290.00 |
| 13.500 | 780.00 | 801.43 | 2.49 | .01 | 0.00 | 505.00 | 290.00 |
| 14.000 | 320.00 | 798.60 | 0.00 | 1.05 | 0.00 | 227.80 | 250.00 |
| 14.000 | 480.00 | 798.83 | .24 | .22 | 0.00 | 243.43 | 250.00 |
| 14.000 | 570.00 | 799.12 | .28 | .18 | 0.00 | 257.41 | 250.00 |
| 14.000 | 780.00 | 801.45 | 2.33 | .02 | 0.00 | 356.95 | 250.00 |
| 15.000 | 320.00 | 799.21 | 0.00 | .62 | 0.00 | 143.81 | 500.00 |
| 15.000 | 480.00 | 799.60 | .39 | .77 | 0.00 | 148.54 | 500.00 |
| 15.000 | 570.00 | 799.83 | .23 | .72 | 0.00 | 151.33 | 500.00 |
| 15.000 | 780.00 | 801.58 | 1.74 | .13 | 0.00 | 187.48 | 500.00 |
| 16.000 | 320.00 | 799.29 | 0.00 | .07 | 0.00 | 105.29 | 200.00 |
| 16.000 | 480.00 | 799.70 | .42 | .10 | 0.00 | 110.31 | 200.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 16.000 | 570.00 | 799.94 | .24 | .10 | 0.00 | 113.15 | 200.00 |
| 16.000 | 780.00 | 801.61 | 1.67 | .04 | 0.00 | 197.18 | 200.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 17.000 | 320.00 | 799.40 | 0.00 | .11 | 0.00 | 131.81 | 300.00 |
| 17.000 | 480.00 | 799.86 | .46 | .16 | 0.00 | 137.32 | 300.00 |
| 17.000 | 570.00 | 800.11 | .25 | .17 | 0.00 | 140.34 | 300.00 |
| 17.000 | 780.00 | 801.70 | 1.58 | .09 | 0.00 | 159.37 | 300.00 |
| 18.000 | 320.00 | 799.52 | 0.00 | .12 | 0.00 | 77.17 | 320.00 |
| 18.000 | 480.00 | 800.01 | .49 | .15 | 0.00 | 85.39 | 320.00 |
| 18.000 | 570.00 | 800.27 | .26 | .16 | 0.00 | 95.06 | 320.00 |
| 18.000 | 780.00 | 801.77 | 1.50 | .07 | 0.00 | 148.93 | 320.00 |
| * 19.000 | 320.00 | 800.53 | 0.00 | 1.02 | 0.00 | 76.38 | 490.00 |
| 19.000 | 480.00 | 801.34 | .81 | 1.34 | 0.00 | 130.00 | 490.00 |
| 19.000 | 570.00 | 801.64 | .30 | 1.37 | 0.00 | 130.00 | 490.00 |
| 19.000 | 780.00 | 802.41 | .77 | .65 | 0.00 | 130.00 | 490.00 |
| 20.000 | 320.00 | 802.94 | 0.00 | 2.41 | 0.00 | 158.46 | 270.00 |
| 20.000 | 480.00 | 803.27 | .33 | 1.92 | 0.00 | 161.41 | 270.00 |
| 20.000 | 570.00 | 803.45 | .18 | 1.81 | 0.00 | 163.07 | 270.00 |
| 20.000 | 780.00 | 803.84 | .40 | 1.43 | 0.00 | 166.67 | 270.00 |

SUMMARY OF ERRORS

CAUTION SECNO= 19.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

FLOOD INSURANCE ZONE DATA FOR  DATA FROM FOREST CREEK S

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 7.000 | 0. | -3.55 | -.34 | 2.93 |
| 8.000 | 500. | -2.57 | -.35 | 2.84 |
| 9.000 | 1000. | -2.11 | -.35 | 2.69 |
| 10.000 | 1410. | -1.79 | -.34 | 2.61 |
| 11.000 | 1680. | -1.56 | -.33 | 2.55 |
| 12.000 | 1920. | -1.55 | -.33 | 2.53 |
| 13.000 | 1941. | -1.54 | -.33 | 2.52 |
| 13.500 | 2231. | -1.39 | -.33 | 2.49 |
| 14.000 | 2481. | -.52 | -.28 | 2.33 |
| 15.000 | 2981. | -.62 | -.23 | 1.74 |
| 16.000 | 3181. | -.65 | -.24 | 1.67 |
| 17.000 | 3481. | -.71 | -.25 | 1.58 |
| 18.000 | 3801. | -.75 | -.26 | 1.50 |
| 19.000 | 4291. | -1.11 | -.30 | .77 |
| 20.000 | 4561. | -.51 | -.18 | .40 |
| WEIGHTED AVG FOR REACH | | -1.44 | -.30 | 2.12 |

FHF FOR THE REACH = 015 WITH  23.5_ OF THE REACH WITHIN  .5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | | 7.000 |
| 1 | 100. | 794.93 | 798.38 | -3.45 | -3.45 | 035 | 100. |
| 2 | 200. | 795.16 | 798.41 | -3.25 | -3.35 | 035 | 100. |
| 3 | 300. | 795.38 | 798.44 | -3.06 | -3.25 | 035 | 100. |
| 4 | 400. | 795.61 | 798.47 | -2.86 | -3.16 | 030 | 100. |
| | 500. | | | | SEC. | | 8.000 |
| 5 | 500. | 795.83 | 798.50 | -2.67 | -3.06 | 030 | 100. |
| 6 | 600. | 796.01 | 798.53 | -2.52 | -2.97 | 030 | 100. |
| 7 | 700. | 796.13 | 798.57 | -2.44 | -2.89 | 030 | 100. |
| 8 | 800. | 796.26 | 798.60 | -2.34 | -2.82 | 030 | 100. |
| 9 | 900. | 796.39 | 798.64 | -2.25 | -2.76 | 030 | 100. |
| | 1000. | | | | SEC. | | 9.000 |
| 10 | 1000. | 796.52 | 798.68 | -2.16 | -2.70 | 025 | 100. |
| 11 | 1100. | 796.63 | 798.71 | -2.08 | -2.64 | 025 | 100. |
| 12 | 1200. | 796.73 | 798.73 | -2.00 | -2.59 | 025 | 100. |
| 13 | 1300. | 796.84 | 798.76 | -1.92 | -2.54 | 025 | 100. |
| 14 | 1400. | 796.94 | 798.78 | -1.84 | -2.49 | 025 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1410. | | | | SEC. | 10.000 | |
| 15 | 1500. | 797.04 | 798.80 | -1.76 | -2.44 | 025 | 93. |
| 16 | 1600. | 797.16 | 798.83 | -1.67 | -2.39 | 025 | 94. |
| | 1680. | | | | SEC. | 11.000 | |
| 17 | 1700. | 797.26 | 798.85 | -1.59 | -2.34 | 025 | 94. |
| 18 | 1800. | 797.31 | 798.87 | -1.56 | -2.30 | 025 | 94. |
| 19 | 1900. | 797.33 | 798.88 | -1.55 | -2.26 | 025 | 95. |
| | 1920. | | | | SEC. | 12.000 | |
| | 1941. | | | | SEC. | 13.000 | |
| 20 | 2000. | 797.37 | 798.90 | -1.53 | -2.23 | 020 | 90. |
| 21 | 2100. | 797.43 | 798.91 | -1.48 | -2.19 | 020 | 90. |
| 22 | 2200. | 797.50 | 798.93 | -1.43 | -2.16 | 020 | 91. |
| | 2231. | | | | SEC. | 13.500 | |
| 23 | 2300. | 797.68 | 798.96 | -1.28 | -2.12 | 020 | 91. |
| 24 | 2400. | 798.05 | 799.02 | -.97 | -2.07 | 020 | 88. |
| | 2481. | | | | SEC. | 14.000 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -2.07 | -.34 | 2.67 |

FHF FOR REACH 1 = 020 WITH 88._ OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 4

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 25 | 2500. | 798.44 | 799.10 | -.66 | -.66 | 005 | 100. |
| 26 | 2600. | 798.68 | 799.22 | -.54 | -.60 | 005 | 100. |
| 27 | 2700. | 798.80 | 799.36 | -.56 | -.59 | 005 | 100. |
| 28 | 2800. | 798.93 | 799.50 | -.57 | -.58 | 005 | 100. |
| 29 | 2900. | 799.05 | 799.65 | -.60 | -.59 | 005 | 100. |
| | 2981. | | | | SEC. | 15.000 | |
| 30 | 3000. | 799.17 | 799.78 | -.61 | -.59 | 005 | 100. |
| 31 | 3100. | 799.24 | 799.87 | -.63 | -.60 | 005 | 100. |
| | 3181. | | | | SEC. | 16.000 | |
| 32 | 3200. | 799.28 | 799.92 | -.64 | -.60 | 005 | 100. |
| 33 | 3300. | 799.31 | 799.98 | -.67 | -.61 | 005 | 100. |
| 34 | 3400. | 799.35 | 800.04 | -.69 | -.62 | 005 | 100. |
| | 3481. | | | | SEC. | 17.000 | |
| 35 | 3500. | 799.39 | 800.09 | -.70 | -.62 | 005 | 100. |
| 36 | 3600. | 799.42 | 800.15 | -.73 | -.63 | 005 | 100. |
| 37 | 3700. | 799.46 | 800.20 | -.74 | -.64 | 005 | 100. |
| 38 | 3800. | 799.50 | 800.24 | -.74 | -.65 | 005 | 100. |
| | 3801. | | | | SEC. | 18.000 | |
| 39 | 3900. | 799.62 | 800.41 | -.79 | -.66 | 005 | 100. |
| 40 | 4000. | 799.82 | 800.69 | -.87 | -.67 | 005 | 100. |
| 41 | 4100. | 800.03 | 800.97 | -.94 | -.69 | 005 | 100. |
| 42 | 4200. | 800.24 | 801.25 | -1.01 | -.70 | 005 | 100. |
| | 4291. | | | | SEC. | 19.000 | |
| 43 | 4300. | 800.48 | 801.54 | -1.06 | -.72 | 005 | 100. |
| 44 | 4400. | 801.06 | 802.04 | -.98 | -.74 | 005 | 100. |
| 45 | 4500. | 801.95 | 802.70 | -.75 | -.74 | 005 | 100. |
| | 4561. | | | | SEC. | 20.000 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -.74 | -.26 | 1.53 |

FHF FOR REACH 2 = 005 WITH 100._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 1

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE BRANCH AND RIVER ROUGE

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*************************************************
  HEC 2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | G | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 798.370 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIP | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 7.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      894.0     1106.0  TYPE=      1  TARGET=      212.000
 ELENCL=     802.00  ELENCR=    802.00
     7.00     10.67    798.37      0.00    798.37    798.40      .03      0.00      0.00    851.00
    1120.        0.      926.      194.        0.      591.     256.        0.        0.    795.00
     0.00      0.00      1.57       .76      .050      .040     .070     0.000    787.70    894.00
  .000266        0.        0.        0.         0         0        0      0.00    212.00   1106.00

*SECNO 8.000
 2800 NAT Q1=     637.16  WSEL=     798.51  ENC Q1=     637.16  WSEL=     798.61  RATIO=    .0000
 NAT Q1=     668.  RATIOS LOB,CH,ROB=   .2698    .4237    .3065  WSEL=     798.61

3470 ENCROACHMENT STATIONS=      902.8     1150.3  TYPE=      4  TARGET=        .046
     8.00     10.61    798.51      0.00    798.51    798.55      .04       .15       .00    794.00
    1120.      286.      506.      328.      251.      241.     435.       10.        3.    794.00
      .10      1.14      2.10       .75      .050      .050     .080      .050    787.90    902.77
  .000334      500.      500.      500.         0         0        0      0.00    247.56   1150.33

1490 NH CARD USED
*SECNO 9.000

3470 ENCROACHMENT STATIONS=      750.0     1510.0  TYPE=      1  TARGET=     -750.000
 ELENCL=     810.00  ELENCR=  100000.00
     9.00     10.31    798.71      0.00    798.70    798.72      .02       .17       .00    797.20
    1120.      200.      381.      539.      437.      252.     927.       25.        8.    796.00
      .26       .46      1.51       .58      .090      .060     .090      .049    788.40    750.00
  .000316      580.      500.      500.         2         0        0      0.00    619.76   1369.76

1490 NH CARD USED
*SECNO 10.000

3470 ENCROACHMENT STATIONS=         .0     1400.0  TYPE=      1  TARGET=    1399.999
    10.00     10.01    798.81      0.00    798.79    798.82      .02       .10       .00    795.90
    1120.      307.      354.      459.      391.      229.     667.       35.       12.    796.00
      .35       .78      1.55       .69      .050      .060     .065      .053    788.80    729.09
  .000314      480.      410.      160.         1         0        0      0.00    642.11   1371.20

1490 NH CARD USED
*SECNO 11.000
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

WSEL = 220.8 = 798.44

```
3470 ENCROACHMENT STATIONS=      887.0     1250.0  TYPE=      1  TARGET=      363.000
 ELENCL=     810.00  ELENCR=     810.00
    11.00      6.57   798.87      0.00   798.86   798.89      .02      .07      .00   794.00
     570.      455.      53.      62.     425.      69.     129.      40.      14.    794.00
      .42      1.07      .76      .48     .050     .090     .063     .053   792.30   887.00
  .000216      260.     270.     165.        0        0        0     0.00   266.12  1153.12

FLOW DISTRIBUTION FOR SECNO=      11.00          CWSEL=     798.87

STA=      887.      995.     1006.     1015.     1038.     1153.
  PER Q=     79.9      9.2      3.6      5.0      2.2
   AREA=    425.5     69.3     34.9     43.2     50.6
    VEL=      1.1       .8       .6       .7       .3

1490 NH CARD USED
*SECNO 12.000

3470 ENCROACHMENT STATIONS=      685.0     1210.0  TYPE=      1  TARGET=      525.000
 ELENCL=     810.00  ELENCR=     810.00
    12.00      6.50   798.90      0.00   798.89   798.90      .00      .01      .00   794.00
     570.      469.      22.      78.    1297.      87.     340.      47.      17.    796.00
      .65       .36      .26      .23     .050     .080     .050     .052   792.40   685.00
  .000022      300.     240.     190.        2        0        0     0.00   514.75  1199.75

FLOW DISTRIBUTION FOR SECNO=      12.00          CWSEL=     798.90

STA=      685.      996.     1012.     1045.     1165.     1200.
  PER Q=     82.4      3.9      4.8      8.7       .2
   AREA=   1297.0     87.0     95.8    228.3     15.7
    VEL=       .4       .3       .3       .2       .1

*SECNO 13.000

3470 ENCROACHMENT STATIONS=      595.0     1190.0  TYPE=      1  TARGET=      595.000
 ELENCL=     810.00  ELENCR=     810.00
    13.00      6.41   798.91      0.00   798.90   798.91      .00      .01      .00   796.30
     570.      399.      24.     146.    1062.      74.     417.      56.      20.    796.40
      .82       .38      .33      .35     .050     .080     .050     .047   792.50   595.00
  .000043      250.      21.     210.        1        0        0     0.00   595.00  1190.00

FLOW DISTRIBUTION FOR SECNO=      13.00          CWSEL=     798.91

STA=      595.      640.      990.     1004.     1047.     1097.     1180.     1190.
  PER Q=     10.5     59.6      4.3      8.5      9.9      7.0       .2
   AREA=    147.0    915.5     74.4    123.2    143.3    142.4      8.0
    VEL=       .4       .4       .3       .4       .4       .3       .2

1490 NH CARD USED
*SECNO 13.500

3470 ENCROACHMENT STATIONS=      600.0     1105.0  TYPE=      1  TARGET=      505.000
 ELENCL=     810.00  ELENCR=     810.00
    13.50      4.95   798.95      0.00   798.94   798.95      .01      .04      .00   796.00
     570.      394.      53.     124.     779.      63.     161.      69.      25.    796.00
     1.02       .51      .83      .77     .083     .080     .050     .048   794.00   600.00
  .000301      480.     290.     300.        2        0        0     0.00   505.00  1105.00
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FLOW DISTRIBUTION FOR SECNO=      13.50          CWSEL=     798.95

STA=      600.      750.      993.     1007.     1083.     1105.
  PER Q=      8.4      60.7       9.2      20.8        .9
   AREA=    208.9     570.0      63.2     147.9      13.4
    VEL=       .2        .6        .8        .8        .4

1490 NH CARD USED
*SECNO 14.000

3470 ENCROACHMENT STATIONS=      750.0     1126.0  TYPE=      1  TARGET=     -750.000
 ELENCL=     810.00  ELENCR= 100000.00
    14.00      3.62    799.12      0.00    799.12    799.19       .07       .22       .02    798.00
     570.      447.      123.        0.      236.      48.        0.        72.       27.     800.00
     1.06      1.90      2.57      0.00      .080      .110      .050      .051    795.50 / 750.00
  .010010      250.      250.      265.         2         0         0      0.00    257.42  1007.42


FLOW DISTRIBUTION FOR SECNO=      14.00          CWSEL=     799.12

STA=      750.      820.      992.     1008.
  PER Q=      5.7      72.8      21.5
   AREA=     42.5     193.6      47.8
    VEL=       .8       2.1       2.6

CCHV=     .100 CEHV=     .300
*SECNO 15.000
 2800 NAT Q1=     246.16  WSEL=     799.83  ENC Q1=     246.16  WSEL=     799.93  RATIO=  0.0000
 NAT Q1=     260.  RATIOS LOB,CH,ROB=    .0574    .4310    .5116  WSEL=     799.93
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      984.5     1103.2  TYPE=      4  TARGET=          .055
    15.00      4.87    799.87      0.00    799.83    799.94       .07       .75       .00    796.50
     570.       16.      263.      290.       15.      96.      227.       76.       29.     796.50
     1.13      1.11      2.76      1.28      .050      .035      .050      .048    795.00   984.55
  .000576      500.      500.      500.         4         0         0      0.00    118.65/ 1103.20


*SECNO 16.000
 2800 NAT Q1=     236.91  WSEL=     799.94  ENC Q1=     236.91  WSEL=     800.04  RATIO=  0.0000
 NAT Q1=     249.  RATIOS LOB,CH,ROB=    .2742    .4516    .2742  WSEL=     800.04

3470 ENCROACHMENT STATIONS=      957.5     1042.5  TYPE=      4  TARGET=          .048
    16.00      4.88    799.98      0.00    799.94    800.06       .08       .12       .00    796.60
     570.      148.      274.      148.       98.      96.       98.       77.       30.     796.60
     1.15      1.52      2.86      1.52      .050      .035      .050      .048    795.10   957.48
  .000617      200.      200.      200.         0         0         0      0.00     85.03  1042.52


1490 NH CARD USED
*SECNO 17.000
 2800 NAT Q1=     271.03  WSEL=     800.11  ENC Q1=     271.03  WSEL=     800.21  RATIO=  0.0000
 NAT Q1=     285.  RATIOS LOB,CH,ROB=    .3876    .4045    .2079. WSEL=     800.21

3470 ENCROACHMENT STATIONS=      929.4     1040.8  TYPE=      4  TARGET=          .050
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    17.00      4.97    800.17      0.00    800.11    800.22       .05       .16       .00    796.70
     570.      220.      243.      108.      172.      98.       96.       80.       30.     796.70
     1.20      1.27      2.49      1.12      .050      .035      .060      .047    795.20    929.36
  .000455      250.      300.      370.         2         0         0      0.00    111.47   1040.84


1490 NH CARD USED
*SECNO 18.000
 2800 NAT Q1=     172.64  WSEL=     800.27  ENC Q1=     172.64  WSEL=     800.37  RATIO=    .0000
 NAT Q1=    181.  RATIOS LOB,CH,ROB=   .3839   .5597   .0564  WSEL=     800.37

3470 ENCROACHMENT STATIONS=      955.5    1017.2  TYPE=      4  TARGET=        .045
    18.00      4.93    800.33      0.00    800.27    800.48       .15       .23       .03    796.90
     570.      214.      336.       19.      103.      90.       14.       82.       31.     798.00
     1.23      2.07      3.75      1.37      .050      .035      .050      .046    795.40    955.50
  .001142      360.      320.      300.         2         0         0      0.00     61.68   1017.18


*SECNO 19.000

3470 ENCROACHMENT STATIONS=      890.0    1020.0  TYPE=      1  TARGET=     130.000
 ELENCL=     810.00  ELENCR=     810.00
    19.00      5.23    801.73    801.13    801.64    801.87       .14      1.39       .00    800.00
     570.      297.      237.       35.      122.      63.       22.       84.       32.     800.00
     1.28      2.44      3.78      1.64      .070      .095      .120      .050    796.50    890.00
  .010444      630.      490.      200.         8         9         0      0.00    130.00   1020.00


CCHV=     .300 CEHV=     .500
*SECNO 20.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      960.0    1140.0  TYPE=      1  TARGET=     180.000
 ELENCL=     810.00  ELENCR=     810.00
    20.00      6.13    803.43      0.00    803.45    803.51       .08      1.62       .02    802.00
     570.        9.      316.      245.        9.      113.      179.       86.       33.     802.00
     1.32       .99      2.79      1.37      .070      .080      .080      .052    797.30    977.12
  .003425      280.      270.      350.         2         0         0      0.00    162.87   1140.00
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 1120.00 | 798.37 | 0.00 | 798.40 | 2.66 | 1.57 | 847.23 | 687.17 |
| 7.000 | 0.00 | 0.00 | 0.00 | 787.70 | 1120.00 | 798.37 | 0.00 | 798.40 | 2.66 | 1.57 | 847.23 | 687.17 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 1120.00 | 798.51 | 0.00 | 798.55 | 3.09 | 2.02 | 1113.52 | 637.16 |
| 8.000 | 500.00 | 0.00 | 0.00 | 787.90 | 1120.00 | 798.51 | 0.00 | 798.55 | 3.34 | 2.10 | 927.59 | 613.16 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 1120.00 | 798.70 | 0.00 | 798.71 | 3.20 | 1.52 | 1608.24 | 626.01 |
| 9.000 | 500.00 | 0.00 | 0.00 | 788.40 | 1120.00 | 798.71 | 0.00 | 798.72 | 3.16 | 1.51 | 1616.26 | 629.94 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 1120.00 | 798.79 | 0.00 | 798.81 | 3.20 | 1.56 | 1277.48 | 626.37 |
| 10.000 | 410.00 | 0.00 | 0.00 | 788.80 | 1120.00 | 798.81 | 0.00 | 798.82 | 3.14 | 1.55 | 1286.44 | 632.02 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 570.00 | 798.86 | 0.00 | 798.88 | 2.18 | .76 | 620.76 | 385.75 |
| 11.000 | 270.00 | 0.00 | 0.00 | 792.30 | 570.00 | 798.87 | 0.00 | 798.89 | 2.16 | .76 | 623.51 | 387.70 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 570.00 | 798.89 | 0.00 | 798.89 | .23 | .26 | 1718.66 | 1198.27 |
| 12.000 | 240.00 | 0.00 | 0.00 | 792.40 | 570.00 | 798.90 | 0.00 | 798.90 | .22 | .26 | 1723.82 | 1203.69 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 570.00 | 798.90 | 0.00 | 798.90 | .44 | .33 | 1547.91 | 861.35 |
| 13.000 | 21.00 | 0.00 | 0.00 | 792.50 | 570.00 | 798.91 | 0.00 | 798.91 | .43 | .33 | 1553.80 | 866.70 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 570.00 | 798.94 | 0.00 | 798.94 | 3.05 | .84 | 998.56 | 326.18 |
| 13.500 | 290.00 | 0.00 | 0.00 | 794.00 | 570.00 | 798.95 | 0.00 | 798.95 | 3.01 | .83 | 1003.34 | 328.57 |
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 570.00 | 799.12 | 0.00 | 799.18 | 101.89 | 2.59 | 282.11 | 56.47 |
| 14.000 | 250.00 | 0.00 | 0.00 | 795.50 | 570.00 | 799.12 | 0.00 | 799.19 | 100.10 | 2.57 | 283.81 | 56.97 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 570.00 | 799.83 | 0.00 | 799.89 | 5.36 | 2.64 | 369.99 | 246.16 |
| 15.000 | 500.00 | 0.00 | 0.00 | 795.00 | 570.00 | 799.87 | 0.00 | 799.94 | 5.76 | 2.76 | 336.90 | 237.46 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 570.00 | 799.94 | 0.00 | 800.01 | 5.79 | 2.75 | 319.86 | 236.91 |
| 16.000 | 200.00 | 0.00 | 0.00 | 795.10 | 570.00 | 799.98 | 0.00 | 800.06 | 6.17 | 2.86 | 290.87 | 229.49 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 570.00 | 800.11 | 0.00 | 800.16 | 4.42 | 2.43 | 394.44 | 271.03 |
| 17.000 | 300.00 | 0.00 | 0.00 | 795.20 | 570.00 | 800.17 | 0.00 | 800.22 | 4.55 | 2.49 | 365.94 | 267.09 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 570.00 | 800.27 | 0.00 | 800.41 | 10.90 | 3.63 | 229.83 | 172.64 |
| 18.000 | 320.00 | 0.00 | 0.00 | 795.40 | 570.00 | 800.33 | 0.00 | 800.48 | 11.42 | 3.75 | 207.37 | 168.69 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 570.00 | 801.64 | 801.11 | 801.81 | 125.08 | 4.08 | 193.92 | 50.97 |
| 19.000 | 490.00 | 0.00 | 0.00 | 796.50 | 570.00 | 801.73 | 801.13 | 801.87 | 104.44 | 3.78 | 206.12 | 55.78 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 570.00 | 803.45 | 0.00 | 803.52 | 33.18 | 2.75 | 304.87 | 98.95 |
| 20.000 | 270.00 | 0.00 | 0.00 | 797.30 | 570.00 | 803.43 | 0.00 | 803.51 | 34.25 | 2.79 | 301.35 | 97.40 |

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 7.000 | 1120.00 | 798.37 | 0.00 | 0.00 | 0.00 | 212.00 | 0.00 |
| 7.000 | 1120.00 | 798.37 | 0.00 | 0.00 | 0.00 | 212.00 | 0.00 |
| 8.000 | 1120.00 | 798.51 | 0.00 | .14 | 0.00 | 479.09 | 500.00 |
| 8.000 | 1120.00 | 798.51 | .00 | .14 | .00 | 247.56 | 500.00 |
| 9.000 | 1120.00 | 798.70 | 0.00 | .18 | 0.00 | 618.97 | 500.00 |
| 9.000 | 1120.00 | 798.71 | .01 | .19 | .01 | 619.76 | 500.00 |
| 10.000 | 1120.00 | 798.79 | 0.00 | .10 | 0.00 | 640.17 | 410.00 |
| 10.000 | 1120.00 | 798.81 | .01 | .10 | .01 | 642.11 | 410.00 |
| 11.000 | 570.00 | 798.86 | 0.00 | .07 | 0.00 | 264.77 | 270.00 |
| 11.000 | 570.00 | 798.87 | .01 | .07 | .01 | 266.12 | 270.00 |
| 12.000 | 570.00 | 798.89 | 0.00 | .03 | 0.00 | 514.37 | 240.00 |
| 12.000 | 570.00 | 798.90 | .01 | .03 | .01 | 514.75 | 240.00 |
| 13.000 | 570.00 | 798.90 | 0.00 | .01 | 0.00 | 595.00 | 21.00 |
| 13.000 | 570.00 | 798.91 | .01 | .01 | .01 | 595.00 | 21.00 |
| 13.500 | 570.00 | 798.94 | 0.00 | .04 | 0.00 | 505.00 | 290.00 |
| 13.500 | 570.00 | 798.95 | .01 | .04 | .01 | 505.00 | 290.00 |
| 14.000 | 570.00 | 799.12 | 0.00 | .18 | 0.00 | 257.41 | 250.00 |
| 14.000 | 570.00 | 799.12 | .01 | .18 | .01 | 257.42 | 250.00 |
| 15.000 | 570.00 | 799.83 | 0.00 | .72 | 0.00 | 151.33 | 500.00 |
| 15.000 | 570.00 | 799.87 | .04 | .75 | .04 | 118.65 | 500.00 |
| 16.000 | 570.00 | 799.94 | 0.00 | .10 | 0.00 | 113.15 | 200.00 |
| 16.000 | 570.00 | 799.98 | .04 | .11 | .04 | 85.03 | 200.00 |
| 17.000 | 570.00 | 800.11 | 0.00 | .17 | 0.00 | 140.34 | 300.00 |
| 17.000 | 570.00 | 800.17 | .06 | .19 | .06 | 111.47 | 300.00 |
| 18.000 | 570.00 | 800.27 | 0.00 | .16 | 0.00 | 95.06 | 320.00 |
| 18.000 | 570.00 | 800.33 | .06 | .16 | .06 | 61.68 | 320.00 |
| 19.000 | 570.00 | 801.64 | 0.00 | 1.37 | 0.00 | 130.00 | 490.00 |
| 19.000 | 570.00 | 801.73 | .09 | 1.40 | .09 | 130.00 | 490.00 |
| 20.000 | 570.00 | 803.45 | 0.00 | 1.81 | 0.00 | 163.07 | 270.00 |
| 20.000 | 570.00 | 803.43 | -.02 | 1.70 | -.02 | 162.87 | 270.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, DATA FROM FOREST CREEK S
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 7.000 | 212. | 847. | 1.3 | 798.4 | 798.4 | 0.0 |
| 8.000 | 248. | 928. | 1.2 | 798.5 | 798.5 | 0.0 |
| 9.000 | 620. | 1616. | .7 | 798.7 | 798.7 | 0.0 |
| 10.000 | 642. | 1286. | .9 | 798.8 | 798.8 | 0.0 |
| 11.000 | 266. | 624. | .9 | 798.9 | 798.9 | 0.0 |
| 12.000 | 515. | 1724. | .3 | 798.9 | 798.9 | 0.0 |
| 13.000 | 595. | 1554. | .4 | 798.9 | 798.9 | 0.0 |
| 13.500 | 505. | 1003. | .6 | 798.9 | 798.9 | 0.0 |
| 14.000 | 257. | 284. | 2.0 | 799.1 | 799.1 | 0.0 |
| 15.000 | 119. | 337. | 1.7 | 799.8 | 799.8 | 0.0 |
| 16.000 | 85. | 291. | 2.0 | 799.9 | 799.9 | 0.0 |
| 17.000 | 111. | 366. | 1.6 | 800.2 | 800.1 | .1 |
| 18.000 | 62. | 207. | 2.7 | 800.4 | 800.3 | .1 |
| 19.000 | 130. | 206. | 2.8 | 801.7 | 801.6 | .1 |
| 20.000 | 163. | 301. | 1.9 | 803.4 | 803.4 | 0.0 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE BRANCH + RIVER ROUGE

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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T1      HUD-FIA H-4705 TROY FIS
T2      SPRAGUE BRANCH AND SPRAGUE DRAIN
T3      DATA FROM FOREST CREEK SUBDIVISION

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

     -1.       4.       0.       0.  0.000000     0.00     -1.0      0.   798.370   0.000

J2  NPRCF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    1.000     0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000  150.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

QT      5.000   640.000   950.000  1120.000  1500.000  1120.000     0.000     0.000     0.000     0.000
NC       .050      .070      .040      .100      .300     0.000     0.000     0.000     0.000     0.000

X1      7.000     9.000   896.000  1030.000     0.000     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   894.000   802.000  1106.000   802.000     0.000     0.000     0.000
GR    801.000   720.000   795.000   950.000   794.000   986.000   787.700   995.000   787.700  1005.000
GR    794.000  1014.000   795.000  1030.000   795.000  1150.000   801.000  1450.000     0.000     0.000
NC       .050      .080      .050     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1      8.000    11.000   986.000  1014.000   500.000   500.000   500.000     0.000     0.000     0.000
GR    801.000   710.000   795.000   968.000   794.000   986.000   788.000   995.000   787.900  1005.000
GR    794.000  1014.000   794.000  1035.000   795.000  1060.000   798.000  1220.000   799.000  1370.000
GR    801.000  1500.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NH      4.000      .090   950.000      .090   980.000      .060  1015.000      .090  1510.000     0.000

X1      9.000    10.000   980.000  1015.000   580.000   500.000   500.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   750.000   810.000     0.000     0.000     0.000     0.000     0.000
GR    801.000   300.000   796.500   900.000   795.900   950.000   797.200   980.000   788.400   996.000
GR    788.400  1005.000   796.000  1015.000   794.600  1050.000   794.300  1100.000   801.000  1510.000
NH      4.000      .050   985.000      .060  1015.000      .080  1140.000      .050  1730.000     0.000

X1     10.000    15.000   985.000  1015.000   480.000   160.000   410.000     0.000     0.000     0.000
X3      0.000     0.000     0.000     0.000     0.000  1400.000   810.000     0.000     0.000     0.000
GR    802.000   600.000   801.000   626.000   800.000   686.000   799.000   714.000   797.000   876.000
GR    795.900   985.000   788.800   995.000   788.800  1005.000   796.000  1015.000   796.000  1140.000
GR    797.000  1194.000   798.000  1324.000   799.000  1382.000   801.000  1554.000   802.000  1730.000
QT      5.000   320.000   480.000   570.000   780.000   570.000     0.000     0.000     0.000     0.000
NH      4.000      .070   880.000      .050   995.000      .090  1015.000      .050  1585.000     0.000
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11.000 | 10.000 | 995.000 | 1006.000 | 260.000 | 165.000 | 270.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 887.000 | 810.000 | 1250.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 798.000 | 855.000 | 796.000 | 880.000 | 794.000 | 995.000 | 792.300 | 996.000 | 792.400 | 1004.000 |
| GR | 794.000 | 1006.000 | 796.000 | 1015.000 | 798.000 | 1038.000 | 800.000 | 1300.000 | 802.000 | 1585.000 |
| NH | 4.000 | .100 | 635.000 | .050 | 996.000 | .080 | 1012.000 | .050 | 1455.000 | 0.000 |
| X1 | 12.000 | 11.000 | 996.000 | 1012.000 | 300.000 | 190.000 | 240.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 685.000 | 810.000 | 1210.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 796.000 | 561.000 | 795.700 | 635.000 | 794.000 | 996.000 | 792.400 | 999.000 | 792.400 | 1005.000 |
| GR | 794.000 | 1007.000 | 796.000 | 1012.000 | 796.000 | 1045.000 | 798.000 | 1165.000 | 800.000 | 1242.000 |
| GR | 802.000 | 1455.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .050 | .050 | .080 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 13.000 | 12.000 | 990.000 | 1004.000 | 250.000 | 210.000 | 21.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 595.000 | 810.000 | 1190.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 795.000 | 362.000 | 795.000 | 595.000 | 796.300 | 640.000 | 796.300 | 990.000 | 792.500 | 994.000 |
| GR | 792.500 | 1000.000 | 796.400 | 1004.000 | 795.700 | 1047.000 | 796.400 | 1097.000 | 798.000 | 1180.000 |
| GR | 800.000 | 1270.000 | 802.000 | 1330.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .140 | 750.000 | .075 | 993.000 | .080 | 1007.000 | .050 | 1206.000 | 0.000 |
| X1 | 13.500 | 11.000 | 993.000 | 1007.000 | 480.000 | 300.000 | 290.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 600.000 | 810.000 | 1105.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 470.000 | 800.000 | 490.000 | 798.000 | 580.000 | 797.200 | 750.000 | 796.000 | 993.000 |
| GR | 794.000 | 996.000 | 794.000 | 1004.000 | 796.000 | 1007.000 | 798.000 | 1083.000 | 800.000 | 1148.000 |
| GR | 802.000 | 1206.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .140 | 820.000 | .075 | 992.000 | .110 | 1008.000 | .050 | 1126.000 | 0.000 |
| X1 | 14.000 | 9.000 | 992.000 | 1008.000 | 250.000 | 265.000 | 250.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 750.000 | 810.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 630.000 | 800.000 | 685.000 | 798.000 | 820.000 | 798.000 | 992.000 | 795.500 | 995.000 |
| GR | 795.500 | 1005.000 | 800.000 | 1008.000 | 801.000 | 1092.000 | 802.000 | 1126.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .050 | .050 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 15.000 | 9.000 | 989.500 | 1010.500 | 500.000 | 500.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.800 | 670.000 | 802.000 | 930.000 | 801.000 | 962.500 | 796.500 | 989.500 | 795.000 | 994.000 |
| GR | 795.000 | 1006.000 | 796.500 | 1010.500 | 798.550 | 1113.000 | 802.000 | 1134.000 | 0.000 | 0.000 |
| X1 | 16.000 | 12.000 | 989.500 | 1010.500 | 200.000 | 200.000 | 200.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.000 | 660.000 | 802.000 | 915.000 | 801.500 | 934.000 | 797.190 | 960.000 | 796.600 | 989.500 |
| GR | 795.100 | 994.000 | 795.100 | 1006.000 | 796.600 | 1010.500 | 797.190 | 1040.000 | 801.500 | 1066.000 |
| GR | 802.000 | 1340.000 | 803.000 | 1500.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .120 | 750.000 | .050 | 989.500 | .035 | 1010.500 | .060 | 1775.000 | 0.000 |
| X1 | 17.000 | 17.000 | 989.500 | 1010.500 | 250.000 | 370.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| GR | 806.000 | 650.000 | 804.000 | 690.000 | 802.000 | 750.000 | 801.700 | 907.000 | 797.890 | 930.000 |
| GR | 796.700 | 989.500 | 795.200 | 994.000 | 795.200 | 1006.000 | 796.700 | 1010.500 | 797.290 | 1040.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 802.000 | 1068.300 | 804.000 | 1150.000 | 806.000 | 1215.000 | 806.000 | 1295.000 | 804.000 | 1350.000 |
| GR | 804.000 | 1665.000 | 806.000 | 1775.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .080 | 740.000 | .050 | 989.500 | .035 | 1010.000 | .050 | 1275.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 18.000 | 14.000 | 989.500 | 1010.000 | 360.000 | 300.000 | 320.000 | 0.000 | 0.000 | 0.000 |
| GR | 806.000 | 490.000 | 803.000 | 546.250 | 802.500 | 740.000 | 802.000 | 933.000 | 797.490 | 960.000 |
| GR | 796.900 | 989.500 | 795.400 | 994.000 | 795.400 | 1004.000 | 798.000 | 1010.000 | 800.000 | 1030.000 |
| GR | 802.000 | 1090.000 | 802.000 | 1230.000 | 802.500 | 1260.000 | 805.000 | 1275.000 | 0.000 | 0.000 |
| NC | .070 | .120 | .095 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 19.000 | 12.000 | 993.000 | 1007.000 | 630.000 | 200.000 | 490.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 890.000 | 810.000 | 1020.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 803.200 | 580.000 | 802.000 | 700.000 | 800.000 | 750.000 | 801.000 | 900.000 | 800.000 | 993.000 |
| GR | 796.500 | 996.000 | 796.500 | 1004.000 | 800.000 | 1007.000 | 801.000 | 1100.000 | 801.500 | 1280.000 |
| GR | 802.000 | 1350.000 | 804.000 | 1480.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .070 | .080 | .080 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 20.000 | 7.000 | 990.000 | 1015.000 | 280.000 | 350.000 | 270.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 960.000 | 810.000 | 1140.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.000 | 972.000 | 802.000 | 990.000 | 797.300 | 996.000 | 797.300 | 1004.000 | 802.000 | 1015.000 |
| GR | 802.000 | 1215.000 | 804.000 | 1300.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

NATURAL RUN

```
*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO 7.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

≈ 50' u/s of XSEC 220.8 in Main Branch of Rouge Cit, in Trenj FIS

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3470 ENCROACHMENT STATIONS=      894.0     1106.0  TYPE=      1  TARGET=      212.000
 ELENCL=     802.00  ELENCR=    802.00
     7.00     10.67    798.37      0.00    798.37    798.40      .03      0.00      0.00    851.00
    1120.        0.      926.      194.        0.      591.     256.        0.        0.    795.00
     0.00      0.00      1.57       .76      .050      .040     .070     0.000    787.70    894.00
  .000266        C.        0.        0.         0         0        0      0.00    212.00   1106.00
```

x-s 220.8 WSEL = 798.44 Encroached
798.37 Nat
Checked floodway [illegible]

```
*SECNO 8.000
     8.00     10.61    798.51      0.00      0.00    798.55      .03       .14       .00    794.00
    1120.      296.      488.      336.      337.      241.     536.       11.        4.    794.00
      .11       .88      2.02       .63      .050      .050     .080      .050    787.90    817.15
  .000309      500.      500.      500.         1         0        0      0.00    479.09   1296.24

1490 NH CARD USED
*SECNO 9.000

3470 ENCROACHMENT STATIONS=      750.0     1510.0  TYPE=      1  TARGET=     -750.000
 ELENCL=     810.00  ELENCR= 100000.00
     9.00     10.30    798.70      0.00      0.00    798.71      .02       .16       .00    797.20
    1120.      199.      382.      539.      434.      252.     922.       28.       11.    796.00
      .27       .46      1.52       .58      .090      .060     .090      .049    788.40    750.00
  .000320      580.      500.      500.         2         0        0      0.00    618.97   1368.97

1490 NH CARD USED
*SECNO 10.000

3470 ENCROACHMENT STATIONS=         .0     1400.0  TYPE=      1  TARGET=    1399.999
    10.00      9.99    798.79      0.00      0.00    798.81      .02       .10       .00    795.90
    1120.      306.      356.      458.      387.      228.     662.       37.       15.    796.00
      .36       .79      1.56       .69      .050      .060     .065      .053    788.80    730.22
  .000320      480.      410.      160.         1         0        0      0.00    640.17   1370.39

1490 NH CARD USED
*SECNO 11.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      887.0     1250.0  TYPE=      1  TARGET=      363.000
 ELENCL=     810.00  ELENCR=    810.00
    11.00      6.56    798.86      0.00      0.00    798.88      .02       .07       .00    794.00
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     570.      456.       53.       62.      424.       69.      127.       42.       17.     794.00
      .43      1.07       .76       .48      .050      .090      .063      .053    792.30     887.00
 .000218      260.      270.      165.         0         0         0      0.00    264.77    1151.77


FLOW DISTRIBUTION FOR SECNO=      11.00          CWSEL=     798.86

STA=      887.      995.     1006.     1015.     1038.     1152.
  PER Q=     79.9       9.3       3.6       5.0       2.2
   AREA=    424.4      69.2      34.8      43.0      49.4
    VEL=      1.1        .8        .6        .7        .3

1490 NH CARD USED
*SECNO 12.000

3470 ENCROACHMENT STATIONS=      685.0     1210.0  TYPE=      1  TARGET=      525.000
 ELENCL=    810.00  ELENCR=    810.00
    12.00      6.49    798.89      0.00      0.00    798.89       .00       .01       .00     794.00
     570.      470.       22.       78.     1294.       87.      338.       49.       19.     796.00
      .66       .36       .26       .23      .050      .080      .050      .052    792.40     685.00
 .000023      300.      240.      190.         2         0         0      0.00    514.37    1199.37


FLOW DISTRIBUTION FOR SECNO=      12.00          CWSEL=     798.89

STA=      685.      996.     1012.     1045.     1165.     1199.
  PER Q=     82.4       3.9       4.8       8.6        .2
   AREA=   1293.9      86.9      95.5     227.1      15.3
    VEL=       .4        .3        .3        .2        .1

*SECNO 13.000

3470 ENCROACHMENT STATIONS=      595.0     1190.0  TYPE=      1  TARGET=      595.000
 ELENCL=    810.00  ELENCR=    810.00
    13.00      6.40    798.90      0.00      0.00    798.90       .00       .01       .00     796.30
     570.      400.       24.      146.     1059.       74.      415.       58.       22.     796.40
      .83       .38       .33       .35      .050      .080      .050      .047    792.50     595.00
 .000044      250.       21.      210.         1         0         0      0.00    595.00    1190.00


FLOW DISTRIBUTION FOR SECNO=      13.00          CWSEL=     798.90

STA=      595.      640.      990.     1004.     1047.     1097.     1180.     1190.
  PER Q=     10.5      59.6       4.3       8.5       9.9       7.0        .2
   AREA=    146.5     912.0      74.3     122.8     142.8     141.6       7.9
    VEL=       .4        .4        .3        .4        .4        .3        .2

1490 NH CARD USED
*SECNO 13.500

3470 ENCROACHMENT STATIONS=      600.0     1105.0  TYPE=      1  TARGET=      505.000
 ELENCL=    810.00  ELENCR=    810.00
    13.50      4.94    798.94      0.00      0.00    798.94       .01       .04       .00     796.00
     570.      394.       53.      123.      775.       63.      160.       71.       28.     796.00
     1.03       .51       .84       .77      .083      .080      .050      .048    794.00     600.00
 .000305      480.      290.      300.         2         0         0      0.00    505.00    1105.00


FLOW DISTRIBUTION FOR SECNO=      13.50          CWSEL=     798.94

STA=      600.      750.      993.     1007.     1083.     1105.
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  PER Q=       8.3      60.7       9.3      20.8       .8
   AREA=     207.5     567.7      63.1     147.1      13.1
    VEL=        .2        .6        .8        .8        .4

1490 NH CARD USED
*SECNO 14.000

3470 ENCROACHMENT STATIONS=      750.0     1126.0  TYPE=      1  TARGET=     -750.000
 ELENCL=     810.00  ELENCR= 100000.00
    14.00      3.62    799.12      0.00      0.00    799.18       .07       .22       .02    798.00
     570.      447.      123.        0.      234.       48.        0.       74.       30.    800.00
     1.06      1.91      2.59      0.00      .080      .110      .050      .051    795.50    750.00
  .010189      250.      250.      265.         2         0         0      0.00    257.41   1007.41


FLOW DISTRIBUTION FOR SECNO=      14.00          CHSEL=     799.12

STA=     750.      820.      992.     1008.
  PER Q=       5.6      72.8      21.6
   AREA=      42.0     192.4      47.7
    VEL=        .8       2.2       2.6

CCHV=     .100 CEHV=     .300
*SECNO 15.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


    15.00      4.83    799.83      0.00      0.00    799.89       .06       .71       .00    796.50
     570.       32.      251.      287.       33.       95.      242.       78.       32.    796.50
     1.14       .96      2.64      1.19      .050      .035      .050      .048    795.00    969.49
  .000536      500.      500.      500.         4         0         0      0.00    151.33   1120.82


*SECNO 16.000
    16.00      4.84    799.94      0.00      0.00    800.01       .07       .11       .00    796.60
     570.      155.      261.      155.      113.       95.      113.       80.       33.    796.60
     1.17      1.37      2.75      1.37      .050      .035      .050      .048    795.10    943.43
  .000579      200.      200.      200.         2         0         0      0.00    113.15   1056.57


1490 NH CARD USED
*SECNO 17.000
    17.00      4.91    800.11      0.00      0.00    800.16       .05       .15       .00    796.70
     570.      219.      234.      118.      182.       96.      116.       82.       34.    796.70
     1.22      1.20      2.43      1.02      .050      .035      .060      .047    795.20    916.60
  .000442      250.      300.      370.         0         0         0      0.00    140.34   1056.94


1490 NH CARD USED
*SECNO 18.000
    18.00      4.87    800.27      0.00      0.00    800.41       .14       .22       .03    796.90
     570.      217.      323.       30.      114.       89.       27.       85.       35.    798.00
     1.25      1.90      3.63      1.11      .050      .035      .050      .046    795.40    943.30
  .001090      360.      320.      300.         0         0         0      0.00     95.06   1038.36


*SECNO 19.000
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3470 ENCROACHMENT STATIONS=      890.0     1020.0  TYPE=      1  TARGET=      130.000
 ELENCL=     810.00  ELENCR=     810.00
    19.00      5.14    801.64    801.11      0.00    801.81       .17      1.39       .01    800.00
     570.      284.      251.      35.      112.      61.       20.       87.       36.     800.00
     1.30      2.53      4.08      1.74     .070      .095      .120      .050    796.50    890.00
  .012508      630.      490.      200.        9         9         0      0.00    130.00   1020.00


CCHV=     .300 CEHV=     .500
*SECNO 20.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      960.0     1140.0  TYPE=      1  TARGET=      180.000
 ELENCL=     810.00  ELENCR=     810.00
    20.00      6.15    803.45      0.00      0.00    803.52       .08      1.69       .03    802.00
     570.        9.      313.      247.        9.      114.      182.       89.       37.     802.00
     1.34       .98      2.75      1.36     .070      .080      .080      .052    797.30    976.93
  .003318      280.      270.      350.        2         0         0      0.00    163.07   1140.00
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

```
*PROF 1

CCHV=    .300 CEHV=    .500
1490 NH CARD USED
*SECNC 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=        .0    14CC.C  TYPE=     1  TARGET=    1399.999
    10.00      8.20   797.00      0.00   797.00   797.04      .04      0.00      0.00    795.90
     320.       23.     297.        0.     60.     175.       0.        0.        0.     796.00
     0.00      .39      1.70      0.00    .060     .060    0.000     0.000   788.80    876.00
  .000545       0.        0.        0.       0        0        0      0.00   318.00   1154.00


1490 NH CARD USEC
*SECNO 111.000

3265 DIVIDED FLOW

3280 CROSS SECTION    111.00 EXTENDED      3.22 FEET


3470 ENCROACHMENT STATIONS=     650.0    1077.C  TYPE=     1  TARGET=     427.000
 ELENCL=    810.00  ELENCR=    810.00
   111.00      7.52   797.22      0.00    C.CC   797.28      .05       .23       .01    796.0C
     480.      149.     316.       15.    308.     141.      18.        2.        2.     798.00
      .04       .48     2.25       .83    .110     .060     .057      .079   789.3C    65C.0C
  .001299      270.     260.      260.       2        C        0      0.00   388.74   1077.00


FLOW DISTRIBUTICN FCR SECNO=    111.00          CWSEL=    797.22

STA=     650.     837.     985.    1018.    1070.    1077.
  PER Q=     10.0     21.0     65.8      1.1      2.1
   AREA=    127.2    181.1    140.6      9.4      9.C
    VEL=       .4       .6      2.2       .6      1.1

1490 NH CARD USEC
*SECNO 112.000
3280 CROSS SECTION    112.00 EXTENDED      3.39 FEET


3470 ENCROACHMENT STATIONS=        .0    1140.C  TYPE=     1  TARGET=    1139.999
   112.00      7.60   797.40      0.00     0.00   797.40      .01       .11       .01    794.00
     480.      237.     164.       79.    701.     187.     205.        8.        5.     796.00
      .21       .34      .88       .38    .120     .065    .068      .078   789.80    748.14
  .000162      320.     300.      300.       2        0        0      0.00   391.86   1140.00


FLOW DISTRIBUTICN FCR SECNO=    112.00          CWSEL=    797.40

STA=     748.     805.     983.    1016.    1090.    1140.
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  PER Q=      4.5     44.9     34.2      6.0     10.4
   AREA=     96.5    604.3    186.9    114.3     90.6
    VEL=       .2       .4       .9       .3       .5

1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTICN    113.00 EXTENDED      1.13 FEET


3470 ENCROACHMENT STATIONS=        .0    1300.0  TYPE=     1  TARGET=    1299.999
   113.00      7.63   797.43     0.00     0.00   797.44      .00      .04      .00   794.00
     480.       38.     102.     341.     174.     180.     652.      15.       8.    796.00
      .36       .22      .57      .52     .120     .085     .053     .080   789.80   885.55
  .000113      320.     300.     250.        2        0        0     0.00   414.45  1300.00


FLCW DISTRIBUTION FOR SECNO=    113.00          CWSEL=    797.43

STA=     886.     525.     985.    1016.    1043.    1067.    1300.
  PER Q=       .6      7.2     21.2      1.6      2.4     67.0
   AREA=     28.3    146.1    179.9     38.7     46.4    567.3
    VEL=       .1       .2       .6       .2       .2       .6

1490 NH CARD USED
*SECNO 114.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

   114.00      7.45   797.45     0.00     0.00   797.46      .01      .02      .00   791.50
     480.      159.     162.     159.     277.     150.     277.      21.      10.    791.50
      .48       .57     1.08      .58     .050     .035     .050     .076   790.00   178.34
  .000049      260.     260.     380.        2        0        0     0.00   153.21   331.55


CCHV=    .300 CEHV=    .500
1490 NH CARD USED
*SECNO 21.000
    21.00      7.33   797.47     0.00     0.00   797.48      .01      .01      .00   791.64
     480.      146.     150.     184.     270.     147.     333.      26.      11.    791.64
      .60       .54     1.02      .55     .050     .035     .050     .077   790.14   853.95
  .000044      300.     300.     300.        0        0        0     0.00   164.49  1018.44


1490 NH CARD USED
*SECNO 21.100

3470 ENCROACHMENT STATIONS=     920.0     940.0  TYPE=     1  TARGET=      20.000
 ELENCL=    802.00  ELENCR=    802.00
    21.10      7.19   797.40     0.00     0.00   797.59      .19      .02      .09   802.00
     480.        0.     480.       0.       0.     138.       0.      28.      11.    802.00
      .61      0.00     3.47     0.00     .050     .035     .050     .077   790.21   920.00
  .000951      150.     150.     150.        2        0        0     0.00    20.00   940.00


*SECNO 21.200

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00
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    21.20      7.21    797.42      0.00      0.CC    797.59       .17       .00       .00    803.00
     480.        0.     480.        0.        0.     144.        0.       28.       11.     803.00
      .61      0.00      3.33      0.CO      .020      .020      .020      .077    790.21    920.00
  .000298        6.        6.        6.         1         0         0      0.00     20.00    940.00

*SECNO 21.300

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.30      7.19    797.43      0.00      C.CO    797.61       .17       .01       .CC    803.03
     480.        0.     480.        0.        0.     144.        0.       28.       11.     803.C3
      .62      0.CO      3.33      0.00      .02C      .020      .020      .075    790.24    920.00
  .000298       48.       48.       48.         1         0         0      0.00     20.00    94C.00

1490 NH CARD USED
*SECNO 21.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      920.0      940.C  TYPE=      1  TARGET=      20.000
 ELENCL=     803.CO  ELENCR=    803.00
    21.40      7.19    797.43      0.CO      C.CO    797.62       .19       .00       .01    803.00
     480.        0.     480.        0.        0.     139.        0.       28.       11.     803.00
      .62      0.CO      3.46      0.00      .020      .035      .020      .075    790.24    92C.00
  .000949        6.        6.        6.         0         0         0      0.00     20.00    940.00

CCHV=    .100 CEHV=    .300
1490 NH CARD USEC
*SECNO 22.000
    22.00      7.28    797.66      0.00      C.CC    797.67       .01       .03       .02    791.88
     480.      171.      139.      170.      333.      146.      331.       31.       12.     791.88
      .74       .51       .95       .51      .050      .035      .050      .067    790.38    840.7C
  .000039      290.      290.      290.         2         0         0      0.00    178.11   1018.87

1490 NH CARD USED
*SECNO 23.000
    23.00      7.12    797.68      0.00      0.00    797.69       .01       .02       .CC    792.06
     480.      112.      167.      201.      188.      143.      318.       38.       13.     792.06
      .88       .59      1.17       .63      .050      .035      .050      .059    790.56    868.64
  .000061      41C.      410.      410.         2         0         0      0.00    149.29   1017.93

CCHV=    .300 CEHV=    .500
*SECNO 24.000
    24.00      6.96    797.70      0.00      0.CC    797.74       .03       .04       .01    801.00
     480.        0.      294.      186.        0.     175.      179.       42.       14.     792.24
      .96      0.CO      1.68      1.04      .C5C      .035      .050      .055    790.74    98C.80
  .000193      370.      380.      410.         0         0         0      0.00     84.46   1065.26

1490 NH CARD USED
*SECNO 25.000
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    25.00      6.83    797.80      0.00      C.CC    797.84       .04       .10       .00    800.00
     480.        0.      291.      189.        C.      161.      174.       46.       15.     792.47
     1.05      C.00      1.80      1.09      .050      .035      .050      .052    790.97    984.45
  .000217      540.      500.      475.         2         0         0      0.00     80.29   1064.75

1490 NH CARD USED
*SECNO 26.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.CO      6.72    797.92      0.00      0.00    797.96       .04       .12       .0C    803.00
     48C.        0.      283.      197.        C.      143.      168.       50.       16.     792.70
     1.13      0.00      1.97      1.18      .050      .035      .050      .050    791.20    988.32
  .000261      50C.      500.      500.         1         0         0      0.00     75.63   1063.95


CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 27.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      801.10 ELREA=      792.91

    27.00      6.62    798.03      0.00      C.CC    798.C8       .04       .11       .0C    8C1.10
     480.        0.      252.      228.        0.      130.      194.       53.       17.     792.91
     1.21      C.CO      1.94      1.18      .C5C      .035      .050      .048    791.41    989.33
  .000252      440.      440.      440.         1         0         0      0.00     78.26   1067.59


*SECNO 28.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      802.00 ELREA=      793.00

    28.00      6.59    798.09      0.00      0.00    798.12       .03       .05       .00    8C2.00
     48C.        C.      274.      206.        0.      160.      192.       55.       17.     793.00
     1.25      0.CO      1.71      1.07      .050      .035      .050      .048    791.50    979.84
  .000211      200.      200.      200.         0         0         0      0.00     87.58   1067.42
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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      50 YEAR FLOW
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 3. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 798.450 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 2.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PRCF 2

CCHV=    .300 CEHV=    .500
1490 NH CARD USEC
*SECNO 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=        .0    1400.0  TYPE=     1  TARGET=    1399.999
    10.00      9.65    798.45      0.00    798.45    798.47       .02      0.00      0.00    795.90
     480.      172.      308.        0.      303.      218.        0.        0.        0.    796.00
     0.00       .57      1.41      0.00      .060      .060     0.000     0.000    788.80    758.55
  .000280        0.        0.        0.         0         0         0      0.00    591.55   1350.10

1490 NH CARD USEC
*SECNO 111.000
3280 CROSS SECTION    111.00 EXTENDED      4.55 FEET


3470 ENCROACHMENT STATIONS=      650.0    1077.0  TYPE=     1  TARGET=     427.000
 ELENCL=    810.00  ELENCR=    810.00
   111.00      9.25    798.55      0.00      0.00    798.57       .02       .10       .00    796.00
     700.      373.      282.       46.      754.      184.       72.        5.        3.    798.00
      .08       .49      1.53       .63      .110      .060      .062      .078    789.30    650.00
  .000450      270.      260.      260.         2         0         0      0.00    427.00   1077.00

FLOW DISTRIBUTION FOR SECNO=    111.00          CWSEL=    798.55

STA=     650.      837.      985.     1018.     1070.     1077.
  PER Q=     24.4      28.9      40.2       4.0       2.5
   AREA=    375.7     377.8     183.8      53.7      18.3
    VEL=       .5        .5       1.5        .5       1.0

1490 NH CARD USEC
*SECNO 112.000
3280 CROSS SECTION    112.00 EXTENDED      4.63 FEET


3470 ENCROACHMENT STATIONS=        .0    1140.0  TYPE=     1  TARGET=    1139.999
   112.00      8.83    798.63      0.00      0.00    798.64       .00       .06       .00    794.00
     700.      347.      191.      162.     1008.      228.      358.       14.        6.    796.00
      .25       .34       .84       .45      .120      .065      .070      .078    789.80    714.95
  .000114      320.      300.      300.         2         0         0      0.00    425.05   1140.00

FLOW DISTRIBUTION FOR SECNO=    112.00          CWSEL=    798.63

STA=     715.      738.      805.      983.     1016.     1090.     1140.
  PER Q=       .1       6.3      43.2      27.3       9.2      13.9
   AREA=      7.3     176.3     824.4     227.7     205.8     152.5
    VEL=       .1        .3        .4        .8        .3        .6
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1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTION     113.00 EXTENDED       2.36 FEET


3470 ENCROACHMENT STATIONS=          .0     1300.0  TYPE=      1  TARGET=     1299.999
   113.00      8.86   798.66      0.00      0.00   798.66       .00       .02       .00    794.00
     700.       66.      108.     525.      320.     218.      999.       24.        9.    796.00
      .41       .21       .50      .53      .120     .085      .053      .080    789.80    840.45
  .000067      320.      300.     250.         2        0         0      0.00    459.55   1300.00


FLOW DISTRIBUTION FOR SECNO=     113.00          CWSEL=     798.66

STA=      840.      870.      925.      985.     1016.     1043.     1067.     1300.
  PER Q=       .1       1.9       7.6      15.5       2.4       2.8      69.8
   AREA=      9.7      91.1     219.4     217.8      71.7      75.8     852.0
    VEL=       .0        .1        .2        .5        .2        .3        .6

1490 NH CARD USED
*SECNO 114.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   114.00      8.67   798.67      0.00      0.00   798.68       .01       .02       .00    791.50
     700.      241.      218.     241.      362.     175.      362.       34.       11.    791.50
      .52       .67      1.24      .67      .050     .035      .050      .076    790.00    170.98
  .000052      260.      260.     380.         1        0         0      0.00    167.90    338.88


CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 21.000
    21.00      8.55   798.69      0.00      0.00   798.70       .01       .01       .00    791.64
     700.      221.      202.     277.      354.     173.      432.       40.       13.    791.64
      .62       .63      1.17      .64      .050     .035      .050      .076    790.14    846.68
  .000047      300.      300.     300.         0        0         0      0.00    178.86   1025.54


1490 NH CARD USED
*SECNO 21.100

3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      1  TARGET=       20.000
 ELENCL=     802.00  ELENCR=     802.00
    21.10      8.36   798.57      0.00      0.00   798.86       .29       .02       .14    802.00
     700.        0.      700.       0.        0.     162.        0.       42.       13.    802.00
      .63      0.00      4.33     0.00      .050     .035      .050      .077    790.21    920.00
  .001321      150.      150.     150.         2        0         0      0.00     20.00    940.00


*SECNO 21.200

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.20      8.39   798.60      0.00      0.00   798.87       .27       .00       .01    803.00
     700.        0.      700.       0.        0.     168.        0.       42.       13.    803.00
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      .63      0.00      4.17      0.00      .C20      .020      .C20      .076    790.21    920.00
  .000417       6.        6.        6.         2         0         0      0.00     20.00    94C.00

*SECNO 21.300

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.CC MAX ELLC=  801.00

    21.30      8.38    798.62      0.00      0.00    798.89       .27       .02       .CC    8C3.03
     700.        C.     700.        0.        C.     168.        0.       42.       13.     803.03
      .64      0.00      4.18      0.00      .020      .02C      .C20      .C75    790.24    920.00
  .000418       4E.       48.       48.         2         0         0      0.00     20.00    94C.0C

1490 NH CARD USEC
*SECNC 21.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     920.0     940.0  TYPE=     1  TARGET=     2C.000
 ELENCL=    803.CC  ELENCR=    803.00
    21.40      8.37    798.61      0.00      C.CC    798.90       .29       .00       .01    8C3.00
     700.        0.     700.        0.        0.     162.        0.       42.       13.     803.00
      .64      0.00      4.31      0.CC      .020      .035      .020      .075    790.24    920.00
  .001311       6.        6.        6.         0         0         0      0.00     20.00    940.00


CCHV=     .100 CEHV=     .300
1490 NH CARD USEC
*SECNO 22.000
    22.00      8.58    798.96      0.00      0.CC    798.96       .01       .03       .03    791.88
     70C.      258.      185.      256.      440.      173.      437.       46.       14.     791.88
      .75       .59      1.07       .59      .05C      .035      .050      .067    790.38    833.07
  .000039      290.      290.      290.         2         0         0      0.00    193.61   1026.68


1490 NH CARD USEC
*SECNC 23.000
    23.00      8.41    798.97      0.00      0.00    798.99       .01       .02       .00    792.06
     700.      172.      223.      304.      259.      170.      423.       55.       15.     792.06
      .88       .67      1.31       .72      .050      .035      .050      .059    79C.56    86C.87
  .000061      410.      410.      41C.         2         0         0      0.00    164.88   1025.75


CCHV=     .300 CEHV=     .500
*SECNO 24.000
    24.00      8.26    799.00      0.00      0.00    799.04       .04       .04       .01    8C1.00
     700.        0.     411.      289.        0.     222.      249.       61.       17.     792.24
      .95      0.00      1.85      1.16      .C5C      .035      .050      .055    790.74    978.02
  .000190      370.      380.      410.         0         0         0      0.00     94.98   1C73.CC


1490 NH CARD USEC
*SECNO 25.000
    25.00      8.12    799.09      0.00      0.CC    799.14       .05       .10       .00    800.00
     700.        0.     403.      297.        0.     203.      242.       66.       18.     792.47
     1.03      0.00      1.98      1.23      .050      .035      .050      .052    790.97    981.84
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 .000215     540.     500.     475.        2        0        0     0.00    90.69  1072.52

1490 NH CARD USED
*SECNO 26.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       ITN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.00     8.01    799.21      0.00      0.00    799.26       .05       .12       .00    803.00
     700.       0.      388.      312.        0.      180.      235.       71.       19.    792.70
     1.10     0.00      2.16      1.33      .050      .035      .050      .050    791.20    986.27
  .000258     500.      500.      500.         1         0         0      0.00     85.43   1071.70

CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 27.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      801.10 ELREA=      792.91

    27.00     7.91    799.32      0.00      0.00    799.37       .05       .11       .00    801.10
     700.       0.      342.      358.        0.      161.      269.       75.       20.    792.91
     1.18     0.00      2.12      1.33      .050      .035      .050      .048    791.41    987.93
  .000248     440.      440.      440.         1         0         0      0.00     87.43   1075.36

*SECNO 28.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      802.00 ELREA=      793.00

    28.00     7.88    799.38      0.00      0.00    799.42       .04       .04       .00    802.00
     700.       0.      380.      320.        0.      205.      267.       77.       20.    793.00
     1.21     0.00      1.85      1.20      .050      .035      .050      .048    791.50    976.58
  .000202     200.      200.      200.         0         0         0      0.00     98.60   1075.19
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1      JOB HUD-FIA H-4705  TC6
T2      FLOOD INSURANCE STUDIES
T3      100 YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        4.        0.        0.  0.000000      0.00     -1.0        0.   798.790    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 3

CCHV=    .300 CEHV=    .500
1490 NH CARD USED
*SECNO 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=        .0    1400.0  TYPE=     1  TARGET=    1399.999
    10.00      9.99    798.79      0.00    798.79    798.81       .02      0.00      0.00    795.90
     570.      237.      333.        0.      385.      228.        0.        0.        0.    796.00
     0.00       .62      1.46      0.00      .060      .060    0.000     0.000    788.80    731.01
  .000281        0.        0.        0.         0         0        0      0.00    638.81   1365.82


1490 NH CARD USED
*SECNO 111.000
3280 CROSS SECTION    111.00 EXTENDED      4.89 FEET


3470 ENCROACHMENT STATIONS=      650.0    1077.0  TYPE=     1  TARGET=     427.000
 ELENCL=    810.00  ELENCR=    810.00
   111.00      9.59    798.89      0.00      0.00    798.91       .02       .09       .00    796.00
     820.      456.      302.       62.      867.      195.       92.        5.        3.    798.00
      .08       .53      1.55       .67      .110      .060      .063      .078    789.30    650.00
  .000425      270.      260.      260.         2         0         0      0.00    427.00   1077.00

FLOW DISTRIBUTION FOR SECNO=    111.00          CWSEL=    798.89

STA=     650.     837.     985.    1018.    1070.    1077.
  PER Q=     26.2     29.5     36.8      5.0      2.5
   AREA=    438.9    427.8    195.0     71.3     20.7
    VEL=       .5       .6      1.5       .6      1.0

1490 NH CARD USED
*SECNO 112.000
3280 CROSS SECTION    112.00 EXTENDED      4.97 FEET


3470 ENCROACHMENT STATIONS=        .0    1140.0  TYPE=     1  TARGET=    1139.999
   112.00      9.17    798.97      0.00      0.00    798.97       .01       .06       .00    794.00
     820.      407.      213.      200.     1101.      239.      400.       16.        6.    796.00
      .24       .37       .89       .50      .120      .065      .070      .078    789.80    702.62
  .000121      320.      300.      300.         2         0         0      0.00    437.38   1140.00

FLOW DISTRIBUTION FOR SECNO=    112.00          CWSEL=    798.97

STA=     703.     738.     805.     983.    1016.    1090.    1140.
  PER Q=       .2      6.8     42.7     26.0      9.8     14.5
   AREA=     17.1    198.9    884.5    238.9    230.8    169.3
    VEL=       .1       .3       .4       .9       .3       .7
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1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTICN     113.00 EXTENDED       2.70 FEET


3470 ENCROACHMENT STATIONS=          .0     1300.0  TYPE=      1  TARGET=     1299.999
   113.00      9.20    799.00      0.00      0.CO    799.CO       .00       .03       .00    794.00
     820.       82.      119.      619.      372.      228.     1096.       27.        9.     796.CO
      .39       .22       .52       .57      .120      .085      .054      .080    789.80    825.20
  .000070      320.      300.      250.         2         0         0      0.00    474.80   13CO.00


FLOW DISTRIBUTION FOR SECNO=     113.00          CWSEL=     799.00

STA=      825.      87C.      925.      985.     1016.     1043.     1067.     1300.
  PER Q=        .2       2.2       7.6      14.5       2.5       2.9      70.1
   AREA=      22.3     109.8     239.7     228.3      80.9      83.9     931.0
    VEL=        .1        .2        .3        .5        .3        .3        .6

1490 NH CARD USEC
*SECNO 114.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   114.00      9.01    799.01      0.00      C.CC    7S9.C3       .01       .02       .01    791.50
     820.      285.      251.      285.      388.      183.      387.       37.       12.     791.5C
      .49       .73      1.37       .74      .050      .035      .C50      .076    790.00    168.94
  .000060      260.      260.      380.         1         0         0      0.00    171.98    340.92


CCHV=     .300 CEHV=     .500
1490 NH CARD USEC
*SECNO 21.000
    21.00      8.89    799.03      0.00      C.CC    799.04       .01       .02       .00    791.64
     820.      262.      232.      327.      379.      180.      462.       44.       13.     791.64
      .58       .69      1.29       .71      .050      .035      .C50      .076    790.14    844.63
  .00C054      300.      300.      300.         0         0         0      0.00    182.91   1027.54


1490 NH CARD USEC
*SECNO 21.100

3470 ENCROACHMENT STATIONS=      920.0      940.C  TYPE=      1  TARGET=       20.000
 ELENCL=     802.00  ELENCR=     802.00
    21.10      8.67    798.88      C.00      0.CC    799.25       .37       .02       .18    8C2.00
     820.        0.      820.        0.        C.      168.        0.       46.       13.     8C2.00
      .59      0.00      4.88      C.00      .050      .035      .050      .077    790.21    92C.00
  .001639      150.      150.      150.         2         0         0      0.00     20.00    940.00


*SECNO 21.200

3370 NORMAL BRIDGE,ARD=  0 MIN ELTRD=  803.00 MAX ELLC=  8C1.CO

    21.20      8.70    798.91      C.CO      0.C0    799.26       .34       .01       .01    803.00
     820.        0.      820.        0.        0.      174.        0.       46.       13.     803.00
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      .59      0.00      4.71      0.00      .020      .020      .020      .076    790.21    920.00
  .000517       6.        6.        6.         2         0         0      0.00     20.00    940.00

*SECNO 21.300

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.30      8.70    798.94      0.00      0.00    799.28       .34       .02       .00    803.03
     820.        0.      820.        0.        0.      174.        0.       46.       13.    803.03
      .60      0.00      4.71      0.00      .020      .020      .020      .075    790.24    920.00
  .000518       48.       48.       48.         2         0         0      0.00     20.00    940.00

1490 NH CARD USED
*SECNO 21.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLCB      CCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      1  TARGET=      20.000
 ELENCL=     803.00  ELENCR=    803.00
    21.40      8.69    798.93      0.00      0.00    799.30       .37       .01       .01    803.00
     820.        0.      820.        0.        0.      169.        0.       46.       13.    803.00
      .60      0.00      4.86      0.00      .020      .035      .020      .075    790.24    920.00
  .001620        6.        6.        6.         0         0         0      0.00     20.00    940.00

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 22.000
    22.00      8.98    799.36      0.00      0.00    799.37       .01       .04       .04    791.88
     820.       305.      212.      303.      476.      182.      473.       51.       14.    791.88
      .70       .64      1.17       .64      .050      .035      .050      .067    790.38    830.65
  .000044      290.      290.      290.         2         0         0      0.00    198.48   1029.13

1490 NH CARD USED
*SECNO 23.000
    23.00      8.82    799.38      0.00      0.00    799.40       .02       .02       .00    792.06
     820.       205.      255.      360.      283.      178.      459.       60.       16.    792.06
      .82       .73      1.43       .78      .050      .035      .050      .059    790.56    858.42
  .000067      410.      410.      410.         2         0         0      0.00    169.80   1028.22

CCHV=     .300 CEHV=     .500
*SECNO 24.000
    24.00      8.67    799.41      0.00      0.00    799.45       .05       .04       .02    801.00
     820.        0.      475.      345.        0.      237.      273.       67.       17.    792.24
      .88      0.00      2.00      1.26      .050      .035      .050      .055    790.74    977.20
  .000209      370.      380.      410.         0         0         0      0.00     98.26   1075.45

1490 NH CARD USED
*SECNO 25.000
    25.00      8.54    799.51      0.00      0.00    799.57       .05       .11       .00    800.00
     820.        0.      465.      355.        0.      218.      267.       72.       18.    792.47
      .96      0.00      2.14      1.33      .050      .035      .050      .052    790.97    980.98
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  .000237     540.     500.     475.        2        0        0     0.00    94.07  1075.06

1490 NH CARD USED
*SECNO 26.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      ARCB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      ITN      ELMIN      SSTA
   SLOPE    XLGBL    XLCH     XLOBR    ITRIAL   ICC      ICCNT    CORAR    TOPWID     ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.00     8.44   799.64     0.00     0.00   799.70      .06      .13      .00   803.00
     820.       0.     447.     373.       0.     192.     260.      78.      19.   792.70
     1.03     0.00     2.32     1.44     .050     .035     .050     .050   791.20   985.58
  .000281     500.     500.     500.        1        0        0     0.00    88.70  1074.29

CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 27.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      801.10 ELREA=      792.91

    27.00     8.36   799.77     0.00     0.00   799.82      .06      .12      .00   801.10
     820.       0.     392.     428.       0.     172.     298.      82.      20.   792.91
     1.10     0.00     2.28     1.44     .050     .035     .050     .048   791.41   987.45
  .000268     440.     440.     440.        1        0        0     0.00    90.57  1078.02

*SECNO 28.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      802.00 ELREA=      793.00

    28.00     8.32   799.82     0.00     0.00   799.87      .04      .05      .00   802.00
     820.       0.     438.     382.       0.     221.     296.      84.      21.   793.00
     1.13     0.00     1.98     1.29     .050     .035     .050     .048   791.50   975.46
  .000217     200.     200.     200.        0        0        0     0.00   102.43  1077.88
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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,C3
  MODIFICATION -  50,51,52,53
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T1      JOB HUD-FIA H-4705  TG6
T2      FLOOD INSURANCE STUDIES
T3      500 YEAR FLOW
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|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 5. | 0. | 0. | C.000000 | 0.00 | -1.0 | 0. | 801.400 | C.000 |
| J2 | NPRCF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | C.000 | -1.000 | C.000 | C.000 | 0.000 | C.000 | 0.000 | 0.000 | 0.000 |

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*PROF 4

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=        .0    1400.0  TYPE=     1  TARGET=    1399.999
    10.00     12.60    801.40      0.00    801.40    801.41       .01      0.00      0.00    795.90
     780.      540.      240.        0.    1200.      307.        0.        0.        0.    796.00
     0.00       .45       .78      0.00      .060      .060     0.000     0.000    788.80    615.60
  .000055        0.        0.        0.         0         0         0      0.00    784.40   1400.00


1490 NH CARD USED
*SECNO 111.000
3280 CROSS SECTION    111.00 EXTENDED      7.41 FEET


3470 ENCROACHMENT STATIONS=      650.0    1077.0  TYPE=     1  TARGET=     427.000
 ELENCL=    810.00  ELENCR=    810.00
   111.00     12.12    801.42      0.00      0.00    801.43       .01       .02       .00    796.00
    1100.      696.      270.      134.     1712.      278.      241.       11.        4.    798.00
      .13       .41       .97       .56      .110      .060      .066      .078    789.30    650.00
  .000104      270.      260.      260.         0         0         0      0.00    427.00   1077.00


FLOW DISTRIBUTION FOR SECNO=    111.00          CWSEL=    801.42

STA=     650.      837.      985.     1018.     1045.     1070.     1077.
  PER Q=    32.3      31.0      24.6       4.1       5.8       2.2
   AREA=   910.8     801.3     278.3      92.2     110.4      38.3
    VEL=      .4        .4       1.0        .5        .6        .6

1490 NH CARD USED
*SECNO 112.000
3280 CROSS SECTION    112.00 EXTENDED      7.44 FEET


3470 ENCROACHMENT STATIONS=        .0    1140.0  TYPE=     1  TARGET=    1139.999
   112.00     11.65    801.45      0.00      0.00    801.45       .00       .02       .00    794.00
    1100.      562.      221.      318.     1883.      321.      707.       30.        7.    796.00
      .34       .30       .69       .45      .120      .065      .071      .077    789.80    650.00
  .000048      320.      300.      300.         0         0         0      0.00    490.00   1140.00


FLOW DISTRIBUTION FOR SECNO=    112.00          CWSEL=    801.45

STA=     650.      805.      983.     1016.     1090.     1140.
  PER Q=    11.5      39.6      20.0      12.3      16.6
   AREA=   557.4    1325.2     320.6     414.0     293.1
    VEL=      .2        .3        .7        .3        .6
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1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTION    113.00 EXTENDED      5.16 FEET


3470 ENCROACHMENT STATIONS=        .0    1300.0  TYPE=     1  TARGET=     1299.999
   113.00     11.66    801.46      0.00      0.00    801.46       .00       .01       .00    794.00
    1100.      151.      116.      833.      881.      305.     1796.       50.       11.    796.00
      .53       .17       .38       .46      .120      .085      .054      .080    789.80    743.47
  .000025      320.      300.      250.         1         0         0      0.00    556.53   1300.00


FLOW DISTRIBUTION FOR SECNO=    113.00          CWSEL=    801.46

STA=     743.     925.     985.    1016.    1043.    1067.    1300.
  PER Q=       6.2      7.6     10.5      3.1      3.2     69.5
   AREA=     493.6    387.7    304.7    147.5    143.1   1505.5
    VEL=        .1       .2       .4       .2       .2       .5

1490 NH CARD USED
*SECNO 114.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   114.00     11.46    801.46      0.00      0.00    801.47       .01       .01       .00    791.50
    1100.      391.      290.      420.      591.      234.      777.       67.       15.    791.50
      .64       .66      1.24       .54      .050      .035      .050      .075    790.00    154.21
  .000035      260.      260.      380.         0         0         0      0.00    497.66    651.87


CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 21.000
    21.00     11.33    801.47      0.00      0.00    801.48       .01       .01       .00    791.64
    1100.      362.      270.      469.      580.      231.      839.       78.       18.    791.64
      .76       .62      1.17       .56      .050      .035      .050      .076    790.14    829.98
  .000032      300.      300.      300.         0         0         0      0.00    444.74   1274.72


1490 NH CARD USED
*SECNO 21.100

3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=     1  TARGET=       20.000
 ELENCL=     802.00  ELENCR=     802.00
    21.10     11.08    801.29      0.00      0.00    801.69       .40       .01       .20    802.00
    1100.        0.     1100.        0.        0.      216.        0.       81.       19.    802.00
      .77      0.00      5.09      0.00      .050      .035      .050      .076    790.21    920.00
  .001508      150.      150.      150.         2         0         0      0.00     20.00    940.00


*SECNO 21.200

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.20     11.09    801.30      0.00      0.00    801.70       .40       .01       .00    803.00
    1100.        0.     1100.        0.        0.      216.        0.       81.       19.    803.00
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      .77      0.00      5.10      0.00      .020      .020      .020      .076    790.21    920.00
  .000884       6.        6.        6.         C         0         0     -5.91     20.00    940.00

*SECNO 21.300

3370 NORMAL BRIDGE,ARD=  0 MIN ELTRD=  803.CC MAX ELLC=  801.00

    21.30     11.10    801.34      0.00      C.CC    801.74       .41       .04       .00    8C3.03
    1100.        0.    1100.        0.        0.      215.        0.       81.       19.     8C3.03
      .77      0.C0      5.11      0.00      .020      .020      .020      .C75    790.24    920.00
  .000891       48.       48.       48.         1         0         0     -6.92     20.00    940.00

1490 NH CARD USED
*SECNO 21.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLC8      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      920.0      S40.C  TYPE=      1  TARGET=      20.000
 ELENCL=     803.00  ELENCR=     803.00
    21.40     11.11    801.35      0.00      0.00    801.75       .40       .01       .0C    8C3.CC
    1100.        C.    1100.        0.        C.      217.        0.       81.       19.     803.00
      .77      0.00      5.08      0.00      .020      .035      .020      .074    790.24    920.00
  .C01500        6.        6.        6.         0         0         0      0.00     20.00    940.00

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 22.000
    22.00     11.43    801.81      0.00      0.00    801.82       .01       .02       .04    791.88
    1100.      417.      247.      436.      711.      233.      909.       88.       21.     791.88
      .89       .59      1.06       .48      .050      .035      .050      .066    790.38    816.14
  .000026      29C.      290.      290.         2         0         0      0.00    591.77   14C7.91

1490 NH CARD USEC
*SECNO 23.000
    23.00     11.26    801.82      0.C0      0.CC    8C1.83       .01       .01       .00    792.06
    11C0.      293.      297.      510.      450.      230.      885.      104.       27.     792.06
     1.04       .65      1.29       .58      .C5C      .035      .051      .058    790.56    843.79
  .000039      410.      410.      410.         2         0         0      0.00    674.56   1518.35

CCHV=     .300 CEHV=     .500
*SECNC 24.000
    24.00     11.09    801.83      0.00      0.00    801.86       .03       .02       .01    8C1.00
    1100.       26.      574.      500.      102.      341.      491.      116.       32.     792.24
     1.12       .25      1.68      1.02      .050      .035      .050      .055    79C.74    813.53
  .000114      370.      380.      41C.         C         0         0      0.00    408.57   1222.10

1450 NH CARD USED
*SECNO 25.000
    25.00     10.92    801.89      0.00      0.00    801.92       .03       .06       .00    8C0.00
    11CC.       71.      549.      480.      229.      301.      444.      127.       36.     792.47
     1.22       .31      1.82      1.08      .05C      .035      .C50      .052    790.97    721.00
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  .000116     540.     500.     475.        1        0        0     0.00   412.28  1133.28

1490 NH CARD USED
*SECNO 26.000
3280 CROSS SECTION     26.00 EXTENDED      1.95 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.00    10.75   801.95     0.00      0.00   801.99       .04       .07       .00   803.00
    1100.       0.     553.     547.        0.     277.     480.      136.       40.   792.70
     1.30     0.00     2.00     1.14      .050     .035     .050      .050   791.20   970.41
  .000155     500.     500.     500.        0        0        0     0.00   260.97  1231.38

CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 27.000
3280 CROSS SECTION     27.00 EXTENDED      2.02 FEET

    27.00    10.62   802.03     0.00      0.00   802.04       .01       .05       .00   801.10
    1100.     304.     339.     457.     1619.     232.     614.      153.       47.   792.91
     1.45      .19     1.46      .74      .117     .035     .051      .048   791.41   200.00
  .000081     440.     440.     440.        1        0        0     0.00  1152.96  1352.96

*SECNO 28.000
3280 CROSS SECTION     28.00 EXTENDED      2.05 FEET

    28.00    10.55   802.05     0.00      0.00   802.06       .01       .01       .00   802.00
    1100.     401.     336.     363.     1212.     312.     643.      163.       53.   793.00
     1.54      .33     1.08      .56      .050     .035     .050      .048   791.50   330.00
  .000049     200.     200.     200.        0        0        0     0.00  1106.16  1436.16
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*************************************************
  HEC2 RELEASE DATEC NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY CF ERRCRS LIST

SUMMARY OF ERRCRS

FLOOD INSURANCE ZONE DATA FOR  DATA FROM FOREST CREEK S

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND a 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 10.000 | 0. | -1.79 | -.34 | 2.61 |
| 111.000 | 260. | -1.67 | -.34 | 2.53 |
| 112.000 | 560. | -1.57 | -.34 | 2.48 |
| 113.000 | 860. | -1.56 | -.34 | 2.46 |
| 114.000 | 1120. | -1.56 | -.34 | 2.45 |
| 21.000 | 1420. | -1.56 | -.34 | 2.44 |
| 21.100 | 1570. | -1.48 | -.31 | 2.42 |
| 21.200 | 1576. | -1.49 | -.32 | 2.38 |
| 21.300 | 1624. | -1.50 | -.32 | 2.40 |
| 21.400 | 1630. | -1.50 | -.32 | 2.42 |
| 22.000 | 1920. | -1.70 | -.41 | 2.45 |
| 23.000 | 2330. | -1.70 | -.41 | 2.44 |
| 24.000 | 2710. | -1.70 | -.41 | 2.43 |
| 25.000 | 3210. | -1.71 | -.42 | 2.37 |
| 26.000 | 3710. | -1.72 | -.43 | 2.31 |
| 27.000 | 4150. | -1.73 | -.44 | 2.26 |
| 28.000 | 4350. | -1.74 | -.45 | 2.22 |
| WEIGHTED AVG FOR REACH | | -1.66 | -.39 | 2.41 |

FHF FOR THE REACH = 015 WITH 100.0_ OF THE REACH WITHIN  .5 FEET
ZONE FOR THE REACH = A 3

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,02,03
  MODIFICATION -  50,51,52,53
*****************************************************
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | G | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 798.790 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHAIM | ITRACE |
| | 15.000 | C.CCC | -1.000 | 0.000 | C.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 2

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=          .0     1400.0  TYPE=      1  TARGET=     1399.999
    10.00     10.09    798.89      0.00    798.79    798.91       .02      0.00      0.00    795.90
     570.      246.      324.        0.      411.      231.        0.        0.        0.    796.00
     0.00       .60      1.40      0.00      .060      .060     0.000     0.000    788.80    722.91
  .000255        0.        0.        0.         0         0         0      0.00    652.71   1375.62

1490 NH CARD USED
*SECNO 111.000
3280 CROSS SECTION     111.00 EXTENDED       4.98 FEET


3470 ENCROACHMENT STATIONS=       650.0     1077.0  TYPE=      1  TARGET=      427.000
 ELENCL=     810.00  ELENCR=     810.00
   111.00      9.68    798.98      0.00    798.89    799.00       .02       .09       .00    796.00
     820.      461.      295.       64.      897.      198.       97.        6.        3.    798.00
      .08       .51      1.49       .66      .110      .060      .064      .078    789.30    650.00
  .000387      270.      260.      260.         2         0         0      0.00    427.00   1077.00

FLOW DISTRIBUTION FOR SECNO=     111.00          CWSEL=     798.98

STA=      650.      837.      985.     1018.     1070.     1077.
  PER Q=     26.6      29.6      36.0       5.3       2.5
   AREA=    455.8     441.2     198.0      76.0      21.3
    VEL=       .5        .6       1.5        .6       1.0

1490 NH CARD USED
*SECNO 112.000
3280 CROSS SECTION     112.00 EXTENDED       5.05 FEET


3470 ENCROACHMENT STATIONS=          .0     1140.0  TYPE=      1  TARGET=     1139.999
   112.00      9.25    799.05      0.00    798.97    799.06       .00       .06       .00    794.00
     820.      408.      211.      202.     1124.      242.      411.       16.        6.    796.00
      .25       .36       .87       .49      .120      .065      .070      .078    789.80    699.53
  .000113      320.      300.      300.         2         0         0      0.00    440.47   1140.00

FLOW DISTRIBUTION FOR SECNO=     112.00          CWSEL=     799.05

STA=      700.      738.      805.      983.     1016.     1090.     1140.
  PER Q=       .2       6.9      42.6      25.7       9.9      14.7
   AREA=     20.3     204.6     899.6     241.7     237.1     173.6
    VEL=       .1        .3        .4        .9        .3        .7
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1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTION     113.00 EXTENDED       2.78 FEET


3470 ENCROACHMENT STATIONS=          .0     1300.0  TYPE=      1  TARGET=     1299.999
   113.00      9.28    799.08      0.00    799.00    799.08       .00       .02       .00    794.00
     820.       83.      117.      620.      385.      231.     1119.       28.        9.    796.00
      .40       .21       .51       .55      .120      .085      .054      .080    789.80    821.47
  .000065      320.      300.      250.         2         0         0      0.00    478.53   1300.00


FLOW DISTRIBUTION FOR SECNO=     113.00          CWSEL=     799.08

STA=      821.      870.      925.      985.     1016.     1043.     1067.     1300.
  PER Q=       .2       2.3       7.6      14.3       2.6       2.9      70.1
   AREA=     26.2     114.3     244.7     230.8      83.1      85.9     950.3
    VEL=       .1        .2        .3        .5        .3        .3        .6

1490 NH CARD USED
*SECNO 114.000
 2800 NAT Q1=    1056.86  WSEL=     799.01  ENC Q1=    1056.86  WSEL=     799.11  RATIO=   0.0000
 NAT Q1=    1082.  RATIOS LOB,CH,ROB=    .3482    .3040    .3478  WSEL=     799.11
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      189.8      320.1  TYPE=      4  TARGET=        .023
   114.00      9.09    799.09      0.00    799.01    799.11       .02       .02       .01    791.50
     820.      282.      255.      282.      356.      184.      355.       38.       12.    791.50
      .49       .79      1.39       .79      .050      .035      .050      .076    790.00    189.81
  .000061      260.      260.      380.         0         0         0      0.00    130.30    320.11


CCHV=     .300 CFHV=     .500
1490 NH CARD USED
*SECNO 21.000
 2800 NAT Q1=    1115.24  WSEL=     799.03  ENC Q1=    1115.24  WSEL=     799.13  RATIO=   0.0000
 NAT Q1=    1144.  RATIOS LOB,CH,ROB=    .3198    .2810    .3992  WSEL=     799.13

3470 ENCROACHMENT STATIONS=      866.1     1006.9  TYPE=      4  TARGET=        .025
    21.00      8.97    799.11      0.00    799.03    799.13       .01       .02       .00    791.64
     820.      258.      237.      325.      345.      182.      430.       44.       13.    791.64
      .58       .75      1.30       .76      .050      .035      .050      .076    790.14    866.06
  .000055      300.      300.      300.         0         0         0      0.00    140.81   1006.86


1490 NH CARD USED
*SECNO 21.100

3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      1  TARGET=      20.000
 ELENCL=     802.00  ELENCR=     802.00
    21.10      8.75    798.96      0.00    798.88    799.32       .36       .02       .17    802.00
     820.        0.      820.        0.        0.      170.        0.       46.       13.    802.00
      .59      0.00      4.83      0.00      .050      .035      .050      .077    790.21    920.00
  .001594      150.      150.      150.         2         0         0      0.00     20.00    940.00
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*SECNO 21.200
 2800 NAT Q1=     360.54  WSEL=     798.91  ENC Q1=     366.16  WSEL=     799.01  RATIO=  -.0156
 NAT Q1=    366.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     799.01

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00


3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      4  TARGET=        0.000
    21.20      8.79   799.00      0.00   798.91   799.34      .34       .00       .01   803.00
     820.        0.     820.        0.       0.     176.       0.       46.       13.    803.00
      .59      0.00     4.66      0.00     .020     .020     .020      .076   790.21   920.00
  .000504        6.       6.        6.        2        0        0      0.00    20.00   940.00


*SECNO 21.300
 2800 NAT Q1=     360.22  WSEL=     798.94  ENC Q1=     365.86  WSEL=     799.04  RATIO=  -.0157
 NAT Q1=    366.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     799.04

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      4  TARGET=        0.000
    21.30      8.78   799.02      0.00   798.94   799.36      .34       .02       .00   803.03
     820.        0.     820.        0.       0.     176.       0.       46.       13.    803.03
      .60      0.00     4.67      0.00     .020     .020     .020      .075   790.24   920.00
  .000505       48.      48.       48.        0        0        0      0.00    20.00   940.00


1490 NH CARD USED
*SECNO 21.400
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      1  TARGET=       20.000
 ELENCL=    803.00  ELENCR=    803.00
    21.40      8.78   799.02      0.00   798.93   799.38      .36       .00       .01   803.00
     820.        0.     820.        0.       0.     170.       0.       46.       13.    803.00
      .60      0.00     4.81      0.00     .020     .035     .020      .075   790.24   920.00
  .001577        6.       6.        6.        0        0        0      0.00    20.00   940.00


CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 22.000
 2800 NAT Q1=    1240.14  WSEL=     799.36  ENC Q1=    1240.14  WSEL=     799.46  RATIO=    .0000
 NAT Q1=   1271.  RATIOS LOB,CH,ROB=   .3730   .2572   .3698  WSEL=     799.46

3470 ENCROACHMENT STATIONS=      852.2     1007.3  TYPE=      4  TARGET=         .024
    22.00      9.06   799.44      0.00   799.36   799.45      .01       .04       .03   791.88
     820.      303.     217.      300.     442.     183.     439.       50.       14.    791.88
      .70       .69     1.18       .68     .050     .035     .050      .067   790.38   852.15
  .000044      290.     290.      290.        2        0        0      0.00   155.17  1007.32


1490 NH CARD USED
*SECNO 23.000
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 2800 NAT Q1=     998.99  WSEL=     799.38  ENC Q1=     998.99  WSEL=     799.48  RATIO=    .0000
 NAT Q1=    1025.  RATIOS LOB,CH,ROB=    .2513    .3093    .4394  WSEL=     799.48

3470 ENCROACHMENT STATIONS=      879.5     1007.7  TYPE=      4  TARGET=          .025
    23.00      8.90    799.46      0.00    799.38    799.47       .02       .02       .00    792.06
     820.      201.      261.      359.      249.      180.      429.       59.       15.    792.06
      .81       .81      1.45       .84      .050      .035      .050      .059    790.56    879.52
  .000068      410.      410.      410.         0         0         0      0.00    128.13   1007.65

CCHV=     .300 CEHV=     .500
*SECNO 24.000
 2800 NAT Q1=     566.80  WSEL=     799.41  ENC Q1=     566.80  WSEL=     799.51  RATIO=  0.0000
 NAT Q1=     583.  RATIOS LOB,CH,ROB=  0.0000    .5780    .4220  WSEL=     799.51

3470 ENCROACHMENT STATIONS=      970.0     1053.5  TYPE=      4  TARGET=          .027
    24.00      8.74    799.48      0.00    799.41    799.53       .05       .04       .02    801.00
     820.        C.      488.      332.        C.      240.      236.       65.       16.    792.24
      .87      0.00      2.03      1.41      .050      .035      .050      .055    790.74    977.03
  .000212      370.      380.      410.         2         0         0      0.00     76.45   1053.49

1490 NH CARD USED
*SECNO 25.000
 2800 NAT Q1=     532.91  WSEL=     799.51  ENC Q1=     532.91  WSEL=     799.61  RATIO=    .0000
 NAT Q1=     547.  RATIOS LOB,CH,ROB=  0.0000    .5653    .4347  WSEL=     799.61

3470 ENCROACHMENT STATIONS=      980.0     1053.8  TYPE=      4  TARGET=          .025
    25.00      8.62    799.59      0.00    799.51    799.65       .06       .11       .00    800.00
     820.        0.      476.      344.        C.      220.      232.       71.       17.    792.47
      .94      0.00      2.16      1.48      .050      .035      .050      .052    790.97    980.82
  .000240      540.      500.      475.         0         0         0      0.00     72.96   1053.78

1490 NH CARD USED
*SECNO 26.000
 2800 NAT Q1=     489.34  WSEL=     799.64  ENC Q1=     489.34  WSEL=     799.74  RATIO=  0.0000
 NAT Q1=     503.  RATIOS LOB,CH,ROB=  0.0000    .5427    .4573  WSEL=     799.74
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLCB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST


3470 ENCROACHMENT STATIONS=      965.0     1053.3  TYPE=      4  TARGET=          .027

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.00      8.52    799.72      0.00    799.64    799.78       .07       .13       .00    803.00
     820.        0.      458.      362.        0.      195.      226.       76.       17.    792.70
     1.01      0.00      2.35      1.60      .050      .035      .050      .050    791.20    985.45
  .000284      500.      500.      500.         0         0         0      0.00     67.83   1053.28

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 27.000
 2800 NAT Q1=     500.65  WSEL=     799.77  ENC Q1=     500.65  WSEL=     799.87  RATIO=    .0000
 NAT Q1=     515.  RATIOS LOB,CH,ROB=  0.0000    .4757    .5243  WSEL=     799.87
```

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3470 ENCROACHMENT STATIONS=      986.0     1057.1  TYPE=      4  TARGET=          .027

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       801.10 ELREA=       792.91

    27.00      8.43    799.84      0.00    799.77    799.90       .06       .12       .00    801.10
     820.        0.      402.      418.        C.      174.      265.       80.       18.    792.91
     1.C7      0.CO      2.31      1.58      .050      .035      .050      .048    791.41    987.37
  .000273      440.      440.      440.         0         0         0      0.00     69.71   1057.08


*SECNO 28.000
 2800 NAT Q1=     556.48  WSEL=     799.82  ENC Q1=     556.48  WSEL=     799.92  RATIO=  0.0000
 NAT Q1=     572.  RATICS LOB,CH,ROB=  0.0000    .5326    .4674  WSEL=     799.92

3470 ENCROACHMENT STATIONS=      970.0     1056.2  TYPE=      4  TARGET=          .028

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       802.00 ELREA=       793.00

    28.00      8.41    799.91      0.00    799.82    799.96       .05       .05       .00    802.00
     820.        0.      450.      370.        0.      224.      260.       82.       18.    793.00
     1.10      0.00      2.01      1.42      .050      .035      .050      .048    791.50    975.25
  .000221      200.      200.      200.         1         0         0      0.00     80.94   1056.20
```

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.000 | 0.00 | 0.00 | 0.00 | 788.80 | 570.00 | 798.79 | 0.00 | 798.81 | 2.81 | 1.46 | 613.03 | 340.02 |
| 10.000 | 0.00 | 0.00 | 0.00 | 788.80 | 570.00 | 798.89 | 0.00 | 798.91 | 2.55 | 1.40 | 641.83 | 357.09 |
| 111.000 | 260.00 | 0.00 | 0.00 | 789.30 | 820.00 | 798.89 | 0.00 | 798.91 | 4.25 | 1.55 | 1153.71 | 397.81 |
| 111.000 | 260.00 | 0.00 | 0.00 | 789.30 | 820.00 | 798.98 | 0.00 | 799.00 | 3.87 | 1.49 | 1192.38 | 417.02 |
| 112.000 | 300.00 | 0.00 | 0.00 | 789.80 | 820.00 | 798.97 | 0.00 | 798.97 | 1.21 | .89 | 1739.70 | 746.96 |
| 112.000 | 300.00 | 0.00 | 0.00 | 789.80 | 820.00 | 799.05 | 0.00 | 799.06 | 1.13 | .87 | 1776.84 | 770.40 |
| 113.000 | 300.00 | 0.00 | 0.00 | 789.80 | 820.00 | 799.00 | 0.00 | 799.00 | .70 | .52 | 1695.79 | 983.22 |
| 113.000 | 300.00 | 0.00 | 0.00 | 789.80 | 820.00 | 799.08 | 0.00 | 799.08 | .65 | .51 | 1735.34 | 1016.58 |
| 114.000 | 260.00 | 0.00 | 0.00 | 790.00 | 820.00 | 799.01 | 0.00 | 799.03 | .60 | 1.37 | 957.41 | 1056.86 |
| 114.000 | 260.00 | 0.00 | 0.00 | 790.00 | 820.00 | 799.09 | 0.00 | 799.11 | .61 | 1.39 | 895.38 | 1052.99 |
| 21.000 | 300.00 | 0.00 | 0.00 | 790.14 | 820.00 | 799.03 | 0.00 | 799.04 | .54 | 1.29 | 1020.55 | 1115.24 |
| 21.000 | 300.00 | 0.00 | 0.00 | 790.14 | 820.00 | 799.11 | 0.00 | 799.13 | .55 | 1.30 | 957.00 | 1108.59 |
| 21.100 | 150.00 | 0.00 | 0.00 | 790.21 | 820.00 | 798.88 | 0.00 | 799.25 | 16.39 | 4.88 | 167.98 | 202.57 |
| 21.100 | 150.00 | 0.00 | 0.00 | 790.21 | 820.00 | 798.96 | 0.00 | 799.32 | 15.94 | 4.83 | 169.71 | 205.38 |
| 21.200 | 6.00 | 803.00 | 801.00 | 790.21 | 820.00 | 798.91 | 0.00 | 799.26 | 5.17 | 4.71 | 174.08 | 360.54 |
| 21.200 | 6.00 | 803.00 | 801.00 | 790.21 | 820.00 | 799.00 | 0.00 | 799.34 | 5.04 | 4.66 | 175.78 | 365.33 |
| 21.300 | 48.00 | 803.00 | 801.00 | 790.24 | 820.00 | 798.94 | 0.00 | 799.28 | 5.18 | 4.71 | 173.97 | 360.22 |
| 21.300 | 48.00 | 803.00 | 801.00 | 790.24 | 820.00 | 799.02 | 0.00 | 799.36 | 5.05 | 4.67 | 175.67 | 365.00 |
| 21.400 | 6.00 | 0.00 | 0.00 | 790.24 | 820.00 | 798.93 | 0.00 | 799.30 | 16.20 | 4.86 | 168.70 | 203.73 |
| 21.400 | 6.00 | 0.00 | 0.00 | 790.24 | 820.00 | 799.02 | 0.00 | 799.38 | 15.77 | 4.81 | 170.39 | 206.48 |
| 22.000 | 290.00 | 0.00 | 0.00 | 790.38 | 820.00 | 799.36 | 0.00 | 799.37 | .44 | 1.17 | 1130.82 | 1240.14 |
| 22.000 | 290.00 | 0.00 | 0.00 | 790.38 | 820.00 | 799.44 | 0.00 | 799.45 | .44 | 1.18 | 1064.21 | 1231.64 |
| 23.000 | 410.00 | 0.00 | 0.00 | 790.56 | 820.00 | 799.38 | 0.00 | 799.40 | .67 | 1.43 | 920.35 | 998.99 |
| 23.000 | 410.00 | 0.00 | 0.00 | 790.56 | 820.00 | 799.46 | 0.00 | 799.47 | .68 | 1.45 | 858.51 | 993.75 |
| 24.000 | 380.00 | 0.00 | 0.00 | 790.74 | 820.00 | 799.41 | 0.00 | 799.45 | 2.09 | 2.00 | 509.94 | 566.80 |
| 24.000 | 380.00 | 0.00 | 0.00 | 790.74 | 820.00 | 799.48 | 0.00 | 799.53 | 2.12 | 2.03 | 475.77 | 562.76 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25.000 | 500.00 | 0.00 | 0.00 | 790.97 | 820.00 | 799.51 | 0.00 | 799.57 | 2.37 | 2.14 | 484.39 | 532.91 |
| 25.000 | 500.00 | 0.00 | 0.00 | 790.97 | 820.00 | 799.59 | 0.00 | 799.65 | 2.40 | 2.16 | 452.59 | 529.85 |
| 26.000 | 500.00 | 0.00 | 0.00 | 791.20 | 820.00 | 799.64 | 0.00 | 799.70 | 2.81 | 2.32 | 452.21 | 489.34 |
| 26.000 | 500.00 | 0.00 | 0.00 | 791.20 | 820.00 | 799.72 | 0.00 | 799.78 | 2.84 | 2.35 | 421.20 | 486.30 |
| 27.000 | 440.00 | 0.00 | 0.00 | 791.41 | 820.00 | 799.77 | 0.00 | 799.82 | 2.68 | 2.28 | 469.71 | 500.65 |
| 27.000 | 440.00 | 0.00 | 0.00 | 791.41 | 820.00 | 799.84 | 0.00 | 799.90 | 2.73 | 2.31 | 438.60 | 496.39 |
| 28.000 | 200.00 | 0.00 | 0.00 | 791.50 | 820.00 | 799.82 | 0.00 | 799.87 | 2.17 | 1.98 | 517.24 | 556.48 |
| 28.000 | 200.00 | 0.00 | 0.00 | 791.50 | 820.00 | 799.91 | 0.00 | 799.96 | 2.21 | 2.01 | 484.70 | 552.02 |

DATA FROM FOREST CREEK S

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 10.000 | 570.00 | 798.79 | 0.00 | 0.00 | 0.00 | 638.81 | 0.00 |
| 10.000 | 570.00 | 798.89 | .10 | 0.00 | .10 | 652.71 | 0.00 |
| 111.000 | 820.00 | 798.89 | 0.00 | .10 | 0.00 | 427.00 | 260.00 |
| 111.000 | 820.00 | 798.98 | .09 | .09 | .09 | 427.00 | 260.00 |
| 112.000 | 820.00 | 798.97 | 0.00 | .08 | 0.00 | 437.38 | 300.00 |
| 112.000 | 820.00 | 799.05 | .08 | .07 | .08 | 440.47 | 300.00 |
| 113.000 | 820.00 | 799.00 | 0.00 | .03 | 0.00 | 474.80 | 300.00 |
| 113.000 | 820.00 | 799.08 | .08 | .02 | .08 | 478.53 | 300.00 |
| 114.000 | 820.00 | 799.01 | 0.00 | .02 | 0.00 | 171.98 | 260.00 |
| 114.000 | 820.00 | 799.09 | .08 | .01 | .08 | 130.30 | 260.00 |
| 21.000 | 820.00 | 799.03 | 0.00 | .02 | 0.00 | 182.91 | 300.00 |
| 21.000 | 820.00 | 799.11 | .08 | .02 | .08 | 140.81 | 300.00 |
| 21.100 | 820.00 | 798.88 | 0.00 | -.16 | 0.00 | 20.00 | 150.00 |
| 21.100 | 820.00 | 798.96 | .09 | -.15 | .09 | 20.00 | 150.00 |
| 21.200 | 820.00 | 798.91 | 0.00 | .04 | 0.00 | 20.00 | 6.00 |
| 21.200 | 820.00 | 799.00 | .09 | .04 | .09 | 20.00 | 6.00 |
| 21.300 | 820.00 | 798.94 | 0.00 | .02 | 0.00 | 20.00 | 48.00 |
| 21.300 | 820.00 | 799.02 | .08 | .02 | .08 | 20.00 | 48.00 |
| 21.400 | 820.00 | 798.93 | 0.00 | -.01 | 0.00 | 20.00 | 6.00 |
| 21.400 | 820.00 | 799.02 | .08 | -.01 | .08 | 20.00 | 6.00 |
| 22.000 | 820.00 | 799.36 | 0.00 | .43 | 0.00 | 198.48 | 290.00 |
| 22.000 | 820.00 | 799.44 | .08 | .42 | .08 | 155.17 | 290.00 |
| 23.000 | 820.00 | 799.38 | 0.00 | .02 | 0.00 | 169.80 | 410.00 |
| 23.000 | 820.00 | 799.46 | .08 | .02 | .08 | 128.13 | 410.00 |
| 24.000 | 820.00 | 799.41 | 0.00 | .03 | 0.00 | 98.26 | 380.00 |
| 24.000 | 820.00 | 799.48 | .08 | .03 | .08 | 76.45 | 380.00 |
| 25.000 | 820.00 | 799.51 | 0.00 | .11 | 0.00 | 94.07 | 500.00 |
| 25.000 | 820.00 | 799.59 | .08 | .11 | .08 | 72.96 | 500.00 |
| 26.000 | 820.00 | 799.64 | 0.00 | .12 | 0.00 | 88.70 | 500.00 |
| 26.000 | 820.00 | 799.72 | .08 | .13 | .08 | 67.83 | 500.00 |
| 27.000 | 820.00 | 799.77 | 0.00 | .13 | 0.00 | 90.57 | 440.00 |
| 27.000 | 820.00 | 799.84 | .08 | .13 | .08 | 69.71 | 440.00 |
| 28.000 | 820.00 | 799.82 | 0.00 | .06 | 0.00 | 102.43 | 200.00 |
| 28.000 | 820.00 | 799.91 | .08 | .06 | .08 | 80.94 | 200.00 |

FLOODWAY DATA, DATA FROM FOREST CREEK S
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 10.000 | 653. | 642. | .9 | 798.9 | 798.8 | .1 |
| 111.000 | 427. | 1192. | .7 | 799.0 | 798.9 | .1 |
| 112.000 | 440. | 1777. | .5 | 799.1 | 799.0 | .1 |
| 113.000 | 479. | 1735. | .5 | 799.1 | 799.0 | .1 |
| 114.000 | 130. | 895. | .9 | 799.1 | 799.0 | .1 |
| 21.000 | 141. | 957. | .9 | 799.1 | 799.0 | .1 |
| 21.100 | 20. | 170. | 4.8 | 799.0 | 798.9 | .1 |
| 21.200 | 20. | 176. | 4.7 | 799.0 | 798.9 | .1 |
| 21.300 | 20. | 176. | 4.7 | 799.0 | 798.9 | .1 |
| 21.400 | 20. | 170. | 4.8 | 799.0 | 798.9 | .1 |
| 22.000 | 155. | 1064. | .8 | 799.5 | 799.4 | .1 |
| 23.000 | 128. | 859. | 1.0 | 799.5 | 799.4 | .1 |
| 24.000 | 76. | 476. | 1.7 | 799.5 | 799.4 | .1 |
| 25.000 | 73. | 453. | 1.8 | 799.6 | 799.5 | .1 |
| 26.000 | 68. | 421. | 1.9 | 799.7 | 799.6 | .1 |
| 27.000 | 70. | 439. | 1.9 | 799.9 | 799.8 | .1 |
| 28.000 | 81. | 485. | 1.7 | 799.9 | 799.8 | .1 |

```
 02/25/80 +MSU HUSTLER 2      LSD 49.41  02/23/80  CYBER750
16.53.26.UMM9930
16.53.27.JOB READ-  02/25/80 .16.52.50.
16.53.27.MCNAMEE,PN       ,RG3,CM120000,JC499.
16.53.27.LAST ACCESS- M 16.52 02/25/80
16.53.27.RUNS- 2501   PN DOLLAR BALANCE $C1224.03
16.53.27.CP-PP SEC.     .009-     .000  $     .00
16.53.28.HAL,L*ECCO,LIB.
16.53.28.ZZZZMPL - CYCLE 01, HAL 5, MPL-PF ECCO
16.53.28.FILE ATTACHED
16.53.28.ECCO
16.53.29.ECCO    - CYCLE 10, ECCO
16.53.29.FILE ATTACHED
16.53.29.RP  00000022  000000000232  MAXFL 017200
16.53.29.CP-PP SEC.     .028-     .988  $     .03
16.53.30.SETCORE.
16.53.30.HEC2.
16.53.30.RP  C0000062  000000000243  MAXFL 030000
16.53.30.CP-PP SEC.     .036-    1.407  $     .C9
16.53.30.APLIB,TT6939,P*HEC2.
16.53.31.HEC2    - CYCLE 01, MT6939HEC2
16.53.31.FILE ATTACHED
16.53.31.RP  00000066  000000000351  MAXFL 011000
16.53.31.CP-PP SEC.     .038-    1.761  $     .10
16.53.32.SETCORE,ZERO.
16.53.32.HEC2.
16.53.35.EXEC BEGUN.16.53.35.
16.53.48.    STOP
16.53.48.      .961 CP SECONDS EXECUTION TIME
16.53.48.RP  0000037C  00000000017C4  MAXFL C76300
16.53.48.CP-PP SEC.    1.034-    5.897  $    1.62
16.53.48.NEWNAME,OUTPUT,X.
16.56.C1.RP  00000372  000000001736  MAXFL 003400
16.56.01.CP-PP SEC.    1.037-    6.186  $    1.62
16.56.01.REWIND,X.
16.56.C1.CP-PP SEC.    1.037-    6.277  $    1.62
16.56.01.COPY X,OUTPUT.
16.56.1C.RP  00000411  000000002521  MAXFL 005000
16.56.10.CP-PP SEC.    1.051-    7.201  $    1.64
16.56.10.REWINC,X.
16.56.10.CP-PP SEC.    1.051-    7.243  $    1.64
16.56.10.COPY X,OUTPUT.
16.56.11.MAX FILES 0012 MAX PRUS 001200B.
16.56.11.RP  00C0430C  000000003317
16.56.11. PP     8.104 SEC.
16.56.11.CP USE    1.056 SEC   VALUE$     .21
16.56.11.PP USE   29.743 SEC   VALUE$     .C7
16.56.11.CM USE    3.479 W-H   VALUE$     .82
16.56.11.TOTAL CCMPLTE VALUE AT RG3 $    1.66
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPRAGUE DRAIN

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************

T1      HUD-FIA H-4705 TROY FIS
T2      SPRAGUE BRANCH AND SPRAGUE DRAIN
T3      DATA FROM FOREST CREEK SUBDIVISION

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.  0.000000      0.00      -1.0       0.   798.790    0.000

J2  NPRCF     IPLCT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      5.000   320.000   480.000   570.000   780.000   570.000     0.000     0.000     0.000     0.000
NC       .070      .080      .080      .300      .500     0.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000
NH     4.000      .050   244.500      .035   265.500      .050   347.000      .060  1020.000     0.000

X1    10.000    15.000   985.000  1015.000     0.000     0.000     0.000     0.000     0.000     0.000
X3     0.000     0.000     0.000     0.000     0.000  1400.000   810.000     0.000     0.000     0.000
GR   802.000   600.000   801.000   626.000   800.000   686.000   799.000   714.000   797.000   876.000
GR   795.900   985.000   788.800   995.000   788.800  1005.000   796.000  1015.000   796.000  1140.000
GR   797.000  1194.000   798.000  1324.000   799.000  1382.000   801.000  1554.000   802.000  1730.000
QT     5.000   480.000   700.000   820.000  1100.000   820.000     0.000     0.000     0.000     0.000
NH     4.000      .110   985.000      .060  1018.000      .070  1070.000      .050  1185.000     0.000

X1   111.000    12.000   985.000  1018.000   270.000   260.000   260.000     0.000     0.000     0.000
X2     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000
X3     0.000     0.000     0.000   650.000   810.000  1077.000   810.000     0.000     0.000     0.000
GR   800.000   260.000   798.000   493.000   796.000   837.000   796.000   985.000   792.000   994.000
GR   789.300   998.000   789.300  1002.000   792.000  1006.000   798.000  1018.000   798.000  1045.000
GR   796.000  1070.000   794.000  1185.000     0.000     0.000     0.000     0.000     0.000     0.000
NH     4.000      .120   983.000      .065  1016.000      .100  1090.000      .050  1451.000     0.000

X1   112.000    12.000   983.000  1016.000   320.000   300.000   300.000     0.000     0.000     0.000
X2     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000
X3     0.000     0.000     0.000     0.000     0.000  1140.000   810.000     0.000     0.000     0.000
GR   801.000   650.000   800.000   665.000   798.000   738.000   794.000   805.000   794.000   983.000
GR   792.000   990.000   789.800   995.000   789.800  1006.000   792.000  1008.000   796.000  1016.000
GR   795.700  1090.000   794.000  1451.000     0.000     0.000     0.000     0.000     0.000     0.000
NH     4.000      .120   985.000      .085  1016.000      .100  1067.000      .050  1695.000     0.000

X1   113.000    14.000   985.000  1016.000   320.000   250.000   300.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 15.000 |
| X3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1300.000 | 810.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 730.000 | 800.000 | 780.000 | 798.000 | 870.000 | 796.000 | 925.000 | 794.000 | 985.000 |
| GR | 789.800 | 995.000 | 789.800 | 1006.000 | 792.000 | 1008.000 | 796.000 | 1016.000 | 796.000 | 1043.000 |
| GR | 795.000 | 1067.000 | 795.000 | 1300.000 | 796.300 | 1345.000 | 796.300 | 1695.000 | 0.000 | 0.000 |
| NH | 4.000 | .050 | 244.500 | .035 | 265.500 | .050 | 348.000 | .060 | 1020.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 114.000 | 9.000 | 244.500 | 265.500 | 260.000 | 380.000 | 260.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 151.000 | 792.190 | 210.000 | 791.500 | 244.500 | 790.000 | 249.000 | 790.000 | 261.000 |
| GR | 791.500 | 265.500 | 792.190 | 300.000 | 800.200 | 348.000 | 803.000 | 1020.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .050 | 919.500 | .035 | 940.500 | .050 | 1034.400 | .060 | 1480.000 | 0.000 |
| X1 | 21.000 | 10.000 | 919.500 | 940.500 | 300.000 | 300.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 826.800 | 792.310 | 885.000 | 791.640 | 919.500 | 790.140 | 924.000 | 790.140 | 936.000 |
| GR | 791.640 | 940.500 | 792.630 | 990.000 | 800.200 | 1034.400 | 802.000 | 1375.000 | 804.000 | 1480.000 |
| NH | 4.000 | .050 | 919.500 | .035 | 940.500 | .050 | 1034.000 | .060 | 1430.000 | 0.000 |
| X1 | 21.100 | 11.000 | 915.000 | 945.000 | 150.000 | 150.000 | 150.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 920.000 | 802.000 | 940.000 | 802.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.000 | 820.000 | 792.300 | 890.000 | 791.800 | 915.000 | 791.710 | 919.500 | 790.210 | 924.000 |
| GR | 790.210 | 936.000 | 791.710 | 940.500 | 791.800 | 945.000 | 792.700 | 990.000 | 800.000 | 1034.000 |
| GR | 802.000 | 1430.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .020 | .020 | .020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21.200 | 6.000 | 920.000 | 940.000 | 6.000 | 6.000 | 6.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 801.000 | 803.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 803.000 | 850.000 | 803.000 | 920.000 | 790.210 | 920.000 | 790.210 | 940.000 | 803.000 | 940.000 |
| GR | 803.000 | 1050.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 21.300 | 0.000 | 0.000 | 0.000 | 48.000 | 48.000 | 48.000 | 0.000 | .030 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 801.000 | 803.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .050 | 919.500 | .035 | 940.500 | .050 | 1040.000 | .060 | 1465.000 | 0.000 |
| X1 | 21.400 | 11.000 | 915.000 | 945.000 | 6.000 | 6.000 | 6.000 | 0.000 | 0.000 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 920.000 | 803.000 | 940.000 | 803.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.000 | 820.000 | 792.330 | 890.000 | 791.830 | 915.000 | 791.740 | 919.500 | 790.240 | 924.000 |
| GR | 790.240 | 936.000 | 791.740 | 940.500 | 791.830 | 945.000 | 792.730 | 990.000 | 801.000 | 1040.000 |
| GR | 802.000 | 1465.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .050 | 919.500 | .035 | 940.500 | .050 | 1039.000 | .060 | 1450.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 22.000 | 10.000 | 919.500 | 940.500 | 290.000 | 290.000 | 290.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 815.000 | 792.900 | 869.000 | 791.880 | 919.500 | 790.380 | 924.000 | 790.380 | 936.000 |
| GR | 791.880 | 940.500 | 792.870 | 990.000 | 801.000 | 1039.000 | 801.500 | 1402.000 | 804.000 | 1450.000 |
| NH | 4.000 | .050 | 919.500 | .035 | 940.500 | .050 | 1038.000 | .090 | 1860.000 | 0.000 |
| X1 | 23.000 | 11.000 | 919.500 | 940.500 | 410.000 | 410.000 | 410.000 | 0.000 | 0.000 | 0.000 |
| GR | 802.000 | 842.700 | 792.450 | 900.000 | 792.060 | 919.500 | 790.560 | 924.000 | 790.560 | 936.000 |
| GR | 792.060 | 940.500 | 793.050 | 990.000 | 801.000 | 1038.000 | 802.000 | 1625.000 | 804.000 | 1740.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 806.000 | 1860.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .050 | .050 | .035 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 24.000 | 16.000 | 970.000 | 1015.500 | 370.000 | 410.000 | 380.000 | 0.000 | 0.000 | 0.000 |
| GR | 805.000 | 270.000 | 804.000 | 355.000 | 803.000 | 490.000 | 802.000 | 600.000 | 802.000 | 800.000 |
| GR | 801.000 | 880.000 | 801.000 | 970.000 | 800.000 | 976.000 | 798.000 | 980.000 | 790.740 | 999.000 |
| GR | 790.740 | 1011.000 | 792.240 | 1015.500 | 792.630 | 1035.000 | 801.000 | 1085.000 | 802.000 | 1250.000 |
| GR | 804.000 | 2040.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .050 | 980.000 | .035 | 1015.500 | .050 | 1140.000 | .080 | 1430.000 | 0.000 |
| X1 | 25.000 | 14.000 | 980.000 | 1015.500 | 540.000 | 475.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 804.000 | 155.000 | 803.000 | 225.000 | 802.000 | 500.000 | 802.000 | 715.000 | 801.000 | 765.000 |
| GR | 801.000 | 940.000 | 800.000 | 980.000 | 790.970 | 998.300 | 790.970 | 1011.000 | 792.470 | 1015.500 |
| GR | 792.860 | 1035.000 | 801.000 | 1084.000 | 802.000 | 1140.000 | 804.000 | 1430.000 | 0.000 | 0.000 |
| NH | 4.000 | .120 | 985.000 | .035 | 1015.500 | .050 | 1161.000 | .080 | 2040.000 | 0.000 |
| X1 | 26.000 | 17.000 | 965.000 | 1015.500 | 500.000 | 500.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 800.000 | 100.000 | 800.000 | 275.000 | 800.500 | 450.000 | 800.000 | 900.000 | 802.000 | 960.000 |
| GR | 803.000 | 965.000 | 802.000 | 970.000 | 800.000 | 985.000 | 791.200 | 999.000 | 791.200 | 1011.000 |
| GR | 792.700 | 1015.500 | 793.090 | 1035.000 | 801.000 | 1082.500 | 801.500 | 1161.000 | 802.000 | 1240.000 |
| GR | 803.200 | 1830.000 | 804.000 | 2040.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 4.000 | .120 | 980.000 | .035 | 1013.000 | .050 | 1085.500 | .080 | 1650.000 | 0.000 |
| X1 | 27.000 | 15.000 | 986.000 | 1013.000 | 440.000 | 440.000 | 440.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 800.000 | 200.000 | 800.500 | 400.000 | 800.000 | 600.000 | 800.000 | 690.000 | 799.000 | 800.000 |
| GR | 800.000 | 970.000 | 801.100 | 986.000 | 791.410 | 996.500 | 791.410 | 1008.500 | 792.910 | 1013.000 |
| GR | 793.450 | 1040.000 | 801.000 | 1085.500 | 801.400 | 1230.000 | 802.000 | 1350.000 | 804.000 | 1650.000 |
| NC | .050 | .050 | .035 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 28.000 | 13.000 | 970.000 | 1013.000 | 200.000 | 200.000 | 200.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 800.000 | 330.000 | 800.000 | 580.000 | 800.000 | 900.000 | 802.000 | 938.000 | 802.000 | 970.000 |
| GR | 800.000 | 975.000 | 791.500 | 996.500 | 791.500 | 1008.500 | 793.000 | 1013.000 | 793.540 | 1040.000 |
| GR | 801.000 | 1085.000 | 802.000 | 1430.000 | 804.000 | 1665.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 1

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 10.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=          .0     1400.0  TYPE=      1  TARGET=     1399.999
    10.00      9.99    798.79      0.00    798.79    798.81       .02      0.00      0.00    795.90
     570.      237.      333.        0.      385.      228.        0.        0.        0.    796.00
     0.00       .62      1.46      0.00      .060      .060     0.000     0.000    788.80    731.01
  .000281        0.        0.        0.         0         0         0      0.00    638.81   1369.82


1490 NH CARD USED
*SECNO 111.000
3280 CROSS SECTION     111.00 EXTENDED       4.85 FEET


3470 ENCROACHMENT STATIONS=       650.0     1077.0  TYPE=      1  TARGET=      427.000
 ELENCL=     810.00  ELENCR=     810.00
   111.00      9.59    798.89      0.00      0.00    798.91       .02       .09       .00    796.00
     820.      456.      302.       62.      867.      195.       92.        5.        3.    798.00
      .08       .53      1.55       .67      .110      .060      .063      .078    789.30    650.00
  .000425      270.      260.      260.         2         0         0      0.00    427.00   1077.00

FLOW DISTRIBUTION FOR SECNO=     111.00          CWSEL=     798.89

STA=      650.      837.      985.     1018.     1070.     1077.
  PER Q=     26.2      29.5      36.8       5.0       2.5
   AREA=    438.9     427.8     195.0      71.3      20.7
    VEL=       .5        .6       1.5        .6       1.0

1490 NH CARD USED
*SECNO 112.000
3280 CROSS SECTION     112.00 EXTENDED       4.97 FEET


3470 ENCROACHMENT STATIONS=          .0     1140.0  TYPE=      1  TARGET=     1139.999
   112.00      9.17    798.97      0.00      0.00    798.97       .01       .06       .00    794.00
     820.      407.      213.      200.     1101.      239.      400.       16.        6.    796.00
      .24       .37       .89       .50      .120      .065      .070      .078    789.80    702.62
  .000121      320.      300.      300.         2         0         0      0.00    437.38   1140.00

FLOW DISTRIBUTION FOR SECNO=     112.00          CWSEL=     798.97

STA=      703.      738.      805.      983.     1016.     1090.     1140.
  PER Q=       .2       6.8      42.7      26.0       9.8      14.5
   AREA=     17.1     198.9     884.5     238.9     230.8     169.3
    VEL=       .1        .3        .4        .9        .3        .7
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Floodway Checked

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1490 NH CARD USED
*SECNO 113.000
3280 CROSS SECTION     113.00 EXTENDED       2.70 FEET


3470 ENCROACHMENT STATIONS=          .0     1300.0  TYPE=      1  TARGET=     1299.999
   113.00      9.20    799.00      0.00      0.00    799.00       .00       .03       .00    794.00
     820.       82.      119.      619.      372.      228.     1096.       27.        9.    796.00
      .39       .22       .52       .57      .120      .085      .054      .080    789.80    825.20
  .000070      320.      300.      250.         2         0         0      0.00    474.80   1300.00


FLOW DISTRIBUTION FOR SECNO=     113.00          CHSEL=     799.00

STA=      825.      870.      925.      985.     1016.     1043.     1067.     1300.
  PER Q=       .2       2.2       7.6      14.5       2.5       2.9      70.1
   AREA=     22.3     109.8     239.7     228.3      80.9      83.9     931.0
    VEL=       .1        .2        .3        .5        .3        .3        .6

1490 NH CARD USED
*SECNO 114.000
   SECNO     DEPTH     CHSEL     CRIWS     HSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   114.00      9.01    799.01      0.00      0.00    799.03       .01       .02       .01    791.50
     820.      285.      251.      285.      388.      183.      387.       37.       12.    791.50
      .49       .73      1.37       .74      .050      .035      .050      .076    790.00    168.94
  .000060      260.      260.      380.         1         0         0      0.00    171.98    340.92


CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 21.000
    21.00      8.89    799.03      0.00      0.00    799.04       .01       .02       .00    791.64
     820.      262.      232.      327.      379.      180.      462.       44.       13.    791.64
      .58       .69      1.29       .71      .050      .035      .050      .076    790.14    844.63
  .000054      300.      300.      300.         0         0         0      0.00    182.91   1027.54


1490 NH CARD USED
*SECNO 21.100

3470 ENCROACHMENT STATIONS=      920.0      940.0  TYPE=      1  TARGET=      20.000
 ELENCL=     802.00  ELENCR=     802.00
    21.10      8.67    798.88      0.00      0.00    799.25       .37       .02       .18    802.00
     820.        0.      820.        0.        0.      168.        0.       46.       13.    802.00
      .59      0.00      4.88      0.00      .050      .035      .050      .077    790.21    920.00
  .001639      150.      150.      150.         2         0         0      0.00     20.00    940.00


*SECNO 21.200

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.20      8.70    798.91      0.00      0.00    799.26       .34       .01       .01    803.00
     820.        0.      820.        0.        0.      174.        0.       46.       13.    803.00
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      .59      0.00      4.71      0.00      .020      .020      .020      .076    790.21    920.00
  .000517       6.        6.        6.         2         0         0      0.00     20.00    940.00

#SECNO 21.300

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  803.00 MAX ELLC=  801.00

    21.30      8.70    798.94      0.00      0.00    799.28       .34       .02       .00    803.03
     820.        0.      820.        0.        0.     174.        0.       46.       13.    803.03
      .60      0.00      4.71      0.00      .020      .020      .020      .075    790.24    920.00
  .000518       48.       48.       48.         2         0         0      0.00     20.00    940.00

1490 NH CARD USED
#SECNO 21.400
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     920.0     940.0  TYPE=     1  TARGET=     20.000
 ELENCL=    803.00  ELENCR=    803.00
    21.40      8.69    798.93      0.00      0.00    799.30       .37       .01       .01    803.00
     820.        0.      820.        0.        0.     169.        0.       46.       13.    803.00
      .60      0.00      4.86      0.00      .020      .035      .020      .075    790.24    920.00
  .001620        6.        6.        6.         0         0         0      0.00     20.00    940.00

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
#SECNO 22.000
    22.00      8.98    799.36      0.00      0.00    799.37       .01       .04       .04    791.88
     820.       305.      212.      303.      476.     182.      473.       51.       14.    791.88
      .70       .64      1.17       .64      .050      .035      .050      .067    790.38    830.65
  .000044      290.      290.      290.         2         0         0      0.00    198.48   1029.13

1490 NH CARD USED
#SECNO 23.000
    23.00      8.82    799.38      0.00      0.00    799.40       .02       .02       .00    792.06
     820.       205.      255.      360.      283.     178.      459.       60.       16.    792.06
      .82       .73      1.43       .78      .050      .035      .050      .059    790.56    858.42
  .000067      410.      410.      410.         2         0         0      0.00    169.80   1028.22

CCHV=     .300 CEHV=     .500
#SECNO 24.000
    24.00      8.67    799.41      0.00      0.00    799.45       .05       .04       .02    801.00
     820.        0.      475.      345.        0.     237.      273.       67.       17.    792.24
      .88      0.00      2.00      1.26      .050      .035      .050      .055    790.74    977.20
  .000209      370.      380.      410.         0         0         0      0.00     98.26   1075.45

1490 NH CARD USED
#SECNO 25.000
    25.00      8.54    799.51      0.00      0.00    799.57       .05       .11       .00    800.00
     820.        0.      465.      355.        0.     218.      267.       72.       18.    792.47
      .96      0.00      2.14      1.33      .050      .035      .050      .052    790.97    980.98
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  .000237     540.     500.     475.        2        0        0     0.00    94.07  1075.06

1490 NH CARD USED
*SECNO 26.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   ICC      ICONT    CORAR    TOPWID     ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      803.00 ELREA=      792.70

    26.00     8.44   799.64     0.00     0.00   799.70      .06      .13      .00   803.00
     820.       0.     447.     373.       0.     192.     260.      78.      19.    792.70
     1.03     0.00     2.32     1.44     .050     .035     .050     .050   791.20   985.58
  .000281     500.     500.     500.        1        0        0     0.00    88.70  1074.29


CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 27.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      801.10 ELREA=      792.91

    27.00     8.36   799.77     0.00     0.00   799.82      .06      .12      .00   801.10
     820.       0.     392.     428.       0.     172.     298.      82.      20.    792.91
     1.10     0.00     2.28     1.44     .050     .035     .050     .048   791.41   987.45
  .000268     440.     440.     440.        1        0        0     0.00    90.57  1078.02

*SECNO 28.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      802.00 ELREA=      793.00

    28.00     8.32   799.82     0.00     0.00   799.87      .04      .05      .00   802.00
     820.       0.     438.     382.       0.     221.     296.      84.      21.    793.00
     1.13     0.00     1.98     1.29     .050     .035     .050     .048   791.50   975.46
  .000217     200.     200.     200.        0        0        0     0.00   102.43  1077.88
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S ENCLOSURE BTW ROCHESTER AND MAPLE RDS.

4) DOCUMENT TYPE: 10Y-500YR SUMMARY

00BREAK00

Spencer Barnard
u/s Enclosure between
Rochester & Maple Roads
Summary 10,50,100,500

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 370.00 | 653.20 | 653.20 | 654.37 | 388.76 | 8.69 | 42.59 | 18.77 |
| | 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 580.00 | 658.70 | 0.00 | 658.76 | 9.81 | 2.15 | 378.82 | 185.15 |
| | 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.00 | 0.00 | 659.06 | 9.48 | 2.21 | 427.12 | 214.38 |
| | 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 850.00 | 659.20 | 0.00 | 659.28 | 13.03 | 2.66 | 464.22 | 235.47 |
| | 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 370.00 | 654.93 | 0.00 | 655.26 | 70.96 | 4.62 | 80.01 | 43.92 |
| | 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 580.00 | 658.76 | 0.00 | 658.81 | 9.30 | 2.11 | 386.86 | 190.21 |
| | 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.05 | 0.00 | 659.11 | 9.02 | 2.17 | 436.41 | 219.74 |
| | 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 850.00 | 659.27 | 0.00 | 659.35 | 12.20 | 2.60 | 478.46 | 243.37 |
| | 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 370.00 | 657.00 | 0.00 | 657.25 | 46.08 | 4.01 | 94.20 | 54.51 |
| | 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 580.00 | 659.19 | 0.00 | 659.33 | 23.46 | 3.14 | 243.19 | 119.76 |
| | 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 659.49 | 0.00 | 659.63 | 24.22 | 3.22 | 275.18 | 134.12 |
| | 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 850.00 | 659.85 | 0.00 | 660.03 | 30.24 | 3.65 | 319.01 | 154.57 |
| | 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 370.00 | 658.28 | 0.00 | 658.44 | 25.56 | 3.25 | 132.53 | 73.18 |
| | 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 580.00 | 659.79 | 0.00 | 659.86 | 10.40 | 2.57 | 446.97 | 179.86 |
| | 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 660.08 | 0.00 | 660.14 | 9.58 | 2.55 | 526.01 | 213.25 |
| | 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 850.00 | 660.52 | 0.00 | 660.59 | 9.51 | 2.68 | 660.94 | 275.58 |
| | 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 370.00 | 659.01 | 0.00 | 659.23 | 40.53 | 3.77 | 101.37 | 58.12 |
| | 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 580.00 | 660.11 | 0.00 | 660.31 | 30.24 | 3.90 | 237.63 | 105.48 |
| | 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.37 | 0.00 | 660.56 | 28.50 | 3.93 | 291.95 | 123.62 |
| | 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 850.00 | 660.81 | 0.00 | 661.00 | 27.70 | 4.11 | 398.83 | 161.51 |
| | 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 370.00 | 659.00 | 0.00 | 659.24 | 151.61 | 3.92 | 97.18 | 30.05 |
| | 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 580.00 | 660.19 | 0.00 | 660.33 | 77.98 | 3.40 | 250.55 | 65.68 |
| | 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.47 | 0.00 | 660.58 | 65.58 | 3.23 | 310.63 | 81.50 |
| | 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 850.00 | 660.93 | 0.00 | 661.02 | 54.31 | 3.10 | 426.50 | 115.34 |
| | 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 370.00 | 659.14 | 0.00 | 659.36 | 131.74 | 3.75 | 103.82 | 32.24 |
| | 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 580.00 | 660.27 | 0.00 | 660.39 | 69.05 | 3.23 | 266.67 | 69.80 |
| | 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.53 | 0.00 | 660.63 | 59.66 | 3.10 | 324.94 | 85.45 |
| | 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 850.00 | 660.98 | 0.00 | 661.07 | 51.15 | 3.03 | 437.23 | 118.85 |
| | 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 370.00 | 659.17 | 0.00 | 659.37 | 34.75 | 3.59 | 109.24 | 62.76 |
| | 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 580.00 | 660.24 | 0.00 | 660.42 | 25.64 | 3.66 | 265.10 | 114.55 |
| | 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.50 | 0.00 | 660.66 | 24.36 | 3.70 | 321.21 | 133.72 |
| | 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 850.00 | 660.94 | 0.00 | 661.10 | 23.83 | 3.87 | 432.40 | 174.12 |

| SECNO | XLCH | FLTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 370.00 | 659.34 | 0.00 | 659.57 | 43.22 | 3.84 | 98.49 | 56.28 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 580.00 | 660.35 | 0.00 | 660.60 | 36.47 | 4.19 | 208.24 | 96.04 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 660.60 | 0.00 | 660.84 | 35.01 | 4.26 | 256.10 | 111.55 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 850.00 | 661.04 | 0.00 | 661.27 | 34.12 | 4.46 | 354.63 | 145.52 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 370.00 | 659.77 | 0.00 | 660.00 | 41.87 | 3.80 | 99.88 | 57.18 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 580.00 | 660.72 | 0.00 | 660.97 | 37.99 | 4.25 | 202.07 | 94.10 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 660.95 | 0.00 | 661.20 | 37.13 | 4.35 | 246.28 | 108.31 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 850.00 | 661.38 | 0.00 | 661.63 | 36.55 | 4.58 | 340.76 | 140.60 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 370.00 | 660.44 | 0.00 | 660.68 | 48.41 | 3.92 | 94.40 | 53.18 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 580.00 | 661.33 | 0.00 | 661.68 | 54.09 | 4.77 | 126.71 | 78.86 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.54 | 0.00 | 661.95 | 58.46 | 5.13 | 137.10 | 86.32 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 850.00 | 661.93 | 0.00 | 662.47 | 70.32 | 5.96 | 159.37 | 101.36 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 370.00 | 661.27 | 0.00 | 661.44 | 30.34 | 3.36 | 111.71 | 67.17 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 580.00 | 662.27 | 0.00 | 662.51 | 32.03 | 4.04 | 161.09 | 102.48 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.55 | 0.00 | 662.83 | 32.91 | 4.27 | 180.63 | 115.04 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 850.00 | 663.14 | 0.00 | 663.45 | 33.86 | 4.66 | 245.53 | 146.07 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 370.00 | 662.46 | 0.00 | 662.67 | 39.86 | 3.67 | 100.97 | 58.61 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 580.00 | 663.49 | 0.00 | 663.78 | 39.97 | 4.34 | 144.95 | 91.74 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.80 | 0.00 | 664.11 | 40.40 | 4.56 | 163.16 | 103.84 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 850.00 | 664.41 | 0.00 | 664.77 | 41.22 | 5.00 | 212.77 | 132.39 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 370.00 | 664.09 | 0.00 | 664.31 | 42.19 | 3.74 | 99.01 | 56.96 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 580.00 | 665.12 | 0.00 | 665.42 | 42.15 | 4.41 | 141.43 | 89.33 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.44 | 0.00 | 665.77 | 42.10 | 4.62 | 159.91 | 101.72 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 850.00 | 666.08 | 0.00 | 666.45 | 42.37 | 5.05 | 208.47 | 130.58 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 370.00 | 665.04 | 0.00 | 665.27 | 44.28 | 3.80 | 97.42 | 55.61 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 580.00 | 666.07 | 0.00 | 666.38 | 44.07 | 4.47 | 138.60 | 87.37 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.39 | 0.00 | 666.72 | 44.00 | 4.69 | 156.54 | 99.50 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 850.00 | 667.03 | 0.00 | 667.41 | 44.19 | 5.12 | 202.05 | 127.87 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 370.00 | 666.54 | 0.00 | 666.63 | 12.26 | 2.53 | 165.99 | 105.67 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 580.00 | 666.99 | 0.00 | 667.18 | 21.08 | 3.52 | 198.55 | 126.32 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 660.00 | 667.16 | 0.00 | 667.37 | 23.80 | 3.82 | 219.69 | 135.30 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 850.00 | 667.53 | 0.00 | 667.79 | 28.75 | 4.39 | 275.67 | 158.52 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 370.00 | 666.74 | 0.00 | 666.77 | 4.63 | 1.60 | 422.85 | 171.92 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 580.00 | 667.35 | 0.00 | 667.39 | 5.80 | 1.93 | 581.41 | 240.73 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.57 | 0.00 | 667.60 | 5.96 | 2.01 | 648.61 | 270.25 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 850.00 | 668.02 | 0.00 | 668.06 | 6.15 | 2.15 | 813.73 | 342.74 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 370.00 | 667.02 | 0.00 | 667.10 | 15.57 | 2.51 | 240.67 | 93.77 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 580.00 | 667.69 | 0.00 | 667.78 | 17.17 | 2.93 | 349.08 | 139.98 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 667.91 | 0.00 | 668.00 | 17.17 | 3.02 | 393.46 | 159.27 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 850.00 | 668.37 | 0.00 | 668.46 | 17.00 | 3.19 | 502.04 | 206.18 |

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 819.020 | 370.00 | 653.20 | 0.00 | 0.00 | .80 | 18.54 | 0.00 |
| | 819.020 | 580.00 | 658.70 | 5.50 | 0.00 | 0.00 | 146.33 | 0.00 |
| | 819.020 | 660.00 | 659.00 | .30 | 0.00 | 0.00 | 175.70 | 0.00 |
| | 819.020 | 850.00 | 659.20 | .20 | 0.00 | 0.00 | 195.27 | 0.00 |
| | 820.800 | 370.00 | 654.93 | 0.00 | 1.73 | 0.00 | 24.69 | 55.00 |
| | 820.800 | 580.00 | 658.76 | 3.83 | .06 | 0.00 | 151.62 | 55.00 |
| | 820.800 | 660.00 | 659.05 | .30 | .05 | 0.00 | 180.80 | 55.00 |
| | 820.800 | 850.00 | 659.27 | .22 | .07 | 0.00 | 202.29 | 55.00 |
| | 820.900 | 370.00 | 657.00 | 0.00 | 2.07 | 0.00 | 35.55 | 350.00 |
| | 820.900 | 580.00 | 659.19 | 2.19 | .44 | 0.00 | 104.00 | 350.00 |
| | 820.900 | 660.00 | 659.49 | .29 | .43 | 0.00 | 113.79 | 350.00 |
| | 820.900 | 850.00 | 659.85 | .37 | .58 | 0.00 | 125.97 | 350.00 |
| | 820.910 | 370.00 | 658.28 | 0.00 | 1.28 | 0.00 | 113.54 | 350.00 |
| | 820.910 | 580.00 | 659.79 | 1.51 | .60 | 0.00 | 276.37 | 350.00 |
| | 820.910 | 660.00 | 660.08 | .29 | .59 | 0.00 | 288.48 | 350.00 |
| | 820.910 | 850.00 | 660.52 | .45 | .67 | 0.00 | 307.38 | 350.00 |
| | 820.930 | 370.00 | 659.01 | 0.00 | .73 | 0.00 | 46.45 | 240.00 |
| | 820.930 | 580.00 | 660.11 | 1.10 | .32 | 0.00 | 197.09 | 240.00 |
| | 820.930 | 660.00 | 660.37 | .26 | .29 | 0.00 | 220.57 | 240.00 |
| | 820.930 | 850.00 | 660.81 | .44 | .29 | 0.00 | 260.65 | 240.00 |
| | 820.940 | 370.00 | 659.00 | 0.00 | -.00 | 0.00 | 46.63 | 1.00 |
| | 820.940 | 580.00 | 660.19 | 1.19 | .09 | 0.00 | 204.85 | 1.00 |
| | 820.940 | 660.00 | 660.47 | .28 | .10 | 0.00 | 229.80 | 1.00 |
| | 820.940 | 850.00 | 660.93 | .46 | .12 | 0.00 | 271.36 | 1.00 |
| | 820.950 | 370.00 | 659.14 | 0.00 | .14 | 0.00 | 53.70 | 8.00 |
| | 820.950 | 580.00 | 660.27 | 1.13 | .08 | 0.00 | 211.83 | 8.00 |
| | 820.950 | 660.00 | 660.53 | .26 | .06 | 0.00 | 235.35 | 8.00 |
| | 820.950 | 850.00 | 660.98 | .45 | .05 | 0.00 | 274.70 | 8.00 |
| | 820.960 | 370.00 | 659.17 | 0.00 | .03 | 0.00 | 54.76 | 1.00 |
| | 820.960 | 580.00 | 660.24 | 1.07 | -.03 | 0.00 | 209.29 | 1.00 |
| | 820.960 | 660.00 | 660.50 | .25 | -.03 | 0.00 | 232.23 | 1.00 |
| | 820.960 | 850.00 | 660.94 | .44 | -.04 | 0.00 | 271.84 | 1.00 |
| | 821.000 | 370.00 | 659.34 | 0.00 | .18 | 0.00 | 43.02 | 50.00 |
| | 821.000 | 580.00 | 660.35 | 1.01 | .11 | 0.00 | 183.14 | 50.00 |
| | 821.000 | 660.00 | 660.60 | .25 | .10 | 0.00 | 205.37 | 50.00 |
| | 821.000 | 850.00 | 661.04 | .44 | .10 | 0.00 | 244.87 | 50.00 |
| | 821.100 | 370.00 | 659.77 | 0.00 | .43 | 0.00 | 44.71 | 100.00 |
| | 821.100 | 580.00 | 660.72 | .94 | .37 | 0.00 | 180.07 | 100.00 |
| | 821.100 | 660.00 | 660.95 | .23 | .35 | 0.00 | 201.02 | 100.00 |
| | 821.100 | 850.00 | 661.38 | .43 | .34 | 0.00 | 239.71 | 100.00 |
| | 821.900 | 370.00 | 660.44 | 0.00 | .66 | 0.00 | 28.98 | 150.00 |
| | 821.900 | 580.00 | 661.33 | .89 | .61 | 0.00 | 46.24 | 150.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 821.900 | 660.00 | 661.54 | .21 | .59 | 0.00 | 51.83 | 150.00 |
| 821.900 | 850.00 | 661.93 | .39 | .55 | 0.00 | 62.16 | 150.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 822.000 | 370.00 | 661.27 | 0.00 | .83 | 0.00 | 36.98 | 200.00 |
| 822.000 | 580.00 | 662.27 | 1.00 | .94 | 0.00 | 62.89 | 200.00 |
| 822.000 | 660.00 | 662.55 | .29 | 1.01 | 0.00 | 70.62 | 200.00 |
| 822.000 | 850.00 | 663.14 | .59 | 1.21 | 0.00 | 151.90 | 200.00 |
| 822.100 | 370.00 | 662.46 | 0.00 | 1.19 | 0.00 | 31.82 | 350.00 |
| 822.100 | 580.00 | 663.49 | 1.03 | 1.22 | 0.00 | 55.69 | 350.00 |
| 822.100 | 660.00 | 663.80 | .31 | 1.25 | 0.00 | 63.75 | 350.00 |
| 822.100 | 850.00 | 664.41 | .61 | 1.27 | 0.00 | 130.87 | 350.00 |
| 822.200 | 370.00 | 664.09 | 0.00 | 1.63 | 0.00 | 30.78 | 400.00 |
| 822.200 | 580.00 | 665.12 | 1.03 | 1.63 | 0.00 | 54.00 | 400.00 |
| 822.200 | 660.00 | 665.44 | .32 | 1.64 | 0.00 | 62.39 | 400.00 |
| 822.200 | 850.00 | 666.08 | .63 | 1.67 | 0.00 | 127.86 | 400.00 |
| 822.380 | 370.00 | 665.04 | 0.00 | .95 | 0.00 | 29.91 | 220.00 |
| 822.380 | 580.00 | 666.07 | 1.03 | .95 | 0.00 | 52.59 | 220.00 |
| 822.380 | 660.00 | 666.39 | .32 | .94 | 0.00 | 60.94 | 220.00 |
| 822.380 | 850.00 | 667.03 | .64 | .95 | 0.00 | 123.22 | 220.00 |
| 822.420 | 370.00 | 666.54 | 0.00 | 1.50 | 0.00 | 64.91 | 30.00 |
| 822.420 | 580.00 | 666.99 | .46 | .92 | 0.00 | 78.69 | 30.00 |
| 822.420 | 660.00 | 667.16 | .17 | .77 | 0.00 | 135.59 | 30.00 |
| 822.420 | 850.00 | 667.53 | .37 | .50 | 0.00 | 168.96 | 30.00 |
| 822.900 | 370.00 | 666.74 | 0.00 | .21 | 0.00 | 225.71 | 150.00 |
| 822.900 | 580.00 | 667.35 | .61 | .36 | 0.00 | 297.13 | 150.00 |
| 822.900 | 660.00 | 667.57 | .21 | .41 | 0.00 | 330.01 | 150.00 |
| 822.900 | 850.00 | 668.02 | .45 | .50 | 0.00 | 386.00 | 150.00 |
| 823.000 | 370.00 | 667.02 | 0.00 | .28 | 0.00 | 142.20 | 400.00 |
| 823.000 | 580.00 | 667.69 | .67 | .33 | 0.00 | 190.52 | 400.00 |
| 823.000 | 660.00 | 667.91 | .22 | .34 | 0.00 | 212.39 | 400.00 |
| 823.000 | 850.00 | 668.37 | .46 | .35 | 0.00 | 261.40 | 400.00 |

SUMMARY OF ERRORS

CAUTION SECNO= 819.020 PROFILE= 1 CRITICAL DEPTH ASSUMED

FLOOD INSURANCE ZONE DATA FOR SPENCER-BARNARD DR. - 07

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 819.020 | 0. | -5.80 | -.30 | .23 |
| 820.800 | 55. | -4.13 | -.30 | .22 |
| 820.900 | 405. | -2.49 | -.29 | .37 |
| 820.910 | 755. | -1.30 | -.29 | .45 |
| 820.930 | 995. | -1.36 | -.26 | .44 |
| 820.940 | 996. | -1.47 | -.28 | .46 |
| 820.950 | 1004. | -1.39 | -.26 | .45 |
| 820.960 | 1005. | -1.33 | -.25 | .44 |
| 821.000 | 1055. | -1.25 | -.25 | .44 |
| 821.100 | 1155. | -1.18 | -.23 | .43 |
| 821.900 | 1305. | -1.10 | -.21 | .39 |
| 822.000 | 1505. | -1.29 | -.29 | .59 |
| 822.100 | 1855. | -1.34 | -.31 | .61 |
| 822.200 | 2255. | -1.35 | -.32 | .63 |
| 822.380 | 2475. | -1.35 | -.32 | .64 |
| 822.420 | 2505. | -.62 | -.17 | .37 |
| 822.900 | 2655. | -.83 | -.21 | .45 |
| 823.000 | 3055. | -.89 | -.22 | .46 |
| WEIGHTED AVG FOR REACH | | -1.62 | -.27 | .47 |

FHF FOR THE REACH = 015 WITH 56.3_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 819.020 | |
| | 55. | | | | SEC. | 820.800 | |
| 1 | 100. | 654.19 | 659.05 | -4.86 | -4.86 | 050 | 100. |
| 2 | 200. | 655.49 | 659.17 | -3.68 | -4.27 | 045 | 100. |

| | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -4.27 | -.29 | .24 |

FHF FOR REACH 1 = 045 WITH 100._ OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 9

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 300. | 656.08 | 659.30 | -3.22 | -3.22 | 030 | 100. |
| 4 | 400. | 656.68 | 659.42 | -2.74 | -2.98 | 030 | 100. |
| | 405. | | | | SEC. | 820.900 | |
| 5 | 500. | 657.16 | 659.56 | -2.40 | -2.79 | 030 | 100. |
| 6 | 600. | 657.53 | 659.73 | -2.20 | -2.64 | 025 | 100. |
| 7 | 700. | 657.90 | 659.90 | -2.00 | -2.51 | 025 | 100. |
| | 755. | | | | SEC. | 820.910 | |
| 8 | 800. | 658.25 | 660.06 | -1.81 | -2.39 | 025 | 100. |

==========

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -2.39 | -.29 | .38 |

FHF FOR REACH 2 = 025 WITH 100._ OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 5

==========

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 900. | 658.57 | 660.19 | -1.62 | -1.62 | 015 | 100. |
| | 995. | | | | SEC. | 820.930 | |
| | 996. | | | | SEC. | 820.940 | |
| 10 | 1000. | 658.89 | 660.38 | -1.49 | -1.55 | 015 | 100. |
| | 1004. | | | | SEC. | 820.950 | |
| | 1005. | | | | SEC. | 820.960 | |
| | 1055. | | | | SEC. | 821.000 | |
| 11 | 1100. | 659.30 | 660.63 | -1.33 | -1.48 | 015 | 100. |
| | 1155. | | | | SEC. | 821.100 | |
| 12 | 1200. | 659.75 | 660.94 | -1.19 | -1.41 | 015 | 100. |
| 13 | 1300. | 660.19 | 661.33 | -1.14 | -1.35 | 015 | 100. |
| | 1305. | | | | SEC. | 821.900 | |
| 14 | 1400. | 660.62 | 661.77 | -1.15 | -1.32 | 015 | 100. |
| 15 | 1500. | 661.04 | 662.28 | -1.24 | -1.31 | 015 | 100. |
| | 1505. | | | | SEC. | 822.000 | |
| 16 | 1600. | 661.42 | 662.71 | -1.29 | -1.31 | 015 | 100. |
| 17 | 1700. | 661.76 | 663.07 | -1.31 | -1.31 | 015 | 100. |
| 18 | 1800. | 662.10 | 663.43 | -1.33 | -1.31 | 015 | 100. |
| | 1855. | | | | SEC. | 822.100 | |
| 19 | 1900. | 662.46 | 663.79 | -1.33 | -1.31 | 015 | 100. |
| 20 | 2000. | 662.85 | 664.19 | -1.34 | -1.31 | 015 | 100. |
| 21 | 2100. | 663.25 | 664.60 | -1.35 | -1.32 | 015 | 100. |
| 22 | 2200. | 663.66 | 665.01 | -1.35 | -1.32 | 015 | 100. |
| | 2255. | | | | SEC. | 822.200 | |
| 23 | 2300. | 664.08 | 665.43 | -1.35 | -1.32 | 015 | 100. |
| 24 | 2400. | 664.50 | 665.85 | -1.35 | -1.32 | 015 | 100. |
| | 2475. | | | | SEC. | 822.380 | |
| 25 | 2500. | 665.50 | 666.55 | -1.05 | -1.31 | 015 | 100. |
| | 2505. | | | | SEC. | 822.420 | |
| 26 | 2600. | 666.48 | 667.23 | -.75 | -1.28 | 015 | 94. |
| | 2655. | | | | SEC. | 822.900 | |
| 27 | 2700. | 666.72 | 667.51 | -.79 | -1.25 | 015 | 100. |
| 28 | 2800. | 666.81 | 667.65 | -.84 | -1.23 | 010 | 100. |
| 29 | 2900. | 666.88 | 667.73 | -.85 | -1.21 | 010 | 100. |
| 30 | 3000. | 666.95 | 667.82 | -.87 | -1.20 | 010 | 100. |
| | 3055. | | | | SEC. | 823.000 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -1.20 | -.27 | .52 |

FHF FOR REACH 3 = 010 WITH 100._ OF THE REACH WITHIN .5 FEET

ZONE FOR THE REACH = A 2

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 819.020 | |
| | 55. | | | | SEC. | 820.800 | |
| 1 | 100. | 654.19 | 659.05 | -4.86 | -4.86 | 050 | 100. |
| 2 | 200. | 655.49 | 659.17 | -3.68 | -4.27 | 045 | 100. |

ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -4.27 | -.29 | .24 |

FHF FOR REACH 1 = 045 WITH 100._ OF THE REACH WITHIN 1.0 FEET

ZONE FOR THE REACH = A 9

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 300. | 656.08 | 659.30 | -3.22 | -3.22 | 030 | 100. |
| 4 | 400. | 656.68 | 659.42 | -2.74 | -2.98 | 030 | 100. |
| | 405. | | | | SEC. | 820.900 | |
| 5 | 500. | 657.16 | 659.56 | -2.40 | -2.79 | 030 | 100. |
| 6 | 600. | 657.53 | 659.73 | -2.20 | -2.64 | 025 | 100. |
| 7 | 700. | 657.90 | 659.90 | -2.00 | -2.51 | 025 | 100. |
| | 755. | | | | SEC. | 820.910 | |
| 8 | 800. | 658.25 | 660.06 | -1.81 | -2.39 | 025 | 100. |

ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -2.39 | -.29 | .38 |

FHF FOR REACH 2 = 025 WITH 100._ OF THE REACH WITHIN 1.0 FEET

ZONE FOR THE REACH = A 5

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 900. | 658.57 | 660.19 | -1.62 | -1.62 | 015 | 100. |
| | 995. | | | | SEC. | 820.930 | |
| | 996. | | | | SEC. | 820.940 | |
| 10 | 1000. | 658.89 | 660.38 | -1.49 | -1.55 | 015 | 100. |
| | 1004. | | | | SEC. | 820.950 | |
| | 1005. | | | | SEC. | 820.960 | |
| | 1055. | | | | SEC. | 821.000 | |
| 11 | 1100. | 659.30 | 660.63 | -1.33 | -1.48 | 015 | 100. |
| | 1155. | | | | SEC. | 821.100 | |
| 12 | 1200. | 659.75 | 660.94 | -1.19 | -1.41 | 015 | 100. |
| 13 | 1300. | 660.19 | 661.33 | -1.14 | -1.35 | 015 | 100. |
| | 1305. | | | | SEC. | 821.900 | |
| 14 | 1400. | 660.62 | 661.77 | -1.15 | -1.32 | 015 | 100. |
| 15 | 1500. | 661.04 | 662.28 | -1.24 | -1.31 | 015 | 100. |
| | 1505. | | | | SEC. | 822.000 | |
| 16 | 1600. | 661.42 | 662.71 | -1.29 | -1.31 | 015 | 100. |
| 17 | 1700. | 661.76 | 663.07 | -1.31 | -1.31 | 015 | 100. |
| 18 | 1800. | 662.10 | 663.43 | -1.33 | -1.31 | 015 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1855. | | | | SEC. | 822.100 | |
| 19 | 1900. | 662.46 | 663.79 | -1.33 | -1.31 | C15 | 100. |
| 20 | 2000. | 662.85 | 664.19 | -1.34 | -1.31 | 015 | 100. |
| 21 | 2100. | 663.25 | 664.60 | -1.35 | -1.32 | C15 | 100. |
| 22 | 2200. | 663.66 | 665.01 | -1.35 | -1.32 | C15 | 100. |
| | 2255. | | | | SEC. | 822.200 | |
| 23 | 2300. | 664.08 | 665.43 | -1.35 | -1.32 | 015 | 100. |
| 24 | 2400. | 664.50 | 665.85 | -1.35 | -1.32 | 015 | 100. |
| | 2475. | | | | SEC. | 822.380 | |
| 25 | 2500. | 665.50 | 666.55 | -1.05 | -1.31 | 015 | 100. |
| | 2505. | | | | SEC. | 822.420 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -1.31 | -.28 | .54 |

FHF FOR REACH 3 = 015 WITH 100._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

==========

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 26 | 2600. | 666.48 | 667.23 | -.75 | -.75 | 010 | 100. |
| | 2655. | | | | SEC. | 822.900 | |
| 27 | 2700. | 666.72 | 667.51 | -.79 | -.77 | C10 | 100. |
| 28 | 2800. | 666.81 | 667.65 | -.84 | -.79 | 010 | 100. |
| 29 | 2900. | 666.88 | 667.73 | -.85 | -.81 | C1C | 100. |
| 30 | 3000. | 666.95 | 667.82 | -.87 | -.82 | 010 | 100. |
| | 3055. | | | | SEC. | 823.000 | |

==========

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -.82 | -.21 | .45 |

FHF FOR REACH 4 = 01C WITH 100._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

==========

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD U/S ENCLOSURE BTW ROCHESTER AND MAPLE RDS.

4) DOCUMENT TYPE: 100 YR CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  11,12,53
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.00 | 0.00 | 659.06 | 9.48 | 2.21 | 427.12 | 214.38 |
| 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 660.40 | 0.00 | 660.42 | 2.69 | 1.40 | 799.20 | 402.51 |
| 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 657.60 | 0.00 | 657.87 | 40.67 | 4.13 | 159.73 | 103.50 |
| 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.05 | 0.00 | 659.11 | 9.02 | 2.17 | 436.41 | 219.74 |
| 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 660.41 | 0.00 | 660.44 | 2.65 | 1.39 | 804.70 | 405.17 |
| 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 657.92 | 0.00 | 658.05 | 23.66 | 3.19 | 278.59 | 135.68 |
| 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 659.49 | 0.00 | 659.63 | 24.22 | 3.22 | 275.18 | 134.12 |
| 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 660.55 | 0.00 | 660.61 | 9.94 | 2.24 | 418.41 | 209.29 |
| 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 658.90 | 0.00 | 659.12 | 38.01 | 3.96 | 213.87 | 107.06 |
| 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 660.08 | 0.00 | 660.14 | 9.58 | 2.55 | 526.01 | 213.25 |
| 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 660.80 | 0.00 | 660.83 | 4.27 | 1.85 | 749.31 | 319.51 |
| 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 659.79 | 0.00 | 659.88 | 13.56 | 2.94 | 445.43 | 179.25 |
| 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.37 | 0.00 | 660.56 | 28.50 | 3.93 | 291.95 | 123.62 |
| 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.93 | 0.00 | 661.03 | 14.41 | 3.01 | 431.68 | 173.84 |
| 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.19 | 0.00 | 660.43 | 35.18 | 4.26 | 255.26 | 111.27 |
| 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.47 | 0.00 | 660.58 | 65.58 | 3.23 | 310.63 | 81.50 |
| 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.99 | 0.00 | 661.05 | 29.77 | 2.31 | 443.68 | 120.97 |
| 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.31 | 0.00 | 660.46 | 83.79 | 3.58 | 275.54 | 72.10 |
| 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.53 | 0.00 | 660.63 | 59.66 | 3.10 | 324.94 | 85.45 |
| 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 661.02 | 0.00 | 661.07 | 28.98 | 2.29 | 448.53 | 122.61 |
| 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.39 | 0.00 | 660.52 | 73.64 | 3.39 | 293.68 | 76.91 |
| 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.50 | 0.00 | 660.66 | 24.36 | 3.70 | 321.21 | 133.72 |
| 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 661.00 | 0.00 | 661.09 | 13.38 | 2.92 | 448.50 | 180.47 |
| 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.36 | 0.00 | 660.56 | 28.84 | 3.95 | 289.85 | 122.90 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 660.60 | 0.00 | 660.84 | 35.01 | 4.26 | 256.10 | 111.55 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 661.05 | 0.00 | 661.19 | 20.26 | 3.44 | 357.69 | 146.61 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 660.48 | 0.00 | 660.76 | 40.36 | 4.49 | 232.73 | 103.89 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 660.95 | 0.00 | 661.20 | 37.13 | 4.35 | 246.28 | 108.31 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 661.25 | 0.00 | 661.43 | 25.64 | 3.77 | 311.46 | 130.33 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 660.88 | 0.00 | 661.16 | 40.22 | 4.49 | 233.28 | 104.06 |

| STCNO | XLCH | ELTRE | ELLC | FLMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.54 | 0.00 | 661.95 | 58.46 | 5.13 | 137.10 | 86.32 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.66 | 0.00 | 662.04 | 53.08 | 4.97 | 143.27 | 90.59 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.52 | 0.00 | 661.93 | 59.38 | 5.15 | 136.14 | 85.65 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.55 | 0.00 | 662.83 | 32.91 | 4.27 | 180.63 | 115.04 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.60 | 0.00 | 662.86 | 31.82 | 4.22 | 183.72 | 117.00 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.55 | 0.00 | 662.82 | 33.08 | 4.27 | 180.17 | 114.75 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.80 | 0.00 | 664.11 | 40.40 | 4.56 | 163.16 | 103.84 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.81 | 0.00 | 664.12 | 39.90 | 4.54 | 164.17 | 104.49 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.80 | 0.00 | 664.11 | 40.48 | 4.56 | 163.00 | 103.73 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.44 | 0.00 | 665.77 | 42.10 | 4.62 | 159.91 | 101.72 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.44 | 0.00 | 665.77 | 42.13 | 4.62 | 159.87 | 101.69 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.44 | 0.00 | 665.77 | 42.09 | 4.62 | 159.93 | 101.73 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.39 | 0.00 | 666.72 | 44.00 | 4.69 | 156.54 | 99.50 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.39 | 0.00 | 666.72 | 44.01 | 4.69 | 156.52 | 99.49 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.39 | 0.00 | 666.72 | 44.00 | 4.69 | 156.54 | 99.50 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 660.00 | 667.16 | 0.00 | 667.37 | 23.80 | 3.82 | 219.69 | 135.30 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 660.00 | 667.16 | 0.00 | 667.37 | 23.80 | 3.82 | 219.69 | 135.30 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 660.00 | 667.16 | 0.00 | 667.37 | 23.80 | 3.82 | 219.70 | 135.30 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.57 | 0.00 | 667.60 | 5.96 | 2.01 | 648.61 | 270.25 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.57 | 0.00 | 667.60 | 5.96 | 2.01 | 648.60 | 270.25 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.57 | 0.00 | 667.60 | 5.96 | 2.01 | 648.62 | 270.26 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 667.91 | 0.00 | 668.00 | 17.17 | 3.02 | 393.46 | 159.27 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 667.91 | 0.00 | 668.00 | 17.17 | 3.02 | 393.45 | 159.27 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 667.91 | 0.00 | 668.00 | 17.17 | 3.02 | 393.46 | 159.27 |

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | O | CHSEL | DIFESP | DIFUSX | DIFKUS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 819.020 | 660.00 | 659.00 | 0.00 | 0.00 | 0.00 | 175.70 | 0.00 |
| 819.020 | 660.00 | 660.40 | 1.40 | 0.00 | 0.00 | 371.33 | 0.00 |
| 819.020 | 660.00 | 657.60 | -2.80 | 0.00 | 0.00 | 39.54 | 0.00 |
| 820.800 | 660.00 | 659.05 | 0.00 | .05 | 0.00 | 180.80 | 55.00 |
| 820.800 | 660.00 | 661.41 | 1.36 | .01 | 0.00 | 372.15 | 55.00 |
| 820.800 | 660.00 | 657.92 | -2.50 | .32 | 0.00 | 114.78 | 55.00 |
| 820.900 | 660.00 | 659.49 | 0.00 | .43 | 0.00 | 113.79 | 350.00 |
| 820.900 | 660.00 | 660.55 | 1.06 | .13 | 0.00 | 170.78 | 350.00 |
| 820.900 | 660.00 | 658.90 | -1.65 | .98 | 0.00 | 94.14 | 350.00 |
| 820.910 | 660.00 | 660.08 | 0.00 | .59 | 0.00 | 288.48 | 350.00 |
| 820.910 | 660.00 | 660.80 | .73 | .25 | 0.00 | 319.15 | 350.00 |
| 820.910 | 660.00 | 659.79 | -1.02 | .89 | 0.00 | 275.89 | 350.00 |
| 820.930 | 660.00 | 660.37 | 0.00 | .29 | 0.00 | 220.57 | 240.00 |
| 820.930 | 660.00 | 660.93 | .57 | .13 | 0.00 | 271.62 | 240.00 |
| 820.930 | 660.00 | 660.19 | -.74 | .41 | 0.00 | 205.01 | 240.00 |
| 820.940 | 660.00 | 660.47 | 0.00 | .10 | 0.00 | 229.80 | 1.00 |
| 820.940 | 660.00 | 660.99 | .53 | .06 | 0.00 | 276.69 | 1.00 |
| 820.940 | 660.00 | 660.31 | -.68 | .12 | 0.00 | 215.58 | 1.00 |
| 820.950 | 660.00 | 660.53 | 0.00 | .06 | 0.00 | 235.35 | 8.00 |
| 820.950 | 660.00 | 661.02 | .49 | .03 | 0.00 | 277.69 | 8.00 |
| 820.950 | 660.00 | 660.39 | -.62 | .08 | 0.00 | 223.04 | 8.00 |
| 820.960 | 660.00 | 660.50 | 0.00 | -.03 | 0.00 | 232.23 | 1.00 |
| 820.960 | 660.00 | 661.00 | .50 | -.02 | 0.00 | 276.84 | 1.00 |
| 820.960 | 660.00 | 660.36 | -.64 | -.04 | 0.00 | 219.71 | 1.00 |
| 821.000 | 660.00 | 660.60 | 0.00 | .10 | 0.00 | 205.37 | 50.00 |
| 821.000 | 660.00 | 661.05 | .45 | .05 | 0.00 | 246.00 | 50.00 |
| 821.000 | 660.00 | 660.48 | -.57 | .12 | 0.00 | 194.84 | 50.00 |
| 821.100 | 660.00 | 660.95 | 0.00 | .35 | 0.00 | 201.02 | 100.00 |
| 821.100 | 660.00 | 661.25 | .30 | .21 | 0.00 | 228.41 | 100.00 |
| 821.100 | 660.00 | 660.88 | -.37 | .40 | 0.00 | 195.09 | 100.00 |
| 821.900 | 660.00 | 661.54 | 0.00 | .59 | 0.00 | 51.83 | 150.00 |
| 821.900 | 660.00 | 661.66 | .12 | .40 | 0.00 | 54.89 | 150.00 |
| 821.900 | 660.00 | 661.52 | -.13 | .64 | 0.00 | 51.34 | 150.00 |
| 822.000 | 660.00 | 662.55 | 0.00 | 1.01 | 0.00 | 70.62 | 200.00 |
| 822.000 | 660.00 | 662.60 | .04 | .94 | 0.00 | 71.77 | 200.00 |
| 822.000 | 660.00 | 662.55 | -.05 | 1.02 | 0.00 | 70.45 | 200.00 |
| 822.100 | 660.00 | 663.80 | 0.00 | 1.25 | 0.00 | 63.75 | 350.00 |
| 822.100 | 660.00 | 663.81 | .01 | 1.21 | 0.00 | 64.17 | 350.00 |
| 822.100 | 660.00 | 663.80 | -.01 | 1.25 | 0.00 | 63.69 | 350.00 |

| SECNO | Q | CWSFL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 822.200 | 660.00 | 665.44 | 0.00 | 1.64 | 0.00 | 62.39 | 400.00 |
| 822.2[illegible] | 660.00 | 665.44 | -.00 | 1.63 | 0.00 | 62.37 | 400.00 |
| 822.2[illegible] | 66[illegible] | 665.44 | .00 | 1.65 | 0.00 | 62.40 | 400.00 |
| 822.380 | 660.00 | 666.39 | 0.00 | .94 | 0.00 | 60.94 | 220.00 |
| 822.380 | 660.00 | 666.39 | -.00 | .95 | 0.00 | 60.94 | 220.00 |
| 822.38[illegible] | 66[illegible] | 666.39 | .00 | .94 | 0.00 | 60.95 | 220.00 |
| 822.420 | 660.00 | 667.16 | 0.00 | .77 | 0.00 | 135.59 | 30.00 |
| 822.420 | 66[illegible] | 667.16 | -.00 | .77 | 0.00 | 135.59 | 30.00 |
| 822.420 | 660.00 | 667.16 | .00 | .77 | 0.00 | 135.59 | 30.00 |
| 822.9[illegible] | 66[illegible] | 667.57 | 0.00 | .41 | 0.00 | 330.01 | 150.00 |
| 822.9[illegible] | 660.00 | 667.57 | -.00 | .41 | 0.00 | 330.01 | 150.00 |
| 822.9[illegible] | 660.00 | 667.57 | .00 | .41 | 0.00 | 330.01 | 150.00 |
| 823.0[illegible] | 660.00 | 667.91 | 0.00 | .34 | 0.00 | 212.39 | 400.00 |
| 823.0[illegible] | 66[illegible] | 667.91 | -.00 | .34 | 0.00 | 212.39 | 400.00 |
| 823.000 | 660.00 | 667.91 | .00 | .34 | 0.00 | 212.39 | 400.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S ENCLOSURE BTW ROCHESTER + MAPLE RDS.

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1       JOB HUD-FIA H-4725  1976
T2       FLOOD INSURANCE STUDIES
T3       100 YEAR FLOW  ENCROACHMENT OPTION
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 659.000 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSFCH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .150 CEHV=     .350
*SECNO 819.020
 2800 NAT Q1=     214.38  WSEL=     659.00  ENC Q1=     214.38  WSEL=     659.10  RATIO=    .0000
 NAT Q1=     225.  RATIOS LOB,CH,ROB=    .0023    .7360    .2617  WSEL=     659.10
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      528.0      619.8  TYPE=      4  TARGET=         .046

         ** U/S FACE 1600 FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

   819.02      9.67    659.00      0.00    659.00    659.07       .07      0.00      0.00    658.60
     660.        0.      510.      150.        0.      223.      137.        0.        0.    655.00
      .00      0.00      2.29      1.12      .090      .055      .090     0.000    649.40    528.00
  .001033        0.        0.        0.         0         0         0      0.00     91.76    619.76


*SECNO 820.800
 2800 NAT Q1=     219.74  WSEL=     659.05  ENC Q1=     219.74  WSEL=     659.15  RATIO=    .0000
 NAT Q1=     230.  RATIOS LOB,CH,ROB=    .0030    .7314    .2656  WSEL=     659.15

3470 ENCROACHMENT STATIONS=      528.0      621.1  TYPE=      4  TARGET=         .046
   820.80      9.66    659.06      0.00    659.05    659.12       .06       .06       .00    658.60
     660.        0.      507.      153.        0.      225.      142.        0.        0.    655.00
      .01      0.00      2.25      1.08      .090      .055      .090      .054    649.40    528.00
  .000985       55.       55.       55.         0         0         0      0.00     93.08    621.08


CCHV=     .150 CEHV=     .350
*SECNO 820.900
 2800 NAT Q1=     134.12  WSEL=     659.49  ENC Q1=     134.12  WSEL=     659.59  RATIO=    .0000
 NAT Q1=     139.  RATIOS LOB,CH,ROB=  0.0000    .8283    .1717  WSEL=     659.59

3470 ENCROACHMENT STATIONS=      528.0      602.6  TYPE=      4  TARGET=         .038
   820.90      8.53    659.53      0.00    659.49    659.68       .15       .52       .03    660.20
     660.        0.      570.       90.        0.      173.       64.        3.        1.    656.60
      .04      0.00      3.29      1.42      .090      .055      .090      .055    651.00    533.71
  .002523      350.      350.      350.         2         0         0      0.00     68.91    602.62


*SECNO 820.910
 2800 NAT Q1=     213.25  WSEL=     660.08  ENC Q1=     213.25  WSEL=     660.18  RATIO=    .0000
 NAT Q1=     227.  RATIOS LOB,CH,ROB=    .2538    .6045    .1416  WSEL=     660.18

3470 ENCROACHMENT STATIONS=      379.5      555.7  TYPE=      4  TARGET=         .060
   820.91      7.64    660.14      0.00    660.08    660.21       .07       .52       .01    657.60
     660.      155.      428.       78.      197.      163.       91.        6.        2.    657.40
      .09       .78      2.62       .85      .090      .055      .090      .055    652.50    379.49
  .000992      350.      350.      350.         2         0         0      0.00    176.18    555.67


CCHV=     .200 CEHV=     .400
*SECNO 820.930
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```
 2800 NAT Q1=     123.62  WSEL=     660.37  ENC Q1=     123.62  WSEL=     660.47  RATIO=  0.0000
 NAT Q1=     131.  RATIOS LOB,CH,ROB=   .1329   .7890   .0781  WSEL=     660.47
   SECNO     DEPTH     CWSEL     CRIWS     WSELR     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNF       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      413.8      532.3  TYPE=      4  TARGET=        .059
   820.93      6.73    660.43      0.00    660.37    660.65      .21       .38       .06    658.80
     660.       70.      556.       34.       76.      138.      29.        8.        3.    658.60
      .11       .93      4.13      1.16      .090      .055     .090      .055    653.70    413.85
  .002937      240.      240.      240.         2         0        0      0.00    118.50    532.34


*SECNO 820.940
 2800 NAT Q1=      81.50  WSEL=     660.47  ENC Q1=      81.50  WSEL=     660.57  RATIO=   .0000
 NAT Q1=      88.  RATIOS LOB,CH,ROB=   .2350   .6306   .1344  WSEL=     660.57

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  657.20 MAX ELLC=  657.00


3470 ENCROACHMENT STATIONS=      403.6      537.7  TYPE=      4  TARGET=        .073

        ** D/S FACE FOOTBRIDGE

   820.94      6.84    660.54      0.00    660.47    660.67      .13       .00       .02    658.80
     660.       139.      452.       70.       94.      137.      39.        8.        3.    658.60
      .11      1.48      3.31      1.81      .090      .055     .090      .055    653.70    403.55
  .006746        1.        1.        1.         2         0        0     -4.35    134.14    537.69


*SECNO 820.950
 2800 NAT Q1=      85.45  WSEL=     660.53  ENC Q1=      85.45  WSEL=     660.63  RATIO=   .0000
 NAT Q1=      92.  RATIOS LOB,CH,ROB=   .2470   .6136   .1393  WSEL=     660.63

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  657.20 MAX ELLC=  657.00


3470 ENCROACHMENT STATIONS=      401.5      538.8  TYPE=      4  TARGET=        .073
   820.95      6.91    660.61      0.00    660.53    660.72      .12       .05       .00    658.80
     660.       146.      441.       73.      100.      138.      41.        8.        3.    658.60
      .11      1.45      3.19      1.76      .090      .055     .090      .055    653.70    401.46
  .006202        8.        8.        8.         1         0        0     -4.35    137.37    538.83


*SECNO 820.960
 2800 NAT Q1=     133.72  WSEL=     660.50  ENC Q1=     133.72  WSEL=     660.60  RATIO=  0.0000
 NAT Q1=     142.  RATIOS LOB,CH,ROB=   .1520   .7616   .0864  WSEL=     660.60

3470 ENCROACHMENT STATIONS=      407.8      535.1  TYPE=      4  TARGET=        .059
   820.96      6.87    660.57      0.00    660.50    660.75      .18       .00       .03    658.80
     660.       84.      536.       40.       92.      142.      36.        8.        3.    658.60
      .11      .92      3.78      1.12      .090      .055     .090      .055    653.70    407.76
  .002493        1.        1.        1.         2         0        0      0.00    127.35    535.12


*SECNO 821.000
 2800 NAT Q1=     111.55  WSEL=     660.60  ENC Q1=     111.55  WSEL=     660.70  RATIO=  0.0000
 NAT Q1=     119.  RATIOS LOB,CH,ROB=   .1075   .8253   .0673  WSEL=     660.70
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3470 ENCROACHMENT STATIONS=      423.8      528.7  TYPE=      4  TARGET=          .059
   821.00      6.57    661.67      0.00    660.60    660.93      .26       .15       .03    659.20
     660.       53.      581.       26.       57.      133.      22.        8.        3.     659.00
      .11       .93      4.35      1.21      .090      .055     .090      .055    654.10    423.84
  .003585       50.       50.       50.         2         0        0      0.00    104.83    528.66

*SECNO 821.100
 2800 NAT Q1=     108.31  WSEL=     660.95  ENC Q1=     108.31  WSEL=     661.05  RATIO=   .0000
 NAT Q1=     115.  RATIOS LOB,CH,ROB=    .1002    .8357    .0642  WSEL=     661.05
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      AICB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      427.4      527.6  TYPE=      4  TARGET=          .059
   821.10      6.53    661.03      0.00    660.95    661.31      .28       .37       .01    659.60
     660.       48.      588.       24.       51.      132.      20.        8.        3.     659.40
      .12       .93      4.45      1.23      .090      .055     .090      .055    654.50    427.37
  .003874      100.      100.      100.         1         0        0      0.00    100.19    527.55

CCHV=     .150 CEHV=     .350
*SECNO 821.900
 2800 NAT Q1=      86.32  WSEL=     661.54  ENC Q1=      88.71  WSEL=     661.64  RATIO=  -.0277
 NAT Q1=      90.  RATIOS LOB,CH,ROB=    .0020    .9856    .0123  WSEL=     661.64

3470 ENCROACHMENT STATIONS=      582.0      612.0  TYPE=      4  TARGET=          .014
   821.90      6.66    661.66      0.00    661.54    662.05      .40       .70       .04    661.00
     660.        0.      660.        0.        0.      131.       0.        9.        3.     660.50
      .13      0.00      5.05      0.00      .090      .055     .090      .055    655.00    582.00
  .005886      150.      150.      150.         2         0        0      0.00     30.00    612.00

*SECNO 822.000
 2800 NAT Q1=     115.04  WSEL=     662.55  ENC Q1=     115.04  WSEL=     662.65  RATIO=   .0000
 NAT Q1=     120.  RATIOS LOB,CH,ROB=    .0111    .9551    .0338  WSEL=     662.65

3470 ENCROACHMENT STATIONS=      582.0      614.1  TYPE=      4  TARGET=          .038
   822.00      7.37    662.67      0.00    662.55    662.95      .29       .89       .02    661.30
     660.        0.      656.        4.        0.      152.       4.       10.        3.     660.80
      .14      0.00      4.32       .97      .090      .055     .090      .055    655.30    582.00
  .003456      200.      200.      200.         2         0        0      0.00     32.15    614.15

*SECNO 822.100
 2800 NAT Q1=     103.84  WSEL=     663.80  ENC Q1=     104.79  WSEL=     663.90  RATIO=  -.0092
 NAT Q1=     108.  RATIOS LOB,CH,ROB=    .0070    .9678    .0251  WSEL=     663.90

3470 ENCROACHMENT STATIONS=      582.0      612.0  TYPE=      4  TARGET=          .032
   822.10      7.18    663.98      0.00    663.80    664.29      .32      1.33       .01    662.80
     660.        0.      661.        0.        0.      146.       0.       11.        4.     662.30
      .16      0.00      4.51      0.00      .090      .055     .090      .055    656.80    582.00
  .004199      350.      350.      350.         2         0        0      0.00     30.00    612.00

*SECNO 822.200
 2800 NAT Q1=     101.72  WSEL=     665.44  ENC Q1=     102.75  WSEL=     665.54  RATIO=  -.0101
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 NAT Q1=     106.  RATIOS LOB,CH,ROB=   .0063   .9704   .0234  WSEL=    665.54

3470 ENCROACHMENT STATIONS=      582.0      612.0  TYPE=      4  TARGET=         .030
   822.20      7.16    665.66      0.00    665.44    665.98      .32      1.69      .00    664.50
     660.        0.      660.        0.        0.      146.       0.       12.       4.    664.00
      .19      0.00      4.52      0.00      .090      .055     .090      .055   658.50    582.00
  .004236      400.      400.      400.         2         0        0      0.00    30.00    612.00


CCHV=     .400 CEHV=     .800
*SECNO 822.380
 2800 NAT Q1=      99.50  WSEL=     666.39  ENC Q1=     100.76  WSEL=     666.49  RATIO=  -.0127
 NAT Q1=     104.  RATIOS LOB,CH,ROB=   .0055   .9728   .0217  WSEL=     666.49
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      582.0      612.0  TYPE=      4  TARGET=         .027

         ** D/S FACE FOOTBRIDGE

   822.38      7.11    666.61      0.00    666.39    666.94      .32       .95       .01    665.50
     660.        0.      660.        0.        0.      144.       0.       13.       4.    665.00
      .20      0.00      4.57      0.00      .090      .055     .090      .055   659.50    582.00
  .004378      220.      220.      220.         2         0        0      0.00    30.00    612.00


SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.35      2.65     100.00     3.93      0.00     19.63      0.00    659.50    659.50

*SECNO 822.420
 2800 NAT Q1=     135.30  WSEL=     667.16  ENC Q1=     135.30  WSEL=     667.26  RATIO=   .0000
 NAT Q1=     141.  RATIOS LOB,CH,ROB=   .0213   .9212   .0575  WSEL=     667.26
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      581.7      624.0  TYPE=      4  TARGET=         .041
   822.42      7.88    667.38      0.00    667.16    667.60      .21       .09       .04    665.50
     660.        0.      633.       27.        1.      168.      24.       13.       4.    665.00
      .20       .31      3.78      1.12      .090      .055     .090      .055   659.50    581.72
  .002201      30.       3 .       30.         0         0        6      0.00    42.29    624.01


*SECNO 822.900
 2800 NAT Q1=     270.25  WSEL=     667.57  ENC Q1=     270.25  WSEL=     667.67  RATIO=   .0000
 NAT Q1=     285.  RATIOS LOB,CH,ROB=   .0898   .4789   .4313  WSEL=     667.67

3470 ENCROACHMENT STATIONS=      511.5      697.0  TYPE=      4  TARGET=         .052
   822.90      7.78    667.78      0.00    667.57    667.81      .03       .15       .07    664.20
     660.       45.      328.      287.       61.      167.     371.       14.       4.    663.20
      .23       .74      1.96       .78      .090      .055     .090      .055   660.00    511.54
  .000542     150.      150.      150.         2         0        0      0.00   185.47    697.01


CCHV=     .150 CEHV=     .350
*SECNO 823.000
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```
2800 NAT Q1=     159.27  WSEL=     667.91  ENC Q1=     159.27  WSEL=     668.01  RATIO=  0.0000
NAT Q1=     169.  RATIOS LOB,CH,ROB=   .0600   .6005   .3394  WSEL=     668.01

3470 ENCROACHMENT STATIONS=      522.5      628.0  TYPE=      4  TARGET=          .055
   823.00      6.79    668.09      0.00    667.91    668.18      .10       .35       .02    665.50
     66'.       22.      417.      221.       22.      139.      178.       19.        6.    664.50
      .28      1.02      2.99      1.24      .090      .055      .090      .055    661.30    522.46
  .001608      400.      400.      400.         2         0         0      0.00    105.55    628.02
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.00 | 0.00 | 659.06 | 9.48 | 2.21 | 427.12 | 214.38 |
| 819.020 | 0.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.00 | 0.00 | 659.07 | 10.33 | 2.29 | 359.22 | 205.36 |
| 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.05 | 0.00 | 659.11 | 9.02 | 2.17 | 436.41 | 219.74 |
| 820.800 | 55.00 | 0.00 | 0.00 | 649.40 | 660.00 | 659.06 | 0.00 | 659.12 | 9.85 | 2.25 | 366.89 | 210.25 |
| 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 659.49 | 0.00 | 659.63 | 24.22 | 3.22 | 275.18 | 134.12 |
| 820.900 | 350.00 | 0.00 | 0.00 | 651.00 | 660.00 | 659.53 | 0.00 | 659.68 | 25.23 | 3.29 | 236.69 | 131.41 |
| 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 660.08 | 0.00 | 660.14 | 9.58 | 2.55 | 526.01 | 213.25 |
| 820.910 | 350.00 | 0.00 | 0.00 | 652.50 | 660.00 | 660.14 | 0.00 | 660.21 | 9.92 | 2.62 | 451.54 | 209.50 |
| 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.37 | 0.00 | 660.56 | 28.50 | 3.93 | 291.95 | 123.62 |
| 820.930 | 240.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.43 | 0.00 | 660.65 | 29.37 | 4.03 | 243.13 | 121.77 |
| 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.47 | 0.00 | 660.58 | 65.58 | 3.23 | 310.63 | 81.50 |
| 820.940 | 1.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.54 | 0.00 | 660.67 | 67.46 | 3.31 | 269.04 | 80.35 |
| 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.53 | 0.00 | 660.63 | 59.66 | 3.10 | 324.94 | 85.45 |
| 820.950 | 8.00 | 657.20 | 657.00 | 653.70 | 660.00 | 660.61 | 0.00 | 660.72 | 62.02 | 3.19 | 279.97 | 83.81 |
| 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.50 | 0.00 | 660.66 | 24.36 | 3.70 | 321.21 | 133.72 |
| 820.960 | 1.00 | 0.00 | 0.00 | 653.70 | 660.00 | 660.57 | 0.00 | 660.75 | 24.93 | 3.78 | 269.46 | 132.19 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 660.60 | 0.00 | 660.84 | 35.01 | 4.26 | 256.10 | 111.55 |
| 821.000 | 50.00 | 0.00 | 0.00 | 654.10 | 660.00 | 660.67 | 0.00 | 660.93 | 35.85 | 4.35 | 211.94 | 110.22 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 660.95 | 0.00 | 661.20 | 37.13 | 4.35 | 246.28 | 108.31 |
| 821.100 | 100.00 | 0.00 | 0.00 | 654.50 | 660.00 | 661.03 | 0.00 | 661.31 | 38.04 | 4.45 | 202.96 | 107.02 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.54 | 0.00 | 661.95 | 58.46 | 5.13 | 137.10 | 86.32 |
| 821.900 | 150.00 | 0.00 | 0.00 | 655.00 | 660.00 | 661.66 | 0.00 | 662.05 | 58.86 | 5.05 | 130.69 | 86.03 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.55 | 0.00 | 662.83 | 32.91 | 4.27 | 180.63 | 115.04 |
| 822.000 | 200.00 | 0.00 | 0.00 | 655.30 | 660.00 | 662.67 | 0.00 | 662.95 | 34.56 | 4.32 | 155.86 | 112.26 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.80 | 0.00 | 664.11 | 40.40 | 4.56 | 163.16 | 103.84 |
| 822.100 | 350.00 | 0.00 | 0.00 | 656.80 | 660.00 | 663.98 | 0.00 | 664.29 | 41.99 | 4.51 | 146.37 | 101.85 |

| SECNO | XLCH | ELTRD | ELLC | EIMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.44 | 0.00 | 665.77 | 42.10 | 4.62 | 159.91 | 101.72 |
| 822.200 | 400.00 | 0.00 | 0.00 | 658.50 | 660.00 | 665.66 | 0.00 | 665.98 | 42.36 | 4.52 | 145.94 | 101.41 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.39 | 0.00 | 666.72 | 44.00 | 4.69 | 156.54 | 99.50 |
| 822.380 | 220.00 | 0.00 | 0.00 | 659.50 | 660.00 | 666.61 | 0.00 | 666.94 | 43.78 | 4.57 | 144.32 | 99.74 |
| 822.420 | 30.00 | 665.70 | 664.50 | 659.50 | 660.00 | 667.16 | 0.00 | 667.37 | 23.80 | 3.82 | 219.69 | 135.30 |
| 822.420 | 30.00 | 999999.00 | 0.00 | 659.50 | 660.00 | 667.38 | 0.00 | 667.60 | 22.01 | 3.78 | 191.90 | 140.68 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.57 | 0.00 | 667.60 | 5.96 | 2.01 | 648.61 | 270.25 |
| 822.900 | 150.00 | 0.00 | 0.00 | 660.00 | 660.00 | 667.78 | 0.00 | 667.81 | 5.42 | 1.96 | 598.60 | 283.60 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 667.91 | 0.00 | 668.00 | 17.17 | 3.02 | 393.46 | 159.27 |
| 823.000 | 400.00 | 0.00 | 0.00 | 661.30 | 660.00 | 668.09 | 0.00 | 668.18 | 16.08 | 2.99 | 339.49 | 164.57 |

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 819.020 | 660.00 | 659.00 | 0.00 | 0.00 | 0.00 | 175.70 | 0.00 |
| 819.020 | 660.00 | 659.00 | 0.00 | 0.00 | 0.00 | 91.76 | 0.00 |
| 820.800 | 660.00 | 659.05 | 0.00 | .05 | 0.00 | 180.80 | 55.00 |
| 820.800 | 660.00 | 659.06 | .00 | .06 | .00 | 93.08 | 55.00 |
| 820.900 | 660.00 | 659.49 | 0.00 | .43 | 0.00 | 113.79 | 350.00 |
| 820.900 | 660.00 | 659.53 | .04 | .47 | .04 | 68.91 | 350.00 |
| 820.910 | 660.00 | 660.08 | 0.00 | .59 | 0.00 | 288.48 | 350.00 |
| 820.910 | 660.00 | 660.14 | .06 | .61 | .06 | 176.18 | 350.00 |
| 820.930 | 660.00 | 660.37 | 0.00 | .29 | 0.00 | 220.57 | 240.00 |
| 820.930 | 660.00 | 660.43 | .07 | .30 | .07 | 118.50 | 240.00 |
| 820.940 | 660.00 | 660.47 | 0.00 | .10 | 0.00 | 229.80 | 1.00 |
| 820.940 | 660.00 | 660.54 | .07 | .11 | .07 | 134.14 | 1.00 |
| 820.950 | 660.00 | 660.53 | 0.00 | .06 | 0.00 | 235.35 | 8.00 |
| 820.950 | 660.00 | 660.61 | .08 | .06 | .08 | 137.37 | 8.00 |
| 820.960 | 660.00 | 660.50 | 0.00 | -.03 | 0.00 | 232.23 | 1.00 |
| 820.960 | 660.00 | 660.57 | .08 | -.04 | .08 | 127.35 | 1.00 |
| 821.000 | 660.00 | 660.60 | 0.00 | .10 | 0.00 | 205.37 | 50.00 |
| 821.000 | 660.00 | 660.67 | .08 | .10 | .08 | 104.83 | 50.00 |
| 821.100 | 660.00 | 660.95 | 0.00 | .35 | 0.00 | 201.02 | 100.00 |
| 821.100 | 660.00 | 661.03 | .08 | .36 | .08 | 100.19 | 100.00 |
| 821.900 | 660.00 | 661.54 | 0.00 | .59 | 0.00 | 51.83 | 150.00 |
| 821.900 | 660.00 | 661.66 | .11 | .62 | .11 | 30.00 | 150.00 |
| 822.000 | 660.00 | 662.55 | 0.00 | 1.01 | 0.00 | 70.62 | 200.00 |
| 822.000 | 660.00 | 662.67 | .11 | 1.01 | .11 | 32.15 | 200.00 |
| 822.100 | 660.00 | 663.80 | 0.00 | 1.25 | 0.00 | 63.75 | 350.00 |
| 822.100 | 660.00 | 663.98 | .18 | 1.31 | .18 | 30.00 | 350.00 |
| 822.200 | 660.00 | 665.44 | 0.00 | 1.64 | 0.00 | 62.39 | 400.00 |
| 822.200 | 660.00 | 665.66 | .22 | 1.69 | .22 | 30.00 | 400.00 |
| 822.380 | 660.00 | 666.39 | 0.00 | .94 | 0.00 | 60.94 | 220.00 |
| 822.380 | 660.00 | 666.61 | .22 | .95 | .22 | 30.00 | 220.00 |
| 822.420 | 660.00 | 667.16 | 0.00 | .77 | 0.00 | 135.59 | 30.00 |
| 822.420 | 660.00 | 667.38 | .22 | .77 | .22 | 42.29 | 30.00 |
| 822.900 | 660.00 | 667.57 | 0.00 | .41 | 0.00 | 330.01 | 150.00 |
| 822.900 | 660.00 | 667.78 | .21 | .40 | .21 | 185.47 | 150.00 |
| 823.000 | 660.00 | 667.91 | 0.00 | .34 | 0.00 | 212.39 | 400.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 823.000 | 660.00 | 668.09 | .18 | .31 | .18 | 105.55 | 400.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, SPENCER-BARNARD DR. - U/
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 819.020 | 92. | 359. | 1.8 | 659.0 | 659.0 | 0.0 |
| 820.800 | 93. | 367. | 1.8 | 659.1 | 659.1 | 0.0 |
| 820.900 | 69. | 237. | 2.8 | 659.5 | 659.5 | 0.0 |
| 820.910 | 176. | 452. | 1.5 | 660.2 | 660.1 | .1 |
| 820.930 | 118. | 243. | 2.7 | 660.5 | 660.4 | .1 |
| 820.940 | 134. | 269. | 2.5 | 660.6 | 660.5 | .1 |
| 820.950 | 137. | 280. | 2.4 | 660.6 | 660.5 | .1 |
| 820.960 | 127. | 269. | 2.4 | 660.6 | 660.5 | .1 |
| 821.000 | 105. | 212. | 3.1 | 660.7 | 660.6 | .1 |
| 821.100 | 100. | 203. | 3.3 | 661.0 | 660.9 | .1 |
| 821.900 | 30. | 131. | 5.1 | 661.6 | 661.5 | .1 |
| 822.000 | 32. | 156. | 4.2 | 662.7 | 662.6 | .1 |
| 822.100 | 30. | 146. | 4.5 | 664.0 | 663.8 | .2 |
| 822.200 | 30. | 146. | 4.5 | 665.6 | 665.4 | .2 |
| 822.38 | 30. | 144. | 4.6 | 666.6 | 666.4 | .2 |
| 822.420 | 42. | 192. | 3.4 | 667.4 | 667.2 | .2 |
| 822.900 | 185. | 599. | 1.1 | 667.8 | 667.6 | .2 |
| 823.000 | 106. | 339. | 1.9 | 668.1 | 667.9 | .2 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S ENCLOSURE BTW ROCHESTER AND MAPLE RDS.

