00BREAK00

1) COUNTY: Marquette

2) STUDY NAME: Chocolay

3) WATERCOURSE: Silver Creek

4) DOCUMENT TYPE: Floodway

00BREAK00

USER SURFACE PROFILES
VERSION OF NOVEMBER 1976
UPDATED MAY 1984

U.S. ARMY CORPS OF ENGINEERS
THE HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET, DAVIS, CALIFORNIA

RUN DATE 13-FEB-85 TIME 09:43:05

SILVER CREEK

-100 YR PROFILE

-ENCROACHMENT

13 FEB 85 JTP

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                                                    THIS RUN EXECUTED 15-FEB-85 10:58:12

     HEC2 RELEASE DATED NOV 76 LAST FIX MAY 1981
     ERROR CORR -  C1.02.03 C4.05.06
     APPLICATION - 0123456789AB
*****************************************************************

C
I1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1983
          JOB 2 OF 2, SUPPOSE, PREFIX 20 YR FLOOD PROFILE RUN
          SILVER CREEK 100 YR, JTP
I1  ICHECK    INQ      NINC      IDIR      STRT      METRIC    HVINP     UNSTDY    JSPL      JP
          0.        4.        0.        0.  0.300000     0.00      0.0       0.   607.500    0.000
I2  NPROF     IPLOT     PRFMIN    ISECTP    ISECPR    JFM       ALLOC     IBW       CHNTP     THRESHF
          1.000     3.000     FI.000    0.000     3.000     0.070     0.070     0.000     0.000     0.000
J3  VARIABLE CODES FOR SUMMARY PRINTOUT
J3        150.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
J3        1.000     20.000    410.000     5.0 000   760.000   5.0.000     0.000     0.000     0.000     0 000
NC        0. 00       0 100     0.035     0.100     0.300     0.000     0.000     0.000     0.000     0 000
E         1.000       0.500     0.000     0.000     0.000     1 100     0.000     0.000     0.000     0.000
          SOMETHING'S SILVER CREEK AND UNNAMED RIVER.
X1          100       8.000   500.000   528.000     0.000     0.000     0.000     0.000     0.000     0.000
GR        410.000   230.000   600.000   500.000   501.300   504.200   601.100   512.500   609.000   515.000
GR        410.000   530.000   615.000   555.000   620.000   610.000   625.000   710.000     0.000     0.000
RC        0.500       0.000     0.000     0.000     0.500     0.000     0.000     0.000     0.000     0.000
          D/S FACE OF FORT BRIDGE.
X1          1.200     15.000   500.000   520.000     30.000   100.000   100.000     0.000     0.000     0.000
GR        410.000   375.000   600.000   501.000   607.200   #80.000   506.500   700.000   502.300   500.900
GR        602.300   501.000   502.500   508.100   502.400   512.000   602.900   516.000   602.900   518.100
GR        606.100   520.000   607.000   522.000   606.700   542.000   610.000   585.000   615.000   600.000
ET        3.000     0.100     0.300     0.200     0.300     1.410     0.000     0.000     0.000     0.000
          U/S FACE OF D/S FACE OF FORT BRIDGE.
X1          1.300     3.000     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   607.300   600.500     0.000
ET          3.000   691.000   607.800   600.000   300.900   607.500   602.300   500.000   597.300   607.100
UT        518.000   607.100   500.800   518.100   607.100   602.900   522.000   607.000   500.000   0.000
          U/S FACE OF FORT BRIDGE
X1          1.100     0.000     0.000     3.000     5.000     5.000     5.000     0.000     0.000     0.000
X3          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   607.300   606.500     0.000
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FT	0.03	0.000	0.000	0.010	0.000	1.400	0.000	0.000	0.000	0.000

USE FACE OF ROOF BRIDGE

X1	1.500	0.000	0.000	0.000	1.000	1.300	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	607.300	606.500	0.000

USE TOP FACE OF FOOTING

X1	1.000	11.300	400.000	315.000	25.000	25.000	25.000	0.000	0.000	0.000
BR	630.000	290.000	315.000	405.000	410.000	425.000	400.000	300.000	423.400	503.000
GR	602.600	318.200	302.000	318.000	610.000	590.000	313.000	600.000	620.000	424.000
CR	625.000	758.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	0.500	0.100	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000

ROOF SECTION #2

X1	3.000	12.000	700.000	511.000	320.000	440.000	380.000	0.000	0.000	0.000
BR	612.000	310.000	610.000	355.000	407.200	450.000	607.000	610.000	603.400	501.000
CR	601.900	305.000	604.900	300.000	603.600	510.000	607.600	511.000	608.000	521.000
GR	610.000	375.000	615.000	590.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	2.000	10.000	500.000	515.000	120.000	130.000	63.000	0.000	0.000	0.000
CR	620.000	270.000	615.000	330.000	410.000	470.000	506.000	600.000	502.000	502.000
BR	603.700	507.500	605.000	514.000	606.000	513.000	613.000	590.000	615.000	630.000
GR	620.000	450.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	1.200	10.000	540.000	520.000	130.000	110.300	130.000	0.000	0.000	0.000
BR	630.000	320.000	615.000	340.000	410.000	380.000	607.000	600.000	601.000	501.000
CR	605.600	510.000	606.000	515.000	607.000	520.000	610.000	595.000	615.000	730.000