4) DOCUMENT TYPE: 100 YR FLOODWAY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA H-4705
T2      TROY
T3      SPENCER-BARNARD DR. - U/S ENCLOSURE AT MAPLE RD - 100 YR. FLOW=660 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.   0.000000     0.00      -1.0       0.    659.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000    0.000   150.000    0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .090      .090      .055      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   370.000   580.000   660.000   850.000   660.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** U/S FACE 1600 FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

X1    819.020    11.000   528.000   576.000     0.000     0.000     0.000     0.000     0.000     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   658.000   658.000     0.000
GR    660.700   402.000   659.800   452.000   658.600   528.000   656.000   550.000   650.300   556.000
GR    649.400   560.000   650.200   564.000   655.000   576.000   658.700   668.000   659.800   706.000
GR    660.100   790.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    820.800    11.000   528.000   576.000    55.000    55.000    55.000     0.000     0.000     0.000
GR    660.700   402.000   659.800   452.000   658.600   528.000   656.000   550.000   650.300   556.000
GR    649.400   560.000   650.200   564.000   655.000   576.000   658.700   668.000   659.800   706.000
GR    660.100   790.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      0.000     0.000     0.000      .150      .350     0.000     0.000     0.000     0.000     0.000

X1    820.900     0.000     0.000     0.000   350.000   350.000   350.000     0.000     1.600     0.000

X1    820.910    11.000   486.000   514.000   350.000   350.000   350.000     0.000    -1.600     0.000
GR    663.300   308.000   661.400   326.000   660.000   400.000   659.700   478.000   659.200   486.000
GR    654.500   495.000   654.100   500.000   654.500   505.000   659.000   514.000   661.300   600.000
GR    664.400   700.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      0.000     0.000     0.000      .200      .400     0.000     0.000     0.000     0.000     0.000

X1    820.930     0.000     0.000     0.000   240.000   240.000   240.000     0.000     1.200     0.000

        ** D/S FACE FOOTBRIDGE

X1    820.940     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 0.000 | 657.000 | 657.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 820.950 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 657.000 | 657.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 820.960 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 821.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X1 | 821.100 | 0.000 | 0.000 | 0.000 | 100.000 | 100.000 | 100.000 | 0.000 | .400 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 821.900 | 11.000 | 582.000 | 612.000 | 150.000 | 150.000 | 150.000 | 0.000 | -.300 | 0.000 |
| GR | 664.500 | 416.000 | 663.800 | 534.000 | 662.700 | 566.000 | 661.300 | 582.000 | 656.100 | 590.000 |
| GR | 655.300 | 595.000 | 656.100 | 600.000 | 660.800 | 612.000 | 662.800 | 642.000 | 662.800 | 684.000 |
| GR | 664.000 | 758.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 822.000 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | .300 | 0.000 |
| X1 | 822.100 | 0.000 | 0.000 | 0.000 | 350.000 | 350.000 | 350.000 | 0.000 | 1.500 | 0.000 |
| X1 | 822.200 | 0.000 | 0.000 | 0.000 | 400.000 | 400.000 | 400.000 | 0.000 | 1.700 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 822.380 | 0.000 | 0.000 | 0.000 | 220.000 | 220.000 | 220.000 | 0.000 | 1.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 664.500 | 664.500 | 0.000 |
| SB | 0.000 | 2.300 | 2.650 | 100.000 | 3.930 | 0.000 | 19.630 | 0.000 | 659.500 | 659.500 |
| X1 | 822.420 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 664.500 | 665.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 665.700 | 665.700 | 0.000 |
| X1 | 822.900 | 10.000 | 532.000 | 560.000 | 150.000 | 150.000 | 150.000 | 0.000 | -1.300 | 0.000 |
| GR | 669.300 | 444.000 | 668.600 | 480.700 | 665.500 | 532.000 | 663.800 | 542.000 | 661.300 | 543.000 |
| GR | 661.300 | 550.000 | 664.500 | 560.000 | 667.400 | 662.000 | 668.200 | 728.000 | 669.200 | 830.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 823.000 | 0.000 | 0.000 | 0.000 | 400.000 | 400.000 | 400.000 | 0.000 | 1.300 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 819.020
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      AICB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID       ENDST

                  1857
        ** U/S FACE 16[illegible] FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

* 819.02      9.6     659.01      0.00    659.00    659.06       .06      0.00      0.00    658.60
    660.        1.       491.      168.        5.      223.      199.        0.        0.    655.00
      0.00     .17      2.21       .84      .090      .055      .090     0.000    649.40    502.67
  .000948       0.        0.        0.         0         0         0      0.00    175.70    678.36

*SECNO 820.830
   820.80      9.65    659.05      0.00      0.00    659.11       .06       .05       .00    658.60
    660.        1.       489.      170.        6.      225.      205.        1.        0.    655.00
      .01      .18      2.17       .83      .090      .055      .090      .054    649.40    499.37
  .000902       55.       55.       55.         0         0         0      0.00    180.80    680.16

CCHV=     .150 CEHV=     .350
*SECNO 820.900
   820.90      8.49    659.49      0.00      0.00    659.63       .14       .49       .03    660.20
    660.        0.       552.      108.        0.      171.      104.        3.        1.    656.60
      .04      3.20      3.22      1.04      .090      .055      .090      .055    651.00    534.02
  .002422      350.      350.      350.         2         0         0      0.00    113.79    647.81

*SECNO 820.910
   820.91      7.58    660.08      0.00      0.00    660.14       .07       .51       .01    657.60
    660.      159.       412.       89.      232.      161.      133.        7.        3.    657.40
      .09       .69      2.55       .67      .090      .055      .090      .055    652.50    323.45
  .000958      350.      350.      350.         0         0         0      0.00    288.48    611.92

CCHV=     .200 CEHV=     .400
*SECNO 820.930
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      AICB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID       ENDST

   820.93      6.67    660.37      0.00      0.00    660.56       .20       .37       .05    658.80
    660.       78.       535.       47.       98.      136.       58.        9.        4.    658.60
      .11      .8[illegible]      3.93       .81      .090      .055      .090      .055    653.70    359.49
  .002850      240.      240.      240.         2         0         0      0.00    220.57    580.05

*SECNO 820.940

3370 NORMAL BRIDGE,NRD=  ( MIN ELTRD=  657.20 MAX ELLC=  657.00
```

* HW computed, see hydraulic report

** D/S FACE FOOTBRIDGE

ELTRD @ 657.2 < 660.47 ⇒ TW over road

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 820.94 | 6.77 | 660.47 | 0.00 | 0.00 | 660.58 | .12 | .00 | .02 | 658.80 |
| 660. | 142. | 435. | 83. | 111. | 135. | 65. | 9. | 4. | 658.60 |
| .11 | 1.28 | 3.23 | 1.28 | .090 | .055 | .090 | .055 | 653.70 | 354.08 |
| .006558 | 1. | 1. | 1. | 2 | 0 | 0 | -4.35 | 229.80 | 583.88 |

*SECNO 820.950

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 657.20 MAX ELLC= 657.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 820.95 | 6.83 | 660.53 | 0.00 | 0.00 | 660.63 | .10 | .05 | .00 | 658.80 |
| 660. | 150. | 423. | 87. | 119. | 136. | 70. | 9. | 4. | 658.60 |
| .12 | 1.26 | 3.17 | 1.25 | .090 | .055 | .090 | .055 | 653.70 | 350.83 |
| .005966 | 8. | 8. | 8. | 2 | 0 | 0 | -4.35 | 235.35 | 586.18 |

*SECNO 820.960

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 820.96 | 6.80 | 661.50 | 0.00 | 0.00 | 660.66 | .17 | .00 | .03 | 658.80 |
| 660. | 91. | 517. | 53. | 114. | 140. | 67. | 9. | 4. | 658.60 |
| .12 | .79 | 3.70 | .79 | .090 | .055 | .090 | .055 | 653.70 | 352.65 |
| .002436 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 232.23 | 584.88 |

*SECNO 821.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 821.00 | 6.51 | 660.60 | 0.00 | 0.00 | 660.84 | .24 | .14 | .03 | 659.20 |
| 660. | 61. | 559. | 40. | 77. | 131. | 48. | 9. | 5. | 659.00 |
| .12 | .79 | 4.26 | .84 | .090 | .055 | .090 | .055 | 654.10 | 368.38 |
| .003501 | 50. | 50. | 50. | 2 | 0 | 0 | 0.00 | 205.37 | 573.76 |

*SECNO 821.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | APOB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNI | XNCH | XNF | STN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TOPWID | ENDST |
| 821.10 | 6.45 | 660.95 | 0.00 | 0.00 | 661.20 | .25 | .36 | .01 | 659.60 |
| 660. | 56. | 566. | 38. | 71. | 130. | 45. | 10. | 5. | 659.40 |
| .13 | .79 | 4.35 | .85 | .090 | .055 | .090 | .055 | 654.50 | 370.94 |
| .003713 | 100. | 100. | 100. | 2 | 0 | 0 | 0.00 | 201.02 | 571.95 |

CCHV= .150 CEHV= .350

*SECNO 821.900

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 821.90 | 6.54 | 661.54 | 0.00 | 0.00 | 661.95 | .40 | .69 | .05 | 661.00 |
| 660. | 1. | 652. | 7. | 2. | 127. | 8. | 11. | 6. | 660.50 |
| .14 | .53 | 5.13 | .82 | .090 | .055 | .090 | .055 | 655.00 | 575.80 |
| .005846 | 150. | 150. | 150. | 2 | 0 | 0 | 0.00 | 51.83 | 627.63 |

*SECNO 822.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 822.00 | 7.25 | 662.55 | 0.00 | 0.00 | 662.83 | .27 | .86 | .02 | 661.30 |
| 660. | 6. | 634. | 20. | 9. | 149. | 23. | 11. | 6. | 660.80 |
| .15 | .69 | 4.27 | .87 | .090 | .055 | .090 | .055 | 655.30 | 567.68 |
| .003291 | 200. | 200. | 200. | 2 | 0 | 0 | 0.00 | 70.62 | 638.30 |

```
*SECNO 822.100
   822.10      7.00     663.80      0.00      0.00     664.11       .31      1.27       .01    662.80
     660.        4.       642.       14.        6.       141.       17.       13.        6.     662.30
      .17       .66      4.56       .86      .090       .055      .090      .055    656.80    570.65
  .004040      350.      350.      350.         2          0         0      0.00     63.75    634.40

*SECNO 822.200
   822.20      6.94     665.44      0.00      0.00     665.77       .32      1.65       .00    664.50
     660.        3.       643.       13.        5.       139.       16.       14.        7.     664.00
      .19       .65      4.62       .86      .090       .055      .090      .055    658.50    571.24
  .004210      400.      400.      400.         2          0         0      0.00     62.39    633.63

CCHV=     .400 CEHV=     .800
*SECNO 822.380
   SECNO      DEPTH     CWSEL     CRIWS     ESEIK        EG        HV        HL     QLOSS   BANK ELEV
   Q          QLOB      QCH       QROB      ALOB       ACH      ARCB       VOL       THA   LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNI        XNCH     XNR       WTN      ELHIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITERIAL    IDC      ICCNT     CORAR    TOPWID      ENDST

ELTRD = 666.7 < 666.59 ... TW ovr road

        ** D/S FACE FOOTBRIDGE

   822.38      6.89     666.39      0.00      0.00     666.72       .33       .95       .01    665.50
     660.        3.       645.       12.        4.       138.       14.       15.        7.     665.00
      .21       .64      4.69       .86      .090       .055      .090      .055    659.50    571.86
  .004400      220.      220.      220.         2          0         0      0.00     60.94    632.81

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN      BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.30      2.65     100.00      3.93      0.00      19.63     0.00     659.50    659.50

*SECNO 822.420
PRESSURE AND WEIR FLOW

 EGPRS      EGLUC      H3        QWEIR     QPB       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  706.76    666.72     0.00      562.      103.      20.       20.       664.50    665.70

   822.42      7.66     667.16      0.00      0.00     667.37       .21       .65      0.00    665.50
     660.       12.       615.       33.       16.       161.       42.       15.        7.     665.00
      .21       .75      3.82       .77      .090       .055      .090      .055    659.50    558.38
  .002380       30.       30.       30.         2          0         6      0.00    135.59    693.98

*SECNO 822.900
   822.90      7.57     667.57      0.00      0.00     667.60       .03       .16       .07    664.20
     660.       57.       324.      279.       96.       161.      391.       17.        8.     663.20
      .24       .59      2.01       .71      .090       .055      .090      .055    660.00    466.19
  .000596      150.      150.      150.         2          0         0      0.00    330.01    796.20

CCHV=     .150 CEHV=     .350
*SECNO 823.000
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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 823.[illegible] | 6.61 | 667.91 | 0.00 | 0.00 | 668.00 | .09 | .38 | .02 | 665.50 |
| 66[illegible]. | 38. | 405. | 217. | 49. | 134. | 210. | 21. | 11. | 664.50 |
| .29 | .77 | 3.02 | 1.03 | .090 | .055 | .090 | .055 | 661.30 | 491.59 |
| .001717 | 40[illegible]. | 40[illegible]. | 40[illegible]. | 2 | 0 | 0 | 0.00 | 212.39 | 703.98 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: STERLING HEIGHTS, CITY

3) WATERCOURSE: SPENCER DRAIN EAST OF DEQUINDRE

4) DOCUMENT TYPE: 100 YR CONVERGENCE

00BREAK00

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*************************************************
HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR -  01,02,03
MODIFICATION -  50,51,52,53
*************************************************

T1      CITY OF STERLING HEIGHTS
T2      100 YEAR FLOOD
T3      SPENCER DRAIN

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

     0.       4.       0.       0.    .002600     0.00    -1.0      0.    627.000   0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

NC      .050      .060      .050      .300      .800     0.000     0.000     0.000     0.000     0.000
QT     4.000   920.000  1390.000  2120.000  3080.000     0.000     0.000     0.000     0.000     0.000
NH     5.000      .050   500.000      .055   516.000      .050   532.000      .055   550.000      .065
NH  1000.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     0.000    15.000   500.000   550.000     0.000     0.000     0.000     0.000    -1.700     0.000
GR   628.100     0.000   628.200   100.000   628.000   200.000   627.700   285.000   627.400   300.000
GR   627.300   400.000   627.700   500.000   618.000   516.000   617.900   523.000   618.400   527.000
GR   618.600   532.000   624.700   550.000   625.200   600.000   627.000   700.000   629.000   800.000

X1   700.000     0.000     0.000     0.000   600.000   700.000   700.000     0.000     1.700     0.000

X1   743.000     0.000     0.000     0.000    43.000    43.000    43.000     0.000    -1.500     0.000
NH     3.000      .050    64.600      .040    75.500      .050   455.000     0.000     0.000     0.000

X1   785.000    15.000    64.600    75.500    42.000    42.000    42.000     0.000     0.000     0.000
GR   623.800     0.000   623.300    38.000   617.500    55.000   615.400    64.600   615.300    65.800
GR   614.800    68.800   614.800    71.300   615.300    74.300   615.900    75.500   618.600    85.000
GR   623.500   110.000   624.200   155.000   625.800   225.000   627.400   355.000   628.900   455.000
SB     0.000     2.067     3.030     0.000     1.000     0.000    58.200     0.000   614.800   614.800

X1   816.000     0.000     0.000     0.000    31.000    31.000    31.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   621.500   623.000     0.000     0.000     0.000     0.000     0.000
BT    16.000     0.000   623.800     0.000    55.000   623.100     0.000    55.000   624.100     0.000
BT    64.600   624.100   615.400    65.800   624.100   620.000    68.800   624.100   621.800    71.300
BT   624.000   621.800    74.300   624.000   620.000    75.500   624.000   615.900    85.000   624.000
BT     0.000    85.000   623.000     0.000   110.000   623.500     0.000   155.000   624.200     0.000
BT   225.000   625.800     0.000   355.000   627.400     0.000   455.000   628.900     0.000     0.000
NH     3.000      .060   402.000      .050   412.000      .060   700.000     0.000     0.000     0.000

X1   995.000    21.000   402.000   414.000   179.000   179.000   179.000     0.000     0.000     0.000
GR   628.500     0.000   628.400   100.000   627.500   173.000   627.000   200.000   626.500   300.000
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 626.200 | 380.000 | 624.800 | 400.000 | 624.800 | 402.000 | 619.200 | 402.000 | 619.200 | 403.000 |
| GR | 616.500 | 403.000 | 616.400 | 407.000 | 617.500 | 411.000 | 619.300 | 411.000 | 619.300 | 412.000 |
| GR | 624.700 | 412.000 | 624.700 | 414.000 | 626.300 | 450.000 | 627.100 | 500.000 | 628.300 | 600.000 |
| GR | 628.900 | 700.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .030 | 402.000 | .022 | 414.000 | .030 | 700.000 | 0.000 | 0.000 | 0.000 |
| X1 | 996.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 12.000 | 0.000 | 628.500 | 0.000 | 100.000 | 628.400 | 0.000 | 200.000 | 627.000 | 0.000 |
| BT | 380.000 | 626.200 | 0.000 | 400.000 | 624.800 | 0.000 | 402.000 | 624.800 | 624.000 | 412.000 |
| BT | 624.700 | 623.900 | 414.000 | 624.700 | 0.000 | 450.000 | 626.300 | 0.000 | 500.000 | 627.100 |
| BT | 0.000 | 600.000 | 628.300 | 0.000 | 700.000 | 628.900 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1004.000 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .060 | 402.000 | .050 | 414.000 | .030 | 700.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1005.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .050 | 506.600 | .040 | 517.500 | .050 | 800.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1134.000 | 16.000 | 506.600 | 517.500 | 129.000 | 129.000 | 129.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.000 | 0.000 | 626.800 | 491.000 | 620.000 | 500.000 | 617.700 | 506.600 | 617.000 | 506.600 |
| GR | 616.400 | 507.800 | 615.900 | 510.800 | 615.900 | 513.300 | 616.400 | 516.300 | 617.000 | 517.500 |
| GR | 618.500 | 517.500 | 620.300 | 524.000 | 624.600 | 539.000 | 625.000 | 591.000 | 625.300 | 600.000 |
| GR | 629.000 | 800.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.071 | 3.030 | 0.000 | 1.000 | 0.000 | 60.500 | 0.000 | 615.900 | 615.900 |
| X1 | 1166.000 | 16.000 | 506.600 | 517.500 | 32.000 | 32.000 | 32.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 623.000 | 626.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 14.000 | 0.000 | 629.000 | 0.000 | 491.000 | 626.800 | 0.000 | 500.000 | 626.700 | 0.000 |
| BT | 500.000 | 627.500 | 0.000 | 506.600 | 627.400 | 617.700 | 507.800 | 627.400 | 621.200 | 510.800 |
| BT | 627.400 | 623.000 | 513.300 | 627.400 | 623.000 | 516.300 | 627.300 | 621.200 | 517.500 | 627.200 |
| BT | 618.500 | 524.000 | 627.000 | 0.000 | 524.000 | 626.500 | 0.000 | 600.000 | 626.300 | 0.000 |
| BT | 800.000 | 629.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.000 | 0.000 | 626.800 | 491.000 | 620.000 | 500.000 | 617.700 | 506.600 | 617.000 | 506.600 |
| GR | 616.400 | 507.800 | 615.900 | 510.800 | 615.900 | 513.300 | 616.400 | 516.300 | 617.000 | 517.500 |
| GR | 618.500 | 517.500 | 620.300 | 524.000 | 624.600 | 539.000 | 625.000 | 591.000 | 625.300 | 600.000 |
| GR | 629.000 | 800.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .060 | 509.600 | .040 | 520.500 | .070 | 800.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1280.000 | 25.000 | 509.600 | 520.500 | 114.000 | 114.000 | 114.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.200 | 0.000 | 628.400 | 100.000 | 627.900 | 200.000 | 628.000 | 250.000 | 628.200 | 300.000 |
| GR | 628.000 | 400.000 | 627.900 | 460.000 | 626.900 | 480.000 | 621.500 | 500.000 | 618.100 | 509.600 |
| GR | 618.800 | 509.600 | 617.100 | 509.600 | 616.500 | 510.800 | 616.000 | 513.800 | 616.000 | 516.300 |
| GR | 616.500 | 519.300 | 617.100 | 520.500 | 618.800 | 520.500 | 618.400 | 520.500 | 619.800 | 530.000 |
| GR | 626.400 | 552.000 | 628.300 | 573.000 | 628.800 | 600.000 | 630.500 | 700.000 | 629.200 | 800.000 |
| SB | 0.000 | 2.114 | 3.030 | 0.000 | 1.000 | 0.000 | 60.200 | 0.000 | 616.000 | 616.000 |
| X1 | 1320.000 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 623.000 | 627.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 20.000 | 0.000 | 629.200 | 0.000 | 100.000 | 628.400 | 0.000 | 200.000 | 627.900 | 0.000 |
| BT | 250.000 | 629.000 | 0.000 | 300.000 | 628.200 | 0.000 | 400.000 | 628.000 | 0.000 | 460.000 |
| BT | 627.900 | 0.000 | 500.000 | 627.600 | 0.000 | 500.000 | 628.400 | 0.000 | 509.600 | 628.400 |
| BT | 618.800 | 510.800 | 628.400 | 621.200 | 513.800 | 628.400 | 623.000 | 516.300 | 628.400 | 623.000 |
| BT | 519.300 | 628.400 | 621.200 | 520.500 | 628.400 | 618.800 | 530.000 | 628.300 | 0.000 | 530.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 627.700 | 0.000 | 600.000 | 628.800 | 0.000 | 700.000 | 630.500 | 0.000 | 800.000 | 629.200 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .050 | 500.000 | .040 | 510.400 | .050 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1493.000 | 22.000 | 500.000 | 510.400 | 173.000 | 173.000 | 173.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.800 | 0.000 | 629.000 | 100.000 | 628.900 | 200.000 | 628.600 | 300.000 | 628.500 | 330.000 |
| GR | 627.700 | 400.000 | 627.100 | 450.000 | 625.600 | 496.000 | 625.900 | 496.000 | 626.000 | 500.000 |
| GR | 618.000 | 500.000 | 617.800 | 506.000 | 618.000 | 510.400 | 626.300 | 510.400 | 626.400 | 514.000 |
| GR | 625.500 | 514.000 | 625.600 | 550.000 | 626.200 | 600.000 | 628.200 | 700.000 | 627.400 | 800.000 |
| GR | 628.100 | 900.000 | 629.200 | 1000.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .030 | 500.000 | .023 | 510.400 | .030 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1494.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 16.000 | 0.000 | 629.800 | 0.000 | 100.000 | 629.000 | 0.000 | 200.000 | 628.900 | 0.000 |
| BT | 330.000 | 628.500 | 0.000 | 450.000 | 627.100 | 0.000 | 500.000 | 626.000 | 624.200 | 506.000 |
| BT | 626.200 | 624.400 | 510.400 | 626.300 | 624.500 | 510.400 | 626.300 | 624.500 | 514.000 | 626.400 |
| BT | 0.000 | 550.000 | 625.600 | 0.000 | 600.000 | 626.200 | 0.000 | 700.000 | 628.200 | 0.000 |
| BT | 800.000 | 627.400 | 0.000 | 900.000 | 628.100 | 0.000 | 1000.000 | 629.200 | 0.000 | 0.000 |
| X1 | 1506.000 | 0.000 | 0.000 | 0.000 | 12.000 | 12.000 | 12.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .050 | 500.000 | .040 | 510.400 | .050 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1507.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .060 | 500.100 | .040 | 510.500 | .055 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1681.000 | 26.000 | 500.100 | 510.500 | 174.000 | 174.000 | 174.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.800 | 0.000 | 629.500 | 100.000 | 626.200 | 200.000 | 628.300 | 300.000 | 628.600 | 360.000 |
| GR | 627.600 | 400.000 | 626.700 | 450.000 | 626.300 | 493.000 | 627.400 | 493.000 | 627.500 | 500.100 |
| GR | 619.300 | 500.100 | 618.100 | 501.300 | 617.700 | 502.900 | 617.600 | 505.300 | 617.700 | 507.700 |
| GR | 618.100 | 509.300 | 619.300 | 510.500 | 627.600 | 510.500 | 627.600 | 517.000 | 626.800 | 517.000 |
| GR | 627.100 | 550.000 | 628.400 | 600.000 | 630.100 | 700.000 | 630.200 | 800.000 | 630.300 | 900.000 |
| GR | 630.300 | 1000.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .030 | 500.100 | .026 | 510.500 | .030 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1682.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 18.000 | 0.000 | 629.800 | 0.000 | 100.000 | 629.500 | 0.000 | 200.000 | 626.200 | 0.000 |
| BT | 300.000 | 628.300 | 0.000 | 360.000 | 628.600 | 0.000 | 400.000 | 627.600 | 0.000 | 450.000 |
| BT | 626.700 | 0.000 | 493.000 | 626.300 | 0.000 | 500.100 | 627.500 | 620.500 | 501.300 | 627.500 |
| BT | 622.900 | 502.900 | 627.500 | 624.100 | 505.300 | 627.600 | 624.600 | 507.700 | 627.600 | 624.100 |
| BT | 509.300 | 627.600 | 622.900 | 510.500 | 627.600 | 620.500 | 510.500 | 627.600 | 0.000 | 700.000 |
| BT | 630.100 | 0.000 | 800.000 | 630.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1718.000 | 0.000 | 0.000 | 0.000 | 36.000 | 36.000 | 36.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .060 | 500.100 | .040 | 510.500 | .055 | 1000.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1719.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .060 | 500.000 | .040 | 536.000 | .065 | 800.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1800.000 | 18.000 | 500.000 | 536.000 | 81.000 | 81.000 | 81.000 | 0.000 | 0.000 | 0.000 |
| GR | 630.400 | 0.000 | 629.200 | 100.000 | 626.700 | 176.000 | 625.500 | 200.000 | 626.800 | 300.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 627.800 | 400.000 | 627.600 | 485.000 | 626.600 | 500.000 | 618.900 | 513.000 | 618.500 | 517.000 |
| GR | 619.400 | 523.000 | 619.900 | 530.000 | 623.100 | 536.000 | 623.400 | 550.000 | 629.600 | 560.000 |
| GR | 629.500 | 600.000 | 630.000 | 700.000 | 630.700 | 800.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .055 | 500.000 | .040 | 524.500 | .060 | 900.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1849.000 | 21.000 | 500.000 | 524.500 | 49.000 | 49.000 | 49.000 | 0.000 | 0.000 | 0.000 |
| GR | 630.000 | 0.000 | 628.400 | 100.000 | 627.100 | 162.000 | 627.400 | 200.000 | 626.600 | 300.000 |
| GR | 626.000 | 400.000 | 626.400 | 499.900 | 629.400 | 500.000 | 622.400 | 500.000 | 621.600 | 503.000 |
| GR | 619.100 | 506.000 | 618.800 | 509.000 | 619.300 | 513.000 | 619.700 | 520.000 | 620.800 | 524.500 |
| GR | 629.800 | 524.500 | 626.800 | 524.600 | 628.100 | 600.000 | 630.100 | 700.000 | 630.600 | 800.000 |
| GR | 631.300 | 900.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .030 | 500.000 | .032 | 524.500 | .030 | 900.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1850.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 10.000 | 0.000 | 630.000 | 0.000 | 162.000 | 627.100 | 0.000 | 200.000 | 627.400 | 0.000 |
| BT | 400.000 | 626.000 | 0.000 | 499.900 | 626.400 | 0.000 | 500.000 | 629.400 | 624.800 | 524.500 |
| BT | 629.800 | 625.200 | 524.600 | 626.800 | 0.000 | 700.000 | 630.100 | 0.000 | 800.000 | 630.600 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1865.000 | 0.000 | 0.000 | 0.000 | 15.000 | 15.000 | 15.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .055 | 500.000 | .040 | 524.500 | .060 | 900.000 | 0.000 | 0.000 | 0.000 |
| X1 | 1866.000 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .070 | 300.000 | .040 | 335.000 | .075 | 800.000 | 0.000 | 0.000 | 0.000 |
| X1 | 2750.000 | 15.000 | 300.000 | 335.000 | 934.000 | 834.000 | 884.000 | 0.000 | 0.000 | 0.000 |
| GR | 631.600 | 0.000 | 629.200 | 100.000 | 627.800 | 200.000 | 625.500 | 300.000 | 619.200 | 307.000 |
| GR | 618.300 | 312.000 | 619.200 | 316.000 | 622.000 | 324.000 | 625.100 | 335.000 | 625.300 | 350.000 |
| GR | 625.900 | 400.000 | 625.900 | 500.000 | 628.900 | 600.000 | 630.000 | 700.000 | 630.600 | 800.000 |
| NH | 3.000 | .080 | 260.000 | .045 | 290.000 | .075 | 660.000 | 0.000 | 0.000 | 0.000 |
| QT | 4.000 | 530.000 | 890.000 | 1600.000 | 2290.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 3450.000 | 13.000 | 260.000 | 290.000 | 800.000 | 400.000 | 700.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.200 | 0.000 | 629.200 | 60.000 | 626.800 | 160.000 | 625.000 | 230.000 | 624.900 | 260.000 |
| GR | 620.000 | 266.000 | 619.500 | 271.000 | 619.900 | 276.000 | 626.300 | 290.000 | 627.000 | 360.000 |
| GR | 629.900 | 460.000 | 630.300 | 560.000 | 630.600 | 660.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NH | 3.000 | .040 | 69.000 | .045 | 97.000 | .040 | 252.000 | 0.000 | 0.000 | 0.000 |
| X1 | 3950.000 | 9.000 | 69.000 | 97.000 | 500.000 | 600.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 628.800 | 0.000 | 627.400 | 69.000 | 621.900 | 79.000 | 621.100 | 84.000 | 621.700 | 88.000 |
| GR | 628.900 | 97.000 | 628.500 | 146.000 | 627.800 | 252.000 | 630.000 | 500.000 | 0.000 | 0.000 |
| NH | 3.000 | .050 | 191.000 | .040 | 220.000 | .055 | 350.000 | 0.000 | 0.000 | 0.000 |
| X1 | 4550.000 | 13.000 | 191.000 | 220.000 | 600.000 | 900.000 | 600.000 | 0.000 | 0.000 | 0.000 |
| GR | 631.900 | 0.000 | 631.200 | 50.000 | 629.700 | 150.000 | 629.000 | 179.000 | 628.600 | 191.000 |
| GR | 622.500 | 201.000 | 622.000 | 207.000 | 622.300 | 211.000 | 629.000 | 220.000 | 630.500 | 250.000 |
| GR | 630.300 | 320.000 | 629.300 | 350.000 | 630.000 | 800.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR -  01,02,03
MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER DRAIN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 2120.00 | 626.18 | 0.00 | 626.35 | 26.14 | 3.93 | 790.67 | 414.68 |
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 2120.00 | 627.68 | 0.00 | 627.71 | 4.25 | 1.73 | 1909.95 | 1028.34 |
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 2120.00 | 624.68 | 0.00 | 625.32 | 91.03 | 6.79 | 384.56 | 222.20 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 2120.00 | 627.95 | 0.00 | 628.11 | 24.36 | 3.81 | 824.43 | 429.56 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 2120.00 | 628.19 | 0.00 | 628.31 | 18.38 | 3.36 | 973.80 | 494.53 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 2120.00 | 628.05 | 0.00 | 628.19 | 21.57 | 3.61 | 884.66 | 456.50 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.16 | 0.00 | 628.18 | 3.13 | 1.51 | 2134.28 | 1198.74 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.34 | 0.00 | 628.36 | 2.59 | 1.39 | 2280.81 | 1317.85 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.23 | 0.00 | 628.25 | 2.90 | 1.46 | 2192.46 | 1245.31 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 2120.00 | 628.17 | 0.00 | 628.21 | 2.10 | 2.95 | 1482.72 | 1462.82 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 2120.00 | 628.35 | 0.00 | 628.39 | 1.88 | 2.82 | 1557.76 | 1544.36 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 2120.00 | 628.24 | 0.00 | 628.28 | 2.01 | 2.90 | 1512.25 | 1494.78 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 2120.00 | 628.25 | 0.00 | 628.30 | 1.99 | 2.88 | 1519.40 | 1502.55 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 2120.00 | 628.44 | 0.00 | 628.48 | 1.79 | 2.76 | 1594.78 | 1584.95 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 2120.00 | 628.33 | 0.00 | 628.37 | 1.91 | 2.83 | 1548.65 | 1534.40 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.33 | 0.00 | 628.48 | 39.80 | 4.68 | 801.80 | 336.06 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.50 | 0.00 | 628.62 | 30.69 | 4.14 | 897.49 | 382.71 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.40 | 0.00 | 628.53 | 35.95 | 4.46 | 836.41 | 353.59 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.36 | 0.00 | 628.49 | 10.91 | 4.01 | 806.58 | 641.93 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.53 | 0.00 | 628.62 | 8.43 | 3.56 | 899.52 | 730.20 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.43 | 0.00 | 628.54 | 9.87 | 3.83 | 839.25 | 674.66 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.38 | 0.00 | 628.50 | 10.56 | 3.95 | 816.86 | 652.26 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.54 | 0.00 | 628.63 | 8.22 | 3.52 | 909.48 | 739.27 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.44 | 0.00 | 628.55 | 9.59 | 3.78 | 849.48 | 684.52 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.37 | 0.00 | 628.52 | 22.39 | 3.72 | 826.72 | 448.06 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.53 | 0.00 | 628.65 | 17.43 | 3.32 | 919.14 | 507.73 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.44 | 0.00 | 628.57 | 20.33 | 3.56 | 859.23 | 470.23 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 2120.00 | 628.57 | 0.00 | 628.66 | 5.59 | 4.08 | 1267.90 | 896.37 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 2120.00 | 628.69 | 0.00 | 628.77 | 5.03 | 3.89 | 1348.52 | 945.14 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 2120.00 | 628.61 | 0.00 | 628.70 | 5.38 | 4.01 | 1297.73 | 914.36 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 2120.00 | 628.65 | 0.00 | 628.73 | 5.24 | 3.97 | 1316.52 | 925.72 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 2120.00 | 628.75 | 0.00 | 628.83 | 4.76 | 3.80 | 1392.58 | 972.04 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 2120.00 | 628.69 | 0.00 | 628.77 | 5.06 | 3.90 | 1344.60 | 942.76 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 2120.00 | 628.71 | 0.00 | 628.94 | 13.20 | 5.75 | 822.06 | 583.50 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 2120.00 | 628.81 | 0.00 | 629.02 | 12.14 | 5.54 | 876.40 | 608.41 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 2120.00 | 628.75 | 0.00 | 628.97 | 12.80 | 5.67 | 842.13 | 592.60 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 2120.00 | 629.15 | 0.00 | 629.30 | 9.02 | 4.87 | 1075.39 | 705.53 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 2120.00 | 629.17 | 0.00 | 629.31 | 8.87 | 4.83 | 1086.89 | 711.82 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 2120.00 | 629.16 | 0.00 | 629.30 | 8.97 | 4.85 | 1079.44 | 708.00 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.43 | 0.00 | 629.46 | 6.49 | 2.58 | 1580.75 | 832.25 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.48 | 6.36 | 2.55 | 1593.52 | 840.44 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.43 | 0.00 | 629.47 | 6.44 | 2.57 | 1585.24 | 835.12 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.43 | 0.00 | 629.46 | 2.87 | 1.91 | 1534.88 | 1251.70 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.45 | 0.00 | 629.48 | 2.81 | 1.89 | 1547.63 | 1265.09 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 2.85 | 1.90 | 1539.36 | 1256.40 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 2.82 | 1.89 | 1545.49 | 1262.85 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.45 | 0.00 | 629.48 | 2.76 | 1.88 | 1558.00 | 1276.04 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 2.80 | 1.89 | 1549.89 | 1267.48 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 6.39 | 2.56 | 1590.73 | 838.64 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.45 | 0.00 | 629.48 | 6.27 | 2.53 | 1603.24 | 846.70 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.48 | 6.35 | 2.55 | 1595.13 | 841.47 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.59 | 0.00 | 629.67 | 15.05 | 3.82 | 1162.64 | 546.39 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.60 | 0.00 | 629.68 | 14.85 | 3.80 | 1168.94 | 550.19 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.59 | 0.00 | 629.67 | 14.98 | 3.81 | 1164.84 | 547.72 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.61 | 0.00 | 629.68 | 6.57 | 2.30 | 1042.10 | 827.40 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.62 | 0.00 | 629.69 | 6.46 | 2.29 | 1048.23 | 834.13 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.61 | 0.00 | 629.68 | 6.53 | 2.30 | 1044.25 | 829.76 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.70 | 6.14 | 2.24 | 1067.68 | 855.45 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.65 | 0.00 | 629.71 | 6.05 | 2.22 | 1073.51 | 861.83 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.70 | 6.11 | 2.23 | 1069.72 | 857.69 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.71 | 14.16 | 3.72 | 1190.77 | 563.31 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.72 | 13.99 | 3.70 | 1196.68 | 566.85 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.71 | 14.10 | 3.71 | 1192.84 | 564.55 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 2120.00 | 629.69 | 0.00 | 629.77 | 4.01 | 3.01 | 1481.07 | 1058.58 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 2120.00 | 629.70 | 0.00 | 629.77 | 3.98 | 3.01 | 1486.04 | 1062.30 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 2120.00 | 629.70 | 0.00 | 629.77 | 4.00 | 3.01 | 1482.81 | 1059.88 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.76 | 0.00 | 629.80 | 3.91 | 2.37 | 1740.80 | 1071.84 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 3.88 | 2.36 | 1746.20 | 1076.01 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.76 | 0.00 | 629.80 | 3.90 | 2.37 | 1742.69 | 1073.30 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 1.98 | .91 | 1608.19 | 1504.83 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.78 | 0.00 | 629.81 | 1.97 | .90 | 1613.56 | 1511.69 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 1.98 | .90 | 1610.07 | 1507.23 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 1.95 | .89 | 1617.72 | 1517.02 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.78 | 0.00 | 629.81 | 1.94 | .89 | 1623.01 | 1523.79 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.78 | 0.00 | 629.81 | 1.95 | .89 | 1619.57 | 1519.39 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.81 | 3.86 | 2.36 | 1750.06 | 1078.99 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.78 | 0.00 | 629.82 | 3.83 | 2.35 | 1755.36 | 1083.09 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.78 | 0.00 | 629.81 | 3.85 | 2.35 | 1751.92 | 1080.43 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 2120.00 | 630.09 | 0.00 | 630.14 | 3.39 | 2.71 | 1870.87 | 1151.42 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 2120.00 | 630.09 | 0.00 | 630.14 | 3.37 | 2.71 | 1874.75 | 1154.13 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 2120.00 | 630.09 | 0.00 | 630.14 | 3.38 | 2.71 | 1872.23 | 1152.37 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 1600.00 | 630.32 | 0.00 | 630.36 | 3.64 | 2.45 | 1486.85 | 838.75 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 1600.00 | 630.32 | 0.00 | 630.36 | 3.63 | 2.44 | 1489.41 | 840.30 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 1600.00 | 630.32 | 0.00 | 630.36 | 3.63 | 2.45 | 1487.75 | 839.29 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 1600.00 | 630.57 | 0.00 | 630.66 | 8.81 | 3.20 | 706.03 | 538.93 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 1600.00 | 630.57 | 0.00 | 630.66 | 8.78 | 3.19 | 707.02 | 540.06 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 1600.00 | 630.57 | 0.00 | 630.66 | 8.80 | 3.19 | 706.38 | 539.32 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 1600.00 | 631.27 | 629.51 | 631.61 | 20.37 | 5.55 | 517.94 | 354.47 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 1600.00 | 631.27 | 629.50 | 631.61 | 20.34 | 5.55 | 518.36 | 354.75 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 1600.00 | 631.27 | 629.51 | 631.61 | 20.36 | 5.55 | 518.09 | 354.57 |

SPENCER DRAIN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 0.000 | 2120.00 | 626.18 | 0.00 | 0.00 | -.82 | 508.90 | 0.00 |
| 0.000 | 2120.00 | 627.68 | 1.50 | 0.00 | 0.00 | 800.00 | 0.00 |
| 0.000 | 2120.00 | 624.68 | -3.00 | 0.00 | 0.00 | 163.38 | 0.00 |
| 700.000 | 2120.00 | 627.95 | 0.00 | 1.77 | 0.00 | 530.55 | 700.00 |
| 700.000 | 2120.00 | 628.19 | .24 | .51 | 0.00 | 743.20 | 700.00 |
| 700.000 | 2120.00 | 628.05 | -.14 | 3.37 | 0.00 | 578.00 | 700.00 |
| 743.000 | 2120.00 | 628.16 | 0.00 | .21 | 0.00 | 800.00 | 43.00 |
| 743.000 | 2120.00 | 628.34 | .18 | .16 | 0.00 | 800.00 | 43.00 |
| 743.000 | 2120.00 | 628.23 | -.11 | .19 | 0.00 | 800.00 | 43.00 |
| 785.000 | 2120.00 | 628.17 | 0.00 | .00 | 0.00 | 406.01 | 42.00 |
| 785.000 | 2120.00 | 628.35 | .18 | .00 | 0.00 | 418.15 | 42.00 |
| 785.000 | 2120.00 | 628.24 | -.11 | .00 | 0.00 | 410.83 | 42.00 |
| 816.000 | 2120.00 | 628.25 | 0.00 | .09 | 0.00 | 411.99 | 31.00 |
| 816.000 | 2120.00 | 628.44 | .18 | .09 | 0.00 | 424.01 | 31.00 |
| 816.000 | 2120.00 | 628.33 | -.11 | .09 | 0.00 | 416.70 | 31.00 |
| 995.000 | 2120.00 | 628.33 | 0.00 | .07 | 0.00 | 499.18 | 179.00 |
| 995.000 | 2120.00 | 628.50 | .17 | .07 | 0.00 | 633.95 | 179.00 |
| 995.000 | 2120.00 | 628.40 | -.11 | .07 | 0.00 | 516.08 | 179.00 |
| 996.000 | 2120.00 | 628.36 | 0.00 | .04 | 0.00 | 507.93 | 1.00 |
| 996.000 | 2120.00 | 628.53 | .16 | .02 | 0.00 | 637.89 | 1.00 |
| 996.000 | 2120.00 | 628.43 | -.10 | .03 | 0.00 | 548.68 | 1.00 |
| 1004.000 | 2120.00 | 628.38 | 0.00 | .01 | 0.00 | 512.92 | 8.00 |
| 1004.000 | 2120.00 | 628.54 | .16 | .01 | 0.00 | 640.49 | 8.00 |
| 1004.000 | 2120.00 | 628.44 | -.10 | .01 | 0.00 | 570.02 | 8.00 |
| 1005.000 | 2120.00 | 628.37 | 0.00 | -.00 | 0.00 | 511.41 | 1.00 |
| 1005.000 | 2120.00 | 628.53 | .16 | -.00 | 0.00 | 639.62 | 1.00 |
| 1005.000 | 2120.00 | 628.44 | -.10 | -.00 | 0.00 | 563.34 | 1.00 |
| 1134.000 | 2120.00 | 628.57 | 0.00 | .19 | 0.00 | 683.11 | 129.00 |
| 1134.000 | 2120.00 | 628.69 | .12 | .15 | 0.00 | 715.08 | 129.00 |
| 1134.000 | 2120.00 | 628.61 | -.07 | .18 | 0.00 | 695.11 | 129.00 |
| 1166.000 | 2120.00 | 628.65 | 0.00 | .08 | 0.00 | 702.56 | 32.00 |
| 1166.000 | 2120.00 | 628.75 | .11 | .07 | 0.00 | 731.96 | 32.00 |
| 1166.000 | 2120.00 | 628.69 | -.07 | .07 | 0.00 | 713.56 | 32.00 |
| 1280.000 | 2120.00 | 628.71 | 0.00 | .06 | 0.00 | 533.92 | 114.00 |
| 1280.000 | 2120.00 | 628.81 | .10 | .06 | 0.00 | 551.89 | 114.00 |
| 1280.000 | 2120.00 | 628.75 | -.06 | .06 | 0.00 | 540.61 | 114.00 |
| 1320.000 | 2120.00 | 629.15 | 0.00 | .44 | 0.00 | 614.60 | 40.00 |
| 1320.000 | 2120.00 | 629.17 | .02 | .36 | 0.00 | 618.03 | 40.00 |
| 1320.000 | 2120.00 | 629.16 | -.01 | .41 | 0.00 | 615.81 | 40.00 |

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1493.000 | 2120.00 | 629.43 | 0.00 | .28 | 0.00 | 953.41 | 173.00 |
| 1493.000 | 2120.00 | 629.44 | .01 | .27 | 0.00 | 955.08 | 173.00 |
| 1493.000 | 2120.00 | 629.43 | -.01 | .27 | 0.00 | 954.00 | 173.00 |
| 1494.000 | 2120.00 | 629.43 | 0.00 | .01 | 0.00 | 953.50 | 1.00 |
| 1494.000 | 2120.00 | 629.45 | .01 | .01 | 0.00 | 955.17 | 1.00 |
| 1494.000 | 2120.00 | 629.44 | -.01 | .01 | 0.00 | 954.08 | 1.00 |
| 1506.000 | 2120.00 | 629.44 | 0.00 | .00 | 0.00 | 954.89 | 12.00 |
| 1506.000 | 2120.00 | 629.45 | .01 | .00 | 0.00 | 956.52 | 12.00 |
| 1506.000 | 2120.00 | 629.44 | -.01 | .00 | 0.00 | 955.46 | 12.00 |
| 1507.000 | 2120.00 | 629.44 | 0.00 | -.00 | 0.00 | 954.72 | 1.00 |
| 1507.000 | 2120.00 | 629.45 | .01 | -.00 | 0.00 | 956.36 | 1.00 |
| 1507.000 | 2120.00 | 629.44 | -.01 | -.00 | 0.00 | 955.29 | 1.00 |
| 1681.000 | 2120.00 | 629.59 | 0.00 | .15 | 0.00 | 600.43 | 174.00 |
| 1681.000 | 2120.00 | 629.60 | .01 | .15 | 0.00 | 604.53 | 174.00 |
| 1681.000 | 2120.00 | 629.59 | -.01 | .15 | 0.00 | 601.87 | 174.00 |
| 1682.000 | 2120.00 | 629.61 | 0.00 | .02 | 0.00 | 604.11 | 1.00 |
| 1682.000 | 2120.00 | 629.62 | .01 | .02 | 0.00 | 608.13 | 1.00 |
| 1682.000 | 2120.00 | 629.61 | -.01 | .02 | 0.00 | 605.52 | 1.00 |
| 1718.000 | 2120.00 | 629.64 | 0.00 | .03 | 0.00 | 620.71 | 36.00 |
| 1718.000 | 2120.00 | 629.65 | .01 | .03 | 0.00 | 624.43 | 36.00 |
| 1718.000 | 2120.00 | 629.64 | -.01 | .03 | 0.00 | 622.02 | 36.00 |
| 1719.000 | 2120.00 | 629.64 | 0.00 | -.00 | 0.00 | 618.53 | 1.00 |
| 1719.000 | 2120.00 | 629.64 | .01 | -.00 | 0.00 | 622.27 | 1.00 |
| 1719.000 | 2120.00 | 629.64 | -.01 | -.00 | 0.00 | 619.84 | 1.00 |
| 1800.000 | 2120.00 | 629.69 | 0.00 | .06 | 0.00 | 579.98 | 81.00 |
| 1800.000 | 2120.00 | 629.70 | .01 | .06 | 0.00 | 582.41 | 81.00 |
| 1800.000 | 2120.00 | 629.70 | -.01 | .06 | 0.00 | 580.83 | 81.00 |
| 1849.000 | 2120.00 | 629.76 | 0.00 | .07 | 0.00 | 668.09 | 49.00 |
| 1849.000 | 2120.00 | 629.77 | .01 | .07 | 0.00 | 669.00 | 49.00 |
| 1849.000 | 2120.00 | 629.76 | -.01 | .07 | 0.00 | 668.41 | 49.00 |
| 1850.000 | 2120.00 | 629.77 | 0.00 | .01 | 0.00 | 668.14 | 1.00 |
| 1850.000 | 2120.00 | 629.78 | .01 | .01 | 0.00 | 669.05 | 1.00 |
| 1850.000 | 2120.00 | 629.77 | -.01 | .01 | 0.00 | 668.46 | 1.00 |
| 1865.000 | 2120.00 | 629.77 | 0.00 | .00 | 0.00 | 669.75 | 15.00 |
| 1865.000 | 2120.00 | 629.78 | .01 | .00 | 0.00 | 670.64 | 15.00 |
| 1865.000 | 2120.00 | 629.78 | -.01 | .00 | 0.00 | 670.06 | 15.00 |
| 1866.000 | 2120.00 | 629.77 | 0.00 | -.00 | 0.00 | 669.65 | 1.00 |
| 1866.000 | 2120.00 | 629.78 | .01 | -.00 | 0.00 | 670.54 | 1.00 |
| 1866.000 | 2120.00 | 629.78 | -.01 | -.00 | 0.00 | 669.96 | 1.00 |
| 2750.000 | 2120.00 | 630.09 | 0.00 | .31 | 0.00 | 651.04 | 884.00 |
| 2750.000 | 2120.00 | 630.09 | .01 | .31 | 0.00 | 652.28 | 884.00 |
| 2750.000 | 2120.00 | 630.09 | -.00 | .31 | 0.00 | 651.48 | 884.00 |

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 3450.000 | 1600.00 | 630.32 | 0.00 | .23 | 0.00 | 564.86 | 700.00 |
| 3450.000 | 1600.00 | 630.32 | .00 | .23 | 0.00 | 566.37 | 700.00 |
| 3450.000 | 1600.00 | 630.32 | -.00 | .23 | 0.00 | 565.39 | 700.00 |
| 3950.000 | 1600.00 | 630.57 | 0.00 | .25 | 0.00 | 500.00 | 500.00 |
| 3950.000 | 1600.00 | 630.57 | .00 | .25 | 0.00 | 500.00 | 500.00 |
| 3950.000 | 1600.00 | 630.57 | -.00 | .25 | 0.00 | 500.00 | 500.00 |
| 4550.000 | 1600.00 | 631.27 | 0.00 | .70 | 0.00 | 755.34 | 600.00 |
| 4550.000 | 1600.00 | 631.27 | .00 | .70 | 0.00 | 755.44 | 600.00 |
| 4550.000 | 1600.00 | 631.27 | -.00 | .70 | 0.00 | 755.38 | 600.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: STERLING HEIGHTS, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAINS E. OF HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*********************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  G1,02,03
 MODIFICATION -  50,51,52,53
*********************************************
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T1      JCB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
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| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 631.270 | 0.000 |

| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 2

CCHV=     .300 CEHV=     .500
*SECNO 800.200
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=    1990.0    2388.0  TYPE=     1  TARGET=     398.000
   800.20      8.57    631.37      0.00    631.27    631.51      .14      0.00      0.00    629.40
    1600.      204.     1208.      188.      231.      359.     203.       0.        0.     629.20
     0.00       .88      3.37       .93      .075      .050     .075    0.000    622.80   1990.00
  .001446       0.        0.        0.         0         0        0     0.00    398.00   2388.00

*SECNO 800.300

3470 ENCROACHMENT STATIONS=    1990.0    2388.0  TYPE=     1  TARGET=     398.000
          **D/S FACE DEQUINDRE

   800.30      9.00    631.60      0.00    631.53    631.69      .09       .17       .01    629.20
    1600.      263.     1101.      236.      308.      387.     266.        3.        1.     629.00
      .02       .85      2.84       .89      .075      .050     .075      .050    622.60   1990.00
  .000928      150.      150.      150.         1         0        0     0.00    398.00   2388.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      2.50      3.20      0.00     10.00      0.00     20.00      0.00    622.60    622.60

*SECNO 800.700
6870 D.S. ENERGY OF  631.69 HIGHER THAN COMPUTED ENERGY OF  631.68
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  880.05    631.78     0.00      1567.     29.        20.      51.       627.70    628.90

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=     1  TARGET=     356.000
   800.70      9.06    631.66      0.00    631.59    631.69      .03      0.00      0.00    625.40
    1600.      482.      432.      686.      453.      191.     770.       4.        2.     626.60
      .03      1.07      2.26       .89      .075      .050     .075      .050    622.60   2234.00
  .000394       50.       50.       50.         2         0       10     0.00    356.00   2590.00

*SECNO 800.710

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=     1  TARGET=     356.000
   800.71      8.46    631.66      0.00    631.60    631.71      .05       .01       .01    626.00
    1600.      483.      481.      636.      390.      177.     637.       5.        2.     627.20
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      .03      1.24      2.71      1.00      .075      .050      .075      .049    623.20  2234.00
  .000631       25.       25.       25.         1         0         0      0.00    356.00  2590.00

*SECNO 800.720
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=      1  TARGET=     356.000

        **D/S FACE SIDEWALK CULVERT

   800.72      8.48    631.68      0.00    631.61    631.73       .05       .02       .00    626.00
    1600.      483.      480.      637.      391.      177.      638.        6.        2.    627.20
      .04      1.24      2.71      1.00      .075      .050      .075      .049    623.20  2234.00
  .000628       25.       25.       25.         0         0         0      0.00    356.00  2590.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      1.70      3.00      0.00      5.00      0.00      5.00      0.00    623.20    623.20

*SECNO 800.730
3280 CROSS SECTION    800.73 EXTENDED       .06 FEET

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
 3334.79    631.85     0.00      1579.     11.        5.       12.      625.60    628.00

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=      1  TARGET=     356.000
   800.73      8.56    631.76      0.00    631.70    631.81       .04       .08      0.00    626.00
    1600.      483.      472.      645.      400.      180.      658.        7.        3.    627.20
      .05      1.21      2.63       .98      .075      .050      .075      .049    623.20  2234.00
  .000584       50.       50.       50.         2         0        13      0.00    356.00  2590.00

*SECNO 800.740
3280 CROSS SECTION    800.74 EXTENDED       .09 FEET

3470 ENCROACHMENT STATIONS=    2234.0    2644.0  TYPE=      1  TARGET=     410.000
   800.74      8.60    631.80      0.00    631.73    631.84       .04       .03       .00    626.00
    1600.      465.      452.      683.      403.      180.      762.        9.        3.    627.20
      .06      1.15      2.51       .90      .075      .050      .075      .049    623.20  2234.00
  .000528       50.       50.       50.         0         0         0      0.00    410.00  2644.00

*SECNO 800.800
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3280 CROSS SECTION     800.80 EXTENDED        .42 FEET


3470 ENCROACHMENT STATIONS=     2234.0     2590.0  TYPE=      1  TARGET=      356.000
   800.80      8.92    632.12      0.00    632.07    632.15       .03       .31       .00    626.00
    1600.      482.      443.      675.      437.      188.      738.       29.        9.    627.20
      .19      1.10      2.35       .92      .075      .050      .075      .050    623.20   2234.00
  .000440      650.      650.      650.         2         0         0      0.00    356.00   2590.00


*SECNO 800.900
3280 CROSS SECTION     800.90 EXTENDED        .29 FEET


3470 ENCROACHMENT STATIONS=     2234.0     2644.0  TYPE=      1  TARGET=      410.000
   800.90      8.78    632.18      0.00    632.14    632.22       .03       .07       .00    626.20
    1600.      463.      434.      703.      424.      185.      817.       34.       10.    627.40
      .22      1.09      2.35       .86      .075      .050      .075      .050    623.40   2234.00
  .000447      150.      150.      150.         0         0         0      0.00    410.00   2644.00


*SECNO 801.200
 2800 NAT Q1=     571.86  WSEL=     632.33  ENC Q1=     571.86  WSEL=     632.43  RATIO=    .0000
 NAT Q1=     606.  RATIOS LOB,CH,ROB=    .2670    .4186    .3144  WSEL=     632.43
3280 CROSS SECTION     801.20 EXTENDED       3.37 FEET


   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      128.2      588.4  TYPE=      4  TARGET=          .056
   801.20      8.17    632.37      0.00    632.33    632.41       .04       .19       .00    630.20
    1600.      399.      716.      484.      435.      341.      438.       44.       13.    630.20
      .28       .92      2.10      1.11      .075      .050      .075      .050    624.20    128.25
  .000839      325.      325.      325.         0         0         0      0.00    460.17    588.42


CCHV=     .500 CEHV=    1.000
*SECNO 801.300
 2800 NAT Q1=     283.08  WSEL=     632.40  ENC Q1=     283.08  WSEL=     632.50  RATIO=    .0000
 NAT Q1=     297.  RATIOS LOB,CH,ROB=    .1290    .6974    .1737  WSEL=     632.50

3265 DIVIDED FLOW

3280 CROSS SECTION     801.30 EXTENDED       3.46 FEET


3470 ENCROACHMENT STATIONS=      113.7      594.3  TYPE=      4  TARGET=          .047
   801.30      8.25    632.45      0.00    632.40    632.59       .14       .07       .10    630.20
    1600.      175.     1174.      251.      117.      348.      148.       45.       14.    630.20
      .28      1.49      3.37      1.70      .094      .063      .094      .050    624.20    113.69
  .003321       50.       50.       50.         1         0         0      0.00    194.46    594.34
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*SECNO 801.400
 2800 NAT Q1=     609.14  WSEL=     632.67  ENC Q1=     609.14  WSEL=     632.77  RATIO=    .0000
 NAT Q1=     640.  RATIOS LOB,CH,ROB=    .2954    .3878    .3168  WSEL=     632.77
3280 CROSS SECTION     801.40 EXTENDED       3.94 FEET


3470 ENCROACHMENT STATIONS=      121.2      589.9  TYPE=      4  TARGET=          .048
   801.40      8.74    632.74      0.00    632.67    632.76      .02       .11       .06    630.00
    1600.      454.      654.      492.      574.      389.     534.       47.       14.    630.00
      .30       .79      1.68       .92      .094      .063     .094      .051    624.00    121.21
  .000712       85.       85.       85.         2         0        0      0.00    468.67    589.89


CCHV=     .300 CEHV=     .500
*SECNO 801.500
 2800 NAT Q1=     710.50  WSEL=     632.68  ENC Q1=     756.99  WSEL=     632.78  RATIO=  -.0654
 NAT Q1=     757.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     632.78
3280 CROSS SECTION     801.50 EXTENDED       1.74 FEET


      **D/S FACE LOVINGTON.  BUILDINGS HAVE BEEN MODELLED USING X4 PTS

   801.50      3.95    632.75      0.00    632.68    632.76      .01       .00       .00    631.00
    1600.        0.     1600.        0.        0.     1882.       0.       47.       14.    631.00
      .30      0.00       .85      0.00      .075      .075     .075      .051    628.80      0.00
  .000471        1.        1.        1.         1         0        0      0.00    670.00    670.00


*SECNO 801.550
 2800 NAT Q1=     719.55  WSEL=     632.70  ENC Q1=     759.70  WSEL=     632.80  RATIO=  -.0558
 NAT Q1=     760.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     632.80
3280 CROSS SECTION     801.55 EXTENDED       1.76 FEET


   801.55      3.96    632.76      0.00    632.70    632.78      .01       .01       .00    631.00
    1600.        0.     1600.        0.        0.     1895.       0.       48.       15.    631.00
      .31      0.00       .84      0.00      .075      .075     .075      .051    628.80      0.00
  .000463       24.       24.       24.         0         0        0      0.00    670.00    670.00


*SECNO 801.590
 2800 NAT Q1=     901.97  WSEL=     632.70  ENC Q1=     901.97  WSEL=     632.80  RATIO=    .0000
 NAT Q1=     940.  RATIOS LOB,CH,ROB=    .4866    .1535    .3599  WSEL=     632.80
3280 CROSS SECTION     801.59 EXTENDED       3.87 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      109.9      577.4  TYPE=      4  TARGET=          .041
   801.59      8.76    632.76      0.00    632.70    632.78      .01       .00       .00    628.40
    1600.      777.      258.      565.      920.      199.     671.       48.       15.    628.00
      .31       .84      1.29       .84      .075      .075     .075      .051    624.00    109.89
  .000322        1.        1.        1.         0         0        0      0.00    467.53    577.41
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*SECNO 801.600
 2800 NAT Q1=     687.55  WSEL=     632.70  ENC Q1=     687.55  WSEL=     632.80  RATIO=    .0000
 NAT Q1=     721.  RATIOS LOB,CH,ROB=    .4766    .1752    .3482  WSEL=     632.80
3280 CROSS SECTION     801.60 EXTENDED       3.27 FEET


3470 ENCROACHMENT STATIONS=      111.4      568.5  TYPE=      4  TARGET=          .046
   801.60      8.17    632.77      0.00    632.70    632.79      .02       .01       .00    629.00
   1600.       760.      296.      544.      761.      184.     545.       49.       15.    628.60
     .32      1.00      1.61      1.00      .075      .075     .075      .051    624.60    111.35
  .000556      24.       24.       24.         0         0        0      0.00    457.10    568.46

CCHV=     .500 CEHV=    1.000
*SECNO 801.700
 2800 NAT Q1=     492.14  WSEL=     632.74  ENC Q1=     492.14  WSEL=     632.84  RATIO=    .0000
 NAT Q1=     515.  RATIOS LOB,CH,ROB=    .3922    .2946    .3131  WSEL=     632.84

3265 DIVIDED FLOW

3280 CROSS SECTION     801.70 EXTENDED       3.31 FEET


3470 ENCROACHMENT STATIONS=      130.3      510.6  TYPE=      4  TARGET=          .044
   801.70      8.21    632.81      0.00    632.74    632.86      .05       .04       .03    629.00
   1600.       621.      494.      485.      542.      185.     408.       50.       15.    628.60
     .33      1.15      2.68      1.19      .094      .063     .094      .052    624.60    130.40
  .001076      50.       50.       50.         0         0        0      0.00    312.51    510.59


*SECNO 801.800
 2800 NAT Q1=     627.75  WSEL=     632.81  ENC Q1=     627.75  WSEL=     632.91  RATIO=    .0000
 NAT Q1=     657.  RATIOS LOB,CH,ROB=    .4416    .2348    .3236  WSEL=     632.91
3280 CROSS SECTION     801.80 EXTENDED       3.38 FEET


3470 ENCROACHMENT STATIONS=      111.8      568.9  TYPE=      4  TARGET=          .045
   801.80      8.28    632.88      0.00    632.81    632.91      .03       .04       .01    629.00
   1600.       701.      396.      503.      788.      187.     565.       52.       16.    628.60
     .34       .89      2.12       .89      .094      .063     .094      .052    624.60    111.81
  .000666      50.       50.       50.         2         0        0      0.00    457.10    568.91

CCHV=     .100 CEHV=     .300
*SECNO 801.900
3280 CROSS SECTION     801.90 EXTENDED       1.16 FEET


3470 ENCROACHMENT STATIONS=     2814.0     3192.0  TYPE=      1  TARGET=       378.000
   801.90      7.86    632.96      0.00    632.89    632.99      .03       .08       .00    630.70
   1600.       100.      472.     1028.      145.      234.    1026.       57.       17.    628.60
     .37       .69      2.01      1.00      .075      .050     .075      .052    625.10   2814.00
  .000429     150.      150.      150.         2         0        0      0.00    378.00   3192.00


*SECNO 802.000
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3280 CROSS SECTION     802.00 EXTENDED       1.60 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=     2814.0     3192.0  TYPE=      1  TARGET=      378.000
   802.00      8.30    633.20      0.00    633.14    633.22      .02       .23       .00    630.50
    1600.      113.      447.     1040.      173.      251.    1147.       79.       23.    628.40
      .53       .65      1.78       .91      .075      .050     .075      .051    624.90   2814.00
  .000305      650.      650.      650.         2         0        0      0.00    378.00   3192.00

*SECNO 802.200
3280 CROSS SECTION     802.20 EXTENDED       1.41 FEET

3470 ENCROACHMENT STATIONS=     2878.0     3100.0  TYPE=      1  TARGET=      222.000
   802.20      8.30    633.30      0.00    633.25    633.35      .04       .12       .01    630.60
    1600.        0.      549.     1051.        0.      251.     859.       88.       25.    628.50
      .58      0.00      2.18      1.22      .075      .050     .075      .051    625.00   2878.00
  .000501      300.      300.      300.         0         0        0      0.00    222.00   3100.00

*SECNO 802.400
3280 CROSS SECTION     802.40 EXTENDED       1.31 FEET

3470 ENCROACHMENT STATIONS=     2878.0     3020.0  TYPE=      1  TARGET=      142.000
   802.40      8.21    633.61      0.00    633.56    633.70      .09       .34       .01    631.00
    1600.        0.      743.      857.        0.      248.     500.       99.       27.    628.90
      .64      0.00      3.00      1.71      .075      .050     .075      .051    625.40   2878.00
  .000965      500.      500.      500.         2         0        0      0.00    142.00   3020.00

*SECNO 802.600
3280 CROSS SECTION     802.60 EXTENDED       1.45 FEET

3470 ENCROACHMENT STATIONS=     2878.0     3020.0  TYPE=      1  TARGET=      142.000

        ** JUST DOWNSTREAM OVERFLOW POINT AT HENRY GRAHAM DRAIN

   802.60      8.35    633.85      0.00    633.81    633.95      .08       .23       .00    631.10
    1600.        0.      738.      862.        0.      253.     515.      103.       28.    629.00
      .68      0.00      2.92      1.68      .075      .050     .075      .051    625.50   2878.00
  .000891      250.      250.      250.         2         0        0      0.00    142.00   3020.00
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*************************************************
HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR -  01,02,03
MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BARNARD OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | ICK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 1600.00 | 631.27 | 0.00 | 631.42 | 16.15 | 3.52 | 752.66 | 398.11 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 1600.00 | 631.37 | 0.00 | 631.51 | 14.46 | 3.37 | 792.46 | 420.76 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 1600.00 | 631.53 | 0.00 | 631.63 | 9.99 | 2.92 | 932.05 | 506.26 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 1600.00 | 631.60 | 0.00 | 631.69 | 9.28 | 2.84 | 961.32 | 525.34 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 1600.00 | 631.59 | 0.00 | 631.63 | 4.15 | 2.30 | 1390.07 | 785.88 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 1600.00 | 631.66 | 0.00 | 631.69 | 3.94 | 2.26 | 1414.10 | 806.16 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.60 | 0.00 | 631.65 | 6.69 | 2.78 | 1180.44 | 618.74 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.66 | 0.00 | 631.71 | 6.31 | 2.71 | 1204.24 | 636.81 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.61 | 0.00 | 631.66 | 6.65 | 2.77 | 1182.90 | 620.60 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.68 | 0.00 | 631.73 | 6.28 | 2.71 | 1206.63 | 638.63 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 1600.00 | 631.70 | 0.00 | 631.74 | 6.17 | 2.69 | 1213.96 | 644.26 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 1600.00 | 631.76 | 0.00 | 631.81 | 5.84 | 2.63 | 1237.17 | 662.19 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.73 | 0.00 | 631.78 | 5.59 | 2.57 | 1319.35 | 676.88 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.80 | 0.00 | 631.84 | 5.28 | 2.51 | 1345.36 | 696.14 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 632.07 | 0.00 | 632.10 | 4.56 | 2.39 | 1345.85 | 749.14 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 632.12 | 0.00 | 632.15 | 4.40 | 2.35 | 1362.75 | 763.09 |
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 1600.00 | 632.14 | 0.00 | 632.17 | 4.64 | 2.38 | 1407.33 | 743.05 |
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 1600.00 | 632.18 | 0.00 | 632.22 | 4.47 | 2.35 | 1425.35 | 756.95 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.33 | 0.00 | 632.37 | 7.83 | 2.02 | 1286.58 | 571.86 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.37 | 0.00 | 632.41 | 8.39 | 2.10 | 1214.08 | 552.26 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.40 | 0.00 | 632.53 | 31.95 | 3.27 | 647.41 | 283.08 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.45 | 0.00 | 632.59 | 33.21 | 3.37 | 613.32 | 277.66 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.67 | 0.00 | 632.69 | 6.90 | 1.64 | 1555.28 | 609.14 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.74 | 0.00 | 632.76 | 7.12 | 1.68 | 1497.36 | 599.56 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.68 | 0.00 | 632.70 | 5.07 | .87 | 1836.79 | 710.50 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.75 | 0.00 | 632.76 | 4.71 | .85 | 1882.20 | 737.37 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.70 | 0.00 | 632.71 | 4.94 | .86 | 1850.85 | 719.55 |
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.76 | 0.00 | 632.78 | 4.63 | .84 | 1895.46 | 743.41 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.70 | 0.00 | 632.71 | 3.15 | 1.27 | 1849.95 | 901.97 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.76 | 0.00 | 632.78 | 3.22 | 1.29 | 1789.82 | 891.11 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.70 | 0.00 | 632.72 | 5.42 | 1.58 | 1554.48 | 687.55 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.77 | 0.00 | 632.79 | 5.56 | 1.61 | 1489.76 | 678.27 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.74 | 0.00 | 632.79 | 10.57 | 2.63 | 1170.81 | 492.14 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.81 | 0.00 | 632.86 | 10.76 | 2.68 | 1134.37 | 487.76 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.81 | 0.00 | 632.84 | 6.50 | 2.08 | 1607.98 | 627.75 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.88 | 0.00 | 632.91 | 6.66 | 2.12 | 1539.46 | 619.89 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 1600.00 | 632.89 | 0.00 | 632.92 | 4.55 | 2.06 | 1377.65 | 750.00 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 1600.00 | 632.96 | 0.00 | 632.99 | 4.29 | 2.01 | 1404.82 | 772.42 |
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 1600.00 | 633.14 | 0.00 | 633.17 | 3.19 | 1.81 | 1549.05 | 896.16 |
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 1600.00 | 633.20 | 0.00 | 633.22 | 3.05 | 1.78 | 1571.38 | 916.02 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 1600.00 | 633.25 | 0.00 | 633.29 | 5.18 | 2.21 | 1098.29 | 703.32 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 1600.00 | 633.30 | 0.00 | 633.35 | 5.01 | 2.18 | 1110.09 | 715.18 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 1600.00 | 633.56 | 0.00 | 633.66 | 9.91 | 3.03 | 741.49 | 508.30 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 1600.00 | 633.61 | 0.00 | 633.70 | 9.65 | 3.00 | 747.83 | 515.07 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 1600.00 | 633.81 | 0.00 | 633.89 | 9.11 | 2.94 | 761.82 | 530.12 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 1600.00 | 633.85 | 0.00 | 633.93 | 8.91 | 2.92 | 767.30 | 536.05 |

BARNARD OVERFLOW

SLMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 800.200 | 1600.00 | 631.27 | 0.00 | 0.00 | 0.00 | 398.00 | 0.00 |
| 800.200 | 1600.00 | 631.37 | .10 | 0.00 | .10 | 398.00 | 0.00 |
| 800.300 | 1600.00 | 631.53 | 0.00 | .26 | 0.00 | 398.00 | 150.00 |
| 800.300 | 1600.00 | 631.60 | .07 | .23 | .07 | 398.00 | 150.00 |
| 800.700 | 1600.00 | 631.59 | 0.00 | .06 | 0.00 | 356.00 | 50.00 |
| 800.700 | 1600.00 | 631.66 | .07 | .06 | .07 | 356.00 | 50.00 |
| 800.710 | 1600.00 | 631.60 | 0.00 | .00 | 0.00 | 356.00 | 25.00 |
| 800.710 | 1600.00 | 631.66 | .07 | .00 | .07 | 356.00 | 25.00 |
| 800.720 | 1600.00 | 631.61 | 0.00 | .02 | 0.00 | 356.00 | 25.00 |
| 800.720 | 1600.00 | 631.68 | .07 | .02 | .07 | 356.00 | 25.00 |
| 800.730 | 1600.00 | 631.70 | 0.00 | .08 | 0.00 | 356.00 | 50.00 |
| 800.730 | 1600.00 | 631.76 | .07 | .08 | .07 | 356.00 | 50.00 |
| 800.740 | 1600.00 | 631.73 | 0.00 | .04 | 0.00 | 410.00 | 50.00 |
| 800.740 | 1600.00 | 631.80 | .06 | .04 | .06 | 410.00 | 50.00 |
| 800.800 | 1600.00 | 632.07 | 0.00 | .33 | 0.00 | 356.00 | 650.00 |
| 800.800 | 1600.00 | 632.12 | .05 | .32 | .05 | 356.00 | 650.00 |
| 800.900 | 1600.00 | 632.14 | 0.00 | .07 | 0.00 | 410.00 | 150.00 |
| 800.900 | 1600.00 | 632.18 | .04 | .07 | .04 | 410.00 | 150.00 |
| 801.200 | 1600.00 | 632.33 | 0.00 | .19 | 0.00 | 500.00 | 325.00 |
| 801.200 | 1600.00 | 632.37 | .04 | .19 | .04 | 460.17 | 325.00 |
| 801.300 | 1600.00 | 632.40 | 0.00 | .07 | 0.00 | 213.70 | 50.00 |
| 801.300 | 1600.00 | 632.45 | .05 | .07 | .05 | 194.46 | 50.00 |
| 801.400 | 1600.00 | 632.67 | 0.00 | .27 | 0.00 | 500.00 | 85.00 |
| 801.400 | 1600.00 | 632.74 | .07 | .29 | .07 | 468.67 | 85.00 |
| 801.500 | 1600.00 | 632.68 | 0.00 | .02 | 0.00 | 670.00 | 1.00 |
| 801.500 | 1600.00 | 632.75 | .07 | .02 | .07 | 670.00 | 1.00 |
| 801.550 | 1600.00 | 632.70 | 0.00 | .01 | 0.00 | 670.00 | 24.00 |
| 801.550 | 1600.00 | 632.76 | .07 | .01 | .07 | 670.00 | 24.00 |
| 801.590 | 1600.00 | 632.70 | 0.00 | -.00 | 0.00 | 500.00 | 1.00 |
| 801.590 | 1600.00 | 632.76 | .07 | -.00 | .07 | 467.53 | 1.00 |
| 801.600 | 1600.00 | 632.70 | 0.00 | .01 | 0.00 | 500.00 | 24.00 |
| 801.600 | 1600.00 | 632.77 | .07 | .01 | .07 | 457.10 | 24.00 |
| 801.700 | 1600.00 | 632.74 | 0.00 | .04 | 0.00 | 333.35 | 50.00 |
| 801.700 | 1600.00 | 632.81 | .07 | .04 | .07 | 312.51 | 50.00 |
| 801.800 | 1600.00 | 632.81 | 0.00 | .07 | 0.00 | 500.00 | 50.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 801.80C | 1600.0C | 632.88 | .C7 | .08 | .07 | 457.10 | 5C.0C |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 801.900 | 1600.00 | 632.89 | 0.00 | .08 | 0.00 | 378.00 | 150.00 |
| 801.900 | 1600.00 | 632.96 | .07 | .08 | .07 | 378.00 | 150.00 |
| 802.000 | 1600.00 | 633.14 | 0.00 | .25 | 0.00 | 378.00 | 650.00 |
| 802.000 | 1600.00 | 633.20 | .06 | .24 | .06 | 378.00 | 650.00 |
| 802.200 | 1600.00 | 633.25 | 0.00 | .11 | 0.00 | 222.00 | 300.00 |
| 802.200 | 1600.00 | 633.30 | .05 | .10 | .05 | 222.00 | 300.00 |
| 802.400 | 1600.00 | 633.56 | 0.00 | .31 | 0.00 | 142.00 | 500.00 |
| 802.400 | 1600.00 | 633.61 | .04 | .30 | .04 | 142.00 | 500.00 |
| 802.600 | 1600.00 | 633.81 | 0.00 | .24 | 0.00 | 142.00 | 250.00 |
| 802.600 | 1600.00 | 633.85 | .04 | .24 | .04 | 142.00 | 250.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, BARNARD OVERFLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 800.200 | 398. | 792. | 2.0 | 631.4 | 631.3 | .1 |
| 800.300 | 398. | 961. | 1.7 | 631.6 | 631.5 | .1 |
| 800.700 | 356. | 1414. | 1.1 | 631.7 | 631.6 | .1 |
| 800.710 | 356. | 1204. | 1.3 | 631.7 | 631.6 | .1 |
| 800.720 | 356. | 1207. | 1.3 | 631.7 | 631.6 | .1 |
| 800.730 | 356. | 1237. | 1.3 | 631.8 | 631.7 | .1 |
| 800.740 | 410. | 1345. | 1.2 | 631.8 | 631.7 | .1 |
| 800.800 | 356. | 1363. | 1.2 | 632.1 | 632.1 | 0.0 |
| 800.900 | 410. | 1425. | 1.1 | 632.1 | 632.1 | 0.0 |
| 801.200 | 460. | 1214. | 1.3 | 632.3 | 632.3 | 0.0 |
| 801.300 | 481. | 613. | 2.6 | 632.4 | 632.4 | 0.0 |
| 801.400 | 469. | 1497. | 1.1 | 632.8 | 632.7 | .1 |
| 801.500 | 670. | 1882. | .9 | 632.8 | 632.7 | .1 |
| 801.550 | 670. | 1895. | .8 | 632.8 | 632.7 | .1 |
| 801.590 | 468. | 1790. | .9 | 632.8 | 632.7 | .1 |
| 801.600 | 457. | 1490. | 1.1 | 632.8 | 632.7 | .1 |
| 801.700 | 380. | 1134. | 1.4 | 632.8 | 632.7 | .1 |
| 801.800 | 457. | 1539. | 1.0 | 632.9 | 632.8 | .1 |
| 801.900 | 378. | 1405. | 1.1 | 633.0 | 632.9 | .1 |
| 802.000 | 378. | 1571. | 1.0 | 633.2 | 633.1 | .1 |
| 802.200 | 222. | 1110. | 1.4 | 633.4 | 633.3 | .1 |
| 802.400 | 142. | 748. | 2.1 | 633.6 | 633.6 | 0.0 |
| 802.600 | 142. | 767. | 2.1 | 633.8 | 633.8 | 0.0 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: STERLING HEIGHTS

3) WATERCOURSE: SPENCER-BARNARD DRAIN E. OF HENRY
GRAHAM DRAIN

4) DOCUMENT TYPE: 100 YR FLOODWAY

00BREAK00

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  01,02,03
 MODIFICATION -  50,51,52,53
*************************************************
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100yr

DIS using Q

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C
T1      HUD-FIA H-4705
T2      TROY FIS
T3      BARNARD OVERFLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
      0.        4.        0.        0.   0.000000    0.00      -1.0      0.      631.270    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE
     1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .075      .075      .050      .300      .500     0.000     0.000     0.000     0.000     0.000
QT     5.000   530.000   890.000  1600.000  2290.000  1600.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1   800.200    18.000  2172.000  2240.000     0.000     0.000     0.000     0.000     0.000     0.000
X3     0.000     0.000     0.000  1990.000     0.000  2388.000     0.000     0.000     0.000     0.000
GR   631.000     0.000   629.700   324.000   629.400   538.000   627.200   706.000   622.000   732.000
GR   622.000   736.000   624.800   756.000   628.000   822.000   628.400   972.000   630.400  1456.000
GR   630.800  1990.000   629.400  2172.000   622.800  2194.000   622.800  2202.000   626.400  2214.000
GR   629.200  2240.000   630.800  2388.000   632.000  2794.000     0.000     0.000     0.000     0.000

     **D/S FACE DEQUINDRE

X1   800.300     0.000     0.000     0.000   150.000   150.000   150.000     0.000    -.200     0.000
X3     0.000     0.000     0.000  1990.000     0.000  2388.000     0.000     0.000     0.000     0.000
SB     1.000     2.500     3.200     0.000    10.000     0.000    20.000     0.000   622.600   622.600

X1   800.700    28.000  2340.000  2364.000    50.000    50.000    50.000     0.000    -.600     0.000
X2     0.000     0.000     1.000   627.700   628.900     0.000     0.000     0.000     0.000     0.000
X3     0.000     0.000     0.000  2234.000     0.000  2590.000     0.000     0.000     0.000     0.000
BT     5.000  1970.000   629.600     0.000  2114.000   628.900     0.000  2198.000   629.500     0.000
BT  2260.000   629.400     0.000  2500.000   630.400     0.000     0.000     0.000     0.000     0.000
GR   633.100   184.000   632.200   284.000   631.100   314.000   631.200   840.000   631.600   974.000
GR   627.400  1234.000   626.400  1288.000   625.300  1298.000   624.000  1302.000   628.600  1336.000
GR   630.500  1458.000   633.000  1554.000   632.500  1600.000   628.100  1784.000   630.800  2088.000
GR   630.600  2208.000   630.400  2234.000   628.800  2258.000   627.400  2306.000   626.000  2340.000
GR   623.200  2350.000   623.200  2358.000   627.200  2364.000   628.200  2388.000   630.200  2644.000
GR   631.000  2824.000   631.400  3256.000   631.700  3394.000     0.000     0.000     0.000     0.000
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X1    800.710     0.000     0.000     0.000    25.000    25.000    25.000     0.000      .600     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2590.000     0.000     0.000     0.000     0.000

      **D/S FACE SIDEWALK CULVERT

X1    800.720     0.000     0.000     0.000    25.000    25.000    25.000     0.000     0.000     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2590.000     0.000     0.000     0.000     0.000
SB      1.000     1.700     3.000     0.000     5.000     0.000     5.000     0.000   623.200   623.200

X1    800.730     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   625.600   628.000     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2590.000     0.000     0.000     0.000     0.000
BT      6.000   100.000   630.000     0.000   160.000   628.000     0.000   260.000   628.000     0.000
BT    300.000   630.200     0.000   320.000   630.000     0.000   480.000   631.000     0.000     0.000

X1    800.740     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2644.000     0.000     0.000     0.000     0.000

X1    800.800     0.000     0.000     0.000   650.000   650.000   650.000     0.000     0.000     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2590.000     0.000     0.000     0.000     0.000

X1    800.900     0.000     0.000     0.000   150.000   150.000   150.000     0.000      .200     0.000
X3      0.000     0.000     0.000  2234.000     0.000  2644.000     0.000     0.000     0.000     0.000

X1    801.200     8.000   342.000   428.000   325.000   325.000   325.000     0.000     0.000     0.000
GR    630.500   100.000   630.200   342.000   628.400   364.000   624.200   380.000   624.200   388.000
GR    629.600   392.000   630.200   428.000   629.000   600.000     0.000     0.000     0.000     0.000
NC       .094      .094      .063      .500     1.000     0.000     0.000     0.000     0.000     0.000

X1    801.300     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X4     18.000   630.400   130.000   635.000   131.000   635.000   195.000   630.200   196.000   630.200
X4    212.000   635.000   213.000   635.000   280.000   630.100   281.000   630.100   300.000   635.000
X4    301.000   635.000   341.000   635.000   429.000   635.000   460.000   630.000   461.000   630.000
X4    490.000   635.000   491.000   635.000   570.000   629.500   571.000     0.000     0.000     0.000

X1    801.400     8.000   342.000   428.000    85.000    85.000    85.000     0.000     -.200     0.000
GR    630.500   100.000   630.200   342.000   628.400   364.000   624.200   380.000   624.200   388.000
GR    629.600   392.000   630.200   428.000   629.000   600.000     0.000     0.000     0.000     0.000
NC       .075      .075      .075      .300      .500     0.000     0.000     0.000     0.000     0.000

      **D/S FACE LOVINGTON.  BUILDINGS HAVE BEEN MODELLED USING X4 PTS

X1    801.500     7.000     0.000   670.000     1.000     1.000     1.000     0.000     0.000     0.000
GR    631.000     0.000   630.500   140.000   628.800   285.000   629.600   330.000   629.800   375.000
GR    629.000   455.000   631.000   670.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    801.550     0.000     0.000     0.000    24.000    24.000    24.000     0.000     0.000     0.000

X1    801.590    11.000   370.000   396.000     1.000     1.000     1.000     0.000     -.600     0.000
GR    629.500   100.000   629.500   190.000   630.000   210.000   631.600   240.000   631.600   272.000
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 629.000 | 290.000 | 629.000 | 370.000 | 624.600 | 374.000 | 624.600 | 386.000 | 628.600 | 396.000 |
| GR | 631.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 801.600 | 0.000 | 0.000 | 0.000 | 24.000 | 24.000 | 24.000 | 0.000 | .600 | 0.000 |
| NC | .094 | .094 | .063 | .500 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 801.700 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| X4 | 12.000 | 629.500 | 110.000 | 635.000 | 111.000 | 635.000 | 130.000 | 629.500 | 131.000 | 629.500 |
| X4 | 150.000 | 635.000 | 151.000 | 635.000 | 185.000 | 635.000 | 241.000 | 635.000 | 271.000 | 630.000 |
| X4 | 520.000 | 635.000 | 521.000 | 635.000 | 599.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 801.800 | 11.000 | 370.000 | 396.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| GR | 629.500 | 100.000 | 629.500 | 190.000 | 630.000 | 210.000 | 631.600 | 240.000 | 631.600 | 272.000 |
| GR | 629.000 | 290.000 | 629.000 | 370.000 | 624.600 | 374.000 | 624.600 | 386.000 | 628.600 | 396.000 |
| GR | 631.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .075 | .075 | .050 | .100 | .300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 801.900 | 25.000 | 2878.000 | 2916.000 | 150.000 | 150.000 | 150.000 | 0.000 | .200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 2814.000 | 0.000 | 3192.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 634.000 | 304.000 | 632.500 | 334.000 | 632.500 | 788.000 | 631.600 | 1142.000 | 626.400 | 1160.000 |
| GR | 626.400 | 1168.000 | 629.200 | 1178.000 | 629.700 | 1200.000 | 630.000 | 1292.000 | 631.800 | 1382.000 |
| GR | 633.000 | 1532.000 | 630.600 | 1848.000 | 632.300 | 2092.000 | 632.800 | 2224.000 | 631.200 | 2292.000 |
| GR | 631.200 | 2638.000 | 631.300 | 2724.000 | 630.500 | 2814.000 | 630.500 | 2878.000 | 624.900 | 2896.000 |
| GR | 624.900 | 2908.000 | 628.400 | 2916.000 | 628.200 | 3006.000 | 630.300 | 3176.000 | 631.800 | 3192.000 |
| X1 | 802.000 | 0.000 | 0.000 | 0.000 | 650.000 | 650.000 | 650.000 | 0.000 | -.200 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 2814.000 | 0.000 | 3192.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 802.200 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 2878.000 | 0.000 | 3100.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 802.400 | 0.000 | 0.000 | 0.000 | 500.000 | 500.000 | 500.000 | 0.000 | .400 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 2878.000 | 0.000 | 3020.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** JUST DOWNSTREAM OVERFLOW POINT AT HENRY GRAHAM DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 802.600 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | .100 | 0.000 |
| X3 | 0.000 | 0.000 | 0.000 | 2878.000 | 0.000 | 3020.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO 800.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=    1990.0    2388.0  TYPE=     1  TARGET=     398.000
   800.20     8.47    631.27     0.00    631.27    631.42      .15      0.00      0.00    629.40
    1600.     188.     1237.     175.     213.      352.     188.       0.        0.     629.20
     0.00      .88      3.52      .93     .075      .050     .075     0.000    622.80   1990.00
  .001615      0.        0.       0.        0         0        0      0.00    398.00   2388.00

*SECNO 800.300,

3470 ENCROACHMENT STATIONS=    1990.0    2388.0  TYPE=     1  TARGET=     398.000

        **D/S FACE DEQUINDRE

   800.30     8.93    631.53     0.00     0.00    631.63      .10       .19       .02    629.20
    1600.     254.     1118.     228.     295.      382.     255.       3.        1.     629.00
      .02      .86      2.92      .90     .075      .050     .075      .050    622.60   1990.00
  .000999     150.      150.     150.       1         0        0      0.00    398.00   2388.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      2.50      3.20      0.00     10.00      0.00     20.00     0.00    622.60    622.60

*SECNO 800.700
6870 D.S. ENERGY OF  631.63 HIGHER THAN COMPUTED ENERGY OF  631.61
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
  879.98   631.63    0.00      1560.      29.       20.       51.       627.70    628.90


3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=     1  TARGET=     356.000
   800.70     8.99    631.59     0.00     0.00    631.63      .03      0.00      0.00    625.40
    1600.     482.      437.     681.     445.      190.     755.       4.        2.     626.60
      .03     1.08      2.30      .90     .075      .050     .075      .050    622.60   2234.00
 .000415      50.       50.      50.        2         0       10      0.00    356.00   2590.00

*SECNO 800.710

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=     1  TARGET=     356.000
   800.71     8.40    631.60     0.00     0.00    631.65      .05       .01       .01    626.00
    1600.     483.      488.     629.     383.      176.     622.       5.        2.     627.20
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631.6

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      .03      1.26      2.78      1.01      .075      .050      .075      .049    623.20   2234.00
  .000669      25.       25.       25.         1         0         0      0.00    356.00   2590.00

*SECNO 800.720
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=      1  TARGET=     356.000

        **D/S FACE SIDEWALK CULVERT

   800.72      8.41    631.61      0.00      0.00    631.66       .05       .02       .00    626.00
    1600.      483.      487.      630.      384.      176.      623.        6.        2.    627.20
      .04      1.26      2.77      1.01      .075      .050      .075      .049    623.20   2234.00
  .000665      25.       25.       25.         0         0         0      0.00    356.00   2590.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.00      1.70      3.00      0.00      5.00      0.00      5.00      0.00    623.20    623.20

*SECNO 800.730
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR 0.86  QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                                  AREA
 3334.72    631.66     0.00      1575.       11.        5.        12.      625.60    628.00

3470 ENCROACHMENT STATIONS=    2234.0    2590.0  TYPE=      1  TARGET=     356.000
   800.73      8.50    631.70      0.00      0.00    631.74       .05       .08      0.00    626.00
    1600.      483.      478.      639.      393.      178.      643.        7.        3.    627.20
      .05      1.23      2.69       .99      .075      .050      .075      .049    623.20   2234.00
  .000617      50.       50.       50.         2         0        13      0.00    356.00   2590.00

*SECNO 800.740
3280 CROSS SECTION    800.74 EXTENDED       .03 FEET

3470 ENCROACHMENT STATIONS=    2234.0    2644.0  TYPE=      1  TARGET=     410.000
   800.74      8.53    631.73      0.00      0.00    631.78       .04       .03       .00    626.00
    1600.      466.      459.      675.      396.      179.      744.        8.        3.    627.20
      .06      1.18      2.57       .91      .075      .050      .075      .049    623.20   2234.00
  .000559      50.       50.       50.         0         0         0      0.00    410.00   2644.00

*SECNO 800.800
3280 CROSS SECTION    800.80 EXTENDED       .37 FEET
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2.7 ft deep over Bridge

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3470 ENCROACHMENT STATIONS=     2234.0     2590.0  TYPE=      1  TARGET=      356.000
   800.80      8.87   632.07      0.00      0.00   632.10      .04      .33      .00   626.00
    1600.      482.     446.      671.      432.     187.     727.      28.       9.   627.20
      .19      1.12     2.39      .92      .075     .050     .075     .050   623.20  2234.00
  .000456      650.     650.      650.         2        0        0     0.00   356.00  2590.00

*SECNO 800.900
3280 CROSS SECTION     800.90 EXTENDED       .24 FEET

3470 ENCROACHMENT STATIONS=     2234.0     2644.0  TYPE=      1  TARGET=      410.000
   800.90      8.74   632.14      0.00      0.00   632.17      .03      .07      .00   626.20
    1600.      463.     438.      699.      419.     184.     804.      33.      10.   627.40
      .22      1.11     2.38      .87      .075     .050     .075     .050   623.40  2234.00
  .000464      150.     150.      150.         0        0        0     0.00   410.00  2644.00

*SECNO 801.200
3280 CROSS SECTION     801.20 EXTENDED      3.33 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL     QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL      TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

   801.20      8.13   632.33      0.00      0.00   632.37      .04      .19      .00   630.20
    1600.      417.     681.      502.      479.     337.     470.      43.      13.   630.20
      .28       .87     2.02      1.07      .075     .050     .075     .050   624.20   100.00
  .000783      325.     325.      325.         2        0        0     0.00   500.00   600.00

CCHV=     .500 CEHV=    1.000
*SECNO 801.300

3265 DIVIDED FLOW

3280 CROSS SECTION     801.30 EXTENDED      3.40 FEET

   801.30      8.20   632.40      0.00      0.00   632.53      .13      .07      .09   630.20
    1600.      201.    1124.      275.      140.     343.     163.      44.      14.   630.20
      .28      1.43     3.27      1.68      .094     .063     .094     .050   624.20   100.00
  .003195       50.      50.       50.         2        0        0     0.00   213.70   600.00

*SECNO 801.400
3280 CROSS SECTION     801.40 EXTENDED      3.87 FEET

   801.40      8.67   632.67      0.00      0.00   632.69      .02      .11      .05   630.00
    1600.      465.     628.      507.      609.     384.     562.      46.      15.   630.00
      .31       .76     1.64       .90      .094     .063     .094     .051   624.00   100.00
  .000690       85.      85.       85.         2        0        0     0.00   500.00   600.00

CCHV=     .300 CEHV=     .500
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*SECNO 801.500
3280 CROSS SECTION     801.50 EXTENDED       1.68 FEET

          **D/S FACE LOVINGTON.  BUILDINGS HAVE BEEN MODELLED USING X4 PTS

     801.50      3.88    632.68      0.00      0.00    632.70       .01       .00       .00    631.00
      1600.        0.     1600.       0.        0.     1837.        0.       46.       15.    631.00
        .31       0.00      .87      0.00      .075      .075      .075      .051    628.80      0.00
    .000507        1.        1.        1.         1         0         0      0.00    670.00    670.00

*SECNO 801.550
3280 CROSS SECTION     801.55 EXTENDED       1.70 FEET

     801.55      3.90    632.70      0.00      0.00    632.71       .01       .01       .00    631.00
      1600.        0.     1600.       0.        0.     1851.        0.       47.       15.    631.00
        .31       0.00      .86      0.00      .075      .075      .075      .051    628.80      0.00
    .000494       24.       24.       24.         0         0         0      0.00    670.00    670.00

*SECNO 801.590
3280 CROSS SECTION     801.59 EXTENDED       3.80 FEET

     SECNO      DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     CLOSS   BANK ELEV
     Q          QLOB      QCH       QROB      ALOB       ACH      AROB       VOL       TWA   LEFT/RIGHT
     TIME       VLOB      VCH       VROB      XNL        XNCH     XNR       WTN       ELMIN       SSTA
     SLOPE      XLOBL     XLCH      XLOBR     ITRIAL     IDC      ICONT     CORAR     TOPWID      ENDST

     801.59      8.70    632.70      0.00      0.00    632.71       .01       .00       .00    628.40
      1600.       776.     251.      573.      939.      197.      713.       48.       15.    628.00
        .31       .83      1.27      .80       .075      .075      .075      .051    624.00    100.00
    .000315        1.        1.        1.         0         0         0      0.00    500.00    600.00

*SECNO 801.600
3280 CROSS SECTION     801.60 EXTENDED       3.21 FEET

     801.60      8.10    632.70      0.00      0.00    632.72       .02       .01       .00    629.00
      1600.       759.     287.      553.      780.      182.      593.       48.       15.    628.60
        .32       .97      1.58      .93       .075      .075      .075      .051    624.60    100.00
    .000542       24.       24.       24.         0         0         0      0.00    500.00    600.00

CCHV=     .500 CEHV=    1.000
*SECNO 801.700

3265 DIVIDED FLOW

3280 CROSS SECTION     801.70 EXTENDED       3.23 FEET

     801.70      8.14    632.74      0.00      0.00    632.79       .05       .04       .03    629.00
      1600.       622.     481.      498.      562.      183.      427.       50.       16.    628.60
        .33      1.11      2.03      1.17      .094      .063      .094      .052    624.60    100.00
    .001057       50.       50.       50.         1         0         0      0.00    333.35    600.00
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*SECNO 801.800
3280 CROSS SECTION     801.80 EXTENDED       3.31 FEET

  801.80      8.21    632.81      0.00      0.00    632.84       .02       .04       .01    629.00
   1600.      702.      384.      513.      809.      185.      615.       52.       16.    628.60
     .34       .87      2.08       .84      .094      .063      .094      .052    624.60    100.00
 .000650       50.       50.       50.         2         0         0      0.00    500.00    600.00

CCHV=     .100 CEHV=     .300
*SECNO 801.900
3280 CROSS SECTION     801.90 EXTENDED       1.09 FEET

3470 ENCROACHMENT STATIONS=     2814.0     3192.0  TYPE=      1  TARGET=      378.000
  801.90      7.79    632.89      0.00      0.00    632.92       .03       .08       .00    630.70
   1600.       98.      477.     1026.      140.      232.     1006.       57.       18.    628.60
     .37       .70      2.06      1.02      .075      .050      .075      .052    625.10   2814.00
 .000455      150.      150.      150.         2         0         0      0.00    378.00   3192.00

*SECNO 802.000
3280 CROSS SECTION     802.00 EXTENDED       1.54 FEET

  SECNO      DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      CLOSS    BANK ELEV
  Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL      TWA    LEFT/RIGHT
  TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN      ELMIN      SSTA
  SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR    TOPWID     ENDST

3470 ENCROACHMENT STATIONS=     2814.0     3192.0  TYPE=      1  TARGET=      378.000
  802.00      8.24    633.14      0.00      0.00    633.17       .02       .25       .00    630.50
   1600.      111.      450.     1039.      169.      249.     1131.       79.       23.    628.40
     .53       .66      1.81       .92      .075      .050      .075      .051    624.90   2814.00
 .000319      650.      650.      650.         2         0         0      0.00    378.00   3192.00

*SECNO 802.200
3280 CROSS SECTION     802.20 EXTENDED       1.36 FEET

3470 ENCROACHMENT STATIONS=     2878.0     3100.0  TYPE=      1  TARGET=      222.000
  802.20      8.25    633.25      0.00      0.00    633.29       .04       .12       .01    630.60
   1600.        0.      551.     1049.        0.      249.      849.       88.       25.    628.50
     .58      0.00      2.21      1.24      .075      .050      .075      .051    625.00   2878.00
 .000518      300.      300.      300.         0         0         0      0.00    222.00   3100.00

*SECNO 802.400
3280 CROSS SECTION     802.40 EXTENDED       1.26 FEET

3470 ENCROACHMENT STATIONS=     2878.0     3020.0  TYPE=      1  TARGET=      142.000
  802.40      8.16    633.56      0.00      0.00    633.66       .09       .35       .01    631.00
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```
     1600.        0.      745.      855.        0.      246.      496.       98.       28.    628.90
       .64     0.00      3.03      1.72      .075      .050      .075      .051   625.40   2878.00
   .000991     500.      500.      500.         2         0         0      0.00   142.00   3020.00