X1	2.300	10.000	500.000	520.000	130.000	140.000	150.000	0.000	0.000	0.000
BR	620.000	370.000	615.000	340.000	410.000	420.000	603.000	500.000	607.000	501.000
CR	605.000	510.000	606.000	515.000	607.000	520.000	610.000	595.000	615.000	735.000

90' D/S FROM LAKE SUPERIOR AND TSP PENING RAILROAD BRIDGE.

X1	2.000	8.000	500.000	520.000	130.000	130.000	150.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	490.000	0.000	580.000	0.000	0.000	0.000	0.000
BR	620.000	375.000	615.000	350.000	609.600	500.000	618.000	604.000	608.000	536.000
GR	609.800	320.000	650.000	360.000	615.000	700.000	0.000	0.000	0.000	0.000

XL	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000

USE FACE OF AXE SUPERSTR AND EXPENTING RAILROAD BRIDGE.

X1	3.200	11.000	550.000	340.000	100.000	91.000	90.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	615.000	0.000	0.000
ER	615.600	000.000	614.600	610.000	614.600	500.000	614.600	702.000	610.200	616.000
GR	609.000	524.400	609.000	524.500	609.000	525.500	603.000	531.000	609.500	534.500
GR	612.400	535.000	613.000	535.100	612.000	536.000	612.400	536.100	615.000	546.000
GR	610.600	540.600	615.600	700.000	0.000	0.000	0.000	0.000	0.000	0.000

WC	0.000	10.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ST	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	I' INSIDE OF E/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.										
X1	3.300	0.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000	0.000	
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	619.600	619.600	0.000	
	621.000	619.600	619.600	619.600	620.300	619.600	619.600	620.000	619.600	619.600	
	612.000	619.600	617.600	619.600	619.600	617.600	617.600	619.600	617.600	613.000	
	619.600	617.600	617.600	619.600	619.600	524.400	619.600	617.600	524.400	617.600	
BT	609.200	525.400	619.600	609.200	525.600	619.600	617.600	621.000	619.600	617.600	
B	539.600	619.600	617.600	539.000	619.600	617.600	535.100	619.600	612.400	536.000	
BT	619.600	525.400	536.100	619.600	617.600	545.000	619.600	617.600	543.000	619.600	
BT	619.000	543.000	619.600	621.000	0.000	0.000	0.000	0.000	0.000	0.000	
	I' INSIDE OF E/B FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.										
X1	1.400	0.000	0.000	0.000	13.000	11.000	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	
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	619.600	619.600	0.000	
WC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
ST	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	
	U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE										
X1	3.300	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	0.000	0.000	0.000	0.000	619.600	619.600	0.000	
	I'O' L/B OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE										
X1	3.600	0.000	500.000	521.000	120.000	150.000	140.000	0.000	0.000	0.000	
BR	615.000	480.000	615.000	170.000	610.000	500.000	609.100	502.000	309.100	619.000	
BR	610.000	521.000	615.000	510.000	620.000	720.000	625.000	740.000	0.000	0.000	
WC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
X1	3.200	8.000	500.000	317.000	120.000	160.000	140.000	0.000	0.000	0.000	
BR	615.000	480.000	615.000	170.000	621.500	500.000	609.100	50.000	309.100	315.000	
BR	611.300	517.000	615.000	550.000	620.000	590.000	0.000	0.000	0.000	0.000	
	[illegible]										
X1	4.200	13.000	500.000	312.000	120.000	150.000	140.000	0.000	0.000	0.000	
BR	619.300	513.000	619.300	475.300	612.000	559.000	612.300	700.000	610.600	501.000	
BR	609.600	501.000	610.000	510.000	611.300	512.000	612.000	613.000	612.300	333.000	
BR	615.000	540.000	620.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000	
ST	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	400.000	700.000	
X1	4.100	10.000	500.000	315.000	260.000	360.000	260.000	0.000	0.000	0.000	
BR	610.400	480.600	615.200	475.000	615.000	495.000	613.000	500.000	611.000	502.000	
BR	610.600	507.500	611.000	513.000	613.500	515.300	616.000	540.000	615.000	700.000	
X1	4.600	5.000	500.000	320.000	260.000	360.000	260.000	0.000	0.000	0.000	
BR	619.200	480.000	617.000	470.000	615.000	495.000	613.000	500.000	615.000	502.000	
BT	6.800	510.000	0.2.300	510.000	615.000	520.000	620.000	550.000	0.000	0.000	

FT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #5									
X1	5.000	11.000	500.000	525.000	260.000	260.000	260.000	0.000	0.000	0.000
GR	619.000	466.000	618.700	420.000	614.600	500.000	613.400	501.000	613.100	503.100
GR	612.300	505.000	612.400	310.000	612.300	513.000	614.800	523.100	615.000	600.000
GR	620.000	710.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	5.500	9.000	500.000	517.000	480.000	470.000	480.000	0.000	0.000	0.000
GR	620.000	450.000	615.000	455.000	614.800	500.000	612.550	504.000	612.550	513.000
GR	614.800	517.000	615.000	740.000	620.400	800.000	630.000	810.000	0.000	0.000
HD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #6									
X1	6.000	11.000	500.000	512.000	520.000	450.000	480.000	0.000	0.000	0.000
GR	625.000	350.000	620.000	410.000	619.100	457.000	619.300	470.000	614.900	480.000
GR	614.500	500.000	613.400	501.000	613.200	504.000	612.800	508.000	612.500	511.500
GR	614.700	515.000	614.300	539.000	620.000	900.000	695.000	920.000	0.000	0.000
X1	6.100	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	618.700	465.000	615.900	500.000	614.500	501.400	614.200	507.500
GR	614.500	513.600	615.900	515.000	618.700	750.000	620.000	900.000	625.000	920.000
X1	6.200	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	620.100	465.000	617.000	500.000	616.000	501.200	615.600	507.500
GR	616.000	513.700	617.000	515.000	620.100	725.000	620.000	910.000	625.000	920.000
X1	6.300	10.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	300.000	625.000	350.000	621.600	465.000	618.700	500.000	617.500	501.200
GR	617.100	507.200	617.500	513.800	618.700	515.000	621.600	700.000	630.000	910.000
X1	6.400	10.000	500.000	512.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	300.000	623.000	465.000	620.100	500.000	619.000	501.100	618.300	507.500
GR	619.000	513.900	620.100	513.000	623.000	675.000	623.000	930.000	630.000	940.000
X1	6.500	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	350.000	624.400	465.000	621.500	500.000	620.500	501.000	619.900	507.300
GR	620.500	514.000	621.500	515.000	624.400	650.000	625.000	750.000	630.000	1600.000
X1	6.600	9.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	400.000	625.900	465.000	622.900	500.000	621.400	501.200	621.400	513.500
GR	622.200	515.000	625.000	625.000	626.300	680.000	630.000	700.000	0.000	0.000

X1	[illegible]	[illegible]	300.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	200.000	630.000	330.000	627.300	465.000	624.300	500.000	622.800	501.300
GR	622.800	513.300	624.300	515.000	627.300	600.000	630.000	720.000	632.000	740.000
X1	[illegible]	[illegible]	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	300.000	630.000	330.000	628.700	465.000	625.700	500.000	624.200	501.500
GR	624.200	513.300	625.700	515.000	628.700	375.000	630.000	700.000	632.000	750.000

SURVEY SECTION - 7

X1	7.000	11.000	300.000	512.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	633.000	405.000	627.300	490.000	627.100	500.000	626.500	500.000	627.800	501.000
GR	625.700	505.000	627.800	510.000	626.400	515.000	627.[illegible]	513.100	627.[illegible]	533.000
GR	630.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SURVEY SECTION #8

X1	8.000	10.000	300.000	512.000	420.000	430.000	420.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	405.000	0.000	420.000	0.000	0.000	0.000	0.000
GR	635.000	0.000	630.000	390.000	632.400	400.000	627.900	480.000	628.200	490.000
GR	628.900	500.000	628.400	500.100	627.600	501.000	627.300	500.000	627.200	510.000
GR	627.700	512.000	628.400	513.000	629.100	533.000	628.200	600.000	640.000	950.000
X1	8.000	11.000	300.000	515.000	200.000	200.000	200.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	420.000	0.000	390.000	0.000	0.000	0.000	0.000
GR	635.000	300.000	631.500	390.000	630.300	400.000	627.900	500.000	625.500	501.000
GR	628.200	507.500	628.900	512.000	629.700	510.000	630.000	545.000	629.700	700.000
GR	640.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	8.000	11.000	500.000	515.000	100.000	100.000	100.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	420.000	0.000	525.000	0.000	0.000	0.000	0.000
GR	635.000	200.000	631.800	390.000	631.100	400.000	630.500	500.000	628.900	501.000
GR	628.600	507.500	628.900	512.000	630.400	515.000	630.900	545.000	630.800	600.000
GR	640.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.200	11.000	497.500	513.500	50.000	50.000	50.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	440.000	0.000	392.000	0.000	0.000	0.000	0.000
GR	637.500	297.500	632.200	395.000	631.800	402.200	631.200	497.500	629.200	500.500
GR	629.100	506.900	630.400	512.000	631.000	513.500	631.700	547.500	630.200	600.000
GR	640.000	625.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
KC	0.080	0.080	0.045	0.300	0.300	0.000	0.000	0.000	0.000	0.000