*SECNO 802.600
3280 CROSS SECTION    802.60 EXTENDED      1.41 FEET


3470 ENCROACHMENT STATIONS=    2878.0    3020.0  TYPE=     1  TARGET=     142.000

        ** JUST DOWNSTREAM OVERFLOW POINT AT HENRY GRAHAM DRAIN

    802.60     8.31   633.81      0.00      0.00   633.89       .09       .24       .00   631.10
     1600.        0.      739.      861.        0.      251.      511.      103.       28.    629.00
       .67     0.00      2.94      1.69      .075      .050      .075      .051   625.50   2878.00
   .000911     250.      250.      250.         2         0         0      0.00   142.00   3020.00
```

634.1

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN
E. OF HERRY GRAHAM DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland County, Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Spencer-Barnard Drain and Hawthorne Drain: East of ~~Henry Graham Drain~~

STUDY LIMITS: Dequindre Road (downstream limit) to junction with Henry Graham Drive (upstream limit)

DATE OF AERIAL SURVEY: November 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/30/79 - 8/17/79 McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revision to Hydrology in August 1980 enclosed)

TOPOGRAPHIC INFORMATION: USGS 10 foot topographic maps 1" = 1000'
Abrams 2 foot topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | 0.05 - 0.075 |
| Overbank "n" | 0.075 - 0.094 |
| n values thru bridges | (See "Comments") |
| Contraction Coefficients | 0.1 - 0.5 |
| Expansion Coefficients | 0.3 - 1.0 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting conditions were determined by utilizing the Sterling Heights Flood Insurance Study computer data. Data was obtained for Spencer Drain in Sterling Heights extending from the confluence with Big Beaver Drain to just downstream of Dequindre Road, the downstream limit of study. This reach is approximately 4550 feet long. Starting elevations on this reach were obtained using the slope-area method. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%. The computer run showed convergence downstream of Dequindre Road. Starting elevations for Hawthorne Drain were interpolated from the computer results between cross sections 2750 and 3450 (see attached plan for Sterling Heights). The Hawthorne Drain analysis started just downstream of Dequindre Road. Starting elevations for Spencer-Barnard Drain were obtained from the computer results at the upstream cross section, number 5660 (see attached plan for Sterling Heights). The Spencer-Barnard Drain analysis started just downstream of Dequindre Road.

## High Water Marks and Calibration

There was no high water information available, therefore a calibration test was not possible.

## Designated Floodway

Engineering judgment along with the aid of encroachment methods 1 and 4 in the HEC-2 program were used to determine encroachment stations based on an allowable surcharge of 0.1 feet.

At field surveyed sections the designated floodway was established using the computer determined encroachment stations in conjunction with engineering judgment. Between field surveyed sections, available topographic information in conjunction with engineering judgment was used to complete the floodway. (See the enclosed 1" = 400' topographic map for floodway delineation.)

Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 year designated floodway, (ii) 10, 50 and 500 year flood plain elevations, and (iii) convergence test and starting elevation determination for Spencer Drain in Sterling Heights for your review.

Comments

We have not delineated the complete 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 10, 50, 100 and 500 year natural computed water surface profiles).

We have designated an area east of Henry Graham Drain as shallow flooding. This area is bounded by Minnesota on the west, Wisconsin on the north, Dequindre on the east and Dashwood on the south. Some overflow from the Spencer-Barnard Drain is expected to get into this area. The majority of the flow will travel south over the top of Henry Graham Drain and get into the open channel east of the old Spencer-

Barnard entrance to Henry Graham Drain. Hand calculations were performed to determine floodway width and profile elevations over this overland route (See attached sheets). Various footbridges, noted in the cross section tables, were not modeled as no significant loss is expected to occur over them. All footbridges not modeled are submerged. (See attached field notes with bridge data). In addition, XKOR's for Dequindre (both drains) and a walk bridge on Spencer-Barnard were estimated and not calculated as these bridges are submerged and minimal flow is expected through the culverts. Lovington Road on Spencer-Barnard was modeled as a weir by eliminating area below the top of the road. Minnesota was modeled as a normal bridge and included the opening. In modeling the latter two roads, homes were taken into account as ineffective flow area by modeling them at the appropriate cross sections upstream and downstream of the roads.

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY: TROY
WATERCOURSE: SPENCER DRAIN - East of Henry Graham Drain
FILE NO. ____ DATE ____ CHK BY ____ DATE ____

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|
| 0 | | Cross Section Data in Sterling Heights (east of Dequindre Rd) were obtained from Johnson & Anderson, Inc. Pontiac, Michigan, who performed the Flood Insurance Study in Sterling Hts. |
| 700 | A | |
| 743 | | |
| 785 | | |
| 816 | B | |
| 995 | | |
| 996 | | |
| 1004 | C | |
| 1005 | | |
| 1134 | | |
| 1166 | D | |
| 1280 | | |
| 1320 | E | |
| 1493 | | |
| 1494 | | |
| 1506 | F | |
| 1681 | | |
| 1682 | | |
| 1718 | G | |
| 1719 | | |
| 1800 | H | |
| 1849 | | |
| 1850 | | |
| 1865 | I | |
| 1866 | | |
| 2750 | J | |
| 3450 | K | |
| 3950 | L | |
| 4550 | M | |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705
COMMUNITY: TROY
WATERCOURSE: SPENCER DRAIN - East of Henry Graham Drain

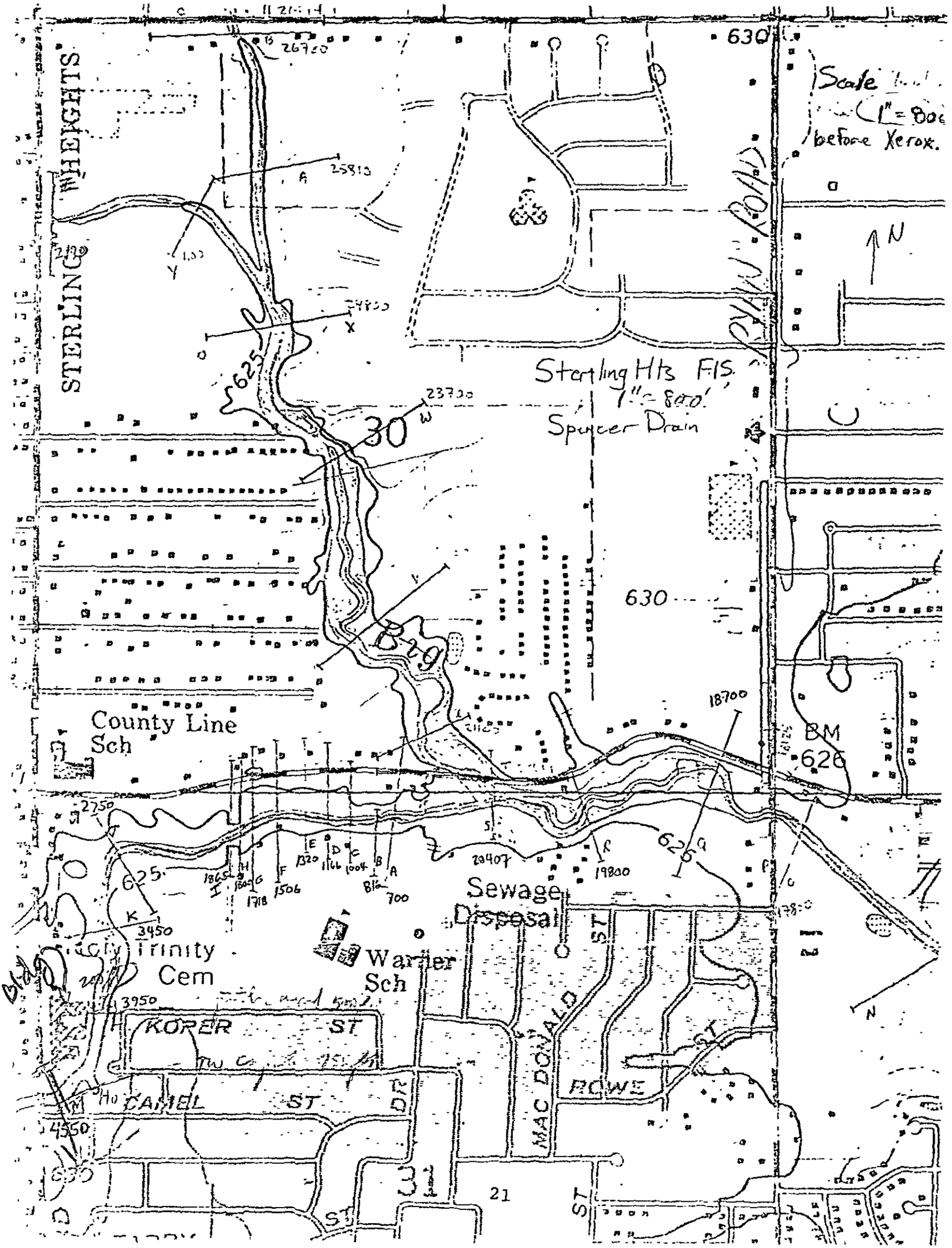
FILE NO. ____ DATE ____ CHK BY ____ DATE ____

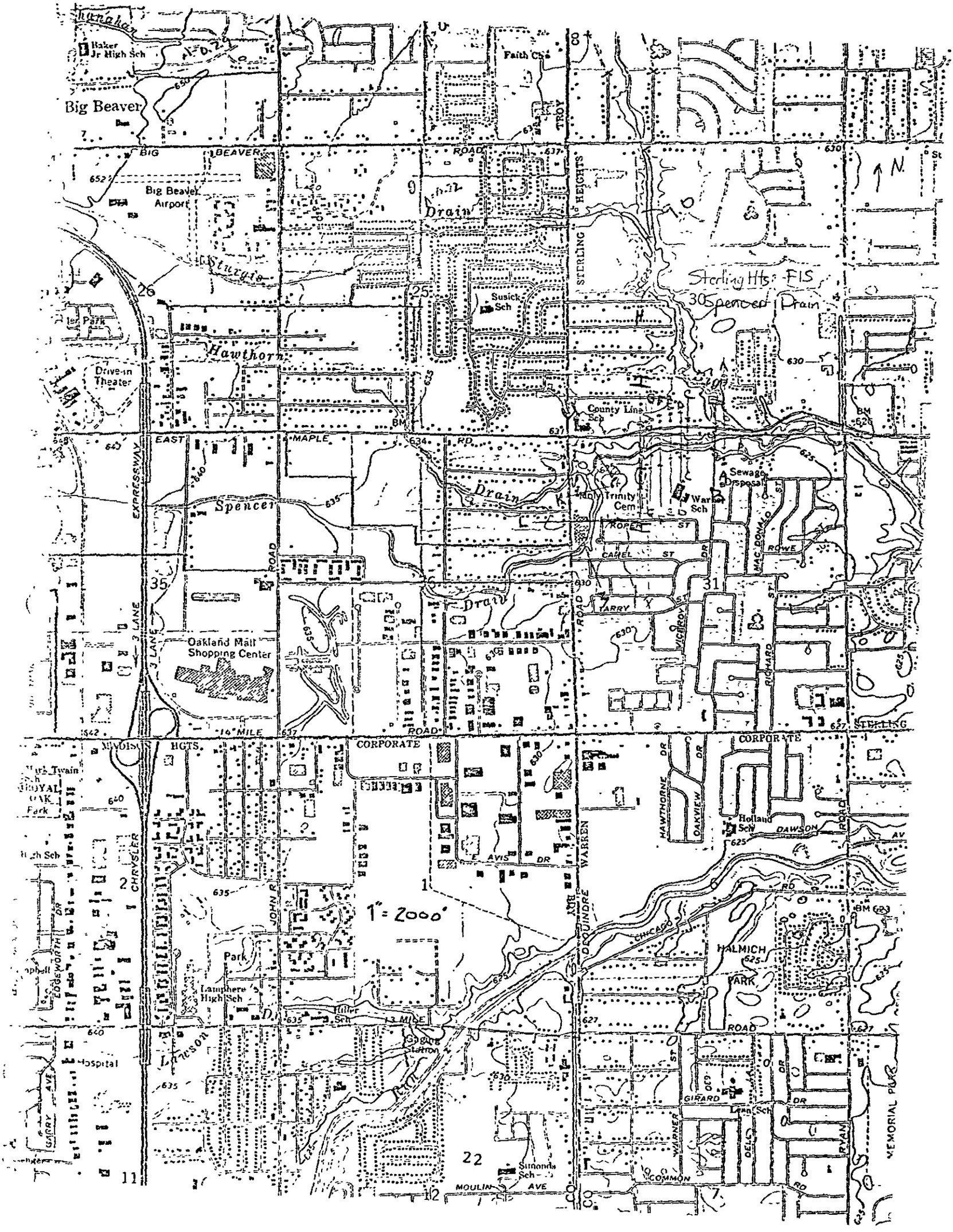
## TABLE 1 - SECNO

Section Types — Description

1 — Surveyed (See Remarks if Other Than MPS and/or Abrams)
2 — Field Survey Section, Partly modified for modelling
3 — Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks)
4 — Synthetic - Developed from topo, surveyed sections, or other information

| SECTION No. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 8000.12 | | 1 | Valley Section |
| 8000.3 | | 3 | D/S Face Daquindre Rd - Repeat 8000.2 |
| 8000.7 | A | 3 | U/S Face Daquindre Rd - Repeat 8000.8 |
| 800.71 | | 3 | Valley Section - Repeat 800.8 |
| 800.72 | | 3 | D/S Face Sidewalk Culvert - Repeat 8000.8 |
| 800.73 | B | 3 | U/S Face Sidewalk Culvert - Repeat 8000.8 |
| 800.74 | | 3 | Valley Section - Repeat 800.8 |
| 800.8 | C | 1 | Valley Section |
| 8000.9 | | 3 | Valley Section - Repeat 8000.8 |
| 8001.12 | D | 1 | Valley Section |
| 801.3 | | 4 | Valley Section - Repeat 801.12 - Modified to include buildings obstructing flow area. |
| 8001.14 | | 3 | Valley Section - Repeat 801.12 |
| 801.5 | | 4 | D/S Face Livingston - Developed from Bridge Details - Overhead not modelled as flow area is insignificant. |
| 801.155 | E | 4 | U/S Face Livingston - Repeat 801.15 |
| 801.159 | | 3 | Valley Section - Repeat 801.18 |
| 801.16 | | 3 | Valley Section - Repeat 801.18 |
| 801.7 | | 4 | Valley Section - Repeat 801.18 - Modified to include buildings obstructing flow area. |
| 801.8 | F | 1 | Valley Section |
| 801.9 | | 3 | Valley Section - Repeat 8012 Footbridges not modelled |
| 8012 | G,H,I,J K | 1 | Valley Section |
| 8012.2 | | 3 | Valley Section - Repeat 802 |
| 8012.4 | | 3 | Valley Section - Repeat 802 |
| 8012.6 | | 3 | Valley Section - Repeat 802 |


STERLING HEIGHTS
Scale
1" = 800'
before Xerox.
N
Sterling Hts FIS
1" = 800'
Spencer Drain
630
625
30
County Line
Sch
BM
626
Sewage
Disposal
Trinity
Cem
Warner
Sch
KOPER
ST
CAMEL
ST
DR
MAC DONALD
ROWE
ST
31
21


Shunahan
Baker Jr High Sch
Big Beaver
Faith Chs
BIG BEAVER ROAD
Big Beaver Airport
Drain
Sterling Hts FIS
Spencer Drain
Sturgis
Susick Sch
Hawthorn
Drive-in Theater
County Line Sch
EAST MAPLE RD
Sewage Disposal
Trinity Cem
Warren Sch
Spencer
Drain
ROPER ST
CAMEL ST
ROWE
MACDONALD ST
EXPRESSWAY
Oakland Mall Shopping Center
TARRY ST
VICEROY ST
RICHARD ST
14 MILE ROAD
STERLING
CORPORATE
HGTS.
Mark Twain Sch
ROYAL OAK Park
High Sch
CHRYSLER
EDGEWORTH DR
JOHN R
1" = 2000'
Park
Lamphere High Sch
Miller Sch
13 MILE
Hospital
LAWSON
Grove Station
WARREN
DEQUINDRE
HAWTHORNE DR
OAKVIEW DR
Holland Sch
DAWSON ROAD
E AVIS DR
CHICAGO RD
HALMICH PARK
GIRARD DR
Lean Sch
WARNER
DELL
RYAN
MEMORIAL PKWY
Simonds Sch
MOULIN AVE
COMMON RD
N

HUD-FIA H-4705
TROY

JSW
8/4/80

# Overflow at Barnard Drain

Overflow from new entrance to Henry Graham Drain to open drain on east side of Henry Graham Drain.

slope $\frac{\overset{\text{invert from sub plans}}{632.4} - \overset{\text{inv from field data}}{628.}}{900'} = .005$

Assume width $\approx 200'$ $n \approx .055$

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Assume Depth = 1'
Area = 200 ft²
Perimeter = 202'

Q = 400 cfs
width = 250'

y = 1' P = 252 A = 250 Q = 480 cfs
(n = .04 → 660)
(n = .03 → 880)

y = 2' P = 254 A = 500 Q = 1505
(n = .04 → 2070)
(n = .03 → 2760)

y = 2.2 P = 254.5 A = 550 Q = 1760

Try with D/S invert from sub plans.

$\frac{632.4 - 631.1}{900'} = .00144$

width = 250'

| | | | | S = .002 |
|---|---|---|---|---|
| y = 2' | P = 254 | A = 500 | Q = 810 | 955 |
| y = 3' | P = 256 | A = 750 | Q = 1580 | 1860 |

HUD-FIA H-4705
TROY
Overflow at Barrard Drain

JSW
8/4/80

u/s Portion of O'Flow Area

$l = 650'$ $\quad s = \frac{632.4 - 631.5}{650} = .0014$

$w = 400'$
$n = .055$

D/s Portion

$l = 250'$ $\quad s = \frac{631.5 - 628}{250} = .014$

$w = 250'$
$n = .055$

u/s
$Q = 1.014\ AR^{2/3}$

D/s
$Q = 3.205\ AR^{2/3}$

| y | A | P | Q |
|---|---|---|---|
| 1.0 | 400 | .995 | 405 |
| 2.0 | 800 | 1.98 | 1280 |
| * 1.2 | 480 | 1.19 | 545 |
| 1.7 | 680 | 1.69 | 980 |
| * 1.6 | 640 | 1.59 | 885 |
| * 2.3 | 920 | 2.27 | 1615 |
| * 2.8 | 1120 | 2.76 | 2240 |

| y | A | P | Q |
|---|---|---|---|
| 1.0 | 250 | .99 | 800 |
| 2.0 | 500 | 1.97 | 2515 |
| * 0.8 | 200 | .79 | 550 |
| * 1.1 | 275 | 1.09 | 930 |
| * 1.5 | 375 | 1.48 | 1560 |
| * 1.9 | 475 | 1.87 | 2310 |

9-17-79

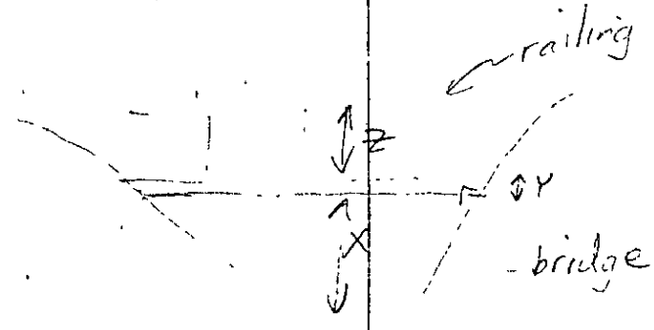
40.

Barnard Drain D.S of Heavy Graham
Footbridge Measurements Photos

Refer to Pictures

| # | Picture | X | Y | Z | Roll # | |
|---|---|---|---|---|---|---|
| 800 | 12 | 5.0 | 1.9 | 2.5 | 151 | on Deguindre Rd. |
| 800A | 13 | 2.5 | 4.5 | | " | ±25' u.s. of #800, 30" CMP, 4.5' to wat. |
| 801 | 14 | 3.0 | 2.8 | 1.0 | " | 3-36" CMP's under Rd |
| * 801A | 15 | 3.9 | 0.5 | | | driveway extension |
| * 801B | 16 | 4.8 | 0.8 | | | ±60 u/s of #801A |
| * 801C | 17 | 4.4 | 1.0 | | | ±222' u/s. of #801B |
| * 801D | 18 | 4.4 | 0.9 | | " | ±131' u/s. of #801C |

* Not modeled - would result in insignificant losses



CONSULTING ENGINEERS

ANN ARBOR, MICHIGAN

COMMUNITY: TROY

WATERCOURSE: HAWTHORN DRAIN - EAST OF HENRY GRAHAM DRAIN

FILE NO. ____ DATE ____ CHK BY ____ DATE ____

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION No. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 800.2 | | 1 | Valley Section |
| 800.3 | | 3 | D/S Face Deguindre Rd - Repeat 800.2 |
| 800.7 | A | 3 | U/S Face Deguindre Rd - Repeat 800.8 |
| 800.75 | | 3 | Valley Section - Repeat 800.8 |
| 800.77 | | 3 | Valley Section - Repeat 800.8 |
| | B,C,D,E | | Footbridges not modeled |
| 800.8 | F | 1 | Valley Section |
| | G,H,I,J | | Footbridges not modeled |
| 801 | | 3 | Valley Section - Repeat 800.8 |
| | K,L,M,N | | Footbridges not modeled |
| 802 | O | 1 | Valley Section |
| 803.2 | P | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.3 | | 3 | Valley Section - Repeat 803.2 |
| 803.4 | | 4 | D/S Face Minnesota Rd - Developed from Bridge Data and modeled to include buildings which constitute ineffective flow areas |
| 803.6 | Q | 4 | U/S Face Minnesota Rd - Repeat 803.4 |
| 803.7 | | 3 | Valley Section - Repeat 803.8 |
| 803.8 | R | 2 | Valley Section - modified to include buildings which constitute ineffective flow areas |
| 803.9 | | 3 | Valley Section - Repeat 804 |
| 804 | S | 1 | Valley Section |

7-17-77

Hawthorne Drive, D.S. of Hwy, Gretna
Field Bridge [illegible] Survey

Hawthorne #1

X = invert to [illegible] bottom
Y = [illegible]
Z = [illegible]

| # | Pt # | X | Y | Z | Roll # | |
|---|---|---|---|---|---|---|
| 800 | 17 | 3.5 | 2.2 | 4.3 | 150 | 3.5' dia R.C.P w/ grate |
| 800A | 18 | 3.9 | 0.5 | | " | On Above map |
| 800B | 19 | 2.6 | 1.1 | 3.0 | | ± 20' U.S of [illegible] |
| 800C | 20 | 2.4 | 0.5 | | | ± 80' U.S of 800B, cement bridge |
| ~~[illegible]~~ | 1 | | | | 151 | Roll # on cards |
| 800D | 2 | 2.7 | 0.5 | | " | ± 78' U.S of # 800C |
| 800E | 3 | 2.4 | 0.9 | 3.0 | " | ± 68' U.S of # 800D |
| 800F | 4 | 4.8 | [illegible] | | " | ± 105' U.S of [illegible] CMP |
| | | | | | | ± 80' U.S [illegible] |
| 800G | 5 | 3.3 | 1.2 | | 151 | ± 170' U.S of # [illegible] |
| 800H | 6 | [illegible] | 0.9 | 3.2 | " | ± 90' U.S of # [illegible] |
| 800.1 | 7 | [illegible] | 1.8 | 3.5 | " | ± 80' U.S of # 800.1 |
| 800.2 | 8 | 3.3 | 0.8 | | " | ± 230' U.S of # 800.1 |
| | | | | | | • Resident states that flooded above banks 2 years ago |
| 800.3 | 9 | 2.3 | 0.7 | | 151 | ± 46' U.S. of # 800.2 |
| 800.4 | 10 | 2.5 | 0.5 | | " | ± 118' U.S. of # 800.3 |
| 803 | 11 | 4.7 | 0.8 | 2.0 | " | 6' dia R.C.P, [illegible], 35' long |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN
HENRY GRAHAM DRAIN TO D/S LIVERNOIS AVE

4) DOCUMENT TYPE: REPORT

00BREAK00

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Spencer-Barnard Drain

STUDY LIMITS: Junction with Henry Graham Drain (downstream limit) to about 800 feet downstream of Livernois Ave., at exit from an enclosure (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 7/30/79-8/17/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79 (Revisions to Hydrology in December, 1979, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .045-.055 |
| Overbank "n" | .065-.090 |
| n values thru bridges | .02-.025 |
| Contraction Coefficients | .15-.4 |
| Expansion Coefficients | .35-.8 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting conditions are discussed in the introductory section on Drains Tributary to Henry Graham Drain. A convergence test was run on the 100 year flow by changing the starting elevation by ± 15%.

## High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. (See the enclosed 1" = 400' topographic map for floodway delineation).

## Computer Outputs

Enclosed are complete computer outputs for (i) 100-year natural and 100-year designed floodway, (ii) 10, 50 and 500 year flood plain elevations and (iii) convergence test and sensitivity analysis for your review.

## Comments

We have not delineated the 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

Spencer-Barnard Drain revised hydrology

During hydraulic investigation, it has been found that several enclosures, which we were not previously aware of, will affect the hydrology of the system. The majority of the tributary area comes to the drain upstream of Maple Road through several large enclosures. Any flow in excess of the capacity of the enclosures will be forced to flow overland. Unless there is a reasonably efficient overland flow path, the contribution of this flow to the peak flow in the downstream open channel will be greatly reduced. Along Maple Road, upstream of Livernois, it is estimated that about 500 cfs can flow through the Halfpenny Drain enclosure and about 400 cfs can flow over the road. Therefore, unplanned retention and slow overland routes would tend to have the same effect on the 100 year as the planned retention ponds have on the 10 year. For this branch, an effective population density of 6000 was used for all frequencies. Another enclosure, Mastin Drain, flows along the old channel upstream of Livernois and then turns south to join Halfpenny Drain east of Livernois. There is no well defined overland flow route. It is expected that a little flow will go along Livernois to Maple Road and that some will flow into the open channel just downstream of Livernois. An effective population density of 4000 was used for the flow to Halfpenny Drain. Additionally, a little increase in area was allowed for the open channel from Maple Road to a little downstream of Livernois. At Maple Road, an overall area with a weighted population density was used. Because the drainage area is very narrow, no further increase was allowed for in the peak flows downstream of Maple Road. A table of calculated areas and flows are included, as well as a table of the proposed flows.

| | | | | | |
|---|---|---|---|---|---|
| | | [illegible] | 50 | 100 | [illegible] |
| Hollywood Drain | | | | | |
| A = 1.1 | $P_d$ = 6000 | 550 | 750 | 900 | 1100 |
| Madison Drain | | | | | |
| A = 2.2 | $P_d$ = 4000 | 650 | 900 | 1100 | 1500 |
| Local to remaining open drains plus some consideration for upstream overland flow | | | | | |
| A = 1.0 | $P_d$ = 4000 | 370 | 580 | 660 | 850 |
| Overall | | | | | |
| A = 4.2 | $P_d$ = 4500 | 1100 | 1600 | 1900 | 2600 |

# Summary of Proposed Discharges

| Flooding Source and Location | Drainage Area (mi²) | Peak Discharge (cfs) 10 yr | 50 yr | 100 yr | 500 yr |
|---|---|---|---|---|---|
| **Lane Drain** | | | | | |
| FROM | | | | | |
| Sturgis Drain | 2.18 | | | | |
| To | | 300 | 460 | 550 | 740 |
| Troy High School | 1.61 | | | | |
| **Hawthorn Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | 1.27 | | | | |
| To | | 400 | 750 | 870 | 1200 |
| John R. | 1.0 | | | | |
| **Spencer-Barnard Drain** | | | | | |
| FROM | | | | | |
| Henry Graham Drain | ~~4.99~~ 5.0 | 1100 | 1600 | 1900 | 2600 |
| To | | ~~1550~~ | ~~2800~~ | ~~3200~~ | ~~4600~~ |
| ~~I-75~~ Maple Rd. | ~~4.63~~ 4.2 | 370 | 580 | 660 | 850 |
| To | | ~~1480~~ | ~~2700~~ | ~~3100~~ | ~~4400~~ |
| East of Livernois Rd. | ~~3.3~~ | | | | |
| **Overflows** | | | | | |
| **Houghten Drain** | | | | | |
| overflow to Gibson Drain | | — | — | 200 | 550 |
| From | | | | | |
| Confluence with Shanahan | 0.42 | | | | |
| To | | 180 | 250 | 300 | 430 |
| Mt Vernon retention pond outlet | 0.22 | | | | |

Loss Through Enclosure Between Rochester Rd. and Maple Road

The model for Spencer-Barnard Drain was run in two segments; from the junction with Henry Graham Drain to the enclosure exit just downstream of Rochester Road, and from the enclosure entrance upstream of Maple Road to the upstream limit of the study.

A simple hand calculation was performed in order to determine the loss through the enclosure, and the amount of flow which would occur over Maple Road. The following calculations determine the loss through the enclosure and set starting elevations at the upstream side of Maple Road. The calculations support the conclusions stated in the revised Hydrology section.

HUD-FIA H-4705 T-06
TROY - SPENCER DRAIN
ENCLOSURE (ROCH. to MAPLE RDS)

JSW
2/4/80

Exit Loss:

| | | coeff. |
|---|---|---|
| Area opening (w/ screen) | screen | 0.8 |
| 26.75' × 11' = 294.25 ft² | | |
| 15' ENCLOSURE → Area = 176.7 ft² | opening | 1.0 |
| 3 - 45° 3 × .2 = | | .6 |
| 1 - 22° 1 × .1 = | | .1 |
| | Hazen-Williams | 2.5 |

$$h_F = 4.74\, Q^{1.85} \frac{L}{d^{4.87} C^{1.85}}$$

derived from eqn 6-28 p 6-17 Brater Handbook of Hydraulics 1976

$L_{act.} = 1857$ L = 1000' (see derivation, last page)

$$h_F = 4.74\, Q^{1.85} \frac{(1000)}{15^{4.87}\, 100^{1.85}} = Q^{1.85} \times 1.8 \cdot 10^{-6}$$

$h_{F_{1100}} = .762$ / $h_{F_{1600}} = 1.52$ / $h_{F_{1900}} = 2.09$ / $h_{F_{2600}} = 3.74$

$h_{v_{1100}} = .60$ $h_{v_{1600}} = 1.27$ $h_{v_{1900}} = 1.80$ $h_{v_{2600}} = 3.36$

| | | D/s Elev | u/s Elev |
|---|---|---|---|
| $h_{L_{1100}}$ | = 2.5 (.6) + .762 (1.857) = 2.92<br>1.5 + 1.42 | 651.85 | 654.77 |
| $h_{L_{1600}}$ | = 2.5 (1.27) + 1.52 (1.857) = 6.0<br>3.18 + 2.82 | 653.27 | 659.27 |
| $h_{L_{1900}}$ | = 2.5 (1.80) + 2.09 (1.857) = 8.38 multiple<br>4.5 + 3.88 | 653.83 | 662.21 |
| $h_{L_{2600}}$ | = 2.5 (3.36) + 3.74 (1.857) = 15.35<br>8.4 + 6.95 | 655.06 | 670.41 |

TPRD - Maple Rd ~~657.7~~ 658.8 (grd above intersection of 15'ø, 13'ø, + 10'ø = 659.5)

$h_{F_{1500}} = 1.39$ $h_v = 1.12$ $h_L = 2.5(1.12) + 1.857(1.39) = 5.38$

u/s elev = 658.6

for 100 yr - about 1500 will go thru 15'ø, 400 cfs overland.

where is roadway profile for weir flow?

HUD-FIA H-4705 T-06
TROY - SPENCER DRAIN
ENCLOSURE (ROCH. TO MAPE RDS)

JSW
2/4/80

85' - 10'Ø (u/s from 1857' - 15'Ø) to u/s face @ Maple Rd.

100 yr Flow = 660 cfs

10' Ø → A = 78.54 ft² + screen coeff = 1.2
Area vault = 14'x14' = 196'
enlargement 10' → 15' $k_c$ = .3
2.5

$h_{f_{660}} = \frac{4.74\,Q^{1.85}(1000)}{10^{4.87}\cdot 100^{1.85}} = 1.28\times10^{-5}\times Q^{1.85} = 2.106$

$h_{v_{660}} = 1.10$

Q = 260 ⇒ $h_f$ = .38, $h_{v_{260}}$ = .17 } $h_L$ = .29 elev = 658.9 ie @ TPRD

weir flow of 400 cfs
∴ 400 cfs over rd
400 = 2.8×75 $h^{3/2}$
h = .7
∴ elev = 660. for 100 yr

$h_{L_{660}} = 1.5(1.1) + .085(2.106) = 1.65 + .18 = 1.83$
(all flow thru culv.) u/s elev = 660.4

For 100 yr some flow will be over Maple Rd, use
Assume 100 yr strt elev u/s enclosure ~~@ 660.4~~ 659.

10 yr

elev. @ intersec of 3 Ø pipes = 651.85

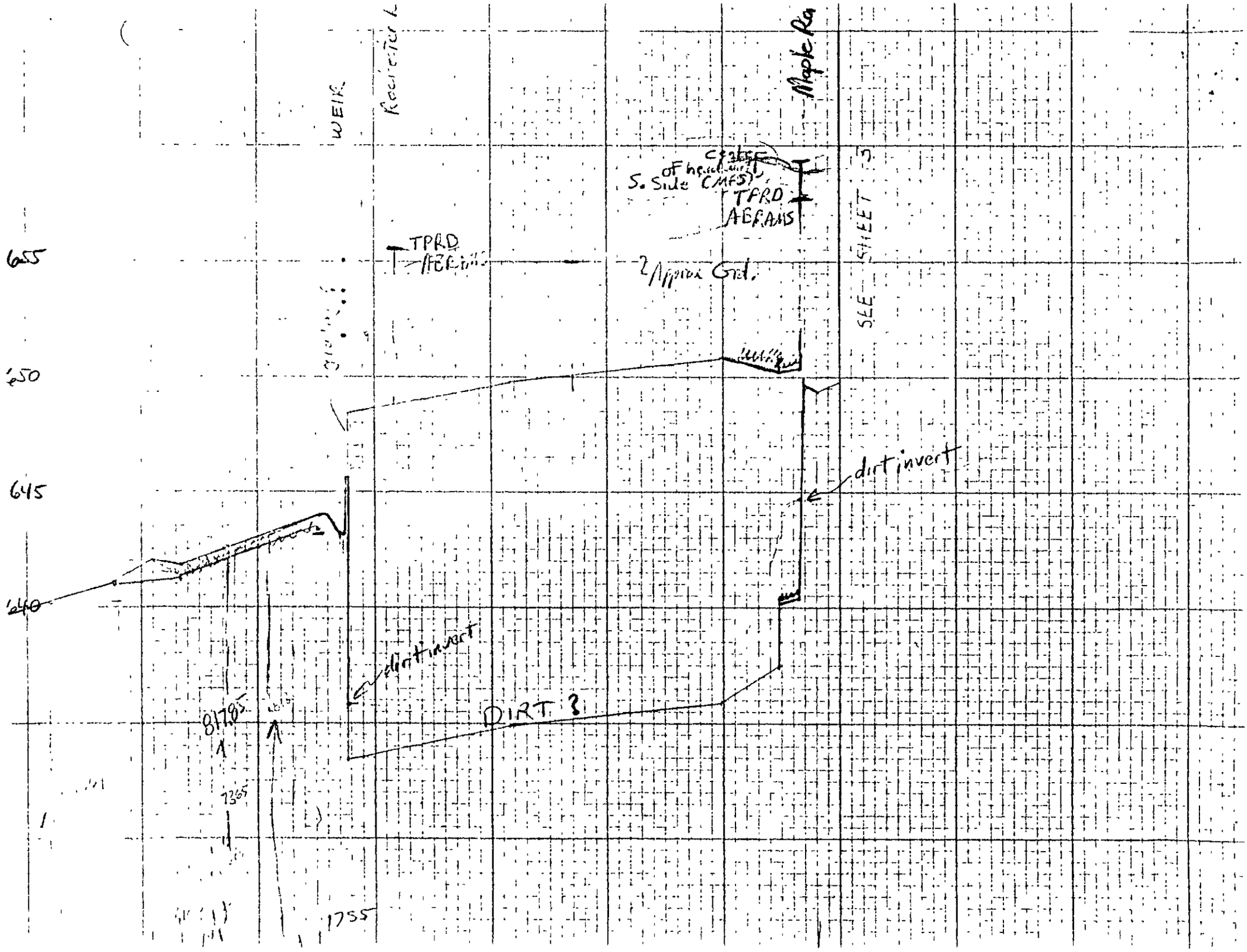
$h_{f_{370}}$ = .72 $h_{v_{370}}$ = .34 $h_L$ = .34(1.5) + .72(.085) = .57
u/s elev = 652.4

Not all flow thru the culvert; calculations show this; so elevations must be mod. for weir fl.

50 yr
elev at 3 Ø same as 100 yr, ie 658.6

$h_{f_{580}}$ = 1.66 $h_v$ = .85 $h_L$ = .85(1.5) + 1.66(.085) = 1.42
u/s elev = ~~660.~~ 658.7

500 yr
Assume @ ~~661.4~~ 659.2


WEIR
Maple Ra
S. Side
TPRD
AEFANS
TPRD
AEFANS
Approx Grd.
SLE SHEET
655
650
645
640
dirt invert
dirt invert
DIRT ?
817.85
7365
1755

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CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: SPENCER-BARNARD DRAIN
CALCULATED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 804 | | 3 | Valley Section - Repeat 805.2 - Junction with Henry Graham Drain |
| 805.2 | A | 1 | Valley Section |
| 804.98 | | 3 | D/s Face Bridge - Repeat 805.2 |
| 805.02 | B | 4 | u/s Face Bridge - Developed from 805.8 and Bridge Profile |
| 805.8 | C | 1 | Valley Section |
| 805.98 | | 3 | D/s Face Bridge - Repeat 805.8 |
| 806 | D E | 1 | u/s Face Bridge (Valley Section) |
| 806.5 | | 3 | Valley Section - Repeat 806 |
| 806.6 | | 3 | Valley Section - Repeat 807 |
| 807 | F | 1 | Valley Section |
| 807.5 | | 3 | Valley Section - Repeat 807 |
| 807.6 | | 3 | Valley Section - Repeat 808.2 |
| 808.2 | G | 1 | Valley Section |
| 807.98 | | 3 | D/s Face John R Road - Repeat 808.2 |
| 808.02 | H | 3 | u/s Face John R. Road - Repeat 808.8 |
| 808.8 | I | 1 | Valley Section |
| 808.9 | | 3 | Valley Section - Repeat 808.8 |
| 809 | J | 1 | Valley Section |
| 809.5 | | 3 | Valley Section - Repeat 809 |
| 809.6 | | 3 | Valley Section - Repeat 810.2 |
| 810.2 | K | 1 | Valley Section |
| 809.98 | | 3 | D/s Face Chicago Road - Repeat 810.2 |
| 810.02 | L | 3 | u/s Face Chicago Road - Repeat 810.8 |
| 810.8 | M | 1 | Valley Section |
| 810.9 | | 3 | Valley Section - Repeat 811.2 |
| 811.2 | N | 1 | Valley Section |
| 810.98 | | 3 | D/s Face I-75 Culvert and Tunnel - Repeat 811.2 |
| 811.02 | O | 4 | u/s Face I-75 Culvert and Tunnel - Developed from 811.8 and Bridge Detail |
| 811.28 | | 4 | Valley Section - Repeat 811.02 |

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CALCULATED BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 811.29 | P | 4 | Weir D/S of Retention Ponds - Developed from Weir Detail and 811.8 |
| 811.31 | | 4 | U/S Face of Weir - Repeat 811.29 |
| 811.32 | | 4 | Valley Section U/S of Weir - Developed from 811.8 and Weir information |
| 811.8 | Q | 1 | Valley Section - D/S End Retention Pond |
| 812 | R | 1 | Valley Section - Retention Pond |
| 812.1 | | 3 | Valley Section - Retention Pond - Repeat 812 |
| 812.8 | S | 1 | Valley Section - Retention Pond |
| 812.98 | | 4 | D/S Face Culverts separating two retention ponds - Developed from 812.8 and Bridge Detail |
| 813.02 | T | 4 | U/S Face Culverts separating two retention ponds - Repeat 812.98 |
| 813.7 | | 3 | Valley Section - D/S End Retention Pond - Repeat 812.8 |
| 813.8 | | 3 | Valley Section - Retention Pond - Repeat 814.2 |
| 814.2 | U | 1 | Valley Section - Retention Pond |
| 814.3 | | 3 | Valley Section - Retention Pond - Repeat 812.8 |
| 813.98 | | 4 | D/S Face Stephenson Hwy. - Developed from 814.2 and Bridge Details |
| 814.02 | V | 4 | U/S Face Stephenson Hwy - Developed from 814.8 and Bridge Details. |
| 814.8 | W | 1 | Valley Section |
| 814.85 | | 3 | Valley Section - Repeat 814.8 |
| 814.98 | X | 4 | Weir D/S of On-Line Retention Ponds - Developed from 815 and Weir Detail |
| 815.02 | | 4 | U/S Face of Weir - Repeat 814.98 |
| 815.5 | | 3 | Valley Section - Retention Pond - Repeat 814.8 |
| 815.8 | Y | 1 | Valley Section - D/S End Retention Pond |
| 815.85 | | 3 | Valley Section - Repeat 815.8 |
| 815.9 | | 3 | Valley Section - Repeat 815.8 |
| 815.98 | | 3 | D/S Face Allen Street - Repeat 815.98 |
| 816.02 | Z | 3 | U/S Face Allen Street - Repeat 816.8 |
| 816.8 | AA | 1 | Valley Section |
| 816.9 | | 3 | Valley Section |

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COMPUTED BY DATE CHK BY DATE

# TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 817.1 | | 3 | Valley Section - Repeat 817.2 |
| 817.2 | AB | 1 | Valley Section |
| 816.98 | | 3 | D/S Face Souter Road - Repeat 817.2 |
| 817.02 | AC | 3 | U/S Face Souter Road - Repeat 817.8 |
| 817.8 | AD | 1 | Valley Section |
| 817.85 | | 3 | Valley Section - Repeat 817.8 |
| 818.1 | | 3 | Valley Section - Repeat 818.2 |
| 818.2 | AE | 1 | Valley Section |
| 818.98 | | 3 | D/S Face 1600 Foot long enclosure between Rochester and Maple Roads - Repeat 818.2 |
| | See Section on "Comments" for details on starting water elevations developed for upstream of 1600 foot long enclosure | | |
| | AF | 1 | Rochester Road Profile |
| | AG | 1 | Valley Section over 1600 foot long enclosure |
| | AH | 1 | Valley Section over 1600 foot long enclosure |
| 819.02 | | 3 | U/S Face 1600 Foot Long Enclosure between Rochester and Maple Roads - Repeat 820.8 |
| 820.8 | AI | 1 | Valley Section |
| 820.9 | | 3 | Valley Section - Repeat 820.8 |
| 820.91 | | 3 | Valley Section - Repeat 821 |
| 820.93 | | 3 | Valley Section - Repeat 821 |
| 820.94 | | 3 | D/S Face Footbridge - Repeat 821 |
| 820.95 | AJ | 3 | U/S Face Footbridge - Repeat 821 |
| 820.96 | | 3 | Valley Section - Repeat 821 |
| 821 | AK | 1 | Valley Section |
| 821.1 | | 3 | Valley Section - Repeat 821 |
| 821.9 | | 3 | Valley Section - Repeat 822 |
| 822 | AL | 1 | Valley Section |
| 822.1 | | 3 | Valley Section - Repeat 822 |
| 822.2 | | 3 | Valley Section - Repeat 822 |

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WRITTEN BY DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types: | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 822.38 | | 3 | D/S Face Footbridge - Repeat 822 |
| 822.42 | AM | 3 | U/S Face Footbridge - Repeat 823 |
| 822.9 | | 3 | Valley Section - Repeat 823 |
| 823 | AN | 1 | Valley Section |

COMMUNITY : TROY

WATERCOURSE : SPENCER-BARNARD DRAIN

## TABLE - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_f = \frac{29 n^2 l}{R^{4/3}} \qquad R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 804.98-805.02 | 0.35 | 227.2 | 92.4 | 2.46 | .020 | 14 | 0.05 | 1.4 | Bridge |
| 805.98-806 | 0.35 | 220.8 | 91.6 | 2.41 | .020 | 14 | 0.05 | 1.4 | Bridge |
| 807.98-808.02 | 0.35 | 224. | 92. | 2.43 | .020 | 80 | 0.3 | 1.65 | John R. Road |
| 809.98-810.02 | 0.35 | 224. | 92. | 2.43 | .020 | 65 | 0.25 | 1.60 | Chicago Road |
| 810.98-811.02 | | | | | | | | | I-75 |
| ↳ Culvert | 0.4 | 91. | 41. | 2.22 | .02 | 160 | 0.65 | 2.05 | |
| ↳ Tunnel | 2.4 | 320. | 72. | 4.44 | .02 | 200 | 0.3 | 3.70 | |
| | ↳ grating upstream and downstream | | | | | | | | |
| | | $XKOR_{equiv} = \left[\frac{411^2}{\left(\frac{91^2}{2.05}\right)^{1/2} + \left(\frac{320^2}{3.7}\right)^{1/2}}\right] = 3.2$ | | | | | | | |
| | *(put in pier and pier coefficient to induce 10yr flow to be modelled by low flow by normal bridge correctly) | | | | | | | | |
| 812.98-813.02 | 0.4 | 196 | 84 | 2.33 | .02 | 90 | 0.35 | 1.75 | Culverts Separating Retention Ponds |
| 813.98-814.02 | 0.4 | 196 | 84 | 2.33 | .02 | 170 | 0.65 | 2.05 | Stephenson Hwy |
| 815.98-816.02 | 0.4 | 224 | 88 | 2.55 | .02 | 72 | 0.25 | 1.65 | Allen Street |
| 816.98-817.02 | 0.4 | 207 | 85.6 | 2.42 | .02 | 63 | 0.25 | 1.65 | Souter Road |
| 822.38-822.42 | 0.9 | 19.63 | 15.7 | 1.25 | .025 | 30 | 0.4 | 2.3 | Footbridge |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S HENRY GRAHAM DR. TO ROCHESTER RD.

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERRCR CORR -  01,02,03
  MODIFICATION -  5C,51,52,53
*********************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTICN NUMBER INDICATES MESSAGE IN SUMMARY CF ERRCRS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTCUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 804.000 | C.C0 | 0.00 | 0.0C | 622.90 | 1100.00 | 634.80 | 0.00 | 634.85 | 2.90 | 1.85 | 593.58 | 645.40 |
| 804.000 | 0.00 | 0.00 | 0.00 | 622.90 | 16C0.C0 | 634.90 | 0.00 | 635.01 | 5.93 | 2.65 | 604.45 | 656.95 |
| 804.000 | C.00 | 0.C0 | 0.00 | 622.90 | 1900.00 | 635.20 | 0.00 | 635.34 | 7.48 | 3.00 | 652.75 | 694.51 |
| 804.000 | 0.00 | 0.00 | 0.0C | 622.9C | 26CC.C0 | 635.50 | 0.00 | 635.73 | 12.20 | 3.88 | 726.92 | 744.38 |
| 805.200 | 12C.C0 | 0.00 | 0.0C | 622.90 | 1100.00 | 634.84 | 0.00 | 634.89 | 2.87 | 1.84 | 557.07 | 649.39 |
| 805.200 | 120.00 | 0.00 | 0.0C | 622.90 | 1600.C0 | 634.97 | 0.00 | 635.08 | 5.78 | 2.62 | 613.79 | 665.41 |
| 805.200 | 120.00 | 0.CC | 0.00 | 622.90 | 1900.00 | 635.29 | C.CC | 635.43 | 7.23 | 2.95 | 671.77 | 706.85 |
| 805.200 | 120.00 | 0.00 | 0.00 | 622.90 | 2600.00 | 635.66 | 0.00 | 635.87 | 11.10 | 3.76 | 782.17 | 780.33 |
| 8C4.980 | 130.00 | 0.00 | 0.00 | 623.40 | 1100.00 | 634.87 | C.00 | 634.93 | 3.30 | 1.98 | 554.22 | 605.71 |
| 804.980 | 13C.C0 | 0.00 | 0.0C | 623.40 | 16C0.C0 | 635.05 | 0.00 | 635.17 | 6.63 | 2.81 | 570.10 | 621.42 |
| 804.980 | 13C.00 | 0.00 | 0.00 | 623.40 | 19CC.CC | 635.38 | C.CC | 635.54 | 8.40 | 3.16 | 603.14 | 655.67 |
| 8C4.980 | 13C.C0 | 0.00 | 0.00 | 623.40 | 2600.00 | 635.80 | 0.00 | 636.05 | 13.45 | 4.02 | 675.00 | 708.88 |
| 8C5.020 | 14.00 | 633.10 | 630.5C | 623.40 | 11CC.C0 | 634.99 | C.C0 | 635.05 | 3.24 | 1.99 | 599.81 | 611.08 |
| 805.020 | 14.00 | 633.10 | 630.5C | 623.40 | 1600.00 | 635.26 | 0.00 | 635.37 | 5.97 | 2.74 | 679.58 | 654.85 |
| 805.020 | 14.00 | 633.10 | 63C.5C | 623.40 | 19CC.C0 | 635.55 | C.C0 | 635.69 | 6.96 | 3.03 | 806.10 | 720.07 |
| 805.020 | 14.C0 | 633.10 | 630.50 | 623.40 | 2600.00 | 635.93 | 0.C0 | 636.13 | 9.75 | 3.71 | 1008.36 | 832.88 |
| 805.800 | 116.00 | 0.00 | 0.0C | 623.4C | 11CC.C0 | 635.03 | C.C0 | 635.09 | 2.97 | 1.94 | 620.47 | 638.05 |
| 8C5.800 | 116.C0 | 0.00 | 0.00 | 623.40 | 1600.00 | 635.34 | 0.0C | 635.44 | 5.34 | 2.64 | 729.16 | 692.60 |
| 805.800 | 11C.C0 | 0.00 | C.CC | 623.40 | 19CC.CC | 635.65 | 0.00 | 635.77 | 6.08 | 2.89 | 875.43 | 770.26 |
| 805.800 | 116.00 | 0.00 | 0.00 | 623.40 | 26CC.00 | 636.07 | 0.0C | 636.24 | 8.25 | 3.50 | 1101.33 | 905.44 |
| 805.980 | 19C.00 | C.CC | 0.00 | 624.1C | 11CC.C0 | 635.09 | 0.00 | 635.16 | 4.01 | 2.17 | 516.11 | 549.40 |
| 805.980 | 190.00 | 0.00 | 0.00 | 624.10 | 16CC.00 | 635.44 | 0.00 | 635.57 | 7.21 | 2.97 | 565.83 | 595.68 |
| 805.980 | 19C.CC | 0.00 | 0.CC | 624.10 | 1900.00 | 635.76 | 0.00 | 635.93 | 8.72 | 3.32 | 629.95 | 643.38 |
| 805.980 | 190.00 | 0.00 | 0.0C | 624.1C | 26CC.C0 | 636.22 | 0.00 | 636.47 | 12.36 | 4.08 | 816.53 | 739.60 |
| 806.000 | 14.CC | 633.3C | 631.0C | 624.10 | 1100.00 | 635.13 | 0.00 | 635.16 | 2.17 | 1.62 | 1118.08 | 746.24 |
| 806.000 | 14.00 | 633.30 | 631.0C | 624.10 | 16CC.C0 | 635.53 | 0.00 | 635.57 | 3.20 | 2.05 | 1317.78 | 894.92 |
| 806.000 | 14.C0 | 633.3C | 631.00 | 624.10 | 1900.00 | 635.88 | C.0C | 635.93 | 3.38 | 2.17 | 1486.77 | 1033.42 |
| 806.000 | 14.C0 | 633.30 | 631.0C | 624.10 | 26CC.C0 | 636.40 | 0.00 | 636.47 | 4.19 | 2.54 | 1749.41 | 1270.27 |
| 806.500 | 27C.C0 | 0.0C | 0.00 | 624.50 | 1100.00 | 635.2C | 0.00 | 635.24 | 3.0C | 1.84 | 950.16 | 634.75 |
| 806.500 | 27C.C0 | 0.00 | 0.00 | 624.50 | 16CC.C0 | 635.62 | 0.00 | 635.68 | 4.25 | 2.28 | 1160.54 | 776.45 |
| 806.500 | 270.00 | 0.00 | 0.00 | 624.50 | 19CC.C0 | 635.97 | C.00 | 636.04 | 4.35 | 2.40 | 1337.49 | 910.49 |
| 806.500 | 27C.CC | 0.00 | 0.0C | 624.50 | 2600.00 | 636.52 | 0.00 | 636.60 | 5.20 | 2.76 | 1609.24 | 1140.69 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 1100.00 | 635.26 | 0.00 | 635.31 | 2.69 | 1.99 | 734.51 | 670.20 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 1600.00 | 635.70 | 0.00 | 635.80 | 4.15 | 2.57 | 913.53 | 785.26 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 1900.00 | 636.06 | 0.00 | 636.16 | 4.53 | 2.77 | 1067.08 | 892.97 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 2600.00 | 636.62 | 0.00 | 636.75 | 5.74 | 3.26 | 1306.68 | 1085.34 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1100.00 | 635.32 | 0.00 | 635.39 | 3.27 | 2.14 | 632.61 | 608.34 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1600.00 | 635.80 | 0.00 | 635.91 | 4.99 | 2.76 | 807.28 | 716.25 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1900.00 | 636.16 | 0.00 | 636.28 | 5.44 | 2.97 | 957.19 | 814.51 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 2600.00 | 636.75 | 0.00 | 636.90 | 6.72 | 3.47 | 1207.89 | 1002.65 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1100.00 | 635.49 | 0.00 | 635.58 | 4.96 | 2.46 | 470.21 | 493.94 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1600.00 | 636.05 | 0.00 | 636.21 | 7.69 | 3.23 | 575.91 | 576.97 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 636.44 | 0.00 | 636.62 | 8.45 | 3.51 | 708.11 | 653.77 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 2600.00 | 637.09 | 0.00 | 637.31 | 10.01 | 4.04 | 967.94 | 821.90 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1100.00 | 635.73 | 0.00 | 635.85 | 8.64 | 2.83 | 449.22 | 374.18 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1600.00 | 636.43 | 0.00 | 636.58 | 11.51 | 3.28 | 664.75 | 471.60 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 636.86 | 0.00 | 637.00 | 10.66 | 3.33 | 857.26 | 581.80 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 2600.00 | 637.58 | 0.00 | 637.72 | 10.17 | 3.53 | 1189.44 | 815.28 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1100.00 | 635.97 | 0.00 | 636.11 | 9.46 | 3.01 | 394.33 | 357.60 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1600.00 | 636.77 | 0.00 | 636.94 | 13.47 | 3.48 | 592.49 | 435.96 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 637.17 | 0.00 | 637.34 | 12.87 | 3.58 | 770.54 | 529.71 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 2600.00 | 637.87 | 0.00 | 638.05 | 12.31 | 3.79 | 1091.72 | 741.09 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1100.00 | 636.02 | 0.00 | 636.21 | 13.68 | 3.50 | 314.50 | 297.37 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1600.00 | 636.82 | 0.00 | 637.11 | 19.70 | 4.33 | 404.45 | 360.49 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.21 | 0.00 | 637.53 | 23.63 | 4.62 | 493.03 | 390.85 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 2600.00 | 637.91 | 0.00 | 638.25 | 25.48 | 5.00 | 744.99 | 515.10 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1100.00 | 636.52 | 0.00 | 636.64 | 7.42 | 2.81 | 391.06 | 403.69 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1600.00 | 637.82 | 0.00 | 637.94 | 6.25 | 2.89 | 856.38 | 640.17 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1900.00 | 638.17 | 0.00 | 638.29 | 6.45 | 3.04 | 1043.92 | 748.33 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 2600.00 | 638.70 | 0.00 | 638.84 | 7.67 | 3.47 | 1324.08 | 938.55 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1100.00 | 636.57 | 0.00 | 636.69 | 7.13 | 2.77 | 423.33 | 411.95 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1600.00 | 637.87 | 0.00 | 637.97 | 6.02 | 2.85 | 878.83 | 652.23 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.22 | 0.00 | 638.33 | 6.20 | 2.99 | 1067.17 | 762.86 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 2600.00 | 638.75 | 0.00 | 638.88 | 7.35 | 3.41 | 1352.05 | 959.28 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1100.00 | 636.82 | 0.00 | 636.94 | 7.75 | 2.85 | 398.99 | 395.16 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1600.00 | 638.07 | 0.00 | 638.20 | 7.12 | 3.04 | 776.46 | 599.53 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.43 | 0.00 | 638.57 | 7.31 | 3.19 | 968.17 | 702.66 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 2600.00 | 639.00 | 0.00 | 639.15 | 8.30 | 3.58 | 1274.60 | 902.64 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1100.00 | 637.07 | 0.00 | 637.23 | 11.96 | 3.35 | 414.92 | 318.08 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 638.34 | 0.00 | 638.44 | 8.65 | 2.89 | 910.94 | 543.94 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.71 | 0.00 | 638.80 | 8.49 | 2.94 | 1085.75 | 651.99 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 2600.00 | 639.31 | 0.00 | 639.41 | 8.67 | 3.18 | 1439.13 | 882.80 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1100.00 | 637.45 | 0.00 | 637.66 | 14.94 | 3.67 | 340.18 | 284.63 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1600.00 | 638.63 | 0.00 | 638.78 | 12.68 | 3.47 | 731.98 | 449.38 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 638.99 | 0.00 | 639.14 | 12.74 | 3.50 | 890.20 | 532.40 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 2600.00 | 639.60 | 0.00 | 639.75 | 13.00 | 3.73 | 1197.04 | 721.18 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1100.00 | 637.90 | 0.00 | 638.13 | 16.31 | 3.85 | 285.36 | 272.41 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1600.00 | 638.99 | 0.00 | 639.31 | 20.40 | 4.60 | 347.80 | 354.27 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.33 | 0.00 | 639.74 | 23.99 | 5.14 | 386.47 | 387.96 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 2600.00 | 639.91 | 0.00 | 640.47 | 30.84 | 6.15 | 524.13 | 468.21 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1100.00 | 638.39 | 0.00 | 638.64 | 18.20 | 4.02 | 273.77 | 257.81 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1600.00 | 639.58 | 0.00 | 639.92 | 21.39 | 4.68 | 341.65 | 345.96 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.03 | 0.00 | 640.44 | 23.92 | 5.14 | 387.31 | 388.50 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 2600.00 | 640.81 | 0.00 | 641.31 | 26.72 | 5.84 | 579.27 | 502.96 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1100.00 | 638.56 | 0.00 | 638.83 | 19.55 | 4.13 | 266.51 | 248.78 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1600.00 | 639.79 | 0.00 | 640.14 | 22.43 | 4.77 | 335.58 | 337.83 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.25 | 0.00 | 640.67 | 24.91 | 5.21 | 375.79 | 380.71 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 2600.00 | 641.06 | 0.00 | 641.57 | 27.51 | 5.90 | 567.92 | 495.73 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1100.00 | 638.91 | 0.00 | 639.16 | 17.11 | 4.00 | 275.06 | 265.94 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1600.00 | 640.54 | 0.00 | 640.84 | 15.74 | 4.43 | 360.93 | 403.34 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1900.00 | 640.82 | 0.00 | 641.20 | 19.12 | 4.99 | 400.89 | 434.55 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 2600.00 | 641.10 | 0.00 | 641.75 | 31.32 | 6.52 | 427.67 | 464.56 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1100.00 | 639.14 | 0.00 | 639.33 | 12.14 | 3.58 | 310.01 | 315.75 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1600.00 | 640.77 | 0.00 | 641.01 | 11.48 | 3.97 | 434.65 | 472.15 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.10 | 0.00 | 641.40 | 13.84 | 4.46 | 472.54 | 510.80 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 2600.00 | 641.64 | 0.00 | 642.08 | 19.33 | 5.49 | 624.11 | 591.39 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1100.00 | 639.46 | 0.00 | 639.67 | 14.17 | 3.68 | 298.52 | 292.22 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1600.00 | 641.07 | 0.00 | 641.32 | 13.45 | 4.02 | 453.11 | 436.25 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.49 | 0.00 | 641.76 | 14.46 | 4.30 | 575.04 | 499.67 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 2600.00 | 642.23 | 0.00 | 642.54 | 16.16 | 4.77 | 795.79 | 646.83 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1100.00 | 639.82 | 0.00 | 640.05 | 16.00 | 3.85 | 285.68 | 275.00 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1600.00 | 641.51 | 0.00 | 641.77 | 24.42 | 4.06 | 393.99 | 323.80 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 641.94 | 0.00 | 642.23 | 25.15 | 4.37 | 435.02 | 378.86 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 2600.00 | 642.73 | 0.00 | 643.01 | 21.58 | 4.45 | 766.21 | 559.75 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1100.00 | 639.90 | 0.00 | 640.19 | 22.24 | 4.34 | 253.64 | 233.25 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1600.00 | 641.61 | 0.00 | 641.93 | 19.79 | 4.61 | 347.15 | 359.67 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.03 | 0.00 | 642.43 | 22.90 | 5.11 | 371.52 | 397.06 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 2600.00 | 642.76 | 0.00 | 643.27 | 27.62 | 5.92 | 566.44 | 494.73 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1100.00 | 640.14 | 0.00 | 640.26 | 5.45 | 2.73 | 402.81 | 471.28 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1600.00 | 642.22 | 0.00 | 642.36 | 4.70 | 3.03 | 527.31 | 738.27 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1900.00 | 642.92 | 0.00 | 643.09 | 5.13 | 3.34 | 569.39 | 839.06 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 2600.00 | 644.59 | 0.00 | 644.69 | 3.03 | 2.86 | 1202.58 | 1493.02 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1100.00 | 640.17 | 0.00 | 640.31 | 6.65 | 2.99 | 368.17 | 426.69 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1600.00 | 642.24 | 0.00 | 642.41 | 5.65 | 3.31 | 483.88 | 672.89 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 642.94 | 0.00 | 643.15 | 6.14 | 3.63 | 523.21 | 766.49 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 2600.00 | 644.67 | 0.00 | 644.73 | 2.04 | 2.34 | 1772.94 | 1822.19 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1100.00 | 639.45 | 0.00 | 641.04 | 43.87 | 10.09 | 109.00 | 166.09 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1600.00 | 641.83 | 0.00 | 642.82 | 20.86 | 7.97 | 200.63 | 350.35 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.50 | 0.00 | 643.59 | 20.05 | 8.36 | 227.19 | 424.28 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 2600.00 | 644.32 | 0.00 | 645.08 | 11.21 | 7.50 | 683.36 | 776.42 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1100.00 | 639.47 | 0.00 | 641.05 | 43.69 | 10.08 | 109.14 | 166.43 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1600.00 | 641.84 | 0.00 | 642.83 | 20.88 | 7.98 | 200.54 | 350.12 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.51 | 0.00 | 643.59 | 20.01 | 8.36 | 227.34 | 424.73 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 2600.00 | 644.32 | 0.00 | 645.08 | 11.25 | 7.51 | 681.67 | 775.04 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1100.00 | 641.50 | 0.00 | 641.51 | 1.18 | 1.07 | 1027.96 | 1010.74 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1600.00 | 643.09 | 0.00 | 643.12 | 1.13 | 1.17 | 1372.31 | 1502.03 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.89 | 0.00 | 643.91 | 1.06 | 1.23 | 1597.71 | 1843.91 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 2600.00 | 645.27 | 0.00 | 645.30 | 1.03 | 1.36 | 2075.63 | 2564.83 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1100.00 | 641.51 | 0.00 | 641.52 | .34 | .73 | 1517.08 | 1881.74 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1600.00 | 643.11 | 0.00 | 643.12 | .40 | .86 | 1871.10 | 2517.70 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.90 | 0.00 | 643.92 | .42 | .93 | 2113.17 | 2936.56 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 2600.00 | 645.29 | 0.00 | 645.31 | .47 | 1.08 | 2590.38 | 3783.58 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1100.00 | 641.51 | 0.00 | 641.52 | .25 | .67 | 1635.65 | 2221.47 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1600.00 | 643.11 | 0.00 | 643.12 | .31 | .82 | 1979.25 | 2873.15 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2242.03 | 3303.81 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 2600.00 | 645.29 | 0.00 | 645.31 | .38 | 1.04 | 2804.30 | 4192.67 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1100.00 | 641.52 | 0.00 | 641.52 | .24 | .67 | 1636.32 | 2222.69 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1600.00 | 643.12 | 0.00 | 643.13 | .31 | .82 | 1980.54 | 2875.55 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2244.01 | 3306.77 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 2600.00 | 645.30 | 0.00 | 645.32 | .38 | 1.04 | 2807.00 | 4197.28 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1100.00 | 641.52 | 0.00 | 641.53 | .36 | .75 | 1461.38 | 1839.01 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1600.00 | 643.12 | 0.00 | 643.13 | .43 | .90 | 1799.37 | 2452.38 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.91 | 0.00 | 643.93 | .45 | .97 | 2026.57 | 2823.47 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 2600.00 | 645.30 | 0.00 | 645.32 | .51 | 1.12 | 2546.50 | 3625.25 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1100.00 | 641.48 | 0.00 | 641.56 | 3.35 | 2.20 | 500.08 | 600.75 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1600.00 | 643.07 | 0.00 | 643.18 | 4.06 | 2.67 | 644.89 | 793.89 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.86 | 0.00 | 643.98 | 4.11 | 2.82 | 832.42 | 937.03 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 2600.00 | 645.25 | 0.00 | 645.37 | 3.86 | 2.97 | 1342.58 | 1323.39 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1100.00 | 642.27 | 0.00 | 642.34 | 2.56 | 2.01 | 547.28 | 687.91 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1600.00 | 643.76 | 0.00 | 643.85 | 3.05 | 2.42 | 801.58 | 916.17 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1900.00 | 644.31 | 0.00 | 644.41 | 3.33 | 2.61 | 989.34 | 1041.70 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 2600.00 | 645.41 | 0.00 | 645.52 | 3.55 | 2.87 | 1404.07 | 1379.32 |
| 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1100.00 | 642.35 | 0.00 | 642.36 | .27 | .68 | 1627.23 | 2127.95 |
| 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1600.00 | 643.86 | 0.00 | 643.87 | .33 | .82 | 2009.04 | 2798.73 |
| 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.42 | 0.00 | 644.43 | .38 | .91 | 2219.83 | 3088.46 |
| 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 2600.00 | 645.53 | 0.00 | 645.55 | .47 | 1.09 | 2675.91 | 3789.80 |
| 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1100.00 | 642.35 | 0.00 | 642.36 | .23 | .67 | 1646.62 | 2285.07 |
| 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1600.00 | 643.86 | 0.00 | 643.87 | .31 | .82 | 1956.22 | 2881.18 |
| 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.42 | 0.00 | 644.44 | .37 | .92 | 2122.95 | 3138.25 |
| 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 2600.00 | 645.53 | 0.00 | 645.55 | .47 | 1.12 | 2525.88 | 3793.79 |
| 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1100.00 | 642.35 | 0.00 | 642.36 | .23 | .67 | 1646.56 | 2284.97 |
| 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1600.00 | 643.87 | 0.00 | 643.88 | .31 | .82 | 1956.18 | 2881.10 |
| 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.44 | .37 | .92 | 2123.02 | 3138.35 |
| 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 2600.00 | 645.54 | 0.00 | 645.56 | .47 | 1.12 | 2526.39 | 3794.68 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1100.00 | 642.36 | 0.00 | 642.36 | .27 | .68 | 1628.52 | 2130.24 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1600.00 | 643.87 | 0.00 | 643.88 | .33 | .82 | 2011.80 | 2802.66 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.43 | 0.00 | 644.44 | .38 | .91 | 2223.49 | 3093.53 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 2600.00 | 645.55 | 0.00 | 645.56 | .47 | 1.09 | 2680.76 | 3797.78 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1100.00 | 642.26 | 0.00 | 642.46 | 10.34 | 3.57 | 308.15 | 342.07 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1600.00 | 643.74 | 0.00 | 644.02 | 10.67 | 4.19 | 382.16 | 489.71 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.41 | 0.00 | 644.47 | 3.63 | 2.58 | 1165.19 | 997.54 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 2600.00 | 645.52 | 0.00 | 645.59 | 3.55 | 2.78 | 1568.58 | 1380.15 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1100.00 | 642.28 | 0.00 | 642.64 | 29.00 | 4.79 | 229.52 | 204.28 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1600.00 | 645.62 | 0.00 | 645.86 | 11.09 | 3.93 | 407.21 | 480.40 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1900.00 | 646.93 | 0.00 | 647.11 | 7.38 | 3.58 | 786.84 | 699.52 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 2600.00 | 647.57 | 0.00 | 647.78 | 8.70 | 4.08 | 1079.17 | 881.36 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1100.00 | 642.60 | 0.00 | 642.84 | 16.31 | 3.91 | 281.16 | 272.36 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1600.00 | 645.80 | 0.00 | 645.96 | 8.23 | 3.29 | 515.57 | 557.65 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.05 | 0.00 | 647.17 | 5.44 | 2.99 | 882.61 | 814.39 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 2600.00 | 647.69 | 0.00 | 647.86 | 6.77 | 3.51 | 1119.45 | 999.07 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1100.00 | 642.68 | 0.00 | 643.02 | 27.28 | 4.69 | 234.48 | 210.61 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1600.00 | 645.83 | 0.00 | 646.06 | 13.30 | 3.85 | 415.76 | 438.73 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.05 | 0.00 | 647.26 | 10.06 | 3.73 | 577.32 | 598.98 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 2600.00 | 647.69 | 0.00 | 647.97 | 12.79 | 4.45 | 761.24 | 726.98 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1100.00 | 644.73 | 644.73 | 646.51 | 65.67 | 10.71 | 102.67 | 135.74 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1600.00 | 645.84 | 645.84 | 647.95 | 56.21 | 11.64 | 137.48 | 213.41 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.35 | 647.35 | 648.31 | 22.07 | 8.58 | 474.63 | 404.44 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 2600.00 | 647.96 | 647.96 | 648.86 | 21.20 | 8.99 | 781.38 | 564.65 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1100.00 | 645.62 | 0.00 | 646.72 | 31.19 | 8.43 | 130.50 | 196.96 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1600.00 | 646.60 | 0.00 | 648.13 | 34.49 | 9.92 | 161.30 | 272.45 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.36 | 647.34 | 648.31 | 21.97 | 8.56 | 476.77 | 405.39 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 2600.00 | 647.97 | 647.92 | 648.86 | 21.11 | 8.98 | 783.55 | 565.94 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1100.00 | 646.99 | 0.00 | 647.04 | 2.44 | 1.93 | 728.63 | 703.86 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1600.00 | 648.52 | 0.00 | 648.57 | 1.97 | 1.95 | 1286.89 | 1141.39 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.51 | 0.00 | 648.58 | 2.79 | 2.33 | 1281.57 | 1136.61 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 2600.00 | 649.01 | 0.00 | 649.10 | 3.87 | 2.83 | 1478.30 | 1321.91 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1100.00 | 647.04 | 0.00 | 647.06 | .73 | 1.01 | 1309.35 | 1287.24 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1600.00 | 648.57 | 0.00 | 648.59 | .60 | 1.05 | 2191.38 | 2063.62 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.58 | 0.00 | 648.60 | .84 | 1.24 | 2198.61 | 2070.76 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 2600.00 | 649.11 | 0.00 | 649.14 | 1.16 | 1.52 | 2524.59 | 2410.03 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1100.00 | 647.07 | 0.00 | 647.09 | .92 | 1.10 | 1143.86 | 1144.61 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1600.00 | 648.59 | 0.00 | 648.61 | .76 | 1.14 | 1953.30 | 1837.68 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.61 | 0.00 | 648.63 | 1.06 | 1.35 | 1962.56 | 1846.11 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 2600.00 | 649.14 | 0.00 | 649.18 | 1.44 | 1.65 | 2297.59 | 2170.33 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1100.00 | 647.10 | 0.00 | 647.12 | 1.09 | 1.16 | 1041.57 | 1055.02 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1600.00 | 648.62 | 0.00 | 648.64 | .90 | 1.22 | 1781.23 | 1687.07 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.64 | 0.00 | 648.67 | 1.25 | 1.44 | 1796.14 | 1699.68 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 2600.00 | 649.19 | 0.00 | 649.23 | 1.67 | 1.74 | 2138.51 | 2011.84 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1100.00 | 647.13 | 0.00 | 647.15 | 1.28 | 1.22 | 954.59 | 971.73 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1600.00 | 648.64 | 0.00 | 648.66 | 1.07 | 1.29 | 1617.19 | 1548.45 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.67 | 0.00 | 648.71 | 1.48 | 1.53 | 1635.80 | 1564.17 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 2600.00 | 649.23 | 0.00 | 649.28 | 1.96 | 1.84 | 1975.74 | 1858.16 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1100.00 | 647.70 | 0.00 | 647.74 | 2.58 | 1.74 | 630.54 | 684.19 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1600.00 | 649.35 | 0.00 | 649.42 | 2.70 | 1.97 | 811.81 | 973.74 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1900.00 | 649.56 | 0.00 | 649.64 | 3.52 | 2.28 | 837.57 | 1012.09 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 2600.00 | 650.16 | 0.00 | 650.29 | 5.29 | 2.86 | 929.97 | 1130.51 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1100.00 | 647.72 | 0.00 | 647.76 | 2.35 | 1.69 | 652.74 | 717.89 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1600.00 | 649.38 | 0.00 | 649.43 | 2.49 | 1.91 | 839.21 | 1014.35 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.59 | 0.00 | 649.66 | 3.25 | 2.21 | 869.17 | 1054.47 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 2600.00 | 650.21 | 0.00 | 650.32 | 4.83 | 2.76 | 974.24 | 1182.90 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1100.00 | 647.80 | 0.00 | 647.86 | 3.59 | 1.96 | 560.34 | 580.46 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1600.00 | 649.47 | 0.00 | 649.54 | 3.59 | 2.18 | 733.72 | 844.18 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.70 | 0.00 | 649.80 | 4.60 | 2.50 | 759.73 | 885.81 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 2600.00 | 650.37 | 0.00 | 650.52 | 6.55 | 3.11 | 840.29 | 1015.85 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1100.00 | 647.93 | 0.00 | 648.16 | 17.00 | 3.81 | 288.70 | 266.78 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1600.00 | 649.58 | 0.00 | 649.83 | 15.58 | 4.07 | 392.85 | 405.32 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 649.84 | 0.00 | 650.17 | 19.19 | 4.62 | 418.27 | 433.76 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 2600.00 | 650.58 | 0.00 | 651.02 | 23.66 | 5.43 | 565.90 | 534.49 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1100.00 | 648.46 | 0.00 | 648.71 | 19.88 | 4.04 | 272.59 | 246.70 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1600.00 | 650.05 | 0.00 | 650.34 | 18.15 | 4.31 | 371.34 | 375.55 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.42 | 0.00 | 650.78 | 21.47 | 4.80 | 396.17 | 410.09 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 2600.00 | 651.28 | 0.00 | 651.75 | 25.02 | 5.55 | 545.17 | 519.75 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1100.00 | 648.62 | 0.00 | 648.95 | 29.24 | 4.65 | 236.68 | 203.41 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1600.00 | 650.19 | 0.00 | 650.56 | 25.20 | 4.86 | 329.04 | 318.72 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.59 | 0.00 | 651.03 | 29.05 | 5.36 | 354.38 | 352.49 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 2600.00 | 651.46 | 0.00 | 652.07 | 35.58 | 6.30 | 420.72 | 435.86 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1100.00 | 648.65 | 0.00 | 649.37 | 73.84 | 6.82 | 161.31 | 128.01 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1600.00 | 650.78 | 0.00 | 651.38 | 42.04 | 6.24 | 256.22 | 246.76 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1900.00 | 651.00 | 0.00 | 651.75 | 50.46 | 7.01 | 307.90 | 267.47 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 2600.00 | 651.30 | 0.00 | 652.45 | 74.54 | 8.82 | 369.82 | 301.15 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1100.00 | 649.66 | 0.00 | 650.07 | 33.43 | 5.16 | 213.26 | 190.25 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1600.00 | 651.50 | 0.00 | 651.83 | 20.26 | 4.81 | 465.14 | 355.49 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 651.94 | 0.00 | 652.26 | 19.87 | 4.98 | 583.60 | 426.20 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 2600.00 | 652.81 | 0.00 | 653.12 | 17.90 | 5.13 | 846.00 | 614.51 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1100.00 | 650.33 | 0.00 | 650.75 | 34.06 | 5.19 | 211.84 | 188.47 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1600.00 | 651.91 | 0.00 | 652.31 | 25.98 | 5.27 | 392.63 | 313.91 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.33 | 0.00 | 652.74 | 25.71 | 5.49 | 497.89 | 374.72 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 2600.00 | 653.16 | 0.00 | 653.56 | 23.74 | 5.72 | 741.76 | 533.65 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1100.00 | 650.97 | 0.00 | 651.28 | 23.43 | 4.49 | 245.22 | 227.26 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1600.00 | 652.38 | 0.00 | 652.77 | 23.84 | 5.05 | 316.75 | 327.72 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.78 | 0.00 | 653.27 | 28.32 | 5.62 | 338.14 | 357.05 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 2600.00 | 653.54 | 0.00 | 654.21 | 39.36 | 6.64 | 445.11 | 414.42 |

| SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1100.00 | 651.47 | 0.00 | 651.82 | 27.83 | 4.76 | 231.02 | 208.51 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1600.00 | 652.87 | 0.00 | 653.31 | 27.48 | 5.31 | 301.29 | 305.21 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.36 | 0.00 | 653.89 | 30.85 | 5.82 | 326.48 | 342.10 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 2600.00 | 654.35 | 0.00 | 655.02 | 39.33 | 6.64 | 445.40 | 414.57 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1100.00 | 651.85 | 0.00 | 652.13 | 19.41 | 4.22 | 260.72 | 249.65 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1600.00 | 653.27 | 0.00 | 653.63 | 20.53 | 4.81 | 332.81 | 353.16 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.83 | 0.00 | 654.25 | 23.86 | 5.23 | 366.05 | 388.96 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 2600.00 | 655.06 | 0.00 | 655.49 | 24.78 | 5.44 | 607.56 | 522.32 |

SPENCER-BARNARD CR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 804.000 | 1100.00 | 634.80 | 0.00 | 0.00 | 0.00 | 95.75 | 0.00 |
| 804.000 | 1600.00 | 634.90 | .10 | 0.00 | 0.00 | 121.84 | 0.00 |
| 804.000 | 1900.00 | 635.20 | .30 | 0.00 | 0.00 | 200.11 | 0.00 |
| 804.000 | 2600.00 | 635.50 | .30 | 0.00 | 0.00 | 326.33 | 0.00 |
| 805.200 | 1100.00 | 634.84 | 0.00 | .04 | 0.00 | 104.84 | 120.00 |
| 805.200 | 1600.00 | 634.97 | .14 | .07 | 0.00 | 140.41 | 120.00 |
| 805.200 | 1900.00 | 635.29 | .32 | .09 | 0.00 | 223.54 | 120.00 |
| 805.200 | 2600.00 | 635.66 | .36 | .16 | 0.00 | 401.26 | 120.00 |
| 804.980 | 1100.00 | 634.87 | 0.00 | .04 | 0.00 | 88.53 | 130.00 |
| 804.980 | 1600.00 | 635.05 | .17 | .07 | 0.00 | 91.51 | 130.00 |
| 804.980 | 1900.00 | 635.38 | .34 | .09 | 0.00 | 118.99 | 130.00 |
| 804.980 | 2600.00 | 635.80 | .41 | .14 | 0.00 | 227.28 | 130.00 |
| 805.020 | 1100.00 | 634.99 | 0.00 | .12 | 0.00 | 202.22 | 14.00 |
| 805.020 | 1600.00 | 635.26 | .27 | .21 | 0.00 | 374.99 | 14.00 |
| 805.020 | 1900.00 | 635.55 | .29 | .17 | 0.00 | 530.00 | 14.00 |
| 805.020 | 2600.00 | 635.93 | .38 | .14 | 0.00 | 530.00 | 14.00 |
| 805.800 | 1100.00 | 635.03 | 0.00 | .04 | 0.00 | 257.20 | 116.00 |
| 805.800 | 1600.00 | 635.34 | .30 | .08 | 0.00 | 375.56 | 116.00 |
| 805.800 | 1900.00 | 635.65 | .31 | .09 | 0.00 | 530.00 | 116.00 |
| 805.800 | 2600.00 | 636.07 | .42 | .14 | 0.00 | 530.00 | 116.00 |
| 805.980 | 1100.00 | 635.09 | 0.00 | .06 | 0.00 | 117.09 | 190.00 |
| 805.980 | 1600.00 | 635.44 | .35 | .10 | 0.00 | 166.78 | 190.00 |
| 805.980 | 1900.00 | 635.76 | .32 | .11 | 0.00 | 313.84 | 190.00 |
| 805.980 | 2600.00 | 636.22 | .46 | .15 | 0.00 | 530.00 | 190.00 |
| 806.000 | 1100.00 | 635.13 | 0.00 | .04 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1600.00 | 635.53 | .39 | .09 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1900.00 | 635.88 | .35 | .12 | 0.00 | 498.00 | 14.00 |
| 806.000 | 2600.00 | 636.40 | .52 | .18 | 0.00 | 498.00 | 14.00 |
| 806.500 | 1100.00 | 635.20 | 0.00 | .06 | 0.00 | 497.40 | 270.00 |
| 806.500 | 1600.00 | 635.62 | .42 | .09 | 0.00 | 498.00 | 270.00 |
| 806.500 | 1900.00 | 635.97 | .36 | .10 | 0.00 | 498.00 | 270.00 |
| 806.500 | 2600.00 | 636.52 | .55 | .12 | 0.00 | 498.00 | 270.00 |
| 806.600 | 1100.00 | 635.26 | 0.00 | .06 | 0.00 | 370.62 | 250.00 |
| 806.600 | 1600.00 | 635.70 | .45 | .09 | 0.00 | 423.44 | 250.00 |
| 806.600 | 1900.00 | 636.06 | .36 | .09 | 0.00 | 428.00 | 250.00 |
| 806.600 | 2600.00 | 636.62 | .56 | .10 | 0.00 | 428.00 | 250.00 |
| 807.000 | 1100.00 | 635.32 | 0.00 | .06 | 0.00 | 341.88 | 230.00 |
| 807.000 | 1600.00 | 635.80 | .48 | .09 | 0.00 | 392.95 | 230.00 |
| 807.000 | 1900.00 | 636.16 | .36 | .10 | 0.00 | 428.00 | 230.00 |
| 807.000 | 2600.00 | 636.75 | .59 | .13 | 0.00 | 428.00 | 230.00 |
| 807.500 | 1100.00 | 635.49 | 0.00 | .17 | 0.00 | 122.37 | 470.00 |
| 807.500 | 1600.00 | 636.05 | .56 | .26 | 0.00 | 311.75 | 470.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 807.500 | 1900.00 | 636.44 | .38 | .28 | 0.00 | 362.18 | 470.00 |
| 807.500 | 2600.00 | 637.09 | .65 | .34 | 0.00 | 428.00 | 470.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 807.600 | 1100.00 | 635.73 | 0.00 | .24 | 0.00 | 235.57 | 400.00 |
| 807.600 | 1600.00 | 636.43 | .71 | .38 | 0.00 | 445.02 | 400.00 |
| 807.600 | 1900.00 | 636.86 | .42 | .42 | 0.00 | 456.45 | 400.00 |
| 807.600 | 2600.00 | 637.58 | .72 | .49 | 0.00 | 461.27 | 400.00 |
| 808.200 | 1100.00 | 635.97 | 0.00 | .24 | 0.00 | 182.99 | 280.00 |
| 808.200 | 1600.00 | 636.77 | .80 | .33 | 0.00 | 440.66 | 280.00 |
| 808.200 | 1900.00 | 637.17 | .40 | .31 | 0.00 | 451.34 | 280.00 |
| 808.200 | 2600.00 | 637.87 | .71 | .29 | 0.00 | 460.90 | 280.00 |
| 807.980 | 1100.00 | 636.02 | 0.00 | .05 | 0.00 | 62.11 | 70.00 |
| 807.980 | 1600.00 | 636.82 | .80 | .06 | 0.00 | 195.03 | 70.00 |
| 807.980 | 1900.00 | 637.21 | .39 | .05 | 0.00 | 239.98 | 70.00 |
| 807.980 | 2600.00 | 637.91 | .70 | .04 | 0.00 | 449.82 | 70.00 |
| 808.020 | 1100.00 | 636.52 | 0.00 | .49 | 0.00 | 67.54 | 80.00 |
| 808.020 | 1600.00 | 637.82 | 1.30 | 1.00 | 0.00 | 535.00 | 80.00 |
| 808.020 | 1900.00 | 638.17 | .35 | .96 | 0.00 | 535.00 | 80.00 |
| 808.020 | 2600.00 | 638.70 | .52 | .79 | 0.00 | 535.00 | 80.00 |
| 808.800 | 1100.00 | 636.57 | 0.00 | .05 | 0.00 | 166.77 | 60.00 |
| 808.800 | 1600.00 | 637.87 | 1.30 | .04 | 0.00 | 535.00 | 60.00 |
| 808.800 | 1900.00 | 638.22 | .35 | .04 | 0.00 | 535.00 | 60.00 |
| 808.800 | 2600.00 | 638.75 | .53 | .05 | 0.00 | 535.00 | 60.00 |
| 808.900 | 1100.00 | 636.82 | 0.00 | .25 | 0.00 | 138.51 | 340.00 |
| 808.900 | 1600.00 | 638.07 | 1.26 | .21 | 0.00 | 526.00 | 340.00 |
| 808.900 | 1900.00 | 638.43 | .36 | .22 | 0.00 | 535.00 | 340.00 |
| 808.900 | 2600.00 | 639.00 | .57 | .25 | 0.00 | 535.00 | 340.00 |
| 809.000 | 1100.00 | 637.07 | 0.00 | .25 | 0.00 | 281.62 | 290.00 |
| 809.000 | 1600.00 | 638.34 | 1.28 | .27 | 0.00 | 448.06 | 290.00 |
| 809.000 | 1900.00 | 638.71 | .37 | .27 | 0.00 | 529.20 | 290.00 |
| 809.000 | 2600.00 | 639.31 | .60 | .31 | 0.00 | 600.00 | 290.00 |
| 809.500 | 1100.00 | 637.45 | 0.00 | .39 | 0.00 | 197.54 | 310.00 |
| 809.500 | 1600.00 | 638.63 | 1.17 | .29 | 0.00 | 415.32 | 310.00 |
| 809.500 | 1900.00 | 638.99 | .37 | .29 | 0.00 | 444.39 | 310.00 |
| 809.500 | 2600.00 | 639.60 | .61 | .30 | 0.00 | 593.64 | 310.00 |
| 809.600 | 1100.00 | 637.90 | 0.00 | .45 | 0.00 | 54.83 | 300.00 |
| 809.600 | 1600.00 | 638.99 | 1.08 | .36 | 0.00 | 60.56 | 300.00 |
| 809.600 | 1900.00 | 639.33 | .35 | .34 | 0.00 | 169.31 | 300.00 |
| 809.600 | 2600.00 | 639.91 | .57 | .30 | 0.00 | 270.09 | 300.00 |
| 810.200 | 1100.00 | 638.39 | 0.00 | .49 | 0.00 | 53.70 | 290.00 |
| 810.200 | 1600.00 | 639.58 | 1.19 | .60 | 0.00 | 60.02 | 290.00 |
| 810.200 | 1900.00 | 640.03 | .44 | .70 | 0.00 | 170.79 | 290.00 |
| 810.200 | 2600.00 | 640.81 | .79 | .91 | 0.00 | 287.40 | 290.00 |
| 809.980 | 1100.00 | 638.56 | 0.00 | .17 | 0.00 | 52.98 | 95.00 |
| 809.980 | 1600.00 | 639.79 | 1.22 | .20 | 0.00 | 59.48 | 95.00 |
| 809.980 | 1900.00 | 640.25 | .47 | .23 | 0.00 | 149.41 | 95.00 |
| 809.980 | 2600.00 | 641.06 | .81 | .25 | 0.00 | 283.92 | 95.00 |

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TCPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 810.020 | 1100.00 | 638.91 | 0.00 | .35 | 0.00 | 51.38 | 65.00 |
| 810.020 | 1600.00 | 640.54 | 1.62 | .75 | 0.00 | 53.99 | 65.00 |
| 810.020 | 1900.00 | 640.82 | .28 | .56 | 0.00 | 90.05 | 65.00 |
| 810.020 | 2600.00 | 641.10 | .28 | .03 | 0.00 | 100.35 | 65.00 |
| 810.800 | 1100.00 | 639.14 | 0.00 | .22 | 0.00 | 59.74 | 110.00 |
| 810.800 | 1600.00 | 640.77 | 1.63 | .23 | 0.00 | 102.86 | 110.00 |
| 810.800 | 1900.00 | 641.10 | .33 | .28 | 0.00 | 147.32 | 110.00 |
| 810.800 | 2600.00 | 641.64 | .54 | .54 | 0.00 | 475.00 | 110.00 |
| 810.900 | 1100.00 | 639.46 | 0.00 | .32 | 0.00 | 54.80 | 250.00 |
| 810.900 | 1600.00 | 641.07 | 1.62 | .30 | 0.00 | 293.52 | 250.00 |
| 810.900 | 1900.00 | 641.49 | .41 | .39 | 0.00 | 294.64 | 250.00 |
| 810.900 | 2600.00 | 642.23 | .75 | .59 | 0.00 | 296.66 | 250.00 |
| 811.200 | 1100.00 | 639.82 | 0.00 | .36 | 0.00 | 53.82 | 250.00 |
| 811.200 | 1600.00 | 641.51 | 1.69 | .44 | 0.00 | 96.09 | 250.00 |
| 811.200 | 1900.00 | 641.94 | .43 | .45 | 0.00 | 97.24 | 250.00 |
| 811.200 | 2600.00 | 642.73 | .80 | .50 | 0.00 | 296.39 | 250.00 |
| 810.980 | 1100.00 | 639.90 | 0.00 | .08 | 0.00 | 51.30 | 60.00 |
| 810.980 | 1600.00 | 641.61 | 1.70 | .09 | 0.00 | 58.35 | 60.00 |
| 810.980 | 1900.00 | 642.03 | .42 | .09 | 0.00 | 59.59 | 60.00 |
| 810.980 | 2600.00 | 642.76 | .73 | .02 | 0.00 | 294.56 | 60.00 |
| 811.020 | 1100.00 | 640.14 | 0.00 | .24 | 0.00 | 60.00 | 160.00 |
| 811.020 | 1600.00 | 642.22 | 2.07 | .61 | 0.00 | 60.00 | 160.00 |
| 811.020 | 1900.00 | 642.92 | .70 | .89 | 0.00 | 60.00 | 160.00 |
| 811.020 | 2600.00 | 644.59 | 1.68 | 1.84 | 0.00 | 176.00 | 160.00 |
| 811.280 | 1100.00 | 640.17 | 0.00 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 1600.00 | 642.24 | 2.07 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 1900.00 | 642.94 | .70 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 2600.00 | 644.67 | 1.73 | .08 | 0.00 | 346.00 | 76.00 |
| 811.290 | 1100.00 | 639.45 | 0.00 | -.72 | 0.00 | 25.99 | 1.00 |
| 811.290 | 1600.00 | 641.83 | 2.38 | -.41 | 0.00 | 39.94 | 1.00 |
| 811.290 | 1900.00 | 642.50 | .67 | -.44 | 0.00 | 39.99 | 1.00 |
| 811.290 | 2600.00 | 644.32 | 1.82 | -.35 | 0.00 | 346.00 | 1.00 |
| 811.310 | 1100.00 | 639.47 | 0.00 | .01 | 0.00 | 25.99 | 2.00 |
| 811.310 | 1600.00 | 641.84 | 2.37 | .00 | 0.00 | 39.94 | 2.00 |
| 811.310 | 1900.00 | 642.51 | .67 | .01 | 0.00 | 39.99 | 2.00 |
| 811.310 | 2600.00 | 644.32 | 1.81 | .00 | 0.00 | 346.00 | 2.00 |
| 811.320 | 1100.00 | 641.50 | 0.00 | 2.03 | 0.00 | 198.25 | 1.00 |
| 811.320 | 1600.00 | 643.09 | 1.60 | 1.26 | 0.00 | 242.03 | 1.00 |
| 811.320 | 1900.00 | 643.89 | .80 | 1.38 | 0.00 | 332.48 | 1.00 |
| 811.320 | 2600.00 | 645.27 | 1.38 | .95 | 0.00 | 346.00 | 1.00 |
| 811.800 | 1100.00 | 641.51 | 0.00 | .01 | 0.00 | 206.52 | 25.00 |
| 811.800 | 1600.00 | 643.11 | 1.60 | .01 | 0.00 | 243.07 | 25.00 |
| 811.800 | 1900.00 | 643.90 | .80 | .01 | 0.00 | 343.52 | 25.00 |
| 811.800 | 2600.00 | 645.29 | 1.39 | .01 | 0.00 | 346.00 | 25.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 812.000 | 1100.00 | 641.51 | 0.00 | .00 | 0.00 | 193.10 | 50.00 |
| 812.000 | 1600.00 | 643.11 | 1.60 | .00 | 0.00 | 277.28 | 50.00 |
| 812.000 | 1900.00 | 643.91 | .80 | .00 | 0.00 | 383.64 | 50.00 |
| 812.000 | 2600.00 | 645.29 | 1.39 | .00 | 0.00 | 408.00 | 50.00 |
| 812.100 | 1100.00 | 641.52 | 0.00 | .00 | 0.00 | 193.14 | 150.00 |
| 812.100 | 1600.00 | 643.12 | 1.60 | .00 | 0.00 | 277.91 | 150.00 |
| 812.100 | 1900.00 | 643.91 | .80 | .00 | 0.00 | 384.33 | 150.00 |
| 812.100 | 2600.00 | 645.30 | 1.39 | .01 | 0.00 | 408.00 | 150.00 |
| 812.800 | 1100.00 | 641.52 | 0.00 | -.00 | 0.00 | 194.40 | 20.00 |
| 812.800 | 1600.00 | 643.12 | 1.60 | -.00 | 0.00 | 246.32 | 20.00 |
| 812.800 | 1900.00 | 643.91 | .80 | -.00 | 0.00 | 354.74 | 20.00 |
| 812.800 | 2600.00 | 645.30 | 1.39 | -.00 | 0.00 | 377.36 | 20.00 |
| 812.980 | 1100.00 | 641.48 | 0.00 | -.03 | 0.00 | 59.54 | 10.00 |
| 812.980 | 1600.00 | 643.07 | 1.58 | -.05 | 0.00 | 183.47 | 10.00 |
| 812.980 | 1900.00 | 643.86 | .79 | -.05 | 0.00 | 317.33 | 10.00 |
| 812.980 | 2600.00 | 645.25 | 1.39 | -.05 | 0.00 | 377.27 | 10.00 |
| 813.020 | 1100.00 | 642.27 | 0.00 | .79 | 0.00 | 59.90 | 90.00 |
| 813.020 | 1600.00 | 643.76 | 1.49 | .69 | 0.00 | 292.55 | 90.00 |
| 813.020 | 1900.00 | 644.31 | .55 | .45 | 0.00 | 364.06 | 90.00 |
| 813.020 | 2600.00 | 645.41 | 1.11 | .16 | 0.00 | 377.58 | 90.00 |
| 813.700 | 1100.00 | 642.35 | 0.00 | .07 | 0.00 | 204.30 | 40.00 |
| 813.700 | 1600.00 | 643.86 | 1.51 | .10 | 0.00 | 344.25 | 40.00 |
| 813.700 | 1900.00 | 644.42 | .56 | .11 | 0.00 | 391.99 | 40.00 |
| 813.700 | 2600.00 | 645.53 | 1.11 | .12 | 0.00 | 417.81 | 40.00 |
| 813.800 | 1100.00 | 642.35 | 0.00 | .00 | 0.00 | 187.94 | 45.00 |
| 813.800 | 1600.00 | 643.86 | 1.51 | .00 | 0.00 | 233.00 | 45.00 |
| 813.800 | 1900.00 | 644.42 | .56 | .00 | 0.00 | 337.91 | 45.00 |
| 813.800 | 2600.00 | 645.53 | 1.11 | .00 | 0.00 | 371.49 | 45.00 |
| 814.200 | 1100.00 | 642.35 | 0.00 | .00 | 0.00 | 187.94 | 190.00 |
| 814.200 | 1600.00 | 643.87 | 1.51 | .01 | 0.00 | 232.99 | 190.00 |
| 814.200 | 1900.00 | 644.43 | .56 | .01 | 0.00 | 337.92 | 190.00 |
| 814.200 | 2600.00 | 645.54 | 1.11 | .01 | 0.00 | 371.49 | 190.00 |
| 814.300 | 1100.00 | 642.36 | 0.00 | .00 | 0.00 | 204.37 | 25.00 |
| 814.300 | 1600.00 | 643.87 | 1.52 | .00 | 0.00 | 345.92 | 25.00 |
| 814.300 | 1900.00 | 644.43 | .56 | .00 | 0.00 | 392.42 | 25.00 |
| 814.300 | 2600.00 | 645.55 | 1.11 | .00 | 0.00 | 417.84 | 25.00 |
| 813.980 | 1100.00 | 642.26 | 0.00 | -.09 | 0.00 | 50.00 | 35.00 |
| 813.980 | 1600.00 | 643.74 | 1.48 | -.13 | 0.00 | 50.00 | 35.00 |
| 813.980 | 1900.00 | 644.41 | .67 | -.02 | 0.00 | 336.14 | 35.00 |
| 813.980 | 2600.00 | 645.52 | 1.11 | -.02 | 0.00 | 371.46 | 35.00 |
| 814.020 | 1100.00 | 642.28 | 0.00 | .02 | 0.00 | 48.61 | 170.00 |
| 814.020 | 1600.00 | 645.62 | 3.35 | 1.88 | 0.00 | 56.00 | 170.00 |
| 814.020 | 1900.00 | 646.93 | 1.30 | 2.52 | 0.00 | 455.00 | 170.00 |
| 814.020 | 2600.00 | 647.57 | .64 | 2.05 | 0.00 | 455.00 | 170.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 814.800 | 1100.00 | 642.60 | 0.00 | .33 | 0.00 | 52.13 | 80.00 |
| | 814.800 | 1600.00 | 645.80 | 3.19 | .17 | 0.00 | 225.37 | 80.00 |
| | 814.800 | 1900.00 | 647.05 | 1.25 | .12 | 0.00 | 351.73 | 80.00 |
| | 814.800 | 2600.00 | 647.69 | .65 | .13 | 0.00 | 381.11 | 80.00 |
| | 814.850 | 1100.00 | 642.68 | 0.00 | .08 | 0.00 | 48.95 | 62.00 |
| | 814.850 | 1600.00 | 645.83 | 3.15 | .03 | 0.00 | 73.79 | 62.00 |
| | 814.850 | 1900.00 | 647.05 | 1.22 | .00 | 0.00 | 256.33 | 62.00 |
| | 814.850 | 2600.00 | 647.69 | .64 | -.01 | 0.00 | 319.33 | 62.00 |
| * | 814.980 | 1100.00 | 644.73 | 0.00 | 2.05 | 0.00 | 31.05 | 1.00 |
| * | 814.980 | 1600.00 | 645.84 | 1.11 | .01 | 0.00 | 31.50 | 1.00 |
| * | 814.980 | 1900.00 | 647.35 | 1.50 | .30 | 0.00 | 483.18 | 1.00 |
| * | 814.980 | 2600.00 | 647.96 | .61 | .27 | 0.00 | 510.00 | 1.00 |
| | 815.020 | 1100.00 | 645.62 | 0.00 | .89 | 0.00 | 31.41 | 2.00 |
| | 815.020 | 1600.00 | 646.60 | .98 | .76 | 0.00 | 31.80 | 2.00 |
| | 815.020 | 1900.00 | 647.36 | .76 | .01 | 0.00 | 483.44 | 2.00 |
| | 815.020 | 2600.00 | 647.97 | .61 | .01 | 0.00 | 510.00 | 2.00 |
| | 815.500 | 1100.00 | 646.99 | 0.00 | 1.36 | 0.00 | 309.30 | 1.00 |
| | 815.500 | 1600.00 | 648.52 | 1.54 | 1.92 | 0.00 | 395.00 | 1.00 |
| | 815.500 | 1900.00 | 648.51 | -.01 | 1.15 | 0.00 | 395.00 | 1.00 |
| | 815.500 | 2600.00 | 649.01 | .50 | 1.04 | 0.00 | 395.00 | 1.00 |
| | 815.800 | 1100.00 | 647.04 | 0.00 | .06 | 0.00 | 470.41 | 60.00 |
| | 815.800 | 1600.00 | 648.57 | 1.53 | .05 | 0.00 | 625.00 | 60.00 |
| | 815.800 | 1900.00 | 648.58 | .01 | .07 | 0.00 | 625.00 | 60.00 |
| | 815.800 | 2600.00 | 649.11 | .53 | .10 | 0.00 | 625.00 | 60.00 |
| | 815.850 | 1100.00 | 647.07 | 0.00 | .02 | 0.00 | 407.42 | 315.00 |
| | 815.850 | 1600.00 | 648.59 | 1.52 | .02 | 0.00 | 625.00 | 315.00 |
| | 815.850 | 1900.00 | 648.61 | .01 | .03 | 0.00 | 625.00 | 315.00 |
| | 815.850 | 2600.00 | 649.14 | .54 | .04 | 0.00 | 625.00 | 315.00 |
| | 815.900 | 1100.00 | 647.10 | 0.00 | .03 | 0.00 | 347.88 | 350.00 |
| | 815.900 | 1600.00 | 648.62 | 1.52 | .03 | 0.00 | 611.42 | 350.00 |
| | 815.900 | 1900.00 | 648.64 | .03 | .04 | 0.00 | 615.35 | 350.00 |
| | 815.900 | 2600.00 | 649.19 | .55 | .05 | 0.00 | 625.00 | 350.00 |
| | 815.980 | 1100.00 | 647.13 | 0.00 | .02 | 0.00 | 288.67 | 220.00 |
| | 815.980 | 1600.00 | 648.64 | 1.51 | .02 | 0.00 | 566.40 | 220.00 |
| | 815.980 | 1900.00 | 648.67 | .03 | .03 | 0.00 | 571.68 | 220.00 |
| | 815.980 | 2600.00 | 649.23 | .56 | .04 | 0.00 | 625.00 | 220.00 |
| | 816.020 | 1100.00 | 647.70 | 0.00 | .57 | 0.00 | 103.24 | 72.00 |
| | 816.020 | 1600.00 | 649.35 | 1.66 | .72 | 0.00 | 122.17 | 72.00 |
| | 816.020 | 1900.00 | 649.56 | .20 | .88 | 0.00 | 134.33 | 72.00 |
| | 816.020 | 2600.00 | 650.16 | .60 | .93 | 0.00 | 171.71 | 72.00 |
| | 816.800 | 1100.00 | 647.72 | 0.00 | .02 | 0.00 | 104.70 | 70.00 |
| | 816.800 | 1600.00 | 649.38 | 1.66 | .02 | 0.00 | 135.08 | 70.00 |
| | 816.800 | 1900.00 | 649.59 | .21 | .03 | 0.00 | 148.17 | 70.00 |
| | 816.800 | 2600.00 | 650.21 | .62 | .05 | 0.00 | 186.63 | 70.00 |

| SECNO | Q | C.SEL | DIFWSP | DIFWSX | DIFKBS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 816.900 | 1100.00 | 647.80 | 0.00 | .09 | 0.00 | 98.46 | 335.00 |
| 816.900 | 1600.00 | 649.47 | 1.66 | .09 | 0.00 | 109.89 | 335.00 |
| 816.900 | 1900.00 | 649.70 | .23 | .11 | 0.00 | 111.50 | 335.00 |
| 816.900 | 2600.00 | 650.37 | .67 | .17 | 0.00 | 135.57 | 335.00 |
| 817.100 | 1100.00 | 647.93 | 0.00 | .13 | 0.00 | 59.05 | 350.00 |
| 817.100 | 1600.00 | 649.58 | 1.64 | .11 | 0.00 | 67.92 | 350.00 |
| 817.100 | 1900.00 | 649.84 | .26 | .14 | 0.00 | 129.84 | 350.00 |
| 817.100 | 2600.00 | 650.58 | .74 | .20 | 0.00 | 224.96 | 350.00 |
| 817.200 | 1100.00 | 648.46 | 0.00 | .52 | 0.00 | 57.56 | 295.00 |
| 817.200 | 1600.00 | 650.05 | 1.60 | .48 | 0.00 | 66.19 | 295.00 |
| 817.200 | 1900.00 | 650.42 | .37 | .58 | 0.00 | 73.36 | 295.00 |
| 817.200 | 2600.00 | 651.28 | .86 | .70 | 0.00 | 224.68 | 295.00 |
| 816.980 | 1100.00 | 648.62 | 0.00 | .16 | 0.00 | 54.08 | 85.00 |
| 816.980 | 1600.00 | 650.19 | 1.58 | .14 | 0.00 | 62.64 | 85.00 |
| 816.980 | 1900.00 | 650.59 | .39 | .17 | 0.00 | 64.79 | 85.00 |
| 816.980 | 2600.00 | 651.46 | .87 | .18 | 0.00 | 134.65 | 85.00 |
| 817.020 | 1100.00 | 648.65 | 0.00 | .03 | 0.00 | 40.90 | 63.00 |
| 817.020 | 1600.00 | 650.78 | 2.13 | .59 | 0.00 | 47.85 | 63.00 |
| 817.020 | 1900.00 | 651.00 | .23 | .42 | 0.00 | 193.36 | 63.00 |
| 817.020 | 2600.00 | 651.30 | .29 | -.16 | 0.00 | 220.09 | 63.00 |
| 817.800 | 1100.00 | 649.66 | 0.00 | 1.01 | 0.00 | 44.94 | 127.00 |
| 817.800 | 1600.00 | 651.50 | 1.84 | .72 | 0.00 | 255.83 | 127.00 |
| 817.800 | 1900.00 | 651.94 | .44 | .93 | 0.00 | 294.27 | 127.00 |
| 817.800 | 2600.00 | 652.81 | .88 | 1.52 | 0.00 | 300.00 | 127.00 |
| 817.850 | 1100.00 | 650.33 | 0.00 | .67 | 0.00 | 44.83 | 200.00 |
| 817.850 | 1600.00 | 651.91 | 1.57 | .40 | 0.00 | 229.15 | 200.00 |
| 817.850 | 1900.00 | 652.33 | .42 | .39 | 0.00 | 267.01 | 200.00 |
| 817.850 | 2600.00 | 653.16 | .84 | .35 | 0.00 | 300.00 | 200.00 |
| 818.100 | 1100.00 | 650.97 | 0.00 | .64 | 0.00 | 48.54 | 185.00 |
| 818.100 | 1600.00 | 652.38 | 1.41 | .47 | 0.00 | 52.60 | 185.00 |
| 818.100 | 1900.00 | 652.78 | .40 | .45 | 0.00 | 54.39 | 185.00 |
| 818.100 | 2600.00 | 653.54 | .76 | .38 | 0.00 | 187.15 | 185.00 |
| 818.200 | 1100.00 | 651.47 | 0.00 | .50 | 0.00 | 47.69 | 205.00 |
| 818.200 | 1600.00 | 652.87 | 1.41 | .50 | 0.00 | 51.75 | 205.00 |
| 818.200 | 1900.00 | 653.36 | .49 | .58 | 0.00 | 53.13 | 205.00 |
| 818.200 | 2600.00 | 654.35 | .99 | .81 | 0.00 | 187.23 | 205.00 |
| 818.980 | 1100.00 | 651.85 | 0.00 | .38 | 0.00 | 48.79 | 120.00 |
| 818.980 | 1600.00 | 653.27 | 1.42 | .39 | 0.00 | 52.86 | 120.00 |
| 818.980 | 1900.00 | 653.83 | .56 | .47 | 0.00 | 159.28 | 120.00 |
| 818.980 | 2600.00 | 655.06 | 1.23 | .71 | 0.00 | 327.35 | 120.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  814.980  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=  814.980  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOOD INSURANCE ZONE DATA FOR SPENCER-BARNARD CR. - U/

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 804.000 | 0. | -.40 | -.30 | .30 |
| 805.200 | 120. | -.46 | -.32 | .36 |
| 804.980 | 250. | -.51 | -.34 | .41 |
| 805.020 | 264. | -.56 | -.29 | .38 |
| 805.800 | 380. | -.61 | -.31 | .42 |
| 805.980 | 570. | -.67 | -.32 | .46 |
| 806.000 | 584. | -.74 | -.35 | .52 |
| 806.500 | 854. | -.78 | -.36 | .55 |
| 806.600 | 1104. | -.80 | -.36 | .56 |
| 807.000 | 1334. | -.84 | -.36 | .59 |
| 807.500 | 1804. | -.95 | -.38 | .65 |
| 807.600 | 2204. | -1.13 | -.42 | .72 |
| 808.200 | 2484. | -1.20 | -.40 | .71 |
| 807.980 | 2554. | -1.19 | -.39 | .70 |
| 808.020 | 2634. | -1.66 | -.35 | .52 |
| 808.800 | 2694. | -1.65 | -.35 | .53 |
| 808.900 | 3034. | -1.62 | -.36 | .57 |
| 809.000 | 3324. | -1.64 | -.37 | .60 |
| 809.500 | 3634. | -1.54 | -.37 | .61 |
| 809.600 | 3934. | -1.43 | -.35 | .57 |
| 810.200 | 4224. | -1.64 | -.44 | .79 |
| 809.980 | 4319. | -1.69 | -.47 | .81 |
| 810.020 | 4384. | -1.90 | -.28 | .28 |
| 810.800 | 4494. | -1.96 | -.33 | .54 |
| 810.900 | 4744. | -2.03 | -.41 | .75 |
| 811.200 | 4994. | -2.12 | -.43 | .80 |
| 810.980 | 5054. | -2.13 | -.42 | .73 |
| 811.020 | 5214. | -2.78 | -.70 | 1.68 |
| 811.280 | 5290. | -2.77 | -.70 | 1.73 |
| 811.290 | 5291. | -3.05 | -.67 | 1.82 |
| 811.310 | 5293. | -3.04 | -.67 | 1.81 |
| 811.320 | 5294. | -2.39 | -.80 | 1.38 |
| 811.800 | 5319. | -2.39 | -.80 | 1.39 |
| 812.000 | 5369. | -2.39 | -.80 | 1.39 |
| 812.100 | 5519. | -2.40 | -.80 | 1.39 |
| 812.800 | 5539. | -2.40 | -.80 | 1.39 |
| 812.980 | 5549. | -2.38 | -.79 | 1.39 |
| 813.020 | 5639. | -2.03 | -.55 | 1.11 |
| 813.700 | 5679. | -2.07 | -.56 | 1.11 |
| 813.800 | 5724. | -2.07 | -.56 | 1.11 |
| 814.200 | 5914. | -2.08 | -.56 | 1.11 |
| 814.300 | 5939. | -2.08 | -.56 | 1.11 |
| 813.980 | 5974. | -2.15 | -.67 | 1.11 |
| 814.020 | 6144. | -4.65 | -1.30 | .64 |
| 814.800 | 6224. | -4.44 | -1.25 | .65 |
| 814.850 | 6286. | -4.37 | -1.22 | .64 |
| 814.980 | 6287. | -2.62 | -1.50 | .61 |
| 815.020 | 6289. | -1.74 | -.76 | .61 |
| 815.500 | 6290. | -1.53 | .01 | .50 |

| | | | | |
|---|---|---|---|---|
| 815.800 | 6350. | -1.54 | -.01 | .53 |
| 815.850 | 6665. | -1.54 | -.01 | .54 |
| 815.900 | 7015. | -1.54 | -.03 | .55 |
| 815.980 | 7235. | -1.55 | -.03 | .56 |
| 816.020 | 7307. | -1.86 | -.20 | .60 |
| 816.830 | 7377. | -1.87 | -.21 | .62 |
| 816.900 | 7712. | -1.90 | -.23 | .67 |
| 817.100 | 8062. | -1.91 | -.26 | .74 |
| 817.200 | 8357. | -1.96 | -.37 | .86 |
| 816.980 | 8442. | -1.97 | -.39 | .87 |
| 817.020 | 8505. | -2.35 | -.23 | .29 |
| 817.800 | 8632. | -2.28 | -.44 | .88 |
| 817.850 | 8832. | -2.00 | -.42 | .84 |
| 818.100 | 9017. | -1.81 | -.40 | .76 |
| 818.200 | 9222. | -1.89 | -.49 | .59 |
| 818.980 | 9342. | -1.98 | -.56 | 1.23 |
| WEIGHTED AVG FOR REACH | | -1.64 | -.38 | .70 |

FHF FOR THE REACH = 015 WITH 64.7_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 804.000 | |
| 1 | 100. | 634.81 | 635.24 | -.43 | -.43 | 005 | 100. |
| | 120. | | | | SEC. | 805.200 | |
| 2 | 200. | 634.84 | 635.31 | -.47 | -.45 | 005 | 100. |
| | 250. | | | | SEC. | 804.980 | |
| | 264. | | | | SEC. | 805.020 | |
| 3 | 300. | 634.93 | 635.47 | -.54 | -.48 | 005 | 100. |
| | 380. | | | | SEC. | 805.800 | |
| 4 | 400. | 635.02 | 635.62 | -.60 | -.51 | 005 | 100. |
| 5 | 500. | 635.06 | 635.69 | -.63 | -.53 | 005 | 100. |
| | 570. | | | | SEC. | 805.980 | |
| | 584. | | | | SEC. | 806.000 | |
| 6 | 600. | 635.10 | 635.80 | -.70 | -.56 | 005 | 100. |
| 7 | 700. | 635.15 | 635.90 | -.75 | -.59 | 005 | 100. |
| 8 | 800. | 635.17 | 635.94 | -.77 | -.61 | 005 | 100. |
| | 854. | | | | SEC. | 806.500 | |
| 9 | 900. | 635.19 | 635.97 | -.78 | -.63 | 005 | 100. |
| 10 | 1000. | 635.22 | 636.01 | -.79 | -.65 | 005 | 100. |
| 11 | 1100. | 635.24 | 636.04 | -.80 | -.66 | 005 | 100. |
| | 1104. | | | | SEC. | 806.600 | |
| 12 | 1200. | 635.27 | 636.08 | -.81 | -.67 | 005 | 100. |
| 13 | 1300. | 635.30 | 636.13 | -.83 | -.68 | 005 | 100. |
| | 1334. | | | | SEC. | 807.000 | |
| 14 | 1400. | 635.33 | 636.17 | -.84 | -.70 | 005 | 100. |
| 15 | 1500. | 635.36 | 636.23 | -.87 | -.71 | 005 | 100. |
| 16 | 1600. | 635.40 | 636.29 | -.89 | -.72 | 005 | 100. |
| 17 | 1700. | 635.43 | 636.35 | -.92 | -.73 | 005 | 100. |
| 18 | 1800. | 635.47 | 636.41 | -.94 | -.74 | 005 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1804. | | | | SEC. | 807.500 | |
| 19 | 1900. | 635.52 | 636.49 | -.97 | -.75 | C10 | 1C0. |
| 20 | 2000. | 635.58 | 636.59 | -1.01 | -.77 | 010 | 100. |
| 21 | 2100. | 635.64 | 636.70 | -1.06 | -.78 | C1C | 1C0. |
| 22 | 22CC. | 635.70 | 636.80 | -1.10 | -.80 | 010 | 1C0. |
| | 2204. | | | | SEC. | 807.600 | |
| 23 | 2300. | 635.77 | 636.91 | -1.14 | -.81 | 010 | 1C0. |
| 24 | 2400. | 635.85 | 637.02 | -1.17 | -.83 | 010 | 100. |
| | 2484. | | | | SEC. | 808.200 | |
| 25 | 2500. | 635.94 | 637.13 | -1.19 | -.84 | 010 | 100. |
| | 2554. | | | | SEC. | 807.980 | |
| 26 | 2600. | 636.14 | 637.47 | -1.33 | -.86 | C10 | 1CC. |
| | 2634. | | | | SEC. | 8C8.020 | |
| | 2694. | | | | SEC. | 808.800 | |
| 27 | 2700. | 636.44 | 637.99 | -1.55 | -.88 | C10 | 96. |
| 28 | 2800. | 636.61 | 638.25 | -1.64 | -.91 | 010 | 93. |
| 29 | 2900. | 636.68 | 638.32 | -1.64 | -.94 | 010 | 86. |
| 30 | 3000. | 636.75 | 638.38 | -1.63 | -.96 | 010 | 83. |
| | 3034. | | | | SEC. | 808.900 | |
| 31 | 3100. | 636.83 | 638.45 | -1.62 | -.98 | C10 | 77. |
| 32 | 3200. | 636.92 | 638.54 | -1.62 | -1.CC | 010 | 75. |
| 33 | 3300. | 637.CC | 638.64 | -1.64 | -1.C2 | 010 | 73. |
| | 3324. | | | | SEC. | 8C9.C00 | |
| 34 | 3400. | 637.10 | 638.73 | -1.63 | -1.04 | 010 | 71. |
| 35 | 3500. | 637.22 | 638.82 | -1.60 | -1.C5 | 010 | 69. |
| 36 | 3600. | 637.35 | 638.92 | -1.57 | -1.C7 | 010 | 69. |
| | 3634. | | | | SEC. | 809.500 | |
| 37 | 3700. | 637.48 | 639.02 | -1.54 | -1.C8 | 010 | 70. |
| 38 | 3800. | 637.63 | 639.12 | -1.49 | -1.C9 | 010 | 71. |
| 39 | 3900. | 637.78 | 639.24 | -1.46 | -1.1C | 010 | 74. |
| | 3934. | | | | SEC. | 8C9.600 | |
| 40 | 4000. | 637.93 | 639.39 | -1.46 | -1.11 | 010 | 73. |
| 41 | 4100. | 638.1C | 639.61 | -1.51 | -1.12 | 010 | 78. |
| 42 | 4200. | 638.27 | 639.85 | -1.58 | -1.13 | 01C | 83. |
| | 4224. | | | | SEC. | 810.200 | |
| 43 | 4300. | 638.44 | 640.09 | -1.65 | -1.14 | C1C | 86. |
| | 4319. | | | | SEC. | 809.980 | |
| | 4384. | | | | SEC. | 810.020 | |
| 44 | 4400. | 638.74 | 640.53 | -1.79 | -1.16 | 010 | 86. |
| | 4494. | | | | SEC. | 810.800 | |
| 45 | 4500. | 639.C4 | 64C.98 | -1.94 | -1.18 | C10 | 84. |
| 46 | 4600. | 639.21 | 641.19 | -1.98 | -1.19 | 010 | 83. |
| 47 | 4700. | 639.34 | 641.34 | -2.00 | -1.21 | 010 | 79. |
| | 4744. | | | | SEC. | 81C.900 | |
| 48 | 4800. | 639.47 | 641.50 | -2.03 | -1.23 | 010 | 77. |
| 49 | 4900. | 639.61 | 641.68 | -2.07 | -1.24 | 010 | 76. |
| | 4994. | | | | SEC. | 811.200 | |
| 5C | 5000. | 639.75 | 641.86 | -2.11 | -1.26 | 015 | 72. |
| | 5054. | | | | SEC. | 81C.980 | |
| 51 | 51C0. | 639.90 | 642.12 | -2.22 | -1.28 | 015 | 69. |
| 52 | 5200. | 640.04 | 642.56 | -2.52 | -1.30 | 015 | 65. |
| | 5214. | | | | SEC. | 811.C20 | |
| | 5290. | | | | SEC. | 811.280 | |
| | 5291. | | | | SEC. | 811.290 | |
| | 5293. | | | | SEC. | 811.310 | |
| | 5294. | | | | SEC. | 811.320 | |
| 53 | 5300. | 640.81 | 643.37 | -2.56 | -1.33 | C15 | 60. |
| | 5319. | | | | SEC. | 811.800 | |
| | 5369. | | | | SEC. | 812.000 | |
| 54 | 5400. | 641.51 | 643.90 | -2.39 | -1.35 | 015 | 56. |
| 55 | 5500. | 641.52 | 643.91 | -2.39 | -1.37 | 015 | 55. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5519. | | | | | SEC. | 812.100 | |
| | 5539. | | | | | SEC. | 812.800 | |
| | 5549. | | | | | SEC. | 812.980 | |
| 56 | 5600. | 641.72 | 644.01 | -2.29 | -1.38 | 015 | | 52. |
| | 5639. | | | | | SEC. | 813.020 | |
| | 5679. | | | | | SEC. | 813.700 | |
| 57 | 5700. | 642.14 | 644.27 | -2.13 | -1.40 | 015 | | 49. |
| | 5724. | | | | | SEC. | 813.800 | |
| 58 | 5800. | 642.35 | 644.42 | -2.07 | -1.41 | 015 | | 48. |
| 59 | 5900. | 642.35 | 644.43 | -2.08 | -1.42 | 015 | | 47. |
| | 5914. | | | | | SEC. | 814.200 | |
| | 5939. | | | | | SEC. | 814.300 | |
| | 5974. | | | | | SEC. | 813.980 | |
| 60 | 6000. | 642.31 | 644.61 | -2.30 | -1.43 | 015 | | 45. |
| 61 | 6100. | 642.27 | 645.53 | -3.26 | -1.46 | 015 | | 44. |
| | 6144. | | | | | SEC. | 814.020 | |
| 62 | 6200. | 642.39 | 646.64 | -4.25 | -1.51 | 015 | | 45. |
| | 6224. | | | | | SEC. | 814.800 | |
| | 6286. | | | | | SEC. | 814.850 | |
| | 6287. | | | | | SEC. | 814.980 | |
| | 6289. | | | | | SEC. | 815.020 | |
| | 6290. | | | | | SEC. | 815.500 | |
| 63 | 6300. | 644.75 | 647.77 | -3.02 | -1.53 | 015 | | 44. |
| | 6350. | | | | | SEC. | 815.800 | |
| 64 | 6400. | 647.02 | 648.55 | -1.53 | -1.53 | 015 | | 45. |
| 65 | 6500. | 647.05 | 648.59 | -1.54 | -1.53 | 015 | | 46. |
| 66 | 6600. | 647.06 | 648.60 | -1.54 | -1.53 | 015 | | 47. |
| | 6665. | | | | | SEC. | 815.850 | |
| 67 | 6700. | 647.07 | 648.61 | -1.54 | -1.53 | 015 | | 48. |
| 68 | 6800. | 647.08 | 648.62 | -1.54 | -1.53 | 015 | | 49. |
| 69 | 6900. | 647.09 | 648.63 | -1.54 | -1.53 | 015 | | 49. |
| 70 | 7000. | 647.09 | 648.64 | -1.55 | -1.53 | 015 | | 50. |
| | 7015. | | | | | SEC. | 815.900 | |
| 71 | 7100. | 647.11 | 648.65 | -1.54 | -1.53 | 015 | | 51. |
| 72 | 7200. | 647.12 | 648.66 | -1.54 | -1.53 | 015 | | 51. |
| | 7235. | | | | | SEC. | 815.980 | |
| 73 | 7300. | 647.38 | 649.07 | -1.69 | -1.54 | 015 | | 52. |
| | 7307. | | | | | SEC. | 816.020 | |
| | 7377. | | | | | SEC. | 816.800 | |
| 74 | 7400. | 647.68 | 649.53 | -1.85 | -1.54 | 015 | | 53. |
| 75 | 7500. | 647.74 | 649.61 | -1.87 | -1.54 | 015 | | 53. |
| 76 | 7600. | 647.76 | 649.65 | -1.89 | -1.55 | 015 | | 54. |
| 77 | 7700. | 647.79 | 649.68 | -1.89 | -1.55 | 015 | | 55. |
| | 7712. | | | | | SEC. | 816.900 | |
| 78 | 7800. | 647.82 | 649.72 | -1.90 | -1.56 | 015 | | 55. |
| 79 | 7900. | 647.85 | 649.76 | -1.91 | -1.56 | 015 | | 56. |
| 80 | 8000. | 647.89 | 649.79 | -1.90 | -1.57 | 015 | | 58. |
| | 8062. | | | | | SEC. | 817.100 | |
| 81 | 8100. | 647.95 | 649.86 | -1.91 | -1.57 | 015 | | 58. |
| 82 | 8200. | 648.09 | 650.01 | -1.92 | -1.58 | 015 | | 60. |
| 83 | 8300. | 648.27 | 650.21 | -1.94 | -1.58 | 015 | | 60. |
| | 8357. | | | | | SEC. | 817.200 | |
| 84 | 8400. | 648.45 | 650.41 | -1.96 | -1.58 | 015 | | 61. |
| | 8442. | | | | | SEC. | 816.980 | |
| 85 | 8500. | 648.59 | 650.74 | -2.15 | -1.59 | 015 | | 60. |
| | 8505. | | | | | SEC. | 817.020 | |
| 86 | 8600. | 649.03 | 651.34 | -2.31 | -1.60 | 015 | | 59. |
| | 8632. | | | | | SEC. | 817.800 | |
| 87 | 8700. | 649.65 | 651.89 | -2.24 | -1.61 | 015 | | 59. |
| 88 | 8800. | 650.06 | 652.17 | -2.11 | -1.61 | 015 | | 59. |
| | 8832. | | | | | SEC. | 817.850 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 89 | 8900. | 650.39 | 652.38 | -1.99 | -1.62 | 015 | 60. |
| 90 | 9000. | 650.74 | 652.62 | -1.88 | -1.62 | 015 | 60. |
| | 9017. | | | | SEC. | 818.100 | |
| 91 | 9100. | 651.04 | 652.88 | -1.84 | -1.62 | 015 | 60. |
| 92 | 9200. | 651.29 | 653.16 | -1.87 | -1.62 | 015 | 61. |
| | 9222. | | | | SEC. | 818.200 | |
| 93 | 9300. | 651.57 | 653.48 | -1.91 | -1.63 | 015 | 62. |
| | 9342. | | | | SEC. | 818.980 | |

THIS REACH CAN BE SUBDIVIDED BY INC NO. TO MEET FIA REQUIREMENTS
INPUT 20N WHERE N IS THE NUMBER OF REACHES AND THEN INPUT THE END
OF EACH REACH BY INC NO. FOR EXAMPLE@ 202 46 93
A NEGATIVE INC NO. WILL SUPPRESS INTERMEDIATE INC OUTPUT.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN - E. OF HENRY GRAHAM DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BARNARD OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 530.00 | 629.65 | 0.00 | 629.72 | 10.26 | 2.18 | 255.03 | 165.44 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 890.00 | 630.32 | 0.00 | 630.44 | 14.50 | 2.91 | 400.19 | 233.76 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 1600.00 | 631.27 | 0.00 | 631.42 | 16.15 | 3.52 | 752.66 | 398.11 |
| 800.200 | 0.00 | 0.00 | 0.00 | 622.80 | 2290.00 | 632.02 | 0.00 | 632.17 | 15.26 | 3.74 | 1051.16 | 586.28 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 530.00 | 629.80 | 0.00 | 629.86 | 7.16 | 1.94 | 319.27 | 198.11 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 890.00 | 630.54 | 0.00 | 630.63 | 9.25 | 2.48 | 541.13 | 292.57 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 1600.00 | 631.53 | 0.00 | 631.63 | 9.99 | 2.92 | 932.05 | 506.26 |
| 800.300 | 150.00 | 0.00 | 0.00 | 622.60 | 2290.00 | 632.26 | 0.00 | 632.37 | 10.29 | 3.22 | 1224.92 | 713.97 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 530.00 | 629.93 | 0.00 | 629.94 | 2.12 | 1.41 | 800.96 | 364.40 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 890.00 | 630.61 | 0.00 | 630.63 | 2.95 | 1.78 | 1041.73 | 518.24 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 1600.00 | 631.59 | 0.00 | 631.63 | 4.15 | 2.30 | 1390.07 | 785.88 |
| 800.700 | 50.00 | 628.90 | 627.70 | 622.60 | 2290.00 | 632.33 | 0.00 | 632.37 | 5.06 | 2.70 | 1651.09 | 1018.05 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 530.00 | 629.93 | 0.00 | 629.96 | 4.41 | 1.90 | 588.32 | 252.37 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 890.00 | 630.61 | 0.00 | 630.65 | 5.47 | 2.28 | 828.26 | 380.46 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.60 | 0.00 | 631.65 | 6.69 | 2.78 | 1180.44 | 618.74 |
| 800.710 | 25.00 | 0.00 | 0.00 | 623.20 | 2290.00 | 632.33 | 0.00 | 632.39 | 7.61 | 3.16 | 1442.09 | 830.07 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 530.00 | 629.94 | 0.00 | 629.97 | 4.40 | 1.90 | 589.03 | 252.71 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 890.00 | 630.62 | 0.00 | 630.66 | 5.45 | 2.28 | 829.53 | 381.21 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.61 | 0.00 | 631.66 | 6.65 | 2.77 | 1182.90 | 620.60 |
| 800.720 | 25.00 | 0.00 | 0.00 | 623.20 | 2290.00 | 632.35 | 0.00 | 632.41 | 7.56 | 3.15 | 1445.46 | 832.98 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 530.00 | 630.01 | 0.00 | 630.04 | 3.99 | 1.82 | 615.40 | 265.38 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 890.00 | 630.70 | 0.00 | 630.74 | 4.96 | 2.19 | 860.18 | 399.70 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 1600.00 | 631.70 | 0.00 | 631.74 | 6.17 | 2.69 | 1213.96 | 644.26 |
| 800.730 | 50.00 | 628.00 | 625.60 | 623.20 | 2290.00 | 632.45 | 0.00 | 632.51 | 7.03 | 3.06 | 1481.12 | 863.92 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 530.00 | 630.03 | 0.00 | 630.06 | 3.96 | 1.82 | 626.94 | 266.20 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 890.00 | 630.73 | 0.00 | 630.76 | 4.76 | 2.15 | 909.44 | 407.75 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 631.73 | 0.00 | 631.78 | 5.59 | 2.57 | 1319.35 | 676.88 |
| 800.740 | 50.00 | 0.00 | 0.00 | 623.20 | 2290.00 | 632.49 | 0.00 | 632.54 | 6.17 | 2.88 | 1628.85 | 921.87 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 530.00 | 630.26 | 0.00 | 630.28 | 2.92 | 1.60 | 703.21 | 310.10 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 890.00 | 631.01 | 0.00 | 631.03 | 3.61 | 1.93 | 968.44 | 468.56 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 1600.00 | 632.07 | 0.00 | 632.10 | 4.56 | 2.39 | 1345.85 | 749.14 |
| 800.800 | 650.00 | 0.00 | 0.00 | 623.20 | 2290.00 | 632.87 | 0.00 | 632.91 | 5.26 | 2.74 | 1630.09 | 998.42 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 530.00 | 630.31 | 0.00 | 630.33 | 3.60 | 1.75 | 658.09 | 279.45 |
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 890.00 | 631.06 | 0.00 | 631.09 | 4.06 | 2.02 | 967.21 | 441.55 |
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 1600.00 | 632.14 | 0.00 | 632.17 | 4.64 | 2.38 | 1407.33 | 743.05 |
| 800.900 | 150.00 | 0.00 | 0.00 | 623.40 | 2290.00 | 632.95 | 0.00 | 632.99 | 5.07 | 2.66 | 1738.62 | 1016.72 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 530.00 | 630.52 | 0.00 | 630.58 | 19.73 | 2.12 | 383.26 | 119.32 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 890.00 | 631.27 | 0.00 | 631.30 | 11.37 | 1.97 | 754.19 | 263.99 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.33 | 0.00 | 632.37 | 7.83 | 2.02 | 1286.58 | 571.86 |
| 801.200 | 325.00 | 0.00 | 0.00 | 624.20 | 2290.00 | 633.14 | 0.00 | 633.18 | 6.88 | 2.14 | 1693.15 | 873.16 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 530.00 | 630.65 | 0.00 | 630.73 | 35.93 | 2.36 | 277.20 | 88.41 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 890.00 | 631.36 | 0.00 | 631.45 | 33.26 | 2.73 | 425.37 | 154.31 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 1600.00 | 632.40 | 0.00 | 632.53 | 31.95 | 3.27 | 647.41 | 283.08 |
| 801.300 | 50.00 | 0.00 | 0.00 | 624.20 | 2290.00 | 633.21 | 0.00 | 633.37 | 32.05 | 3.71 | 820.60 | 404.49 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 530.00 | 630.88 | 0.00 | 630.90 | 8.97 | 1.33 | 663.08 | 176.96 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 890.00 | 631.59 | 0.00 | 631.61 | 7.73 | 1.44 | 1016.19 | 320.17 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.67 | 0.00 | 632.69 | 6.90 | 1.64 | 1555.28 | 609.14 |
| 801.400 | 85.00 | 0.00 | 0.00 | 624.00 | 2290.00 | 633.51 | 0.00 | 633.54 | 6.65 | 1.80 | 1978.35 | 888.02 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 530.00 | 630.89 | 0.00 | 630.90 | 17.24 | .83 | 635.90 | 127.63 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 890.00 | 631.60 | 0.00 | 631.61 | 8.29 | .80 | 1113.51 | 309.18 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.68 | 0.00 | 632.70 | 5.07 | .87 | 1836.79 | 710.50 |
| 801.500 | 1.00 | 0.00 | 0.00 | 628.80 | 2290.00 | 633.53 | 0.00 | 633.55 | 4.25 | .95 | 2404.68 | 1111.31 |
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 530.00 | 630.93 | 0.00 | 630.94 | 15.67 | .80 | 660.86 | 133.91 |
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 890.00 | 631.62 | 0.00 | 631.63 | 7.89 | .79 | 1129.87 | 316.77 |
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 1600.00 | 632.70 | 0.00 | 632.71 | 4.94 | .86 | 1850.85 | 719.55 |
| 801.550 | 24.00 | 0.00 | 0.00 | 628.80 | 2290.00 | 633.54 | 0.00 | 633.56 | 4.16 | .95 | 2418.85 | 1122.20 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 530.00 | 630.93 | 0.00 | 630.94 | 2.40 | .93 | 969.39 | 342.32 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 890.00 | 631.62 | 0.00 | 631.63 | 2.80 | 1.08 | 1313.39 | 531.93 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 1600.00 | 632.70 | 0.00 | 632.71 | 3.15 | 1.27 | 1849.95 | 901.97 |
| 801.590 | 1.00 | 0.00 | 0.00 | 624.00 | 2290.00 | 633.54 | 0.00 | 633.56 | 3.35 | 1.41 | 2273.46 | 1251.46 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 530.00 | 630.94 | 0.00 | 630.95 | 5.93 | 1.36 | 702.07 | 217.59 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 890.00 | 631.63 | 0.00 | 631.65 | 5.83 | 1.47 | 1020.39 | 368.46 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.70 | 0.00 | 632.72 | 5.42 | 1.58 | 1554.48 | 687.55 |
| 801.600 | 24.00 | 0.00 | 0.00 | 624.60 | 2290.00 | 633.55 | 0.00 | 633.57 | 5.22 | 1.67 | 1977.26 | 1001.97 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 530.00 | 630.97 | 0.00 | 631.00 | 7.61 | 1.84 | 591.31 | 192.07 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 890.00 | 631.67 | 0.00 | 631.70 | 9.25 | 2.21 | 814.80 | 292.58 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.74 | 0.00 | 632.79 | 10.57 | 2.63 | 1170.81 | 492.14 |
| 801.700 | 50.00 | 0.00 | 0.00 | 624.60 | 2290.00 | 633.59 | 0.00 | 633.64 | 11.28 | 2.93 | 1453.92 | 681.91 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 530.00 | 631.02 | 0.00 | 631.04 | 6.17 | 1.67 | 730.98 | 213.41 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 890.00 | 631.73 | 0.00 | 631.75 | 6.48 | 1.86 | 1064.37 | 349.70 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 1600.00 | 632.81 | 0.00 | 632.84 | 6.50 | 2.08 | 1607.98 | 627.75 |
| 801.800 | 50.00 | 0.00 | 0.00 | 624.60 | 2290.00 | 633.67 | 0.00 | 633.70 | 6.50 | 2.24 | 2036.64 | 897.96 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 530.00 | 631.09 | 0.00 | 631.11 | 3.31 | 1.39 | 701.67 | 291.32 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 890.00 | 631.80 | 0.00 | 631.82 | 3.96 | 1.68 | 966.35 | 447.51 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 1600.00 | 632.89 | 0.00 | 632.92 | 4.55 | 2.06 | 1377.65 | 750.00 |
| 801.900 | 150.00 | 0.00 | 0.00 | 625.10 | 2290.00 | 633.75 | 0.00 | 633.79 | 4.89 | 2.33 | 1701.74 | 1035.60 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 530.00 | 631.26 | 0.00 | 631.27 | 2.06 | 1.16 | 839.82 | 368.89 |
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 890.00 | 632.01 | 0.00 | 632.03 | 2.59 | 1.43 | 1121.98 | 553.54 |
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 1600.00 | 633.14 | 0.00 | 633.17 | 3.19 | 1.81 | 1549.05 | 896.16 |
| 802.000 | 650.00 | 0.00 | 0.00 | 624.90 | 2290.00 | 634.03 | 0.00 | 634.06 | 3.57 | 2.08 | 1882.64 | 1211.59 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 530.00 | 631.33 | 0.00 | 631.34 | 2.58 | 1.28 | 671.44 | 329.72 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 890.00 | 632.10 | 0.00 | 632.12 | 3.65 | 1.66 | 842.10 | 465.60 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 1600.00 | 633.25 | 0.00 | 633.29 | 5.18 | 2.21 | 1098.29 | 703.32 |
| 802.200 | 300.00 | 0.00 | 0.00 | 625.00 | 2290.00 | 634.14 | 0.00 | 634.20 | 6.30 | 2.62 | 1296.61 | 912.65 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 530.00 | 631.49 | 0.00 | 631.52 | 5.10 | 1.74 | 447.50 | 234.75 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 890.00 | 632.33 | 0.00 | 632.38 | 7.06 | 2.27 | 565.74 | 334.91 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 1600.00 | 633.56 | 0.00 | 633.66 | 9.91 | 3.03 | 741.49 | 508.30 |
| 802.400 | 500.00 | 0.00 | 0.00 | 625.40 | 2290.00 | 634.52 | 0.00 | 634.65 | 12.03 | 3.61 | 877.17 | 660.30 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 530.00 | 631.62 | 0.00 | 631.65 | 4.97 | 1.72 | 451.26 | 237.71 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 890.00 | 632.50 | 0.00 | 632.55 | 6.68 | 2.22 | 576.24 | 344.47 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 1600.00 | 633.81 | 0.00 | 633.89 | 9.11 | 2.94 | 761.82 | 530.12 |
| 802.600 | 250.00 | 0.00 | 0.00 | 625.50 | 2290.00 | 634.82 | 0.00 | 634.94 | 10.91 | 3.49 | 904.94 | 693.23 |

BARNARD OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 800.200 | 530.00 | 629.65 | 0.00 | 0.00 | 0.00 | 142.12 | 0.00 |
| 800.200 | 890.00 | 630.32 | .67 | 0.00 | 0.00 | 291.20 | 0.00 |
| 800.200 | 1600.00 | 631.27 | .95 | 0.00 | 0.00 | 398.00 | 0.00 |
| 800.200 | 2290.00 | 632.02 | .75 | 0.00 | 0.00 | 398.00 | 0.00 |
| 800.300 | 530.00 | 629.80 | 0.00 | .15 | 0.00 | 220.88 | 150.00 |
| 800.300 | 890.00 | 630.54 | .74 | .22 | 0.00 | 384.08 | 150.00 |
| 800.300 | 1600.00 | 631.53 | .99 | .26 | 0.00 | 398.00 | 150.00 |
| 800.300 | 2290.00 | 632.26 | .74 | .24 | 0.00 | 398.00 | 150.00 |
| 800.700 | 530.00 | 629.93 | 0.00 | .13 | 0.00 | 356.00 | 50.00 |
| 800.700 | 890.00 | 630.61 | .68 | .06 | 0.00 | 356.00 | 50.00 |
| 800.700 | 1600.00 | 631.59 | .99 | .06 | 0.00 | 356.00 | 50.00 |
| 800.700 | 2290.00 | 632.33 | .73 | .06 | 0.00 | 356.00 | 50.00 |
| 800.710 | 530.00 | 629.93 | 0.00 | -.00 | 0.00 | 349.03 | 25.00 |
| 800.710 | 890.00 | 630.61 | .68 | .00 | 0.00 | 356.00 | 25.00 |
| 800.710 | 1600.00 | 631.60 | .99 | .00 | 0.00 | 356.00 | 25.00 |
| 800.710 | 2290.00 | 632.33 | .74 | .01 | 0.00 | 356.00 | 25.00 |
| 800.720 | 530.00 | 629.94 | 0.00 | .01 | 0.00 | 349.06 | 25.00 |
| 800.720 | 890.00 | 630.62 | .68 | .01 | 0.00 | 356.00 | 25.00 |
| 800.720 | 1600.00 | 631.61 | .99 | .02 | 0.00 | 356.00 | 25.00 |
| 800.720 | 2290.00 | 632.35 | .74 | .02 | 0.00 | 356.00 | 25.00 |
| 800.730 | 530.00 | 630.01 | 0.00 | .07 | 0.00 | 350.20 | 50.00 |
| 800.730 | 890.00 | 630.70 | .69 | .08 | 0.00 | 356.00 | 50.00 |
| 800.730 | 1600.00 | 631.70 | .99 | .08 | 0.00 | 356.00 | 50.00 |
| 800.730 | 2290.00 | 632.45 | .75 | .10 | 0.00 | 356.00 | 50.00 |
| 800.740 | 530.00 | 630.03 | 0.00 | .02 | 0.00 | 383.27 | 50.00 |
| 800.740 | 890.00 | 630.73 | .70 | .03 | 0.00 | 410.00 | 50.00 |
| 800.740 | 1600.00 | 631.73 | 1.00 | .04 | 0.00 | 410.00 | 50.00 |
| 800.740 | 2290.00 | 632.49 | .76 | .04 | 0.00 | 410.00 | 50.00 |
| 800.800 | 530.00 | 630.26 | 0.00 | .23 | 0.00 | 353.94 | 650.00 |
| 800.800 | 890.00 | 631.01 | .75 | .28 | 0.00 | 356.00 | 650.00 |
| 800.800 | 1600.00 | 632.07 | 1.06 | .33 | 0.00 | 356.00 | 650.00 |
| 800.800 | 2290.00 | 632.87 | .80 | .37 | 0.00 | 356.00 | 650.00 |
| 800.900 | 530.00 | 630.31 | 0.00 | .05 | 0.00 | 394.73 | 150.00 |
| 800.900 | 890.00 | 631.06 | .76 | .06 | 0.00 | 410.00 | 150.00 |
| 800.900 | 1600.00 | 632.14 | 1.07 | .07 | 0.00 | 410.00 | 150.00 |
| 800.900 | 2290.00 | 632.95 | .81 | .08 | 0.00 | 410.00 | 150.00 |
| 801.200 | 530.00 | 630.52 | 0.00 | .22 | 0.00 | 500.00 | 325.00 |
| 801.200 | 890.00 | 631.27 | .74 | .20 | 0.00 | 500.00 | 325.00 |
| 801.200 | 1600.00 | 632.33 | 1.06 | .19 | 0.00 | 500.00 | 325.00 |
| 801.200 | 2290.00 | 633.14 | .81 | .19 | 0.00 | 500.00 | 325.00 |
| 801.300 | 530.00 | 630.65 | 0.00 | .13 | 0.00 | 210.13 | 50.00 |
| 801.300 | 890.00 | 631.36 | .70 | .09 | 0.00 | 211.57 | 50.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 801.300 | 1600.00 | 632.40 | 1.04 | .07 | 0.00 | 213.70 | 50.00 |
| 801.300 | 2290.00 | 633.21 | .81 | .06 | 0.00 | 215.34 | 50.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 801.400 | 530.00 | 630.88 | 0.00 | .22 | 0.00 | 500.00 | 85.00 |
| 801.400 | 890.00 | 631.59 | .71 | .23 | 0.00 | 500.00 | 85.00 |
| 801.400 | 1600.00 | 632.67 | 1.08 | .27 | 0.00 | 500.00 | 85.00 |
| 801.400 | 2290.00 | 633.51 | .85 | .31 | 0.00 | 500.00 | 85.00 |
| 801.500 | 530.00 | 630.89 | 0.00 | .01 | 0.00 | 623.66 | 1.00 |
| 801.500 | 890.00 | 631.60 | .71 | .01 | 0.00 | 670.00 | 1.00 |
| 801.500 | 1600.00 | 632.68 | 1.08 | .02 | 0.00 | 670.00 | 1.00 |
| 801.500 | 2290.00 | 633.53 | .85 | .02 | 0.00 | 670.00 | 1.00 |
| 801.550 | 530.00 | 630.93 | 0.00 | .04 | 0.00 | 638.98 | 24.00 |
| 801.550 | 890.00 | 631.62 | .69 | .02 | 0.00 | 670.00 | 24.00 |
| 801.550 | 1600.00 | 632.70 | 1.07 | .01 | 0.00 | 670.00 | 24.00 |
| 801.550 | 2290.00 | 633.54 | .85 | .01 | 0.00 | 670.00 | 24.00 |
| 801.590 | 530.00 | 630.93 | 0.00 | .01 | 0.00 | 466.22 | 1.00 |
| 801.590 | 890.00 | 631.62 | .69 | .00 | 0.00 | 500.00 | 1.00 |
| 801.590 | 1600.00 | 632.70 | 1.07 | -.00 | 0.00 | 500.00 | 1.00 |
| 801.590 | 2290.00 | 633.54 | .85 | -.00 | 0.00 | 500.00 | 1.00 |
| 801.600 | 530.00 | 630.94 | 0.00 | .00 | 0.00 | 446.80 | 24.00 |
| 801.600 | 890.00 | 631.63 | .69 | .01 | 0.00 | 500.00 | 24.00 |
| 801.600 | 1600.00 | 632.70 | 1.07 | .01 | 0.00 | 500.00 | 24.00 |
| 801.600 | 2290.00 | 633.55 | .85 | .01 | 0.00 | 500.00 | 24.00 |
| 801.700 | 530.00 | 630.97 | 0.00 | .03 | 0.00 | 313.06 | 50.00 |
| 801.700 | 890.00 | 631.67 | .69 | .04 | 0.00 | 330.67 | 50.00 |
| 801.700 | 1600.00 | 632.74 | 1.07 | .04 | 0.00 | 333.35 | 50.00 |
| 801.700 | 2290.00 | 633.59 | .85 | .04 | 0.00 | 335.46 | 50.00 |
| 801.800 | 530.00 | 631.02 | 0.00 | .04 | 0.00 | 452.90 | 50.00 |
| 801.800 | 890.00 | 631.73 | .71 | .06 | 0.00 | 500.00 | 50.00 |
| 801.800 | 1600.00 | 632.81 | 1.09 | .07 | 0.00 | 500.00 | 50.00 |
| 801.800 | 2290.00 | 633.67 | .86 | .08 | 0.00 | 500.00 | 50.00 |
| 801.900 | 530.00 | 631.09 | 0.00 | .07 | 0.00 | 368.29 | 150.00 |
| 801.900 | 890.00 | 631.80 | .71 | .08 | 0.00 | 375.87 | 150.00 |
| 801.900 | 1600.00 | 632.89 | 1.09 | .08 | 0.00 | 378.00 | 150.00 |
| 801.900 | 2290.00 | 633.75 | .86 | .08 | 0.00 | 378.00 | 150.00 |
| 802.000 | 530.00 | 631.26 | 0.00 | .17 | 0.00 | 372.26 | 650.00 |
| 802.000 | 890.00 | 632.01 | .75 | .21 | 0.00 | 378.00 | 650.00 |
| 802.000 | 1600.00 | 633.14 | 1.13 | .25 | 0.00 | 378.00 | 650.00 |
| 802.000 | 2290.00 | 634.03 | .88 | .28 | 0.00 | 378.00 | 650.00 |
| 802.200 | 530.00 | 631.33 | 0.00 | .07 | 0.00 | 222.00 | 300.00 |
| 802.200 | 890.00 | 632.10 | .77 | .09 | 0.00 | 222.00 | 300.00 |
| 802.200 | 1600.00 | 633.25 | 1.15 | .11 | 0.00 | 222.00 | 300.00 |
| 802.200 | 2290.00 | 634.14 | .89 | .12 | 0.00 | 222.00 | 300.00 |
| 802.400 | 530.00 | 631.49 | 0.00 | .16 | 0.00 | 142.00 | 500.00 |
| 802.400 | 890.00 | 632.33 | .83 | .23 | 0.00 | 142.00 | 500.00 |
| 802.400 | 1600.00 | 633.56 | 1.24 | .31 | 0.00 | 142.00 | 500.00 |
| 802.400 | 2290.00 | 634.52 | .96 | .37 | 0.00 | 142.00 | 500.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 802.600 | 530.00 | 631.62 | 0.00 | .13 | 0.00 | 142.00 | 250.00 |
| 802.600 | 890.00 | 632.50 | .88 | .17 | 0.00 | 142.00 | 250.00 |
| 802.600 | 1600.00 | 633.81 | 1.31 | .24 | 0.00 | 142.00 | 250.00 |
| 802.600 | 2290.00 | 634.82 | 1.01 | .30 | 0.00 | 142.00 | 250.00 |

SUMMARY OF ERRORS

FLOOD INSURANCE ZONE DATA FOR BARNARD OVERFLOW

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 800.200 | 0. | -1.62 | -.95 | .75 |
| 800.300 | 150. | -1.73 | -.99 | .74 |
| 800.700 | 200. | -1.66 | -.99 | .73 |
| 800.710 | 225. | -1.67 | -.99 | .74 |
| 800.720 | 250. | -1.67 | -.99 | .74 |
| 800.730 | 300. | -1.68 | -.99 | .75 |
| 800.740 | 350. | -1.70 | -1.00 | .76 |
| 800.800 | 1000. | -1.81 | -1.06 | .80 |
| 800.900 | 1150. | -1.83 | -1.07 | .81 |
| 801.200 | 1475. | -1.81 | -1.06 | .81 |
| 801.300 | 1525. | -1.75 | -1.04 | .81 |
| 801.400 | 1610. | -1.79 | -1.08 | .85 |
| 801.500 | 1611. | -1.80 | -1.08 | .85 |
| 801.550 | 1635. | -1.77 | -1.07 | .85 |
| 801.590 | 1636. | -1.76 | -1.07 | .85 |
| 801.600 | 1660. | -1.76 | -1.07 | .85 |
| 801.700 | 1710. | -1.77 | -1.07 | .85 |
| 801.800 | 1760. | -1.80 | -1.09 | .86 |
| 801.900 | 1910. | -1.80 | -1.09 | .86 |
| 802.000 | 2560. | -1.88 | -1.13 | .88 |
| 802.200 | 2860. | -1.92 | -1.15 | .89 |
| 802.400 | 3360. | -2.07 | -1.24 | .96 |
| 802.600 | 3610. | -2.19 | -1.31 | 1.01 |
| WEIGHTED AVG FOR REACH | | -1.85 | -1.10 | .85 |

FHF FOR THE REACH = 020 WITH 100.0_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 4

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S HENRY GRAHAM TO ROCHESTER RD.

4) DOCUMENT TYPE: 100YR CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERRCR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CRCSS-SECTICN NUMBER INDICATES MESSAGE IN SUMMARY OF ERRCRS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 804.000 | C.CC | 0.0C | 0.0C | 622.90 | 1900.00 | 635.20 | 0.00 | 635.34 | 7.48 | 3.00 | 652.75 | 694.51 |
| 804.000 | 0.00 | 0.00 | C.C0 | 622.90 | 1900.C0 | 637.00 | 0.00 | 637.05 | 2.42 | 1.99 | 1354.55 | 1220.43 |
| 804.000 | 0.00 | 0.00 | 0.00 | 622.90 | 1900.00 | 633.40 | C.0C | 633.65 | 13.58 | 4.00 | 475.20 | 515.52 |
| 805.200 | 120.00 | 0.00 | C.CC | 622.9C | 190C.00 | 635.29 | C.00 | 635.43 | 7.23 | 2.95 | 671.77 | 706.85 |
| 805.200 | 120.00 | 0.0C | 0.00 | 622.90 | 1900.00 | 637.03 | 0.00 | 637.C8 | 2.38 | 1.98 | 1366.91 | 1231.85 |
| 805.200 | 12C.CC | 0.00 | C.CC | 622.90 | 19C0.C0 | 633.57 | 0.00 | 633.81 | 12.66 | 3.90 | 487.75 | 533.96 |
| 804.980 | 13C.C0 | 0.0C | 0.00 | 623.40 | 1900.00 | 635.38 | 0.00 | 635.54 | 8.40 | 3.16 | 603.14 | 655.67 |
| 804.980 | 130.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 637.06 | 0.00 | 637.13 | 3.23 | 2.21 | 1167.99 | 1057.09 |
| 804.980 | 130.00 | 0.00 | 0.00 | 623.40 | 1900.C0 | 633.74 | C.00 | 634.C0 | 14.55 | 4.10 | 463.21 | 498.06 |
| 805.020 | 14.00 | 633.1C | 63C.5C | 623.40 | 19CC.CC | 635.55 | 0.00 | 635.69 | 6.96 | 3.03 | 806.10 | 720.07 |
| 805.020 | 14.00 | 633.10 | 630.50 | 623.40 | 1900.00 | 637.10 | 0.C0 | 637.14 | 2.16 | 1.93 | 1625.57 | 1293.10 |
| 805.020 | 14.CC | 633.1C | 63C.5C | 623.40 | 1900.00 | 634.56 | 0.00 | 634.78 | 11.85 | 3.73 | 525.86 | 552.02 |
| 8C5.8C0 | 116.00 | 0.00 | 0.00 | 623.40 | 1900.C0 | 635.65 | C.CC | 635.77 | 6.08 | 2.89 | 875.43 | 770.26 |
| 805.800 | 116.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 637.13 | 0.00 | 637.17 | 2.01 | 1.89 | 1664.30 | 1340.17 |
| 805.800 | 116.00 | 0.00 | 0.00 | 623.40 | 19CC.C0 | 634.72 | C.CC | 634.91 | 10.31 | 3.55 | 560.98 | 591.59 |
| 805.980 | 19C.CC | C.CC | 0.00 | 624.10 | 1900.00 | 635.76 | 0.00 | 635.93 | 8.72 | 3.32 | 629.95 | 643.38 |
| 805.980 | 190.00 | 0.00 | 0.C0 | 624.10 | 1900.C0 | 637.16 | 0.00 | 637.23 | 3.26 | 2.28 | 1311.91 | 1052.99 |
| 805.980 | 19C.CC | C.CC | 0.00 | 624.10 | 1900.00 | 634.92 | 0.00 | 635.15 | 12.92 | 3.86 | 497.05 | 528.59 |
| 806.000 | 14.C0 | 633.3C | 631.00 | 624.10 | 1900.00 | 635.88 | 0.00 | 635.93 | 3.38 | 2.17 | 1486.77 | 1033.42 |
| 806.000 | 14.00 | 633.3C | 631.0C | 624.10 | 19C0.C0 | 637.23 | 0.00 | 637.25 | 1.26 | 1.49 | 2161.31 | 1691.05 |
| 8C6.000 | 14.00 | 633.3C | 631.00 | 624.10 | 1900.00 | 635.05 | 0.00 | 635.15 | 7.04 | 2.89 | 1074.77 | 716.27 |
| 806.500 | 270.00 | 0.00 | 0.00 | 624.50 | 190C.C0 | 635.97 | 0.00 | 636.04 | 4.35 | 2.40 | 1337.49 | 910.49 |
| 806.500 | 27C.C0 | 0.00 | 0.0C | 624.50 | 1900.00 | 637.26 | 0.00 | 637.29 | 1.61 | 1.63 | 1979.96 | 1498.65 |
| 806.500 | 270.00 | 0.0C | 0.00 | 624.50 | 19CC.C0 | 635.24 | 0.00 | 635.37 | 8.54 | 3.11 | 974.29 | 649.98 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 19CC.C0 | 636.06 | 0.C0 | 636.16 | 4.53 | 2.77 | 1067.08 | 892.97 |
| 806.600 | 25C.00 | 0.00 | 0.00 | 624.75 | 1900.00 | 637.30 | C.00 | 637.34 | 1.98 | 2.01 | 1593.22 | 1349.99 |
| 806.600 | 25C.CC | 0.CC | 0.0C | 624.75 | 19C0.C0 | 635.42 | 0.00 | 635.57 | 7.20 | 3.30 | 794.72 | 708.23 |
| 807.000 | 230.00 | 0.00 | 0.0C | 625.10 | 19CC.00 | 636.16 | 0.00 | 636.28 | 5.44 | 2.97 | 957.19 | 814.51 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1900.00 | 637.34 | C.00 | 637.39 | 2.42 | 2.17 | 1459.35 | 1221.90 |
| 807.000 | 23C.C0 | C.CC | 0.0C | 625.10 | 1900.00 | 635.58 | 0.00 | 635.76 | 8.14 | 3.46 | 727.48 | 665.82 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 636.44 | 0.00 | 636.62 | 8.45 | 3.51 | 708.11 | 653.77 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 637.46 | 0.00 | 637.55 | 4.12 | 2.67 | 1123.57 | 935.78 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 635.99 | 0.00 | 636.22 | 11.23 | 3.88 | 558.33 | 566.95 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 636.86 | 0.00 | 637.00 | 10.66 | 3.33 | 857.26 | 581.80 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 637.67 | 0.00 | 637.74 | 5.03 | 2.50 | 1229.34 | 846.81 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 636.54 | 0.00 | 636.74 | 14.51 | 3.74 | 715.78 | 498.83 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 637.17 | 0.00 | 637.34 | 12.87 | 3.58 | 770.54 | 529.71 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 637.81 | 0.00 | 637.91 | 6.97 | 2.83 | 1062.54 | 719.80 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 636.96 | 0.00 | 637.17 | 15.80 | 3.86 | 676.92 | 477.95 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.21 | 0.00 | 637.53 | 23.63 | 4.62 | 493.03 | 390.85 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.83 | 0.00 | 638.03 | 14.66 | 3.76 | 710.97 | 496.20 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.02 | 0.00 | 637.38 | 25.89 | 4.89 | 447.09 | 373.44 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1900.00 | 638.17 | 0.00 | 638.29 | 6.45 | 3.04 | 1043.92 | 748.33 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1900.00 | 638.43 | 0.00 | 638.52 | 5.17 | 2.78 | 1178.99 | 836.00 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1900.00 | 638.09 | 0.00 | 638.22 | 6.92 | 3.13 | 1001.19 | 722.25 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.22 | 0.00 | 638.33 | 6.20 | 2.99 | 1067.17 | 762.86 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.46 | 0.00 | 638.55 | 5.02 | 2.75 | 1197.14 | 848.37 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.14 | 0.00 | 638.26 | 6.64 | 3.07 | 1026.38 | 737.53 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.43 | 0.00 | 638.57 | 7.31 | 3.19 | 968.17 | 702.66 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.63 | 0.00 | 638.75 | 6.12 | 2.98 | 1075.72 | 768.27 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.37 | 0.00 | 638.51 | 7.72 | 3.26 | 935.62 | 683.84 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.71 | 0.00 | 638.80 | 8.49 | 2.94 | 1085.75 | 651.99 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.86 | 0.00 | 638.94 | 7.24 | 2.77 | 1172.50 | 706.11 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.66 | 0.00 | 638.76 | 8.90 | 3.00 | 1061.86 | 636.77 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 638.99 | 0.00 | 639.14 | 12.74 | 3.50 | 890.20 | 532.40 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 639.11 | 0.00 | 639.24 | 11.42 | 3.32 | 943.31 | 562.23 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 638.96 | 0.00 | 639.11 | 13.14 | 3.55 | 875.34 | 524.22 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.33 | 0.00 | 639.74 | 23.99 | 5.14 | 386.47 | 387.96 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.41 | 0.00 | 639.80 | 22.94 | 5.06 | 400.51 | 396.71 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.31 | 0.00 | 639.72 | 24.13 | 5.15 | 384.65 | 386.77 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.03 | 0.00 | 640.44 | 23.92 | 5.14 | 387.31 | 388.50 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.07 | 0.00 | 640.47 | 23.27 | 5.09 | 395.79 | 393.85 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.01 | 0.00 | 640.42 | 24.14 | 5.15 | 384.62 | 386.74 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.25 | 0.00 | 640.67 | 24.91 | 5.21 | 375.79 | 380.71 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.29 | 0.00 | 640.71 | 24.37 | 5.17 | 381.87 | 384.91 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.24 | 0.00 | 640.66 | 25.11 | 5.22 | 373.63 | 379.16 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1900.00 | 640.82 | 0.00 | 641.20 | 19.12 | 4.99 | 400.89 | 434.55 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1900.00 | 640.83 | 0.00 | 641.21 | 18.97 | 4.98 | 402.36 | 436.25 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1900.00 | 640.81 | 0.00 | 641.19 | 19.17 | 4.99 | 400.37 | 433.95 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.10 | 0.00 | 641.40 | 13.84 | 4.46 | 472.54 | 510.80 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.12 | 0.00 | 641.41 | 13.74 | 4.45 | 474.70 | 512.58 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.10 | 0.00 | 641.40 | 13.87 | 4.46 | 471.79 | 510.18 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.49 | 0.00 | 641.76 | 14.46 | 4.30 | 575.04 | 499.67 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.50 | 0.00 | 641.77 | 14.34 | 4.28 | 578.69 | 501.78 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.48 | 0.00 | 641.75 | 14.50 | 4.30 | 573.76 | 498.93 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 641.94 | 0.00 | 642.23 | 25.15 | 4.37 | 435.02 | 378.86 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 641.95 | 0.00 | 642.24 | 25.00 | 4.36 | 435.82 | 379.97 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 641.94 | 0.00 | 642.23 | 25.20 | 4.37 | 434.74 | 378.48 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.03 | 0.00 | 642.43 | 22.90 | 5.11 | 371.52 | 397.06 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.03 | 0.00 | 642.44 | 22.82 | 5.11 | 371.96 | 397.77 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.02 | 0.00 | 642.43 | 22.93 | 5.12 | 371.36 | 396.82 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1900.00 | 642.92 | 0.00 | 643.09 | 5.13 | 3.34 | 569.39 | 839.06 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1900.00 | 642.92 | 0.00 | 643.10 | 5.11 | 3.33 | 569.86 | 840.21 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1900.00 | 642.91 | 0.00 | 643.09 | 5.13 | 3.34 | 569.23 | 838.66 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 642.94 | 0.00 | 643.15 | 6.14 | 3.63 | 523.21 | 766.49 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 642.95 | 0.00 | 643.16 | 6.13 | 3.63 | 523.64 | 767.55 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 642.94 | 0.00 | 643.15 | 6.15 | 3.63 | 523.06 | 766.13 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.50 | 0.00 | 643.59 | 20.05 | 8.36 | 227.19 | 424.28 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.51 | 0.00 | 643.60 | 19.96 | 8.35 | 227.54 | 425.30 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.50 | 0.00 | 643.59 | 20.09 | 8.37 | 227.06 | 423.93 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.51 | 0.00 | 643.59 | 20.01 | 8.36 | 227.34 | 424.73 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.52 | 0.00 | 643.60 | 19.91 | 8.34 | 227.71 | 425.79 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.51 | 0.00 | 643.59 | 20.05 | 8.36 | 227.21 | 424.36 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.89 | 0.00 | 643.91 | 1.06 | 1.23 | 1597.71 | 1843.91 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.89 | 0.00 | 643.92 | 1.06 | 1.22 | 1599.32 | 1846.15 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.89 | 0.00 | 643.91 | 1.06 | 1.23 | 1597.15 | 1843.13 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.90 | 0.00 | 643.92 | .42 | .93 | 2113.17 | 2936.56 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.91 | 0.00 | 643.92 | .42 | .93 | 2114.81 | 2939.26 |
| 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.90 | 0.00 | 643.92 | .42 | .93 | 2112.60 | 2935.62 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2242.03 | 3303.81 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2243.88 | 3306.57 |
| 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2241.39 | 3302.84 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2244.01 | 3306.77 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.92 | 0.00 | 643.93 | .33 | .89 | 2245.86 | 3309.52 |
| 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2243.37 | 3305.80 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.91 | 0.00 | 643.93 | .45 | .97 | 2026.57 | 2823.47 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.92 | 0.00 | 643.93 | .45 | .97 | 2028.28 | 2825.85 |
| 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.91 | 0.00 | 643.92 | .45 | .97 | 2025.98 | 2822.64 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.86 | 0.00 | 643.98 | 4.11 | 2.82 | 832.42 | 937.03 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.87 | 0.00 | 643.98 | 4.10 | 2.82 | 833.98 | 938.07 |
| 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.86 | 0.00 | 643.98 | 4.11 | 2.83 | 831.88 | 936.67 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1900.00 | 644.31 | 0.00 | 644.41 | 3.33 | 2.61 | 989.34 | 1041.70 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1900.00 | 644.31 | 0.00 | 644.41 | 3.32 | 2.61 | 990.24 | 1042.33 |
| 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1900.00 | 644.31 | 0.00 | 644.41 | 3.33 | 2.61 | 989.02 | 1041.48 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | WSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.42 | 0.00 | 644.43 | .38 | .91 | 2219.83 | 3088.46 |
| | 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.42 | 0.00 | 644.44 | .38 | .91 | 2220.75 | 3089.73 |
| | 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.42 | 0.00 | 644.43 | .38 | .91 | 2219.51 | 3088.01 |
| | 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.42 | 0.00 | 644.44 | .37 | .92 | 2122.95 | 3138.25 |
| | 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.44 | .37 | .92 | 2123.74 | 3139.37 |
| | 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.42 | 0.00 | 644.44 | .37 | .92 | 2122.68 | 3137.85 |
| | 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.44 | .37 | .92 | 2123.02 | 3138.35 |
| | 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.45 | .37 | .92 | 2123.81 | 3139.47 |
| | 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.44 | .37 | .92 | 2122.75 | 3137.95 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.43 | 0.00 | 644.44 | .38 | .91 | 2223.49 | 3093.53 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.43 | 0.00 | 644.45 | .38 | .91 | 2224.41 | 3094.81 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.43 | 0.00 | 644.44 | .38 | .91 | 2223.17 | 3093.09 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.41 | 0.00 | 644.47 | 3.63 | 2.58 | 1165.19 | 997.54 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.41 | 0.00 | 644.48 | 3.62 | 2.58 | 1165.99 | 998.21 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.41 | 0.00 | 644.47 | 3.63 | 2.58 | 1164.91 | 997.30 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1900.00 | 646.93 | 0.00 | 647.11 | 7.38 | 3.58 | 786.84 | 699.52 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1900.00 | 646.93 | 0.00 | 647.11 | 7.37 | 3.58 | 787.25 | 699.74 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1900.00 | 646.93 | 0.00 | 647.11 | 7.38 | 3.58 | 786.70 | 699.44 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.05 | 0.00 | 647.17 | 5.44 | 2.99 | 882.61 | 814.39 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.05 | 0.00 | 647.17 | 5.44 | 2.99 | 882.89 | 814.60 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.05 | 0.00 | 647.17 | 5.44 | 2.99 | 882.51 | 814.32 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.05 | 0.00 | 647.26 | 10.06 | 3.73 | 577.32 | 598.98 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.05 | 0.00 | 647.26 | 10.06 | 3.73 | 577.52 | 599.12 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.05 | 0.00 | 647.26 | 10.06 | 3.73 | 577.25 | 598.93 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.35 | 647.35 | 648.31 | 22.07 | 8.58 | 474.63 | 404.44 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.35 | 647.35 | 648.31 | 22.06 | 8.58 | 474.79 | 404.51 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.35 | 647.35 | 648.31 | 22.07 | 8.58 | 474.58 | 404.42 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.36 | 647.34 | 648.31 | 21.97 | 8.56 | 476.77 | 405.39 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.36 | 647.34 | 648.31 | 21.96 | 8.56 | 476.92 | 405.46 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.36 | 647.34 | 648.31 | 21.97 | 8.56 | 476.71 | 405.37 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.51 | 0.00 | 648.58 | 2.79 | 2.33 | 1281.57 | 1136.61 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.51 | 0.00 | 648.58 | 2.79 | 2.33 | 1281.52 | 1136.57 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.51 | 0.00 | 648.58 | 2.79 | 2.33 | 1281.58 | 1136.63 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.58 | 0.00 | 648.60 | .84 | 1.24 | 2198.61 | 2070.76 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.58 | 0.00 | 648.60 | .84 | 1.24 | 2198.52 | 2070.68 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.58 | 0.00 | 648.60 | .84 | 1.24 | 2198.64 | 2070.79 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.61 | 0.00 | 648.63 | 1.06 | 1.35 | 1962.56 | 1846.11 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.61 | 0.00 | 648.63 | 1.06 | 1.35 | 1962.50 | 1846.05 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.61 | 0.00 | 648.63 | 1.06 | 1.35 | 1962.59 | 1846.14 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.64 | 0.00 | 648.67 | 1.25 | 1.44 | 1796.14 | 1699.68 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.64 | 0.00 | 648.67 | 1.25 | 1.44 | 1796.08 | 1699.62 |
| | 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.64 | 0.00 | 648.67 | 1.25 | 1.44 | 1796.17 | 1699.70 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.67 | 0.00 | 648.71 | 1.48 | 1.53 | 1635.80 | 1564.17 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.67 | 0.00 | 648.71 | 1.48 | 1.53 | 1635.74 | 1564.12 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.67 | 0.00 | 648.71 | 1.48 | 1.53 | 1635.82 | 1564.19 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1900.00 | 649.56 | 0.00 | 649.64 | 3.52 | 2.28 | 837.57 | 1012.09 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1900.00 | 649.56 | 0.00 | 649.64 | 3.52 | 2.28 | 837.57 | 1012.08 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1900.00 | 649.56 | 0.00 | 649.64 | 3.52 | 2.28 | 837.57 | 1012.10 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.59 | 0.00 | 649.66 | 3.25 | 2.21 | 869.17 | 1054.47 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.59 | 0.00 | 649.66 | 3.25 | 2.21 | 869.16 | 1054.46 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.59 | 0.00 | 649.66 | 3.25 | 2.21 | 869.17 | 1054.48 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.70 | 0.00 | 649.80 | 4.60 | 2.50 | 759.73 | 885.81 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.70 | 0.00 | 649.80 | 4.60 | 2.50 | 759.72 | 885.80 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.70 | 0.00 | 649.80 | 4.60 | 2.50 | 759.73 | 885.81 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 649.84 | 0.00 | 650.17 | 19.19 | 4.62 | 418.27 | 433.76 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 649.84 | 0.00 | 650.17 | 19.19 | 4.62 | 418.26 | 433.76 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 649.84 | 0.00 | 650.17 | 19.19 | 4.62 | 418.27 | 433.76 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.42 | 0.00 | 650.78 | 21.47 | 4.80 | 396.17 | 410.09 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.42 | 0.00 | 650.78 | 21.47 | 4.80 | 396.16 | 410.09 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.42 | 0.00 | 650.78 | 21.47 | 4.80 | 396.17 | 410.09 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.59 | 0.00 | 651.03 | 29.05 | 5.36 | 354.38 | 352.49 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.59 | 0.00 | 651.03 | 29.05 | 5.36 | 354.38 | 352.49 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.59 | 0.00 | 651.03 | 29.05 | 5.36 | 354.38 | 352.49 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1900.00 | 651.00 | 0.00 | 651.75 | 50.46 | 7.01 | 307.90 | 267.47 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1900.00 | 651.00 | 0.00 | 651.75 | 50.46 | 7.01 | 307.89 | 267.47 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1900.00 | 651.00 | 0.00 | 651.75 | 50.46 | 7.01 | 307.90 | 267.47 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 651.94 | 0.00 | 652.26 | 19.87 | 4.98 | 583.60 | 426.20 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 651.94 | 0.00 | 652.26 | 19.87 | 4.98 | 583.60 | 426.19 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 651.94 | 0.00 | 652.26 | 19.87 | 4.98 | 583.60 | 426.20 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.33 | 0.00 | 652.74 | 25.71 | 5.49 | 497.89 | 374.72 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.33 | 0.00 | 652.74 | 25.71 | 5.49 | 497.89 | 374.72 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.33 | 0.00 | 652.74 | 25.71 | 5.49 | 497.89 | 374.72 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.78 | 0.00 | 653.27 | 28.32 | 5.62 | 338.14 | 357.05 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.78 | 0.00 | 653.27 | 28.32 | 5.62 | 338.14 | 357.05 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.78 | 0.00 | 653.27 | 28.32 | 5.62 | 338.14 | 357.05 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.36 | 0.00 | 653.89 | 30.85 | 5.82 | 326.48 | 342.10 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.36 | 0.00 | 653.89 | 30.85 | 5.82 | 326.48 | 342.10 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.36 | 0.00 | 653.89 | 30.85 | 5.82 | 326.48 | 342.10 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.83 | 0.00 | 654.25 | 23.86 | 5.23 | 366.05 | 388.96 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.83 | 0.00 | 654.25 | 23.86 | 5.23 | 366.05 | 388.96 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.83 | 0.00 | 654.25 | 23.86 | 5.23 | 366.05 | 388.96 |

SPENCER-BARNARD CR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TCPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 804.000 | 1900.00 | 635.20 | 0.00 | 0.00 | 0.00 | 200.11 | 0.00 |
| 804.000 | 1900.00 | 637.00 | 1.80 | 0.00 | 0.00 | 425.00 | 0.00 |
| 804.000 | 1900.00 | 633.40 | -3.60 | 0.00 | 0.00 | 76.53 | 0.00 |
| 805.200 | 1900.00 | 635.29 | 0.00 | .09 | 0.00 | 223.54 | 120.00 |
| 805.200 | 1900.00 | 637.03 | 1.74 | .03 | 0.00 | 425.00 | 120.00 |
| 805.200 | 1900.00 | 633.57 | -3.46 | .17 | 0.00 | 77.48 | 120.00 |
| 804.980 | 1900.00 | 635.38 | 0.00 | .09 | 0.00 | 118.99 | 130.00 |
| 804.980 | 1900.00 | 637.06 | 1.67 | .03 | 0.00 | 425.00 | 130.00 |
| 804.980 | 1900.00 | 633.74 | -3.32 | .16 | 0.00 | 75.62 | 130.00 |
| 805.020 | 1900.00 | 635.55 | 0.00 | .17 | 0.00 | 530.00 | 14.00 |
| 805.020 | 1900.00 | 637.10 | 1.55 | .04 | 0.00 | 530.00 | 14.00 |
| 805.020 | 1900.00 | 634.56 | -2.54 | .83 | 0.00 | 140.09 | 14.00 |
| 805.800 | 1900.00 | 635.65 | 0.00 | .09 | 0.00 | 530.00 | 116.00 |
| 805.800 | 1900.00 | 637.13 | 1.48 | .03 | 0.00 | 530.00 | 116.00 |
| 805.800 | 1900.00 | 634.72 | -2.41 | .16 | 0.00 | 162.57 | 116.00 |
| 805.980 | 1900.00 | 635.76 | 0.00 | .11 | 0.00 | 313.84 | 190.00 |
| 805.980 | 1900.00 | 637.16 | 1.40 | .04 | 0.00 | 530.00 | 190.00 |
| 805.980 | 1900.00 | 634.92 | -2.25 | .20 | 0.00 | 105.72 | 190.00 |
| 806.000 | 1900.00 | 635.88 | 0.00 | .12 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1900.00 | 637.23 | 1.35 | .07 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1900.00 | 635.05 | -2.18 | .13 | 0.00 | 498.00 | 14.00 |
| 806.500 | 1900.00 | 635.97 | 0.00 | .10 | 0.00 | 498.00 | 270.00 |
| 806.500 | 1900.00 | 637.26 | 1.29 | .04 | 0.00 | 498.00 | 270.00 |
| 806.500 | 1900.00 | 635.24 | -2.02 | .20 | 0.00 | 497.54 | 270.00 |
| 806.600 | 1900.00 | 636.06 | 0.00 | .09 | 0.00 | 428.00 | 250.00 |
| 806.600 | 1900.00 | 637.30 | 1.23 | .03 | 0.00 | 428.00 | 250.00 |
| 806.600 | 1900.00 | 635.42 | -1.88 | .17 | 0.00 | 389.19 | 250.00 |
| 807.000 | 1900.00 | 636.16 | 0.00 | .10 | 0.00 | 428.00 | 230.00 |
| 807.000 | 1900.00 | 637.34 | 1.18 | .04 | 0.00 | 428.00 | 230.00 |
| 807.000 | 1900.00 | 635.58 | -1.76 | .16 | 0.00 | 368.39 | 230.00 |
| 807.500 | 1900.00 | 636.44 | 0.00 | .28 | 0.00 | 362.18 | 470.00 |
| 807.500 | 1900.00 | 637.46 | 1.02 | .12 | 0.00 | 428.00 | 470.00 |
| 807.500 | 1900.00 | 635.99 | -1.47 | .41 | 0.00 | 281.95 | 470.00 |
| 807.600 | 1900.00 | 636.86 | 0.00 | .42 | 0.00 | 456.45 | 400.00 |
| 807.600 | 1900.00 | 637.67 | .81 | .20 | 0.00 | 461.42 | 400.00 |
| 807.600 | 1900.00 | 636.54 | -1.12 | .55 | 0.00 | 448.08 | 400.00 |
| 808.200 | 1900.00 | 637.17 | 0.00 | .31 | 0.00 | 451.34 | 280.00 |
| 808.200 | 1900.00 | 637.81 | .65 | .15 | 0.00 | 460.79 | 280.00 |
| 808.200 | 1900.00 | 636.96 | -.86 | .41 | 0.00 | 445.76 | 280.00 |

| SECNC | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 807.980 | 1900.00 | 637.21 | 0.00 | .05 | 0.00 | 239.98 | 70.00 |
| 807.980 | 1900.00 | 637.83 | .62 | .02 | 0.00 | 447.79 | 70.00 |
| 807.980 | 1900.00 | 637.02 | -.81 | .06 | 0.00 | 235.35 | 70.00 |
| 808.020 | 1900.00 | 638.17 | 0.00 | .96 | 0.00 | 535.00 | 80.00 |
| 808.020 | 1900.00 | 638.43 | .25 | .59 | 0.00 | 535.00 | 80.00 |
| 808.020 | 1900.00 | 638.09 | -.33 | 1.07 | 0.00 | 535.00 | 80.00 |
| 808.800 | 1900.00 | 638.22 | 0.00 | .04 | 0.00 | 535.00 | 60.00 |
| 808.800 | 1900.00 | 638.46 | .24 | .03 | 0.00 | 535.00 | 60.00 |
| 808.800 | 1900.00 | 638.14 | -.32 | .05 | 0.00 | 535.00 | 60.00 |
| 808.900 | 1900.00 | 638.43 | 0.00 | .22 | 0.00 | 535.00 | 340.00 |
| 808.900 | 1900.00 | 638.63 | .20 | .17 | 0.00 | 535.00 | 340.00 |
| 808.900 | 1900.00 | 638.37 | -.26 | .23 | 0.00 | 535.00 | 340.00 |
| 809.000 | 1900.00 | 638.71 | 0.00 | .27 | 0.00 | 529.20 | 290.00 |
| 809.000 | 1900.00 | 638.86 | .16 | .23 | 0.00 | 581.03 | 290.00 |
| 809.000 | 1900.00 | 638.66 | -.20 | .29 | 0.00 | 514.01 | 290.00 |
| 809.500 | 1900.00 | 638.99 | 0.00 | .29 | 0.00 | 444.39 | 310.00 |
| 809.500 | 1900.00 | 639.11 | .12 | .25 | 0.00 | 453.73 | 310.00 |
| 809.500 | 1900.00 | 638.96 | -.15 | .30 | 0.00 | 441.74 | 310.00 |
| 809.600 | 1900.00 | 639.33 | 0.00 | .34 | 0.00 | 169.31 | 300.00 |
| 809.600 | 1900.00 | 639.41 | .08 | .30 | 0.00 | 192.36 | 300.00 |
| 809.600 | 1900.00 | 639.31 | -.10 | .35 | 0.00 | 166.10 | 300.00 |
| 810.200 | 1900.00 | 640.03 | 0.00 | .70 | 0.00 | 170.79 | 290.00 |
| 810.200 | 1900.00 | 640.07 | .05 | .67 | 0.00 | 184.94 | 290.00 |
| 810.200 | 1900.00 | 640.01 | -.06 | .70 | 0.00 | 166.04 | 290.00 |
| 809.980 | 1900.00 | 640.25 | 0.00 | .23 | 0.00 | 149.41 | 95.00 |
| 809.980 | 1900.00 | 640.29 | .04 | .22 | 0.00 | 161.04 | 95.00 |
| 809.980 | 1900.00 | 640.24 | -.06 | .23 | 0.00 | 145.05 | 95.00 |
| 810.020 | 1900.00 | 640.82 | 0.00 | .56 | 0.00 | 90.05 | 65.00 |
| 810.020 | 1900.00 | 640.83 | .02 | .54 | 0.00 | 90.65 | 65.00 |
| 810.020 | 1900.00 | 640.81 | -.02 | .57 | 0.00 | 89.84 | 65.00 |
| 810.800 | 1900.00 | 641.10 | 0.00 | .28 | 0.00 | 147.32 | 110.00 |
| 810.800 | 1900.00 | 641.12 | .01 | .28 | 0.00 | 152.49 | 110.00 |
| 810.800 | 1900.00 | 641.10 | -.02 | .29 | 0.00 | 145.51 | 110.00 |
| 810.900 | 1900.00 | 641.49 | 0.00 | .39 | 0.00 | 294.64 | 250.00 |
| 810.900 | 1900.00 | 641.50 | .01 | .38 | 0.00 | 294.67 | 250.00 |
| 810.900 | 1900.00 | 641.48 | -.02 | .39 | 0.00 | 294.63 | 250.00 |
| 811.200 | 1900.00 | 641.94 | 0.00 | .45 | 0.00 | 97.24 | 250.00 |
| 811.200 | 1900.00 | 641.95 | .01 | .45 | 0.00 | 97.26 | 250.00 |
| 811.200 | 1900.00 | 641.94 | -.01 | .45 | 0.00 | 97.23 | 250.00 |
| 810.980 | 1900.00 | 642.03 | 0.00 | .09 | 0.00 | 59.59 | 60.00 |
| 810.980 | 1900.00 | 642.03 | .01 | .09 | 0.00 | 59.61 | 60.00 |
| 810.980 | 1900.00 | 642.02 | -.01 | .09 | 0.00 | 59.58 | 60.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 811.020 | 1900.00 | 642.92 | 0.00 | .89 | 0.00 | 60.00 | 160.00 |
| 811.020 | 1900.00 | 642.92 | .01 | .89 | 0.00 | 60.00 | 160.00 |
| 811.020 | 1900.00 | 642.91 | -.01 | .89 | 0.00 | 60.00 | 160.00 |
| 811.280 | 1900.00 | 642.94 | 0.00 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 1900.00 | 642.95 | .01 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 1900.00 | 642.94 | -.01 | .03 | 0.00 | 56.00 | 76.00 |
| 811.290 | 1900.00 | 642.50 | 0.00 | -.44 | 0.00 | 39.99 | 1.00 |
| 811.290 | 1900.00 | 642.51 | .01 | -.44 | 0.00 | 39.99 | 1.00 |
| 811.290 | 1900.00 | 642.50 | -.01 | -.44 | 0.00 | 39.99 | 1.00 |
| 811.310 | 1900.00 | 642.51 | 0.00 | .01 | 0.00 | 39.99 | 2.00 |
| 811.310 | 1900.00 | 642.52 | .01 | .01 | 0.00 | 39.99 | 2.00 |
| 811.310 | 1900.00 | 642.51 | -.01 | .01 | 0.00 | 39.99 | 2.00 |
| 811.320 | 1900.00 | 643.89 | 0.00 | 1.38 | 0.00 | 332.48 | 1.00 |
| 811.320 | 1900.00 | 643.89 | .00 | 1.38 | 0.00 | 333.09 | 1.00 |
| 811.320 | 1900.00 | 643.89 | -.01 | 1.38 | 0.00 | 332.27 | 1.00 |
| 811.800 | 1900.00 | 643.90 | 0.00 | .01 | 0.00 | 343.52 | 25.00 |
| 811.800 | 1900.00 | 643.91 | .00 | .01 | 0.00 | 343.65 | 25.00 |
| 811.800 | 1900.00 | 643.90 | -.01 | .01 | 0.00 | 343.47 | 25.00 |
| 812.000 | 1900.00 | 643.91 | 0.00 | .00 | 0.00 | 383.64 | 50.00 |
| 812.000 | 1900.00 | 643.91 | .00 | .00 | 0.00 | 384.29 | 50.00 |
| 812.000 | 1900.00 | 643.91 | -.01 | .00 | 0.00 | 383.42 | 50.00 |
| 812.100 | 1900.00 | 643.91 | 0.00 | .00 | 0.00 | 384.33 | 150.00 |
| 812.100 | 1900.00 | 643.92 | .00 | .00 | 0.00 | 384.98 | 150.00 |
| 812.100 | 1900.00 | 643.91 | -.01 | .00 | 0.00 | 384.11 | 150.00 |
| 812.800 | 1900.00 | 643.91 | 0.00 | -.00 | 0.00 | 354.74 | 20.00 |
| 812.800 | 1900.00 | 643.92 | .00 | -.00 | 0.00 | 355.75 | 20.00 |
| 812.800 | 1900.00 | 643.91 | -.01 | -.00 | 0.00 | 354.39 | 20.00 |
| 812.980 | 1900.00 | 643.86 | 0.00 | -.05 | 0.00 | 317.33 | 10.00 |
| 812.980 | 1900.00 | 643.87 | .00 | -.05 | 0.00 | 318.53 | 10.00 |
| 812.980 | 1900.00 | 643.86 | -.01 | -.05 | 0.00 | 316.91 | 10.00 |
| 813.020 | 1900.00 | 644.31 | 0.00 | .45 | 0.00 | 364.06 | 90.00 |
| 813.020 | 1900.00 | 644.31 | .00 | .45 | 0.00 | 364.16 | 90.00 |
| 813.020 | 1900.00 | 644.31 | -.00 | .45 | 0.00 | 364.03 | 90.00 |
| 813.700 | 1900.00 | 644.42 | 0.00 | .11 | 0.00 | 391.99 | 40.00 |
| 813.700 | 1900.00 | 644.42 | .00 | .11 | 0.00 | 392.10 | 40.00 |
| 813.700 | 1900.00 | 644.42 | -.00 | .11 | 0.00 | 391.96 | 40.00 |
| 813.800 | 1900.00 | 644.42 | 0.00 | .00 | 0.00 | 337.91 | 45.00 |
| 813.800 | 1900.00 | 644.43 | .00 | .00 | 0.00 | 338.05 | 45.00 |
| 813.800 | 1900.00 | 644.42 | -.00 | .00 | 0.00 | 337.85 | 45.00 |
| 814.200 | 1900.00 | 644.43 | 0.00 | .01 | 0.00 | 337.92 | 190.00 |
| 814.200 | 1900.00 | 644.43 | .00 | .01 | 0.00 | 338.06 | 190.00 |
| 814.200 | 1900.00 | 644.43 | -.00 | .01 | 0.00 | 337.87 | 190.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | T PWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 814.300 | 1900.00 | 644.43 | 0.00 | .00 | 0.00 | 392.42 | 25.00 |
| | 814.300 | 1900.00 | 644.43 | .00 | .00 | 0.00 | 392.52 | 25.00 |
| | 814.300 | 1900.00 | 644.43 | -.00 | .00 | 0.00 | 392.38 | 25.00 |
| | 813.980 | 1900.00 | 644.41 | 0.00 | -.02 | 0.00 | 336.14 | 35.00 |
| | 813.980 | 1900.00 | 644.41 | .00 | -.02 | 0.00 | 336.30 | 35.00 |
| | 813.980 | 1900.00 | 644.41 | -.00 | -.02 | 0.00 | 336.09 | 35.00 |
| | 814.020 | 1900.00 | 646.93 | 0.00 | 2.52 | 0.00 | 455.00 | 170.00 |
| | 814.020 | 1900.00 | 646.93 | .00 | 2.52 | 0.00 | 455.00 | 170.00 |
| | 814.020 | 1900.00 | 646.93 | -.00 | 2.52 | 0.00 | 455.00 | 170.00 |
| | 814.800 | 1900.00 | 647.05 | 0.00 | .12 | 0.00 | 351.73 | 80.00 |
| | 814.800 | 1900.00 | 647.05 | .00 | .12 | 0.00 | 351.77 | 80.00 |
| | 814.800 | 1900.00 | 647.05 | -.00 | .12 | 0.00 | 351.72 | 80.00 |
| | 814.850 | 1900.00 | 647.05 | 0.00 | .00 | 0.00 | 256.33 | 62.00 |
| | 814.850 | 1900.00 | 647.05 | .00 | .00 | 0.00 | 256.42 | 62.00 |
| | 814.850 | 1900.00 | 647.05 | -.00 | .00 | 0.00 | 256.30 | 62.00 |
| * | 814.980 | 1900.00 | 647.35 | 0.00 | .30 | 0.00 | 483.18 | 1.00 |
| * | 814.980 | 1900.00 | 647.35 | .00 | .30 | 0.00 | 483.20 | 1.00 |
| * | 814.980 | 1900.00 | 647.35 | -.00 | .30 | 0.00 | 483.18 | 1.00 |
| | 815.020 | 1900.00 | 647.36 | 0.00 | .01 | 0.00 | 483.44 | 2.00 |
| | 815.020 | 1900.00 | 647.36 | .00 | .01 | 0.00 | 483.46 | 2.00 |
| | 815.020 | 1900.00 | 647.36 | -.00 | .01 | 0.00 | 483.44 | 2.00 |
| | 815.500 | 1900.00 | 648.51 | 0.00 | 1.15 | 0.00 | 395.00 | 1.00 |
| | 815.500 | 1900.00 | 648.51 | -.00 | 1.15 | 0.00 | 395.00 | 1.00 |
| | 815.500 | 1900.00 | 648.51 | .00 | 1.15 | 0.00 | 395.00 | 1.00 |
| | 815.800 | 1900.00 | 648.58 | 0.00 | .07 | 0.00 | 625.00 | 60.00 |
| | 815.800 | 1900.00 | 648.58 | -.00 | .07 | 0.00 | 625.00 | 60.00 |
| | 815.800 | 1900.00 | 648.58 | .00 | .07 | 0.00 | 625.00 | 60.00 |
| | 815.850 | 1900.00 | 648.61 | 0.00 | .03 | 0.00 | 625.00 | 315.00 |
| | 815.850 | 1900.00 | 648.61 | -.00 | .03 | 0.00 | 625.00 | 315.00 |
| | 815.850 | 1900.00 | 648.61 | .00 | .03 | 0.00 | 625.00 | 315.00 |
| | 815.900 | 1900.00 | 648.64 | 0.00 | .04 | 0.00 | 615.35 | 350.00 |
| | 815.900 | 1900.00 | 648.64 | -.00 | .04 | 0.00 | 615.34 | 350.00 |
| | 815.900 | 1900.00 | 648.64 | .00 | .04 | 0.00 | 615.36 | 350.00 |
| | 815.980 | 1900.00 | 648.67 | 0.00 | .03 | 0.00 | 571.68 | 220.00 |
| | 815.980 | 1900.00 | 648.67 | -.00 | .03 | 0.00 | 571.67 | 220.00 |
| | 815.980 | 1900.00 | 648.67 | .00 | .03 | 0.00 | 571.69 | 220.00 |
| | 816.020 | 1900.00 | 649.56 | 0.00 | .88 | 0.00 | 134.33 | 72.00 |
| | 816.020 | 1900.00 | 649.56 | -.00 | .88 | 0.00 | 134.32 | 72.00 |
| | 816.020 | 1900.00 | 649.56 | .00 | .88 | 0.00 | 134.33 | 72.00 |
| | 816.800 | 1900.00 | 649.59 | 0.00 | .03 | 0.00 | 148.17 | 70.00 |
| | 816.800 | 1900.00 | 649.59 | -.00 | .03 | 0.00 | 148.17 | 70.00 |
| | 816.800 | 1900.00 | 649.59 | .00 | .03 | 0.00 | 148.18 | 70.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 816.900 | 1900.00 | 649.70 | 0.00 | .11 | 0.00 | 111.50 | 335.00 |
| 816.900 | 1900.00 | 649.70 | -.00 | .11 | 0.00 | 111.50 | 335.00 |
| 816.900 | 1900.00 | 649.70 | .00 | .11 | 0.00 | 111.50 | 335.00 |
| 817.100 | 1900.00 | 649.84 | 0.00 | .14 | 0.00 | 129.84 | 350.00 |
| 817.100 | 1900.00 | 649.84 | -.00 | .14 | 0.00 | 129.83 | 350.00 |
| 817.100 | 1900.00 | 649.84 | .00 | .14 | 0.00 | 129.84 | 350.00 |
| 817.200 | 1900.00 | 650.42 | 0.00 | .58 | 0.00 | 73.36 | 295.00 |
| 817.200 | 1900.00 | 650.42 | -.00 | .58 | 0.00 | 73.35 | 295.00 |
| 817.200 | 1900.00 | 650.42 | .00 | .58 | 0.00 | 73.36 | 295.00 |
| 816.980 | 1900.00 | 650.59 | 0.00 | .17 | 0.00 | 64.79 | 85.00 |
| 816.980 | 1900.00 | 650.59 | -.00 | .17 | 0.00 | 64.79 | 85.00 |
| 816.980 | 1900.00 | 650.59 | .00 | .17 | 0.00 | 64.79 | 85.00 |
| 817.020 | 1900.00 | 651.00 | 0.00 | .42 | 0.00 | 193.36 | 63.00 |
| 817.020 | 1900.00 | 651.00 | -.00 | .42 | 0.00 | 193.36 | 63.00 |
| 817.020 | 1900.00 | 651.00 | .00 | .42 | 0.00 | 193.36 | 63.00 |
| 817.800 | 1900.00 | 651.94 | 0.00 | .93 | 0.00 | 294.27 | 127.00 |
| 817.800 | 1900.00 | 651.94 | -.00 | .93 | 0.00 | 294.26 | 127.00 |
| 817.800 | 1900.00 | 651.94 | .00 | .93 | 0.00 | 294.27 | 127.00 |
| 817.850 | 1900.00 | 652.33 | 0.00 | .39 | 0.00 | 267.01 | 200.00 |
| 817.850 | 1900.00 | 652.33 | -.00 | .39 | 0.00 | 267.01 | 200.00 |
| 817.850 | 1900.00 | 652.33 | .00 | .39 | 0.00 | 267.01 | 200.00 |
| 818.100 | 1900.00 | 652.78 | 0.00 | .45 | 0.00 | 54.39 | 185.00 |
| 818.100 | 1900.00 | 652.78 | -.00 | .45 | 0.00 | 54.39 | 185.00 |
| 818.100 | 1900.00 | 652.78 | .00 | .45 | 0.00 | 54.39 | 185.00 |
| 818.200 | 1900.00 | 653.36 | 0.00 | .58 | 0.00 | 53.13 | 205.00 |
| 818.200 | 1900.00 | 653.36 | -.00 | .58 | 0.00 | 53.13 | 205.00 |
| 818.200 | 1900.00 | 653.36 | .00 | .58 | 0.00 | 53.13 | 205.00 |
| 818.980 | 1900.00 | 653.83 | 0.00 | .47 | 0.00 | 159.28 | 120.00 |
| 818.980 | 1900.00 | 653.83 | -.00 | .47 | 0.00 | 159.28 | 120.00 |
| 818.980 | 1900.00 | 653.83 | .00 | .47 | 0.00 | 159.28 | 120.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  814.980  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN U/S HENRY GRAHAM TO ROCHESTER RD.

4) DOCUMENT TYPE: 100 YR ENCROACHER

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*************************************************
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      100 YEAR FLOW  ENCROACHMENT OPTION

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ

     -1.       6.        0.        0.  0.000000      0.00      -1.0       0.   635.200    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALL C     IBW       CHNIM     ITRACE

    15.000    0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 2

CCHV=     .150 CEHV=     .350
*SECNO 804.000
 2800 NAT Q1=     694.51  WSEL=     635.20  ENC Q1=     705.49  WSEL=     635.30  RATIO=  -.0158
 NAT Q1=     708.  RATIOS LOB,CH,RCB=    .0040    .9960  0.0000  WSEL=     635.30
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     1348.0     1452.0  TYPE=      4  TARGET=         .004

         ** JUNCTION WITH HENRY GRAHAM DRAIN

   804.00     12.30    635.20      0.00    635.20    635.34       .14      0.00      0.00    634.80
    1900.        0.     1900.        0.        0.     633.        0.        0.        0.    635.40
     0.00      0.00      3.00      0.00      .065      .045      .065     0.000    622.90   1348.00
  .000756        0.        0.        0.         0         0         0      0.00    101.25   1449.25


*SECNO 805.200
 2800 NAT Q1=     706.85  WSEL=     635.29  ENC Q1=     717.44  WSEL=     635.39  RATIO=  -.0150
 NAT Q1=     722.  RATIOS LOB,CH,RCB=    .0061    .9939  0.0000  WSEL=     635.39

3470 ENCROACHMENT STATIONS=     1348.0     1452.0  TYPE=      4  TARGET=         .006
   805.20     12.39    635.29      0.00    635.29    635.43       .14       .09       .00    634.80
    1900.        0.     1900.        0.        0.     642.        0.        2.        0.    635.40
      .01      0.00      2.96      0.00      .065      .045      .065      .045    622.90   1348.00
  .000733      120.      120.      120.         0         0         0      0.00    102.44   1450.44


CCHV=     .300 CEHV=     .500
*SECNO 804.980
 2800 NAT Q1=     655.67  WSEL=     635.38  ENC Q1=     666.83  WSEL=     635.48  RATIO=  -.0170
 NAT Q1=     667.  RATIOS LOB,CH,RCB=    .0003    .9997  0.0000  WSEL=     635.48

3470 ENCROACHMENT STATIONS=     1348.0     1452.0  TYPE=      4  TARGET=         .000

         ** D/S FACE BRIDGE

   804.98     11.99    635.39      0.00    635.38    635.54       .15       .10       .01    635.30
    1900.        0.     1900.        0.        0.     603.        0.        4.        1.    635.90
      .02      0.00      3.15      0.00      .065      .045      .065      .045    623.40   1348.00
  .000839      130.      130.      130.         0         0         0      0.00     97.04   1445.04


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.40      2.85      0.00      33.00     1.00      227.20    0.00      623.40    623.40

*SECNO 805.020
 2800 NAT Q1=     720.07  WSEL=     635.55  ENC Q1=     720.07  WSEL=     635.65  RATIO=    .0000
 NAT Q1=     747.  RATIOS LOB,CH,RCB=    .0033    .9315    .0652  WSEL=     635.65
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
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3280 CROSS SECTION    805.02 EXTENDED       .36 FEET


3470 ENCROACHMENT STATIONS=      424.0      570.9  TYPE=      4  TARGET=          .037
   805.02     12.16    635.56      0.00    635.55    635.70      .15       .01       .00    635.40
    1900.        0.     1842.       58.        0.      592.      77.        4.        1.    633.80
      .02      0.00      3.11       .75      .065      .045     .065      .044    623.40    424.00
  .000737       14.       14.       14.         0         0        3      0.00    146.91    570.91


*SECNO 805.800
 2800 NAT Q1=     770.26  WSEL=     635.65  ENC Q1=     770.26  WSEL=     635.75  RATIO=    .0000
 NAT Q1=     801.  RATIOS LOB,CH,ROB=    .0058    .9190    .0753  WSEL=     635.75
3280 CROSS SECTION    805.80 EXTENDED       .55 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      424.0      603.4  TYPE=      4  TARGET=          .038
   805.80     12.25    635.65      0.00    635.65    635.79      .13       .08       .00    635.40
    1900.        0.     1822.       78.        0.      613.     114.        6.        1.    633.80
      .04      0.00      2.97       .68      .065      .045     .065      .045    623.40    424.00
  .000643      116.      116.      116.         2         0        0      0.00    179.42    603.42


*SECNO 805.980
 2800 NAT Q1=     643.38  WSEL=     635.76  ENC Q1=     644.49  WSEL=     635.86  RATIO=   -.0017
 NAT Q1=     660.  RATIOS LOB,CH,ROB=   0.0000    .9770    .0230  WSEL=     635.86

3470 ENCROACHMENT STATIONS=      424.0      512.0  TYPE=      4  TARGET=          .023

         ** D/S FACE BRIDGE

   805.98     11.68    635.78      0.00    635.76    635.95      .18       .14       .02    636.10
    1900.        0.     1900.        0.        0.      563.       0.        8.        2.    634.50
      .05      0.00      3.37      0.00      .065      .045     .065      .045    624.10    426.04
  .000913      190.      190.      190.         1         0        0      0.00     85.97    512.00


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.40      2.85      0.00      33.00     1.00      220.80    0.00      624.10    624.10

*SECNO 806.000
6870 D.S. ENERGY OF  635.95 HIGHER THAN COMPUTED ENERGY OF  635.89
 2800 NAT Q1=    1033.42  WSEL=     635.88  ENC Q1=    1033.42  WSEL=     635.98  RATIO=    .0000
 NAT Q1=    1078.  RATIOS LOB,CH,ROB=    .1851    .6476    .1673  WSEL=     635.98
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    806.00 EXTENDED       1.89 FEET


3470 ENCROACHMENT STATIONS=      295.9      742.5  TYPE=      4  TARGET=          .041
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   806.00     11.79    635.89      0.00    635.88    635.95       .06       .01       .04    633.50
    1900.      317.     1301.      282.      415.      578.      396.        9.        2.    633.60
      .05       .76      2.25       .71      .065      .045      .065      .045    624.10    295.86
  .000361       14.       14.       14.         0         0         7      0.00    446.62    742.49


*SECNO 806.500
 2800 NAT Q1=     910.49  WSEL=     635.97  ENC Q1=     910.49  WSEL=     636.07  RATIO=    .0000
 NAT Q1=     951.  RATIOS LOB,CH,ROB=    .1684    .6838    .1478  WSEL=     636.07
3280 CROSS SECTION     806.50 EXTENDED       1.60 FEET


3470 ENCROACHMENT STATIONS=      298.3      737.1  TYPE=      4  TARGET=        .042
   806.50     11.50    636.00      0.00    635.97    636.07       .07       .11       .01    633.90
    1900.      283.     1375.      243.      356.      554.      331.       17.        4.    634.00
      .09       .80      2.48       .73      .065      .045      .065      .045    624.50    298.29
  .000464      270.      270.      270.         0         0         0      0.00    438.78    737.08


CCHV=    .150 CEHV=    .350
*SECNO 806.600
 2800 NAT Q1=     892.97  WSEL=     636.06  ENC Q1=     892.97  WSEL=     636.16  RATIO=    .0000
 NAT Q1=     922.  RATIOS LOB,CH,ROB=    .0891    .8226    .0884  WSEL=     636.16
3280 CROSS SECTION     806.60 EXTENDED       1.25 FEET


3470 ENCROACHMENT STATIONS=      431.6      729.1  TYPE=      4  TARGET=        .032
   806.60     11.34    636.09      0.00    636.06    636.20       .11       .12       .01    633.25
    1900.      139.     1625.      135.      176.      574.      210.       23.        7.    634.45
      .12       .79      2.83       .64      .065      .045      .065      .045    624.75    431.61
  .000471      250.      250.      250.         1         0         0      0.00    297.50    729.10


*SECNO 807.000
 2800 NAT Q1=     814.51  WSEL=     636.16  ENC Q1=     814.51  WSEL=     636.26  RATIO=    .0000
 NAT Q1=     844.  RATIOS LOB,CH,ROB=    .0741    .8542    .0716  WSEL=     636.26
3280 CROSS SECTION     807.00 EXTENDED       1.00 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      455.0      714.3  TYPE=      4  TARGET=        .035
   807.00     11.09    636.19      0.00    636.16    636.32       .13       .12       .01    633.60
    1900.      108.     1692.      100.      127.      557.      159.       28.        8.    634.80
      .14       .85      3.04       .63      .065      .045      .065      .045    625.10    455.01
  .000565      230.      230.      230.         0         0         0      0.00    259.26    714.27


*SECNO 807.500
 2800 NAT Q1=     653.77  WSEL=     636.44  ENC Q1=     653.77  WSEL=     636.54  RATIO=   0.0000
 NAT Q1=     677.  RATIOS LOB,CH,ROB=    .0405    .9308    .0287  WSEL=     636.54
3280 CROSS SECTION     807.50 EXTENDED        .38 FEET
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3470 ENCROACHMENT STATIONS=      490.1      641.4  TYPE=      4  TARGET=          .034
   807.50     10.48    636.48      0.00    636.44    636.67       .19       .33       .02    634.50
    1900.       45.     1835.       21.       48.      513.       38.       36.       10.    635.70
      .18       .94      3.57       .54      .065      .045      .065      .045   626.00    490.13
  .000871      470.      470.      470.         2         0         0      0.00   151.27    641.39


*SECNO 807.600
 2800 NAT Q1=     581.80  WSEL=     636.86  ENC Q1=     581.80  WSEL=     636.96  RATIO=    .0000
 NAT Q1=     611.  RATIOS LOB,CH,ROB=    .0466    .8124    .1410  WSEL=     636.96

3470 ENCROACHMENT STATIONS=      413.7      720.5  TYPE=      4  TARGET=          .047
   807.60     10.31    636.91      0.00    636.86    637.07       .16       .39       .01    636.20
    1900.       42.     1630.      228.       70.      477.      212.       42.       12.    634.90
      .21       .60      3.42      1.08      .065      .045      .065      .045   626.60    413.73
  .001110      400.      400.      400.         2         0         0      0.00   306.72    720.45


*SECNO 808.200
 2800 NAT Q1=     529.71  WSEL=     637.17  ENC Q1=     529.71  WSEL=     637.27  RATIO=    .0000
 NAT Q1=     556.  RATIOS LOB,CH,ROB=    .0313    .8425    .1262  WSEL=     637.27

3470 ENCROACHMENT STATIONS=      466.0      713.2  TYPE=      4  TARGET=          .048
   808.20     10.13    637.23      0.00    637.17    637.42       .19       .34       .01    636.70
    1900.       13.     1688.      199.       24.      461.      180.       47.       14.    635.40
      .24       .54      3.66      1.10      .065      .045      .065      .045   627.10    466.00
  .001327      280.      280.      280.         0         0         0      0.00   247.22    713.22


CCHV=     .300 CEHV=     .500
*SECNO 807.980
 2800 NAT Q1=     390.85  WSEL=     637.21  ENC Q1=     390.85  WSEL=     637.31  RATIO=   0.0000
 NAT Q1=     401.  RATIOS LOB,CH,ROB=  0.0000    .9475    .0525  WSEL=     637.31

3470 ENCROACHMENT STATIONS=      512.0      644.7  TYPE=      4  TARGET=          .026

         ** D/S FACE JOHN R. RD

   807.98      9.38    637.28      0.00    637.21    637.61       .32       .12       .07    637.50
    1900.        0.     1850.       50.        0.      399.       47.       48.       14.    636.20
      .24      0.00      4.63      1.08      .065      .045      .065      .045   627.90    516.82
  .002389       70.       70.       70.         2         0         0      0.00   127.84    644.67


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.65      2.65      0.00     33.00      1.00    224.00      0.00    627.90    627.90

*SECNO 808.020
 2800 NAT Q1=     748.33  WSEL=     638.17  ENC Q1=     748.33  WSEL=     638.27  RATIO=    .0000
 NAT Q1=     782.  RATIOS LOB,CH,ROB=    .1464    .7928    .0608  WSEL=     638.27
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    808.02 EXTENDED       1.24 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
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   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      353.1      726.5  TYPE=      4  TARGET=          .043
   808.02     10.34    638.24     0.00    638.17    638.37      .13       .09       .06    637.00
    1900.      243.     1581.      75.      302.      511.     123.       49.       15.    637.00
      .25       .81      3.09      .61      .065      .045     .065      .045    627.90    353.06
  .000659       80.       80.      80.         0         0        3      0.00    373.40    726.46


*SECNO 808.800
 2800 NAT Q1=     762.86  WSEL=     638.22  ENC Q1=     762.86  WSEL=     638.32  RATIO=    .0000
 NAT Q1=     797.  RATIOS LOB,CH,RCB=    .1501    .7854    .0644  WSEL=     638.32
3280 CROSS SECTION     808.80 EXTENDED       1.28 FEET


3470 ENCROACHMENT STATIONS=      352.1      733.1  TYPE=      4  TARGET=          .043
   808.80     10.39    638.29     0.00    638.22    638.41      .12       .04       .00    637.00
    1900.      250.     1568.      82.      310.      514.     133.       50.       15.    637.00
      .26       .81      3.05      .61      .065      .045     .065      .045    627.90    352.13
  .000638       60.       60.      60.         0         0        0      0.00    380.97    733.10


CCHV=     .150 CEHV=     .350
*SECNO 808.900
 2800 NAT Q1=     702.66  WSEL=     638.43  ENC Q1=     702.66  WSEL=     638.53  RATIO=    .0000
 NAT Q1=     735.  RATIOS LOB,CH,RCB=    .1340    .8169    .0491  WSEL=     638.53
3280 CROSS SECTION     808.90 EXTENDED       1.11 FEET


3470 ENCROACHMENT STATIONS=      356.8      700.3  TYPE=      4  TARGET=          .044
   808.90     10.21    638.51     0.00    638.43    638.65      .14       .23       .01    637.40
    1900.      219.     1628.      53.      270.      502.      87.       57.       18.    637.40
      .29       .81      3.24      .61      .065      .045     .065      .045    628.30    356.81
  .000743      340.      340.     340.         0         0        0      0.00    343.45    700.27


*SECNO 809.000
 2800 NAT Q1=     651.99  WSEL=     638.71  ENC Q1=     651.99  WSEL=     638.81  RATIO=    .0000
 NAT Q1=     686.  RATIOS LOB,CH,RCB=    .3565    .6423    .0012  WSEL=     638.81

3470 ENCROACHMENT STATIONS=      245.2      594.0  TYPE=      4  TARGET=          .050
   809.00      9.99    638.79     0.00    638.71    638.89      .10       .23       .01    637.40
    1900.      613.     1287.       0.      560.      430.       0.       63.       21.    638.50
      .32      1.09      2.99     0.00      .065      .045     .065      .045    628.80    245.19
  .000866      290.      290.     290.         2         0        0      0.00    348.81    594.00


*SECNO 809.500
 2800 NAT Q1=     532.40  WSEL=     638.99  ENC Q1=     532.40  WSEL=     639.09  RATIO=    .0000
 NAT Q1=     558.  RATIOS LOB,CH,RCB=    .2949    .7051   0.0000  WSEL=     639.09

3470 ENCROACHMENT STATIONS=      259.5      594.0  TYPE=      4  TARGET=          .045
   809.50      9.58    639.08     0.00    638.99    639.23      .15       .32       .02    638.10
    1900.      493.     1407.       0.      425.      399.       0.       70.       23.    639.20
      .35      1.16      3.52     0.00      .065      .045     .065      .045    629.50    259.47
  .001287      310.      310.     310.         2         0        0      0.00    333.07    592.54
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*SECNO 809.600
 2800 NAT Q1=     387.96  WSEL=     639.33  ENC Q1=     397.42  WSEL=     639.43  RATIO=  -.0244
 NAT Q1=     400.  RATIOS LOB,CH,ROB=    .0076    .9924  0.0000  WSEL=     639.43
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST


3470 ENCROACHMENT STATIONS=      490.0      552.0  TYPE=      4  TARGET=         .008
   809.60      9.12   639.42      0.00   639.33   639.82      .40       .51       .09   639.00
    1900.        0.    1900.        0.       0.     375.       0.      74.       24.    639.70
      .37     0.00     5.07      0.00     .065     .045     .065     .045   630.30   490.00
  .002314     300.     300.      300.        2        0        0     0.00    61.46   551.46


*SECNO 810.200
 2800 NAT Q1=     388.50  WSEL=     640.03  ENC Q1=     396.98  WSEL=     640.13  RATIO=  -.0218
 NAT Q1=     400.  RATIOS LOB,CH,ROB=    .0074    .9926  0.0000  WSEL=     640.13

3470 ENCROACHMENT STATIONS=      490.0      552.0  TYPE=      4  TARGET=         .007
   810.20      9.10   640.10      0.00   640.03   640.50      .40       .68       .00   639.70
    1900.        0.    1900.        0.       0.     373.       0.      76.       25.    640.40
      .38     0.00     5.10      0.00     .065     .045     .065     .045   631.00   490.00
  .002350     290.     290.      290.        1        0        0     0.00    61.40   551.40


CCHV=     .300 CEHV=     .500
*SECNO 809.980
 2800 NAT Q1=     380.71  WSEL=     640.25  ENC Q1=     389.61  WSEL=     640.35  RATIO=  -.0234
 NAT Q1=     391.  RATIOS LOB,CH,ROB=    .0046    .9954  0.0000  WSEL=     640.35

3470 ENCROACHMENT STATIONS=      490.0      552.0  TYPE=      4  TARGET=         .005

         ** D/S FACE CHIGAGO RD

   809.98      9.02   640.32      0.00   640.25   640.73      .41       .23       .00   640.00
    1900.        0.    1900.        0.       0.     368.       0.      77.       25.    640.70
      .39     0.00     5.16      0.00     .065     .045     .065     .045   631.30   490.00
  .002433      95.      95.       95.        0        0        0     0.00    61.26   551.26


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.60      2.65      0.00     33.00      1.00    224.00      0.00    631.30    631.30

*SECNO 810.020
 2800 NAT Q1=     434.55  WSEL=     640.82  ENC Q1=     438.13  WSEL=     640.92  RATIO=  -.0083
 NAT Q1=     445.  RATIOS LOB,CH,ROB=  0.0000    .9849    .0151  WSEL=     640.92
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      510.0      566.0  TYPE=      4  TARGET=         .015
   810.02      9.58   640.88      0.00   640.82   641.27      .39       .14       .01   641.80
    1900.        0.    1900.        0.       0.     379.       0.      78.       25.    638.80
      .39     0.00     5.01      0.00     .065     .045     .065     .045   631.30   511.47
  .001999      65.      65.       65.        0        0        3     0.00    54.53   566.00
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*SECNC 810.800
 2800 NAT Q1=     510.80  WSEL=     641.10  ENC Q1=     510.80  WSEL=     641.20  RATIO=    .0000
 NAT Q1=     523.  RATIOS LOB,CH,ROB=  0.0000    .9657    .0343  WSEL=     641.20

3470 ENCROACHMENT STATIONS=      510.0      572.2  TYPE=      4  TARGET=          .024
   810.80     10.27    641.17      0.00    641.10    641.48      .31       .18       .02    641.40
    1900.        0.     1880.       20.        0.      417.      15.       79.       25.    638.40
      .40      0.00      4.51      1.28      .065      .045     .065      .045    630.90    510.37
  .001404      110.      110.      110.         2         0        0      0.00     61.87    572.24


CCHV=     .150 CEHV=     .350
*SECNC 810.900
 2800 NAT Q1=     499.67  WSEL=     641.49  ENC Q1=     499.67  WSEL=     641.59  RATIO=   0.0000
 NAT Q1=     517.  RATIOS LOB,CH,ROB=  0.0000    .9321    .0679  WSEL=     641.59
3280 CROSS SECTION     810.90 EXTENDED        .66 FEET


   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      540.0      723.3  TYPE=      4  TARGET=          .034
   810.90      9.96    641.56      0.00    641.49    641.84      .28       .36       .00    644.60
    1900.        0.     1836.       64.        0.      422.      83.       81.       26.    640.40
      .42      0.00      4.35      .77      .065      .045     .065      .045    631.60    560.17
  .001470      250.      250.      250.         2         0        0      0.00    163.12    723.29


*SECNC 811.200
 2800 NAT Q1=     378.86  WSEL=     641.94  ENC Q1=     392.36  WSEL=     642.04  RATIO=  -.0356
 NAT Q1=     392.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     642.04
3280 CROSS SECTION     811.20 EXTENDED        .53 FEET


3470 ENCROACHMENT STATIONS=      556.0      658.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      642.10 ELREA=      642.10

   811.20      9.82    642.02      0.00    641.94    642.30      .28       .46       .00    643.70
    1900.        0.     1900.        0.        0.      444.       0.       84.       27.    641.40
      .43      0.00      4.28      0.00      .065      .045     .065      .045    632.20    560.52
  .002384      250.      250.      250.         1         0        0      0.00     97.48    658.00


CCHV=     .300 CEHV=     .500
*SECNC 810.980
 2800 NAT Q1=     397.06  WSEL=     642.03  ENC Q1=     406.54  WSEL=     642.13  RATIO=  -.0239
 NAT Q1=     407.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     642.13

3470 ENCROACHMENT STATIONS=      556.0      622.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      642.50 ELREA=      642.50


        ** D/S FACE I-75 CULVERT AND TUNNEL
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   810.98      9.20   642.10      0.00   642.03   642.50      .40      .14      .06   644.40
    1900.        0.    1900.        0.       0.     376.       0.     85.      27.    641.70
      .44     0.00     5.05     0.00     .065     .045     .065     .045   632.90   562.21
  .002230      60.      60.      60.        2        0        0     0.00    59.79   622.00


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .90      3.20      2.80      0.00     63.23      .50     411.00     0.00    633.40    632.90

*SECNO 811.020
 PRESS FLOW BECAUSE EGLWC OF    643.19  EXCEEDS 1.5 DEPTH
 2800 NAT Q1=    839.06  WSEL=    642.92  ENC Q1=    853.84  WSEL=    643.02  RATIO=  -.0176
 NAT Q1=    854.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    643.02
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=     670.0     730.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      645.50 ELREA=      644.20

   811.02      9.59   642.99      0.00   642.92   643.16      .17      .17      .07   634.70
    1900.        0.    1900.        0.       0.     574.       0.     87.      27.    633.70
      .45     0.00     3.31     0.00     .065     .045     .065     .045   633.40   670.00
  .000605     160.     160.     160.        0        0        0     0.00    60.00   730.00


*SECNO 811.230
 2800 NAT Q1=    766.49  WSEL=    642.94  ENC Q1=    780.21  WSEL=    643.04  RATIO=  -.0179
 NAT Q1=    780.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    643.04

3470 ENCROACHMENT STATIONS=     672.0     728.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      644.00 ELREA=      644.00

   811.28      9.42   643.02      0.00   642.94   643.23      .20      .05      .02   633.60
    1900.        0.    1900.        0.       0.     528.       0.     87.      27.    633.60
      .46     0.00     3.60     0.00     .065     .045     .065     .045   633.60   672.00
  .000733      76.      76.      76.        1        0        0     0.00    56.00   728.00


*SECNO 811.290
 2800 NAT Q1=    424.28  WSEL=    642.50  ENC Q1=    435.93  WSEL=    642.60  RATIO=  -.0275
 NAT Q1=    436.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    642.60

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     680.0     720.0  TYPE=     4  TARGET=       0.000

         ** WEIR D/S OF ON-LINE RETENTION PONDS

   811.29      8.90   642.60      0.00   642.50   643.65     1.05      .00      .42   642.70
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    1900.        C.     1900.        C.        C.      231.        0.       87.       27.    642.70
      .46      0.00      8.21      0.00      .065      .020      .065      .045   633.70   680.00
  .001896        1.        1.        1.         2         0         0      0.00    39.99   720.00


*SECNO 811.310
 2800 NAT Q1=     424.73  WSEL=     642.51  ENC Q1=     436.62  WSEL=     642.61  RATIO=  -.0280
 NAT Q1=    437.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     642.61

3470 ENCROACHMENT STATIONS=      680.0      720.0  TYPE=      4  TARGET=        0.000
   811.31      8.91    642.61      0.00    642.51    643.65      1.05       .00       .00    642.70
    1900.        C.     1900.        C.        0.      231.        0.       87.       27.    642.70
      .46      0.00      8.21      0.00      .065      .020      .065      .045   633.70   680.00
  .001896        2.        2.        2.         0         0         0      0.00    39.99   720.00


*SECNO 811.320
 2800 NAT Q1=    1843.91  WSEL=     643.89  ENC Q1=    1879.04  WSEL=     643.99  RATIO=  -.0191
 NAT Q1=    1890.  RATIOS LOB,CH,ROB=   .0020   .9944   .0036  WSEL=     643.99

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      578.0      802.0  TYPE=      4  TARGET=         .006
   811.32     11.24    643.94      0.00    643.89    643.96       .02       .00       .31    643.20
    1900.        0.     1900.        0.        C.     1555.        0.       88.       27.    642.40
      .46      0.00      1.22      0.00      .065      .045      .065      .045   632.70   578.00
  .000106        1.        1.        1.         2         0         0      0.00   224.00   802.00


*SECNO 811.800
 2800 NAT Q1=    2936.56  WSEL=     643.90  ENC Q1=    2975.30  WSEL=     644.00  RATIO=  -.0132
 NAT Q1=    2990.  RATIOS LOB,CH,ROB=   .0026   .9951   .0023  WSEL=     644.00
3280 CROSS SECTION     811.80 EXTENDED        .35 FEET


3470 ENCROACHMENT STATIONS=      578.0      802.0  TYPE=      4  TARGET=         .005

         ** D/S END RETENTION POND

   811.80     13.95    643.95      0.00    643.90    643.97       .01       .00       .00    643.20
    1900.        C.     1900.        0.        0.     2050.        0.       89.       27.    642.40
      .46      0.00       .93      0.00      .065      .045      .065      .045   630.00   578.00
  .000042       25.       25.       25.         1         0         0      0.00   224.00   802.00


*SECNO 812.000
 2800 NAT Q1=    3303.81  WSEL=     643.91  ENC Q1=    3335.31  WSEL=     644.01  RATIO=  -.0095
 NAT Q1=    3361.  RATIOS LOB,CH,ROB=   .0021   .9923   .0056  WSEL=     644.01

3470 ENCROACHMENT STATIONS=      584.0      790.0  TYPE=      4  TARGET=         .008
   812.00     18.26    643.96      0.00    643.91    643.97       .01       .00       .00    642.80
    1900.        0.     1900.        0.        0.     2131.        0.       91.       27.    642.40
      .48      0.00       .89      0.00      .065      .045      .065      .045   625.70   584.00
  .000034       50.       50.       50.         0         0         0      0.00   206.00   790.00


*SECNO 812.100
 2800 NAT Q1=    3306.77  WSEL=     643.91  ENC Q1=    3337.97  WSEL=     644.01  RATIO=  -.0094
 NAT Q1=    3364.  RATIOS LOB,CH,ROB=   .0021   .9922   .0057  WSEL=     644.01
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      584.0      790.0  TYPE=      4  TARGET=         .008
   812.10     18.26    643.96     0.00    643.91    643.97      .01       .01       .00    642.80
    1900.        0.     1900.       0.        0.     2132.       0.       98.       28.    642.40
      .53      0.00       .89     0.00      .065      .045     .065      .045    625.70    584.00
  .000034      150.      150.     150.         0         0        0      0.00    206.00    790.00


*SECNO 812.800
 2800 NAT Q1=    2823.47  WSEL=     643.91  ENC Q1=    2855.79  WSEL=     644.01  RATIO=   -.0114
 NAT Q1=    2873.  RATIOS LOB,CH,ROB=  0.0000    .9940    .0060  WSEL=     644.01

3470 ENCROACHMENT STATIONS=      584.0      800.0  TYPE=      4  TARGET=         .006
   812.80     13.96    643.96     0.00    643.91    643.97      .01       .00       .00    644.60
    1900.        0.     1900.       0.        0.     1964.       0.       99.       28.    642.40
      .53      0.00       .97     0.00      .065      .045     .065      .045    630.00    587.22
  .000045       20.       20.      20.         0         0        0      0.00    212.78    800.00


*SECNO 812.980
 2800 NAT Q1=     937.03  WSEL=     643.86  ENC Q1=     937.03  WSEL=     643.96  RATIO=    .0000
 NAT Q1=     959.  RATIOS LOB,CH,ROB=   .0084    .9481    .0434  WSEL=     643.96

3470 ENCROACHMENT STATIONS=      670.0      800.3  TYPE=      4  TARGET=         .022

        ** D/S FACE CULVERTS SEPERATING RETENTION PONDS

   812.98     12.01    643.91     0.00    643.86    644.03      .12       .00       .05    642.50
    1900.        0.     1845.      55.        0.      645.      95.      100.       28.    642.50
      .53      0.00      2.86      .58      .065      .045     .065      .045    631.90    670.00
  .000430       10.       10.      10.         2         0        0      0.00    130.35    800.35


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.75      2.90      0.00     31.00      3.00     196.00     0.00    631.90    631.90

*SECNO 813.020
 2800 NAT Q1=    1041.70  WSEL=     644.31  ENC Q1=    1041.70  WSEL=     644.41  RATIO=    .0000
 NAT Q1=    1068.  RATIOS LOB,CH,ROB=   .0155    .9109    .0737  WSEL=     644.41
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    813.02 EXTENDED       .35 FEET


3470 ENCROACHMENT STATIONS=      663.8      852.2  TYPE=      4  TARGET=         .024
   813.02     12.45    644.35     0.00    644.31    644.46      .10       .03       .01    642.50
    1900.        6.     1779.     115.       11.      672.     197.      101.       28.    642.50
      .54      .53      2.65      .58      .065      .045     .065      .045    631.90    663.82
  .000340       90.       90.      90.         0         0        4      0.00    188.34    852.16


*SECNO 813.700
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 2800 NAT Q1=    3088.46  WSEL=     644.42  ENC Q1=    3099.28  WSEL=     644.52  RATIO=  -.0035
 NAT Q1=   3143.  RATIOS LOB,CH,ROB=  0.0000    .9860    .0140  WSEL=     644.52

3470 ENCROACHMENT STATIONS=      584.0      800.0  TYPE=      4  TARGET=         .014

         ** D/S END RETENTION POND

   813.70     14.47    644.47      0.00    644.42    644.49       .01       .00       .03    644.60
    1900.        0.     1900.        0.        0.    2073.        0.      103.       29.    642.40
      .55      0.00       .92      0.00      .065      .045      .065      .045    630.00    584.63
  .000039       40.       40.       40.         2         0         0      0.00    215.37    800.00


*SECNO 813.800
 2800 NAT Q1=    3138.25  WSEL=     644.42  ENC Q1=    3170.73  WSEL=     644.52  RATIO=  -.0104
 NAT Q1=   3185.  RATIOS LOB,CH,ROB=   .0000    .9955    .0045  WSEL=     644.52
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      590.0      795.0  TYPE=      4  TARGET=         .005
   813.80     17.98    644.48      0.00    644.42    644.49       .01       .00       .00    644.50
    1900.        0.     1900.        0.        0.    2065.        0.      105.       29.    643.00
      .57      0.00       .92      0.00      .065      .045      .065      .045    626.50    590.16
  .000037       45.       45.       45.         0         0         0      0.00    204.84    795.00


*SECNO 814.200
 2800 NAT Q1=    3138.35  WSEL=     644.43  ENC Q1=    3174.37  WSEL=     644.53  RATIO=  -.0115
 NAT Q1=   3189.  RATIOS LOB,CH,ROB=   .0000    .9954    .0046  WSEL=     644.53

3470 ENCROACHMENT STATIONS=      590.0      795.0  TYPE=      4  TARGET=         .005
   814.20     17.98    644.48      0.00    644.43    644.50       .01       .01       .00    644.50
    1900.        0.     1900.        0.        0.    2066.        0.      114.       30.    643.00
      .63      0.00       .92      0.00      .065      .045      .065      .045    626.50    590.12
  .000037      190.      190.      190.         0         0         0      0.00    204.89    795.00


*SECNO 814.300
 2800 NAT Q1=    3093.53  WSEL=     644.43  ENC Q1=    3104.11  WSEL=     644.53  RATIO=  -.0034
 NAT Q1=   3149.  RATIOS LOB,CH,ROB=  0.0000    .9859    .0141  WSEL=     644.53

3470 ENCROACHMENT STATIONS=      584.0      800.0  TYPE=      4  TARGET=         .014
   814.30     14.48    644.48      0.00    644.43    644.50       .01       .00       .00    644.60
    1900.        0.     1900.        0.        0.    2076.        0.      115.       30.    642.40
      .63      0.00       .92      0.00      .065      .045      .065      .045    630.00    584.59
  .000039       25.       25.       25.         0         0         0      0.00    215.41    800.00


*SECNO 813.980
 2800 NAT Q1=     997.54  WSEL=     644.41  ENC Q1=     997.54  WSEL=     644.51  RATIO=   .0000
 NAT Q1=   1026.  RATIOS LOB,CH,ROB=   .2193    .5593    .2214  WSEL=     644.51

3470 ENCROACHMENT STATIONS=      634.0      795.0  TYPE=      4  TARGET=         .028

         ** D/S FACE STEPHENSON HWY.

   813.98      8.36    644.46      0.00    644.41    644.53       .07       .00       .03    636.10
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    1900.      402.     1098.      400.      286.      418.      319.      116.       30.    636.10
      .64      1.41      2.63      1.25      .065      .045      .065      .045   636.10    634.01
  .000374       35.       35.       35.         2         0         0      0.00   160.99    795.00


SPECIAL BRIDGE

SB   XK         XKCR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     1.25       2.05       2.85       0.00       29.00      1.00       196.00     0.00       636.10     636.10

*SECNC 814.020
 2800 NAT Q1=     699.52  WSEL=     646.93  ENC Q1=     699.52  WSEL=     647.03  RATIO=    .0000
 NAT Q1=     725.  RATIOS LOB,CH,ROB=    .0647    .8894    .0460  WSEL=     647.03
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     814.02 EXTENDED       1.27 FEET


3470 ENCROACHMENT STATIONS=      359.9      622.8  TYPE=      4  TARGET=         .035
   814.02     10.87    646.97      0.00    646.93    647.17       .19       .09       .06    645.30
    1900.       86.     1760.       54.      147.      483.       62.      119.       31.    643.30
      .65       .59      3.64       .88      .065      .045      .065      .045   636.10    359.91
  .000761      170.      170.      170.         0         0         3      0.00   262.87    622.78


*SECNO 814.800
 2800 NAT Q1=     814.39  WSEL=     647.05  ENC Q1=     814.39  WSEL=     647.15  RATIO=    .0000
 NAT Q1=     841.  RATIOS LOB,CH,ROB=    .0784    .8873    .0343  WSEL=     647.15
3280 CROSS SECTION     814.80 EXTENDED        .10 FEET

   SECNO      DEPTH      CHSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALCB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLCB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     ICC        ICCNT      CORAR      TOPWID       ENDST


3470 ENCROACHMENT STATIONS=      414.5      623.1  TYPE=      4  TARGET=         .031
   814.80     11.70    647.10      0.00    647.05    647.24       .13       .05       .02    644.60
    1900.      119.     1746.       35.      166.      574.       48.      121.       31.    645.20
      .66       .72      3.04       .73      .065      .045      .065      .045   635.40    414.49
  .000558       80.       80.       80.         2         0         0      0.00   208.64    623.13


*SECNO 814.850
 2800 NAT Q1=     598.98  WSEL=     647.05  ENC Q1=     601.56  WSEL=     647.15  RATIO=   -.0043
 NAT Q1=     617.  RATIOS LOB,CH,ROB=    .0184    .9755    .0061  WSEL=     647.15

3470 ENCROACHMENT STATIONS=      524.0      594.0  TYPE=      4  TARGET=         .025
   814.85     10.71    647.11      0.00    647.05    647.33       .22       .05       .04    645.60
    1900.        0.     1900.        0.        0.      504.        0.      122.       32.    646.20
      .66      0.00      3.77      0.00      .065      .045      .065      .045   636.40    524.00
  .001062       62.       62.       62.         2         0         0      0.00    70.00    594.00


*SECNO 814.980
 2800 NAT Q1=     404.44  WSEL=     647.35  ENC Q1=     404.44  WSEL=     647.45  RATIO=    .0000
 NAT Q1=     427.  RATIOS LOB,CH,ROB=    .0178    .8158    .1664  WSEL=     647.45
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3265 DIVIDED FLOW

3280 CROSS SECTION    814.98 EXTENDED       .17 FEET


3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     549.0     812.3  TYPE=     4  TARGET=        .052

         ** WEIR D/S OF ON-LINE RETENTION PONDS

   814.98    10.67   647.17   647.17   647.35   648.42     1.25      .00      .51   647.10
    1900.       0.    1701.     199.       0.     180.     153.     122.      32.    647.10
      .66     0.00     9.46     1.30     .065     .020     .065     .045   636.50   549.00
  .002803       1.       1.       1.       20        6        0     0.00   237.45   812.27


*SECNO 815.020
 2800 NAT Q1=     405.39  WSEL=     647.36  ENC Q1=     405.39  WSEL=     647.46  RATIO=    .0000
 NAT Q1=     429.  RATIOS LOB,CH,ROB=    .0184    .8136    .1679  WSEL=     647.46

3265 DIVIDED FLOW

3280 CROSS SECTION    815.02 EXTENDED       .18 FEET


3470 ENCROACHMENT STATIONS=     549.0     810.5  TYPE=     4  TARGET=        .055
   815.02    10.68   647.18   647.15   647.36   648.43     1.25      .01      .00   647.10
    1900.       0.    1703.     197.       0.     180.     152.     122.      32.    647.10
      .66     0.00     9.47     1.30     .065     .020     .065     .045   636.50   549.00
  .002801       2.       2.       2.        0        6        0     0.00   241.00   810.54


*SECNO 815.500
 2800 NAT Q1=    1136.61  WSEL=     648.51  ENC Q1=    1136.61  WSEL=     648.61  RATIO=    .0000
 NAT Q1=    1172.  RATIOS LOB,CH,ROB=    .1497    .7787    .0716  WSEL=     648.61
3280 CROSS SECTION    815.50 EXTENDED      1.32 FEET


3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     377.0     657.7  TYPE=     4  TARGET=        .031
   815.50    12.92   648.72     0.00   648.51   648.78      .07      .00      .35   645.00
    1900.     274.    1512.     114.     387.     659.     165.     122.      32.    645.60
      .66      .71     2.29      .69     .065     .045     .065     .045   635.80   377.01
  .000264       1.       1.       1.        3        0        0     0.00   280.73   657.74
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*SECNC 815.800
 2800 NAT Q1=    2070.76  WSEL=     648.58  ENC Q1=    2070.76  WSEL=     648.68  RATIO=    .0000
 NAT Q1=    2131.  RATIOS LOB,CH,ROB=    .0436    .8198    .1365  WSEL=     648.68
3280 CROSS SECTION     815.80 EXTENDED        .78 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     395.8     837.6  TYPE=     4  TARGET=        .028

         ** D/S END RETENTION POND

   815.80     11.48    648.78      0.00    648.58    648.80       .02       .01       .01    646.00
    1900.       61.     1592.      248.      171.     1294.      611.      124.       32.    645.20
      .68       .35      1.23       .41      .065      .045      .065      .045    637.30    395.85
  .000080       60.       60.       60.         2         0         0      0.00    441.71    837.56


CCHV=    .150 CEHV=    .350
*SECNC 815.850
 2800 NAT Q1=    1846.11  WSEL=     648.61  ENC Q1=    1846.11  WSEL=     648.71  RATIO=    .0000
 NAT Q1=    1904.  RATIOS LOB,CH,ROB=    .0327    .8515    .1159  WSEL=     648.71
3280 CROSS SECTION     815.85 EXTENDED        .41 FEET


3470 ENCROACHMENT STATIONS=     423.0     814.1  TYPE=     4  TARGET=        .030
   815.85     11.11    648.81      0.00    648.61    648.83       .02       .03       .00    646.40
    1900.       37.     1657.      206.       99.     1238.      489.      138.       35.    645.60
      .75       .37      1.34       .42      .065      .045      .065      .045    637.70    422.96
  .000100      315.      315.      315.         0         0         0      0.00    391.10    814.06


*SECNC 815.900
 2800 NAT Q1=    1699.68  WSEL=     648.64  ENC Q1=    1699.68  WSEL=     648.74  RATIO=  0.0000
 NAT Q1=    1755.  RATIOS LOB,CH,ROB=    .0250    .8744    .1005  WSEL=     648.74
3280 CROSS SECTION     815.90 EXTENDED        .15 FEET


3470 ENCROACHMENT STATIONS=     444.2     791.1  TYPE=     4  TARGET=        .032
   815.90     10.84    648.84      0.00    648.64    648.87       .03       .04       .00    646.70
    1900.       19.     1707.      174.       51.     1198.      400.      152.       38.    645.90
      .82       .37      1.42       .44      .065      .045      .065      .045    638.00    444.21
  .000118      350.      350.      350.         0         0         0      0.00    346.90    791.11


CCHV=    .300 CEHV=    .500
*SECNC 815.980
 2800 NAT Q1=    1564.17  WSEL=     648.67  ENC Q1=    1564.17  WSEL=     648.77  RATIO=  0.0000
 NAT Q1=    1614.  RATIOS LOB,CH,ROB=    .0185    .8968    .0848  WSEL=     648.77

3470 ENCROACHMENT STATIONS=     461.1     770.1  TYPE=     4  TARGET=        .031

         ** D/S FACE ALLEN ST
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   815.98     10.57    648.87      0.00    648.67    648.90       .03       .03       .00    647.00
    1900.        6.     1751.      142.       16.     1157.      321.      160.       40.    646.20
      .87       .36      1.51       .45      .065      .045      .065      .045    638.30    461.07
  .000140      220.      220.      220.         0         0         0      0.00    309.06    770.12


SPECIAL BRIDGE

SB  XK         XKCR       CDFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     1.25       1.65       2.90       0.00      29.00       1.00     224.00      0.00     638.30     638.30

*SECNC 816.020
 2800 NAT Q1=    1012.09  WSEL=    649.56  ENC Q1=    1030.36  WSEL=    649.66  RATIO=  -.0181
 NAT Q1=    1031.  RATIOS LOB,CH,ROB=  0.0000   .9995   .0005  WSEL=    649.66
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      478.0     610.0  TYPE=      4  TARGET=        .000
   816.02     11.45    649.75      0.00    649.56    649.83       .08       .01       .02    651.50
    1900.        0.     1900.        0.        0.      857.        0.      162.       40.    649.20
      .88      0.00      2.22      0.00      .065      .045      .065      .045    638.30    492.96
  .000330       72.       72.       72.         0         0         2      0.00    117.04    610.00


*SECNC 816.800
 2800 NAT Q1=    1054.47  WSEL=    649.59  ENC Q1=    1073.81  WSEL=    649.69  RATIO=  -.0183
 NAT Q1=    1075.  RATIOS LOB,CH,ROB=  0.0000   .9987   .0013  WSEL=    649.69
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      478.0     610.0  TYPE=      4  TARGET=        .001
   816.80     11.68    649.78      0.00    649.59    649.85       .07       .02       .00    651.30
    1900.        0.     1900.        0.        0.      884.        0.      163.       40.    649.00
      .89      0.00      2.15      0.00      .065      .045      .065      .045    638.10    491.05
  .000306       70.       70.       70.         0         0         0      0.00    118.95    610.00


CCHV=    .150 CEHV=    .350
*SECNC 816.900
 2800 NAT Q1=     885.81  WSEL=    649.70  ENC Q1=    904.07  WSEL=    649.80  RATIO=  -.0206
 NAT Q1=    904.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    649.80

3470 ENCROACHMENT STATIONS=      478.0     610.0  TYPE=      4  TARGET=       0.000
   816.90     10.79    649.89      0.00    649.70    649.98       .09       .12       .01    652.30
    1900.        0.     1900.        0.        0.      782.        0.      170.       41.    650.00
      .92      0.00      2.43      0.00      .065      .045      .065      .045    639.10    496.65
  .000425      335.      335.      335.         1         0         0      0.00    112.87    609.52


*SECNO 817.100
 2800 NAT Q1=     433.76  WSEL=    649.84  ENC Q1=    444.36  WSEL=    649.94  RATIO=  -.0244
 NAT Q1=    445.  RATIOS LOB,CH,ROB=  0.0000   .9977   .0023  WSEL=    649.94

3470 ENCROACHMENT STATIONS=      530.0     616.0  TYPE=      4  TARGET=        .002
   817.10      9.61    650.01      0.00    649.84    650.33       .31       .27       .08    653.00
    1900.        0.     1900.        0.        0.      423.        0.      175.       42.    649.60
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      .95      0.00      4.49      0.00      .065      .045      .065      .045    640.40    546.70
  .001775     350.      350.      350.         2         0         0      0.00     69.30    616.00


*SECNC 817.200
 2800 NAT Q1=     410.09  WSEL=     650.42  ENC Q1=     420.67  WSEL=     650.52  RATIO=  -.0258
 NAT Q1=    421.  RATIOS LOB,CH,ROB=  0.0000   .9998   .0002  WSEL=     650.52

3470 ENCROACHMENT STATIONS=      530.0     616.0  TYPE=      4  TARGET=        .000
   817.20      9.35    650.55      0.00    650.42    650.89       .34       .56       .01    653.80
    1900.        0.     1900.        0.        0.      405.        0.      177.       42.    650.40
      .96      0.00      4.69      0.00      .065      .045      .065      .045    641.20    547.47
  .002012     295.      295.      295.         2         0         0      0.00     68.53    616.00


CCHV=    .300 CEHV=    .500
*SECNO 816.980
 2800 NAT Q1=     352.49  WSEL=     650.59  ENC Q1=     360.74  WSEL=     650.69  RATIO=  -.0234
 NAT Q1=    361.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     650.69

3470 ENCROACHMENT STATIONS=      530.0     616.0  TYPE=      4  TARGET=       0.000

         ** D/S FACE SOUTER RD

   816.93      8.71    650.71      0.00    650.59    651.14       .43       .20       .04    654.60
    1900.        0.     1900.        0.        0.      362.        0.      178.       42.    651.20
      .97      0.00      5.25      0.00      .065      .045      .065      .045    642.00    549.38
  .002745      85.       85.       85.         2         0         0      0.00     65.41    614.80


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.65      2.80    275.00     29.00      1.00    207.00      0.00    642.00    642.00

*SECNC 817.020
 2800 NAT Q1=     267.47  WSEL=     651.00  ENC Q1=     271.06  WSEL=     651.10  RATIO=  -.0134
 NAT Q1=    278.  RATIOS LOB,CH,ROB=   .0245   .9754   .0001  WSEL=     651.10
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      516.0     564.0  TYPE=      4  TARGET=        .025
   817.02      9.12    651.12      0.00    651.00    651.88       .75       .23       .16    650.70
    1900.        0.     1900.        0.        0.      272.        0.      179.       43.    650.90
      .97      0.00      6.97      0.00      .065      .045      .065      .045    642.00    516.00
  .004934      63.       63.       63.         0         0         3      0.00     48.00    564.00


*SECNC 817.800
 2800 NAT Q1=     426.20  WSEL=     651.94  ENC Q1=     426.20  WSEL=     652.04  RATIO=   .0000
 NAT Q1=    445.  RATIOS LOB,CH,ROB=   .1641   .8261   .0099  WSEL=     652.04
3280 CROSS SECTION    817.80 EXTENDED       .05 FEET
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3470 ENCROACHMENT STATIONS=      390.6      564.0  TYPE=      4  TARGET=          .042
   817.80     10.25   652.05      0.00   651.94   652.39      .34       .38       .13   650.50
    1900.      269.    1631.        0.      195.     327.       0.      180.       43.    650.70
      .98      1.37     5.00      0.00      .065     .045     .065      .045   641.80   390.61
  .002026      127.     127.      127.         3        0        0      0.00   173.39   564.00


CCEV=     .150 CEEV=     .350
*SECNO 817.850
 2800 NAT Q1=     374.72  WSEL=     652.33  ENC Q1=     374.72  WSEL=     652.43  RATIO=    .0000
 NAT Q1=     391.  RATIOS LOB,CH,ROB=    .1236    .8709    .0055  WSEL=     652.43

3470 ENCROACHMENT STATIONS=      412.7      564.0  TYPE=      4  TARGET=          .040
   817.85      9.95   652.45      0.00   652.33   652.88      .43       .46       .03   651.20
    1900.      181.    1719.        0.      133.     312.       0.      182.       44.    651.40
      .99      1.37     5.51      0.00      .065     .045     .065      .045   642.50   412.69
  .002598      200.     200.      200.         2        0        0      0.00   151.31   564.00
        .

*SECNO 818.100
 2800 NAT Q1=     357.05  WSEL=     652.78  ENC Q1=     362.19  WSEL=     652.88  RATIO=   -.0144
 NAT Q1=     362.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     652.88

3470 ENCROACHMENT STATIONS=      456.0      524.0  TYPE=      4  TARGET=         0.000
   818.10      9.71   652.91      0.00   652.78   653.38      .47       .49       .01   654.20
    1900.        0.    1900.        0.        0.     346.       0.      184.       44.    653.00
     1.00      0.00     5.50      0.00      .065     .045     .065      .045   643.20   468.01
  .002724      185.     185.      185.         2        0        0      0.00    55.86   523.86


*SECNO 818.200
 2800 NAT Q1=     342.10  WSEL=     653.36  ENC Q1=     350.04  WSEL=     653.46  RATIO=   -.0232
 NAT Q1=     350.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     653.46

3470 ENCROACHMENT STATIONS=      456.0      524.0  TYPE=      4  TARGET=         0.000
   818.20      9.47   653.47      0.00   653.36   653.98      .51       .58       .01   655.00
    1900.        0.    1900.        0.        0.     332.       0.      185.       44.    653.80
     1.01      0.00     5.72      0.00      .065     .045     .065      .045   644.00   470.04
  .002937      205.     205.      205.         2        0        0      0.00    53.43   523.48


CCEV=     .400 CEEV=     .800
*SECNO 818.980
 2800 NAT Q1=     388.96  WSEL=     653.83  ENC Q1=     395.24  WSEL=     653.93  RATIO=   -.0162
 NAT Q1=     396.  RATIOS LOB,CH,ROB=  0.0000    .9981    .0019  WSEL=     653.93
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      456.0      524.0  TYPE=      4  TARGET=          .002

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      655.00 ELREA=      653.80


        ** D/S FACE 1600 FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

   818.98     10.81   653.91      0.00   653.83   654.33      .41       .31       .04   655.00
    1900.        0.    1900.        0.        0.     368.       0.      186.       44.    653.80
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.01 | 0.00 | 5.16 | 0.00 | .065 | .045 | .065 | .045 | 643.10 | 466.14 |
| .002327 | 120. | 120. | 120. | 2 | 0 | 0 | 0.00 | 57.86 | 524.00 |

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER-BARNARD DR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 804.000 | 0.00 | 0.00 | 0.00 | 622.90 | 1900.00 | 635.20 | 0.00 | 635.34 | 7.48 | 3.00 | 652.75 | 694.51 |
| 804.000 | 0.00 | 0.00 | 0.00 | 622.90 | 1900.00 | 635.20 | 0.00 | 635.34 | 7.56 | 3.00 | 632.98 | 691.20 |
| 805.200 | 120.00 | 0.00 | 0.00 | 622.90 | 1900.00 | 635.29 | 0.00 | 635.43 | 7.23 | 2.95 | 671.77 | 706.85 |
| 805.200 | 120.00 | 0.00 | 0.00 | 622.90 | 1900.00 | 635.29 | 0.00 | 635.43 | 7.33 | 2.96 | 641.83 | 701.69 |
| 804.980 | 130.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 635.38 | 0.00 | 635.54 | 8.40 | 3.16 | 603.14 | 655.67 |
| 804.980 | 130.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 635.39 | 0.00 | 635.54 | 8.39 | 3.15 | 602.65 | 655.81 |
| 805.020 | 14.00 | 633.10 | 630.50 | 623.40 | 1900.00 | 635.55 | 0.00 | 635.69 | 6.96 | 3.03 | 806.10 | 720.07 |
| 805.020 | 14.00 | 999999.00 | 0.00 | 623.40 | 1900.00 | 635.56 | 0.00 | 635.70 | 7.37 | 3.11 | 669.35 | 700.03 |
| 805.800 | 116.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 635.65 | 0.00 | 635.77 | 6.08 | 2.89 | 875.43 | 770.26 |
| 805.800 | 116.00 | 0.00 | 0.00 | 623.40 | 1900.00 | 635.65 | 0.00 | 635.79 | 6.43 | 2.97 | 727.37 | 749.21 |
| 805.980 | 190.00 | 0.00 | 0.00 | 624.10 | 1900.00 | 635.76 | 0.00 | 635.93 | 8.72 | 3.32 | 629.95 | 643.38 |
| 805.980 | 190.00 | 0.00 | 0.00 | 624.10 | 1900.00 | 635.78 | 0.00 | 635.95 | 9.13 | 3.37 | 563.47 | 628.64 |
| 806.000 | 14.00 | 633.30 | 631.00 | 624.10 | 1900.00 | 635.88 | 0.00 | 635.93 | 3.38 | 2.17 | 1486.77 | 1033.42 |
| 806.000 | 14.00 | 999999.00 | 0.00 | 624.10 | 1900.00 | 635.89 | 0.00 | 635.95 | 3.61 | 2.25 | 1388.24 | 999.72 |
| 806.500 | 270.00 | 0.00 | 0.00 | 624.50 | 1900.00 | 635.97 | 0.00 | 636.04 | 4.35 | 2.40 | 1337.49 | 910.49 |
| 806.500 | 270.00 | 0.00 | 0.00 | 624.50 | 1900.00 | 636.00 | 0.00 | 636.07 | 4.64 | 2.48 | 1240.91 | 881.66 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 1900.00 | 636.06 | 0.00 | 636.16 | 4.53 | 2.77 | 1067.08 | 892.97 |
| 806.600 | 250.00 | 0.00 | 0.00 | 624.75 | 1900.00 | 636.09 | 0.00 | 636.20 | 4.71 | 2.83 | 960.66 | 875.54 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1900.00 | 636.16 | 0.00 | 636.28 | 5.44 | 2.97 | 957.19 | 814.51 |
| 807.000 | 230.00 | 0.00 | 0.00 | 625.10 | 1900.00 | 636.19 | 0.00 | 636.32 | 5.65 | 3.04 | 842.87 | 799.64 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 636.44 | 0.00 | 636.62 | 8.45 | 3.51 | 708.11 | 653.77 |
| 807.500 | 470.00 | 0.00 | 0.00 | 626.00 | 1900.00 | 636.48 | 0.00 | 636.67 | 8.71 | 3.57 | 599.58 | 643.61 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 636.86 | 0.00 | 637.00 | 10.66 | 3.33 | 857.26 | 581.80 |
| 807.600 | 400.00 | 0.00 | 0.00 | 626.60 | 1900.00 | 636.91 | 0.00 | 637.07 | 11.10 | 3.42 | 758.19 | 570.40 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 637.17 | 0.00 | 637.34 | 12.87 | 3.58 | 770.54 | 529.71 |
| 808.200 | 280.00 | 0.00 | 0.00 | 627.10 | 1900.00 | 637.23 | 0.00 | 637.42 | 13.27 | 3.66 | 666.00 | 521.60 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.21 | 0.00 | 637.53 | 23.63 | 4.62 | 493.03 | 390.85 |
| 807.980 | 70.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 637.28 | 0.00 | 637.61 | 23.89 | 4.63 | 446.14 | 388.71 |
| 808.020 | 80.00 | 637.70 | 634.90 | 627.90 | 1900.00 | 638.17 | 0.00 | 638.29 | 6.45 | 3.04 | 1043.92 | 748.33 |
| 808.020 | 80.00 | 999999.00 | 0.00 | 627.90 | 1900.00 | 638.24 | 0.00 | 638.37 | 6.59 | 3.09 | 935.90 | 739.96 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.22 | 0.00 | 638.33 | 6.20 | 2.99 | 1067.17 | 762.86 |
| 808.800 | 60.00 | 0.00 | 0.00 | 627.90 | 1900.00 | 638.29 | 0.00 | 638.41 | 6.38 | 3.05 | 957.45 | 752.29 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.43 | 0.00 | 638.57 | 7.31 | 3.19 | 968.17 | 702.66 |
| 808.900 | 340.00 | 0.00 | 0.00 | 628.30 | 1900.00 | 638.51 | 0.00 | 638.65 | 7.43 | 3.24 | 858.81 | 696.89 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.71 | 0.00 | 638.80 | 8.49 | 2.94 | 1085.75 | 651.99 |
| 809.000 | 290.00 | 0.00 | 0.00 | 628.80 | 1900.00 | 638.79 | 0.00 | 638.89 | 8.66 | 2.99 | 990.15 | 645.52 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 638.99 | 0.00 | 639.14 | 12.74 | 3.50 | 890.20 | 532.40 |
| 809.500 | 310.00 | 0.00 | 0.00 | 629.50 | 1900.00 | 639.08 | 0.00 | 639.23 | 12.87 | 3.52 | 824.47 | 529.61 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.33 | 0.00 | 639.74 | 23.99 | 5.14 | 386.47 | 387.96 |
| 809.600 | 300.00 | 0.00 | 0.00 | 630.30 | 1900.00 | 639.42 | 0.00 | 639.82 | 23.14 | 5.07 | 374.55 | 394.96 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.03 | 0.00 | 640.44 | 23.92 | 5.14 | 387.31 | 388.50 |
| 810.200 | 290.00 | 0.00 | 0.00 | 631.00 | 1900.00 | 640.10 | 0.00 | 640.50 | 23.50 | 5.10 | 372.60 | 391.94 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.25 | 0.00 | 640.67 | 24.91 | 5.21 | 375.79 | 380.71 |
| 809.980 | 95.00 | 0.00 | 0.00 | 631.30 | 1900.00 | 640.32 | 0.00 | 640.73 | 24.33 | 5.16 | 368.23 | 385.20 |
| 810.020 | 65.00 | 640.60 | 638.70 | 631.30 | 1900.00 | 640.82 | 0.00 | 641.20 | 19.12 | 4.99 | 400.89 | 434.55 |
| 810.020 | 65.00 | 999999.00 | 0.00 | 631.30 | 1900.00 | 640.88 | 0.00 | 641.27 | 19.99 | 5.01 | 379.33 | 424.98 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.10 | 0.00 | 641.40 | 13.84 | 4.46 | 472.54 | 510.80 |
| 810.800 | 110.00 | 0.00 | 0.00 | 630.90 | 1900.00 | 641.17 | 0.00 | 641.48 | 14.04 | 4.51 | 432.24 | 507.09 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.49 | 0.00 | 641.76 | 14.46 | 4.30 | 575.04 | 499.67 |
| 810.900 | 250.00 | 0.00 | 0.00 | 631.60 | 1900.00 | 641.56 | 0.00 | 641.84 | 14.70 | 4.35 | 504.73 | 495.56 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 641.94 | 0.00 | 642.23 | 25.15 | 4.37 | 435.02 | 378.86 |
| 811.200 | 250.00 | 0.00 | 0.00 | 632.20 | 1900.00 | 642.02 | 0.00 | 642.30 | 23.84 | 4.28 | 443.56 | 389.10 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.03 | 0.00 | 642.43 | 22.90 | 5.11 | 371.52 | 397.06 |
| 810.980 | 60.00 | 0.00 | 0.00 | 632.90 | 1900.00 | 642.10 | 0.00 | 642.50 | 22.30 | 5.05 | 375.90 | 402.33 |
| 811.020 | 160.00 | 644.20 | 639.90 | 633.40 | 1900.00 | 642.92 | 0.00 | 643.09 | 5.13 | 3.34 | 569.39 | 839.06 |
| 811.020 | 160.00 | 999999.00 | 0.00 | 633.40 | 1900.00 | 642.99 | 0.00 | 643.16 | 6.05 | 3.31 | 573.81 | 772.60 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 642.94 | 0.00 | 643.15 | 6.14 | 3.63 | 523.21 | 766.49 |
| 811.280 | 76.00 | 0.00 | 0.00 | 633.60 | 1900.00 | 643.02 | 0.00 | 643.23 | 7.33 | 3.60 | 528.11 | 701.73 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.50 | 0.00 | 643.59 | 20.05 | 8.36 | 227.19 | 424.28 |
| 811.290 | 1.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.60 | 0.00 | 643.65 | 18.96 | 8.21 | 231.39 | 436.36 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.51 | 0.00 | 643.59 | 20.01 | 8.36 | 227.34 | 424.73 |
| 811.310 | 2.00 | 0.00 | 0.00 | 633.70 | 1900.00 | 642.61 | 0.00 | 643.65 | 18.96 | 8.21 | 231.37 | 436.33 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.89 | 0.00 | 643.91 | 1.06 | 1.23 | 1597.71 | 1843.91 |
| 811.320 | 1.00 | 0.00 | 0.00 | 632.70 | 1900.00 | 643.94 | 0.00 | 643.96 | 1.06 | 1.22 | 1554.69 | 1844.81 |

| | SECNO | XLCH | ELTRC | ELLC | FLMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.90 | 0.00 | 643.92 | .42 | .93 | 2113.17 | 2936.56 |
| | 811.800 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.95 | 0.00 | 643.97 | .42 | .93 | 2050.21 | 2924.59 |
| | 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2242.03 | 3303.81 |
| | 812.000 | 50.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.96 | 0.00 | 643.97 | .34 | .89 | 2131.06 | 3278.91 |
| | 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.91 | 0.00 | 643.92 | .33 | .89 | 2244.01 | 3306.77 |
| | 812.100 | 150.00 | 0.00 | 0.00 | 625.70 | 1900.00 | 643.96 | 0.00 | 643.97 | .34 | .89 | 2132.34 | 3282.07 |
| | 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.91 | 0.00 | 643.93 | .45 | .97 | 2026.57 | 2823.47 |
| | 812.800 | 20.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 643.96 | 0.00 | 643.97 | .45 | .97 | 1963.72 | 2818.70 |
| | 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.86 | 0.00 | 643.98 | 4.11 | 2.82 | 832.42 | 937.03 |
| | 812.980 | 10.00 | 0.00 | 0.00 | 631.90 | 1900.00 | 643.91 | 0.00 | 644.03 | 4.30 | 2.86 | 740.67 | 916.78 |
| | 813.020 | 90.00 | 642.30 | 641.50 | 631.90 | 1900.00 | 644.31 | 0.00 | 644.41 | 3.33 | 2.61 | 989.34 | 1041.70 |
| | 813.020 | 90.00 | 999999.00 | 0.00 | 631.90 | 1900.00 | 644.35 | 0.00 | 644.46 | 3.40 | 2.65 | 879.83 | 1030.13 |
| | 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.42 | 0.00 | 644.43 | .38 | .91 | 2219.83 | 3088.46 |
| | 813.700 | 40.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.47 | 0.00 | 644.49 | .39 | .92 | 2073.47 | 3056.57 |
| | 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.42 | 0.00 | 644.44 | .37 | .92 | 2122.95 | 3138.25 |
| | 813.800 | 45.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.48 | 0.00 | 644.49 | .37 | .92 | 2065.06 | 3132.62 |
| | 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.43 | 0.00 | 644.44 | .37 | .92 | 2123.02 | 3138.35 |
| | 814.200 | 190.00 | 0.00 | 0.00 | 626.50 | 1900.00 | 644.48 | 0.00 | 644.50 | .37 | .92 | 2066.46 | 3135.63 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.43 | 0.00 | 644.44 | .38 | .91 | 2223.49 | 3093.53 |
| | 814.300 | 25.00 | 0.00 | 0.00 | 630.00 | 1900.00 | 644.48 | 0.00 | 644.50 | .39 | .92 | 2075.53 | 3061.09 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.41 | 0.00 | 644.47 | 3.63 | 2.58 | 1165.19 | 997.54 |
| | 813.980 | 35.00 | 0.00 | 0.00 | 636.10 | 1900.00 | 644.46 | 0.00 | 644.53 | 3.74 | 2.63 | 1022.38 | 982.91 |
| | 814.020 | 170.00 | 646.90 | 643.20 | 636.10 | 1900.00 | 646.93 | 0.00 | 647.11 | 7.38 | 3.58 | 786.84 | 699.52 |
| | 814.020 | 170.00 | 999999.00 | 0.00 | 636.10 | 1900.00 | 646.97 | 0.00 | 647.17 | 7.61 | 3.64 | 691.10 | 688.94 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.05 | 0.00 | 647.17 | 5.44 | 2.99 | 882.61 | 814.39 |
| | 814.800 | 80.00 | 0.00 | 0.00 | 635.40 | 1900.00 | 647.10 | 0.00 | 647.24 | 5.58 | 3.04 | 788.08 | 804.62 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.05 | 0.00 | 647.26 | 10.06 | 3.73 | 577.32 | 598.98 |
| | 814.850 | 62.00 | 0.00 | 0.00 | 636.40 | 1900.00 | 647.11 | 0.00 | 647.33 | 10.62 | 3.77 | 504.23 | 583.02 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.35 | 647.35 | 648.31 | 22.07 | 8.58 | 474.63 | 404.44 |
| * | 814.980 | 1.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.17 | 647.17 | 648.42 | 28.03 | 9.46 | 332.75 | 358.85 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.36 | 647.34 | 648.31 | 21.97 | 8.56 | 476.77 | 405.39 |
| | 815.020 | 2.00 | 0.00 | 0.00 | 636.50 | 1900.00 | 647.18 | 647.15 | 648.43 | 28.01 | 9.47 | 331.79 | 359.02 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.51 | 0.00 | 648.58 | 2.79 | 2.33 | 1281.57 | 1136.61 |
| | 815.500 | 1.00 | 0.00 | 0.00 | 635.80 | 1900.00 | 648.72 | 0.00 | 648.78 | 2.64 | 2.29 | 1210.57 | 1169.03 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.58 | 0.00 | 648.60 | .84 | 1.24 | 2198.61 | 2070.76 |
| | 815.800 | 60.00 | 0.00 | 0.00 | 637.30 | 1900.00 | 648.78 | 0.00 | 648.80 | .80 | 1.23 | 2075.47 | 2127.70 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.61 | 0.00 | 648.63 | 1.06 | 1.35 | 1962.56 | 1846.11 |
| | 815.850 | 315.00 | 0.00 | 0.00 | 637.70 | 1900.00 | 648.81 | 0.00 | 648.83 | 1.00 | 1.34 | 1825.82 | 1898.79 |

| SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.64 | 0.00 | 648.67 | 1.25 | 1.44 | 1796.14 | 1699.68 |
| 815.900 | 350.00 | 0.00 | 0.00 | 638.00 | 1900.00 | 648.84 | 0.00 | 648.87 | 1.18 | 1.42 | 1648.87 | 1745.91 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.67 | 0.00 | 648.71 | 1.48 | 1.53 | 1635.80 | 1564.17 |
| 815.980 | 220.00 | 0.00 | 0.00 | 638.30 | 1900.00 | 648.87 | 0.00 | 648.90 | 1.40 | 1.51 | 1493.93 | 1605.44 |
| 816.020 | 72.00 | 648.60 | 646.30 | 638.30 | 1900.00 | 649.56 | 0.00 | 649.64 | 3.52 | 2.28 | 837.57 | 1012.09 |
| 816.020 | 72.00 | 999999.00 | 0.00 | 638.30 | 1900.00 | 649.75 | 0.00 | 649.83 | 3.30 | 2.22 | 857.27 | 1045.63 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.59 | 0.00 | 649.66 | 3.25 | 2.21 | 869.17 | 1054.47 |
| 816.800 | 70.00 | 0.00 | 0.00 | 638.10 | 1900.00 | 649.78 | 0.00 | 649.85 | 3.06 | 2.15 | 883.52 | 1086.72 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.70 | 0.00 | 649.80 | 4.60 | 2.50 | 759.73 | 885.81 |
| 816.900 | 335.00 | 0.00 | 0.00 | 639.10 | 1900.00 | 649.89 | 0.00 | 649.98 | 4.25 | 2.43 | 782.08 | 922.00 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 649.84 | 0.00 | 650.17 | 19.19 | 4.62 | 418.27 | 433.76 |
| 817.100 | 350.00 | 0.00 | 0.00 | 640.40 | 1900.00 | 650.01 | 0.00 | 650.33 | 17.75 | 4.49 | 423.19 | 450.95 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.42 | 0.00 | 650.78 | 21.47 | 4.80 | 396.17 | 410.09 |
| 817.200 | 295.00 | 0.00 | 0.00 | 641.20 | 1900.00 | 650.55 | 0.00 | 650.89 | 20.12 | 4.69 | 405.14 | 423.54 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.59 | 0.00 | 651.03 | 29.05 | 5.36 | 354.38 | 352.49 |
| 816.980 | 85.00 | 0.00 | 0.00 | 642.00 | 1900.00 | 650.71 | 0.00 | 651.14 | 27.45 | 5.25 | 361.87 | 362.63 |
| 817.020 | 63.00 | 651.00 | 649.40 | 642.00 | 1900.00 | 651.00 | 0.00 | 651.75 | 50.46 | 7.01 | 307.90 | 267.47 |
| 817.020 | 63.00 | 999999.00 | 0.00 | 642.00 | 1900.00 | 651.12 | 0.00 | 651.88 | 49.34 | 6.97 | 272.49 | 270.49 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 651.94 | 0.00 | 652.26 | 19.87 | 4.98 | 583.60 | 426.20 |
| 817.800 | 127.00 | 0.00 | 0.00 | 641.80 | 1900.00 | 652.05 | 0.00 | 652.39 | 20.26 | 5.00 | 521.96 | 422.09 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.33 | 0.00 | 652.74 | 25.71 | 5.49 | 497.89 | 374.72 |
| 817.850 | 200.00 | 0.00 | 0.00 | 642.50 | 1900.00 | 652.45 | 0.00 | 652.88 | 25.98 | 5.51 | 444.51 | 372.76 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.78 | 0.00 | 653.27 | 28.32 | 5.62 | 338.14 | 357.05 |
| 818.100 | 185.00 | 0.00 | 0.00 | 643.20 | 1900.00 | 652.91 | 0.00 | 653.38 | 27.24 | 5.50 | 345.55 | 364.01 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.36 | 0.00 | 653.89 | 30.85 | 5.82 | 326.48 | 342.10 |
| 818.200 | 205.00 | 0.00 | 0.00 | 644.00 | 1900.00 | 653.47 | 0.00 | 653.98 | 29.37 | 5.72 | 332.17 | 350.58 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.83 | 0.00 | 654.25 | 23.86 | 5.23 | 366.05 | 388.96 |
| 818.980 | 120.00 | 0.00 | 0.00 | 643.10 | 1900.00 | 653.91 | 0.00 | 654.33 | 23.27 | 5.16 | 368.18 | 393.88 |

SPENCER-BARNARD CR. - U/

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 804.000 | 1900.00 | 635.20 | 0.00 | 0.00 | 0.00 | 200.11 | 0.00 |
| 804.000 | 1900.00 | 635.20 | 0.00 | 0.00 | 0.00 | 101.25 | 0.00 |
| 805.200 | 1900.00 | 635.29 | 0.00 | .09 | 0.00 | 223.54 | 120.00 |
| 805.200 | 1900.00 | 635.29 | .00 | .09 | .00 | 102.44 | 120.00 |
| 804.980 | 1900.00 | 635.38 | 0.00 | .09 | 0.00 | 118.99 | 130.00 |
| 804.980 | 1900.00 | 635.39 | .00 | .09 | .00 | 97.04 | 130.00 |
| 805.020 | 1900.00 | 635.55 | 0.00 | .17 | 0.00 | 530.00 | 14.00 |
| 805.020 | 1900.00 | 635.56 | .00 | .17 | .00 | 146.91 | 14.00 |
| 805.800 | 1900.00 | 635.65 | 0.00 | .09 | 0.00 | 530.00 | 116.00 |
| 805.800 | 1900.00 | 635.65 | .01 | .10 | .01 | 179.42 | 116.00 |
| 805.980 | 1900.00 | 635.76 | 0.00 | .11 | 0.00 | 313.84 | 190.00 |
| 805.980 | 1900.00 | 635.78 | .02 | .12 | .02 | 85.97 | 190.00 |
| 806.000 | 1900.00 | 635.88 | 0.00 | .12 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1900.00 | 635.89 | .02 | .12 | .02 | 446.62 | 14.00 |
| 806.500 | 1900.00 | 635.97 | 0.00 | .10 | 0.00 | 498.00 | 270.00 |
| 806.500 | 1900.00 | 636.00 | .02 | .10 | .02 | 438.78 | 270.00 |
| 806.600 | 1900.00 | 636.06 | 0.00 | .09 | 0.00 | 428.00 | 250.00 |
| 806.600 | 1900.00 | 636.09 | .03 | .09 | .03 | 297.50 | 250.00 |
| 807.000 | 1900.00 | 636.16 | 0.00 | .10 | 0.00 | 428.00 | 230.00 |
| 807.000 | 1900.00 | 636.19 | .03 | .10 | .03 | 259.26 | 230.00 |
| 807.500 | 1900.00 | 636.44 | 0.00 | .28 | 0.00 | 362.18 | 470.00 |
| 807.500 | 1900.00 | 636.48 | .04 | .28 | .04 | 151.27 | 470.00 |
| 807.600 | 1900.00 | 636.86 | 0.00 | .42 | 0.00 | 456.45 | 400.00 |
| 807.600 | 1900.00 | 636.91 | .05 | .43 | .05 | 306.72 | 400.00 |
| 808.200 | 1900.00 | 637.17 | 0.00 | .31 | 0.00 | 451.34 | 280.00 |
| 808.200 | 1900.00 | 637.23 | .06 | .32 | .06 | 247.22 | 280.00 |
| 807.980 | 1900.00 | 637.21 | 0.00 | .05 | 0.00 | 239.98 | 70.00 |
| 807.980 | 1900.00 | 637.28 | .07 | .05 | .07 | 127.84 | 70.00 |
| 808.020 | 1900.00 | 638.17 | 0.00 | .96 | 0.00 | 535.00 | 80.00 |
| 808.020 | 1900.00 | 638.24 | .07 | .96 | .07 | 373.40 | 80.00 |
| 808.800 | 1900.00 | 638.22 | 0.00 | .04 | 0.00 | 535.00 | 60.00 |
| 808.800 | 1900.00 | 638.29 | .07 | .04 | .07 | 380.97 | 60.00 |
| 808.900 | 1900.00 | 638.43 | 0.00 | .22 | 0.00 | 535.00 | 340.00 |
| 808.900 | 1900.00 | 638.51 | .08 | .22 | .08 | 343.45 | 340.00 |
| 809.000 | 1900.00 | 638.71 | 0.00 | .27 | 0.00 | 529.20 | 290.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 809.000 | 1900.00 | 638.79 | .08 | .28 | .08 | 348.81 | 290.00 |
| 805.800 | 1900.00 | 635.65 | 0.00 | .09 | 0.00 | 530.00 | 116.00 |
| 805.800 | 1900.00 | 635.65 | .01 | .10 | .01 | 179.42 | 116.00 |
| 805.980 | 1900.00 | 635.76 | 0.00 | .11 | 0.00 | 313.84 | 190.00 |
| 805.980 | 1900.00 | 635.78 | .02 | .12 | .02 | 85.97 | 190.00 |
| 806.000 | 1900.00 | 635.88 | 0.00 | .12 | 0.00 | 498.00 | 14.00 |
| 806.000 | 1900.00 | 635.89 | .02 | .12 | .02 | 446.62 | 14.00 |
| 806.500 | 1900.00 | 635.97 | 0.00 | .10 | 0.00 | 498.00 | 270.00 |
| 806.500 | 1900.00 | 636.00 | .02 | .10 | .02 | 438.78 | 270.00 |
| 806.600 | 1900.00 | 636.06 | 0.00 | .09 | 0.00 | 428.00 | 250.00 |
| 806.600 | 1900.00 | 636.09 | .03 | .09 | .03 | 297.50 | 250.00 |
| 807.000 | 1900.00 | 636.16 | 0.00 | .10 | 0.00 | 428.00 | 230.00 |
| 807.000 | 1900.00 | 636.19 | .03 | .10 | .03 | 259.26 | 230.00 |
| 807.500 | 1900.00 | 636.44 | 0.00 | .28 | 0.00 | 362.18 | 470.00 |
| 807.500 | 1900.00 | 636.48 | .04 | .28 | .04 | 151.27 | 470.00 |
| 807.600 | 1900.00 | 636.86 | 0.00 | .42 | 0.00 | 456.45 | 400.00 |
| 807.600 | 1900.00 | 636.91 | .05 | .43 | .05 | 306.72 | 400.00 |
| 808.200 | 1900.00 | 637.17 | 0.00 | .31 | 0.00 | 451.34 | 280.00 |
| 808.200 | 1900.00 | 637.23 | .06 | .32 | .06 | 247.22 | 280.00 |
| 807.980 | 1900.00 | 637.21 | 0.00 | .05 | 0.00 | 239.98 | 70.00 |
| 807.980 | 1900.00 | 637.28 | .07 | .05 | .07 | 127.84 | 70.00 |
| 808.020 | 1900.00 | 638.17 | 0.00 | .96 | 0.00 | 535.00 | 80.00 |
| 808.020 | 1900.00 | 638.24 | .07 | .96 | .07 | 373.40 | 80.00 |
| 808.800 | 1900.00 | 638.22 | 0.00 | .04 | 0.00 | 535.00 | 60.00 |
| 808.800 | 1900.00 | 638.29 | .07 | .04 | .07 | 380.97 | 60.00 |
| 808.900 | 1900.00 | 638.43 | 0.00 | .22 | 0.00 | 535.00 | 340.00 |
| 808.900 | 1900.00 | 638.51 | .08 | .22 | .08 | 343.45 | 340.00 |
| 809.000 | 1900.00 | 638.71 | 0.00 | .27 | 0.00 | 529.20 | 290.00 |

| SECNO | Q | CWSEL | DIFLSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 809.500 | 1900.00 | 638.99 | 0.00 | .29 | 0.00 | 444.39 | 310.00 |
| 809.500 | 1900.00 | 639.08 | .09 | .29 | .09 | 333.07 | 310.00 |
| 809.600 | 1900.00 | 639.33 | 0.00 | .34 | 0.00 | 169.31 | 300.00 |
| 809.600 | 1900.00 | 639.42 | .09 | .34 | .09 | 61.46 | 300.00 |
| 810.200 | 1900.00 | 640.03 | 0.00 | .70 | 0.00 | 170.79 | 290.00 |
| 810.200 | 1900.00 | 640.10 | .07 | .67 | .07 | 61.40 | 290.00 |
| 809.980 | 1900.00 | 640.25 | 0.00 | .23 | 0.00 | 149.41 | 95.00 |
| 809.980 | 1900.00 | 640.32 | .07 | .22 | .07 | 61.26 | 95.00 |
| 810.020 | 1900.00 | 640.82 | 0.00 | .56 | 0.00 | 90.05 | 65.00 |
| 810.020 | 1900.00 | 640.88 | .07 | .56 | .07 | 54.53 | 65.00 |
| 810.800 | 1900.00 | 641.10 | 0.00 | .28 | 0.00 | 147.32 | 110.00 |
| 810.800 | 1900.00 | 641.17 | .07 | .28 | .07 | 61.87 | 110.00 |
| 810.900 | 1900.00 | 641.49 | 0.00 | .39 | 0.00 | 294.64 | 250.00 |
| 810.900 | 1900.00 | 641.56 | .07 | .39 | .07 | 163.12 | 250.00 |
| 811.200 | 1900.00 | 641.94 | 0.00 | .45 | 0.00 | 97.24 | 250.00 |
| 811.200 | 1900.00 | 642.02 | .08 | .46 | .08 | 97.48 | 250.00 |
| 810.980 | 1900.00 | 642.03 | 0.00 | .09 | 0.00 | 59.59 | 60.00 |
| 810.980 | 1900.00 | 642.10 | .07 | .08 | .07 | 59.79 | 60.00 |
| 811.020 | 1900.00 | 642.92 | 0.00 | .89 | 0.00 | 60.00 | 160.00 |
| 811.020 | 1900.00 | 642.99 | .07 | .89 | .07 | 60.00 | 160.00 |
| 811.280 | 1900.00 | 642.94 | 0.00 | .03 | 0.00 | 56.00 | 76.00 |
| 811.280 | 1900.00 | 643.02 | .08 | .04 | .08 | 56.00 | 76.00 |
| 811.290 | 1900.00 | 642.50 | 0.00 | -.44 | 0.00 | 39.99 | 1.00 |
| 811.290 | 1900.00 | 642.60 | .10 | -.42 | .10 | 39.99 | 1.00 |
| 811.310 | 1900.00 | 642.51 | 0.00 | .01 | 0.00 | 39.99 | 2.00 |
| 811.310 | 1900.00 | 642.61 | .10 | .00 | .10 | 39.99 | 2.00 |
| 811.320 | 1900.00 | 643.89 | 0.00 | 1.38 | 0.00 | 332.48 | 1.00 |
| 811.320 | 1900.00 | 643.94 | .05 | 1.33 | .05 | 224.00 | 1.00 |
| 811.800 | 1900.00 | 643.90 | 0.00 | .01 | 0.00 | 343.52 | 25.00 |
| 811.800 | 1900.00 | 643.95 | .05 | .01 | .05 | 224.00 | 25.00 |
| 812.000 | 1900.00 | 643.91 | 0.00 | .00 | 0.00 | 383.64 | 50.00 |
| 812.000 | 1900.00 | 643.96 | .05 | .00 | .05 | 206.00 | 50.00 |
| 812.100 | 1900.00 | 643.91 | 0.00 | .00 | 0.00 | 384.33 | 150.00 |
| 812.100 | 1900.00 | 643.96 | .05 | .01 | .05 | 206.00 | 150.00 |
| 812.800 | 1900.00 | 643.91 | 0.00 | -.00 | 0.00 | 354.74 | 20.00 |
| 812.800 | 1900.00 | 643.96 | .05 | -.00 | .05 | 212.78 | 20.00 |
| 812.980 | 1900.00 | 643.86 | 0.00 | -.05 | 0.00 | 317.33 | 10.00 |
| 812.980 | 1900.00 | 643.91 | .05 | -.05 | .05 | 130.35 | 10.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 813.020 | 1900.00 | 644.31 | 0.00 | .45 | 0.00 | 364.06 | 90.00 |
| | 813.020 | 1900.00 | 644.35 | .05 | .45 | .05 | 188.34 | 90.00 |
| | 813.700 | 1900.00 | 644.42 | 0.00 | .11 | 0.00 | 391.99 | 40.00 |
| | 813.700 | 1900.00 | 644.47 | .05 | .12 | .05 | 215.37 | 40.00 |
| | 813.800 | 1900.00 | 644.42 | 0.00 | .00 | 0.00 | 337.91 | 45.00 |
| | 813.800 | 1900.00 | 644.48 | .05 | .00 | .05 | 204.84 | 45.00 |
| | 814.200 | 1900.00 | 644.43 | 0.00 | .01 | 0.00 | 337.92 | 190.00 |
| | 814.200 | 1900.00 | 644.48 | .05 | .01 | .05 | 204.89 | 190.00 |
| | 814.300 | 1900.00 | 644.43 | 0.00 | .00 | 0.00 | 392.42 | 25.00 |
| | 814.300 | 1900.00 | 644.48 | .05 | .00 | .05 | 215.41 | 25.00 |
| | 813.980 | 1900.00 | 644.41 | 0.00 | -.02 | 0.00 | 136.14 | 35.00 |
| | 813.980 | 1900.00 | 644.46 | .05 | -.03 | .05 | 160.99 | 35.00 |
| | 814.020 | 1900.00 | 646.93 | 0.00 | 2.52 | 0.00 | 455.00 | 170.00 |
| | 814.020 | 1900.00 | 646.97 | .05 | 2.52 | .05 | 262.87 | 170.00 |
| | 814.800 | 1900.00 | 647.05 | 0.00 | .12 | 0.00 | 351.73 | 80.00 |
| | 814.800 | 1900.00 | 647.10 | .06 | .13 | .06 | 208.64 | 80.00 |
| | 814.850 | 1900.00 | 647.05 | 0.00 | .00 | 0.00 | 256.33 | 62.00 |
| | 814.850 | 1900.00 | 647.11 | .06 | .00 | .06 | 70.00 | 62.00 |
| * | 814.980 | 1900.00 | 647.35 | 0.00 | .30 | 0.00 | 483.18 | 1.00 |
| * | 814.980 | 1900.00 | 647.17 | -.17 | .07 | -.17 | 237.45 | 1.00 |
| | 815.020 | 1900.00 | 647.36 | 0.00 | .01 | 0.00 | 483.44 | 2.00 |
| | 815.020 | 1900.00 | 647.18 | -.18 | .00 | -.18 | 241.00 | 2.00 |
| | 815.500 | 1900.00 | 648.51 | 0.00 | 1.15 | 0.00 | 395.00 | 1.00 |
| | 815.500 | 1900.00 | 648.72 | .21 | 1.54 | .21 | 280.73 | 1.00 |
| | 815.800 | 1900.00 | 648.58 | 0.00 | .07 | 0.00 | 425.00 | 60.00 |
| | 815.800 | 1900.00 | 648.78 | .20 | .07 | .20 | 441.71 | 60.00 |
| | 815.850 | 1900.00 | 648.61 | 0.00 | .03 | 0.00 | 625.00 | 315.00 |
| | 815.850 | 1900.00 | 648.81 | .20 | .03 | .20 | 391.10 | 315.00 |
| | 815.900 | 1900.00 | 648.64 | 0.00 | .04 | 0.00 | 615.35 | 350.00 |
| | 815.900 | 1900.00 | 648.84 | .20 | .04 | .20 | 346.90 | 350.00 |
| | 815.980 | 1900.00 | 648.67 | 0.00 | .03 | 0.00 | 571.68 | 220.00 |
| | 815.980 | 1900.00 | 648.87 | .20 | .03 | .20 | 309.06 | 220.00 |
| | 816.020 | 1900.00 | 649.56 | 0.00 | .88 | 0.00 | 134.33 | 72.00 |
| | 816.020 | 1900.00 | 649.75 | .20 | .88 | .20 | 117.04 | 72.00 |
| | 816.800 | 1900.00 | 649.59 | 0.00 | .03 | 0.00 | 148.17 | 70.00 |
| | 816.800 | 1900.00 | 649.78 | .20 | .03 | .20 | 118.95 | 70.00 |
| | 816.900 | 1900.00 | 649.70 | 0.00 | .11 | 0.00 | 111.50 | 335.00 |
| | 816.900 | 1900.00 | 649.89 | .19 | .11 | .19 | 112.87 | 335.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 817.100 | 1900.00 | 649.84 | 0.00 | .14 | 0.00 | 129.84 | 350.00 |
| 817.100 | 1900.00 | 650.01 | .18 | .12 | .18 | 69.30 | 350.00 |
| 817.200 | 1900.00 | 650.42 | 0.00 | .58 | 0.00 | 73.36 | 295.00 |
| 817.200 | 1900.00 | 650.55 | .13 | .54 | .13 | 68.53 | 295.00 |
| 816.980 | 1900.00 | 650.59 | 0.00 | .17 | 0.00 | 64.79 | 85.00 |
| 816.980 | 1900.00 | 650.71 | .12 | .16 | .12 | 65.41 | 85.00 |
| 817.020 | 1900.00 | 651.00 | 0.00 | .42 | 0.00 | 193.36 | 63.00 |
| 817.020 | 1900.00 | 651.12 | .12 | .42 | .12 | 48.00 | 63.00 |
| 817.800 | 1900.00 | 651.94 | 0.00 | .93 | 0.00 | 294.27 | 127.00 |
| 817.800 | 1900.00 | 652.05 | .11 | .93 | .11 | 173.39 | 127.00 |
| 817.850 | 1900.00 | 652.33 | 0.00 | .39 | 0.00 | 267.01 | 200.00 |
| 817.850 | 1900.00 | 652.45 | .12 | .40 | .12 | 151.31 | 200.00 |
| 818.100 | 1900.00 | 652.78 | 0.00 | .45 | 0.00 | 54.39 | 185.00 |
| 818.100 | 1900.00 | 652.91 | .13 | .47 | .13 | 55.86 | 185.00 |
| 818.200 | 1900.00 | 653.36 | 0.00 | .58 | 0.00 | 53.13 | 205.00 |
| 818.200 | 1900.00 | 653.47 | .11 | .55 | .11 | 53.43 | 205.00 |
| 818.980 | 1900.00 | 653.83 | 0.00 | .47 | 0.00 | 159.28 | 120.00 |
| 818.980 | 1900.00 | 653.91 | .09 | .44 | .09 | 57.86 | 120.00 |

SUMMARY OF ERRORS

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CAUTION  SECNO=  814.980  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  814.980  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  814.980  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  814.980  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA, SPENCER-BARNARD CR. - U/
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 804.000 | 101. | 633. | 3.0 | 635.2 | 635.2 | 0.0 |
| 805.200 | 102. | 642. | 3.0 | 635.3 | 635.3 | 0.0 |
| 804.980 | 97. | 603. | 3.2 | 635.4 | 635.4 | 0.0 |
| 805.020 | 147. | 669. | 2.8 | 635.6 | 635.6 | 0.0 |
| 805.800 | 179. | 727. | 2.6 | 635.6 | 635.6 | 0.0 |
| 805.980 | 86. | 563. | 3.4 | 635.8 | 635.8 | 0.0 |
| 806.000 | 447. | 1388. | 1.4 | 635.9 | 635.9 | 0.0 |
| 806.500 | 439. | 1241. | 1.5 | 636.0 | 636.0 | 0.0 |
| 806.600 | 297. | 961. | 2.0 | 636.1 | 636.1 | 0.0 |
| 807.000 | 259. | 843. | 2.3 | 636.2 | 636.2 | 0.0 |
| 807.500 | 151. | 600. | 3.2 | 636.4 | 636.4 | 0.0 |
| 807.600 | 307. | 758. | 2.5 | 637.0 | 636.9 | .1 |
| 808.200 | 247. | 666. | 2.9 | 637.3 | 637.2 | .1 |
| 807.980 | 128. | 446. | 4.3 | 637.3 | 637.2 | .1 |
| 808.020 | 373. | 936. | 2.0 | 638.3 | 638.2 | .1 |
| 808.800 | 381. | 957. | 2.0 | 638.3 | 638.2 | .1 |
| 808.900 | 343. | 859. | 2.2 | 638.5 | 638.4 | .1 |
| 809.000 | 349. | 990. | 1.9 | 638.8 | 638.7 | .1 |
| 809.500 | 333. | 824. | 2.3 | 639.1 | 639.0 | .1 |
| 809.600 | 61. | 375. | 5.1 | 639.4 | 639.3 | .1 |
| 810.200 | 61. | 373. | 5.1 | 640.1 | 640.0 | .1 |
| 809.980 | 61. | 368. | 5.2 | 640.4 | 640.3 | .1 |
| 810.020 | 55. | 379. | 5.0 | 640.9 | 640.8 | .1 |
| 810.800 | 62. | 432. | 4.4 | 641.2 | 641.1 | .1 |
| 810.900 | 163. | 505. | 3.8 | 641.6 | 641.5 | .1 |
| 811.200 | 97. | 444. | 4.3 | 642.0 | 641.9 | .1 |
| 810.980 | 60. | 376. | 5.1 | 642.1 | 642.0 | .1 |
| 811.020 | 60. | 574. | 3.3 | 643.0 | 642.9 | .1 |
| 811.280 | 56. | 528. | 3.6 | 643.0 | 642.9 | .1 |
| 811.290 | 40. | 231. | 8.2 | 642.6 | 642.5 | .1 |
| 811.310 | 40. | 231. | 8.2 | 642.6 | 642.5 | .1 |
| 811.320 | 224. | 1555. | 1.2 | 643.9 | 643.9 | 0.0 |
| 811.800 | 224. | 2050. | .9 | 643.9 | 643.9 | 0.0 |
| 812.000 | 206. | 2131. | .9 | 643.9 | 643.9 | 0.0 |
| 812.100 | 206. | 2132. | .9 | 643.9 | 643.9 | 0.0 |
| 812.800 | 213. | 1964. | 1.0 | 643.9 | 643.9 | 0.0 |
| 812.980 | 130. | 741. | 2.6 | 643.9 | 643.9 | 0.0 |
| 813.020 | 188. | 880. | 2.2 | 644.3 | 644.3 | 0.0 |
| 813.700 | 215. | 2073. | .9 | 644.5 | 644.4 | .1 |
| 813.800 | 205. | 2065. | .9 | 644.5 | 644.4 | .1 |
| 814.200 | 205. | 2066. | .9 | 644.5 | 644.4 | .1 |
| 814.300 | 215. | 2076. | .9 | 644.5 | 644.4 | .1 |
| 813.980 | 161. | 1022. | 1.9 | 644.4 | 644.4 | 0.0 |
| 814.020 | 263. | 691. | 2.7 | 646.9 | 646.9 | 0.0 |
| 814.800 | 209. | 788. | 2.4 | 647.1 | 647.0 | .1 |
| 814.850 | 70. | 504. | 3.8 | 647.1 | 647.0 | .1 |
| 814.980 | 263. | 333. | 5.7 | 647.2 | 647.3 | -.1 |
| 815.020 | 262. | 332. | 5.7 | 647.3 | 647.4 | -.1 |
| 815.500 | 281. | 1211. | 1.6 | 648.7 | 648.5 | .2 |
| 815.800 | 442. | 2075. | .9 | 648.8 | 648.6 | .2 |

FLOODWAY DATA, SPENCER-BARNARD DR. - U/
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 815.850 | 391. | 1826. | 1.0 | 648.8 | 648.6 | .2 |
| 815.900 | 347. | 1649. | 1.2 | 648.8 | 648.6 | .2 |
| 815.980 | 309. | 1494. | 1.3 | 648.9 | 648.7 | .2 |
| 816.020 | 117. | 857. | 2.2 | 649.8 | 649.6 | .2 |
| 816.800 | 119. | 884. | 2.2 | 649.8 | 649.6 | .2 |
| 816.900 | 113. | 782. | 2.4 | 649.9 | 649.7 | .2 |
| 817.100 | 69. | 423. | 4.5 | 650.0 | 649.8 | .2 |
| 817.200 | 69. | 405. | 4.7 | 650.5 | 650.4 | .1 |
| 816.980 | 65. | 362. | 5.3 | 650.7 | 650.6 | .1 |
| 817.020 | 48. | 272. | 7.0 | 651.1 | 651.0 | .1 |
| 817.800 | 173. | 522. | 3.6 | 652.0 | 651.9 | .1 |
| 817.850 | 151. | 445. | 4.3 | 652.4 | 652.3 | .1 |
| 818.100 | 56. | 346. | 5.5 | 652.9 | 652.8 | .1 |
| 818.200 | 53. | 332. | 5.7 | 653.5 | 653.4 | .1 |
| 818.980 | 58. | 368. | 5.2 | 653.9 | 653.8 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ~~CITY~~ TROY, CITY

3) WATERCOURSE: SPENCER-BARNARD DRAIN - U/S HENRY GRAHAM DRAIN TO ROCHESTER RD

4) DOCUMENT TYPE: 100 YR. FLOODWAY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA F-4705
T2      TROY
T3      SPENCER-BARNARD DR. - U/S HENRY GRAHAM - 100 YR. FLOW=1900 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.   0.000000     0.00      -1.0       0.    635.200    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000

NC      .065      .065      .045      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000  1100.000  1600.000  1900.000  2600.000  1900.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** JUNCTION WITH HENRY GRAHAM DRAIN

X1   804.000     8.000  1348.000  1452.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   635.500  1175.000   634.800  1348.000   624.000  1382.000   622.900  1393.000   624.000  1404.000
GR   633.800  1430.000   635.400  1452.000   635.700  1600.000     0.000     0.000     0.000     0.000

X1   805.200     0.000     0.000     0.000   120.000   120.000   120.000     0.000     0.000     0.000
NC     0.000     0.000     0.000      .300      .500     0.000     0.000     0.000     0.000     0.000

        ** D/S FACE BRIDGE

X1   804.980     0.000     0.000     0.000   130.000   130.000   130.000     0.000      .500     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   630.500   630.500     0.000
SB     1.250     1.400     2.850     0.000    33.000     1.000   227.200     0.000   623.400   623.400

X1   805.020    17.000   424.000   512.000    14.000    14.000    14.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   530.500   633.100     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   633.100   633.400     0.000
BT    12.000   270.000   635.500     0.000   424.000   635.400     0.000   464.000   633.100     0.000
BT   464.100   633.900     0.000   476.000   633.900     0.000   476.100   634.300     0.000   512.000
BT   634.300     0.000   512.100   633.900     0.000   524.000   633.900     0.000   524.100   633.400
BT     0.000   700.000   635.700     0.000   800.000   636.000     0.000     0.000     0.000     0.000
GR   635.500   270.000   635.400   424.000   632.600   444.000   624.500   464.000   624.500   464.100
GR   623.400   474.000   623.400   476.000   623.400   476.100   624.600   486.000   633.800   512.000
GR   633.800   512.100   634.000   524.000   634.000   524.100   634.400   548.000   635.000   630.000
GR   635.100   700.000   635.200   800.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   805.800    10.000   424.000   512.000   116.000   116.000   116.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 635.500 | 270.000 | 635.400 | 424.000 | 632.300 | 444.000 | 624.600 | 462.000 | 623.400 | 474.000 |
| GR | 624.600 | 486.000 | 633.800 | 512.000 | 634.400 | 548.000 | 635.000 | 630.000 | 635.100 | 800.000 |

** D/S FACE BRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 805.980 | 0.000 | 0.000 | 0.000 | 190.000 | 190.000 | 190.000 | 0.000 | .700 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 631.000 | 631.000 | 0.000 |
| SB | 1.250 | 1.400 | 2.850 | 0.000 | 33.000 | 1.000 | 220.800 | 0.000 | 624.100 | 624.100 |
| | | | | | | | | | | |
| X1 | 806.000 | 13.000 | 475.000 | 556.000 | 14.000 | 14.000 | 14.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 631.000 | 633.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 634.700 | 633.600 | 0.000 |
| BT | 5.000 | 350.000 | 633.300 | 0.000 | 475.000 | 634.600 | 0.000 | 530.000 | 634.600 | 0.000 |
| BT | 556.000 | 633.600 | 0.000 | 773.000 | 634.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 635.000 | 275.000 | 633.300 | 280.000 | 633.300 | 300.000 | 633.300 | 350.000 | 633.200 | 400.000 |
| GR | 634.700 | 450.000 | 633.500 | 475.000 | 624.700 | 490.000 | 624.100 | 502.000 | 624.600 | 514.000 |
| GR | 632.100 | 530.000 | 633.600 | 556.000 | 634.000 | 773.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 806.500 | 13.000 | 475.000 | 556.000 | 270.000 | 270.000 | 270.000 | 0.000 | .400 | 0.000 |
| GR | 635.000 | 275.000 | 633.300 | 280.000 | 633.300 | 300.000 | 633.300 | 350.000 | 633.200 | 400.000 |
| GR | 634.700 | 450.000 | 633.500 | 475.000 | 624.700 | 490.000 | 624.100 | 502.000 | 624.600 | 514.000 |
| GR | 632.100 | 530.000 | 633.600 | 556.000 | 634.000 | 773.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 806.600 | 9.000 | 518.000 | 588.000 | 250.000 | 250.000 | 250.000 | 0.000 | -.350 | 0.000 |
| GR | 636.100 | 340.000 | 635.400 | 422.000 | 633.600 | 518.000 | 625.800 | 540.000 | 625.100 | 550.000 |
| GR | 625.800 | 562.000 | 629.500 | 578.000 | 634.800 | 588.000 | 635.200 | 768.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 807.000 | 0.000 | 0.000 | 0.000 | 230.000 | 230.000 | 230.000 | 0.000 | .350 | 0.000 |
| | | | | | | | | | | |
| X1 | 807.500 | 0.000 | 0.000 | 0.000 | 470.000 | 470.000 | 470.000 | 0.000 | .900 | 0.000 |
| | | | | | | | | | | |
| X1 | 807.600 | 14.000 | 512.000 | 596.000 | 400.000 | 400.000 | 400.000 | 0.000 | -.500 | 0.000 |
| GR | 637.500 | 300.000 | 636.700 | 320.000 | 636.700 | 350.000 | 636.700 | 370.000 | 636.700 | 390.000 |
| GR | 636.700 | 400.000 | 636.700 | 512.000 | 635.800 | 532.000 | 627.200 | 552.000 | 627.100 | 560.000 |
| GR | 627.200 | 568.000 | 635.400 | 596.000 | 636.200 | 758.000 | 638.500 | 762.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 808.200 | 0.000 | 0.000 | 0.000 | 280.000 | 280.000 | 280.000 | 0.000 | .500 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE JOHN R. RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 807.980 | 0.000 | 0.000 | 0.000 | 70.000 | 70.000 | 70.000 | 0.000 | .800 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 634.900 | 634.900 | 0.000 |
| SB | 1.250 | 1.650 | 2.650 | 0.000 | 33.000 | 1.000 | 224.000 | 0.000 | 627.900 | 627.900 |
| | | | | | | | | | | |
| X1 | 808.020 | 9.000 | 542.000 | 612.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 634.900 | 637.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 637.700 | 637.700 | 0.000 |
| BT | 7.000 | 400.000 | 637.700 | 0.000 | 522.000 | 637.700 | 0.000 | 542.000 | 638.100 | 0.000 |
| BT | 564.000 | 638.700 | 0.000 | 588.000 | 638.700 | 0.000 | 612.000 | 637.700 | 0.000 | 850.000 |

6382

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 637.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 637.000 | 315.000 | 636.000 | 400.000 | 637.400 | 522.000 | 637.000 | 542.000 | 628.000 | 564.000 |
| GR | 627.900 | 576.000 | 628.000 | 588.000 | 637.000 | 612.000 | 637.700 | 850.000 | 0.000 | 0.000 |
| X1 | 808.800 | 9.000 | 542.000 | 612.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 637.000 | 315.000 | 636.000 | 400.000 | 637.400 | 522.000 | 637.000 | 542.000 | 628.000 | 564.000 |
| GR | 627.900 | 576.000 | 628.000 | 588.000 | 637.000 | 612.000 | 637.700 | 850.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 808.900 | 0.000 | 0.000 | 0.000 | 340.000 | 340.000 | 340.000 | 0.000 | .400 | 0.000 |
| X1 | 809.000 | 13.000 | 518.000 | 594.000 | 290.000 | 290.000 | 290.000 | 0.000 | 0.000 | 0.000 |
| GR | 639.000 | 100.000 | 637.500 | 200.000 | 636.000 | 300.000 | 636.200 | 320.000 | 636.400 | 335.000 |
| GR | 636.500 | 340.000 | 637.400 | 518.000 | 629.000 | 538.000 | 628.800 | 547.000 | 629.000 | 556.000 |
| GR | 637.200 | 578.000 | 638.500 | 594.000 | 638.900 | 700.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 809.500 | 0.000 | 0.000 | 0.000 | 310.000 | 310.000 | 310.000 | 0.000 | .700 | 0.000 |
| X1 | 809.600 | 10.000 | 490.000 | 552.000 | 300.000 | 300.000 | 300.000 | 0.000 | -.700 | 0.000 |
| GR | 640.300 | 300.000 | 639.900 | 418.000 | 639.700 | 490.000 | 638.200 | 495.000 | 631.200 | 512.000 |
| GR | 631.000 | 523.000 | 631.200 | 534.000 | 640.400 | 552.000 | 641.200 | 622.000 | 642.300 | 700.000 |
| X1 | 810.200 | 0.000 | 0.000 | 0.000 | 290.000 | 290.000 | 290.000 | 0.000 | .700 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE CHIGAGO RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 809.980 | 0.000 | 0.000 | 0.000 | 95.000 | 95.000 | 95.000 | 0.000 | .300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 638.700 | 638.700 | 0.000 |
| SB | 1.250 | 1.600 | 2.650 | 0.000 | 33.000 | 1.000 | 224.000 | 0.000 | 631.300 | 631.300 |
| X1 | 810.020 | 9.000 | 510.000 | 566.000 | 65.000 | 65.000 | 65.000 | 0.000 | .400 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 638.700 | 640.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 640.600 | 640.600 | 0.000 |
| BT | 6.000 | 325.000 | 640.600 | 0.000 | 526.000 | 640.600 | 0.000 | 538.000 | 641.200 | 0.000 |
| BT | 566.000 | 641.200 | 0.000 | 580.000 | 640.600 | 0.000 | 800.000 | 640.600 | 0.000 | 0.000 |
| GR | 641.600 | 325.000 | 641.400 | 510.000 | 631.400 | 526.000 | 630.900 | 538.000 | 631.400 | 550.000 |
| GR | 638.400 | 566.000 | 639.800 | 580.000 | 641.000 | 622.000 | 641.500 | 800.000 | 0.000 | 0.000 |
| X1 | 810.800 | 9.000 | 510.000 | 566.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 641.600 | 325.000 | 641.400 | 510.000 | 631.400 | 526.000 | 630.900 | 538.000 | 631.400 | 550.000 |
| GR | 638.400 | 566.000 | 639.800 | 580.000 | 641.000 | 622.000 | 641.500 | 800.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 810.900 | 14.000 | 540.000 | 622.000 | 250.000 | 250.000 | 250.000 | 0.000 | -.600 | 0.000 |
| GR | 645.500 | 215.000 | 645.500 | 235.000 | 645.500 | 300.000 | 645.500 | 470.000 | 645.500 | 505.000 |
| GR | 645.500 | 515.000 | 645.200 | 540.000 | 643.700 | 556.000 | 632.600 | 586.000 | 632.200 | 598.000 |
| GR | 632.600 | 610.000 | 641.000 | 622.000 | 641.400 | 658.000 | 641.500 | 855.000 | 0.000 | 0.000 |
| X1 | 811.200 | 14.000 | 556.000 | 658.000 | 250.000 | 250.000 | 250.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 642.100 | 642.100 | 0.000 |
| GR | 645.500 | 215.000 | 645.500 | 235.000 | 645.500 | 300.000 | 645.500 | 470.000 | 645.500 | 505.000 |
| GR | 645.500 | 515.000 | 645.200 | 540.000 | 643.700 | 556.000 | 632.600 | 586.000 | 632.200 | 598.000 |
| GR | 632.600 | 610.000 | 641.000 | 622.000 | 641.400 | 658.000 | 641.500 | 855.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE I-75 CULVERT AND TUNNEL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 810.980 | 14.000 | 556.000 | 622.000 | 60.000 | 60.000 | 60.000 | 0.000 | .700 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 642.500 | 642.500 | 0.000 |
| GR | 645.500 | 215.000 | 645.500 | 235.000 | 645.500 | 300.000 | 645.500 | 470.000 | 645.500 | 505.000 |
| GR | 645.500 | 515.000 | 645.200 | 540.000 | 643.700 | 556.000 | 632.600 | 586.000 | 632.200 | 598.000 |
| GR | 632.600 | 610.000 | 641.000 | 622.000 | 641.400 | 658.000 | 641.500 | 855.000 | 0.000 | 0.000 |
| SB | .900 | 3.200 | 2.800 | 0.000 | 63.230 | .500 | 411.000 | 0.000 | 633.400 | 632.900 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.020 | 8.000 | 670.000 | 730.000 | 160.000 | 160.000 | 160.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 639.900 | 644.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 645.500 | 644.200 | 0.000 |
| BT | 2.000 | 500.000 | 646.200 | 0.000 | 846.000 | 644.200 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 643.600 | 500.000 | 643.200 | 578.000 | 634.700 | 670.000 | 633.400 | 672.000 | 633.400 | 728.000 |
| GR | 633.700 | 730.000 | 642.400 | 802.000 | 644.000 | 846.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.280 | 8.000 | 672.000 | 728.000 | 76.000 | 76.000 | 76.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 644.000 | 644.000 | 0.000 |
| GR | 643.600 | 500.000 | 643.200 | 578.000 | 634.700 | 670.000 | 633.400 | 672.000 | 633.400 | 728.000 |
| GR | 633.700 | 730.000 | 642.400 | 802.000 | 644.000 | 846.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** WEIR D/S OF ON-LINE RETENTION PONDS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.290 | 16.000 | 680.000 | 720.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 643.600 | 500.000 | 643.200 | 578.000 | 642.700 | 680.000 | 639.700 | 680.100 | 639.700 | 687.000 |
| GR | 635.700 | 687.100 | 635.700 | 697.000 | 633.700 | 697.100 | 633.700 | 702.900 | 635.700 | 703.000 |
| GR | 635.700 | 712.900 | 639.700 | 713.000 | 639.700 | 719.900 | 642.700 | 720.000 | 642.800 | 802.000 |
| GR | 644.000 | 846.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.310 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .045 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.320 | 8.000 | 578.000 | 802.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| GR | 644.000 | 500.000 | 643.200 | 578.000 | 634.700 | 670.000 | 632.700 | 672.000 | 632.700 | 728.000 |
| GR | 633.700 | 730.000 | 642.400 | 802.000 | 644.000 | 846.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S END RETENTION POND

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 811.800 | 8.000 | 578.000 | 802.000 | 25.000 | 25.000 | 25.000 | 0.000 | 0.000 | 0.000 |
| GR | 643.600 | 500.000 | 643.200 | 578.000 | 633.700 | 645.000 | 630.000 | 665.000 | 630.000 | 730.000 |
| GR | 633.600 | 747.000 | 642.400 | 802.000 | 644.000 | 846.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 812.000 | 10.000 | 584.000 | 790.000 | 50.000 | 50.000 | 50.000 | 0.000 | 0.000 | 0.000 |
| GR | 644.200 | 500.000 | 642.800 | 584.000 | 633.600 | 641.000 | 629.500 | 665.000 | 625.700 | 680.000 |
| GR | 625.700 | 705.000 | 629.600 | 722.000 | 633.600 | 741.000 | 642.400 | 790.000 | 644.000 | 908.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 812.100 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 812.800 | 9.000 | 584.000 | 800.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.800 | 570.000 | 644.600 | 584.000 | 633.500 | 640.000 | 630.000 | 656.000 | 630.000 | 720.000 |
| GR | 633.500 | 739.000 | 642.400 | 800.000 | 643.500 | 858.000 | 644.000 | 960.000 | 0.000 | 0.000 |

** D/S FACE CULVERTS SEPERATING RETENTION PONDS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 812.980 | 10.000 | 670.000 | 730.000 | 10.000 | 10.000 | 10.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 641.500 | 641.500 | 0.000 |
| GR | 651.800 | 570.000 | 644.600 | 584.000 | 642.500 | 670.000 | 633.700 | 672.000 | 631.900 | 700.000 |
| GR | 633.700 | 728.000 | 642.500 | 730.000 | 642.600 | 800.000 | 643.500 | 858.000 | 644.000 | 960.000 |
| SB | 1.250 | 1.750 | 2.900 | 0.000 | 31.000 | 3.000 | 196.000 | 0.000 | 631.900 | 631.900 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 813.020 | 0.000 | 0.000 | 0.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 641.500 | 642.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 643.400 | 642.600 | 0.000 |
| BT | 6.000 | 584.000 | 644.900 | 0.000 | 670.000 | 643.400 | 0.000 | 730.000 | 642.600 | 0.000 |
| BT | 800.000 | 642.300 | 0.000 | 858.000 | 644.400 | 0.000 | 960.000 | 645.000 | 0.000 | 0.000 |

** D/S END RETENTION POND

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 813.700 | 10.000 | 584.000 | 800.000 | 40.000 | 40.000 | 40.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.800 | 570.000 | 644.600 | 584.000 | 633.500 | 640.000 | 630.000 | 656.000 | 630.000 | 720.000 |
| GR | 633.500 | 739.000 | 642.400 | 800.000 | 643.500 | 858.000 | 644.000 | 960.000 | 645.000 | 1000.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 813.800 | 13.000 | 590.000 | 795.000 | 45.000 | 45.000 | 45.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.500 | 580.000 | 644.500 | 590.000 | 640.000 | 620.000 | 634.500 | 652.000 | 630.500 | 672.000 |
| GR | 626.500 | 690.000 | 626.500 | 717.000 | 630.500 | 731.000 | 636.000 | 765.000 | 643.000 | 795.000 |
| GR | 644.000 | 832.000 | 644.100 | 910.000 | 645.000 | 960.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 814.200 | 0.000 | 0.000 | 0.000 | 190.000 | 190.000 | 190.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 814.300 | 10.000 | 584.000 | 800.000 | 25.000 | 25.000 | 25.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.800 | 570.000 | 644.600 | 584.000 | 633.500 | 640.000 | 630.000 | 656.000 | 630.000 | 720.000 |
| GR | 633.500 | 739.000 | 642.400 | 800.000 | 643.500 | 858.000 | 644.000 | 960.000 | 645.000 | 1000.000 |

** D/S FACE STEPHENSON HWY.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 813.980 | 8.000 | 680.000 | 730.000 | 35.000 | 35.000 | 35.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 644.000 | 644.000 | 0.000 |
| GR | 651.500 | 580.000 | 644.500 | 590.000 | 636.100 | 680.000 | 636.100 | 730.000 | 643.000 | 795.000 |
| GR | 644.000 | 832.000 | 644.100 | 910.000 | 645.000 | 960.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 1.250 | 2.050 | 2.850 | 0.000 | 29.000 | 1.000 | 196.000 | 0.000 | 636.100 | 636.100 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 814.020 | 11.000 | 524.000 | 580.000 | 170.000 | 170.000 | 170.000 | 0.000 | .700 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 643.200 | 646.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 646.900 | 646.900 | 0.000 |
| BT | 6.000 | 320.000 | 646.900 | 0.000 | 524.000 | 646.900 | 0.000 | 540.000 | 647.500 | 0.000 |
| BT | 580.000 | 647.500 | 0.000 | 594.000 | 646.900 | 0.000 | 775.000 | 646.900 | 0.000 | 0.000 |
| GR | 645.000 | 320.000 | 645.700 | 496.000 | 644.600 | 524.000 | 636.400 | 540.000 | 635.400 | 542.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 635.800 | 570.000 | 642.600 | 580.000 | 645.200 | 594.000 | 645.800 | 695.000 | 646.000 | 725.000 |
| GR | 646.200 | 775.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 814.800 | 11.000 | 524.000 | 594.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 648.000 | 300.000 | 645.800 | 400.000 | 645.700 | 496.000 | 644.600 | 524.000 | 636.400 | 540.000 |
| GR | 635.400 | 542.000 | 635.800 | 570.000 | 642.600 | 580.000 | 645.200 | 594.000 | 646.200 | 654.000 |
| GR | 647.000 | 695.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 814.850 | 0.000 | 0.000 | 0.000 | 62.000 | 62.000 | 62.000 | 0.000 | 1.000 | 0.000 |
| NC | 0.000 | 0.000 | .020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** WEIR D/S OF ON-LINE RETENTION PONDS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 814.980 | 15.000 | 549.000 | 581.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 647.800 | 350.000 | 646.700 | 415.000 | 647.200 | 454.000 | 647.100 | 549.000 | 642.100 | 550.000 |
| GR | 642.100 | 562.000 | 636.500 | 564.000 | 636.500 | 566.000 | 642.100 | 568.000 | 642.100 | 580.000 |
| GR | 647.100 | 581.000 | 647.200 | 670.000 | 645.600 | 752.000 | 645.900 | 825.000 | 647.000 | 860.000 |
| X1 | 815.020 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .045 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 815.500 | 11.000 | 524.000 | 594.000 | 1.000 | 1.000 | 1.000 | 0.000 | .400 | 0.000 |
| GR | 648.000 | 300.000 | 645.800 | 400.000 | 645.700 | 496.000 | 644.600 | 524.000 | 636.400 | 540.000 |
| GR | 635.400 | 542.000 | 635.800 | 570.000 | 642.600 | 580.000 | 645.200 | 594.000 | 646.200 | 654.000 |
| GR | 647.000 | 695.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S END RETENTION POND

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 815.800 | 13.000 | 470.000 | 620.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 648.000 | 300.000 | 646.600 | 424.000 | 646.000 | 470.000 | 644.200 | 494.000 | 638.400 | 522.000 |
| GR | 637.400 | 560.000 | 637.300 | 568.000 | 637.300 | 572.000 | 637.300 | 576.000 | 638.200 | 598.000 |
| GR | 645.200 | 620.000 | 646.700 | 830.000 | 648.000 | 925.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 815.850 | 0.000 | 0.000 | 0.000 | 315.000 | 315.000 | 315.000 | 0.000 | .400 | 0.000 |
| X1 | 815.900 | 0.000 | 0.000 | 0.000 | 350.000 | 350.000 | 350.000 | 0.000 | .300 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE ALLEN ST

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 815.980 | 0.000 | 0.000 | 0.000 | 220.000 | 220.000 | 220.000 | 0.000 | .300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 646.300 | 646.300 | 0.000 |
| SB | 1.250 | 1.650 | 2.900 | 0.000 | 29.000 | 1.000 | 224.000 | 0.000 | 638.300 | 638.300 |
| X1 | 816.020 | 9.000 | 478.000 | 610.000 | 72.000 | 72.000 | 72.000 | 0.000 | .200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 646.300 | 648.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 648.600 | 648.600 | 0.000 |
| BT | 6.000 | 450.000 | 648.600 | 0.000 | 496.000 | 648.600 | 0.000 | 516.000 | 649.500 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 555.000 | 649.500 | 0.000 | 564.000 | 648.600 | 0.000 | 674.000 | 648.600 | 0.000 | 0.000 |
| GR | 651.500 | 450.000 | 651.300 | 478.000 | 649.200 | 496.000 | 640.000 | 516.000 | 638.400 | 550.000 |
| GR | 638.100 | 555.000 | 639.200 | 564.000 | 649.000 | 610.000 | 650.200 | 674.000 | 0.000 | 0.000 |
| X1 | 816.800 | 9.000 | 478.000 | 610.000 | 70.000 | 70.000 | 70.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.500 | 450.000 | 651.300 | 478.000 | 649.200 | 496.000 | 640.000 | 516.000 | 638.400 | 550.000 |
| GR | 638.100 | 555.000 | 639.200 | 564.000 | 649.000 | 610.000 | 650.200 | 674.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 816.900 | 0.000 | 0.000 | 0.000 | 335.000 | 335.000 | 335.000 | 0.000 | 1.000 | 0.000 |
| X1 | 817.100 | 7.000 | 530.000 | 616.000 | 350.000 | 350.000 | 350.000 | 0.000 | -.800 | 0.000 |
| GR | 653.800 | 530.000 | 652.400 | 542.000 | 641.600 | 574.000 | 641.200 | 584.000 | 641.400 | 594.000 |
| GR | 650.400 | 616.000 | 651.000 | 770.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 817.200 | 0.000 | 0.000 | 0.000 | 295.000 | 295.000 | 295.000 | 0.000 | .800 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE SCUTER RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 816.980 | 0.000 | 0.000 | 0.000 | 85.000 | 85.000 | 85.000 | 0.000 | .800 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 649.400 | 649.400 | 0.000 |
| SB | 1.250 | 1.650 | 2.800 | 275.000 | 29.000 | 1.000 | 207.000 | 0.000 | 642.000 | 642.000 |
| X1 | 817.020 | 11.000 | 516.000 | 564.000 | 63.000 | 63.000 | 63.000 | 0.000 | .200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 649.400 | 651.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 651.000 | 651.000 | 0.000 |
| GR | 652.000 | 300.000 | 650.700 | 380.000 | 650.400 | 456.000 | 650.500 | 516.000 | 645.000 | 527.000 |
| GR | 642.500 | 538.000 | 641.800 | 542.000 | 642.500 | 546.000 | 647.700 | 560.000 | 650.700 | 564.000 |
| GR | 652.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 817.800 | 11.000 | 516.000 | 564.000 | 127.000 | 127.000 | 127.000 | 0.000 | 0.000 | 0.000 |
| GR | 652.000 | 300.000 | 650.700 | 380.000 | 650.400 | 456.000 | 650.500 | 516.000 | 645.000 | 527.000 |
| GR | 642.500 | 538.000 | 641.800 | 542.000 | 642.500 | 546.000 | 647.700 | 560.000 | 650.700 | 564.000 |
| GR | 652.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 817.850 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | .700 | 0.000 |
| X1 | 818.100 | 10.000 | 456.000 | 524.000 | 185.000 | 185.000 | 185.000 | 0.000 | -.800 | 0.000 |
| GR | 655.100 | 300.000 | 655.000 | 456.000 | 653.500 | 470.000 | 645.000 | 481.000 | 644.000 | 495.000 |
| GR | 646.700 | 506.000 | 650.000 | 518.000 | 653.800 | 524.000 | 653.800 | 625.000 | 655.500 | 700.000 |
| X1 | 818.200 | 0.000 | 0.000 | 0.000 | 205.000 | 205.000 | 205.000 | 0.000 | .800 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE 1600 FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 818.980 | 10.000 | 456.000 | 524.000 | 120.000 | 120.000 | 120.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 655.100 | 300.000 | 655.000 | 456.000 | 653.500 | 470.000 | 645.000 | 481.000 | 643.100 | 495.000 |
| GR | 646.700 | 506.000 | 650.000 | 518.000 | 653.800 | 524.000 | 653.800 | 625.000 | 655.500 | 700.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=    .150 CEHV=    .350
*SECNO 804.000
   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VCL       TWA     LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


         ** JUNCTION WITH HENRY GRAHAM DRAIN

 804.00    12.30    635.20     0.00    635.20    635.34      .14      0.00      0.00    634.80
  1900.       4.     1896.       0.       20.      633.       0.        0.        0.    635.40
   0.00      .21      3.00     0.00      .065      .045      .065     0.000    622.90   1249.14
 .000748      0.        0.       0.         0         0         0      0.00    200.11   1449.25


*SECNO 805.200
 805.20    12.39    635.29     0.00     0.00    635.43      .13      .09       .00    634.80
  1900.       7.     1893.       0.       30.      642.       0.        2.        1.    635.40
    .01      .24      2.95     0.00      .065      .045      .065      .045    622.90   1226.95
 .000723    120.      120.     120.         0         0         0      0.00    223.54   1450.48


CCHV=    .300 CEHV=    .500
*SECNO 804.980

         ** D/S FACE BRIDGE

 804.98    11.98    635.38     0.00     0.00    635.54      .15      .10       .01    635.30
  1900.       0.     1900.       0.        1.      602.       0.        4.        1.    635.90
    .02      .08      3.16     0.00      .065      .045      .065      .045    623.40   1325.99
 .000840    130.      130.     130.         0         0         0      0.00    118.99   1444.97


SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      1.25      1.40      2.85      0.00     33.00      1.00    227.20      0.00    623.40    623.40

*SECNO 805.020
3280 CROSS SECTION    805.02 EXTENDED       .35 FEET


PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
 636.50    635.55     .01      1051.      849.      227.      227.      630.50    633.10


 805.02    12.15    635.55     0.00     0.00    635.69      .13      .15       0.00    635.40
  1900.       2.     1792.     105.      16.      592.     198.        4.        1.    633.80
    .02      .13      3.03      .53      .065      .045      .065      .044    623.40    270.00
 .000696    14.       14.       14.         2         0         3      0.00    530.00    800.00
```