[illegible] CONCRETE BOX CULVERT

X1	9.200	12.000	497.000	509.000	30.000	30.000	30.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	400.000	0.000	600.000	0.000	632.000	632.000	0.000
GR	640.000	395.000	632.600	400.000	632.500	405.000	631.500	497.000	629.400	500.000
GR	629.400	500.400	629.400	546.400	629.400	505.300	631.500	507.000	632.500	530.000
GR	631.700	600.000	640.000	601.000	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	24.000	3.000	0.000	6.200	0.000	24.000	0.000	625.000	625.000
	D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.300	12.000	40.000	512.000	109.000	109.000	109.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	633.400	457.300	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	400.000	0.000	600.000	0.000	633.400	633.400	0.000
	7.000	480.000	439.400	500.000	500.000	454.400	480.000	500.000	625.000	625.000
BT	508.500	478.400	657.400	506.300	625.400	629.400	550.000	637.400	550.000	600.000
X2	625.100	630.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	600.000	350.000	600.000	100.000	632.500	635.000	634.000	475.000	625.000	500.000
BT	625.400	500.100	629.400	506.300	629.400	506.500	654.000	512.000	637.000	590.000
BR	638.600	600.000	160.000	503.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.100	24.000	0.365	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	100' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X	9.100	24.000	500.000	312.000	200.000	130.000	200.000	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	640.000	100.000	639.000	300.000	536.000	400.000	634.000	500.000	632.000	501.000
BT	625.800	500.000	632.000	508.000	636.400	513.000	656.000	660.000	632.000	721.000
BR	600.000	960.000	0.000	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	0.000	0.000	510.000	645.000	
	D/S FACE OF 36" TWIN CULVERTS									
X1	10.200	23.000	500.000	516.000	220.000	400.000	340.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	636.100	636.000	0.000
GR	615.200	300.000	637.500	300.000	555.100	400.000	635.000	650.000	600.000	600.000
BT	632.100	503.000	654.300	500.500	634.000	505.000	673.000	508.000	634.100	507.000
BR	634.300	507.100	550.800	500.000	632.700	509.400	632.600	510.000	65.100	510.500
GR	637.000	512.000	636.000	516.000	636.000	536.000	633.400	550.000	630.700	600.000
BR	636.000	700.000	633.000	750.000	545.000	760.000	0.000	0.000	0.000	0.000
	0.200	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	1.700	0.000	0.000	0.000	1.400	0.000	0.000	510.000	645.000
	1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS									
X1	10.300	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	636.100	636.000	0.000
BT	56.000	400.000	645.700	630.000	200.000	636.100	550.000	502.000	636.000	633.200
BT	507.300	501.000	634.700	505.000	636.000	637.600	506.000	536.000	632.500	507.000
BT	636.000	655.600	507.500	501.000	634.300	503.000	633.100	503.300	509.500	634.000
BT	633.300	515.000	636.100	535.300	510.300	636.000	530.000	512.600	633.500	633.000
BR	516.000	636.100	636.000	532.000	536.000	630.000	550.000	635.400	630.000	0.000
ET	0.000	1.900	0.000	0.000	0.000	3.000	0.000	0.000	510.000	645.000
	1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS									
X1	10.400	0.300	0.000	0.000	1.000	21.000	21.000	0.000	0.000	0.000
X2	0.000	1.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000
BC	0.000	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	1.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	510.000	645.000

63.45

X1	0.000	5.000	0.000	0.000	1.300	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	626.100	636.000	0.000
	370' U/S OF 36" TWIN CULVERTS									
X1	10.600	7.000	300.000	316.000	330.000	370.000	370.000	0.000	0.000	0.000
CR	643.400	5[illegible]	34.000	316.000	638.200	600.000	640.000	700.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	X									
X1	11.100	10.000	300.000	316.000	310.000	400.000	280.000	0.000	0.000	0.000
CR	633.400	0[illegible]	6[illegible]	7[illegible]	6[illegible]	600.000	638.200	500.000	636.700	600.000
	SURVEY DETAIL [illegible]									
X1	11.150	7.000	300.000	316.300	270.000	320.000	300.000	0.000	0.000	0.000
CR	642.200	149.000	643.600	271.000	642.300	400.000	642.600	342.000	6[illegible]	400.000
[illegible]	642.370	[illegible]	642.700	[illegible]	640.200	484.000	639.800	300.000	638.200	300.000
[illegible]	637.300	300.000	638.300	501.000	638.200	511.000	640.200	0.300	633.800	346.000
BR	613.300	1[illegible]	640.500	537.000	640.000	601.000	645.000	730.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF FTBRDGE - L BNK E:DFL D:616.440 FOR CRDTR - E:0500=641.2									
X1	0.000	15.000	300.000	316.000	50.000	50.000	50.000	0.000	0.000	0.000
KE	10.000	0.000	0.000	0.000	0.000	0.000	643.300	639.700	0.000	0.000
BR	645.000	650.000	645.000	650.000	640.100	640.000	639.000	680.300	639.700	500.000
CR	639.100	502.000	637.600	505.000	637.400	511.000	502.500	641.000	638.700	515.000
CR	656.700	316.500	639.700	516.000	639.700	537.000	640.000	600.000	640.000	620.000
CR	645.000	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF FLOODWAY									
X1	1.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	7.000	480.000	639.600	630.000	500.000	640.000	639.500	502.000	641.000	639.700
BT	655.000	316.000	640.000	516.000	641.000	640.000	640.000	600.000	640.000	620.000
BT	645.700	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	INSIDE OF U/S FACE OF FLOODWAY									
X1	1.000	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	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	U/S FACE OF FTBRDGE - DOWNSTREAM END OF TRAILER PARK									
X1	11.500	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	639.500	639.700	0.000