* profile through Milverton Rd Gulason Sub 8006 701 road to be (maybe) depressed in future. - this will lower starting stage

EL TRD = 633.1 = BOTTOM ⇒ TW over roof

*SECNO 805.800
3280 CROSS SECTION 805.80 EXTENDED .54 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICCNT | CORAR | TOPWID | ENDST |
| 805.80 | 12.25 | 635.65 | 0.00 | 0.00 | 635.77 | .12 | .08 | .00 | 635.40 |
| 1900. | 6. | 1771. | 124. | 30. | 612. | 234. | 6. | 3. | 633.80 |
| .04 | .19 | 2.89 | .53 | .065 | .045 | .065 | .045 | 623.40 | 270.00 |
| .000608 | 116. | 116. | 116. | 0 | 0 | 0 | 0.00 | 530.00 | 800.00 |

*SECNO 805.980

ELTRD = 633.[illegible] < 635.76 → TW over road

** D/S FACE BRIDGE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 805.98 | 11.66 | 635.76 | 0.00 | 0.00 | 635.93 | .17 | .14 | .02 | 636.10 |
| 1900. | 0. | 1867. | 33. | 0. | 562. | 68. | 9. | 4. | 634.50 |
| .05 | 0.00 | 3.32 | .49 | .065 | .045 | .065 | .045 | 624.10 | 426.16 |
| .000872 | 190. | 190. | 190. | 1 | 0 | 0 | 0.00 | 313.84 | 740.01 |

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.25 | 1.40 | 2.85 | 0.00 | 33.00 | 1.00 | 220.80 | 0.00 | 624.10 | 624.10 |

*SECNO 806.000
6870 D.S. ENERGY OF 635.93 HIGHER THAN COMPUTED ENERGY OF 635.87
3280 CROSS SECTION 806.00 EXTENDED 1.87 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 637.37 | 635.94 | .01 | 1407. | 505. | 221. | 221. | 631.00 | 633.30 |
| 806.00 | 11.78 | 635.88 | 0.00 | 0.00 | 635.93 | .05 | 0.00 | 0.00 | 633.50 |
| 1900. | 341. | 1253. | 306. | 460. | 577. | 450. | 10. | 5. | 633.60 |
| .05 | .74 | 2.17 | .68 | .065 | .045 | .065 | .045 | 624.10 | 275.00 |
| .000338 | 14. | 14. | 14. | 0 | 0 | 7 | 0.00 | 498.00 | 773.00 |

*SECNO 806.500
3280 CROSS SECTION 806.50 EXTENDED 1.57 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 806.50 | 11.47 | 635.97 | 0.00 | 0.00 | 636.04 | .06 | .10 | .01 | 633.90 |
| 1900. | 309. | 1324. | 268. | 400. | 552. | 385. | 19. | 8. | 634.00 |
| .09 | .77 | 2.40 | .70 | .065 | .045 | .065 | .045 | 624.50 | 275.00 |
| .000435 | 270. | 270. | 270. | 2 | 0 | 0 | 0.00 | 498.00 | 773.00 |

```
CCHV=     .150 CEHV=     .350
*SECNO 806.600
3280 CROSS SECTION     806.60 EXTENDED       1.22 FEET

   806.60     11.31    636.06      0.00      0.00    636.16       .10       .11       .01    633.25
    1900.      159.     1585.      156.      239.      572.      256.       25.       10.    634.45
      .12       .66      2.77       .61      .065      .045      .065      .045    624.75    340.00
  .000453      250.      250.      250.         0         0         0      0.00    428.00    768.00

*SECNO 807.000
3280 CROSS SECTION     807.00 EXTENDED        .96 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   807.00     11.06    636.16      0.00      0.00    636.28       .12       .11       .01    633.60
    1900.      130.     1647.      123.      194.      554.      209.       31.       13.    634.80
      .15       .67      2.97       .59      .065      .045      .065      .045    625.10    340.00
  .000544      230.      230.      230.         0         0         0      0.00    428.00    768.00

*SECNO 807.500
3280 CROSS SECTION     807.50 EXTENDED        .34 FEET

   807.50     10.44    636.44      0.00      0.00    636.62       .18       .31       .02    634.50
    1900.       68.     1789.       43.      101.      510.       97.       40.       17.    635.70
      .19       .67      3.51       .44      .065      .045      .065      .045    626.00    405.82
  .000845      470.      470.      470.         2         0         0      0.00    362.18    768.00

*SECNO 807.600
   807.60     10.26    636.86      0.00      0.00    637.00       .14       .38       .01    636.20
    1900.       73.     1573.      254.      132.      472.      253.       47.       21.    634.90
      .22       .56      3.33      1.00      .065      .045      .065      .045    626.60    303.57
  .001066      400.      400.      400.         2         0         0      0.00    456.45    760.01

*SECNO 808.200
   808.20     10.07    637.17      0.00      0.00    637.34       .17       .33       .01    636.70
    1900.       45.     1631.      224.       92.      456.      222.       52.       24.    635.40
      .25       .49      3.58      1.01      .065      .045      .065      .045    627.10    308.34
  .001287      280.      280.      280.         2         0         0      0.00    451.34    759.68

CCHV=     .300 CEHV=     .500
*SECNO 807.980

        ** D/S FACE JOHN R. RD
   807.93      9.31    637.21      0.00      0.00    637.53       .32       .12       .07    637.50
    1900.        0.     1820.       80.        0.      394.       99.       53.       24.    636.20
      .25      0.00      4.62       .80      .065      .045      .065      .045    627.90    518.39
  .002363       70.       70.       70.         2         0         0      0.00    239.98    758.37
```

SPECIAL BRIDGE

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.25 | 1.65 | 2.65 | 0.00 | 33.00 | 1.00 | 224.00 | 0.00 | 627.90 | 627.90 |

*SECNO 808.02C
3280 CROSS SECTION 808.02 EXTENDED 1.17 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLCSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 639.06 | 637.52 | .02 | 453. | 1453. | 224. | 224. | 634.90 | 637.70 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 808.02 | 10.27 | 638.17 | 0.00 | 0.00 | 638.29 | .12 | .76 | 0.00 | 637.00 |
| 1900. | 262. | 1539. | 100. | 342. | 506. | 196. | 55. | 25. | 637.00 |
| .26 | .77 | 3.04 | .51 | .065 | .045 | .065 | .045 | 627.90 | 315.00 |
| .000645 | 80. | 80. | 80. | 2 | 0 | 3 | 0.00 | 535.00 | 850.00 |

*SECNO 808.800
3280 CROSS SECTION 808.80 EXTENDED 1.22 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 808.80 | 10.32 | 638.22 | 0.00 | 0.00 | 638.33 | .11 | .04 | .00 | 637.00 |
| 1900. | 269. | 1524. | 107. | 351. | 509. | 206. | 56. | 26. | 637.00 |
| .27 | .77 | 2.99 | .52 | .065 | .045 | .065 | .045 | 627.90 | 315.00 |
| .000620 | 60. | 60. | 60. | 2 | 0 | 0 | 0.00 | 535.00 | 850.00 |

CCHV= .150 CEHV= .350
*SECNO 808.900
3280 CROSS SECTION 808.90 EXTENDED 1.03 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 808.90 | 10.13 | 638.43 | 0.00 | 0.00 | 638.57 | .13 | .23 | .01 | 637.40 |
| 1900. | 237. | 1585. | 78. | 309. | 496. | 162. | 64. | 30. | 637.40 |
| .30 | .77 | 3.19 | .48 | .065 | .045 | .065 | .045 | 628.30 | 315.00 |
| .000731 | 340. | 340. | 340. | 0 | 0 | 0 | 0.00 | 535.00 | 850.00 |

*SECNO 809.000 690' U/S John R. EA=1086

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 809.00 | 9.91 | 638.71 | 0.00 | 0.00 | 638.80 | .09 | .23 | .01 | 637.40 |
| 1900. | 652. | 1247. | 1. | 656. | 424. | 6. | 71. | 33. | 638.50 |
| .34 | .99 | 2.94 | .15 | .065 | .045 | .065 | .045 | 628.80 | 119.56 |
| .000849 | 290. | 290. | 290. | 2 | 0 | 0 | 0.00 | 529.20 | 648.76 |

*SECNO 809.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 809.50 | 9.49 | 638.99 | 0.00 | 0.00 | 639.14 | .14 | .32 | .02 | 638.10 |

```
    1900.      526.     1374.       C.      498.      393.       0.       78.      37.    639.20
      .37      1.06      3.50     0.00      .065      .045     .C65      .045   629.5C   147.08
  .001274      31C.      310.     31C.         2         0        0      0.00   444.39   591.46


*SECNO 809.600
   SECNO     DEPTH    CHSEL     CRITS    WSELK     EG        HV        HL       OLCSS   BANK ELEV
   Q         QLOB     QCH       QROB     ALOB      ACH       AROB      VOL      THA    LEFT/RIGHT
   TIME      VLOB     VCH       VRCB     XNL       XNCH      XNR       WTN      ELMIN      SSTA
   SLCPE     XLOBL    XLCH      XLCBR    ITRIAL    IDC       ICONT     CORAR    TCPWID     ENDST


   809.60      9.03   639.33      0.00     C.CC   639.74       .41       .51       .09   639.00
    1900.        7.    1893.        0.      18.     368.        0.       82.      39.    639.70
      .38       .38     5.14     C.00      .065      .045     .065      .045   630.30   381.95
  .002399      300.     300.     300.         1         0        0      0.00   169.31   551.26


*SECNO 810.200
   810.20      9.03   640.03      C.CO     C.CO   640.44       .41       .69       .00   639.70
    1900.        7.    1893.        0.      19.     369.        0.       85.      40.    640.40
      .40       .39     5.14     C.CO      .C65      .045     .065      .045   631.00   380.48
  .002392      290.     290.     290.         2         0        0      0.00   170.79   551.27


CCHV=     .300 CEHV=     .500
*SECNO 809.980
```

** D/S FACE CHIGAGO RD ELLC = 638.7 < 640.25 ⇒ submerged outlet

```
   809.98      8.95   640.25      0.00      0.00   640.67       .42       .23       .01   64C.0C
    1900.        4.    1896.        0.      12.     364.        0.       86.      40.    640.70
      .40       .32     5.21     0.00      .065      .045     .C65      .045   631.3C   4C1.72
  .002491       95.      95.      95.         C         0        0      0.00   149.41   551.13


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.60      2.65      0.00     33.00      1.00    224.00      0.00    631.30    631.30

*SECNC 810.020
PRESSURE AND WEIR FLCW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA    TRAPEZOID     ELLC      ELTRD
                                                               A EA
   642.04    640.75      .04       527.     1381.     224.      237.      638.7C    640.60


   810.02      9.52   640.82      0.00     C.CO   641.20       .38       .52      0.00   641.80
    190C.        0.    1875.       25.       0.     376.       25.       86.      40.    638.80
      .41      0.00     4.99      1.CO      .C65      .045     .065      .045   631.30   511.57
  .001912       65.      65.      65.         2         0        3      0.00    90.05   601.62


*SECNC 810.800
   81C.8C     1C.20   641.1C      0.00     0.00   641.40       .30       .18       .02   641.40
    1900.        C.    1842.       58.       C.     413.       59.       87.      41.    638.40
      .42      0.00     4.46       .97      .065      .045     .C65      .045   630.9C   510.48
```

```
 .001384     110.     110.     110.        2        0        0     0.00   147.32   657.80

CCHV=    .150 CEHV=    .350
*SECNO 810.900
3280 CROSS SECTION    810.90 EXTENDED       .59 FEET

   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TCPWID      ENDST

   810.90     9.89    641.49      0.00      0.00    641.76       .27       .35       .00    644.60
    1900.       0.     1794.     106.        0.      418.      157.       90.       42.     640.40
      .43     0.00      4.30       .67      .065      .045      .065      .045    631.60    560.36
 .001446     250.      250.      250.        2         0         0      0.00    294.64    855.00

*SECNO 811.200
3280 CROSS SECTION    811.20 EXTENDED       .44 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      642.10 ELREA=      642.10

   811.20     9.74    641.94      0.00      0.00    642.23       .30       .47       .01    643.70
    1900.       0.     1900.       0.        0.      435.        0.       93.       43.     641.40
      .45     0.00      4.37      0.00      .065      .045      .065      .045    632.20    560.76
 .002515     250.      250.      250.        2         0         0      0.00     97.24    658.00

CCHV=    .300 CEHV=    .500
*SECNO 810.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      642.50 ELREA=      642.50
```

ELLC = 639.92 < 642.03 ⇒ submerged outlet

```
        ** D/S FACE I-75 CULVERT AND TUNNEL

   810.98     9.13    642.03      0.00      0.00    642.43       .41       .14       .05    644.40
    1900.       0.     1900.       0.        0.      372.        0.       94.       43.     641.70
      .45     0.00      5.11      0.00      .065      .045      .065      .045    632.90    562.41
 .002290      60.       60.       60.        2         0         0      0.00     59.59    622.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .90      3.20      2.80      0.00     63.23       .50    411.00      0.00    633.40    632.90

*SECNO 811.020
PRESSURE FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
  643.09    642.24     .00        0.      1900.      411.      48.       639.90    644.20
```

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 645.50 ELREA= 644.20

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.02 | 9.52 | 642.92 | 0.00 | 0.00 | 643.09 | .17 | .66 | 0.00 | 634.70 |
| 1900. | 0. | 1900. | 0. | 0. | 569. | 0. | 96. | 44. | 633.70 |
| .46 | 0.00 | 3.34 | 0.00 | .065 | .045 | .065 | .045 | 633.40 | 670.00 |
| .000513 | 160. | 160. | 160. | 2 | 0 | 0 | 0.00 | 60.00 | 730.00 |

*SECNC 811.280

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 644.00 ELREA= 644.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.28 | 9.34 | 642.94 | 0.00 | 0.00 | 643.15 | .20 | .04 | .02 | 633.60 |
| 1900. | 0. | 1900. | 0. | 0. | 523. | 0. | 97. | 44. | 633.60 |
| .47 | 0.00 | 3.63 | 0.00 | .065 | .045 | .065 | .045 | 633.60 | 672.00 |
| .000614 | 76. | 76. | 76. | 2 | 0 | 0 | 0.00 | 56.00 | 728.00 |

*SECNC 811.290

drawdown

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QRCB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | ENDST |

** WEIR D/S OF ON-LINE RETENTION PONDS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.29 | 8.80 | 642.50 | 0.00 | 0.00 | 643.59 | 1.09 | .00 | .44 | 642.70 |
| 1900. | 0. | 1900. | 0. | 0. | 227. | 0. | 97. | 44. | 642.70 |
| .47 | 0.00 | 8.36 | 0.00 | .065 | .020 | .065 | .045 | 633.70 | 680.01 |
| .002005 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 39.99 | 719.99 |

*SECNC 811.310

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.31 | 8.81 | 642.51 | 0.00 | 0.00 | 643.59 | 1.08 | .00 | .00 | 642.70 |
| 1900. | 0. | 1900. | 0. | 0. | 227. | 0. | 97. | 44. | 642.70 |
| .47 | 0.00 | 8.36 | 0.00 | .065 | .020 | .065 | .045 | 633.70 | 680.01 |
| .002001 | 2. | 2. | 2. | 0 | 0 | 0 | 0.00 | 39.99 | 719.99 |

*SECNC 811.320

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.32 | 11.19 | 643.89 | 0.00 | 0.00 | 643.91 | .02 | .00 | .32 | 643.20 |
| 1900. | 3. | 1891. | 6. | 23. | 1544. | 31. | 97. | 44. | 642.40 |
| .47 | .12 | 1.23 | .19 | .065 | .045 | .065 | .045 | 632.70 | 510.54 |
| .000106 | 1. | 1. | 1. | 2 | 0 | 0 | 0.00 | 332.48 | 843.03 |

*SECNC 811.800
3280 CROSS SECTION 811.80 EXTENDED .31 FEET

** D/S END RETENTION POND

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 811.80 | 13.90 | 643.90 | 0.00 | 0.00 | 643.92 | .01 | .00 | .00 | 642.20 |
| 1900. | 4. | 1892. | 4. | 40. | 2042. | 31. | 98. | 44. | 642.40 |
| .48 | .09 | .93 | .12 | .065 | .045 | .065 | .045 | 630.00 | 500.00 |
| .000042 | 25. | 25. | 25. | 1 | 0 | 0 | 0.00 | 343.52 | 843.52 |

*SECNO 812.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 812.00 | 18.21 | 643.91 | 0.00 | 0.00 | 643.92 | .01 | .00 | .00 | 642.80 |
| 1900. | 3. | 1888. | 9. | 37. | 2121. | 84. | 100. | 44. | 642.40 |
| .49 | .09 | .89 | .11 | .065 | .045 | .065 | .045 | 625.70 | 517.54 |
| .000033 | 50. | 50. | 50. | 0 | 0 | 0 | 0.00 | 383.64 | 901.19 |

*SECNO 812.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 812.10 | 18.21 | 643.91 | 0.00 | 0.00 | 643.92 | .01 | .00 | .00 | 642.80 |
| 1900. | 3. | 1887. | 9. | 37. | 2122. | 84. | 108. | 46. | 642.40 |
| .54 | .09 | .89 | .11 | .065 | .045 | .065 | .045 | 625.70 | 517.23 |
| .000033 | 150. | 150. | 150. | 0 | 0 | 0 | 0.00 | 384.33 | 901.57 |

*SECNO 812.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 812.80 | 13.91 | 643.91 | 0.00 | 0.00 | 643.93 | .01 | .00 | .00 | 644.60 |
| 1900. | 0. | 1891. | 9. | 0. | 1953. | 73. | 109. | 46. | 642.40 |
| .55 | 0.00 | .97 | .13 | .065 | .045 | .065 | .045 | 630.00 | 587.47 |
| .000045 | 20. | 20. | 20. | 0 | 0 | 0 | 0.00 | 354.74 | 942.21 |

*SECNO 812.980 ELTRD = 642.3 < 643.86 WSEL over road

** D/S FACE CULVERTS SEPERATING RETENTION PONDS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 812.98 | 11.96 | 643.86 | 0.00 | 0.00 | 643.98 | .12 | .00 | .05 | 642.50 |
| 1900. | 14. | 1815. | 72. | 38. | 642. | 152. | 109. | 46. | 642.50 |
| .55 | .36 | 2.82 | .47 | .065 | .045 | .065 | .045 | 631.90 | 614.27 |
| .000411 | 10. | 10. | 10. | 2 | 0 | 0 | 0.00 | 317.33 | 931.60 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.25 | 1.75 | 2.90 | 0.00 | 31.00 | 3.00 | 196.00 | 0.00 | 631.90 | 631.90 |

*SECNO 813.020
3280 CROSS SECTION 813.02 EXTENDED .31 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID A EA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 646.41 | 644.00 | .02 | 1022. | 878. | 196. | 269. | 641.50 | 642.30 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 813.02 | 12.41 | 644.31 | 0.00 | C.CC | 644.41 | .10 | .43 | 0.00 | 642.50 |
| 1900. | 26. | 1748. | 126. | 67. | 669. | 253. | 111. | 46. | 642.50 |
| .56 | .39 | 2.61 | .50 | .065 | .045 | .065 | .045 | 631.90 | 595.94 |
| .000333 | 90. | 90. | 90. | 2 | C | 4 | 0.00 | 364.C6 | 960.00 |

*SECNO 813.7CC

** D/S END RETENTION POND

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 813.70 | 14.42 | 644.42 | C.00 | 0.CC | 644.43 | .01 | .00 | .03 | 644.60 |
| 19CC. | 0. | 1877. | 23. | 0. | 2062. | 158. | 113. | 47. | 642.4C |
| .57 | C.C0 | .91 | .15 | .C65 | .045 | .065 | .045 | 630.00 | 584.90 |
| .000038 | 40. | 40. | 4C. | 2 | 0 | 0 | 0.00 | 391.99 | 976.89 |

*SECNC 813.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNC | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QRCB | ALCB | ACH | ARCB | VOL | TWA | LEFT/RIGHT |
| TIME | VLCB | VCH | VROB | XNL | XNCH | XNR | WTA | ELMIN | SSTA |
| SLOPE | XLCBL | XLCH | XLCBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 813.80 | 17.92 | 644.42 | 0.C0 | 0.C0 | 644.44 | .C1 | .00 | .00 | 644.50 |
| 1900. | C. | 1893. | 7. | C. | 2056. | 67. | 115. | 47. | 643.00 |
| .58 | 0.00 | .92 | .1C | .C65 | .045 | .C65 | .045 | 626.50 | 590.46 |
| .00C037 | 45. | 45. | 45. | 0 | 0 | 0 | 0.00 | 337.91 | 928.37 |

*SECNC 814.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 814.20 | 17.93 | 644.43 | 0.00 | 0.00 | 644.44 | .01 | .01 | .00 | 644.50 |
| 1900. | C. | 1893. | 7. | C. | 2056. | 67. | 124. | 49. | 643.00 |
| .64 | 0.C0 | .92 | .10 | .065 | .045 | .C65 | .045 | 626.5C | 59C.46 |
| .00CC37 | 19C. | 190. | 19C. | 0 | 0 | 0 | 0.00 | 337.92 | 928.38 |

*SECNC 814.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 814.30 | 14.43 | 644.43 | C.C0 | C.CC | 644.44 | .01 | .00 | .00 | 644.60 |
| 1900. | 0. | 1877. | 23. | C. | 2064. | 159. | 125. | 49. | 642.40 |
| .65 | 0.00 | .91 | .15 | .065 | .045 | .065 | .045 | 630.CC | 584.85 |
| .000038 | 25. | 25. | 25. | C | 0 | 0 | 0.00 | 392.42 | 977.27 |

*SECNO 813.98C

** D/S FACE STEPHENSON HWY.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 813.98 | 8.31 | 644.41 | 0.C0 | C.CC | 644.47 | .07 | .00 | .03 | 636.10 |
| 1900. | 415. | 1072. | 413. | 370. | 415. | 380. | 127. | 49. | 636.10 |
| .65 | 1.12 | 2.58 | 1.09 | .065 | .045 | .065 | .045 | 636.10 | 59C.98 |
| .000363 | 35. | 35. | 35. | 2 | 0 | 0 | 0.00 | 336.14 | 927.13 |

[illegible]

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1.25 | 2.05 | 2.85 | 0.00 | 29.00 | 1.00 | 196.00 | 0.00 | 636.10 | 636.10 |

```
*SECNO 814.020
3280 CROSS SECTION    814.02 EXTENDED       1.23 FEET

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRC
                                                              AREA
  647.40    644.90      .00      104.      1805.      196.     1 9.       643.20    646.90

  814.02    10.83    646.93     0.00      0.00    647.11      .18       2.63      0.00   645.30
   1900.     107.     1717.     76.      185.      480.     122.       130.       51.    643.30
     .67      .58      3.58      .62      .065      .045     .065       .045    636.10   320.00
 .000738     170.     170.      170.        2         0        3       0.00    455.00   775.00

*SECNO 814.800
3280 CROSS SECTION    814.80 EXTENDED       .05 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   814.80    11.65    647.05     0.00      0.00    647.17      .13       .05       .02    644.60
   1900.     136.     1705.      58.      213.      570.      99.       132.       51.    645.20
     .68      .64      2.99      .59      .065      .045     .065       .045    635.40   343.27
 .000544     80.      80.       80.        2         0        0       0.00    351.73   695.00

*SECNO 814.850
   814.85    10.65    647.05     0.00      0.00    647.26      .21       .04       .04    645.60
   1900.      27.     1865.       9.       55.      500.      22.       133.       52.    646.20
     .68      .48      3.73      .41      .065      .045     .065       .045    636.40   388.65
 .001006      62.      62.       62.        2         0        0       0.00    256.33   644.98

*SECNO 814.980
3280 CROSS SECTION    814.98 EXTENDED       .35 FEET


3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

        ** WEIR D/S OF ON-LINE RETENTION PONDS

   814.98    10.85    647.35    647.35     0.00    648.31      .96       .00       .37    647.10
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   1900.      22.     1589.      289.      46.      185.      243.      133.      52.     647.10
    .68       .47      8.53      1.19     .065      .020      .065      .045   636.50    376.82
 .002207      1.        1.        1.       20         5         0      0.00   483.18    860.00

*SECNO 815.020
3280 CROSS SECTION     815.02 EXTENDED        .35 FEET

  815.02    10.86    647.36    647.34     0.00    648.31       .95       .00       .00    647.10
   1900.      22.     1588.      290.      47.      185.      244.      133.      52.     647.10
    .68       .48      8.56      1.19     .065      .020      .065      .045   636.50    376.56
 .002197      2.        2.        2.        0         5         0      0.00   483.44    860.00

*SECNO 815.500
3280 CROSS SECTION     815.50 EXTENDED       1.11 FEET

3301 HV CHANGED MORE THAN HVINS

  815.50    12.71    648.51      0.00     0.00    648.58       .07       .00       .27    645.00
   1900.     271.     1499.      130.     431.      645.      207.      133.      52.     645.60
    .68       .63      2.33       .63     .065      .045      .065      .045   635.80    300.00
 .000279      1.        1.        1.        3         0         0      0.00   395.00    695.00

*SECNO 815.800
3280 CROSS SECTION     815.80 EXTENDED        .58 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID     ENDST

        ** D/S END RETENTION POND

  815.80    11.28    648.58      0.00     0.00    648.60       .02       .01       .01    646.00
   1900.      78.     1573.      250.     264.     1264.      671.      135.      53.     645.20
    .70       .29      1.24       .37     .065      .045      .065      .045   637.30    300.00
 .000084      60.       60.       60.        0         0         0      0.00   625.00    925.00

CCHV=    .150 CEHV=    .350
*SECNO 815.850
3280 CROSS SECTION     815.85 EXTENDED        .21 FEET

  815.85    10.91    648.61      0.00     0.00    648.63       .02       .03       .00    646.40
   1900.      57.     1634.      209.     200.     1207.      555.      151.      57.     645.60
    .77       .28      1.35       .38     .065      .045      .065      .045   637.70    300.00
 .000106     315.      315.      315.        2         0         0      0.00   625.00    925.00

*SECNO 815.900
  815.90    10.64    648.64      0.00     0.00    648.67       .03       .04       .00    646.70
   1900.      42.     1678.      179.     155.     1167.      474.      166.      62.     645.90
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      .84       .27      1.44       .38      .065      .045      .065      .045    638.00    305.29
  .000125      350.      350.      350.         0         0         0      0.00    615.35    920.64


CCHV=     .300 CEHV=     .500
*SECNO 815.980
```

ELTRD = 648.6 < 648.71 → TW over top!

```
        ** D/S FACE ALLEN ST

   815.98     10.37    648.67      0.00      0.00    648.71       .03       .03       .00    647.00
    1900.       31.    1719.      150.      114.     1126.      396.      174.       65.    646.20
      .89       .27      1.53       .38      .065      .045      .065      .045    638.30    329.21
  .000148      220.      220.      220.         0         0         0      0.00    571.68    900.90


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN      BWC       BWP      BAREA      SS       ELCHU     ELCHD
     1.25      1.65      2.90      0.00     29.00      1.00    224.00     0.00     638.30    638.30

*SECNO 816.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC       H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
   650.52    648.71      .00       521.     1374.      224.      224.      646.30    648.60


   816.02     11.26    649.56      0.00      0.00    649.64       .08       .93      0.00    651.50
    1900.       0.      1900.       0.        0.      834.        3.      176.       66.    649.20
      .90      0.00      2.28       .14      .065      .045      .065      .045    638.30    494.66
  .000352       72.       72.       72.         2         0         2      0.00    134.33    628.99


*SECNO 816.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


   816.80     11.49    649.59      0.00      0.00    649.66       .08       .02       .00    651.30
    1900.       C.     1898.       2.        0.      860.        9.      178.       66.    649.00
      .90      0.00      2.21       .18      .065      .045      .065      .045    638.10    492.75
  .000325       70.       70.       70.         1         0         0      0.00    148.17    640.92


CCHV=     .150 CEHV=     .350
*SECNO 816.900
   816.90     10.60    649.70      0.00      0.00    649.80       .10       .13       .01    652.30
    1900.       C.     1900.       0.        0.      760.        0.      184.       67.    650.00
      .94      0.00      2.50      0.00      .065      .045      .065      .045    639.10    497.09
  .000460      335.      335.      335.         0         0         0      0.00    111.50    608.59


*SECNO 817.100
   817.10      9.44    649.84      0.00      0.00    650.17       .33       .29       .08    653.00
    1900.       C.     1898.       2.        0.      411.        7.      189.       68.    649.60
      .96      0.00      4.62       .24      .065      .045      .065      .045    640.40    547.22
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 .001919      350.      350.      350.        0         0         0      0.00    129.84    677.06


*SECNC 817.200
   817.20      9.22    650.42      C.CO      0.00    650.78       .36       .60       .01    653.80
    1900.        C.     1900.        0.        C.      396.        C.      191.       69.    650.40
      .98      0.00      4.80       .01      .065      .045      .065      .045    641.20    547.87
 .002147      295.      295.      295.         2         0         0      0.00     73.36    621.23


CCHV=    .300 CEHV=    .500
*SECNO 816.980
```

ELLC < 649.4 < 650.59 ⇒ submerged outlet

```
        ** D/S FACE SCUTER RD

   816.98      8.59    650.59      0.00      C.CO    651.C3       .45       .21       .04    654.60
    1900.        C.     1900.        0.        0.      354.        0.      192.       69.    651.2C
      .98      0.00      5.36      C.CO      .065      .045      .065      .045    642.00    549.73
 .002905       85.       85.       85.         0         0         0      0.00     64.79    614.52


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.65      2.80    275.00    29.C0      1.00    207.00      0.0C    642.00    642.00

*SECNO 817.020
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLCB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLCPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

PRESSURE AND WEIR FLCW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                              AREA
  652.75    651.54       .05      505.     1398.      207.       2 7.      649.40    651.00


   817.C2      9.00    651.00      C.C0      C.CC    651.75       .75       .72      0.00    650.70
    1900.       30.     1870.        0.       41.      267.        0.      193.       69.    650.90
      .99       .73      7.61       .23      .065      .045      .065      .045    642.0C    373.54
 .005046       63.       63.       63.         3         0         C      0.00    193.36    566.91


*SECNC 817.800
   817.80     10.14    651.94      C.00      C.CO    652.26       .33       .38       .13    650.50
    1900.      286.     1598.       16.      241.      321.       21.      194.       70.    65C.7C
      .99      1.19      4.98       .74      .065      .045      .065      .045    641.80    303.96
 .001987      127.      127.      127.         3         0         0      0.00    294.27    598.22


CCHV=    .150 CEHV=    .350
*SECNC 817.850
   817.85      9.83    652.33      0.00      0.00    652.74       .42       .45       .03    651.20
    1900.      21C.     1681.        8.      18C.      306.       12.      196.       71.    651.40
     1.01      1.17      5.49       .70      .065      .045      .C65      .045    642.5C    322.75
 .002571      20C.      200.      2C0.         2         0         0      0.00    267.01    589.76
```

```
*SECNC 818.10C
   818.10      9.58    652.78      C.CO      C.CC    653.27       .49       .50       .03    654.20
    1900.        C.     1900.        0.        0.      338.        0.      198.       72.     653.00
     1.C1      0.CO      5.62      C.CO      .065      .045      .065      .045    643.20    469.26
  .002832      185.      185.      185.         2         C         0      0.00     54.39    523.65


*SECNO 818.200
   818.20      9.36    653.36      C.00      C.CC    653.89       .53       .61       .01    655.00
    1900.        0.     1900.        0.        0.      326.        0.      200.       72.     653.80
     1.02      0.00      5.82      C.00      .C65      .045      .065      .045    644.00    470.18
  .003085      205.      205.      205.         2         0         0      0.00     53.13    523.31


CCHV=     .400 CEHV=     .800
*SECNC 818.980
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLCR      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TCPWIC      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      655.0C ELREA=      653.80


        ** D/S FACE 1600 FT LONG ENCLOSURE BETWEEN ROCHESTER AND MAPLE RDS

   818.98     1C.73    653.83      C.CO      0.00    654.25       .42       .32       .C4    655.00
    1900.        0.     1900.        C.        C.      363.        3.      201.       72.     653.80
     1.03      0.00      5.23       .10      .065      .045      .065      .045    643.10    466.94
  .002386      12C.      12C.      120.         2         0         0      0.00    159.28    626.22
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: ~~CITY OF~~ STERLING HEIGHTS, CITY

3) WATERCOURSE: SPENCER DRAIN EAST OF DEQUINDRE

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

```
*PROF 1

CCHV=     .300 CEHV=     .800
1490 NH CARD USED
*SECNO .000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


     0.00      9.98    626.18      0.00    627.00    626.35       .17      0.00      0.00    626.00
    2120.       87.     1366.      667.      100.      348.      343.        0.        0.     623.00
     0.00       .87      3.93      1.94      .050      .054      .065     0.000    616.20    234.93
  .002614        0.        0.        0.         0         0         6      0.00    508.90    743.84


*SECNO 700.000
   700.00     10.05    627.95      0.00      0.00    628.11       .16      1.75       .00    627.70
    2120.      106.     1336.      678.      117.      351.      356.       13.        8.     624.70
      .06       .90      3.81      1.90      .050      .054      .065      .050    617.90    216.53
  .002436      600.      700.      700.         1         0         0      0.00    530.55    747.08


*SECNO 743.000
3280 CROSS SECTION     743.00 EXTENDED       1.56 FEET


   743.00     11.76    628.16      0.00      0.00    628.18       .02       .03       .04    626.20
    2120.      763.      660.      697.      940.      437.      758.       14.        8.     623.20
      .07       .81      1.51       .92      .050      .054      .065      .050    616.40      0.00
  .000313       43.       43.       43.         2         0         0      0.00    800.00    800.00


1490 NH CARD USED
*SECNO 785.000
3280 CROSS SECTION     785.00 EXTENDED       4.37 FEET


   785.00     13.37    628.17      0.00      0.00    628.21       .05       .01       .02    615.40
    2120.      656.      420.     1044.      420.      143.      920.       16.        9.     615.90
      .08      1.56      2.95      1.13      .050      .040      .050      .050    614.80      0.00
  .000210       42.       42.       42.         2         0         0      0.00    406.01    406.01


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.07      3.03      0.00      1.00      0.00     58.20      0.00    614.80    614.80

*SECNO 816.000
3280 CROSS SECTION     816.00 EXTENDED       4.45 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

100 yr. flood

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 670.75 | 628.21 | 0.00 | 2000. | 120. | 58. | 7. | 621.50 | 623.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 816.00 | 13.45 | 628.25 | 0.00 | 0.00 | 628.30 | .05 | .09 | 0.00 | 615.40 |
| 2120. | 651. | 414. | 1055. | 426. | 144. | 950. | 17. | 9. | 615.90 |
| .09 | 1.53 | 2.88 | 1.11 | .050 | .040 | .050 | .050 | 614.80 | 0.00 |
| .000199 | 31. | 31. | 31. | 2 | 0 | 9 | 0.00 | 411.99 | 411.99 |

1490 NH CARD USED
*SECNO 995.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 995.00 | 11.93 | 628.33 | 0.00 | 0.00 | 628.48 | .15 | .10 | .08 | 624.80 |
| 2120. | 999. | 554. | 567. | 437. | 118. | 246. | 22. | 11. | 624.70 |
| .10 | 2.29 | 4.68 | 2.30 | .060 | .060 | .060 | .050 | 616.40 | 105.72 |
| .003980 | 179. | 179. | 179. | 2 | 0 | 0 | 0.00 | 499.18 | 604.91 |

1490 NH CARD USED
*SECNO 996.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD= 624.70 MAX ELLC= 624.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 996.00 | 11.96 | 628.36 | 0.00 | 0.00 | 628.49 | .12 | .00 | .01 | 624.80 |
| 2120. | 1061. | 444. | 614. | 443. | 111. | 253. | 22. | 11. | 624.70 |
| .10 | 2.40 | 4.01 | 2.43 | .030 | .022 | .030 | .050 | 616.40 | 102.86 |
| .001091 | 1. | 1. | 1. | 2 | 0 | 0 | -13.00 | 507.93 | 610.79 |

*SECNO 1004.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD= 624.70 MAX ELLC= 624.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1004.00 | 11.98 | 628.38 | 0.00 | 0.00 | 628.50 | .12 | .01 | .00 | 624.80 |
| 2120. | 1065. | 439. | 616. | 449. | 111. | 257. | 22. | 11. | 624.70 |
| .11 | 2.37 | 3.95 | 2.40 | .030 | .022 | .030 | .050 | 616.40 | 101.23 |
| .001056 | 8. | 8. | 8. | 0 | 0 | 0 | -13.00 | 512.92 | 614.15 |

1490 NH CARD USED
*SECNO 1005.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.00 | 11.97 | 628.37 | 0.00 | 0.00 | 628.52 | .14 | .00 | .02 | 624.80 |
| 2120. | 785. | 443. | 892. | 452. | 119. | 256. | 22. | 11. | 624.70 |
| .11 | 1.74 | 3.72 | 3.49 | .060 | .050 | .030 | .050 | 616.40 | 101.72 |
| .002239 | 1. | 1. | 1. | 0 | 0 | 0 | 0.00 | 511.41 | 613.13 |

1490 NH CARD USED
*SECNO 1134.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1134.00 | 12.67 | 628.57 | 0.00 | 0.00 | 628.66 | .09 | .13 | .02 | 617.70 |
| 2120. | 512. | 550. | 1058. | 464. | 135. | 669. | 25. | 13. | 618.50 |
| .12 | 1.10 | 4.08 | 1.58 | .050 | .040 | .050 | .050 | 615.90 | 94.10 |
| .000559 | 129. | 129. | 129. | 1 | 0 | 0 | 0.00 | 683.11 | 777.21 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.07 | 3.03 | 0.00 | 1.00 | 0.00 | 60.50 | 0.00 | 615.90 | 615.90 |

*SECNO 1166.000
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 668.06 | 628.66 | 0.00 | 1983. | 137. | 61. | 7. | 623.00 | 626.30 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1166.00 | 12.75 | 628.65 | 0.00 | 0.00 | 628.73 | .08 | .07 | 0.00 | 617.70 |
| 2120. | 524. | 538. | 1059. | 493. | 136. | 688. | 26. | 14. | 618.50 |
| .13 | 1.06 | 3.97 | 1.54 | .050 | .040 | .050 | .050 | 615.90 | 78.44 |
| .000524 | 32. | 32. | 32. | 2 | 0 | 8 | 0.00 | 702.56 | 781.00 |

1490 NH CARD USED
*SECNO 1280.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1280.00 | 12.71 | 628.71 | 0.00 | 0.00 | 628.94 | .23 | .09 | .12 | 618.10 |
| 2120. | 707. | 777. | 636. | 439. | 135. | 248. | 29. | 15. | 618.40 |
| .14 | 1.61 | 5.75 | 2.57 | .060 | .070 | .070 | .050 | 616.00 | 61.23 |
| .001320 | 114. | 114. | 114. | 0 | 0 | 0 | 0.00 | 533.92 | 595.15 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.11 | 3.03 | 0.00 | 1.00 | 0.00 | 60.20 | 0.00 | 616.00 | 616.00 |

*SECNO 1320.000
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 669.42 | 628.94 | 0.00 | 1865. | 255. | 60. | 7. | 623.00 | 627.60 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1320.00 | 13.15 | 629.15 | 0.00 | 0.00 | 629.30 | .15 | .36 | 0.00 | 618.10 |
| 2120. | 840. | 681. | 599. | 649. | 140. | 286. | 30. | 16. | 618.40 |
| .14 | 1.29 | 4.87 | 2.09 | .060 | .070 | .070 | .050 | 616.00 | 6.07 |
| .000902 | 40. | 40. | 40. | 2 | 0 | 8 | 0.00 | 614.60 | 620.67 |

1490 NH CARD USED
*SECNO 1493.000
3280 CROSS SECTION 1493.00 EXTENDED .23 FEET

```
  1493.00    11.63   629.43     0.00     0.00   629.46      .04      .13      .03   626.00
    2120.     541.     309.    1271.     503.     120.     958.      35.      19.    626.30
      .17     1.08     2.58     1.33     .050     .040     .050     .050   617.80    46.59
  .000649     173.     173.     173.        2        0        0     0.00   953.41  1000.00

1490 NH CARD USED
*SECNO 1494.000
3280 CROSS SECTION   1494.00 EXTENDED       .23 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  625.60 MAX ELLC=  624.50

  1494.00    11.63   629.43     0.00     0.00   629.46      .03      .00      .00   626.00
    2120.     567.     193.    1360.     492.     101.     942.      35.      19.    626.30
      .17     1.15     1.91     1.44     .030     .023     .030     .050   617.80    46.50
  .000287       1.       1.       1.        0        0        0   -46.52   953.50  1000.00

*SECNO 1506.000
3280 CROSS SECTION   1506.00 EXTENDED       .24 FEET


3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  625.60 MAX ELLC=  624.50

  1506.00    11.64   629.44     0.00     0.00   629.47      .03      .00      .00   626.00
    2120.     569.     192.    1359.     497.     101.     948.      35.      19.    626.30
      .18     1.15     1.89     1.43     .030     .023     .030     .050   617.80    45.11
  .000282      12.      12.      12.        0        0        0   -46.52   954.89  1000.00

1490 NH CARD USED
*SECNO 1507.000
3280 CROSS SECTION   1507.00 EXTENDED       .24 FEET


  1507.00    11.64   629.44     0.00     0.00   629.47      .04      .00      .00   626.00
    2120.     542.     307.    1271.     508.     120.     963.      35.      19.    626.30
      .18     1.07     2.56     1.32     .050     .040     .050     .050   617.80    45.28
  .000639       1.       1.       1.        0        0        0     0.00   954.72  1000.00

1490 NH CARD USED
*SECNO 1681.000
  1681.00    11.99   629.59     0.00     0.00   629.67      .08      .16      .04   627.50
    2120.    1289.     462.     369.     808.     121.     234.      41.      22.    627.60
      .20     1.60     3.82     1.58     .060     .040     .055     .050   617.60    69.63
  .001505     174.     174.     174.        2        0        0     0.00   600.43   670.06

1490 NH CARD USED
*SECNO 1682.000
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3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  626.20 MAX ELLC=  624.60

  1682.00    12.01   629.61     0.00     0.00   629.68      .07      .00      .00   627.50
    2120.    1715.     181.     224.     812.     78.      152.      41.      22.    627.60
      .20     2.11     2.30     1.48     .030     .026     .030     .050   617.60    66.50
  .000657      1.       1.       1.        1        0        0  -126.19   604.11   670.62


*SECNO 1718.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  626.20 MAX ELLC=  624.60

  1718.00    12.04   629.64     0.00     0.00   629.70      .06      .02      .00   627.50
    2120.    1714.     177.     229.     831.     79.      158.      42.      23.    627.60
      .20     2.06     2.24     1.45     .030     .026     .030     .050   617.60    52.40
  .000614     36.      36.      36.        1        0        0  -126.53   620.71   673.11


1490 NH CARD USED
*SECNO 1719.000
  1719.00    12.04   629.64     0.00     0.00   629.71      .08      .00      .01   627.50
    2120.    1296.     451.     373.     828.    121.      241.      42.      23.    627.60
      .20     1.57     3.72     1.55     .060     .040     .055     .050   617.60    54.25
  .001416      1.       1.       1.        0        0        0     0.00   618.53   672.78


1490 NH CARD USED
*SECNO 1800.000
  1800.00    11.19   629.69     0.00     0.00   629.77      .07      .06      .00   626.60
    2120.     988.     959.     173.    1031.    318.      132.      44.      24.    623.10
      .22      .96     3.01     1.31     .060     .040     .065     .050   618.50    58.83
  .000401     81.      81.      81.        2        0        0     0.00   579.98   638.81


1490 NH CARD USED
*SECNO 1849.000

3265 DIVIDED FLOW

  1849.00    10.96   629.76     0.00     0.00   629.80      .04      .02      .01   629.40
    2120.    1372.     572.     175.    1256.    241.      243.      46.      25.    629.80
      .23     1.09     2.37      .72     .055     .040     .060     .050   618.80    14.95
  .000391     49.      49.      49.        2        0        0     0.00   668.09   683.04


1490 NH CARD USED
*SECNO 1850.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  626.00 MAX ELLC=  625.20

  1850.00    10.97   629.77     0.00     0.00   629.80      .03      .00      .00   629.40
    2120.    1768.     117.     236.    1246.    129.      233.      46.      25.    629.80
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      .23      1.42      .91      1.01      .030      .032      .030      .050    618.80     14.92
  .000198       1.       1.        1.         0         0         0   -132.87    668.14    683.06

*SECNO 1865.000

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XAL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  626.00 MAX ELLC=  625.20

  1865.00    10.97    629.77      0.00      0.00    629.80       .03       .00       .00    629.40
    2120.    1768.     115.       237.     1253.      129.      235.       47.       25.     629.80
      .23     1.41      .89      1.00      .030      .032      .030      .049    618.80     14.03
  .000195      15.      15.        15.         0         0         0   -132.92    669.75    683.78

1490 NH CARD USED
*SECNO 1866.000

3265 DIVIDED FLOW

  1866.00    10.97    629.77      0.00      0.00    629.81       .04       .00       .01    629.40
    2120.    1374.     570.       176.     1263.      242.      246.       47.       25.     629.80
      .23     1.09     2.36       .72      .055      .040      .060      .049    618.80     14.08
  .000386       1.       1.        1.         0         0         0      0.00    669.65    683.73

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 2750.000
  2750.00    11.79    630.09      0.00      0.00    630.14       .05       .32       .00    625.50
    2120.     394.     824.       902.      518.      304.     1049.       84.       38.     625.10
      .39      .76     2.71       .86      .070      .040      .075      .049    618.30     63.13
  .000339     934.     884.       834.         2         0         0      0.00    651.04    714.17

1490 NH CARD USED
*SECNO 3450.000
3280 CROSS SECTION   3450.00 EXTENDED      1.11 FEET


  3450.00    10.82    630.32      0.00      0.00    630.36       .04       .22       .00    624.90
    1600.     638.     622.       340.      768.      254.      464.      107.       46.     626.30
      .51      .83     2.45       .73      .080      .045      .075      .051    619.50      0.00
  .000364     800.     700.       400.         0         0         0      0.00    564.86    564.86

1490 NH CARD USED
*SECNO 3950.000
3280 CROSS SECTION   3950.00 EXTENDED      1.77 FEET


  3950.00     9.47    630.57      0.00      0.00    630.66       .10       .29       .02    627.40
    1600.     337.     602.       661.      170.      189.      347.      121.       53.     628.90
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      .57      1.98      3.20      1.90      .040      .045      .040      .050    621.10      0.00
  .000881      500.      500.      600.         2         0         0      0.00    500.00    500.00
```

1490 NH CARD USED
*SECNO 4550.000
3280 CROSS SECTION 4550.00 EXTENDED 1.27 FEET

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 4550.00      9.27    631.27    629.51      0.00    631.61       .34       .87       .07    628.60
   1600.      286.     1102.      212.      168.      199.      151.      131.       65.     629.00
     .62      1.70      5.55      1.40      .050      .040      .055      .049    622.00     44.66
  .002037     600.      600.      900.         4        14         0      0.00    755.34    800.00
```

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SPENCER DRAIN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 2120.00 100 | 626.18 | 0.00 | 626.35 | 26.14 | 3.93 | 790.67 | 414.68 |
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 920.00 10 | 624.11 | 0.00 | 624.30 | 25.76 | 3.51 | 301.29 | 181.27 |
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 1390.00 50 | 625.23 | 0.00 | 625.41 | 25.89 | 3.72 | 483.34 | 273.19 |
| 0.000 | 0.00 | 0.00 | 0.00 | 616.20 | 3080.00 500 | 626.80 | 0.00 | 626.96 | 26.33 | 4.09 | 1210.67 | 600.29 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 2120.00 | 627.95 | 0.00 | 628.11 | 24.36 | 3.81 | 824.43 | 429.56 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 920.00 | 625.88 | 0.00 | 626.06 | 24.52 | 3.44 | 310.65 | 185.78 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 1390.00 | 627.01 | 0.00 | 627.18 | 24.46 | 3.63 | 498.03 | 281.05 |
| 700.000 | 700.00 | 0.00 | 0.00 | 617.90 | 3080.00 | 628.55 | 0.00 | 628.70 | 24.54 | 3.97 | 1253.28 | 621.69 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.16 | 0.00 | 628.18 | 3.13 | 1.51 | 2134.28 | 1198.74 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 920.00 | 626.10 | 0.00 | 626.14 | 6.52 | 1.93 | 662.96 | 360.37 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 1390.00 | 627.23 | 0.00 | 627.25 | 3.99 | 1.62 | 1392.15 | 695.82 |
| 743.000 | 43.00 | 0.00 | 0.00 | 616.40 | 3080.00 | 628.75 | 0.00 | 628.77 | 3.71 | 1.70 | 2602.28 | 1599.82 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 2120.00 | 628.17 | 0.00 | 628.21 | 2.10 | 2.95 | 1482.72 | 1462.82 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 920.00 | 626.13 | 0.00 | 626.16 | 1.40 | 2.15 | 805.94 | 777.64 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 1390.00 | 627.24 | 0.00 | 627.27 | 1.59 | 2.45 | 1135.10 | 1100.70 |
| 785.000 | 42.00 | 0.00 | 0.00 | 614.80 | 3080.00 | 628.75 | 0.00 | 628.82 | 3.14 | 3.71 | 1731.55 | 1736.98 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 2120.00 | 628.25 | 0.00 | 628.30 | 1.99 | 2.88 | 1519.40 | 1502.55 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 920.00 | 626.21 | 0.00 | 626.24 | 1.33 | 2.11 | 826.16 | 797.58 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 1390.00 | 627.32 | 0.00 | 627.35 | 1.52 | 2.40 | 1162.96 | 1128.23 |
| 816.000 | 31.00 | 623.00 | 621.50 | 614.80 | 3080.00 | 628.86 | 0.00 | 628.92 | 2.96 | 3.62 | 1778.76 | 1790.17 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.33 | 0.00 | 628.48 | 39.80 | 4.68 | 801.80 | 336.06 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 920.00 | 626.06 | 623.59 | 627.22 | 188.89 | 9.05 | 126.17 | 66.94 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 1390.00 | 627.34 | 0.00 | 627.70 | 82.84 | 6.43 | 392.63 | 152.72 |
| 995.000 | 179.00 | 0.00 | 0.00 | 616.40 | 3080.00 | 628.97 | 0.00 | 629.09 | 32.79 | 4.38 | 1210.75 | 537.87 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.36 | 0.00 | 628.49 | 10.91 | 4.01 | 806.58 | 641.93 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 920.00 | 626.06 | 623.73 | 627.29 | 89.34 | 9.48 | 118.42 | 97.34 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 1390.00 | 627.55 | 0.00 | 627.75 | 19.27 | 5.01 | 449.33 | 316.66 |
| 996.000 | 1.00 | 624.70 | 624.00 | 616.40 | 3080.00 | 628.99 | 0.00 | 629.10 | 8.91 | 3.78 | 1204.04 | 1031.81 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 2120.00 | 628.38 | 0.00 | 628.50 | 10.56 | 3.95 | 816.86 | 652.26 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 920.00 | 627.56 | 0.00 | 627.65 | 8.20 | 3.27 | 455.00 | 321.27 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 1390.00 | 627.58 | 0.00 | 627.77 | 17.75 | 4.82 | 465.56 | 329.93 |
| 1004.000 | 8.00 | 624.70 | 624.00 | 616.40 | 3080.00 | 629.00 | 0.00 | 629.11 | 8.59 | 3.72 | 1221.70 | 1051.08 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 2120.00 | 628.37 | 0.00 | 628.52 | 22.39 | 3.72 | 826.72 | 448.06 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 920.00 | 627.56 | 0.00 | 627.65 | 16.39 | 3.01 | 470.12 | 227.28 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 1390.00 | 627.58 | 0.00 | 627.79 | 36.07 | 4.47 | 477.66 | 231.44 |
| 1005.000 | 1.00 | 0.00 | 0.00 | 616.40 | 3080.00 | 629.00 | 0.00 | 629.13 | 18.24 | 3.50 | 1231.62 | 721.23 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 2120.00 | 628.57 | 0.00 | 628.66 | 5.59 | 4.08 | 1267.90 | 896.37 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 920.00 | 627.69 | 0.00 | 627.73 | 2.31 | 2.49 | 770.18 | 605.53 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 1390.00 | 627.87 | 0.00 | 627.95 | 4.52 | 3.53 | 854.38 | 654.02 |
| 1134.000 | 129.00 | 0.00 | 0.00 | 615.90 | 3080.00 | 629.17 | 0.00 | 629.27 | 6.70 | 4.61 | 1715.25 | 1190.25 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 2120.00 | 628.65 | 0.00 | 628.73 | 5.24 | 3.97 | 1316.52 | 925.72 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 920.00 | 627.82 | 0.00 | 627.86 | 2.06 | 2.38 | 831.53 | 640.88 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 1390.00 | 628.05 | 0.00 | 628.12 | 3.86 | 3.29 | 947.18 | 707.52 |
| 1166.000 | 32.00 | 626.30 | 623.00 | 615.90 | 3080.00 | 629.22 | 0.00 | 629.32 | 6.35 | 4.50 | 1755.91 | 1222.14 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 2120.00 | 628.71 | 0.00 | 628.94 | 13.20 | 5.75 | 822.06 | 583.50 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 920.00 | 627.85 | 0.00 | 627.93 | 4.36 | 3.15 | 484.19 | 440.85 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 1390.00 | 628.10 | 0.00 | 628.27 | 8.77 | 4.53 | 536.03 | 469.43 |
| 1280.000 | 114.00 | 0.00 | 0.00 | 616.00 | 3080.00 | 629.30 | 0.00 | 629.56 | 16.75 | 6.68 | 1164.15 | 752.56 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 2120.00 | 629.15 | 0.00 | 629.30 | 9.02 | 4.87 | 1075.39 | 705.93 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 920.00 | 628.65 | 0.00 | 628.70 | 2.61 | 2.55 | 790.51 | 569.42 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 1390.00 | 628.87 | 0.00 | 628.96 | 4.96 | 3.56 | 909.79 | 624.14 |
| 1320.000 | 40.00 | 627.60 | 623.00 | 616.00 | 3080.00 | 629.48 | 0.00 | 629.69 | 14.14 | 6.20 | 1284.55 | 818.96 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.43 | 0.00 | 629.46 | 6.49 | 2.58 | 1580.75 | 832.25 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 920.00 | 628.74 | 0.00 | 628.76 | 3.53 | 1.82 | 983.83 | 489.51 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 1390.00 | 629.03 | 0.00 | 629.06 | 5.09 | 2.23 | 1214.32 | 616.01 |
| 1493.000 | 173.00 | 0.00 | 0.00 | 617.80 | 3080.00 | 629.87 | 0.00 | 629.92 | 7.36 | 2.81 | 2019.64 | 1135.47 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.43 | 0.00 | 629.46 | 2.87 | 1.91 | 1534.88 | 1251.70 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 920.00 | 628.74 | 0.00 | 628.76 | 1.76 | 1.42 | 937.52 | 692.91 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 1390.00 | 629.04 | 0.00 | 629.06 | 2.39 | 1.70 | 1168.21 | 898.34 |
| 1494.000 | 1.00 | 625.60 | 624.50 | 617.80 | 3080.00 | 629.88 | 0.00 | 629.92 | 3.10 | 2.04 | 1974.12 | 1749.49 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 2.82 | 1.89 | 1545.49 | 1262.85 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 920.00 | 628.74 | 0.00 | 628.76 | 1.74 | 1.42 | 942.92 | 697.74 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 1390.00 | 629.04 | 0.00 | 629.06 | 2.35 | 1.68 | 1177.17 | 906.22 |
| 1506.000 | 12.00 | 625.60 | 624.50 | 617.80 | 3080.00 | 629.88 | 0.00 | 629.92 | 3.05 | 2.03 | 1984.69 | 1762.49 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 2120.00 | 629.44 | 0.00 | 629.47 | 6.39 | 2.56 | 1590.73 | 838.64 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 920.00 | 628.74 | 0.00 | 628.76 | 3.49 | 1.81 | 988.98 | 492.36 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 1390.00 | 629.04 | 0.00 | 629.07 | 5.02 | 2.21 | 1222.85 | 620.62 |
| 1507.000 | 1.00 | 0.00 | 0.00 | 617.80 | 3080.00 | 629.88 | 0.00 | 629.93 | 7.26 | 2.80 | 2029.50 | 1142.84 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.59 | 0.00 | 629.67 | 15.05 | 3.82 | 1162.64 | 546.39 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 920.00 | 628.83 | 0.00 | 628.88 | 8.39 | 2.73 | 750.26 | 317.71 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 1390.00 | 629.16 | 0.00 | 629.22 | 11.66 | 3.28 | 922.86 | 407.03 |
| 1681.000 | 174.00 | 0.00 | 0.00 | 617.60 | 3080.00 | 630.06 | 0.00 | 630.15 | 17.48 | 4.23 | 1476.64 | 736.77 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.61 | 0.00 | 629.68 | 6.57 | 2.30 | 1042.10 | 827.40 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 920.00 | 628.85 | 0.00 | 628.88 | 4.74 | 1.82 | 640.29 | 422.48 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 1390.00 | 629.18 | 0.00 | 629.23 | 5.65 | 2.06 | 813.38 | 584.87 |
| 1682.000 | 1.00 | 626.20 | 624.60 | 617.60 | 3080.00 | 630.08 | 0.00 | 630.16 | 6.88 | 2.46 | 1353.65 | 1173.91 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.70 | 6.14 | 2.24 | 1067.68 | 855.45 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 920.00 | 628.87 | 0.00 | 628.90 | 4.44 | 1.77 | 656.41 | 436.73 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 1390.00 | 629.20 | 0.00 | 629.25 | 5.35 | 2.01 | 829.65 | 601.12 |
| 1718.000 | 36.00 | 626.20 | 624.60 | 617.60 | 3080.00 | 630.10 | 0.00 | 630.18 | 6.47 | 2.39 | 1384.29 | 1210.45 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 2120.00 | 629.64 | 0.00 | 629.71 | 14.16 | 3.72 | 1190.77 | 563.31 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 920.00 | 628.86 | 0.00 | 628.91 | 7.90 | 2.65 | 769.64 | 327.22 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 1390.00 | 629.20 | 0.00 | 629.26 | 10.94 | 3.19 | 946.76 | 420.16 |
| 1719.000 | 1.00 | 0.00 | 0.00 | 617.60 | 3080.00 | 630.10 | 0.00 | 630.19 | 16.57 | 4.13 | 1507.50 | 756.74 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 2120.00 | 629.69 | 0.00 | 629.77 | 4.01 | 3.01 | 1481.07 | 1058.58 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 920.00 | 628.91 | 0.00 | 628.94 | 1.47 | 1.71 | 1104.12 | 760.03 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 1390.00 | 629.26 | 0.00 | 629.30 | 2.47 | 2.29 | 1263.34 | 884.39 |
| 1800.000 | 81.00 | 0.00 | 0.00 | 618.50 | 3080.00 | 630.17 | 0.00 | 630.28 | 5.74 | 3.73 | 1791.45 | 1285.95 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.76 | 0.00 | 629.80 | 3.91 | 2.37 | 1740.80 | 1071.84 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 920.00 | 628.93 | 0.00 | 628.95 | 1.73 | 1.52 | 1226.73 | 699.46 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 1390.00 | 629.30 | 0.00 | 629.32 | 2.69 | 1.92 | 1439.01 | 846.86 |
| 1849.000 | 49.00 | 0.00 | 0.00 | 618.80 | 3080.00 | 630.27 | 0.00 | 630.32 | 5.10 | 2.80 | 2096.13 | 1363.83 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 1.98 | .91 | 1608.19 | 1504.83 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 920.00 | 628.94 | 0.00 | 628.95 | 1.05 | .80 | 1111.18 | 896.90 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 1390.00 | 629.31 | 0.00 | 629.32 | 1.47 | .95 | 1318.04 | 1147.10 |
| 1850.000 | 1.00 | 626.00 | 625.20 | 618.80 | 3080.00 | 630.28 | 0.00 | 630.32 | 2.34 | 1.02 | 1967.34 | 2015.49 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.80 | 1.95 | .89 | 1617.72 | 1517.02 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 920.00 | 628.94 | 0.00 | 628.95 | 1.04 | .80 | 1116.28 | 902.87 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 1390.00 | 629.31 | 0.00 | 629.33 | 1.45 | .94 | 1325.36 | 1156.26 |
| 1865.000 | 15.00 | 626.00 | 625.20 | 618.80 | 3080.00 | 630.29 | 0.00 | 630.33 | 2.31 | 1.02 | 1975.52 | 2027.54 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 2120.00 | 629.77 | 0.00 | 629.81 | 3.86 | 2.36 | 1750.06 | 1078.99 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 920.00 | 628.94 | 0.00 | 628.96 | 1.72 | 1.51 | 1230.97 | 702.32 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 1390.00 | 629.31 | 0.00 | 629.33 | 2.64 | 1.91 | 1450.01 | 854.72 |
| 1866.000 | 1.00 | 0.00 | 0.00 | 618.80 | 3080.00 | 630.28 | 0.00 | 630.33 | 5.03 | 2.78 | 2107.56 | 1373.48 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 2120.00 | 630.09 | 0.00 | 630.14 | 3.39 | 2.71 | 1870.87 | 1151.42 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 920.00 | 629.08 | 0.00 | 629.10 | 1.49 | 1.65 | 1284.93 | 754.84 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 1390.00 | 629.52 | 0.00 | 629.55 | 2.30 | 2.14 | 1527.47 | 915.80 |
| 2750.000 | 884.00 | 0.00 | 0.00 | 618.30 | 3080.00 | 630.69 | 0.00 | 630.76 | 4.49 | 3.27 | 2305.85 | 1453.73 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 1600.00 | 630.32 | 0.00 | 630.36 | 3.64 | 2.45 | 1486.85 | 838.75 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 530.00 | 629.17 | 0.00 | 629.18 | 1.04 | 1.19 | 953.37 | 519.12 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 890.00 | 629.67 | 0.00 | 629.69 | 1.91 | 1.68 | 1172.72 | 644.05 |
| 3450.000 | 700.00 | 0.00 | 0.00 | 619.50 | 2290.00 | 630.99 | 0.00 | 631.04 | 4.32 | 2.81 | 1923.13 | 1101.86 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 1600.00 | 630.57 | 0.00 | 630.66 | 8.81 | 3.20 | 706.03 | 538.93 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 530.00 | 629.25 | 0.00 | 629.30 | 5.53 | 2.19 | 373.40 | 225.47 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 890.00 | 629.81 | 0.00 | 629.88 | 6.77 | 2.59 | 516.16 | 342.18 |
| 3950.000 | 500.00 | 0.00 | 0.00 | 621.10 | 2290.00 | 631.27 | 0.00 | 631.38 | 9.07 | 3.46 | 883.25 | 760.37 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 1600.00 | 631.27 | 629.51 | 631.61 | 20.37 | 5.55 | 517.94 | 354.47 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 530.00 | 629.65 | 0.00 | 629.82 | 11.01 | 3.40 | 175.97 | 159.75 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 890.00 | 630.32 | 627.18 | 630.62 | 17.40 | 4.64 | 263.01 | 213.39 |
| 4550.000 | 600.00 | 0.00 | 0.00 | 622.00 | 2290.00 | 632.02 | 0.00 | 632.32 | 18.52 | 5.67 | 766.01 | 532.15 |

SPENCER DRAIN

SUMMARY PRINTOUT TABLE 150

| SECND | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 0.000 | 2120.00 | 626.18 | 0.00 | 0.00 | -.82 | 508.90 | 0.00 |
| 0.000 | 920.00 | 624.11 | -2.06 | 0.00 | -2.89 | 131.02 | 0.00 |
| 0.000 | 1390.00 | 625.23 | 1.12 | 0.00 | -1.77 | 194.92 | 0.00 |
| 0.000 | 3080.00 | 626.80 | 1.57 | 0.00 | -.20 | 774.90 | 0.00 |
| 700.000 | 2120.00 | 627.95 | 0.00 | 1.77 | 0.00 | 530.55 | 700.00 |
| 700.000 | 920.00 | 625.88 | -2.06 | 1.77 | 0.00 | 135.04 | 700.00 |
| 700.000 | 1390.00 | 627.01 | 1.12 | 1.77 | 0.00 | 199.15 | 700.00 |
| 700.000 | 3080.00 | 628.55 | 1.54 | 1.75 | 0.00 | 777.65 | 700.00 |
| 743.000 | 2120.00 | 628.16 | 0.00 | .21 | 0.00 | 800.00 | 43.00 |
| 743.000 | 920.00 | 626.10 | -2.06 | .22 | 0.00 | 415.05 | 43.00 |
| 743.000 | 1390.00 | 627.23 | 1.13 | .22 | 0.00 | 786.52 | 43.00 |
| 743.000 | 3080.00 | 628.75 | 1.52 | .19 | 0.00 | 800.00 | 43.00 |
| 785.000 | 2120.00 | 628.17 | 0.00 | .00 | 0.00 | 406.01 | 42.00 |
| 785.000 | 920.00 | 626.13 | -2.04 | .03 | 0.00 | 251.71 | 42.00 |
| 785.000 | 1390.00 | 627.24 | 1.11 | .01 | 0.00 | 341.83 | 42.00 |
| 785.000 | 3080.00 | 628.75 | 1.51 | .00 | 0.00 | 445.00 | 42.00 |
| 816.000 | 2120.00 | 628.25 | 0.00 | .09 | 0.00 | 411.99 | 31.00 |
| 816.000 | 920.00 | 626.21 | -2.05 | .08 | 0.00 | 258.16 | 31.00 |
| 816.000 | 1390.00 | 627.32 | 1.11 | .08 | 0.00 | 348.39 | 31.00 |
| 816.000 | 3080.00 | 628.86 | 1.54 | .11 | 0.00 | 452.01 | 31.00 |
| 995.000 | 2120.00 | 628.33 | 0.00 | .07 | 0.00 | 499.18 | 179.00 |
| 995.000 | 920.00 | 626.06 | -2.27 | -.14 | 0.00 | 62.76 | 179.00 |
| 995.000 | 1390.00 | 627.34 | 1.27 | .02 | 0.00 | 339.25 | 179.00 |
| 995.000 | 3080.00 | 628.97 | 1.63 | .11 | 0.00 | 700.00 | 179.00 |
| 996.000 | 2120.00 | 628.36 | 0.00 | .04 | 0.00 | 507.93 | 1.00 |
| 996.000 | 920.00 | 626.06 | -2.30 | -.00 | 0.00 | 62.91 | 1.00 |
| 996.000 | 1390.00 | 627.55 | 1.48 | .21 | 0.00 | 367.57 | 1.00 |
| 996.000 | 3080.00 | 628.99 | 1.44 | .02 | 0.00 | 700.00 | 1.00 |
| 1004.000 | 2120.00 | 628.38 | 0.00 | .01 | 0.00 | 512.92 | 8.00 |
| 1004.000 | 920.00 | 627.56 | -.82 | 1.50 | 0.00 | 370.10 | 8.00 |
| 1004.000 | 1390.00 | 627.58 | .02 | .04 | 0.00 | 374.76 | 8.00 |
| 1004.000 | 3080.00 | 629.00 | 1.42 | .01 | 0.00 | 700.00 | 8.00 |
| 1005.000 | 2120.00 | 628.37 | 0.00 | -.00 | 0.00 | 511.41 | 1.00 |
| 1005.000 | 920.00 | 627.56 | -.81 | .00 | 0.00 | 371.04 | 1.00 |
| 1005.000 | 1390.00 | 627.58 | .02 | -.00 | 0.00 | 374.36 | 1.00 |
| 1005.000 | 3080.00 | 629.00 | 1.41 | -.00 | 0.00 | 700.00 | 1.00 |
| 1134.000 | 2120.00 | 628.57 | 0.00 | .19 | 0.00 | 683.11 | 129.00 |
| 1134.000 | 920.00 | 627.69 | -.88 | .13 | 0.00 | 436.65 | 129.00 |
| 1134.000 | 1390.00 | 627.87 | .18 | .29 | 0.00 | 487.19 | 129.00 |
| 1134.000 | 3080.00 | 629.17 | 1.29 | .17 | 0.00 | 800.00 | 129.00 |
| 1166.000 | 2120.00 | 628.65 | 0.00 | .08 | 0.00 | 702.56 | 32.00 |
| 1166.000 | 920.00 | 627.82 | -.82 | .13 | 0.00 | 474.01 | 32.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1166.000 | 1390.00 | 628.05 | .23 | .18 | 0.00 | 537.41 | 32.00 |
| 1166.000 | 3080.00 | 629.22 | 1.17 | .05 | 0.00 | 800.00 | 32.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1280.000 | 2120.00 | 628.71 | 0.00 | .06 | 0.00 | 533.92 | 114.00 |
| 1280.000 | 920.00 | 627.85 | -.86 | .02 | 0.00 | 107.00 | 114.00 |
| 1280.000 | 1390.00 | 628.10 | .25 | .04 | 0.00 | 336.26 | 114.00 |
| 1280.000 | 3080.00 | 629.30 | 1.20 | .08 | 0.00 | 636.18 | 114.00 |
| 1320.000 | 2120.00 | 629.15 | 0.00 | .44 | 0.00 | 614.60 | 40.00 |
| 1320.000 | 920.00 | 628.65 | -.50 | .80 | 0.00 | 523.23 | 40.00 |
| 1320.000 | 1390.00 | 628.87 | .22 | .77 | 0.00 | 562.90 | 40.00 |
| 1320.000 | 3080.00 | 629.48 | .61 | .18 | 0.00 | 661.37 | 40.00 |
| 1493.000 | 2120.00 | 629.43 | 0.00 | .28 | 0.00 | 953.41 | 173.00 |
| 1493.000 | 920.00 | 628.74 | -.69 | .09 | 0.00 | 703.74 | 173.00 |
| 1493.000 | 1390.00 | 629.03 | .29 | .16 | 0.00 | 888.58 | 173.00 |
| 1493.000 | 3080.00 | 629.87 | .84 | .40 | 0.00 | 1000.00 | 173.00 |
| 1494.000 | 2120.00 | 629.43 | 0.00 | .01 | 0.00 | 953.50 | 1.00 |
| 1494.000 | 920.00 | 628.74 | -.69 | .00 | 0.00 | 703.87 | 1.00 |
| 1494.000 | 1390.00 | 629.04 | .30 | .01 | 0.00 | 888.68 | 1.00 |
| 1494.000 | 3080.00 | 629.88 | .84 | .01 | 0.00 | 1000.00 | 1.00 |
| 1506.000 | 2120.00 | 629.44 | 0.00 | .00 | 0.00 | 954.89 | 12.00 |
| 1506.000 | 920.00 | 628.74 | -.69 | .00 | 0.00 | 707.12 | 12.00 |
| 1506.000 | 1390.00 | 629.04 | .30 | .00 | 0.00 | 890.85 | 12.00 |
| 1506.000 | 3080.00 | 629.88 | .84 | .00 | 0.00 | 1000.00 | 12.00 |
| 1507.000 | 2120.00 | 629.44 | 0.00 | -.00 | 0.00 | 954.72 | 1.00 |
| 1507.000 | 920.00 | 628.74 | -.69 | -.00 | 0.00 | 706.84 | 1.00 |
| 1507.000 | 1390.00 | 629.04 | .30 | -.00 | 0.00 | 890.65 | 1.00 |
| 1507.000 | 3080.00 | 629.88 | .84 | -.00 | 0.00 | 1000.00 | 1.00 |
| 1681.000 | 2120.00 | 629.59 | 0.00 | .15 | 0.00 | 600.43 | 174.00 |
| 1681.000 | 920.00 | 628.83 | -.76 | .08 | 0.00 | 504.82 | 174.00 |
| 1681.000 | 1390.00 | 629.16 | .33 | .12 | 0.00 | 534.43 | 174.00 |
| 1681.000 | 3080.00 | 630.06 | .90 | .18 | 0.00 | 697.70 | 174.00 |
| 1682.000 | 2120.00 | 629.61 | 0.00 | .02 | 0.00 | 604.11 | 1.00 |
| 1682.000 | 920.00 | 628.85 | -.76 | .02 | 0.00 | 505.67 | 1.00 |
| 1682.000 | 1390.00 | 629.18 | .33 | .02 | 0.00 | 536.37 | 1.00 |
| 1682.000 | 3080.00 | 630.08 | .89 | .01 | 0.00 | 698.15 | 1.00 |
| 1718.000 | 2120.00 | 629.64 | 0.00 | .03 | 0.00 | 620.71 | 36.00 |
| 1718.000 | 920.00 | 628.87 | -.77 | .02 | 0.00 | 508.63 | 36.00 |
| 1718.000 | 1390.00 | 629.20 | .34 | .02 | 0.00 | 539.15 | 36.00 |
| 1718.000 | 3080.00 | 630.10 | .90 | .03 | 0.00 | 712.21 | 36.00 |
| 1719.000 | 2120.00 | 629.64 | 0.00 | -.00 | 0.00 | 618.53 | 1.00 |
| 1719.000 | 920.00 | 628.86 | -.77 | -.00 | 0.00 | 508.23 | 1.00 |
| 1719.000 | 1390.00 | 629.20 | .34 | -.00 | 0.00 | 538.40 | 1.00 |
| 1719.000 | 3080.00 | 630.10 | .90 | -.00 | 0.00 | 705.02 | 1.00 |
| 1800.000 | 2120.00 | 629.69 | 0.00 | .06 | 0.00 | 579.98 | 81.00 |
| 1800.000 | 920.00 | 628.91 | -.78 | .05 | 0.00 | 450.20 | 81.00 |
| 1800.000 | 1390.00 | 629.26 | .35 | .06 | 0.00 | 464.71 | 81.00 |
| 1800.000 | 3080.00 | 630.17 | .92 | .07 | 0.00 | 706.11 | 81.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1849.000 | 2120.00 | 629.76 | 0.00 | .07 | 0.00 | 668.09 | 49.00 |
| 1849.000 | 920.00 | 628.93 | -.83 | .02 | 0.00 | 575.00 | 49.00 |
| 1849.000 | 1390.00 | 629.30 | .36 | .04 | 0.00 | 615.16 | 49.00 |
| 1849.000 | 3080.00 | 630.27 | .97 | .10 | 0.00 | 734.19 | 49.00 |
| 1850.000 | 2120.00 | 629.77 | 0.00 | .01 | 0.00 | 668.14 | 1.00 |
| 1850.000 | 920.00 | 628.94 | -.83 | .01 | 0.00 | 574.82 | 1.00 |
| 1850.000 | 1390.00 | 629.31 | .37 | .01 | 0.00 | 615.83 | 1.00 |
| 1850.000 | 3080.00 | 630.28 | .98 | .01 | 0.00 | 735.36 | 1.00 |
| 1865.000 | 2120.00 | 629.77 | 0.00 | .00 | 0.00 | 669.75 | 15.00 |
| 1865.000 | 920.00 | 628.94 | -.83 | .00 | 0.00 | 575.87 | 15.00 |
| 1865.000 | 1390.00 | 629.31 | .37 | .00 | 0.00 | 617.23 | 15.00 |
| 1865.000 | 3080.00 | 630.29 | .98 | .00 | 0.00 | 737.58 | 15.00 |
| 1866.000 | 2120.00 | 629.77 | 0.00 | -.00 | 0.00 | 669.65 | 1.00 |
| 1866.000 | 920.00 | 628.94 | -.83 | -.00 | 0.00 | 575.83 | 1.00 |
| 1866.000 | 1390.00 | 629.31 | .37 | -.00 | 0.00 | 617.17 | 1.00 |
| 1866.000 | 3080.00 | 630.28 | .98 | -.00 | 0.00 | 737.30 | 1.00 |
| 2750.000 | 2120.00 | 630.09 | 0.00 | .31 | 0.00 | 651.04 | 884.00 |
| 2750.000 | 920.00 | 629.08 | -1.01 | .14 | 0.00 | 506.19 | 884.00 |
| 2750.000 | 1390.00 | 629.52 | .44 | .21 | 0.00 | 569.68 | 884.00 |
| 2750.000 | 3080.00 | 630.69 | 1.17 | .41 | 0.00 | 762.28 | 884.00 |
| 3450.000 | 1600.00 | 630.32 | 0.00 | .23 | 0.00 | 564.86 | 700.00 |
| 3450.000 | 530.00 | 629.17 | -1.14 | .09 | 0.00 | 374.29 | 700.00 |
| 3450.000 | 890.00 | 629.67 | .50 | .15 | 0.00 | 452.29 | 700.00 |
| 3450.000 | 2290.00 | 630.99 | 1.32 | .30 | 0.00 | 660.00 | 700.00 |
| 3950.000 | 1600.00 | 630.57 | 0.00 | .25 | 0.00 | 500.00 | 500.00 |
| 3950.000 | 530.00 | 629.25 | -1.31 | .08 | 0.00 | 414.92 | 500.00 |
| 3950.000 | 890.00 | 629.81 | .56 | .14 | 0.00 | 478.78 | 500.00 |
| 3950.000 | 2290.00 | 631.27 | 1.46 | .28 | 0.00 | 500.00 | 500.00 |
| 4550.000 | 1600.00 | 631.27 | 0.00 | .70 | 0.00 | 755.34 | 600.00 |
| 4550.000 | 530.00 | 629.65 | -1.62 | .39 | 0.00 | 312.86 | 600.00 |
| 4550.000 | 890.00 | 630.32 | .67 | .51 | 0.00 | 624.49 | 600.00 |
| 4550.000 | 2290.00 | 632.02 | 1.70 | .75 | 0.00 | 800.00 | 600.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: LANE DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

LANE DRAIN 10 YR FLOW=19

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 190.00 | 663.01 | 0.00 | 663.01 | .29 | .38 | 505.27 | 352.64 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 340.00 | 664.73 | 0.00 | 664.73 | .29 | .46 | 839.03 | 633.85 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 450.00 | 665.23 | 0.00 | 665.23 | .37 | .56 | 975.81 | 741.27 |
| 600.100 | 0.00 | 0.00 | 0.00 | 655.40 | 750.00 | 666.24 | 0.00 | 666.25 | .56 | .76 | 1307.10 | 999.36 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 190.00 | 663.02 | 0.00 | 663.04 | 2.41 | 1.05 | 181.61 | 122.42 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 340.00 | 664.74 | 0.00 | 664.76 | 2.88 | 1.22 | 315.19 | 200.48 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 450.00 | 665.24 | 0.00 | 665.26 | 2.46 | 1.20 | 634.74 | 287.07 |
| 600.150 | 300.00 | 0.00 | 0.00 | 655.90 | 750.00 | 666.26 | 0.00 | 666.28 | 2.36 | 1.33 | 1080.47 | 488.01 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 190.00 | 663.10 | 0.00 | 663.12 | 3.42 | 1.19 | 159.90 | 102.79 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 340.00 | 664.83 | 0.00 | 664.86 | 4.03 | 1.40 | 254.45 | 169.35 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 450.00 | 665.33 | 0.00 | 665.37 | 5.06 | 1.62 | 314.40 | 200.06 |
| 600.200 | 300.00 | 0.00 | 0.00 | 656.50 | 750.00 | 666.35 | 0.00 | 666.38 | 3.96 | 1.62 | 849.95 | 376.87 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 190.00 | 663.21 | 0.00 | 663.52 | 30.46 | 4.48 | 42.44 | 34.43 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 340.00 | 664.95 | 0.00 | 665.03 | 9.58 | 3.03 | 197.64 | 109.86 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 450.00 | 665.48 | 0.00 | 665.58 | 11.96 | 3.56 | 248.77 | 130.13 |
| 599.980 | 210.00 | 0.00 | 0.00 | 657.50 | 750.00 | 666.47 | 0.00 | 666.58 | 13.83 | 4.15 | 498.12 | 201.68 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 190.00 | 664.71 | 0.00 | 664.88 | 11.49 | 3.36 | 56.48 | 56.04 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 340.00 | 666.07 | 0.00 | 666.09 | 2.20 | 1.66 | 548.43 | 229.42 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 450.00 | 666.24 | 0.00 | 666.26 | 3.32 | 2.06 | 592.37 | 246.99 |
| 600.020 | 40.00 | 665.70 | 663.10 | 657.50 | 750.00 | 666.66 | 0.00 | 666.70 | 6.28 | 2.92 | 717.21 | 299.36 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 190.00 | 664.98 | 0.00 | 664.99 | 1.18 | .70 | 339.94 | 174.93 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 340.00 | 666.11 | 0.00 | 666.11 | 1.24 | .84 | 607.12 | 305.80 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 450.00 | 666.29 | 0.00 | 666.30 | 1.82 | 1.04 | 661.76 | 333.91 |
| 600.800 | 140.00 | 0.00 | 0.00 | 657.30 | 750.00 | 666.75 | 0.00 | 666.77 | 3.31 | 1.49 | 802.22 | 412.18 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 190.00 | 664.99 | 0.00 | 664.99 | 1.29 | .73 | 320.68 | 167.15 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 340.00 | 666.11 | 0.00 | 666.12 | 1.36 | .86 | 579.92 | 292.00 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.29 | 0.00 | 666.31 | 1.98 | 1.07 | 633.93 | 319.43 |
| 600.820 | 30.00 | 0.00 | 0.00 | 657.40 | 750.00 | 666.75 | 0.00 | 666.78 | 3.58 | 1.53 | 775.68 | 396.64 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 190.00 | 664.99 | 0.00 | 664.99 | 4.47 | .76 | 295.01 | 89.89 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 340.00 | 666.11 | 0.00 | 666.12 | 3.48 | .80 | 555.26 | 182.25 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.92 | .98 | 608.96 | 202.81 |
| 600.830 | .50 | 662.70 | 662.10 | 657.40 | 750.00 | 666.76 | 0.00 | 666.78 | 8.19 | 1.35 | 749.94 | 262.04 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 190.00 | 664.99 | 0.00 | 665.00 | 4.46 | .76 | 295.19 | 89.94 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 340.00 | 666.11 | 0.00 | 666.12 | 3.47 | .80 | 556.15 | 182.59 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 4.89 | .98 | 610.50 | 203.41 |
| 600.840 | 4.00 | 662.70 | 662.10 | 657.40 | 750.00 | 666.77 | 0.00 | 666.79 | 8.09 | 1.34 | 753.44 | 263.63 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 190.00 | 664.99 | 0.00 | 665.00 | 1.30 | .73 | 319.60 | 166.71 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 340.00 | 666.11 | 0.00 | 666.12 | 1.35 | .86 | 580.59 | 292.34 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 450.00 | 666.30 | 0.00 | 666.31 | 1.98 | 1.07 | 635.05 | 320.00 |
| 600.850 | 1.00 | 0.00 | 0.00 | 657.40 | 750.00 | 666.76 | 0.00 | 666.79 | 3.55 | 1.53 | 778.25 | 398.13 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 190.00 | 665.01 | 0.00 | 665.02 | 1.53 | .78 | 288.75 | 153.81 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 340.00 | 666.14 | 0.00 | 666.15 | 1.60 | .92 | 534.57 | 269.00 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 450.00 | 666.33 | 0.00 | 666.35 | 2.32 | 1.14 | 586.52 | 295.34 |
| 600.870 | 175.00 | 0.00 | 0.00 | 657.60 | 750.00 | 666.83 | 0.00 | 666.86 | 4.03 | 1.60 | 734.71 | 373.43 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 190.00 | 665.02 | 0.00 | 665.03 | 1.66 | .81 | 274.23 | 147.45 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 340.00 | 666.15 | 0.00 | 666.16 | 1.77 | .95 | 508.12 | 255.59 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 450.00 | 666.35 | 0.00 | 666.36 | 2.53 | 1.17 | 561.52 | 282.67 |
| 600.980 | 50.00 | 0.00 | 0.00 | 657.70 | 750.00 | 666.85 | 0.00 | 666.88 | 4.35 | 1.64 | 709.80 | 359.70 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 190.00 | 666.45 | 0.00 | 666.45 | .88 | .75 | 301.37 | 202.99 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 340.00 | 666.75 | 0.00 | 666.77 | 2.32 | 1.24 | 335.61 | 223.38 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 450.00 | 666.87 | 0.00 | 666.91 | 3.71 | 1.59 | 352.81 | 233.52 |
| 601.020 | 55.00 | 666.30 | 662.70 | 657.70 | 750.00 | 667.17 | 0.00 | 667.25 | 8.26 | 2.46 | 417.87 | 261.01 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 190.00 | 666.45 | 0.00 | 666.46 | 1.13 | .82 | 260.93 | 178.76 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 340.00 | 666.77 | 0.00 | 666.80 | 2.97 | 1.36 | 291.95 | 197.42 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 450.00 | 666.91 | 0.00 | 666.96 | 4.77 | 1.75 | 306.74 | 206.15 |
| 601.800 | 90.00 | 0.00 | 0.00 | 658.10 | 750.00 | 667.25 | 0.00 | 667.35 | 10.52 | 2.67 | 348.75 | 231.28 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 190.00 | 666.48 | 0.00 | 666.50 | 2.77 | 1.08 | 175.79 | 114.08 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 340.00 | 666.85 | 0.00 | 666.90 | 6.92 | 1.76 | 192.82 | 129.21 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 450.00 | 667.03 | 0.00 | 667.11 | 10.62 | 2.23 | 203.87 | 138.07 |
| 602.100 | 205.00 | 0.00 | 0.00 | 658.60 | 750.00 | 667.50 | 0.00 | 667.67 | 21.01 | 3.31 | 247.88 | 163.62 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 190.00 | 666.55 | 0.00 | 666.58 | 4.00 | 1.24 | 153.25 | 94.99 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 340.00 | 667.01 | 0.00 | 667.07 | 9.28 | 1.97 | 172.93 | 111.60 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 450.00 | 667.28 | 0.00 | 667.37 | 13.59 | 2.43 | 184.94 | 122.06 |
| 602.200 | 215.00 | 0.00 | 0.00 | 659.20 | 750.00 | 667.97 | 0.00 | 668.15 | 23.15 | 3.43 | 233.08 | 155.87 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 190.00 | 666.58 | 0.00 | 666.66 | 5.22 | 2.24 | 84.96 | 83.16 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 340.00 | 667.07 | 0.00 | 667.15 | 6.38 | 2.59 | 212.40 | 134.56 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 450.00 | 667.37 | 0.00 | 667.48 | 9.43 | 3.23 | 232.94 | 146.56 |
| 601.980 | 85.00 | 0.00 | 0.00 | 658.80 | 750.00 | 668.13 | 0.00 | 668.34 | 16.49 | 4.53 | 324.76 | 184.72 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 190.00 | 666.84 | 0.00 | 666.90 | 3.29 | 1.97 | 96.51 | 104.69 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 340.00 | 667.73 | 0.00 | 667.79 | 3.67 | 2.23 | 265.82 | 177.49 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 450.00 | 668.00 | 0.00 | 668.08 | 5.55 | 2.79 | 294.01 | 191.02 |
| 602.020 | 50.00 | 667.50 | 666.00 | 658.80 | 750.00 | 668.55 | 0.00 | 668.72 | 10.96 | 4.08 | 384.43 | 226.58 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 190.00 | 666.91 | 0.00 | 666.94 | 3.40 | 1.28 | 149.08 | 103.10 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 340.00 | 667.76 | 0.00 | 667.82 | 6.40 | 1.91 | 186.46 | 134.35 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 450.00 | 668.04 | 0.00 | 668.13 | 9.52 | 2.38 | 201.99 | 145.84 |
| 602.800 | 60.00 | 0.00 | 0.00 | 659.90 | 750.00 | 668.63 | 0.00 | 668.82 | 18.78 | 3.52 | 240.76 | 173.09 |

| SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 190.00 | 667.02 | 0.00 | 667.05 | 4.63 | 1.43 | 133.18 | 88.31 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 340.00 | 667.96 | 0.00 | 668.03 | 8.18 | 2.07 | 166.83 | 118.87 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 450.00 | 668.33 | 0.00 | 668.43 | 11.47 | 2.54 | 184.53 | 132.88 |
| 602.850 | 285.00 | 0.00 | 0.00 | 660.50 | 750.00 | 669.17 | 0.00 | 669.36 | 19.44 | 3.56 | 236.45 | 170.10 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 190.00 | 667.06 | 0.00 | 667.06 | .00 | .04 | 9139.21 | 3390.14 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 340.00 | 668.05 | 0.00 | 668.05 | .00 | .05 | 11914.03 | 4961.53 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .06 | 13115.61 | 5707.62 |
| 602.900 | 300.00 | 0.00 | 0.00 | 661.20 | 750.00 | 669.42 | 0.00 | 669.42 | .01 | .08 | 16048.89 | 7671.84 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 190.00 | 667.06 | 0.00 | 667.06 | .00 | .04 | 7836.68 | 2717.27 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 340.00 | 668.05 | 0.00 | 668.05 | .01 | .06 | 10482.67 | 4122.61 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 11652.31 | 4803.96 |
| 603.000 | 240.00 | 0.00 | 0.00 | 661.70 | 750.00 | 669.42 | 0.00 | 669.42 | .01 | .09 | 14510.37 | 6617.57 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 190.00 | 667.06 | 0.00 | 667.06 | .01 | .05 | 7214.25 | 2409.69 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 340.00 | 668.05 | 0.00 | 668.05 | .01 | .06 | 9784.85 | 3737.17 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 450.00 | 668.46 | 0.00 | 668.46 | .01 | .07 | 10935.54 | 4381.88 |
| 603.300 | 210.00 | 0.00 | 0.00 | 661.95 | 750.00 | 669.42 | 0.00 | 669.42 | .02 | .10 | 13756.09 | 6119.83 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 190.00 | 667.03 | 0.00 | 667.08 | 19.56 | 1.84 | 103.15 | 42.96 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 340.00 | 668.00 | 0.00 | 668.08 | 24.71 | 2.33 | 146.18 | 68.40 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 450.00 | 668.38 | 0.00 | 668.50 | 31.02 | 2.72 | 165.63 | 80.80 |
| 603.400 | 200.00 | 0.00 | 0.00 | 662.30 | 750.00 | 669.34 | 0.00 | 669.47 | 29.38 | 3.03 | 425.85 | 138.36 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 190.00 | 667.47 | 0.00 | 667.52 | 18.74 | 1.81 | 104.81 | 43.88 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 340.00 | 668.54 | 0.00 | 668.61 | 21.87 | 2.22 | 153.02 | 72.70 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 450.00 | 669.04 | 0.00 | 669.14 | 25.16 | 2.51 | 179.16 | 89.72 |
| 604.200 | 230.00 | 0.00 | 0.00 | 662.70 | 750.00 | 669.95 | 0.00 | 670.03 | 20.46 | 2.62 | 548.01 | 165.81 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 190.00 | 667.62 | 0.00 | 667.79 | 19.44 | 3.26 | 58.23 | 43.09 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 340.00 | 668.69 | 0.00 | 669.07 | 35.55 | 4.94 | 68.89 | 57.03 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 450.00 | 669.18 | 0.00 | 669.76 | 49.45 | 6.10 | 73.82 | 63.99 |
| 603.980 | 110.00 | 0.00 | 0.00 | 661.80 | 750.00 | 670.13 | 0.00 | 670.14 | 4.24 | 1.93 | 1219.18 | 364.18 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 190.00 | 667.66 | 0.00 | 667.83 | 29.64 | 3.31 | 57.41 | 34.90 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 340.00 | 669.02 | 0.00 | 669.35 | 41.21 | 4.61 | 73.74 | 52.96 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 450.00 | 669.90 | 0.00 | 670.34 | 46.26 | 5.34 | 84.28 | 66.16 |
| 604.020 | 80.00 | 670.50 | 667.00 | 661.80 | 750.00 | 671.07 | 0.00 | 671.15 | 14.25 | 3.28 | 498.45 | 198.71 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 190.00 | 667.79 | 0.00 | 667.87 | 31.71 | 2.23 | 85.37 | 33.74 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 340.00 | 669.36 | 0.00 | 669.44 | 22.24 | 2.25 | 151.41 | 72.10 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 450.00 | 670.38 | 0.00 | 670.46 | 16.50 | 2.22 | 203.05 | 110.78 |
| 604.500 | 4.00 | 0.00 | 0.00 | 662.40 | 750.00 | 671.06 | 0.00 | 671.18 | 23.83 | 2.90 | 311.99 | 153.63 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 190.00 | 667.79 | 0.00 | 667.92 | 63.47 | 2.91 | 65.31 | 23.85 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 340.00 | 669.35 | 0.00 | 669.47 | 38.72 | 2.75 | 123.42 | 54.64 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 450.00 | 670.38 | 0.00 | 670.48 | 26.83 | 2.62 | 171.88 | 86.88 |
| 604.680 | 5.00 | 0.00 | 0.00 | 663.00 | 750.00 | 671.04 | 0.00 | 671.23 | 40.67 | 3.50 | 237.88 | 117.61 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 190.00 | 667.79 | 0.00 | 667.92 | 63.29 | 2.91 | 65.38 | 23.88 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 340.00 | 669.32 | 0.00 | 669.51 | 178.73 | 3.52 | 96.71 | 25.43 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 450.00 | 670.27 | 0.00 | 670.60 | 313.08 | 4.65 | 96.71 | 25.43 |
| 604.690 | .50 | 670.40 | 668.70 | 663.00 | 750.00 | 670.89 | 0.00 | 671.40 | 719.04 | 5.85 | 137.98 | 27.97 |

| | SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRITS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 190.00 | 667.83 | 0.00 | 667.95 | 60.84 | 2.86 | 66.39 | 24.36 |
| | 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 340.00 | 669.41 | 0.00 | 669.60 | 178.73 | 3.52 | 96.71 | 25.43 |
| | 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 450.00 | 670.51 | 0.00 | 670.81 | 508.57 | 4.41 | 102.03 | 19.95 |
| | 604.710 | 5.00 | 670.40 | 668.70 | 663.00 | 750.00 | 671.42 | 0.00 | 671.69 | 312.70 | 4.38 | 188.60 | 42.41 |
| | 604.720 | .50 | 0.00 | 0.00 | 663.00 | 190.00 | 667.83 | 0.00 | 667.96 | 60.29 | 2.85 | 66.63 | 24.47 |
| | 604.720 | .50 | 0.00 | 0.00 | 663.00 | 340.00 | 669.53 | 0.00 | 669.63 | 33.03 | 2.59 | 131.10 | 59.16 |
| | 604.720 | .50 | 0.00 | 0.00 | 663.00 | 450.00 | 670.79 | 0.00 | 670.88 | 19.11 | 2.33 | 193.05 | 102.94 |
| | 604.720 | .50 | 0.00 | 0.00 | 663.00 | 750.00 | 671.61 | 0.00 | 671.74 | 25.08 | 2.95 | 300.93 | 149.77 |
| | 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 190.00 | 668.26 | 0.00 | 668.33 | 23.95 | 2.18 | 86.97 | 38.83 |
| | 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 340.00 | 669.79 | 0.00 | 669.89 | 19.98 | 2.44 | 139.16 | 76.06 |
| | 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 450.00 | 670.95 | 0.00 | 671.05 | 14.51 | 2.48 | 181.23 | 118.14 |
| | 604.800 | 100.00 | 0.00 | 0.00 | 662.50 | 750.00 | 671.85 | 0.00 | 671.92 | 10.84 | 2.39 | 529.11 | 227.77 |
| | 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 190.00 | 668.41 | 0.00 | 668.69 | 67.89 | 4.24 | 44.78 | 23.06 |
| | 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 340.00 | 669.89 | 0.00 | 670.35 | 71.16 | 5.43 | 62.60 | 40.31 |
| | 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 450.00 | 671.00 | 0.00 | 671.54 | 65.69 | 5.93 | 75.86 | 55.52 |
| | 604.880 | 50.00 | 0.00 | 0.00 | 663.60 | 750.00 | 671.91 | 0.00 | 672.11 | 32.43 | 4.56 | 297.33 | 131.70 |
| | 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 190.00 | 668.31 | 0.00 | 669.19 | 66.65 | 7.52 | 25.26 | 23.27 |
| | 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 340.00 | 669.73 | 0.00 | 671.10 | 91.69 | 9.38 | 36.25 | 35.51 |
| | 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 450.00 | 670.79 | 0.00 | 672.49 | 120.18 | 10.45 | 43.06 | 41.05 |
| | 604.890 | 3.00 | 676.40 | 671.60 | 663.60 | 750.00 | 671.09 | 670.90 | 675.51 | 324.29 | 16.86 | 44.49 | 41.65 |
| * | 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 190.00 | 668.84 | 668.84 | 670.15 | 113.70 | 9.15 | 20.76 | 17.82 |
| | 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 340.00 | 670.11 | 670.02 | 672.00 | 130.63 | 11.06 | 30.75 | 29.75 |
| | 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 450.00 | 671.29 | 0.00 | 673.31 | 135.17 | 11.42 | 39.42 | 38.71 |
| | 604.910 | 44.00 | 676.40 | 672.70 | 664.70 | 750.00 | 673.36 | 672.00 | 677.19 | 336.60 | 15.71 | 47.74 | 40.88 |
| | 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 190.00 | 670.43 | 0.00 | 670.61 | 32.61 | 3.41 | 55.79 | 33.27 |
| | 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 340.00 | 672.38 | 0.00 | 672.67 | 32.40 | 4.29 | 79.26 | 59.73 |
| | 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 450.00 | 673.64 | 0.00 | 674.00 | 31.79 | 4.77 | 94.31 | 79.81 |
| | 604.920 | 3.00 | 0.00 | 0.00 | 664.70 | 750.00 | 678.72 | 0.00 | 678.72 | .35 | .70 | 2395.36 | 1269.23 |
| | 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 190.00 | 671.48 | 0.00 | 671.62 | 39.20 | 3.32 | 79.37 | 30.35 |
| | 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 340.00 | 673.36 | 0.00 | 673.47 | 21.69 | 3.21 | 171.36 | 73.00 |
| | 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 450.00 | 674.59 | 0.00 | 674.67 | 13.94 | 2.93 | 273.78 | 120.51 |
| | 604.950 | 280.00 | 0.00 | 0.00 | 666.50 | 750.00 | 678.74 | 0.00 | 678.74 | 1.00 | 1.07 | 1679.96 | 750.03 |
| | 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 190.00 | 672.32 | 0.00 | 672.38 | 25.32 | 2.09 | 91.09 | 37.76 |
| | 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 340.00 | 673.88 | 0.00 | 673.96 | 18.64 | 2.28 | 149.22 | 78.75 |
| | 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 450.00 | 674.93 | 0.00 | 675.01 | 14.13 | 2.28 | 238.03 | 119.71 |
| | 605.000 | 240.00 | 0.00 | 0.00 | 668.00 | 750.00 | 678.76 | 0.00 | 678.77 | 1.55 | 1.05 | 1159.65 | 602.19 |
| | 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 190.00 | 674.60 | 0.00 | 674.73 | 66.39 | 2.85 | 66.71 | 23.32 |
| | 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 340.00 | 675.63 | 0.00 | 675.80 | 57.23 | 3.30 | 103.02 | 44.94 |
| | 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 450.00 | 676.32 | 0.00 | 676.50 | 51.21 | 3.48 | 129.25 | 62.88 |
| | 605.300 | 600.00 | 0.00 | 0.00 | 671.00 | 750.00 | 678.92 | 0.00 | 678.99 | 11.40 | 2.38 | 569.82 | 222.11 |

LANE DRAIN 10 YR FLOW=19

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 600.100 | 190.00 | 663.01 | 0.00 | 0.00 | 0.00 | 141.88 | 0.00 |
| 600.100 | 340.00 | 664.73 | 1.72 | 0.00 | 0.00 | 254.83 | 0.00 |
| 600.100 | 450.00 | 665.23 | .50 | 0.00 | 0.00 | 292.30 | 0.00 |
| 600.100 | 750.00 | 666.24 | 1.01 | 0.00 | 0.00 | 350.00 | 0.00 |
| 600.150 | 190.00 | 663.02 | 0.00 | .01 | 0.00 | 43.18 | 300.00 |
| 600.150 | 340.00 | 664.74 | 1.72 | .01 | 0.00 | 128.05 | 300.00 |
| 600.150 | 450.00 | 665.24 | .51 | .01 | 0.00 | 394.17 | 300.00 |
| 600.150 | 750.00 | 666.26 | 1.02 | .02 | 0.00 | 457.66 | 300.00 |
| 600.200 | 190.00 | 663.10 | 0.00 | .08 | 0.00 | 40.95 | 300.00 |
| 600.200 | 340.00 | 664.83 | 1.73 | .10 | 0.00 | 112.54 | 300.00 |
| 600.200 | 450.00 | 665.33 | .50 | .09 | 0.00 | 127.86 | 300.00 |
| 600.200 | 750.00 | 666.35 | 1.01 | .08 | 0.00 | 445.75 | 300.00 |
| 599.980 | 190.00 | 663.21 | 0.00 | .10 | 0.00 | 8.00 | 210.00 |
| 599.980 | 340.00 | 664.95 | 1.74 | .11 | 0.00 | 63.68 | 210.00 |
| 599.980 | 450.00 | 665.48 | .53 | .14 | 0.00 | 130.18 | 210.00 |
| 599.980 | 750.00 | 666.47 | 1.00 | .12 | 0.00 | 343.10 | 210.00 |
| 600.020 | 190.00 | 664.71 | 0.00 | 1.50 | 0.00 | 8.00 | 40.00 |
| 600.020 | 340.00 | 666.07 | 1.36 | 1.12 | 0.00 | 269.51 | 40.00 |
| 600.020 | 450.00 | 666.24 | .17 | .76 | 0.00 | 284.90 | 40.00 |
| 600.020 | 750.00 | 666.66 | .42 | .19 | 0.00 | 306.59 | 40.00 |
| 600.800 | 190.00 | 664.98 | 0.00 | .27 | 0.00 | 202.50 | 140.00 |
| 600.800 | 340.00 | 666.11 | 1.12 | .03 | 0.00 | 291.35 | 140.00 |
| 600.800 | 450.00 | 666.29 | .18 | .05 | 0.00 | 302.61 | 140.00 |
| 600.800 | 750.00 | 666.75 | .46 | .09 | 0.00 | 310.00 | 140.00 |
| 600.820 | 190.00 | 664.99 | 0.00 | .00 | 0.00 | 188.54 | 30.00 |
| 600.820 | 340.00 | 666.11 | 1.12 | .00 | 0.00 | 282.15 | 30.00 |
| 600.820 | 450.00 | 666.29 | .18 | .01 | 0.00 | 300.15 | 30.00 |
| 600.820 | 750.00 | 666.75 | .46 | .01 | 0.00 | 310.00 | 30.00 |
| 600.830 | 190.00 | 664.99 | 0.00 | -.00 | 0.00 | 187.44 | .50 |
| 600.830 | 340.00 | 666.11 | 1.13 | .00 | 0.00 | 281.99 | .50 |
| 600.830 | 450.00 | 666.30 | .19 | .00 | 0.00 | 299.91 | .50 |
| 600.830 | 750.00 | 666.76 | .47 | .01 | 0.00 | 310.00 | .50 |
| 600.840 | 190.00 | 664.99 | 0.00 | .00 | 0.00 | 187.58 | 4.00 |
| 600.840 | 340.00 | 666.11 | 1.12 | .00 | 0.00 | 282.30 | 4.00 |
| 600.840 | 450.00 | 666.30 | .19 | .00 | 0.00 | 300.41 | 4.00 |
| 600.840 | 750.00 | 666.77 | .47 | .00 | 0.00 | 310.00 | 4.00 |
| 600.850 | 190.00 | 664.99 | 0.00 | .00 | 0.00 | 187.73 | 1.00 |
| 600.850 | 340.00 | 666.11 | 1.12 | -.00 | 0.00 | 282.37 | 1.00 |
| 600.850 | 450.00 | 666.30 | .19 | -.00 | 0.00 | 300.50 | 1.00 |
| 600.850 | 750.00 | 666.76 | .47 | -.00 | 0.00 | 310.00 | 1.00 |
| 600.870 | 190.00 | 665.01 | 0.00 | .02 | 0.00 | 162.80 | 175.00 |
| 600.870 | 340.00 | 666.14 | 1.12 | .02 | 0.00 | 266.08 | 175.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 600.870 | 450.00 | 666.33 | .20 | .04 | 0.00 | 284.41 | 175.00 |
| 600.870 | 750.00 | 666.83 | .49 | .06 | 0.00 | 308.28 | 175.00 |

| SECNC | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 600.980 | 190.00 | 665.02 | 0.00 | .01 | 0.00 | 149.63 | 50.00 |
| 600.980 | 340.00 | 666.15 | 1.12 | .01 | 0.00 | 256.25 | 50.00 |
| 600.980 | 450.00 | 666.35 | .20 | .01 | 0.00 | 275.74 | 50.00 |
| 600.980 | 750.00 | 666.85 | .50 | .02 | 0.00 | 306.35 | 50.00 |
| 601.020 | 190.00 | 666.45 | 0.00 | 1.43 | 0.00 | 109.73 | 55.00 |
| 601.020 | 340.00 | 666.75 | .30 | .60 | 0.00 | 124.37 | 55.00 |
| 601.020 | 450.00 | 666.87 | .13 | .53 | 0.00 | 160.17 | 55.00 |
| 601.020 | 750.00 | 667.17 | .29 | .32 | 0.00 | 262.50 | 55.00 |
| 601.800 | 190.00 | 666.45 | 0.00 | .01 | 0.00 | 94.06 | 90.00 |
| 601.800 | 340.00 | 666.77 | .32 | .02 | 0.00 | 106.29 | 90.00 |
| 601.800 | 450.00 | 666.91 | .14 | .04 | 0.00 | 111.64 | 90.00 |
| 601.800 | 750.00 | 667.25 | .34 | .08 | 0.00 | 148.67 | 90.00 |
| 602.100 | 190.00 | 666.48 | 0.00 | .03 | 0.00 | 44.51 | 205.00 |
| 602.100 | 340.00 | 666.85 | .36 | .08 | 0.00 | 51.05 | 205.00 |
| 602.100 | 450.00 | 667.03 | .18 | .12 | 0.00 | 69.47 | 205.00 |
| 602.100 | 750.00 | 667.50 | .47 | .25 | 0.00 | 116.90 | 205.00 |
| 602.200 | 190.00 | 666.55 | 0.00 | .07 | 0.00 | 41.56 | 215.00 |
| 602.200 | 340.00 | 667.01 | .46 | .16 | 0.00 | 44.15 | 215.00 |
| 602.200 | 450.00 | 667.28 | .27 | .25 | 0.00 | 45.66 | 215.00 |
| 602.200 | 750.00 | 667.97 | .69 | .47 | 0.00 | 103.40 | 215.00 |
| 601.980 | 190.00 | 666.58 | 0.00 | .03 | 0.00 | 12.00 | 85.00 |
| 601.980 | 340.00 | 667.07 | .49 | .06 | 0.00 | 54.74 | 85.00 |
| 601.980 | 450.00 | 667.37 | .30 | .09 | 0.00 | 84.34 | 85.00 |
| 601.980 | 750.00 | 668.13 | .76 | .16 | 0.00 | 159.73 | 85.00 |
| 602.020 | 190.00 | 666.84 | 0.00 | .26 | 0.00 | 12.00 | 50.00 |
| 602.020 | 340.00 | 667.73 | .89 | .66 | 0.00 | 94.22 | 50.00 |
| 602.020 | 450.00 | 668.00 | .26 | .63 | 0.00 | 123.01 | 50.00 |
| 602.020 | 750.00 | 668.55 | .55 | .42 | 0.00 | 210.38 | 50.00 |
| 602.800 | 190.00 | 666.91 | 0.00 | .07 | 0.00 | 34.57 | 60.00 |
| 602.800 | 340.00 | 667.76 | .85 | .03 | 0.00 | 53.12 | 60.00 |
| 602.800 | 450.00 | 668.04 | .28 | .04 | 0.00 | 59.14 | 60.00 |
| 602.800 | 750.00 | 668.63 | .59 | .08 | 0.00 | 74.41 | 60.00 |
| 602.850 | 190.00 | 667.02 | 0.00 | .11 | 0.00 | 30.89 | 285.00 |
| 602.850 | 340.00 | 667.96 | .94 | .20 | 0.00 | 44.35 | 285.00 |
| 602.850 | 450.00 | 668.33 | .37 | .29 | 0.00 | 52.32 | 285.00 |
| 602.850 | 750.00 | 669.17 | .84 | .54 | 0.00 | 70.69 | 285.00 |
| 602.900 | 190.00 | 667.06 | 0.00 | .04 | 0.00 | 2682.19 | 300.00 |
| 602.900 | 340.00 | 668.05 | .99 | .09 | 0.00 | 2902.63 | 300.00 |
| 602.900 | 450.00 | 668.46 | .41 | .13 | 0.00 | 2966.78 | 300.00 |
| 602.900 | 750.00 | 669.42 | .96 | .25 | 0.00 | 3117.83 | 300.00 |
| 603.000 | 190.00 | 667.06 | 0.00 | .00 | 0.00 | 2528.88 | 240.00 |
| 603.000 | 340.00 | 668.05 | .99 | .00 | 0.00 | 2824.32 | 240.00 |
| 603.000 | 450.00 | 668.46 | .41 | .00 | 0.00 | 2888.47 | 240.00 |
| 603.000 | 750.00 | 669.42 | .96 | .00 | 0.00 | 3039.54 | 240.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 603.300 | 190.00 | 667.06 | 0.00 | .00 | 0.00 | 2452.24 | 210.00 |
| 603.300 | 340.00 | 668.05 | .99 | .00 | 0.00 | 2755.02 | 210.00 |
| 603.300 | 450.00 | 668.46 | .41 | .00 | 0.00 | 2849.33 | 210.00 |
| 603.300 | 750.00 | 669.42 | .96 | .00 | 0.00 | 3000.41 | 210.00 |
| 603.400 | 190.00 | 667.03 | 0.00 | -.03 | 0.00 | 40.64 | 200.00 |
| 603.400 | 340.00 | 668.00 | .97 | -.05 | 0.00 | 48.33 | 200.00 |
| 603.400 | 450.00 | 668.38 | .39 | -.07 | 0.00 | 51.44 | 200.00 |
| 603.400 | 750.00 | 669.34 | .96 | -.08 | 0.00 | 600.00 | 200.00 |
| 604.200 | 190.00 | 667.47 | 0.00 | .44 | 0.00 | 40.96 | 230.00 |
| 604.200 | 340.00 | 668.54 | 1.07 | .54 | 0.00 | 49.45 | 230.00 |
| 604.200 | 450.00 | 669.04 | .51 | .66 | 0.00 | 53.49 | 230.00 |
| 604.200 | 750.00 | 669.95 | .90 | .61 | 0.00 | 600.00 | 230.00 |
| 603.980 | 190.00 | 667.62 | 0.00 | .15 | 0.00 | 10.00 | 110.00 |
| 603.980 | 340.00 | 668.69 | 1.07 | .15 | 0.00 | 10.00 | 110.00 |
| 603.980 | 450.00 | 669.18 | .49 | .14 | 0.00 | 10.00 | 110.00 |
| 603.980 | 750.00 | 670.13 | .94 | .18 | 0.00 | 600.00 | 110.00 |
| 604.020 | 190.00 | 667.66 | 0.00 | .04 | 0.00 | 12.00 | 80.00 |
| 604.020 | 340.00 | 669.02 | 1.36 | .33 | 0.00 | 12.00 | 80.00 |
| 604.020 | 450.00 | 669.90 | .88 | .71 | 0.00 | 12.00 | 80.00 |
| 604.020 | 750.00 | 671.07 | 1.18 | .95 | 0.00 | 357.35 | 80.00 |
| 604.500 | 190.00 | 667.79 | 0.00 | .13 | 0.00 | 35.63 | 4.00 |
| 604.500 | 340.00 | 669.36 | 1.57 | .34 | 0.00 | 48.10 | 4.00 |
| 604.500 | 450.00 | 670.38 | 1.02 | .49 | 0.00 | 52.69 | 4.00 |
| 604.500 | 750.00 | 671.06 | .68 | -.01 | 0.00 | 206.14 | 4.00 |
| 604.680 | 190.00 | 667.79 | 0.00 | -.01 | 0.00 | 30.58 | 5.00 |
| 604.680 | 340.00 | 669.35 | 1.57 | -.01 | 0.00 | 43.65 | 5.00 |
| 604.680 | 450.00 | 670.38 | 1.02 | -.00 | 0.00 | 49.97 | 5.00 |
| 604.680 | 750.00 | 671.04 | .67 | -.02 | 0.00 | 93.08 | 5.00 |
| 604.690 | 190.00 | 667.79 | 0.00 | .00 | 0.00 | 30.60 | .50 |
| 604.690 | 340.00 | 669.32 | 1.53 | -.03 | 0.00 | 43.37 | .50 |
| 604.690 | 450.00 | 670.27 | .95 | -.11 | 0.00 | 49.47 | .50 |
| 604.690 | 750.00 | 670.89 | .62 | -.16 | 0.00 | 89.67 | .50 |
| 604.710 | 190.00 | 667.83 | 0.00 | .04 | 0.00 | 30.87 | 5.00 |
| 604.710 | 340.00 | 669.41 | 1.58 | .09 | 0.00 | 44.11 | 5.00 |
| 604.710 | 450.00 | 670.51 | 1.10 | .24 | 0.00 | 50.54 | 5.00 |
| 604.710 | 750.00 | 671.42 | .91 | .53 | 0.00 | 101.40 | 5.00 |
| 604.720 | 190.00 | 667.83 | 0.00 | .00 | 0.00 | 30.93 | .50 |
| 604.720 | 340.00 | 669.53 | 1.69 | .12 | 0.00 | 45.09 | .50 |
| 604.720 | 450.00 | 670.79 | 1.27 | .29 | 0.00 | 51.83 | .50 |
| 604.720 | 750.00 | 671.61 | .82 | .19 | 0.00 | 205.19 | .50 |
| 604.800 | 190.00 | 668.26 | 0.00 | .43 | 0.00 | 30.32 | 100.00 |
| 604.800 | 340.00 | 669.79 | 1.53 | .27 | 0.00 | 36.00 | 100.00 |
| 604.800 | 450.00 | 670.95 | 1.16 | .16 | 0.00 | 36.00 | 100.00 |
| 604.800 | 750.00 | 671.85 | .90 | .24 | 0.00 | 384.89 | 100.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 604.880 | 190.00 | 668.41 | 0.00 | .15 | 0.00 | 12.00 | 50.00 |
| 604.880 | 340.00 | 669.89 | 1.48 | .10 | 0.00 | 12.00 | 50.00 |
| 604.880 | 450.00 | 671.00 | 1.11 | .04 | 0.00 | 12.00 | 50.00 |
| 604.880 | 750.00 | 671.91 | .92 | .06 | 0.00 | 104.87 | 50.00 |
| 604.890 | 190.00 | 668.31 | 0.00 | -.10 | 0.00 | 8.00 | 3.00 |
| 604.890 | 340.00 | 669.73 | 1.43 | -.16 | 0.00 | 8.00 | 3.00 |
| 604.890 | 450.00 | 670.79 | 1.06 | -.20 | 0.00 | 8.00 | 3.00 |
| 604.890 | 750.00 | 671.09 | .30 | -.82 | 0.00 | 8.00 | 3.00 |
| * 604.910 | 190.00 | 668.84 | 0.00 | .54 | 0.00 | 8.00 | 44.00 |
| 604.910 | 340.00 | 670.11 | 1.26 | .37 | 0.00 | 8.00 | 44.00 |
| 604.910 | 450.00 | 671.29 | 1.18 | .49 | 0.00 | 8.00 | 44.00 |
| 604.910 | 750.00 | 673.36 | 2.07 | 2.26 | 0.00 | 8.00 | 44.00 |
| 604.920 | 190.00 | 670.43 | 0.00 | 1.59 | 0.00 | 12.00 | 3.00 |
| 604.920 | 340.00 | 672.38 | 1.95 | 2.27 | 0.00 | 12.00 | 3.00 |
| 604.920 | 450.00 | 673.64 | 1.26 | 2.36 | 0.00 | 12.00 | 3.00 |
| 604.920 | 750.00 | 678.72 | 5.08 | 5.36 | 0.00 | 400.00 | 3.00 |
| 604.950 | 190.00 | 671.48 | 0.00 | 1.05 | 0.00 | 38.66 | 280.00 |
| 604.950 | 340.00 | 673.36 | 1.88 | .98 | 0.00 | 61.27 | 280.00 |
| 604.950 | 450.00 | 674.59 | 1.23 | .95 | 0.00 | 99.54 | 280.00 |
| 604.950 | 750.00 | 678.74 | 4.15 | .01 | 0.00 | 400.00 | 280.00 |
| 605.000 | 190.00 | 672.32 | 0.00 | .83 | 0.00 | 35.38 | 240.00 |
| 605.000 | 340.00 | 673.88 | 1.56 | .52 | 0.00 | 39.58 | 240.00 |
| 605.000 | 450.00 | 674.93 | 1.05 | .34 | 0.00 | 218.44 | 240.00 |
| 605.000 | 750.00 | 678.76 | 3.83 | .03 | 0.00 | 243.08 | 240.00 |
| 605.300 | 190.00 | 674.60 | 0.00 | 2.28 | 0.00 | 33.95 | 600.00 |
| 605.300 | 340.00 | 675.63 | 1.03 | 1.76 | 0.00 | 37.15 | 600.00 |
| 605.300 | 450.00 | 676.32 | .68 | 1.39 | 0.00 | 39.31 | 600.00 |
| 605.300 | 750.00 | 678.92 | 2.61 | .16 | 0.00 | 321.41 | 600.00 |

SUMMARY OF ERRORS

CAUTION SECNO= 604.910 PROFILE= 1 CRITICAL DEPTH ASSUMED

FLOOD INSURANCE ZONE DATA FOR LAKE DRAIN 10 YR FLOW=19

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 600.100 | 0. | -2.22 | -.50 | 1.01 |
| 600.150 | 300. | -2.22 | -.51 | 1.02 |
| 600.200 | 600. | -2.23 | -.50 | 1.01 |
| 599.980 | 810. | -2.27 | -.53 | 1.00 |
| 600.020 | 850. | -1.53 | -.17 | .42 |
| 600.800 | 990. | -1.31 | -.18 | .46 |
| 600.820 | 1020. | -1.31 | -.18 | .46 |
| 600.830 | 1021. | -1.31 | -.19 | .47 |
| 600.840 | 1025. | -1.31 | -.19 | .47 |
| 600.850 | 1026. | -1.31 | -.19 | .47 |
| 600.870 | 1201. | -1.32 | -.20 | .49 |
| 600.980 | 1251. | -1.33 | -.20 | .50 |
| 601.020 | 1306. | -.43 | -.13 | .29 |
| 601.800 | 1396. | -.46 | -.14 | .34 |
| 602.100 | 1601. | -.55 | -.18 | .47 |
| 602.200 | 1816. | -.73 | -.27 | .69 |
| 601.980 | 1901. | -.79 | -.30 | .76 |
| 602.020 | 1951. | -1.15 | -.26 | .55 |
| 602.800 | 2011. | -1.13 | -.28 | .59 |
| 602.850 | 2296. | -1.31 | -.37 | .84 |
| 602.900 | 2596. | -1.40 | -.41 | .96 |
| 603.000 | 2836. | -1.40 | -.41 | .96 |
| 603.300 | 3046. | -1.40 | -.41 | .96 |
| 603.400 | 3246. | -1.36 | -.39 | .96 |
| 604.200 | 3476. | -1.57 | -.51 | .90 |
| 603.980 | 3586. | -1.56 | -.49 | .94 |
| 604.020 | 3666. | -2.24 | -.88 | 1.18 |
| 604.500 | 3670. | -2.59 | -1.02 | .68 |
| 604.630 | 3675. | -2.59 | -1.02 | .67 |
| 604.690 | 3675. | -2.48 | -.95 | .62 |
| 604.710 | 3680. | -2.68 | -1.10 | .91 |
| 604.720 | 3681. | -2.96 | -1.27 | .82 |
| 604.800 | 3781. | -2.69 | -1.16 | .90 |
| 604.880 | 3831. | -2.59 | -1.11 | .92 |
| 604.890 | 3834. | -2.49 | -1.06 | .30 |
| 604.910 | 3878. | -2.44 | -1.18 | 2.07 |
| 604.920 | 3881. | -3.21 | -1.26 | 5.08 |
| 604.950 | 4161. | -3.11 | -1.23 | 4.15 |
| 605.000 | 4401. | -2.61 | -1.05 | 3.83 |
| 605.300 | 5001. | -1.72 | -.68 | 2.61 |
| WEIGHTED AVG FOR REACH | | -1.74 | -.55 | 1.46 |

FHF FOR THE REACH = 015 WITH 60.2_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | RTC. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | | 600.100 |
| 1 | 100. | 663.01 | 665.23 | -2.22 | -2.22 | 020 | 100. |
| 2 | 200. | 663.01 | 665.24 | -2.23 | -2.23 | 020 | 100. |
| | 300. | | | | SEC. | | 600.150 |
| 3 | 300. | 663.02 | 665.24 | -2.22 | -2.22 | 020 | 100. |
| 4 | 400. | 663.03 | 665.26 | -2.23 | -2.23 | 020 | 100. |
| 5 | 500. | 663.06 | 665.29 | -2.23 | -2.23 | 020 | 100. |
| | 600. | | | | SEC. | | 600.200 |
| 6 | 600. | 663.09 | 665.32 | -2.23 | -2.23 | 020 | 100. |
| 7 | 700. | 663.13 | 665.37 | -2.24 | -2.23 | 020 | 100. |
| 8 | 800. | 663.18 | 665.43 | -2.25 | -2.23 | 020 | 100. |
| | 810. | | | | SEC. | | 599.980 |
| | 850. | | | | SEC. | | 600.020 |
| 9 | 900. | 664.00 | 665.86 | -1.86 | -2.19 | 020 | 100. |
| | 990. | | | | SEC. | | 600.800 |
| 10 | 1000. | 664.90 | 666.27 | -1.37 | -2.11 | 020 | 100. |
| | 1020. | | | | SEC. | | 600.820 |
| | 1021. | | | | SEC. | | 600.830 |
| | 1025. | | | | SEC. | | 600.840 |
| | 1026. | | | | SEC. | | 600.850 |
| 11 | 1100. | 664.99 | 666.30 | -1.31 | -2.04 | 020 | 100. |
| 12 | 1200. | 665.01 | 666.32 | -1.31 | -1.98 | 020 | 75. |
| | 1201. | | | | SEC. | | 600.870 |
| | 1251. | | | | SEC. | | 600.980 |
| 13 | 1300. | 665.66 | 666.58 | -.92 | -1.89 | 020 | 69. |
| | 1306. | | | | SEC. | | 601.020 |
| | 1396. | | | | SEC. | | 601.800 |
| 14 | 1400. | 666.38 | 666.87 | -.49 | -1.79 | 020 | 86. |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -1.79 | -.37 | .78 |

FHF FOR REACH 1 = 020 WITH 86._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 4

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15 | 1500. | 666.46 | 666.94 | -.48 | -.48 | 005 | 100. |
| 16 | 1600. | 666.48 | 667.00 | -.52 | -.50 | 005 | 100. |
| | 1601. | | | | SEC. | | 602.100 |
| 17 | 1700. | 666.50 | 667.09 | -.59 | -.53 | 005 | 100. |
| 18 | 1800. | 666.53 | 667.20 | -.67 | -.56 | 005 | 100. |
| | 1816. | | | | SEC. | | 602.200 |
| 19 | 1900. | 666.56 | 667.31 | -.75 | -.60 | 005 | 100. |
| | 1901. | | | | SEC. | | 601.980 |
| | 1951. | | | | SEC. | | 602.020 |
| 20 | 2000. | 666.74 | 667.70 | -.96 | -.66 | 005 | 100. |
| | 2011. | | | | SEC. | | 602.800 |
| 21 | 2100. | 666.92 | 668.08 | -1.16 | -.73 | 005 | 100. |
| 22 | 2200. | 666.96 | 668.18 | -1.22 | -.79 | 010 | 100. |
| | 2296. | | | | SEC. | | 602.850 |
| 23 | 2300. | 667.00 | 668.28 | -1.28 | -.85 | 010 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24 | 2400. | 667.03 | 668.35 | -1.32 | -.89 | 010 | 100. |
| 25 | 2500. | 667.04 | 668.39 | -1.35 | -.94 | 010 | 100. |
| | 2596. | | | | SEC. | 602.900 | |
| 26 | 2600. | 667.05 | 668.44 | -1.39 | -.97 | 010 | 100. |
| 27 | 2700. | 667.06 | 668.46 | -1.40 | -1.01 | 010 | 92. |
| 28 | 2800. | 667.06 | 668.46 | -1.40 | -1.03 | 010 | 86. |
| | 2836. | | | | SEC. | 603.000 | |
| 29 | 2900. | 667.06 | 668.46 | -1.40 | -1.06 | 010 | 87. |
| 30 | 3000. | 667.06 | 668.46 | -1.40 | -1.08 | 010 | 88. |
| | 3046. | | | | SEC. | 603.300 | |
| 31 | 3100. | 667.06 | 668.45 | -1.39 | -1.10 | 010 | 82. |
| 32 | 3200. | 667.04 | 668.42 | -1.38 | -1.11 | 010 | 83. |
| | 3246. | | | | SEC. | 603.400 | |
| 33 | 3300. | 667.08 | 668.47 | -1.39 | -1.13 | 010 | 84. |
| 34 | 3400. | 667.23 | 668.68 | -1.45 | -1.14 | 010 | 85. |
| | 3476. | | | | SEC. | 604.200 | |
| 35 | 3500. | 667.41 | 668.95 | -1.54 | -1.16 | 010 | 86. |
| | 3586. | | | | SEC. | 603.980 | |
| 36 | 3600. | 667.57 | 669.19 | -1.62 | -1.18 | 010 | 82. |
| | 3666. | | | | SEC. | 604.020 | |
| | 3670. | | | | SEC. | 604.500 | |
| | 3675. | | | | SEC. | 604.680 | |
| | 3675. | | | | SEC. | 604.690 | |
| | 3680. | | | | SEC. | 604.710 | |
| | 3681. | | | | SEC. | 604.720 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -1.16 | -.35 | .81 |

FHF FOR REACH 2 = 010 WITH 82._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 37 | 3700. | 667.77 | 670.07 | -2.30 | -2.30 | 025 | 100. |
| | 3781. | | | | SEC. | 604.800 | |
| 38 | 3800. | 668.12 | 670.90 | -2.78 | -2.54 | 025 | 100. |
| | 3831. | | | | SEC. | 604.880 | |
| | 3834. | | | | SEC. | 604.890 | |
| | 3878. | | | | SEC. | 604.910 | |
| | 3881. | | | | SEC. | 604.920 | |
| 39 | 3900. | 669.41 | 672.34 | -2.93 | -2.67 | 025 | 100. |
| 40 | 4000. | 670.69 | 673.88 | -3.19 | -2.80 | 030 | 100. |
| 41 | 4100. | 671.07 | 674.22 | -3.15 | -2.87 | 030 | 100. |
| | 4161. | | | | SEC. | 604.950 | |
| 42 | 4200. | 671.44 | 674.52 | -3.08 | -2.90 | 030 | 100. |
| 43 | 4300. | 671.79 | 674.72 | -2.93 | -2.91 | 030 | 100. |
| 44 | 4400. | 672.14 | 674.86 | -2.72 | -2.88 | 030 | 100. |
| | 4401. | | | | SEC. | 605.000 | |
| 45 | 4500. | 672.50 | 675.04 | -2.54 | -2.85 | 030 | 100. |
| 46 | 4600. | 672.88 | 675.28 | -2.40 | -2.80 | 030 | 100. |
| 47 | 4700. | 673.26 | 675.51 | -2.25 | -2.75 | 030 | 100. |
| 48 | 4800. | 673.65 | 675.74 | -2.09 | -2.70 | 025 | 100. |
| 49 | 4900. | 674.03 | 675.97 | -1.94 | -2.64 | 025 | 100. |
| 50 | 5000. | 674.41 | 676.20 | -1.79 | -2.58 | 025 | 100. |
| | 5001. | | | | SEC. | 605.300 | |

==========

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|

```
WEIGHTED AVG FOR REACH  -2.58      -1.04       3.25

FHF FOR REACH   3 = 025 WITH  100._ OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 5
=================================================================
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 480.00 | 643.50 | 0.00 | 643.73 | 27.25 | 3.83 | 125.48 | 91.95 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 830.00 | 644.42 | 0.00 | 644.66 | 27.05 | 4.33 | 384.24 | 159.60 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 644.67 | 0.00 | 644.90 | 27.20 | 4.50 | 512.25 | 197.49 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1510.00 | 645.14 | 0.00 | 645.35 | 27.02 | 4.79 | 782.41 | 290.51 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 480.00 | 644.14 | 0.00 | 644.26 | 11.81 | 2.77 | 173.26 | 139.67 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 830.00 | 645.08 | 0.00 | 645.26 | 14.87 | 3.51 | 376.91 | 215.26 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 645.34 | 0.00 | 645.54 | 16.64 | 3.85 | 482.05 | 252.52 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1510.00 | 645.82 | 0.00 | 646.06 | 20.10 | 4.48 | 674.37 | 336.82 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 480.00 | 644.54 | 0.00 | 644.69 | 16.96 | 3.15 | 152.26 | 116.54 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 830.00 | 645.58 | 0.00 | 645.83 | 22.97 | 4.12 | 239.76 | 173.19 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 645.89 | 0.00 | 646.18 | 25.06 | 4.50 | 368.92 | 205.74 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1510.00 | 646.46 | 0.00 | 646.73 | 24.53 | 4.80 | 668.39 | 304.87 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 480.00 | 645.11 | 0.00 | 645.31 | 23.74 | 3.55 | 135.14 | 98.51 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 830.00 | 646.31 | 0.00 | 646.62 | 28.77 | 4.47 | 198.96 | 154.76 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.68 | 644.29 | 647.05 | 31.85 | 4.93 | 271.36 | 182.50 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1510.00 | 647.24 | 0.00 | 647.61 | 32.35 | 5.37 | 578.47 | 265.48 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 480.00 | 645.92 | 0.00 | 646.13 | 31.57 | 3.65 | 131.65 | 85.43 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 830.00 | 647.26 | 0.00 | 647.56 | 34.22 | 4.41 | 205.35 | 141.89 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.72 | 645.19 | 648.04 | 33.69 | 4.65 | 340.98 | 177.45 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1510.00 | 648.30 | 0.00 | 648.59 | 32.41 | 4.93 | 662.74 | 265.22 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 480.00 | 647.09 | 0.00 | 647.27 | 25.39 | 3.38 | 142.19 | 95.25 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 830.00 | 648.50 | 0.00 | 648.74 | 24.83 | 3.93 | 284.96 | 166.56 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 648.93 | 0.00 | 649.14 | 21.95 | 3.92 | 515.03 | 219.84 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1510.00 | 649.48 | 0.00 | 649.66 | 21.93 | 4.20 | 821.58 | 322.42 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 480.00 | 647.86 | 0.00 | 648.04 | 26.05 | 3.41 | 140.91 | 94.05 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 830.00 | 649.26 | 0.00 | 649.51 | 26.29 | 4.01 | 259.56 | 161.87 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.62 | 0.00 | 649.86 | 25.79 | 4.18 | 450.63 | 202.83 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1510.00 | 650.16 | 0.00 | 650.39 | 25.62 | 4.47 | 757.46 | 298.34 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 480.00 | 648.24 | 0.00 | 648.41 | 22.51 | 3.23 | 148.41 | 101.17 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 830.00 | 649.68 | 0.00 | 649.87 | 20.29 | 3.64 | 372.55 | 184.27 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.04 | 0.00 | 650.21 | 18.85 | 3.68 | 574.88 | 237.26 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1510.00 | 650.57 | 0.00 | 650.74 | 19.28 | 3.98 | 876.02 | 343.88 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 480.00 | 648.56 | 0.00 | 648.70 | 17.79 | 2.97 | 161.38 | 113.80 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 830.00 | 650.17 | 0.00 | 650.26 | 10.18 | 2.75 | 647.43 | 260.15 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1030.00 | 650.36 | 0.00 | 650.47 | 11.92 | 3.05 | 757.49 | 298.35 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1510.00 | 650.71 | 0.00 | 650.84 | 16.10 | 3.69 | 954.37 | 376.33 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 480.00 | 648.83 | 0.00 | 649.09 | 36.39 | 4.05 | 118.51 | 79.57 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 830.00 | 650.34 | 0.00 | 650.42 | 14.65 | 2.94 | 608.05 | 216.83 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.56 | 0.00 | 650.66 | 16.47 | 3.19 | 696.27 | 253.77 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1510.00 | 650.98 | 0.00 | 651.10 | 20.97 | 3.80 | 863.38 | 329.72 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 480.00 | 649.62 | 0.00 | 649.80 | 22.75 | 3.40 | 141.38 | 100.63 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 830.00 | 650.67 | 0.00 | 650.73 | 10.67 | 2.57 | 697.01 | 254.10 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.93 | 0.00 | 651.00 | 11.68 | 2.78 | 801.08 | 301.32 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1510.00 | 651.43 | 0.00 | 651.51 | 13.69 | 3.21 | 1052.17 | 408.06 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 480.00 | 650.61 | 0.00 | 650.63 | 3.87 | 1.54 | 674.01 | 244.14 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 830.00 | 651.05 | 0.00 | 651.09 | 6.52 | 2.11 | 852.94 | 324.96 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1030.00 | 651.21 | 0.00 | 651.26 | 8.28 | 2.43 | 930.66 | 358.06 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1510.00 | 651.60 | 0.00 | 651.66 | 11.22 | 2.96 | 1147.79 | 450.80 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 480.00 | 650.68 | 0.00 | 650.79 | 14.70 | 2.69 | 182.50 | 125.19 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 830.00 | 651.17 | 0.00 | 651.41 | 29.34 | 3.98 | 264.69 | 153.23 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.36 | 0.00 | 651.66 | 37.45 | 4.59 | 314.51 | 168.30 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1510.00 | 651.80 | 0.00 | 652.19 | 48.86 | 5.47 | 467.69 | 216.02 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 480.00 | 650.98 | 0.00 | 651.06 | 11.14 | 2.28 | 237.27 | 143.80 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 830.00 | 651.72 | 0.00 | 651.83 | 14.73 | 2.89 | 471.39 | 216.24 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.03 | 0.00 | 652.15 | 14.99 | 3.06 | 613.46 | 266.06 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1510.00 | 652.62 | 0.00 | 652.74 | 15.41 | 3.36 | 890.53 | 384.64 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 480.00 | 651.69 | 0.00 | 651.83 | 21.92 | 3.00 | 161.83 | 102.52 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 830.00 | 652.68 | 0.00 | 652.90 | 30.88 | 3.81 | 249.69 | 149.36 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.02 | 0.00 | 653.27 | 33.74 | 4.17 | 340.01 | 177.31 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1510.00 | 653.62 | 0.00 | 653.88 | 33.35 | 4.55 | 609.01 | 261.46 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 480.00 | 652.80 | 0.00 | 652.96 | 19.02 | 3.27 | 146.65 | 110.07 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 830.00 | 654.18 | 0.00 | 654.46 | 25.52 | 4.26 | 200.18 | 164.31 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.68 | 0.00 | 655.03 | 29.12 | 4.77 | 243.11 | 190.88 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1510.00 | 655.45 | 0.00 | 655.96 | 39.33 | 5.90 | 316.32 | 240.79 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 480.00 | 653.03 | 0.00 | 653.20 | 17.86 | 3.24 | 148.29 | 113.56 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 830.00 | 654.50 | 0.00 | 654.77 | 24.29 | 4.21 | 196.96 | 168.41 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.04 | 0.00 | 655.39 | 28.92 | 4.76 | 216.24 | 191.54 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1510.00 | 655.92 | 0.00 | 656.49 | 41.87 | 6.07 | 258.55 | 233.37 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 480.00 | 653.03 | 0.00 | 653.20 | 17.86 | 3.24 | 148.32 | 113.60 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 830.00 | 654.50 | 0.00 | 654.77 | 24.27 | 4.21 | 197.00 | 168.47 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 654.99 | 0.00 | 655.42 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1510.00 | 655.70 | 0.00 | 656.61 | 184.31 | 7.66 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 480.00 | 653.05 | 0.00 | 653.21 | 17.69 | 3.23 | 148.83 | 114.14 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 830.00 | 654.53 | 0.00 | 654.80 | 55.69 | 4.21 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.07 | 0.00 | 655.49 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1510.00 | 656.03 | 652.37 | 656.82 | 265.53 | 7.21 | 236.81 | 92.67 |

| SECND | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | LOK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 480.00 | 653.05 | 0.00 | 653.21 | 17.66 | 3.22 | 148.90 | 114.21 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 830.00 | 654.53 | 0.00 | 654.81 | 23.87 | 4.19 | 198.20 | 169.88 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.17 | 0.00 | 655.51 | 27.18 | 4.66 | 221.18 | 197.57 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1510.00 | 656.45 | 0.00 | 656.88 | 29.60 | 5.38 | 371.40 | 277.55 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 480.00 | 653.96 | 0.00 | 654.15 | 22.77 | 3.50 | 137.02 | 100.59 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 830.00 | 655.65 | 0.00 | 655.92 | 24.20 | 4.20 | 220.88 | 168.72 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.38 | 0.00 | 656.64 | 21.30 | 4.26 | 352.69 | 223.20 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1510.00 | 657.70 | 0.00 | 657.92 | 16.48 | 4.27 | 610.32 | 371.91 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 480.00 | 654.36 | 0.00 | 654.66 | 42.59 | 4.39 | 109.46 | 73.55 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 830.00 | 656.06 | 0.00 | 656.46 | 41.79 | 5.08 | 163.46 | 128.39 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.74 | 0.00 | 657.21 | 42.83 | 5.47 | 199.50 | 157.39 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1510.00 | 657.98 | 0.00 | 658.42 | 35.79 | 5.71 | 410.98 | 252.40 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 480.00 | 655.37 | 0.00 | 655.64 | 36.06 | 4.17 | 114.99 | 79.94 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 830.00 | 659.75 | 0.00 | 659.89 | 10.63 | 3.01 | 275.93 | 254.53 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1030.00 | 660.72 | 0.00 | 660.86 | 9.33 | 3.04 | 433.59 | 337.24 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1510.00 | 661.36 | 0.00 | 661.57 | 13.66 | 3.89 | 542.31 | 408.49 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 480.00 | 655.77 | 0.00 | 655.96 | 22.35 | 3.47 | 138.45 | 101.53 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 830.00 | 659.89 | 0.00 | 659.99 | 7.77 | 2.68 | 368.85 | 297.82 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 1030.00 | 660.84 | 0.00 | 660.95 | 6.81 | 2.72 | 521.24 | 394.64 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 1510.00 | 661.55 | 0.00 | 661.71 | 9.65 | 3.44 | 660.20 | 485.96 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 480.00 | 656.33 | 0.00 | 656.60 | 34.76 | 4.12 | 116.65 | 81.42 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 830.00 | 660.09 | 0.00 | 660.26 | 14.18 | 3.31 | 250.85 | 220.44 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.02 | 0.00 | 661.20 | 13.19 | 3.45 | 345.04 | 283.56 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1510.00 | 661.80 | 0.00 | 662.06 | 18.12 | 4.29 | 460.84 | 354.76 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 480.00 | 657.25 | 0.00 | 657.37 | 12.42 | 2.76 | 173.74 | 136.18 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 830.00 | 660.22 | 0.00 | 660.34 | 8.52 | 2.82 | 295.10 | 284.29 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1030.00 | 661.07 | 0.00 | 661.22 | 8.80 | 3.04 | 390.56 | 347.29 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1510.00 | 661.85 | 0.00 | 662.06 | 12.29 | 3.84 | 524.57 | 430.66 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 480.00 | 657.40 | 0.00 | 657.50 | 9.59 | 2.52 | 190.47 | 155.00 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 830.00 | 660.33 | 0.00 | 660.44 | 7.05 | 2.64 | 330.75 | 312.50 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.19 | 0.00 | 661.31 | 6.99 | 2.81 | 459.15 | 389.55 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1510.00 | 662.03 | 0.00 | 662.20 | 9.43 | 3.49 | 618.03 | 491.77 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 480.00 | 657.42 | 0.00 | 657.51 | 4.61 | 2.40 | 199.60 | 223.59 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 830.00 | 660.32 | 0.00 | 660.46 | 4.74 | 3.02 | 274.89 | 381.16 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.25 | 0.00 | 661.33 | 3.05 | 2.56 | 775.58 | 589.43 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1510.00 | 662.11 | 0.00 | 662.22 | 4.28 | 3.18 | 966.99 | 729.90 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 480.00 | 657.47 | 0.00 | 657.62 | 9.98 | 3.09 | 155.51 | 151.98 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 830.00 | 660.70 | 0.00 | 660.90 | 8.45 | 3.57 | 232.43 | 285.58 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1030.00 | 661.97 | 0.00 | 662.00 | 1.91 | 1.85 | 869.68 | 744.37 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1510.00 | 662.90 | 0.00 | 662.96 | 2.98 | 2.43 | 985.17 | 875.35 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 480.00 | 657.61 | 0.00 | 657.65 | 3.43 | 1.57 | 305.68 | 259.15 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 830.00 | 660.90 | 0.00 | 660.94 | 2.24 | 1.58 | 529.05 | 554.81 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 661.96 | 0.00 | 662.01 | 2.24 | 1.69 | 639.38 | 688.30 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1510.00 | 662.90 | 0.00 | 662.97 | 3.38 | 2.18 | 744.07 | 820.88 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 480.00 | 657.83 | 0.00 | 658.07 | 33.63 | 3.96 | 121.09 | 82.77 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 830.00 | 661.01 | 0.00 | 661.19 | 14.34 | 3.40 | 267.42 | 219.15 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.09 | 0.00 | 662.22 | 10.34 | 3.14 | 515.63 | 320.32 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1510.00 | 663.10 | 0.00 | 663.24 | 10.59 | 3.41 | 778.09 | 463.93 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 480.00 | 659.69 | 0.00 | 659.88 | 26.82 | 3.44 | 139.50 | 92.69 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 830.00 | 662.08 | 0.00 | 662.29 | 23.66 | 3.63 | 228.75 | 170.62 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 662.97 | 0.00 | 663.19 | 26.45 | 3.74 | 275.77 | 200.26 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1510.00 | 664.05 | 0.00 | 664.35 | 34.79 | 4.38 | 344.75 | 255.99 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 480.00 | 660.19 | 0.00 | 660.46 | 45.26 | 4.18 | 114.76 | 71.35 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 830.00 | 662.49 | 0.00 | 662.78 | 33.78 | 4.31 | 192.67 | 142.80 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.42 | 0.00 | 663.73 | 36.03 | 4.46 | 230.69 | 171.60 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1510.00 | 664.64 | 0.00 | 665.04 | 48.36 | 5.08 | 297.47 | 217.13 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 480.00 | 661.93 | 0.00 | 662.01 | 9.33 | 2.27 | 211.29 | 157.15 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 830.00 | 663.55 | 0.00 | 663.67 | 15.09 | 2.79 | 297.56 | 213.70 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1030.00 | 663.91 | 0.00 | 664.07 | 18.59 | 3.21 | 323.30 | 238.90 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1510.00 | 664.82 | 0.00 | 665.04 | 21.35 | 3.86 | 458.58 | 326.82 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 480.00 | 662.00 | 0.00 | 662.07 | 7.89 | 2.11 | 227.38 | 170.89 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 830.00 | 663.67 | 0.00 | 663.76 | 11.47 | 2.54 | 341.95 | 245.06 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.06 | 0.00 | 664.18 | 13.37 | 2.89 | 394.33 | 281.65 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1510.00 | 665.02 | 0.00 | 665.18 | 14.48 | 3.36 | 598.28 | 396.77 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 480.00 | 662.65 | 0.00 | 662.76 | 15.52 | 2.64 | 196.41 | 121.84 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 830.00 | 664.43 | 0.00 | 664.54 | 13.30 | 2.78 | 373.32 | 227.63 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 664.91 | 0.00 | 665.04 | 14.04 | 3.04 | 451.52 | 274.85 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1510.00 | 665.93 | 0.00 | 666.08 | 14.10 | 3.40 | 661.82 | 402.18 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 480.00 | 663.01 | 0.00 | 663.16 | 25.64 | 3.13 | 154.22 | 94.80 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 830.00 | 664.73 | 0.00 | 664.90 | 22.25 | 3.37 | 291.54 | 175.95 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.23 | 0.00 | 665.42 | 23.95 | 3.64 | 347.16 | 210.49 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1510.00 | 666.24 | 0.00 | 666.46 | 23.43 | 4.08 | 517.22 | 311.95 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 290.00 | 663.52 | 0.00 | 663.58 | 8.72 | 2.03 | 166.08 | 98.23 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 490.00 | 665.19 | 0.00 | 665.26 | 7.70 | 2.25 | 294.52 | 176.55 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.73 | 0.00 | 665.80 | 7.45 | 2.31 | 355.99 | 212.54 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 760.00 | 666.76 | 0.00 | 666.83 | 6.35 | 2.32 | 524.97 | 301.71 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 290.00 | 663.87 | 0.00 | 663.98 | 20.62 | 2.71 | 111.53 | 63.87 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 490.00 | 665.48 | 0.00 | 665.61 | 16.44 | 2.96 | 203.44 | 120.85 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.01 | 0.00 | 666.14 | 15.97 | 3.07 | 243.66 | 145.14 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 760.00 | 666.99 | 0.00 | 667.12 | 14.03 | 3.14 | 339.02 | 202.93 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 290.00 | 663.84 | 0.00 | 664.00 | 81.00 | 3.21 | 90.75 | 32.22 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 490.00 | 665.46 | 0.00 | 665.63 | 102.05 | 3.44 | 165.97 | 48.50 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.00 | 0.00 | 666.15 | 83.88 | 3.36 | 207.49 | 63.33 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 760.00 | 667.01 | 0.00 | 667.13 | 56.51 | 3.11 | 303.95 | 101.10 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 290.00 | 663.90 | 0.00 | 664.06 | 81.00 | 3.21 | 90.75 | 32.22 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 490.00 | 665.55 | 0.00 | 665.71 | 93.05 | 3.33 | 172.59 | 50.80 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.07 | 0.00 | 666.21 | 78.63 | 3.28 | 213.10 | 65.41 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 760.00 | 667.06 | 0.00 | 667.17 | 53.67 | 3.05 | 310.76 | 103.74 |

| SECNO | XLCH | ELTRD | ELLC | ELV IN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 290.00 | 663.97 | 0.00 | 664.07 | 18.85 | 2.63 | 115.94 | 66.80 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 490.00 | 665.59 | 0.00 | 665.71 | 15.16 | 2.88 | 211.70 | 125.83 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.09 | 0.00 | 666.22 | 15.13 | 3.01 | 250.20 | 149.10 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 760.00 | 667.05 | 0.00 | 667.18 | 13.40 | 3.08 | 347.28 | 207.63 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 290.00 | 664.50 | 0.00 | 664.53 | 4.82 | 1.44 | 227.83 | 132.04 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 490.00 | 666.02 | 0.00 | 666.05 | 3.28 | 1.47 | 512.72 | 270.54 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.51 | 0.00 | 666.53 | 2.99 | 1.49 | 644.46 | 335.47 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 760.00 | 667.42 | 0.00 | 667.44 | 2.41 | 1.47 | 940.94 | 489.18 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 290.00 | 664.55 | 0.00 | 664.57 | 2.58 | 1.16 | 327.38 | 180.48 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 490.00 | 666.06 | 0.00 | 666.08 | 1.88 | 1.20 | 689.29 | 357.82 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.55 | 0.00 | 666.56 | 1.76 | 1.22 | 846.66 | 437.72 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 760.00 | 667.45 | 0.00 | 667.46 | 1.48 | 1.22 | 1162.01 | 624.73 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 290.00 | 666.23 | 0.00 | 666.24 | 1.33 | .97 | 470.69 | 251.48 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 490.00 | 666.58 | 0.00 | 666.60 | 2.82 | 1.47 | 559.72 | 291.62 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 580.00 | 666.74 | 0.00 | 666.77 | 3.43 | 1.65 | 606.91 | 313.06 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 760.00 | 667.51 | 0.00 | 667.54 | 3.06 | 1.68 | 834.16 | 434.44 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 290.00 | 666.24 | 0.00 | 666.27 | 3.19 | 1.33 | 279.87 | 162.26 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 490.00 | 666.60 | 0.00 | 666.65 | 6.69 | 2.01 | 335.43 | 189.47 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.76 | 0.00 | 666.83 | 8.11 | 2.26 | 365.76 | 203.68 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 760.00 | 667.53 | 0.00 | 667.60 | 7.10 | 2.31 | 545.37 | 285.21 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 290.00 | 666.25 | 0.00 | 666.28 | 3.19 | 1.33 | 280.31 | 162.48 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 490.00 | 666.61 | 0.00 | 666.67 | 6.59 | 2.00 | 338.40 | 190.87 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.78 | 0.00 | 666.85 | 7.96 | 2.24 | 369.96 | 205.62 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 760.00 | 667.55 | 0.00 | 667.62 | 6.99 | 2.30 | 550.56 | 287.53 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 290.00 | 666.25 | 0.00 | 666.28 | 15.69 | 1.41 | 250.81 | 73.22 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 490.00 | 666.62 | 0.00 | 666.67 | 28.52 | 2.01 | 309.59 | 91.75 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.80 | 0.00 | 666.86 | 32.27 | 2.19 | 342.58 | 102.10 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 760.00 | 667.58 | 0.00 | 667.62 | 21.75 | 1.99 | 529.62 | 162.94 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 290.00 | 666.26 | 0.00 | 666.28 | 15.63 | 1.41 | 251.24 | 73.36 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 490.00 | 666.63 | 0.00 | 666.68 | 28.11 | 2.00 | 311.76 | 92.43 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 31.74 | 2.18 | 345.28 | 102.95 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 760.00 | 667.59 | 0.00 | 667.63 | 21.61 | 1.98 | 531.25 | 163.49 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 290.00 | 666.26 | 0.00 | 666.28 | 3.16 | 1.32 | 281.58 | 163.13 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 490.00 | 666.63 | 0.00 | 666.69 | 6.45 | 1.98 | 342.79 | 192.94 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 7.72 | 2.22 | 376.60 | 208.69 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 760.00 | 667.57 | 0.00 | 667.64 | 6.78 | 2.27 | 560.42 | 291.93 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 290.00 | 666.31 | 0.00 | 666.33 | 1.48 | 1.01 | 441.05 | 238.10 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 490.00 | 666.75 | 0.00 | 666.77 | 2.91 | 1.48 | 550.40 | 287.46 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 666.94 | 0.00 | 666.98 | 3.42 | 1.64 | 607.96 | 313.56 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 760.00 | 667.70 | 0.00 | 667.73 | 3.09 | 1.68 | 830.33 | 432.18 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 290.00 | 666.66 | 0.00 | 666.66 | 1.06 | .83 | 621.30 | 281.59 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 490.00 | 666.91 | 0.00 | 666.93 | 2.29 | 1.26 | 723.11 | 323.88 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 580.00 | 667.07 | 0.00 | 667.09 | 2.74 | 1.40 | 782.22 | 350.43 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 760.00 | 667.77 | 0.00 | 667.79 | 2.35 | 1.40 | 1065.45 | 495.88 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 290.00 | 666.67 | 0.00 | 666.69 | 3.93 | 1.33 | 248.86 | 146.23 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 490.00 | 666.93 | 0.00 | 666.99 | 8.55 | 2.05 | 312.99 | 167.62 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.09 | 0.00 | 667.16 | 10.05 | 2.27 | 359.57 | 182.98 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 760.00 | 667.78 | 0.00 | 667.85 | 7.95 | 2.22 | 600.13 | 269.52 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 290.00 | 666.82 | 0.00 | 666.85 | 5.00 | 1.44 | 207.45 | 129.71 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 490.00 | 667.24 | 0.00 | 667.31 | 9.46 | 2.12 | 287.09 | 159.31 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.45 | 0.00 | 667.53 | 10.61 | 2.32 | 344.71 | 178.03 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 760.00 | 668.08 | 0.00 | 668.15 | 9.06 | 2.34 | 555.93 | 252.47 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 290.00 | 666.98 | 0.00 | 667.00 | 2.46 | 1.21 | 261.14 | 184.74 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 490.00 | 667.54 | 0.00 | 667.59 | 4.49 | 1.76 | 381.82 | 231.34 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.79 | 0.00 | 667.84 | 5.04 | 1.92 | 454.15 | 258.23 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 760.00 | 668.39 | 0.00 | 668.44 | 5.04 | 2.04 | 652.53 | 338.68 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 290.00 | 666.97 | 0.00 | 667.01 | 12.53 | 1.55 | 187.22 | 81.93 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 490.00 | 667.51 | 0.00 | 667.61 | 61.36 | 2.61 | 189.31 | 62.55 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.76 | 0.00 | 667.87 | 63.47 | 2.76 | 260.75 | 72.80 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 760.00 | 668.38 | 0.00 | 668.45 | 40.44 | 2.42 | 470.05 | 119.51 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 290.00 | 666.98 | 0.00 | 667.02 | 12.53 | 1.55 | 187.22 | 81.93 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 490.00 | .667.56 | 0.00 | 667.66 | 58.19 | 2.57 | 203.95 | 64.23 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.82 | 0.00 | 667.92 | 58.15 | 2.67 | 278.99 | 76.06 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 760.00 | 668.41 | 0.00 | 668.48 | 39.40 | 2.39 | 476.01 | 121.08 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 290.00 | 667.00 | 0.00 | 667.02 | 2.44 | 1.21 | 262.56 | 185.50 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 490.00 | 667.63 | 0.00 | 667.68 | 4.15 | 1.71 | 407.45 | 240.68 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.88 | 0.00 | 667.93 | 4.64 | 1.86 | 482.61 | 269.23 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 760.00 | 668.43 | 0.00 | 668.48 | 4.87 | 2.01 | 666.11 | 344.47 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 290.00 | 667.01 | 0.00 | 667.04 | 3.21 | 1.32 | 225.72 | 161.81 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 490.00 | 667.65 | 0.00 | 667.71 | 5.74 | 1.92 | 306.90 | 204.56 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 667.90 | 0.00 | 667.96 | 6.53 | 2.11 | 369.86 | 227.03 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 760.00 | 668.45 | 0.00 | 668.52 | 6.84 | 2.30 | 536.23 | 290.50 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 290.00 | 667.12 | 0.00 | 667.15 | 3.41 | 1.35 | 219.63 | 156.93 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 490.00 | 667.85 | 0.00 | 667.91 | 5.73 | 1.92 | 307.08 | 204.63 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.13 | 0.00 | 668.19 | 6.38 | 2.09 | 377.30 | 229.71 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 760.00 | 668.69 | 0.00 | 668.76 | 6.61 | 2.27 | 548.84 | 295.59 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 290.00 | 667.16 | 0.00 | 667.16 | .04 | .15 | 3588.11 | 1433.73 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 490.00 | 667.92 | 0.00 | 667.92 | .06 | .21 | 4357.46 | 1933.54 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.21 | 0.00 | 668.21 | .07 | .23 | 4655.95 | 2140.07 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 760.00 | 668.78 | 0.00 | 668.78 | .09 | .26 | 5257.37 | 2575.80 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 290.00 | 667.16 | 0.00 | 667.16 | .05 | .16 | 3392.18 | 1314.49 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 490.00 | 667.93 | 0.00 | 667.93 | .07 | .22 | 4154.63 | 1797.10 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.21 | 0.00 | 668.21 | .08 | .24 | 4450.53 | 1997.22 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 760.00 | 668.78 | 0.00 | 668.78 | .10 | .27 | 5046.72 | 2420.30 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 290.00 | 667.17 | 0.00 | 667.17 | .05 | .16 | 3296.06 | 1257.26 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 490.00 | 667.93 | 0.00 | 667.93 | .08 | .22 | 4055.72 | 1731.74 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.22 | 0.00 | 668.22 | .09 | .24 | 4350.60 | 1928.87 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 760.00 | 668.79 | 0.00 | 668.79 | .10 | .28 | 4944.59 | 2346.01 |