WB	7,000	0.650	340,000	10.000	340,000	0.050	410,000	10,000	0.000	0.000
WB	630,000	0.000	317,000	0.100	730,000	0.000	0.000	0.000	0.000	0.000
	U/S OF FILTERSIDE									
X1	1,600	26.000	500,000	317,000	100,000	100,000	100,000	0.000	0.000	0.000
GR	650,000	329,000	643,200	330,000	643,200	340,000	643,200	360,000	642,700	410,700
GR	642,000	357,000	641,800	471,000	640,000	500,000	530,000	200,000	642,000	645,000
GR	650,000	342,000	640,400	317,000	440,900	337,000	641,100	410,200	642,000	650,000
GR	650,000	431,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	11,000	0.100	358,000	10,000	324,000	0.100	348,000	10,000	170,000	0.000
NH	389,000	10,000	404,000	0.100	627,000	10,000	443,000	0.100	103,000	0.040
NH	317,000	0.100	7,0000	3,000	0.000	0.000	0.000	0.000	0.000	0.000
	U/S FACE OF PROPOSED TRAILER PARK									
X1	2,200	36.000	300,000	517,300	200,000	200,000	200,000	0.000	0.000	0.000
X3	10,000	0.000	0.000	460,000	0.000	353,000	0.000	0.000	0.000	0.000
GR	650,000	285,000	644,300	286,000	644,200	306,000	644,200	326,000	644,200	348,000
GR	644,100	362,000	644,100	389,000	644,100	400,000	644,000	404,000	644,000	427,000
GR	644,000	443,000	643,900	459,000	643,800	482,000	641,000	500,000	640,300	502,000
GR	650,200	501,000	639,200	510,000	640,300	512,000	640,600	514,000	640,600	517,300
GR	641,000	555,000	641,000	600,000	641,000	630,000	630,000	581,000	0.000	0.000
SB	0.000	1,800	3,000	95,000	6,000	0.000	37,000	0.000	639,200	639,300
	U/S FACE OF BRIDGE @ TRAILER PARK									
X1	2,200	34,000	500,000	517,300	10,000	10,000	10,000	0.000	0.000	0.000
X3	0.000	0.000	0.000	440,600	644,000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	505,000	0.000	643,300	643,100	0.000
GR	650,000	285,000	644,300	286,000	644,200	306,000	644,200	326,000	644,200	348,000
GR	644,100	362,000	644,100	389,000	644,100	400,000	644,100	404,000	644,000	427,000
GR	644,000	443,000	643,900	459,000	643,800	482,000	641,000	500,000	640,300	502,000
GR	650,200	501,000	639,200	510,000	640,300	512,000	640,600	514,000	640,600	517,300
GR	641,000	555,000	641,000	600,000	641,000	630,000	630,000	581,000	0.000	0.000
NC	0.000	0.100	0.000	0.000	0.000	0.000	5,000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	5,100	0.000	0.000	229,000	701,000
X1	12,000	12,000	500,000	317,000	220,000	220,000	220,000	0.000	0.000	0.000
GR	653,000	235,000	644,300	270,300	645,900	411,000	643,500	500,000	642,200	395,000
GR	644,100	507,000	642,200	514,000	643,500	517,000	644,000	536,000	646,700	582,000
GR	651,700	746,000	630,000	764,300	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
X1	12,000	0.000	0.000	317,000	220,000	220,000	220,000	0.000	0.000	0.000
GR	653,000	187,000	151,500	270,300	437,200	400,000	642,700	500,000	642,800	503,000
GR	645,100	506,000	643,700	514,000	643,000	517,000	645,800	554,000	646,000	600,000
GR	648,300	650,000	655,000	651,000	0.000	0.000	0.000	0.000	0.000	0.000
X1	12,000	12,000	500,000	317,000	110,000	110,000	110,000	0.000	0.000	0.000
X3	0.000	0.000	0.000	440,000	0.000	545,000	0.000	0.000	0.000	0.000
GR	653,000	130,000	647,000	320,000	647,300	400,000	646,700	500,000	644,700	508,000
GR	644,000	506,000	644,000	515,000	646,200	517,000	647,800	560,000	648,700	600,000
GR	649,900	622,000	625,000	630,000	0.000	0.000	0.000	0.000	0.000	0.000