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 290.00 | 667.15 | 0.00 | 667.18 | 9.13 | 1.67 | 320.10 | 95.96 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 490.00 | 667.92 | 0.00 | 667.95 | 7.70 | 1.68 | 603.89 | 176.61 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.23 | 6.90 | 1.65 | 732.93 | 220.75 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 760.00 | 668.79 | 0.00 | 668.81 | 5.28 | 1.57 | 1019.48 | 330.83 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 290.00 | 667.49 | 0.00 | 667.52 | 8.54 | 1.62 | 332.92 | 99.26 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 490.00 | 668.21 | 0.00 | 668.24 | 7.79 | 1.69 | 600.67 | 175.55 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.30 | 1.69 | 715.60 | 214.65 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 760.00 | 669.00 | 0.00 | 669.02 | 5.98 | 1.64 | 971.01 | 310.92 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 260.00 | 667.64 | 0.00 | 667.75 | 30.35 | 2.68 | 120.09 | 47.19 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 400.00 | 668.35 | 0.00 | 668.43 | 24.17 | 2.64 | 262.30 | 81.36 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 510.00 | 668.61 | 0.00 | 668.70 | 25.68 | 2.82 | 338.24 | 100.64 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 730.00 | 669.12 | 0.00 | 669.20 | 23.73 | 2.87 | 518.89 | 149.86 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 260.00 | 670.16 | 0.00 | 670.16 | .39 | .51 | 1070.78 | 417.19 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 400.00 | 670.36 | 0.00 | 670.37 | .75 | .73 | 1166.00 | 461.58 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 510.00 | 670.49 | 0.00 | 670.50 | 1.08 | .89 | 1228.18 | 491.03 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 730.00 | 670.71 | 0.00 | 670.72 | 1.80 | 1.17 | 1337.13 | 543.49 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 260.00 | 670.16 | 0.00 | 670.16 | .32 | .47 | 1162.65 | 460.00 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 400.00 | 670.37 | 0.00 | 670.37 | .62 | .68 | 1262.55 | 507.46 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 510.00 | 670.50 | 0.00 | 670.51 | .90 | .83 | 1327.82 | 538.97 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 730.00 | 670.73 | 0.00 | 670.73 | 1.50 | 1.10 | 1442.27 | 595.11 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 260.00 | 670.18 | 0.00 | 670.19 | 1.42 | .83 | 614.67 | 218.50 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 400.00 | 670.42 | 0.00 | 670.43 | 2.54 | 1.15 | 692.74 | 251.00 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 510.00 | 670.57 | 0.00 | 670.58 | 3.44 | 1.37 | 749.61 | 275.00 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 730.00 | 670.84 | 0.00 | 670.86 | 5.26 | 1.76 | 850.87 | 318.40 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 260.00 | 670.25 | 0.00 | 670.25 | 1.59 | .80 | 841.65 | 206.30 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 400.00 | 670.52 | 0.00 | 670.53 | 2.31 | 1.01 | 1007.90 | 263.44 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 510.00 | 670.70 | 0.00 | 670.71 | 2.78 | 1.15 | 1123.02 | 305.67 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 730.00 | 671.02 | 0.00 | 671.03 | 3.49 | 1.35 | 1328.48 | 390.60 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 260.00 | 670.40 | 0.00 | 670.48 | 29.95 | 2.76 | 220.63 | 47.51 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 400.00 | 670.74 | 0.00 | 670.80 | 24.99 | 2.73 | 391.06 | 80.02 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 510.00 | 670.95 | 0.00 | 671.01 | 22.56 | 2.71 | 505.61 | 107.39 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 730.00 | 671.32 | 0.00 | 671.36 | 19.84 | 2.73 | 707.45 | 163.88 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 260.00 | 670.18 | 668.97 | 670.71 | 463.05 | 5.83 | 44.63 | 12.08 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 400.00 | 670.76 | 0.00 | 670.81 | 101.79 | 2.45 | 310.84 | 39.65 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 510.00 | 670.99 | 0.00 | 671.02 | 66.72 | 2.10 | 428.86 | 62.44 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 730.00 | 671.35 | 0.00 | 671.37 | 43.87 | 1.85 | 630.08 | 110.21 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 260.00 | 670.93 | 0.00 | 670.94 | 21.91 | 1.18 | 395.41 | 55.54 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 400.00 | 670.88 | 0.00 | 670.91 | 62.05 | 1.97 | 371.31 | 50.78 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 510.00 | 671.06 | 0.00 | 671.09 | 50.72 | 1.87 | 471.14 | 71.61 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 730.00 | 671.40 | 0.00 | 671.42 | 38.84 | 1.76 | 656.26 | 117.14 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 260.00 | 670.92 | 0.00 | 670.94 | 6.34 | 1.43 | 489.19 | 103.23 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 400.00 | 670.88 | 0.00 | 670.92 | 16.78 | 2.30 | 466.67 | 97.66 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 510.00 | 671.06 | 0.00 | 671.10 | 17.15 | 2.42 | 565.51 | 123.13 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 730.00 | 671.39 | 0.00 | 671.43 | 16.62 | 2.54 | 756.81 | 179.07 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 260.00 | 670.95 | 0.00 | 671.00 | 18.34 | 2.24 | 297.17 | 60.71 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 400.00 | 670.95 | 0.00 | 671.07 | 43.10 | 3.44 | 298.32 | 60.93 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 510.00 | 671.14 | 0.00 | 671.24 | 39.98 | 3.45 | 393.95 | 80.66 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 730.00 | 671.48 | 0.00 | 671.56 | 34.10 | 3.42 | 572.42 | 125.01 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 195.00 | 671.06 | 0.00 | 671.08 | 10.37 | 1.52 | 338.64 | 60.56 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 315.00 | 671.20 | 0.00 | 671.23 | 17.23 | 2.04 | 409.71 | 75.90 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 400.00 | 671.37 | 0.00 | 671.39 | 17.03 | 2.11 | 497.33 | 96.92 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 580.00 | 671.66 | 0.00 | 671.69 | 16.70 | 2.24 | 662.27 | 141.91 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 195.00 | 671.19 | 0.00 | 671.22 | 28.75 | 2.21 | 194.88 | 36.37 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 315.00 | 671.40 | 0.00 | 671.45 | 44.03 | 2.84 | 245.79 | 47.47 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 400.00 | 671.59 | 0.00 | 671.62 | 56.51 | 2.16 | 295.60 | 53.21 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 580.00 | 671.89 | 0.00 | 671.93 | 61.49 | 2.25 | 387.20 | 73.96 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 195.00 | 671.45 | 0.00 | 671.64 | 70.62 | 3.46 | 56.33 | 23.20 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 315.00 | 671.80 | 0.00 | 672.14 | 122.35 | 4.69 | 67.12 | 28.48 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 400.00 | 672.08 | 0.00 | 672.50 | 145.31 | 5.20 | 77.52 | 33.18 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 580.00 | 672.42 | 671.91 | 673.02 | 201.09 | 6.28 | 105.43 | 40.90 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 195.00 | 673.90 | 0.00 | 673.98 | 50.69 | 2.96 | 132.59 | 27.39 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 315.00 | 674.40 | 0.00 | 674.46 | 33.45 | 2.81 | 235.94 | 54.46 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.68 | 0.00 | 674.74 | 28.97 | 2.81 | 297.57 | 74.32 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.18 | 0.00 | 675.24 | 24.51 | 2.90 | 412.71 | 117.15 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 195.00 | 673.90 | 0.00 | 674.00 | 503.06 | 3.23 | 86.70 | 8.69 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 315.00 | 674.42 | 0.00 | 674.47 | 112.04 | 2.06 | 194.39 | 29.76 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.71 | 0.00 | 674.75 | 77.74 | 1.92 | 254.63 | 45.37 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.21 | 0.00 | 675.25 | 51.42 | 1.85 | 369.28 | 80.88 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 195.00 | 674.30 | 0.00 | 674.32 | 66.54 | 1.49 | 168.91 | 23.91 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 315.00 | 674.62 | 0.00 | 674.65 | 60.74 | 1.65 | 236.48 | 40.42 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.86 | 0.00 | 674.89 | 51.79 | 1.66 | 290.03 | 55.58 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.31 | 0.00 | 675.35 | 41.26 | 1.72 | 396.55 | 90.30 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 195.00 | 674.30 | 0.00 | 674.33 | 16.10 | 1.90 | 216.09 | 48.60 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 315.00 | 674.61 | 0.00 | 674.65 | 20.28 | 2.32 | 284.62 | 69.95 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.85 | 0.00 | 674.90 | 20.42 | 2.47 | 337.83 | 88.51 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.31 | 0.00 | 675.36 | 19.79 | 2.68 | 445.19 | 130.39 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 195.00 | 675.25 | 0.00 | 675.29 | 23.18 | 2.19 | 186.86 | 40.51 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 315.00 | 675.67 | 0.00 | 675.72 | 22.22 | 2.40 | 275.19 | 66.83 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 400.00 | 675.91 | 0.00 | 675.96 | 22.14 | 2.54 | 328.13 | 85.01 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 580.00 | 676.35 | 0.00 | 676.40 | 22.03 | 2.79 | 428.53 | 123.57 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 195.00 | 676.38 | 0.00 | 676.42 | 21.76 | 2.13 | 191.69 | 41.80 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 315.00 | 676.78 | 0.00 | 676.82 | 21.90 | 2.39 | 276.66 | 67.31 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 400.00 | 677.02 | 0.00 | 677.06 | 22.00 | 2.54 | 328.87 | 85.27 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 580.00 | 677.45 | 0.00 | 677.51 | 22.15 | 2.79 | 427.68 | 123.23 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 195.00 | 677.62 | 0.00 | 677.66 | 19.63 | 2.05 | 199.79 | 44.01 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 315.00 | 678.03 | 0.00 | 678.07 | 19.84 | 2.30 | 286.93 | 70.72 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 400.00 | 678.28 | 0.00 | 678.32 | 19.91 | 2.44 | 340.94 | 89.64 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 580.00 | 678.71 | 0.00 | 678.76 | 19.76 | 2.68 | 445.42 | 130.49 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 195.00 | 678.44 | 0.00 | 678.54 | 42.03 | 2.54 | 76.70 | 30.08 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 315.00 | 678.93 | 0.00 | 679.09 | 53.99 | 3.17 | 99.23 | 42.87 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 400.00 | 679.21 | 0.00 | 679.41 | 60.37 | 3.53 | 113.37 | 51.48 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 580.00 | 679.67 | 0.00 | 679.92 | 67.05 | 4.10 | 169.57 | 70.83 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 125.00 | 678.65 | 0.00 | 678.68 | 10.88 | 1.38 | 90.71 | 37.90 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 210.00 | 679.22 | 0.00 | 679.27 | 14.30 | 1.76 | 119.17 | 55.54 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 265.00 | 679.55 | 0.00 | 679.61 | 15.05 | 1.94 | 136.66 | 68.30 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 400.00 | 680.08 | 0.00 | 680.17 | 19.30 | 2.41 | 165.64 | 91.06 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 125.00 | 678.75 | 0.00 | 678.84 | 29.92 | 2.52 | 49.63 | 22.85 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 210.00 | 679.35 | 0.00 | 679.54 | 48.44 | 3.51 | 59.89 | 30.17 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 265.00 | 682.76 | 0.00 | 682.84 | 8.68 | 2.25 | 117.83 | 89.93 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 400.00 | 683.23 | 0.00 | 683.23 | .67 | .65 | 1367.52 | 489.56 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 125.00 | 678.76 | 0.00 | 678.85 | 29.74 | 2.51 | 49.74 | 22.92 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 210.00 | 679.37 | 0.00 | 679.56 | 48.06 | 3.50 | 60.05 | 30.29 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.87 | 0.00 | 682.87 | .43 | .51 | 1182.41 | 404.19 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 400.00 | 683.23 | 0.00 | 683.23 | .67 | .65 | 1367.94 | 489.76 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 125.00 | 678.77 | 0.00 | 678.87 | 29.28 | 2.50 | 50.00 | 23.10 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 210.00 | 679.39 | 0.00 | 679.58 | 47.05 | 3.47 | 60.49 | 30.62 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.87 | 0.00 | 682.87 | .43 | .51 | 1183.31 | 404.60 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 400.00 | 683.23 | 0.00 | 683.23 | .67 | .65 | 1366.60 | 489.13 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 125.00 | 680.29 | 0.00 | 680.30 | .77 | .59 | 449.85 | 142.68 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 210.00 | 680.40 | 0.00 | 680.41 | 1.84 | .93 | 489.87 | 154.99 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 265.00 | 682.88 | 0.00 | 682.88 | .15 | .36 | 1722.69 | 691.63 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 400.00 | 683.24 | 0.00 | 683.25 | .24 | .48 | 1944.51 | 810.88 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 125.00 | 680.29 | 0.00 | 680.31 | 3.10 | 1.00 | 212.03 | 70.94 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 210.00 | 680.41 | 0.00 | 680.44 | 7.28 | 1.57 | 235.60 | 77.84 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 265.00 | 682.88 | 0.00 | 682.88 | .36 | .51 | 1216.73 | 440.58 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 400.00 | 683.25 | 0.00 | 683.25 | .56 | .67 | 1413.56 | 534.44 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 125.00 | 680.41 | 0.00 | 680.57 | 60.65 | 3.22 | 38.80 | 16.05 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 210.00 | 680.68 | 0.00 | 681.04 | 119.97 | 4.78 | 43.91 | 19.17 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 265.00 | 682.84 | 0.00 | 682.96 | 23.99 | 2.87 | 110.46 | 54.10 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 400.00 | 683.19 | 0.00 | 683.36 | 33.56 | 3.51 | 227.59 | 69.05 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 125.00 | 682.13 | 0.00 | 682.32 | 80.11 | 3.54 | 35.32 | 13.97 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 210.00 | 683.06 | 0.00 | 683.30 | 69.41 | 3.95 | 53.21 | 25.21 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 265.00 | 683.66 | 0.00 | 683.91 | 60.16 | 4.01 | 66.05 | 34.17 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 400.00 | 684.29 | 0.00 | 684.68 | 79.54 | 4.98 | 80.30 | 44.85 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 125.00 | 684.07 | 0.00 | 684.25 | 74.32 | 3.45 | 36.23 | 14.50 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 210.00 | 684.87 | 0.00 | 685.12 | 76.43 | 4.08 | 51.43 | 24.02 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 265.00 | 685.32 | 0.00 | 685.62 | 76.14 | 4.36 | 60.73 | 30.37 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 400.00 | 686.25 | 0.00 | 686.62 | 76.07 | 4.90 | 81.61 | 45.86 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 125.00 | 686.28 | 0.00 | 686.66 | 208.28 | 4.93 | 25.33 | 8.66 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 210.00 | 687.04 | 0.00 | 687.48 | 188.41 | 5.33 | 39.41 | 15.30 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 265.00 | 687.44 | 0.00 | 687.91 | 176.71 | 5.48 | 48.40 | 19.94 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 400.00 | 688.18 | 687.39 | 688.61 | 131.67 | 5.51 | 97.87 | 34.86 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 125.00 | 689.13 | 0.00 | 689.31 | 62.81 | 3.44 | 36.35 | 15.77 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 210.00 | 690.00 | 0.00 | 690.27 | 72.42 | 4.19 | 50.08 | 24.68 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 265.00 | 690.47 | 0.00 | 690.79 | 79.89 | 4.57 | 57.98 | 29.65 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 400.00 | 691.18 | 0.00 | 691.65 | 111.63 | 5.51 | 72.58 | 37.86 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 125.00 | 690.85 | 0.00 | 691.07 | 77.63 | 3.71 | 33.73 | 14.19 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 210.00 | 691.85 | 0.00 | 692.13 | 75.83 | 4.26 | 49.25 | 24.12 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 265.00 | 692.43 | 0.00 | 692.75 | 76.37 | 4.47 | 59.25 | 30.32 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 400.00 | 693.60 | 0.00 | 693.94 | 74.64 | 4.66 | 91.84 | 46.30 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 125.00 | 692.03 | 0.00 | 692.25 | 79.80 | 3.74 | 33.40 | 13.99 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 210.00 | 693.00 | 0.00 | 693.30 | 79.49 | 4.34 | 48.43 | 23.55 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 265.00 | 693.59 | 0.00 | 693.91 | 78.28 | 4.53 | 58.56 | 29.95 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 400.00 | 694.75 | 0.00 | 695.10 | 78.78 | 4.77 | 87.79 | 45.07 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 125.00 | 692.61 | 0.00 | 692.97 | 161.19 | 4.79 | 26.10 | 9.85 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 210.00 | 693.54 | 0.00 | 693.98 | 139.94 | 5.31 | 39.54 | 17.75 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 265.00 | 694.10 | 0.00 | 694.57 | 127.07 | 5.48 | 48.36 | 23.51 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 400.00 | 695.25 | 0.00 | 695.76 | 122.77 | 5.75 | 69.59 | 36.10 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 125.00 | 693.58 | 0.00 | 693.99 | 197.66 | 5.14 | 24.32 | 8.89 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 210.00 | 694.40 | 0.00 | 694.93 | 183.71 | 5.85 | 35.90 | 15.49 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 265.00 | 694.89 | 0.00 | 695.47 | 172.70 | 6.12 | 43.32 | 20.17 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 400.00 | 695.98 | 0.00 | 696.63 | 157.64 | 6.44 | 62.09 | 31.86 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 125.00 | 696.76 | 0.00 | 696.89 | 34.07 | 2.83 | 44.21 | 21.42 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 210.00 | 699.64 | 0.00 | 699.74 | 18.99 | 2.61 | 104.27 | 48.19 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 265.00 | 699.76 | 0.00 | 699.91 | 26.60 | 3.13 | 120.78 | 51.38 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 400.00 | 699.95 | 0.00 | 700.21 | 48.74 | 4.32 | 147.42 | 57.29 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 125.00 | 696.78 | 0.00 | 696.90 | 31.30 | 2.74 | 45.60 | 22.34 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 210.00 | 699.66 | 0.00 | 699.75 | 16.81 | 2.49 | 120.01 | 51.23 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.80 | 0.00 | 699.92 | 23.17 | 2.96 | 137.76 | 55.05 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 400.00 | 700.04 | 0.00 | 700.24 | 39.40 | 3.95 | 173.16 | 63.73 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 125.00 | 696.79 | 0.00 | 696.90 | 31.29 | 2.74 | 45.60 | 22.35 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 210.00 | 699.66 | 0.00 | 699.75 | 16.73 | 2.48 | 120.55 | 51.33 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.80 | 0.00 | 699.93 | 22.86 | 2.94 | 139.41 | 55.43 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 400.00 | 700.05 | 0.00 | 700.25 | 39.01 | 3.94 | 174.36 | 64.04 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 125.00 | 696.78 | 0.00 | 696.93 | 47.43 | 3.11 | 40.18 | 18.15 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 210.00 | 699.79 | 0.00 | 699.84 | 9.02 | 1.82 | 167.29 | 69.91 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 265.00 | 699.94 | 0.00 | 700.01 | 11.80 | 2.13 | 188.68 | 77.14 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 400.00 | 700.22 | 0.00 | 700.32 | 18.80 | 2.81 | 230.38 | 92.26 |

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 517.800 | 290.00 | 667.15 | 0.00 | 0.00 | 0.00 | 301.44 | 350.00 |
| 517.800 | 490.00 | 667.92 | .77 | 0.00 | 0.00 | 428.07 | 350.00 |
| 517.800 | 580.00 | 668.21 | .29 | 0.00 | 0.00 | 461.82 | 350.00 |
| 517.800 | 760.00 | 668.79 | .58 | 0.00 | 0.00 | 523.23 | 350.00 |
| 518.200 | 290.00 | 667.49 | 0.00 | .34 | 0.00 | 308.89 | 380.00 |
| 518.200 | 490.00 | 668.21 | .73 | .29 | 0.00 | 427.19 | 380.00 |
| 518.200 | 580.00 | 668.48 | .26 | .27 | 0.00 | 457.44 | 380.00 |
| 518.200 | 760.00 | 669.00 | .52 | .21 | 0.00 | 514.32 | 380.00 |
| 517.980 | 260.00 | 667.64 | 0.00 | .15 | 0.00 | 120.63 | 120.00 |
| 517.980 | 400.00 | 668.35 | .70 | .13 | 0.00 | 265.27 | 120.00 |
| 517.980 | 510.00 | 668.61 | .26 | .13 | 0.00 | 311.93 | 120.00 |
| 517.980 | 730.00 | 669.12 | .51 | .11 | 0.00 | 401.30 | 120.00 |
| 518.020 | 260.00 | 670.16 | 0.00 | 2.51 | 0.00 | 446.55 | 50.00 |
| 518.020 | 400.00 | 670.36 | .21 | 2.02 | 0.00 | 467.25 | 50.00 |
| 518.020 | 510.00 | 670.49 | .13 | 1.88 | 0.00 | 480.29 | 50.00 |
| 518.020 | 730.00 | 670.71 | .22 | 1.59 | 0.00 | 502.32 | 50.00 |
| 518.800 | 260.00 | 670.16 | 0.00 | .00 | 0.00 | 466.54 | 80.00 |
| 518.800 | 400.00 | 670.37 | .21 | .01 | 0.00 | 487.35 | 80.00 |
| 518.800 | 510.00 | 670.50 | .13 | .01 | 0.00 | 500.47 | 80.00 |
| 518.800 | 730.00 | 670.73 | .22 | .01 | 0.00 | 522.70 | 80.00 |
| 518.850 | 260.00 | 670.18 | 0.00 | .02 | 0.00 | 322.74 | 475.00 |
| 518.850 | 400.00 | 670.42 | .23 | .05 | 0.00 | 347.93 | 475.00 |
| 518.850 | 510.00 | 670.57 | .15 | .07 | 0.00 | 365.18 | 475.00 |
| 518.850 | 730.00 | 670.84 | .27 | .11 | 0.00 | 394.04 | 475.00 |
| 518.900 | 260.00 | 670.25 | 0.00 | .06 | 0.00 | 595.96 | 400.00 |
| 518.900 | 400.00 | 670.52 | .27 | .10 | 0.00 | 622.53 | 400.00 |
| 518.900 | 510.00 | 670.70 | .18 | .13 | 0.00 | 640.00 | 400.00 |
| 518.900 | 730.00 | 671.02 | .32 | .19 | 0.00 | 640.00 | 400.00 |
| 519.200 | 260.00 | 670.40 | 0.00 | .15 | 0.00 | 484.00 | 450.00 |
| 519.200 | 400.00 | 670.74 | .34 | .22 | 0.00 | 517.14 | 450.00 |
| 519.200 | 510.00 | 670.95 | .22 | .25 | 0.00 | 538.28 | 450.00 |
| 519.200 | 730.00 | 671.32 | .36 | .29 | 0.00 | 573.62 | 450.00 |
| 519.390 | 260.00 | 670.18 | 0.00 | -.21 | 0.00 | 227.74 | 1.00 |
| 519.390 | 400.00 | 670.76 | .58 | .03 | 0.00 | 519.75 | 1.00 |
| 519.390 | 510.00 | 670.99 | .22 | .03 | 0.00 | 541.40 | 1.00 |
| 519.390 | 730.00 | 671.35 | .36 | .03 | 0.00 | 576.45 | 1.00 |
| 519.410 | 260.00 | 670.93 | 0.00 | .74 | 0.00 | 535.35 | 12.00 |
| 519.410 | 400.00 | 670.88 | -.05 | .12 | 0.00 | 530.95 | 12.00 |
| 519.410 | 510.00 | 671.06 | .18 | .08 | 0.00 | 548.95 | 12.00 |
| 519.410 | 730.00 | 671.40 | .33 | .05 | 0.00 | 580.85 | 12.00 |
| 519.420 | 260.00 | 670.92 | 0.00 | -.00 | 0.00 | 535.30 | 1.00 |
| 519.420 | 400.00 | 670.88 | -.05 | -.00 | 0.00 | 531.19 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 519.420 | 510.00 | 671.06 | .18 | -.00 | 0.00 | 549.00 | 1.00 |
| 519.420 | 730.00 | 671.39 | .33 | -.01 | 0.00 | 581.94 | 1.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 519.500 | 260.00 | 670.95 | 0.00 | .03 | 0.00 | 499.16 | 45.00 |
| 519.500 | 400.00 | 670.95 | .00 | .08 | 0.00 | 499.38 | 45.00 |
| 519.500 | 510.00 | 671.14 | .19 | .08 | 0.00 | 517.69 | 45.00 |
| 519.500 | 730.00 | 671.48 | .33 | .08 | 0.00 | 550.23 | 45.00 |
| 518.980 | 195.00 | 671.06 | 0.00 | .11 | 0.00 | 509.86 | 50.00 |
| 518.980 | 315.00 | 671.20 | .14 | .25 | 0.00 | 523.25 | 50.00 |
| 518.980 | 400.00 | 671.37 | .17 | .22 | 0.00 | 539.31 | 50.00 |
| 518.980 | 580.00 | 671.66 | .30 | .19 | 0.00 | 568.30 | 50.00 |
| 519.020 | 195.00 | 671.19 | 0.00 | .12 | 0.00 | 354.74 | 80.00 |
| 519.020 | 315.00 | 671.40 | .21 | .20 | 0.00 | 363.04 | 80.00 |
| 519.020 | 400.00 | 671.59 | .19 | .22 | 0.00 | 367.00 | 80.00 |
| 519.020 | 580.00 | 671.89 | .30 | .23 | 0.00 | 408.04 | 80.00 |
| 519.800 | 195.00 | 671.45 | 0.00 | .27 | 0.00 | 28.80 | 80.00 |
| 519.800 | 315.00 | 671.80 | .35 | .40 | 0.00 | 32.91 | 80.00 |
| 519.800 | 400.00 | 672.08 | .28 | .49 | 0.00 | 50.76 | 80.00 |
| 519.800 | 580.00 | 672.42 | .34 | .53 | 0.00 | 111.55 | 80.00 |
| 519.900 | 195.00 | 673.90 | 0.00 | 2.44 | 0.00 | 197.57 | 391.00 |
| 519.900 | 315.00 | 674.40 | .50 | 2.59 | 0.00 | 213.12 | 391.00 |
| 519.900 | 400.00 | 674.68 | .29 | 2.60 | 0.00 | 221.21 | 391.00 |
| 519.900 | 580.00 | 675.18 | .50 | 2.76 | 0.00 | 235.58 | 391.00 |
| 519.920 | 195.00 | 673.90 | 0.00 | .01 | 0.00 | 199.05 | 1.00 |
| 519.920 | 315.00 | 674.42 | .52 | .03 | 0.00 | 213.92 | 1.00 |
| 519.920 | 400.00 | 674.71 | .29 | .03 | 0.00 | 221.80 | 1.00 |
| 519.920 | 580.00 | 675.21 | .50 | .02 | 0.00 | 236.11 | 1.00 |
| 519.930 | 195.00 | 674.30 | 0.00 | .40 | 0.00 | 210.50 | 22.00 |
| 519.930 | 315.00 | 674.62 | .31 | .19 | 0.00 | 219.46 | 22.00 |
| 519.930 | 400.00 | 674.86 | .24 | .15 | 0.00 | 226.31 | 22.00 |
| 519.930 | 580.00 | 675.31 | .46 | .11 | 0.00 | 244.08 | 22.00 |
| 519.940 | 195.00 | 674.30 | 0.00 | -.00 | 0.00 | 210.45 | 1.00 |
| 519.940 | 315.00 | 674.61 | .31 | -.00 | 0.00 | 219.54 | 1.00 |
| 519.940 | 400.00 | 674.85 | .24 | -.00 | 0.00 | 226.34 | 1.00 |
| 519.940 | 580.00 | 675.31 | .46 | -.01 | 0.00 | 244.40 | 1.00 |
| 520.000 | 195.00 | 675.25 | 0.00 | .95 | 0.00 | 206.45 | 500.00 |
| 520.000 | 315.00 | 675.67 | .42 | 1.06 | 0.00 | 218.31 | 500.00 |
| 520.000 | 400.00 | 675.91 | .24 | 1.06 | 0.00 | 225.12 | 500.00 |
| 520.000 | 580.00 | 676.35 | .43 | 1.04 | 0.00 | 239.57 | 500.00 |
| 520.100 | 195.00 | 676.38 | 0.00 | 1.13 | 0.00 | 207.12 | 500.00 |
| 520.100 | 315.00 | 676.78 | .40 | 1.10 | 0.00 | 218.50 | 500.00 |
| 520.100 | 400.00 | 677.02 | .24 | 1.10 | 0.00 | 225.21 | 500.00 |
| 520.100 | 580.00 | 677.45 | .44 | 1.10 | 0.00 | 239.32 | 500.00 |
| 520.300 | 195.00 | 677.62 | 0.00 | 1.24 | 0.00 | 208.23 | 600.00 |
| 520.300 | 315.00 | 678.03 | .41 | 1.25 | 0.00 | 219.84 | 600.00 |
| 520.300 | 400.00 | 678.28 | .25 | 1.26 | 0.00 | 226.73 | 600.00 |
| 520.300 | 580.00 | 678.71 | .44 | 1.26 | 0.00 | 244.47 | 600.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 520.400 | 195.00 | 678.44 | 0.00 | .82 | 0.00 | 43.41 | 300.00 |
| 520.400 | 315.00 | 678.93 | .49 | .90 | 0.00 | 48.52 | 300.00 |
| 520.400 | 400.00 | 679.21 | .28 | .93 | 0.00 | 54.69 | 300.00 |
| 520.400 | 580.00 | 679.67 | .46 | .95 | 0.00 | 190.15 | 300.00 |
| 520.480 | 125.00 | 678.65 | 0.00 | .21 | 0.00 | 46.65 | 50.00 |
| 520.480 | 210.00 | 679.22 | .57 | .29 | 0.00 | 51.98 | 50.00 |
| 520.480 | 265.00 | 679.55 | .33 | .34 | 0.00 | 53.68 | 50.00 |
| 520.480 | 400.00 | 680.08 | .53 | .41 | 0.00 | 56.37 | 50.00 |
| 520.520 | 125.00 | 678.75 | 0.00 | .10 | 0.00 | 16.94 | 65.00 |
| 520.520 | 210.00 | 679.35 | .61 | .13 | 0.00 | 16.97 | 65.00 |
| 520.520 | 265.00 | 682.76 | 3.41 | 3.21 | 0.00 | 17.00 | 65.00 |
| 520.520 | 400.00 | 683.23 | .47 | 3.14 | 0.00 | 532.01 | 65.00 |
| 520.530 | 125.00 | 678.76 | 0.00 | .01 | 0.00 | 16.94 | 3.00 |
| 520.530 | 210.00 | 679.37 | .61 | .02 | 0.00 | 16.97 | 3.00 |
| 520.530 | 265.00 | 682.87 | 3.50 | .11 | 0.00 | 498.05 | 3.00 |
| 520.530 | 400.00 | 683.23 | .36 | .00 | 0.00 | 532.08 | 3.00 |
| 520.540 | 125.00 | 678.77 | 0.00 | .01 | 0.00 | 16.94 | 4.00 |
| 520.540 | 210.00 | 679.39 | .62 | .02 | 0.00 | 16.97 | 4.00 |
| 520.540 | 265.00 | 682.87 | 3.48 | .00 | 0.00 | 498.22 | 4.00 |
| 520.540 | 400.00 | 683.23 | .36 | .00 | 0.00 | 531.84 | 4.00 |
| 520.550 | 125.00 | 680.29 | 0.00 | 1.52 | 0.00 | 339.73 | 1.00 |
| 520.550 | 210.00 | 680.40 | .11 | 1.01 | 0.00 | 361.80 | 1.00 |
| 520.550 | 265.00 | 682.88 | 2.48 | .01 | 0.00 | 596.77 | 1.00 |
| 520.550 | 400.00 | 683.24 | .36 | .02 | 0.00 | 624.58 | 1.00 |
| 520.600 | 125.00 | 680.29 | 0.00 | .00 | 0.00 | 199.80 | 35.00 |
| 520.600 | 210.00 | 680.41 | .11 | .01 | 0.00 | 215.35 | 35.00 |
| 520.600 | 265.00 | 682.88 | 2.47 | .00 | 0.00 | 527.90 | 35.00 |
| 520.600 | 400.00 | 683.25 | .36 | .00 | 0.00 | 555.71 | 35.00 |
| 521.000 | 125.00 | 680.41 | 0.00 | .12 | 0.00 | 18.53 | 250.00 |
| 521.000 | 210.00 | 680.68 | .27 | .27 | 0.00 | 19.18 | 250.00 |
| 521.000 | 265.00 | 682.84 | 2.16 | -.05 | 0.00 | 141.18 | 250.00 |
| 521.000 | 400.00 | 683.19 | .35 | -.06 | 0.00 | 510.33 | 250.00 |
| 521.100 | 125.00 | 682.13 | 0.00 | 1.71 | 0.00 | 18.20 | 250.00 |
| 521.100 | 210.00 | 683.06 | .93 | 2.38 | 0.00 | 20.32 | 250.00 |
| 521.100 | 265.00 | 683.66 | .61 | .83 | 0.00 | 21.79 | 250.00 |
| 521.100 | 400.00 | 684.29 | .63 | 1.10 | 0.00 | 23.32 | 250.00 |
| 521.200 | 125.00 | 684.07 | 0.00 | 1.94 | 0.00 | 18.28 | 250.00 |
| 521.200 | 210.00 | 684.87 | .80 | 1.81 | 0.00 | 20.11 | 250.00 |
| 521.200 | 265.00 | 685.32 | .46 | 1.66 | 0.00 | 21.20 | 250.00 |
| 521.200 | 400.00 | 686.25 | .93 | 1.96 | 0.00 | 23.45 | 250.00 |
| 521.600 | 125.00 | 686.28 | 0.00 | 2.21 | 0.00 | 16.14 | 200.00 |
| 521.600 | 210.00 | 687.04 | .76 | 2.17 | 0.00 | 20.88 | 200.00 |
| 521.600 | 265.00 | 687.44 | .40 | 2.12 | 0.00 | 23.53 | 200.00 |
| 521.600 | 400.00 | 688.18 | .74 | 1.93 | 0.00 | 125.89 | 200.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFHSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 521.700 | 125.00 | 689.13 | 0.00 | 2.85 | 0.00 | 14.87 | 250.00 |
| 521.700 | 210.00 | 690.00 | .87 | 2.96 | 0.00 | 16.59 | 250.00 |
| 521.700 | 265.00 | 690.47 | .47 | 3.03 | 0.00 | 18.18 | 250.00 |
| 521.700 | 400.00 | 691.18 | .72 | 3.00 | 0.00 | 22.54 | 250.00 |
| 521.800 | 125.00 | 690.85 | 0.00 | 1.72 | 0.00 | 14.52 | 250.00 |
| 521.800 | 210.00 | 691.85 | .99 | 1.85 | 0.00 | 16.49 | 250.00 |
| 521.800 | 265.00 | 692.43 | .59 | 1.97 | 0.00 | 18.60 | 250.00 |
| 521.800 | 400.00 | 693.60 | 1.17 | 2.42 | 0.00 | 67.60 | 250.00 |
| 522.200 | 125.00 | 692.03 | 0.00 | 1.18 | 0.00 | 14.48 | 150.00 |
| 522.200 | 210.00 | 693.00 | .97 | 1.16 | 0.00 | 16.39 | 150.00 |
| 522.200 | 265.00 | 693.59 | .58 | 1.16 | 0.00 | 18.37 | 150.00 |
| 522.200 | 400.00 | 694.75 | 1.16 | 1.14 | 0.00 | 59.35 | 150.00 |
| 522.250 | 125.00 | 692.61 | 0.00 | .58 | 0.00 | 13.45 | 55.00 |
| 522.250 | 210.00 | 693.54 | .94 | .54 | 0.00 | 15.29 | 55.00 |
| 522.250 | 265.00 | 694.10 | .56 | .51 | 0.00 | 16.38 | 55.00 |
| 522.250 | 400.00 | 695.25 | 1.15 | .50 | 0.00 | 21.72 | 55.00 |
| 521.980 | 125.00 | 693.58 | 0.00 | .97 | 0.00 | 13.19 | 55.00 |
| 521.980 | 210.00 | 694.40 | .83 | .86 | 0.00 | 14.81 | 55.00 |
| 521.980 | 265.00 | 694.89 | .48 | .79 | 0.00 | 15.77 | 55.00 |
| 521.980 | 400.00 | 695.98 | 1.10 | .74 | 0.00 | 19.51 | 55.00 |
| 522.020 | 125.00 | 696.76 | 0.00 | 3.18 | 0.00 | 11.24 | 90.00 |
| 522.020 | 210.00 | 699.64 | 2.88 | 5.24 | 0.00 | 128.56 | 90.00 |
| 522.020 | 265.00 | 699.76 | .13 | 4.88 | 0.00 | 133.27 | 90.00 |
| 522.020 | 400.00 | 699.95 | .19 | 3.97 | 0.00 | 140.55 | 90.00 |
| 522.300 | 125.00 | 696.78 | 0.00 | .02 | 0.00 | 11.28 | 2.00 |
| 522.300 | 210.00 | 699.66 | 2.88 | .02 | 0.00 | 133.06 | 2.00 |
| 522.300 | 265.00 | 699.80 | .14 | .03 | 0.00 | 137.95 | 2.00 |
| 522.300 | 400.00 | 700.04 | .24 | .08 | 0.00 | 147.23 | 2.00 |
| 522.400 | 125.00 | 696.79 | 0.00 | .01 | 0.00 | 11.28 | 2.00 |
| 522.400 | 210.00 | 699.66 | 2.88 | .00 | 0.00 | 133.21 | 2.00 |
| 522.400 | 265.00 | 699.80 | .14 | .01 | 0.00 | 138.40 | 2.00 |
| 522.400 | 400.00 | 700.05 | .24 | .01 | 0.00 | 147.54 | 2.00 |
| 522.500 | 125.00 | 696.78 | 0.00 | -.00 | 0.00 | 15.37 | 1.00 |
| 522.500 | 210.00 | 699.79 | 3.01 | .13 | 0.00 | 139.23 | 1.00 |
| 522.500 | 265.00 | 699.94 | .15 | .14 | 0.00 | 144.44 | 1.00 |
| 522.500 | 400.00 | 700.22 | .28 | .17 | 0.00 | 155.29 | 1.00 |

SUMMARY OF ERRORS

FLOOD INSURANCE ZONE DATA FOR STURGIS DRAIN AT U/S END

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 517.800 | 0. | -1.06 | -.29 | .58 |
| 518.200 | 380. | -.99 | -.26 | .52 |
| 517.980 | 500. | -.97 | -.26 | .51 |
| 518.020 | 550. | -.34 | -.13 | .22 |
| 518.800 | 630. | -.34 | -.13 | .22 |
| 518.850 | 1105. | -.38 | -.15 | .27 |
| 518.900 | 1505. | -.46 | -.18 | .32 |
| 519.200 | 1955. | -.56 | -.22 | .36 |
| 519.390 | 1956. | -.80 | -.22 | .36 |
| 519.410 | 1968. | -.14 | -.18 | .33 |
| 519.420 | 1969. | -.14 | -.18 | .33 |
| 519.500 | 2014. | -.19 | -.19 | .33 |
| 518.980 | 2064. | -.30 | -.17 | .30 |
| 519.020 | 2144. | -.40 | -.19 | .30 |
| 519.800 | 2224. | -.63 | -.28 | .34 |
| 519.900 | 2615. | -.79 | -.29 | .50 |
| 519.920 | 2616. | -.81 | -.29 | .50 |
| 519.930 | 2638. | -.55 | -.24 | .46 |
| 519.940 | 2639. | -.55 | -.24 | .46 |
| 520.000 | 3139. | -.66 | -.24 | .43 |
| 520.100 | 3639. | -.64 | -.24 | .44 |
| 520.300 | 4239. | -.66 | -.25 | .44 |
| 520.400 | 4539. | -.77 | -.28 | .46 |
| 520.480 | 4589. | -.91 | -.33 | .53 |
| 520.520 | 4654. | -4.01 | -3.41 | .47 |
| 520.530 | 4657. | -4.11 | -3.50 | .36 |
| 520.540 | 4661. | -4.10 | -3.48 | .36 |
| 520.550 | 4662. | -2.59 | -2.48 | .36 |
| 520.600 | 4697. | -2.59 | -2.47 | .36 |
| 521.000 | 4947. | -2.42 | -2.16 | .35 |
| 521.100 | 5197. | -1.54 | -.61 | .63 |
| 521.200 | 5447. | -1.26 | -.46 | .93 |
| 521.600 | 5647. | -1.16 | -.40 | .74 |
| 521.700 | 5897. | -1.33 | -.47 | .72 |
| 521.800 | 6147. | -1.58 | -.59 | 1.17 |
| 522.200 | 6297. | -1.56 | -.58 | 1.16 |
| 522.250 | 6352. | -1.49 | -.56 | 1.15 |
| 521.980 | 6407. | -1.31 | -.48 | 1.10 |
| 522.020 | 6497. | -3.00 | -.13 | .19 |
| 522.300 | 6499. | -3.02 | -.14 | .24 |
| 522.400 | 6501. | -3.02 | -.14 | .24 |
| 522.500 | 6502. | -3.16 | -.15 | .28 |
| WEIGHTED AVG FOR REACH | | -.93 | -.44 | .49 |

FHF FOR THE REACH = 010 WITH 64.8_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

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CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 517.800 | |
| 1 | 100. | 667.19 | 668.25 | -1.06 | -1.06 | 010 | 100. |
| 2 | 200. | 667.28 | 668.32 | -1.04 | -1.05 | 010 | 100. |
| 3 | 300. | 667.37 | 668.39 | -1.02 | -1.04 | 010 | 100. |
| | 380. | | | | SEC. | 518.200 | |
| 4 | 400. | 667.47 | 668.46 | -.99 | -1.03 | 010 | 100. |
| | 500. | | | | SEC. | 517.980 | |
| 5 | 500. | 667.58 | 668.55 | -.97 | -1.02 | 010 | 100. |
| | 550. | | | | SEC. | 518.020 | |
| 6 | 600. | 668.90 | 669.55 | -.65 | -.96 | 010 | 100. |
| | 630. | | | | SEC. | 518.800 | |
| 7 | 700. | 670.16 | 670.50 | -.34 | -.87 | 010 | 86. |
| 8 | 800. | 670.17 | 670.52 | -.35 | -.80 | 010 | 100. |
| 9 | 900. | 670.17 | 670.53 | -.36 | -.75 | 010 | 100. |
| 10 | 1000. | 670.18 | 670.55 | -.37 | -.72 | 005 | 100. |
| 11 | 1100. | 670.18 | 670.56 | -.38 | -.68 | 005 | 100. |
| | 1105. | | | | SEC. | 518.850 | |
| 12 | 1200. | 670.19 | 670.58 | -.39 | -.66 | 005 | 100. |
| 13 | 1300. | 670.21 | 670.62 | -.41 | -.64 | 005 | 100. |
| 14 | 1400. | 670.22 | 670.65 | -.43 | -.63 | 005 | 100. |
| 15 | 1500. | 670.24 | 670.68 | -.44 | -.61 | 005 | 100. |
| | 1505. | | | | SEC. | 518.900 | |
| 16 | 1600. | 670.26 | 670.73 | -.47 | -.60 | 005 | 100. |
| 17 | 1700. | 670.30 | 670.78 | -.48 | -.60 | 005 | 100. |
| 18 | 1800. | 670.33 | 670.84 | -.51 | -.59 | 005 | 100. |
| 19 | 1900. | 670.36 | 670.90 | -.54 | -.59 | 005 | 100. |
| | 1955. | | | | SEC. | 519.200 | |
| | 1956. | | | | SEC. | 519.390 | |
| | 1968. | | | | SEC. | 519.410 | |
| | 1969. | | | | SEC. | 519.420 | |
| 20 | 2000. | 670.66 | 671.02 | -.36 | -.58 | 005 | 100. |
| | 2014. | | | | SEC. | 519.500 | |
| | 2064. | | | | SEC. | 518.980 | |
| 21 | 2100. | 671.03 | 671.29 | -.26 | -.56 | 005 | 100. |
| | 2144. | | | | SEC. | 519.020 | |
| 22 | 2200. | 671.24 | 671.70 | -.46 | -.56 | 005 | 100. |
| | 2224. | | | | SEC. | 519.800 | |
| 23 | 2300. | 671.65 | 672.26 | -.61 | -.56 | 005 | 100. |
| 24 | 2400. | 672.24 | 672.92 | -.68 | -.57 | 005 | 100. |
| 25 | 2500. | 672.86 | 673.59 | -.73 | -.57 | 005 | 100. |
| 26 | 2600. | 673.49 | 674.25 | -.76 | -.58 | 005 | 100. |
| | 2615. | | | | SEC. | 519.900 | |
| | 2616. | | | | SEC. | 519.920 | |
| | 2638. | | | | SEC. | 519.930 | |
| | 2639. | | | | SEC. | 519.940 | |
| 27 | 2700. | 674.11 | 674.78 | -.67 | -.58 | 005 | 100. |
| 28 | 2800. | 674.51 | 675.09 | -.58 | -.58 | 005 | 100. |
| 29 | 2900. | 674.70 | 675.30 | -.60 | -.58 | 005 | 100. |
| 30 | 3000. | 674.89 | 675.51 | -.62 | -.58 | 005 | 100. |
| 31 | 3100. | 675.08 | 675.73 | -.65 | -.59 | 005 | 100. |
| | 3139. | | | | SEC. | 520.000 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 32 | 3200. | 675.28 | 675.94 | -.66 | -.59 | 005 | 100. |
| 33 | 3300. | 675.50 | 676.16 | -.66 | -.59 | 005 | 100. |
| 34 | 3400. | 675.73 | 676.38 | -.65 | -.59 | 005 | 100. |
| 35 | 3500. | 675.95 | 676.60 | -.65 | -.59 | 005 | 100. |
| 36 | 3600. | 676.18 | 676.82 | -.64 | -.60 | 005 | 100. |
| | 3639. | | | | SEC. | 520.100 | |
| 37 | 3700. | 676.40 | 677.04 | -.64 | -.60 | 005 | 100. |
| 38 | 3800. | 676.61 | 677.25 | -.64 | -.60 | 005 | 100. |
| 39 | 3900. | 676.82 | 677.46 | -.64 | -.60 | 005 | 100. |
| 40 | 4000. | 677.02 | 677.67 | -.65 | -.60 | 005 | 100. |
| 41 | 4100. | 677.23 | 677.88 | -.65 | -.60 | 005 | 100. |
| 42 | 4200. | 677.44 | 678.09 | -.65 | -.60 | 005 | 100. |
| | 4239. | | | | SEC. | 520.300 | |
| 43 | 4300. | 677.66 | 678.33 | -.67 | -.60 | 005 | 100. |
| 44 | 4400. | 677.92 | 678.62 | -.70 | -.61 | 005 | 100. |
| 45 | 4500. | 678.20 | 678.93 | -.73 | -.61 | 005 | 100. |
| | 4539. | | | | SEC. | 520.400 | |
| | 4589. | | | | SEC. | 520.480 | |
| 46 | 4600. | 678.50 | 679.59 | -1.09 | -.62 | 005 | 100. |
| | 4654. | | | | SEC. | 520.520 | |
| | 4657. | | | | SEC. | 520.530 | |
| | 4661. | | | | SEC. | 520.540 | |
| | 4662. | | | | SEC. | 520.550 | |
| | 4697. | | | | SEC. | 520.600 | |
| 47 | 4700. | 679.48 | 681.49 | -2.01 | -.65 | 005 | 98. |
| 48 | 4800. | 680.32 | 682.87 | -2.55 | -.69 | 005 | 96. |
| 49 | 4900. | 680.37 | 682.85 | -2.48 | -.73 | 005 | 94. |
| | 4947. | | | | SEC. | 521.000 | |
| 50 | 5000. | 680.58 | 682.93 | -2.35 | -.76 | 010 | 92. |
| 51 | 5100. | 681.12 | 683.18 | -2.06 | -.78 | 010 | 88. |
| | 5197. | | | | SEC. | 521.100 | |
| 52 | 5200. | 681.81 | 683.51 | -1.70 | -.80 | 010 | 87. |
| 53 | 5300. | 682.54 | 684.01 | -1.47 | -.81 | 010 | 85. |
| 54 | 5400. | 683.31 | 684.68 | -1.37 | -.82 | 010 | 83. |
| | 5447. | | | | SEC. | 521.200 | |
| 55 | 5500. | 684.18 | 685.45 | -1.27 | -.83 | 010 | 84. |
| 56 | 5600. | 685.21 | 686.41 | -1.20 | -.84 | 010 | 84. |
| | 5647. | | | | SEC. | 521.600 | |
| 57 | 5700. | 686.32 | 687.51 | -1.19 | -.84 | 010 | 84. |
| 58 | 5800. | 687.45 | 688.69 | -1.24 | -.85 | 010 | 83. |
| | 5897. | | | | SEC. | 521.700 | |
| 59 | 5900. | 688.59 | 689.89 | -1.30 | -.86 | 010 | 81. |
| 60 | 6000. | 689.50 | 690.88 | -1.38 | -.87 | 010 | 78. |
| 61 | 6100. | 690.19 | 691.67 | -1.48 | -.88 | 010 | 77. |
| | 6147. | | | | SEC. | 521.800 | |
| 62 | 6200. | 690.90 | 692.45 | -1.55 | -.89 | 010 | 74. |
| | 6297. | | | | SEC. | 522.200 | |
| 63 | 6300. | 691.67 | 693.23 | -1.56 | -.90 | 010 | 71. |
| | 6352. | | | | SEC. | 522.250 | |
| 64 | 6400. | 692.76 | 694.20 | -1.44 | -.91 | 010 | 70. |
| | 6407. | | | | SEC. | 521.980 | |
| | 6497. | | | | SEC. | 522.020 | |
| | 6499. | | | | SEC. | 522.300 | |
| 65 | 6500. | 695.12 | 697.29 | -2.17 | -.93 | 010 | 68. |
| | 6501. | | | | SEC. | 522.400 | |
| | 6502. | | | | SEC. | 522.500 | |

THIS REACH CAN BE SUBDIVIDED BY INC NO. TO MEET FIA REQUIREMENTS
INPUT 20N WHERE N IS THE NUMBER OF REACHES AND THEN INPUT THE END
OF EACH REACH BY INC NO. FOR EXAMPLE@ 202 59 65
A NEGATIVE INC NO. WILL SUPPRESS INTERMEDIATE INC OUTPUT.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN

4) DOCUMENT TYPE: 100 YR CONVERGENCE SUMMARY

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 644.67 | 0.00 | 644.90 | 27.20 | 4.50 | 512.25 | 197.49 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 645.90 | 0.00 | 645.93 | 4.20 | 2.07 | 1239.00 | 502.39 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 643.40 | 0.00 | 644.51 | 135.13 | 8.44 | 122.00 | 88.61 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 645.34 | 0.00 | 645.54 | 16.64 | 3.85 | 482.05 | 252.52 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 646.03 | 0.00 | 646.11 | 7.35 | 2.78 | 759.29 | 379.85 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 645.46 | 0.00 | 645.63 | 14.37 | 3.63 | 529.92 | 271.70 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 645.89 | 0.00 | 646.18 | 25.06 | 4.50 | 368.92 | 205.74 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 646.28 | 0.00 | 646.44 | 14.71 | 3.63 | 572.24 | 268.56 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 645.94 | 0.00 | 646.20 | 23.30 | 4.37 | 397.28 | 213.37 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.68 | 644.29 | 647.05 | 31.85 | 4.93 | 271.36 | 182.50 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.77 | 644.30 | 647.10 | 28.88 | 4.75 | 316.04 | 191.68 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.69 | 644.29 | 647.05 | 31.76 | 4.93 | 272.62 | 182.75 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.72 | 645.19 | 648.04 | 33.69 | 4.65 | 340.98 | 177.45 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.73 | 645.19 | 648.04 | 33.54 | 4.64 | 342.85 | 177.84 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.72 | 645.19 | 648.04 | 33.78 | 4.66 | 339.87 | 177.22 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 648.93 | 0.00 | 649.14 | 21.95 | 3.92 | 515.03 | 219.84 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 648.93 | 0.00 | 649.13 | 21.97 | 3.92 | 514.76 | 219.76 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 648.94 | 0.00 | 649.14 | 21.90 | 3.92 | 515.99 | 220.11 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.62 | 0.00 | 649.86 | 25.79 | 4.18 | 450.63 | 202.83 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.62 | 0.00 | 649.86 | 25.78 | 4.18 | 450.69 | 202.84 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.62 | 0.00 | 649.86 | 25.78 | 4.18 | 450.82 | 202.88 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.04 | 0.00 | 650.21 | 18.85 | 3.68 | 574.88 | 237.26 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.04 | 0.00 | 650.21 | 18.85 | 3.68 | 574.80 | 237.24 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.04 | 0.00 | 650.21 | 18.84 | 3.68 | 574.97 | 237.29 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1030.00 | 650.36 | 0.00 | 650.47 | 11.92 | 3.05 | 757.49 | 298.35 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1030.00 | 650.36 | 0.00 | 650.47 | 11.92 | 3.05 | 757.46 | 298.34 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1030.00 | 650.36 | 0.00 | 650.47 | 11.92 | 3.05 | 757.52 | 298.37 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.56 | 0.00 | 650.66 | 16.47 | 3.19 | 696.27 | 253.77 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.56 | 0.00 | 650.66 | 16.47 | 3.19 | 696.27 | 253.77 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.56 | 0.00 | 650.66 | 16.47 | 3.19 | 696.28 | 253.77 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CDSEL | CRINS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.93 | 0.00 | 651.00 | 11.68 | 2.78 | 801.08 | 301.32 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.93 | 0.00 | 651.00 | 11.69 | 2.78 | 801.07 | 301.31 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.93 | 0.00 | 651.00 | 11.68 | 2.78 | 801.09 | 301.32 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1030.00 | 651.21 | 0.00 | 651.26 | 8.28 | 2.43 | 930.66 | 358.06 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1030.00 | 651.21 | 0.00 | 651.26 | 8.28 | 2.43 | 930.66 | 358.05 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1030.00 | 651.21 | 0.00 | 651.26 | 8.27 | 2.43 | 930.67 | 358.06 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.36 | 0.00 | 651.66 | 37.45 | 4.59 | 314.51 | 168.30 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.36 | 0.00 | 651.66 | 37.45 | 4.59 | 314.50 | 168.30 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.36 | 0.00 | 651.66 | 37.45 | 4.59 | 314.51 | 168.30 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.03 | 0.00 | 652.15 | 14.99 | 3.06 | 613.46 | 266.06 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.03 | 0.00 | 652.15 | 14.99 | 3.06 | 613.46 | 266.06 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.03 | 0.00 | 652.15 | 14.99 | 3.06 | 613.46 | 266.06 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.02 | 0.00 | 653.27 | 33.74 | 4.17 | 340.01 | 177.31 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.02 | 0.00 | 653.27 | 33.74 | 4.17 | 340.01 | 177.31 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.02 | 0.00 | 653.27 | 33.74 | 4.17 | 340.01 | 177.31 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.68 | 0.00 | 655.03 | 29.12 | 4.77 | 243.11 | 190.88 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.68 | 0.00 | 655.03 | 29.12 | 4.77 | 243.11 | 190.88 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.68 | 0.00 | 655.03 | 29.12 | 4.77 | 243.11 | 190.88 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.04 | 0.00 | 655.39 | 28.92 | 4.76 | 216.24 | 191.54 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.04 | 0.00 | 655.39 | 28.92 | 4.76 | 216.24 | 191.54 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.04 | 0.00 | 655.39 | 28.92 | 4.76 | 216.24 | 191.54 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 654.99 | 0.00 | 655.42 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 654.99 | 0.00 | 655.42 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 654.99 | 0.00 | 655.42 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.07 | 0.00 | 655.49 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.07 | 0.00 | 655.49 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.07 | 0.00 | 655.49 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.17 | 0.00 | 655.51 | 27.18 | 4.66 | 221.18 | 197.57 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.17 | 0.00 | 655.51 | 27.18 | 4.66 | 221.18 | 197.57 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.17 | 0.00 | 655.51 | 27.18 | 4.66 | 221.18 | 197.57 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.38 | 0.00 | 656.64 | 21.30 | 4.26 | 352.69 | 223.20 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.38 | 0.00 | 656.64 | 21.30 | 4.26 | 352.69 | 223.20 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.38 | 0.00 | 656.64 | 21.30 | 4.26 | 352.69 | 223.20 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.74 | 0.00 | 657.21 | 42.83 | 5.47 | 199.50 | 157.39 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.74 | 0.00 | 657.21 | 42.83 | 5.47 | 199.50 | 157.39 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.74 | 0.00 | 657.21 | 42.83 | 5.47 | 199.50 | 157.39 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1030.00 | 650.72 | 0.00 | 660.86 | 9.33 | 3.04 | 433.59 | 337.24 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1030.00 | 650.72 | 0.00 | 660.86 | 9.33 | 3.04 | 433.59 | 337.24 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1030.00 | 650.72 | 0.00 | 660.86 | 9.33 | 3.04 | 433.59 | 337.24 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 1030.00 | 650.84 | 0.00 | 660.95 | 6.81 | 2.72 | 521.24 | 394.64 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 1030.00 | 650.84 | 0.00 | 660.95 | 6.81 | 2.72 | 521.24 | 394.64 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.80 | 1030.00 | 650.84 | 0.00 | 660.95 | 6.81 | 2.72 | 521.24 | 394.64 |

| SECNO | XLCH | ELTPD | ELLC | ELMIN | Q | CESEL | CRTWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.02 | 0.00 | 661.20 | 13.19 | 3.45 | 345.04 | 283.56 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.02 | 0.00 | 661.20 | 13.19 | 3.45 | 345.04 | 283.56 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.02 | 0.00 | 661.20 | 13.19 | 3.45 | 345.04 | 283.56 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1030.00 | 661.07 | 0.00 | 661.22 | 8.80 | 3.04 | 390.56 | 347.29 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1030.00 | 661.07 | 0.00 | 661.22 | 8.80 | 3.04 | 390.56 | 347.29 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1030.00 | 661.07 | 0.00 | 661.22 | 8.80 | 3.04 | 390.56 | 347.29 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.19 | 0.00 | 661.31 | 6.99 | 2.81 | 459.15 | 389.55 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.19 | 0.00 | 661.31 | 6.99 | 2.81 | 459.15 | 389.55 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.19 | 0.00 | 661.31 | 6.99 | 2.81 | 459.15 | 389.55 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.25 | 0.00 | 661.33 | 3.05 | 2.56 | 775.58 | 589.43 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.25 | 0.00 | 661.33 | 3.05 | 2.56 | 775.58 | 589.43 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.25 | 0.00 | 661.33 | 3.05 | 2.56 | 775.58 | 589.43 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1030.00 | 661.97 | 0.00 | 662.00 | 1.91 | 1.85 | 869.68 | 744.37 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1030.00 | 661.97 | 0.00 | 662.00 | 1.91 | 1.85 | 869.68 | 744.37 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1030.00 | 661.97 | 0.00 | 662.00 | 1.91 | 1.85 | 869.68 | 744.37 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 661.96 | 0.00 | 662.01 | 2.24 | 1.69 | 639.38 | 688.30 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 661.96 | 0.00 | 662.01 | 2.24 | 1.69 | 639.38 | 688.30 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 661.96 | 0.00 | 662.01 | 2.24 | 1.69 | 639.38 | 688.30 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.09 | 0.00 | 662.22 | 10.34 | 3.14 | 515.63 | 320.32 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.09 | 0.00 | 662.22 | 10.34 | 3.14 | 515.63 | 320.32 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.09 | 0.00 | 662.22 | 10.34 | 3.14 | 515.63 | 320.32 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 662.97 | 0.00 | 663.19 | 26.45 | 3.74 | 275.77 | 200.26 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 662.97 | 0.00 | 663.19 | 26.45 | 3.74 | 275.77 | 200.26 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 662.97 | 0.00 | 663.19 | 26.45 | 3.74 | 275.77 | 200.26 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.42 | 0.00 | 663.73 | 36.03 | 4.46 | 230.69 | 171.60 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.42 | 0.00 | 663.73 | 36.03 | 4.46 | 230.69 | 171.60 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.42 | 0.00 | 663.73 | 36.03 | 4.46 | 230.69 | 171.60 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1030.00 | 663.91 | 0.00 | 664.07 | 18.59 | 3.21 | 323.30 | 238.90 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1030.00 | 663.91 | 0.00 | 664.07 | 18.59 | 3.21 | 323.30 | 238.90 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1030.00 | 663.91 | 0.00 | 664.07 | 18.59 | 3.21 | 323.30 | 238.90 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.06 | 0.00 | 664.18 | 13.37 | 2.89 | 394.33 | 281.65 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.06 | 0.00 | 664.18 | 13.37 | 2.89 | 394.33 | 281.65 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.06 | 0.00 | 664.18 | 13.37 | 2.89 | 394.33 | 281.65 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 664.91 | 0.00 | 665.04 | 14.04 | 3.04 | 451.52 | 274.85 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 664.91 | 0.00 | 665.04 | 14.04 | 3.04 | 451.52 | 274.85 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 664.91 | 0.00 | 665.04 | 14.04 | 3.04 | 451.52 | 274.85 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.23 | 0.00 | 665.42 | 23.95 | 3.64 | 347.16 | 210.49 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.23 | 0.00 | 665.42 | 23.95 | 3.64 | 347.16 | 210.49 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.23 | 0.00 | 665.42 | 23.95 | 3.64 | 347.16 | 210.49 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.73 | 0.00 | 665.80 | 7.45 | 2.31 | 355.99 | 212.54 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.73 | 0.00 | 665.80 | 7.45 | 2.31 | 355.99 | 212.54 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.73 | 0.00 | 665.80 | 7.45 | 2.31 | 355.99 | 212.54 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.01 | 0.00 | 666.14 | 15.97 | 3.07 | 243.66 | 145.14 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.01 | 0.00 | 666.14 | 15.97 | 3.07 | 243.66 | 145.14 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.01 | 0.00 | 666.14 | 15.97 | 3.07 | 243.66 | 145.14 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.00 | 0.00 | 666.15 | 83.88 | 3.36 | 207.49 | 63.33 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.00 | 0.00 | 666.15 | 83.88 | 3.36 | 207.49 | 63.33 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.00 | 0.00 | 666.15 | 83.88 | 3.36 | 207.49 | 63.33 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.07 | 0.00 | 666.21 | 78.63 | 3.28 | 213.10 | 65.41 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.07 | 0.00 | 666.21 | 78.63 | 3.28 | 213.10 | 65.41 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.07 | 0.00 | 666.21 | 78.63 | 3.28 | 213.10 | 65.41 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.09 | 0.00 | 666.22 | 15.13 | 3.01 | 250.20 | 149.10 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.09 | 0.00 | 666.22 | 15.13 | 3.01 | 250.20 | 149.10 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.09 | 0.00 | 666.22 | 15.13 | 3.01 | 250.20 | 149.10 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.51 | 0.00 | 666.53 | 2.99 | 1.49 | 644.46 | 335.47 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.51 | 0.00 | 666.53 | 2.99 | 1.49 | 644.46 | 335.47 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.51 | 0.00 | 666.53 | 2.99 | 1.49 | 644.46 | 335.47 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.55 | 0.00 | 666.56 | 1.76 | 1.22 | 846.66 | 437.72 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.55 | 0.00 | 666.56 | 1.76 | 1.22 | 846.66 | 437.72 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.55 | 0.00 | 666.56 | 1.76 | 1.22 | 846.66 | 437.72 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 580.00 | 666.74 | 0.00 | 666.77 | 3.43 | 1.65 | 606.91 | 313.06 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 580.00 | 666.74 | 0.00 | 666.77 | 3.43 | 1.65 | 606.91 | 313.06 |
| 514.020 | 51.00 | 666.00 | 662.60 | 657.10 | 580.00 | 666.74 | 0.00 | 666.77 | 3.43 | 1.65 | 606.91 | 313.06 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.76 | 0.00 | 666.83 | 8.11 | 2.26 | 365.76 | 203.68 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.76 | 0.00 | 666.83 | 8.11 | 2.26 | 365.76 | 203.68 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.76 | 0.00 | 666.83 | 8.11 | 2.26 | 365.76 | 203.68 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.78 | 0.00 | 666.85 | 7.96 | 2.24 | 369.96 | 205.62 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.78 | 0.00 | 666.85 | 7.96 | 2.24 | 369.96 | 205.62 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.78 | 0.00 | 666.85 | 7.96 | 2.24 | 369.96 | 205.62 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.80 | 0.00 | 666.86 | 32.27 | 2.19 | 342.58 | 102.10 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.80 | 0.00 | 666.86 | 32.27 | 2.19 | 342.58 | 102.10 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.80 | 0.00 | 666.86 | 32.27 | 2.19 | 342.58 | 102.10 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 31.74 | 2.18 | 345.28 | 102.95 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 31.74 | 2.18 | 345.28 | 102.95 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 31.74 | 2.18 | 345.28 | 102.95 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 7.72 | 2.22 | 376.60 | 208.69 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 7.72 | 2.22 | 376.60 | 208.69 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 7.72 | 2.22 | 376.60 | 208.69 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 666.94 | 0.00 | 666.98 | 3.42 | 1.64 | 607.96 | 313.56 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 666.94 | 0.00 | 666.98 | 3.42 | 1.64 | 607.96 | 313.56 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 666.94 | 0.00 | 666.98 | 3.42 | 1.64 | 607.96 | 313.56 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 580.00 | 667.07 | 0.00 | 667.09 | 2.74 | 1.40 | 782.22 | 350.43 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 580.00 | 667.07 | 0.00 | 667.09 | 2.74 | 1.40 | 782.22 | 350.43 |
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 580.00 | 667.07 | 0.00 | 667.09 | 2.74 | 1.40 | 782.22 | 350.43 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.09 | 0.00 | 667.16 | 10.05 | 2.27 | 359.57 | 182.98 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.09 | 0.00 | 667.16 | 10.05 | 2.27 | 359.57 | 182.98 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.09 | 0.00 | 667.16 | 10.05 | 2.27 | 359.57 | 182.98 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.45 | 0.00 | 667.53 | 10.61 | 2.32 | 344.71 | 178.03 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.45 | 0.00 | 667.53 | 10.61 | 2.32 | 344.71 | 178.03 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.45 | 0.00 | 667.53 | 10.61 | 2.32 | 344.71 | 178.03 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.79 | 0.00 | 667.84 | 5.04 | 1.92 | 454.15 | 258.23 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.79 | 0.00 | 667.84 | 5.04 | 1.92 | 454.15 | 258.23 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.79 | 0.00 | 667.84 | 5.04 | 1.92 | 454.15 | 258.23 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.76 | 0.00 | 667.87 | 63.47 | 2.76 | 260.75 | 72.80 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.76 | 0.00 | 667.87 | 63.47 | 2.76 | 260.75 | 72.80 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.76 | 0.00 | 667.87 | 63.47 | 2.76 | 260.75 | 72.80 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.82 | 0.00 | 667.92 | 58.15 | 2.67 | 278.99 | 76.06 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.82 | 0.00 | 667.92 | 58.15 | 2.67 | 278.99 | 76.06 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.82 | 0.00 | 667.92 | 58.15 | 2.67 | 278.99 | 76.06 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.88 | 0.00 | 667.93 | 4.64 | 1.86 | 482.61 | 269.23 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.88 | 0.00 | 667.93 | 4.64 | 1.86 | 482.61 | 269.23 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.88 | 0.00 | 667.93 | 4.64 | 1.86 | 482.61 | 269.23 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 667.90 | 0.00 | 667.96 | 6.53 | 2.11 | 369.86 | 227.03 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 667.90 | 0.00 | 667.96 | 6.53 | 2.11 | 369.86 | 227.03 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 667.90 | 0.00 | 667.96 | 6.53 | 2.11 | 369.86 | 227.03 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.13 | 0.00 | 668.19 | 6.38 | 2.09 | 377.30 | 229.71 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.13 | 0.00 | 668.19 | 6.38 | 2.09 | 377.30 | 229.71 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.13 | 0.00 | 668.19 | 6.38 | 2.09 | 377.30 | 229.71 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.21 | 0.00 | 668.21 | .07 | .23 | 4655.95 | 2140.07 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.21 | 0.00 | 668.21 | .07 | .23 | 4655.95 | 2140.07 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.21 | 0.00 | 668.21 | .07 | .23 | 4655.95 | 2140.07 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.21 | 0.00 | 668.21 | .08 | .24 | 4450.53 | 1997.22 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.21 | 0.00 | 668.21 | .08 | .24 | 4450.53 | 1997.22 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.21 | 0.00 | 668.21 | .08 | .24 | 4450.53 | 1997.22 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.22 | 0.00 | 668.22 | .09 | .24 | 4350.60 | 1928.87 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.22 | 0.00 | 668.22 | .09 | .24 | 4350.60 | 1928.87 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.22 | 0.00 | 668.22 | .09 | .24 | 4350.60 | 1928.87 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.24 | 6.80 | 1.64 | 737.86 | 222.49 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.24 | 6.80 | 1.64 | 737.86 | 222.49 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.24 | 6.80 | 1.64 | 737.86 | 222.49 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.22 | 1.68 | 718.83 | 215.79 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.22 | 1.68 | 718.83 | 215.79 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.22 | 1.68 | 718.83 | 215.79 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 580.00 | 668.62 | 0.00 | 668.74 | 32.54 | 3.18 | 342.21 | 101.67 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 580.00 | 668.62 | 0.00 | 668.74 | 32.54 | 3.18 | 342.21 | 101.67 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 580.00 | 668.62 | 0.00 | 668.74 | 32.54 | 3.18 | 342.21 | 101.67 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CTSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 580.00 | 670.57 | 0.00 | 670.57 | 1.30 | .98 | 1264.30 | 508.30 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 580.00 | 670.57 | 0.00 | 670.57 | 1.30 | .98 | 1264.30 | 508.30 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 580.00 | 670.57 | 0.00 | 670.57 | 1.30 | .98 | 1264.30 | 508.30 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 580.00 | 670.58 | 0.00 | 670.58 | 1.08 | .92 | 1365.76 | 557.46 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 580.00 | 670.58 | 0.00 | 670.58 | 1.08 | .92 | 1365.76 | 557.46 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 580.00 | 670.58 | 0.00 | 670.58 | 1.08 | .92 | 1365.76 | 557.46 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 580.00 | 670.66 | 0.00 | 670.68 | 4.03 | 1.50 | 782.41 | 288.96 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 580.00 | 670.66 | 0.00 | 670.68 | 4.03 | 1.50 | 782.41 | 288.96 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 580.00 | 670.66 | 0.00 | 670.68 | 4.03 | 1.50 | 782.41 | 288.96 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 580.00 | 670.81 | 0.00 | 670.82 | 3.04 | 1.22 | 1191.46 | 332.89 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 580.00 | 670.81 | 0.00 | 670.82 | 3.04 | 1.22 | 1191.46 | 332.89 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 580.00 | 670.81 | 0.00 | 670.82 | 3.04 | 1.22 | 1191.46 | 332.89 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.08 | 0.00 | 671.13 | 21.51 | 2.71 | 572.58 | 125.05 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.08 | 0.00 | 671.13 | 21.51 | 2.71 | 572.58 | 125.05 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.08 | 0.00 | 671.13 | 21.51 | 2.71 | 572.58 | 125.05 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.11 | 0.00 | 671.14 | 56.42 | 1.99 | 495.91 | 77.21 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.11 | 0.00 | 671.14 | 56.42 | 1.99 | 495.91 | 77.21 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.11 | 0.00 | 671.14 | 56.42 | 1.99 | 495.91 | 77.21 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.18 | 0.00 | 671.20 | 47.03 | 1.84 | 527.43 | 84.57 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.18 | 0.00 | 671.20 | 47.03 | 1.84 | 527.43 | 84.57 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 580.00 | 671.18 | 0.00 | 671.20 | 47.03 | 1.84 | 527.43 | 84.57 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.17 | 0.00 | 671.21 | 16.91 | 2.46 | 629.88 | 141.04 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.17 | 0.00 | 671.21 | 16.91 | 2.46 | 629.88 | 141.04 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 580.00 | 671.17 | 0.00 | 671.21 | 16.91 | 2.46 | 629.88 | 141.04 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 580.00 | 671.25 | 0.00 | 671.34 | 37.93 | 3.45 | 452.29 | 94.17 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 580.00 | 671.25 | 0.00 | 671.34 | 37.93 | 3.45 | 452.29 | 94.17 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 580.00 | 671.25 | 0.00 | 671.34 | 37.93 | 3.45 | 452.29 | 94.17 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 580.00 | 671.47 | 0.00 | 671.52 | 26.72 | 2.72 | 556.12 | 112.20 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 580.00 | 671.47 | 0.00 | 671.52 | 26.72 | 2.72 | 556.12 | 112.20 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 580.00 | 671.47 | 0.00 | 671.52 | 26.72 | 2.72 | 556.12 | 112.20 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 580.00 | 671.81 | 0.00 | 671.85 | 74.38 | 2.47 | 358.90 | 67.25 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 580.00 | 671.81 | 0.00 | 671.85 | 74.38 | 2.47 | 358.90 | 67.25 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 580.00 | 671.81 | 0.00 | 671.85 | 74.38 | 2.47 | 358.90 | 67.25 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 580.00 | 672.45 | 671.85 | 673.03 | 194.74 | 6.19 | 108.16 | 41.56 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 580.00 | 672.45 | 671.85 | 673.03 | 194.74 | 6.19 | 108.16 | 41.56 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 580.00 | 672.45 | 671.85 | 673.03 | 194.74 | 6.19 | 108.16 | 41.56 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.18 | 0.00 | 675.23 | 24.70 | 2.91 | 411.58 | 116.70 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.18 | 0.00 | 675.23 | 24.70 | 2.91 | 411.58 | 116.70 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.18 | 0.00 | 675.23 | 24.70 | 2.91 | 411.58 | 116.70 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.20 | 0.00 | 675.24 | 51.88 | 1.86 | 368.22 | 80.52 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.20 | 0.00 | 675.24 | 51.88 | 1.86 | 368.22 | 80.52 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.20 | 0.00 | 675.24 | 51.88 | 1.86 | 368.22 | 80.52 |

| SECNO | XLCH | ELTRD | ELLC | FLMIN | Q | CNSEL | CPTWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.31 | 0.00 | 675.34 | 41.52 | 1.72 | 395.72 | 90.01 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.31 | 0.00 | 675.34 | 41.52 | 1.72 | 395.72 | 90.01 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 580.00 | 675.31 | 0.00 | 675.34 | 41.52 | 1.72 | 395.72 | 90.01 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.31 | 0.00 | 675.35 | 19.89 | 2.68 | 444.37 | 130.06 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.31 | 0.00 | 675.35 | 19.89 | 2.68 | 444.37 | 130.06 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 580.00 | 675.31 | 0.00 | 675.35 | 19.89 | 2.68 | 444.37 | 130.06 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 580.00 | 676.35 | 0.00 | 676.40 | 22.04 | 2.79 | 428.46 | 123.54 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 580.00 | 676.35 | 0.00 | 676.40 | 22.04 | 2.79 | 428.46 | 123.54 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 580.00 | 676.35 | 0.00 | 676.40 | 22.04 | 2.79 | 428.46 | 123.54 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 580.00 | 677.45 | 0.00 | 677.51 | 22.15 | 2.79 | 427.72 | 123.24 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 580.00 | 677.45 | 0.00 | 677.51 | 22.15 | 2.79 | 427.72 | 123.24 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 580.00 | 677.45 | 0.00 | 677.51 | 22.15 | 2.79 | 427.72 | 123.24 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 580.00 | 678.71 | 0.00 | 678.76 | 19.76 | 2.68 | 445.38 | 130.47 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 580.00 | 678.71 | 0.00 | 678.76 | 19.76 | 2.68 | 445.38 | 130.47 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 580.00 | 678.71 | 0.00 | 678.76 | 19.76 | 2.68 | 445.38 | 130.47 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 580.00 | 679.67 | 0.00 | 679.92 | 67.05 | 4.10 | 169.57 | 70.83 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 580.00 | 679.67 | 0.00 | 679.92 | 67.05 | 4.10 | 169.57 | 70.83 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 580.00 | 679.67 | 0.00 | 679.92 | 67.05 | 4.10 | 169.57 | 70.83 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 580.00 | 680.01 | 0.00 | 680.21 | 43.52 | 3.59 | 161.78 | 87.92 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 580.00 | 680.01 | 0.00 | 680.21 | 43.52 | 3.59 | 161.78 | 87.92 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 580.00 | 680.01 | 0.00 | 680.21 | 43.52 | 3.59 | 161.78 | 87.92 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .88 | 1452.35 | 529.90 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .88 | 1452.35 | 529.90 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .88 | 1452.35 | 529.90 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.19 | .88 | 1453.82 | 530.61 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.19 | .88 | 1453.82 | 530.61 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.19 | .88 | 1453.82 | 530.61 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .89 | 1450.62 | 529.07 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .89 | 1450.62 | 529.07 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 580.00 | 683.38 | 0.00 | 683.39 | 1.20 | .89 | 1450.62 | 529.07 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 580.00 | 683.41 | 0.00 | 683.41 | .45 | .66 | 2047.84 | 868.10 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 580.00 | 683.41 | 0.00 | 683.41 | .45 | .66 | 2047.84 | 868.10 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 580.00 | 683.41 | 0.00 | 683.41 | .45 | .66 | 2047.84 | 868.10 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 580.00 | 683.41 | 0.00 | 683.41 | 1.00 | .91 | 1505.71 | 580.12 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 580.00 | 683.41 | 0.00 | 683.41 | 1.00 | .91 | 1505.71 | 580.12 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 580.00 | 683.41 | 0.00 | 683.41 | 1.00 | .91 | 1505.71 | 580.12 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 580.00 | 683.35 | 0.00 | 683.58 | 50.19 | 4.36 | 314.95 | 81.87 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 580.00 | 683.35 | 0.00 | 683.58 | 50.19 | 4.36 | 314.95 | 81.87 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 580.00 | 683.35 | 0.00 | 683.58 | 50.19 | 4.36 | 314.95 | 81.87 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 580.00 | 684.88 | 683.39 | 685.40 | 98.08 | 5.88 | 135.01 | 58.57 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 580.00 | 684.88 | 683.39 | 685.40 | 98.08 | 5.88 | 135.01 | 58.57 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 580.00 | 684.88 | 683.39 | 685.40 | 98.08 | 5.88 | 135.01 | 58.57 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CRSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 580.00 | 687.06 | 685.30 | 687.36 | 61.33 | 4.78 | 264.65 | 74.06 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 580.00 | 687.06 | 685.30 | 687.36 | 61.33 | 4.78 | 264.65 | 74.06 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 580.00 | 687.06 | 685.30 | 687.36 | 61.33 | 4.78 | 264.65 | 74.06 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 580.00 | 688.64 | 0.00 | 689.08 | 119.49 | 5.86 | 160.75 | 53.06 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 580.00 | 688.64 | 0.00 | 689.08 | 119.49 | 5.86 | 160.75 | 53.06 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 580.00 | 688.64 | 0.00 | 689.08 | 119.49 | 5.86 | 160.75 | 53.06 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 580.00 | 691.79 | 0.00 | 692.44 | 144.56 | 6.54 | 98.02 | 48.24 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 580.00 | 691.79 | 0.00 | 692.44 | 144.56 | 6.54 | 98.02 | 48.24 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 580.00 | 691.79 | 0.00 | 692.44 | 144.56 | 6.54 | 98.02 | 48.24 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 580.00 | 694.40 | 0.00 | 694.71 | 59.00 | 4.75 | 183.95 | 75.51 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 580.00 | 694.40 | 0.00 | 694.71 | 59.00 | 4.75 | 183.95 | 75.51 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 580.00 | 694.40 | 0.00 | 694.71 | 59.00 | 4.75 | 183.95 | 75.51 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 580.00 | 695.37 | 0.00 | 695.78 | 80.73 | 5.33 | 150.61 | 64.55 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 580.00 | 695.37 | 0.00 | 695.78 | 80.73 | 5.33 | 150.61 | 64.55 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 580.00 | 695.37 | 0.00 | 695.78 | 80.73 | 5.33 | 150.61 | 64.55 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 580.00 | 695.91 | 694.61 | 696.62 | 155.98 | 6.74 | 92.29 | 46.44 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 580.00 | 695.91 | 694.61 | 696.62 | 155.98 | 6.74 | 92.29 | 46.44 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 580.00 | 695.91 | 694.61 | 696.62 | 155.98 | 6.74 | 92.29 | 46.44 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 580.00 | 696.82 | 0.00 | 697.62 | 182.70 | 7.19 | 81.68 | 42.91 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 580.00 | 696.82 | 0.00 | 697.62 | 182.70 | 7.19 | 81.68 | 42.91 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 580.00 | 696.82 | 0.00 | 697.62 | 182.70 | 7.19 | 81.68 | 42.91 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 580.00 | 700.04 | 0.00 | 700.52 | 92.46 | 6.00 | 159.84 | 60.32 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 580.00 | 700.04 | 0.00 | 700.52 | 92.46 | 6.00 | 159.84 | 60.32 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 580.00 | 700.04 | 0.00 | 700.52 | 92.46 | 6.00 | 159.84 | 60.32 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.32 | 0.00 | 700.61 | 59.41 | 4.98 | 214.62 | 75.25 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.32 | 0.00 | 700.61 | 59.41 | 4.98 | 214.62 | 75.25 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.32 | 0.00 | 700.61 | 59.41 | 4.98 | 214.62 | 75.25 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.35 | 0.00 | 700.63 | 57.28 | 4.90 | 219.42 | 76.63 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.35 | 0.00 | 700.63 | 57.28 | 4.90 | 219.42 | 76.63 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 580.00 | 700.35 | 0.00 | 700.63 | 57.28 | 4.90 | 219.42 | 76.63 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 580.00 | 700.57 | 0.00 | 700.71 | 25.76 | 3.46 | 289.00 | 114.29 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 580.00 | 700.57 | 0.00 | 700.71 | 25.76 | 3.46 | 289.00 | 114.29 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 580.00 | 700.57 | 0.00 | 700.71 | 25.76 | 3.46 | 289.00 | 114.29 |

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 501.000 | 1030.00 | 644.67 | 0.00 | 0.00 | 3.67 | 531.96 | 0.00 |
| 501.000 | 1030.00 | 645.90 | 1.23 | 0.00 | 0.00 | 600.00 | 0.00 |
| 501.000 | 1030.00 | 643.40 | -2.50 | 0.00 | 0.00 | 34.00 | 0.00 |
| 501.100 | 1030.00 | 645.34 | 0.00 | .67 | 0.00 | 406.00 | 300.00 |
| 501.100 | 1030.00 | 646.03 | .69 | .13 | 0.00 | 406.00 | 300.00 |
| 501.100 | 1030.00 | 645.46 | -.57 | 2.06 | 0.00 | 406.00 | 300.00 |
| 501.200 | 1030.00 | 645.89 | 0.00 | .54 | 0.00 | 502.21 | 300.00 |
| 501.200 | 1030.00 | 646.28 | .39 | .25 | 0.00 | 526.00 | 300.00 |
| 501.200 | 1030.00 | 645.94 | -.34 | .48 | 0.00 | 508.51 | 300.00 |
| 501.400 | 1030.00 | 646.68 | 0.00 | .80 | 0.00 | 471.00 | 300.00 |
| 501.400 | 1030.00 | 646.77 | .09 | .49 | 0.00 | 529.14 | 300.00 |
| 501.400 | 1030.00 | 646.69 | -.09 | .75 | 0.00 | 480.25 | 300.00 |
| 502.000 | 1030.00 | 647.72 | 0.00 | 1.04 | 0.00 | 534.40 | 300.00 |
| 502.000 | 1030.00 | 647.73 | .00 | .95 | 0.00 | 534.79 | 300.00 |
| 502.000 | 1030.00 | 647.72 | -.00 | 1.04 | 0.00 | 534.17 | 300.00 |
| 502.200 | 1030.00 | 648.93 | 0.00 | 1.21 | 0.00 | 566.00 | 402.00 |
| 502.200 | 1030.00 | 648.93 | -.00 | 1.21 | 0.00 | 566.00 | 402.00 |
| 502.200 | 1030.00 | 648.94 | .00 | 1.21 | 0.00 | 566.00 | 402.00 |
| 502.400 | 1030.00 | 649.62 | 0.00 | .69 | 0.00 | 556.95 | 300.00 |
| 502.400 | 1030.00 | 649.62 | -.00 | .69 | 0.00 | 556.96 | 300.00 |
| 502.400 | 1030.00 | 649.62 | .00 | .69 | 0.00 | 556.99 | 300.00 |
| 502.980 | 1030.00 | 650.04 | 0.00 | .42 | 0.00 | 566.00 | 150.00 |
| 502.980 | 1030.00 | 650.04 | -.00 | .42 | 0.00 | 566.00 | 150.00 |
| 502.980 | 1030.00 | 650.04 | .00 | .42 | 0.00 | 566.00 | 150.00 |
| 503.020 | 1030.00 | 650.36 | 0.00 | .32 | 0.00 | 566.00 | 15.00 |
| 503.020 | 1030.00 | 650.36 | -.00 | .32 | 0.00 | 566.00 | 15.00 |
| 503.020 | 1030.00 | 650.36 | .00 | .32 | 0.00 | 566.00 | 15.00 |
| 504.200 | 1030.00 | 650.56 | 0.00 | .20 | 0.00 | 383.93 | 135.00 |
| 504.200 | 1030.00 | 650.56 | -.00 | .20 | 0.00 | 383.93 | 135.00 |
| 504.200 | 1030.00 | 650.56 | .00 | .20 | 0.00 | 383.93 | 135.00 |
| 503.980 | 1030.00 | 650.93 | 0.00 | .37 | 0.00 | 419.84 | 240.00 |
| 503.980 | 1030.00 | 650.93 | -.00 | .37 | 0.00 | 419.83 | 240.00 |
| 503.980 | 1030.00 | 650.93 | .00 | .37 | 0.00 | 419.84 | 240.00 |
| 504.020 | 1030.00 | 651.21 | 0.00 | .28 | 0.00 | 560.00 | 20.00 |
| 504.020 | 1030.00 | 651.21 | -.00 | .28 | 0.00 | 560.00 | 20.00 |
| 504.020 | 1030.00 | 651.21 | .00 | .28 | 0.00 | 560.00 | 20.00 |
| 504.800 | 1030.00 | 651.36 | 0.00 | .15 | 0.00 | 291.64 | 130.00 |
| 504.800 | 1030.00 | 651.36 | -.00 | .15 | 0.00 | 291.64 | 130.00 |
| 504.800 | 1030.00 | 651.36 | .00 | .15 | 0.00 | 291.64 | 130.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 504.900 | 1030.00 | 652.03 | 0.00 | .67 | 0.00 | 460.80 | 202.00 |
| 504.900 | 1030.00 | 652.03 | -.00 | .67 | 0.00 | 460.80 | 202.00 |
| 504.900 | 1030.00 | 652.03 | .00 | .67 | 0.00 | 460.80 | 202.00 |
| 505.000 | 1030.00 | 653.02 | 0.00 | .99 | 0.00 | 406.05 | 498.00 |
| 505.000 | 1030.00 | 653.02 | -.00 | .99 | 0.00 | 406.05 | 498.00 |
| 505.000 | 1030.00 | 653.02 | .00 | .99 | 0.00 | 406.05 | 498.00 |
| 506.000 | 1030.00 | 654.68 | 0.00 | 1.66 | 0.00 | 94.70 | 550.00 |
| 506.000 | 1030.00 | 654.68 | -.00 | 1.66 | 0.00 | 94.70 | 550.00 |
| 506.000 | 1030.00 | 654.68 | .00 | 1.66 | 0.00 | 94.70 | 550.00 |
| 506.100 | 1030.00 | 655.04 | 0.00 | .36 | 0.00 | 36.23 | 125.00 |
| 506.100 | 1030.00 | 655.04 | -.00 | .36 | 0.00 | 36.23 | 125.00 |
| 506.100 | 1030.00 | 655.04 | .00 | .36 | 0.00 | 36.23 | 125.00 |
| 506.150 | 1030.00 | 654.99 | 0.00 | -.04 | 0.00 | 36.12 | .50 |
| 506.150 | 1030.00 | 654.99 | -.00 | -.04 | 0.00 | 36.12 | .50 |
| 506.150 | 1030.00 | 654.99 | .00 | -.04 | 0.00 | 36.12 | .50 |
| 506.160 | 1030.00 | 655.07 | 0.00 | .08 | 0.00 | 36.30 | 9.00 |
| 506.160 | 1030.00 | 655.07 | -.00 | .08 | 0.00 | 36.30 | 9.00 |
| 506.160 | 1030.00 | 655.07 | .00 | .08 | 0.00 | 36.30 | 9.00 |
| 506.170 | 1030.00 | 655.17 | 0.00 | .10 | 0.00 | 36.54 | .50 |
| 506.170 | 1030.00 | 655.17 | -.00 | .10 | 0.00 | 36.54 | .50 |
| 506.170 | 1030.00 | 655.17 | .00 | .10 | 0.00 | 36.54 | .50 |
| 507.200 | 1030.00 | 656.38 | 0.00 | 1.20 | 0.00 | 191.87 | 465.00 |
| 507.200 | 1030.00 | 656.38 | -.00 | 1.20 | 0.00 | 191.87 | 465.00 |
| 507.200 | 1030.00 | 656.38 | .00 | 1.20 | 0.00 | 191.87 | 465.00 |
| 506.980 | 1030.00 | 656.74 | 0.00 | .37 | 0.00 | 88.31 | 139.00 |
| 506.980 | 1030.00 | 656.74 | -.00 | .37 | 0.00 | 88.31 | 139.00 |
| 506.980 | 1030.00 | 656.74 | .00 | .37 | 0.00 | 88.31 | 139.00 |
| 507.020 | 1030.00 | 660.72 | 0.00 | 3.98 | 0.00 | 156.23 | 116.00 |
| 507.020 | 1030.00 | 660.72 | -.00 | 3.98 | 0.00 | 156.23 | 116.00 |
| 507.020 | 1030.00 | 660.72 | .00 | 3.98 | 0.00 | 156.23 | 116.00 |
| 507.800 | 1030.00 | 660.84 | 0.00 | .12 | 0.00 | 180.36 | 100.00 |
| 507.800 | 1030.00 | 660.84 | -.00 | .12 | 0.00 | 180.36 | 100.00 |
| 507.800 | 1030.00 | 660.84 | .00 | .12 | 0.00 | 180.36 | 100.00 |
| 507.980 | 1030.00 | 661.02 | 0.00 | .18 | 0.00 | 134.79 | 210.00 |
| 507.980 | 1030.00 | 661.02 | -.00 | .18 | 0.00 | 134.79 | 210.00 |
| 507.980 | 1030.00 | 661.02 | .00 | .18 | 0.00 | 134.79 | 210.00 |
| 508.020 | 1030.00 | 661.07 | 0.00 | .05 | 0.00 | 151.29 | 37.00 |
| 508.020 | 1030.00 | 661.07 | -.00 | .05 | 0.00 | 151.29 | 37.00 |
| 508.020 | 1030.00 | 661.07 | .00 | .05 | 0.00 | 151.29 | 37.00 |
| 508.800 | 1030.00 | 661.19 | 0.00 | .12 | 0.00 | 178.58 | 110.00 |
| 508.800 | 1030.00 | 661.19 | -.00 | .12 | 0.00 | 178.58 | 110.00 |
| 508.800 | 1030.00 | 661.19 | .00 | .12 | 0.00 | 178.58 | 110.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 508.980 | 1030.00 | 661.25 | 0.00 | .06 | 0.00 | 221.55 | 20.00 |
| 508.980 | 1030.00 | 661.25 | -.00 | .06 | 0.00 | 221.55 | 20.00 |
| 508.980 | 1030.00 | 661.25 | .00 | .06 | 0.00 | 221.55 | 20.00 |
| 509.020 | 1030.00 | 661.97 | 0.00 | .72 | 0.00 | 121.55 | 190.00 |
| 509.020 | 1030.00 | 661.97 | -.00 | .72 | 0.00 | 121.55 | 190.00 |
| 509.020 | 1030.00 | 661.97 | .00 | .72 | 0.00 | 121.55 | 190.00 |
| 509.800 | 1030.00 | 661.96 | 0.00 | -.00 | 0.00 | 108.85 | 20.00 |
| 509.800 | 1030.00 | 661.96 | -.00 | -.00 | 0.00 | 108.85 | 20.00 |
| 509.800 | 1030.00 | 661.96 | .00 | -.00 | 0.00 | 108.85 | 20.00 |
| 510.000 | 1030.00 | 662.09 | 0.00 | .12 | 0.00 | 254.09 | 440.00 |
| 510.000 | 1030.00 | 662.09 | -.00 | .12 | 0.00 | 254.09 | 440.00 |
| 510.000 | 1030.00 | 662.09 | .00 | .12 | 0.00 | 254.09 | 440.00 |
| 511.200 | 1030.00 | 662.97 | 0.00 | .89 | 0.00 | 57.78 | 600.00 |
| 511.200 | 1030.00 | 662.97 | -.00 | .89 | 0.00 | 57.78 | 600.00 |
| 511.200 | 1030.00 | 662.97 | .00 | .89 | 0.00 | 57.78 | 600.00 |
| 510.980 | 1030.00 | 663.42 | 0.00 | .44 | 0.00 | 45.84 | 150.00 |
| 510.980 | 1030.00 | 663.42 | -.00 | .44 | 0.00 | 45.84 | 150.00 |
| 510.980 | 1030.00 | 663.42 | .00 | .44 | 0.00 | 45.84 | 150.00 |
| 511.020 | 1030.00 | 663.91 | 0.00 | .49 | 0.00 | 85.57 | 30.00 |
| 511.020 | 1030.00 | 663.91 | -.00 | .49 | 0.00 | 85.57 | 30.00 |
| 511.020 | 1030.00 | 663.91 | .00 | .49 | 0.00 | 85.57 | 30.00 |
| 511.800 | 1030.00 | 664.06 | 0.00 | .15 | 0.00 | 153.75 | 65.00 |
| 511.800 | 1030.00 | 664.06 | -.00 | .15 | 0.00 | 153.75 | 65.00 |
| 511.800 | 1030.00 | 664.06 | .00 | .15 | 0.00 | 153.75 | 65.00 |
| 512.000 | 1030.00 | 664.91 | 0.00 | .86 | 0.00 | 188.99 | 625.00 |
| 512.000 | 1030.00 | 664.91 | -.00 | .86 | 0.00 | 188.99 | 625.00 |
| 512.000 | 1030.00 | 664.91 | .00 | .86 | 0.00 | 188.99 | 625.00 |
| 512.200 | 1030.00 | 665.23 | 0.00 | .32 | 0.00 | 125.66 | 200.00 |
| 512.200 | 1030.00 | 665.23 | -.00 | .32 | 0.00 | 125.66 | 200.00 |
| 512.200 | 1030.00 | 665.23 | .00 | .32 | 0.00 | 125.66 | 200.00 |
| 513.000 | 580.00 | 665.73 | 0.00 | .50 | 0.00 | 126.57 | 250.00 |
| 513.000 | 580.00 | 665.73 | -.00 | .50 | 0.00 | 126.57 | 250.00 |
| 513.000 | 580.00 | 665.73 | .00 | .50 | 0.00 | 126.57 | 250.00 |
| 513.100 | 580.00 | 666.01 | 0.00 | .27 | 0.00 | 81.49 | 300.00 |
| 513.100 | 580.00 | 666.01 | -.00 | .27 | 0.00 | 81.49 | 300.00 |
| 513.100 | 580.00 | 666.01 | .00 | .27 | 0.00 | 81.49 | 300.00 |
| 513.150 | 580.00 | 666.00 | 0.00 | -.01 | 0.00 | 81.41 | 1.00 |
| 513.150 | 580.00 | 666.00 | -.00 | -.01 | 0.00 | 81.41 | 1.00 |
| 513.150 | 580.00 | 666.00 | .00 | -.01 | 0.00 | 81.41 | 1.00 |
| 513.160 | 580.00 | 666.07 | 0.00 | .07 | 0.00 | 82.68 | 8.00 |
| 513.160 | 580.00 | 666.07 | -.00 | .07 | 0.00 | 82.68 | 8.00 |
| 513.160 | 580.00 | 666.07 | .00 | .07 | 0.00 | 82.68 | 8.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 513.170 | 580.00 | 666.09 | 0.00 | .02 | 0.00 | 82.95 | 1.00 |
| 513.170 | 580.00 | 666.09 | -.00 | .02 | 0.00 | 82.95 | 1.00 |
| 513.170 | 580.00 | 666.09 | .00 | .02 | 0.00 | 82.95 | 1.00 |
| 514.200 | 580.00 | 666.51 | 0.00 | .41 | 0.00 | 290.55 | 520.00 |
| 514.200 | 580.00 | 666.51 | -.00 | .41 | 0.00 | 290.55 | 520.00 |
| 514.200 | 580.00 | 666.51 | .00 | .41 | 0.00 | 290.55 | 520.00 |
| 513.980 | 580.00 | 666.55 | 0.00 | .04 | 0.00 | 342.51 | 109.00 |
| 513.980 | 580.00 | 666.55 | -.00 | .04 | 0.00 | 342.51 | 109.00 |
| 513.980 | 580.00 | 666.55 | .00 | .04 | 0.00 | 342.51 | 109.00 |
| 514.020 | 580.00 | 666.74 | 0.00 | .20 | 0.00 | 294.00 | 51.00 |
| 514.020 | 580.00 | 666.74 | 0.00 | .20 | 0.00 | 294.00 | 51.00 |
| 514.020 | 580.00 | 666.74 | .00 | .20 | 0.00 | 294.00 | 51.00 |
| 514.800 | 580.00 | 666.76 | 0.00 | .02 | 0.00 | 193.37 | 60.00 |
| 514.800 | 580.00 | 666.76 | 0.00 | .02 | 0.00 | 193.37 | 60.00 |
| 514.800 | 580.00 | 666.76 | .00 | .02 | 0.00 | 193.37 | 60.00 |
| 514.900 | 580.00 | 666.78 | 0.00 | .02 | 0.00 | 195.53 | 25.00 |
| 514.900 | 580.00 | 666.78 | 0.00 | .02 | 0.00 | 195.53 | 25.00 |
| 514.900 | 580.00 | 666.78 | .00 | .02 | 0.00 | 195.53 | 25.00 |
| 514.910 | 580.00 | 666.80 | 0.00 | .01 | 0.00 | 196.79 | .50 |
| 514.910 | 580.00 | 666.80 | 0.00 | .01 | 0.00 | 196.79 | .50 |
| 514.910 | 580.00 | 666.80 | .00 | .01 | 0.00 | 196.79 | .50 |
| 514.920 | 580.00 | 666.81 | 0.00 | .01 | 0.00 | 198.16 | 4.00 |
| 514.920 | 580.00 | 666.81 | 0.00 | .01 | 0.00 | 198.16 | 4.00 |
| 514.920 | 580.00 | 666.81 | .00 | .01 | 0.00 | 198.16 | 4.00 |
| 514.930 | 580.00 | 666.81 | 0.00 | -.00 | 0.00 | 198.90 | .50 |
| 514.930 | 580.00 | 666.81 | 0.00 | -.00 | 0.00 | 198.90 | .50 |
| 514.930 | 580.00 | 666.81 | .00 | -.00 | 0.00 | 198.90 | .50 |
| 514.980 | 580.00 | 666.94 | 0.00 | .14 | 0.00 | 294.00 | 190.00 |
| 514.980 | 580.00 | 666.94 | 0.00 | .14 | 0.00 | 294.00 | 190.00 |
| 514.980 | 580.00 | 666.94 | 0.00 | .14 | 0.00 | 294.00 | 190.00 |
| 515.020 | 580.00 | 667.07 | 0.00 | .12 | 0.00 | 400.00 | 50.00 |
| 515.020 | 580.00 | 667.07 | 0.00 | .12 | 0.00 | 400.00 | 50.00 |
| 515.020 | 580.00 | 667.07 | 0.00 | .12 | 0.00 | 400.00 | 50.00 |
| 515.800 | 580.00 | 667.09 | 0.00 | .02 | 0.00 | 299.27 | 100.00 |
| 515.800 | 580.00 | 667.09 | 0.00 | .02 | 0.00 | 299.27 | 100.00 |
| 515.800 | 580.00 | 667.09 | 0.00 | .02 | 0.00 | 299.27 | 100.00 |
| 515.850 | 580.00 | 667.45 | 0.00 | .36 | 0.00 | 291.88 | 350.00 |
| 515.850 | 580.00 | 667.45 | 0.00 | .36 | 0.00 | 291.88 | 350.00 |
| 515.850 | 580.00 | 667.45 | 0.00 | .36 | 0.00 | 291.88 | 350.00 |
| 515.900 | 580.00 | 667.79 | 0.00 | .34 | 0.00 | 304.31 | 440.00 |
| 515.900 | 580.00 | 667.79 | 0.00 | .34 | 0.00 | 304.31 | 440.00 |
| 515.900 | 580.00 | 667.79 | 0.00 | .34 | 0.00 | 304.31 | 440.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 515.950 | 580.00 | 667.76 | 0.00 | -.04 | 0.00 | 300.98 | 1.00 |
| 515.950 | 580.00 | 667.76 | 0.00 | -.04 | 0.00 | 300.98 | 1.00 |
| 515.950 | 580.00 | 667.76 | 0.00 | -.04 | 0.00 | 300.98 | 1.00 |
| 515.960 | 580.00 | 667.82 | 0.00 | .06 | 0.00 | 306.64 | 8.00 |
| 515.960 | 580.00 | 667.82 | 0.00 | .06 | 0.00 | 306.64 | 8.00 |
| 515.960 | 580.00 | 667.82 | 0.00 | .06 | 0.00 | 306.64 | 8.00 |
| 515.970 | 580.00 | 667.88 | 0.00 | .07 | 0.00 | 313.00 | 1.00 |
| 515.970 | 580.00 | 667.88 | 0.00 | .07 | 0.00 | 313.00 | 1.00 |
| 515.970 | 580.00 | 667.88 | 0.00 | .07 | 0.00 | 313.00 | 1.00 |
| 516.000 | 580.00 | 667.90 | 0.00 | .02 | 0.00 | 271.50 | 50.00 |
| 516.000 | 580.00 | 667.90 | 0.00 | .02 | 0.00 | 271.50 | 50.00 |
| 516.000 | 580.00 | 667.90 | 0.00 | .02 | 0.00 | 271.50 | 50.00 |
| 516.200 | 580.00 | 668.13 | 0.00 | .23 | 0.00 | 275.52 | 350.00 |
| 516.200 | 580.00 | 668.13 | 0.00 | .23 | 0.00 | 275.52 | 350.00 |
| 516.200 | 580.00 | 668.13 | 0.00 | .23 | 0.00 | 275.52 | 350.00 |
| 516.400 | 580.00 | 668.21 | 0.00 | .08 | 0.00 | 1044.35 | 350.00 |
| 516.400 | 580.00 | 668.21 | 0.00 | .08 | 0.00 | 1044.35 | 350.00 |
| 516.400 | 580.00 | 668.21 | 0.00 | .08 | 0.00 | 1044.35 | 350.00 |
| 517.000 | 580.00 | 668.21 | 0.00 | .00 | 0.00 | 1034.35 | 300.00 |
| 517.000 | 580.00 | 668.21 | 0.00 | .00 | 0.00 | 1034.35 | 300.00 |
| 517.000 | 580.00 | 668.21 | 0.00 | .00 | 0.00 | 1034.35 | 300.00 |
| 517.200 | 580.00 | 668.22 | 0.00 | .00 | 0.00 | 1029.45 | 400.00 |
| 517.200 | 580.00 | 668.22 | 0.00 | .00 | 0.00 | 1029.45 | 400.00 |
| 517.200 | 580.00 | 668.22 | 0.00 | .00 | 0.00 | 1029.45 | 400.00 |
| 517.800 | 580.00 | 668.21 | 0.00 | -.00 | 0.00 | 463.07 | 350.00 |
| 517.800 | 580.00 | 668.21 | 0.00 | -.00 | 0.00 | 463.07 | 350.00 |
| 517.800 | 580.00 | 668.21 | 0.00 | -.00 | 0.00 | 463.07 | 350.00 |
| 518.200 | 580.00 | 668.48 | 0.00 | .27 | 0.00 | 458.26 | 380.00 |
| 518.200 | 580.00 | 668.48 | 0.00 | .27 | 0.00 | 458.26 | 380.00 |
| 518.200 | 580.00 | 668.48 | 0.00 | .27 | 0.00 | 458.26 | 380.00 |
| 517.980 | 580.00 | 668.62 | 0.00 | .14 | 0.00 | 314.18 | 120.00 |
| 517.980 | 580.00 | 668.62 | 0.00 | .14 | 0.00 | 314.18 | 120.00 |
| 517.980 | 580.00 | 668.62 | 0.00 | .14 | 0.00 | 314.18 | 120.00 |
| 518.020 | 580.00 | 670.57 | 0.00 | 1.94 | 0.00 | 487.70 | 50.00 |
| 518.020 | 580.00 | 670.57 | 0.00 | 1.94 | 0.00 | 487.70 | 50.00 |
| 518.020 | 580.00 | 670.57 | 0.00 | 1.94 | 0.00 | 487.70 | 50.00 |
| 518.800 | 580.00 | 670.58 | 0.00 | .01 | 0.00 | 507.95 | 80.00 |
| 518.800 | 580.00 | 670.58 | 0.00 | .01 | 0.00 | 507.95 | 80.00 |
| 518.800 | 580.00 | 670.58 | 0.00 | .01 | 0.00 | 507.95 | 80.00 |
| 518.850 | 580.00 | 670.66 | 0.00 | .08 | 0.00 | 374.77 | 475.00 |
| 518.850 | 580.00 | 670.66 | 0.00 | .08 | 0.00 | 374.77 | 475.00 |
| 518.850 | 580.00 | 670.66 | 0.00 | .08 | 0.00 | 374.77 | 475.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 518.900 | 580.00 | 670.81 | 0.00 | .15 | 0.00 | 640.00 | 400.00 |
| 518.900 | 580.00 | 670.81 | 0.00 | .15 | 0.00 | 640.00 | 400.00 |
| 518.900 | 580.00 | 670.81 | 0.00 | .15 | 0.00 | 640.00 | 400.00 |
| 519.200 | 580.00 | 671.08 | 0.00 | .27 | 0.00 | 550.26 | 450.00 |
| 519.200 | 580.00 | 671.08 | 0.00 | .27 | 0.00 | 550.26 | 450.00 |
| 519.200 | 580.00 | 671.08 | 0.00 | .27 | 0.00 | 550.26 | 450.00 |
| 519.390 | 580.00 | 671.11 | 0.00 | .03 | 0.00 | 553.33 | 1.00 |
| 519.390 | 580.00 | 671.11 | 0.00 | .03 | 0.00 | 553.33 | 1.00 |
| 519.390 | 580.00 | 671.11 | 0.00 | .03 | 0.00 | 553.33 | 1.00 |
| 519.410 | 580.00 | 671.18 | 0.00 | .07 | 0.00 | 558.84 | 12.00 |
| 519.410 | 580.00 | 671.18 | 0.00 | .07 | 0.00 | 558.84 | 12.00 |
| 519.410 | 580.00 | 671.18 | 0.00 | .07 | 0.00 | 558.84 | 12.00 |
| 519.420 | 580.00 | 671.17 | 0.00 | -.00 | 0.00 | 560.30 | 1.00 |
| 519.420 | 580.00 | 671.17 | 0.00 | -.00 | 0.00 | 560.30 | 1.00 |
| 519.420 | 580.00 | 671.17 | 0.00 | -.00 | 0.00 | 560.30 | 1.00 |
| 519.500 | 580.00 | 671.25 | 0.00 | .08 | 0.00 | 528.55 | 45.00 |
| 519.500 | 580.00 | 671.25 | 0.00 | .08 | 0.00 | 528.55 | 45.00 |
| 519.500 | 580.00 | 671.25 | 0.00 | .08 | 0.00 | 528.55 | 45.00 |
| 518.980 | 580.00 | 671.47 | 0.00 | .22 | 0.00 | 549.82 | 50.00 |
| 518.980 | 580.00 | 671.47 | 0.00 | .22 | 0.00 | 549.82 | 50.00 |
| 518.980 | 580.00 | 671.47 | 0.00 | .22 | 0.00 | 549.82 | 50.00 |
| 519.020 | 580.00 | 671.81 | 0.00 | .33 | 0.00 | 405.34 | 80.00 |
| 519.020 | 580.00 | 671.81 | 0.00 | .33 | 0.00 | 405.34 | 80.00 |
| 519.020 | 580.00 | 671.81 | 0.00 | .33 | 0.00 | 405.34 | 80.00 |
| 519.800 | 580.00 | 672.45 | 0.00 | .64 | 0.00 | 115.79 | 80.00 |
| 519.800 | 580.00 | 672.45 | 0.00 | .64 | 0.00 | 115.79 | 80.00 |
| 519.800 | 580.00 | 672.45 | 0.00 | .64 | 0.00 | 115.79 | 80.00 |
| 519.900 | 580.00 | 675.18 | 0.00 | 2.73 | 0.00 | 235.45 | 391.00 |
| 519.900 | 580.00 | 675.18 | 0.00 | 2.73 | 0.00 | 235.45 | 391.00 |
| 519.900 | 580.00 | 675.18 | 0.00 | 2.73 | 0.00 | 235.45 | 391.00 |
| 519.920 | 580.00 | 675.20 | 0.00 | .02 | 0.00 | 235.95 | 1.00 |
| 519.920 | 580.00 | 675.20 | 0.00 | .02 | 0.00 | 235.95 | 1.00 |
| 519.920 | 580.00 | 675.20 | 0.00 | .02 | 0.00 | 235.95 | 1.00 |
| 519.930 | 580.00 | 675.31 | 0.00 | .11 | 0.00 | 243.84 | 22.00 |
| 519.930 | 580.00 | 675.31 | 0.00 | .11 | 0.00 | 243.84 | 22.00 |
| 519.930 | 580.00 | 675.31 | 0.00 | .11 | 0.00 | 243.84 | 22.00 |
| 519.940 | 580.00 | 675.31 | 0.00 | -.01 | 0.00 | 244.17 | 1.00 |
| 519.940 | 580.00 | 675.31 | 0.00 | -.01 | 0.00 | 244.17 | 1.00 |
| 519.940 | 580.00 | 675.31 | 0.00 | -.01 | 0.00 | 244.17 | 1.00 |
| 520.000 | 580.00 | 676.35 | 0.00 | 1.04 | 0.00 | 239.55 | 500.00 |
| 520.000 | 580.00 | 676.35 | 0.00 | 1.04 | 0.00 | 239.55 | 500.00 |
| 520.000 | 580.00 | 676.35 | 0.00 | 1.04 | 0.00 | 239.55 | 500.00 |

| SECNQ | Q | CHSEL | DIFWSP | DIFWSY | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 520.100 | 580.00 | 677.45 | 0.00 | 1.10 | 0.00 | 239.33 | 500.00 |
| 520.100 | 580.00 | 677.45 | 0.00 | 1.10 | 0.00 | 239.33 | 500.00 |
| 520.100 | 580.00 | 677.45 | 0.00 | 1.10 | 0.00 | 239.33 | 500.00 |
| 520.300 | 580.00 | 678.71 | 0.00 | 1.26 | 0.00 | 244.46 | 600.00 |
| 520.300 | 580.00 | 678.71 | 0.00 | 1.26 | 0.00 | 244.46 | 600.00 |
| 520.300 | 580.00 | 678.71 | 0.00 | 1.26 | 0.00 | 244.46 | 600.00 |
| 520.400 | 580.00 | 679.67 | 0.00 | .95 | 0.00 | 190.15 | 300.00 |
| 520.400 | 580.00 | 679.67 | 0.00 | .95 | 0.00 | 190.15 | 300.00 |
| 520.400 | 580.00 | 679.67 | 0.00 | .95 | 0.00 | 190.15 | 300.00 |
| 520.480 | 580.00 | 680.01 | 0.00 | .34 | 0.00 | 56.02 | 50.00 |
| 520.480 | 580.00 | 680.01 | 0.00 | .34 | 0.00 | 56.02 | 50.00 |
| 520.480 | 580.00 | 680.01 | 0.00 | .34 | 0.00 | 56.02 | 50.00 |
| 520.520 | 580.00 | 683.38 | 0.00 | 3.37 | 0.00 | 546.87 | 65.00 |
| 520.520 | 580.00 | 683.38 | 0.00 | 3.37 | 0.00 | 546.87 | 65.00 |
| 520.520 | 580.00 | 683.38 | 0.00 | 3.37 | 0.00 | 546.87 | 65.00 |
| 520.530 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 547.12 | 3.00 |
| 520.530 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 547.12 | 3.00 |
| 520.530 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 547.12 | 3.00 |
| 520.540 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 546.57 | 4.00 |
| 520.540 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 546.57 | 4.00 |
| 520.540 | 580.00 | 683.38 | 0.00 | .00 | 0.00 | 546.57 | 4.00 |
| 520.550 | 580.00 | 683.41 | 0.00 | .02 | 0.00 | 637.12 | 1.00 |
| 520.550 | 580.00 | 683.41 | 0.00 | .02 | 0.00 | 637.12 | 1.00 |
| 520.550 | 580.00 | 683.41 | 0.00 | .02 | 0.00 | 637.12 | 1.00 |
| 520.600 | 580.00 | 683.41 | 0.00 | .00 | 0.00 | 568.26 | 35.00 |
| 520.600 | 580.00 | 683.41 | 0.00 | .00 | 0.00 | 568.26 | 35.00 |
| 520.600 | 580.00 | 683.41 | 0.00 | .00 | 0.00 | 568.26 | 35.00 |
| 521.000 | 580.00 | 683.35 | 0.00 | -.06 | 0.00 | 562.78 | 250.00 |
| 521.000 | 580.00 | 683.35 | 0.00 | -.06 | 0.00 | 562.78 | 250.00 |
| 521.000 | 580.00 | 683.35 | 0.00 | -.06 | 0.00 | 562.78 | 250.00 |
| 521.100 | 580.00 | 684.88 | 0.00 | 1.54 | 0.00 | 192.62 | 250.00 |
| 521.100 | 580.00 | 684.88 | 0.00 | 1.54 | 0.00 | 192.62 | 250.00 |
| 521.100 | 580.00 | 684.88 | 0.00 | 1.54 | 0.00 | 192.62 | 250.00 |
| 521.200 | 580.00 | 687.06 | 0.00 | 2.17 | 0.00 | 540.68 | 250.00 |
| 521.200 | 580.00 | 687.06 | 0.00 | 2.17 | 0.00 | 540.68 | 250.00 |
| 521.200 | 580.00 | 687.06 | 0.00 | 2.17 | 0.00 | 540.68 | 250.00 |
| 521.600 | 580.00 | 688.64 | 0.00 | 1.58 | 0.00 | 144.46 | 200.00 |
| 521.600 | 580.00 | 688.64 | 0.00 | 1.58 | 0.00 | 144.46 | 200.00 |
| 521.600 | 580.00 | 688.64 | 0.00 | 1.58 | 0.00 | 144.46 | 200.00 |
| 521.700 | 580.00 | 691.79 | 0.00 | 3.15 | 0.00 | 59.23 | 250.00 |
| 521.700 | 580.00 | 691.79 | 0.00 | 3.15 | 0.00 | 59.23 | 250.00 |
| 521.700 | 580.00 | 691.79 | 0.00 | 3.15 | 0.00 | 59.23 | 250.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | YLCH |
|---|---|---|---|---|---|---|---|
| 521.800 | 580.00 | 694.40 | 0.00 | 2.62 | 0.00 | 143.30 | 250.00 |
| 521.800 | 580.00 | 694.40 | 0.00 | 2.62 | 0.00 | 143.30 | 250.00 |
| 521.800 | 580.00 | 694.40 | 0.00 | 2.62 | 0.00 | 143.30 | 250.00 |
| 522.200 | 580.00 | 695.37 | 0.00 | .97 | 0.00 | 135.03 | 150.00 |
| 522.200 | 580.00 | 695.37 | 0.00 | .97 | 0.00 | 135.03 | 150.00 |
| 522.200 | 580.00 | 695.37 | 0.00 | .97 | 0.00 | 135.03 | 150.00 |
| 522.250 | 580.00 | 695.91 | 0.00 | .54 | 0.00 | 67.72 | 55.00 |
| 522.250 | 580.00 | 695.91 | 0.00 | .54 | 0.00 | 67.72 | 55.00 |
| 522.250 | 580.00 | 695.91 | 0.00 | .54 | 0.00 | 67.72 | 55.00 |
| 521.980 | 580.00 | 696.82 | 0.00 | .91 | 0.00 | 41.82 | 55.00 |
| 521.980 | 580.00 | 696.82 | 0.00 | .91 | 0.00 | 41.82 | 55.00 |
| 521.980 | 580.00 | 696.82 | 0.00 | .91 | 0.00 | 41.82 | 55.00 |
| 522.020 | 580.00 | 700.04 | 0.00 | 3.22 | 0.00 | 143.81 | 90.00 |
| 522.020 | 580.00 | 700.04 | 0.00 | 3.22 | 0.00 | 143.81 | 90.00 |
| 522.020 | 580.00 | 700.04 | 0.00 | 3.22 | 0.00 | 143.81 | 90.00 |
| 522.300 | 580.00 | 700.32 | 0.00 | .28 | 0.00 | 162.61 | 2.00 |
| 522.300 | 580.00 | 700.32 | 0.00 | .28 | 0.00 | 162.61 | 2.00 |
| 522.300 | 580.00 | 700.32 | 0.00 | .28 | 0.00 | 152.61 | 2.00 |
| 522.400 | 580.00 | 700.35 | 0.00 | .03 | 0.00 | 165.12 | 2.00 |
| 522.400 | 580.00 | 700.35 | 0.00 | .03 | 0.00 | 165.12 | 2.00 |
| 522.400 | 580.00 | 700.35 | 0.00 | .03 | 0.00 | 165.12 | 2.00 |
| 522.500 | 580.00 | 700.57 | 0.00 | .22 | 0.00 | 184.87 | 1.00 |
| 522.500 | 580.00 | 700.57 | 0.00 | .22 | 0.00 | 184.87 | 1.00 |
| 522.500 | 580.00 | 700.57 | 0.00 | .22 | 0.00 | 184.87 | 1.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      100 YEAR FLOW  ENCROACHMENT OPTION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 668.340 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 2

CCHV=    .200 CEHV=    .400
*SECNO 517.800
 2800 NAT Q1=    220.75  WSEL=    668.21  ENC Q1=    220.75  WSEL=    668.31  RATIO=   .0000
 NAT Q1=    237.  RATIOS LOB,CH,ROB=   .2303   .4801   .2896  WSEL=    668.31

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=    1056.6    1361.8  TYPE=     4  TARGET=        .070
   517.80     7.24   668.34     0.00   668.21   668.36      .02      0.00      0.00   668.50
     580.     123.     297.     160.     212.     181.     251.       0.        0.   667.80
     0.00      .58     1.64      .64     .095     .055     .095    0.000    661.10  1056.63
  .000663     350.     350.     350.        0        0        0     0.00    301.79  1361.80

*SECNO 518.200
 2800 NAT Q1=    214.65  WSEL=    668.48  ENC Q1=    214.65  WSEL=    668.58  RATIO=   .0000
 NAT Q1=    232.  RATIOS LOB,CH,ROB=   .2273   .4851   .2876  WSEL=    668.58

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=    1060.4    1359.9  TYPE=     4  TARGET=        .075
   518.20     7.20   668.60     0.00   668.48   668.63      .03      .26       .00   668.80
     580.     119.     303.     158.     201.     178.     241.       6.        3.   668.10
      .09      .59     1.70      .65     .095     .055     .095     .055    661.40  1060.43
  .000715     380.     380.     380.        1        0        0     0.00    295.07  1359.85

CCHV=    .400 CEHV=    .800
*SECNO 517.980
 2800 NAT Q1=    100.64  WSEL=    668.51  ENC Q1=    100.64  WSEL=    668.71  RATIO=   .0000
 NAT Q1=    109.  RATIOS LOB,CH,ROB=   .1101   .6916   .1983  WSEL=    668.71

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=    1109.5    1339.6  TYPE=     4  TARGET=        .077

         ** D/S FACE BATTLES RD. (OPENING FILLED W/CONCRETE DEBRIS)

   517.93     6.23   668.73     0.00   668.61   668.82      .10      .14       .05   669.90
     510.      40.     380.      90.      53.     135.     102.       7.        3.   669.20
      .10      .76     2.82      .88     .095     .055     .095     .055    552.50  1109.50
  .002505     120.     120.     120.        2        0        0     0.00    188.86  1339.58


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
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    0.00      1.00      2.70      0.00      1.00      0.00      2.00      0.00    662.50    662.50

*SECNO 518.020
 2800 NAT Q1=    491.03  WSEL=    670.49  ENC Q1=    491.03  WSEL=    670.59  RATIO=   .0000
 NAT Q1=    513.  RATIOS LOB,CH,ROB=   .5427   .3761   .0812  WSEL=    670.59
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=    1001.4    1285.3  TYPE=     4  TARGET=        .043
   518.02     8.11   670.61     0.00   670.49   670.62      .01      .01      .04   667.00
     510.     278.     200.      32.     723.     224.     115.       8.       4.   667.40
      .13      .39      .89      .28     .095     .055     .095     .055   662.50  1001.37
  .000106      50.      50.      50.        0        0       11     0.00   283.92  1285.29


CCHV=    .150 CEHV=    .350
*SECNO 518.800
 2800 NAT Q1=    538.97  WSEL=    670.50  ENC Q1=    538.97  WSEL=    670.50  RATIO=  0.0000
 NAT Q1=    564.  RATIOS LOB,CH,ROB=   .5474   .3628   .0898  WSEL=    670.60
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     996.6    1292.6  TYPE=     4  TARGET=        .044
   518.80     8.32   670.62     0.00   670.50   670.62      .01      .01      .00   666.80
     510.     281.     193.      36.     776.     232.     139.      10.       4.   667.20
      .17      .36      .83      .26     .095     .055     .095     .055   562.30   996.59
  .000088      80.      80.      80.        0        0        0     0.00   295.97  1292.55

*SECNO 518.850
 2800 NAT Q1=    275.00  WSEL=    670.57  ENC Q1=    275.00  WSEL=    670.57  RATIO=   .0000
 NAT Q1=    291.  RATIOS LOB,CH,ROB=   .4985   .4661   .0353  WSEL=    670.67

3470 ENCROACHMENT STATIONS=    1033.1    1239.5  TYPE=     4  TARGET=        .054
   518.85     6.98   670.68     0.00   670.57   670.70      .02      .07      .00   668.20
     510.     255.     251.       4.     452.     182.      11.      19.       7.   668.60
      .31      .56     1.38      .37     .095     .055     .095     .055   563.70  1033.08
  .000338     475.     475.     475.        2        0        0     0.00   206.45  1239.53


*SECNO 518.900
 2800 NAT Q1=    305.67  WSEL=    670.70  ENC Q1=    305.67  WSEL=    670.80  RATIO=   .0000
 NAT Q1=    331.  RATIOS LOB,CH,ROB=   .4365   .2239   .3395  WSEL=    670.80
3280 CROSS SECTION    518.90 EXTENDED       .11 FEET


3470 ENCROACHMENT STATIONS=     404.1     874.9  TYPE=     4  TARGET=        .077
   518.90     6.12   670.82     0.00   670.70   670.83      .01      .12      .00   668.30
     510.     220.     123.     167.     493.     106.     426.      27.      10.   668.90
      .49      .45     1.16      .39     .095     .055     .095     .055   664.70   404.12
  .000276     400.     400.     400.        1        0        0     0.00   470.74   874.86


CCHV=    .300 CEHV=    .500
*SECNO 519.200
 2800 NAT Q1=    107.39  WSEL=    670.95  ENC Q1=    107.39  WSEL=    671.05  RATIO=   .0000
 NAT Q1=    122.  RATIOS LOB,CH,ROB=   .3909   .3889   .2202  WSEL=    671.05
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3470 ENCROACHMENT STATIONS=      448.5      822.8  TYPE=      4  TARGET=          .116
   519.20      5.06    671.06      0.00    670.95    671.12      .06       .27       .02    669.60
     510.       192.      223.       94.      223.       81.     146.       35.       14.    670.20
      .57       .86      2.74       .65      .095      .055     .095      .055    666.00    448.52
  .002205      450.      450.      450.         2         0        0      0.00    374.27    822.79


*SECNO 519.390
 2800 NAT Q1=      62.44  WSEL=    670.99  ENC Q1=      62.44  WSEL=    671.09  RATIO=  0.0000
 NAT Q1=      74.  RATIOS LOB,CH,ROB=   .3815   .2335   .3850  WSEL=    671.09

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.20 MAX ELLC=  669.50


3470 ENCROACHMENT STATIONS=      539.5      837.8  TYPE=      4  TARGET=          .160

         ** D/S FACE FOOTBRIDGE

   519.39      5.07    671.07      0.00    670.99    671.13      .06       .00       .00    669.60
     510.       105.      178.      227.       72.       65.     159.       35.       14.    670.20
      .57      1.47      2.72      1.43      .095      .055     .095      .055    666.00    539.53
  .010798        1.        1.        1.         0         0        0    -58.37    298.24    837.77


*SECNO 519.410
 2800 NAT Q1=      71.61  WSEL=    671.06  ENC Q1=      71.61  WSEL=    671.16  RATIO=  0.0000
 NAT Q1=      84.  RATIOS LOB,CH,ROB=   .3896   .2156   .3948  WSEL=    671.16
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELWIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.20 MAX ELLC=  669.50


3470 ENCROACHMENT STATIONS=      532.1      843.3  TYPE=      4  TARGET=          .151
   519.41      5.19    671.19      0.00    671.06    671.24      .04       .10       .01    669.60
     510.       116.      155.      238.       89.       68.     188.       35.       14.    670.20
      .57      1.30      2.27      1.27      .095      .055     .095      .055    666.00    532.11
  .007048       12.       12.       12.         2         0        0    -61.49    311.17    843.28


*SECNO 519.420
 2800 NAT Q1=     123.13  WSEL=    671.06  ENC Q1=     123.13  WSEL=    671.16  RATIO=   .0000
 NAT Q1=     138.  RATIOS LOB,CH,ROB=   .3988   .3614   .2398  WSEL=    671.16

3470 ENCROACHMENT STATIONS=      441.3      835.9  TYPE=      4  TARGET=          .105
   519.42      5.20    671.20      0.00    671.06    671.24      .04       .00       .00    669.60
     510.       199.      202.      110.      255.       85.     182.       35.       14.    670.20
      .57       .78      2.38       .60      .095      .055     .095      .055    666.00    441.32
  .001583        1.        1.        1.         0         0        0      0.00    394.56    835.88


*SECNO 519.500
 2800 NAT Q1=      80.66  WSEL=    671.14  ENC Q1=      80.66  WSEL=    671.24  RATIO=   .0000
 NAT Q1=      93.  RATIOS LOB,CH,ROB=   .3697   .4580   .1723  WSEL=    671.24

3470 ENCROACHMENT STATIONS=      461.6      790.5  TYPE=      4  TARGET=          .129
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   519.50      4.87    671.27      0.00    671.14    671.38       .10       .10       .03    670.00
     510.       181.      263.       66.      178.       77.       93.       35.       15.     670.60
      .58      1.02      3.43       .71      .095      .055      .095      .055    666.40    461.57
  .003724       45.       45.       45.         2         0         0      0.00    328.96    790.53

*SECNO 518.980

3470 ENCROACHMENT STATIONS=      430.0      885.0  TYPE=      1  TARGET=      455.000

         ** D/S FACE RANDALL RD.

   518.98      4.09    671.49      0.00    671.37    671.51       .02       .11       .02    670.00
     400.       167.      131.      102.      247.       68.      200.       36.       15.     670.60
      .59       .68      1.93       .51      .095      .055      .095      .055    667.40    430.00
  .001345       50.       50.       50.         2         0         0      0.00    455.00    885.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.65      2.90      0.00      9.35      0.00     35.54      0.00    667.70    667.70

*SECNO 519.020

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=   576.699  EGLWC=   671.810  ELLC=   671.500  PCWSE=   671.487  ELTRD=   670.000

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  670.00 MAX ELLC=  671.50


3470 ENCROACHMENT STATIONS=      300.0      692.0  TYPE=      1  TARGET=      392.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.00 ELREA=      671.70

   519.02      3.97    671.67      0.00    671.59    671.70       .03       .18       .00    671.50
     400.       330.       70.        0.      281.       35.        0.       36.       16.     671.50
      .61      1.17      1.99       0.00      .095      .055      .095      .055    667.70    300.00
  .004791       80.       80.       80.         2         0         0   -416.93    367.00    667.00

*SECNO 519.800

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     USELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITERIAL   IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      300.0      810.0  TYPE=      1  TARGET=      510.000
   519.80      4.29    672.09      0.00    672.08    672.51       .42       .62       .19    673.00
     400.        0.      400.       0.        1.       77.        0.       37.       16.     674.00
      .61       .24      5.18       0.00      .095      .055      .095      .055    667.80    446.89
  .014408       80.       80.       80.         2         0         0      0.00     52.10    676.82
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CCHV=    .200 CEHV=    .400
*SECNO 519.900
 2800 NAT Q1=      74.32  WSEL=    674.68  ENC Q1=      74.32  WSEL=    674.78  RATIO=   .0000
 NAT Q1=      82.  RATIOS LOB,CH,ROB=   .3526   .3668   .2807  WSEL=    674.78

3470 ENCROACHMENT STATIONS=      758.8     915.1  TYPE=      4  TARGET=        .098
   519.93      3.15   674.75     0.00   674.68   674.82      .07      2.24      .07   672.70
     400.      133.     164.     103.     127.      56.      77.       38.      17.    672.20
      .67      1.05     2.94     1.33     .095     .055     .095      .055   571.60   758.81
  .003060      391.     391.     391.        4        0        0      0.00   156.33   915.14


*SECNO 519.920
 2800 NAT Q1=      45.37  WSEL=    674.71  ENC Q1=      45.37  WSEL=    674.81  RATIO=   .0000
 NAT Q1=      52.  RATIOS LOB,CH,ROB=   .5269   .1594   .3137  WSEL=    674.81

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  673.30 MAX ELLC=  672.20


3470 ENCROACHMENT STATIONS=      754.1     897.9  TYPE=      4  TARGET=        .133

        ** D/S FACE FOOTBRIDGE (TOTALLY OBSTRUCTED 3 FT. CIRCULAR CMP)

   519.92      3.16   674.76     0.00   674.71   674.83      .07       .01      .00   672.70
     400.      246.      87.      67.     125.      36.      32.       38.      17.    672.20
      .67      1.96     2.44     2.11     .095     .055     .095      .055   671.60   754.08
  .011959        1.       1.       1.        0        0        0    -43.93   143.82   897.90


*SECNO 519.930
 2800 NAT Q1=      55.58  WSEL=    674.86  ENC Q1=      55.58  WSEL=    674.96  RATIO=   .0000
 NAT Q1=      63.  RATIOS LOB,CH,ROB=   .5352   .1519   .3129  WSEL=    674.96

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  673.30 MAX ELLC=  672.20


3470 ENCROACHMENT STATIONS=      748.2     901.3  TYPE=      4  TARGET=        .111
   519.93      3.38   674.98     0.00   674.86   675.02      .04       .19      .00   672.70
     400.      249.      78.      73.     155.      40.      42.       38.      17.    672.20
      .67      1.61     1.96     1.72     .095     .055     .095      .055   571.60   748.25
  .006597       22.      22.      22.        2        0        0    -45.33   153.08   901.33


*SECNO 519.940
 2800 NAT Q1=      88.51  WSEL=    674.85  ENC Q1=      88.51  WSEL=    674.95  RATIO=   .0000
 NAT Q1=      96.  RATIOS LOB,CH,ROB=   .3724   .3454   .2822  WSEL=    674.95

3470 ENCROACHMENT STATIONS=      751.0     919.8  TYPE=      4  TARGET=        .082
   519.94      3.38   674.98     0.00   674.85   675.02      .05       .00      .00   672.70
     400.      145.     149.     105.     159.      60.      94.       38.      17.    672.20
      .67       .92     2.48     1.12     .095     .055     .095      .055   571.60   751.04
  .001955        1.       1.       1.        0        0        0      0.00   168.74   919.78


*SECNO 520.000
 2800 NAT Q1=      85.01  WSEL=    675.91  ENC Q1=      85.01  WSEL=    676.01  RATIO=   .0000
 NAT Q1=      93.  RATIOS LOB,CH,ROB=   .3682   .3499   .2819  WSEL=    676.01
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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3470 ENCROACHMENT STATIONS=      753.1      918.5  TYPE=      4  TARGET=          .087
   520.00      3.31    676.01      0.00    675.91    676.07      .05      1.04      .00    673.80
     400.      142.      153.      105.      149.       59.      89.       42.      19.    673.30
      .76       .95      2.60      1.18      .095      .055     .095      .055   672.70    753.06
  .002213      500.      500.      500.         2         0        0      0.00   165.41    918.47

*SECNO 520.100
 2800 NAT Q1=      85.27  WSEL=    677.02  ENC Q1=      85.27  WSEL=    677.12  RATIO=   .0000
 NAT Q1=      93.  RATIOS LOB,CH,ROB=   .3686   .3495   .2819  WSEL=    677.12

3470 ENCROACHMENT STATIONS=      753.1      918.5  TYPE=      4  TARGET=          .088
   520.10      3.32    677.12      0.00    677.02    677.17      .05      1.11      .00    674.90
     400.      142.      153.      105.      149.       59.      89.       45.      21.    674.40
      .84       .95      2.60      1.18      .095      .055     .095      .055   673.80    753.08
  .002217      500.      500.      500.         1         0        0      0.00   165.38    918.45

*SECNO 520.300
 2800 NAT Q1=      89.64  WSEL=    678.28  ENC Q1=      89.64  WSEL=    678.38  RATIO=  0.0000
 NAT Q1=      99.  RATIOS LOB,CH,ROB=   .3750   .3426   .2824  WSEL=    678.38

3470 ENCROACHMENT STATIONS=      752.6      918.7  TYPE=      4  TARGET=          .091
   520.30      3.38    678.38      0.00    678.28    678.43      .05      1.25      .00    676.10
     400.      145.      150.      104.      157.       60.      92.       50.      23.    675.60
      .95       .92      2.49      1.13      .095      .055     .095      .055   675.00    752.58
  .001974      600.      600.      600.         1         0        0      0.00   166.15    918.74

CCHV=    .400 CEHV=    .800
*SECNO 520.400
 2800 NAT Q1=      51.48  WSEL=    679.21  ENC Q1=      55.11  WSEL=    679.31  RATIO=  -.0704
 NAT Q1=      55.  RATIOS LOB,CH,ROB=   .0008   .9992  0.0000  WSEL=    679.31

3470 ENCROACHMENT STATIONS=      370.0      428.0  TYPE=      4  TARGET=          .001
   520.40      3.58    679.28      0.00    679.21    679.46      .18       .93      .11    679.20
     400.        0.      400.        0.        0.       117.       0.       51.      24.    680.50
      .97      0.00      3.42      0.00      .095      .055     .095      .055   675.70    370.00
  .005505      300.      300.      300.         2         0        0      0.00    51.76    421.76

*SECNO 520.480
 2800 NAT Q1=      68.30  WSEL=    679.55  ENC Q1=      72.39  WSEL=    679.65  RATIO=  -.0599
 NAT Q1=      72.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    679.65

3470 ENCROACHMENT STATIONS=      370.0      428.0  TYPE=      4  TARGET=         0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.10 ELREA=      680.10

        ** D/S FACE WILTON RD.

   520.48      4.00    679.60      0.00    679.55    679.66      .06       .14      .05    679.10
     265.        0.      265.        0.        0.       139.       0.       51.      24.    680.40
      .98      0.00      1.90      0.00      .095      .055     .095      .055   675.60    370.00
  .001427       50.       50.       50.         2         0        0      0.00    53.91    423.91
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SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.70      2.90    450.00      5.28      0.00     23.76      0.00    675.60    675.60

*SECNO 520.520
 PRESS FLOW BECAUSE EGLWC OF    682.94  EXCEEDS 1.5 DEPTH
 2800 NAT Q1=     89.93  WSEL=    682.76  ENC Q1=     92.10  WSEL=    682.86  RATIO=  -.0242
 NAT Q1=     92.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    682.86
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     387.0     404.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     683.00 ELREA=     683.00

   520.52     7.21    682.81      0.00    682.76    682.88       .08       .08       .02    680.00
     265.       0.      265.       0.        0.      119.        0.       51.       24.    680.00
      .99     0.00      2.23      0.00      .095      .055      .095      .055    675.60    387.00
  .000980      65.       65.       65.         0         0         0      0.00     17.00    404.00


*SECNO 520.530
 2800 NAT Q1=    404.19  WSEL=    682.87  ENC Q1=    404.19  WSEL=    682.97  RATIO=   .0000
 NAT Q1=    427.  RATIOS LOB,CH,ROB=   .6782   .2213   .1006  WSEL=    682.97

3470 ENCROACHMENT STATIONS=      86.9     452.7  TYPE=     4  TARGET=       .053
   520.53     7.31    682.91      0.00    682.87    682.91       .00       .00       .03    680.00
     265.     182.       63.       20.      859.      120.      111.       51.       24.    680.00
      .99      .21       .52       .18      .095      .055      .095      .055    675.60     86.88
  .000045       3.        3.        3.         2         0         0      0.00    365.82    452.70


*SECNO 520.540
 2800 NAT Q1=    404.60  WSEL=    682.87  ENC Q1=    404.60  WSEL=    682.97  RATIO=   .0000
 NAT Q1=    427.  RATIOS LOB,CH,ROB=   .6782   .2212   .1006  WSEL=    682.97

3470 ENCROACHMENT STATIONS=      86.7     453.3  TYPE=     4  TARGET=       .053

        ** VAULT AT U/S END OF WILTON RD. CULVERT

   520.54     7.31    682.91      0.00    682.87    682.91       .00       .00       .00    680.00
     265.     182.       63.       21.      860.      120.      112.       51.       24.    680.00
      .99      .21       .52       .18      .095      .055      .095      .055    675.60     86.68
  .000045       4.        4.        4.         0         0         0      0.00    366.65    453.32


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.40      2.90    525.00      3.93      0.00     12.57      0.00    675.60    675.60

*SECNO 520.550
 2800 NAT Q1=    691.63  WSEL=    682.88  ENC Q1=    691.63  WSEL=    682.98  RATIO=  0.0000
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 NAT Q1=     723.  RATIOS LOB,CH,ROB=   .5404   .2718   .1878  WSEL=    682.98
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      102.1      530.9  TYPE=      4  TARGET=          .044
   520.55      7.33    682.93     0.00    682.88    682.93      .00       .00       .00    677.10
     265.      143.      76.      46.     1010.      205.     340.       52.       24.    677.60
      .99       .14       .37      .14      .095      .055     .095      .055    575.60    102.08
  .000015        1.        1.       1.        0         0        6      0.00    428.84    530.92


*SECNO 520.600
 2800 NAT Q1=     440.58  WSEL=     682.88  ENC Q1=     440.58  WSEL=     682.98  RATIO=    .0000
 NAT Q1=     465.  RATIOS LOB,CH,ROB=   .5103   .3318   .1579  WSEL=     682.98

3470 ENCROACHMENT STATIONS=      131.9      489.9  TYPE=      4  TARGET=          .053
   520.60      6.43    682.93     0.00    682.88    682.93      .00       .00       .00    678.00
     265.      134.      94.      37.      705.      177.     186.       53.       25.    678.50
     1.03       .19       .53      .20      .095      .055     .095      .055    576.50    131.93
  .000038       35.       35.      35.        0         0        0      0.00    357.95    489.88


CCHV=    .200 CEHV=    .400
*SECNO 521.000
 2800 NAT Q1=      54.10  WSEL=     682.84  ENC Q1=      55.15  WSEL=     682.94  RATIO=  -.0194
 NAT Q1=      57.  RATIOS LOB,CH,ROB=  0.0000   .9671   .0329  WSEL=     682.94
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      458.0      488.0  TYPE=      4  TARGET=          .033
   521.00      4.88    682.88     0.00    682.84    683.01      .13       .03       .05    683.70
     265.        0.     265.       0.        0.       92.       0.       56.       26.    685.50
     1.05      0.00      2.88     0.00      .095      .055     .095      .055    578.00    458.37
  .002405      250.     250.     250.         2         0        0      0.00     24.49    482.86


*SECNO 521.100
 2800 NAT Q1=      34.17  WSEL=     683.66  ENC Q1=      35.75  WSEL=     683.76  RATIO=  -.0463
 NAT Q1=      36.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     683.76

3470 ENCROACHMENT STATIONS=      458.0      488.0  TYPE=      4  TARGET=          0.000
   521.10      3.80    683.70     0.00    683.66    683.95      .24       .89       .05    685.60
     265.        0.     265.       0.        0.       67.       0.       56.       26.    687.40
     1.07      0.00      3.96     0.00      .095      .055     .095      .055    679.90    458.86
  .005811      250.     250.     250.         2         0        0      0.00     21.88    480.75


*SECNO 521.200
 2800 NAT Q1=      30.37  WSEL=     685.32  ENC Q1=      31.96  WSEL=     685.42  RATIO=  -.0524
 NAT Q1=      32.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     685.42

3470 ENCROACHMENT STATIONS=      458.0      488.0  TYPE=      4  TARGET=          0.000
   521.20      3.52    685.32     0.00    685.32    685.62      .29      1.65       .02    687.50
     265.        0.     265.       0.        0.       61.       0.       57.       26.    689.30
     1.08      0.00      4.35     0.00      .095      .055     .095      .055    581.80    458.99
  .007570      250.     250.     250.         2         0        0      0.00     21.21    480.20
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*SECNO 521.600
 2800 NAT Q1=      19.94  WSEL=    687.44  ENC Q1=      21.14  WSEL=    687.54  RATIO=  -.0604
 NAT Q1=      21.  RATIOS LOB,CH,ROB=  0.0000   .9999   .0001  WSEL=    687.54

3470 ENCROACHMENT STATIONS=      456.0      482.0  TYPE=      4  TARGET=        .000
   521.60      4.24   687.44      0.00   687.44   687.91      .47      2.22      .07   687.90
     265.        0.     265.        0.       0.      48.       0.       57.      26.   687.50
     1.09      0.00     5.50      0.00     .095     .055     .095      .055   683.20   458.46
  .017869      200.     200.      200.        2        0        0      0.00    23.47   481.93


*SECNO 521.700
 2800 NAT Q1=      29.65  WSEL=    690.47  ENC Q1=      30.63  WSEL=    690.57  RATIO=  -.0331
 NAT Q1=      31.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    690.57

3470 ENCROACHMENT STATIONS=      456.0      482.0  TYPE=      4  TARGET=       0.000
   521.70      5.37   690.47      0.00   690.47   690.80      .32      2.86      .03   691.80
     265.        0.     265.        0.       0.      58.       0.       57.      26.   691.40
     1.11      0.00     4.56      0.00     .095     .055     .095      .055   685.10   463.07
  .007941      250.     250.      250.        2        0        0      0.00    18.23   481.30


*SECNO 521.800
 2800 NAT Q1=      30.32  WSEL=    692.43  ENC Q1=      31.34  WSEL=    692.53  RATIO=  -.0335
 NAT Q1=      31.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    692.53
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELHIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      456.0      482.0  TYPE=      4  TARGET=       0.000
   521.80      5.44   692.44      0.00   692.43   692.75      .31      1.95      .00   693.70
     265.        0.     265.        0.       0.      59.       0.       58.      26.   693.30
     1.12      0.00     4.47      0.00     .095     .055     .095      .055   587.00   462.75
  .007636      250.     250.      250.        2        0        0      0.00    18.60   481.35


*SECNO 522.200
 2800 NAT Q1=      29.95  WSEL=    693.59  ENC Q1=      30.88  WSEL=    693.69  RATIO=  -.0309
 NAT Q1=      31.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    693.69

3470 ENCROACHMENT STATIONS=      456.0      482.0  TYPE=      4  TARGET=       0.000
   522.20      5.39   693.59      0.00   693.59   693.91      .32      1.16      .00   694.90
     265.        0.     265.        0.       0.      58.       0.       58.      26.   694.50
     1.13      0.00     4.53      0.00     .095     .055     .095      .055   588.20   462.98
  .007853      150.     150.      150.        2        0        0      0.00    18.34   481.31


CCHV=    .400 CEHV=    .800
*SECNO 522.250
 2800 NAT Q1=      23.51  WSEL=    694.10  ENC Q1=      24.63  WSEL=    694.20  RATIO=  -.0477
 NAT Q1=      25.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    694.20

3470 ENCROACHMENT STATIONS=      456.0      482.0  TYPE=      4  TARGET=       0.000
   522.25      4.80   694.10      0.00   694.10   694.57      .47       .54      .12   696.00
     265.        0.     265.        0.       0.      48.       0.       58.      26.   695.60
     1.14      0.00     5.47      0.00     .095     .055     .095      .055   589.30   464.48
  .012673       55.      55.       55.        2        0        0      0.00    16.39   480.87
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*SECNO 521.980
 2800 NAT Q1=      20.17  WSEL=    694.89  ENC Q1=      21.21  WSEL=    694.99  RATIO=  -.0519
 NAT Q1=      21.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    694.99

3470 ENCROACHMENT STATIONS=     456.0     482.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      695.60 ELREA=      695.60


        ** D/S FACE LIVERNOIS RD.

   521.98      4.49   694.89      0.00   694.89   695.47      .58      .81      .09   697.10
     265.        0.     265.        0.       0.      43.       0.      58.      26.   696.70
     1.14      0.00     6.13      0.00     .095     .055     .095     .055   690.40   464.87
  .017371       55.      55.       55.        0        0        0     0.00    15.76   480.63


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.75      2.90    150.00      4.73      0.00      14.20     0.00    692.60    690.40

*SECNO 522.020
 2800 NAT Q1=      51.38  WSEL=    699.76  ENC Q1=      51.38  WSEL=    699.86  RATIO=   .0000
 NAT Q1=      54.  RATIOS LOB,CH,ROB=   .0424   .9091   .0485  WSEL=    699.86
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=     446.6     496.4  TYPE=     4  TARGET=        .053
   522.02      7.17   699.77      0.00   699.76   699.93      .16      .52      .17   699.30
     265.        3.     257.        5.       7.      79.      10.      58.      27.   699.30
     1.15       .47     3.24       .48     .095     .055     .095     .055   692.60   446.60
  .002852       90.      90.       90.        0        0        6     0.00    49.81   496.40

*SECNO 522.300
 2800 NAT Q1=      55.05  WSEL=    699.80  ENC Q1=      55.05  WSEL=    699.90  RATIO=   .0000
 NAT Q1=      59.  RATIOS LOB,CH,ROB=   .0631   .8702   .0667  WSEL=    699.90
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     COEAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     436.0     502.2  TYPE=     4  TARGET=        .060
   522.30      7.30   699.80      0.00   699.80   699.94      .14      .01      .01   699.20
     265.        7.     249.        8.      14.      81.      16.      58.      27.   699.20
     1.15       .51     3.08       .53     .095     .055     .095     .055   692.50   436.05
  .002509        2.       2.        2.        2        0        0     0.00    66.19   502.24

*SECNO 522.400
 2800 NAT Q1=      55.43  WSEL=    699.80  ENC Q1=      55.43  WSEL=    699.90  RATIO=   .0000
 NAT Q1=      59.  RATIOS LOB,CH,ROB=   .0643   .8681   .0676  WSEL=    699.90

3470 ENCROACHMENT STATIONS=     434.2     503.6  TYPE=     4  TARGET=        .058

        ** VAULT AT U/S END OF LIVERNOIS RD. CULVERT
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   522.40      7.31    699.81      0.00    699.80    699.94       .14       .00       .00    699.20
     265.        8.      248.        9.       15.       81.       16.       58.       27.    699.20
     1.15       .51      3.07       .53      .095      .055      .095      .055    692.50    434.23
  .002485        2.        2.        2.         0         0         0      0.00     69.35    503.58


SPECIAL BRIDGE

SB  XK          XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00        1.45       2.90     100.00      1.33       0.00       6.66      0.00     692.50     692.50

*SECNO 522.500
 2800 NAT Q1=      77.14  WSEL=    699.94  ENC Q1=      77.14  WSEL=    700.04  RATIO=   .0000
 NAT Q1=      82.  RATIOS LOB,CH,ROB=   .0605   .8402   .0993  WSEL=    700.04
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=     432.4     511.6  TYPE=     4  TARGET=        .063
   522.50      7.45    699.95      0.00    699.94    700.02       .07       .00       .03    699.20
     265.        7.      240.       18.       16.      107.       31.       58.       27.    698.80
     1.15       .43      2.25       .57      .095      .055      .095      .055    692.50    432.36
  .001307        1.        1.        1.         0         0         8      0.00     79.20    511.56
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | YLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 644.67 | 0.00 | 644.90 | 27.20 | 4.50 | 512.25 | 197.49 |
| 501.000 | 0.00 | 0.00 | 0.00 | 636.40 | 1030.00 | 644.67 | 0.00 | 644.96 | 31.30 | 4.83 | 408.32 | 184.11 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 645.34 | 0.00 | 645.54 | 16.64 | 3.85 | 482.05 | 252.52 |
| 501.100 | 300.00 | 0.00 | 0.00 | 637.30 | 1030.00 | 645.43 | 0.00 | 645.64 | 16.81 | 3.91 | 404.48 | 251.19 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 645.89 | 0.00 | 646.18 | 25.06 | 4.50 | 368.92 | 205.74 |
| 501.200 | 300.00 | 0.00 | 0.00 | 638.20 | 1030.00 | 645.98 | 0.00 | 646.29 | 25.26 | 4.58 | 283.83 | 204.92 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.63 | 644.29 | 647.05 | 31.85 | 4.93 | 271.36 | 182.50 |
| 501.400 | 300.00 | 0.00 | 0.00 | 639.20 | 1030.00 | 646.78 | 0.00 | 647.16 | 31.86 | 5.00 | 208.15 | 182.49 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.72 | 645.19 | 648.04 | 33.69 | 4.65 | 340.98 | 177.45 |
| 502.000 | 300.00 | 0.00 | 0.00 | 640.10 | 1030.00 | 647.82 | 0.00 | 648.16 | 33.80 | 4.72 | 250.13 | 177.16 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 648.93 | 0.00 | 649.14 | 21.95 | 3.92 | 515.03 | 219.84 |
| 502.200 | 402.00 | 0.00 | 0.00 | 641.00 | 1030.00 | 649.04 | 0.00 | 649.25 | 21.79 | 3.96 | 433.14 | 220.63 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.62 | 0.00 | 649.86 | 25.79 | 4.18 | 450.63 | 202.83 |
| 502.400 | 300.00 | 0.00 | 0.00 | 641.80 | 1030.00 | 649.72 | 0.00 | 649.98 | 26.00 | 4.26 | 362.93 | 202.01 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.04 | 0.00 | 650.21 | 18.85 | 3.68 | 574.88 | 237.26 |
| 502.980 | 150.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.15 | 0.00 | 650.33 | 18.55 | 3.71 | 496.64 | 239.16 |
| 503.020 | 15.00 | 649.90 | 648.00 | 642.00 | 1030.00 | 650.36 | 0.00 | 650.47 | 11.92 | 3.05 | 757.49 | 298.35 |
| 503.020 | 15.00 | 999999.00 | 0.00 | 642.00 | 1030.00 | 650.47 | 0.00 | 650.58 | 11.73 | 3.07 | 684.88 | 300.70 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.56 | 0.00 | 650.66 | 16.47 | 3.19 | 696.27 | 253.77 |
| 504.200 | 135.00 | 0.00 | 0.00 | 641.90 | 1030.00 | 650.67 | 0.00 | 650.77 | 16.29 | 3.21 | 647.96 | 255.21 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 650.93 | 0.00 | 651.00 | 11.68 | 2.78 | 801.08 | 301.32 |
| 503.980 | 240.00 | 0.00 | 0.00 | 642.00 | 1030.00 | 651.04 | 0.00 | 651.11 | 11.63 | 2.80 | 746.72 | 302.05 |
| 504.020 | 20.00 | 650.50 | 647.50 | 642.00 | 1030.00 | 651.21 | 0.00 | 651.26 | 8.28 | 2.43 | 930.66 | 358.06 |
| 504.020 | 20.00 | 999999.00 | 0.00 | 642.00 | 1030.00 | 651.32 | 0.00 | 651.37 | 8.27 | 2.44 | 860.46 | 358.17 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.36 | 0.00 | 651.66 | 37.45 | 4.59 | 314.51 | 168.30 |
| 504.800 | 130.00 | 0.00 | 0.00 | 642.30 | 1030.00 | 651.46 | 0.00 | 651.79 | 37.28 | 4.63 | 254.91 | 168.70 |

| SECNO | YLCH | ELTRD | ELLC | ELHIN | Q | CFSEL | CRTWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.03 | 0.00 | 652.15 | 14.99 | 3.06 | 613.46 | 266.06 |
| 504.900 | 202.00 | 0.00 | 0.00 | 643.10 | 1030.00 | 652.14 | 0.00 | 652.27 | 14.78 | 3.08 | 533.65 | 267.90 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.02 | 0.00 | 653.27 | 33.74 | 4.17 | 340.01 | 177.31 |
| 505.000 | 498.00 | 0.00 | 0.00 | 644.70 | 1030.00 | 653.12 | 0.00 | 653.39 | 33.99 | 4.23 | 262.98 | 176.67 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.68 | 0.00 | 655.03 | 29.12 | 4.77 | 243.11 | 190.88 |
| 506.000 | 550.00 | 0.00 | 0.00 | 646.50 | 1030.00 | 654.80 | 0.00 | 655.15 | 29.18 | 4.75 | 216.97 | 190.69 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.04 | 0.00 | 655.39 | 28.92 | 4.76 | 216.24 | 191.54 |
| 506.100 | 125.00 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.16 | 0.00 | 655.50 | 27.39 | 4.67 | 220.55 | 196.80 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 654.99 | 0.00 | 655.42 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.150 | .50 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.11 | 0.00 | 655.53 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.07 | 0.00 | 655.49 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.160 | 9.00 | 655.80 | 654.50 | 646.60 | 1030.00 | 655.19 | 0.00 | 655.61 | 85.76 | 5.23 | 197.12 | 111.22 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.17 | 0.00 | 655.51 | 27.18 | 4.66 | 221.18 | 197.57 |
| 506.170 | .50 | 0.00 | 0.00 | 646.60 | 1030.00 | 655.30 | 0.00 | 655.63 | 25.61 | 4.56 | 226.01 | 203.52 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.38 | 0.00 | 656.64 | 21.30 | 4.26 | 352.69 | 223.20 |
| 507.200 | 465.00 | 0.00 | 0.00 | 647.90 | 1030.00 | 656.45 | 0.00 | 656.73 | 21.66 | 4.33 | 304.61 | 221.32 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.74 | 0.00 | 657.21 | 42.93 | 5.47 | 199.50 | 157.39 |
| 506.980 | 139.00 | 0.00 | 0.00 | 649.20 | 1030.00 | 656.82 | 0.00 | 657.28 | 42.02 | 5.42 | 190.13 | 158.89 |
| 507.020 | 116.00 | 660.40 | 654.20 | 649.20 | 1030.00 | 650.72 | 0.00 | 660.86 | 9.33 | 3.04 | 433.59 | 337.24 |
| 507.020 | 116.00 | 999999.00 | 0.00 | 649.20 | 1030.00 | 660.80 | 0.00 | 660.94 | 9.43 | 3.07 | 384.96 | 335.48 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.90 | 1030.00 | 660.84 | 0.00 | 660.95 | 6.81 | 2.72 | 521.24 | 394.64 |
| 507.800 | 100.00 | 0.00 | 0.00 | 648.90 | 1030.00 | 660.93 | 0.00 | 661.04 | 6.95 | 2.75 | 467.29 | 390.61 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.02 | 0.00 | 661.20 | 13.19 | 3.45 | 345.04 | 283.56 |
| 507.980 | 210.00 | 0.00 | 0.00 | 650.10 | 1030.00 | 661.11 | 0.00 | 661.30 | 13.53 | 3.47 | 296.47 | 280.02 |
| 508.020 | 37.00 | 658.70 | 656.00 | 650.10 | 1030.00 | 661.07 | 0.00 | 661.22 | 8.80 | 3.04 | 390.56 | 347.29 |
| 508.020 | 37.00 | 999999.00 | 0.00 | 650.10 | 1030.00 | 661.16 | 0.00 | 661.31 | 9.04 | 3.06 | 336.67 | 342.55 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.19 | 0.00 | 661.31 | 6.99 | 2.81 | 459.15 | 389.55 |
| 508.800 | 110.00 | 0.00 | 0.00 | 649.80 | 1030.00 | 661.28 | 0.00 | 661.40 | 7.10 | 2.83 | 397.95 | 386.65 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.25 | 0.00 | 661.33 | 3.05 | 2.56 | 775.58 | 589.43 |
| 508.980 | 20.00 | 0.00 | 0.00 | 648.30 | 1030.00 | 661.34 | 0.00 | 661.42 | 3.05 | 2.57 | 723.45 | 590.24 |
| 509.020 | 190.00 | 661.20 | 656.40 | 648.30 | 1030.00 | 661.97 | 0.00 | 662.00 | 1.91 | 1.85 | 869.68 | 744.37 |
| 509.020 | 190.00 | 999999.00 | 0.00 | 648.30 | 1030.00 | 662.06 | 0.00 | 662.09 | 1.91 | 1.85 | 850.60 | 745.14 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 661.96 | 0.00 | 662.01 | 2.24 | 1.69 | 639.38 | 688.30 |
| 509.800 | 20.00 | 0.00 | 0.00 | 650.30 | 1030.00 | 662.06 | 0.00 | 662.10 | 2.25 | 1.68 | 613.39 | 686.31 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.09 | 0.00 | 662.22 | 10.34 | 3.14 | 515.63 | 320.32 |
| 510.000 | 440.00 | 0.00 | 0.00 | 651.80 | 1030.00 | 662.18 | 0.00 | 662.32 | 10.40 | 3.17 | 460.35 | 319.33 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 662.97 | 0.00 | 663.19 | 26.45 | 3.74 | 275.77 | 200.26 |
| 511.200 | 600.00 | 0.00 | 0.00 | 652.40 | 1030.00 | 663.06 | 0.00 | 663.27 | 25.51 | 3.67 | 280.54 | 203.91 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRITS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.42 | 0.00 | 663.73 | 36.03 | 4.46 | 230.69 | 171.60 |
| 510.980 | 150.00 | 0.00 | 0.00 | 653.70 | 1030.00 | 663.49 | 0.00 | 663.79 | 35.27 | 4.40 | 234.23 | 173.43 |
| 511.020 | 30.00 | 661.80 | 660.30 | 653.70 | 1030.00 | 663.91 | 0.00 | 664.07 | 18.59 | 3.21 | 323.30 | 238.90 |
| 511.020 | 30.00 | 999999.00 | 0.00 | 653.70 | 1030.00 | 663.98 | 0.00 | 664.14 | 17.92 | 3.16 | 325.75 | 243.29 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.06 | 0.00 | 664.18 | 13.37 | 2.89 | 394.33 | 281.65 |
| 511.800 | 65.00 | 0.00 | 0.00 | 653.40 | 1030.00 | 664.12 | 0.00 | 664.25 | 13.74 | 2.91 | 354.49 | 277.83 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 664.91 | 0.00 | 665.04 | 14.04 | 3.04 | 451.52 | 274.85 |
| 512.000 | 625.00 | 0.00 | 0.00 | 654.40 | 1030.00 | 665.00 | 0.00 | 665.13 | 14.47 | 3.08 | 399.71 | 270.79 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.23 | 0.00 | 665.42 | 23.95 | 3.64 | 347.16 | 210.49 |
| 512.200 | 200.00 | 0.00 | 0.00 | 655.40 | 1030.00 | 665.32 | 0.00 | 665.52 | 24.22 | 3.69 | 314.90 | 209.28 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.73 | 0.00 | 665.80 | 7.45 | 2.31 | 355.99 | 212.54 |
| 513.000 | 250.00 | 0.00 | 0.00 | 656.10 | 580.00 | 665.83 | 0.00 | 665.91 | 7.43 | 2.33 | 318.56 | 212.77 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.01 | 0.00 | 666.14 | 15.97 | 3.07 | 243.66 | 145.14 |
| 513.100 | 300.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.11 | 0.00 | 666.25 | 15.99 | 3.10 | 214.15 | 145.04 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.00 | 0.00 | 666.15 | 83.88 | 3.36 | 207.49 | 63.33 |
| 513.150 | 1.00 | 664.20 | 663.30 | 657.50 | 580.00 | 656.07 | 0.00 | 666.27 | 100.79 | 3.71 | 168.92 | 57.77 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.07 | 0.00 | 666.21 | 78.63 | 3.28 | 213.10 | 65.41 |
| 513.160 | 8.00 | 664.20 | 663.30 | 657.50 | 580.00 | 666.16 | 0.00 | 666.35 | 93.63 | 3.62 | 173.74 | 59.94 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 666.09 | 0.00 | 666.22 | 15.13 | 3.01 | 250.20 | 149.10 |
| 513.170 | 1.00 | 0.00 | 0.00 | 657.50 | 580.00 | 656.23 | 0.00 | 666.36 | 14.83 | 3.02 | 220.65 | 150.62 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.51 | 0.00 | 666.53 | 2.99 | 1.49 | 644.46 | 335.47 |
| 514.200 | 520.00 | 0.00 | 0.00 | 657.70 | 580.00 | 666.64 | 0.00 | 666.67 | 2.92 | 1.49 | 576.09 | 339.66 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.55 | 0.00 | 666.56 | 1.76 | 1.22 | 846.66 | 437.72 |
| 513.980 | 109.00 | 0.00 | 0.00 | 657.10 | 580.00 | 666.68 | 0.00 | 666.70 | 1.72 | 1.22 | 755.28 | 441.83 |
| 514.020 | 51.00 | 656.00 | 662.60 | 657.10 | 580.00 | 666.74 | 0.00 | 666.77 | 3.43 | 1.65 | 606.91 | 313.06 |
| 514.020 | 51.00 | 999999.00 | 0.00 | 657.10 | 580.00 | 656.88 | 0.00 | 666.91 | 3.35 | 1.65 | 535.58 | 316.91 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 656.76 | 0.00 | 666.83 | 8.11 | 2.26 | 365.76 | 203.68 |
| 514.800 | 60.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.90 | 0.00 | 666.97 | 8.10 | 2.26 | 320.18 | 203.85 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.78 | 0.00 | 666.85 | 7.96 | 2.24 | 369.96 | 205.62 |
| 514.900 | 25.00 | 0.00 | 0.00 | 658.10 | 580.00 | 666.92 | 0.00 | 666.99 | 8.02 | 2.25 | 321.37 | 204.85 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.80 | 0.00 | 666.86 | 32.27 | 2.19 | 342.58 | 102.10 |
| 514.910 | .50 | 664.90 | 664.10 | 658.10 | 580.00 | 666.93 | 0.00 | 666.99 | 31.90 | 2.20 | 309.39 | 102.70 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 31.74 | 2.18 | 345.28 | 102.95 |
| 514.920 | 4.00 | 664.90 | 664.10 | 658.10 | 580.00 | 666.94 | 0.00 | 667.00 | 31.15 | 2.18 | 312.49 | 103.92 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.81 | 0.00 | 666.87 | 7.72 | 2.22 | 376.60 | 208.69 |
| 514.930 | .50 | 0.00 | 0.00 | 658.10 | 580.00 | 666.94 | 0.00 | 667.01 | 7.75 | 2.22 | 331.67 | 208.34 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 666.94 | 0.00 | 666.98 | 3.42 | 1.64 | 607.96 | 313.56 |
| 514.980 | 190.00 | 0.00 | 0.00 | 657.30 | 580.00 | 657.08 | 0.00 | 667.11 | 3.34 | 1.65 | 536.45 | 317.27 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CNSEL | CRITS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 515.020 | 50.00 | 666.30 | 662.80 | 657.30 | 580.00 | 657.07 | 0.00 | 667.09 | 2.74 | 1.40 | 782.22 | 350.43 |
| 515.020 | 50.00 | 999999.00 | 0.00 | 657.30 | 580.00 | 667.20 | 0.00 | 667.22 | 2.56 | 1.40 | 705.52 | 355.63 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.09 | 0.00 | 667.16 | 10.05 | 2.27 | 359.57 | 182.98 |
| 515.800 | 100.00 | 0.00 | 0.00 | 658.60 | 580.00 | 667.22 | 0.00 | 667.30 | 9.79 | 2.28 | 299.75 | 185.36 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.45 | 0.00 | 667.53 | 10.61 | 2.32 | 344.71 | 178.03 |
| 515.850 | 350.00 | 0.00 | 0.00 | 659.00 | 580.00 | 667.57 | 0.00 | 667.66 | 10.65 | 2.34 | 279.66 | 177.76 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.79 | 0.00 | 667.84 | 5.04 | 1.92 | 454.15 | 258.23 |
| 515.900 | 440.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.92 | 0.00 | 667.97 | 4.98 | 1.93 | 388.62 | 259.92 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.76 | 0.00 | 667.87 | 63.47 | 2.76 | 260.75 | 72.80 |
| 515.950 | 1.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.88 | 0.00 | 668.00 | 64.41 | 2.83 | 206.52 | 72.27 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.82 | 0.00 | 667.92 | 58.15 | 2.67 | 278.99 | 76.06 |
| 515.960 | 8.00 | 667.50 | 665.90 | 659.80 | 580.00 | 667.94 | 0.00 | 668.05 | 58.56 | 2.72 | 230.44 | 75.80 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 667.88 | 0.00 | 667.93 | 4.64 | 1.86 | 482.61 | 269.23 |
| 515.970 | 1.00 | 0.00 | 0.00 | 659.80 | 580.00 | 668.02 | 0.00 | 668.07 | 4.53 | 1.86 | 419.20 | 272.55 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 667.90 | 0.00 | 667.96 | 6.53 | 2.11 | 369.86 | 227.03 |
| 516.000 | 50.00 | 0.00 | 0.00 | 660.20 | 580.00 | 668.03 | 0.00 | 668.10 | 6.38 | 2.12 | 307.55 | 229.71 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.13 | 0.00 | 668.19 | 6.38 | 2.09 | 377.30 | 229.71 |
| 516.200 | 350.00 | 0.00 | 0.00 | 660.40 | 580.00 | 668.25 | 0.00 | 668.32 | 6.30 | 2.11 | 313.00 | 231.02 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.21 | 0.00 | 668.21 | .07 | .23 | 4655.95 | 2140.07 |
| 516.400 | 350.00 | 0.00 | 0.00 | 660.70 | 580.00 | 668.34 | 0.00 | 668.34 | .07 | .23 | 4427.02 | 2160.89 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.21 | 0.00 | 668.21 | .08 | .24 | 4450.53 | 1997.22 |
| 517.000 | 300.00 | 0.00 | 0.00 | 660.90 | 580.00 | 668.35 | 0.00 | 668.35 | .08 | .24 | 4233.57 | 2017.10 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.22 | 0.00 | 668.22 | .09 | .24 | 4350.60 | 1928.87 |
| 517.200 | 400.00 | 0.00 | 0.00 | 661.00 | 580.00 | 668.35 | 0.00 | 668.35 | .09 | .24 | 4138.99 | 1948.24 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.24 | 6.80 | 1.64 | 737.86 | 222.49 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.34 | 0.00 | 668.37 | 6.53 | 1.63 | 650.74 | 227.03 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.22 | 1.68 | 718.83 | 215.79 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.60 | 0.00 | 668.63 | 7.07 | 1.69 | 626.20 | 218.15 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 580.00 | 668.62 | 0.00 | 668.74 | 32.54 | 3.18 | 342.21 | 101.67 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 580.00 | 668.74 | 0.00 | 668.86 | 31.76 | 3.18 | 292.78 | 102.92 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 580.00 | 670.57 | 0.00 | 670.57 | 1.30 | .98 | 1264.30 | 508.30 |
| 518.020 | 50.00 | 999999.00 | 0.00 | 662.50 | 580.00 | 670.68 | 0.00 | 670.69 | 1.28 | .99 | 1094.62 | 512.26 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 580.00 | 670.58 | 0.00 | 670.58 | 1.08 | .92 | 1365.76 | 557.46 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 580.00 | 670.69 | 0.00 | 670.70 | 1.07 | .92 | 1179.40 | 561.41 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 580.00 | 670.66 | 0.00 | 670.68 | 4.03 | 1.50 | 782.41 | 288.96 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 580.00 | 670.77 | 0.00 | 670.79 | 3.97 | 1.51 | 672.17 | 291.28 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 580.00 | 670.81 | 0.00 | 670.82 | 3.04 | 1.22 | 1191.46 | 332.89 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 580.00 | 670.92 | 0.00 | 670.93 | 3.01 | 1.23 | 1091.79 | 334.16 |

See New run which follows

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.21 | 0.00 | 668.23 | 6.90 | 1.65 | 732.93 | 220.75 |
| 517.800 | 350.00 | 0.00 | 0.00 | 661.10 | 580.00 | 668.34 | 0.00 | 668.36 | 6.63 | 1.64 | 643.81 | 225.23 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.48 | 0.00 | 668.50 | 7.30 | 1.69 | 715.60 | 214.65 |
| 518.200 | 380.00 | 0.00 | 0.00 | 661.40 | 580.00 | 668.60 | 0.00 | 668.63 | 7.15 | 1.70 | 620.84 | 216.91 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 510.00 | 668.61 | 0.00 | 668.70 | 25.68 | 2.82 | 338.24 | 100.64 |
| 517.980 | 120.00 | 0.00 | 0.00 | 662.50 | 510.00 | 668.73 | 0.00 | 668.82 | 25.05 | 2.82 | 289.40 | 101.91 |
| 518.020 | 50.00 | 669.40 | 663.20 | 662.50 | 510.00 | 670.49 | 0.00 | 670.50 | 1.08 | .89 | 1228.18 | 491.03 |
| 518.020 | 50.00 | 995999.00 | 0.00 | 662.50 | 510.00 | 670.61 | 0.00 | 670.62 | 1.06 | .89 | 1062.36 | 495.00 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 510.00 | 670.50 | 0.00 | 670.51 | .90 | .83 | 1327.82 | 538.97 |
| 518.800 | 80.00 | 0.00 | 0.00 | 662.30 | 510.00 | 670.62 | 0.00 | 670.62 | .88 | .83 | 1146.44 | 542.99 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 510.00 | 670.57 | 0.00 | 670.58 | 3.44 | 1.37 | 749.61 | 275.00 |
| 518.850 | 475.00 | 0.00 | 0.00 | 663.70 | 510.00 | 670.68 | 0.00 | 670.70 | 3.38 | 1.38 | 644.50 | 277.29 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 510.00 | 670.70 | 0.00 | 670.71 | 2.78 | 1.15 | 1123.02 | 305.67 |
| 518.900 | 400.00 | 0.00 | 0.00 | 664.70 | 510.00 | 670.82 | 0.00 | 670.83 | 2.76 | 1.16 | 1025.30 | 307.23 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 510.00 | 670.95 | 0.00 | 671.01 | 22.56 | 2.71 | 505.61 | 107.39 |
| 519.200 | 450.00 | 0.00 | 0.00 | 666.00 | 510.00 | 671.06 | 0.00 | 671.12 | 22.05 | 2.74 | 450.48 | 108.62 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 510.00 | 670.99 | 0.00 | 671.02 | 66.72 | 2.10 | 428.86 | 62.44 |
| 519.390 | 1.00 | 670.20 | 669.50 | 666.00 | 510.00 | 671.07 | 0.00 | 671.13 | 107.98 | 2.72 | 295.67 | 49.08 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 510.00 | 671.06 | 0.00 | 671.09 | 50.72 | 1.87 | 471.14 | 71.61 |
| 519.410 | 12.00 | 670.20 | 669.50 | 666.00 | 510.00 | 671.19 | 0.00 | 671.24 | 70.48 | 2.27 | 345.96 | 60.75 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 510.00 | 671.06 | 0.00 | 671.10 | 17.15 | 2.42 | 565.51 | 123.13 |
| 519.420 | 1.00 | 0.00 | 0.00 | 666.00 | 510.00 | 671.20 | 0.00 | 671.24 | 15.83 | 2.38 | 521.51 | 128.19 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 510.00 | 671.14 | 0.00 | 671.24 | 39.98 | 3.45 | 393.95 | 80.66 |
| 519.500 | 45.00 | 0.00 | 0.00 | 666.40 | 510.00 | 671.27 | 0.00 | 671.38 | 37.24 | 3.43 | 347.47 | 83.57 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 400.00 | 671.37 | 0.00 | 671.39 | 17.03 | 2.11 | 497.33 | 96.92 |
| 518.980 | 50.00 | 0.00 | 0.00 | 667.40 | 400.00 | 671.49 | 0.00 | 671.51 | 13.45 | 1.93 | 515.01 | 109.08 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRINS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 400.00 | 671.59 | 0.00 | 671.62 | 56.51 | 2.16 | 295.60 | 53.21 |
| 519.020 | 80.00 | 670.00 | 671.50 | 667.70 | 400.00 | 671.67 | 0.00 | 671.70 | 47.91 | 1.99 | 316.64 | 57.79 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 400.00 | 672.08 | 0.00 | 672.50 | 145.31 | 5.20 | 77.52 | 33.18 |
| 519.800 | 80.00 | 0.00 | 0.00 | 667.80 | 400.00 | 672.09 | 0.00 | 672.51 | 144.08 | 5.18 | 77.91 | 33.32 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.68 | 0.00 | 674.74 | 28.97 | 2.81 | 297.57 | 74.32 |
| 519.900 | 391.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.75 | 0.00 | 674.82 | 30.60 | 2.94 | 260.14 | 72.30 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.71 | 0.00 | 674.75 | 77.74 | 1.92 | 254.63 | 45.37 |
| 519.920 | 1.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.76 | 0.00 | 674.83 | 119.59 | 2.44 | 192.99 | 36.58 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.86 | 0.00 | 674.89 | 51.79 | 1.66 | 290.03 | 55.58 |
| 519.930 | 22.00 | 673.30 | 672.20 | 671.60 | 400.00 | 674.98 | 0.00 | 675.02 | 65.97 | 1.96 | 237.11 | 49.25 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.85 | 0.00 | 674.90 | 20.42 | 2.47 | 337.83 | 88.51 |
| 519.940 | 1.00 | 0.00 | 0.00 | 671.60 | 400.00 | 674.98 | 0.00 | 675.02 | 19.55 | 2.48 | 312.46 | 90.46 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 400.00 | 675.91 | 0.00 | 675.96 | 22.14 | 2.54 | 328.13 | 85.01 |
| 520.000 | 500.00 | 0.00 | 0.00 | 672.70 | 400.00 | 676.01 | 0.00 | 676.07 | 22.13 | 2.60 | 297.27 | 85.04 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 400.00 | 677.02 | 0.00 | 677.06 | 22.00 | 2.54 | 328.87 | 85.27 |
| 520.100 | 500.00 | 0.00 | 0.00 | 673.80 | 400.00 | 677.12 | 0.00 | 677.17 | 22.17 | 2.60 | 297.03 | 84.95 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 400.00 | 678.28 | 0.00 | 678.32 | 19.91 | 2.44 | 340.94 | 89.64 |
| 520.300 | 600.00 | 0.00 | 0.00 | 675.00 | 400.00 | 678.38 | 0.00 | 678.43 | 19.74 | 2.49 | 309.52 | 90.03 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 400.00 | 679.21 | 0.00 | 679.41 | 60.37 | 3.53 | 113.37 | 51.48 |
| 520.400 | 300.00 | 0.00 | 0.00 | 675.70 | 400.00 | 679.28 | 0.00 | 679.46 | 55.05 | 3.42 | 116.93 | 53.91 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 265.00 | 679.55 | 0.00 | 679.61 | 15.05 | 1.94 | 136.66 | 68.30 |
| 520.480 | 50.00 | 0.00 | 0.00 | 675.60 | 265.00 | 679.60 | 0.00 | 679.66 | 14.27 | 1.90 | 139.12 | 70.16 |
| 520.520 | 65.00 | 683.00 | 679.50 | 675.60 | 265.00 | 682.76 | 0.00 | 682.84 | 8.68 | 2.25 | 117.83 | 89.93 |
| 520.520 | 65.00 | 999999.00 | 0.00 | 675.60 | 265.00 | 682.81 | 0.00 | 682.88 | 9.80 | 2.23 | 118.61 | 84.65 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.87 | 0.00 | 682.87 | .43 | .51 | 1182.41 | 404.19 |
| 520.530 | 3.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.91 | 0.00 | 682.91 | .45 | .52 | 1090.47 | 392.99 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.87 | 0.00 | 682.87 | .43 | .51 | 1183.31 | 404.60 |
| 520.540 | 4.00 | 0.00 | 0.00 | 675.60 | 265.00 | 682.91 | 0.00 | 682.91 | .45 | .52 | 1092.00 | 393.38 |
| 520.550 | 1.00 | 680.20 | 678.80 | 675.60 | 265.00 | 682.88 | 0.00 | 682.88 | .15 | .36 | 1722.69 | 691.63 |
| 520.550 | 1.00 | 999999.00 | 0.00 | 675.60 | 265.00 | 682.93 | 0.00 | 682.93 | .15 | .37 | 1554.26 | 676.38 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 265.00 | 682.88 | 0.00 | 682.88 | .36 | .51 | 1216.73 | 440.58 |
| 520.600 | 35.00 | 0.00 | 0.00 | 676.50 | 265.00 | 682.93 | 0.00 | 682.93 | .38 | .53 | 1068.67 | 428.30 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 265.00 | 682.84 | 0.00 | 682.96 | 23.99 | 2.87 | 110.46 | 54.10 |
| 521.000 | 250.00 | 0.00 | 0.00 | 678.00 | 265.00 | 682.88 | 0.00 | 683.01 | 24.05 | 2.88 | 91.90 | 54.04 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 265.00 | 683.66 | 0.00 | 683.91 | 60.16 | 4.01 | 66.05 | 34.17 |
| 521.100 | 250.00 | 0.00 | 0.00 | 679.90 | 265.00 | 683.70 | 0.00 | 683.95 | 58.11 | 3.96 | 66.87 | 34.76 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 265.00 | 685.32 | 0.00 | 685.62 | 76.14 | 4.36 | 60.73 | 30.37 |
| 521.200 | 250.00 | 0.00 | 0.00 | 681.80 | 265.00 | 685.32 | 0.00 | 685.62 | 75.70 | 4.35 | 60.85 | 30.46 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 521.500 | 200.00 | 0.00 | 0.00 | 683.20 | 265.00 | 687.44 | 0.00 | 687.91 | 176.71 | 5.48 | 48.40 | 19.94 |
| 521.600 | 200.00 | 0.00 | 0.00 | 683.20 | 265.00 | 687.44 | 0.00 | 687.91 | 178.69 | 5.50 | 48.19 | 19.82 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 265.00 | 690.47 | 0.00 | 690.79 | 79.89 | 4.57 | 57.98 | 29.65 |
| 521.700 | 250.00 | 0.00 | 0.00 | 685.10 | 265.00 | 690.47 | 0.00 | 690.80 | 79.41 | 4.56 | 58.15 | 29.74 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 265.00 | 692.43 | 0.00 | 692.75 | 76.37 | 4.47 | 59.25 | 30.32 |
| 521.800 | 250.00 | 0.00 | 0.00 | 687.00 | 265.00 | 692.44 | 0.00 | 692.75 | 76.36 | 4.47 | 59.26 | 30.33 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 265.00 | 693.59 | 0.00 | 693.91 | 78.28 | 4.53 | 58.56 | 29.95 |
| 522.200 | 150.00 | 0.00 | 0.00 | 688.20 | 265.00 | 693.59 | 0.00 | 693.91 | 78.53 | 4.53 | 58.47 | 29.90 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 265.00 | 694.10 | 0.00 | 694.57 | 127.07 | 5.48 | 48.36 | 23.51 |
| 522.250 | 55.00 | 0.00 | 0.00 | 689.30 | 265.00 | 694.10 | 0.00 | 694.57 | 126.73 | 5.47 | 48.40 | 23.54 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 265.00 | 694.89 | 0.00 | 695.47 | 172.70 | 6.12 | 43.32 | 20.17 |
| 521.980 | 55.00 | 0.00 | 0.00 | 690.40 | 265.00 | 694.89 | 0.00 | 695.47 | 173.71 | 6.13 | 43.22 | 20.11 |
| 522.020 | 90.00 | 699.50 | 695.60 | 692.60 | 265.00 | 699.76 | 0.00 | 699.91 | 26.60 | 3.13 | 120.78 | 51.38 |
| 522.020 | 90.00 | 999999.00 | 0.00 | 692.60 | 265.00 | 699.77 | 0.00 | 699.93 | 28.52 | 3.24 | 95.88 | 49.62 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.80 | 0.00 | 699.92 | 23.17 | 2.96 | 137.76 | 55.05 |
| 522.300 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.80 | 0.00 | 699.94 | 25.09 | 3.08 | 110.94 | 52.90 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.80 | 0.00 | 699.93 | 22.86 | 2.94 | 139.41 | 55.43 |
| 522.400 | 2.00 | 0.00 | 0.00 | 692.50 | 265.00 | 699.81 | 0.00 | 699.94 | 24.85 | 3.07 | 112.84 | 53.16 |
| 522.500 | 1.00 | 699.00 | 697.50 | 692.50 | 265.00 | 699.94 | 0.00 | 700.01 | 11.80 | 2.13 | 188.68 | 77.14 |
| 522.500 | 1.00 | 999999.00 | 0.00 | 692.50 | 265.00 | 699.95 | 0.00 | 700.02 | 13.07 | 2.25 | 154.02 | 73.31 |