BR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	U/S FACE OF 2-36" CULVERTS (LEFT CULVERT $ CRUSHED)									
XL	13.100	1.200	500.000	514.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	546.600	546.600	0.000
GR	655.000	655.000	649.300	467.000	647.000	300.000	667.000	202.000	643.300	303.300
BR	650.500	200.000	648.300	208.300	647.300	503.300	652.900	300.000	643.300	511.500
BR	240.000	5.000	5.300	51.500	5.500	547.000	532.000	240.000	0.000	0.000
BL	0.000	2.000	0.000	0.000	0.000	0.000	7.100	0.000	516.800	516.800
	U/S FACE OF 2-36" CULVERTS									
X1	13.200	0.000	0.000	0.000	24.000	24.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	649.200	649.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	649.600	649.600	0.000
3R	40.000	647.000	649.200	640.000	500.300	649.400	640.000	500.000	649.300	640.000
BT	507.000	649.100	640.000	508.000	649.400	647.300	511.000	649.400	649.000	511.500
ST	649.100	648.800	513.000	649.400	648.000	514.500	649.500	647.300	547.000	649.600
3T	649.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.300	0.300	0.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000
EC	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000	0.000
	200' U/S OF 2-36" CULVERTS									
XL	13.500	8.000	500.000	513.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	652.000	220.000	650.000	430.000	649.000	650.000	646.600	304.000	646.600	31.000
BR	540.000	515.000	520.000	510.000	155.000	700.000	0.000	0.000	0.000	0.000
EC	0.300	0.000	0.300	0.300	0.300	0.000	0.000	0.000	0.000	0.000
	110' d/s of CHICOPEE TERRY HP CORRATE CROSS BY									
XL	0.000	12.000	500.000	515.000	280.000	290.000	280.000	0.000	0.000	0.000
GR	657.300	200.000	650.600	300.000	651.300	650.000	650.700	430.000	650.800	500.000
BR	550.000	502.000	510.000	502.000	149.100	510.000	490.000	0.000	0.000	512.000
BR	651.000	325.000	650.200	465.000	0.000	0.000	0.000	0.000	0.000	0.000
EC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

STCND @ TIME	DEPTR FLOW SLOPE	CWSEL QCH XCOSL	SRTIS CROP XLCH	QSELK XLOB XCOBR	EO ACH XNC	MU AROB STRCHL	HL VOL WTS MCI	SLOPE TWA SLICH CCONT	BANK LEV RETARD BETA CONRHR	ELEV TO WTR ENDST
*PRO										
QCHV= 0.00 CCHV= 0.300										
*SECNO *100										
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.										
.10	6.20	607.50	0.00	607.50	607.88	0.38	0.00	0.00	606.00	
510.	34.	781.	1.	21.	99.	17.	0.	0.	606.00	
0.00	0.39	4.8	0.78	0.100	0.035	0.100	0.000	601.10	417.50	
0.002275	0.	0.	61.	6	0	0	0.00	153.75	541.25	
PCSO= 0.300 CCHV= 0.500										
*SECNO 0.00										
0.3 FAT OF CUT BRIDGE.										
.20	5.87	607.37	0.00	0.00	608.11	0.74	0.27	0.01	606.50	
310.	1.	459.	1.	19.	99.	35.	0.	0.	606.10	
0.01	0.36	3.83	0.63	0.100	0.038	0.100	0.000	602.40	471.33	
0.002067	100.	100.	100.	2	0	0	0.00	96.25	557.58	
*SECNO 0.300										
3270 NORMAL BRIDGE NXD= 6 MIN ELTRD= 607.00 MAX E LC= 607.10										
INSIDE OF U/S FACE OF FOOT BRIDGE.										
.10	5.42	607.72	0.00	0.00	608.14	0.39	0.00	0.02	606.50	
310.	35.	542.	43.	49.	63.	31.	0.	0.	606.10	
0.01	1.31	3.52	1.40	0.100	0.033	0.100	-0.000	602.40	471.67	
0.010890	1.	1.	1.	2	0	0	-16.71	83.62	557.34	
*SECNO .400										
3270 NORMAL BRIDGE NXD= 6 MIN ELTRD= 607.00 MAX ELCD= 607.10										
U/ INSIDE OF U/S FACE OF FOOT BRIDGE.										
1.40	3.15	607.65	0.00	0.00	609.20	0.37	0.05	0.01	606.50	
510.	39.	152.	49.	32.	83.	45.	0.	0.	606.10	
0.01	1.30	3.09	1.40	0.100	0.037	0.100	0.000	602.40	389.74	
0.009447	1.	1.	1.	2	0	0	-16.71	68.69	838.69	

RECNO	DEPTH	CHSEL	RKLS	ISECN	ED	RV	HI	OLDAS	CHNL ELEV
NP	SLOB	SCH	LROB	ALOB	SCH	ASOB	VCH	TBA	FT/SEGMT
TYPE	YLLS	VCH	YROB	XNL	XNCH	XNL	WTH	ELCIN	SSTO
ELTYPE	XLOBL	XLCH	XLOB	TRBAL	TC	IDCNT	SORAR	YMPLCS	ENDST

*SECNO 1.000
FLOW - RIDGE
1.50 5.30 609.90 0.00 0.00 608.21 0.3 0.00 0.01 606.30
510. 14. 172. 4. 33. 102. 38. 0. 0. 606.10
0.01 0.59 4.44 0.64 0.100 0.035 0.100 0.000 602.40 568.84
0.001643 11 1. 1 2 3 0 0.00 50.40 579.23

*SECNO 1.400
2 - U/S OF FOOT BRIDGE
1.60 3.28 607.28 0.00 0.00 606.35 0.47 0.04 0.08 606.00
510. 12. 47. 24. 15. 84. 32. 0. 0. 606.00
0.01 0.20 0.58 0.26 0.100 0.035 0.100 0.000 572.47 [illegible]
0.002808 25. 25. 36. 3 0 0 0.00 58.32 531.24

DCHV= 0.100 CEHV 0.300
*SECNO 2.000
UPSTREAM SECTION #2
2.00 3.31 609.31 0.00 0.00 609.69 0.19 1.32 0.05 607.00
510. 220. 738. 32. 337. 49. 47. 2. 1. 607.60
0.01 1.05 0.68 1.10 0.100 0.045 0.100 0.000 603.30 576.97
0.001646 320. 380. 440. 3 0 0 0.00 184.50 561.47

*SECNO 2.100
X
2.10 3.21 609.21 0.00 0.00 609.98 0.03 0.27 0.04 606.00
510. 181. 217. 106. 2. 74. 143. 3. 2. 606.00
0.01 0.74 2.97 0.74 0.100 0.045 0.100 0.000 604.76 572.83
0.001711 140. 180. 180. 2 0 0 0.00 215.04 588.35

*SECNO 2.200
X
2.30 4.26 610.06 0.00 0.00 610.27 0.16 0.22 0.03 607.00
510. 180. 328. 72. 138. 84. 81. 2. 2. 607.00
0.01 0.96 3.07 0.96 0.100 0.045 0.100 0.000 605.80 575.61
0.002283 150. 150. 180. 2 0 0 0.00 146.11 592.72

*SECNO 2.300

	DEPTH	CORREL	CRIWS	USER	EG	HV	HL	CLOSS	BAY	CLED
	SLOB	30H	CROB	SLOE	ACH	ARCR	VQ	TWR	FITARIGHT	
VEL	VLOB	VCH	VROL	XRL	XINCH	XWR	UTC	ELMTH	BETA	
SLOPE	XLOBL	XLOP	XLOBR	TRIAL	IOC	ICONT	CORAR	TOPWID	EXPRT	
	0.05	0.0	1.00	0.00	E-017	0.29	0.38	0.04	608.20	
1.	58.	234.	32.	44.	99.	736.	8.	5.	609.60	
0.05	1.32	0.3	1.12	0.170	0.045	0.100	0.000	606.90	467.29	
0.008414	150.	150.	1401	2	0	0	0.00	107.8	74.00	

ENCNO 3.100

BEG ENCROACHMENT STATION 34 490.0 550.0 TYPE= 1 TARGET= 70.000

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	3.17	611.17	0.10	0.00	611.91	0.64	0.97	0.1	609.80
510.	10.	903.	97	7.	56.	51.	6.	3.	609.80
0.12	0.52	2.17	1401	0.00	0.045	0.100	0.000	609.80	470.04
0.008230	170.	150.	130.	2	0	0	0.00	70.00	500.00

CCHV= 0.300 CEHV= 0.500
ESECND 3.200

BASE OVERBANK AREA ASSUMED NON-EFFECTIVE.ELLEN= 618.00 ELAREA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	3.50	612.30	0.00	0.00	613.33	0.95	1.36	0.15	619.60
510.	0.	5.	0.	0.	65.	0.	0.	3	619.60
0.10	0.00	1.30	0.00	0.006	0.045	0.000	0.000	609.60	465.00
0.015601	100.	50.	90.	2	0	0	0.00	55.9	335.00