STURGIS DRAIN AT U/S END

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 517.800 | 580.00 | 668.21 | 0.00 | 0.00 | 0.00 | 461.82 | 350.00 |
| 517.800 | 580.00 | 668.34 | .13 | 0.00 | .13 | 301.79 | 350.00 |
| 518.200 | 580.00 | 668.48 | 0.00 | .27 | 0.00 | 457.44 | 380.00 |
| 518.200 | 580.00 | 668.60 | .12 | .26 | .12 | 295.07 | 380.00 |
| 517.980 | 510.00 | 668.61 | 0.00 | .13 | 0.00 | 311.93 | 120.00 |
| 517.980 | 510.00 | 668.73 | .12 | .13 | .12 | 188.86 | 120.00 |
| 518.020 | 510.00 | 670.49 | 0.00 | 1.88 | 0.00 | 480.29 | 50.00 |
| 518.020 | 510.00 | 670.61 | .12 | 1.88 | .12 | 283.92 | 50.00 |
| 518.800 | 510.00 | 670.50 | 0.00 | .01 | 0.00 | 500.47 | 80.00 |
| 518.800 | 510.00 | 670.62 | .12 | .01 | .12 | 295.97 | 80.00 |
| 518.850 | 510.00 | 670.57 | 0.00 | .07 | 0.00 | 365.18 | 475.00 |
| 518.850 | 510.00 | 670.68 | .12 | .07 | .12 | 206.45 | 475.00 |
| 518.900 | 510.00 | 670.70 | 0.00 | .13 | 0.00 | 640.00 | 400.00 |
| 518.900 | 510.00 | 670.82 | .12 | .13 | .12 | 470.74 | 400.00 |
| 519.200 | 510.00 | 670.95 | 0.00 | .25 | 0.00 | 538.28 | 450.00 |
| 519.200 | 510.00 | 671.06 | .11 | .25 | .11 | 374.27 | 450.00 |
| 519.390 | 510.00 | 670.99 | 0.00 | .03 | 0.00 | 541.40 | 1.00 |
| 519.390 | 510.00 | 671.07 | .08 | .00 | .08 | 298.24 | 1.00 |
| 519.410 | 510.00 | 671.06 | 0.00 | .08 | 0.00 | 548.95 | 12.00 |
| 519.410 | 510.00 | 671.19 | .13 | .13 | .13 | 311.17 | 12.00 |
| 519.420 | 510.00 | 671.06 | 0.00 | -.00 | 0.00 | 549.00 | 1.00 |
| 519.420 | 510.00 | 671.20 | .14 | .01 | .14 | 394.56 | 1.00 |
| 519.500 | 510.00 | 671.14 | 0.00 | .08 | 0.00 | 517.69 | 45.00 |
| 519.500 | 510.00 | 671.27 | .13 | .07 | .13 | 328.96 | 45.00 |
| 518.980 | 400.00 | 671.37 | 0.00 | .22 | 0.00 | 539.31 | 50.00 |
| 518.980 | 400.00 | 671.49 | .12 | .21 | .12 | 455.00 | 50.00 |
| 519.020 | 400.00 | 671.59 | 0.00 | .22 | 0.00 | 367.00 | 80.00 |
| 519.020 | 400.00 | 671.67 | .08 | .18 | .08 | 367.00 | 80.00 |
| 519.800 | 400.00 | 672.08 | 0.00 | .49 | 0.00 | 50.76 | 80.00 |
| 519.800 | 400.00 | 672.09 | .01 | .42 | .01 | 52.10 | 80.00 |
| 519.900 | 400.00 | 674.68 | 0.00 | 2.60 | 0.00 | 221.21 | 391.00 |
| 519.900 | 400.00 | 674.75 | .07 | 2.66 | .07 | 156.33 | 391.00 |
| 519.920 | 400.00 | 674.71 | 0.00 | .03 | 0.00 | 221.80 | 1.00 |
| 519.920 | 400.00 | 674.76 | .05 | .01 | .05 | 143.82 | 1.00 |
| 519.930 | 400.00 | 674.86 | 0.00 | .15 | 0.00 | 226.31 | 22.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 519.930 | 400.00 | 674.98 | .12 | .22 | .12 | 153.08 | 22.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 519.940 | 400.00 | 674.85 | 0.00 | -.00 | 0.00 | 226.34 | 1.00 |
| 519.940 | 400.00 | 674.98 | .13 | .00 | .13 | 168.74 | 1.00 |
| 520.000 | 400.00 | 675.91 | 0.00 | 1.06 | 0.00 | 225.12 | 500.00 |
| 520.000 | 400.00 | 676.01 | .10 | 1.04 | .10 | 165.41 | 500.00 |
| 520.100 | 400.00 | 677.02 | 0.00 | 1.10 | 0.00 | 225.21 | 500.00 |
| 520.100 | 400.00 | 677.12 | .10 | 1.11 | .10 | 165.38 | 500.00 |
| 520.300 | 400.00 | 678.28 | 0.00 | 1.26 | 0.00 | 226.73 | 600.00 |
| 520.300 | 400.00 | 678.38 | .10 | 1.26 | .10 | 166.15 | 600.00 |
| 520.400 | 400.00 | 679.21 | 0.00 | .93 | 0.00 | 54.69 | 300.00 |
| 520.400 | 400.00 | 679.28 | .07 | .90 | .07 | 51.76 | 300.00 |
| 520.480 | 265.00 | 679.55 | 0.00 | .34 | 0.00 | 53.68 | 50.00 |
| 520.480 | 265.00 | 679.60 | .05 | .32 | .05 | 53.91 | 50.00 |
| 520.520 | 265.00 | 682.76 | 0.00 | 3.21 | 0.00 | 17.00 | 65.00 |
| 520.520 | 265.00 | 682.81 | .05 | 3.21 | .05 | 17.00 | 65.00 |
| 520.530 | 265.00 | 682.87 | 0.00 | .11 | 0.00 | 498.05 | 3.00 |
| 520.530 | 265.00 | 682.91 | .04 | .11 | .04 | 365.82 | 3.00 |
| 520.540 | 265.00 | 682.87 | 0.00 | .00 | 0.00 | 498.22 | 4.00 |
| 520.540 | 265.00 | 682.91 | .04 | .00 | .04 | 366.65 | 4.00 |
| 520.550 | 265.00 | 682.88 | 0.00 | .01 | 0.00 | 596.77 | 1.00 |
| 520.550 | 265.00 | 682.93 | .04 | .01 | .04 | 428.84 | 1.00 |
| 520.600 | 265.00 | 682.88 | 0.00 | .00 | 0.00 | 527.90 | 35.00 |
| 520.600 | 265.00 | 682.93 | .04 | .00 | .04 | 357.95 | 35.00 |
| 521.000 | 265.00 | 682.84 | 0.00 | -.05 | 0.00 | 141.18 | 250.00 |
| 521.000 | 265.00 | 682.88 | .04 | -.05 | .04 | 24.49 | 250.00 |
| 521.100 | 265.00 | 683.66 | 0.00 | .83 | 0.00 | 21.79 | 250.00 |
| 521.100 | 265.00 | 683.70 | .04 | .82 | .04 | 21.88 | 250.00 |
| 521.200 | 265.00 | 685.32 | 0.00 | 1.66 | 0.00 | 21.20 | 250.00 |
| 521.200 | 265.00 | 685.32 | .00 | 1.62 | .00 | 21.21 | 250.00 |
| 521.600 | 265.00 | 687.44 | 0.00 | 2.12 | 0.00 | 23.53 | 200.00 |
| 521.600 | 265.00 | 687.44 | -.00 | 2.12 | -.00 | 23.47 | 200.00 |
| 521.700 | 265.00 | 690.47 | 0.00 | 3.03 | 0.00 | 18.18 | 250.00 |
| 521.700 | 265.00 | 690.47 | .01 | 3.04 | .01 | 18.23 | 250.00 |
| 521.800 | 265.00 | 692.43 | 0.00 | 1.97 | 0.00 | 18.60 | 250.00 |
| 521.800 | 265.00 | 692.44 | .00 | 1.96 | .00 | 18.60 | 250.00 |
| 522.200 | 265.00 | 693.59 | 0.00 | 1.16 | 0.00 | 18.37 | 150.00 |
| 522.200 | 265.00 | 693.59 | .00 | 1.16 | .00 | 18.34 | 150.00 |
| 522.250 | 265.00 | 694.10 | 0.00 | .51 | 0.00 | 16.38 | 55.00 |
| 522.250 | 265.00 | 694.10 | .00 | .51 | .00 | 16.39 | 55.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 521.980 | 265.00 | 694.89 | 0.00 | .79 | 0.00 | 15.77 | 55.00 |
| 521.980 | 265.00 | 694.89 | .00 | .79 | .00 | 15.76 | 55.00 |
| 522.020 | 265.00 | 699.76 | 0.00 | 4.88 | 0.00 | 133.27 | 90.00 |
| 522.020 | 265.00 | 699.77 | .00 | 4.88 | .00 | 49.81 | 90.00 |
| 522.300 | 265.00 | 699.80 | 0.00 | .03 | 0.00 | 137.95 | 2.00 |
| 522.300 | 265.00 | 699.80 | .00 | .03 | .00 | 66.19 | 2.00 |
| 522.400 | 265.00 | 699.80 | 0.00 | .01 | 0.00 | 138.40 | 2.00 |
| 522.400 | 265.00 | 699.81 | .00 | .01 | .00 | 69.35 | 2.00 |
| 522.500 | 265.00 | 699.94 | 0.00 | .14 | 0.00 | 144.44 | 1.00 |
| 522.500 | 265.00 | 699.95 | .00 | .14 | .00 | 79.20 | 1.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, STURGIS DRAIN AT U/S END
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 517.800 | 305. | 644. | .9 | 668.3 | 668.2 | .1 |
| 518.200 | 299. | 621. | .9 | 668.6 | 668.5 | .1 |
| 517.980 | 230. | 289. | 1.8 | 668.7 | 668.6 | .1 |
| 518.020 | 284. | 1062. | .5 | 670.6 | 670.5 | .1 |
| 518.800 | 296. | 1146. | .4 | 670.6 | 670.5 | .1 |
| 518.850 | 206. | 644. | .8 | 670.7 | 670.6 | .1 |
| 518.900 | 471. | 1025. | .5 | 670.8 | 670.7 | .1 |
| 519.200 | 374. | 450. | 1.1 | 671.1 | 671.0 | .1 |
| 519.390 | 298. | 296. | 1.7 | 671.1 | 671.0 | .1 |
| 519.410 | 311. | 346. | 1.5 | 671.2 | 671.1 | .1 |
| 519.420 | 395. | 522. | 1.0 | 671.2 | 671.1 | .1 |
| 519.500 | 329. | 347. | 1.5 | 671.2 | 671.1 | .1 |
| 518.980 | 455. | 515. | .8 | 671.5 | 671.4 | .1 |
| 519.020 | 367. | 317. | 1.3 | 671.7 | 671.6 | .1 |
| 519.800 | 230. | 78. | 5.1 | 672.1 | 672.1 | 0.0 |
| 519.900 | 156. | 260. | 1.5 | 674.8 | 674.7 | .1 |
| 519.920 | 144. | 193. | 2.1 | 674.7 | 674.7 | 0.0 |
| 519.930 | 153. | 237. | 1.7 | 675.0 | 674.9 | .1 |
| 519.940 | 169. | 312. | 1.3 | 675.0 | 674.9 | .1 |
| 520.000 | 165. | 297. | 1.3 | 676.0 | 675.9 | .1 |
| 520.100 | 165. | 297. | 1.3 | 677.1 | 677.0 | .1 |
| 520.300 | 166. | 310. | 1.3 | 678.4 | 678.3 | .1 |
| 520.400 | 52. | 117. | 3.4 | 679.3 | 679.2 | .1 |
| 520.480 | 54. | 139. | 1.9 | 679.6 | 679.6 | 0.0 |
| 520.520 | 17. | 119. | 2.2 | 682.8 | 682.8 | 0.0 |
| 520.530 | 366. | 1090. | .2 | 682.9 | 682.9 | 0.0 |
| 520.540 | 367. | 1092. | .2 | 682.9 | 682.9 | 0.0 |
| 520.550 | 429. | 1554. | .2 | 682.9 | 682.9 | 0.0 |
| 520.600 | 358. | 1069. | .2 | 682.9 | 682.9 | 0.0 |
| 521.000 | 24. | 92. | 2.9 | 682.8 | 682.8 | 0.0 |
| 521.100 | 22. | 67. | 4.0 | 683.7 | 683.7 | 0.0 |
| 521.200 | 21. | 61. | 4.4 | 685.3 | 685.3 | 0.0 |
| 521.600 | 23. | 48. | 5.5 | 687.4 | 687.4 | 0.0 |
| 521.700 | 18. | 58. | 4.6 | 690.5 | 690.5 | 0.0 |
| 521.800 | 19. | 59. | 4.5 | 692.4 | 692.4 | 0.0 |
| 522.200 | 18. | 58. | 4.5 | 693.6 | 693.6 | 0.0 |
| 522.250 | 16. | 48. | 5.5 | 694.1 | 694.1 | 0.0 |
| 521.980 | 16. | 43. | 6.1 | 694.9 | 694.9 | 0.0 |
| 522.020 | 50. | 96. | 2.8 | 699.8 | 699.8 | 0.0 |
| 522.300 | 66. | 111. | 2.4 | 699.8 | 699.8 | 0.0 |
| 522.400 | 69. | 113. | 2.3 | 699.8 | 699.8 | 0.0 |
| 522.500 | 79. | 154. | 1.7 | 699.9 | 699.9 | 0.0 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN

4) DOCUMENT TYPE: 100 YEAR FLOODWAY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORP -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA H-4705
T2      TROY
T3      STURGIS DRAIN AT U/S END DOUGLAS DRAIN 100 YR FLOW=1030 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.    .002700     0.00      -1.0       0.    641.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .080      .080      .045      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   480.000   830.000  1030.000  1510.000  1030.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** ENTRANCE TO DOUGLAS DRAIN
X1    501.000    10.000   298.000   334.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    645.000   150.000   643.800   152.000   643.800   298.000   639.000   306.000   536.400   310.000
GR    636.400   314.000   639.000   318.000   643.800   334.000   643.900   525.000   645.000   750.000

X1    501.100    11.000   394.000   438.000   300.000   300.000   300.000     0.000    -2.800     0.000
GR    648.000   210.000   647.100   311.000   647.000   394.000   643.200   402.000   642.000   408.000
GR    640.100   413.000   640.100   417.000   642.000   422.000   643.400   430.000   547.500   438.000
GR    647.600   616.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    501.200    11.000   394.000   438.000   300.000   300.000   300.000     0.000    -1.900     0.000
GR    648.000   210.000   647.100   311.000   647.000   394.000   643.200   402.000   542.000   408.000
GR    640.100   413.000   640.100   417.000   642.000   422.000   643.400   430.000   547.500   438.000
GR    647.600   736.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    501.400    11.000   394.000   438.000   300.000   300.000   300.000     0.000     -.900     0.000
GR    648.000   210.000   647.100   311.000   647.000   394.000   643.200   402.000   642.000   408.000
GR    640.100   413.000   640.100   417.000   642.000   422.000   643.400   430.000   547.500   438.000
GR    647.600   776.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .090      .090      .050     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1    502.000    11.000   394.000   438.000   300.000   300.000   300.000     0.000     0.000     0.000
GR    648.000   210.000   647.100   311.000   647.000   394.000   643.200   402.000   642.000   408.000
GR    640.100   413.000   640.100   417.000   642.000   422.000   643.400   430.000   647.500   438.000
GR    647.600   776.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 502.200 | 0.000 | 0.000 | 0.000 | 402.000 | 402.000 | 402.000 | 0.000 | .900 | 0.000 |
| X1 | 502.400 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | .800 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE CONCRETE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 502.980 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 648.800 | 648.800 | 0.000 |
| SB | 0.000 | 1.500 | 2.550 | 525.000 | 16.000 | 0.000 | 108.800 | 0.000 | 642.000 | 642.000 |
| X1 | 503.020 | 0.000 | 0.000 | 0.000 | 15.000 | 15.000 | 15.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 648.000 | 649.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 649.900 | 649.900 | 0.000 |
| X1 | 504.200 | 11.000 | 346.000 | 384.000 | 135.000 | 135.000 | 135.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 650.000 | 0.000 | 648.000 | 100.000 | 650.100 | 332.000 | 650.000 | 346.000 | 644.200 | 358.000 |
| GR | 641.900 | 362.000 | 641.900 | 365.000 | 644.200 | 370.000 | 650.600 | 384.000 | 651.000 | 446.000 |
| GR | 651.100 | 560.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE PRIVATE ROAD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 503.980 | 0.000 | 0.000 | 0.000 | 240.000 | 240.000 | 240.000 | 0.000 | .100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 650.100 | 650.700 | 0.000 |
| SB | 0.000 | 2.000 | 2.500 | 500.000 | 13.380 | 0.000 | 73.600 | 0.000 | 642.000 | 642.000 |
| X1 | 504.020 | 0.000 | 0.000 | 0.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 647.500 | 650.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 650.500 | 650.700 | 0.000 |
| X1 | 504.800 | 15.000 | 270.000 | 322.000 | 130.000 | 130.000 | 130.000 | 0.000 | 0.000 | 0.000 |
| GR | 651.600 | 100.000 | 651.000 | 220.000 | 652.100 | 270.000 | 649.300 | 282.000 | 644.500 | 298.000 |
| GR | 642.300 | 302.000 | 642.300 | 305.000 | 644.500 | 308.000 | 647.000 | 312.000 | 650.800 | 322.000 |
| GR | 651.000 | 347.000 | 655.000 | 360.000 | 660.000 | 375.000 | 650.500 | 396.000 | 651.000 | 525.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 504.900 | 14.000 | 348.000 | 406.000 | 202.000 | 202.000 | 202.000 | 0.000 | -1.600 | 0.000 |
| GR | 652.900 | 150.000 | 652.800 | 348.000 | 651.900 | 358.000 | 646.500 | 378.000 | 644.700 | 383.000 |
| GR | 644.700 | 388.000 | 646.500 | 392.000 | 649.800 | 394.000 | 651.400 | 406.000 | 652.100 | 436.000 |
| GR | 652.700 | 476.000 | 652.800 | 502.000 | 653.200 | 600.000 | 654.400 | 630.000 | 0.000 | 0.000 |
| NC | .095 | .095 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 505.000 | 0.000 | 0.000 | 0.000 | 498.000 | 498.000 | 498.000 | 0.000 | 1.600 | 0.000 |
| X1 | 506.000 | 10.000 | 112.000 | 150.000 | 550.000 | 550.000 | 550.000 | 0.000 | 0.000 | 0.000 |
| GR | 655.700 | 0.000 | 655.600 | 112.000 | 648.500 | 122.000 | 647.000 | 128.000 | 646.500 | 133.000 |
| GR | 646.500 | 138.000 | 647.000 | 142.000 | 649.300 | 144.000 | 653.800 | 150.000 | 654.500 | 208.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 506.100 | 10.000 | 112.000 | 150.000 | 125.000 | 125.000 | 125.000 | 0.000 | .100 | 0.000 |
| GR | 655.800 | 0.000 | 655.700 | 112.000 | 648.500 | 122.000 | 647.000 | 128.000 | 646.500 | 133.000 |
| GR | 646.500 | 138.000 | 647.000 | 142.000 | 649.300 | 144.000 | 655.700 | 150.000 | 655.800 | 208.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 506.150 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.500 | 655.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 506.160 | 0.000 | 0.000 | 0.000 | 9.000 | 9.000 | 9.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 654.500 | 655.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 506.170 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 507.200 | 12.000 | 326.000 | 362.000 | 465.000 | 465.000 | 465.000 | 0.000 | 0.000 | 0.000 |
| GR | 657.200 | 245.000 | 655.600 | 250.000 | 655.800 | 326.000 | 649.000 | 336.000 | 647.900 | 342.000 |
| GR | 647.900 | 348.000 | 649.000 | 354.000 | 655.000 | 362.000 | 655.400 | 412.000 | 655.800 | 438.000 |
| GR | 656.600 | 440.000 | 660.000 | 445.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE BIG BEAVER

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 506.980 | 0.000 | 0.000 | 0.000 | 139.000 | 139.000 | 139.000 | 0.000 | 1.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 656.500 | 656.500 | 0.000 |
| SB | 0.000 | 2.100 | 2.800 | 200.000 | 9.820 | 0.000 | 76.500 | 0.000 | 649.200 | 649.200 |
| X1 | 507.020 | 12.000 | 350.000 | 396.000 | 116.000 | 116.000 | 116.000 | 0.000 | .400 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 654.200 | 660.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 660.400 | 660.400 | 0.000 |
| GR | 661.500 | 200.000 | 659.300 | 274.000 | 658.900 | 336.000 | 658.800 | 350.000 | 653.900 | 362.000 |
| GR | 650.300 | 364.000 | 648.800 | 371.000 | 648.800 | 376.000 | 650.300 | 380.000 | 660.400 | 396.000 |
| GR | 661.500 | 412.000 | 661.600 | 424.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 507.800 | 12.000 | 350.000 | 396.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| GR | 661.500 | 200.000 | 659.300 | 274.000 | 658.900 | 336.000 | 658.800 | 350.000 | 653.900 | 362.000 |
| GR | 650.300 | 364.000 | 648.800 | 371.000 | 648.800 | 376.000 | 650.300 | 380.000 | 660.400 | 396.000 |
| GR | 661.500 | 412.000 | 661.600 | 424.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE URBAN CREST

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 507.980 | 0.000 | 0.000 | 0.000 | 210.000 | 210.000 | 210.000 | 0.000 | 1.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 656.600 | 656.600 | 0.000 |
| SB | 0.000 | 1.750 | 2.600 | 145.000 | 11.940 | 0.000 | 77.600 | 0.000 | 650.100 | 650.100 |
| X1 | 508.020 | 11.000 | 354.000 | 400.000 | 37.000 | 37.000 | 37.000 | 0.000 | .300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 656.000 | 658.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 658.700 | 658.700 | 0.000 |
| GR | 662.500 | 194.000 | 660.600 | 254.000 | 659.800 | 354.000 | 654.700 | 358.000 | 651.800 | 366.000 |
| GR | 649.800 | 371.000 | 649.800 | 379.000 | 651.800 | 384.000 | 660.900 | 400.000 | 661.200 | 414.000 |
| GR | 663.200 | 416.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 508.800 | 11.000 | 354.000 | 400.000 | 110.000 | 110.000 | 110.000 | 0.000 | 0.000 | 0.000 |
| GR | 662.500 | 194.000 | 660.600 | 254.000 | 659.800 | 354.000 | 654.700 | 358.000 | 651.800 | 366.000 |
| GR | 649.800 | 371.000 | 649.800 | 379.000 | 651.800 | 384.000 | 660.900 | 400.000 | 661.200 | 414.000 |
| GR | 663.200 | 416.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE ROCHESTER RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 508.980 | 11.000 | 358.000 | 384.000 | 20.000 | 20.000 | 20.000 | 0.000 | -1.500 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 660.700 | 660.700 | 0.000 |
| GR | 662.500 | 194.000 | 660.600 | 254.000 | 659.800 | 354.000 | 654.700 | 358.000 | 651.800 | 366.000 |
| GR | 649.800 | 371.000 | 649.900 | 379.000 | 651.800 | 384.000 | 660.900 | 400.000 | 661.200 | 414.000 |
| GR | 663.200 | 416.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.050 | 2.750 | 0.000 | 25.000 | 1.000 | 194.400 | 0.000 | 648.300 | 648.300 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 509.020 | 10.000 | 276.000 | 300.000 | 190.000 | 190.000 | 190.000 | 0.000 | -2.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 656.400 | 661.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 661.700 | 661.200 | 0.000 |
| BT | 3.000 | 214.000 | 662.000 | 0.000 | 276.000 | 661.700 | 0.000 | 338.000 | 661.200 | 0.000 |
| GR | 664.700 | 214.000 | 662.300 | 222.000 | 652.300 | 254.000 | 650.300 | 269.000 | 650.300 | 276.000 |
| GR | 652.300 | 292.000 | 660.600 | 300.000 | 660.800 | 316.000 | 661.400 | 330.000 | 663.800 | 338.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 509.800 | 10.000 | 214.000 | 300.000 | 20.000 | 20.000 | 20.000 | 0.000 | 0.000 | 0.000 |
| GR | 664.700 | 214.000 | 662.300 | 222.000 | 652.300 | 254.000 | 650.300 | 269.000 | 650.300 | 276.000 |
| GR | 652.300 | 292.000 | 660.600 | 300.000 | 660.800 | 316.000 | 661.400 | 330.000 | 663.800 | 338.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 510.000 | 11.000 | 294.000 | 340.000 | 440.000 | 440.000 | 440.000 | 0.000 | 0.000 | 0.000 |
| GR | 662.200 | 80.000 | 661.100 | 120.000 | 661.000 | 200.000 | 660.900 | 260.000 | 659.800 | 294.000 |
| GR | 653.100 | 306.000 | 651.800 | 311.000 | 651.800 | 316.000 | 653.100 | 320.000 | 663.000 | 340.000 |
| GR | 663.800 | 372.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | .055 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 511.200 | 14.000 | 324.000 | 398.000 | 600.000 | 600.000 | 600.000 | 0.000 | 0.000 | 0.000 |
| GR | 665.400 | 244.000 | 664.900 | 280.000 | 664.900 | 306.000 | 664.200 | 324.000 | 662.700 | 330.000 |
| GR | 661.500 | 338.000 | 654.000 | 350.000 | 652.400 | 354.000 | 652.400 | 358.000 | 654.000 | 362.000 |
| GR | 661.900 | 378.000 | 664.400 | 398.000 | 664.600 | 424.000 | 664.900 | 438.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE HARTLAND RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 510.980 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 660.300 | 660.300 | 0.000 |
| SB | 0.000 | 2.150 | 2.700 | 0.000 | 9.760 | 0.000 | 64.400 | 0.000 | 653.700 | 653.700 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 511.020 | 14.000 | 324.000 | 390.000 | 30.000 | 30.000 | 30.000 | 0.000 | .300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 660.300 | 661.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 661.800 | 661.800 | 0.000 |
| BT | 4.000 | 250.000 | 664.000 | 0.000 | 324.000 | 663.200 | 0.000 | 352.000 | 561.800 | 0.000 |
| BT | 515.000 | 664.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 664.900 | 250.000 | 663.600 | 324.000 | 662.200 | 330.000 | 656.200 | 340.000 | 655.000 | 344.000 |
| GR | 653.400 | 348.000 | 653.400 | 352.000 | 655.000 | 356.000 | 657.400 | 366.000 | 661.900 | 374.000 |
| GR | 663.000 | 390.000 | 663.400 | 392.000 | 664.200 | 458.000 | 665.000 | 515.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 511.800 | 14.000 | 324.000 | 390.000 | 65.000 | 65.000 | 65.000 | 0.000 | 0.000 | 0.000 |
| GR | 664.900 | 250.000 | 663.600 | 324.000 | 662.200 | 330.000 | 656.200 | 340.000 | 655.000 | 344.000 |
| GR | 653.400 | 348.000 | 653.400 | 352.000 | 655.000 | 356.000 | 657.400 | 366.000 | 661.900 | 374.000 |
| GR | 663.000 | 390.000 | 663.400 | 424.000 | 664.200 | 458.000 | 665.000 | 515.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 512.000 | 16.000 | 274.000 | 326.000 | 625.000 | 625.000 | 625.000 | 0.000 | 0.000 | 0.000 |
| GR | 666.400 | 245.000 | 664.500 | 258.000 | 664.100 | 274.000 | 662.600 | 284.000 | 656.000 | 300.000 |
| GR | 654.400 | 305.000 | 654.400 | 308.000 | 656.000 | 312.000 | 661.000 | 318.000 | 662.000 | 326.000 |
| GR | 661.900 | 340.000 | 662.600 | 358.000 | 663.800 | 378.000 | 664.600 | 408.000 | 665.000 | 454.000 |
| GR | 666.400 | 468.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** CONFLUENCE WITH LANE DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 512.200 | 0.000 | 0.000 | 0.000 | 200.000 | 200.000 | 200.000 | 0.000 | 1.000 | 0.000 |
| QT | 5.000 | 290.000 | 490.000 | 580.000 | 760.000 | 580.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 513.000 | 12.000 | 348.000 | 380.000 | 250.000 | 250.000 | 250.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.900 | 296.000 | 667.200 | 330.000 | 666.400 | 348.000 | 657.400 | 356.000 | 656.100 | 360.000 |
| GR | 656.100 | 364.000 | 657.400 | 368.000 | 660.700 | 372.000 | 661.700 | 380.000 | 665.000 | 438.000 |
| GR | 666.300 | 504.000 | 667.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 513.100 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | 1.400 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 513.150 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 663.300 | 664.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 513.160 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 663.300 | 664.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 513.170 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 514.200 | 12.000 | 398.000 | 448.000 | 520.000 | 520.000 | 520.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.300 | 250.000 | 665.400 | 342.000 | 664.000 | 398.000 | 658.600 | 406.000 | 657.700 | 411.000 |
| GR | 657.700 | 417.000 | 658.600 | 422.000 | 662.400 | 434.000 | 663.800 | 448.000 | 664.000 | 480.000 |
| GR | 664.800 | 518.000 | 667.100 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE TROMBLEY RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 513.980 | 0.000 | 0.000 | 0.000 | 109.000 | 109.000 | 109.000 | 0.000 | -.600 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 662.600 | 562.600 | 0.000 |
| SB | 0.000 | 1.650 | 2.700 | 300.000 | 4.330 | 0.000 | 23.800 | 0.000 | 657.100 | 657.100 |
| X1 | 514.020 | 12.000 | 350.000 | 392.000 | 51.000 | 51.000 | 51.000 | 0.000 | -1.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 662.600 | 666.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 666.000 | 566.000 | 0.000 |
| GR | 667.700 | 160.000 | 666.200 | 266.000 | 665.200 | 300.000 | 665.200 | 332.000 | 664.900 | 350.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 659.600 | 362.000 | 658.100 | 366.000 | 658.100 | 370.000 | 659.500 | 374.000 | 665.800 | 392.000 |
| GR | 667.300 | 436.000 | 667.600 | 454.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 514.800 | 12.000 | 350.000 | 392.000 | 60.000 | 60.000 | 60.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.700 | 160.000 | 666.200 | 266.000 | 665.200 | 300.000 | 665.200 | 332.000 | 664.900 | 350.000 |
| GR | 659.600 | 362.000 | 658.100 | 366.000 | 658.100 | 370.000 | 659.500 | 374.000 | 665.800 | 392.000 |
| GR | 667.300 | 436.000 | 667.600 | 454.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 514.900 | 0.000 | 0.000 | 0.000 | 25.000 | 25.000 | 25.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 514.910 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 664.100 | 664.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 514.920 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 664.100 | 664.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 514.930 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE COLEBROOK RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 514.980 | 0.000 | 0.000 | 0.000 | 190.000 | 190.000 | 190.000 | 0.000 | -.800 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 662.800 | 662.800 | 0.000 |
| SB | 0.000 | 1.650 | 2.850 | 325.000 | 4.330 | 0.000 | 23.800 | 0.000 | 657.300 | 657.300 |
| X1 | 515.020 | 13.000 | 360.000 | 412.000 | 50.000 | 50.000 | 50.000 | 0.000 | -1.300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 662.800 | 666.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 666.300 | 666.300 | 0.000 |
| GR | 667.500 | 200.000 | 666.300 | 360.000 | 665.400 | 368.000 | 663.800 | 374.000 | 660.000 | 382.000 |
| GR | 658.600 | 387.000 | 658.600 | 392.000 | 660.000 | 396.000 | 663.000 | 402.000 | 666.400 | 412.000 |
| GR | 666.700 | 440.000 | 666.800 | 500.000 | 668.000 | 500.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 515.800 | 14.000 | 360.000 | 412.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| GR | 667.500 | 200.000 | 666.400 | 270.000 | 666.300 | 360.000 | 665.400 | 368.000 | 663.800 | 374.000 |
| GR | 660.000 | 382.000 | 658.600 | 387.000 | 658.600 | 392.000 | 660.000 | 396.000 | 663.000 | 402.000 |
| GR | 666.400 | 412.000 | 666.700 | 440.000 | 666.800 | 500.000 | 668.000 | 600.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 515.850 | 0.000 | 0.000 | 0.000 | 350.000 | 350.000 | 350.000 | 0.000 | .400 | 0.000 |
| X1 | 515.900 | 12.000 | 344.000 | 390.000 | 440.000 | 440.000 | 440.000 | 0.000 | -.400 | 0.000 |
| GR | 669.500 | 114.000 | 667.700 | 200.000 | 667.400 | 298.000 | 667.000 | 344.000 | 662.200 | 356.000 |
| GR | 660.200 | 366.000 | 660.200 | 376.000 | 662.000 | 384.000 | 666.400 | 390.000 | 667.600 | 432.000 |
| GR | 668.000 | 472.000 | 670.000 | 565.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 515.950 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 665.900 | 667.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 515.960 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 665.900 | 667.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 515.970 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 516.000 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X1 | 516.200 | 0.000 | 0.000 | 0.000 | 350.000 | 350.000 | 350.000 | 0.000 | .200 | 0.000 |
| X1 | 516.400 | 13.000 | 642.000 | 690.000 | 350.000 | 350.000 | 350.000 | 0.000 | .300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 670.000 | 250.000 | 662.800 | 460.000 | 662.300 | 608.000 | 665.600 | 642.000 | 660.600 | 662.000 |
| GR | 660.400 | 665.000 | 660.400 | 670.000 | 660.600 | 674.000 | 664.800 | 690.000 | 662.500 | 720.000 |
| GR | 662.800 | 850.000 | 663.000 | 1250.000 | 670.000 | 1400.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 517.000 | 0.000 | 0.000 | 0.000 | 300.000 | 300.000 | 300.000 | 0.000 | .200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 517.200 | 0.000 | 0.000 | 0.000 | 400.000 | 400.000 | 400.000 | 0.000 | .100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 517.800 | 15.000 | 1188.000 | 1236.000 | 350.000 | 350.000 | 350.000 | 0.000 | -.300 | 0.000 |
| GR | 670.000 | 900.000 | 668.000 | 1000.000 | 666.500 | 1114.000 | 666.600 | 1150.000 | 668.800 | 1188.000 |
| GR | 665.100 | 1202.000 | 663.800 | 1210.000 | 662.100 | 1214.000 | 661.400 | 1215.000 | 661.400 | 1216.000 |
| GR | 662.100 | 1218.000 | 665.100 | 1230.000 | 668.100 | 1236.000 | 665.700 | 1315.000 | 670.000 | 1510.000 |
| X1 | 518.200 | 0.000 | 0.000 | 0.000 | 380.000 | 380.000 | 380.000 | 0.000 | .300 | 0.000 |
| WC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE WATTLES RD. (OPENING FILLED W/CONCRETE DEBRIS)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 517.980 | 0.000 | 0.000 | 0.000 | 120.000 | 120.000 | 120.000 | 0.000 | 1.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 667.000 | 667.000 | 0.000 |
| SB | 0.000 | 1.000 | 2.700 | 0.000 | 1.000 | 0.000 | 2.000 | 0.000 | 662.500 | 662.500 |
| X1 | 518.020 | 11.000 | 1196.000 | 1234.000 | 50.000 | 50.000 | 50.000 | 0.000 | .200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 663.200 | 669.400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 669.400 | 669.500 | 0.000 |
| BT | 7.000 | 850.000 | 671.700 | 0.000 | 1100.000 | 669.400 | 0.000 | 1196.000 | 669.500 | 0.000 |
| BT | 1214.000 | 671.700 | 0.000 | 1234.000 | 671.700 | 0.000 | 1262.000 | 669.500 | 0.000 | 1400.000 |
| BT | 671.700 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 671.000 | 850.000 | 666.000 | 1100.000 | 666.800 | 1196.000 | 662.800 | 1214.000 | 662.300 | 1216.000 |
| GR | 662.300 | 1218.000 | 662.800 | 1220.000 | 667.200 | 1234.000 | 668.400 | 1262.000 | 669.500 | 1326.000 |
| GR | 671.000 | 1400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| WC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

New run follows: New discharges

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

Revision 8/80

Project: HUD-FIA-H-4705 City of Troy, Oakland County, MI

Sturgis Drain Hydrology Revision

Due to the construction of a subdivision along Sturgis Drain between Livernois Road and Randall Road, concerns were raised on the extent of the floodway shown on the original hydraulic submittal. It is felt that near Livernois Road, the reach lengths used for the hydrology were too long, yielding flows that were too high in the upper lengths of the reach. The revised hydrology which is expected to give more realistic results in the upper reaches is attached.

Enclosed are complete computer outputs for the 100-year natural and 100-year designated floodway; and the 10, 50 and 500 year flood plain elevations for your review. The computer runs were made starting downstream of Wattles Road to the upstream limit of study. Attached is a xerox of this reach in plan with the revised floodway shown in red. The enclosed print of the Troy workmap includes the revised floodway for this reach of Sturgis Drain.

OK

# Revised Discharges - Sturgis Drain

| | Peak Discharge (cfs) | | | |
|---|---|---|---|---|
| | 10yr | 50 yr | 100yr | 500yr |
| From | | | | |
| Lane Drain To | 290 | 490 | 580 | 760 |
| Wattles Rd. To | 260 | 400 | 510 | 730 |
| Randall Rd. To | 195 | 315 | 400 | 580 |
| Wilton Rd To | 125 | 210 | 265 | 400 |
| Livernois Rd. | | | | |

HUD-FIA H-4705
Sturgis Drain - Revised

JSW 7/24/80

Re-ran Sturgis Drain from D/s of Wattles to u/s Limit of study w/ revised flows (see attached sheet)

Elevations + Floodway widths were lowered, most significantly from D/s of Wilton Rd to U/s limit of study.

Special Bridge Routine was used at Randall Rd - however low flow computations were used. This was checked and is all right as the majority of flow is weir flow (submerged), so calculation with normal bridge is practical.

Wilton Road - modeling of vault at u/s side of Road - cross sections indicate wide floodway width. Field data in this area is not good. cross section D/s of Wilton Rd (520.4) and cross section 521 (≈400 Feet u/s of Wilton) indicate all flow is in channel.

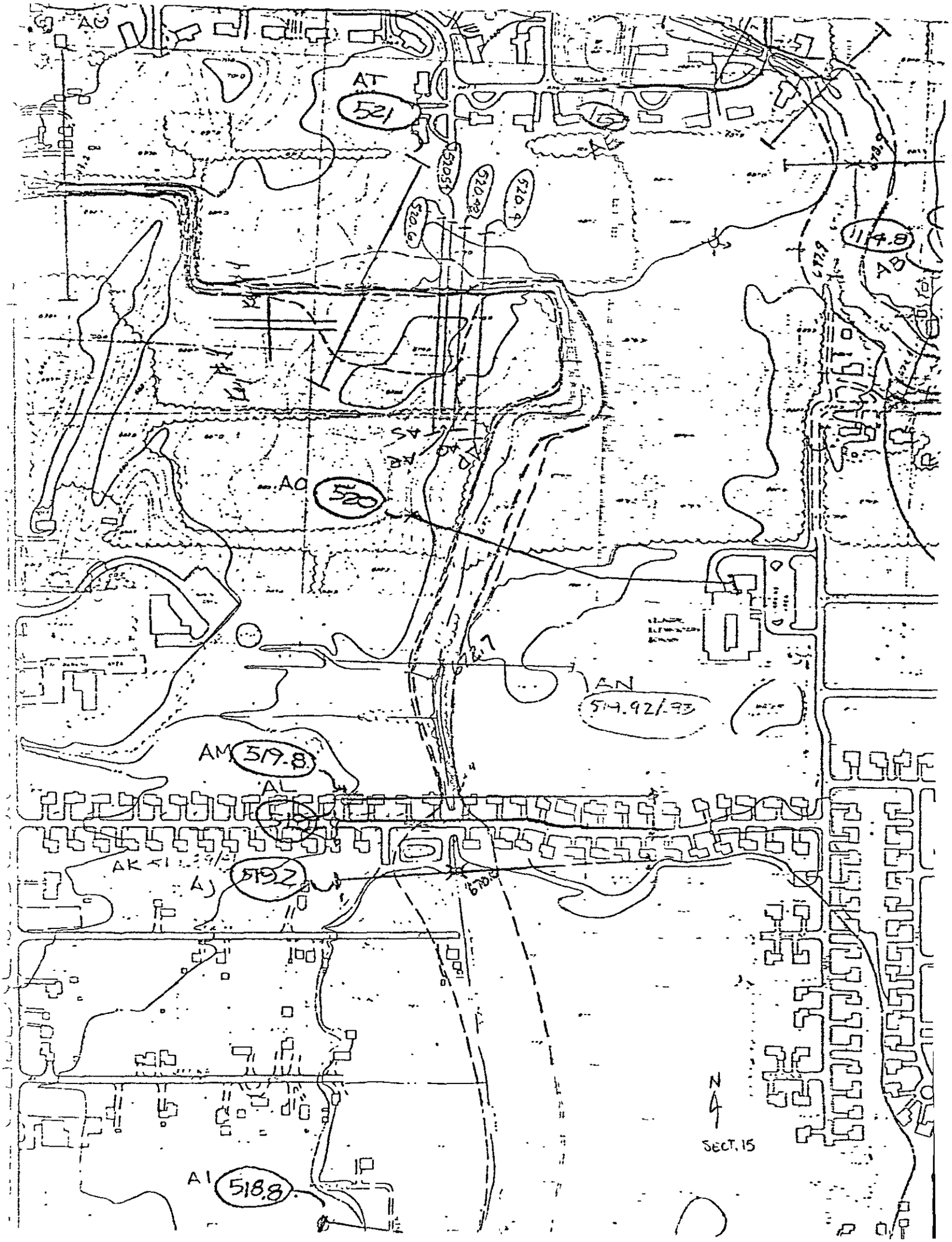
Check loss through vault by limiting flow area to vault width (17')

Flow depth ≈ 7.3' Area = 125 Ft²

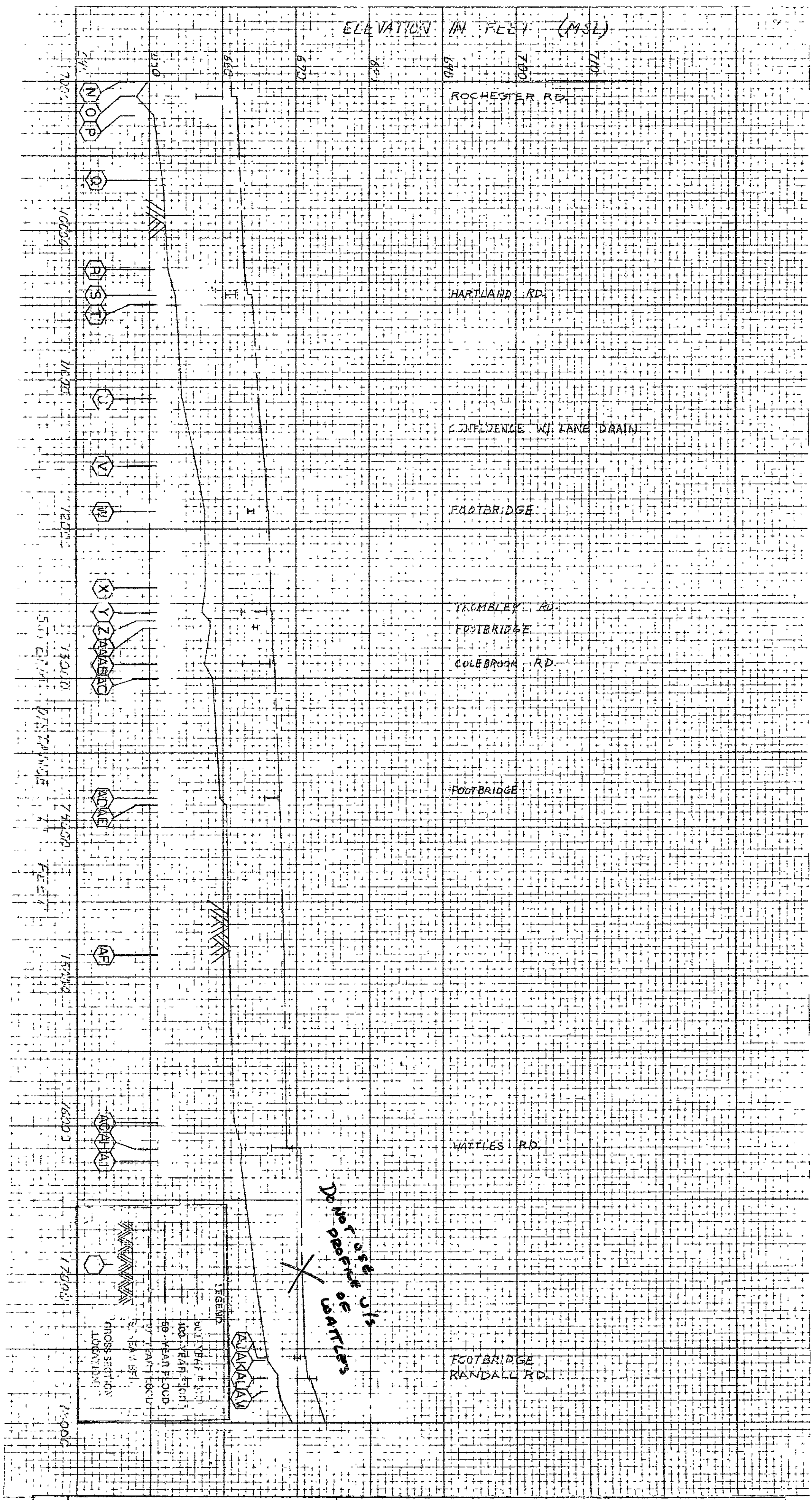
$h_v = (265/125)^2/2g = .07$

XKOR for vault = 2.4 → $h_L \approx 0.15$

loss is not large enough to cause concern. Floodway width is to be contained with channel area both u/s and D/s of Wilton Rd.


AO
AT
521
520.5
520.4
520.6
AQ
520
AN
519.92/.93
AM
519.8
AL
AK
AJ
519.2
AI
518.8
AB
N
SECT. 15

"PERFECT" CLOSE SECTION
10 X 10 -- ONE INCH
EUGENE DIETZGEN CO

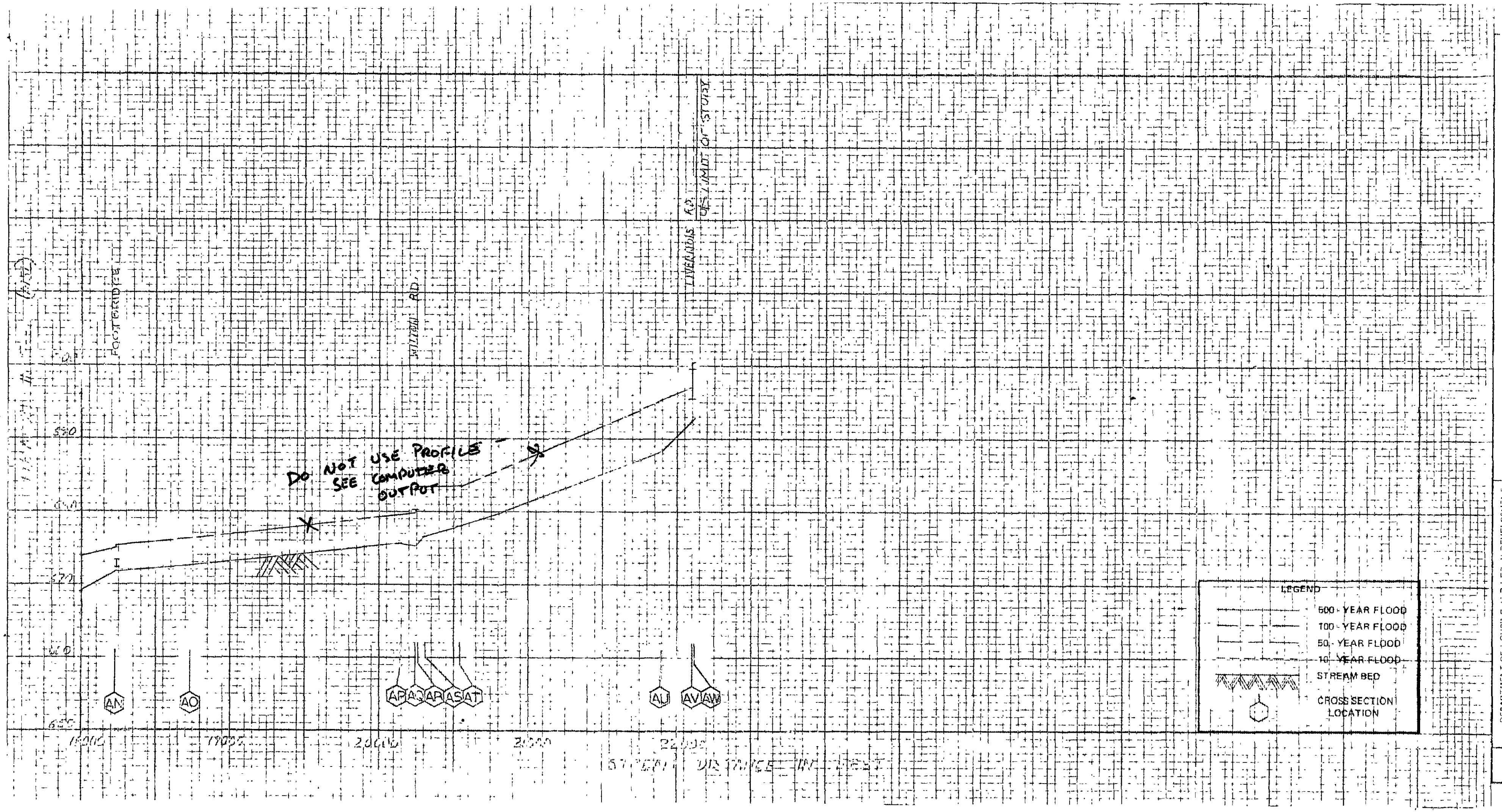



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

(HARTLAND RD.)

FLOOD PROFILES

STURGIS DRAIN


FOOTBRIDGE
WILLIAM RD.
LIVERNOIS
DO NOT USE PROFILE
SEE COMPUTER
OUTPUT
AN
AO
AP
AQ
AR
AS
AT
AU
AV
AW
LEGEND
500 - YEAR FLOOD
100 - YEAR FLOOD
50 - YEAR FLOOD
10 - YEAR FLOOD
STREAM BED
CROSS SECTION
LOCATION
FLOOD PROFILES
STURGIS DRAIN
CITY OF TROY, MI.
(OAKLAND CO.)

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY, CITY

3) WATERCOURSE: STURGIS DRAIN W/ REVISED FLOWS

4) DOCUMENT TYPE: 100 YR FLOODWAY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA H-4705
T2      TROY
T3      STURGIS DRAIN AT U/S END DOUGLAS DRAIN 100 YR FLOW=1030 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.   0.000000     0.00      -1.0       0.    668.210    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .095      .095      .055      .200      .400     0.000     0.000     0.000     0.000     0.000
QT     5.000   290.000   490.000   580.000   760.000   580.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1   517.800    15.000  1188.000  1236.000   350.000   350.000   350.000     0.000     -.300     0.000
GR   670.000   900.000   668.000  1000.000   666.500  1114.000   665.600  1150.000   668.800  1188.000
GR   665.100  1202.000   663.800  1210.000   662.100  1214.000   661.400  1215.000   661.400  1216.000
GR   662.100  1218.000   665.100  1230.000   668.100  1236.000   665.700  1315.000   670.000  1510.000

X1   518.200     0.000     0.000     0.000   380.000   380.000   380.000     0.000      .300     0.000
NC     0.000     0.000     0.000      .400      .800     0.000     0.000     0.000     0.000     0.000
QT     5.000   260.000   400.000   510.000   730.000   510.000     0.000     0.000     0.000     0.000

        ** D/S FACE WATTLES RD. (OPENING FILLED W/CONCRETE DEBRIS)

X1   517.980     0.000     0.000     0.000   120.000   120.000   120.000     0.000     1.100     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   667.000   667.000     0.000
SB     0.000     1.000     2.700     0.000     1.000     0.000     2.000     0.000   662.500   662.500

X1   518.020    11.000  1196.000  1234.000    50.000    50.000    50.000     0.000      .200     0.000
X2     0.000     0.000     1.000   663.200   669.400     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   669.400   669.500     0.000
BT     7.000   850.000   671.700     0.000  1100.000   669.400     0.000  1196.000   669.500     0.000
BT  1214.000   671.700     0.000  1234.000   671.700     0.000  1262.000   669.500     0.000  1400.000
BT   671.700     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   671.000   850.000   666.000  1100.000   666.800  1196.000   662.800  1214.000   662.300  1216.000
GR   662.300  1218.000   662.800  1220.000   667.200  1234.000   668.400  1262.000   669.500  1326.000
GR   671.000  1400.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC     0.000     0.000     0.000      .150      .350     0.000     0.000     0.000     0.000     0.000

X1   518.800     0.000     0.000     0.000    80.000    80.000    80.000     0.000     -.200     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 518.850 | 0.000 | 0.000 | 0.000 | 475.000 | 475.000 | 475.000 | 0.000 | 1.400 | 0.000 |
| X1 | 518.900 | 8.000 | 622.000 | 646.000 | 400.000 | 400.000 | 400.000 | 0.000 | -1.300 | 0.000 |
| GR | 672.000 | 300.000 | 670.000 | 430.000 | 669.600 | 622.000 | 666.000 | 628.000 | 666.000 | 632.000 |
| GR | 670.200 | 646.000 | 670.300 | 885.000 | 672.000 | 940.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.200 | 0.000 | 0.000 | 0.000 | 450.000 | 450.000 | 450.000 | 0.000 | 1.300 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 519.390 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 669.500 | 670.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.410 | 0.000 | 0.000 | 0.000 | 12.000 | 12.000 | 12.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 669.500 | 670.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.420 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.500 | 0.000 | 0.000 | 0.000 | 45.000 | 45.000 | 45.000 | 0.000 | .400 | 0.000 |
| QT | 5.000 | 195.000 | 315.000 | 400.000 | 580.000 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 7.100 | 430.000 | 885.000 | 0.000 | 0.000 |

** D/S FACE RANDALL RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 518.980 | 8.000 | 622.000 | 646.000 | 50.000 | 50.000 | 50.000 | 0.000 | .400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.500 | 670.500 | 0.000 |
| GR | 672.000 | 300.000 | 670.000 | 430.000 | 669.600 | 622.000 | 667.000 | 628.000 | 667.000 | 632.000 |
| GR | 670.200 | 646.000 | 670.300 | 885.000 | 672.000 | 940.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.650 | 2.900 | 0.000 | 9.350 | 0.000 | 35.540 | 0.000 | 667.700 | 667.700 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 7.100 | 300.000 | 692.000 | 0.000 | 0.000 |
| X1 | 519.020 | 12.000 | 652.000 | 667.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 671.500 | 670.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.000 | 671.700 | 0.000 |
| BT | 9.000 | 350.000 | 670.000 | 0.000 | 455.000 | 671.800 | 0.000 | 500.000 | 671.700 | 0.000 |
| BT | 590.000 | 670.000 | 0.000 | 652.000 | 672.600 | 671.500 | 654.000 | 672.800 | 671.500 | 667.000 |
| BT | 672.500 | 671.500 | 692.000 | 671.700 | 0.000 | 810.000 | 675.000 | 0.000 | 0.000 | 0.000 |
| GR | 659.800 | 300.000 | 669.800 | 350.000 | 669.200 | 455.000 | 659.200 | 500.000 | 669.800 | 590.000 |
| GR | 671.500 | 652.000 | 669.800 | 654.000 | 667.700 | 660.000 | 667.700 | 662.000 | 671.500 | 667.000 |
| GR | 671.400 | 692.000 | 675.000 | 810.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 7.100 | 300.000 | 810.000 | 0.000 | 0.000 |
| X1 | 519.800 | 17.000 | 632.000 | 692.000 | 80.000 | 80.000 | 80.000 | 0.000 | 0.000 | 0.000 |
| GR | 675.000 | 300.000 | 673.200 | 350.000 | 672.000 | 455.000 | 672.600 | 500.000 | 673.000 | 590.000 |
| GR | 673.400 | 616.000 | 673.000 | 632.000 | 671.600 | 644.000 | 669.800 | 654.000 | 668.400 | 658.000 |
| GR | 657.800 | 660.000 | 667.800 | 663.000 | 668.400 | 666.000 | 671.600 | 674.000 | 673.000 | 682.000 |
| GR | 674.000 | 692.000 | 675.000 | 810.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| ET | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.400 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 519.900 | 12.000 | 856.000 | 876.000 | 391.000 | 391.000 | 391.000 | 0.000 | -1.100 | 0.000 |
| GR | 680.000 | 500.000 | 676.300 | 714.000 | 675.000 | 735.000 | 674.500 | 830.000 | 673.800 | 856.000 |
| GR | 673.400 | 862.000 | 672.700 | 864.000 | 672.700 | 872.000 | 673.300 | 876.000 | 675.000 | 934.000 |
| GR | 675.700 | 955.000 | 680.000 | 1000.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE (TOTALLY OBSTRUCTED 3 FT. CIRCULAR CMP)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 519.920 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 672.200 | 673.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.930 | 0.000 | 0.000 | 0.000 | 22.000 | 22.000 | 22.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 672.200 | 673.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 519.940 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 520.000 | 0.000 | 0.000 | 0.000 | 500.000 | 500.000 | 500.000 | 0.000 | 1.100 | 0.000 |
| X1 | 520.100 | 0.000 | 0.000 | 0.000 | 500.000 | 500.000 | 500.000 | 0.000 | 1.100 | 0.000 |
| X1 | 520.300 | 0.000 | 0.000 | 0.000 | 600.000 | 600.000 | 600.000 | 0.000 | 1.200 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 520.400 | 10.000 | 370.000 | 428.000 | 300.000 | 300.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| GR | 685.000 | 60.000 | 680.200 | 80.000 | 679.200 | 370.000 | 675.000 | 387.000 | 675.700 | 395.000 |
| GR | 676.200 | 406.000 | 680.500 | 428.000 | 681.300 | 440.000 | 681.900 | 470.000 | 685.000 | 750.000 |
| QT | 5.000 | 125.000 | 210.000 | 265.000 | 400.000 | 265.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE WILTON RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 520.480 | 0.000 | 0.000 | 0.000 | 50.000 | 50.000 | 50.000 | 0.000 | -.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 680.100 | 680.100 | 0.000 |
| SB | 0.000 | 1.700 | 2.900 | 450.000 | 5.280 | 0.000 | 23.760 | 0.000 | 675.600 | 675.600 |
| X1 | 520.520 | 11.000 | 387.000 | 404.000 | 65.000 | 65.000 | 65.000 | 0.000 | -.100 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 679.500 | 683.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 683.000 | 683.000 | 0.000 |
| GR | 685.000 | 60.000 | 680.200 | 80.000 | 680.100 | 387.000 | 675.000 | 387.100 | 675.700 | 395.000 |
| GR | 676.200 | 403.900 | 680.100 | 404.000 | 680.500 | 428.000 | 681.300 | 440.000 | 681.900 | 470.000 |
| GR | 685.000 | 750.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 520.530 | 0.000 | 0.000 | 0.000 | 3.000 | 3.000 | 3.000 | 0.000 | 0.000 | 0.000 |

** VAULT AT U/S END OF WILTON RD. CULVERT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 520.540 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 678.800 | 678.800 | 0.000 |
| SB | 0.000 | 2.400 | 2.900 | 525.000 | 3.930 | 0.000 | 12.570 | 0.000 | 675.600 | 675.600 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 520.550 | 10.000 | 390.000 | 421.000 | 1.000 | 1.000 | 1.000 | 0.000 | -.900 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 678.800 | 680.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 680.200 | 680.200 | 0.000 |
| GR | 685.000 | 60.000 | 681.700 | 80.000 | 679.300 | 375.000 | 678.000 | 390.000 | 676.500 | 405.000 |
| GR | 676.500 | 410.000 | 678.500 | 421.000 | 679.400 | 440.000 | 680.900 | 461.000 | 685.000 | 750.000 |
| X1 | 520.600 | 0.000 | 0.000 | 0.000 | 35.000 | 35.000 | 35.000 | 0.000 | .900 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 521.000 | 17.000 | 458.000 | 488.000 | 250.000 | 250.000 | 250.000 | 0.000 | 0.000 | 0.000 |
| GR | 685.000 | 100.000 | 683.000 | 210.000 | 683.000 | 300.000 | 683.000 | 400.000 | 683.000 | 430.000 |
| GR | 683.000 | 440.000 | 683.700 | 458.000 | 679.300 | 460.000 | 678.000 | 462.000 | 678.000 | 468.000 |
| GR | 678.000 | 473.000 | 678.000 | 475.000 | 680.400 | 478.000 | 685.500 | 488.000 | 683.300 | 495.000 |
| GR | 682.500 | 760.000 | 685.000 | 800.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 521.100 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.900 | 0.000 |
| X1 | 521.200 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.900 | 0.000 |
| X1 | 521.600 | 14.000 | 456.000 | 482.000 | 200.000 | 200.000 | 200.000 | 0.000 | -7.000 | 0.000 |
| GR | 696.600 | 336.000 | 696.300 | 376.000 | 695.200 | 400.000 | 694.900 | 456.000 | 693.400 | 464.000 |
| GR | 692.100 | 468.000 | 691.200 | 474.000 | 690.200 | 476.000 | 690.200 | 477.000 | 691.200 | 478.000 |
| GR | 694.500 | 482.000 | 694.800 | 524.000 | 695.900 | 538.000 | 696.400 | 570.000 | 0.000 | 0.000 |
| X1 | 521.700 | 14.000 | 456.000 | 482.000 | 250.000 | 250.000 | 250.000 | 0.000 | -3.100 | 0.000 |
| GR | 695.600 | 336.000 | 696.300 | 376.000 | 695.200 | 400.000 | 694.900 | 456.000 | 693.400 | 464.000 |
| GR | 690.100 | 468.000 | 689.200 | 474.000 | 688.200 | 476.000 | 688.200 | 477.000 | 689.200 | 478.000 |
| GR | 694.500 | 482.000 | 694.800 | 524.000 | 695.900 | 538.000 | 696.400 | 570.000 | 0.000 | 0.000 |
| X1 | 521.800 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | 1.900 | 0.000 |
| X1 | 522.200 | 0.000 | 0.000 | 0.000 | 150.000 | 150.000 | 150.000 | 0.000 | 1.200 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 522.250 | 0.000 | 0.000 | 0.000 | 55.000 | 55.000 | 55.000 | 0.000 | 1.100 | 0.000 |

** D/S FACE LIVERNOIS RD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 521.980 | 0.000 | 0.000 | 0.000 | 55.000 | 55.000 | 55.000 | 0.000 | 1.100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 695.600 | 695.600 | 0.000 |
| SB | 0.000 | 2.750 | 2.900 | 150.000 | 4.730 | 0.000 | 14.200 | 0.000 | 692.600 | 690.400 |
| X1 | 522.020 | 9.000 | 463.000 | 475.000 | 90.000 | 90.000 | 90.000 | 0.000 | 4.400 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 695.600 | 699.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 695.300 | 376.000 | 695.200 | 400.000 | 694.900 | 463.000 | 683.200 | 464.000 | 688.200 | 474.000 |
| GR | 694.900 | 475.000 | 695.000 | 524.000 | 695.900 | 538.000 | 695.400 | 570.000 | 0.000 | 0.000 |
| X1 | 522.300 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | -.100 | 0.000 |

** VAULT AT U/S END OF LIVERNOIS RD. CULVERT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 522.400 | 0.000 | 0.000 | 0.000 | 2.000 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 697.500 | 697.500 | 0.000 |
| SB | 0.000 | 1.450 | 2.900 | 100.000 | 1.330 | 0.000 | 6.660 | 0.000 | 692.500 | 692.500 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 522.500 | 13.000 | 456.000 | 482.000 | 1.000 | 1.000 | 1.000 | 0.000 | 4.300 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 697.500 | 699.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 698.800 | 698.800 | 0.000 |
| GR | 696.300 | 376.000 | 695.200 | 400.000 | 694.900 | 456.000 | 693.400 | 464.000 | 690.100 | 468.000 |
| GR | 689.200 | 474.000 | 688.200 | 476.000 | 688.200 | 477.000 | 689.200 | 478.000 | 694.500 | 482.000 |
| GR | 694.800 | 524.000 | 695.900 | 538.000 | 696.400 | 570.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 501.000
   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


         ** ENTRANCE TO DOUGLAS DRAIN

   501.00      8.27    644.67      0.00    641.00    644.90       .23      0.00      0.00    643.80
    1030.      112.      754.      164.      128.      167.      217.        0.        0.    643.80
     0.00       .88      4.50       .75      .080      .045      .080     0.000    636.40    150.55
  .002720        0.        0.        0.         0         0        10      0.00    531.96    682.51

*SECNO 501.100
3280 CROSS SECTION     501.10 EXTENDED        .54 FEET

   501.10      8.04    645.34      0.00      0.00    645.54       .19       .63       .01    644.20
    1030.      105.      869.       56.      151.      226.      106.        3.        3.    644.70
      .02       .70      3.85       .53      .080      .045      .080      .045    637.30    210.00
  .001664      300.      300.      300.         2         0         0      0.00    406.00    616.00

*SECNO 501.200
3280 CROSS SECTION     501.20 EXTENDED        .19 FEET

   501.20      7.69    645.89      0.00      0.00    646.18       .29       .61       .03    645.10
    1030.       59.      946.       25.       88.      210.       71.        6.        6.    645.60
      .04       .67      4.50       .36      .080      .045      .080      .045    638.20    233.79
  .002506      300.      300.      300.         2         0         0      0.00    502.21    736.00

*SECNO 501.400
   501.40      7.48    646.68    644.29      0.00    647.05       .36       .84       .03    646.10
    1030.       36.      992.        2.       58.      201.       12.        9.       10.    646.60
      .06       .63      4.93       .13      .080      .045      .080      .045    639.20    256.50
  .003185      300.      300.      300.         4        18         0      0.00    471.00    727.50

*SECNO 502.000
3280 CROSS SECTION     502.00 EXTENDED        .12 FEET

   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   502.00      7.62    647.72    645.19      0.00    648.04       .31       .98       .01    647.00
    1030.       50.      963.       17.       77.      207.       57.       11.       13.    647.50
      .08       .65      4.65       .29      .090      .050      .090      .046    640.10    241.60
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  .003369     300.     300.     300.        4       14        0     0.00   534.40   776.00

*SECNO 502.200
3280 CROSS SECTION    502.20 EXTENDED       .43 FEET

   502.20     7.93   648.93     0.00     0.00   649.14      .20     1.08      .02   647.90
    1030.      96.     866.      78.     131.     221.     164.      15.      18.   648.40
      .11      .66     3.92      .48     .090     .050     .090     .047   641.00   210.00
  .002195     402.     402.     402.        2        0        0     0.00   566.00   776.00

*SECNO 502.400
3280 CROSS SECTION    502.40 EXTENDED       .32 FEET

   502.40     7.82   649.62     0.00     0.00   649.86      .24      .71      .01   648.70
    1030.      73.     904.      54.     110.     216.     125.      18.      22.   649.20
      .14      .66     4.18      .43     .090     .050     .090     .047   641.80   219.05
  .002579     300.     300.     300.        2        0        0     0.00   556.95   776.00

CCHV=    .300 CEHV=    .500
*SECNO 502.980
3280 CROSS SECTION    502.98 EXTENDED       .54 FEET

          ** D/S FACE CONCRETE FOOTBRIDGE
   502.98     8.04   650.04     0.00     0.00   650.21      .17      .33      .02   648.90
    1030.      99.     831.     100.     150.     226.     199.      20.      24.   649.40
      .15      .66     3.68      .50     .090     .050     .090     .048   642.00   210.00
  .001885     150.     150.     150.        2        0        0     0.00   566.00   776.00

SPECIAL BRIDGE

SB  XK        XKOR      COFO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.50      2.55    525.00     16.00      0.00    108.80      0.00    642.00    642.00

*SECNO 503.020
3280 CROSS SECTION    503.02 EXTENDED       .86 FEET

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      HB       QWEIR      OPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                             AREA
   652.13    650.21     0.00      566.      466.      109.      95.      648.00    649.90

   503.02     8.36   650.36     0.00     0.00   650.47      .10      .26      0.00   648.90
    1030.     133.     732.     165.     209.     240.     308.      20.      24.   649.40
      .15      .64     3.05      .54     .090     .050     .090     .048   642.00   210.00
  .001192      15.      15.      15.        2        0        4     0.00   566.00   776.00
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*SECNO 504.200
3280 CROSS SECTION     504.20 EXTENDED        .57 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      650.00 ELREA=      650.60

   504.20      8.66    650.56      0.00      0.00    650.66       .09       .19       .00    650.00
    1030.      457.      573.        0.      517.     180.        0.       22.       26.    650.60
      .17       .88      3.19      0.00      .090      .050      .090      .048    641.90      0.00
  .001647      135.      135.      135.         0         0         0      0.00    383.93    383.93

CCHV=    .400 CEHV=    .800
*SECNO 503.980
3280 CROSS SECTION     503.98 EXTENDED        .83 FEET


         ** D/S FACE PRIVATE ROAD

   503.98      8.93    650.93      0.00      0.00    651.00       .07       .33       .01    650.10
    1030.      502.      528.        1.      607.     190.        4.       26.       28.    650.70
      .21       .83      2.78       .13      .090      .050      .090      .048    642.00      0.00
  .001168      240.      240.      240.         2         0         0      0.00    419.84    419.84


SPECIAL BRIDGE

SB  XK        XKOR      COPO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.00      2.50    500.00     13.38      0.00     73.60      0.00    642.00    642.00

*SECNO 504.020
3280 CROSS SECTION     504.02 EXTENDED       1.11 FEET

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                              AREA
   657.01    651.00      0.00      792.      239.       74.       74.      647.50    650.50


   504.02      9.21    651.21      0.00      0.00    651.26       .05       .26      0.00    650.10
    1030.      539.      486.        5.      704.     200.       26.       27.       28.    650.70
      .21       .77      2.43       .18      .090      .050      .090      .048    642.00      0.00
  .000828       20.       20.       20.         2         0         5      0.00    560.00    560.00


*SECNO 504.800

3265 DIVIDED FLOW
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3280 CROSS SECTION     504.80 EXTENDED        .35 FEET

   504.80      9.06    651.36      0.00      0.00    651.66       .31       .20       .21    652.10
    1030.        5.      963.       63.       15.      210.       90.       29.       29.    650.80
      .22       .32      4.59       .70      .090      .050      .090      .048    642.30    150.06
  .003745      130.      130.      130.         1         0         0      0.00    291.64    525.00

CCHV=     .150 CEHV=     .350
*SECNO 504.900
3280 CROSS SECTION     504.90 EXTENDED        .73 FEET

   504.90      9.93    652.03      0.00      0.00    652.15       .12       .45       .03    651.20
    1030.       84.      812.      134.      155.      266.      193.       31.       31.    649.80
      .24       .54      3.06       .70      .090      .050      .090      .048    643.10    150.00
  .001499      202.      202.      202.         2         0         0      0.00    460.80    610.80

*SECNO 505.000
3280 CROSS SECTION     505.00 EXTENDED        .12 FEET

   SECNO     DEPTH     CWSEL     CRITS     WSELK      EG        HV        HL       QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TEA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

   505.00      8.32    653.02      0.00      0.00    653.27       .25      1.08       .05    652.80
    1030.        9.      960.       61.       34.      230.       76.       36.       36.    651.40
      .27       .28      4.17       .80      .095      .050      .095      .048    644.70    150.00
  .003374      498.      498.      498.         2         0         0      0.00    406.05    556.05

*SECNO 506.000
3280 CROSS SECTION     506.00 EXTENDED        .18 FEET

   506.00      8.18    654.68      0.00      0.00    655.03       .35      1.72       .03    655.60
    1030.        0.     1013.       17.        0.      213.       31.       40.       39.    653.80
      .31      0.00      4.77       .55      .095      .050      .095      .049    646.50    113.30
  .002912      550.      550.      550.         2         0         0      0.00     94.70    208.00

*SECNO 506.100
   506.10      8.44    655.04      0.00      0.00    655.39       .35       .36       .00    655.80
    1030.        0.     1030.        0.        0.      216.        0.       41.       39.    655.80
      .31      0.00      4.76      0.00      .095      .050      .095      .049    646.60    113.06
  .002892      125.      125.      125.         2         0         0      0.00     36.23    149.28

*SECNO 506.150

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  655.80 MAX ELLC=  654.50

          ** D/S FACE FOOTBRIDGE

   506.15      8.39    654.99      0.00      0.00    655.42       .42       .00       .03    655.80
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   1030.       0.     1030.       0.       0.     197.       0.      41.      39.    655.80
     .31     0.00      5.23     0.00     .095     .050     .095     .049   646.60    113.12
 .008576       1.        1.       1.        2        0        0   -17.52    36.12    149.24

*SECNO 506.160

3370 NORMAL BRIDGE,URD=  0 MIN ELTRD=  655.80 MAX ELLC=  654.50

  506.16     8.47   655.07     0.00     0.00   655.49      .42      .08      .00    655.80
   1030.       0.     1030.       0.       0.     197.       0.      41.      39.    655.80
     .32     0.00      5.23     0.00     .095     .050     .095     .049   646.60    113.01
 .008576       9.        9.       9.        2        0        0   -20.32    36.30    149.32

*SECNO 506.170
  SECNO    DEPTH    CWSEL    CRIWS    WSELK       EG       HV       HL    OLOSS   BANK ELEV
      Q     QLOB      QCH     QROB     ALOB      ACH     AROB      VOL      TWA   LEFT/RIGHT
   TIME     VLOB      VCH     VROB      XNL     XNCH      XNR      WTN    ELMIN       SSTA
  SLOPE    XLOBL     XLCH    XLOBR   ITRIAL      IDC    ICONT    CORAR   TOPWID       ENDST

  506.17     8.57   655.17     0.00     0.00   655.51      .34      .00      .01    655.80
   1030.       0.     1030.       0.       0.     221.       0.      41.      39.    655.80
     .32     0.00      4.66     0.00     .095     .050     .095     .049   646.60    112.87
 .002718       1.        1.       1.        2        0        0     0.00    36.54    149.41

*SECNO 507.200
  507.20     8.48   656.38     0.00     0.00   656.64      .26     1.11      .01    655.80
   1030.      29.      941.      60.      52.     221.      79.      44.      41.    655.00
     .35      .55      4.26      .75     .095     .050     .095     .049   647.90    247.57
 .002130     465.      465.     465.        3        0        0     0.00   191.87    439.44

CCHV=    .400 CEHV=    .800
*SECNO 506.980

        ** D/S FACE BIG BEAVER

  506.98     7.54   656.74     0.00     0.00   657.21      .46      .41      .16    657.10
   1030.       0.     1025.       5.       0.     187.      12.      45.      41.    656.30
     .35     0.00      5.47      .40     .095     .050     .095     .049   649.20    326.52
 .004283     139.      139.     139.        2        0        0     0.00    88.31    414.83

SPECIAL BRIDGE

SB  XK        XKOR      COFO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.10      2.80    200.00     9.82      0.00      76.50     0.00    649.20    649.20

*SECNO 507.020
PRESSURE AND WEIR FLOW

 ESPRS      EGLWC      H3        QWEIP     QPR       BAREA     TRAPEZOID AREA    ELLC      ELTRD
  662.64    657.41     0.00      173.      860.      77.       49.               654.20    660.40
```

BAREA ?
4/23/85 info
shows BAREA = 162 ft²
Support data does not
show how BAREA was
computed

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 507.02 | 11.52 | 660.72 | 0.00 | 0.00 | 660.86 | .14 | 3.65 | 0.00 | 659.20 |
| 1030. | 59. | 971. | 0. | 114. | 320. | 0. | 45. | 41. | 660.80 |
| .37 | .52 | 3.04 | 0.00 | .095 | .050 | .095 | .049 | 649.20 | 239.65 |
| .000933 | 116. | 116. | 116. | 2 | 0 | 4 | 0.00 | 156.23 | 395.88 |

*SECNO 507.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 507.80 | 12.04 | 660.84 | 0.00 | 0.00 | 660.95 | .10 | .08 | .01 | 658.80 |
| 1030. | 96. | 934. | 0. | 176. | 344. | 1. | 46. | 42. | 660.40 |
| .38 | .54 | 2.72 | .15 | .095 | .050 | .095 | .049 | 648.80 | 222.09 |
| .000681 | 100. | 100. | 100. | 2 | 0 | 0 | 0.00 | 180.36 | 402.45 |

*SECNO 507.980

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

** D/S FACE URBAN CREST

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 507.98 | 10.92 | 661.02 | 0.00 | 0.00 | 661.20 | .18 | .19 | .06 | 660.10 |
| 1030. | 22. | 1008. | 0. | 53. | 292. | 0. | 49. | 43. | 661.70 |
| .39 | .42 | 3.45 | 0.00 | .095 | .050 | .095 | .049 | 650.10 | 260.12 |
| .001319 | 210. | 210. | 210. | 0 | 0 | 0 | 0.00 | 134.79 | 394.91 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.75 | 2.60 | 145.00 | 11.94 | 0.00 | 77.50 | 0.00 | 650.10 | 650.10 |

*SECNO 508.020
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 665.81 | 661.20 | 0.00 | 823. | 207. | 78. | 70. | 656.00 | 658.70 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 508.02 | 10.97 | 661.07 | 0.00 | 0.00 | 661.22 | .14 | .01 | 0.00 | 660.10 |
| 1030. | 18. | 1012. | 0. | 58. | 333. | 0. | 49. | 43. | 661.20 |
| .40 | .32 | 3.04 | 0.00 | .095 | .050 | .095 | .049 | 650.10 | 248.49 |
| .000880 | 37. | 37. | 37. | 2 | 0 | 7 | 0.00 | 151.29 | 399.78 |

*SECNO 508.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 508.80 | 11.39 | 661.19 | 0.00 | 0.00 | 661.31 | .12 | .09 | .01 | 659.80 |
| 1030. | 42. | 988. | 0. | 105. | 352. | 2. | 50. | 43. | 660.90 |
| .41 | .40 | 2.91 | .12 | .095 | .050 | .095 | .049 | 649.80 | 235.20 |
| .000699 | 110. | 110. | 110. | 0 | 0 | 0 | 0.00 | 178.58 | 413.78 |

CCHV= .200 CEHV= .400
*SECNO 508.980
3290 CROSS SECTION 508.98 EXTENDED .25 FEET

** D/S FACE ROCHESTER RD.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 508.98 | 12.95 | 661.25 | 0.00 | 0.00 | 661.33 | .08 | .01 | .01 | 653.20 |
| 1030. | 166. | 767. | 97. | 349. | 299. | 127. | 50. | 43. | 650.30 |
| .41 | .48 | 2.56 | .76 | .095 | .050 | .095 | .049 | 648.30 | 194.00 |
| .000305 | 20. | 20. | 20. | 2 | 0 | 0 | 0.00 | 221.55 | 415.55 |

SPECIAL BRIDGE

| SB | KK | KKOR | COFQ | RDLEF | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.05 | 2.75 | 0.00 | 25.00 | 1.00 | 194.40 | 0.00 | 648.30 | 648.30 |

*SECNO 509.020
3280 CROSS SECTION 509.02 EXTENDED .17 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 662.14 | 661.33 | 0.00 | 79. | 942. | 194. | 194. | 656.40 | 661.20 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 509.02 | 13.67 | 661.97 | 0.00 | 0.00 | 662.00 | .03 | .67 | 0.00 | 648.30 |
| 1030. | 500. | 485. | 45. | 504. | 263. | 103. | 54. | 44. | 658.60 |
| .45 | .99 | 1.85 | .44 | .095 | .050 | .095 | .049 | 648.30 | 216.45 |
| .000191 | 190. | 190. | 190. | 2 | 0 | 2 | 0.00 | 121.55 | 338.00 |

*SECNO 509.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 509.80 | 11.66 | 661.96 | 0.00 | 0.00 | 662.01 | .04 | .00 | .00 | 664.70 |
| 1030. | 0. | 1022. | 8. | 0. | 606. | 33. | 54. | 44. | 660.60 |
| .45 | 0.00 | 1.69 | .25 | .095 | .050 | .095 | .049 | 650.30 | 223.05 |
| .000224 | 20. | 20. | 20. | 0 | 0 | 0 | 0.00 | 108.85 | 331.90 |

CCHV= .150 CEHV= .350
*SECNO 510.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 510.00 | 10.29 | 662.09 | 0.00 | 0.00 | 662.22 | .13 | .18 | .03 | 659.80 |
| 1030. | 129. | 901. | 0. | 228. | 287. | 0. | 60. | 46. | 663.00 |
| .50 | .56 | 3.14 | 0.00 | .095 | .050 | .095 | .049 | 651.80 | 84.07 |
| .001034 | 440. | 440. | 440. | 2 | 0 | 0 | 0.00 | 254.09 | 338.16 |

*SECNO 511.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 511.20 | 10.57 | 662.97 | 0.00 | 0.00 | 663.19 | .22 | .94 | .03 | 664.20 |
| 1030. | 0. | 1030. | 0. | 0. | 276. | 0. | 65. | 48. | 664.40 |
| .54 | 0.00 | 3.74 | 0.00 | .095 | .055 | .095 | .050 | 652.40 | 328.87 |
| .002645 | 600. | 600. | 600. | 2 | 0 | 0 | 0.00 | 57.78 | 386.65 |

```
CCHV=     .400 CEHV=     .800
*SECNO 510.980

          ** D/S FACE HARTLAND RD.

   510.98      9.72    663.42      0.00      0.00    663.73       .31       .46       .07    665.50
    1030.        0.     1030.        0.        0.     231.        0.       66.       48.    665.70
      .55      0.00      4.46      0.00      .095      .055      .095      .050    653.70    333.89
  .003603      150.      150.      150.         2         0         0      0.00     45.84    379.73


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.15      2.70      0.00      9.76      0.00     64.40     0.00    553.70    653.70

*SECNO 511.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
   571.96    663.73     0.00      747.      285.      64.       64.      660.30    661.80


   511.02     10.21    663.91      0.00      0.00    664.07       .16       .34      0.00    663.90
    1030.        0.     1029.        1.        0.     321.        3.       66.       48.    663.30
      .55       .01      3.21       .22      .095      .055      .095      .050    653.70    323.56
  .001859       30.       30.       30.         2         0         5      0.00     85.57    409.13


*SECNO 511.800
   SECNO     DEPTH     CHSEL     CRTWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TEA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


   511.80     10.66    664.06      0.00      0.00    664.18       .13       .10       .01    663.60
    1030.        1.     1011.       17.        6.     350.       38.       67.       48.    663.00
      .56       .21      2.89       .46      .095      .055      .095      .050    653.40    298.09
  .001337       65.       65.       65.         2         0         0      0.00    153.75    451.84


CCHV=     .150 CEHV=     .350
*SECNO 512.000
   512.00     10.51    664.91      0.00      0.00    665.04       .12       .86       .00    664.10
    1030.        4.      882.      144.       10.     290.      151.       73.       51.    662.00
      .62       .41      3.04       .95      .095      .055      .095      .050    654.40    255.16
  .001404      625.      625.      625.         2         0         0      0.00    188.99    444.15


*SECNO 512.200

          ** CONFLUENCE WITH LANE DRAIN

   512.20      9.83    665.23      0.00      0.00    665.42       .19       .36       .02    665.10
    1030.        0.      927.      103.        0.     255.       92.       75.       52.    663.00
      .64       .13      3.64      1.12      .095      .055      .095      .050    655.40    268.63
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  .002395     200.     200.     200.        2        0        0     0.00   125.66   394.29

*SECNO 513.000
   513.00     9.63   665.73     0.00     0.00   665.80      .07      .36      .02   666.40
     580.       0.     472.     108.       0.     204.     152.      77.      52.    661.70
      .67     0.00     2.31      .71     .095     .055     .095     .050   656.10   348.59
  .000745     250.     250.     250.        2        0        0     0.00   126.57   475.17

*SECNO 513.100
   513.10     8.51   666.01     0.00     0.00   666.14      .13      .32      .02   667.80
     580.       0.     521.      59.       0.     169.      74.      79.      53.    663.10
      .70     0.00     3.07      .80     .095     .055     .095     .051   657.50   349.59
  .001597     300.     300.     300.        2        0        0     0.00    81.49   431.08

*SECNO 513.150
   SECNO     DEPTH     CHSEL     CRINS     HSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR .   ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  664.20 MAX ELLC=  663.30

         ** D/S FACE FOOTBRIDGE

   513.15     8.50   666.00     0.00     0.00   666.15      .15      .00      .01   667.80
     580.       0.     483.      97.       0.     144.      64.      79.      53.    663.10
      .70     0.00     3.36     1.52     .095     .055     .095     .051   657.50   349.60
  .008388       1.       1.       1.        1        0        0   -35.84    81.41   431.01

*SECNO 513.160

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  664.20 MAX ELLC=  663.30

   513.16     8.57   666.07     0.00     0.00   666.21      .14      .06      .00   667.80
     580.       0.     479.     101.       0.     146.      67.      79.      53.    663.10
      .70     0.00     3.28     1.51     .095     .055     .095     .051   657.50   349.54
  .007863       8.       8.       8.        2        0        0   -35.84    82.68   432.21

*SECNO 513.170
   513.17     8.59   666.09     0.00     0.00   666.22      .13      .00      .00   667.80
     580.       0.     518.      62.       0.     172.      78.      79.      53.    663.10
      .70     0.00     3.01      .79     .095     .055     .095     .051   657.50   349.52
  .001513       1.       1.       1.        1        0        0     0.00    82.95   432.48

*SECNO 514.200
   514.20     8.81   666.51     0.00     0.00   666.53      .03      .30      .02   664.00
     580.      46.     443.      91.     131.     298.     216.      84.      55.    663.80
      .82      .35     1.49      .42     .095     .055     .095     .051   657.70   288.35
  .000299     520.     520.     520.        3        0        0     0.00   290.55   578.90

CCHV=    .400 CEHV=    .800
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*SECNO 513.980
3280 CROSS SECTION    513.98 EXTENDED       .05 FEET


        ** D/S FACE TROMBLEY RD.

   513.98      9.45   666.55      0.00      0.00   666.56       .02       .02       .00   663.40
     580.       65.     402.      112.      211.     330.      306.       86.       56.    663.20
      .85       .31     1.22       .37      .095     .055      .095      .051    657.10   257.49
  .000176      109.     109.      109.         2        0         0      0.00    342.51   600.00


SPECIAL BRIDGE

SB  XK        XKOR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.65      2.70    300.00      4.33      0.00     23.80      0.00    557.10    657.10

*SECNO 514.020
3280 CROSS SECTION    514.02 EXTENDED       .14 FEET

   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

PRESSURE AND WEIR FLOW

 EGPRS      EGLTC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  681.76    666.56     0.00      509.       71.       24.       24.      662.60    666.00


   514.02      9.64   666.74      0.00      0.00   666.77       .03       .21      0.00   663.90
     580.      124.     438.       18.      283.     266.       58.       87.       56.    664.80
      .86       .44     1.65       .31      .095     .055      .095      .051    657.10   160.00
  .000343       51.      51.       51.         2        0         6      0.00    294.00   454.00


*SECNO 514.800
   514.80      8.66   666.76      0.00      0.00   666.83       .07       .03       .03   664.90
     580.       68.     508.        4.      127.     225.       13.       88.       57.    665.80
      .87       .53     2.26       .27      .095     .055      .095      .051    658.10   226.68
  .000811       60.      60.       60.         0        0         0      0.00    193.37   420.05


CCHV=     .150 CEHV=     .350
*SECNO 514.900
   514.90      8.68   666.78      0.00      0.00   666.85       .07       .02       .00   664.90
     580.       69.     507.        4.      130.     226.       14.       88.       57.    665.80
      .88       .53     2.24       .27      .095     .055      .095      .051    658.10   225.15
  .000796       25.      25.       25.         0        0         0      0.00    195.53   420.69


*SECNO 514.910

3370 NORMAL BRIDGE,NPD=  0 MIN ELTRD=  664.90 MAX ELLC=  664.10
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        ** D/S FACE FOOTBRIDGE

   514.91      8.70    666.80      0.00      0.00    666.86       .06       .00       .00    664.90
     580.      142.      430.        8.      132.      197.       14.       88.       57.     665.80
      .88      1.08      2.19       .56      .095      .055      .095      .051    658.10    224.26
  .003227        1.        1.        1.         1         0         0    -29.86    196.79    421.06


*SECNO 514.920

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  664.90 MAX ELLC=  664.10

   514.92      8.71    666.81      0.00      0.00    666.87       .06       .01       .00    664.90
     580.      143.      429.        8.      133.      197.       15.       88.       57.     665.80
      .88      1.07      2.18       .56      .095      .055      .095      .051    658.10    223.30
  .003174        4.        4.        4.         0         0         0    -29.86    198.16    421.46


*SECNO 514.930
   SECNO     DEPTH     CHSEL     CRTES     FSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       EWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   514.93      8.71    666.81      0.00      0.00    666.87       .07       .00       .00    664.90
     580.       71.      505.        4.      134.      227.       15.       88.       57.     665.80
      .88       .53      2.22       .28      .095      .055      .095      .051    658.10    222.78
  .000772        1.        1.        1.         0         0         0      0.00    198.90    421.68


CCHV=    .300 CEHV=    .500
*SECNO 514.990
3280 CROSS SECTION    514.98 EXTENDED       .14 FEET


        ** D/S FACE COLEBROOK RD

   514.98      9.64    666.94      0.00      0.00    666.98       .03       .09       .01    664.10
     580.      124.      438.       18.      284.      266.       58.       90.       58.     665.00
      .92       .44      1.64       .31      .095      .055      .095      .051    657.30    160.00
  .000342      190.      190.      190.         2         0         0      0.00    294.00    454.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      ROLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.65      2.85    325.00      4.33      0.00     23.80      0.00    557.30    657.30

*SECNO 515.020
3280 CROSS SECTION    515.02 EXTENDED       .87 FEET


PRESSURE AND WEIR FLOW


 EGPRS      EGLWC      H3       QWEIR      OPR       BAREA   TRAPEZOID      ELLC      ELTRD
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                                                                  AREA
   682.16    666.98      0.00      523.       57.       24.       24.      662.80    666.30

   515.02      9.77    667.07      0.00      0.00    667.09       .02       .11      0.00    665.00
     580.       78.      423.       79.      235.      303.      245.       91.       58.     665.10
      .93       .33      1.40       .32      .095      .055      .095      .051    657.30    200.00
  .000274      50.       50.       50.         2         0         7      0.00    400.00    600.00

*SECNO 515.800
   515.80      8.49    667.09      0.00      0.00    667.16       .07       .05       .03    666.30
     580.       31.      538.       11.       83.      237.       40.       92.       59.     666.40
      .94       .38      2.27       .27      .095      .055      .095      .051    658.60    225.58
  .001005      100.      100.      100.         0         0         0      0.00    299.27    524.84

CCHV=     .200 CEHV=     .400
*SECNO 515.850
   515.85      8.45    667.45      0.00      0.00    667.53       .08       .36       .00    666.70
     580.       28.      543.        9.       76.      234.       34.       95.       62.     666.80
      .99       .37      2.32       .26      .095      .055      .095      .051    659.00    228.77
  .001061      350.      350.      350.         2         0         0      0.00    291.88    520.65

*SECNO 515.900
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   515.90      7.99    667.79      0.00      0.00    667.84       .05       .31       .01    666.60
     580.       33.      524.       23.      114.      274.       66.       99.       65.     666.00
     1.06       .29      1.92       .34      .095      .055      .095      .051    659.80    176.56
  .000504      440.      440.      440.         2         0         0      0.00    304.31    480.86

*SECNO 515.950

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  667.50 MAX ELLC=  665.90

        ** D/S FACE FOOTBRIDGE

   515.95      7.96    667.76      0.00      0.00    667.87       .11       .00       .02    666.60
     580.       20.      550.       10.       41.      199.       21.       99.       65.     666.00
     1.06       .49      2.76       .49      .095      .055      .095      .051    659.80    178.24
  .006347        1.        1.        1.         2         0         0   -132.74    300.98    479.23

*SECNO 515.960

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  667.50 MAX ELLC=  665.90

   515.96      8.02    667.82      0.00      0.00    667.92       .10       .05       .00    666.60
     580.       27.      538.       14.       51.      202.       26.       99.       65.     666.00
     1.06       .54      2.67       .53      .095      .055      .095      .051    659.80    175.37
  .005815        8.        8.        8.         2         0         0   -132.74    306.64    482.02
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*SECNO 515.970
   515.97      8.08    667.38      0.00      0.00    667.93       .05       .00       .01    666.60
     580.       39.      516.       26.      130.      278.       75.       99.       65.    666.00
     1.06       .30      1.86       .34      .095      .055      .095      .051    659.80    172.15
  .000464        1.        1.        1.         2         0         0      0.00    313.00    485.15

*SECNO 516.000
   516.00      7.70    667.90      0.00      0.00    667.96       .07       .03       .01    667.00
     580.       17.      549.       15.       67.      260.       42.      100.       65.    666.40
     1.06       .25      2.11       .34      .095      .055      .095      .051    660.20    190.46
  .000653       50.       50.       50.         2         0         0      0.00    271.50    461.97

*SECNO 516.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK        EG        HV        HL     OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     IMPIAL    IDC       ICONT     CORAR     TOPWID     ENDST

   516.20      7.73    668.13      0.00      0.00    668.19       .06       .23       .00    667.20
     580.       18.      546.       15.       72.      261.       44.      103.       67.    666.60
     1.11       .26      2.09       .34      .095      .055      .095      .051    660.40    189.16
  .000638      350.      350.      350.         2         0         0      0.00    275.52    464.69

*SECNO 516.400
   516.40      7.51    668.21      0.00      0.00    668.21       .00       .01       .01    665.90
     580.      148.       61.      371.     1309.      269.     3078.      123.       73.    665.10
     1.86       .11       .23       .12      .095      .055      .095      .052    660.70    310.91
  .000007      350.      350.      350.         2         0         0      0.00   1044.35   1355.25

*SECNO 517.000
   517.00      7.31    668.21      0.00      0.00    668.21       .00       .00       .00    666.10
     580.      147.       62.      371.     1244.      260.     2947.      154.       80.    665.30
     2.47       .12       .24       .13      .095      .055      .095      .052    660.90    316.67
  .000008      300.      300.      300.         2         0         0      0.00   1034.35   1351.02

*SECNO 517.200
   517.20      7.22    668.22      0.00      0.00    668.22       .00       .00       .00    666.20
     580.      147.       62.      371.     1213.      255.     2883.      195.       89.    665.40
     3.27       .12       .24       .13      .095      .055      .095      .052    661.00    319.50
  .000009      400.      400.      400.         0         0         0      0.00   1029.45   1348.94

*SECNO 517.900

3265 DIVIDED FLOW

   517.80      7.11    668.21      0.00      0.00    668.24       .02       .01       .01    668.50
     580.      129.      287.      165.      254.      175.      308.      215.       95.    667.80
     3.36       .51      1.64       .53      .095      .055      .095      .052    661.10    973.97
  .000680      350.      350.      350.         0         0         0      0.00    463.07   1442.91

*SECNO 518.200

3265 DIVIDED FLOW
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*PROF 1

CCHV= .200 CEHV= .400
*SECNO 517.800

3265 DIVIDED FLOW

| SECNO<br>Q<br>TIME<br>SLOPE | DEPTH<br>QLOB<br>VLOB<br>XLOBL | CWSEL<br>QCH<br>VCH<br>XLCH | CRIWS<br>QROB<br>VROB<br>XLOBR | WSELK<br>ALOB<br>XNL<br>ITRIAL | EG<br>ACH<br>XNCH<br>IDC | HV<br>AROB<br>XNR<br>ICONT | HL<br>VOL<br>WTN<br>CORAR | OLOSS<br>TWA<br>ELMIN<br>TOPWID | BANK ELEV<br>LEFT/RIGHT<br>SSTA<br>ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 517.80 | 7.11 | 668.21 | 0.00 | 668.21 | 668.23 | .02 | 0.00 | 0.00 | 668.50 |
| 580. | 128. | 288. | 164. | 252. | 174. | 306. | 0. | 0. | 667.80 |
| 0.00 | .51 | 1.65 | .54 | .095 | .055 | .095 | 0.000 | 661.10 | 974.50 |
| .000690 | 350. | 350. | 350. | 0 | 0 | 0 | 0.00 | 461.82 | 1442.43 |

*SECNO 518.200

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 518.20 | 7.08 | 668.48 | 0.00 | 0.00 | 668.50 | .02 | .27 | .00 | 668.80 |
| 580. | 126. | 292. | 163. | 244. | 173. | 298. | 6. | 4. | 668.10 |
| .09 | .51 | 1.69 | .54 | .095 | .055 | .095 | .055 | 661.40 | 976.38 |
| .000730 | 380. | 380. | 380. | 0 | 0 | 0 | 0.00 | 457.44 | 1440.72 |

CCHV= .400 CEHV= .800
*SECNO 517.980

3265 DIVIDED FLOW

** D/S FACE WATTLES RD. (OPENING FILLED W/CONCRETE DEBRIS)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 517.98 | 6.11 | 668.61 | 0.00 | 0.00 | 668.70 | .09 | .14 | .05 | 669.90 |
| 510. | 49. | 366. | 95. | 80. | 130. | 128. | 8. | 5. | 669.20 |
| .11 | .61 | 2.82 | .74 | .095 | .055 | .095 | .055 | 662.50 | 1037.30 |
| .002568 | 120. | 120. | 120. | 2 | 0 | 0 | 0.00 | 311.93 | 1397.04 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.00 | 2.70 | 0.00 | 1.00 | 0.00 | 2.00 | 0.00 | 662.50 | 662.50 |

*SECNO 518.020
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 1678.31 | 668.79 | 0.00 | 489. | 22. | 2. | 1. | 663.20 | 669.40 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 518.02 | 7.99 | 670.49 | 0.00 | 0.00 | 670.50 | .01 | 1.80 | 0.00 | 667.00 |

```
     510.      276.      195.       39.      836.      220.      172.        9.        6.    667.40
      .14       .33       .89       .23      .095      .055      .095      .055   662.50   885.09
  .000108       50.       50.       50.         0         0        11      0.00   480.29  1365.38

CCHV=    .150 CEHV=    .350
*SECNO 518.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

   518.80      8.20    670.50      0.00      0.00    670.51       .00       .01       .00   666.80
     510.      278.      188.       44.      900.      228.      200.       11.        6.    667.20
      .18       .31       .83       .22      .095      .055      .095      .055   562.30   874.93
  .000090       80.       80.       80.         2         0         0      0.00   500.47  1375.40

*SECNO 518.850
   518.85      6.87    670.57      0.00      0.00    670.58       .02       .07       .00   668.20
     510.      251.      243.       16.      517.      177.       56.       22.       11.    668.60
      .33       .49      1.37       .29      .095      .055      .095      .055   663.70   941.56
  .000344      475.      475.      475.         2         0         0      0.00   365.18  1306.74

*SECNO 518.900
3280 CROSS SECTION    518.90 EXTENDED       .00 FEET

   518.90      6.00    670.70      0.00      0.00    670.71       .01       .12       .00   668.30
     510.      221.      119.      170.      553.      104.      466.       31.       16.    668.90
      .53       .40      1.15       .36      .095      .055      .095      .055   664.70   300.00
  .000273      400.      400.      400.         2         0         0      0.00   640.00   940.00

CCHV=    .300 CEHV=    .500
*SECNO 519.200
   519.20      4.95    670.95      0.00      0.00    671.01       .05       .27       .02   669.60
     510.      195.      214.      102.      251.       79.      175.       39.       22.    670.20
      .61       .77      2.71       .58      .095      .055      .095      .055   666.00   367.92
  .002256      450.      450.      450.         2         0         0      0.00   538.28   906.19

*SECNO 519.390

3370 NORMAL BRIDGE,NBD=  0 MIN ELTRD=  670.20 MAX ELLC=  669.50

        ** D/S FACE FOOTBRIDGE

   519.39      4.99    670.99      0.00      0.00    671.02       .03       .00       .01   669.60
     510.      188.      133.      188.      182.       64.      184.       39.       22.    670.20
      .61      1.04      2.10      1.03      .095      .055      .095      .055   566.00   365.83
  .006672        1.        1.        1.         2         0         0    -94.08   541.40   907.23

*SECNO 519.410
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
```

```
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  670.20 MAX ELLC=  669.50

   519.41     5.06    671.06     0.00      0.00    671.09      .02       .07       .00    669.60
     510.     193.      122.     195.      202.      65.     204.       39.       22.     670.20
      .61      .96      1.87     .95      .095     .055     .095      .055    666.00    360.79
  .005072      12.       12.      12.         2         0        0    -94.08    548.95    909.74


*SECNO 519.420
   519.42     5.06    671.06     0.00      0.00    671.10      .04       .00       .01    669.60
     510.     200.      197.     113.      280.      81.     204.       39.       22.     670.20
      .61      .71      2.42     .56      .095     .055     .095      .055    666.00    360.76
  .001715       1.        1.       1.         1         0        0      0.00    549.00    909.76


*SECNO 519.500
   519.50     4.74    671.14     0.00      0.00    671.24      .10       .11       .03    670.00
     510.     182.      254.      74.      199.      74.     121.       40.       23.     670.60
      .62      .91      3.45     .61      .095     .055     .095      .055    666.40    381.66
  .003998      45.       45.      45.         2         0        0      0.00    517.69    899.35


*SECNO 518.980

        ** D/S FACE RANDALL RD.

   518.98     3.97    671.37     0.00      0.00    671.39      .03       .13       .02    670.00
     400.     172.      137.      91.      254.      65.     178.       41.       23.     670.60
      .63      .68      2.11     .51      .095     .055     .095      .055    667.40    367.23
  .001703      50.       50.      50.         2         0        0      0.00    539.31    906.54


SPECIAL BRIDGE

SB  XK        XKOR      COPQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.65      2.90      0.00      9.35      0.00     35.54      0.00    667.70    667.70

*SECNO 519.020

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=   676.578  EGLWC=   671.693  ELLC=   671.500  PCWSE=   671.366  ELTRD=   670.000
3280 CROSS SECTION    519.02 EXTENDED      1.79 FEET


3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  670.00 MAX ELLC=  671.50


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.00 ELREA=      671.70

   519.02     3.89    671.59     0.00      0.00    671.62      .03       .23       .00    671.50
     400.     324.       76.       0.      260.      35.       0.       41.       24.     671.50
      .64     1.24      2.16     0.00      .095     .055     .095      .055    667.70    300.00
  .005651      80.       80.      80.         2         0        0   -407.43    367.00    667.00
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*SECNO 519.800

3265 DIVIDED FLOW

   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   519.80      4.28    672.08      0.00      0.00    672.50      .42       .69       .19    673.00
     400.        0.      400.        0.        1.       77.       0.       42.       24.     674.00
      .65       .23      5.20      0.00      .095      .055     .095      .055    667.80    447.55
  .014531      80.       80.       80.         2         0        0      0.00     50.76    676.77

CCHV=    .200 CEHV=    .400
*SECNO 519.900
   519.90      3.08    674.68      0.00      0.00    674.74      .06      2.17       .07    672.70
     400.       135.      153.      112.      145.       54.      98.       43.       26.     672.20
      .71       .93      2.81      1.14      .095      .055     .095      .055    671.60    722.41
  .002897      391.      391.      391.         4         0        0      0.00    221.21    943.63

*SECNO 519.920

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  673.30 MAX ELLC=  672.20

        ** D/S FACE FOOTBRIDGE (TOTALLY OBSTRUCTED 3 FT. CIRCULAR CMP)

   519.92      3.11    674.71      0.00      0.00    674.75      .04       .00       .00    672.70
     400.       208.       66.      126.      141.       35.      79.       43.       26.     672.20
      .71      1.47      1.92      1.59      .095      .055     .095      .055    571.60    722.08
  .007774        1.        1.        1.         1         0        0    -47.51    221.80    943.88

*SECNO 519.930

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  673.30 MAX ELLC=  672.20

   519.93      3.26    674.86      0.00      0.00    674.89      .03       .14       .00    672.70
     400.       212.       63.      125.      162.       38.      90.       43.       26.     672.20
      .72      1.30      1.66      1.39      .095      .055     .095      .055    671.60    719.53
  .005179       22.       22.       22.         2         0        0    -47.51    226.31    945.83

*SECNO 519.940
   519.94      3.25    674.85      0.00      0.00    674.90      .04       .00       .00    672.70
     400.       145.      143.      113.      169.       58.     111.       43.       26.     672.20
      .72       .85      2.47      1.02      .095      .055     .095      .055    671.60    719.51
  .002042        1.        1.        1.         1         0        0      0.00    226.34    945.85

*SECNO 520.000
   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

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   520.00      3.21    675.91      0.00      0.00    675.96       .05      1.06       .00    673.80
     400.      143.      145.      112.      163.       57.      108.       47.       28.     673.30
      .81       .87      2.54      1.04      .095      .055      .095      .055    572.70    720.20
  .002214      500.      500.      500.         3         0         0      0.00    225.12    945.32

*SECNO 520.100
   520.10      3.22    677.02      0.00      0.00    677.06       .05      1.10       .00    674.90
     400.      143.      145.      112.      164.       57.      108.       51.       31.     674.40
      .90       .87      2.54      1.04      .095      .055      .095      .055    673.80    720.15
  .002200      500.      500.      500.         1         0         0      0.00    225.21    945.36

*SECNO 520.300
   520.30      3.28    678.28      0.00      0.00    678.32       .04      1.26       .00    676.10
     400.      145.      142.      113.      171.       58.      112.       56.       34.     675.60
     1.01       .85      2.44      1.01      .095      .055      .095      .055    675.00    719.28
  .001991      600.      600.      600.         1         0         0      0.00    226.73    946.02

CCHV=    .400 CEHV=    .800
*SECNO 520.400
   520.40      3.51    679.21      0.00      0.00    679.41       .19       .96       .12    679.20
     400.        0.      400.        0.        0.     113.        0.       57.       35.     680.50
     1.04       .01      3.53      0.00      .095      .055      .095      .055    675.70    366.72
  .006037      300.      300.      300.         2         0         0      0.00     54.69    421.41

*SECNO 520.480

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.10 ELREA=      680.10

        ** D/S FACE WILTON RD.

   520.48      3.95    679.55      0.00      0.00    679.61       .06       .15       .05    679.10
     265.        0.      265.        0.        0.     137.        0.       57.       35.     680.40
     1.04      0.00      1.94      0.00      .095      .055      .095      .055    675.60    370.00
  .001505       50.       50.       50.         2         0         0      0.00     53.68    423.68

SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.70      2.90    450.00      5.28      0.00     23.76      0.00    675.60    675.60

*SECNO 520.520
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

PRESSURE FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                               AREA
  682.84    679.83      0.00        0.       265.       24.       21.     679.50    683.00
```

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 683.00 ELREA= 683.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.52 | 7.16 | 682.76 | 0.00 | 0.00 | 682.84 | .08 | 3.23 | 0.00 | 680.00 |
| 265. | 0. | 265. | 0. | 0. | 118. | 0. | 58. | 35. | 680.00 |
| 1.05 | 0.00 | 2.25 | 0.00 | .095 | .055 | .095 | .055 | 575.60 | 387.00 |
| .000868 | 65. | 65. | 65. | 2 | 0 | 0 | 0.00 | 17.00 | 404.00 |

*SECNO 520.530

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.53 | 7.27 | 682.87 | 0.00 | 0.00 | 682.87 | .00 | .00 | .03 | 680.00 |
| 265. | 179. | 61. | 25. | 881. | 120. | 181. | 58. | 35. | 680.00 |
| 1.05 | .20 | .51 | .14 | .095 | .055 | .095 | .055 | 675.60 | 68.46 |
| .000043 | 3. | 3. | 3. | 2 | 0 | 0 | 0.00 | 498.05 | 566.51 |

*SECNO 520.540

** VAULT AT U/S END OF WILTON RD. CULVERT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.54 | 7.27 | 682.87 | 0.00 | 0.00 | 682.87 | .00 | .00 | .00 | 680.00 |
| 265. | 179. | 60. | 25. | 882. | 120. | 182. | 58. | 35. | 680.00 |
| 1.06 | .20 | .51 | .14 | .095 | .055 | .095 | .055 | 675.60 | 68.46 |
| .000043 | 4. | 4. | 4. | 0 | 0 | 0 | 0.00 | 498.22 | 566.67 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.40 | 2.90 | 525.00 | 3.93 | 0.00 | 12.57 | 0.00 | 675.60 | 675.60 |

*SECNO 520.550
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 699.43 | 682.87 | 0.00 | 258. | 8. | 13. | 13. | 678.80 | 680.20 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.55 | 7.28 | 682.88 | 0.00 | 0.00 | 682.88 | .00 | .01 | 0.00 | 677.10 |
| 265. | 143. | 73. | 49. | 1058. | 203. | 461. | 58. | 35. | 677.60 |
| 1.06 | .13 | .36 | .11 | .095 | .055 | .095 | .055 | 675.60 | 67.38 |
| .000015 | 1. | 1. | 1. | 0 | 0 | 6 | 0.00 | 596.77 | 664.16 |

*SECNO 520.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 520.60 | 6.38 | 682.88 | 0.00 | 0.00 | 682.88 | .00 | .00 | .00 | 678.00 |
| 265. | 134. | 90. | 41. | 771. | 176. | 271. | 59. | 36. | 678.50 |
| 1.09 | .17 | .51 | .15 | .095 | .055 | .095 | .055 | 676.50 | 72.83 |
| .000036 | 35. | 35. | 35. | 0 | 0 | 0 | 0.00 | 527.90 | 600.73 |

CCHV= .200 CEHV= .400
*SECNO 521.000

3265 DIVIDED FLOW

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   521.00     4.84    682.84      0.00      0.00    682.96      .13       .03       .05    683.70
     265.       0.      260.       5.        0.       91.      20.       63.       38.     685.50
     1.12     0.00      2.87       .23      .095      .055     .095      .055    578.00    458.39
  .002399     250.      250.      250.         2         0        0      0.00    141.18    765.38

*SECNO 521.100
   521.10     3.76    683.66      0.00      0.00    683.91      .25       .90       .05    685.60
     265.       0.      265.       0.        0.       66.       0.       63.       38.     687.40
     1.14     0.00      4.01      0.00      .095      .055     .095      .055    679.90    458.88
  .006016     250.      250.      250.         2         0        0      0.00     21.79    480.67

*SECNO 521.200
   521.20     3.52    685.32      0.00      0.00    685.62      .30      1.69       .02    687.50
     265.       0.      265.       0.        0.       61.       0.       64.       38.     689.30
     1.15     0.00      4.36      0.00      .095      .055     .095      .055    581.80    458.99
  .007614     250.      250.      250.         2         0        0      0.00     21.20    480.19

*SECNO 521.600
   521.60     4.24    687.44      0.00      0.00    687.91      .47      2.22       .07    687.90
     265.       0.      265.       0.        0.       48.       0.       64.       38.     687.50
     1.15     0.00      5.48      0.00      .095      .055     .095      .055    583.20    458.41
  .017671     200.      200.      200.         2         0        0      0.00     23.53    481.94

*SECNO 521.700
   521.70     5.37    690.47      0.00      0.00    690.79      .32      2.86       .03    691.80
     265.       0.      265.       0.        0.       58.       0.       64.       38.     691.40
     1.18     0.00      4.57      0.00      .095      .055     .095      .055    685.10    463.12
  .007989     250.      250.      250.         2         0        0      0.00     18.18    481.29

*SECNO 521.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   521.80     5.43    692.43      0.00      0.00    692.75      .31      1.95       .00    693.70
     265.       0.      265.       0.        0.       59.       0.       64.       38.     693.30
     1.19     0.00      4.47      0.00      .095      .055     .095      .055    687.00    462.75
  .007637     250.      250.      250.         3         0        0      0.00     18.60    481.35

*SECNO 522.200
   522.20     5.39    693.59      0.00      0.00    693.91      .32      1.16       .00    694.90
     265.       0.      265.       0.        0.       59.       0.       65.       39.     694.50
     1.20     0.00      4.53      0.00      .095      .055     .095      .055    688.20    462.95
  .007823     150.      150.      150.         1         0        0      0.00     18.37    481.32

CCHV=    .400 CEHV=    .800
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```
*SECNO 522.250
   522.25      4.80    694.10      0.00      0.00    694.57       .47       .54       .12    696.00
     265.        0.      265.        0.        0.       48.        0.       65.       39.    695.60
     1.20      0.00      5.48      0.00      .095      .055      .095      .055    689.30    464.48
  .012707       55.       55.       55.         2         0         0      0.00     16.38    480.87


*SECNO 521.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      695.60 ELREA=      695.60


         ** D/S FACE LIVERNOIS RD.

   521.98      4.49    694.89      0.00      0.00    695.47       .58       .81       .09    697.10
     265.        0.      265.        0.        0.       43.        0.       65.       39.    696.70
     1.21      0.00      6.12      0.00      .095      .055      .095      .055    590.40    464.86
  .017270       55.       55.       55.         2         0         0      0.00     15.77    480.63


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.75      2.90    150.00      4.73      0.00     14.20      0.00    692.60    690.40

*SECNO 522.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                             AREA
   709.75    697.56     0.00      113.      154.      14.       14.       695.60    699.50


   522.02      7.16    699.76      0.00      0.00    699.91       .14      4.44      0.00    699.30
     265.        7.      248.        9.       20.       79.       21.       65.       39.    699.30
     1.22       .37      3.13       .44      .095      .055      .095      .055    692.60    396.40
  .002660       90.       90.       90.         2         0         6      0.00    133.27    529.68


*SECNO 522.300
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


   522.30      7.30    699.80      0.00      0.00    699.92       .12       .00       .01    699.20
     265.       12.      239.       14.       29.       81.       28.       65.       39.    699.20
     1.22       .43      2.96       .49      .095      .055      .095      .055    692.50    393.67
  .002317        2.        2.        2.         1         0         0      0.00    137.95    531.62


*SECNO 522.400

         ** VAULT AT U/S END OF LIVERNOIS RD. CULVERT

   522.40      7.30    699.80      0.00      0.00    699.93       .12       .00       .00    699.20
     265.       13.      238.       14.       29.       81.       29.       65.       39.    699.20
     1.22       .43      2.94       .49      .095      .055      .095      .055    592.50    393.41
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .002286 | 2. | 2. | 2. | 0 | 0 | 0 | 0.00 | 138.40 | 531.81 |

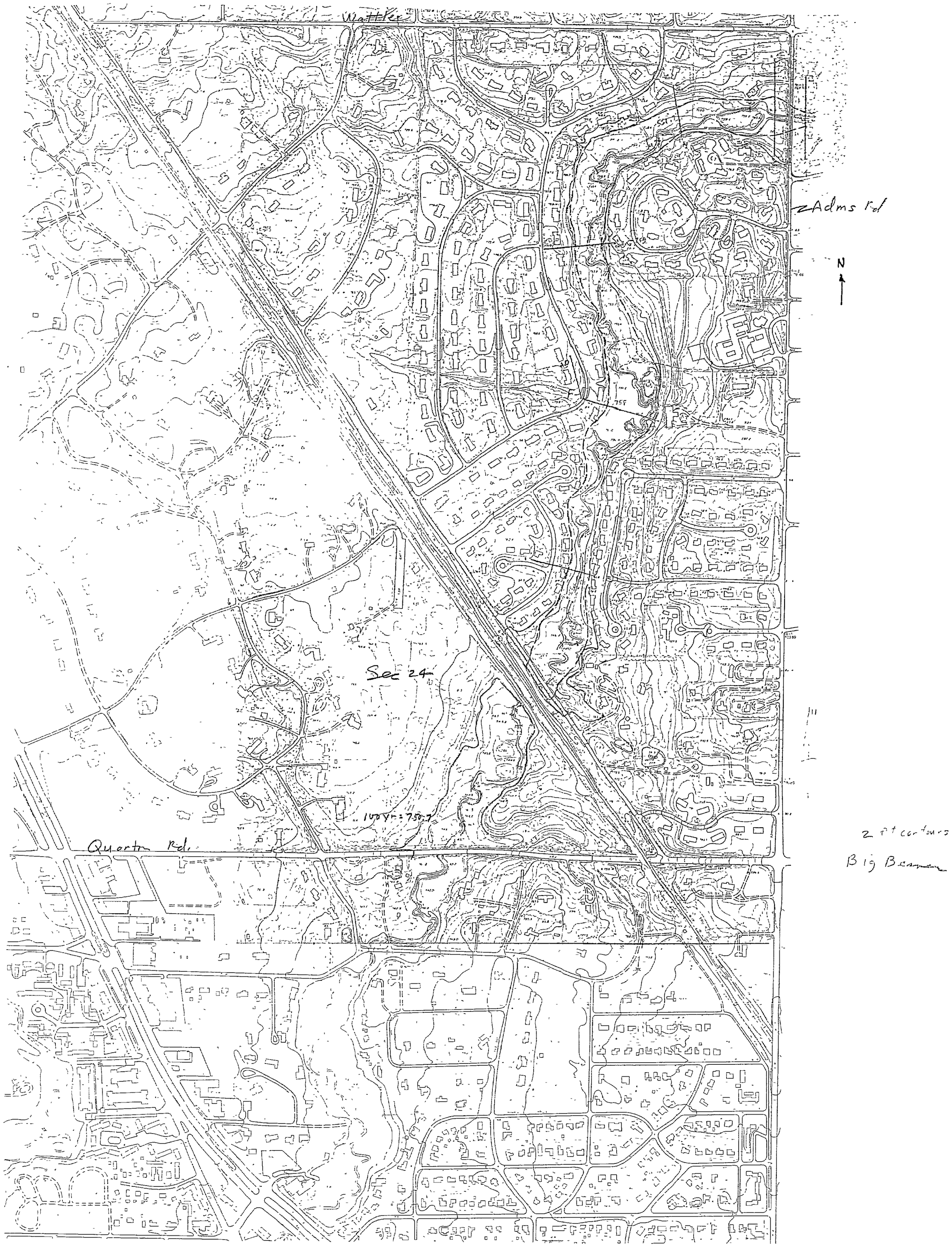
SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.45 | 2.90 | 100.00 | 1.33 | 0.00 | 6.66 | 0.00 | 692.50 | 692.50 |

*SECNO 522.500
PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 735.45 | 699.93 | 0.00 | 245. | 20. | 7. | 7. | 697.50 | 699.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 522.50 | 7.44 | 699.94 | 0.00 | 0.00 | 700.01 | .06 | .08 | 0.00 | 699.20 |
| 265. | 13. | 228. | 24. | 35. | 107. | 46. | 65. | 39. | 698.80 |
| 1.22 | .37 | 2.13 | .51 | .095 | .055 | .095 | .055 | 692.50 | 390.31 |
| .001180 | 1. | 1. | 1. | 2 | 0 | 8 | 0.00 | 144.44 | 534.75 |



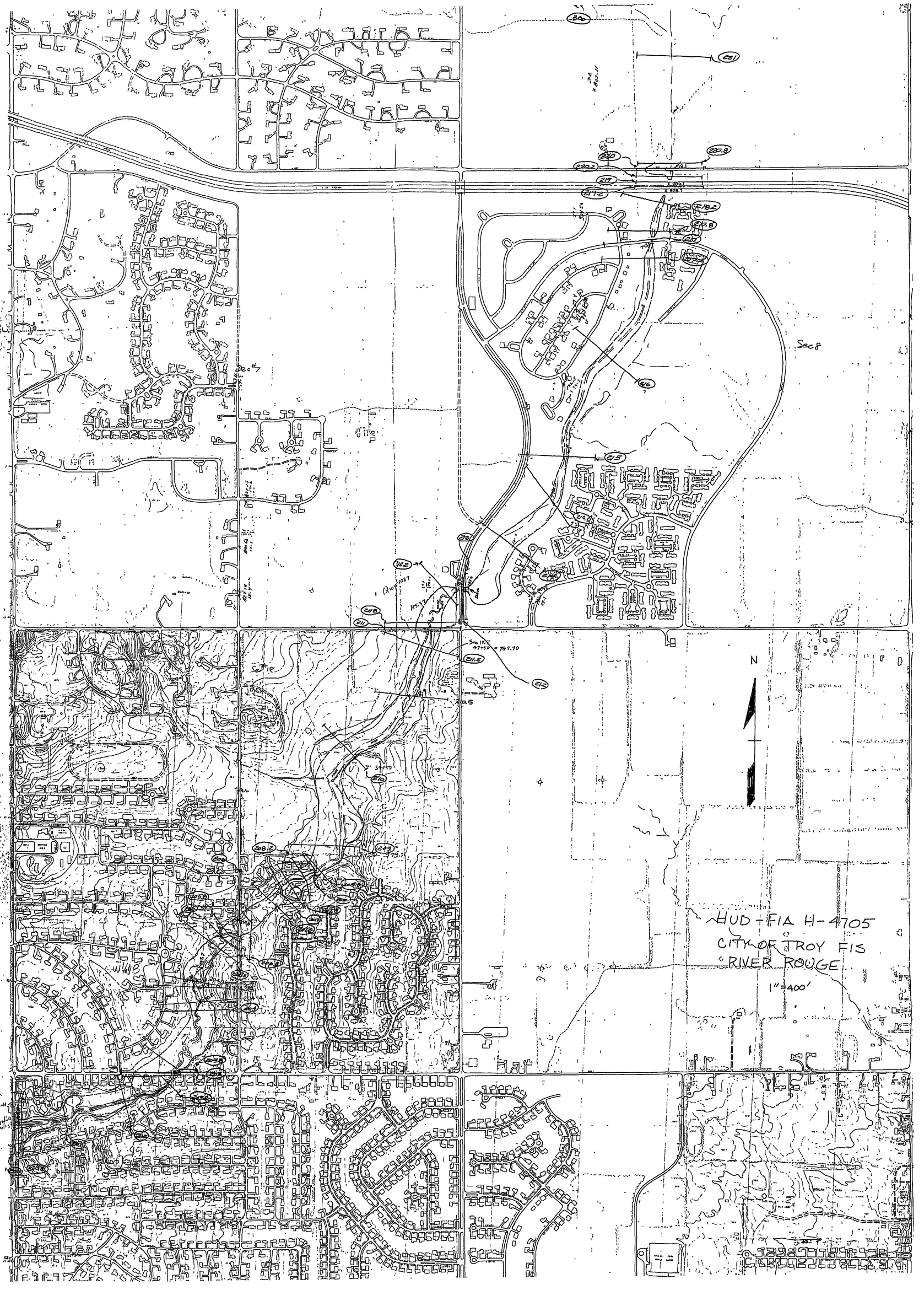

HUD-FIA-H-4205

~~CITY OF~~

TOWNSHIP OF BLOOMFIELD

RIVER ROUGE

1" = 400'


Sec 8
N
HUD-FIA H-4705
CITY OF TROY FIS
RIVER ROUGE
1" = 400'

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN TO LANNI DRAIN

4) DOCUMENT TYPE: 100-YR ENCROACHED

00BREAK00

```
*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************

T1       HUD-FIA H-4705
T2       TROY
T3       HOUGHTON DRAIN TO D/S END LANNI DRAIN 100 YR FLOW=600 CFS : ENCROACHMENT

J1  ICHECK    ING       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ

     -1.        6.        0.        0.   0.000000     0.00      -1.0       0.     645.360    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 2

CCHV=    .150 CEHV=    .350
*SECNO 4.200
 2800 NAT Q1=    128.90  WSEL=    645.36  ENC Q1=    128.90  WSEL=    645.46  RATIO=    .0000
 NAT Q1=    138.  RATIOS LOB,CH,ROB=    .5076    .4869    .0055  WSEL=    645.46

3265 DIVIDED FLOW

3280 CROSS SECTION      4.20 EXTENDED       .56 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      150.8      378.0  TYPE=      4  TARGET=        .067

         ** JUNCTION WITH HENRY GRAHAM DRAIN

     4.20      5.26    645.36      0.00    645.36    645.44       .08      0.00      0.00    646.00
     600.      282.      318.        0.      199.      110.        0.        0.        0.    644.80
     0.00      1.42      2.89      0.00      .080      .055      .080     0.000    640.10    150.82
  .002497        0.        0.        0.         0         0         0      0.00    145.62    378.00


*SECNO 100.200
 2800 NAT Q1=    126.25  WSEL=    645.94  ENC Q1=    126.25  WSEL=    646.04  RATIO=    .0000
 NAT Q1=    136.  RATIOS LOB,CH,ROB=    .5046    .4905    .0049  WSEL=    646.04

3265 DIVIDED FLOW

3280 CROSS SECTION    100.20 EXTENDED       .60 FEET


3470 ENCROACHMENT STATIONS=      151.7      378.0  TYPE=      4  TARGET=        .069
   100.20      5.30    646.00      0.00    645.94    646.08       .08       .64       .00    646.60
     600.      283.      317.        0.      201.      111.        0.        2.        1.    645.40
      .03      1.40      2.85      0.00      .080      .055      .080      .055    640.70    151.73
  .002404      260.      260.      260.         2         0         0      0.00    145.82    378.00


CCHV=    .400 CEHV=    .800
*SECNO 99.980
 2800 NAT Q1=    166.82  WSEL=    646.23  ENC Q1=    166.82  WSEL=    646.33  RATIO=    .0000
 NAT Q1=    179.  RATIOS LOB,CH,ROB=    .5463    .4388    .0149  WSEL=    646.33

3265 DIVIDED FLOW

3280 CROSS SECTION     99.98 EXTENDED      1.02 FEET


3470 ENCROACHMENT STATIONS=      144.7      378.0  TYPE=      4  TARGET=        .066
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        ** D/S FACE POST RD

    99.98      5.72    646.32      0.00    646.23    646.36       .05       .27       .01    646.50
     600.      320.      280.        0.      288.      125.        0.        3.        2.    645.30
      .06      1.11      2.24      0.00      .080      .055      .080      .055    640.60    144.71
  .001344      152.      152.      152.         2         0         0      0.00    226.39    378.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.55      2.70      0.00     14.73      0.00     58.90      0.00    640.60    640.60

*SECNO 100.020

607C,LOW FLOW BY NORMAL BRIDGE

EGPRS=   652.036  EGLWC=   646.485  ELLC=   644.600  PCWSE=   646.316  ELTRO=   644.200
 2800 NAT Q1=    136.88  WSEL=    646.34  ENC Q1=    136.88  WSEL=    646.44  RATIO=  0.0000
 NAT Q1=    150.  RATIOS LOB,CH,ROB=   .7417   .1536   .1047  WSEL=    646.44
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION    100.02 EXTENDED      1.82 FEET


3470 ENCROACHMENT STATIONS=      155.1     414.6  TYPE=     4  TARGET=        .087
   100.02      5.82    646.42      0.00    646.34    646.45       .02       .05       .01    644.60
     600.      419.      151.       30.      451.       77.       46.        4.        2.    644.60
      .07       .93      1.95       .66      .080      .055      .080      .055    640.60    155.15
  .000832       48.       48.       48.         0         0         0      0.00    259.42    414.56

*SECNO 100.800
 2800 NAT Q1=     94.43  WSEL=    646.56  ENC Q1=     94.43  WSEL=    646.66  RATIO=   .0000
 NAT Q1=    103.  RATIOS LOB,CH,ROB=   .3915   .6064   .0022  WSEL=    646.66

3265 DIVIDED FLOW

   SECNO     DEPTH     QLSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      172.1     392.0  TYPE=     4  TARGET=        .079
   100.80      5.04    646.54      0.00    646.56    646.72       .18       .15       .13    645.70
     600.      193.      407.        0.      124.      101.        0.        4.        2.    646.20
      .08      1.56      4.05      0.00      .080      .055      .080      .055    641.50    172.09
  .004866       90.       90.       90.         2         0         0      0.00    205.00    392.00

CCHV=    .150 CEHV=    .350
*SECNO 100.900
 2800 NAT Q1=    137.75  WSEL=    648.11  ENC Q1=    137.75  WSEL=    648.21  RATIO=   .0000
 NAT Q1=    149.  RATIOS LOB,CH,ROB=   .4782   .5122   .0096  WSEL=    648.21
3280 CROSS SECTION    100.90 EXTENDED       .44 FEET
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3470 ENCROACHMENT STATIONS=      167.2      392.0  TYPE=      4  TARGET=          .076
   100.90      5.64    648.24      0.00    648.11    648.31      .07      1.57      .02    646.80
     600.      272.      328.        0.      248.      119.       0.        8.       5.    647.30
      .15      1.10      2.77      0.00      .080      .055     .080      .055   642.60    167.19
  .001875      550.      550.      550.         2         0        0      0.00   224.81    392.00

*SECNO 101.000
 2800 NAT Q1=     145.84  WSEL=     649.11  ENC Q1=     145.84  WSEL=     649.21  RATIO=    .0000
 NAT Q1=     162.  RATIOS LOB,CH,ROB=    .6504    .2873    .0623  WSEL=     649.21
3280 CROSS SECTION     101.00 EXTENDED        .22 FEET

     /

3470 ENCROACHMENT STATIONS=      187.1      410.7  TYPE=      4  TARGET=          .098
   101.00      5.52    649.22      0.00    649.11    649.27      .05       .95      .00    646.10
     600.      401.      191.        8.      358.       69.      10.       13.       8.    647.70
      .25      1.12      2.75       .86      .080      .055     .080      .055   643.70    187.15
  .001671      540.      540.      540.         2         0        0      0.00   223.58    410.73

*SECNO 101.500
 2800 NAT Q1=     127.91  WSEL=     649.89  ENC Q1=     127.91  WSEL=     649.99  RATIO=    .0000
 NAT Q1=     143.  RATIOS LOB,CH,ROB=    .6343    .3108    .0549  WSEL=     649.99
3280 CROSS SECTION     101.50 EXTENDED        .09 FEET


3470 ENCROACHMENT STATIONS=      202.9      405.8  TYPE=      4  TARGET=          .103
   101.50      5.39    649.99      0.00    649.89    650.06      .07       .78      .01    647.00
     600.      391.      207.        2.      314.       67.       2.       17.      10.    648.60
      .31      1.24      3.09       .73      .080      .055     .080      .055   644.60    202.86
  .002191      410.      410.      410.         2         0        0      0.00   202.90    405.76

*SECNO 102.200
 2800 NAT Q1=      70.27  WSEL=     650.98  ENC Q1=      70.27  WSEL=     651.08  RATIO=    .0000
 NAT Q1=      78.  RATIOS LOB,CH,ROB=    .2563    .6072    .1365  WSEL=     651.08

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      336.8      511.0  TYPE=      4  TARGET=          .105
   102.20      5.77    651.07      0.00    650.98    651.39      .33      1.25      .09    650.80
     600.      136.      408.       56.       86.       75.      43.       19.      11.    648.70
      .33      1.58      5.45      1.29      .080      .055     .080      .055   645.30    336.81
  .007366      340.      340.      340.         2         0        0      0.00   170.10    511.03

CCHV=     .200 CEHV=     .400
*SECNO 101.980
 2800 NAT Q1=     142.16  WSEL=     651.77  ENC Q1=     142.16  WSEL=     651.87  RATIO=    .0000
 NAT Q1=     155.  RATIOS LOB,CH,ROB=    .3717    .3961    .2323  WSEL=     651.87
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      294.8      540.7  TYPE=      4  TARGET=          .085
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        ** D/S FACE JOHN R RD

   101.98      6.48    651.88      0.00    651.77    651.95       .07       .51       .05    650.90
     600.      217.      258.      125.      206.       88.      132.       21.       12.     648.80
      .35      1.05      2.95       .95      .080      .055      .080      .055    645.40    294.77
  .001744      160.      160.      160.         2         0         0      0.00    245.93    540.70


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.60      2.70     400.00    11.00      0.00     57.20      0.00    645.40    645.40

*SECNO 102.020
 2800 NAT Q1=     248.98  WSEL=     652.49  ENC Q1=     248.98  WSEL=     652.59  RATIO=  0.0000
 NAT Q1=     270.  RATIOS LOB,CH,ROB=    .1971    .4765    .3264  WSEL=     652.59
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     102.02 EXTENDED       1.20 FEET


3470 ENCROACHMENT STATIONS=      332.8      708.7  TYPE=      4  TARGET=        .079
   102.02      7.20    652.60      0.00    652.49    652.63       .03       .04       .01    650.60
     600.      103.      309.      188.      189.      176.      309.       21.       12.     649.60
      .36       .55      1.75       .61      .080      .055      .080      .055    645.40    332.82
  .000569       40.       40.       40.         0         0         5      0.00    375.87    708.69


*SECNO 102.500
 2800 NAT Q1=     127.85  WSEL=     652.47  ENC Q1=     127.85  WSEL=     652.57  RATIO=   .0000
 NAT Q1=     141.  RATIOS LOB,CH,ROB=    .0853    .6918    .2229  WSEL=     652.57
3280 CROSS SECTION     102.50 EXTENDED        .48 FEET


3470 ENCROACHMENT STATIONS=      442.2      654.9  TYPE=      4  TARGET=        .091
   102.50      6.48    652.58      0.00    652.47    652.69       .11       .03       .03    651.30
     600.       26.      456.      118.       30.      149.      134.       21.       12.     650.30
      .37       .87      3.06       .88      .080      .055      .080      .055    646.10    442.21
  .002173       30.       30.       30.         2         0         0      0.00    212.67    654.88


*SECNO 102.540
 2800 NAT Q1=      51.18  WSEL=     652.48  ENC Q1=      51.18  WSEL=     652.58  RATIO=  0.0000
 NAT Q1=      62.  RATIOS LOB,CH,ROB=    .1687    .4615    .3698  WSEL=     652.58
3280 CROSS SECTION     102.54 EXTENDED        .48 FEET


3370 NORMAL BRIDGE,NFD=  0 MIN ELTRD=  651.80 MAX ELLC=  650.50


3470 ENCROACHMENT STATIONS=      428.6      671.7  TYPE=      4  TARGET=        .171

        ** D/S FACE FOOTBRIDGE

   102.54      6.48    652.58      0.00    652.48    652.70       .11       .00       .00    651.30
     600.       61.      334.      205.       33.      103.      119.       21.       12.     650.30
      .37      1.81      3.25      1.73      .080      .055      .080      .055    646.10    428.64
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  .013772        1.        1.        1.        0         0         0   -79.59    243.02    671.66

*SECNO 102.560
 2800 NAT Q1=      59.42  WSEL=     652.56  ENC Q1=      59.42  WSEL=     652.66  RATIO=    .0000
 NAT Q1=      70.  RATIOS LOB,CH,ROB=   .1848    .4261    .3891  WSEL=     652.66
3280 CROSS SECTION     102.56 EXTENDED        .57 FEET


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  651.80 MAX ELLC=  650.50

3470 ENCROACHMENT STATIONS=      414.2      684.8  TYPE=      4  TARGET=          .152
   102.56      6.57    652.67      0.00    652.56    652.75      .08       .05       .01    651.30
     600.       79.      299.      222.      48.      106.      141.       21.       13.    650.30
      .37      1.63      2.82      1.57     .080      .055      .080      .055    646.10    414.21
  .009976        4.        4.        4.        2         0         0    -79.59    270.55    684.76

*SECNO 102.600
 2800 NAT Q1=     139.33  WSEL=     652.55  ENC Q1=     139.33  WSEL=     652.65  RATIO=    .0000
 NAT Q1=     152.  RATIOS LOB,CH,ROB=   .0972    .6622    .2405  WSEL=     652.65
3280 CROSS SECTION     102.60 EXTENDED        .57 FEET

   SECNO     DEPTH     CKSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      425.6      672.0  TYPE=      4  TARGET=          .084
   102.60      6.56    652.66      0.00    652.55    652.75      .09       .00       .00    651.30
     600.       37.      431.      132.      47.      152.      159.       21.       13.    650.30
      .37       .79      2.83       .83     .080      .055      .080      .055    646.10    425.63
  .001805        1.        1.        1.        0         0         0      0.00    246.32    671.95

*SECNO 102.800
 2800 NAT Q1=     184.42  WSEL=     652.75  ENC Q1=     184.42  WSEL=     652.85  RATIO=    .0000
 NAT Q1=     202.  RATIOS LOB,CH,ROB=   .1488    .5619    .2893  WSEL=     652.85
3280 CROSS SECTION     102.80 EXTENDED        .86 FEET


3470 ENCROACHMENT STATIONS=      378.6      692.4  TYPE=      4  TARGET=          .088
   102.80      6.86    652.86      0.00    652.75    652.91      .05       .15       .01    651.20
     600.       70.      368.      162.     106.      163.      226.       22.       13.    650.20
      .38       .66      2.25       .72     .080      .055      .080      .055    646.00    378.62
  .001044      110.      110.      110.        2         0         0      0.00    313.81    692.43

CCHV=     .150  CEHV=     .350
*SECNO 103.000
 2800 NAT Q1=      90.90  WSEL=     653.09  ENC Q1=      94.86  WSEL=     653.19  RATIO=   -.0436
 NAT Q1=      95.  RATIOS LOB,CH,ROB=   .0046    .9952    .0002  WSEL=     653.19

3470 ENCROACHMENT STATIONS=      506.0      552.0  TYPE=      4  TARGET=          .005
   103.00      6.49    653.19      0.00    653.09    653.41      .22       .44       .06    652.60
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     600.        0.      600.        0.        0.      159.        0.       24.       14.    653.00
      .40      0.00      3.78      0.00      .080      .055      .080      .055   646.70   506.00
  .004074      240.      240.      240.         2         0         0      0.00    46.00   552.00


*SECNC 103.300
 2800 NAT Q1=     117.33  WSEL=     654.91  ENC Q1=     120.09  WSEL=     655.01  RATIO=  -.0235
 NAT Q1=     123.  RATIOS LOB,CH,ROB=    .0194    .9749    .0057  WSEL=     655.01

3470 ENCROACHMENT STATIONS=      506.0      552.0  TYPE=      4  TARGET=        .025
   103.30      6.97    654.97      0.00    654.91    655.15       .17      1.73       .01    653.90
     600.        0.      600.        0.        0.      181.        0.       26.       15.    654.30
      .45      0.00      3.32      0.00      .080      .055      .080      .055   648.00   506.00
  .002698      526.      526.      526.         2         0         0      0.00    46.00   552.00


*SECNC 103.400
 2800 NAT Q1=     124.91  WSEL=     655.54  ENC Q1=     126.70  WSEL=     655.64  RATIO=  -.0143
 NAT Q1=     131.  RATIOS LOB,CH,ROB=    .0244    .9669    .0087  WSEL=     655.64

3470 ENCROACHMENT STATIONS=      506.0      552.0  TYPE=      4  TARGET=        .033
   103.40      7.12    655.62      0.00    655.54    655.78       .16       .64       .00    654.40
     600.        0.      600.        0.        0.      188.        0.       27.       15.    654.80
      .47      0.00      3.20      0.00      .080      .055      .080      .055   648.50   506.00
  .002401      250.      250.      250.         2         0         0      0.00    46.00   552.00


CCHV=    .400 CEHV=    .800
*SECNC 103.580
 2800 NAT Q1=     131.59  WSEL=     655.94  ENC Q1=     131.59  WSEL=     656.04  RATIO=   .0000
 NAT Q1=     139.  RATIOS LOB,CH,ROB=    .0770    .9147    .0082  WSEL=     656.04
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      483.6      552.0  TYPE=      4  TARGET=        .050

         ** D/S FACE PRIVATE DRIVE

   103.58      7.13    656.03      0.00    655.94    656.18       .14       .38       .01    654.80
     600.       23.      577.        0.       25.      188.        0.       28.       15.    655.20
      .48       .90      3.07      0.00      .080      .055      .080      .055   648.90   483.64
  .002135      170.      170.      170.         2         0         0      0.00    68.36   552.00


SPECIAL BRIDGE

SB  XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.15      2.70    120.00     11.51      0.00     47.20      0.00    648.90    648.90

*SECNC 103.620
 2800 NAT Q1=     160.39  WSEL=     656.38  ENC Q1=     164.57  WSEL=     656.48  RATIO=  -.0261
 NAT Q1=     166.  RATIOS LOB,CH,ROB=    .0070    .9930   0.0000  WSEL=     656.48
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      142.0      188.0  TYPE=      4  TARGET=        .007
   103.62      7.57    656.47      0.00    656.38    656.59       .11       .03       .01    655.30
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     600.        C.      600.        0.        C.      221.        C.      28.       15.    656.50
      .49      0.00      2.71      0.00      .080      .055      .080      .055   648.90    142.00
  .001379       20.       20.       20.         C         0         4      0.00    45.94    187.94


*SECNC 104.200
 2800 NAT Q1=     158.01  WSEL=     656.43  ENC Q1=     161.97  WSEL=     656.53  RATIO=  -.0250
 NAT Q1=    163.  RATIOS LOB,CH,ROB=   .0063   .9937  0.0000  WSEL=     656.53

3470 ENCROACHMENT STATIONS=      142.0      188.0  TYPE=      4  TARGET=        .006
   104.20      7.52    656.52      0.00    656.43    656.64       .12       .05       .00    655.40
     600.        C.      600.        0.        0.      219.        0.      28.       15.    656.60
      .49      0.00      2.74      0.00      .080      .055      .080      .055   649.00    142.00
  .001423       35.       35.       35.         0         0         0      0.00    45.82    187.82


*SECNC 103.980
 2800 NAT Q1=     152.91  WSEL=     656.52  ENC Q1=     157.24  WSEL=     656.62  RATIO=  -.0283
 NAT Q1=    159.  RATIOS LOB,CH,ROB=   .0081   .9919   .0000  WSEL=     656.62

3470 ENCROACHMENT STATIONS=      142.0      188.0  TYPE=      4  TARGET=        .008

         ** D/S FACE HAMMAN RD

   103.98      6.71    656.61      0.00    656.52    656.74       .12       .10       .00    655.40
     600.        0.      600.        0.        C.      214.        0.      29.       15.    656.60
      .50      0.00      2.80      0.00      .080      .055      .080      .055   649.90    142.00
  .001518       65.       65.       65.         0         0         0      0.00    46.00    188.00


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.75      2.55    100.00      8.11      0.00     46.20      0.00    649.90    649.90

*SECNC 104.020
 2800 NAT Q1=     233.86  WSEL=     658.01  ENC Q1=     233.86  WSEL=     658.11  RATIO=   .0000
 NAT Q1=    240.  RATIOS LOB,CH,ROB=   .0000   .9467   .0533  WSEL=     658.11
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      438.0      493.6  TYPE=      4  TARGET=        .027
   104.02      8.20    658.10      0.00    658.01    658.17       .07       .09       .02    658.10
     600.        C.      586.       14.        C.      280.       17.      29.       15.    652.70
      .51      0.00      2.09       .80      .080      .055      .080      .055   649.90    438.00
  .000668       90.       90.       90.         C         0         4      0.00    55.61    493.61


*SECNC 104.800
 2800 NAT Q1=     181.04  WSEL=     658.21  ENC Q1=     181.04  WSEL=     658.31  RATIO=   .0000
 NAT Q1=    186.  RATIOS LOB,CH,ROB=  0.0000   .9578   .0422  WSEL=     658.31
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      438.0      491.8  TYPE=      4  TARGET=        .029
   104.80      7.30    658.30      0.00    658.21    658.40       .10       .20       .03    659.20
     600.        C.      595.        5.        C.      235.        7.      31.       16.    653.80
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      .53      0.00      2.53       .73      .080      .055      .080      .055    651.00    441.91
  .001108      240.      240.      240.         0         0         0      0.00     49.86    491.77


CCHV=     .150 CEHV=     .350
*SECNO 104.900
 2800 NAT Q1=     130.24  WSEL=     658.67  ENC Q1=     130.78  WSEL=     658.77  RATIO=  -.0041
 NAT Q1=     135.  RATIOS LOB,CH,ROB=  0.0000    .9710    .0290  WSEL=     658.77

3470 ENCROACHMENT STATIONS=      438.0     490.0  TYPE=      4  TARGET=        .029
   104.90      6.28    658.78      0.00    658.67    658.94       .16       .52       .02    660.70
     600.        0.      600.        0.        0.      188.        0.       32.       16.    655.30
      .56      0.00      3.19      0.00      .080      .055      .080      .055    652.50    446.40
  .002303      336.      336.      336.         2         0         0      0.00     43.60    490.00


*SECNO 105.200
 2800 NAT Q1=     104.26  WSEL=     659.89  ENC Q1=     109.91  WSEL=     659.99  RATIO=  -.0542
 NAT Q1=     110.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     659.99

3470 ENCROACHMENT STATIONS=      398.0     476.0  TYPE=      4  TARGET=       0.000
   105.20      5.30    660.00      0.00    659.89    660.14       .14      1.20       .00    662.20
     600.        0.      600.        0.        0.      201.        0.       35.       17.    660.80
      .61      0.00      2.98      0.00      .080      .055      .080      .055    654.70    404.27
  .002922      464.      464.      464.         0         0         0      0.00     68.12    472.39


CCHV=     .400 CEHV=     .800
*SECNO 104.980
 2800 NAT Q1=     118.93  WSEL=     660.53  ENC Q1=     124.83  WSEL=     660.63  RATIO=  -.0496
 NAT Q1=     125.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     660.63

3470 ENCROACHMENT STATIONS=      398.0     476.0  TYPE=      4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      661.20 ELREA=      661.20


        ** D/S FACE CALVERT RD

   104.98      4.39    660.59      0.00    660.53    660.71       .12       .56       .01    662.20
     600.        0.      600.        0.        0.      218.        0.       36.       17.    660.80
      .63      0.00      2.75      0.00      .080      .055      .080      .055    656.20    402.61
  .002413      210.      210.      210.         2         0         0      0.00     72.43    475.04


SPECIAL BRIDGE

SB   XK        XKCR      COEQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.95      2.80    130.00     11.32      0.00     56.60      0.00    656.20    656.20

*SECNO 105.020
 2800 NAT Q1=     313.82  WSEL=     663.36  ENC Q1=     313.82  WSEL=     663.46  RATIO=   .0000
 NAT Q1=     327.  RATIOS LOB,CH,ROB=   .0238    .9390    .0372  WSEL=     663.46
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     105.02 EXTENDED        .02 FEET


3470 ENCROACHMENT STATIONS=      307.5     406.0  TYPE=      4  TARGET=        .040
   105.02      7.22    663.42      0.00    663.36    663.45       .03       .06       .03    661.40
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     600.        2.      588.       10.        5.      392.       24.       36.       17.    661.80
      .64       .39      1.50       .44      .080      .055      .080      .055   656.20    307.50
  .000378       82.       82.       82.        0         0         4      0.00    98.48    405.98

*SECNO 105.800
 2800 NAT Q1=     318.86  WSEL=     663.39  ENC Q1=     318.86  WSEL=     663.49  RATIO=    .0000
 NAT Q1=     332.  RATIOS LOB,CH,ROB=    .0246    .9371    .0382  WSEL=     663.49
3280 CROSS SECTION     105.80 EXTENDED        .05 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    IDC       ICCNT     CORAR     TCPWID      ENDST


3470 ENCROACHMENT STATIONS=      306.9      406.8  TYPE=      4  TARGET=         .039
   105.80      7.45   663.45      0.00   663.39   663.48       .03       .03       .00    661.40
     600.        2.     586.       11.        6.     396.       25.       37.       17.    661.80
      .66       .41      1.48       .44      .080      .055      .080      .055   656.00    306.94
  .000367       90.       90.       90.        0         0         0      0.00    99.84    406.78

CCHV=     .150 CEHV=     .350
*SECNO 105.850
 2800 NAT Q1=     265.00  WSEL=     663.56  ENC Q1=     266.88  WSEL=     663.66  RATIO=   -.0071
 NAT Q1=     278.  RATIOS LOB,CH,ROB=    .0153    .9616    .0231  WSEL=     663.66

3470 ENCROACHMENT STATIONS=      310.0      390.0  TYPE=      4  TARGET=         .038
   105.85      7.02   663.62      0.00   663.56   663.66       .04       .18       .00    662.00
     600.        0.     600.        0.        0.     361.        0.       41.       18.    662.40
      .73      0.00      1.66      0.00      .080      .055      .080      .055   656.60    310.00
  .000545      396.      396.      396.        0         0         0      0.00    80.00    390.00

*SECNO 105.900
 2800 NAT Q1=     260.41  WSEL=     663.76  ENC Q1=     260.41  WSEL=     663.86  RATIO=    .0000
 NAT Q1=     280.  RATIOS LOB,CH,ROB=    .0746    .2992    .6262  WSEL=     663.86
3280 CROSS SECTION     105.90 EXTENDED        .14 FEET


3470 ENCROACHMENT STATIONS=      181.0      455.8  TYPE=      4  TARGET=         .071
   105.90      6.34   663.84      0.00   663.76   663.86       .02       .19       .00    662.10
     600.       25.     195.     380.       45.     113.     500.       45.       20.    659.70
      .82       .56      1.72       .76      .080      .055      .080      .055   657.50    181.01
  .000549      350.      350.      350.        2         0         0      0.00   274.77    455.79

*SECNO 106.000
 2800 NAT Q1=     231.10  WSEL=     663.91  ENC Q1=     231.10  WSEL=     664.01  RATIO=   0.0000
 NAT Q1=     250.  RATIOS LOB,CH,ROB=    .0628    .3174    .6198  WSEL=     664.01

3470 ENCROACHMENT STATIONS=      192.1      444.5  TYPE=      4  TARGET=         .077
   106.00      6.19   663.99      0.00   663.91   664.02       .03       .16       .00    662.40
     600.       16.     208.     376.       26.     110.     452.       48.       21.    660.00
      .88       .60      1.90       .83      .080      .055      .080      .055   657.80    192.14
  .000699      254.      254.      254.        1         0         0      0.00   252.40    444.54
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$\frac{.17}{396} \times 160$

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*SECNO 106.500
 2800 NAT Q1=     211.78  WSEL=     664.28  ENC Q1=     211.78  WSEL=     664.38  RATIO=    .0000
 NAT Q1=     229.  RATIOS LOB,CH,ROB=    .1332    .1620    .7048  WSEL=     664.38
3280 CROSS SECTION     106.50 EXTENDED       1.57 FEET


3470 ENCROACHMENT STATIONS=      238.2      528.3  TYPE=      4  TARGET=          .076
   106.50      5.17    664.37      0.00    664.28    664.39      .02       .37       .00    662.70
     600.       61.      106.      433.       83.       57.     489.       55.       24.    661.50
     1.01       .74      1.85       .89      .080      .055     .080      .055    659.20    238.17
  .000817      496.      496.      496.         2         0        0      0.00    290.12    528.29

*SECNO 107.000
 2800 NAT Q1=      98.34  WSEL=     664.70  ENC Q1=      98.34  WSEL=     664.80  RATIO=    .0000
 NAT Q1=     110.  RATIOS LOB,CH,ROB=    .0819    .2358    .6824  WSEL=     664.80
3280 CROSS SECTION     107.00 EXTENDED        .79 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      268.3      504.2  TYPE=      4  TARGET=          .110
   107.00      4.39    664.79      0.00    664.70    664.82      .03       .43       .00    663.90
     370.       11.       99.      260.       17.       46.     289.       60.       27.    662.70
     1.11       .63      2.13       .90      .080      .055     .080      .055    660.40    268.31
  .001450      429.      429.      429.         0         0        0      0.00    235.87    504.18

*SECNO 107.200
 2800 NAT Q1=      98.00  WSEL=     665.30  ENC Q1=      98.00  WSEL=     665.40  RATIO=    .0000
 NAT Q1=     110.  RATIOS LOB,CH,ROB=    .0817    .2361    .6822  WSEL=     665.40
3280 CROSS SECTION     107.20 EXTENDED        .80 FEET


3470 ENCROACHMENT STATIONS=      268.7      503.8  TYPE=      4  TARGET=          .111
   107.20      4.40    665.40      0.00    665.30    665.43      .03       .60       .00    664.50
     370.       11.       98.      261.       17.       46.     291.       63.       29.    663.30
     1.20       .63      2.12       .90      .080      .055     .080      .055    661.00    268.75
  .001422      421.      421.      421.         2         0        0      0.00    235.03    503.78

*SECNO 107.500
 2800 NAT Q1=      52.85  WSEL=     666.41  ENC Q1=      52.85  WSEL=     666.51  RATIO=    .0000
 NAT Q1=      57.  RATIOS LOB,CH,ROB=    .1003    .8997   0.0000  WSEL=     666.51

3470 ENCROACHMENT STATIONS=      284.0      334.0  TYPE=      4  TARGET=          .072
   107.50      4.51    666.51      0.00    666.41    666.68      .17      1.20       .05    665.10
     370.       11.      359.        0.        8.      106.       0.       66.       31.    666.70
     1.25      1.38      3.40      0.00      .080      .055     .080      .055    662.00    284.01
  .004934      500.      500.      500.         2         0        0      0.00     49.03    333.04

*SECNO 108.200
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 2800 NAT Q1=      75.83  WSEL=     667.88  ENC Q1=      80.00  WSEL=     667.98  RATIO=  -.0550
 NAT Q1=      80.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     667.98

3470 ENCROACHMENT STATIONS=      290.0      334.0  TYPE=      4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.00 ELREA=      670.00


          ** D/S ROCHESTER RD - AT D/S END LANNI DRAIN

   108.20      5.25    667.95      0.00    667.88    668.06       .11      1.37       .01    665.80
     370.        0.      370.        0.        0.      138.        0.       67.       31.    667.40
     1.29      0.00      2.68      0.00      .080      .055      .080      .055    662.70    290.00
  .002236      429.      429.      429.         2         0         0      0.00     44.00    334.00
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN TO D/S EN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 645.36 | 0.00 | 645.43 | 21.67 | 2.73 | 352.24 | 128.90 |
| 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 645.36 | 0.00 | 645.44 | 24.97 | 2.89 | 308.58 | 120.08 |
| 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 645.94 | 0.00 | 646.01 | 22.59 | 2.77 | 346.22 | 126.25 |
| 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 646.00 | 0.00 | 646.08 | 24.04 | 2.85 | 312.53 | 122.38 |
| 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.23 | 0.00 | 646.28 | 12.94 | 2.22 | 446.15 | 166.82 |
| 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.32 | 0.00 | 646.36 | 13.44 | 2.24 | 413.02 | 163.66 |
| 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 600.00 | 646.34 | 0.00 | 646.36 | 19.21 | 1.45 | 520.17 | 136.88 |
| 100.020 | 48.00 | 999999.00 | 0.00 | 640.60 | 600.00 | 646.42 | 0.00 | 646.45 | 8.32 | 1.95 | 574.26 | 207.96 |
| 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.56 | 0.00 | 646.70 | 40.37 | 3.72 | 263.95 | 94.43 |
| 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.54 | 0.00 | 646.72 | 48.66 | 4.05 | 224.17 | 86.01 |
| 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.11 | 0.00 | 648.18 | 18.97 | 2.78 | 390.16 | 137.75 |
| 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.24 | 0.00 | 648.31 | 18.75 | 2.77 | 366.59 | 138.56 |
| 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.11 | 0.00 | 649.15 | 16.93 | 2.72 | 537.08 | 145.84 |
| 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.22 | 0.00 | 649.27 | 16.71 | 2.75 | 436.70 | 146.79 |
| 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.89 | 0.00 | 649.95 | 22.01 | 3.05 | 485.57 | 127.91 |
| 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.99 | 0.00 | 650.06 | 21.91 | 3.09 | 383.93 | 128.18 |
| 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 650.98 | 0.00 | 651.28 | 72.91 | 5.34 | 241.05 | 70.27 |
| 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 651.07 | 0.00 | 651.39 | 73.66 | 5.45 | 203.88 | 69.91 |
| 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.77 | 0.00 | 651.83 | 17.81 | 2.93 | 466.05 | 142.16 |
| 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.88 | 0.00 | 651.95 | 17.44 | 2.95 | 424.79 | 143.68 |
| 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 600.00 | 652.49 | 0.00 | 652.51 | 5.81 | 1.74 | 742.22 | 248.98 |
| 102.020 | 40.00 | 999999.00 | 0.00 | 645.40 | 600.00 | 652.60 | 0.00 | 652.63 | 5.69 | 1.75 | 674.48 | 251.49 |
| 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.47 | 0.00 | 652.58 | 22.02 | 3.02 | 382.41 | 127.85 |
| 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.58 | 0.00 | 652.69 | 21.73 | 3.06 | 313.50 | 128.72 |
| 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.48 | 0.00 | 652.58 | 137.44 | 3.16 | 305.63 | 51.18 |
| 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.58 | 0.00 | 652.70 | 137.72 | 3.25 | 255.03 | 51.13 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.56 | 0.00 | 652.63 | 101.97 | 2.78 | 345.55 | 59.42 |
| 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.67 | 0.00 | 652.75 | 99.76 | 2.82 | 295.56 | 60.07 |
| 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.55 | 0.00 | 652.64 | 18.54 | 2.81 | 424.38 | 139.33 |
| 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.66 | 0.00 | 652.75 | 18.05 | 2.83 | 358.34 | 141.22 |
| 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.75 | 0.00 | 652.80 | 10.59 | 2.23 | 571.17 | 184.42 |
| 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.86 | 0.00 | 652.91 | 10.44 | 2.25 | 495.33 | 185.70 |
| 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.09 | 0.00 | 653.32 | 43.57 | 3.88 | 158.01 | 90.90 |
| 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.19 | 0.00 | 653.41 | 40.74 | 3.78 | 158.57 | 94.01 |
| 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.91 | 0.00 | 655.08 | 26.15 | 3.31 | 199.08 | 117.33 |
| 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.97 | 0.00 | 655.15 | 26.98 | 3.32 | 180.84 | 115.50 |
| 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.54 | 0.00 | 655.69 | 23.07 | 3.18 | 212.06 | 124.91 |
| 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.62 | 0.00 | 655.78 | 24.01 | 3.20 | 187.75 | 122.46 |
| 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 655.94 | 0.00 | 656.07 | 20.79 | 3.02 | 260.46 | 131.59 |
| 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 656.03 | 0.00 | 656.18 | 21.35 | 3.07 | 213.32 | 129.85 |
| 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 600.00 | 656.38 | 0.00 | 656.50 | 13.99 | 2.75 | 224.26 | 160.39 |
| 103.620 | 20.00 | 999999.00 | 0.00 | 648.90 | 600.00 | 656.47 | 0.00 | 656.59 | 13.79 | 2.71 | 221.02 | 161.60 |
| 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.43 | 0.00 | 656.55 | 14.42 | 2.78 | 221.59 | 158.01 |
| 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.52 | 0.00 | 656.64 | 14.23 | 2.74 | 218.62 | 159.07 |
| 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.52 | 0.00 | 656.65 | 15.40 | 2.84 | 218.19 | 152.91 |
| 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.61 | 0.00 | 656.74 | 15.18 | 2.80 | 214.37 | 154.01 |
| 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 600.00 | 658.01 | 0.00 | 658.08 | 6.58 | 2.06 | 311.37 | 233.86 |
| 104.020 | 90.00 | 999999.00 | 0.00 | 649.90 | 600.00 | 658.10 | 0.00 | 658.17 | 6.68 | 2.09 | 297.08 | 232.12 |
| 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.21 | 0.00 | 658.30 | 10.98 | 2.50 | 255.24 | 181.04 |
| 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.30 | 0.00 | 658.40 | 11.08 | 2.53 | 242.67 | 180.23 |
| 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.67 | 0.00 | 658.82 | 21.22 | 3.18 | 197.77 | 130.24 |
| 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.78 | 0.00 | 658.94 | 23.03 | 3.19 | 188.25 | 125.01 |
| 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 659.89 | 0.00 | 660.04 | 33.12 | 3.11 | 192.87 | 104.26 |
| 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 660.00 | 0.00 | 660.14 | 29.22 | 2.98 | 201.38 | 110.99 |
| 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.53 | 0.00 | 660.65 | 25.45 | 2.80 | 214.30 | 118.93 |
| 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.59 | 0.00 | 660.71 | 24.13 | 2.75 | 218.27 | 122.15 |
| 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 600.00 | 663.36 | 0.00 | 663.39 | 3.66 | 1.46 | 476.18 | 313.82 |
| 105.020 | 82.00 | 999999.00 | 0.00 | 656.20 | 600.00 | 663.42 | 0.00 | 663.45 | 3.78 | 1.50 | 420.66 | 308.52 |
| 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.39 | 0.00 | 663.42 | 3.54 | 1.45 | 482.83 | 318.86 |
| 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.45 | 0.00 | 663.48 | 3.67 | 1.48 | 427.02 | 313.31 |
| 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.56 | 0.00 | 663.60 | 5.13 | 1.63 | 411.24 | 265.00 |
| 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.62 | 0.00 | 663.66 | 5.45 | 1.66 | 361.28 | 257.07 |
| 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.76 | 0.00 | 663.78 | 5.31 | 1.67 | 751.95 | 260.41 |
| 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.84 | 0.00 | 663.86 | 5.49 | 1.72 | 657.66 | 256.06 |

| SECND | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.91 | 0.00 | 663.93 | 6.74 | 1.84 | 683.28 | 231.10 |
| 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.99 | 0.00 | 664.02 | 6.99 | 1.90 | 587.97 | 226.99 |
| 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.28 | 0.00 | 664.30 | 8.03 | 1.80 | 685.20 | 211.78 |
| 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.37 | 0.00 | 664.39 | 8.17 | 1.85 | 629.41 | 209.93 |
| 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.70 | 0.00 | 664.72 | 14.16 | 2.07 | 402.85 | 98.34 |
| 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.79 | 0.00 | 664.82 | 14.50 | 2.13 | 352.81 | 97.18 |
| 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.30 | 0.00 | 665.32 | 14.25 | 2.08 | 401.87 | 98.00 |
| 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.40 | 0.00 | 665.43 | 14.22 | 2.12 | 354.60 | 98.11 |
| 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.41 | 0.00 | 666.57 | 49.01 | 3.32 | 133.44 | 52.85 |
| 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.51 | 0.00 | 666.68 | 49.34 | 3.40 | 113.54 | 52.67 |
| 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.88 | 0.00 | 667.99 | 23.81 | 2.74 | 135.07 | 75.83 |
| 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.95 | 0.00 | 668.06 | 22.36 | 2.68 | 138.31 | 78.24 |

HOUGHTON DRAIN TC D/S EN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 4.200 | 600.00 | 645.36 | 0.00 | 0.00 | -1.64 | 197.20 | 0.00 |
| 4.200 | 600.00 | 645.36 | -.00 | 0.00 | -.00 | 145.62 | 0.00 |
| 100.200 | 600.00 | 645.94 | 0.00 | .57 | 0.00 | 195.21 | 260.00 |
| 100.200 | 600.00 | 646.00 | .06 | .64 | .06 | 145.82 | 260.00 |
| 99.980 | 600.00 | 646.23 | 0.00 | .30 | 0.00 | 282.61 | 152.00 |
| 99.980 | 600.00 | 646.32 | .08 | .32 | .08 | 226.39 | 152.00 |
| 100.020 | 600.00 | 646.34 | 0.00 | .11 | 0.00 | 310.00 | 48.00 |
| 100.020 | 600.00 | 646.42 | .08 | .11 | .08 | 259.42 | 48.00 |
| 100.800 | 600.00 | 646.56 | 0.00 | .22 | 0.00 | 257.19 | 90.00 |
| 100.800 | 600.00 | 646.54 | -.02 | .12 | -.02 | 205.00 | 90.00 |
| 100.900 | 600.00 | 648.11 | 0.00 | 1.56 | 0.00 | 285.22 | 550.00 |
| 100.900 | 600.00 | 648.24 | .13 | 1.70 | .13 | 224.81 | 550.00 |
| 101.000 | 600.00 | 649.11 | 0.00 | 1.00 | 0.00 | 424.00 | 540.00 |
| 101.000 | 600.00 | 649.22 | .11 | .98 | .11 | 223.58 | 540.00 |
| 101.500 | 600.00 | 649.89 | 0.00 | .78 | 0.00 | 421.58 | 410.00 |
| 101.500 | 600.00 | 649.99 | .10 | .77 | .10 | 202.90 | 410.00 |
| 102.200 | 600.00 | 650.98 | 0.00 | 1.09 | 0.00 | 296.37 | 340.00 |
| 102.200 | 600.00 | 651.07 | .09 | 1.08 | .09 | 170.10 | 340.00 |
| 101.980 | 600.00 | 651.77 | 0.00 | .79 | 0.00 | 346.84 | 160.00 |
| 101.980 | 600.00 | 651.88 | .11 | .81 | .11 | 245.93 | 160.00 |
| 102.020 | 600.00 | 652.49 | 0.00 | .72 | 0.00 | 510.00 | 40.00 |
| 102.020 | 600.00 | 652.60 | .11 | .72 | .11 | 375.87 | 40.00 |
| 102.500 | 600.00 | 652.47 | 0.00 | -.02 | 0.00 | 458.02 | 30.00 |
| 102.500 | 600.00 | 652.58 | .11 | -.02 | .11 | 212.67 | 30.00 |
| 102.540 | 600.00 | 652.48 | 0.00 | .01 | 0.00 | 459.41 | .50 |
| 102.540 | 600.00 | 652.58 | .10 | .00 | .10 | 243.02 | .50 |
| 102.560 | 600.00 | 652.56 | 0.00 | .08 | 0.00 | 478.70 | 4.00 |
| 102.560 | 600.00 | 652.67 | .11 | .08 | .11 | 270.55 | 4.00 |
| 102.600 | 600.00 | 652.55 | 0.00 | -.01 | 0.00 | 478.34 | .50 |
| 102.600 | 600.00 | 652.66 | .11 | -.00 | .11 | 246.32 | .50 |
| 102.800 | 600.00 | 652.75 | 0.00 | .20 | 0.00 | 510.00 | 110.00 |
| 102.800 | 600.00 | 652.86 | .11 | .20 | .11 | 313.81 | 110.00 |
| 103.000 | 600.00 | 653.09 | 0.00 | .34 | 0.00 | 64.04 | 240.00 |
| 103.000 | 600.00 | 653.19 | .10 | .33 | .10 | 46.00 | 240.00 |
| 103.300 | 600.00 | 654.91 | 0.00 | 1.82 | 0.00 | 95.39 | 526.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 103.300 | 600.00 | 634.97 | .06 | 1.78 | .06 | 46.00 | 526.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKHS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 103.400 | 600.00 | 655.54 | 0.00 | .63 | 0.00 | 103.33 | 250.00 |
| 103.400 | 600.00 | 655.62 | .08 | .65 | .08 | 46.00 | 250.00 |
| 103.580 | 600.00 | 655.94 | 0.00 | .40 | 0.00 | 186.34 | 170.00 |
| 103.580 | 600.00 | 656.03 | .09 | .41 | .09 | 68.36 | 170.00 |
| 103.620 | 600.00 | 656.38 | 0.00 | .44 | 0.00 | 59.60 | 20.00 |
| 103.620 | 600.00 | 656.47 | .09 | .44 | .09 | 45.94 | 20.00 |
| 104.200 | 600.00 | 656.43 | 0.00 | .05 | 0.00 | 58.92 | 35.00 |
| 104.200 | 600.00 | 656.52 | .09 | .05 | .09 | 45.82 | 35.00 |
| 103.980 | 600.00 | 656.52 | 0.00 | .10 | 0.00 | 60.22 | 65.00 |
| 103.980 | 600.00 | 656.61 | .09 | .09 | .09 | 46.00 | 65.00 |
| 104.020 | 600.00 | 658.01 | 0.00 | 1.49 | 0.00 | 65.14 | 90.00 |
| 104.020 | 600.00 | 658.10 | .09 | 1.49 | .09 | 55.61 | 90.00 |
| 104.800 | 600.00 | 658.21 | 0.00 | .19 | 0.00 | 58.87 | 240.00 |
| 104.800 | 600.00 | 658.30 | .09 | .20 | .09 | 49.86 | 240.00 |
| 104.900 | 600.00 | 658.67 | 0.00 | .46 | 0.00 | 51.68 | 336.00 |
| 104.900 | 600.00 | 658.78 | .11 | .48 | .11 | 43.60 | 336.00 |
| 105.200 | 600.00 | 659.89 | 0.00 | 1.22 | 0.00 | 67.19 | 464.00 |
| 105.200 | 600.00 | 660.00 | .12 | 1.22 | .12 | 68.12 | 464.00 |
| 104.980 | 600.00 | 660.53 | 0.00 | .65 | 0.00 | 72.02 | 210.00 |
| 104.980 | 600.00 | 660.59 | .05 | .59 | .05 | 72.43 | 210.00 |
| 105.020 | 600.00 | 663.36 | 0.00 | 2.83 | 0.00 | 165.20 | 82.00 |
| 105.020 | 600.00 | 663.42 | .05 | 2.83 | .05 | 98.48 | 82.00 |
| 105.800 | 600.00 | 663.39 | 0.00 | .03 | 0.00 | 166.14 | 90.00 |
| 105.800 | 600.00 | 663.45 | .06 | .03 | .06 | 99.84 | 90.00 |
| 105.850 | 600.00 | 663.56 | 0.00 | .16 | 0.00 | 153.50 | 396.00 |
| 105.850 | 600.00 | 663.62 | .06 | .17 | .06 | 80.00 | 396.00 |
| 105.900 | 600.00 | 663.76 | 0.00 | .21 | 0.00 | 435.00 | 350.00 |
| 105.900 | 600.00 | 663.84 | .07 | .22 | .07 | 274.77 | 350.00 |
| 106.000 | 600.00 | 663.91 | 0.00 | .15 | 0.00 | 423.45 | 254.00 |
| 106.000 | 600.00 | 663.99 | .08 | .15 | .08 | 252.40 | 254.00 |
| 106.500 | 600.00 | 664.28 | 0.00 | .37 | 0.00 | 376.87 | 496.00 |
| 106.500 | 600.00 | 664.37 | .09 | .38 | .09 | 290.12 | 496.00 |
| 107.000 | 370.00 | 664.70 | 0.00 | .42 | 0.00 | 342.71 | 429.00 |
| 107.000 | 370.00 | 664.79 | .10 | .42 | .10 | 235.87 | 429.00 |
| 107.200 | 370.00 | 665.30 | 0.00 | .60 | 0.00 | 342.59 | 421.00 |
| 107.200 | 370.00 | 665.40 | .10 | .60 | .10 | 235.03 | 421.00 |
| 107.500 | 370.00 | 666.41 | 0.00 | 1.12 | 0.00 | 104.77 | 500.00 |
| 107.500 | 370.00 | 666.51 | .10 | 1.11 | .10 | 49.03 | 500.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 108.200 | 370.00 | 667.88 | 0.00 | 1.47 | 0.00 | 44.00 | 429.00 |
| 108.200 | 370.00 | 667.95 | .07 | 1.44 | .07 | 44.00 | 429.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, HOUGHTON DRAIN TC D/S EN
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 4.200 | 227. | 309. | 1.9 | 645.4 | 645.4 | 0.0 |
| 100.200 | 226. | 313. | 1.9 | 646.0 | 645.9 | .1 |
| 99.980 | 233. | 413. | 1.5 | 646.3 | 646.2 | .1 |
| 100.020 | 259. | 574. | 1.0 | 646.4 | 646.3 | .1 |
| 100.800 | 220. | 224. | 2.7 | 646.6 | 646.6 | 0.0 |
| 100.900 | 225. | 367. | 1.6 | 648.2 | 648.1 | .1 |
| 101.000 | 224. | 437. | 1.4 | 649.2 | 649.1 | .1 |
| 101.500 | 203. | 334. | 1.6 | 650.0 | 649.9 | .1 |
| 102.200 | 174. | 204. | 2.9 | 651.1 | 651.0 | .1 |
| 101.980 | 246. | 425. | 1.4 | 651.9 | 651.8 | .1 |
| 102.020 | 376. | 674. | .9 | 652.6 | 652.5 | .1 |
| 102.500 | 213. | 313. | 1.9 | 652.6 | 652.5 | .1 |
| 102.540 | 243. | 255. | 2.4 | 652.6 | 652.5 | .1 |
| 102.560 | 271. | 296. | 2.0 | 652.7 | 652.6 | .1 |
| 102.600 | 246. | 358. | 1.7 | 652.7 | 652.6 | .1 |
| 102.800 | 314. | 495. | 1.2 | 652.9 | 652.8 | .1 |
| 103.000 | 46. | 159. | 3.8 | 653.2 | 653.1 | .1 |
| 103.300 | 46. | 181. | 3.3 | 655.0 | 654.9 | .1 |
| 103.400 | 46. | 188. | 3.2 | 655.6 | 655.5 | .1 |
| 103.580 | 68. | 213. | 2.8 | 656.0 | 655.9 | .1 |
| 103.620 | 46. | 221. | 2.7 | 656.5 | 656.4 | .1 |
| 104.200 | 46. | 219. | 2.7 | 656.5 | 656.4 | .1 |
| 103.980 | 46. | 214. | 2.8 | 656.6 | 656.5 | .1 |
| 104.020 | 56. | 297. | 2.0 | 658.1 | 658.0 | .1 |
| 104.800 | 50. | 243. | 2.5 | 658.3 | 658.2 | .1 |
| 104.900 | 44. | 188. | 3.2 | 658.8 | 658.7 | .1 |
| 105.200 | 68. | 201. | 3.0 | 660.0 | 659.9 | .1 |
| 104.980 | 72. | 218. | 2.7 | 660.6 | 660.5 | .1 |
| 105.020 | 98. | 421. | 1.4 | 663.5 | 663.4 | .1 |
| 105.800 | 100. | 427. | 1.4 | 663.5 | 663.4 | .1 |
| 105.850 | 80. | 361. | 1.7 | 663.7 | 663.6 | .1 |
| 105.900 | 275. | 658. | .9 | 663.9 | 663.8 | .1 |
| 106.000 | 252. | 588. | 1.0 | 664.0 | 663.9 | .1 |
| 106.500 | 290. | 629. | 1.0 | 664.4 | 664.3 | .1 |
| 107.000 | 236. | 353. | 1.0 | 664.8 | 664.7 | .1 |
| 107.200 | 235. | 355. | 1.0 | 665.4 | 665.3 | .1 |
| 107.500 | 49. | 114. | 3.3 | 666.5 | 666.4 | .1 |
| 108.200 | 44. | 138. | 2.7 | 668.0 | 667.9 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

Reviewed
7/80

Houghton Drain revised hydrology

From the hydraulic runs, it has become obvious that the Houghton Drain, upstream of Page Drain, has a very limited capacity because of a change in the topography and the construction of several restrictive culverts. The expected capacity will be less than the predicted 10 year flow. The flow not able to continue in Houghton Drain will flow south across Eckford Street. Some shallow flooding will most likely be created by this flow. More detailed information would be necessary to quantify the extent and depth of flooding.

Downstream of the easternmost culvert upstream of Page Drain, the flow is expected to be about 200 cfs during the 100 year event. With the drainage area of 1.2 square miles, this would correspond to an approximate population density of 100 persons per square mile. Since this is a flow that would be occurring for a longer period of time, it was directly added to the peaks that would be occurring from the Lanni Drain (tributary from the north at Rochester Rd.).

During hydraulic runs, it was found that the predicted flows could not all get into Page Drain. Some overland flow would occur from Page Drain to Hubbard Road. This flow was taken to be the difference between the 10 year flow and the flow just upstream of Page Drain. The overland flow is expected to be all in the channel by about cross-section 107 near Hubbard Road extended.

To compute the flows further downstream, an equivalent population density was computed. Using the total area up to Hubbard Road, flows were computed. Since the basin is narrow and the upstream problems would considerably slow down the upstream peaks, no further increase downstream was computed.

A table of revised flows and detailed computations are attached.

McNAMEE PORTER & SEELEY — JOB: HUD - FIA H-4705 — SHEET NO.

CONSULTING ENGINEERS — SUBJECT: TROY TOL - HOUGHTEN — FILE NO.

ANN ARBOR, MICHIGAN — COMPUTED BY: VPK — DATE: 1-24-80 — CHK BY: — DATE:

REVISED HYDROLOGY
HOUGHTEN DRAIN

| | 10 | 50 | 100 | 320 |
|---|---|---|---|---|
| Henry Graham to ~~Hubbard~~ ~~Rd extended~~ cross-section 107 | 320 | 510 | 600 | 710 |
| ~~Hubbard Rd~~ Cross-Section 107 ~~extended~~ to Rochester Rd (junction w/Lonn.) | 250 | ~~[illegible]~~ 340 | ~~[illegible]~~ 370 | ~~[illegible]~~ 460 |
| Rochester Rd. to instrictive driveway | 140 | 200 | 240 | 320 |
| From driveway w/s limit (or Long Lake) | 245 | 420 | 550 | 750 |
| Overland flow from upstream end of Page Drain to cross-section 107 | 0 | 60 | 100 | 180 |

McNAMEE PORTER & SEELEY — JOB HUD-FIA H-4705 — SHEET NO.
CONSULTING ENGINEERS — SUBJECT TROY TOG - HOUGHTON — FILE NO.
ANN ARBOR, MICHIGAN — COMPUTED BY YPK — DATE 1-23-92 — CHK BY — DATE

Assume 100 year discharge into Base Drain
≈ 200 cfs

| | 10 | 50 | 100 | 200 |
|---|---|---|---|---|
| $A = 1.2\ mi^2$ | | | | |
| $P_d = 100$ | | | | |
| Q = | 140 | 200 | 240 | 320 |

Lawn Drain
approx $A = 0.3\ mi^2$
$P_d \approx 2000/mi^2$

① Total coming out of Base Drain
$A = 1.5\ mi^2$
$P_d = 700$

| | | | | |
|---|---|---|---|---|
| Q = | 210 | 300 | 350 | 500 |

② Try using Houghton as base flow added to peak flow from lawn

| | | | | |
|---|---|---|---|---|
| Q = | 140 + 110 = 250 | 200 + 200 = 400 | 240 + [illegible] = [illegible] | [illegible] |

It appears that ② is slightly conservative. However, since we are quite uncertain as to what happens in the open channel upstream of the base drain, go with the slightly higher flows (②).

Converting ② to equivalent $P_d$:

$A = 1.5\ mi^2$

| | | | | |
|---|---|---|---|---|
| $P_d$ = | 1400 | [illegible] | 1600 | [illegible] |

McNAMEE, PORTER & SEELEY — JOB: HUD - FIA H-4705 — SHEET NO.

CONSULTING ENGINEERS — SUBJECT: TROY TOG - HOUGHTEN — FILE NO.

ANN ARBOR MICHIGAN — COMPUTED BY: VPK — DATE: 1-24-80 — CHK BY: — DATE:

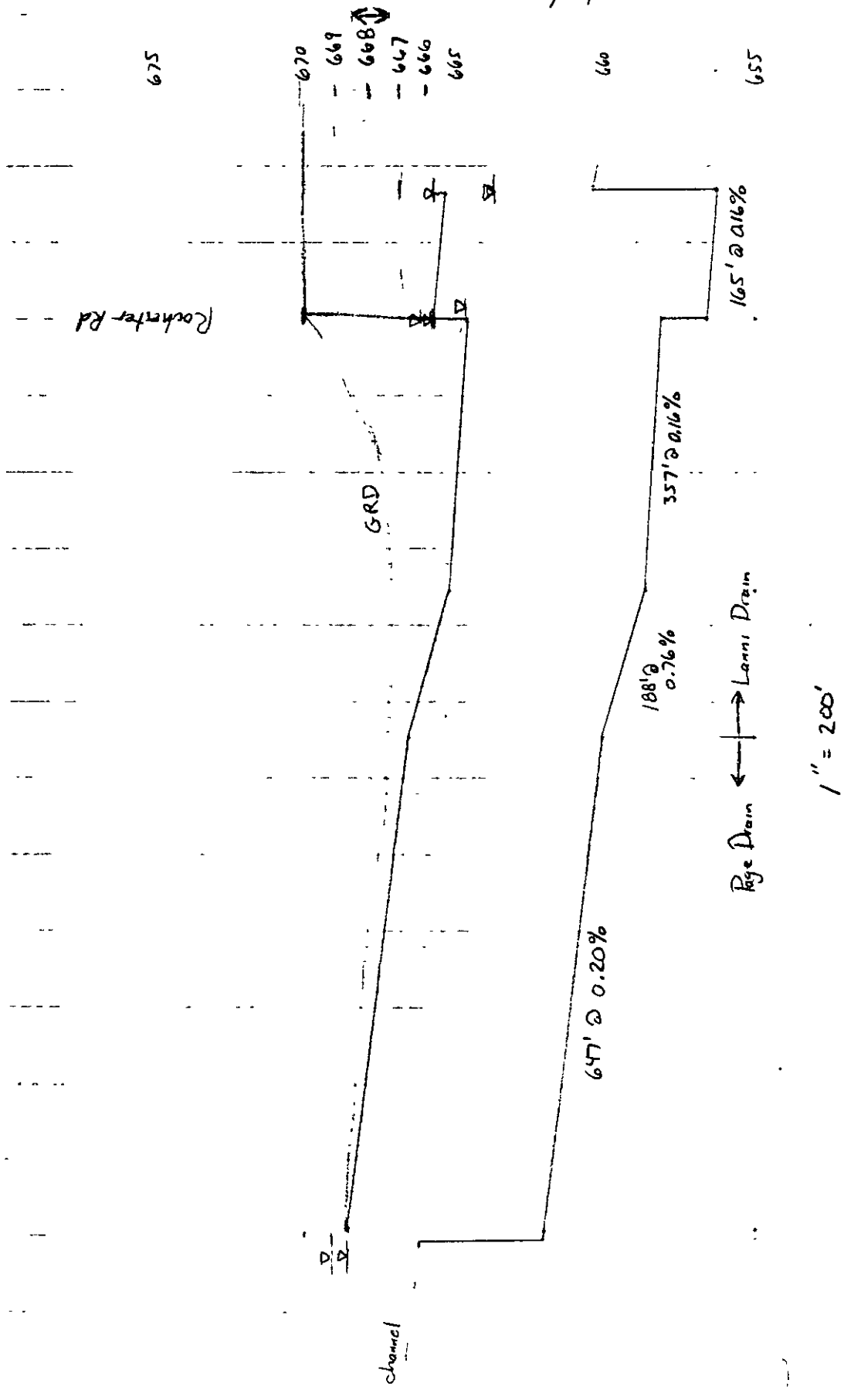
| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| @ Hubbard Rd | | | | |
| extended | | | | |
| A = 2.0 | | | | |
| $P_w = \frac{(1500 \times 1.5 + 3000 \times .5)}{2.0} = 1875$ use 1900 | | | | |
| Q = | 320 | 510 | 600 | 810 |
| @ Henry Graham | | | | |
| A = 2.8 | | | | |
| $P_d$ 10 year | | | | |
| $P_d = \frac{2.0 \times 1900 + .8 \times 1500}{2.8} = 1785$ use 1800 | | | | |
| 50, 100, 500 | | | | |
| $P_d = \frac{2.0 \times 1900 + .8 \times 2500}{2.8} = 2070$ use 2100 | | | | |
| A = 2.8 | | | | |
| $P_d$ = | 1800 | 2100 | 2100 | 2100 |
| Q = | 400 | 680 | 770 | 1010 |

Loss Through Page Drain and Lanni Drain

The model for Houghton Drain was run in two steps; from the entrance of Henry Graham Drain back to the downstream end of Lanni Drain, (just downstream of Rochester Road), and from the entrance to Page Drain back to the upstream limit of the study. Hand calculations were performed on Page Drain and Lanni Drain (enclosures) to determine the quantity of flow which would be allowed through them and the overland flow path followed by the remaining flow.

From previous hydraulic runs, it was found that the driveways located upstream of Page Drain on Houghton Drain would cause a change in the hydrology. (See "comments" - Hydrology Change). However, even though the flows were substantially reduced, it was found that only the ten year would be successfully passed through the enclosure. From careful study of the topography, a flow path was determined for the excess flow generated by the 50, 100 and 500 year floods, and the resulting depth of flow this would create. The 100 year flow resulted in 100 cfs overland flow, creating a depth of about 0.5 feet. The following five pages indicate assumptions and calculations used to develop the starting elevations upstream of the enclosure.

HUD-FIA H-4705 T-06
Troy - Houghton Drain (Page + Lanni Drain Enclosure) 1/5
JSW 12/19/79



McNAMEE, PORTER & SEELEY — JOB HUD - FIA H-4705 — SHEET NO 2/5

CONSULTING ENGINEERS — SUBJECT Troy - Lanni & Page Drains — FILE NO

ANN ARBOR MICHIGAN — COMPUTED BY JBW — DATE 1/28/80 — CHK BY — DATE

Loss Thru Enclosure
Assuming All Flow
Thru Enclosure.

| | Flow | Flow |
|---|---|---|
| **Lanni Drain** | | |
| 9' ϕ Pipe (165' @ 0.16%) (108") | 470 cfs | 240 cfs |
| $h_f =$ | 1.87 | .54 |
| Exit Loss* (partial bulkhead $A_{exit} = 36.7 ft^2$) 1.0 $h_v^* = 2.55$ | | .66 |
| ⊤ 9' x 7'-6" x 6'-6" 1.3 | | |
| $h_L = 1 \times 2.55 + (.165) \times 1.87 =$ | 2.86 | 0.75 |
| ↓ ⊤ loss in terms of larger $h_v$ | | |
| 6'-6" ϕ Pipe (357' @ 0.16%) (78") | 240 cfs | |
| $h_f =$ | 2.62 | |
| $h_v =$ | 0.81 | |
| 6'-6" ϕ Pipe (188' @ 0.76%) | | |
| $h_L = 1.3 \times 0.81 + 2.62 (.545)$ | 2.48 | |
| **Page Drain** | | |
| 6'-6" ϕ Pipe (647' @ 0.20%) | | |
| 90° bend 1.3 | | |
| Entrance Loss 0.6 | | |
| $h_L = 1.9(0.81) + .647(2.62)$ | 3.15 | |

$Q = CA\sqrt{2gh}$

$h \approx 7 \quad A = 63.6 \quad Q = 240$

$C = \frac{240}{63.6\sqrt{2g \times 7}} = .18 \approx .2$

$h_1 = \frac{Q^2/A^2}{2g} \qquad \frac{h_1}{h_2} = \frac{Q_1^2/A^2 / 2g}{Q_2^2/A^2 / 2g}$

$h_1 \frac{Q_2^2}{Q^2} = h_2 \longleftarrow \frac{h_1}{h_2} = \frac{Q^2}{Q_2^2}$

McNAMEE, PORTER & SEELEY — JOB: HUD-FIA H-4705 — SHEET NO 3/5

CONSULTING ENGINEERS — SUBJECT: Troy - Lanni + Page Drains — FILE NO

ANN ARBOR MICHIGAN — COMPUTED BY: JSW — DATE: 1/28/80 — CHK BY — DATE

Full Flow Thru Enclosure

| | | | |
|---|---|---|---|
| Q | 250 cfs | 400 | 470 |
| $h_v$* | 1.72 | 1.84 | 2.55 |
| $h_F$ | .36 ~~.88~~ | .85 ~~1.31~~ | ~~1.87~~ 1.15 |
| $h_L$ | .78 ~~.82~~ | 1.98 ~~2.07~~ | ~~2.86~~ 2.74 |

Lanni 9' ϕ

$h_L = 1.0 \times h_v^* + .165 \times h_F$

*A = 36.7 C = 130

Lanni 6'-6" ϕ

| | | | |
|---|---|---|---|
| Q | 140 cfs | 200 | 240 |
| $h_v$ | .28 | .56 | .81 |
| $h_F$ | .60 ~~.96~~ | 1.16 ~~1.37~~ | ~~2.02~~ 1.62 |
| $h_L$ | .69 ~~.89~~ | 1.36 ~~1.75~~ | ~~2.48~~ 1.94 |

$h_L = 1.3 \times h_v + .545 \times h_F$

Page Drain 6'-6" ϕ

| | | | |
|---|---|---|---|
| $h_L$ | .64 ~~.93~~ | 1.25 ~~1.22~~ | ~~3.15~~ 1.78 |
| $h_L$ Total | 2.1 ~~2.64~~ | 4.59 ~~6.04~~ | ~~8.49~~ 6.46 |

$h_L = \frac{1.8}{0.9} \times h_v + .647 \times h_F$

| | | | |
|---|---|---|---|
| D/s elev | 667.31 | 667.75 | 667.88 |
| w/s elev | ~~670.1~~ | ~~673.9~~ | 674.5 |
| | 669.3 | 672.4 | 674.5 |

Flow Routed Around Enclosure (see pages 4 + 5)

| elev. D/s enclosure | | elev U/S enclosure |
|---|---|---|
| 667.31 | 10 yr | 669 |
| 667.75 | 50 yr | 669.3 |
| 667.88 | 100 yr | 669.5 |
| 668.23 | 500 yr | 669.7 |

| | Q @ u/s face enclosure | available cap. of enclosure | excess Q (overland Q) | Q D/s of enclosure | Q @ x-sec 107 |
|---|---|---|---|---|---|
| 10 yr | 140 | 140 | 0 | 250 | 250 |
| 50 yr | 200 | 140 | 60 | 340 | 400 |
| 100 yr | 240 | 140 | 100 | 370 | 470 |
| 500 yr | 320 | 140 | 180 | 460 | 640 |

Will change Flow at 107 to 250, 340, 370, + 460

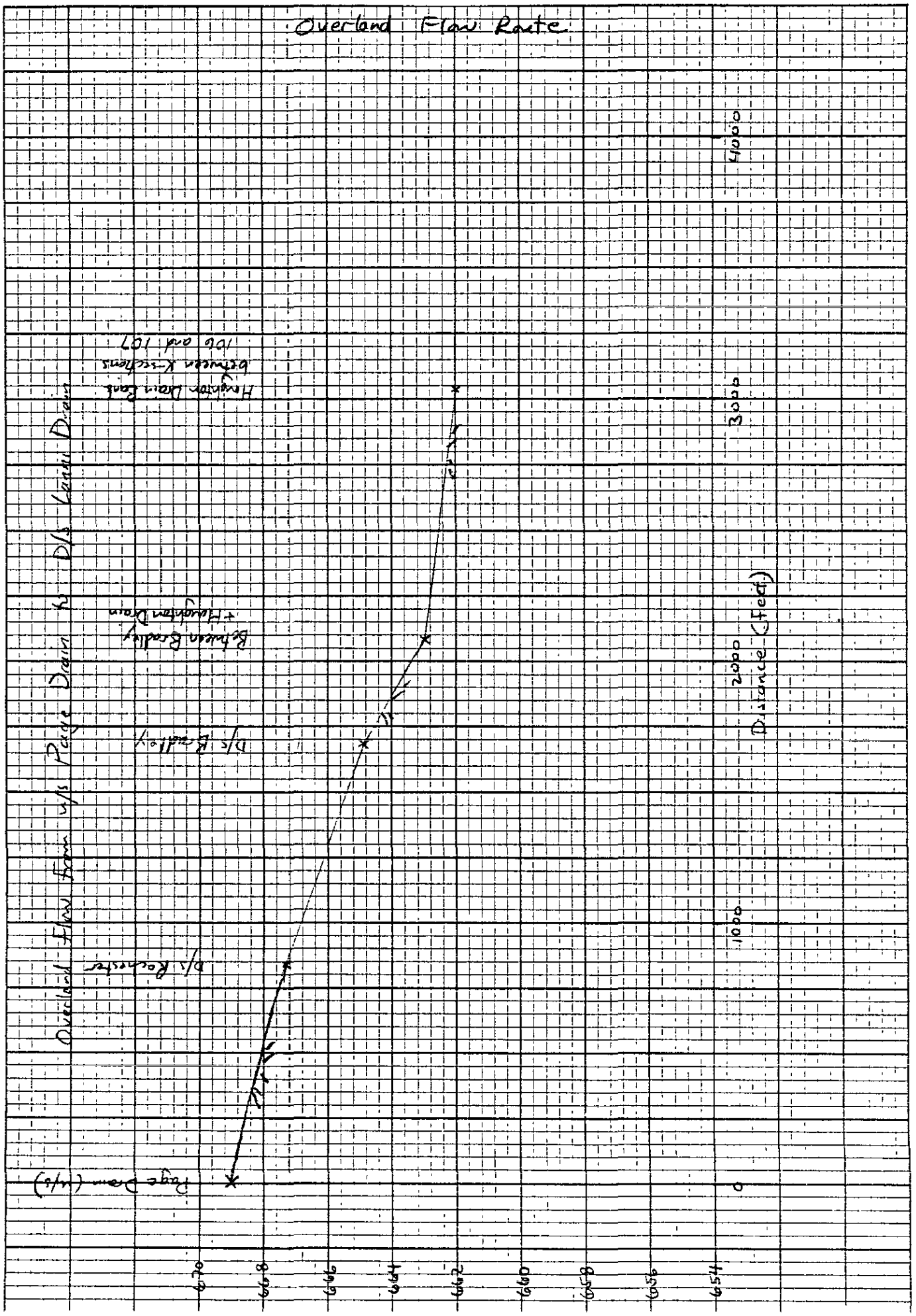
Leave Flow at 320, 510, 600, + 810 for remainder of reach D/s of 107

McNAMEE PORTER & SEELEY — JOB HUD FIA H-4705 T-06 — SHEET NO 4/5

CONSULTING ENGINEERS — SUBJECT TROY - HOUGHTON OVERLAND FLOW AT PAGE DRAIN — FILE NO

ANN ARBOR MICHIGAN — COMPUTED BY JRW — DATE 1/29/80 — CHK BY — DATE

Overland Flow Route



$$\text{slope} = \frac{668-662}{3040} = \frac{6}{3040} = .0023 \quad .00197 \approx \cancel{.002}$$

$n = .08$ width = 400' (overland flow width assumed)

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

$$Q = \frac{1.49}{n}(h \times w)\left(\frac{(h \times w)}{(2h+w)}\right)^{2/3} S^{1/2} = \frac{1.49}{n}\frac{(h \times w)^{5/3}}{(2h+w)^{2/3}} S^{1/2}$$

$$Q = \frac{1.49}{.08}\frac{(h \times 400)^{5/3}}{(2h+400)^{2/3}}(.0023)^{1/2} = \frac{.893}{\cancel{.833}}\frac{(h \times 400)^{5/3}}{(2h+400)^{2/3}}$$

100 yr

≈ 100 cfs overflow

$h = 1 \rightarrow Q = \cancel{330}$ cfs 355

$h = .5 \rightarrow Q = \cancel{105}$ cfs 112 ∴ 100 yr elev = 669.5

10 yr, no overflow → 669.

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: HOUGHTON DRAIN
DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS. |
|---|---|---|---|
| 4.2 | | 3 | Valley Section - Repeat 100.2 Entrance to Henry Graham Drain |
| 100.2 | A | 1 | Valley Section |
| 99.98 | | 3 | D/S Face Post Road - Repeat 100.2 |
| 100.02 | B | 4 | U/S Face Post Road - Developed from 100.8, Bridge Detail, and Abrams Topo |
| 100.8 | C | 1 | Valley Section |
| 100.9 | | 3 | Valley Section - Repeat 100.8 |
| 101 | D | 1 | Valley Section |
| 101.5 | | 3 | Valley Section - Repeat 101 |
| 102.2 | E | 1 | Valley Section |
| 101.98 | | 3 | D/S Face John R. Road - Repeat 102.2 |
| 102.02 | F | 3 | U/S Face John R. Road - Repeat 102.8 |
| 102.5 | | 3 | Valley Section - Repeat 102.8 |
| 102.54 | | 3 | D/S Face Footbridge - Repeat 102.8 |
| 102.56 | G | 3 | U/S Face Footbridge - Repeat 102.8 |
| 102.6 | | 3 | Valley Section - Repeat 102.8 |
| 102.8 | H | 2 | Valley Section - Right overbank modified due to retention pond and extended from Abrams Topo. |
| 103 | I | 1 | Valley Section |
| 103.3 | | 3 | Valley Section - Repeat 103 |
| 103.4 | | 3 | Valley Section - Repeat 103 |
| 103.58 | | 4 | D/S Face Private Drive - Developed from 103 and Abrams TOPO. |
| 103.62 | J | 3 | U/S Face Private Drive - Repeat 104.2 |
| 104.2 | K | 1 | Valley Section |
| 103.98 | | 3 | D/S Face Hamman Road - Repeat 104.2 - modified for top width |
| 104.02 | L | 3 | U/S Face Hamman Road - Repeat 104.8 |
| 104.8 | M | 1 | Valley Section |
| 104.9 | | 3 | Valley Section - Repeat 104.8 |
| 105.2 | N | 1 | Valley Section |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: HOUGHTON DRAIN
DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | | SECTION TYPE | REMARKS |
|---|---|---|---|
| 104.98 | | 4 | D/S Face Calvert Rd - Developed from 105.2 and Bridge Detail |
| 105.02 | O | 4 | U/S Face Calvert Rd - Developed from 105.8 and Bridge Detail |
| 105.8 | P | 1 | Valley Section |
| 105.85 | | 3 | Valley Section - Repeat 105.8 |
| 105.9 | | 3 | Valley Section - Repeat 106 |
| 106 | Q | 1 | Valley Section |
| 106.5 | | 3 | Valley Section - Repeat 107 |
| 107 | R | 1 | Valley Section |
| 107.2 | | 3 | Valley Section - Repeat 107 |
| 107.5 | | 3 | Valley Section - Repeat 108.2 |
| 108.2 | S | 1 | Valley Section - D/S end Lanni Drain |
| See Section on "Comments" for details on starting water elevations developed for upstream of Lanni and Page Drains | | | |
| 108.89 | | 3 | Valley Section - U/S End of Page Drain - Repeat 109 |
| 109 | T | 1 | Valley Section |
| 109.1 | | 3 | Valley Section - Repeat 109 |
| 109.2 | | 4 | Valley Section - Developed From 110.5 and Abrams Topo |
| 109.22 | | 3 | Valley Section - Repeat 110.5 |
| 109.23 | | 3 | D/S Face Driveway Bridge - Repeat 110.5 |
| 109.24 | U | 3 | U/S Face Driveway Bridge - Repeat 110.5 |
| 109.25 | | 3 | Valley Section - Repeat 110.5 |
| 110.5 | V | 2 | Valley Section - Right overbank developed From Abrams Topo and bridge profile (109.22) |
| 110.98 | | 3 | Valley Section - Repeat 110.5 |
| 110.99 | | | D/S Face Driveway Bridge - Repeat 110.5 |
| 111.01 | W | 3 | U/S Face Driveway Bridge - Repeat 110.5 |
| 111.02 | | 3 | Valley Section - Repeat 110.5 |
| 111.5 | | 3 | Valley Section - Repeat 110.5 |

McNAMEE, PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: HOUGHTON DRAIN
DATE CHK BY DATE

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| SECTION NO. | SECTION TYPE | | REMARKS |
|---|---|---|---|
| 111.98 | | 3 | Valley Section - Repeat 110.5 |
| 111.99 | | 3 | D/s Face Driveway Bridge - Repeat 110.5 |
| 112.01 | X | 3 | u/s Face Driveway Bridge - Repeat 110.5 |
| 112.02 | | 3 | Valley Section - Repeat 110.5 |
| 112.5 | | 3 | Valley Section - Repeat 110.5 |
| 112.98 | | 3 | Valley Section - Repeat 110.5 |
| 112.99 | | 3 | D/s Face Driveway Bridge - Repeat 110.5 |
| 113.01 | Y | 3 | u/s Face Driveway Bridge - Repeat 110.5 |
| 113.02 | | 3 | Valley Section - Repeat 110.5 |
| 113.2 | | 3 | Valley Section - Repeat 110.5 |
| 113.5 | | 4 | Valley Section - Developed from 110.5, 114.2, and Abrams Topo |
| 113.9 | | 3 | Valley Section - Repeat 104.2 |
| 113.95 | | 3 | Valley Section - Repeat 104.2 |
| 114.2 | Z | 1 | Valley Section |
| 113.98 | | 3 | D/s Face Private Drive - Repeat 114.2 |
| 114.02 | AA | 3 | u/s Face Private Drive - Repeat 114.8 |
| 114.8 | AB | 1 | Valley Section |
| 114.85 | | 3 | Valley Section - Repeat 114.8 |
| 114.92 | | 3 | Valley Section - Repeat 115.2 |
| 114.93 | | 3 | D/s Face Footbridge - Repeat 115.2 |
| 114.94 | AC | 3 | u/s Face Footbridge - Repeat 115.2 |
| 114.95 | | 3 | Valley Section - Repeat 115.2 |
| 115.2 | AD | 1 | Valley Section |
| 114.98 | | 3 | D/s Face Belzair Road - Repeat 115.2 |
| 115.02 | AE | 3 | u/s Face Belzair Road - Repeat 115.8 |
| 115.8 | AF | 1 | Valley Section |
| 116 | AG | 1 | Valley Section |
| 117.2 | AH | 1 | Valley Section |
| 116.98 | | 3 | D/s Face Long Lake Road - Repeat 117.2 |
| 117.02 | AI | 3 | u/s Face Long Lake Road - Repeat 117.8 |
| 117.8 | AJ | 1 | Valley Section |

COMMUNITY: TROY

WATERCOURSE: HOUGHTON DRAIN

## TABLE 2 - XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F$, $K_f = \frac{29 n^2 l}{R^{4/3}}$ $R = A/P$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 99.98-100.02 | 1.9 | 58.9 | 47.1 | 1.25 | .025 | 48 | 0.65 | 3.55 | Post Rd. - grating on upstream side |
| 101.98-102.02 | 0.35 | 57.2 | 33.4 | 1.71 | .020 | 40 | 0.25 | 1.6 | John R. Road |
| 103.58-103.62 | 0.9 | 47.2 | 36. | 1.31 | .025 | 20 | 0.25 | 2.15 | Private Drive |
| 103.98-104.02 | 0.9 | 46.2 | 28. | 1.65 | .025 | 90 | 0.85 | 2.75 | Hamman Rd. |
| 104.98-105.02 | 0.9 | 56.6 | 44. | 1.29 | .025 | 82 | 1.05 | 2.95 | Calvert Rd. |
| 113.98-114.02 | 0.4 | 11.2 | 11.2 | 1. | .013 | 33 | 0.15 | 1.55 | Private Drive |
| 114.98-115.02 | 0.5 | 34.6 | 15. | 2.3 | .025 | 38 | 0.25 | 1.75 | Belzair Road |
| 116.98-117.02 | Loss thru bridge culvert (see bridge sketch for visual aid) | | | | | | | | Long Lake Rd. |
| 4'ø 100yr (≈350 cfs) hv = 19.73 | (partially filled w/debris) | 9.82 | 8.2 | 1.2 | .015 | 20 | .10 | | |
| | | | $K_e = 0.4$, Tee = 1.3, Expansion = 0.5 | | | | | | |
| 100yr (550 cfs) 5'ø hv = 56.72 | (partially filled w/debris) | 9.1 | 7.58 | 1.2 | .015 | 42 | .20 | | |
| | | | | $K_{exit} = 1.0$ | | | | | |
| | | | | $X_{KOR_{5'ø}} = 1.2$ | | | | | |
| | | | $X_{KOR_{4'ø}}$ in terms of 5'ø $= 2.3 \times \frac{19.73_{4'}}{56.72_{5'}} = .8$ | | | | | | |
| | | | | | | | | XKOR TOTAL (in terms of 5'ø) | = 2.0 |

TO: C. R. Leap

FROM: S. Elms

SUBJECT: FIS Troy Houghton Drain

OUR JOB NO.:

DATE OF MEMO: 3-17-80

## MESSAGE

Please review MP+S' hydraulic analysis of Houghton Drain and comment on its adequacy. Comment on unresolved problems. Included: Hec 2 i/o, map (w/ Sturgis Dr.), Profiles, Report, Computer xsections. Photos are available in separate binder.

Hope has booklet

SIGNED Suzanne Elms

SENDER – DO NOT WRITE BELOW THIS LINE

## REPLY

Hope, please check discharges. SE.

OK RCS 5/27/80

SIGNED

DATE

FOLLOW-UP

SENDER — Retain part 2 for your follow-up, send parts 1 and 3 to addressee
RECIPIENT — Retain part 1 and return part 3

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Houghton Drain

STUDY LIMITS: Junction with Henry Graham Drain (downstream limit) to upstream of Long Lake Road (upstream limit)

DATE OF AERIAL SURVEY: November, 1978, by Abrams Aerial Survey

DATE OF LAND SURVEY: 5/79 - 6/79, 8/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. (Revisions to Hydrology in January, 1980, enclosed)

TOPOGRAPHIC INFORMATION: USGS 10' topographic maps. 1" = 1000'
Abrams 2' topographic map 1" = 400'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

| | |
|---|---|
| Channel "n" | .05-.055 |
| Overbank "n" | .08-.095 |
| n values thru bridges | .013-.025 |
| Contraction Coefficients | .15-.6 |
| Expansion Coefficients | .35-.9 |

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

XKOR CALCULATIONS: See Table 2

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Starting conditions are discussed in the introductory section on Drains Tributary to Henry Graham Drain. A convergence test was run on the 100 year flow by changing the starting elevation by ±15%.

## High Water Marks and Calibration

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway information. The floodway was modified per engineering judgement at cross sections 102 and 102.8 (F and H).

Note! Shallow flooding was determined to be the condition in the area south and east
why if all the flow gets into the Henry Graham at elev 591.6 ?
of the Houghton Drain entrance to Henry Graham. Shallow flooding was also determined to be the condition in the area south of Eckford Road, as well as about a 400 foot wide section carrying overland flow (depth not greater than 0.5 feet) from the Page Drain entrance north-east back into Houghton Drain at a point about 1500 feet east of Rochester Road. (See the enclosed 1" = 400' topographic map for the floodway and shallow flooding delineation).

yes but where are the people?

## Computer Outputs

Enclosed are complete computer outputs for (i) 100-year natural and 100 year deisgnated floodway, (ii) 10, 50 and 500 year flood plain elevations and (ii) convergence test and sensitivity analysis for your review.

Comments

We have not delineated the 100 or 500 year flood plains at this time since this will be done by Abrams after DNR approval of the 100 year and 500 year flood elevations. (See the enclosed profile for the 100 year natural computed water surface profile).

At Calvert Rd. (cross sections 104.98-105.02) the elevation of the low chord (ELLC) was lowered from 661.2 to 659.3 in order to correctly model pressure flow for the 10, 50 and 100 year flows. The same procedure was used at Belzair Road in order to correctly model pressure flow for the 10 and 50 year flows. The ELLC was lowered from 682.6 to 681.2.

# FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 City of Troy, Oakland Co., Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: Houghton Drain downstream of Henry Graham

STUDY LIMITS: Confluence with Shanahan Drain (D/S limit) to just upstream of Wattles Rd. (u/S limit). Note: Houghton Drain is enclosed u/s Wattles Rd. and d/s Henry Graham.

DATE OF AERIAL SURVEY: November 1978 by Abrams Aerial Survey

DATE OF LAND SURVEY: 6/18/79 - 7/10/79 - McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 5/29/79. Flows have been revised and are attached.

TOPOGRAPHIC INFORMATION: USGS topographic maps; contours. 1"=400'-2 ft. Interval by Abrams. contour.

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:
Channel "n" 0.060
Overbank "n" 0.10
n values thru bridges .025
Contraction Coefficients 0.15-0.3
Expansion Coefficients 0.35-0.5

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review,please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

REFERENCES:


1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

## Starting Conditions

Normal depth was assumed for the starting elevation. This was assumed since it is expected that Houghton Drain would be peaking sooner than the main channel, Shanahan Drain. The slope-area method was used to determine the starting elevation for all flows, utilizing the value of slope determined from the field surveyed profile. A convergence test was run on the 100-year flow by changing the starting elevation determined by the slope-area method by ± 1 foot. This two ft. difference converged to a 0.27 ft. difference at the first field measured section 1200 ft. upstream of the confluence.

## HIGH WATER MARKS & CALIBRATION

There was no high water information available, therefore, a calibration test was not possible.

A sensitivity analysis was performed on the 100 year flow by raising and lowering all Manning "n" values by 30%.

## Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on an allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation. (See the enclosed 1" = 400' topographic map for floodway delineation).

## Computer Outputs

Enclosed are complete computer outputs for (i) 100 year natural and 100 yr. designated floodway, (ii) 10, 50 and 500 yr. flood plain elevations and (iii) convergence and, sensitivity analysis for your review.

## Comments

The final delineation of the 100 and 500 year flood plains will be done by Abrams after DNR approval of the 100 yr. and 500 yr. flood elevations. (See the enclosed profile for the 100 yr. natural computed water surface profile). However, to aid in the review process an approximate 100 yr. has been delineated at this time.

Shanahan and Houghton Drain overflow hydrology

Field information and hydraulic computations have shown that the original hydrologic estimates should be revised.

Hydraulic computations have shown that the Houghton Drain upstream of Henry Graham Drain and the Gibson Drain upstream of Post Road will overflow to the area bounded by Wattles Road, Post Road, Gibson Drain, and Henry Graham Drain. This will cause increased flow into the old Houghton Drain. However, field information has shown that the old Houghton Drain between Wattles Road and the Henry Graham Drain has been filled.

Since the Gibson and Houghton Drain overflows will be coming much later than the local and retention pond runoff, and since overland flow will signficantly attentuate them, it is not expected that they will significantly add to the peaks downstream of Wattles Road. Furthermore, the retention pond overflow and local runoff would be attentuated due to the overland flow route.

Therefore, an effective population density of 1500 persons per square mile seems more appropriate to use.

From the Shanahan Drain, it was expected that some overflow would occur during the 100 and 500 year events. Hydraulic computations have shown that the flow should be able to enter Henry Graham Drain without any significant overflow. Furthermore, the overflow from a retention pond right at the Henry Graham Drain and Shanahan Drain junction should be able to enter the Henry Graham Drain.

A table of revised flows is attached.

McNAMEE, PORTER & SEELEY

CONSULTING ENGINEERS

ANN ARBOR, MICHIGAN

SUBJECT TROY TOG

FILE NO

COMPUTED BY VPK DATE 2/4/80

Revised hydrology - northern overflows

| | 10 | 50 | 100 | 500 |
|---|---|---|---|---|
| Dequindre to confluence Q = | 200 | 310 | 400 | 560 |

Old Shonaton

| | | | | |
|---|---|---|---|---|
| Q = | 150 | 200 | 340 | 500 |

Old Houghten

| | | | | |
|---|---|---|---|---|
| Q = | 110 | 170 | 200 | 280 |

McNAMEE PORTER & SEELEY
CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

JOB: HUD-FIA H-4705 SHEET NO
COMMUNITY: TROY FILE NO
WATERCOURSE: DATE HOUGHTON CREEK E. OF HENRYE GRAHAM

## TABLE 1 - SECNO

| Section Types | Description |
|---|---|
| 1 | Surveyed (See Remarks if Other Than MPS and/or Abrams) |
| 2 | Field Survey Section, partly modified for modelling |
| 3 | Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks) |
| 4 | Synthetic - Developed from topo, surveyed sections, or other information |

| | SECTION NO. | SECTION TYPE | REMARKS |
|---|---|---|---|
| | 1003.5 | 3 | Repeat of 1004 |
| | 1004 | 4 | Developed from 2' topo and sec. 1005.2 |
| | 1004.5 | 3 | Repeat of 1004 |
| A | 1005.2 | 2 | O'bank on left modified due to bldg. |
| | 1005.3 | 4 | Face section developed from field info. |
| B | 1005.7 | 3 | Repeat of 1005.3 |

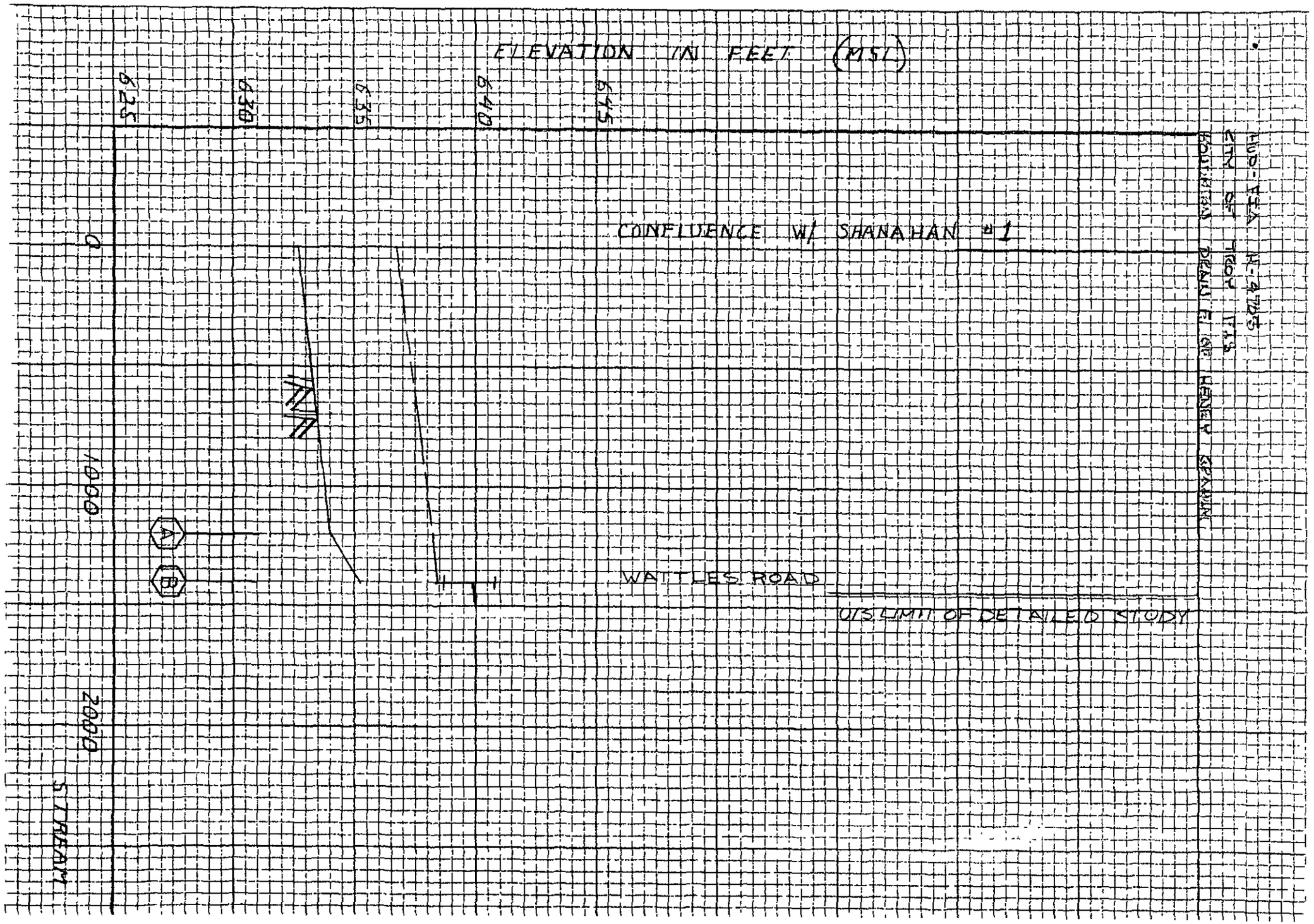
COMMUNITY: TROY

WATERCOURSE: HOUGHTON DRAIN E. OF HENRY GRAHAM

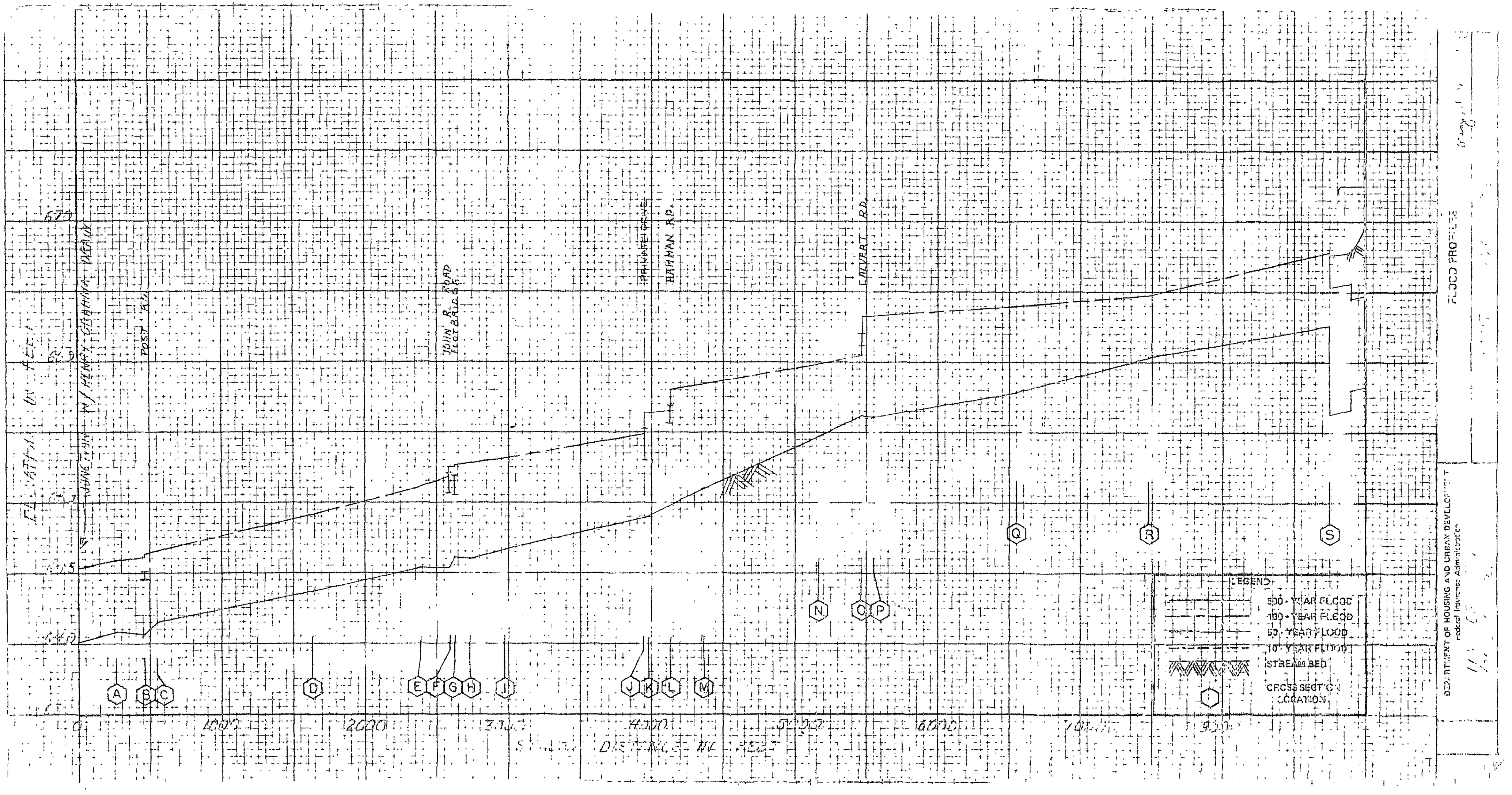
## TABLE 3 – XKOR CALCULATIONS

$XKOR = 1 + K_e + K_F \qquad K_F = \frac{29 n^2 l}{R^{4/3}} \qquad R = \frac{A}{P}$

| Cross Section Location | $K_e$ | A | P | R | n | $l$ | $K_F$ | XKOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1005 WATTLES RD | 0.9 | 32 ft² | 32 ft | 1.0 | 0.025 | 42 | 0.76 | 2.66 | 2-5.5' Φ CMP FILLED 2' WITH SEDIMENT. ASSUME SEDIMENT REMAINS. |




"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO
USA




PRINTED IN U.S.A.
HEUFFELT
10 X 10
EUGENE

PERFECT CHOICE SECTION
10 X 10 ONE INCH
EUGENE DIETZGEN CO.




DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

FLOOD PROFILES

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN TO D/S END LANNI DRAIN

4) DOCUMENT TYPE: 100-YR FLOOD WAY

00BREAK00

```
*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
*  UPDATED JULY 1979                                *
*                                                   *
*  RUN DATE  02/26/80  TIME .10.46.35.              *
*****************************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616          *
*  (916) 440-2105 (FTS) 448-2105    *
*************************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
```

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1      HUD-FIA H-4705
T2      TROY
T3      HOUGHTON DRAIN TO D/S END LANNI DRAIN  100 YR FLOW=600 CFS

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ

     -1.       4.        0.        0.     .002200    0.00      -1.0      0.     647.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .080      .080      .055      .150      .350      0.000     0.000     0.000     0.000     0.000
QT     5.000   320.000   510.000   600.000   810.000   600.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** JUNCTION WITH HENRY GRAHAM DRAIN

X1     4.200    12.000   344.000   378.000     0.000     0.000     0.000     0.000     -.600     0.000
GR   645.400   120.000   643.300   170.000   643.500   200.000   646.000   265.000   646.100   325.000
GR   646.200   330.000   646.600   344.000   640.700   358.000   640.700   366.000   645.400   378.000
GR   646.000   400.000   647.000   438.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   100.200     0.000     0.000     0.000   260.000   260.000   260.000     0.000      .600     0.000
NC     0.000     0.000     0.000      .400      .800     0.000     0.000     0.000     0.000     0.000

        ** D/S FACE POST RD

X1    99.980     0.000     0.000     0.000   152.000   152.000   152.000     0.000     -.100     0.000
SB     0.000     3.550     2.700     0.000    14.730     0.000    58.900     0.000   640.600   640.600

X1   100.020    15.000   367.000   382.000    48.000    48.000    48.000     0.000     0.000     0.000
X2     0.000     0.000     1.000   644.600   644.200     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   644.200   645.200     0.000
BT     6.000   132.000   644.600     0.000   210.000   644.200     0.000   320.000   645.200     0.000
BT   367.000   645.200   644.600   382.000   645.200   644.600   442.000   645.200     0.000     0.000
GR   644.600   132.000   643.400   170.000   643.200   210.000   644.400   250.000   645.100   320.000
GR   645.100   325.000   645.100   348.000   645.100   362.000   644.600   367.000   640.600   370.000
GR   640.600   380.000   644.600   382.000   645.100   392.000   645.100   420.000   645.200   442.000

X1   100.800    15.000   362.000   392.000    90.000    90.000    90.000     0.000     0.000     0.000
GR   646.700   132.000   644.800   170.000   644.600   210.000   646.400   250.000   646.500   320.000
GR   646.500   325.000   646.600   348.000   645.700   362.000   641.900   370.000   641.500   374.000
GR   641.500   376.000   641.900   380.000   646.200   392.000   647.100   420.000   647.300   442.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 100.900 | 0.000 | 0.000 | 0.000 | 550.000 | 550.000 | 550.000 | 0.000 | 1.100 | 0.000 |
| X1 | 101.000 | 11.000 | 388.000 | 404.000 | 540.000 | 540.000 | 540.000 | 0.000 | 0.000 | 0.000 |
| GR | 649.000 | 50.000 | 647.100 | 322.000 | 647.400 | 366.000 | 647.300 | 376.000 | 646.100 | 388.000 |
| GR | 644.000 | 392.000 | 643.700 | 394.000 | 643.700 | 395.000 | 644.000 | 398.000 | 647.700 | 404.000 |
| GR | 649.000 | 474.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 101.500 | 0.000 | 0.000 | 0.000 | 410.000 | 410.000 | 410.000 | 0.000 | .900 | 0.000 |
| X1 | 102.200 | 16.000 | 426.000 | 444.000 | 340.000 | 340.000 | 340.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 652.500 | 220.000 | 651.000 | 260.000 | 650.300 | 330.000 | 649.800 | 408.000 | 650.600 | 418.000 |
| GR | 650.700 | 420.000 | 650.800 | 426.000 | 645.600 | 432.000 | 645.300 | 434.000 | 645.300 | 436.000 |
| GR | 645.600 | 438.000 | 648.700 | 444.000 | 651.200 | 450.000 | 650.200 | 480.000 | 650.500 | 550.000 |
| GR | 652.000 | 600.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE JOHN R RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 101.980 | 0.000 | 0.000 | 0.000 | 160.000 | 160.000 | 160.000 | 0.000 | .100 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 650.600 | 650.600 | 0.000 |
| SB | 0.000 | 1.600 | 2.700 | 400.000 | 11.000 | 0.000 | 57.200 | 0.000 | 645.400 | 645.400 |
| X1 | 102.020 | 14.000 | 472.000 | 510.000 | 40.000 | 40.000 | 40.000 | 0.000 | -.600 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 650.600 | 652.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 652.100 | 652.100 | 0.000 |
| GR | 652.600 | 240.000 | 651.700 | 444.000 | 651.200 | 472.000 | 650.400 | 480.000 | 646.800 | 490.000 |
| GR | 646.000 | 492.000 | 646.000 | 494.000 | 646.800 | 496.000 | 648.200 | 504.000 | 650.200 | 510.000 |
| GR | 651.300 | 530.000 | 651.600 | 554.000 | 651.800 | 624.000 | 652.000 | 750.000 | 0.000 | 0.000 |
| X1 | 102.500 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | .700 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 102.540 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 650.500 | 651.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 102.560 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 650.500 | 651.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 102.600 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X1 | 102.800 | 0.000 | 0.000 | 0.000 | 110.000 | 110.000 | 110.000 | 0.000 | -.100 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 103.000 | 12.000 | 506.000 | 552.000 | 240.000 | 240.000 | 240.000 | 0.000 | 0.000 | 0.000 |
| GR | 655.100 | 260.000 | 655.000 | 432.000 | 652.600 | 506.000 | 648.500 | 526.000 | 646.700 | 529.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 646.700 | 534.000 | 648.500 | 538.000 | 653.000 | 552.000 | 653.800 | 576.000 | 654.400 | 616.000 |
| GR | 654.800 | 641.000 | 655.000 | 750.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 103.300 | 0.000 | 0.000 | 0.000 | 526.000 | 526.000 | 526.000 | 0.000 | 1.300 | 0.000 |
| X1 | 103.400 | 0.000 | 0.000 | 0.000 | 250.000 | 250.000 | 250.000 | 0.000 | .500 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE PRIVATE DRIVE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 103.580 | 9.000 | 506.000 | 552.000 | 170.000 | 170.000 | 170.000 | 0.000 | 2.200 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 653.000 | 653.000 | 0.000 |
| GR | 655.000 | 260.000 | 652.600 | 508.000 | 648.500 | 526.000 | 646.700 | 529.000 | 646.700 | 534.000 |
| GR | 648.500 | 538.000 | 653.000 | 552.000 | 653.800 | 576.000 | 655.000 | 750.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.150 | 2.700 | 120.000 | 11.510 | 0.000 | 47.200 | 0.000 | 648.900 | 648.900 |
| X1 | 103.620 | 14.000 | 142.000 | 188.000 | 20.000 | 20.000 | 20.000 | 0.000 | -.100 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 653.000 | 655.300 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 655.300 | 655.300 | 0.000 |
| GR | 658.000 | 0.000 | 657.500 | 85.000 | 656.800 | 124.000 | 655.400 | 142.000 | 653.000 | 148.000 |
| GR | 651.000 | 154.000 | 650.300 | 160.000 | 649.000 | 165.000 | 649.000 | 170.000 | 650.300 | 174.000 |
| GR | 656.600 | 188.000 | 657.600 | 206.000 | 658.000 | 230.000 | 658.800 | 320.000 | 0.000 | 0.000 |
| X1 | 104.200 | 12.000 | 142.000 | 188.000 | 35.000 | 35.000 | 35.000 | 0.000 | 0.000 | 0.000 |
| GR | 658.000 | 0.000 | 657.500 | 85.000 | 656.800 | 124.000 | 655.400 | 142.000 | 653.000 | 148.000 |
| GR | 651.000 | 154.000 | 650.300 | 160.000 | 649.000 | 165.000 | 649.000 | 170.000 | 650.300 | 174.000 |
| GR | 656.600 | 188.000 | 657.600 | 206.000 | 658.000 | 230.000 | 658.800 | 320.000 | 0.000 | 0.000 |

** D/S FACE HAYMAN RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 103.980 | 12.000 | 142.000 | 188.000 | 65.000 | 65.000 | 65.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 655.600 | 655.600 | 0.000 |
| GR | 657.500 | 85.000 | 656.800 | 124.000 | 655.400 | 142.000 | 653.000 | 148.000 | 651.000 | 154.000 |
| GR | 650.300 | 160.000 | 649.900 | 165.000 | 649.900 | 170.000 | 650.300 | 174.000 | 656.600 | 188.000 |
| GR | 657.600 | 206.000 | 658.000 | 230.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.750 | 2.550 | 100.000 | 8.110 | 0.000 | 46.200 | 0.000 | 649.900 | 649.900 |
| X1 | 104.020 | 11.000 | 438.000 | 490.000 | 90.000 | 90.000 | 90.000 | 0.000 | -1.100 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 655.600 | 656.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 656.900 | 656.900 | 0.000 |
| GR | 659.600 | 390.000 | 659.200 | 438.000 | 656.000 | 452.000 | 652.600 | 456.000 | 651.800 | 464.000 |
| GR | 651.000 | 467.000 | 651.000 | 471.000 | 651.800 | 474.000 | 653.800 | 490.000 | 659.300 | 504.000 |
| GR | 659.500 | 528.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 104.800 | 11.000 | 438.000 | 490.000 | 240.000 | 240.000 | 240.000 | 0.000 | 0.000 | 0.000 |
| GR | 659.600 | 390.000 | 659.200 | 438.000 | 656.000 | 452.000 | 652.600 | 456.000 | 651.800 | 464.000 |
| GR | 651.000 | 467.000 | 651.000 | 471.000 | 651.800 | 474.000 | 653.800 | 490.000 | 659.300 | 504.000 |
| GR | 659.500 | 528.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 104.900 | 0.000 | 0.000 | 0.000 | 336.000 | 336.000 | 336.000 | 0.000 | 1.500 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 105.200 | 11.000 | 398.000 | 476.000 | 464.000 | 464.000 | 464.000 | 0.000 | 0.000 | 0.000 |
| GR | 663.600 | 362.000 | 662.200 | 398.000 | 659.400 | 406.000 | 657.400 | 416.000 | 656.600 | 426.000 |
| GR | 654.700 | 436.000 | 654.700 | 442.000 | 656.800 | 452.000 | 658.600 | 466.000 | 660.800 | 476.000 |
| GR | 662.600 | 546.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .400 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE CALVERT RD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 104.980 | 11.000 | 398.000 | 476.000 | 210.000 | 210.000 | 210.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 661.200 | 661.200 | 0.000 |
| GR | 663.600 | 362.000 | 662.200 | 398.000 | 659.400 | 406.000 | 657.400 | 416.000 | 656.600 | 426.000 |
| GR | 656.200 | 436.000 | 656.200 | 442.000 | 656.800 | 452.000 | 658.600 | 466.000 | 660.800 | 476.000 |
| GR | 662.600 | 546.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SB | 0.000 | 2.950 | 2.800 | 130.000 | 11.320 | 0.000 | 56.600 | 0.000 | 656.200 | 656.200 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 105.020 | 11.000 | 310.000 | 390.000 | 82.000 | 82.000 | 82.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 659.300 | 662.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 663.000 | 662.000 | 0.000 |
| BT | 5.000 | 272.000 | 663.000 | 0.000 | 328.000 | 664.100 | 0.000 | 345.000 | 663.400 | 0.000 |
| BT | 349.000 | 663.400 | 0.000 | 442.000 | 662.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| GR | 663.400 | 272.000 | 661.400 | 310.000 | 657.700 | 328.000 | 657.100 | 344.000 | 656.200 | 345.000 |
| GR | 656.200 | 349.000 | 657.400 | 351.000 | 659.200 | 380.000 | 661.800 | 390.000 | 662.500 | 430.000 |
| GR | 663.800 | 442.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 105.800 | 11.000 | 310.000 | 390.000 | 90.000 | 90.000 | 90.000 | 0.000 | 0.000 | 0.000 |
| GR | 663.400 | 272.000 | 661.400 | 310.000 | 657.700 | 328.000 | 657.100 | 344.000 | 656.000 | 345.000 |
| GR | 656.000 | 349.000 | 657.400 | 351.000 | 659.200 | 380.000 | 661.800 | 390.000 | 662.500 | 430.000 |
| GR | 663.800 | 442.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .150 | .350 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 105.850 | 0.000 | 0.000 | 0.000 | 396.000 | 396.000 | 396.000 | 0.000 | .600 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 105.900 | 10.000 | 210.000 | 234.000 | 350.000 | 350.000 | 350.000 | 0.000 | -.300 | 0.000 |
| GR | 664.000 | 90.000 | 662.400 | 210.000 | 657.800 | 225.000 | 657.800 | 230.000 | 660.000 | 234.000 |
| GR | 660.800 | 242.000 | 661.400 | 260.000 | 661.400 | 284.000 | 663.000 | 480.000 | 664.000 | 525.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 106.000 | 0.000 | 0.000 | 0.000 | 254.000 | 254.000 | 254.000 | 0.000 | .300 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 106.500 | 10.000 | 288.000 | 302.000 | 496.000 | 496.000 | 496.000 | 0.000 | -1.200 | 0.000 |
| GR | 665.600 | 168.000 | 663.900 | 242.000 | 663.900 | 288.000 | 661.000 | 292.000 | 660.400 | 294.000 |
| GR | 660.400 | 296.000 | 661.000 | 298.000 | 662.700 | 302.000 | 663.000 | 318.000 | 664.000 | 550.000 |
| QT | 5.000 | 250.000 | 340.000 | 370.000 | 460.000 | 370.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 107.000 | 0.000 | 0.000 | 0.000 | 429.000 | 429.000 | 429.000 | 0.000 | 1.200 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 107.200 | 0.000 | 0.000 | 0.000 | 421.000 | 421.000 | 421.000 | 0.000 | .600 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 107.500 | 9.000 | 290.000 | 334.000 | 500.000 | 500.000 | 500.000 | 0.000 | -.700 | 0.000 |
| GR | 668.000 | 162.000 | 666.600 | 266.000 | 665.800 | 290.000 | 663.800 | 308.000 | 662.700 | 312.000 |
| GR | 662.700 | 315.000 | 663.800 | 316.000 | 667.400 | 334.000 | 668.000 | 400.000 | 0.000 | 0.000 |

** D/S ROCHESTER RD - AT D/S END LANNI DRAIN

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 103.200 | 9.000 | 290.000 | 334.000 | 429.000 | 429.000 | 429.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 670.000 | 670.000 | 0.000 |
| GR | 668.000 | 162.000 | 666.600 | 266.000 | 665.800 | 290.000 | 663.800 | 308.000 | 662.700 | 312.000 |
| GR | 662.700 | 315.000 | 663.800 | 316.000 | 667.400 | 334.000 | 668.000 | 400.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=    .150 CEHV=    .350
*SECNO 4.200

3265 DIVIDED FLOW

3280 CROSS SECTION      4.20 EXTENDED       .56 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        ** JUNCTION WITH HENRY GRAHAM DRAIN

     4.20      5.26    645.36      0.00    647.00    645.43       .07      0.00      0.00    646.00
     600.      298.      300.        2.      236.      110.        6.        0.        0.    644.80
     0.00      1.26      2.73       .37      .080      .055      .080     0.000    640.10    120.00
  .002167        0.        0.        0.         0         0         4      0.00    197.20    398.66

*SECNO 100.200

3265 DIVIDED FLOW

3280 CROSS SECTION    100.20 EXTENDED       .53 FEET

   100.20      5.24    645.94      0.00      0.00    646.01       .07       .58       .00    646.60
     600.      296.      302.        2.      232.      109.        5.        2.        1.    645.40
      .04      1.28      2.77       .37      .080      .055      .080      .055    640.70    120.00
  .002259      260.      260.      260.         1         0         0      0.00    195.21    397.54

CCHV=    .400 CEHV=    .800
*SECNO 99.980

3265 DIVIDED FLOW

3280 CROSS SECTION     99.98 EXTENDED       .93 FEET


        ** D/S FACE POST RD

    99.98      5.63    646.23      0.00      0.00    646.28       .04       .25       .01    646.50
     600.      322.      271.        7.      308.      122.       16.        3.        2.    645.30
      .06      1.04      2.22       .45      .080      .055      .080      .055    640.60    120.00
  .001294      152.      152.      152.         2         0         0      0.00    282.61    412.62


SPECIAL BRIDGE

SB  XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
```

```
     0.00       3.55       2.70       0.00      14.73       0.00      58.90       0.00     640.60     640.60

*SECNO 100.020

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=   651.552  EGLWC=   646.276  ELLC=   644.600  PCWSE=   646.232  ELTRD=   644.200
3280 CROSS SECTION     100.02 EXTENDED       1.74 FEET


3370 NORMAL BRIDGE,NRC=  6 MIN ELTRD=  644.20 MAX ELLC=  644.60

   100.02      5.74    646.34      0.00      0.00    646.36       .02       .07       .01    644.60
     600.     443.      97.       60.      385.      67.       68.        4.        2.     644.60
      .07      1.15      1.45      .88      .080      .055      .080      .055    640.60    132.00
  .001921      46.       48.       48.         2         0         0   -114.05    310.00    442.00

*SECNO 100.800

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   100.80      5.06    646.56      0.00      0.00    646.70       .15       .24       .10    645.70
     600.     223.      376.        1.      161.      101.        2.        5.        3.     646.20
      .08      1.39      3.72      .37      .080      .055      .080      .055    641.50    134.89
  .004037      90.       90.       90.         2         0         0      0.00    257.19    403.05

CCHV=     .150 CEHV=     .350
*SECNO 100.900
3280 CROSS SECTION     100.90 EXTENDED       .31 FEET

   100.90      5.51    648.11      0.00      0.00    648.18       .07      1.47       .01    646.80
     600.     277.      319.        5.      265.      115.       10.        9.        6.     647.30
      .16      1.04      2.78      .44      .080      .055      .080      .055    642.60    132.00
  .001897     550.      550.      550.         2         0         0      0.00    285.22    417.22

*SECNO 101.000
3280 CROSS SECTION     101.00 EXTENDED       .11 FEET

   101.00      5.41    649.11      0.00      0.00    649.15       .04       .97       .00    646.10
     600.     382.      184.       34.      416.       67.       53.       15.       11.     647.70
      .26       .92      2.72      .64      .080      .055      .080      .055    643.70     50.00
  .001693     540.      540.      540.         3         0         0      0.00    424.00    474.00

*SECNO 101.500
   101.50      5.29    649.89      0.00      0.00    649.95       .06       .79       .00    647.00
     600.     371.      200.       29.      375.       66.       45.       19.       15.     648.60
      .33       .99      3.05      .65      .080      .055      .080      .055    644.60     51.76
  .002201     410.      410.      410.         2         0         0      0.00    421.58    473.34
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*SECNO 102.200

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 102.20 | 5.68 | 650.98 | 0.00 | 0.00 | 651.28 | .30 | 1.25 | .08 | 650.80 |
| 600. | 138. | 390. | 71. | 105. | 73. | 63. | 22. | 18. | 648.70 |
| .36 | 1.32 | 5.34 | 1.13 | .080 | .055 | .080 | .055 | 645.30 | 262.30 |
| .007291 | 340. | 340. | 340. | 4 | 0 | 0 | 0.00 | 296.37 | 565.90 |

CCHV= .200 CEHV= .400

*SECNO 101.980

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CRSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICONT | CORAR | TOPWID | ENDST |

** D/S FACE JOHN R RD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 101.93 | 6.37 | 651.77 | 0.00 | 0.00 | 651.83 | .06 | .51 | .05 | 650.90 |
| 600. | 216. | 251. | 133. | 226. | 86. | 155. | 24. | 19. | 648.80 |
| .39 | .96 | 2.93 | .86 | .080 | .055 | .080 | .055 | 645.40 | 242.15 |
| .001781 | 160. | 160. | 160. | 2 | 0 | 0 | 0.00 | 346.84 | 588.99 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.60 | 2.70 | 400.00 | 11.00 | 0.00 | 57.20 | 0.00 | 645.40 | 645.40 |

*SECNO 102.020

3280 CROSS SECTION 102.02 EXTENDED 1.09 FEET

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 654.50 | 652.04 | 0.00 | 287. | 313. | 57. | 57. | 650.60 | 652.10 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 102.02 | 7.09 | 652.49 | 0.00 | 0.00 | 652.51 | .03 | .68 | 0.00 | 650.60 |
| 600. | 110. | 299. | 190. | 237. | 172. | 333. | 24. | 19. | 649.60 |
| .39 | .47 | 1.74 | .57 | .080 | .055 | .080 | .055 | 645.40 | 240.00 |
| .000581 | 40. | 40. | 40. | 2 | 0 | 5 | 0.00 | 510.00 | 750.00 |

*SECNO 102.500

3280 CROSS SECTION 102.50 EXTENDED .37 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 102.50 | 6.37 | 652.47 | 0.00 | 0.00 | 652.58 | .11 | .03 | .03 | 651.30 |
| 600. | 43. | 438. | 120. | 77. | 145. | 161. | 25. | 19. | 650.30 |
| .40 | .56 | 3.02 | .74 | .080 | .055 | .080 | .055 | 646.10 | 291.98 |
| .002202 | 30. | 30. | 30. | 2 | 0 | 0 | 0.00 | 458.02 | 750.00 |

```
*SECNC 102.540
3280 CROSS SECTION    102.54 EXTENDED       .38 FEET


3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  651.80 MAX ELLC=  650.50

        ** D/S FACE FOOTBRIDGE

   102.54      6.38   652.48      0.00      0.00   652.58      .10      .00      .00   651.30
     600.       87.     312.     201.       71.     99.     136.      25.      19.    650.30
      .40      1.22     3.16     1.48     .080     .055     .080     .055   646.10   290.59
  .013744        1.       1.       1.        1        0        0   -79.59   459.41   750.00

*SECNO 102.560
3280 CROSS SECTION    102.56 EXTENDED       .46 FEET


3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  651.80 MAX ELLC=  650.50

   102.56      6.46   652.56      0.00      0.00   652.63      .07      .05      .00   651.30
     600.       98.     284.     218.       87.    102.     156.      25.      19.    650.30
      .40      1.13     2.78     1.39     .080     .055     .080     .055   646.10   271.30
  .010197        4.       4.       4.        2        0        0   -79.59   478.70   750.00

*SECNO 102.600
3280 CROSS SECTION    102.60 EXTENDED       .46 FEET

   SECNC     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   102.60      6.45   652.55      0.00      0.00   652.64      .09      .00      .01   651.30
     600.       50.     417.     132.       94.    148.     182.      25.      19.    650.30
      .40       .54     2.81      .73     .080     .055     .080     .055   646.10   271.66
  .001854        1.       1.       1.        1        0        0     0.00   478.34   750.00

*SECNO 102.800
3280 CROSS SECTION    102.80 EXTENDED       .75 FEET

   102.80      6.75   652.75      0.00      0.00   652.80      .05      .15      .01   651.20
     600.       79.     356.     165.      159.    159.     252.      26.      21.    650.20
      .42       .50     2.23      .65     .080     .055     .080     .055   646.00   240.00
  .001059      110.     110.     110.        2        0        0     0.00   510.00   750.00

CCHV=     .150 CEHV=     .350
*SECNO 103.000
   103.00      6.39   653.09      0.00      0.00   653.32      .23      .46      .06   652.60
     600.        2.     598.       0.        4.    154.       0.      28.      22.    653.00
      .43       .48     3.88      .16     .080     .055     .080     .055   646.70   490.77
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  .004357      240.      240.      240.         1         0         0      0.00     64.04    554.82


*SECNO 103.300
   103.30      6.91    654.91      0.00      0.00    655.08       .17      1.75       .01    653.90
     600.        9.      508.        2.       16.      178.        6.       30.       23.     654.30
      .48       .60      3.31       .43      .080      .055      .080      .055    648.00    474.89
  .002615      526.      526.      526.         2         0         0      0.00     95.39    570.27


*SECNO 103.400
   103.40      7.04    655.54      0.00      0.00    655.69       .15       .61       .00    654.40
     600.       12.      584.        4.       20.      184.        8.       31.       24.     654.80
      .50       .61      3.18       .46      .080      .055      .080      .055    648.50    470.86
  .002307      250.      250.      250.         2         0         0      0.00    103.33    574.19


CCHV=     .400 CEHV=     .800
*SECNO 103.580
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


         ** D/S FACE PRIVATE DRIVE

   103.58      7.04    655.94      0.00      0.00    656.07       .13       .37       .01    654.80
     600.       40.      557.        4.       68.      184.        8.       32.       24.     655.20
      .52       .59      3.02       .44      .080      .055      .080      .055    648.90    388.16
  .002079      170.      170.      170.         1         0         0      0.00    186.34    574.49


SPECIAL BRIDGE

SB   XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.15      2.70    120.00     11.51      0.00     47.20      0.00    648.90    648.90

*SECNO 103.620
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                                AREA
   661.34    656.07      0.00      408.      192.       47.       47.      653.00    655.30


   103.62      7.48    656.38      0.00      0.00    656.50       .12       .42      0.00    655.30
     600.        3.      597.        0.        7.      217.        0.       32.       24.     656.50
      .52       .46      2.75      0.00      .080      .055      .080      .055    648.90    128.13
  .001399       20.       20.       20.         2         0         4      0.00     59.60    187.73


*SECNO 104.200
   104.20      7.43    656.43      0.00      0.00    656.55       .12       .05       .00    655.40
     600.        3.      597.        0.        7.      215.        0.       32.       25.     656.60
      .52       .45      2.78      0.00      .080      .055      .080      .055    649.00    128.71
  .001442       35.       35.       35.         1         0         0      0.00     58.92    187.63
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*SECNC 103.980

        ** D/S FACE FAMILIAN RD

   103.98      6.62    656.52      0.00      0.00    656.65       .12       .10       .00    655.40
     600.        4.     596.        0.        8.     210.        0.       33.       25.    656.60
      .53       .49      2.84      0.00      .080      .055      .080      .055    649.90    127.60
  .001540       65.       65.       65.         0         0         0      0.00     60.22    187.82


SPECIAL BRIDGE

SB   XK        XKCR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.75      2.55     100.00     8.11      0.00     46.20     0.00     649.90    649.90

*SECNC 104.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC       H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                AREA
   663.73    656.66     0.00       325.      279.       46.       46.      655.60    656.90


   104.02      8.11    658.01      0.00      0.00    658.08       .06      1.43      0.00    658.10
     600.        0.     569.       31.        0.     275.       36.       33.       25.    652.70
      .54      0.00      2.06       .87      .080      .055      .080      .055    649.90    438.38
  .000658       90.       90.       90.         2         0         4      0.00     65.14    503.52


*SECNC 104.800
   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


   104.80      7.21    658.21      0.00      0.00    658.30       .09       .20       .02    659.20
     600.        0.     575.       25.        0.     231.       25.       35.       25.    653.80
      .57      0.00      2.50       .99      .080      .055      .080      .055    651.00    442.34
  .001098      240.      240.      240.         2         0         0      0.00     58.87    501.22


CCHV=     .150 CEHV=     .350
*SECNO 104.900
   104.90      6.17    658.67      0.00      0.00    658.82       .15       .50       .02    660.70
     600.        0.     583.       17.        0.     183.       14.       37.       25.    655.30
      .60      0.00      3.18      1.15      .080      .055      .080      .055    652.50    446.89
  .002122      336.      336.      336.         2         0         0      0.00     51.68    498.57


*SECNC 105.200
   105.20      5.19    659.89      0.00      0.00    660.04       .15      1.22       .00    662.20
     600.        0.     600.        0.        0.     193.        0.       39.       26.    660.80
      .64      0.00      3.11      0.00      .080      .055      .080      .055    654.70    404.63
  .003312      464.      464.      464.         2         0         0      0.00     67.19    471.82


CCHV=     .400 CEHV=     .800
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*SECNO 104.980

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      661.20 ELREA=      661.20

         ** D/S FACE CALVERT RD

   104.98      4.33    660.53      0.00      0.00    660.65       .12       .61       .01    662.20
     600.        0.      600.        0.        0.      214.        0.       40.       26.    660.80
      .66      0.00      2.80      0.00      .080      .055      .080      .055    656.20    402.76
  .002545      210.      210.      210.         2         0         0      0.00     72.02    474.79


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      ROLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.95      2.80    130.00     11.32      0.00     56.60      0.00    656.20    656.20

*SECNO 105.020
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                               AREA
   665.68    660.73     0.00       155.      447.       57.       35.      659.30    662.00


   105.02      7.16    663.36      0.00      0.00    663.39       .03      2.74      0.00    661.40
     600.       13.      567.       20.       37.      388.       52.       40.       27.    661.80
      .68       .35      1.46       .39      .080      .055      .080      .055    656.20    272.75
  .000366       82.       82.       82.         2         0         4      0.00    165.20    437.95

*SECNO 105.800
   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


   105.80      7.39    663.39      0.00      0.00    663.42       .03       .03       .00    661.40
     600.       13.      566.       21.       38.      392.       53.       41.       27.    661.80
      .69       .35      1.45       .39      .080      .055      .080      .055    656.00    272.11
  .000354       90.       90.       90.         2         0         0      0.00    166.14    438.25


CCHV=    .150 CEHV=    .350
*SECNO 105.850
   105.85      6.96    663.56      0.00      0.00    663.60       .04       .17       .00    662.00
     600.        8.      580.       12.       23.      356.       33.       45.       28.    662.40
      .76       .35      1.63       .36      .080      .055      .080      .055    656.60    280.62
  .000513      396.      396.      396.         1         0         0      0.00    153.50    434.12


*SECNO 105.900
3280 CROSS SECTION    105.90 EXTENDED       .06 FEET


   105.90      6.26    663.76      0.00      0.00    663.78       .02       .18       .00    662.10
     600.       40.      187.      373.      104.      111.      537.       50.       31.    659.70
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      .86       .39      1.67       .70      .080      .055      .080      .055    657.50     90.00
  .000531      350.      350.      350.         2         0         0      0.00    435.00    525.00

*SECNO 106.000
   106.00      6.11    663.91      0.00      0.00    663.93       .02       .15       .00    662.40
     600.       34.      198.      368.       85.      108.      491.       54.       33.    660.00
      .93       .40      1.84       .75      .080      .055      .080      .055    657.80     97.22
  .000674      254.      254.      254.         1         0         0      0.00    423.45    520.67

*SECNO 106.500
3280 CROSS SECTION     106.50 EXTENDED       1.48 FEET

   106.50      5.08    664.28      0.00      0.00    664.30       .02       .36       .00    662.70
     600.       77.      101.      423.      127.       56.      502.       62.       38.    661.50
     1.07       .60      1.80       .84      .080      .055      .080      .055    659.20    173.13
  .000803      496.      496.      496.         2         0         0      0.00    376.87    550.00

*SECNO 107.000
3280 CROSS SECTION     107.00 EXTENDED        .70 FEET

   SECNO     DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       THA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   107.00      4.30    664.70      0.00      0.00    664.72       .02       .42       .00    663.90
     370.       27.       93.      250.       51.       45.      307.       67.       41.    662.70
     1.18       .54      2.07       .81      .080      .055      .080      .055    660.40    207.29
  .001416      429.      429.      429.         2         0         0      0.00    342.71    550.00

*SECNO 107.200
3280 CROSS SECTION     107.20 EXTENDED        .69 FEET

   107.20      4.30    665.30      0.00      0.00    665.32       .02       .60       .00    664.50
     370.       27.       93.      250.       50.       45.      307.       71.       45.    663.30
     1.28       .54      2.08       .81      .080      .055      .080      .055    661.00    207.41
  .001425      421.      421.      421.         2         0         0      0.00    342.55    550.00

*SECNO 107.500
   107.50      4.41    666.41      0.00      0.00    666.57       .16      1.20       .05    665.10
     370.       32.      338.        0.       32.      102.        0.       74.       47.    666.70
     1.33      1.01      3.32      0.00      .000      .055      .080      .055    662.00    227.81
  .004901      500.      500.      500.         2         0         0      0.00    104.77    332.57

*SECNO 108.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      670.00 ELREA=      670.00

        ** D/S ROCHESTER RD - AT D/S END LANNI DRAIN
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 108.20 | 5.18 | 667.88 | 0.00 | 0.00 | 667.99 | .12 | 1.42 | .01 | 665.80 |
| 370. | 0. | 370. | 0. | 0. | 135. | 0. | 76. | 48. | 667.40 |
| 1.37 | 0.00 | 2.74 | 0.00 | .080 | .055 | .080 | .055 | 662.70 | 290.00 |
| .002381 | 429. | 429. | 429. | 2 | 0 | 0 | 0.00 | 44.00 | 334.00 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN TO LANNI DRAIN

4) DOCUMENT TYPE: 10YR, 50YR, 100YR, 500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,C3
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN TO C/S EN

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | IOK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 320.00 | 644.50 | 0.00 | 644.56 | 21.88 | 2.42 | 206.10 | 68.40 |
| | 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 510.00 | 645.12 | 0.00 | 645.19 | 21.96 | 2.65 | 306.33 | 108.84 |
| | 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 645.36 | 0.00 | 645.43 | 21.67 | 2.73 | 352.24 | 128.90 |
| | 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 810.00 | 645.78 | 0.00 | 645.85 | 22.13 | 2.92 | 459.17 | 172.17 |
| A 260 | 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 320.00 | 645.08 | 0.00 | 645.15 | 22.75 | 2.45 | 202.49 | 67.09 |
| | 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 510.00 | 645.70 | 0.00 | 645.77 | 22.73 | 2.68 | 302.01 | 106.98 |
| | 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 645.94 | 0.00 | 646.01 | 22.59 | 2.77 | 346.22 | 126.25 |
| | 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 810.00 | 646.36 | 0.00 | 646.44 | 22.90 | 2.96 | 452.17 | 169.28 |
| | 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 320.00 | 645.37 | 0.00 | 645.41 | 12.55 | 1.92 | 263.00 | 90.31 |
| | 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 510.00 | 645.99 | 0.00 | 646.04 | 13.04 | 2.16 | 381.27 | 141.24 |
| | 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.23 | 0.00 | 646.28 | 12.94 | 2.22 | 446.15 | 166.82 |
| | 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 810.00 | 646.66 | 0.00 | 646.71 | 13.20 | 2.39 | 574.39 | 222.91 |
| | 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 320.00 | 645.48 | 0.00 | 645.51 | 43.85 | 1.90 | 253.09 | 48.32 |
| | 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 510.00 | 646.10 | 0.00 | 646.13 | 22.08 | 1.50 | 447.89 | 108.54 |
| | 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 600.00 | 646.34 | 0.00 | 646.36 | 19.21 | 1.45 | 520.17 | 136.88 |
| | 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 810.00 | 646.72 | 0.00 | 646.75 | 8.29 | 2.03 | 753.08 | 281.34 |
| B 550 | 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 320.00 | 645.82 | 0.00 | 645.94 | 36.50 | 3.08 | 151.42 | 52.97 |
| | 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 510.00 | 646.34 | 0.00 | 646.49 | 40.72 | 3.58 | 221.69 | 79.92 |
| | 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.56 | 0.00 | 646.70 | 40.37 | 3.72 | 263.95 | 94.43 |
| | 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 810.00 | 646.84 | 0.00 | 647.01 | 45.80 | 4.19 | 341.71 | 119.69 |
| 1100 | 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 320.00 | 647.31 | 0.00 | 647.38 | 19.45 | 2.41 | 203.39 | 72.56 |
| | 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 510.00 | 647.91 | 0.00 | 647.98 | 19.11 | 2.69 | 333.15 | 116.66 |
| | 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.11 | 0.00 | 648.18 | 18.97 | 2.78 | 390.16 | 137.75 |
| | 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 810.00 | 648.50 | 0.00 | 648.57 | 19.03 | 2.97 | 506.26 | 185.68 |
| C 1640 | 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 320.00 | 648.41 | 0.00 | 648.47 | 21.13 | 2.70 | 275.53 | 69.61 |
| | 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 510.00 | 648.93 | 0.00 | 648.98 | 17.99 | 2.72 | 459.57 | 120.26 |
| | 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.11 | 0.00 | 649.15 | 16.93 | 2.72 | 537.08 | 145.84 |
| | 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 810.00 | 649.46 | 0.00 | 649.50 | 15.53 | 2.75 | 686.91 | 205.56 |
| | 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 320.00 | 649.30 | 0.00 | 649.36 | 22.05 | 2.75 | 269.82 | 68.15 |
| | 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 510.00 | 649.74 | 0.00 | 649.80 | 21.84 | 2.95 | 421.04 | 109.13 |
| | 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.89 | 0.00 | 649.95 | 22.01 | 3.05 | 485.57 | 127.91 |
| | 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 810.00 | 650.20 | 0.00 | 650.25 | 21.48 | 3.15 | 612.81 | 174.78 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CUSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 320.00 | 650.36 | 0.00 | 650.75 | 77.78 | 5.06 | 68.87 | 36.28 |
| | 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 510.00 | 650.82 | 0.00 | 651.13 | 73.99 | 5.24 | 196.30 | 59.29 |
| | 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 650.98 | 0.00 | 651.28 | 72.91 | 5.34 | 241.05 | 70.27 |
| | 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 810.00 | 651.27 | 0.00 | 651.54 | 71.33 | 5.53 | 331.25 | 95.91 |
| | 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 320.00 | 651.22 | 0.00 | 651.28 | 15.09 | 2.49 | 285.69 | 82.37 |
| | 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 510.00 | 651.62 | 0.00 | 651.68 | 17.04 | 2.81 | 414.61 | 123.55 |
| | 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.77 | 0.00 | 651.83 | 17.81 | 2.93 | 466.05 | 142.16 |
| | 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 810.00 | 652.06 | 0.00 | 652.13 | 19.76 | 3.21 | 568.43 | 182.21 |
| | 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 320.00 | 651.93 | 0.00 | 652.00 | 10.26 | 2.12 | 151.00 | 99.88 |
| | 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 510.00 | 652.39 | 0.00 | 652.41 | 4.95 | 1.58 | 693.25 | 229.31 |
| | 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 600.00 | 652.49 | 0.00 | 652.51 | 5.81 | 1.74 | 742.22 | 248.98 |
| | 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 810.00 | 652.68 | 0.00 | 652.71 | 7.77 | 2.07 | 839.28 | 290.62 |
| E | 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 320.00 | 651.97 | 0.00 | 652.04 | 15.50 | 2.31 | 186.71 | 81.29 |
| | 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 510.00 | 652.38 | 0.00 | 652.47 | 19.09 | 2.76 | 340.00 | 116.73 |
| | 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.47 | 0.00 | 652.58 | 22.02 | 3.02 | 382.41 | 127.85 |
| | 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 810.00 | 652.66 | 0.00 | 652.79 | 27.93 | 3.51 | 473.42 | 153.27 |
| | 102.540 | .50 | 651.80 | 650.50 | 646.10 | 320.00 | 651.85 | 649.36 | 652.12 | 360.14 | 4.24 | 80.40 | 16.86 |
| | 102.540 | .50 | 651.80 | 650.50 | 646.10 | 510.00 | 652.37 | 0.00 | 652.47 | 143.79 | 3.15 | 260.62 | 42.53 |
| | 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.48 | 0.00 | 652.58 | 137.44 | 3.16 | 305.63 | 51.18 |
| | 102.540 | .50 | 651.80 | 650.50 | 646.10 | 810.00 | 652.73 | 0.00 | 652.80 | 107.34 | 2.97 | 428.30 | 78.18 |
| | 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 320.00 | 652.13 | 0.00 | 652.25 | 149.17 | 2.99 | 159.17 | 26.20 |
| | 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 510.00 | 652.45 | 0.00 | 652.53 | 107.54 | 2.78 | 295.55 | 49.18 |
| | 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.56 | 0.00 | 652.63 | 101.97 | 2.78 | 345.55 | 59.42 |
| | 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 810.00 | 652.78 | 0.00 | 652.85 | 91.01 | 2.77 | 454.38 | 84.91 |
| | 102.600 | .50 | 0.00 | 0.00 | 646.10 | 320.00 | 652.21 | 0.00 | 652.26 | 10.31 | 1.97 | 270.23 | 99.67 |
| | 102.600 | .50 | 0.00 | 0.00 | 646.10 | 510.00 | 652.45 | 0.00 | 652.53 | 16.25 | 2.59 | 377.42 | 126.51 |
| | 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.55 | 0.00 | 652.64 | 18.54 | 2.81 | 424.38 | 139.33 |
| | 102.600 | .50 | 0.00 | 0.00 | 646.10 | 810.00 | 652.76 | 0.00 | 652.86 | 23.17 | 3.25 | 522.55 | 168.28 |
| | 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 320.00 | 652.32 | 0.00 | 652.35 | 6.86 | 1.67 | 360.88 | 122.14 |
| | 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 510.00 | 652.63 | 0.00 | 652.67 | 9.69 | 2.09 | 508.70 | 163.87 |
| | 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.75 | 0.00 | 652.80 | 10.59 | 2.23 | 571.17 | 184.42 |
| | 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 810.00 | 653.00 | 0.00 | 653.06 | 12.28 | 2.50 | 697.98 | 231.17 |
| F | 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 320.00 | 652.55 | 0.00 | 652.64 | 21.28 | 2.47 | 129.38 | 69.37 |
| | 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 510.00 | 652.94 | 0.00 | 653.13 | 36.76 | 3.46 | 148.82 | 84.12 |
| | 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.09 | 0.00 | 653.32 | 43.57 | 3.88 | 158.01 | 90.90 |
| | 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 810.00 | 653.36 | 0.00 | 653.72 | 60.49 | 4.82 | 177.57 | 104.15 |
| | 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 320.00 | 653.73 | 0.00 | 653.83 | 23.85 | 2.58 | 123.90 | 65.52 |
| | 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 510.00 | 654.59 | 0.00 | 654.74 | 25.79 | 3.10 | 171.82 | 100.42 |
| | 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.91 | 0.00 | 655.08 | 26.15 | 3.31 | 199.08 | 117.33 |
| | 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 810.00 | 655.54 | 0.00 | 655.74 | 25.89 | 3.65 | 276.32 | 159.19 |
| | 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 320.00 | 654.31 | 0.00 | 654.41 | 22.22 | 2.51 | 127.27 | 67.88 |
| | 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 510.00 | 655.21 | 0.00 | 655.35 | 22.87 | 2.99 | 181.50 | 106.64 |
| | 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.54 | 0.00 | 655.69 | 23.07 | 3.18 | 212.06 | 124.91 |
| | 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 810.00 | 656.17 | 0.00 | 656.35 | 23.02 | 3.50 | 295.75 | 168.81 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 320.00 | 654.69 | 0.00 | 654.79 | 22.37 | 2.52 | 126.94 | 67.65 |
| | 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 510.00 | 655.61 | 0.00 | 655.73 | 22.04 | 2.93 | 204.21 | 108.64 |
| G | 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 655.94 | 0.00 | 656.07 | 20.79 | 3.02 | 260.46 | 131.59 |
| | 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 810.00 | 656.59 | 0.00 | 656.71 | 18.00 | 3.10 | 426.49 | 190.93 |
| | 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 320.00 | 655.61 | 0.00 | 655.66 | 6.81 | 1.76 | 182.80 | 122.60 |
| | 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 510.00 | 656.17 | 0.00 | 656.26 | 11.64 | 2.45 | 212.04 | 149.47 |
| | 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 600.00 | 656.38 | 0.00 | 656.50 | 13.99 | 2.75 | 224.26 | 160.39 |
| | 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 810.00 | 656.82 | 0.00 | 656.99 | 18.81 | 3.37 | 253.10 | 186.78 |
| | 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 320.00 | 655.63 | 0.00 | 655.68 | 7.21 | 1.79 | 179.21 | 119.18 |
| | 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 510.00 | 656.21 | 0.00 | 656.30 | 12.05 | 2.48 | 209.23 | 146.94 |
| | 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.43 | 0.00 | 656.55 | 14.42 | 2.78 | 221.59 | 158.01 |
| | 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 810.00 | 656.89 | 0.00 | 657.06 | 19.28 | 3.40 | 250.41 | 184.45 |
| | 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 320.00 | 655.68 | 0.00 | 655.73 | 8.11 | 1.86 | 172.81 | 112.37 |
| | 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 510.00 | 656.29 | 0.00 | 656.39 | 13.10 | 2.55 | 204.51 | 140.91 |
| | 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.52 | 0.00 | 656.65 | 15.40 | 2.84 | 218.19 | 152.91 |
| | 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 810.00 | 657.01 | 0.00 | 657.19 | 19.71 | 3.43 | 251.69 | 182.44 |
| | 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 320.00 | 657.19 | 0.00 | 657.22 | 2.97 | 1.31 | 260.21 | 185.60 |
| | 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 510.00 | 657.79 | 0.00 | 657.84 | 5.36 | 1.84 | 297.13 | 220.19 |
| | 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 600.00 | 658.01 | 0.00 | 658.08 | 6.58 | 2.06 | 311.37 | 233.86 |
| | 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 810.00 | 658.44 | 0.00 | 658.54 | 9.20 | 2.56 | 349.99 | 267.09 |
| | 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 320.00 | 657.28 | 0.00 | 657.32 | 5.58 | 1.65 | 203.81 | 135.41 |
| H | 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 510.00 | 657.95 | 0.00 | 658.03 | 9.26 | 2.25 | 240.45 | 167.63 |
| | 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.21 | 0.00 | 658.30 | 10.98 | 2.50 | 255.24 | 181.04 |
| | 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 810.00 | 658.71 | 0.00 | 658.85 | 14.96 | 3.03 | 285.76 | 209.40 |
| | 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 320.00 | 657.54 | 0.00 | 657.62 | 13.82 | 2.30 | 143.81 | 86.07 |
| | 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 510.00 | 658.35 | 0.00 | 658.48 | 19.11 | 2.93 | 181.66 | 116.67 |
| | 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.67 | 0.00 | 658.82 | 21.22 | 3.18 | 197.77 | 130.24 |
| | 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 810.00 | 659.31 | 0.00 | 659.52 | 25.47 | 3.68 | 232.47 | 160.49 |
| | 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 320.00 | 658.57 | 0.00 | 658.70 | 44.81 | 2.86 | 111.88 | 47.80 |
| I | 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 510.00 | 659.52 | 0.00 | 659.66 | 35.22 | 3.02 | 168.90 | 85.93 |
| | 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 659.89 | 0.00 | 660.04 | 33.12 | 3.11 | 192.87 | 104.26 |
| | 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 810.00 | 660.63 | 0.00 | 660.80 | 30.14 | 3.30 | 245.38 | 147.54 |
| | 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 320.00 | 659.36 | 0.00 | 659.45 | 28.29 | 2.37 | 134.98 | 60.16 |
| | 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 510.00 | 660.19 | 0.00 | 660.30 | 26.07 | 2.68 | 190.19 | 99.89 |
| | 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.53 | 0.00 | 660.65 | 25.45 | 2.80 | 214.30 | 118.93 |
| | 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 810.00 | 661.23 | 0.00 | 661.38 | 24.00 | 3.05 | 269.17 | 165.33 |
| | 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 320.00 | 660.78 | 0.00 | 660.83 | 12.31 | 1.74 | 184.26 | 91.20 |
| | 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 510.00 | 662.96 | 0.00 | 662.99 | 3.77 | 1.40 | 389.70 | 262.63 |
| | 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 600.00 | 663.36 | 0.00 | 663.39 | 3.66 | 1.46 | 476.18 | 313.82 |
| | 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 810.00 | 663.84 | 0.00 | 663.89 | 4.56 | 1.74 | 557.20 | 379.25 |
| | 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 320.00 | 660.89 | 0.00 | 660.93 | 10.71 | 1.65 | 193.40 | 97.79 |
| J | 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 510.00 | 663.00 | 0.00 | 663.03 | 3.54 | 1.37 | 419.57 | 271.16 |
| | 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.39 | 0.00 | 663.42 | 3.54 | 1.45 | 482.83 | 318.86 |
| | 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 810.00 | 663.88 | 0.00 | 663.93 | 4.40 | 1.72 | 565.44 | 386.09 |

| | SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 320.00 | 661.35 | 0.00 | 661.39 | 12.63 | 1.75 | 182.81 | 90.06 |
| | 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 510.00 | 663.16 | 0.00 | 663.20 | 5.23 | 1.55 | 353.25 | 223.05 |
| | 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.56 | 0.00 | 663.60 | 5.13 | 1.63 | 411.24 | 265.00 |
| | 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 810.00 | 664.08 | 0.00 | 664.13 | 6.06 | 1.91 | 495.72 | 328.96 |
| | 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 320.00 | 661.99 | 0.00 | 662.10 | 34.35 | 3.12 | 176.16 | 54.60 |
| K | 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 510.00 | 663.39 | 0.00 | 663.41 | 6.82 | 1.79 | 594.51 | 195.26 |
| | 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.76 | 0.00 | 663.78 | 5.31 | 1.67 | 751.95 | 260.41 |
| | 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 810.00 | 664.31 | 0.00 | 664.32 | 4.59 | 1.68 | 988.25 | 378.02 |
| | 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 320.00 | 662.65 | 0.00 | 662.71 | 17.37 | 2.38 | 252.54 | 76.77 |
| | 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 510.00 | 663.57 | 0.00 | 663.60 | 8.21 | 1.93 | 550.30 | 178.00 |
| | 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.91 | 0.00 | 663.93 | 6.74 | 1.84 | 683.28 | 231.10 |
| | 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 810.00 | 664.43 | 0.00 | 664.45 | 5.67 | 1.82 | 916.62 | 340.04 |
| | 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 320.00 | 663.42 | 0.00 | 663.45 | 12.65 | 1.93 | 378.06 | 89.96 |
| | 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 510.00 | 664.01 | 0.00 | 664.03 | 9.16 | 1.84 | 585.93 | 168.47 |
| | 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.28 | 0.00 | 664.30 | 8.03 | 1.80 | 685.20 | 211.78 |
| | 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 810.00 | 664.75 | 0.00 | 664.77 | 7.25 | 1.85 | 864.83 | 300.74 |
| | 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 250.00 | 664.16 | 0.00 | 664.21 | 29.98 | 2.67 | 225.90 | 45.66 |
| | 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 340.00 | 664.52 | 0.00 | 664.55 | 18.95 | 2.31 | 341.35 | 78.10 |
| L | 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.70 | 0.00 | 664.72 | 14.16 | 2.07 | 402.85 | 98.34 |
| | 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 460.00 | 665.09 | 0.00 | 665.11 | 9.35 | 1.82 | 541.98 | 150.41 |
| | 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 250.00 | 665.01 | 0.00 | 665.04 | 13.61 | 1.91 | 307.39 | 67.76 |
| | 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 340.00 | 665.22 | 0.00 | 665.25 | 14.64 | 2.07 | 374.71 | 88.85 |
| | 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.30 | 0.00 | 665.32 | 14.25 | 2.08 | 401.87 | 98.00 |
| | 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 460.00 | 665.54 | 0.00 | 665.57 | 12.61 | 2.05 | 488.83 | 129.56 |
| | 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 250.00 | 666.04 | 0.00 | 666.16 | 40.31 | 2.78 | 99.93 | 39.38 |
| | 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 340.00 | 666.34 | 0.00 | 666.49 | 46.23 | 3.18 | 126.15 | 50.01 |
| | 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.41 | 0.00 | 666.57 | 49.01 | 3.32 | 133.44 | 52.85 |
| | 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 460.00 | 666.60 | 0.00 | 666.79 | 57.01 | 3.72 | 154.35 | 60.92 |
| | 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 250.00 | 667.31 | 0.00 | 667.39 | 21.27 | 2.27 | 109.97 | 54.21 |
| M | 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 340.00 | 667.75 | 0.00 | 667.86 | 23.17 | 2.63 | 129.44 | 70.63 |
| | 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.88 | 0.00 | 667.99 | 23.81 | 2.74 | 135.07 | 75.83 |
| | 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 460.00 | 668.23 | 0.00 | 668.38 | 25.61 | 3.05 | 150.60 | 90.90 |

HOUGHTON DRAIN TO D/S EN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 4.200 | 320.00 | 644.50 | 0.00 | 0.00 | -2.50 | 144.27 | 0.00 |
| 4.200 | 510.00 | 645.12 | .62 | 0.00 | -1.88 | 181.43 | 0.00 |
| 4.200 | 600.00 | 645.36 | .24 | 0.00 | -1.64 | 197.20 | 0.00 |
| 4.200 | 810.00 | 645.78 | .41 | 0.00 | -1.22 | 286.07 | 0.00 |
| 100.200 | 320.00 | 645.08 | 0.00 | .58 | 0.00 | 142.90 | 260.00 |
| 100.200 | 510.00 | 645.70 | .62 | .58 | 0.00 | 179.88 | 260.00 |
| 100.200 | 600.00 | 645.94 | .24 | .57 | 0.00 | 195.21 | 260.00 |
| 100.200 | 810.00 | 646.36 | .42 | .58 | 0.00 | 284.21 | 260.00 |
| 99.980 | 320.00 | 645.37 | 0.00 | .29 | 0.00 | 165.17 | 152.00 |
| 99.980 | 510.00 | 645.99 | .62 | .29 | 0.00 | 260.28 | 152.00 |
| 99.980 | 600.00 | 646.23 | .24 | .30 | 0.00 | 282.61 | 152.00 |
| 99.980 | 810.00 | 646.66 | .43 | .30 | 0.00 | 308.99 | 152.00 |
| 100.020 | 320.00 | 645.48 | 0.00 | .11 | 0.00 | 310.00 | 48.00 |
| 100.020 | 510.00 | 646.10 | .62 | .11 | 0.00 | 310.00 | 48.00 |
| 100.020 | 600.00 | 646.34 | .23 | .11 | 0.00 | 310.00 | 48.00 |
| 100.020 | 810.00 | 646.72 | .38 | .06 | 0.00 | 310.00 | 48.00 |
| 100.800 | 320.00 | 645.82 | 0.00 | .34 | 0.00 | 118.51 | 90.00 |
| 100.800 | 510.00 | 646.34 | .52 | .24 | 0.00 | 154.15 | 90.00 |
| 100.800 | 600.00 | 646.56 | .21 | .22 | 0.00 | 257.19 | 90.00 |
| 100.800 | 810.00 | 646.84 | .28 | .12 | 0.00 | 279.89 | 90.00 |
| 100.900 | 320.00 | 647.31 | 0.00 | 1.49 | 0.00 | 143.21 | 550.00 |
| 100.900 | 510.00 | 647.91 | .59 | 1.56 | 0.00 | 278.93 | 550.00 |
| 100.900 | 600.00 | 648.11 | .20 | 1.56 | 0.00 | 285.22 | 550.00 |
| 100.900 | 810.00 | 648.50 | .39 | 1.66 | 0.00 | 310.00 | 550.00 |
| 101.000 | 320.00 | 648.41 | 0.00 | 1.10 | 0.00 | 308.18 | 540.00 |
| 101.000 | 510.00 | 648.93 | .52 | 1.03 | 0.00 | 409.26 | 540.00 |
| 101.000 | 600.00 | 649.11 | .17 | 1.00 | 0.00 | 424.00 | 540.00 |
| 101.000 | 810.00 | 649.46 | .35 | .96 | 0.00 | 424.00 | 540.00 |
| 101.500 | 320.00 | 649.30 | 0.00 | .88 | 0.00 | 304.51 | 410.00 |
| 101.500 | 510.00 | 649.74 | .44 | .80 | 0.00 | 390.27 | 410.00 |
| 101.500 | 600.00 | 649.89 | .15 | .78 | 0.00 | 421.58 | 410.00 |
| 101.500 | 810.00 | 650.20 | .31 | .73 | 0.00 | 424.00 | 410.00 |
| 102.200 | 320.00 | 650.36 | 0.00 | 1.06 | 0.00 | 64.03 | 340.00 |
| 102.200 | 510.00 | 650.82 | .46 | 1.08 | 0.00 | 270.19 | 340.00 |
| 102.200 | 600.00 | 650.98 | .16 | 1.09 | 0.00 | 296.37 | 340.00 |
| 102.200 | 810.00 | 651.27 | .29 | 1.08 | 0.00 | 322.68 | 340.00 |
| 101.980 | 320.00 | 651.22 | 0.00 | .86 | 0.00 | 311.60 | 160.00 |
| 101.980 | 510.00 | 651.62 | .40 | .80 | 0.00 | 337.82 | 160.00 |
| 101.980 | 600.00 | 651.77 | .15 | .79 | 0.00 | 346.84 | 160.00 |
| 101.980 | 810.00 | 652.06 | .29 | .78 | 0.00 | 364.12 | 160.00 |
| 102.020 | 320.00 | 651.93 | 0.00 | .71 | 0.00 | 38.00 | 40.00 |
| 102.020 | 510.00 | 652.39 | .46 | .77 | 0.00 | 510.00 | 40.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 102.020 | 600.00 | 652.49 | .10 | .72 | 0.00 | 510.00 | 40.00 |
| 102.020 | 810.00 | 652.68 | .19 | .62 | 0.00 | 510.00 | 40.00 |

| SECND | Q | WSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 102.500 | 320.00 | 651.97 | 0.00 | .03 | 0.00 | 262.29 | 30.00 |
| 102.500 | 510.00 | 652.38 | .41 | -.02 | 0.00 | 436.53 | 30.00 |
| 102.500 | 600.00 | 652.47 | .09 | -.02 | 0.00 | 458.02 | 30.00 |
| 102.500 | 810.00 | 652.66 | .19 | -.02 | 0.00 | 501.04 | 30.00 |
| 102.540 | 320.00 | 651.85 | 0.00 | -.12 | 0.00 | 170.03 | .50 |
| 102.540 | 510.00 | 652.37 | .53 | -.00 | 0.00 | 436.64 | .50 |
| 102.540 | 600.00 | 652.48 | .11 | .01 | 0.00 | 459.41 | .50 |
| 102.540 | 810.00 | 652.73 | .24 | .07 | 0.00 | 510.00 | .50 |
| 102.560 | 320.00 | 652.13 | 0.00 | .29 | 0.00 | 380.34 | 4.00 |
| 102.560 | 510.00 | 652.45 | .32 | .08 | 0.00 | 454.41 | 4.00 |
| 102.560 | 600.00 | 652.56 | .11 | .08 | 0.00 | 478.70 | 4.00 |
| 102.560 | 810.00 | 652.78 | .22 | .05 | 0.00 | 510.00 | 4.00 |
| 102.600 | 320.00 | 652.21 | 0.00 | .08 | 0.00 | 398.66 | .50 |
| 102.600 | 510.00 | 652.45 | .24 | -.00 | 0.00 | 455.55 | .50 |
| 102.600 | 600.00 | 652.55 | .10 | -.01 | 0.00 | 478.34 | .50 |
| 102.600 | 810.00 | 652.76 | .20 | -.02 | 0.00 | 510.00 | .50 |
| 102.800 | 320.00 | 652.32 | 0.00 | .11 | 0.00 | 447.24 | 110.00 |
| 102.800 | 510.00 | 652.63 | .31 | .18 | 0.00 | 510.00 | 110.00 |
| 102.800 | 600.00 | 652.75 | .12 | .20 | 0.00 | 510.00 | 110.00 |
| 102.800 | 810.00 | 653.00 | .25 | .24 | 0.00 | 510.00 | 110.00 |
| 103.000 | 320.00 | 652.55 | 0.00 | .23 | 0.00 | 44.35 | 240.00 |
| 103.000 | 510.00 | 652.94 | .39 | .31 | 0.00 | 56.29 | 240.00 |
| 103.000 | 600.00 | 653.09 | .14 | .34 | 0.00 | 64.04 | 240.00 |
| 103.000 | 810.00 | 653.36 | .28 | .36 | 0.00 | 80.51 | 240.00 |
| 103.300 | 320.00 | 653.73 | 0.00 | 1.18 | 0.00 | 43.35 | 526.00 |
| 103.300 | 510.00 | 654.59 | .87 | 1.65 | 0.00 | 76.04 | 526.00 |
| 103.300 | 600.00 | 654.91 | .32 | 1.82 | 0.00 | 95.39 | 526.00 |
| 103.300 | 810.00 | 655.54 | .63 | 2.18 | 0.00 | 150.81 | 526.00 |
| 103.400 | 320.00 | 654.31 | 0.00 | .58 | 0.00 | 43.97 | 250.00 |
| 103.400 | 510.00 | 655.21 | .90 | .62 | 0.00 | 83.43 | 250.00 |
| 103.400 | 600.00 | 655.54 | .33 | .63 | 0.00 | 103.33 | 250.00 |
| 103.400 | 810.00 | 656.17 | .63 | .63 | 0.00 | 162.89 | 250.00 |
| 103.580 | 320.00 | 654.69 | 0.00 | .38 | 0.00 | 43.91 | 170.00 |
| 103.580 | 510.00 | 655.61 | .92 | .39 | 0.00 | 140.76 | 170.00 |
| 103.580 | 600.00 | 655.94 | .34 | .40 | 0.00 | 186.34 | 170.00 |
| 103.580 | 810.00 | 656.59 | .65 | .42 | 0.00 | 338.69 | 170.00 |
| 103.620 | 320.00 | 655.61 | 0.00 | .92 | 0.00 | 47.97 | 20.00 |
| 103.620 | 510.00 | 656.17 | .56 | .56 | 0.00 | 56.42 | 20.00 |
| 103.620 | 600.00 | 656.38 | .21 | .44 | 0.00 | 59.60 | 20.00 |
| 103.620 | 810.00 | 656.82 | .44 | .23 | 0.00 | 76.40 | 20.00 |
| 104.200 | 320.00 | 655.63 | 0.00 | .02 | 0.00 | 46.83 | 35.00 |
| 104.200 | 510.00 | 656.21 | .58 | .04 | 0.00 | 55.67 | 35.00 |
| 104.200 | 600.00 | 656.43 | .22 | .05 | 0.00 | 58.92 | 35.00 |
| 104.200 | 810.00 | 656.89 | .46 | .07 | 0.00 | 73.75 | 35.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 103.980 | 320.00 | 655.68 | 0.00 | .05 | 0.00 | 47.52 | 65.00 |
| 103.980 | 510.00 | 656.29 | .61 | .08 | 0.00 | 56.69 | 65.00 |
| 103.980 | 600.00 | 656.52 | .23 | .10 | 0.00 | 60.22 | 65.00 |
| 103.980 | 810.00 | 657.01 | .49 | .13 | 0.00 | 83.00 | 65.00 |
| 104.020 | 320.00 | 657.19 | 0.00 | 1.51 | 0.00 | 59.46 | 90.00 |
| 104.020 | 510.00 | 657.79 | .60 | 1.50 | 0.00 | 63.61 | 90.00 |
| 104.020 | 600.00 | 658.01 | .22 | 1.49 | 0.00 | 65.14 | 90.00 |
| 104.020 | 810.00 | 658.44 | .43 | 1.43 | 0.00 | 130.94 | 90.00 |
| 104.800 | 320.00 | 657.28 | 0.00 | .09 | 0.00 | 52.48 | 240.00 |
| 104.800 | 510.00 | 657.95 | .67 | .16 | 0.00 | 57.11 | 240.00 |
| 104.800 | 600.00 | 658.21 | .25 | .19 | 0.00 | 58.87 | 240.00 |
| 104.800 | 810.00 | 658.71 | .50 | .27 | 0.00 | 62.36 | 240.00 |
| 104.900 | 320.00 | 657.54 | 0.00 | .25 | 0.00 | 43.86 | 336.00 |
| 104.900 | 510.00 | 658.35 | .81 | .40 | 0.00 | 49.47 | 336.00 |
| 104.900 | 600.00 | 658.67 | .32 | .46 | 0.00 | 51.68 | 336.00 |
| 104.900 | 810.00 | 659.31 | .64 | .60 | 0.00 | 56.13 | 336.00 |
| 105.200 | 320.00 | 658.57 | 0.00 | 1.03 | 0.00 | 55.61 | 464.00 |
| 105.200 | 510.00 | 659.52 | .95 | 1.17 | 0.00 | 64.50 | 464.00 |
| 105.200 | 600.00 | 659.89 | .37 | 1.22 | 0.00 | 67.19 | 464.00 |
| 105.200 | 810.00 | 660.63 | .75 | 1.32 | 0.00 | 72.75 | 464.00 |
| 104.980 | 320.00 | 659.36 | 0.00 | .79 | 0.00 | 63.26 | 210.00 |
| 104.980 | 510.00 | 660.19 | .83 | .67 | 0.00 | 69.50 | 210.00 |
| 104.980 | 600.00 | 660.53 | .34 | .65 | 0.00 | 72.02 | 210.00 |
| 104.980 | 810.00 | 661.23 | .70 | .60 | 0.00 | 91.81 | 210.00 |
| 105.020 | 320.00 | 660.78 | 0.00 | 1.42 | 0.00 | 73.06 | 82.00 |
| 105.020 | 510.00 | 662.96 | 2.18 | 2.77 | 0.00 | 124.29 | 82.00 |
| 105.020 | 600.00 | 663.36 | .40 | 2.83 | 0.00 | 165.20 | 82.00 |
| 105.020 | 810.00 | 663.84 | .48 | 2.61 | 0.00 | 170.00 | 82.00 |
| 105.800 | 320.00 | 660.89 | 0.00 | .11 | 0.00 | 74.01 | 90.00 |
| 105.800 | 510.00 | 663.00 | 2.11 | .04 | 0.00 | 155.02 | 90.00 |
| 105.800 | 600.00 | 663.39 | .39 | .03 | 0.00 | 166.14 | 90.00 |
| 105.800 | 810.00 | 663.88 | .49 | .04 | 0.00 | 170.00 | 90.00 |
| 105.850 | 320.00 | 661.35 | 0.00 | .46 | 0.00 | 72.75 | 396.00 |
| 105.850 | 510.00 | 663.16 | 1.82 | .16 | 0.00 | 142.44 | 396.00 |
| 105.850 | 600.00 | 663.56 | .39 | .16 | 0.00 | 153.50 | 396.00 |
| 105.850 | 810.00 | 664.08 | .53 | .20 | 0.00 | 166.97 | 396.00 |
| 105.900 | 320.00 | 661.99 | 0.00 | .65 | 0.00 | 183.26 | 350.00 |
| 105.900 | 510.00 | 663.39 | 1.40 | .22 | 0.00 | 397.50 | 350.00 |
| 105.900 | 600.00 | 663.76 | .38 | .21 | 0.00 | 435.00 | 350.00 |
| 105.900 | 810.00 | 664.31 | .54 | .23 | 0.00 | 435.00 | 350.00 |
| 106.000 | 320.00 | 662.65 | 0.00 | .66 | 0.00 | 246.75 | 254.00 |
| 106.000 | 510.00 | 663.57 | .92 | .19 | 0.00 | 383.92 | 254.00 |
| 106.000 | 600.00 | 663.91 | .34 | .15 | 0.00 | 423.45 | 254.00 |
| 106.000 | 810.00 | 664.43 | .52 | .13 | 0.00 | 435.00 | 254.00 |

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 106.500 | 320.00 | 663.42 | 0.00 | .77 | 0.00 | 339.55 | 496.00 |
| 106.500 | 510.00 | 664.01 | .59 | .44 | 0.00 | 365.23 | 496.00 |
| 106.500 | 600.00 | 664.28 | .27 | .37 | 0.00 | 376.87 | 496.00 |
| 106.500 | 810.00 | 664.75 | .47 | .32 | 0.00 | 382.00 | 496.00 |
| 107.000 | 250.00 | 664.16 | 0.00 | .74 | 0.00 | 319.45 | 429.00 |
| 107.000 | 340.00 | 664.52 | .35 | .50 | 0.00 | 334.81 | 429.00 |
| 107.000 | 370.00 | 664.70 | .18 | .42 | 0.00 | 342.71 | 429.00 |
| 107.000 | 460.00 | 665.09 | .40 | .34 | 0.00 | 359.95 | 429.00 |
| 107.200 | 250.00 | 665.01 | 0.00 | .85 | 0.00 | 330.36 | 421.00 |
| 107.200 | 340.00 | 665.22 | .21 | .71 | 0.00 | 339.12 | 421.00 |
| 107.200 | 370.00 | 665.30 | .07 | .60 | 0.00 | 342.59 | 421.00 |
| 107.200 | 460.00 | 665.54 | .25 | .45 | 0.00 | 353.46 | 421.00 |
| 107.500 | 250.00 | 666.04 | 0.00 | 1.03 | 0.00 | 75.25 | 500.00 |
| 107.500 | 340.00 | 666.34 | .30 | 1.12 | 0.00 | 99.10 | 500.00 |
| 107.500 | 370.00 | 666.41 | .07 | 1.12 | 0.00 | 104.77 | 500.00 |
| 107.500 | 460.00 | 666.60 | .19 | 1.06 | 0.00 | 119.55 | 500.00 |
| 108.200 | 250.00 | 667.31 | 0.00 | 1.27 | 0.00 | 43.53 | 429.00 |
| 108.200 | 340.00 | 667.75 | .44 | 1.41 | 0.00 | 44.00 | 429.00 |
| 108.200 | 370.00 | 667.88 | .13 | 1.47 | 0.00 | 44.00 | 429.00 |
| 108.200 | 460.00 | 668.23 | .35 | 1.63 | 0.00 | 44.00 | 429.00 |

SUMMARY OF ERRORS

FLOOD INSURANCE ZONE DATA FOR HOUGHTON DRAIN TO D/S EN

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 4.200 | 0. | -.86 | -.24 | .41 |
| 100.200 | 260. | -.86 | -.24 | .42 |
| 99.980 | 412. | -.86 | -.24 | .43 |
| 100.020 | 460. | -.86 | -.23 | .38 |
| 100.800 | 550. | -.73 | -.21 | .28 |
| 100.900 | 1100. | -.80 | -.20 | .39 |
| 101.000 | 1640. | -.69 | -.17 | .35 |
| 101.500 | 2050. | -.59 | -.15 | .31 |
| 102.200 | 2350. | -.62 | -.16 | .29 |
| 101.980 | 2550. | -.55 | -.15 | .29 |
| 102.020 | 2590. | -.56 | -.10 | .19 |
| 102.500 | 2620. | -.50 | -.09 | .19 |
| 102.540 | 2621. | -.64 | -.11 | .24 |
| 102.560 | 2625. | -.43 | -.11 | .22 |
| 102.600 | 2625. | -.34 | -.10 | .20 |
| 102.800 | 2735. | -.43 | -.12 | .25 |
| 103.000 | 2975. | -.54 | -.14 | .28 |
| 103.300 | 3501. | -1.18 | -.32 | .63 |
| 103.400 | 3751. | -1.23 | -.33 | .63 |
| 103.580 | 3921. | -1.25 | -.34 | .65 |
| 103.620 | 3941. | -.77 | -.21 | .44 |
| 104.200 | 3976. | -.80 | -.22 | .46 |
| 103.980 | 4041. | -.84 | -.23 | .49 |
| 104.020 | 4131. | -.82 | -.22 | .43 |
| 104.800 | 4371. | -.92 | -.25 | .50 |
| 104.900 | 4707. | -1.13 | -.32 | .64 |
| 105.200 | 5171. | -1.32 | -.37 | .75 |
| 104.980 | 5381. | -1.17 | -.34 | .70 |
| 105.020 | 5463. | -2.58 | -.40 | .48 |
| 105.800 | 5553. | -2.51 | -.39 | .49 |
| 105.850 | 5949. | -2.21 | -.39 | .53 |
| 105.900 | 6299. | -1.77 | -.38 | .54 |
| 106.000 | 6553. | -1.26 | -.34 | .52 |
| 106.500 | 7049. | -.86 | -.27 | .47 |
| 107.000 | 7478. | -.53 | -.18 | .40 |
| 107.200 | 7899. | -.28 | -.07 | .25 |
| 107.500 | 8399. | -.37 | -.07 | .19 |
| 108.200 | 8828. | -.57 | -.13 | .35 |
| WEIGHTED AVG FOR REACH | | -.94 | -.23 | .43 |

FHF FOR THE REACH = C10 WITH 75.0_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | WTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | | 4.200 |
| 1 | 100. | 644.61 | 645.47 | -.86 | -.86 | 010 | 100. |
| 2 | 200. | 644.84 | 645.69 | -.85 | -.86 | 010 | 100. |
| | 260. | | | | SEC. | | 100.200 |
| 3 | 300. | 645.05 | 645.91 | -.86 | -.86 | 010 | 100. |
| 4 | 400. | 645.25 | 646.11 | -.86 | -.86 | 010 | 100. |
| | 412. | | | | SEC. | | 99.980 |
| | 460. | | | | SEC. | | 100.020 |
| 5 | 500. | 645.49 | 646.32 | -.83 | -.85 | 010 | 100. |
| | 550. | | | | SEC. | | 100.800 |
| 6 | 600. | 645.80 | 646.57 | -.77 | -.84 | 010 | 100. |
| 7 | 700. | 646.09 | 646.84 | -.75 | -.83 | 010 | 100. |
| 8 | 800. | 646.36 | 647.12 | -.76 | -.82 | 010 | 100. |
| 9 | 900. | 646.64 | 647.40 | -.76 | -.81 | 010 | 100. |
| 10 | 1000. | 646.91 | 647.69 | -.78 | -.81 | 010 | 100. |
| | 1100. | | | | SEC. | | 100.900 |
| 11 | 1100. | 647.16 | 647.97 | -.79 | -.81 | 010 | 100. |
| 12 | 1200. | 647.41 | 648.20 | -.79 | -.80 | 010 | 100. |
| 13 | 1300. | 647.62 | 648.39 | -.77 | -.80 | 010 | 100. |
| 14 | 1400. | 647.82 | 648.57 | -.75 | -.80 | 010 | 100. |
| 15 | 1500. | 648.03 | 648.76 | -.73 | -.79 | 010 | 100. |
| 16 | 1600. | 648.23 | 648.94 | -.71 | -.79 | 010 | 100. |
| | 1640. | | | | SEC. | | 101.000 |
| 17 | 1700. | 648.44 | 649.13 | -.69 | -.78 | 010 | 100. |
| 18 | 1800. | 648.65 | 649.32 | -.67 | -.78 | 010 | 100. |
| 19 | 1900. | 648.87 | 649.51 | -.64 | -.77 | 010 | 100. |
| 20 | 2000. | 649.08 | 649.70 | -.62 | -.76 | 010 | 100. |
| | 2050. | | | | SEC. | | 101.500 |
| 21 | 2100. | 649.32 | 649.92 | -.60 | -.75 | 010 | 100. |
| 22 | 2200. | 649.61 | 650.21 | -.60 | -.75 | 010 | 100. |
| 23 | 2300. | 649.92 | 650.53 | -.61 | -.74 | 005 | 100. |
| | 2390. | | | | SEC. | | 102.200 |
| 24 | 2400. | 650.25 | 650.86 | -.61 | -.74 | 005 | 100. |
| 25 | 2500. | 650.68 | 651.28 | -.60 | -.73 | 005 | 100. |
| | 2550. | | | | SEC. | | 101.980 |
| | 2590. | | | | SEC. | | 102.020 |
| 26 | 2600. | 651.45 | 652.00 | -.55 | -.72 | 005 | 100. |
| | 2620. | | | | SEC. | | 102.500 |
| | 2621. | | | | SEC. | | 102.540 |
| | 2625. | | | | SEC. | | 102.560 |
| | 2625. | | | | SEC. | | 102.600 |
| 27 | 2700. | 652.11 | 652.59 | -.48 | -.71 | 005 | 100. |
| | 2735. | | | | SEC. | | 102.800 |
| 28 | 2800. | 652.33 | 652.77 | -.44 | -.70 | 005 | 100. |
| 29 | 2900. | 652.43 | 652.91 | -.48 | -.70 | 005 | 100. |
| | 2975. | | | | SEC. | | 103.000 |
| 30 | 3000. | 652.54 | 653.08 | -.54 | -.69 | 005 | 100. |
| 31 | 3100. | 652.72 | 653.35 | -.63 | -.69 | 005 | 100. |
| 32 | 3200. | 652.94 | 653.69 | -.75 | -.69 | 005 | 100. |
| 33 | 3300. | 653.17 | 654.04 | -.87 | -.70 | 005 | 100. |
| 34 | 3400. | 653.39 | 654.39 | -1.00 | -.71 | 005 | 100. |
| 35 | 3500. | 653.61 | 654.73 | -1.12 | -.72 | 005 | 100. |
| | 3501. | | | | SEC. | | 103.300 |
| 36 | 3600. | 653.84 | 655.03 | -1.19 | -.73 | 005 | 100. |
| 37 | 3700. | 654.07 | 655.29 | -1.22 | -.74 | 005 | 100. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3751. | | | | SEC. | 103.400 | |
| 38 | 3800. | 654.30 | 655.53 | -1.23 | -.76 | 010 | 100. |
| 39 | 3900. | 654.53 | 655.77 | -1.24 | -.77 | 010 | 100. |
| | 3921. | | | | SEC. | 103.580 | |
| | 3941. | | | | SEC. | 103.620 | |
| | 3976. | | | | SEC. | 104.200 | |
| 40 | 4000. | 655.15 | 656.18 | -1.03 | -.78 | 010 | 100. |
| | 4041. | | | | SEC. | 103.980 | |
| 41 | 4100. | 656.16 | 656.98 | -.82 | -.78 | 010 | 100. |
| | 4131. | | | | SEC. | 104.020 | |
| 42 | 4200. | 656.94 | 657.78 | -.84 | -.78 | 010 | 100. |
| 43 | 4300. | 657.24 | 658.11 | -.87 | -.78 | 010 | 100. |
| | 4371. | | | | SEC. | 104.800 | |
| 44 | 4400. | 657.28 | 658.20 | -.92 | -.78 | 010 | 100. |
| 45 | 4500. | 657.34 | 658.32 | -.98 | -.79 | 010 | 100. |
| 46 | 4600. | 657.42 | 658.45 | -1.03 | -.79 | 010 | 100. |
| 47 | 4700. | 657.49 | 658.59 | -1.10 | -.80 | 010 | 100. |
| | 4707. | | | | SEC. | 104.900 | |
| 48 | 4800. | 657.64 | 658.78 | -1.14 | -.81 | 010 | 100. |
| 49 | 4900. | 657.86 | 659.04 | -1.18 | -.81 | 010 | 100. |
| 50 | 5000. | 658.08 | 659.31 | -1.23 | -.82 | 010 | 100. |
| 51 | 5100. | 658.30 | 659.57 | -1.27 | -.83 | 010 | 100. |
| | 5171. | | | | SEC. | 105.200 | |
| 52 | 5200. | 658.54 | 659.84 | -1.30 | -.84 | 010 | 100. |
| 53 | 5300. | 658.87 | 660.13 | -1.26 | -.85 | 010 | 100. |
| | 5381. | | | | SEC. | 104.980 | |
| 54 | 5400. | 659.37 | 660.74 | -1.37 | -.86 | 010 | 98. |
| | 5463. | | | | SEC. | 105.020 | |
| 55 | 5500. | 660.26 | 662.28 | -2.02 | -.88 | 010 | 98. |
| | 5553. | | | | SEC. | 105.800 | |
| 56 | 5600. | 660.88 | 663.39 | -2.51 | -.91 | 010 | 96. |
| 57 | 5700. | 661.00 | 663.43 | -2.43 | -.94 | 010 | 95. |
| 58 | 5800. | 661.12 | 663.47 | -2.35 | -.96 | 010 | 91. |
| 59 | 5900. | 661.23 | 663.52 | -2.29 | -.98 | 010 | 90. |
| | 5949. | | | | SEC. | 105.850 | |
| 60 | 6000. | 661.36 | 663.56 | -2.20 | -1.00 | 010 | 85. |
| 61 | 6100. | 661.53 | 663.62 | -2.09 | -1.02 | 010 | 84. |
| 62 | 6200. | 661.72 | 663.67 | -1.95 | -1.04 | 010 | 82. |
| | 6299. | | | | SEC. | 105.900 | |
| 63 | 6300. | 661.90 | 663.73 | -1.83 | -1.05 | 010 | 79. |
| 64 | 6400. | 662.12 | 663.79 | -1.67 | -1.06 | 010 | 77. |
| 65 | 6500. | 662.39 | 663.85 | -1.46 | -1.06 | 010 | 77. |
| | 6553. | | | | SEC. | 106.000 | |
| 66 | 6600. | 662.62 | 663.91 | -1.29 | -1.07 | 010 | 77. |
| 67 | 6700. | 662.81 | 663.98 | -1.17 | -1.07 | 010 | 78. |
| 68 | 6800. | 662.96 | 664.06 | -1.10 | -1.07 | 010 | 78. |
| 69 | 6900. | 663.12 | 664.13 | -1.01 | -1.07 | 010 | 78. |
| 70 | 7000. | 663.27 | 664.21 | -.94 | -1.07 | 010 | 79. |
| | 7049. | | | | SEC. | 106.500 | |
| 71 | 7100. | 663.43 | 664.29 | -.86 | -1.06 | 010 | 79. |
| 72 | 7200. | 663.60 | 664.38 | -.78 | -1.06 | 010 | 79. |
| 73 | 7300. | 663.77 | 664.48 | -.71 | -1.05 | 010 | 81. |
| 74 | 7400. | 663.94 | 664.57 | -.63 | -1.05 | 010 | 81. |
| | 7478. | | | | SEC. | 107.000 | |
| 75 | 7500. | 664.12 | 664.68 | -.56 | -1.04 | 010 | 83. |
| 76 | 7600. | 664.31 | 664.80 | -.49 | -1.04 | 010 | 82. |
| 77 | 7700. | 664.51 | 664.94 | -.43 | -1.03 | 010 | 81. |

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND
10_ 2_ 0.2_

WEIGHTED AVG FOR REACH -1.02 -.25 .46

FHF FOR REACH 1 = 010 WITH 81._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 78 | 7800. | 664.71 | 665.08 | -.37 | -.37 | 005 | 100. |
| | 7899. | | | | SEC. | 107.200 | |
| 79 | 7900. | 664.91 | 665.23 | -.32 | -.34 | 005 | 100. |
| 80 | 8000. | 665.12 | 665.41 | -.29 | -.33 | 005 | 100. |
| 81 | 8100. | 665.32 | 665.63 | -.31 | -.32 | 005 | 100. |
| 82 | 8200. | 665.53 | 665.86 | -.33 | -.32 | 005 | 100. |
| 83 | 8300. | 665.74 | 666.08 | -.34 | -.33 | 005 | 100. |
| | 8399. | | | | SEC. | 107.500 | |
| 84 | 8400. | 665.94 | 666.30 | -.36 | -.33 | 005 | 100. |
| 85 | 8500. | 666.19 | 666.59 | -.40 | -.34 | 005 | 100. |
| 86 | 8600. | 666.49 | 666.93 | -.44 | -.35 | 005 | 100. |
| 87 | 8700. | 666.78 | 667.27 | -.49 | -.36 | 005 | 100. |
| 88 | 8800. | 667.08 | 667.61 | -.53 | -.38 | 005 | 100. |
| | 8828. | | | | SEC. | 108.200 | |

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -.38 | -.09 | .25 |

FHF FOR REACH 2 = 005 WITH 100._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 1

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN TO LANNI DRAIN

4) DOCUMENT TYPE: CONVERGENCE SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CODE -  C1,C2,C3
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN TO C/S EN

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 645.36 | 0.00 | 645.43 | 21.67 | 2.73 | 352.24 | 128.90 |
| 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 646.10 | 0.00 | 646.13 | 7.87 | 1.82 | 555.01 | 213.84 |
| 4.200 | 0.00 | 0.00 | 0.00 | 640.10 | 600.00 | 644.60 | 0.00 | 644.79 | 66.30 | 4.26 | 220.42 | 73.69 |
| 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 645.94 | 0.00 | 646.01 | 22.59 | 2.77 | 346.22 | 126.25 |
| 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 646.35 | 0.00 | 646.39 | 12.68 | 2.20 | 450.19 | 168.47 |
| 100.200 | 260.00 | 0.00 | 0.00 | 640.70 | 600.00 | 645.78 | 0.00 | 645.87 | 27.80 | 3.01 | 317.79 | 113.81 |
| 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.23 | 0.00 | 646.28 | 12.94 | 2.22 | 446.15 | 166.82 |
| 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.52 | 0.00 | 646.55 | 8.85 | 1.90 | 528.54 | 201.73 |
| 99.980 | 152.00 | 0.00 | 0.00 | 640.60 | 600.00 | 646.14 | 0.00 | 646.19 | 14.81 | 2.34 | 419.03 | 155.90 |
| 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 600.00 | 646.34 | 0.00 | 646.36 | 19.21 | 1.45 | 520.17 | 136.88 |
| 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 600.00 | 646.59 | 0.00 | 646.61 | 12.28 | 1.20 | 599.35 | 171.25 |
| 100.020 | 48.00 | 644.20 | 644.60 | 640.60 | 600.00 | 646.26 | 0.00 | 646.28 | 22.35 | 1.55 | 495.59 | 126.91 |
| 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.56 | 0.00 | 646.70 | 40.37 | 3.72 | 263.95 | 94.43 |
| 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.74 | 0.00 | 646.85 | 29.77 | 3.31 | 313.70 | 109.97 |
| 100.800 | 90.00 | 0.00 | 0.00 | 641.50 | 600.00 | 646.51 | 0.00 | 646.66 | 43.76 | 3.84 | 251.52 | 90.70 |
| 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.11 | 0.00 | 648.18 | 18.97 | 2.78 | 390.16 | 137.75 |
| 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.09 | 0.00 | 648.17 | 19.54 | 2.81 | 384.96 | 135.74 |
| 100.900 | 550.00 | 0.00 | 0.00 | 642.60 | 600.00 | 648.11 | 0.00 | 648.18 | 18.79 | 2.77 | 391.86 | 138.41 |
| 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.11 | 0.00 | 649.15 | 16.93 | 2.72 | 537.08 | 145.84 |
| 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.11 | 0.00 | 649.15 | 17.05 | 2.73 | 535.65 | 145.32 |
| 101.000 | 540.00 | 0.00 | 0.00 | 643.70 | 600.00 | 649.11 | 0.00 | 649.15 | 16.95 | 2.72 | 536.83 | 145.75 |
| 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.89 | 0.00 | 649.95 | 22.01 | 3.05 | 485.57 | 127.91 |
| 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.89 | 0.00 | 649.95 | 22.12 | 3.05 | 484.41 | 127.56 |
| 101.500 | 410.00 | 0.00 | 0.00 | 644.60 | 600.00 | 649.89 | 0.00 | 649.95 | 22.02 | 3.05 | 485.45 | 127.87 |
| 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 650.98 | 0.00 | 651.28 | 72.91 | 5.34 | 241.05 | 70.27 |
| 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 650.99 | 0.00 | 651.28 | 71.81 | 5.31 | 243.15 | 70.80 |
| 102.200 | 340.00 | 0.00 | 0.00 | 645.30 | 600.00 | 650.98 | 0.00 | 651.28 | 72.89 | 5.34 | 241.09 | 70.28 |
| 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.77 | 0.00 | 651.83 | 17.81 | 2.93 | 466.05 | 142.16 |
| 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.77 | 0.00 | 651.83 | 17.85 | 2.94 | 465.68 | 142.02 |
| 101.980 | 160.00 | 0.00 | 0.00 | 645.40 | 600.00 | 651.77 | 0.00 | 651.83 | 17.82 | 2.93 | 466.04 | 142.15 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 600.00 | 652.49 | 0.00 | 652.51 | 5.81 | 1.74 | 742.22 | 248.98 |
| 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 600.00 | 652.49 | 0.00 | 652.51 | 5.81 | 1.74 | 742.13 | 248.94 |
| 102.020 | 40.00 | 652.10 | 650.60 | 645.40 | 600.00 | 652.49 | 0.00 | 652.51 | 5.81 | 1.74 | 742.22 | 248.98 |
| 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.47 | 0.00 | 652.58 | 22.02 | 3.02 | 382.41 | 127.85 |
| 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.47 | 0.00 | 652.58 | 22.03 | 3.02 | 382.33 | 127.83 |
| 102.500 | 30.00 | 0.00 | 0.00 | 646.10 | 600.00 | 652.47 | 0.00 | 652.58 | 22.02 | 3.02 | 382.41 | 127.85 |
| 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.48 | 0.00 | 652.58 | 137.44 | 3.16 | 305.63 | 51.18 |
| 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.48 | 0.00 | 652.58 | 137.54 | 3.16 | 305.53 | 51.16 |
| 102.540 | .50 | 651.80 | 650.50 | 646.10 | 600.00 | 652.48 | 0.00 | 652.58 | 137.44 | 3.16 | 305.63 | 51.18 |
| 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.56 | 0.00 | 652.63 | 101.97 | 2.78 | 345.55 | 59.42 |
| 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.56 | 0.00 | 652.63 | 102.02 | 2.78 | 345.48 | 59.40 |
| 102.560 | 4.00 | 651.80 | 650.50 | 646.10 | 600.00 | 652.56 | 0.00 | 652.63 | 101.97 | 2.78 | 345.55 | 59.42 |
| 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.55 | 0.00 | 652.64 | 18.54 | 2.81 | 424.38 | 139.33 |
| 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.55 | 0.00 | 652.64 | 18.55 | 2.81 | 424.31 | 139.31 |
| 102.600 | .50 | 0.00 | 0.00 | 646.10 | 600.00 | 652.55 | 0.00 | 652.64 | 18.54 | 2.81 | 424.38 | 139.33 |
| 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.75 | 0.00 | 652.80 | 10.59 | 2.23 | 571.17 | 184.42 |
| 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.75 | 0.00 | 652.80 | 10.59 | 2.23 | 571.12 | 184.40 |
| 102.800 | 110.00 | 0.00 | 0.00 | 646.00 | 600.00 | 652.75 | 0.00 | 652.80 | 10.59 | 2.23 | 571.17 | 184.42 |
| 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.09 | 0.00 | 653.32 | 43.57 | 3.88 | 158.01 | 90.90 |
| 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.09 | 0.00 | 653.32 | 43.57 | 3.88 | 158.01 | 90.90 |
| 103.000 | 240.00 | 0.00 | 0.00 | 646.70 | 600.00 | 653.09 | 0.00 | 653.32 | 43.57 | 3.88 | 158.01 | 90.90 |
| 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.91 | 0.00 | 655.08 | 26.15 | 3.31 | 199.08 | 117.33 |
| 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.91 | 0.00 | 655.08 | 26.15 | 3.31 | 199.08 | 117.33 |
| 103.300 | 526.00 | 0.00 | 0.00 | 648.00 | 600.00 | 654.91 | 0.00 | 655.08 | 26.15 | 3.31 | 199.08 | 117.33 |
| 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.54 | 0.00 | 655.69 | 23.07 | 3.18 | 212.06 | 124.91 |
| 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.54 | 0.00 | 655.69 | 23.07 | 3.18 | 212.06 | 124.91 |
| 103.400 | 250.00 | 0.00 | 0.00 | 648.50 | 600.00 | 655.54 | 0.00 | 655.69 | 23.07 | 3.18 | 212.06 | 124.91 |
| 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 655.94 | 0.00 | 656.07 | 20.79 | 3.02 | 260.46 | 131.59 |
| 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 655.94 | 0.00 | 656.07 | 20.79 | 3.02 | 260.46 | 131.59 |
| 103.580 | 170.00 | 0.00 | 0.00 | 648.90 | 600.00 | 655.94 | 0.00 | 656.07 | 20.79 | 3.02 | 260.46 | 131.59 |
| 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 600.00 | 656.38 | 0.00 | 656.50 | 13.99 | 2.75 | 224.26 | 160.39 |
| 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 600.00 | 656.38 | 0.00 | 656.50 | 13.99 | 2.75 | 224.26 | 160.39 |
| 103.620 | 20.00 | 655.30 | 653.00 | 648.90 | 600.00 | 656.38 | 0.00 | 656.50 | 13.99 | 2.75 | 224.26 | 160.39 |
| 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.43 | 0.00 | 656.55 | 14.42 | 2.78 | 221.59 | 158.01 |
| 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.43 | 0.00 | 656.55 | 14.42 | 2.78 | 221.59 | 158.01 |
| 104.200 | 35.00 | 0.00 | 0.00 | 649.00 | 600.00 | 656.43 | 0.00 | 656.55 | 14.42 | 2.78 | 221.59 | 158.01 |
| 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.52 | 0.00 | 656.65 | 15.40 | 2.84 | 218.19 | 152.91 |
| 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.52 | 0.00 | 656.65 | 15.40 | 2.84 | 218.19 | 152.91 |
| 103.980 | 65.00 | 0.00 | 0.00 | 649.90 | 600.00 | 656.52 | 0.00 | 656.65 | 15.40 | 2.84 | 218.19 | 152.91 |
| 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 600.00 | 658.01 | 0.00 | 658.08 | 6.58 | 2.06 | 311.37 | 233.86 |
| 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 600.00 | 658.01 | 0.00 | 658.08 | 6.58 | 2.06 | 311.37 | 233.86 |
| 104.020 | 90.00 | 656.90 | 655.60 | 649.90 | 600.00 | 658.01 | 0.00 | 658.08 | 6.58 | 2.06 | 311.37 | 233.86 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.21 | 0.00 | 658.30 | 10.98 | 2.50 | 255.24 | 181.04 |
| 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.21 | 0.00 | 658.30 | 10.98 | 2.50 | 255.24 | 181.04 |
| 104.800 | 240.00 | 0.00 | 0.00 | 651.00 | 600.00 | 658.21 | 0.00 | 658.30 | 10.98 | 2.50 | 255.24 | 181.04 |
| 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.67 | 0.00 | 658.82 | 21.22 | 3.18 | 197.77 | 130.24 |
| 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.67 | 0.00 | 658.82 | 21.22 | 3.18 | 197.77 | 130.24 |
| 104.900 | 336.00 | 0.00 | 0.00 | 652.50 | 600.00 | 658.67 | 0.00 | 658.82 | 21.22 | 3.18 | 197.77 | 130.24 |
| 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 659.89 | 0.00 | 660.04 | 33.12 | 3.11 | 192.87 | 104.26 |
| 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 659.89 | 0.00 | 660.04 | 33.12 | 3.11 | 192.87 | 104.26 |
| 105.200 | 464.00 | 0.00 | 0.00 | 654.70 | 600.00 | 659.89 | 0.00 | 660.04 | 33.12 | 3.11 | 192.87 | 104.26 |
| 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.53 | 0.00 | 660.65 | 25.45 | 2.80 | 214.30 | 118.93 |
| 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.53 | 0.00 | 660.65 | 25.45 | 2.80 | 214.30 | 118.93 |
| 104.980 | 210.00 | 0.00 | 0.00 | 656.20 | 600.00 | 660.53 | 0.00 | 660.65 | 25.45 | 2.80 | 214.30 | 118.93 |
| 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 600.00 | 663.36 | 0.00 | 663.39 | 3.66 | 1.46 | 476.18 | 313.82 |
| 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 600.00 | 663.36 | 0.00 | 663.39 | 3.66 | 1.46 | 476.18 | 313.82 |
| 105.020 | 82.00 | 662.00 | 659.30 | 656.20 | 600.00 | 663.36 | 0.00 | 663.39 | 3.66 | 1.46 | 476.18 | 313.82 |
| 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.39 | 0.00 | 663.42 | 3.54 | 1.45 | 482.83 | 318.86 |
| 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.39 | 0.00 | 663.42 | 3.54 | 1.45 | 482.83 | 318.86 |
| 105.800 | 90.00 | 0.00 | 0.00 | 656.00 | 600.00 | 663.39 | 0.00 | 663.42 | 3.54 | 1.45 | 482.83 | 318.86 |
| 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.56 | 0.00 | 663.60 | 5.13 | 1.63 | 411.24 | 265.00 |
| 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.56 | 0.00 | 663.60 | 5.13 | 1.63 | 411.24 | 265.00 |
| 105.850 | 396.00 | 0.00 | 0.00 | 656.60 | 600.00 | 663.56 | 0.00 | 663.60 | 5.13 | 1.63 | 411.24 | 265.00 |
| 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.76 | 0.00 | 663.78 | 5.31 | 1.67 | 751.95 | 260.41 |
| 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.76 | 0.00 | 663.78 | 5.31 | 1.67 | 751.95 | 260.41 |
| 105.900 | 350.00 | 0.00 | 0.00 | 657.50 | 600.00 | 663.76 | 0.00 | 663.78 | 5.31 | 1.67 | 751.95 | 260.41 |
| 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.91 | 0.00 | 663.93 | 6.74 | 1.84 | 683.28 | 231.10 |
| 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.91 | 0.00 | 663.93 | 6.74 | 1.84 | 683.28 | 231.10 |
| 106.000 | 254.00 | 0.00 | 0.00 | 657.80 | 600.00 | 663.91 | 0.00 | 663.93 | 6.74 | 1.84 | 683.28 | 231.10 |
| 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.28 | 0.00 | 664.30 | 8.03 | 1.80 | 685.20 | 211.78 |
| 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.28 | 0.00 | 664.30 | 8.03 | 1.80 | 685.20 | 211.78 |
| 106.500 | 496.00 | 0.00 | 0.00 | 659.20 | 600.00 | 664.28 | 0.00 | 664.30 | 8.03 | 1.80 | 685.20 | 211.78 |
| 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.70 | 0.00 | 664.72 | 14.16 | 2.07 | 402.85 | 98.34 |
| 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.70 | 0.00 | 664.72 | 14.16 | 2.07 | 402.85 | 98.34 |
| 107.000 | 429.00 | 0.00 | 0.00 | 660.40 | 370.00 | 664.70 | 0.00 | 664.72 | 14.16 | 2.07 | 402.85 | 98.34 |
| 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.30 | 0.00 | 665.32 | 14.25 | 2.08 | 401.87 | 98.00 |
| 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.30 | 0.00 | 665.32 | 14.25 | 2.08 | 401.87 | 98.00 |
| 107.200 | 421.00 | 0.00 | 0.00 | 661.00 | 370.00 | 665.30 | 0.00 | 665.32 | 14.25 | 2.08 | 401.87 | 98.00 |
| 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.41 | 0.00 | 666.57 | 49.01 | 3.32 | 133.44 | 52.85 |
| 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.41 | 0.00 | 666.57 | 49.01 | 3.32 | 133.44 | 52.85 |
| 107.500 | 500.00 | 0.00 | 0.00 | 662.00 | 370.00 | 666.41 | 0.00 | 666.57 | 49.01 | 3.32 | 133.44 | 52.85 |
| 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.88 | 0.00 | 667.99 | 23.81 | 2.74 | 135.07 | 75.83 |
| 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.88 | 0.00 | 667.99 | 23.81 | 2.74 | 135.07 | 75.83 |
| 108.200 | 429.00 | 0.00 | 0.00 | 662.70 | 370.00 | 667.88 | 0.00 | 667.99 | 23.81 | 2.74 | 135.07 | 75.83 |

HOUGHTON DRAIN TO D/S EN

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 4.200 | 600.00 | 645.36 | 0.00 | 0.00 | -1.64 | 197.20 | 0.00 |
| 4.200 | 600.00 | 646.10 | .74 | 0.00 | 0.00 | 306.60 | 0.00 |
| 4.200 | 600.00 | 644.60 | -1.50 | 0.00 | 0.00 | 149.61 | 0.00 |
| 100.200 | 600.00 | 645.94 | 0.00 | .57 | 0.00 | 195.21 | 260.00 |
| 100.200 | 600.00 | 646.35 | .41 | .25 | 0.00 | 283.69 | 260.00 |
| 100.200 | 600.00 | 645.78 | -.56 | 1.18 | 0.00 | 185.49 | 260.00 |
| 99.980 | 600.00 | 646.23 | 0.00 | .30 | 0.00 | 282.61 | 152.00 |
| 99.980 | 600.00 | 646.52 | .29 | .18 | 0.00 | 303.30 | 152.00 |
| 99.980 | 600.00 | 646.14 | -.39 | .35 | 0.00 | 275.29 | 152.00 |
| 100.020 | 600.00 | 646.34 | 0.00 | .11 | 0.00 | 310.00 | 48.00 |
| 100.020 | 600.00 | 646.59 | .26 | .07 | 0.00 | 310.00 | 48.00 |
| 100.020 | 600.00 | 646.26 | -.33 | .12 | 0.00 | 310.00 | 48.00 |
| 100.800 | 600.00 | 646.56 | 0.00 | .22 | 0.00 | 257.19 | 90.00 |
| 100.800 | 600.00 | 646.74 | .18 | .15 | 0.00 | 276.76 | 90.00 |
| 100.800 | 600.00 | 646.51 | -.23 | .25 | 0.00 | 242.43 | 90.00 |
| 100.900 | 600.00 | 648.11 | 0.00 | 1.56 | 0.00 | 285.22 | 550.00 |
| 100.900 | 600.00 | 648.09 | -.02 | 1.35 | 0.00 | 284.65 | 550.00 |
| 100.900 | 600.00 | 648.11 | .02 | 1.61 | 0.00 | 285.41 | 550.00 |
| 101.000 | 600.00 | 649.11 | 0.00 | 1.00 | 0.00 | 424.00 | 540.00 |
| 101.000 | 600.00 | 649.11 | .00 | 1.02 | 0.00 | 424.00 | 540.00 |
| 101.000 | 600.00 | 649.11 | -.00 | .99 | 0.00 | 424.00 | 540.00 |
| 101.500 | 600.00 | 649.89 | 0.00 | .78 | 0.00 | 421.58 | 410.00 |
| 101.500 | 600.00 | 649.89 | .01 | .78 | 0.00 | 421.04 | 410.00 |
| 101.500 | 600.00 | 649.89 | -.01 | .78 | 0.00 | 421.53 | 410.00 |
| 102.200 | 600.00 | 650.98 | 0.00 | 1.09 | 0.00 | 296.37 | 340.00 |
| 102.200 | 600.00 | 650.99 | .01 | 1.09 | 0.00 | 297.55 | 340.00 |
| 102.200 | 600.00 | 650.98 | -.01 | 1.09 | 0.00 | 296.39 | 340.00 |
| 101.980 | 600.00 | 651.77 | 0.00 | .79 | 0.00 | 346.84 | 160.00 |
| 101.980 | 600.00 | 651.77 | -.00 | .78 | 0.00 | 346.78 | 160.00 |
| 101.980 | 600.00 | 651.77 | .00 | .79 | 0.00 | 346.84 | 160.00 |
| 102.020 | 600.00 | 652.49 | 0.00 | .72 | 0.00 | 510.00 | 40.00 |
| 102.020 | 600.00 | 652.49 | -.00 | .72 | 0.00 | 510.00 | 40.00 |
| 102.020 | 600.00 | 652.49 | .00 | .72 | 0.00 | 510.00 | 40.00 |
| 102.500 | 600.00 | 652.47 | 0.00 | -.02 | 0.00 | 458.02 | 30.00 |
| 102.500 | 600.00 | 652.47 | -.00 | -.02 | 0.00 | 457.98 | 30.00 |
| 102.500 | 600.00 | 652.47 | .00 | -.02 | 0.00 | 458.02 | 30.00 |
| 102.540 | 600.00 | 652.48 | 0.00 | .01 | 0.00 | 459.41 | .50 |
| 102.540 | 600.00 | 652.48 | -.00 | .01 | 0.00 | 459.36 | .50 |
| 102.540 | 600.00 | 652.48 | .00 | .01 | 0.00 | 459.41 | .50 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 102.560 | 600.00 | 652.56 | 0.00 | .08 | 0.00 | 478.70 | 4.00 |
| 102.560 | 600.00 | 652.56 | -.00 | .08 | 0.00 | 478.67 | 4.00 |
| 102.560 | 600.00 | 652.56 | .00 | .08 | 0.00 | 478.70 | 4.00 |
| 102.600 | 600.00 | 652.55 | 0.00 | -.01 | 0.00 | 478.34 | .50 |
| 102.600 | 600.00 | 652.55 | -.00 | -.01 | 0.00 | 478.31 | .50 |
| 102.600 | 600.00 | 652.55 | .00 | -.01 | 0.00 | 478.34 | .50 |
| 102.800 | 600.00 | 652.75 | 0.00 | .20 | 0.00 | 510.00 | 110.00 |
| 102.800 | 600.00 | 652.75 | -.00 | .20 | 0.00 | 510.00 | 110.00 |
| 102.800 | 600.00 | 652.75 | .00 | .20 | 0.00 | 510.00 | 110.00 |
| 103.000 | 600.00 | 653.09 | 0.00 | .34 | 0.00 | 64.04 | 240.00 |
| 103.000 | 600.00 | 653.09 | -.00 | .34 | 0.00 | 64.04 | 240.00 |
| 103.000 | 600.00 | 653.09 | .00 | .34 | 0.00 | 64.04 | 240.00 |
| 103.300 | 600.00 | 654.91 | 0.00 | 1.82 | 0.00 | 95.39 | 526.00 |
| 103.300 | 600.00 | 654.91 | -.00 | 1.82 | 0.00 | 95.38 | 526.00 |
| 103.300 | 600.00 | 654.91 | .00 | 1.82 | 0.00 | 95.39 | 526.00 |
| 103.400 | 600.00 | 655.54 | 0.00 | .63 | 0.00 | 103.33 | 250.00 |
| 103.400 | 600.00 | 655.54 | -.00 | .63 | 0.00 | 103.33 | 250.00 |
| 103.400 | 600.00 | 655.54 | .00 | .63 | 0.00 | 103.33 | 250.00 |
| 103.580 | 600.00 | 655.94 | 0.00 | .40 | 0.00 | 186.34 | 170.00 |
| 103.580 | 600.00 | 655.94 | -.00 | .40 | 0.00 | 186.34 | 170.00 |
| 103.580 | 600.00 | 655.94 | .00 | .40 | 0.00 | 186.34 | 170.00 |
| 103.620 | 600.00 | 656.38 | 0.00 | .44 | 0.00 | 59.60 | 20.00 |
| 103.620 | 600.00 | 656.38 | -.00 | .44 | 0.00 | 59.60 | 20.00 |
| 103.620 | 600.00 | 656.38 | .00 | .44 | 0.00 | 59.60 | 20.00 |
| 104.200 | 600.00 | 656.43 | 0.00 | .05 | 0.00 | 58.92 | 35.00 |
| 104.200 | 600.00 | 656.43 | -.00 | .05 | 0.00 | 58.92 | 35.00 |
| 104.200 | 600.00 | 656.43 | .00 | .05 | 0.00 | 58.92 | 35.00 |
| 103.980 | 600.00 | 656.52 | 0.00 | .10 | 0.00 | 60.22 | 65.00 |
| 103.980 | 600.00 | 656.52 | -.00 | .10 | 0.00 | 60.22 | 65.00 |
| 103.980 | 600.00 | 656.52 | .00 | .10 | 0.00 | 60.22 | 65.00 |
| 104.020 | 600.00 | 658.01 | 0.00 | 1.49 | 0.00 | 65.14 | 90.00 |
| 104.020 | 600.00 | 658.01 | -.00 | 1.49 | 0.00 | 65.14 | 90.00 |
| 104.020 | 600.00 | 658.01 | .00 | 1.49 | 0.00 | 65.14 | 90.00 |
| 104.800 | 600.00 | 658.21 | 0.00 | .19 | 0.00 | 58.87 | 240.00 |
| 104.800 | 600.00 | 658.21 | -.00 | .19 | 0.00 | 58.87 | 240.00 |
| 104.800 | 600.00 | 658.21 | .00 | .19 | 0.00 | 58.87 | 240.00 |
| 104.900 | 600.00 | 658.67 | 0.00 | .46 | 0.00 | 51.68 | 336.00 |
| 104.900 | 600.00 | 658.67 | -.00 | .46 | 0.00 | 51.68 | 336.00 |
| 104.900 | 600.00 | 658.67 | .00 | .46 | 0.00 | 51.68 | 336.00 |
| 105.200 | 600.00 | 659.89 | 0.00 | 1.22 | 0.00 | 67.19 | 464.00 |
| 105.200 | 600.00 | 659.89 | -.00 | 1.22 | 0.00 | 67.19 | 464.00 |
| 105.200 | 600.00 | 659.89 | .00 | 1.22 | 0.00 | 67.19 | 464.00 |

| SECNC | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 104.980 | 600.00 | 660.53 | 0.00 | .65 | 0.00 | 72.02 | 210.00 |
| 104.980 | 600.00 | 660.53 | -.00 | .65 | 0.00 | 72.02 | 210.00 |
| 104.980 | 600.00 | 660.53 | .00 | .65 | 0.00 | 72.02 | 210.00 |
| 105.020 | 600.00 | 663.36 | 0.00 | 2.83 | 0.00 | 165.20 | 82.00 |
| 105.020 | 600.00 | 663.36 | -.00 | 2.83 | 0.00 | 165.20 | 82.00 |
| 105.020 | 600.00 | 663.36 | .00 | 2.83 | 0.00 | 165.20 | 82.00 |
| 105.800 | 600.00 | 663.39 | 0.00 | .03 | 0.00 | 166.14 | 90.00 |
| 105.800 | 600.00 | 663.39 | -.00 | .03 | 0.00 | 166.14 | 90.00 |
| 105.800 | 600.00 | 663.39 | .00 | .03 | 0.00 | 166.14 | 90.00 |
| 105.850 | 600.00 | 663.56 | 0.00 | .16 | 0.00 | 153.50 | 396.00 |
| 105.850 | 600.00 | 663.56 | -.00 | .16 | 0.00 | 153.50 | 396.00 |
| 105.850 | 600.00 | 663.56 | .00 | .16 | 0.00 | 153.50 | 396.00 |
| 105.900 | 600.00 | 663.76 | 0.00 | .21 | 0.00 | 435.00 | 350.00 |
| 105.900 | 600.00 | 663.76 | -.00 | .21 | 0.00 | 435.00 | 350.00 |
| 105.900 | 600.00 | 663.76 | .00 | .21 | 0.00 | 435.00 | 350.00 |
| 106.000 | 600.00 | 663.91 | 0.00 | .15 | 0.00 | 423.45 | 254.00 |
| 106.000 | 600.00 | 663.91 | -.00 | .15 | 0.00 | 423.45 | 254.00 |
| 106.000 | 600.00 | 663.91 | .00 | .15 | 0.00 | 423.45 | 254.00 |
| 106.500 | 600.00 | 664.28 | 0.00 | .37 | 0.00 | 376.87 | 496.00 |
| 106.500 | 600.00 | 664.28 | -.00 | .37 | 0.00 | 376.87 | 496.00 |
| 106.500 | 600.00 | 664.28 | .00 | .37 | 0.00 | 376.87 | 496.00 |
| 107.000 | 370.00 | 664.70 | 0.00 | .42 | 0.00 | 342.71 | 429.00 |
| 107.000 | 370.00 | 664.70 | -.00 | .42 | 0.00 | 342.71 | 429.00 |
| 107.000 | 370.00 | 664.70 | .00 | .42 | 0.00 | 342.71 | 429.00 |
| 107.200 | 370.00 | 665.30 | 0.00 | .60 | 0.00 | 342.59 | 421.00 |
| 107.200 | 370.00 | 665.30 | -.00 | .60 | 0.00 | 342.59 | 421.00 |
| 107.200 | 370.00 | 665.30 | .00 | .60 | 0.00 | 342.59 | 421.00 |
| 107.500 | 370.00 | 666.41 | 0.00 | 1.12 | 0.00 | 104.77 | 500.00 |
| 107.500 | 370.00 | 666.41 | .00 | 1.12 | 0.00 | 104.77 | 500.00 |
| 107.500 | 370.00 | 666.41 | -.00 | 1.12 | 0.00 | 104.77 | 500.00 |
| 108.200 | 370.00 | 667.88 | 0.00 | 1.47 | 0.00 | 44.00 | 429.00 |
| 108.200 | 370.00 | 667.88 | 0.00 | 1.47 | 0.00 | 44.00 | 429.00 |
| 108.200 | 370.00 | 667.88 | 0.00 | 1.47 | 0.00 | 44.00 | 429.00 |

SUMMARY OF ERRORS

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN U/S PAGE DRAIN

4) DOCUMENT TYPE: 10YR, 50YR, 100YR, 500YR SUMMARY

00BREAK00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | FLTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 140.00 | 659.00 | 0.00 | 669.02 | 7.50 | 1.38 | 215.67 | 51.11 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 200.00 | 669.30 | 0.00 | 669.32 | 6.36 | 1.38 | 323.77 | 79.33 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 659.50 | 0.00 | 669.51 | 5.41 | 1.34 | 402.93 | 103.16 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 320.00 | 659.70 | 0.00 | 659.72 | 6.00 | 1.48 | 485.40 | 130.62 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 140.00 | 659.13 | 0.00 | 669.14 | 4.90 | 1.16 | 263.99 | 63.23 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 200.00 | 659.41 | 0.00 | 669.43 | 4.60 | 1.21 | 371.05 | 93.24 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 659.60 | 0.00 | 669.61 | 4.17 | 1.20 | 447.16 | 117.57 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 320.00 | 659.81 | 0.00 | 669.82 | 4.62 | 1.33 | 536.49 | 148.82 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 140.00 | 659.33 | 0.00 | 669.51 | 73.22 | 3.33 | 42.08 | 16.36 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 200.00 | 659.58 | 668.92 | 659.80 | 83.91 | 3.88 | 70.33 | 21.83 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 669.75 | 0.00 | 669.94 | 69.78 | 3.77 | 111.29 | 28.73 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 320.00 | 670.00 | 0.00 | 670.14 | 53.74 | 3.58 | 183.85 | 43.65 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 140.00 | 671.08 | 0.00 | 671.16 | 42.14 | 2.97 | 109.61 | 21.57 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 200.00 | 671.32 | 0.00 | 671.38 | 34.94 | 2.85 | 166.20 | 33.84 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.41 | 0.00 | 671.47 | 37.91 | 3.02 | 186.01 | 38.98 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 320.00 | 671.54 | 0.00 | 671.62 | 44.54 | 3.39 | 217.28 | 47.95 |
| | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 140.00 | 671.80 | 671.80 | 672.13 | 151.71 | 5.15 | 49.66 | 11.37 |
| * | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 200.00 | 672.09 | 672.09 | 672.33 | 121.81 | 4.95 | 88.89 | 18.12 |
| * | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.14 | 672.14 | 672.42 | 142.44 | 5.42 | 101.38 | 20.11 |
| | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 320.00 | 672.29 | 0.00 | 672.54 | 141.11 | 5.58 | 136.53 | 26.94 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 140.00 | 672.10 | 672.10 | 672.32 | 342.76 | 4.65 | 50.30 | 7.56 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 200.00 | 672.27 | 672.27 | 672.45 | 354.50 | 4.73 | 79.32 | 10.62 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.32 | 672.32 | 672.51 | 406.04 | 5.06 | 89.18 | 11.91 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 320.00 | 672.48 | 672.48 | 672.62 | 330.19 | 4.56 | 122.87 | 17.61 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 140.00 | 672.54 | 0.00 | 672.56 | 48.11 | 1.74 | 135.90 | 20.18 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 200.00 | 672.67 | 0.00 | 672.70 | 58.56 | 1.92 | 163.03 | 26.14 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 60.24 | 1.95 | 182.74 | 30.92 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 320.00 | 672.86 | 0.00 | 672.89 | 80.94 | 1.76 | 204.85 | 35.57 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 140.00 | 672.55 | 0.00 | 672.56 | 11.27 | 1.67 | 195.89 | 41.70 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 200.00 | 672.68 | 0.00 | 672.70 | 15.36 | 2.01 | 229.77 | 51.04 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 18.30 | 2.23 | 252.86 | 56.10 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 320.00 | 672.86 | 0.00 | 672.90 | 22.97 | 2.57 | 298.70 | 66.77 |

| SECNO | XLCH | ELTPD | ELLC | FLMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 140.00 | 672.61 | 0.00 | 672.62 | 9.55 | 1.56 | 208.68 | 45.31 |
| 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 200.00 | 672.76 | 0.00 | 672.78 | 12.32 | 1.84 | 256.78 | 56.97 |
| 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.85 | 0.00 | 672.87 | 13.67 | 1.98 | 291.09 | 64.92 |
| 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 320.00 | 672.98 | 0.00 | 673.01 | 16.65 | 2.25 | 344.37 | 78.42 |
| 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 140.00 | 672.63 | 0.00 | 672.65 | 8.83 | 1.51 | 215.12 | 47.11 |
| 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 200.00 | 672.79 | 0.00 | 672.81 | 11.13 | 1.76 | 269.99 | 59.95 |
| 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 12.18 | 1.88 | 306.85 | 68.77 |
| 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 320.00 | 673.03 | 0.00 | 673.05 | 14.55 | 2.13 | 364.76 | 83.90 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 140.00 | 672.63 | 0.00 | 672.65 | 32.64 | 1.43 | 155.94 | 24.51 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 200.00 | 672.80 | 0.00 | 672.81 | 36.60 | 1.52 | 191.08 | 33.06 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 40.34 | 1.26 | 213.44 | 37.79 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 320.00 | 673.03 | 0.00 | 673.05 | 44.74 | 1.40 | 252.96 | 47.84 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 140.00 | 672.69 | 0.00 | 672.70 | 27.12 | 1.31 | 166.22 | 26.88 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 200.00 | 672.86 | 0.00 | 672.88 | 30.72 | 1.09 | 206.84 | 36.08 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 31.80 | 1.15 | 232.15 | 42.56 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 320.00 | 673.10 | 0.00 | 673.13 | 35.06 | 1.28 | 277.41 | 54.05 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 140.00 | 672.69 | 0.00 | 672.70 | 7.41 | 1.40 | 231.23 | 51.42 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 200.00 | 672.86 | 0.00 | 672.88 | 9.11 | 1.62 | 296.66 | 66.27 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 9.98 | 1.73 | 335.11 | 75.98 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 320.00 | 673.11 | 0.00 | 673.13 | 11.85 | 1.95 | 397.21 | 92.96 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 140.00 | 672.75 | 0.00 | 672.79 | 22.14 | 2.23 | 149.15 | 29.75 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 200.00 | 672.93 | 0.00 | 672.97 | 24.43 | 2.44 | 191.42 | 40.46 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.04 | 0.00 | 673.08 | 25.69 | 2.57 | 215.98 | 47.35 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 320.00 | 673.20 | 0.00 | 673.25 | 28.20 | 2.81 | 271.32 | 60.26 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 140.00 | 672.86 | 0.00 | 672.95 | 44.80 | 3.05 | 106.00 | 20.92 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 200.00 | 673.06 | 0.00 | 673.13 | 44.44 | 3.17 | 150.22 | 30.00 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.16 | 0.00 | 673.24 | 44.38 | 3.24 | 174.85 | 36.03 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 320.00 | 673.34 | 0.00 | 673.41 | 45.82 | 3.43 | 215.71 | 47.27 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 140.00 | 672.86 | 672.78 | 673.02 | 247.04 | 4.06 | 60.43 | 8.91 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 200.00 | 673.06 | 0.00 | 673.17 | 215.57 | 3.79 | 98.93 | 13.62 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.17 | 0.00 | 673.26 | 187.96 | 3.54 | 121.24 | 17.51 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 320.00 | 673.34 | 0.00 | 673.42 | 161.96 | 3.29 | 157.76 | 25.15 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 140.00 | 673.13 | 0.00 | 673.17 | 75.74 | 2.25 | 113.50 | 16.09 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 200.00 | 673.26 | 0.00 | 673.30 | 87.41 | 2.42 | 140.71 | 21.39 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.33 | 0.00 | 673.38 | 93.47 | 2.50 | 156.35 | 24.82 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 320.00 | 673.48 | 0.00 | 673.53 | 97.01 | 2.54 | 188.17 | 32.49 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 140.00 | 673.15 | 0.00 | 673.17 | 15.94 | 1.93 | 171.11 | 35.07 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 200.00 | 673.27 | 0.00 | 673.30 | 21.78 | 2.33 | 200.02 | 42.86 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.34 | 0.00 | 673.38 | 25.02 | 2.54 | 218.31 | 47.98 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 320.00 | 673.49 | 0.00 | 673.53 | 28.84 | 2.83 | 268.39 | 59.58 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 140.00 | 673.20 | 0.00 | 673.21 | 4.03 | 1.09 | 310.56 | 69.70 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 200.00 | 673.34 | 0.00 | 673.35 | 5.59 | 1.32 | 367.21 | 84.57 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.42 | 0.00 | 673.43 | 6.44 | 1.44 | 402.94 | 94.60 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 320.00 | 673.58 | 0.00 | 673.59 | 7.65 | 1.63 | 473.13 | 115.71 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CUSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 140.00 | 673.21 | 0.00 | 673.21 | .84 | .57 | 584.28 | 152.34 |
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 200.00 | 673.35 | 0.00 | 673.35 | 1.30 | .72 | 652.86 | 175.64 |
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.44 | 0.00 | 673.44 | 1.56 | .80 | 699.93 | 191.86 |
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 320.00 | 673.60 | 0.00 | 673.61 | 2.02 | .94 | 794.26 | 224.95 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 140.00 | 673.21 | 0.00 | 673.22 | 11.24 | .87 | 216.23 | 41.75 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 200.00 | 673.35 | 0.00 | 673.36 | 15.42 | 1.01 | 246.30 | 50.93 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.44 | 0.00 | 673.45 | 17.77 | 1.09 | 264.67 | 56.94 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 320.00 | 673.60 | 0.00 | 673.62 | 21.44 | 1.20 | 299.51 | 69.10 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 140.00 | 673.24 | 0.00 | 673.25 | 10.44 | .84 | 221.56 | 43.32 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 200.00 | 673.40 | 0.00 | 673.41 | 13.73 | .96 | 255.71 | 53.97 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.49 | 0.00 | 673.50 | 15.68 | 1.02 | 275.51 | 60.61 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 320.00 | 673.67 | 0.00 | 673.68 | 18.73 | 1.12 | 312.64 | 73.94 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 140.00 | 673.25 | 0.00 | 673.25 | .80 | .55 | 596.87 | 156.59 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 200.00 | 673.41 | 0.00 | 673.41 | 1.18 | .69 | 677.71 | 184.18 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.51 | 0.00 | 673.51 | 1.39 | .77 | 733.04 | 203.39 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 320.00 | 673.68 | 0.00 | 673.69 | 1.77 | .89 | 838.06 | 240.57 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 140.00 | 673.26 | 0.00 | 673.27 | 1.53 | .72 | 465.36 | 113.27 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 200.00 | 673.43 | 0.00 | 673.43 | 2.12 | .88 | 539.82 | 137.43 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.53 | 0.00 | 673.53 | 2.45 | .97 | 587.49 | 153.42 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 320.00 | 673.71 | 0.00 | 673.72 | 2.96 | 1.10 | 683.29 | 186.11 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 170.00 | 673.32 | 0.00 | 673.36 | 20.01 | 1.86 | 180.20 | 38.00 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 260.00 | 673.51 | 0.00 | 673.55 | 26.42 | 2.23 | 231.43 | 50.59 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.62 | 0.00 | 673.67 | 27.53 | 2.34 | 261.45 | 59.08 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 420.00 | 673.82 | 0.00 | 673.87 | 30.12 | 2.54 | 316.95 | 76.53 |
| | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 190.00 | 674.04 | 0.00 | 674.61 | 336.07 | 6.06 | 31.37 | 10.36 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 315.00 | 674.72 | 674.72 | 675.16 | 217.88 | 5.70 | 74.18 | 21.34 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 674.94 | 674.94 | 675.35 | 195.87 | 5.72 | 103.47 | 28.22 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 535.00 | 675.18 | 675.18 | 675.62 | 204.53 | 6.18 | 135.04 | 37.41 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 190.00 | 675.56 | 0.00 | 675.62 | 26.78 | 2.23 | 132.84 | 36.72 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 315.00 | 676.01 | 0.00 | 676.07 | 29.47 | 2.56 | 192.54 | 58.03 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.20 | 0.00 | 676.28 | 32.73 | 2.81 | 218.26 | 69.04 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 535.00 | 676.50 | 0.00 | 676.60 | 35.35 | 3.16 | 261.27 | 89.98 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 245.00 | 676.00 | 0.00 | 676.11 | 51.48 | 3.04 | 124.46 | 34.15 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 430.00 | 676.49 | 0.00 | 676.62 | 56.30 | 3.53 | 190.73 | 57.31 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.72 | 0.00 | 676.87 | 60.08 | 3.84 | 222.42 | 70.96 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 750.00 | 677.07 | 0.00 | 677.25 | 63.57 | 4.30 | 269.13 | 94.06 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 245.00 | 676.38 | 0.00 | 676.41 | 10.90 | 1.66 | 229.31 | 74.19 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 430.00 | 676.94 | 0.00 | 676.98 | 14.27 | 2.16 | 305.31 | 113.84 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.22 | 0.00 | 677.28 | 16.23 | 2.44 | 343.67 | 136.53 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 750.00 | 677.63 | 0.00 | 677.70 | 18.93 | 2.84 | 399.25 | 172.39 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 245.00 | 678.54 | 0.00 | 678.58 | 6.24 | 1.45 | 168.46 | 98.07 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 430.00 | 678.96 | 0.00 | 678.99 | 6.79 | 1.61 | 431.18 | 165.06 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 550.00 | 679.11 | 0.00 | 679.15 | 8.92 | 1.90 | 472.96 | 184.16 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 750.00 | 679.31 | 0.00 | 679.37 | 12.81 | 2.35 | 526.85 | 209.59 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRTWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 245.00 | 678.62 | 0.00 | 678.66 | 9.77 | 1.68 | 180.35 | 78.38 |
| 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 430.00 | 679.04 | 0.00 | 679.11 | 16.96 | 2.34 | 270.00 | 104.43 |
| 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.22 | 0.00 | 679.31 | 21.20 | 2.67 | 316.27 | 119.45 |
| 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 750.00 | 679.46 | 0.00 | 679.58 | 27.60 | 3.14 | 379.52 | 142.76 |
| 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 245.00 | 679.21 | 0.00 | 679.28 | 20.49 | 2.21 | 114.38 | 54.13 |
| 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 430.00 | 679.94 | 0.00 | 680.05 | 25.91 | 2.78 | 198.83 | 84.48 |
| 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.26 | 0.00 | 680.38 | 26.69 | 2.94 | 276.59 | 106.45 |
| 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 750.00 | 680.68 | 0.00 | 680.80 | 27.10 | 3.12 | 382.87 | 144.08 |
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 245.00 | 679.93 | 0.00 | 679.99 | 15.93 | 2.26 | 170.82 | 61.39 |
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 430.00 | 680.72 | 0.00 | 680.78 | 13.29 | 2.39 | 330.24 | 117.94 |
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.05 | 0.00 | 681.11 | 13.39 | 2.53 | 410.45 | 150.29 |
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 750.00 | 681.49 | 0.00 | 681.56 | 14.04 | 2.77 | 526.06 | 200.13 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 245.00 | 679.95 | 0.00 | 680.00 | 62.18 | 2.10 | 157.98 | 31.07 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 430.00 | 680.75 | 0.00 | 680.78 | 30.81 | 1.75 | 323.17 | 77.47 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.09 | 0.00 | 681.12 | 27.48 | 1.75 | 404.95 | 104.92 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 750.00 | 681.53 | 0.00 | 681.56 | 25.60 | 1.80 | 523.14 | 148.25 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 245.00 | 679.97 | 0.00 | 680.02 | 57.36 | 2.03 | 163.60 | 32.35 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 430.00 | 680.76 | 0.00 | 680.80 | 30.29 | 1.74 | 325.20 | 78.12 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.10 | 0.00 | 681.13 | 27.10 | 1.74 | 407.01 | 105.65 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 750.00 | 681.54 | 0.00 | 681.57 | 25.30 | 1.79 | 525.39 | 149.11 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 245.00 | 679.97 | 0.00 | 680.03 | 14.55 | 2.18 | 180.06 | 64.23 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 430.00 | 680.75 | 0.00 | 680.81 | 12.51 | 2.34 | 339.48 | 121.56 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.09 | 0.00 | 681.14 | 12.65 | 2.48 | 420.88 | 154.64 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 750.00 | 681.52 | 0.00 | 681.59 | 13.28 | 2.71 | 538.76 | 205.81 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 245.00 | 680.50 | 0.00 | 680.59 | 23.82 | 2.63 | 131.59 | 50.20 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 430.00 | 681.21 | 0.00 | 681.30 | 21.50 | 2.88 | 263.56 | 92.73 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.55 | 0.00 | 681.64 | 20.88 | 3.01 | 336.41 | 120.35 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 750.00 | 681.99 | 0.00 | 682.09 | 20.54 | 3.21 | 446.53 | 165.47 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 245.00 | 681.14 | 0.00 | 681.36 | 63.00 | 3.77 | 64.98 | 30.87 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 430.00 | 681.80 | 0.00 | 682.10 | 72.56 | 4.59 | 132.65 | 50.48 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.11 | 0.00 | 682.40 | 68.16 | 4.76 | 187.64 | 66.62 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 750.00 | 682.54 | 0.00 | 682.81 | 61.81 | 4.92 | 270.84 | 95.40 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 245.00 | 682.42 | 0.00 | 682.50 | 20.84 | 2.19 | 111.93 | 53.66 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 430.00 | 684.54 | 0.00 | 684.59 | 9.22 | 1.82 | 255.52 | 141.63 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 550.00 | 684.82 | 0.00 | 684.89 | 11.62 | 2.10 | 295.98 | 161.36 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 750.00 | 685.10 | 0.00 | 685.20 | 16.64 | 2.59 | 340.47 | 183.83 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 245.00 | 682.63 | 0.00 | 682.71 | 20.66 | 2.18 | 112.31 | 53.90 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 430.00 | 684.63 | 0.00 | 684.69 | 10.20 | 1.89 | 240.99 | 134.62 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 684.94 | 0.00 | 685.01 | 12.64 | 2.18 | 283.37 | 154.70 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 750.00 | 685.27 | 0.00 | 685.37 | 17.38 | 2.64 | 334.73 | 179.89 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 245.00 | 683.83 | 0.00 | 683.96 | 33.67 | 2.89 | 85.82 | 42.22 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 430.00 | 685.21 | 0.00 | 685.29 | 15.46 | 2.58 | 269.69 | 109.37 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.60 | 0.00 | 685.68 | 15.70 | 2.76 | 337.14 | 138.82 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 750.00 | 686.08 | 0.00 | 686.17 | 16.22 | 3.01 | 474.12 | 186.24 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CHSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 245.00 | 685.18 | 0.00 | 685.25 | 19.99 | 2.49 | 176.60 | 54.80 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 430.00 | 686.00 | 0.00 | 686.06 | 15.37 | 2.53 | 343.46 | 109.68 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.39 | 0.00 | 686.44 | 14.51 | 2.61 | 434.63 | 144.37 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 750.00 | 686.88 | 0.00 | 686.94 | 14.10 | 2.77 | 570.75 | 199.76 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 245.00 | 685.32 | 0.00 | 685.32 | 1.27 | .85 | 612.52 | 217.73 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 430.00 | 686.13 | 0.00 | 686.14 | 1.59 | 1.05 | 867.48 | 340.55 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.51 | 0.00 | 686.52 | 1.81 | 1.17 | 993.81 | 408.47 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 750.00 | 687.01 | 0.00 | 687.02 | 2.19 | 1.35 | 1163.70 | 506.93 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 245.00 | 687.92 | 0.00 | 687.92 | .87 | .76 | 701.99 | 263.37 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 430.00 | 688.14 | 0.00 | 688.15 | 2.09 | 1.21 | 772.86 | 297.41 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 550.00 | 688.25 | 0.00 | 688.27 | 3.01 | 1.47 | 811.59 | 316.86 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 750.00 | 688.43 | 0.00 | 688.46 | 4.72 | 1.88 | 866.16 | 345.22 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 245.00 | 687.93 | 0.00 | 687.94 | 2.03 | 1.07 | 486.68 | 172.13 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 430.00 | 688.15 | 0.00 | 688.18 | 4.68 | 1.67 | 553.19 | 198.72 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.28 | 0.00 | 688.31 | 6.60 | 2.01 | 590.13 | 214.09 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 750.00 | 688.46 | 0.00 | 688.51 | 9.87 | 2.52 | 647.50 | 238.72 |

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CHSEL | DIFHSP | DIFHSX | DIFKHS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 108.890 | 140.00 | 669.00 | 0.00 | 0.00 | 0.00 | 333.09 | 0.00 |
| | 108.890 | 200.00 | 669.30 | .30 | 0.00 | 0.00 | 387.55 | 0.00 |
| | 108.890 | 240.00 | 669.50 | .20 | 0.00 | 0.00 | 404.09 | 0.00 |
| | 108.890 | 320.00 | 669.70 | .20 | 0.00 | 0.00 | 420.64 | 0.00 |
| | 109.000 | 140.00 | 669.13 | 0.00 | .13 | 0.00 | 358.46 | 200.00 |
| | 109.000 | 200.00 | 669.41 | .28 | .11 | 0.00 | 397.51 | 200.00 |
| | 109.000 | 240.00 | 669.60 | .18 | .10 | 0.00 | 413.05 | 200.00 |
| | 109.000 | 320.00 | 669.81 | .21 | .11 | 0.00 | 430.57 | 200.00 |
| | 109.100 | 140.00 | 669.33 | 0.00 | .20 | 0.00 | 27.38 | 241.00 |
| | 109.100 | 200.00 | 669.58 | .25 | .17 | 0.00 | 199.95 | 241.00 |
| | 109.100 | 240.00 | 669.75 | .17 | .15 | 0.00 | 253.83 | 241.00 |
| | 109.100 | 320.00 | 670.00 | .25 | .19 | 0.00 | 315.27 | 241.00 |
| | 109.200 | 140.00 | 671.08 | 0.00 | 1.75 | 0.00 | 230.60 | 300.00 |
| | 109.200 | 200.00 | 671.32 | .24 | 1.74 | 0.00 | 230.91 | 300.00 |
| | 109.200 | 240.00 | 671.41 | .09 | 1.66 | 0.00 | 231.30 | 300.00 |
| | 109.200 | 320.00 | 671.54 | .13 | 1.54 | 0.00 | 234.88 | 300.00 |
| | 109.220 | 140.00 | 671.80 | 0.00 | .72 | 0.00 | 107.89 | 107.00 |
| * | 109.220 | 200.00 | 672.09 | .29 | .77 | 0.00 | 220.71 | 107.00 |
| * | 109.220 | 240.00 | 672.14 | .05 | .73 | 0.00 | 230.56 | 107.00 |
| | 109.220 | 320.00 | 672.29 | .15 | .75 | 0.00 | 230.75 | 107.00 |
| * | 109.230 | 140.00 | 672.10 | 0.00 | .29 | 0.00 | 225.86 | 1.00 |
| * | 109.230 | 200.00 | 672.27 | .17 | .18 | 0.00 | 230.71 | 1.00 |
| * | 109.230 | 240.00 | 672.32 | .05 | .17 | 0.00 | 230.77 | 1.00 |
| * | 109.230 | 320.00 | 672.48 | .16 | .19 | 0.00 | 230.97 | 1.00 |
| | 109.240 | 140.00 | 672.54 | 0.00 | .45 | 0.00 | 234.12 | 16.00 |
| | 109.240 | 200.00 | 672.67 | .13 | .41 | 0.00 | 272.45 | 16.00 |
| | 109.240 | 240.00 | 672.75 | .08 | .43 | 0.00 | 382.34 | 16.00 |
| | 109.240 | 320.00 | 672.86 | .11 | .38 | 0.00 | 394.86 | 16.00 |
| | 109.250 | 140.00 | 672.55 | 0.00 | .01 | 0.00 | 235.29 | 1.00 |
| | 109.250 | 200.00 | 672.68 | .13 | .00 | 0.00 | 233.63 | 1.00 |
| | 109.250 | 240.00 | 672.75 | .07 | .00 | 0.00 | 381.70 | 1.00 |
| | 109.250 | 320.00 | 672.86 | .11 | .00 | 0.00 | 397.01 | 1.00 |
| | 110.500 | 140.00 | 672.61 | 0.00 | .06 | 0.00 | 242.76 | 55.00 |
| | 110.500 | 200.00 | 672.76 | .15 | .08 | 0.00 | 383.04 | 55.00 |
| | 110.500 | 240.00 | 672.85 | .09 | .10 | 0.00 | 394.51 | 55.00 |
| | 110.500 | 320.00 | 672.98 | .13 | .12 | 0.00 | 411.69 | 55.00 |
| | 110.980 | 140.00 | 672.63 | 0.00 | .02 | 0.00 | 255.93 | 25.00 |
| | 110.980 | 200.00 | 672.79 | .16 | .03 | 0.00 | 387.49 | 25.00 |
| | 110.980 | 240.00 | 672.89 | .09 | .04 | 0.00 | 399.67 | 25.00 |
| | 110.980 | 320.00 | 673.03 | .14 | .04 | 0.00 | 418.08 | 25.00 |
| | 110.990 | 140.00 | 672.63 | 0.00 | .00 | 0.00 | 255.65 | 1.00 |
| | 110.990 | 200.00 | 672.80 | .16 | .00 | 0.00 | 387.31 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 110.990 | 240.00 | 672.89 | .09 | .00 | 0.00 | 399.27 | 1.00 |
| 110.990 | 320.00 | 673.03 | .14 | .00 | 0.00 | 417.52 | 1.00 |

| SECNO | O | CHSEL | DIFWSP | DIFFSX | DIFKWS | TOPFID | XLCH |
|---|---|---|---|---|---|---|---|
| 111.010 | 140.00 | 672.69 | 0.00 | .06 | 0.00 | 279.98 | 18.00 |
| 111.010 | 200.00 | 672.86 | .17 | .07 | 0.00 | 395.90 | 18.00 |
| 111.010 | 240.00 | 672.96 | .10 | .07 | 0.00 | 408.29 | 18.00 |
| 111.010 | 320.00 | 673.10 | .15 | .08 | 0.00 | 427.53 | 18.00 |
| 111.020 | 140.00 | 672.69 | 0.00 | .00 | 0.00 | 286.25 | 1.00 |
| 111.020 | 200.00 | 672.86 | .17 | .00 | 0.00 | 396.34 | 1.00 |
| 111.020 | 240.00 | 672.96 | .10 | .00 | 0.00 | 408.76 | 1.00 |
| 111.020 | 320.00 | 673.11 | .15 | .00 | 0.00 | 428.05 | 1.00 |
| 111.500 | 140.00 | 672.75 | 0.00 | .06 | 0.00 | 230.81 | 55.00 |
| 111.500 | 200.00 | 672.93 | .18 | .07 | 0.00 | 233.76 | 55.00 |
| 111.500 | 240.00 | 673.04 | .10 | .08 | 0.00 | 257.66 | 55.00 |
| 111.500 | 320.00 | 673.20 | .16 | .09 | 0.00 | 337.94 | 55.00 |
| 111.980 | 140.00 | 672.86 | 0.00 | .11 | 0.00 | 230.58 | 40.00 |
| 111.980 | 200.00 | 673.06 | .19 | .12 | 0.00 | 230.82 | 40.00 |
| 111.980 | 240.00 | 673.16 | .11 | .13 | 0.00 | 230.95 | 40.00 |
| 111.980 | 320.00 | 673.34 | .17 | .14 | 0.00 | 257.12 | 40.00 |
| 111.990 | 140.00 | 672.86 | 0.00 | -.01 | 0.00 | 230.58 | 1.00 |
| 111.990 | 200.00 | 673.06 | .20 | .00 | 0.00 | 230.82 | 1.00 |
| 111.990 | 240.00 | 673.17 | .11 | .01 | 0.00 | 230.96 | 1.00 |
| 111.990 | 320.00 | 673.34 | .17 | .01 | 0.00 | 259.01 | 1.00 |
| 112.010 | 140.00 | 673.13 | 0.00 | .27 | 0.00 | 230.91 | 8.00 |
| 112.010 | 200.00 | 673.26 | .13 | .20 | 0.00 | 235.71 | 8.00 |
| 112.010 | 240.00 | 673.33 | .08 | .16 | 0.00 | 255.64 | 8.00 |
| 112.010 | 320.00 | 673.48 | .15 | .14 | 0.00 | 385.32 | 8.00 |
| 112.020 | 140.00 | 673.15 | 0.00 | .02 | 0.00 | 230.93 | 1.00 |
| 112.020 | 200.00 | 673.27 | .12 | .01 | 0.00 | 236.68 | 1.00 |
| 112.020 | 240.00 | 673.34 | .07 | .01 | 0.00 | 262.22 | 1.00 |
| 112.020 | 320.00 | 673.49 | .15 | .01 | 0.00 | 386.96 | 1.00 |
| 112.500 | 140.00 | 673.20 | 0.00 | .05 | 0.00 | 400.87 | 35.00 |
| 112.500 | 200.00 | 673.34 | .14 | .07 | 0.00 | 418.84 | 35.00 |
| 112.500 | 240.00 | 673.42 | .08 | .08 | 0.00 | 429.79 | 35.00 |
| 112.500 | 320.00 | 673.58 | .16 | .09 | 0.00 | 448.11 | 35.00 |
| 112.980 | 140.00 | 673.21 | 0.00 | .01 | 0.00 | 493.00 | 30.00 |
| 112.980 | 200.00 | 673.35 | .14 | .02 | 0.00 | 529.88 | 30.00 |
| 112.980 | 240.00 | 673.44 | .09 | .02 | 0.00 | 553.76 | 30.00 |
| 112.980 | 320.00 | 673.60 | .16 | .02 | 0.00 | 598.78 | 30.00 |
| 112.990 | 140.00 | 673.21 | 0.00 | -.00 | 0.00 | 490.60 | 1.00 |
| 112.990 | 200.00 | 673.35 | .14 | -.00 | 0.00 | 529.97 | 1.00 |
| 112.990 | 240.00 | 673.44 | .09 | -.00 | 0.00 | 553.87 | 1.00 |
| 112.990 | 320.00 | 673.60 | .16 | -.00 | 0.00 | 598.91 | 1.00 |
| 113.010 | 140.00 | 673.24 | 0.00 | .03 | 0.00 | 497.60 | 31.00 |
| 113.010 | 200.00 | 673.40 | .15 | .05 | 0.00 | 542.22 | 31.00 |
| 113.010 | 240.00 | 673.49 | .09 | .05 | 0.00 | 567.93 | 31.00 |
| 113.010 | 320.00 | 673.67 | .17 | .06 | 0.00 | 615.79 | 31.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 113.020 | 140.00 | 673.25 | 0.00 | .01 | 0.00 | 499.97 | 1.00 |
| | 113.020 | 200.00 | 673.41 | .16 | .01 | 0.00 | 542.62 | 1.00 |
| | 113.020 | 240.00 | 673.51 | .10 | .01 | 0.00 | 559.97 | 1.00 |
| | 113.020 | 320.00 | 673.68 | .18 | .02 | 0.00 | 618.57 | 1.00 |
| | 113.200 | 140.00 | 673.26 | 0.00 | .01 | 0.00 | 446.38 | 117.00 |
| | 113.200 | 200.00 | 673.43 | .16 | .02 | 0.00 | 457.54 | 117.00 |
| | 113.200 | 240.00 | 673.53 | .10 | .02 | 0.00 | 494.78 | 117.00 |
| | 113.200 | 320.00 | 673.71 | .18 | .03 | 0.00 | 545.44 | 117.00 |
| | 113.500 | 170.00 | 673.32 | 0.00 | .06 | 0.00 | 253.76 | 150.00 |
| | 113.500 | 260.00 | 673.51 | .19 | .08 | 0.00 | 273.78 | 150.00 |
| | 113.500 | 310.00 | 673.62 | .11 | .09 | 0.00 | 274.28 | 150.00 |
| | 113.500 | 420.00 | 673.82 | .20 | .11 | 0.00 | 275.19 | 150.00 |
| | 113.900 | 190.00 | 674.04 | 0.00 | .72 | 0.00 | 22.63 | 150.00 |
| * | 113.900 | 315.00 | 674.72 | .67 | 1.21 | 0.00 | 129.74 | 150.00 |
| * | 113.900 | 395.00 | 674.94 | .22 | 1.32 | 0.00 | 131.45 | 150.00 |
| * | 113.900 | 535.00 | 675.18 | .24 | 1.36 | 0.00 | 133.27 | 150.00 |
| | 113.950 | 190.00 | 675.56 | 0.00 | 1.52 | 0.00 | 133.15 | 115.00 |
| | 113.950 | 315.00 | 676.01 | .44 | 1.29 | 0.00 | 135.58 | 115.00 |
| | 113.950 | 395.00 | 676.20 | .19 | 1.25 | 0.00 | 136.00 | 115.00 |
| | 113.950 | 535.00 | 676.50 | .31 | 1.33 | 0.00 | 136.00 | 115.00 |
| | 114.200 | 245.00 | 676.00 | 0.00 | .44 | 0.00 | 132.66 | 119.00 |
| | 114.200 | 430.00 | 676.49 | .49 | .48 | 0.00 | 135.52 | 119.00 |
| | 114.200 | 550.00 | 676.72 | .23 | .53 | 0.00 | 136.00 | 119.00 |
| | 114.200 | 750.00 | 677.07 | .34 | .56 | 0.00 | 136.00 | 119.00 |
| | 113.980 | 245.00 | 676.38 | 0.00 | .38 | 0.00 | 136.00 | 133.00 |
| | 113.980 | 430.00 | 676.94 | .56 | .45 | 0.00 | 136.00 | 133.00 |
| | 113.980 | 550.00 | 677.22 | .28 | .49 | 0.00 | 136.00 | 133.00 |
| | 113.980 | 750.00 | 677.63 | .41 | .56 | 0.00 | 136.00 | 133.00 |
| | 114.020 | 245.00 | 678.54 | 0.00 | 2.16 | 0.00 | 50.44 | 33.00 |
| | 114.020 | 430.00 | 678.96 | .42 | 2.02 | 0.00 | 257.71 | 33.00 |
| | 114.020 | 550.00 | 679.11 | .15 | 1.90 | 0.00 | 275.10 | 33.00 |
| | 114.020 | 750.00 | 679.31 | .19 | 1.68 | 0.00 | 361.14 | 33.00 |
| | 114.800 | 245.00 | 678.62 | 0.00 | .07 | 0.00 | 146.17 | 100.00 |
| | 114.800 | 430.00 | 679.04 | .42 | .08 | 0.00 | 257.22 | 100.00 |
| | 114.800 | 550.00 | 679.22 | .18 | .11 | 0.00 | 258.30 | 100.00 |
| | 114.800 | 750.00 | 679.46 | .24 | .15 | 0.00 | 259.78 | 100.00 |
| | 114.850 | 245.00 | 679.21 | 0.00 | .59 | 0.00 | 67.60 | 446.00 |
| | 114.850 | 430.00 | 679.94 | .74 | .90 | 0.00 | 161.47 | 446.00 |
| | 114.850 | 550.00 | 680.26 | .32 | 1.04 | 0.00 | 257.37 | 446.00 |
| | 114.850 | 750.00 | 680.68 | .42 | 1.22 | 0.00 | 259.86 | 446.00 |
| | 114.920 | 245.00 | 679.93 | 0.00 | .72 | 0.00 | 177.36 | 395.00 |
| | 114.920 | 430.00 | 680.72 | .79 | .78 | 0.00 | 227.92 | 395.00 |
| | 114.920 | 550.00 | 681.05 | .34 | .79 | 0.00 | 251.17 | 395.00 |
| | 114.920 | 750.00 | 681.49 | .44 | .81 | 0.00 | 281.31 | 395.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 114.930 | 245.00 | 679.95 | 0.00 | .02 | 0.00 | 177.92 | .50 |
| 114.930 | 430.00 | 680.75 | .81 | .03 | 0.00 | 230.24 | .50 |
| 114.930 | 550.00 | 681.09 | .34 | .04 | 0.00 | 253.70 | .50 |
| 114.930 | 750.00 | 681.53 | .44 | .04 | 0.00 | 284.20 | .50 |
| 114.940 | 245.00 | 679.97 | 0.00 | .03 | 0.00 | 179.59 | 4.00 |
| 114.940 | 430.00 | 680.76 | .79 | .01 | 0.00 | 230.85 | 4.00 |
| 114.940 | 550.00 | 681.10 | .34 | .01 | 0.00 | 254.26 | 4.00 |
| 114.940 | 750.00 | 681.54 | .44 | .01 | 0.00 | 284.75 | 4.00 |
| 114.950 | 245.00 | 679.97 | 0.00 | -.01 | 0.00 | 180.11 | .50 |
| 114.950 | 430.00 | 680.75 | .78 | -.01 | 0.00 | 230.72 | .50 |
| 114.950 | 550.00 | 681.09 | .34 | -.01 | 0.00 | 254.03 | .50 |
| 114.950 | 750.00 | 681.52 | .44 | -.02 | 0.00 | 284.42 | .50 |
| 115.200 | 245.00 | 680.50 | 0.00 | .53 | 0.00 | 165.17 | 300.00 |
| 115.200 | 430.00 | 681.21 | .71 | .46 | 0.00 | 206.62 | 300.00 |
| 115.200 | 550.00 | 681.55 | .33 | .46 | 0.00 | 229.79 | 300.00 |
| 115.200 | 750.00 | 681.99 | .45 | .47 | 0.00 | 260.95 | 300.00 |
| 114.980 | 245.00 | 681.14 | 0.00 | .64 | 0.00 | 26.48 | 192.00 |
| 114.980 | 430.00 | 681.80 | .67 | .59 | 0.00 | 155.51 | 192.00 |
| 114.980 | 550.00 | 682.11 | .31 | .57 | 0.00 | 182.34 | 192.00 |
| 114.980 | 750.00 | 682.54 | .43 | .55 | 0.00 | 209.05 | 192.00 |
| 115.020 | 245.00 | 682.42 | 0.00 | 1.29 | 0.00 | 45.58 | 38.00 |
| 115.020 | 430.00 | 684.54 | 2.11 | 2.73 | 0.00 | 136.75 | 38.00 |
| 115.020 | 550.00 | 684.82 | .28 | 2.71 | 0.00 | 150.40 | 38.00 |
| 115.020 | 750.00 | 685.10 | .28 | 2.56 | 0.00 | 164.10 | 38.00 |
| 115.800 | 245.00 | 682.63 | 0.00 | .21 | 0.00 | 45.67 | 100.00 |
| 115.800 | 430.00 | 684.63 | 2.00 | .09 | 0.00 | 131.50 | 100.00 |
| 115.800 | 550.00 | 684.94 | .31 | .12 | 0.00 | 146.28 | 100.00 |
| 115.800 | 750.00 | 685.27 | .33 | .17 | 0.00 | 162.40 | 100.00 |
| 116.000 | 245.00 | 683.83 | 0.00 | 1.20 | 0.00 | 60.27 | 475.00 |
| 116.000 | 430.00 | 685.21 | 1.37 | .57 | 0.00 | 154.77 | 475.00 |
| 116.000 | 550.00 | 685.60 | .39 | .66 | 0.00 | 191.90 | 475.00 |
| 116.000 | 750.00 | 686.08 | .48 | .81 | 0.00 | 308.15 | 475.00 |
| 117.200 | 245.00 | 685.19 | 0.00 | 1.34 | 0.00 | 171.38 | 500.00 |
| 117.200 | 430.00 | 686.00 | .83 | .80 | 0.00 | 228.15 | 500.00 |
| 117.200 | 550.00 | 686.39 | .38 | .79 | 0.00 | 246.48 | 500.00 |
| 117.200 | 750.00 | 686.88 | .49 | .80 | 0.00 | 297.00 | 500.00 |
| 116.980 | 245.00 | 685.32 | 0.00 | .14 | 0.00 | 301.05 | 161.00 |
| 116.980 | 430.00 | 686.13 | .81 | .13 | 0.00 | 324.64 | 161.00 |
| 116.980 | 550.00 | 686.51 | .38 | .13 | 0.00 | 335.71 | 161.00 |
| 116.980 | 750.00 | 687.01 | .50 | .13 | 0.00 | 344.00 | 161.00 |
| 117.020 | 245.00 | 687.92 | 0.00 | 2.60 | 0.00 | 321.98 | 54.00 |
| 117.020 | 430.00 | 688.14 | .22 | 2.01 | 0.00 | 324.11 | 54.00 |
| 117.020 | 550.00 | 688.25 | .12 | 1.74 | 0.00 | 325.26 | 54.00 |
| 117.020 | 750.00 | 688.43 | .18 | 1.42 | 0.00 | 326.88 | 54.00 |

| SECNO | Q | CKSEL | DIFKSP | DIFKSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 117.800 | 245.00 | 687.93 | 0.00 | .01 | 0.00 | 291.53 | 70.00 |
| 117.800 | 430.00 | 688.15 | .23 | .01 | 0.00 | 302.95 | 70.00 |
| 117.800 | 550.00 | 688.28 | .12 | .02 | 0.00 | 309.11 | 70.00 |
| 117.800 | 750.00 | 688.46 | .19 | .03 | 0.00 | 318.44 | 70.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  109.220  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.220  PROFILE= 3  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=  109.230  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 4  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=  113.900  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 4  CRITICAL DEPTH ASSUMED
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FLOOD INSURANCE ZONE DATA FOR HOUGHTON DRAIN U/S PAGE

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10_ | 2_ | 0.2_ |
|---|---|---|---|---|
| 108.890 | 0. | -.50 | -.20 | .20 |
| 109.000 | 200. | -.47 | -.18 | .21 |
| 109.100 | 441. | -.42 | -.17 | .25 |
| 109.200 | 741. | -.33 | -.09 | .13 |
| 109.220 | 848. | -.34 | -.05 | .15 |
| 109.230 | 849. | -.22 | -.05 | .16 |
| 109.240 | 865. | -.21 | -.08 | .11 |
| 109.250 | 866. | -.21 | -.07 | .11 |
| 110.500 | 921. | -.24 | -.09 | .13 |
| 110.980 | 946. | -.25 | -.09 | .14 |
| 110.990 | 947. | -.25 | -.09 | .14 |
| 111.010 | 965. | -.27 | -.10 | .15 |
| 111.020 | 966. | -.27 | -.10 | .15 |
| 111.500 | 1021. | -.28 | -.10 | .16 |
| 111.980 | 1061. | -.30 | -.11 | .17 |
| 111.990 | 1062. | -.31 | -.11 | .17 |
| 112.010 | 1070. | -.20 | -.08 | .15 |
| 112.020 | 1071. | -.19 | -.07 | .15 |
| 112.500 | 1106. | -.22 | -.08 | .16 |
| 112.980 | 1136. | -.23 | -.09 | .16 |
| 112.990 | 1137. | -.23 | -.09 | .16 |
| 113.010 | 1169. | -.25 | -.09 | .17 |
| 113.020 | 1169. | -.25 | -.10 | .18 |
| 113.200 | 1286. | -.26 | -.10 | .18 |
| 113.500 | 1436. | -.30 | -.11 | .20 |
| 113.900 | 1586. | -.90 | -.22 | .24 |
| 113.950 | 1701. | -.63 | -.19 | .31 |
| 114.200 | 1820. | -.72 | -.23 | .34 |
| 113.980 | 1953. | -.84 | -.28 | .41 |
| 114.020 | 1986. | -.57 | -.15 | .19 |
| 114.800 | 2086. | -.60 | -.18 | .24 |
| 114.850 | 2532. | -1.06 | -.32 | .42 |
| 114.920 | 2927. | -1.13 | -.34 | .44 |
| 114.930 | 2928. | -1.14 | -.34 | .44 |
| 114.940 | 2932. | -1.13 | -.34 | .44 |
| 114.950 | 2932. | -1.12 | -.34 | .44 |
| 115.200 | 3232. | -1.05 | -.33 | .45 |
| 114.980 | 3424. | -.98 | -.31 | .43 |
| 115.020 | 3462. | -2.40 | -.28 | .28 |
| 115.800 | 3562. | -2.31 | -.31 | .33 |
| 116.000 | 4037. | -1.76 | -.39 | .48 |
| 117.200 | 4537. | -1.21 | -.38 | .49 |
| 116.980 | 4698. | -1.20 | -.38 | .50 |
| 117.020 | 4752. | -.34 | -.12 | .18 |
| 117.800 | 4822. | -.35 | -.12 | .19 |
| WEIGHTED AVG FOR REACH | | -.94 | -.25 | .33 |

FHF FOR THE REACH = 010 WITH 54.8_ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

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CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

| INC NO. | TOTAL LENGTH | AVG ELEVATION DATA 10_ | 1_ | DIFF. | RTD. AVG. | FHF | PERCENT WITHIN |
|---|---|---|---|---|---|---|---|
| | 0. | | | | SEC. | 108.890 | |
| 1 | 100. | 669.03 | 669.52 | -.49 | -.49 | 005 | 100. |
| | 200. | | | | SEC. | 109.000 | |
| 2 | 200. | 669.10 | 669.57 | -.47 | -.48 | 005 | 100. |
| 3 | 300. | 669.17 | 669.63 | -.46 | -.47 | 005 | 100. |
| 4 | 400. | 669.26 | 669.69 | -.43 | -.46 | 005 | 100. |
| | 441. | | | | SEC. | 109.100 | |
| 5 | 500. | 669.49 | 669.90 | -.41 | -.45 | 005 | 100. |
| 6 | 600. | 669.97 | 670.36 | -.39 | -.44 | 005 | 100. |
| 7 | 700. | 670.55 | 670.91 | -.36 | -.43 | 005 | 100. |
| | 741. | | | | SEC. | 109.200 | |
| 8 | 800. | 671.16 | 671.50 | -.34 | -.42 | 005 | 100. |
| | 848. | | | | SEC. | 109.220 | |
| | 849. | | | | SEC. | 109.230 | |
| | 865. | | | | SEC. | 109.240 | |
| | 866. | | | | SEC. | 109.250 | |
| 9 | 900. | 672.03 | 672.31 | -.28 | -.40 | 005 | 100. |
| | 921. | | | | SEC. | 110.500 | |
| | 946. | | | | SEC. | 110.980 | |
| | 947. | | | | SEC. | 110.990 | |
| | 965. | | | | SEC. | 111.010 | |
| | 966. | | | | SEC. | 111.020 | |
| 10 | 1000. | 672.66 | 672.91 | -.25 | -.39 | 005 | 100. |
| | 1021. | | | | SEC. | 111.500 | |
| | 1061. | | | | SEC. | 111.980 | |
| | 1062. | | | | SEC. | 111.990 | |
| | 1070. | | | | SEC. | 112.010 | |
| | 1071. | | | | SEC. | 112.020 | |
| 11 | 1100. | 672.96 | 673.21 | -.25 | -.38 | 005 | 100. |
| | 1106. | | | | SEC. | 112.500 | |
| | 1136. | | | | SEC. | 112.980 | |
| | 1137. | | | | SEC. | 112.990 | |
| | 1168. | | | | SEC. | 113.010 | |
| | 1169. | | | | SEC. | 113.020 | |
| 12 | 1200. | 673.22 | 673.46 | -.24 | -.36 | 005 | 100. |
| | 1286. | | | | SEC. | 113.200 | |
| 13 | 1300. | 673.26 | 673.52 | -.26 | -.36 | 005 | 100. |
| 14 | 1400. | 673.29 | 673.57 | -.28 | -.35 | 005 | 100. |
| | 1436. | | | | SEC. | 113.500 | |
| 15 | 1500. | 673.47 | 673.89 | -.42 | -.36 | 005 | 100. |
| | 1586. | | | | SEC. | 113.900 | |
| 16 | 1600. | 673.93 | 674.64 | -.71 | -.38 | 005 | 100. |
| 17 | 1700. | 674.89 | 675.64 | -.75 | -.40 | 005 | 100. |
| | 1701. | | | | SEC. | 113.950 | |
| 18 | 1800. | 675.74 | 676.41 | -.67 | -.41 | 005 | 100. |
| | 1820. | | | | SEC. | 114.200 | |
| 19 | 1900. | 676.08 | 676.83 | -.75 | -.43 | 005 | 100. |
| | 1953. | | | | SEC. | 113.980 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1986. | | | | SEC. | 114.020 | |
| 20 | 2000. | 677.39 | 678.08 | -.69 | -.45 | 005 | 100. |
| | 2086. | | | | SEC. | 114.800 | |
| 21 | 2100. | 678.59 | 679.19 | -.60 | -.45 | 005 | 100. |
| 22 | 2200. | 678.70 | 679.37 | -.67 | -.46 | 005 | 100. |
| 23 | 2300. | 678.83 | 679.60 | -.77 | -.48 | 005 | 100. |
| 24 | 2400. | 678.97 | 679.84 | -.87 | -.49 | 005 | 100. |
| 25 | 2500. | 679.10 | 680.07 | -.97 | -.51 | 005 | 100. |
| | 2532. | | | | SEC. | 114.850 | |
| 26 | 2600. | 679.25 | 680.29 | -1.04 | -.53 | 005 | 96. |
| 27 | 2700. | 679.42 | 680.50 | -1.08 | -.55 | 005 | 96. |
| 28 | 2800. | 679.60 | 680.70 | -1.10 | -.57 | 005 | 93. |
| 29 | 2900. | 679.79 | 680.90 | -1.11 | -.59 | 005 | 93. |
| | 2927. | | | | SEC. | 114.920 | |
| | 2928. | | | | SEC. | 114.930 | |
| | 2932. | | | | SEC. | 114.940 | |
| | 2932. | | | | SEC. | 114.950 | |
| 30 | 3000. | 679.98 | 681.10 | -1.12 | -.61 | 005 | 97. |
| 31 | 3100. | 680.18 | 681.27 | -1.09 | -.62 | 005 | 100. |
| 32 | 3200. | 680.35 | 681.42 | -1.07 | -.64 | 005 | 100. |
| | 3232. | | | | SEC. | 115.200 | |
| 33 | 3300. | 680.58 | 681.62 | -1.04 | -.65 | 005 | 100. |
| 34 | 3400. | 680.89 | 681.89 | -1.00 | -.66 | 005 | 100. |
| | 3424. | | | | SEC. | 114.980 | |
| | 3462. | | | | SEC. | 115.020 | |
| 35 | 3500. | 681.78 | 683.45 | -1.67 | -.69 | 005 | 97. |
| | 3562. | | | | SEC. | 115.800 | |
| 36 | 3600. | 682.62 | 684.93 | -2.31 | -.73 | 005 | 94. |
| 37 | 3700. | 682.86 | 685.06 | -2.20 | -.77 | 010 | 81. |

==========

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -.77 | -.22 | .29 |

FHF FOR REACH 1 = 010 WITH 81._ OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 2

==========

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 38 | 3800. | 683.11 | 685.20 | -2.09 | -2.09 | 020 | 100. |
| 39 | 3900. | 683.36 | 685.34 | -1.98 | -2.03 | 020 | 100. |
| 40 | 4000. | 683.61 | 685.48 | -1.97 | -1.98 | 020 | 100. |
| | 4037. | | | | SEC. | 116.000 | |
| 41 | 4100. | 683.87 | 685.62 | -1.75 | -1.92 | 020 | 100. |
| 42 | 4200. | 684.14 | 685.78 | -1.64 | -1.87 | 020 | 100. |
| 43 | 4300. | 684.41 | 685.93 | -1.52 | -1.81 | 020 | 100. |
| 44 | 4400. | 684.67 | 686.09 | -1.42 | -1.75 | 020 | 100. |
| 45 | 4500. | 684.94 | 686.25 | -1.31 | -1.70 | 015 | 100. |
| | 4537. | | | | SEC. | 117.200 | |
| 46 | 4600. | 685.15 | 686.38 | -1.23 | -1.65 | 015 | 100. |
| | 4698. | | | | SEC. | 116.980 | |
| 47 | 4700. | 685.32 | 686.51 | -1.19 | -1.60 | 015 | 100. |
| | 4752. | | | | SEC. | 117.020 | |
| 48 | 4800. | 686.67 | 687.42 | -.75 | -1.52 | 015 | 82. |
| | 4822. | | | | SEC. | 117.800 | |

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ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

| | 10_ | 2_ | 0.2_ |
|---|---|---|---|
| WEIGHTED AVG FOR REACH | -1.52 | -.36 | .46 |

```
FHF FOR REACH   2 = 015 WITH   82._ OF THE REACH WITHIN  .5 FEET
ZONE FOR THE REACH = A 3
=================================================================
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN U/S PAGE DRAIN

4) DOCUMENT TYPE: 100YR CONVERGENCE SUMMARY

00BREAK00

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.50 | 0.00 | 669.51 | 5.41 | 1.34 | 402.93 | 103.16 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 670.00 | 0.00 | 670.00 | 1.81 | .86 | 615.32 | 178.50 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.00 | 0.00 | 669.06 | 22.05 | 2.37 | 215.67 | 51.11 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.60 | 0.00 | 669.61 | 4.17 | 1.20 | 447.16 | 117.57 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 670.04 | 0.00 | 670.04 | 1.69 | .84 | 631.48 | 184.81 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.32 | 0.00 | 669.34 | 8.73 | 1.62 | 330.46 | 81.24 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 669.75 | 0.00 | 669.94 | 69.78 | 3.77 | 111.29 | 28.73 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 670.10 | 0.00 | 670.16 | 21.75 | 2.35 | 217.10 | 51.46 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 669.68 | 669.10 | 669.91 | 87.77 | 4.12 | 93.50 | 25.62 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.41 | 0.00 | 671.47 | 37.91 | 3.02 | 186.01 | 38.98 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.19 | 671.04 | 671.34 | 83.21 | 4.27 | 133.60 | 26.31 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.44 | 0.00 | 671.50 | 33.92 | 2.89 | 194.06 | 41.21 |
| * | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.14 | 672.14 | 672.42 | 142.44 | 5.42 | 101.38 | 20.11 |
| | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.21 | 0.00 | 672.41 | 111.68 | 4.87 | 115.75 | 22.71 |
| * | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.14 | 672.14 | 672.42 | 143.77 | 5.44 | 100.83 | 20.02 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.32 | 672.32 | 672.51 | 406.04 | 5.06 | 89.18 | 11.91 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.32 | 672.32 | 672.51 | 406.04 | 5.06 | 89.18 | 11.91 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.32 | 672.32 | 672.51 | 406.04 | 5.06 | 89.18 | 11.91 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 60.24 | 1.95 | 182.74 | 30.92 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 60.24 | 1.95 | 182.74 | 30.92 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 60.24 | 1.95 | 182.74 | 30.92 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 18.30 | 2.23 | 252.86 | 56.10 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 18.30 | 2.23 | 252.86 | 56.10 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 18.30 | 2.23 | 252.86 | 56.10 |
| | 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.85 | 0.00 | 672.87 | 13.67 | 1.98 | 291.09 | 64.92 |
| | 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.85 | 0.00 | 672.87 | 13.67 | 1.98 | 291.09 | 64.92 |
| | 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.85 | 0.00 | 672.87 | 13.67 | 1.98 | 291.09 | 64.92 |
| | 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 12.18 | 1.88 | 306.85 | 68.77 |
| | 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 12.18 | 1.88 | 306.85 | 68.77 |
| | 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 12.18 | 1.88 | 306.85 | 68.77 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | G | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 40.34 | 1.26 | 213.44 | 37.79 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 40.34 | 1.26 | 213.44 | 37.79 |
| 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 40.34 | 1.26 | 213.44 | 37.79 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 31.80 | 1.15 | 232.15 | 42.56 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 31.80 | 1.15 | 232.15 | 42.56 |
| 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 31.80 | 1.15 | 232.15 | 42.56 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 9.98 | 1.73 | 335.11 | 75.98 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 9.98 | 1.73 | 335.11 | 75.98 |
| 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 9.98 | 1.73 | 335.11 | 75.98 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.04 | 0.00 | 673.08 | 25.69 | 2.57 | 215.98 | 47.35 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.04 | 0.00 | 673.08 | 25.69 | 2.57 | 215.98 | 47.35 |
| 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.04 | 0.00 | 673.08 | 25.69 | 2.57 | 215.98 | 47.35 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.16 | 0.00 | 673.24 | 44.38 | 3.24 | 174.85 | 36.03 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.16 | 0.00 | 673.24 | 44.38 | 3.24 | 174.85 | 36.03 |
| 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.16 | 0.00 | 673.24 | 44.38 | 3.24 | 174.85 | 36.03 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.17 | 0.00 | 673.26 | 187.96 | 3.54 | 121.24 | 17.51 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.17 | 0.00 | 673.26 | 187.96 | 3.54 | 121.24 | 17.51 |
| 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.17 | 0.00 | 673.26 | 187.96 | 3.54 | 121.24 | 17.51 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.33 | 0.00 | 673.38 | 93.47 | 2.50 | 156.35 | 24.82 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.33 | 0.00 | 673.38 | 93.47 | 2.50 | 156.35 | 24.82 |
| 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.33 | 0.00 | 673.38 | 93.47 | 2.50 | 156.35 | 24.82 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.34 | 0.00 | 673.38 | 25.02 | 2.54 | 218.31 | 47.98 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.34 | 0.00 | 673.38 | 25.02 | 2.54 | 218.31 | 47.98 |
| 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.34 | 0.00 | 673.38 | 25.02 | 2.54 | 218.31 | 47.98 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.42 | 0.00 | 673.43 | 6.44 | 1.44 | 402.94 | 94.60 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.42 | 0.00 | 673.43 | 6.44 | 1.44 | 402.94 | 94.60 |
| 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.42 | 0.00 | 673.43 | 6.44 | 1.44 | 402.94 | 94.60 |
| 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.44 | 0.00 | 673.44 | 1.56 | .80 | 699.93 | 191.86 |
| 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.44 | 0.00 | 673.44 | 1.56 | .80 | 699.93 | 191.86 |
| 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.44 | 0.00 | 673.44 | 1.56 | .80 | 699.93 | 191.86 |
| 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.44 | 0.00 | 673.45 | 17.77 | 1.09 | 264.67 | 56.94 |
| 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.44 | 0.00 | 673.45 | 17.77 | 1.09 | 264.67 | 56.94 |
| 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.44 | 0.00 | 673.45 | 17.77 | 1.09 | 264.67 | 56.94 |
| 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.49 | 0.00 | 673.50 | 15.68 | 1.02 | 275.51 | 60.61 |
| 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.49 | 0.00 | 673.50 | 15.68 | 1.02 | 275.51 | 60.61 |
| 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.49 | 0.00 | 673.50 | 15.68 | 1.02 | 275.51 | 60.61 |
| 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.51 | 0.00 | 673.51 | 1.39 | .77 | 733.04 | 203.39 |
| 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.51 | 0.00 | 673.51 | 1.39 | .77 | 733.04 | 203.39 |
| 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.51 | 0.00 | 673.51 | 1.39 | .77 | 733.04 | 203.39 |
| 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.53 | 0.00 | 673.53 | 2.45 | .97 | 587.49 | 153.42 |
| 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.53 | 0.00 | 673.53 | 2.45 | .97 | 587.49 | 153.42 |
| 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.53 | 0.00 | 673.53 | 2.45 | .97 | 587.49 | 153.42 |

| | SECNC | XLCH | ELTRD | FLLC | ELMIN | Q | CWSEL | CRIWS | EG | 1CK*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.62 | 0.00 | 673.67 | 27.53 | 2.34 | 261.45 | 59.08 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.62 | 0.00 | 673.67 | 27.53 | 2.34 | 261.45 | 59.08 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.62 | 0.00 | 673.67 | 27.53 | 2.34 | 261.45 | 59.08 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 674.94 | 674.94 | 675.35 | 195.87 | 5.72 | 103.47 | 28.22 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 674.94 | 674.94 | 675.35 | 195.87 | 5.72 | 103.47 | 28.22 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 674.94 | 674.94 | 675.35 | 195.87 | 5.72 | 103.47 | 28.22 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.20 | 0.00 | 676.28 | 32.73 | 2.81 | 218.26 | 69.04 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.20 | 0.00 | 676.28 | 32.73 | 2.81 | 218.26 | 69.04 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.20 | 0.00 | 676.28 | 32.73 | 2.81 | 218.26 | 69.04 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.72 | 0.00 | 676.87 | 60.08 | 3.84 | 222.42 | 70.96 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.72 | 0.00 | 676.87 | 60.08 | 3.84 | 222.42 | 70.96 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.72 | 0.00 | 676.87 | 60.08 | 3.84 | 222.42 | 70.96 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.22 | 0.00 | 677.28 | 16.23 | 2.44 | 343.67 | 136.53 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.22 | 0.00 | 677.28 | 16.23 | 2.44 | 343.67 | 136.53 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.22 | 0.00 | 677.28 | 16.23 | 2.44 | 343.67 | 136.53 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 550.00 | 679.11 | 0.00 | 679.15 | 8.92 | 1.90 | 472.96 | 184.16 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 550.00 | 679.11 | 0.00 | 679.15 | 8.92 | 1.90 | 472.96 | 184.16 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 550.00 | 679.11 | 0.00 | 679.15 | 8.92 | 1.90 | 472.96 | 184.16 |
| | 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.22 | 0.00 | 679.31 | 21.20 | 2.67 | 316.27 | 119.45 |
| | 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.22 | 0.00 | 679.31 | 21.20 | 2.67 | 316.27 | 119.45 |
| | 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.22 | 0.00 | 679.31 | 21.20 | 2.67 | 316.27 | 119.45 |
| | 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.26 | 0.00 | 680.38 | 26.69 | 2.94 | 276.59 | 106.45 |
| | 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.26 | 0.00 | 680.38 | 26.69 | 2.94 | 276.59 | 106.45 |
| | 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.26 | 0.00 | 680.38 | 26.69 | 2.94 | 276.59 | 106.45 |
| | 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.05 | 0.00 | 681.11 | 13.39 | 2.53 | 410.45 | 150.29 |
| | 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.05 | 0.00 | 681.11 | 13.39 | 2.53 | 410.45 | 150.29 |
| | 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.05 | 0.00 | 681.11 | 13.39 | 2.53 | 410.45 | 150.29 |
| | 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.09 | 0.00 | 681.12 | 27.48 | 1.75 | 404.95 | 104.92 |
| | 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.09 | 0.00 | 681.12 | 27.48 | 1.75 | 404.95 | 104.92 |
| | 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.09 | 0.00 | 681.12 | 27.48 | 1.75 | 404.95 | 104.92 |
| | 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.10 | 0.00 | 681.13 | 27.10 | 1.74 | 407.01 | 105.65 |
| | 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.10 | 0.00 | 681.13 | 27.10 | 1.74 | 407.01 | 105.65 |
| | 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.10 | 0.00 | 681.13 | 27.10 | 1.74 | 407.01 | 105.65 |
| | 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.09 | 0.00 | 681.14 | 12.65 | 2.48 | 420.88 | 154.64 |
| | 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.09 | 0.00 | 681.14 | 12.65 | 2.48 | 420.88 | 154.64 |
| | 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.09 | 0.00 | 681.14 | 12.65 | 2.48 | 420.88 | 154.64 |
| | 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.55 | 0.00 | 681.64 | 20.88 | 3.01 | 336.41 | 120.35 |
| | 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.55 | 0.00 | 681.64 | 20.88 | 3.01 | 336.41 | 120.35 |
| | 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.55 | 0.00 | 681.64 | 20.88 | 3.01 | 336.41 | 120.35 |
| | 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.11 | 0.00 | 682.40 | 68.16 | 4.76 | 187.64 | 66.62 |
| | 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.11 | 0.00 | 682.40 | 68.16 | 4.76 | 187.64 | 66.62 |
| | 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.11 | 0.00 | 682.40 | 68.16 | 4.76 | 187.64 | 66.62 |

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 550.00 | 684.82 | 0.00 | 684.89 | 11.62 | 2.10 | 295.98 | 161.36 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 550.00 | 684.82 | 0.00 | 684.89 | 11.62 | 2.10 | 295.98 | 161.36 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 550.00 | 684.82 | 0.00 | 684.89 | 11.62 | 2.10 | 295.98 | 161.36 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 684.94 | 0.00 | 685.01 | 12.64 | 2.18 | 283.37 | 154.70 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 684.94 | 0.00 | 685.01 | 12.64 | 2.18 | 283.37 | 154.70 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 684.94 | 0.00 | 685.01 | 12.64 | 2.18 | 283.37 | 154.70 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.60 | 0.00 | 685.68 | 15.70 | 2.76 | 337.14 | 138.82 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.60 | 0.00 | 685.68 | 15.70 | 2.76 | 337.14 | 138.82 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.60 | 0.00 | 685.68 | 15.70 | 2.76 | 337.14 | 138.82 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.39 | 0.00 | 686.44 | 14.51 | 2.61 | 434.63 | 144.37 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.39 | 0.00 | 686.44 | 14.51 | 2.61 | 434.63 | 144.37 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.39 | 0.00 | 686.44 | 14.51 | 2.61 | 434.63 | 144.37 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.51 | 0.00 | 686.52 | 1.81 | 1.17 | 993.81 | 408.47 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.51 | 0.00 | 686.52 | 1.81 | 1.17 | 993.81 | 408.47 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.51 | 0.00 | 686.52 | 1.81 | 1.17 | 993.81 | 408.47 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 550.00 | 688.25 | 0.00 | 688.27 | 3.01 | 1.47 | 811.59 | 316.86 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 550.00 | 688.25 | 0.00 | 688.27 | 3.01 | 1.47 | 811.59 | 316.86 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 550.00 | 688.25 | 0.00 | 688.27 | 3.01 | 1.47 | 811.59 | 316.86 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.28 | 0.00 | 688.31 | 6.60 | 2.01 | 590.13 | 214.09 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.28 | 0.00 | 688.31 | 6.60 | 2.01 | 590.13 | 214.09 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.28 | 0.00 | 688.31 | 6.60 | 2.01 | 590.13 | 214.09 |

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 108.890 | 240.00 | 669.50 | 0.00 | 0.00 | 0.00 | 404.09 | 0.00 |
| | 108.890 | 240.00 | 670.00 | .50 | 0.00 | 0.00 | 445.45 | 0.00 |
| | 108.890 | 240.00 | 669.00 | -1.00 | 0.00 | 0.00 | 333.09 | 0.00 |
| | 109.000 | 240.00 | 669.60 | 0.00 | .10 | 0.00 | 413.05 | 200.00 |
| | 109.000 | 240.00 | 670.04 | .44 | .04 | 0.00 | 448.45 | 200.00 |
| | 109.000 | 240.00 | 669.32 | -.72 | .32 | 0.00 | 388.97 | 200.00 |
| | 109.100 | 240.00 | 669.75 | 0.00 | .15 | 0.00 | 263.83 | 241.00 |
| | 109.100 | 240.00 | 670.10 | .35 | .07 | 0.00 | 333.87 | 241.00 |
| | 109.100 | 240.00 | 669.68 | -.42 | .36 | 0.00 | 241.43 | 241.00 |
| | 109.200 | 240.00 | 671.41 | 0.00 | 1.66 | 0.00 | 231.30 | 300.00 |
| | 109.200 | 240.00 | 671.19 | -.22 | 1.09 | 0.00 | 230.73 | 300.00 |
| | 109.200 | 240.00 | 671.44 | .25 | 1.76 | 0.00 | 232.23 | 300.00 |
| * | 109.220 | 240.00 | 672.14 | 0.00 | .73 | 0.00 | 230.56 | 107.00 |
| | 109.220 | 240.00 | 672.21 | .06 | 1.01 | 0.00 | 230.63 | 107.00 |
| * | 109.220 | 240.00 | 672.14 | -.06 | .70 | 0.00 | 230.55 | 107.00 |
| * | 109.230 | 240.00 | 672.32 | 0.00 | .17 | 0.00 | 230.77 | 1.00 |
| * | 109.230 | 240.00 | 672.32 | 0.00 | .11 | 0.00 | 230.77 | 1.00 |
| * | 109.230 | 240.00 | 672.32 | 0.00 | .17 | 0.00 | 230.77 | 1.00 |
| | 109.240 | 240.00 | 672.75 | 0.00 | .43 | 0.00 | 382.34 | 16.00 |
| | 109.240 | 240.00 | 672.75 | 0.00 | .43 | 0.00 | 382.34 | 16.00 |
| | 109.240 | 240.00 | 672.75 | 0.00 | .43 | 0.00 | 382.34 | 16.00 |
| | 109.250 | 240.00 | 672.75 | 0.00 | .00 | 0.00 | 381.70 | 1.00 |
| | 109.250 | 240.00 | 672.75 | 0.00 | .00 | 0.00 | 381.70 | 1.00 |
| | 109.250 | 240.00 | 672.75 | 0.00 | .00 | 0.00 | 381.70 | 1.00 |
| | 110.500 | 240.00 | 672.85 | 0.00 | .10 | 0.00 | 394.51 | 55.00 |
| | 110.500 | 240.00 | 672.85 | 0.00 | .10 | 0.00 | 394.51 | 55.00 |
| | 110.500 | 240.00 | 672.85 | 0.00 | .10 | 0.00 | 394.51 | 55.00 |
| | 110.980 | 240.00 | 672.89 | 0.00 | .04 | 0.00 | 399.67 | 25.00 |
| | 110.980 | 240.00 | 672.89 | 0.00 | .04 | 0.00 | 399.67 | 25.00 |
| | 110.980 | 240.00 | 672.89 | 0.00 | .04 | 0.00 | 399.67 | 25.00 |
| | 110.990 | 240.00 | 672.89 | 0.00 | .00 | 0.00 | 399.27 | 1.00 |
| | 110.990 | 240.00 | 672.89 | 0.00 | .00 | 0.00 | 399.27 | 1.00 |
| | 110.990 | 240.00 | 672.89 | 0.00 | .00 | 0.00 | 399.27 | 1.00 |
| | 111.010 | 240.00 | 672.96 | 0.00 | .07 | 0.00 | 408.29 | 18.00 |
| | 111.010 | 240.00 | 672.96 | 0.00 | .07 | 0.00 | 408.29 | 18.00 |
| | 111.010 | 240.00 | 672.96 | 0.00 | .07 | 0.00 | 408.29 | 18.00 |
| | 111.020 | 240.00 | 672.96 | 0.00 | .00 | 0.00 | 408.76 | 1.00 |
| | 111.020 | 240.00 | 672.96 | 0.00 | .00 | 0.00 | 408.76 | 1.00 |
| | 111.020 | 240.00 | 672.96 | 0.00 | .00 | 0.00 | 408.76 | 1.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 111.500 | 240.00 | 673.04 | 0.00 | .08 | 0.00 | 257.66 | 55.00 |
| | 111.500 | 240.00 | 673.04 | 0.00 | .08 | 0.00 | 257.66 | 55.00 |
| | 111.500 | 240.00 | 673.04 | 0.00 | .08 | 0.00 | 257.66 | 55.00 |
| | 111.980 | 240.00 | 673.16 | 0.00 | .13 | 0.00 | 230.95 | 40.00 |
| | 111.980 | 240.00 | 673.16 | 0.00 | .13 | 0.00 | 230.95 | 40.00 |
| | 111.980 | 240.00 | 673.16 | 0.00 | .13 | 0.00 | 230.95 | 40.00 |
| | 111.990 | 240.00 | 673.17 | 0.00 | .01 | 0.00 | 230.96 | 1.00 |
| | 111.990 | 240.00 | 673.17 | 0.00 | .01 | 0.00 | 230.96 | 1.00 |
| | 111.990 | 240.00 | 673.17 | 0.00 | .01 | 0.00 | 230.96 | 1.00 |
| | 112.010 | 240.00 | 673.33 | 0.00 | .16 | 0.00 | 255.64 | 8.00 |
| | 112.010 | 240.00 | 673.33 | 0.00 | .16 | 0.00 | 255.64 | 8.00 |
| | 112.010 | 240.00 | 673.33 | 0.00 | .16 | 0.00 | 255.64 | 8.00 |
| | 112.020 | 240.00 | 673.34 | 0.00 | .01 | 0.00 | 262.22 | 1.00 |
| | 112.020 | 240.00 | 673.34 | 0.00 | .01 | 0.00 | 262.22 | 1.00 |
| | 112.020 | 240.00 | 673.34 | 0.00 | .01 | 0.00 | 262.22 | 1.00 |
| | 112.500 | 240.00 | 673.42 | 0.00 | .08 | 0.00 | 429.79 | 35.00 |
| | 112.500 | 240.00 | 673.42 | 0.00 | .08 | 0.00 | 429.79 | 35.00 |
| | 112.500 | 240.00 | 673.42 | 0.00 | .08 | 0.00 | 429.79 | 35.00 |
| | 112.980 | 240.00 | 673.44 | 0.00 | .02 | 0.00 | 553.76 | 30.00 |
| | 112.980 | 240.00 | 673.44 | 0.00 | .02 | 0.00 | 553.76 | 30.00 |
| | 112.980 | 240.00 | 673.44 | 0.00 | .02 | 0.00 | 553.76 | 30.00 |
| | 112.990 | 240.00 | 673.44 | 0.00 | -.00 | 0.00 | 553.87 | 1.00 |
| | 112.990 | 240.00 | 673.44 | 0.00 | -.00 | 0.00 | 553.87 | 1.00 |
| | 112.990 | 240.00 | 673.44 | 0.00 | -.00 | 0.00 | 553.87 | 1.00 |
| | 113.010 | 240.00 | 673.49 | 0.00 | .05 | 0.00 | 567.93 | 31.00 |
| | 113.010 | 240.00 | 673.49 | 0.00 | .05 | 0.00 | 567.93 | 31.00 |
| | 113.010 | 240.00 | 673.49 | 0.00 | .05 | 0.00 | 567.93 | 31.00 |
| | 113.020 | 240.00 | 673.51 | 0.00 | .01 | 0.00 | 569.97 | 1.00 |
| | 113.020 | 240.00 | 673.51 | 0.00 | .01 | 0.00 | 569.97 | 1.00 |
| | 113.020 | 240.00 | 673.51 | 0.00 | .01 | 0.00 | 569.97 | 1.00 |
| | 113.200 | 240.00 | 673.53 | 0.00 | .02 | 0.00 | 494.78 | 117.00 |
| | 113.200 | 240.00 | 673.53 | 0.00 | .02 | 0.00 | 494.78 | 117.00 |
| | 113.200 | 240.00 | 673.53 | 0.00 | .02 | 0.00 | 494.78 | 117.00 |
| | 113.500 | 310.00 | 673.62 | 0.00 | .09 | 0.00 | 274.28 | 150.00 |
| | 113.500 | 310.00 | 673.62 | 0.00 | .09 | 0.00 | 274.28 | 150.00 |
| | 113.500 | 310.00 | 673.62 | 0.00 | .09 | 0.00 | 274.28 | 150.00 |
| * | 113.900 | 395.00 | 674.94 | 0.00 | 1.32 | 0.00 | 131.45 | 150.00 |
| * | 113.900 | 395.00 | 674.94 | 0.00 | 1.32 | 0.00 | 131.45 | 150.00 |
| * | 113.900 | 395.00 | 674.94 | 0.00 | 1.32 | 0.00 | 131.45 | 150.00 |
| | 113.950 | 395.00 | 676.20 | 0.00 | 1.25 | 0.00 | 136.00 | 115.00 |
| | 113.950 | 395.00 | 676.20 | 0.00 | 1.25 | 0.00 | 136.00 | 115.00 |
| | 113.950 | 395.00 | 676.20 | 0.00 | 1.25 | 0.00 | 136.00 | 115.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 114.200 | 550.00 | 676.72 | 0.00 | .53 | 0.00 | 136.00 | 119.00 |
| 114.200 | 550.00 | 676.72 | 0.00 | .53 | 0.00 | 136.00 | 119.00 |
| 114.200 | 550.00 | 676.72 | 0.00 | .53 | 0.00 | 136.00 | 119.00 |
| 113.980 | 550.00 | 677.22 | 0.00 | .49 | 0.00 | 136.00 | 133.00 |
| 113.980 | 550.00 | 677.22 | 0.00 | .49 | 0.00 | 136.00 | 133.00 |
| 113.980 | 550.00 | 677.22 | 0.00 | .49 | 0.00 | 136.00 | 133.00 |
| 114.020 | 550.00 | 679.11 | 0.00 | 1.90 | 0.00 | 275.10 | 33.00 |
| 114.020 | 550.00 | 679.11 | 0.00 | 1.90 | 0.00 | 275.10 | 33.00 |
| 114.020 | 550.00 | 679.11 | 0.00 | 1.90 | 0.00 | 275.10 | 33.00 |
| 114.800 | 550.00 | 679.22 | 0.00 | .11 | 0.00 | 258.30 | 100.00 |
| 114.800 | 550.00 | 679.22 | 0.00 | .11 | 0.00 | 258.30 | 100.00 |
| 114.800 | 550.00 | 679.22 | 0.00 | .11 | 0.00 | 258.30 | 100.00 |
| 114.850 | 550.00 | 680.26 | 0.00 | 1.04 | 0.00 | 257.37 | 446.00 |
| 114.850 | 550.00 | 680.26 | 0.00 | 1.04 | 0.00 | 257.37 | 446.00 |
| 114.850 | 550.00 | 680.26 | 0.00 | 1.04 | 0.00 | 257.37 | 446.00 |
| 114.920 | 550.00 | 681.05 | 0.00 | .79 | 0.00 | 251.17 | 395.00 |
| 114.920 | 550.00 | 681.05 | 0.00 | .79 | 0.00 | 251.17 | 395.00 |
| 114.920 | 550.00 | 681.05 | 0.00 | .79 | 0.00 | 251.17 | 395.00 |
| 114.930 | 550.00 | 681.09 | 0.00 | .04 | 0.00 | 253.70 | .50 |
| 114.930 | 550.00 | 681.09 | 0.00 | .04 | 0.00 | 253.70 | .50 |
| 114.930 | 550.00 | 681.09 | 0.00 | .04 | 0.00 | 253.70 | .50 |
| 114.940 | 550.00 | 681.10 | 0.00 | .01 | 0.00 | 254.26 | 4.00 |
| 114.940 | 550.00 | 681.10 | 0.00 | .01 | 0.00 | 254.26 | 4.00 |
| 114.940 | 550.00 | 681.10 | 0.00 | .01 | 0.00 | 254.26 | 4.00 |
| 114.950 | 550.00 | 681.09 | 0.00 | -.01 | 0.00 | 254.03 | .50 |
| 114.950 | 550.00 | 681.09 | 0.00 | -.01 | 0.00 | 254.03 | .50 |
| 114.950 | 550.00 | 681.09 | 0.00 | -.01 | 0.00 | 254.03 | .50 |
| 115.200 | 550.00 | 681.55 | 0.00 | .46 | 0.00 | 229.79 | 300.00 |
| 115.200 | 550.00 | 681.55 | 0.00 | .46 | 0.00 | 229.79 | 300.00 |
| 115.200 | 550.00 | 681.55 | 0.00 | .46 | 0.00 | 229.79 | 300.00 |
| 114.980 | 550.00 | 682.11 | 0.00 | .57 | 0.00 | 182.34 | 192.00 |
| 114.980 | 550.00 | 682.11 | 0.00 | .57 | 0.00 | 182.34 | 192.00 |
| 114.980 | 550.00 | 682.11 | 0.00 | .57 | 0.00 | 182.34 | 192.00 |
| 115.020 | 550.00 | 684.82 | 0.00 | 2.71 | 0.00 | 150.40 | 38.00 |
| 115.020 | 550.00 | 684.82 | 0.00 | 2.71 | 0.00 | 150.40 | 38.00 |
| 115.020 | 550.00 | 684.82 | 0.00 | 2.71 | 0.00 | 150.40 | 38.00 |
| 115.800 | 550.00 | 684.94 | 0.00 | .12 | 0.00 | 146.28 | 100.00 |
| 115.800 | 550.00 | 684.94 | 0.00 | .12 | 0.00 | 146.28 | 100.00 |
| 115.800 | 550.00 | 684.94 | 0.00 | .12 | 0.00 | 146.28 | 100.00 |
| 116.000 | 550.00 | 685.60 | 0.00 | .66 | 0.00 | 191.90 | 475.00 |
| 116.000 | 550.00 | 685.60 | 0.00 | .66 | 0.00 | 191.90 | 475.00 |
| 116.000 | 550.00 | 685.60 | 0.00 | .66 | 0.00 | 191.90 | 475.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 117.200 | 550.00 | 686.39 | 0.00 | .79 | 0.00 | 246.48 | 500.00 |
| 117.200 | 550.00 | 686.39 | 0.00 | .79 | 0.00 | 246.48 | 500.00 |
| 117.200 | 550.00 | 686.39 | 0.00 | .79 | 0.00 | 246.48 | 500.00 |
| 116.980 | 550.00 | 686.51 | 0.00 | .13 | 0.00 | 335.71 | 161.00 |
| 116.980 | 550.00 | 686.51 | 0.00 | .13 | 0.00 | 335.71 | 161.00 |
| 116.980 | 550.00 | 686.51 | 0.00 | .13 | 0.00 | 335.71 | 161.00 |
| 117.020 | 550.00 | 688.25 | 0.00 | 1.74 | 0.00 | 325.26 | 54.00 |
| 117.020 | 550.00 | 688.25 | 0.00 | 1.74 | 0.00 | 325.26 | 54.00 |
| 117.020 | 550.00 | 688.25 | 0.00 | 1.74 | 0.00 | 325.26 | 54.00 |
| 117.800 | 550.00 | 688.28 | 0.00 | .02 | 0.00 | 309.11 | 70.00 |
| 117.800 | 550.00 | 688.28 | 0.00 | .02 | 0.00 | 309.11 | 70.00 |
| 117.800 | 550.00 | 688.28 | 0.00 | .02 | 0.00 | 309.11 | 70.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  109.220  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.220  PROFILE= 3  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=  109.230  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 3  CRITICAL DEPTH ASSUMED
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN U/S PAGE DRAIN

4) DOCUMENT TYPE: 100-YR ENCROACHED

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*****************************************************
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T1 HUD-FIA F-4705
T2 TROY
T3 HOUGHTON DRAIN U/S PAGE DRAIN 100 YR FLOW=240 CFS : ENCROACHMENT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | C.000000 | 0.00 | -1.0 | 0. | 669.500 | C.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | C.000 | C.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 2

CCHV=    .600 CEHV=    .900
*SECNO 108.890
 2800 NAT Q1=     103.16  WSEL=     669.50  ENC Q1=     103.16  WSEL=     669.60  RATIO=  0.0000
 NAT Q1=     116.  RATIOS LOB,CH,RCB=    .1428    .4062    .4510  WSEL=     669.60
   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      341.0      593.1  TYPE=      4  TARGET=         .114

         ** U/S END PAGE DRAIN - 650 FT. LONG CULVERT

   108.89      3.30    669.50      0.00    669.50    669.52       .02      0.00      0.00    668.40
     240.       22.      115.      103.       45.       77.      200.        0.        0.    668.30
     0.00       .49      1.49       .51      .080      .050      .080     0.000    666.20    340.96
  .000667        0.        0.        0.         0         0         0      0.00    252.14    593.10


*SECNO 109.000
 2800 NAT Q1=     117.57  WSEL=     669.60  ENC Q1=     117.57  WSEL=     669.70  RATIO=   .0000
 NAT Q1=     131.  RATIOS LOB,CH,RCB=    .1507    .3835    .4658  WSEL=     669.70

3470 ENCROACHMENT STATIONS=      234.2      603.2  TYPE=      4  TARGET=         .099
   109.00      3.42    669.62      0.00    669.60    669.63       .01       .11       .00    668.40
     240.       26.      106.      108.       58.       81.      231.        2.        1.    668.30
      .07       .45      1.31       .47      .080      .050      .080      .050    666.20    334.19
  .000487      200.      200.      200.         2         0         0      0.00    268.98    603.18


CCHV=    .200 CEHV=    .400
*SECNO 109.100
 2800 NAT Q1=      28.73  WSEL=     669.75  ENC Q1=      28.73  WSEL=     669.85  RATIO=   .0000
 NAT Q1=      34.  RATIOS LOB,CH,RCB=    .0396    .7766    .1838  WSEL=     669.85

3470 ENCROACHMENT STATIONS=      384.0      459.5  TYPE=      4  TARGET=         .155
   109.10      2.49    669.79      0.00    669.75    670.03       .24       .30       .09    669.50
     240.        0.      224.       16.        0.       55.       18.        3.        2.    669.40
      .08      0.00      4.08       .89      .080      .050      .080      .050    667.30    384.00
  .008120      241.      241.      241.         3         0         0      0.00     75.50    459.50


*SECNO 109.200
 2800 NAT Q1=      38.98  WSEL=     671.41  ENC Q1=      38.98  WSEL=     671.51  RATIO=   .0000
 NAT Q1=      46.  RATIOS LOB,CH,RCB=    .0001    .3411    .6588  WSEL=     671.51
3280 CROSS SECTION    109.20 EXTENDED       .54 FEET


3470 ENCROACHMENT STATIONS=      394.0      534.6  TYPE=      4  TARGET=         .144
   109.20      3.44    671.54      0.00    671.41    671.61       .07      1.54       .04    671.40
     240.        0.       94.      146.        0.       31.      131.        4.        3.    670.40
      .13      0.00      3.00      1.12      .080      .050      .080      .050    668.10    394.00
  .003544      300.      300.      300.         3         0         0      0.00    140.61    534.61
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CCHV=    .400 CEHV=    .800
*SECNO 109.220
 2800 NAT Q1=      20.11  WSEL=     672.14  ENC Q1=      20.11  WSEL=     672.24  RATIO=    .0000
 NAT Q1=     24.  RATIOS LOB,CH,ROB=  0.0000    .5036    .4964  WSEL=     672.24
3280 CROSS SECTION     109.22 EXTENDED        .09 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      394.0      504.6  TYPE=      4  TARGET=        .176
   109.22      2.99    672.19    672.19    672.14    672.56       .37       .71       .24    672.50
     240.        0.      154.       86.        0.       26.       53.        4.        3.    671.50
      .14      0.00      5.96      1.62      .080      .050      .080      .050    669.20    394.39
  .016892      107.      107.      107.         2        12         0      0.00    110.24    504.63

*SECNO 109.230
 2800 NAT Q1=      11.91  WSEL=     672.32  ENC Q1=      11.91  WSEL=     672.42  RATIO=   0.0000
 NAT Q1=     15.  RATIOS LOB,CH,ROB=  0.0000    .3026    .6974  WSEL=     672.42
3280 CROSS SECTION     109.23 EXTENDED        .28 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      394.0      503.4  TYPE=      4  TARGET=        .220

         ** D/S FACE DRIVEWAY BRIDGE

   109.23      3.18    672.38    672.38    672.32    672.65       .27       .03       .04    672.50
     240.        0.      102.      138.        0.       18.       50.        4.        3.    671.50
      .14      0.00      5.53      2.76      .080      .050      .080      .050    669.20    394.16
  .048571        1.        1.        1.         2        10         0    -34.54    114.28    508.43

*SECNO 109.240
 2800 NAT Q1=      30.92  WSEL=     672.75  ENC Q1=      30.92  WSEL=     672.85  RATIO=    .0000
 NAT Q1=     35.  RATIOS LOB,CH,ROB=   .0002    .1048    .8950  WSEL=     672.85
3280 CROSS SECTION     109.24 EXTENDED        .81 FEET


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

3470 ENCROACHMENT STATIONS=      394.0      570.3  TYPE=      4  TARGET=        .126
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   109.24      3.71    672.91      0.00    672.75    672.94       .03       .20       .10    672.50
     240.        0.       29.       211.       0.       20.      155.        4.        3.    671.50
      .14      0.00      1.48      1.36      .080      .050      .080      .050    669.20    394.00
  .005463       16.       16.       16.         2         0         0    -57.09    176.34    570.34

*SECNO 109.250
 2800 NAT Q1=      56.10  WSEL=     672.75  ENC Q1=      56.10  WSEL=     672.85  RATIO=    .0000
 NAT Q1=      65.  RATIOS LOB,CH,ROB=   .0246   .2770   .6984  WSEL=     672.85
3280 CROSS SECTION    109.25 EXTENDED        .81 FEET


3470 ENCROACHMENT STATIONS=      394.0      565.0  TYPE=      4  TARGET=        .139
   109.25      3.71    672.91      0.00    672.75    672.94       .03       .00       .00    672.50
     240.        0.       74.       166.       0.       34.      193.        4.        3.    671.50
      .14      0.00      2.14       .86      .080      .050      .080      .050    669.20    394.00
  .001620        1.        1.        1.         0         0         0      0.00    170.98    564.98

*SECNO 110.500
 2800 NAT Q1=      64.92  WSEL=     672.85  ENC Q1=      64.92  WSEL=     672.95  RATIO=    .0000
 NAT Q1=      75.  RATIOS LOB,CH,ROB=   .0447   .2549   .7005  WSEL=     672.95
3280 CROSS SECTION    110.50 EXTENDED        .89 FEET


3470 ENCROACHMENT STATIONS=      394.0      580.2  TYPE=      4  TARGET=        .134
   110.50      3.80    673.00      0.00    672.85    673.02       .02       .08       .00    672.50
     240.        0.       68.       172.       0.       35.      221.        4.        3.    671.50
      .15      0.00      1.92       .78      .080      .050      .080      .050    669.20    394.00
  .001263       55.       55.       55.         1         0         0      0.00    186.17    580.17

*SECNO 110.980
 2800 NAT Q1=      68.77  WSEL=     672.89  ENC Q1=      68.77  WSEL=     672.99  RATIO=    .0000
 NAT Q1=      79.  RATIOS LOB,CH,ROB=   .0524   .2475   .7001  WSEL=     672.99
3280 CROSS SECTION    110.98 EXTENDED        .93 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      394.0      587.9  TYPE=      4  TARGET=        .127
   110.98      3.83    673.03      0.00    672.89    673.05       .02       .03       .00    672.50
     240.        0.       65.       175.       0.       36.      234.        4.        4.    671.50
      .16      0.00      1.82       .75      .080      .050      .080      .050    669.20    394.00
  .001128       25.       25.       25.         0         0         0      0.00    193.87    587.87

*SECNO 110.990
 2800 NAT Q1=      37.79  WSEL=     672.89  ENC Q1=      37.79  WSEL=     672.99  RATIO=    .0000
 NAT Q1=      45.  RATIOS LOB,CH,ROB=   .0051   .0950   .8999  WSEL=     672.99
3280 CROSS SECTION    110.99 EXTENDED        .93 FEET
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3370 NORMAL BRIDGE,NPO= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

3470 ENCROACHMENT STATIONS=      394.0      566.9  TYPE=      4  TARGET=         .158

         ** D/S FACE DRIVEWAY BRIDGE

   110.99      3.83   673.03      0.00   672.89   673.06      .02      .00      .00   672.50
     240.        0.      27.      213.       0.      21.     173.       4.       4.   671.50
      .16      0.00     1.29      1.23     .080     .050     .080     .049   669.20   394.00
  .003803        1.       1.        1.        0        0        0   -56.66   172.92   566.92

*SECNO 111.010
 2800 NAT Q1=      42.56  WSEL=    672.96  ENC Q1=      42.56  WSEL=    673.06  RATIO=  0.0000
 NAT Q1=      50.  RATIOS LOB,CH,ROB=   .0112   .0907   .8980  WSEL=    673.06
3280 CROSS SECTION    111.01 EXTENDED       .99 FEET


3370 NORMAL BRIDGE,NPO= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

3470 ENCROACHMENT STATIONS=      394.0      571.8  TYPE=      4  TARGET=         .151
   111.01      3.90   673.10      0.00   672.95   673.12      .02      .06      .00   672.50
     240.        0.      26.      214.       3.      22.     187.       5.       4.   671.50
      .16      0.00     1.19      1.14     .080     .050     .080     .049   669.20   394.00
  .003099       19.      18.       18.        1        0        0   -57.27   177.77   571.77

*SECNO 111.020
 2800 NAT Q1=      75.98  WSEL=    672.96  ENC Q1=      75.98  WSEL=    673.06  RATIO=   .0000
 NAT Q1=      87.  RATIOS LOB,CH,ROB=   .0685   .2333   .6982  WSEL=    673.06
3280 CROSS SECTION    111.02 EXTENDED      1.00 FEET


3470 ENCROACHMENT STATIONS=      386.5      594.1  TYPE=      4  TARGET=         .127
   111.02      3.91   673.11      0.00   672.96   673.12      .02      .00      .00   672.50
     240.        2.      03.      176.       4.      37.     254.       5.       4.   671.50
      .16      .36     1.71       .69     .080     .050     .080     .049   669.20   386.48
  .000909        1.       1.        1.        0        0        0     0.00   207.65   594.13

*SECNO 111.500
 2800 NAT Q1=      47.35  WSEL=    673.04  ENC Q1=      47.35  WSEL=    673.14  RATIO=   .0000
 NAT Q1=      55.  RATIOS LOB,CH,ROB=   .0057   .3066   .6876  WSEL=    673.14
3280 CROSS SECTION    111.50 EXTENDED       .68 FEET


3470 ENCROACHMENT STATIONS=      394.0      550.7  TYPE=      4  TARGET=         .137
   111.50      3.58   673.18      0.00   673.04   673.22      .04      .08      .02   672.90
     240.        0.      82.      158.       0.      33.     162.       5.       4.   671.90
      .17      0.00     2.50       .97     .080     .050     .080     .049   669.60   394.00
  .002320       55.      55.       55.        0        0        0     0.00   156.71   550.71

*SECNO 111.980
 2800 NAT Q1=      36.03  WSEL=    673.16  ENC Q1=      36.03  WSEL=    673.26  RATIO=   .0000
 NAT Q1=      42.  RATIOS LOB,CH,ROB=   .0001   .3558   .6442  WSEL=    673.26
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3280 CROSS SECTION     111.98 EXTENDED        .49 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        FL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      394.0      531.5  TYPE=      4  TARGET=         .149
   111.98      3.39   673.29      0.00   673.16   673.37       .08       .12       .03   673.20
     240.        0.      99.      141.       0.      31.      121.        5.        4.   672.20
      .18      0.00     3.23      1.17     .080     .050      .080      .049   669.90   394.00
  .004192       40.      40.       40.        0        0         0      0.00   137.54   531.54

*SECNO 111.990
 2800 NAT Q1=      17.51  WSEL=     673.17  ENC Q1=      17.51  WSEL=     673.27  RATIO=  0.0000
 NAT Q1=      22.  RATIOS LOB,CH,ROB=  0.0000    .2274    .7726  WSEL=     673.27
3280 CROSS SECTION     111.99 EXTENDED        .50 FEET


3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  672.10 MAX ELLC=  672.40


3470 ENCROACHMENT STATIONS=      394.0      527.4  TYPE=      4  TARGET=         .197

        ** D/S FACE DRIVEWAY BRIDGE

   111.99      3.40   673.30      0.00   673.17   673.39       .10       .01       .01   673.20
     240.        0.      65.      175.       0.      19.       86.        5.        4.   672.20
      .18      0.00     3.38      2.04     .080     .050      .080      .049   669.90   394.00
  .017153        1.       1.        1.        0        0         0    -42.37   133.40   527.40

*SECNO 112.010
 2800 NAT Q1=      24.82  WSEL=     673.33  ENC Q1=      24.82  WSEL=     673.43  RATIO=   .0000
 NAT Q1=      30.  RATIOS LOB,CH,ROB=   .0000    .1661    .8339  WSEL=     673.43
3280 CROSS SECTION     112.01 EXTENDED        .66 FEET


3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  672.10 MAX ELLC=  672.40


3470 ENCROACHMENT STATIONS=      394.0      551.3  TYPE=      4  TARGET=         .169
   112.01      3.55   673.45      0.00   673.33   673.51       .05       .10       .02   673.20
     240.        0.      47.      193.       0.      19.      118.        5.        4.   672.20
      .18      0.00     2.47      1.63     .080     .050      .080      .049   669.90   394.00
  .009152        8.       8.        8.        2        0         0    -53.69   157.27   551.27

*SECNO 112.020
 2800 NAT Q1=      47.98  WSEL=     673.34  ENC Q1=      47.98  WSEL=     673.44  RATIO=   .0000
 NAT Q1=      55.  RATIOS LOB,CH,ROB=   .0061    .3058    .6881  WSEL=     673.44
3280 CROSS SECTION     112.02 EXTENDED        .66 FEET
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3470 ENCROACHMENT STATIONS=      394.0      555.0  TYPE=      4  TARGET=          .129
   112.02      3.57    673.47      0.00    673.34    673.51       .04       .00       .00    673.20
     240.        0.       83.      157.       0.       33.      162.        5.        4.    672.20
      .18      0.00      2.53       .97      .080      .050      .080      .049    669.90    394.00
  .002403        1.        1.        1.        0         0         0      0.00    161.03    555.03


*SECNO 112.500
 2800 NAT Q1=      94.60  WSEL=     673.42  ENC Q1=      94.60  WSEL=     673.52  RATIO=  0.0000
 NAT Q1=     107.  RATIOS LOB,CH,ROB=    .1042    .2062    .6895  WSEL=     673.52
3280 CROSS SECTION     112.50 EXTENDED       1.15 FEET


3470 ENCROACHMENT STATIONS=      330.7      597.1  TYPE=      4  TARGET=          .120
   112.50      4.05    673.55      0.00    673.42    673.56       .01       .04       .01    672.80
     240.       13.       55.      172.       39.       39.      286.        5.        4.    671.80
      .19       .33      1.43       .60      .080      .050      .080      .049    669.50    330.66
  .000602       35.       35.       35.         2         0         0      0.00    266.48    597.13


*SECNO 112.980
 2800 NAT Q1=     191.86  WSEL=     673.44  ENC Q1=     191.86  WSEL=     673.54  RATIO=    .0000
 NAT Q1=     212.  RATIOS LOB,CH,ROB=    .2255    .1409    .6337  WSEL=     673.54
3280 CROSS SECTION     112.98 EXTENDED       1.76 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        FV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      234.4      604.2  TYPE=      4  TARGET=          .094
   112.98      4.67    673.57      0.00    673.44    673.58       .00       .01       .00    672.20
     240.       46.       37.      155.      189.       46.      416.        6.        4.    671.20
      .21       .25       .81       .37      .080      .050      .080      .049    668.90    234.43
  .000150       30.       30.       30.         0         0         0      0.00    369.81    604.24


*SECNO 112.990
 2800 NAT Q1=      56.94  WSEL=     673.44  ENC Q1=      56.94  WSEL=     673.54  RATIO=    .0000
 NAT Q1=      64.  RATIOS LOB,CH,ROB=  0.0000    .0774    .9226  WSEL=     673.54
3280 CROSS SECTION     112.99 EXTENDED       1.77 FEET


3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  671.80 MAX ELLC=  671.40


3470 ENCROACHMENT STATIONS=      394.0      593.9  TYPE=      4  TARGET=          .112

         ** D/S FACE DRIVEWAY BRIDGE

   112.99      4.67    673.57      0.00    673.44    673.59       .02       .00       .01    672.20
     240.        0.       23.      217.        0.       19.      220.        6.        4.    671.20
      .21      0.00      1.18       .99      .080      .050      .080      .049    668.90    394.00
  .002093        1.        1.        1.         0         0         0   -205.74    199.87    593.87
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*SECNC 113.010
 2800 NAT Q1=      60.61  WSEL=     673.49  ENC Q1=      60.61  WSEL=     673.59  RATIO=    .0000
 NAT Q1=      68.  RATIOS LOB,CH,ROB=  0.0000    .0728    .9272  WSEL=     673.59
3280 CROSS SECTION     113.01 EXTENDED       1.83 FEET


3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  671.80 MAX ELLC=  671.40


3470 ENCROACHMENT STATIONS=      394.0      594.3  TYPE=      4  TARGET=          .110
   113.01      4.73    673.63     0.00    673.49    673.65      .01       .06       .00    672.20
     240.        C.       21.     219.        C.       19.     231.        6.        5.    671.20
      .22      0.00      1.10      .95      .080      .050      .080      .049    668.90    394.00
  .001828       31.       31.      31.         1         0         0   -206.75    200.34    594.34


*SECNO 113.020
 2800 NAT Q1=     203.39  WSEL=     673.51  ENC Q1=     203.39  WSEL=     673.61  RATIO=    .0000
 NAT Q1=     225.  RATIOS LOB,CH,ROB=    .2367    .1362    .6271  WSEL=     673.61
3280 CROSS SECTION     113.02 EXTENDED       1.84 FEET


3470 ENCROACHMENT STATIONS=      229.5      603.5  TYPE=      4  TARGET=          .097
   113.02      4.75    673.65     0.00    673.51    673.65      .00       .00       .00    672.20
     240.       51.       36.     153.      206.       47.     430.        6.        5.    671.20
      .22       .25       .76      .36      .080      .050      .080      .049    668.90    229.48
  .000131        1.        1.       1.         1         0         0      0.00    374.04    603.52


*SECNO 113.200
 2800 NAT Q1=     153.42  WSEL=     673.53  ENC Q1=     153.42  WSEL=     673.63  RATIO=    .0000
 NAT Q1=     171.  RATIOS LOB,CH,ROB=    .1867    .1586    .6547  WSEL=     673.63
3280 CROSS SECTION     113.20 EXTENDED       1.57 FEET


3470 ENCROACHMENT STATIONS=      258.2      602.5  TYPE=      4  TARGET=          .101
   113.20      4.47    673.67     0.00    673.53    673.67      .00       .02       .00    672.50
     240.       38.       41.     161.      135.       44.     374.        7.        6.    671.50
      .29       .28       .95      .43      .080      .050      .080      .049    669.20    258.22
  .000226      117.      117.     117.         0         0         0      0.00    344.29    602.51


CCHV=     .500 CEHV=     .800
*SECNO 113.500
 2800 NAT Q1=      59.08  WSEL=     673.62  ENC Q1=      59.08  WSEL=     673.72  RATIO=    .0000
 NAT Q1=      67.  RATIOS LOB,CH,ROB=  0.0000    .4632    .5368  WSEL=     673.72
3280 CROSS SECTION     113.50 EXTENDED        .35 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      264.0      451.1  TYPE=      4  TARGET=          .124
   113.50      3.65    673.75     0.00    673.62    673.80      .05       .09       .04    674.00
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     310.        0.      161.      149.        0.       70.      163.        9.        6.    673.00
      .32     0.00      2.31       .91      .085      .055      .085      .050    670.10    265.12
 .002550      150.      150.      150.         2         0         0      0.00    185.99    451.10

*SECNO 113.900
 2800 NAT Q1=      28.22  WSEL=     674.94  ENC Q1=      28.22  WSEL=     675.04  RATIO=    .0000
 NAT Q1=      32.  RATIOS LOB,CH,ROB=  0.0000    .7555    .2445  WSEL=     675.04
3280 CROSS SECTION     113.90 EXTENDED       1.46 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      264.0      379.4  TYPE=      4  TARGET=        .114

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      679.00 ELREA=      674.70

   113.90      3.26    675.06    675.06    674.94    675.50       .44       .91       .31    675.70
     395.        0.      334.       61.        0.       58.       41.        9.        7.    674.70
      .32     0.00      5.75      1.50      .085      .055      .085      .050    671.80    266.88
 .018651      150.      150.      150.         3        10         0      0.00    112.52    379.40

*SECNO 113.950
 2800 NAT Q1=      69.04  WSEL=     676.20  ENC Q1=      69.04  WSEL=     676.30  RATIO=  0.0000
 NAT Q1=      75.  RATIOS LOB,CH,ROB=  0.0000    .5614    .4386  WSEL=     676.30
3280 CROSS SECTION     113.95 EXTENDED       2.32 FEET


3470 ENCROACHMENT STATIONS=      264.0      387.5  TYPE=      4  TARGET=        .084

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      679.00 ELREA=      675.10

   113.95      4.12    676.32      0.00    676.20    676.41       .09       .73       .18    676.10
     395.        0.      241.      154.        0.       84.      127.       10.        7.    675.10
      .34     0.00      2.85      1.21      .085      .055      .085      .050    672.20    264.00
 .003165      115.      115.      115.         1         0         0      0.00    123.45    387.45

*SECNO 114.200
 2800 NAT Q1=      70.96  WSEL=     676.72  ENC Q1=      70.96  WSEL=     676.82  RATIO=  0.0000
 NAT Q1=      77.  RATIOS LOB,CH,ROB=  0.0000    .5579    .4421  WSEL=     676.82
3280 CROSS SECTION     114.20 EXTENDED       2.33 FEET


3470 ENCROACHMENT STATIONS=      264.0      387.5  TYPE=      4  TARGET=        .081

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      680.00 ELREA=      675.60

   114.20      4.14    676.84      0.00    676.72    677.00       .16       .53       .06    676.60
     550.        0.      334.      216.        0.       85.      129.       10.        8.    675.60
      .35     0.00      3.93      1.68      .085      .055      .085      .051    672.70    264.00
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 .005964     119.     119.     119.        1        0        0     0.00   123.89   387.89

CCHV=    .300 CEHV=    .500
*SECNO 113.980
 2800 NAT Q1=     136.53  WSEL=     677.22  ENC Q1=     136.53  WSEL=     677.32  RATIO=    .0000
 NAT Q1=    145.  RATIOS LOB,CH,ROB=  0.0000    .4825    .5175  WSEL=     677.32
3280 CROSS SECTION     113.98 EXTENDED       3.24 FEET


3470 ENCROACHMENT STATIONS=      264.0      391.5  TYPE=      4  TARGET=         .059

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,FLLEA=      678.00 ELREA=      675.60

        ** D/S FACE PRIVATE DRIVE

   113.98      5.04    677.34      0.00    677.22    677.40       .06       .37       .03    676.20
     550.        0.      281.     269.        0.     114.      223.       11.        8.    675.20
      .37      0.00      2.47      1.20      .085      .055      .085      .051    672.30    264.00
  .001590      133.      133.      133.         1         0         0      0.00    127.54    391.54


SPECIAL BRIDGE

SB  XK         XKOR       COEQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.55       2.65       0.00       3.40       0.00       11.20      0.00      672.30     672.30

*SECNO 114.020
 2800 NAT Q1=     184.16  WSEL=     679.11  ENC Q1=     184.16  WSEL=     679.21  RATIO=    .0000
 NAT Q1=    197.  RATIOS LOB,CH,ROB=   .0013    .6664    .3323  WSEL=     679.21
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     114.02 EXTENDED       1.14 FEET


   SECNO     DEPTH     QWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      240.0      451.2  TYPE=      4  TARGET=         .066
   114.02      6.94    679.24      0.00    679.11    679.28       .04       .04       .01    678.80
     550.        0.      390.     160.        0.     204.      236.       12.        8.    677.00
      .37      0.00      1.91       .68      .085      .055      .085      .051    672.30    240.00
  .000875       33.       33.       33.         0         0         9      0.00    211.20    451.20


*SECNO 114.800
 2800 NAT Q1=     119.45  WSEL=     679.22  ENC Q1=     119.45  WSEL=     679.32  RATIO=    .0000
 NAT Q1=    129.  RATIOS LOB,CH,ROB=  0.0000    .7875    .2125  WSEL=     679.32
3280 CROSS SECTION     114.80 EXTENDED        .54 FEET


3470 ENCROACHMENT STATIONS=      240.0      396.4  TYPE=      4  TARGET=         .071
   114.80      6.34    679.34      0.00    679.22    679.43       .10       .13       .03    679.50
     550.        0.      465.      85.        0.     173.      105.       12.        9.    677.70
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      .39      0.00      2.68       .81      .085      .055      .085      .051   673.00   240.98
  .002076      100.      100.      100.         2         0         0      0.00   155.41   396.39

CCHV=    .200 CEHV=    .400
*SECNO 114.850
 2800 NAT Q1=     106.45  WSEL=     680.26  ENC Q1=     106.45  WSEL=     680.36  RATIO=  0.0000
 NAT Q1=     114.  RATIOS LOB,CH,ROB=  0.0000    .8280    .1720  WSEL=     680.36
3280 CROSS SECTION     114.85 EXTENDED        .37 FEET


3470 ENCROACHMENT STATIONS=      240.0      348.3  TYPE=      4  TARGET=        .070
   114.85      6.17    680.37      0.00    680.26    680.49       .12      1.04       .01    680.70
     550.        0.      490.       60.        0.      165.       63.       15.       10.    678.90
      .43      0.00      2.98       .96      .085      .055      .085      .052   674.20   242.03
  .002664      446.      446.      446.         2         0         0      0.00   106.26   348.28

*SECNO 114.920
 2800 NAT Q1=     150.29  WSEL=     681.05  ENC Q1=     150.29  WSEL=     681.15  RATIO=    .0000
 NAT Q1=     161.  RATIOS LOB,CH,ROB=    .2171    .5405    .2424  WSEL=     681.15

3470 ENCROACHMENT STATIONS=      202.4      363.5  TYPE=      4  TARGET=        .067
   114.92      5.86    681.16      0.00    681.05    681.22       .07       .72       .01    679.60
     550.      108.      319.      123.      125.      124.      118.       18.       11.    679.00
      .49       .87      2.57      1.04      .085      .055      .085      .052   675.30   202.40
  .001336      395.      395.      395.         2         0         0      0.00   161.07   363.48

*SECNO 114.930
 2800 NAT Q1=     104.92  WSEL=     681.09  ENC Q1=     104.92  WSEL=     681.19  RATIO=  0.0000
 NAT Q1=     114.  RATIOS LOB,CH,ROB=    .3196    .3268    .3536  WSEL=     681.19

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  678.90 MAX ELLC=  678.30


3470 ENCROACHMENT STATIONS=      198.3      366.6  TYPE=      4  TARGET=        .080

         ** D/S FACE FOOTBRIDGE

   114.93      5.89    681.19      0.00    681.09    681.23       .04       .00       .01    679.60
     550.      167.      195.      188.      133.      110.      125.       18.       11.    679.00
      .49      1.26      1.77      1.50      .085      .055      .085      .052   675.30   198.35
  .002731        1.        1.        1.         2         0         0    -14.71   168.23   366.58

*SECNO 114.940
 2800 NAT Q1=     105.65  WSEL=     681.10  ENC Q1=     105.65  WSEL=     681.20  RATIO=    .0000
 NAT Q1=     115.  RATIOS LOB,CH,ROB=    .3207    .3253    .3539  WSEL=     681.20
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICCNT     CCRAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  678.90 MAX ELLC=  678.30


3470 ENCROACHMENT STATIONS=      198.6      366.4  TYPE=      4  TARGET=        .082
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   114.94      5.91   681.21      0.00   681.10   681.24      .04      .01      .00   679.60
     550.      167.     195.      188.     134.     111.     126.      18.      11.    679.00
      .49      1.25     1.76      1.50     .085     .055     .085     .052   675.30   198.57
  .002699        4.       4.        4.        0        0        0   -14.71   167.82   366.39


*SECNO 114.950
 2800 NAT Q1=     154.64  WSEL=     681.09  ENC Q1=     154.64  WSEL=     681.19  RATIO=    .0000
 NAT Q1=     165.  RATIOS LOB,CH,ROB=   .2205   .5353   .2442  WSEL=     681.19

3470 ENCROACHMENT STATIONS=      200.0     365.3  TYPE=      4  TARGET=        .061
   114.95      5.89   681.19      0.00   681.09   681.25      .06      .00      .01   679.60
     550.      112.     313.      126.     131.     125.     123.      18.      11.    679.00
      .49       .85     2.50      1.02     .085     .055     .085     .052   675.30   199.98
  .001247        1.       1.        1.        1        0        0     0.00   165.32   365.30


*SECNO 115.200
 2800 NAT Q1=     120.35  WSEL=     681.55  ENC Q1=     120.35  WSEL=     681.65  RATIO=    .0000
 NAT Q1=     130.  RATIOS LOB,CH,ROB=   .1816   .5954   .2230  WSEL=     681.65

3470 ENCROACHMENT STATIONS=      209.1     358.4  TYPE=      4  TARGET=        .071
   115.20      5.54   681.64      0.00   681.55   681.74      .10      .48      .02   680.40
     550.       87.     353.      110.      92.     115.      93.      20.      12.    679.80
      .53       .94     3.06      1.19     .085     .055     .085     .052   676.10   209.08
  .002085      300.     300.      300.        0        0        0     0.00   149.35   358.43


CCHV=    .300 CEHV=    .500
*SECNO 114.980
 2800 NAT Q1=      66.62  WSEL=     682.11  ENC Q1=      66.62  WSEL=     682.21  RATIO=    .0000
 NAT Q1=      72.  RATIOS LOB,CH,ROB=   .0735   .7706   .1559  WSEL=     682.21

3470 ENCROACHMENT STATIONS=      243.4     349.2  TYPE=      4  TARGET=        .078

         ** D/S FACE BELZAIR ROAD

   114.98      4.80   682.20      0.00   682.11   682.52      .31      .67      .11   681.70
     550.       20.     460.       69.      21.      94.      46.      21.      13.    681.10
      .54       .98     4.87      1.52     .085     .055     .085     .053   677.40   243.38
  .006894      192.     192.      192.        2        0        0     0.00   105.83   349.21


SPECIAL BRIDGE

SB  XK        XKOR      COEQ      ROLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.75      2.90      0.00      6.65      0.00     34.60      0.00    677.40    677.40

*SECNO 115.020
 2800 NAT Q1=     161.36  WSEL=     684.82  ENC Q1=     162.10  WSEL=     684.92  RATIO=   -.0046
 NAT Q1=     169.  RATIOS LOB,CH,ROB=   .0408   .9592  0.0000  WSEL=     684.92
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      138.0     216.0  TYPE=      4  TARGET=        .041
   115.02      7.51   684.91      0.00   684.82   684.98      .07      .09      .07   684.10
     550.        0.     550.        0.       0.     259.       0.      21.      13.    685.60
      .54      0.00     2.12      0.00     .085     .055     .085     .053   677.40   138.00
  .001176       38.      38.       38.        0        0        5     0.00    71.74   209.74
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*SECNO 115.800
 2800 NAT Q1=     154.70  WSEL=     684.94  ENC Q1=     157.15  WSEL=     685.04  RATIO=  -.0159
 NAT Q1=     162.  RATIOS LOB,CH,ROB=    .0309    .9691   0.0000  WSEL=     685.04
   SECNO     DEPTH     CRSEL     CRITS     WSELK     EG        HV        HL        CLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      138.0      216.0  TYPE=      4  TARGET=        .031
   115.80      7.43    685.03      0.00    684.94    685.10      .07       .12       .00    684.30
     550.        0.      550.        0.        0.     253.       0.       22.       13.    685.80
      .56      0.00      2.17      0.00      .095      .055     .095      .053    677.60    138.00
  .001252      100.      100.      100.         0         0        0      0.00     70.98    208.98


CCHV=    .200 CEHV=    .400
*SECNO 116.000
 2800 NAT Q1=     138.82  WSEL=     685.60  ENC Q1=     138.82  WSEL=     685.70  RATIO=   .0000
 NAT Q1=     147.  RATIOS LOB,CH,ROB=    .1109    .6925    .1967  WSEL=     685.70

3470 ENCROACHMENT STATIONS=      186.3      309.4  TYPE=      4  TARGET=        .058
   116.00      6.99    685.69      0.00    685.60    685.78      .09       .67       .01    683.80
     550.       48.      405.       97.       52.     144.     110.       25.       14.    683.90
      .61       .91      2.81       .89      .095      .055     .095      .053    678.70    186.26
  .001587      475.      475.      475.         2         0        0      0.00    123.10    309.36


*SECNO 117.200
 2800 NAT Q1=     144.37  WSEL=     686.39  ENC Q1=     144.37  WSEL=     686.49  RATIO=   .0000
 NAT Q1=     155.  RATIOS LOB,CH,ROB=    .0181    .4813    .5006  WSEL=     686.49
3280 CROSS SECTION     117.20 EXTENDED        .19 FEET


3470 ENCROACHMENT STATIONS=      152.0      311.7  TYPE=      4  TARGET=        .067
   117.20      5.69    686.49      0.00    686.39    686.55      .06       .77       .01    685.30
     550.        0.      279.     271.        0.     107.     279.       29.       16.    684.00
      .69      0.00      2.61       .97      .095      .055     .095      .053    680.80    152.00
  .001486      500.      500.      500.         2         0        0      0.00    159.74    311.74


CCHV=    .300 CEHV=    .500
*SECNO 116.980
 2800 NAT Q1=     408.47  WSEL=     686.51  ENC Q1=     408.47  WSEL=     686.61  RATIO=   .0000
 NAT Q1=     427.  RATIOS LOB,CH,ROB=    .0994    .3091    .5915  WSEL=     686.61
3280 CROSS SECTION     116.98 EXTENDED       2.03 FEET


3470 ENCROACHMENT STATIONS=       92.5      357.8  TYPE=      4  TARGET=        .044

         ** D/S FACE LONG LAKE ROAD.

   116.93      7.52    686.62      0.00    686.51    686.63      .01       .06       .02    683.60
     550.       45.      177.     328.      127.     151.     661.       31.       17.    682.30
      .75       .35      1.17       .50      .095      .055     .095      .053    679.10     92.53
  .000179      161.      161.      161.         0         0        0      0.00    265.21    357.75
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SPECIAL BRIDGE

SB  XK        XKCR      COEQ      RDLEN     BHC       BHP       BAREA     SS        ELCHU     ELCHD
    0.00      2.00      2.70      325.00    4.14      0.00      9.10      0.00      681.00    679.10

*SECNO 117.020
 2800 NAT Q1=     316.86  WSEL=     688.25  ENC Q1=     316.86  WSEL=     688.35  RATIO=    .0000
 NAT Q1=     332.  RATIOS LOB,CH,ROB=    .3936    .4091    .1973  WSEL=     688.35
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
3280 CROSS SECTION     117.02 EXTENDED        .56 FEET


3470 ENCROACHMENT STATIONS=        44.3      290.4  TYPE=      4  TARGET=          .046
   117.02      7.36    688.36      0.00    688.25    688.38       .02       .01       .00    685.50
     550.      214.      236.      100.      403.      159.      192.       32.       17.    684.70
      .77       .53      1.49       .52      .095      .055      .095      .053    681.00     44.25
  .000299       54.       54.       54.         0         0        10      0.00    246.12    290.37


*SECNO 117.800
 2800 NAT Q1=     214.09  WSEL=     688.28  ENC Q1=     214.09  WSEL=     688.38  RATIO=   0.0000
 NAT Q1=     228.  RATIOS LOB,CH,ROB=    .3431    .4898    .1671  WSEL=     688.38
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=        65.8      276.7  TYPE=      4  TARGET=          .061
   117.80      6.68    688.38      0.00    688.28    688.42       .04       .03       .01    686.20
     550.      185.      285.       80.      276.      141.      124.       33.       17.    685.40
      .78       .67      2.02       .65      .095      .055      .095      .053    681.70     65.80
  .000647       70.       70.       70.         1         0         0      0.00    210.93    276.73
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 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  01,02,03
 MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.50 | 0.00 | 669.51 | 5.41 | 1.34 | 402.93 | 103.16 |
| | 108.890 | 0.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.50 | 0.00 | 669.52 | 6.67 | 1.49 | 322.94 | 92.94 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.60 | 0.00 | 669.61 | 4.17 | 1.20 | 447.16 | 117.57 |
| | 109.000 | 200.00 | 0.00 | 0.00 | 666.20 | 240.00 | 669.62 | 0.00 | 669.63 | 4.87 | 1.31 | 370.46 | 108.74 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 669.75 | 0.00 | 669.94 | 69.78 | 3.77 | 111.29 | 28.73 |
| | 109.100 | 241.00 | 0.00 | 0.00 | 667.30 | 240.00 | 669.79 | 0.00 | 670.03 | 81.20 | 4.08 | 73.19 | 26.63 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.41 | 0.00 | 671.47 | 37.91 | 3.02 | 186.01 | 38.98 |
| | 109.200 | 300.00 | 0.00 | 0.00 | 668.10 | 240.00 | 671.54 | 0.00 | 671.61 | 35.44 | 3.00 | 162.09 | 40.32 |
| * | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.14 | 672.14 | 672.42 | 142.44 | 5.42 | 101.38 | 20.11 |
| | 109.220 | 107.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.19 | 672.19 | 672.56 | 168.92 | 5.96 | 79.01 | 18.47 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.32 | 672.32 | 672.51 | 406.04 | 5.06 | 89.18 | 11.91 |
| * | 109.230 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.38 | 672.38 | 672.65 | 485.71 | 5.53 | 68.38 | 10.89 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 60.24 | 1.95 | 182.74 | 30.92 |
| | 109.240 | 16.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.91 | 0.00 | 672.94 | 54.68 | 1.48 | 174.55 | 32.45 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.75 | 0.00 | 672.78 | 18.30 | 2.23 | 252.86 | 56.10 |
| | 109.250 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.91 | 0.00 | 672.94 | 16.20 | 2.14 | 227.85 | 59.63 |
| | 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.85 | 0.00 | 672.87 | 13.67 | 1.98 | 291.09 | 64.92 |
| | 110.500 | 55.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.00 | 0.00 | 673.02 | 12.63 | 1.92 | 255.92 | 67.54 |
| | 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 12.18 | 1.88 | 306.85 | 68.77 |
| | 110.980 | 25.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.03 | 0.00 | 673.05 | 11.28 | 1.82 | 269.91 | 71.46 |
| | 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.89 | 0.00 | 672.91 | 40.34 | 1.26 | 213.44 | 37.79 |
| | 110.990 | 1.00 | 671.40 | 671.70 | 669.20 | 240.00 | 673.03 | 0.00 | 673.06 | 38.03 | 1.29 | 194.10 | 38.92 |
| | 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 31.80 | 1.15 | 232.15 | 42.56 |
| | 111.010 | 18.00 | 671.40 | 671.70 | 669.20 | 240.00 | 673.10 | 0.00 | 673.12 | 30.98 | 1.19 | 208.97 | 43.12 |
| | 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 672.96 | 0.00 | 672.97 | 9.98 | 1.73 | 335.11 | 75.98 |
| | 111.020 | 1.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.11 | 0.00 | 673.12 | 9.09 | 1.71 | 295.21 | 79.62 |

| | SECNO | XLCH | ELTRC | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.04 | 0.00 | 673.08 | 25.69 | 2.57 | 215.98 | 47.35 |
| | 111.500 | 55.00 | 0.00 | 0.00 | 669.60 | 240.00 | 673.18 | 0.00 | 673.22 | 23.20 | 2.50 | 195.08 | 49.83 |
| | 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.16 | 0.00 | 673.24 | 44.38 | 3.24 | 174.85 | 36.03 |
| | 111.980 | 40.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.29 | 0.00 | 673.37 | 41.92 | 3.23 | 151.17 | 37.07 |
| | 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.17 | 0.00 | 673.26 | 187.96 | 3.54 | 121.24 | 17.51 |
| | 111.990 | 1.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.30 | 0.00 | 673.39 | 171.53 | 3.38 | 104.80 | 18.33 |
| | 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.33 | 0.00 | 673.38 | 93.47 | 2.50 | 156.35 | 24.82 |
| | 112.010 | 8.00 | 672.10 | 672.40 | 669.90 | 240.00 | 673.45 | 0.00 | 673.51 | 91.52 | 2.47 | 137.31 | 25.09 |
| | 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.34 | 0.00 | 673.38 | 25.02 | 2.54 | 218.31 | 47.98 |
| | 112.020 | 1.00 | 0.00 | 0.00 | 669.90 | 240.00 | 673.47 | 0.00 | 673.51 | 24.03 | 2.53 | 194.57 | 48.96 |
| | 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.42 | 0.00 | 673.43 | 6.44 | 1.44 | 402.94 | 94.60 |
| | 112.500 | 35.00 | 0.00 | 0.00 | 669.50 | 240.00 | 673.55 | 0.00 | 673.56 | 6.02 | 1.43 | 363.54 | 97.80 |
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.44 | 0.00 | 673.44 | 1.56 | .80 | 699.93 | 191.86 |
| | 112.980 | 30.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.57 | 0.00 | 673.58 | 1.50 | .81 | 650.14 | 195.72 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.44 | 0.00 | 673.45 | 17.77 | 1.09 | 264.67 | 56.94 |
| | 112.990 | 1.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.57 | 0.00 | 673.59 | 20.93 | 1.18 | 239.16 | 52.46 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.49 | 0.00 | 673.50 | 15.68 | 1.02 | 275.51 | 60.61 |
| | 113.010 | 31.00 | 671.80 | 671.40 | 668.90 | 240.00 | 673.63 | 0.00 | 673.65 | 18.28 | 1.10 | 249.88 | 56.13 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.51 | 0.00 | 673.51 | 1.39 | .77 | 733.04 | 203.39 |
| | 113.020 | 1.00 | 0.00 | 0.00 | 668.90 | 240.00 | 673.65 | 0.00 | 673.65 | 1.31 | .76 | 683.03 | 209.65 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.53 | 0.00 | 673.53 | 2.45 | .97 | 587.49 | 153.42 |
| | 113.200 | 117.00 | 0.00 | 0.00 | 669.20 | 240.00 | 673.67 | 0.00 | 673.67 | 2.26 | .95 | 553.11 | 159.63 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.62 | 0.00 | 673.67 | 27.53 | 2.34 | 261.45 | 59.08 |
| | 113.500 | 150.00 | 0.00 | 0.00 | 670.10 | 310.00 | 673.75 | 0.00 | 673.80 | 25.50 | 2.31 | 232.61 | 61.39 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 674.94 | 674.94 | 675.35 | 195.87 | 5.72 | 103.47 | 28.22 |
| * | 113.900 | 150.00 | 0.00 | 0.00 | 671.80 | 395.00 | 675.06 | 675.06 | 675.50 | 186.51 | 5.75 | 98.70 | 28.92 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.20 | 0.00 | 676.28 | 32.73 | 2.81 | 218.26 | 69.04 |
| | 113.950 | 115.00 | 0.00 | 0.00 | 672.20 | 395.00 | 676.32 | 0.00 | 676.41 | 31.65 | 2.85 | 211.49 | 70.22 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.72 | 0.00 | 676.87 | 60.08 | 3.84 | 222.42 | 70.96 |
| | 114.200 | 119.00 | 0.00 | 0.00 | 672.70 | 550.00 | 676.84 | 0.00 | 677.00 | 59.64 | 3.93 | 213.96 | 71.22 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.22 | 0.00 | 677.28 | 16.23 | 2.44 | 343.67 | 136.53 |
| | 113.980 | 133.00 | 0.00 | 0.00 | 672.30 | 550.00 | 677.34 | 0.00 | 677.40 | 15.90 | 2.47 | 337.28 | 137.95 |
| | 114.020 | 33.00 | 678.80 | 675.60 | 672.30 | 550.00 | 679.11 | 0.00 | 679.15 | 8.92 | 1.90 | 472.96 | 184.16 |
| | 114.020 | 33.00 | 999999.00 | 0.00 | 672.30 | 550.00 | 679.24 | 0.00 | 679.28 | 8.75 | 1.91 | 439.89 | 185.90 |
| | 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.22 | 0.00 | 679.31 | 21.20 | 2.67 | 316.27 | 119.45 |
| | 114.800 | 100.00 | 0.00 | 0.00 | 673.00 | 550.00 | 679.34 | 0.00 | 679.43 | 20.76 | 2.68 | 277.75 | 120.70 |
| | 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.26 | 0.00 | 680.38 | 26.69 | 2.94 | 276.59 | 106.45 |
| | 114.850 | 446.00 | 0.00 | 0.00 | 674.20 | 550.00 | 680.37 | 0.00 | 680.49 | 26.64 | 2.98 | 227.24 | 106.55 |

| SECND | XLCF | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG . | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.05 | 0.00 | 681.11 | 13.39 | 2.53 | 410.45 | 150.29 |
| 114.920 | 395.00 | 0.00 | 0.00 | 675.30 | 550.00 | 681.16 | 0.00 | 681.22 | 13.36 | 2.57 | 366.57 | 150.49 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.09 | 0.00 | 681.12 | 27.48 | 1.75 | 404.95 | 104.92 |
| 114.930 | .50 | 678.90 | 678.30 | 675.30 | 550.00 | 681.19 | 0.00 | 681.23 | 27.31 | 1.77 | 368.60 | 105.25 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.10 | 0.00 | 681.13 | 27.10 | 1.74 | 407.01 | 105.65 |
| 114.940 | 4.00 | 678.90 | 678.30 | 675.30 | 550.00 | 681.21 | 0.00 | 681.24 | 26.99 | 1.76 | 369.67 | 105.86 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.09 | 0.00 | 681.14 | 12.65 | 2.48 | 420.88 | 154.64 |
| 114.950 | .50 | 0.00 | 0.00 | 675.30 | 550.00 | 681.19 | 0.00 | 681.25 | 12.47 | 2.50 | 379.76 | 155.73 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.55 | 0.00 | 681.64 | 20.88 | 3.01 | 336.41 | 120.35 |
| 115.200 | 300.00 | 0.00 | 0.00 | 676.10 | 550.00 | 681.64 | 0.00 | 681.74 | 20.85 | 3.06 | 300.64 | 120.45 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.11 | 0.00 | 682.40 | 68.16 | 4.76 | 187.64 | 66.62 |
| 114.980 | 192.00 | 0.00 | 0.00 | 677.40 | 550.00 | 682.20 | 0.00 | 682.52 | 68.94 | 4.87 | 160.63 | 66.24 |
| 115.020 | 38.00 | 684.00 | 681.20 | 677.40 | 550.00 | 684.82 | 0.00 | 684.89 | 11.62 | 2.10 | 295.98 | 161.36 |
| 115.020 | 38.00 | 999999.00 | 0.00 | 677.40 | 550.00 | 684.91 | 0.00 | 684.98 | 11.76 | 2.12 | 259.26 | 160.38 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 684.94 | 0.00 | 685.01 | 12.64 | 2.18 | 283.37 | 154.70 |
| 115.800 | 100.00 | 0.00 | 0.00 | 677.60 | 550.00 | 685.03 | 0.00 | 685.10 | 12.52 | 2.17 | 253.29 | 155.45 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.60 | 0.00 | 685.68 | 15.70 | 2.76 | 337.14 | 138.82 |
| 116.000 | 475.00 | 0.00 | 0.00 | 678.70 | 550.00 | 685.69 | 0.00 | 685.78 | 15.87 | 2.81 | 306.36 | 138.05 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.39 | 0.00 | 686.44 | 14.51 | 2.61 | 434.63 | 144.37 |
| 117.200 | 500.00 | 0.00 | 0.00 | 680.80 | 550.00 | 686.49 | 0.00 | 686.55 | 14.86 | 2.61 | 385.87 | 142.70 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.51 | 0.00 | 686.52 | 1.81 | 1.17 | 993.81 | 408.47 |
| 116.980 | 161.00 | 0.00 | 0.00 | 679.10 | 550.00 | 686.62 | 0.00 | 686.63 | 1.79 | 1.17 | 939.63 | 410.83 |
| 117.020 | 54.00 | 687.60 | 683.20 | 681.00 | 550.00 | 688.25 | 0.00 | 688.27 | 3.01 | 1.47 | 811.59 | 316.86 |
| 117.020 | 54.00 | 999999.00 | 0.00 | 681.00 | 550.00 | 688.36 | 0.00 | 688.38 | 2.99 | 1.49 | 754.16 | 318.08 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.28 | 0.00 | 688.31 | 6.60 | 2.01 | 590.13 | 214.09 |
| 117.800 | 70.00 | 0.00 | 0.00 | 681.70 | 550.00 | 688.38 | 0.00 | 688.42 | 6.47 | 2.02 | 541.30 | 216.22 |

HOUGHTON DRAIN U/S PAGE

SUMMARY PRINTOUT TABLE 150

| | SECND | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 108.890 | 240.00 | 669.50 | 0.00 | 0.00 | 0.00 | 404.09 | 0.00 |
| | 108.890 | 240.00 | 669.50 | 0.00 | 0.00 | 0.00 | 252.14 | 0.00 |
| | 109.000 | 240.00 | 669.60 | 0.00 | .10 | 0.00 | 413.05 | 200.00 |
| | 109.000 | 240.00 | 669.62 | .02 | .12 | .02 | 268.98 | 200.00 |
| | 109.100 | 240.00 | 669.75 | 0.00 | .15 | 0.00 | 263.83 | 241.00 |
| | 109.100 | 240.00 | 669.79 | .03 | .17 | .03 | 75.50 | 241.00 |
| | 109.200 | 240.00 | 671.41 | 0.00 | 1.66 | 0.00 | 231.30 | 300.00 |
| | 109.200 | 240.00 | 671.54 | .13 | 1.75 | .13 | 140.61 | 300.00 |
| * | 109.220 | 240.00 | 672.14 | 0.00 | .73 | 0.00 | 230.56 | 107.00 |
| | 109.220 | 240.00 | 672.19 | .05 | .65 | .05 | 110.24 | 107.00 |
| * | 109.230 | 240.00 | 672.32 | 0.00 | .17 | 0.00 | 230.77 | 1.00 |
| * | 109.230 | 240.00 | 672.38 | .06 | .18 | .06 | 114.28 | 1.00 |
| | 109.240 | 240.00 | 672.75 | 0.00 | .43 | 0.00 | 382.34 | 16.00 |
| | 109.240 | 240.00 | 672.91 | .16 | .53 | .16 | 176.34 | 16.00 |
| | 109.250 | 240.00 | 672.75 | 0.00 | .00 | 0.00 | 381.70 | 1.00 |
| | 109.250 | 240.00 | 672.91 | .16 | .00 | .16 | 170.98 | 1.00 |
| | 110.500 | 240.00 | 672.85 | 0.00 | .10 | 0.00 | 394.51 | 55.00 |
| | 110.500 | 240.00 | 673.00 | .15 | .09 | .15 | 186.17 | 55.00 |
| | 110.980 | 240.00 | 672.89 | 0.00 | .04 | 0.00 | 399.67 | 25.00 |
| | 110.980 | 240.00 | 673.03 | .15 | .03 | .15 | 193.87 | 25.00 |
| | 110.990 | 240.00 | 672.89 | 0.00 | .00 | 0.00 | 399.27 | 1.00 |
| | 110.990 | 240.00 | 673.03 | .15 | .00 | .15 | 172.92 | 1.00 |
| | 111.010 | 240.00 | 672.96 | 0.00 | .07 | 0.00 | 408.29 | 18.00 |
| | 111.010 | 240.00 | 673.10 | .14 | .07 | .14 | 177.77 | 18.00 |
| | 111.020 | 240.00 | 672.96 | 0.00 | .00 | 0.00 | 408.76 | 1.00 |
| | 111.020 | 240.00 | 673.11 | .15 | .01 | .15 | 207.65 | 1.00 |
| | 111.500 | 240.00 | 673.04 | 0.00 | .08 | 0.00 | 257.66 | 55.00 |
| | 111.500 | 240.00 | 673.18 | .14 | .07 | .14 | 156.71 | 55.00 |
| | 111.980 | 240.00 | 673.16 | 0.00 | .13 | 0.00 | 230.95 | 40.00 |
| | 111.980 | 240.00 | 673.29 | .13 | .11 | .13 | 137.54 | 40.00 |
| | 111.990 | 240.00 | 673.17 | 0.00 | .01 | 0.00 | 230.96 | 1.00 |
| | 111.990 | 240.00 | 673.30 | .13 | .00 | .13 | 133.40 | 1.00 |
| | 112.010 | 240.00 | 673.33 | 0.00 | .16 | 0.00 | 255.64 | 8.00 |
| | 112.010 | 240.00 | 673.45 | .12 | .16 | .12 | 157.27 | 8.00 |
| | 112.020 | 240.00 | 673.34 | 0.00 | .01 | 0.00 | 262.22 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 112.020 | 240.00 | 673.47 | .13 | .02 | .13 | 161.03 | 1.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKES | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 112.500 | 240.00 | 673.42 | 0.00 | .08 | 0.00 | 429.79 | 35.00 |
| | 112.500 | 240.00 | 673.55 | .13 | .08 | .13 | 266.48 | 35.00 |
| | 112.980 | 240.00 | 673.44 | 0.00 | .02 | 0.00 | 553.76 | 30.00 |
| | 112.980 | 240.00 | 673.57 | .13 | .02 | .13 | 369.81 | 30.00 |
| | 112.990 | 240.00 | 673.44 | 0.00 | -.00 | 0.00 | 553.87 | 1.00 |
| | 112.990 | 240.00 | 673.57 | .13 | -.00 | .13 | 199.87 | 1.00 |
| | 113.010 | 240.00 | 673.49 | 0.00 | .05 | 0.00 | 567.93 | 31.00 |
| | 113.010 | 240.00 | 673.63 | .14 | .06 | .14 | 200.34 | 31.00 |
| | 113.020 | 240.00 | 673.51 | 0.00 | .01 | 0.00 | 569.97 | 1.00 |
| | 113.020 | 240.00 | 673.65 | .14 | .02 | .14 | 374.04 | 1.00 |
| | 113.200 | 240.00 | 673.53 | 0.00 | .02 | 0.00 | 494.78 | 117.00 |
| | 113.200 | 240.00 | 673.67 | .14 | .02 | .14 | 344.29 | 117.00 |
| | 113.500 | 310.00 | 673.62 | 0.00 | .09 | 0.00 | 274.28 | 150.00 |
| | 113.500 | 310.00 | 673.75 | .13 | .08 | .13 | 185.99 | 150.00 |
| * | 113.900 | 395.00 | 674.94 | 0.00 | 1.32 | 0.00 | 131.45 | 150.00 |
| * | 113.900 | 395.00 | 675.06 | .12 | 1.31 | .12 | 112.52 | 150.00 |
| | 113.950 | 395.00 | 676.20 | 0.00 | 1.25 | 0.00 | 136.00 | 115.00 |
| | 113.950 | 395.00 | 676.32 | .13 | 1.26 | .13 | 123.45 | 115.00 |
| | 114.200 | 550.00 | 676.72 | 0.00 | .53 | 0.00 | 136.00 | 119.00 |
| | 114.200 | 550.00 | 676.84 | .11 | .52 | .11 | 123.89 | 119.00 |
| | 113.980 | 550.00 | 677.22 | 0.00 | .49 | 0.00 | 136.00 | 133.00 |
| | 113.980 | 550.00 | 677.34 | .12 | .50 | .12 | 127.54 | 133.00 |
| | 114.020 | 550.00 | 679.11 | 0.00 | 1.90 | 0.00 | 275.10 | 33.00 |
| | 114.020 | 550.00 | 679.24 | .12 | 1.90 | .12 | 211.20 | 33.00 |
| | 114.800 | 550.00 | 679.22 | 0.00 | .11 | 0.00 | 258.30 | 100.00 |
| | 114.800 | 550.00 | 679.34 | .12 | .10 | .12 | 155.41 | 100.00 |
| | 114.850 | 550.00 | 680.26 | 0.00 | 1.04 | 0.00 | 257.37 | 446.00 |
| | 114.850 | 550.00 | 680.37 | .10 | 1.03 | .10 | 106.26 | 446.00 |
| | 114.920 | 550.00 | 681.05 | 0.00 | .79 | 0.00 | 251.17 | 395.00 |
| | 114.920 | 550.00 | 681.16 | .10 | .79 | .10 | 161.07 | 395.00 |
| | 114.930 | 550.00 | 681.09 | 0.00 | .04 | 0.00 | 253.70 | .50 |
| | 114.930 | 550.00 | 681.19 | .11 | .04 | .11 | 168.23 | .50 |
| | 114.940 | 550.00 | 681.10 | 0.00 | .01 | 0.00 | 254.26 | 4.00 |
| | 114.940 | 550.00 | 681.21 | .10 | .01 | .10 | 167.82 | 4.00 |
| | 114.950 | 550.00 | 681.09 | 0.00 | -.01 | 0.00 | 254.03 | .50 |
| | 114.950 | 550.00 | 681.19 | .11 | -.01 | .11 | 165.32 | .50 |
| | 115.200 | 550.00 | 681.55 | 0.00 | .46 | 0.00 | 229.79 | 300.00 |
| | 115.200 | 550.00 | 681.64 | .10 | .45 | .10 | 149.35 | 300.00 |

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 114.980 | 550.00 | 682.11 | 0.00 | .57 | 0.00 | 182.34 | 192.00 |
| 114.980 | 550.00 | 682.20 | .09 | .56 | .09 | 105.83 | 192.00 |
| 115.020 | 550.00 | 684.82 | 0.00 | 2.71 | 0.00 | 150.40 | 38.00 |
| 115.020 | 550.00 | 684.91 | .09 | 2.71 | .09 | 71.74 | 38.00 |
| 115.800 | 550.00 | 684.94 | 0.00 | .12 | 0.00 | 146.28 | 100.00 |
| 115.800 | 550.00 | 685.03 | .09 | .12 | .09 | 70.98 | 100.00 |
| 116.000 | 550.00 | 685.60 | 0.00 | .66 | 0.00 | 191.90 | 475.00 |
| 116.000 | 550.00 | 685.69 | .09 | .65 | .09 | 123.10 | 475.00 |
| 117.200 | 550.00 | 686.39 | 0.00 | .79 | 0.00 | 246.48 | 500.00 |
| 117.200 | 550.00 | 686.49 | .11 | .81 | .11 | 159.74 | 500.00 |
| 116.980 | 550.00 | 686.51 | 0.00 | .13 | 0.00 | 335.71 | 161.00 |
| 116.980 | 550.00 | 686.62 | .11 | .13 | .11 | 265.21 | 161.00 |
| 117.020 | 550.00 | 688.25 | 0.00 | 1.74 | 0.00 | 325.26 | 54.00 |
| 117.020 | 550.00 | 688.36 | .11 | 1.74 | .11 | 246.12 | 54.00 |
| 117.800 | 550.00 | 688.28 | 0.00 | .02 | 0.00 | 309.11 | 70.00 |
| 117.800 | 550.00 | 688.38 | .11 | .02 | .11 | 210.93 | 70.00 |

SUMMARY OF ERRORS

```
CAUTION  SECNO=  109.220  PROFILE= 1  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=  109.230  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  109.230  PROFILE= 2  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=  113.900  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  113.900  PROFILE= 2  CRITICAL DEPTH ASSUMED
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FLOODWAY DATA, HOUGHTON DRAIN U/S PAGE
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 108.890 | 252. | 323. | .7 | 669.5 | 669.5 | 0.0 |
| 109.000 | 269. | 370. | .6 | 669.6 | 669.6 | 0.0 |
| 109.100 | 75. | 73. | 3.3 | 669.8 | 669.8 | 0.0 |
| 109.200 | 141. | 162. | 1.5 | 671.5 | 671.4 | .1 |
| 109.220 | 110. | 79. | 3.0 | 672.1 | 672.1 | 0.0 |
| 109.230 | 114. | 68. | 3.5 | 672.4 | 672.3 | .1 |
| 109.240 | 176. | 175. | 1.4 | 672.9 | 672.7 | .2 |
| 109.250 | 171. | 228. | 1.1 | 673.0 | 672.8 | .2 |
| 110.500 | 186. | 258. | .9 | 672.9 | 672.8 | .1 |
| 110.990 | 194. | 270. | .9 | 673.0 | 672.9 | .1 |
| 110.990 | 173. | 194. | 1.2 | 673.0 | 672.9 | .1 |
| 111.010 | 178. | 209. | 1.1 | 673.1 | 673.0 | .1 |
| 111.020 | 208. | 295. | .8 | 673.1 | 673.0 | .1 |
| 111.500 | 157. | 195. | 1.2 | 673.1 | 673.0 | .1 |
| 111.980 | 138. | 151. | 1.6 | 673.3 | 673.2 | .1 |
| 111.990 | 133. | 105. | 2.3 | 673.3 | 673.2 | .1 |
| 112.010 | 157. | 137. | 1.7 | 673.4 | 673.3 | .1 |
| 112.020 | 161. | 195. | 1.2 | 673.4 | 673.3 | .1 |
| 112.500 | 266. | 364. | .7 | 673.5 | 673.4 | .1 |
| 112.980 | 370. | 650. | .4 | 673.5 | 673.4 | .1 |
| 112.990 | 200. | 239. | 1.0 | 673.5 | 673.4 | .1 |
| 113.010 | 200. | 250. | 1.0 | 673.6 | 673.5 | .1 |
| 113.020 | 374. | 683. | .4 | 673.6 | 673.5 | .1 |
| 113.200 | 344. | 553. | .4 | 673.6 | 673.5 | .1 |
| 113.500 | 186. | 233. | 1.3 | 673.7 | 673.6 | .1 |
| 113.900 | 113. | 99. | 4.0 | 675.0 | 674.9 | .1 |
| 113.950 | 123. | 211. | 1.9 | 676.3 | 676.2 | .1 |
| 114.200 | 124. | 214. | 2.6 | 676.8 | 676.7 | .1 |
| 113.930 | 128. | 337. | 1.6 | 677.3 | 677.2 | .1 |
| 114.020 | 211. | 440. | 1.3 | 679.2 | 679.1 | .1 |
| 114.800 | 155. | 278. | 2.0 | 679.3 | 679.2 | .1 |
| 114.850 | 106. | 227. | 2.4 | 680.4 | 680.3 | .1 |
| 114.920 | 161. | 367. | 1.5 | 681.2 | 681.1 | .1 |
| 114.930 | 168. | 369. | 1.5 | 681.2 | 681.1 | .1 |
| 114.940 | 168. | 370. | 1.5 | 681.2 | 681.1 | .1 |
| 114.950 | 165. | 380. | 1.4 | 681.2 | 681.1 | .1 |
| 115.200 | 149. | 301. | 1.8 | 681.6 | 681.5 | .1 |
| 114.980 | 106. | 161. | 3.4 | 682.2 | 682.1 | .1 |
| 115.020 | 72. | 259. | 2.1 | 684.9 | 684.8 | .1 |
| 115.800 | 71. | 253. | 2.2 | 685.0 | 684.9 | .1 |
| 116.000 | 123. | 306. | 1.8 | 685.7 | 685.6 | .1 |
| 117.200 | 160. | 386. | 1.4 | 686.5 | 686.4 | .1 |
| 116.980 | 265. | 940. | .6 | 686.6 | 686.5 | .1 |
| 117.020 | 246. | 754. | .7 | 688.4 | 688.3 | .1 |
| 117.800 | 211. | 541. | 1.0 | 688.4 | 688.3 | .1 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN U/S PAIGE DRAIN

4) DOCUMENT TYPE: 100 YR FLOODWAY

00BREAK00

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************

C
T1       HUD-FIA H-4705
T2       TROY
T3       HOUGHTON DRAIN U/S PAGE DRAIN 100 YR FLOW=240 CFS

J1  ICHECK    INQ       NINV      IDIP      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       4.        0.        0.  0.000000     0.00      -1.0       0.    669.500    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200.000   0.000   150.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .080      .080      .050      .600      .900     0.000     0.000     0.000     0.000     0.000
QT     5.000   140.000   200.000   240.000   320.000   240.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        ** U/S END PAGE DRAIN - 650 FT. LONG CULVERT

X1    108.890    10.000   384.000   412.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    670.700   185.000   668.500   335.000   668.400   384.000   666.200   388.000   666.200   402.000
GR    668.300   412.000   668.300   500.000   668.700   600.000   669.300   668.000   671.500   700.000

X1    109.000     0.000     0.000     0.000   200.000   200.000   200.000     0.000     0.000     0.000
NC      0.000     0.000     0.000      .200      .400     0.000     0.000     0.000     0.000     0.000

X1    109.100     0.000     0.000     0.000   241.000   241.000   241.000     0.000     1.100     0.000

X1    109.200    18.000   394.000   406.000   300.000   300.000   300.000     0.000    -1.100     0.000
GR    674.000     0.000   673.800   165.000   673.200   185.000   672.700   250.000   673.000   335.000
GR    672.800   386.000   672.500   394.000   671.700   395.000   669.200   398.000   669.200   403.000
GR    671.500   406.000   672.100   418.000   671.200   498.000   671.500   504.000   671.700   526.000
GR    671.000   531.000   672.000   536.000   672.100   625.000     0.000     0.000     0.000     0.000
NC      0.000     0.000     0.000      .400      .800     0.000     0.000     0.000     0.000     0.000

X1    109.220    18.000   394.000   406.000   107.000   107.000   107.000     0.000     0.000     0.000
GR    674.000     0.000   673.400   165.000   673.200   185.000   672.700   250.000   672.700   335.000
GR    672.600   386.000   672.500   394.000   671.700   395.000   669.200   398.000   669.200   403.000
GR    671.500   406.000   672.100   418.000   671.200   498.000   671.500   504.000   671.700   526.000
GR    671.000   531.000   672.000   536.000   672.100   625.000     0.000     0.000     0.000     0.000

        ** D/S FACE DRIVEWAY BRIDGE

X1    109.230     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BT | 10.000 | 0.000 | 674.000 | 0.000 | 395.000 | 672.800 | 671.700 | 398.000 | 672.800 | 671.500 |
| BT | 406.000 | 672.800 | 671.500 | 418.000 | 672.300 | 0.000 | 498.000 | 671.400 | 0.000 | 504.000 |
| BT | 671.700 | 0.000 | 526.000 | 671.900 | 0.000 | 536.000 | 672.200 | 0.000 | 625.000 | 672.100 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 109.240 | 0.000 | 0.000 | 0.000 | 16.000 | 16.000 | 16.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 109.250 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 110.500 | 0.000 | 0.000 | 0.000 | 55.000 | 55.000 | 55.000 | 0.000 | 0.000 | 0.000 |
| X1 | 110.980 | 0.000 | 0.000 | 0.000 | 25.000 | 25.000 | 25.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DRIVEWAY BRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 110.990 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| BT | 10.000 | 0.000 | 674.000 | 0.000 | 395.000 | 672.800 | 671.700 | 398.000 | 672.800 | 671.500 |
| BT | 406.000 | 672.800 | 671.500 | 418.000 | 672.300 | 0.000 | 498.000 | 671.400 | 0.000 | 504.000 |
| BT | 671.700 | 0.000 | 526.000 | 671.900 | 0.000 | 536.000 | 672.200 | 0.000 | 625.000 | 672.100 |
| BT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 111.010 | 0.000 | 0.000 | 0.000 | 18.000 | 18.000 | 18.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 111.020 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X1 | 111.500 | 0.000 | 0.000 | 0.000 | 55.000 | 55.000 | 55.000 | 0.000 | .400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 111.980 | 0.000 | 0.000 | 0.000 | 40.000 | 40.000 | 40.000 | 0.000 | .300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DRIVEWAY BRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 111.990 | 18.000 | 394.000 | 406.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 9.000 | 250.000 | 676.000 | 0.000 | 395.000 | 673.700 | 672.400 | 406.000 | 673.700 | 672.200 |
| BT | 418.000 | 673.000 | 0.000 | 498.000 | 672.100 | 0.000 | 504.000 | 672.400 | 0.000 | 526.000 |
| BT | 672.600 | 0.000 | 536.000 | 672.900 | 0.000 | 625.000 | 672.800 | 0.000 | 0.000 | 0.000 |
| GR | 674.700 | 0.000 | 674.100 | 165.000 | 673.900 | 185.000 | 673.400 | 250.000 | 673.400 | 335.000 |
| GR | 673.300 | 386.000 | 673.200 | 394.000 | 672.400 | 395.000 | 669.900 | 398.000 | 669.900 | 403.000 |
| GR | 672.200 | 406.000 | 672.800 | 418.000 | 671.900 | 498.000 | 672.200 | 504.000 | 672.400 | 526.000 |
| GR | 671.700 | 531.000 | 672.700 | 536.000 | 672.800 | 625.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 112.010 | 0.000 | 0.000 | 0.000 | 8.000 | 8.000 | 8.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 112.020 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 112.500 | 0.000 | 0.000 | 0.000 | 35.000 | 35.000 | 35.000 | 0.000 | -.400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 112.980 | 0.000 | 0.000 | 0.000 | 30.000 | 30.000 | 30.000 | 0.000 | -.600 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE DRIVEWAY BRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 112.990 | 18.000 | 394.000 | 406.000 | 1.000 | 1.000 | 1.000 | 0.000 | -1.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BT | 9.000 | 0.000 | 676.500 | 0.000 | 395.000 | 674.100 | 671.400 | 406.000 | 674.100 | 671.200 |
| BT | 413.000 | 673.000 | 0.000 | 498.000 | 672.100 | 0.000 | 504.000 | 672.400 | 0.000 | 526.000 |
| BT | 672.500 | 0.000 | 536.000 | 672.100 | 0.000 | 625.000 | 671.800 | 0.000 | 0.000 | 0.000 |
| GR | 674.700 | 0.000 | 674.100 | 165.000 | 673.900 | 185.000 | 673.400 | 250.000 | 673.400 | 335.000 |
| GR | 673.300 | 386.000 | 673.200 | 394.000 | 672.400 | 395.000 | 669.900 | 398.000 | 669.900 | 403.000 |
| GR | 672.200 | 406.000 | 672.800 | 418.000 | 671.900 | 498.000 | 672.200 | 504.000 | 672.400 | 526.000 |
| GR | 671.700 | 531.000 | 672.700 | 536.000 | 672.800 | 625.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.010 | 0.000 | 0.000 | 0.000 | 31.000 | 31.000 | 31.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.020 | 0.000 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.200 | 0.000 | 0.000 | 0.000 | 117.000 | 117.000 | 117.000 | 0.000 | .300 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | .085 | .085 | .055 | .500 | .800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| QT | 5.000 | 170.000 | 260.000 | 310.000 | 420.000 | 310.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.500 | 5.000 | 264.000 | 296.000 | 150.000 | 150.000 | 150.000 | 0.000 | -2.600 | 0.000 |
| GR | 676.600 | 264.000 | 673.500 | 278.000 | 672.700 | 282.000 | 672.700 | 286.000 | 673.500 | 290.000 |
| GR | 675.600 | 296.000 | 675.600 | 314.000 | 675.000 | 425.000 | 676.000 | 540.000 | 0.000 | 0.000 |
| QT | 5.000 | 190.000 | 315.000 | 395.000 | 535.000 | 395.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.900 | 16.000 | 264.000 | 296.000 | 150.000 | 150.000 | 150.000 | 0.000 | -.900 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 679.000 | 0.000 | 0.000 |
| GR | 674.500 | 0.000 | 675.700 | 165.000 | 675.000 | 185.000 | 675.000 | 210.000 | 675.500 | 234.000 |
| GR | 676.800 | 256.000 | 676.600 | 264.000 | 673.500 | 278.000 | 672.700 | 282.000 | 672.700 | 286.000 |
| GR | 673.500 | 290.000 | 675.600 | 296.000 | 675.600 | 314.000 | 675.400 | 366.000 | 674.600 | 395.000 |
| GR | 676.200 | 400.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 113.950 | 0.000 | 0.000 | 0.000 | 115.000 | 115.000 | 115.000 | 0.000 | .400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 679.000 | 0.000 | 0.000 |
| QT | 5.000 | 245.000 | 430.000 | 550.000 | 750.000 | 550.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 114.200 | 0.000 | 0.000 | 0.000 | 119.000 | 119.000 | 119.000 | 0.000 | .500 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 680.000 | 0.000 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE PRIVATE DRIVE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 113.980 | 0.000 | 0.000 | 0.000 | 133.000 | 133.000 | 133.000 | 0.000 | -.400 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 678.000 | 675.600 | 0.000 |
| SB | 0.000 | 1.550 | 2.650 | 0.000 | 3.400 | 0.000 | 11.200 | 0.000 | 672.300 | 672.300 |
| | | | | | | | | | | |
| X1 | 114.020 | 18.000 | 240.000 | 292.000 | 33.000 | 33.000 | 33.000 | 0.000 | -.700 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 675.600 | 678.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 678.800 | 678.800 | 0.000 |
| BT | 6.000 | 40.000 | 680.000 | 0.000 | 216.000 | 677.500 | 0.000 | 285.000 | 678.800 | 0.000 |
| BT | 430.000 | 679.400 | 0.000 | 458.000 | 678.800 | 0.000 | 500.000 | 679.000 | 0.000 | 0.000 |
| GR | 680.900 | 40.000 | 680.300 | 70.000 | 680.200 | 100.000 | 680.100 | 120.000 | 680.000 | 140.000 |
| GR | 680.000 | 216.000 | 679.500 | 240.000 | 676.200 | 260.000 | 674.300 | 282.000 | 673.000 | 285.000 |
| GR | 673.000 | 287.000 | 674.300 | 290.000 | 677.700 | 292.000 | 678.800 | 380.000 | 678.800 | 430.000 |
| GR | 678.000 | 458.000 | 678.800 | 463.000 | 678.800 | 500.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Same BT as Natur.! run

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 114.800 | 18.000 | 240.000 | 292.000 | 100.000 | 100.000 | 100.000 | 0.000 | 0.000 | 0.000 |
| GR | 680.900 | 40.000 | 680.300 | 70.000 | 680.200 | 100.000 | 680.100 | 120.000 | 680.000 | 140.000 |
| GR | 680.000 | 216.000 | 679.500 | 240.000 | 676.200 | 260.000 | 674.300 | 282.000 | 673.000 | 285.000 |
| GR | 673.000 | 287.000 | 674.300 | 290.000 | 677.700 | 292.000 | 678.800 | 380.000 | 678.800 | 430.000 |
| GR | 678.000 | 458.000 | 678.800 | 463.000 | 678.800 | 500.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 114.850 | 0.000 | 0.000 | 0.000 | 446.000 | 446.000 | 446.000 | 0.000 | 1.200 | 0.000 |
| | | | | | | | | | | |
| X1 | 114.920 | 12.000 | 280.000 | 308.000 | 395.000 | 395.000 | 395.000 | 0.000 | -.800 | 0.000 |
| GR | 683.300 | 100.000 | 680.400 | 206.000 | 680.300 | 250.000 | 680.400 | 280.000 | 676.700 | 290.000 |
| GR | 676.100 | 295.000 | 676.100 | 298.000 | 676.700 | 302.000 | 679.800 | 308.000 | 679.800 | 356.000 |
| GR | 681.000 | 376.000 | 683.800 | 468.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE FOOTBRIDGE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 114.930 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 678.300 | 678.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 114.940 | 0.000 | 0.000 | 0.000 | 4.000 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 |
| X2 | 0.000 | 0.000 | 0.000 | 678.300 | 678.900 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 114.950 | 0.000 | 0.000 | 0.000 | .500 | .500 | .500 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | |
| X1 | 115.200 | 12.000 | 280.000 | 308.000 | 300.000 | 300.000 | 300.000 | 0.000 | 0.000 | 0.000 |
| GR | 683.300 | 100.000 | 680.400 | 206.000 | 680.300 | 250.000 | 680.400 | 280.000 | 676.700 | 290.000 |
| GR | 676.100 | 295.000 | 676.100 | 298.000 | 676.700 | 302.000 | 679.800 | 308.000 | 679.800 | 356.000 |
| GR | 681.000 | 376.000 | 683.800 | 468.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE BELZAIR ROAD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 114.980 | 0.000 | 0.000 | 0.000 | 192.000 | 192.000 | 192.000 | 0.000 | 1.300 | 0.000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 681.600 | 681.600 | 0.000 |
| SB | 0.000 | 1.750 | 2.000 | 0.000 | 6.650 | 0.000 | 34.600 | 0.000 | 677.400 | 677.400 |
| X1 | 115.020 | 10.000 | 138.000 | 216.000 | 38.000 | 38.000 | 38.000 | 0.000 | -.200 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 681.200 | 684.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 684.000 | 684.000 | 0.000 |
| BT | 3.000 | 20.000 | 685.000 | 0.000 | 155.000 | 684.000 | 0.000 | 216.000 | 684.400 | 0.000 |
| GR | 686.000 | 20.000 | 684.500 | 79.000 | 684.400 | 96.000 | 684.300 | 138.000 | 677.700 | 152.000 |
| GR | 677.600 | 155.000 | 677.600 | 157.000 | 677.700 | 160.000 | 680.300 | 166.000 | 685.800 | 216.000 |
| NC | .095 | .095 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 115.800 | 0.000 | 0.000 | 0.000 | 100.000 | 100.000 | 100.000 | 0.000 | .200 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .200 | .400 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 116.000 | 15.000 | 214.000 | 246.000 | 475.000 | 475.000 | 475.000 | 0.000 | 0.000 | 0.000 |
| GR | 687.500 | 100.000 | 685.200 | 170.000 | 683.800 | 186.000 | 683.800 | 214.000 | 682.200 | 222.000 |
| GR | 679.400 | 226.000 | 678.700 | 229.000 | 678.700 | 232.000 | 680.100 | 236.000 | 683.900 | 246.000 |
| GR | 684.000 | 312.000 | 685.200 | 324.000 | 685.600 | 350.000 | 685.700 | 440.000 | 687.700 | 500.000 |
| X1 | 117.200 | 14.000 | 152.000 | 176.000 | 500.000 | 500.000 | 500.000 | 0.000 | 0.000 | 0.000 |
| GR | 688.500 | 30.000 | 686.600 | 85.000 | 686.500 | 126.000 | 685.600 | 138.000 | 685.300 | 152.000 |
| GR | 681.000 | 160.000 | 680.800 | 163.000 | 680.800 | 167.000 | 681.000 | 170.000 | 684.000 | 176.000 |
| GR | 684.400 | 188.000 | 684.400 | 270.000 | 684.600 | 298.000 | 686.300 | 374.000 | 0.000 | 0.000 |
| NC | 0.000 | 0.000 | 0.000 | .300 | .500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

** D/S FACE LONG LAKE ROAD.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 116.980 | 0.000 | 0.000 | 0.000 | 161.000 | 161.000 | 161.000 | 0.000 | -1.700 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 683.200 | 683.200 | 0.000 |
| SB | 0.000 | 2.000 | 2.700 | 325.000 | 4.140 | 0.000 | 9.100 | 0.000 | 681.000 | 679.100 |
| X1 | 117.020 | 12.000 | 192.000 | 218.000 | 54.000 | 54.000 | 54.000 | 0.000 | -.700 | 0.000 |
| X2 | 0.000 | 0.000 | 1.000 | 683.200 | 687.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X3 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 687.600 | 687.600 | 0.000 |
| GR | 688.500 | 0.000 | 687.000 | 62.000 | 686.200 | 67.000 | 686.200 | 192.000 | 681.700 | 200.000 |
| GR | 681.700 | 210.000 | 685.400 | 218.000 | 686.400 | 236.000 | 686.500 | 279.000 | 687.400 | 288.000 |
| GR | 687.800 | 314.000 | 691.000 | 345.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| X1 | 117.800 | 0.000 | 0.000 | 0.000 | 70.000 | 70.000 | 70.000 | 0.000 | .700 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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*PROF 1

CCHV=    .600 CEHV=    .900
*SECNO 108.890
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


         ** U/S END PAGE DRAIN - 650 FT. LONG CULVERT

   108.89      3.30    669.50      0.00    669.50    669.51       .01      0.00      0.00    668.40
     240.       32.      104.      104.       86.       77.      240.        0.        0.     668.30
     0.00       .38      1.34       .43      .080      .050      .080     0.000    666.20    266.82
  .000541        0.        0.        0.         0         0         0      0.00    404.09    670.91

*SECNO 109.000
   109.00      3.40    669.60      0.00      0.00    669.61       .01       .09       .00    668.40
     240.       34.       97.      109.       99.       81.      268.        2.        2.     668.30
      .08       .35      1.20       .41      .080      .050      .080      .050    666.20    259.44
  .000417      200.      200.      200.         0         0         0      0.00    413.05    672.48

CCHV=    .200 CEHV=    .400
*SECNO 109.100
   109.10      2.45    669.75      0.00      0.00    669.94       .19       .26       .07    669.50
     240.        6.      203.       32.       11.       54.       47.        3.        4.     669.40
      .10       .52      3.77       .68      .080      .050      .080      .050    667.30    324.54
  .006978      241.      241.      241.         2         0         0      0.00    263.83    588.37

*SECNO 109.200
3280 CROSS SECTION    109.20 EXTENDED       .41 FEET

   109.20      3.31    671.41      0.00      0.00    671.47       .06      1.51       .03    671.40
     240.        0.       90.      150.        0.       30.      156.        5.        5.     670.40
      .15       .01      3.02       .96      .080      .050      .080      .050    668.10    393.70
  .003791      300.      300.      300.         5         0         0      0.00    231.30    625.00

CCHV=    .400 CEHV=    .800
*SECNO 109.220
3280 CROSS SECTION    109.22 EXTENDED       .04 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   109.22      2.94    672.14    672.14      0.00    672.42       .27       .71       .17    672.50
     240.        0.      137.      103.        0.       25.       76.        5.        6.     671.50
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      .15      0.00      5.42      1.35      .080      .050      .080      .050    669.20    394.44
  .014244      107.      107.      107.         2        12         0      0.00    230.56    625.00

*SECNO 109.230
3280 CROSS SECTION     109.23 EXTENDED        .22 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

         ** D/S FACE DRIVEWAY BRIDGE

   109.23      3.12    672.32    672.32      0.00    672.51       .20       .02       .03    672.50
     240.        0.        93.      147.        0.      18.       71.        5.        6.    671.50
      .15      0.00      5.06      2.08      .080      .050      .080      .050    669.20    394.23
  .040604        1.        1.        1.         2        14         0    -51.86    230.77    625.00

*SECNO 109.240
3280 CROSS SECTION     109.24 EXTENDED        .66 FEET

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

   109.24      3.55    672.75      0.00      0.00    672.78       .03       .20       .07    672.50
     240.        0.        36.      204.        0.      18.      164.        5.        6.    671.50
      .16      0.00      1.95      1.24      .080      .050      .080      .050    669.20    242.66
  .006024       16.       16.       16.         2         0         0    -72.00    382.34    625.00

*SECNO 109.250
3280 CROSS SECTION     109.25 EXTENDED        .65 FEET

   109.25      3.55    672.75      0.00      0.00    672.78       .03       .00       .00    672.50
     240.        2.        73.      166.       11.      33.      209.        5.        6.    671.50
      .16       .16      2.23       .79      .080      .050      .080      .050    669.20    243.30
  .001830        1.        1.        1.         2         0         0      0.00    381.70    625.00

*SECNO 110.500
3280 CROSS SECTION     110.50 EXTENDED        .75 FEET

   110.50      3.65    672.85      0.00      0.00    672.87       .02       .09       .00    672.50
     240.        6.        67.      168.       27.      34.      231.        5.        7.    671.50
      .17       .22      1.98       .73      .080      .050      .080      .050    669.20    230.49
  .001367       55.       55.       55.         2         0         0      0.00    394.51    625.00
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*SECNC 110.980
3280 CROSS SECTION     110.98 EXTENDED        .79 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

   110.98      3.69    672.89      0.00      0.00    672.91      .02       .03       .00    672.50
     240.        8.      64.     168.       33.       34.     239.        5.        7.     671.50
      .18       .23     1.88      .70      .080      .050     .080      .050    669.20    225.33
  .001218       25.      25.      25.         0         0        0      0.00    399.67    625.00

*SECNO 110.990
3280 CROSS SECTION     110.99 EXTENDED        .79 FEET

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

        ** D/S FACE DRIVEWAY BRIDGE

   110.99      3.69    672.89      0.00      0.00    672.91      .02       .00       .00    672.50
     240.        0.      24.     215.        1.       19.     193.        5.        7.     671.50
      .18       .16     1.26     1.12      .080      .050     .080      .049    669.20    225.73
  .004034        1.       1.       1.         0         0        0    -92.20    399.27    625.00

*SECNC 111.010
3280 CROSS SECTION     111.01 EXTENDED        .86 FEET

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  671.40 MAX ELLC=  671.70

   111.01      3.76    672.96      0.00      0.00    672.97      .02       .06       .00    672.50
     240.        1.      23.     216.        4.       20.     208.        6.        7.     671.50
      .18       .20     1.15     1.04      .080      .050     .080      .049    669.20    216.71
  .003180       18.      18.      18.         2         0        0   -101.48    408.29    625.00

*SECNO 111.020
3280 CROSS SECTION     111.02 EXTENDED        .86 FEET

   111.02      3.76    672.96      0.00      0.00    672.97      .02       .00       .00    672.50
     240.       11.      61.     168.       46.       35.     255.        6.        7.     671.50
      .18       .25     1.73      .66      .080      .050     .080      .049    669.20    216.24
  .000999        1.       1.       1.         0         0        0      0.00    408.76    625.00

*SECNO 111.500
3280 CROSS SECTION     111.50 EXTENDED        .54 FEET

   111.50      3.44    673.04      0.00      0.00    673.08      .04       .08       .02    672.90
     240.        0.      80.     160.        1.       31.     184.        6.        7.     671.90
```

```
      .19       .15      2.57       .87      .080      .050      .080      .049    669.60    367.34
  .002569       55.       55.       55.         2         0         0      0.00    257.66    625.00

*SECNO 111.980
3280 CROSS SECTION    111.98 EXTENDED       .36 FEET

   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLCSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      673.20 ELREA=      672.20

   111.99      3.26    673.16      0.00      0.00    673.24       .07       .13       .02    673.20
     240.        0.       94.      146.        0.       29.      146.        6.        8.    672.20
      .20      0.00      3.24      1.00      .080      .050      .080      .049    669.90    394.05
  .004438       40.       40.       40.         2         0         0      0.00    230.95    625.00

*SECNO 111.990
3280 CROSS SECTION    111.99 EXTENDED       .37 FEET


3370 NORMAL BRIDGE,NPD=  9 MIN ELTRD=  672.10 MAX ELLC=  672.40

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      673.20 ELREA=      672.20

        ** D/S FACE DRIVEWAY BRIDGE

   111.99      3.27    673.17      0.00      0.00    673.26       .09       .01       .01    673.20
     240.        0.       68.      172.        0.       19.      102.        6.        8.    672.20
      .20      0.00      3.54      1.69      .080      .050      .080      .049    669.90    394.04
  .018796        1.        1.        1.         0         0         0    -54.41    230.96    625.00

*SECNO 112.010
3280 CROSS SECTION    112.01 EXTENDED       .53 FEET


3370 NORMAL BRIDGE,NPD=  9 MIN ELTRD=  672.10 MAX ELLC=  672.40

   112.01      3.43    673.33      0.00      0.00    673.38       .04       .10       .02    673.20
     240.        0.       48.      192.        0.       19.      137.        6.        8.    672.20
      .20      0.00      2.50      1.40      .080      .050      .080      .049    669.90    369.36
  .009347        8.        8.        8.         2         0         0    -58.62    255.64    625.00

*SECNO 112.020
3280 CROSS SECTION    112.02 EXTENDED       .55 FEET

   112.02      3.44    673.34      0.00      0.00    673.38       .04       .00       .00    673.20
     240.        0.       79.      160.        1.       31.      186.        6.        8.    672.20
```

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      .20       .15      2.54       .86      .080      .050      .080      .049    669.90    362.78
  .002502        1.        1.        1.         0         0         0      0.00    262.22    625.00

*SECNO 112.500
3280 CROSS SECTION    112.50 EXTENDED      1.02 FEET

   112.50      3.92    673.42      0.00      0.00    673.43       .01       .04       .01    672.80
     240.       20.       53.      167.       76.       37.      290.        6.        8.    671.80
      .22       .26      1.44       .58      .080      .050      .080      .049    669.50    195.21
  .000644       35.       35.       35.         2         0         0      0.00    429.79    625.00

*SECNO 112.980
3280 CROSS SECTION    112.98 EXTENDED      1.64 FEET

   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST

   112.98      4.54    673.44      0.00      0.00    673.44       .00       .01       .00    672.20
     240.       50.       36.      154.      230.       44.      426.        7.        8.    671.20
      .24       .22       .80       .36      .080      .050      .080      .049    668.90     71.24
  .000156       30.       30.       30.         2         0         0      0.00    553.76    625.00

*SECNO 112.990
3280 CROSS SECTION    112.99 EXTENDED      1.64 FEET

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  671.80 MAX ELLC=  671.40

        ** D/S FACE DRIVEWAY BRIDGE

   112.99      4.54    673.44      0.00      0.00    673.45       .01       .00       .01    672.20
     240.        0.       21.      219.        0.       19.      245.        7.        8.    671.20
      .24      0.00      1.09       .89      .080      .050      .080      .049    668.90     71.13
  .001777        1.        1.        1.         0         0         0   -435.47    553.87    625.00

*SECNO 113.010
3280 CROSS SECTION    113.01 EXTENDED      1.69 FEET

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  671.80 MAX ELLC=  671.40

   113.01      4.59    673.49      0.00      0.00    673.50       .01       .05       .00    672.20
     240.        0.       20.      220.        0.       19.      256.        7.        9.    671.20
      .25      0.00      1.02       .86      .080      .050      .080      .049    668.90     57.07
  .001568       31.       31.       31.         2         0         0   -453.30    567.93    625.00

*SECNO 113.020
3280 CROSS SECTION    113.02 EXTENDED      1.70 FEET
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   113.02      4.61    673.51      0.00      0.00    673.51       .00       .00       .00    672.20
     240.       52.       35.      153.      249.       45.      439.        7.        9.    671.20
      .25       .21       .77       .35      .080      .050      .080      .049    668.90     55.03
  .000139        1.        1.        1.         1         0         0      0.00    569.97    625.00

*SECNO 113.200
3280 CROSS SECTION     113.20 EXTENDED       1.43 FEET

   113.20      4.33    673.53      0.00      0.00    673.53       .00       .02       .00    672.50
     240.       40.       40.      159.      167.       42.      379.        9.       10.    671.50
      .31       .24       .97       .42      .080      .050      .080      .049    669.20    130.22
  .000245      117.      117.      117.         2         0         0      0.00    494.78    625.00

CCHV=     .500 CEHV=     .800
*SECNO 113.500
3280 CROSS SECTION     113.50 EXTENDED        .22 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   113.50      3.52    673.62      0.00      0.00    673.67       .05       .10       .03    674.00
     310.        0.       153.      157.        0.       66.      196.       10.       12.    673.00
      .34      0.00      2.34       .80      .085      .055      .085      .050    670.10    265.72
  .002753      150.      150.      150.         2         0         0      0.00    274.28    540.00

*SECNO 113.900
3280 CROSS SECTION     113.90 EXTENDED       1.34 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      679.00 ELREA=      674.70

   113.90      3.14    674.94    674.94      0.00    675.35       .41       .98       .29    675.70
     395.        0.       312.       83.        0.       55.       49.       11.       12.    674.70
      .35      0.00      5.72      1.69      .085      .055      .085      .050    671.80    267.43
  .019587      150.      150.      150.         5        10         0      0.00    131.45    398.88

*SECNO 113.950
3280 CROSS SECTION     113.95 EXTENDED       2.20 FEET
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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 679.00 ELREA= 675.10

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 113.95 | 4.00 | 676.20 | 0.00 | 0.00 | 676.28 | .08 | .76 | .17 | 676.10 |
| 395. | 0. | 227. | 168. | 0. | 81. | 138. | 11. | 13. | 675.10 |
| .36 | 0.00 | 2.81 | 1.22 | .085 | .055 | .085 | .050 | 672.20 | 264.00 |
| .003273 | 115. | 115. | 115. | 4 | 0 | 0 | 0.00 | 136.00 | 400.00 |

*SECNO 114.200
3280 CROSS SECTION 114.20 EXTENDED 2.23 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 680.00 ELREA= 675.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 114.20 | 4.02 | 676.72 | 0.00 | 0.00 | 676.87 | .15 | .54 | .06 | 676.60 |
| 550. | 0. | 314. | 236. | 0. | 82. | 141. | 12. | 13. | 675.60 |
| .38 | 0.00 | 3.84 | 1.68 | .085 | .055 | .085 | .051 | 672.70 | 264.00 |
| .006008 | 119. | 119. | 119. | 3 | 0 | 0 | 0.00 | 136.00 | 400.00 |

CCHV= .300 CEHV= .500
*SECNO 113.980
3280 CROSS SECTION 113.98 EXTENDED 3.12 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 678.00 ELREA= 675.60

** D/S FACE PRIVATE DRIVE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 113.98 | 4.92 | 677.22 | 0.00 | 0.00 | 677.28 | .06 | .37 | .03 | 676.20 |
| 550. | 0. | 269. | 281. | 0. | 110. | 233. | 13. | 13. | 675.20 |
| .40 | 0.00 | 2.44 | 1.20 | .085 | .055 | .085 | .051 | 672.30 | 264.00 |
| .001623 | 133. | 133. | 133. | 2 | 0 | 0 | 0.00 | 136.00 | 400.00 |

SPECIAL BRIDGE

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 1.55 | 2.65 | 0.00 | 3.40 | 0.00 | 11.20 | 0.00 | 672.30 | 672.30 |

*SECNO 114.020
3280 CROSS SECTION 114.02 EXTENDED 1.01 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | ICC | ICCNT | CORAR | TOPWID | ENDST |

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 735.26 | 677.63 | 0.00 | 451. | 100. | 11. | 11. | 675.60 | 678.80 |

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   114.02      6.81    679.11      0.00      0.00    679.15       .04      1.88      0.00    678.80
     550.        0.      376.      174.        2.      198.      273.       13.       14.    677.00
      .40       .15      1.90       .64      .085      .055      .085      .051    672.30    224.90
  .000892       33.       33.       33.         2         0         9      0.00    275.10    500.00

*SECNO 114.800
3280 CROSS SECTION    114.80 EXTENDED       .42 FEET

   114.80      6.22    679.22      0.00      0.00    679.31       .09       .13       .03    679.50
     550.        0.      447.      103.        0.      167.      149.       14.       14.    677.70
      .41      0.00      2.67       .69      .085      .055      .085      .051    673.00    241.70
  .002120      100.      100.      100.         2         0         0     0.00    258.30    500.00

CCHV=     .200 CEHV=     .400
*SECNO 114.850
3280 CROSS SECTION    114.85 EXTENDED       .27 FEET

   114.85      6.06    680.26      0.00      0.00    680.38       .12      1.06       .01    680.70
     550.        0.      470.       80.        0.      160.      117.       17.       17.    678.90
      .46      0.00      2.94       .69      .085      .055      .085      .052    674.20    242.63
  .002669      446.      446.      446.         2         0         0      0.00    257.37    500.00

*SECNO 114.920
   114.92      5.75    681.05      0.00      0.00    681.11       .06       .73       .01    679.60
     550.      113.      307.      130.      150.      121.      140.       20.       19.    679.00
      .52       .76      2.53       .93      .085      .055      .085      .052    675.30    152.88
  .001339      395.      395.      395.         2         0         0      0.00    251.17    404.04

*SECNO 114.930

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  678.90 MAX ELLC=  678.30

        ** D/S FACE FOOTBRIDGE

   114.93      5.79    681.09      0.00      0.00    681.12       .03       .00       .01    679.60
     550.      170.      187.      193.      155.      107.      143.       20.       19.    679.00
      .52      1.10      1.75      1.35      .085      .055      .085      .052    675.30    151.54
  .002748        1.        1.        1.         2         0         0    -14.71    253.70    405.24

*SECNO 114.940
   SECNO     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  0 MIN ELTRD=  678.90 MAX ELLC=  678.30

   114.94      5.80    681.10      0.00      0.00    681.13       .03       .01       .00    679.60
     550.      170.      187.      193.      156.      108.      144.       20.       19.    679.00
      .52      1.09      1.74      1.34      .085      .055      .085      .052    675.30    151.24
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  .002710       4.       4.       4.        0        0        0   -14.71   254.26   405.51


*SECNO 114.950
   114.95     5.79   681.09     0.00     0.00   681.14      .06      .00      .01   679.60
     550.     116.     303.     131.     155.     122.     144.      20.      19.   679.00
      .52      .75     2.48      .92     .085     .055     .085     .052   675.30   151.37
  .001265       1.       1.       1.        1        0        0     0.00   254.03   405.40


*SECNO 115.200
   115.20     5.45   681.55     0.00     0.00   681.64      .09      .48      .01   680.40
     550.      93.     338.     119.     112.     112.     112.      23.      21.   679.80
      .56      .83     3.01     1.06     .085     .055     .085     .052   676.10   164.13
  .002088     300.     300.     300.        2        0        0     0.00   229.79   392.92


CCHV=    .300 CEHV=    .500
*SECNO 114.980

        ** D/S FACE BELZAIR ROAD

   114.98     4.71   682.11     0.00     0.00   682.40      .29      .66      .10   681.70
     550.      32.     439.      80.      38.      92.      58.      24.      22.   681.10
      .59      .84     4.76     1.38     .085     .055     .085     .053   677.40   190.66
  .006816     192.     192.     192.        2        0        0     0.00   182.34   373.00


SPECIAL BRIDGE
SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.75      2.90      0.00      6.65      0.00      34.60     0.00      677.40    677.40

*SECNO 115.020
PRESSURE AND WEIR FLOW


 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
   688.98    682.60     0.00      203.      350.       35.       25.      681.20    684.00


   115.02     7.42   684.82     0.00     0.00   684.89      .07     2.49     0.00   684.10
     550.      18.     532.       0.      43.     253.       0.      24.      22.   685.60
      .58      .42     2.10     0.00     .085     .055     .085     .053   677.40    58.52
  .001167      38.      38.      38.        2        0        5     0.00   150.40   208.92


*SECNO 115.800
   SECNO     DEPTH     CLSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VCL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       HTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


   115.80     7.34   684.94     0.00     0.00   685.01      .07      .12      .00   684.30
     550.      13.     537.       0.      37.     247.       0.      25.      22.   685.80
      .59      .36     2.18     0.00     .095     .055     .095     .053   677.60    61.86
  .001264     100.     100.     100.        2        0        0     0.00   146.28   208.14
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CCHV=     .200 CEHV=     .400
*SECNO 116.000
   116.00      6.90    685.60      0.00      0.00    685.68       .09       .67       .01    683.80
     550.       58.      389.      102.       70.      141.      126.       28.       24.    683.90
      .65       .83      2.76       .81      .095      .055      .095      .053    678.70    157.91
  .001570      475.      475.      475.         2         0         0      0.00    191.90    349.81


*SECNO 117.200
3280 CROSS SECTION     117.20 EXTENDED        .09 FEET


   117.20      5.59    686.39      0.00      0.00    686.44       .06       .75       .01    685.30
     550.        9.      273.      268.       17.      104.      313.       33.       27.    684.00
      .73       .51      2.61       .86      .095      .055      .095      .053    680.80    127.52
  .001451      500.      500.      500.         2         0         0      0.00    246.48    374.00


CCHV=     .300 CEHV=     .500
*SECNO 116.980
3280 CROSS SECTION     116.98 EXTENDED       1.91 FEET


        ** D/S FACE LONG LAKE ROAD.

   116.98      7.41    686.51      0.00      0.00    686.52       .01       .06       .01    683.60
     550.       52.      173.      325.      171.      148.      675.       35.       28.    682.30
      .80       .31      1.17       .48      .095      .055      .095      .053    679.10     38.29
  .000181      161.      161.      161.         2         0         0      0.00    335.71    374.00


SPECIAL BRIDGE

SB   XK        XKCR      COFQ      RDLEN     RWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.00      2.70    325.00      4.14      0.00      9.10      0.00    681.00    679.10

*SECNO 117.020
3280 CROSS SECTION     117.02 EXTENDED        .46 FEET


PRESSURE AND WEIR FLOW


 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                               AREA
   799.96    688.42     0.00      482.      68.        9.        9.       683.20    687.60


   117.02      7.25    688.25      0.00      0.00    688.27       .02      1.75      0.00    685.50
     550.      213.      230.      107.      432.      156.      223.       36.       28.    684.70
      .82       .49      1.47       .48      .095      .055      .095      .053    681.00      0.00
  .000301       54.       54.       54.         1         0        10      0.00    325.26    325.26


*SECNO 117.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
```

| SLOPE | XLCBL | XLCH | XLOBR | ITRIAL | IDC | ICCNT | CORAR | TCPWID | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 117.80 | 6.58 | 669.20 | 0.00 | 0.00 | 688.31 | .03 | .03 | .01 | 686.20 |
| 550. | 184. | 278. | 89. | 301. | 138. | 151. | 37. | 29. | 685.40 |
| .83 | .61 | 2.01 | .59 | .095 | .055 | .095 | .053 | 681.70 | 9.45 |
| .000660 | 70. | 70. | 70. | 0 | 0 | 0 | 0.00 | 309.11 | 318.57 |

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN OVERFLOW

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

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*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      3.14    635.84      0.00    637.00    635.88       .03      0.00      0.00    635.70
     110.        0.     110.        0.        2.       76.        0.        0.        0.     636.70
     0.00       .13      1.45      0.00      .100      .060      .100     0.000    632.70    295.35
  .001210        0.        0.        0.         0         0         5      0.00     53.23    348.57


*SECNO 1004.000
  1004.00      3.09    636.09      0.00      0.00    636.13       .03       .25       .00    636.00
     110.        0.     110.        0.        1.       74.        0.        0.        0.     637.00
      .04       .10      1.49      0.00      .100      .060      .100      .060    633.00    297.23
  .001319      200.     200.      200.         0         0         0      0.00     51.24    348.48


*SECNO 1004.500
  1004.50      3.11    636.61      0.00      0.00    636.65       .03       .52       .00    636.50
     110.        0.     110.        0.        2.       74.        0.        1.        1.     637.50
      .11       .12      1.47      0.00      .100      .060      .100      .060    633.50    296.47
  .001274      400.     400.      400.         1         0         0      0.00     52.04    348.51


*SECNO 1005.200
  1005.20      3.37    637.37      0.00      0.00    637.40       .03       .75       .00    637.80
     110.        0.     110.        0.        0.       82.        0.        2.        1.     638.40
      .24      0.00      1.34      0.00      .100      .060      .100      .060    634.00    139.36
  .001226      600.     600.      600.         1         0         0      0.00     42.03    181.38


CCHV=     .300 CEHV=     .500
*SECNO 1005.300
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      2.27    637.67      0.00      0.00    638.06       .39       .48       .18    638.60
     110.        0.     110.        0.        0.       22.        0.        2.        1.     638.60
      .25      0.00      4.99      0.00      .100      .060      .100      .060    635.40    670.29
  .021605      150.     150.      150.         2         0         0      0.00     10.42    680.71


SPECIAL BRIDGE
```

```
5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB   XK        XKCR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.66      2.70    100.00     11.00      0.00     32.00      0.00    635.40    635.40

*SECND 1005.700

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=     0.000  EGLWC=   638.057  ELLC=   638.600  PCWSE=   637.671  ELTRD=   640.800

3370 NORMAL BRIDGE,NRC=  0 MIN ELTRD=  640.80 MAX ELLC=  638.60

  1005.70      3.05   638.45      0.00      0.00   638.66       .20       .54       .05   638.60
     110.        0.     110.        0.        0.      30.        0.        2.        1.   638.60
      .25      0.00     3.62      0.00      .100      .060      .100      .060   635.40   670.05
  .008645       42.      42.       42.         2         0         0      0.00     10.91   680.95
```

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************
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```
T1      JOB HUD-FIA H-4705  TC6
T2      FLOOD INSURANCE STUDIES
T3      50 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 3. | 0. | 0. | .001200 | 0.00 | -1.0 | 0. | 637.000 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 2.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      3.77    636.47      0.00    637.00    636.51       .04      0.00      0.00    635.70
     170.        8.     162.        0.       21.      97.        0.        0.        0.     636.70
     0.00       .36      1.67      0.00      .100     .060      .100     0.000    632.70    274.90
  .001208        0.        0.        0.         0        0         5      0.00     74.72    349.62


*SECNO 1004.000
  1004.00      3.72    636.72      0.00      0.00    636.77       .04       .25       .00    636.00
     170.        7.     163.        0.       19.      95.        0.        1.        0.     637.00
      .03       .36      1.72      0.00      .100     .060      .100      .060    633.00    276.80
  .001304      200.     200.      200.         0        0         0      0.00     72.72    349.52


*SECNO 1004.500
  1004.50      3.74    637.24      0.00      0.00    637.28       .04       .52       .00    636.50
     170.        7.     163.        0.       20.      96.        0.        2.        1.     637.50
      .10       .36      1.70      0.00      .100     .060      .100      .060    633.50    276.21
  .001273      400.     400.      400.         1        0         0      0.00     73.34    349.55


*SECNO 1005.200
  1005.20      4.00    638.00      0.00      0.00    638.04       .04       .75       .00    637.80
     170.        2.     168.        0.       12.     111.        0.        3.        2.     638.40
      .21       .18      1.52      0.00      .100     .060      .100      .060    634.00     76.63
  .001243      600.     600.      600.         0        0         0      0.00    108.85    185.48


CCHV=     .300 CEHV=     .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      2.84    638.24      0.00      0.00    638.81       .57       .50       .27    638.60
     170.        0.     170.        0.        0.      28.        0.        3.        2.     638.60
      .22      0.00      6.06      0.00      .100     .060      .100      .060    635.40    670.11
  .025901      150.     150.      150.         2        0         0      0.00     10.77    680.89
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700
PRESSURE FLOW

| EGPRS | EGLLC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 639.40 | 638.81 | 0.00 | 0. | 170. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 3.71 | 639.11 | 0.00 | 0.00 | 639.40 | .29 | .59 | 0.00 | 638.60 |
| 170. | 3. | 165. | 2. | 4. | 38. | 4. | 4. | 2. | 638.60 |
| .22 | .59 | 4.38 | .59 | .100 | .060 | .100 | .060 | 635.40 | 653.62 |
| .009749 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 43.53 | 697.15 |

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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```
T1      JOB HUD-FIA H-4705  TC6
T2      FLOOD INSURANCE STUDIES
T3      100 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 4. | 0. | 0. | .001200 | 0.00 | -1.0 | 0. | 637.000 | 0.000 |
| J2 | NPRCF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 3.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 3

CCHV=    .150 CEHV=    .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      4.03    636.73      0.00    637.00    636.77       .04      0.00      0.00    635.70
     200.       14.      186.        0.       33.      106.        0.        0.        0.    636.70
     0.00       .42      1.76       .01      .100      .060      .100     0.000    632.70    266.61
  .001207        0.        0.        0.         0         0         5      0.00     85.44    352.05

*SECNO 1004.000
  1004.00      3.98    636.98      0.00      0.00    637.02       .05       .25       .00    636.00
     200.       13.      187.        0.       30.      104.        0.        1.        0.    637.00
      .03       .43      1.80      0.00      .100      .060      .100      .060    633.00    268.52
  .001301      200.      200.      200.         0         0         0      0.00     81.43    349.95

*SECNO 1004.500
  1004.50      3.99    637.49      0.00      0.00    637.54       .05       .51       .00    636.50
     200.       13.      187.        0.       31.      105.        0.        2.        1.    637.50
      .10       .42      1.79      0.00      .100      .060      .100      .060    633.50    267.96
  .001273      400.      400.      400.         1         0         0      0.00     82.02    349.98

*SECNO 1005.200
  1005.20      4.25    638.25      0.00      0.00    638.29       .04       .75       .00    637.80
     200.        8.      192.        0.       28.      122.        0.        4.        3.    638.40
      .21       .29      1.57      0.00      .100      .060      .100      .060    634.00     70.45
  .001212      600.      600.      600.         1         0         0      0.00    116.60    187.05

CCHV=    .300 CEHV=    .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      3.03    638.43      0.00      0.00    639.11       .68       .50       .32    638.60
     200.        0.      200.        0.        0.       30.        0.        4.        3.    638.60
      .21      0.00      6.62      0.00      .100      .060      .100      .060    635.40    670.05
  .029050      150.      150.      150.         0         0         0      0.00     10.90    680.95
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPF | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 640.04 | 639.11 | 0.00 | 0. | 200. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 4.49 | 639.89 | 0.00 | 0.00 | 640.04 | .15 | .93 | 0.00 | 638.60 |
| 200. | 20. | 160. | 20. | 27. | 46. | 26. | 4. | 3. | 638.60 |
| .22 | .76 | 3.47 | .76 | .100 | .060 | .100 | .060 | 635.40 | 628.90 |
| .004644 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 92.61 | 721.51 |

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
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```
T1      JOB HUD-FIA H-4705  TC6
T2      FLOOD INSURANCE STUDIES
T3      500 YEAR FLOW
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 5. | 0. | 0. | .001200 | 0.00 | -1.0 | 0. | 637.000 | 0.000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 4

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      4.57    637.27      0.00    637.00    637.32       .05      0.00      0.00    635.70
     280.       34.     244.        3.       63.     125.       12.        0.        0.     636.70
     0.00       .53      1.95      .22      .100      .060      .100     0.000    632.70    249.13
  .001198        0.        0.        0.         0         0         5      0.00    143.26    392.39


*SECNO 1004.000
  1004.00      4.51    637.51      0.00      0.00    637.57       .06       .25       .00    636.00
     280.       32.     246.        2.       59.     123.       10.        1.        1.     637.00
      .03       .54      2.00      .21      .100      .060      .100      .060    633.00    251.09
  .001292      200.     200.      200.         0         0         0      0.00    136.77    387.86


*SECNO 1004.500
  1004.50      4.52    638.02      0.00      0.00    638.08       .05       .51       .00    636.50
     280.       32.     245.        2.       60.     123.       10.        3.        2.     637.50
      .09       .54      1.99      .22      .100      .060      .100      .060    633.50    250.65
  .001270      400.     400.      400.         1         0         0      0.00    138.23    388.88


*SECNO 1005.200
  1005.20      4.76    638.76      0.00      0.00    638.80       .04       .72       .00    637.80
     280.       30.     250.        0.       65.     147.        3.        5.        4.     638.40
      .20       .45      1.69      .16      .100      .060      .100      .060    634.00     57.58
  .001129      600.     600.      600.         2         0         0      0.00    147.50    205.07


CCHV=     .300 CEHV=     .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICONT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      3.34    638.74    638.40      0.00    639.82      1.08       .50       .52    638.60
     280.        0.     280.        0.        0.       34.        0.        6.        4.     638.60
      .20       .51      8.34      .51      .100      .060      .100      .060    635.40    665.58
  .041263      150.     150.      150.         4        11         0      0.00     19.78    685.36
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | COFQ | RDLEN | BWC | BHP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700
3280 CROSS SECTION 1005.70 EXTENDED .23 FEET

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 641.90 | 639.82 | 0.00 | 40. | 241. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 5.63 | 641.03 | 0.00 | 0.00 | 641.08 | .05 | 1.26 | 0.00 | 638.60 |
| 280. | 68. | 144. | 67. | 93. | 59. | 91. | 6. | 4. | 638.60 |
| .21 | .74 | 2.46 | .74 | .100 | .060 | .100 | .060 | 635.40 | 600.00 |
| .001697 | 42. | 42. | 42. | 2 | 0 | 4 | 0.00 | 150.00 | 750.00 |

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 110.00 | 635.84 | 0.00 | 635.88 | 12.10 | 1.45 | 78.10 | 31.62 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 170.00 | 636.47 | 0.00 | 636.51 | 12.08 | 1.67 | 118.34 | 48.91 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 636.73 | 0.00 | 636.77 | 12.07 | 1.76 | 138.54 | 57.57 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 280.00 | 637.27 | 0.00 | 637.32 | 11.98 | 1.95 | 200.04 | 80.89 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 110.00 | 636.09 | 0.00 | 636.13 | 13.19 | 1.49 | 75.08 | 30.29 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 170.00 | 636.72 | 0.00 | 636.77 | 13.04 | 1.72 | 114.04 | 47.08 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 636.98 | 0.00 | 637.02 | 13.01 | 1.80 | 133.69 | 55.45 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 280.00 | 637.51 | 0.00 | 637.57 | 12.92 | 2.00 | 191.59 | 77.91 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 110.00 | 636.61 | 0.00 | 636.65 | 12.74 | 1.47 | 76.28 | 30.82 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 170.00 | 637.24 | 0.00 | 637.28 | 12.73 | 1.70 | 115.37 | 47.64 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 637.49 | 0.00 | 637.54 | 12.73 | 1.79 | 135.09 | 56.05 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 280.00 | 638.02 | 0.00 | 638.08 | 12.70 | 1.99 | 193.47 | 78.57 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 110.00 | 637.37 | 0.00 | 637.40 | 12.26 | 1.34 | 82.04 | 31.42 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 170.00 | 638.00 | 0.00 | 638.04 | 12.43 | 1.52 | 122.91 | 48.22 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.25 | 0.00 | 638.29 | 12.12 | 1.57 | 150.29 | 57.45 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 280.00 | 638.76 | 0.00 | 638.80 | 11.29 | 1.69 | 215.98 | 83.31 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 110.00 | 637.67 | 0.00 | 638.06 | 216.05 | 4.99 | 22.06 | 7.48 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 170.00 | 638.24 | 0.00 | 638.81 | 259.01 | 6.06 | 28.04 | 10.56 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.43 | 0.00 | 639.11 | 290.50 | 6.62 | 30.19 | 11.73 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 280.00 | 638.74 | 638.40 | 639.82 | 412.63 | 8.34 | 34.14 | 13.78 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 110.00 | 638.45 | 0.00 | 638.66 | 86.45 | 3.62 | 30.37 | 11.83 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 170.00 | 639.11 | 0.00 | 639.40 | 97.49 | 4.38 | 46.04 | 17.22 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 200.00 | 639.89 | 0.00 | 640.04 | 46.44 | 3.47 | 98.91 | 29.35 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 280.00 | 641.03 | 0.00 | 641.08 | 16.97 | 2.46 | 243.00 | 67.98 |

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFKSP | DIFKSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1003.500 | 110.00 | 635.84 | 0.00 | 0.00 | -1.16 | 53.23 | 0.00 |
| 1003.500 | 170.00 | 636.47 | .63 | 0.00 | -.53 | 74.72 | 0.00 |
| 1003.500 | 200.00 | 636.73 | .26 | 0.00 | -.27 | 85.44 | 0.00 |
| 1003.500 | 280.00 | 637.27 | .54 | 0.00 | .27 | 143.26 | 0.00 |
| 1004.000 | 110.00 | 636.09 | 0.00 | .25 | 0.00 | 51.24 | 200.00 |
| 1004.000 | 170.00 | 636.72 | .63 | .25 | 0.00 | 72.72 | 200.00 |
| 1004.000 | 200.00 | 636.98 | .25 | .25 | 0.00 | 81.43 | 200.00 |
| 1004.000 | 280.00 | 637.51 | .54 | .25 | 0.00 | 136.77 | 200.00 |
| 1004.500 | 110.00 | 636.61 | 0.00 | .52 | 0.00 | 52.04 | 400.00 |
| 1004.500 | 170.00 | 637.24 | .62 | .52 | 0.00 | 73.34 | 400.00 |
| 1004.500 | 200.00 | 637.49 | .25 | .52 | 0.00 | 82.02 | 400.00 |
| 1004.500 | 280.00 | 638.02 | .53 | .51 | 0.00 | 138.23 | 400.00 |
| 1005.200 | 110.00 | 637.37 | 0.00 | .76 | 0.00 | 42.03 | 600.00 |
| 1005.200 | 170.00 | 638.00 | .63 | .76 | 0.00 | 108.85 | 600.00 |
| 1005.200 | 200.00 | 638.25 | .25 | .76 | 0.00 | 116.60 | 600.00 |
| 1005.200 | 280.00 | 638.76 | .51 | .73 | 0.00 | 147.50 | 600.00 |
| 1005.300 | 110.00 | 637.67 | 0.00 | .30 | 0.00 | 10.42 | 150.00 |
| 1005.300 | 170.00 | 638.24 | .56 | .23 | 0.00 | 10.77 | 150.00 |
| 1005.300 | 200.00 | 638.43 | .19 | .18 | 0.00 | 10.90 | 150.00 |
| 1005.300 | 280.00 | 638.74 | .31 | -.02 | 0.00 | 19.78 | 150.00 |
| 1005.700 | 110.00 | 638.45 | 0.00 | .78 | 0.00 | 10.91 | 42.00 |
| 1005.700 | 170.00 | 639.11 | .66 | .88 | 0.00 | 43.53 | 42.00 |
| 1005.700 | 200.00 | 639.89 | .78 | 1.46 | 0.00 | 92.61 | 42.00 |
| 1005.700 | 280.00 | 641.03 | 1.14 | 2.29 | 0.00 | 150.00 | 42.00 |

SUMMARY OF ERRORS

```
 02/26/80  MSU HUSTLER 2       LSC 49.41  02/23/80  CYBER750
16.22.58.UMM2944
16.22.59.JOB READ-  02/26/80 .16.22.46.
16.22.59.MCNAMEE,PN       ,RG3,CM12000,JC499.
16.22.59.LAST ACCESS- M 16.10 02/26/80
16.22.59.RUNS- 2530   PN DOLLAR BALANCE $01135.27
16.22.59.ANY MODIFICATIONS MADE TO THE AF BETWEEN
16.22.59.  02/25/80 17.04 AND 02/25/80 12.15.
16.22.59.HAVE BEEN LOST. FOR STATUS OF MODS MADE
16.22.59.BEFORE THESE DATES CALL HELP(AFSTAT)
16.23.01.CP-PP SEC.     .009-     .033  $     .00
16.23.01.HAL,L*ECCC,LIB.
16.23.02.ZZZZMPL - CYCLE 01, HAL 5, MPL-PF ECCC
16.23.02.FILE ATTACHED
16.23.02.ECCO
16.23.03.ECCO    - CYCLE 10, ECCC
16.23.03.FILE ATTACHED
16.23.03.RP  00000022  000000000232  MAXFL 017200
16.23.03.CP-PP SEC.     .031-     .965  $     .04
16.23.03.SETCORE.
16.23.03.HEC2.
16.23.03.RP  00000062  000000000243  MAXFL 030000
16.23.03.CP-PP SEC.     .041-    1.387  $     .09
16.23.03.APLIB,TT6939,P*HEC2.
16.23.04.HEC2    - CYCLE 01, MT6939HEC2
16.23.04.FILE ATTACHED
16.23.04.RP  00000066  000000000351  MAXFL 011000
16.23.04.CP-PP SEC.     .041-    1.788  $     .09
16.23.04.SETCORE,ZERO.
16.23.04.HEC2.
16.23.08.EXEC BEGUN.16.23.08.
16.23.13.    STOP
16.23.13.       .454 CP SECONDS EXECUTION TIME
16.23.13.PP  00000337  000000001450  MAXFL 076300
16.23.13.CP-PP SEC.     .524-    5.011  $    1.23
16.23.13.NEWNAME,OUTPUT,X.
16.23.13.RP  00000341  000000001502  MAXFL 003400
16.23.13.CP-PP SEC.     .526-    5.127  $    1.23
16.23.13.REWIND,X.
16.23.13.CP-PP SEC.     .526-    5.157  $    1.23
16.23.13.COPY X,OUTPUT.
16.23.18.RP  00000356  000000002011  MAXFL 005000
16.23.18.CP-PP SEC.     .542-    5.747  $    1.24
16.23.18.REWIND,X.
16.23.18.CP-PP SEC.     .542-    5.850  $    1.25
16.23.18.COPY X,OUTPUT.
16.23.21.MAX FILES 0012 MAX PRUS 000700B.
16.23.21.RP  00000373  000000002324
16.23.21. PP     6.537 SEC.          .
16.23.21.CP USE      .555 SEC   VALUE$     .11
16.23.21.PP USE    26.336 SEC   VALUE$     .07
16.23.21.CM USE     2.814 W-H   VALUE$     .67
16.23.21.TOTAL COMPUTE VALUE AT RG3 $    1.26
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON OVERFLOWS

4) DOCUMENT TYPE: 100YR FLOODWAY

00BREAK00

```
*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
*  UPDATED JULY 1979                                *
*                                                   *
*  RUN DATE  02/26/80  TIME .16.02.23.              *
*****************************************************
```


```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616          *
*  (916) 440-2105 (FTS) 448-2105    *
*************************************
```


Hamilton Offloads
100 - Lowway

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,03
  MODIFICATION -  50,51,52,53
*************************************************

C
T1      HUD-FIA H-4705
T2      TROY FIS
T3      HOUGHTON DRAIN OVERFLOW

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       4.       0.       0.    .001200    0.00     -1.0      0.    637.000   0.000

J2  NPROF     IPLOT    PREVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    1.000     0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

  200.000     0.000  150.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

NC      .100      .100      .060      .150      .350     0.000     0.000     0.000     0.000     0.000
QT     5.000   110.000   170.000   200.000   280.000   200.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

        **CONFLUENCE WITH SHANAHAN DRAIN

X1  1003.500     8.000   315.000   350.000     0.000     0.000     0.000     0.000    -.300     0.000
GR   638.000   235.000   636.000   300.000   636.000   315.000   634.000   320.000   633.000   335.000
GR   634.000   345.000   637.000   350.000   638.000   425.000     0.000     0.000     0.000     0.000

X1  1004.000     0.000     0.000     0.000   200.000   200.000   200.000     0.000     .300     0.000

X1  1004.500     0.000     0.000     0.000   400.000   400.000   400.000     0.000     .500     0.000

X1  1005.200     9.000   138.000   188.000   600.000   600.000   600.000     0.000     0.000     0.000
GR   638.900    54.000   637.800    82.000   637.800   138.000   635.000   147.000   634.000   156.000
GR   635.000   166.000   638.400   188.000   639.200   226.000   640.800   518.000     0.000     0.000
NC     0.000     0.000     0.000     .300      .500     0.000     0.000     0.000     0.000     0.000

        **D/S FACE WATTLES RD

X1  1005.300     6.000   670.000   681.000   150.000   150.000   150.000     0.000     0.000     0.000
GR   640.800   600.000   638.600   670.000   635.400   671.000   635.400   680.000   638.600   681.000
GR   640.800   750.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
SB     0.000     2.660     2.700   100.000    11.000     0.000    32.000     0.000     0.000     0.000

X1  1005.700     0.000     0.000     0.000    42.000    42.000    42.000     0.000     0.000     0.000
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X2 | 0.000 | 0.000 | 1.000 | 638.600 | 640.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EJ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      4.03    636.73      0.00    637.00    636.77       .04      0.00      0.00    635.70
     200.       14.      186.        0.       33.      106.        0.        0.        0.    636.70
     0.00       .42      1.76       .01      .100      .060      .100     0.000    632.70    266.61
  .001207        0.        0.        0.         0         0         5      0.00     85.44    352.05


*SECNO 1004.000
  1004.00      3.98    636.98      0.00      0.00    637.02       .05       .25       .00    636.00
     200.       13.      187.        0.       30.      104.        0.        1.        0.    637.00
      .03       .43      1.80      0.00      .100      .060      .100      .060    633.00    268.52
  .001301      200.      200.      200.         0         0         0      0.00     81.43    349.95


*SECNO 1004.500
  1004.50      3.99    637.49      0.00      0.00    637.54       .05       .51       .00    636.50
     200.       13.      187.        0.       31.      105.        0.        2.        1.    637.50
      .10       .42      1.79      0.00      .100      .060      .100      .060    633.50    267.96
  .001273      400.      400.      400.         1         0         0      0.00     82.02    349.98


*SECNO 1005.200
  1005.20      4.25    638.25      0.00      0.00    638.29       .04       .75       .00    637.80
     200.        8.      192.        0.       28.      122.        0.        4.        3.    638.40
      .21       .29      1.57      0.00      .100      .060      .100      .060    634.00     70.45
  .001212      600.      600.      600.         1         0         0      0.00    116.60    187.05


CCHV=     .300 CEHV=     .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      3.03    638.43      0.00      0.00    639.11       .68       .50       .32    638.60
     200.        0.      200.        0.        0.       30.        0.        4.        3.    638.60
      .21      0.00      6.62      0.00      .100      .060      .100      .060    635.40    670.05
  .029050      150.      150.      150.         0         0         0      0.00     10.90    680.95
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | COFQ | RDLEN | BHC | BHP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRC |
|---|---|---|---|---|---|---|---|---|
| 640.04 | 639.11 | 0.00 | 0. | 200. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 4.49 | 639.89 | 0.00 | 0.00 | 640.04 | .15 | .93 | 0.00 | 638.60 |
| 200. | 20. | 160. | 20. | 27. | 46. | 26. | 4. | 3. | 638.60 |
| .22 | .76 | 3.47 | .76 | .100 | .060 | .100 | .060 | 635.40 | 628.90 |
| .004644 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 92.61 | 721.51 |

```
*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*********************************************
```

```
T1      JOB HUD-FIA F-4705  TC6
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 6. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 636.830 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PROF 2

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
 2800 NAT Q1=      57.57  WSEL=     636.73  ENC Q1=      57.57  WSEL=     636.83  RATIO=    .0000
 NAT Q1=      61.  RATIOS LOB,CH,ROB=    .0784    .9214    .0002  WSEL=     636.83
   SECNO     DEPTH     CRSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         OLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      309.0      350.0  TYPE=      4  TARGET=         .063

        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      4.13    636.83      0.00    636.73    636.88       .05      0.00      0.00    635.70
     200.        3.      197.        0.        7.      110.        0.        0.        0.    636.70
     0.00       .50      1.79      0.00      .100      .060      .100     0.000    632.70    309.00
  .001210        0.        0.        0.         0         0         0      0.00     41.00    350.00


*SECNO 1004.000
 2800 NAT Q1=      55.45  WSEL=     636.98  ENC Q1=      55.45  WSEL=     637.08  RATIO=    .0000
 NAT Q1=      59.  RATIOS LOB,CH,ROB=    .0735    .9264    .0001  WSEL=     637.08

3470 ENCROACHMENT STATIONS=      312.3      350.0  TYPE=      4  TARGET=         .067
  1004.00      4.08    637.08      0.00    636.98    637.13       .05       .25       .00    636.00
     200.        1.      199.        0.        3.      108.        0.        1.        0.    637.00
      .03       .45      1.85      0.00      .100      .060      .100      .060    633.00    312.30
  .001312      200.      200.      200.         1         0         0      0.00     37.70    350.00


*SECNO 1004.500
 2800 NAT Q1=      56.05  WSEL=     637.49  ENC Q1=      56.05  WSEL=     637.59  RATIO=    .0000
 NAT Q1=      60.  RATIOS LOB,CH,ROB=    .0750    .9249    .0001  WSEL=     637.59

3470 ENCROACHMENT STATIONS=      311.5      350.0  TYPE=      4  TARGET=         .066
  1004.50      4.10    637.60      0.00    637.49    637.65       .05       .52       .00    636.50
     200.        2.      198.        0.        4.      108.        0.        2.        1.    637.50
      .09       .47      1.83      0.00      .100      .060      .100      .060    633.50    311.53
  .001271      400.      400.      400.         2         0         0      0.00     38.48    350.00


*SECNO 1005.200
 2800 NAT Q1=      57.45  WSEL=     638.25  ENC Q1=      58.15  WSEL=     638.35  RATIO=   -.0122
 NAT Q1=      61.  RATIOS LOB,CH,ROB=    .0537    .9463   0.0000  WSEL=     638.35

3470 ENCROACHMENT STATIONS=      138.0      188.0  TYPE=      4  TARGET=         .054
  1005.20      4.35    638.35      0.00    638.25    638.39       .04       .74       .00    637.80
     200.        0.      200.        0.        0.      127.        0.        3.        1.    638.40
      .20      0.00      1.57      0.00      .100      .060      .100      .060    634.00    138.00
  .001195      600.      600.      600.         2         0         0      0.00     49.69    187.69


CCHV=     .300 CEHV=     .500
*SECNO 1005.300
 2800 NAT Q1=      11.73  WSEL=     638.43  ENC Q1=      12.29  WSEL=     638.53  RATIO=   -.0477
```

```
 NAT Q1=      12.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     638.53

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      670.0      681.0  TYPE=      4  TARGET=        0.000

        **D/S FACE WATTLES RD

  1005.30      3.14    638.54      0.00    638.43    639.17       .63       .49       .30    638.60
     200.        0.     200.        0.        0.      31.        0.        3.        1.    638.60
      .20      0.00      6.37      0.00      .100      .060      .100      .060    635.40    670.02
  .025967      150.      150.      150.         3         0         0      0.00     10.97    680.98


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB   XK        XKOR      COFQ      RDLEN     BWC       BLP       BAREA     SS        ELCHU     ELCHD
     0.00      2.66      2.70    100.00     11.00      0.00     32.00      0.00    635.40    635.40

*SECNO 1005.700
 2800 NAT Q1=      29.35  WSEL=     639.89  ENC Q1=      29.35  WSEL=    639.99  RATIO=    .0000
 NAT Q1=      32.  RATIOS LOB,CH,ROB=    .1136    .7745    .1120  WSEL=     639.99
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=      656.6      694.1  TYPE=      4  TARGET=        .069
  1005.70      4.61    640.01      0.00    639.89    640.17       .16       .38       .14    638.60
     200.       17.      166.       17.       16.       47.       16.        4.        1.    638.60
      .21      1.08      3.49      1.08      .100      .060      .100      .060    635.40    656.58
  .004557       42.       42.       42.         0         0         0      0.00     37.54    694.12
```

```
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLCH | ELTRO | ELLO | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 636.73 | 0.00 | 636.77 | 12.07 | 1.76 | 138.54 | 57.57 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 636.83 | 0.00 | 636.88 | 12.10 | 1.79 | 116.33 | 57.50 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 636.98 | 0.00 | 637.02 | 13.01 | 1.80 | 133.69 | 55.45 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 637.08 | 0.00 | 637.13 | 13.12 | 1.85 | 110.42 | 55.22 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 637.49 | 0.00 | 637.54 | 12.73 | 1.79 | 135.09 | 56.05 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 637.60 | 0.00 | 637.65 | 12.71 | 1.83 | 112.23 | 56.09 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.25 | 0.00 | 638.29 | 12.12 | 1.57 | 150.29 | 57.45 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.35 | 0.00 | 638.39 | 11.95 | 1.57 | 127.11 | 57.85 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.43 | 0.00 | 639.11 | 290.50 | 6.62 | 30.19 | 11.73 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.54 | 0.00 | 639.17 | 259.67 | 6.37 | 31.42 | 12.41 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 200.00 | 639.89 | 0.00 | 640.04 | 46.44 | 3.47 | 98.91 | 29.35 |
| 1005.700 | 42.00 | 999999.00 | 0.00 | 635.40 | 200.00 | 640.01 | 0.00 | 640.17 | 45.57 | 3.49 | 79.18 | 29.63 |

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CLSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1003.500 | 200.00 | 636.73 | 0.00 | 0.00 | -.27 | 85.44 | 0.00 |
| 1003.500 | 200.00 | 636.83 | .10 | 0.00 | .10 | 41.00 | 0.00 |
| 1004.000 | 200.00 | 636.98 | 0.00 | .25 | 0.00 | 81.43 | 200.00 |
| 1004.000 | 200.00 | 637.08 | .10 | .25 | .10 | 37.70 | 200.00 |
| 1004.500 | 200.00 | 637.49 | 0.00 | .52 | 0.00 | 82.02 | 400.00 |
| 1004.500 | 200.00 | 637.60 | .11 | .52 | .11 | 38.48 | 400.00 |
| 1005.200 | 200.00 | 636.25 | 0.00 | .76 | 0.00 | 116.60 | 600.00 |
| 1005.200 | 200.00 | 638.35 | .10 | .75 | .10 | 49.69 | 600.00 |
| 1005.300 | 200.00 | 638.43 | 0.00 | .18 | 0.00 | 10.90 | 150.00 |
| 1005.300 | 200.00 | 638.54 | .12 | .19 | .12 | 10.97 | 150.00 |
| 1005.700 | 200.00 | 639.89 | 0.00 | 1.46 | 0.00 | 92.61 | 42.00 |
| 1005.700 | 200.00 | 640.01 | .12 | 1.46 | .12 | 37.54 | 42.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, HOUGHTON DRAIN OVERFLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 1003.500 | 41. | 116. | 1.7 | 636.8 | 636.7 | .1 |
| 1004.000 | 38. | 110. | 1.8 | 637.1 | 637.0 | .1 |
| 1004.500 | 38. | 112. | 1.8 | 637.6 | 637.5 | .1 |
| 1005.200 | 50. | 127. | 1.6 | 638.3 | 638.2 | .1 |
| 1005.300 | 11. | 31. | 6.4 | 638.5 | 638.4 | .1 |
| 1005.700 | 38. | 79. | 2.5 | 640.0 | 639.9 | .1 |

```
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1975
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************
```

```
 02/26/80  MSU HUSTLER 2       LSD 49.41  02/23/80  CYBER750
16.02.16.UM*2899
16.02.17.JOB READ-  02/25/80 .16.02.07.
16.02.17.HCNAMFE,PN       ,RG3,CM120000,JC499.
16.02.17.LAST ACCESS- M 15.01 02/26/80
16.02.17.RUNS- 2526   PN DOLLAR BALANCE $01138.67
16.02.17.ANY MODIFICATIONS MADE TO THE AF BETWEEN
16.02.17.  02/25/80 17.04 AND 02/25/80 12.15.
16.02.17.HAVE BEEN LOST. FOR STATUS OF MODS MADE
16.02.17.BEFORE THESE DATES CALL HELP(AFSTAT)
16.02.18.CP-PP SEC.     .014-     .000  $     .00
16.02.18.HAL,L*ECCO,LTB.
16.02.18.ZZZZMPL - CYCLE 01, HAL 5, MPL-PF ECCO
16.02.18.FILE ATTACHED
16.02.18.ECCO
16.02.19.ECCO    - CYCLE 10, ECCC
16.02.19.FILE ATTACHED
16.02.19.RP  00000022  000000000232  MAXFL 017200
16.02.19.CP-PP SEC.     .030-     .995  $     .03
16.02.20.SETCORE.
16.02.20.HEC2.
16.02.20.RP  00000062  000000000243  MAXFL 030000
16.02.20.CP-PP SEC.     .040-    1.420  $     .10
16.02.20.APLIP,TT6939,P*HEC2.
16.02.21.HEC2    - CYCLE 01, MT6939HEC2
16.02.21.FILE ATTACHED
16.02.21.RP  00000066  000000000351  MAXFL 011000
16.02.21.CP-PP SEC.     .041-    1.859  $     .11
16.02.21.SETCORE,ZERO.
16.02.21.HEC2.
16.02.23.EXEC BEGUN.16.02.23.
16.02.28.    STOP
16.02.28.      .279 CP SECONDS EXECUTION TIME
16.02.28.RP  00000301  000000001365  MAXFL 076300
16.02.28.CP-PP SEC.     .355-    4.298  $     .93
16.02.28.NEWNAME,OUTPUT,X.
16.02.30.RP  00000303  000000001417  MAXFL 003400
16.02.30.CP-PP SEC.     .360-    4.524  $     .94
16.02.30.REWIND,X.
16.02.30.CP-PP SEC.     .360-    4.567  $     .94
16.02.30.COPY X,OUTPUT.
16.02.45.RP  00000316  000000001652  MAXFL 005000
16.02.45.CP-PP SEC.     .378-    5.015  $     .95
16.02.45.REWIND,X.
16.02.45.CP-PP SEC.     .378-    5.218  $     .95
16.02.45.COPY X,OUTPUT.
16.02.46.MAX FILES 0012 MAX PRUS 000500B.
16.02.46.RP  00000331  000000002120
16.02.46. PP     5.742 SEC.
16.02.46.CP USE     .394 SEC   VALUE$     .08
16.02.46.PP USE   22.804 SEC   VALUE$     .06
16.02.46.CM USE    2.155 W-H   VALUE$     .51
16.02.46.TOTAL COMPUTE VALUE AT RG3 $     .97
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: TROY

3) WATERCOURSE: HOUGHTON DRAIN OVERFLOW

4) DOCUMENT TYPE: CONVERGENCE SUMMARY

00BREAK00

```
*PROF 1

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      4.03    636.73      0.00    637.00    636.77       .04      0.00      0.00    635.70
     200.       14.      186.        0.       32.      106.        0.        0.        0.    636.70
     0.00       .42      1.76       .01      .100      .060      .100     0.000    632.70    266.61
  .001207        0.        0.        0.         0         0         5      0.00     85.44    352.05

*SECNO 1004.000
  1004.00      3.98    636.98      0.00      0.00    637.02       .05       .25       .00    636.00
     200.       13.      187.        0.       30.      104.        0.        1.        0.    637.00
      .03       .43      1.80      0.00      .100      .060      .100      .060    633.00    268.52
  .001301      200.      200.      200.         0         0         0      0.00     81.43    349.95

*SECNO 1004.500
  1004.50      3.99    637.49      0.00      0.00    637.54       .05       .51       .00    636.50
     200.       13.      187.        0.       31.      105.        0.        2.        1.    637.50
      .10       .42      1.79      0.00      .100      .060      .100      .060    633.50    267.96
  .001273      400.      400.      400.         1         0         0      0.00     82.02    349.98

*SECNO 1005.200
  1005.20      4.25    638.25      0.00      0.00    638.29       .04       .75       .00    637.80
     200.        8.      192.        0.       28.      122.        0.        4.        3.    638.40
      .21       .29      1.57      0.00      .100      .060      .100      .060    634.00     70.45
  .001212      600.      600.      600.         1         0         0      0.00    116.60    187.05

CCHV=     .300 CEHV=     .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      3.03    638.43      0.00      0.00    639.11       .68       .50       .32    638.60
     200.        0.      200.        0.        0.       30.        0.        4.        3.    638.60
      .21      0.00      6.62      0.00      .100      .060      .100      .060    635.40    670.05
  .029050      150.      150.      150.         0         0         0      0.00     10.90    680.95
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKCR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 640.04 | 639.11 | 0.00 | 0. | 200. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 4.49 | 639.89 | 0.00 | 0.00 | 640.04 | .15 | .93 | 0.00 | 638.60 |
| 200. | 20. | 160. | 20. | 27. | 46. | 26. | 4. | 3. | 638.60 |
| .22 | .76 | 3.47 | .76 | .100 | .060 | .100 | .060 | 635.40 | 628.90 |
| .004644 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 92.61 | 721.51 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  C1,C2,C3
  MODIFICATION -  50,51,52,53
*************************************************

T1       JOB HUD-FIA F-4705  T06
T2       FLOOD INSURANCE STUDIES
T3       STARTING ELEVATION CONV.  D * 1.15

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ

      -1.        4.        0.        0.  C.000000      0.00      -1.0        0.   637.700   C.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2.000     C.CCC    -1.000     C.CCO     C.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 2

CCHV=     .150 CEHV=     .350
*SECNC 1003.500
3280 CROSS SECTION   1003.50 EXTENDED        .00 FEET

   SECNC     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      5.00    637.70      0.00    637.70    637.72       .02      0.00      0.00    635.70
     200.       32.     162.        7.       95.      140.       38.        0.        0.    636.70
     0.00       .33      1.15      .18      .100      .060      .100     0.000    632.70    235.00
  .000359        0.        0.        0.         0         0         0      0.00    190.00    425.00

*SECNC 1004.000
  1004.00      4.78    637.76      0.00      0.00    637.80       .02       .08       .00    636.00
     200.       28.     168.        4.       78.      132.       22.        1.        1.    637.00
      .05       .26      1.28      .17      .100      .060      .100      .060    633.00    242.42
  .000474      200.     200.      200.         0         0         0      0.00    165.47    407.89

*SECNC 1004.500
  1004.50      4.50    638.00      0.00      0.00    638.03       .03       .22       .00    636.50
     200.       23.     176.        1.       59.      122.        9.        3.        2.    637.50
      .13       .39      1.44      .15      .100      .060      .100      .060    633.50    251.33
  .000665      400.     400.      400.         2         0         0      0.00    136.00    387.33

*SECNC 1005.200
  1005.20      4.46    638.46      0.00      0.00    638.49       .03       .46       .00    637.80
     200.       14.     186.        0.       42.      132.        0.        6.        4.    638.40
      .26       .32      1.41      .00      .100      .060      .100      .060    634.00     65.21
  .000899      600.     600.      600.         2         0         0      0.00    125.61    190.82

CCHV=     .300 CEHV=     .500
*SECNC 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNC     DEPTH     CHSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLCB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ICC       ICCNT     CORAR     TOPWID      ENDST


        **D/S FACE WATTLES RD

  1005.30      3.14    638.54      0.00      0.00    639.17       .63       .38       .30    638.60
     200.        0.     200.        0.        0.       31.        0.        6.        4.    638.60
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .27 | 0.00 | 6.38 | 0.00 | .100 | .060 | .100 | .060 | 635.40 | 670.02 |
| .026122 | 150. | 150. | 150. | 2 | 0 | 0 | 0.00 | 10.96 | 680.98 |

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 640.15 | 639.17 | 0.00 | 0. | 200. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 4.63 | 640.03 | 0.00 | 0.00 | 640.15 | .12 | .98 | 0.00 | 638.60 |
| 200. | 24. | 153. | 24. | 33. | 48. | 32. | 6. | 4. | 638.60 |
| .27 | .73 | 3.20 | .73 | .100 | .060 | .100 | .060 | 635.40 | 624.43 |
| .003781 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 101.48 | 725.91 |

```
*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************
```

```
T1      JOB HUD-FIA F-4705  106
T2      FLOOD INSURANCE STUDIES
T3      STARTING ELEVATION CONV.  D * 0.85
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -1. | 4. | 0. | 0. | 0.000000 | 0.00 | -1.0 | 0. | 635.700 | 0.000 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 15.000 | 0.000 | -1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
*PRCF 3

CCHV=     .150 CEHV=     .350
*SECNO 1003.500
   SECNO      DEPTH      CRSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALCB       ACH        ARCB       VOL        TWA    LEFT/RIGHT
   TIME       VLCB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     ICC        ICCNT      CORAR      TOPWID      ENDST


        **CONFLUENCE WITH SHANAHAN DRAIN

  1003.50      3.00     635.70      0.00     635.70     635.82       .12       0.00       0.00     635.70
     200.        C.       200.        C.        C.       71.        0.         0.         0.      636.70
     0.00      0.00       2.82      C.C0       .100      .060      .100      0.000     632.70     300.00
  .004953        C.         0.        0.         0         0         0       0.00      48.33     348.33


*SECNC 1004.000
  1004.00      3.45     636.45      0.00      0.00     636.53       .08       .70        .01     636.00
     200.        4.       196.        C.       10.       86.        0.         0.         0.      637.00
      .C2       .39       2.28      C.00       .100      .060      .100       .060     633.00     285.49
  .002591      20C.       200.      2CC.         2         0         0       0.00      63.59     349.08


*SECNC 1004.500
  1004.50      3.79     637.29      0.00      0.CC     637.34       .06       .81        .00     636.50
     200.        9.       191.        C.       22.       98.        0.         1.         1.      637.50
      .C8       .43       1.95      0.00       .100      .060      .100       .060     633.5C     274.37
  .001637      400.       400.      4CC.         3         0         0       0.00      75.28     349.65


*SECNO 1005.20C
  1005.20      4.19     638.19      0.C0      0.C0     638.23       .04       .88        .00     637.80
     2C0.        7.       193.        0.        24.      119.        0.         3.         2.      638.40
      .19       .28       1.62      C.C0       .1C0      .060      .100       .060     634.00      72.11
  .001330      600.       600.      600.         2         0         0       0.00     114.53     186.63


CCHV=     .300 CEHV=     .500
*SECNO 1005.300

3301 HV CHANGED MORE THAN HVINS

   SECNO      DEPTH      CRSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALCB       ACH        ARCB       VOL        TWA    LEFT/RIGHT
   TIME       VLCB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLCBL      XLCH       XLCBR      ITRIAL     ICC        ICCNT      CORAR      TOPWID      ENDST


        **D/S FACE BATTLES RD

  1005.30      3.01     638.41      0.00      0.00     639.10       .69       .54        .33     638.60
     20C.        C.       200.        C.        C.       30.        0.         3.         2.      638.60
      .20      0.00       6.68      0.00       .1CC      .0&C      .100       .060     635.4C     670.06
  .C29700      15C.       150.      150.         0         0         0       0.00      10.88     68C.94
```

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED

| SB | XK | XKOR | COFQ | RDLEN | BWC | BWP | BAREA | SS | ELCHU | ELCHD |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 2.66 | 2.70 | 100.00 | 11.00 | 0.00 | 32.00 | 0.00 | 635.40 | 635.40 |

*SECNO 1005.700

3301 HV CHANGED MORE THAN HV INS

PRESSURE FLOW

| EGPRS | EGLWC | H3 | QWEIR | QPR | BAREA | TRAPEZOID AREA | ELLC | ELTRD |
|---|---|---|---|---|---|---|---|---|
| 640.02 | 639.10 | 0.00 | 0. | 200. | 32. | 35. | 638.60 | 640.80 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1005.70 | 4.47 | 639.87 | 0.00 | 0.00 | 640.02 | .16 | .92 | 0.00 | 638.60 |
| 200. | 19. | 161. | 19. | 26. | 46. | 25. | 4. | 2. | 638.60 |
| .20 | .76 | 3.51 | .76 | .100 | .060 | .100 | .060 | 635.40 | 629.69 |
| .004814 | 42. | 42. | 42. | 2 | 0 | 0 | 0.00 | 91.05 | 720.74 |

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | XLOB | ELTRD | FLLC | ELMIN | Q | CWSEL | CRIWS | EG | 10K*S | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 636.73 | 0.00 | 636.77 | 12.07 | 1.76 | 138.54 | 57.57 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 637.70 | 0.00 | 637.72 | 3.59 | 1.15 | 272.50 | 105.52 |
| 1003.500 | 0.00 | 0.00 | 0.00 | 632.70 | 200.00 | 635.70 | 0.00 | 635.82 | 49.53 | 2.82 | 70.83 | 28.42 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 636.98 | 0.00 | 637.02 | 13.01 | 1.80 | 133.69 | 55.45 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 637.78 | 0.00 | 637.80 | 4.74 | 1.28 | 231.95 | 91.86 |
| 1004.000 | 200.00 | 0.00 | 0.00 | 633.00 | 200.00 | 636.45 | 0.00 | 636.53 | 25.91 | 2.28 | 95.81 | 39.29 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 637.49 | 0.00 | 637.54 | 12.73 | 1.79 | 135.09 | 56.05 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 638.00 | 0.00 | 638.03 | 6.65 | 1.44 | 190.62 | 77.57 |
| 1004.500 | 400.00 | 0.00 | 0.00 | 633.50 | 200.00 | 637.29 | 0.00 | 637.34 | 16.37 | 1.95 | 119.57 | 49.44 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.25 | 0.00 | 638.29 | 12.12 | 1.57 | 150.29 | 57.45 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.46 | 0.00 | 638.49 | 8.99 | 1.41 | 175.02 | 66.72 |
| 1005.200 | 600.00 | 0.00 | 0.00 | 634.00 | 200.00 | 638.19 | 0.00 | 638.23 | 13.30 | 1.62 | 142.77 | 54.84 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.43 | 0.00 | 639.11 | 250.50 | 6.62 | 30.19 | 11.73 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.54 | 0.00 | 639.17 | 261.22 | 6.38 | 31.35 | 12.37 |
| 1005.300 | 150.00 | 0.00 | 0.00 | 635.40 | 200.00 | 638.41 | 0.00 | 639.10 | 297.00 | 6.68 | 29.96 | 11.61 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 200.00 | 639.89 | 0.00 | 640.04 | 46.44 | 3.47 | 98.91 | 29.35 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 200.00 | 640.03 | 0.00 | 640.15 | 37.81 | 3.20 | 112.54 | 32.53 |
| 1005.700 | 42.00 | 640.80 | 638.60 | 635.40 | 200.00 | 639.87 | 0.00 | 640.02 | 48.14 | 3.51 | 96.65 | 28.83 |

HOUGHTON DRAIN OVERFLOW

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CHSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 1003.500 | 200.00 | 636.73 | 0.00 | 0.00 | -.27 | 85.44 | 0.00 |
| 1003.500 | 200.00 | 637.70 | .97 | 0.00 | 0.00 | 190.00 | 0.00 |
| 1003.500 | 200.00 | 635.70 | -2.00 | 0.00 | 0.00 | 48.33 | 0.00 |
| 1004.000 | 200.00 | 636.98 | 0.00 | .25 | 0.00 | 81.43 | 200.00 |
| 1004.000 | 200.00 | 637.78 | .80 | .08 | 0.00 | 165.47 | 200.00 |
| 1004.000 | 200.00 | 636.45 | -1.33 | .75 | 0.00 | 63.59 | 200.00 |
| 1004.500 | 200.00 | 637.49 | 0.00 | .52 | 0.00 | 82.02 | 400.00 |
| 1004.500 | 200.00 | 638.00 | .51 | .22 | 0.00 | 136.00 | 400.00 |
| 1004.500 | 200.00 | 637.29 | -.71 | .84 | 0.00 | 75.28 | 400.00 |
| 1005.200 | 200.00 | 638.25 | 0.00 | .76 | 0.00 | 116.60 | 600.00 |
| 1005.200 | 200.00 | 638.46 | .21 | .46 | 0.00 | 125.61 | 600.00 |
| 1005.200 | 200.00 | 638.19 | -.27 | .90 | 0.00 | 114.53 | 600.00 |
| 1005.300 | 200.00 | 638.43 | 0.00 | .18 | 0.00 | 10.90 | 150.00 |
| 1005.300 | 200.00 | 638.54 | .11 | .08 | 0.00 | 10.96 | 150.00 |
| 1005.300 | 200.00 | 638.41 | -.13 | .22 | 0.00 | 10.88 | 150.00 |
| 1005.700 | 200.00 | 639.89 | 0.00 | 1.46 | 0.00 | 92.61 | 42.00 |
| 1005.700 | 200.00 | 640.03 | .14 | 1.49 | 0.00 | 101.48 | 42.00 |
| 1005.700 | 200.00 | 639.87 | -.17 | 1.46 | 0.00 | 91.05 | 42.00 |

SUMMARY OF ERRORS

FLOODWAY DATA, HOUGHTON DRAIN OVERFLOW
PROFILE NO. 2

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 1003.500 | 190. | 273. | .7 | 637.7 | 636.7 | 1.0 |
| 1004.000 | 165. | 232. | .9 | 637.8 | 637.0 | .8 |
| 1004.500 | 136. | 191. | 1.0 | 638.0 | 637.5 | .5 |
| 1005.200 | 126. | 175. | 1.1 | 638.4 | 638.2 | .2 |
| 1005.300 | 11. | 31. | 6.4 | 638.5 | 638.4 | .1 |
| 1005.700 | 101. | 113. | 1.8 | 640.0 | 639.9 | .1 |

FLOODWAY DATA, HOUGHTON DRAIN OVERFLOW
PROFILE NO. 3

| STATION | FLOODWAY WIDTH (FT) | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 1003.500 | 48. | 71. | 2.9 | 635.8 | 636.7 | -.9 |
| 1004.000 | 64. | 96. | 2.1 | 636.6 | 637.0 | -.4 |
| 1004.500 | 75. | 120. | 1.7 | 637.4 | 637.5 | -.1 |
| 1005.200 | 115. | 143. | 1.4 | 638.2 | 638.2 | 0.0 |
| 1005.300 | 11. | 30. | 6.7 | 638.4 | 638.4 | 0.0 |
| 1005.700 | 91. | 97. | 2.1 | 639.9 | 639.9 | 0.0 |

```
 02/26/80  MSU HUSTLER 2      LSD 49.41  02/23/80  CYBER750
16.10.57.UMM2925
16.10.58.JOB READ-  02/26/80 .16.10.31.
16.10.58.MCNAMEE,PN       ,RG3,CM120000,JC499.
16.10.58.LAST ACCESS- M 16.06 02/26/80
16.10.58.RUNS- 2529   PM DOLLAR BALANCE $01136.35
16.10.58.ANY MODIFICATIONS MADE TO THE AF BETWEEN
16.10.58.  02/25/80 17.04 AND 02/25/80 12.15.
16.10.58.HAVE BEEN LOST. FOR STATUS OF MODS MADE
16.10.58.BEFORE THESE DATES CALL HELP(AFSTAT)
16.11.00.CP-PP SEC.     .010-     '.000  $     .00
16.11.00.HAL,L*ECCO,LIB.
16.11.01.ZZZZMPL - CYCLE 01, HAL 5, MPL-PF ECCO
16.11.01.FILE ATTACHED
16.11.03.ECCO
16.11.03.ECCO    - CYCLE 10, ECCO
16.11.03.FILE ATTACHED
16.11.03.PP  00000022  000000000232  MAXFL 017200
16.11.03.CP-PP SEC.     .031-     .936  $     .03
16.11.03.SETCORE.
16.11.03.HEC2.
16.11.07.RP  00000062  000000000243  MAXFL 030000
16.11.07.CP-PP SEC.     .040-    1.455  $     .09
16.11.07.APLIB,TT6939,P*HEC2.
16.11.08.HEC2    - CYCLE 01, MT6939HEC2
16.11.08.FILE ATTACHED
16.11.08.RP  00000066  000000000351  MAXFL 011000
16.11.08.CP-PP SEC.     .040-    1.862  $     .10
16.11.09.SETCORE,ZERO.
16.11.09.HEC2.
16.11.11.EXEC BEGUN.16.11.11.
16.11.18.    STOP
16.11.18.      .362 CP SECONDS EXECUTION TIME
16.11.18.RP  00000324  000000001441  MAXFL 076300
16.11.18.CP-PP SEC.     .440-    4.593  $    1.04
16.11.18.NEWNAME,OUTPUT,X.
16.11.18.RP  00000326  000000001473  MAXFL 003400
16.11.18.CP-PP SEC.     .440-    4.733  $    1.05
16.11.18.REWIND,X.
16.11.31.CP-PP SEC.     .440-    4.824  $    1.05
16.11.31.COPY X,OUTPUT.
16.11.33.RP  00000343  000000001776  MAXFL 005000
16.11.33.CP-PP SEC.     .448-    5.301  $    1.06
16.11.33.REWIND,X.
16.11.33.CP-PP SEC.     .448-    5.358  $    1.06
16.11.33.COPY X,OUTPUT.
16.12.27.MAX FILES 0012 MAX PRUS 0030000.
16.12.27.RP  00000360  000000002276
16.12.27. PP     5.856 SEC.
16.12.27.CP USE     .476 SEC   VALUE$     .09
16.12.27.PP USE   25.214 SEC   VALUE$     .06
16.12.27.CM USE    2.396 W-H   VALUE$     .57
16.12.27.TOTAL COMPUTE VALUE AT RG3 $    1.08
```