ESECND 3.300

BASE OVERBANK AREA ASSUMED NON-EFFECTIVE.ELLEN= 619.60 ELAREA= 619.60

1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	3.33	613.32	0.03	0.00	613.34	0.96	0.01	0.01	619.60
510.	1.	510.	0.	0.	65.	0.	0.	3.	619.60
0.10	0.50	2.53	0.03	0.000	0.026	0.000	0.000	400.80	309.91
0.008309	1.	1.	1.	0	0	0	0.47	28.59	335.00

SECNO	DEPTH	AREA	WTDST	QWEIGHT	CO	HV	HL	ALOSS	BANK ELEV
	CLOB	LOB	CHNL	ROB	ALOB	MDP	PNCH	VCI	TOA	HEAD/WEIGHT
	SLOPE	KLOBC	VCHA	KLCHC	QPRIA	LPC	ECONT	* RA*	TOPWID	ENDS*

*SECNO 3.700
3493 ROAD BRIDGE,PIER 21 MIN ELTRI= 619.60 MAX ELLO= 619.60

3493 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLE= 619.60 ELRE= 619.60

INSIDE OF U/S FACE OF LEVEE SUPERIOR AND IMPEDING RAILROAD BRIDGE.

3.40	2.03	612.83	0.20	0.00	613.52	0.65	0.10	0.06	619.60
510.	0.	510.	0.	0.	77.	0.	5.	3.	619.60
0.10	0.00	6.63	0.00	0.000	0.076	0.000	0.000	602.60	507.64
0.005714	14.	14.	14.	3	0	0	-1.25	30.09	237.73

*SECNO 3.600

3493 OVERBANK AREA ASSUMED NON-EFFECTIVE ELEV= 619.60 ELRE= 619.60

OUTSIDE OF LEVEE SUPERIOR AND IMPEDING RAILROAD BRIDGE

3.50	4.15	612.35	0.20	0.00	613.58	0.91	0.0	0.03	619.60
510.	0.	510.	0.	0.	82.	0.	6.	3.	619.60
0.10	0.00	6.20	0.00	0.000	0.038	0.000	0.000	605.80	507.35
0.006468	1.	1.	1.	2	0	0	0.00	30.93	338.19

*SECNO 3.500
110' U/S OF LEVEE SUPERIOR AND IMPEDING RAILROAD BRIDGE

3.60	4.75	612.15	0.00	0.00	613.95	0.91	0.25	0.15	619.60
510.	148.	325.	37.	59.	98.	57.	7.	4.	619.60
0.12	0.93	3.37	0.45	0.000	0.045	0.100	0.000	609.10	447.01
0.000111	120.	140.	150.	2	0	0	0.01	103.27	550.60

SHAPE= 0.200 C HL= 0.500

*SECNO 3.700
X

3.70	4.50	612.01	0.00	0.00	614.23	0.52	0.31	0.19	619.60
510.	47.	419.	31.	25.	50.	21.	7.	4.	619.60
0.13	1.03	8.38	1.02	0.100	0.025	0.100	0.000	609.40	48.95
0.000627	140.	0.	140.	2	0	0	0.00	56.30	550.22

SECNO	DEPTH	CUBEL	ORIGS	CSELK	EG	AV	HC	DCOSS	BANK ELEV
N	DLOB	PTH	ORIB	ALOB	ACH	AROP	VOL	TIA	LEFT/RIGH
TIME	WLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELMCH	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	INCT	ICONT	CORAX	ITCONT	ENDS

*SECNO 4.000
SURVEY SECTION 14

4.00	4.51	614.31	0.00	0.00	615.05	0.74	0.7	0.06	612.80
510.	58.	384.	63.	32.	49.	39.	8.	4.	612.50
0.13	1.83	7.86	1.73	0.100	0.035	0.100	0.000	609.80	481.78
0.006830	110.	140.	150.	2.	0	0	0.00	56.06	537.85

*SECNO 4.300
X

4.30	3.13	613.73	0.00	0.00	616.34	0.39	1.28	0.01	613.00
510.	34.	431.	25.	27.	69.	25.	8.	4.	613.50
0.14	1.28	6.54	0.77	0.100	0.035	0.100	0.000	610.60	483.21
0.003682	260	260.	260.	2	0	0	0.00	54.27	537.50

*SECNO 4.600
X

4.60	4.90	616.70	0.00	0.00	617.08	0.38	0.77	0.01	613.00
510.	38.	470.	2.	32.	92.	3.	9.	5.	615.00
0.16	1.24	5.13	0.38	0.100	0.035	0.100	0.000	611.80	485.75
0.002162	260.	260.	260.	2	0	0	0.00	57.68	323.40

*SECNO 5.000
SURVEY SECTION 15

5.00	3.05	617.36	0.00	0.00	617.45	0.11	0.24	0.03	614.80
510.	8.	319.	182.	15.	58.	245.	11.	5.	614.80
0.19	0.52	3.25	0.73	0.100	0.035	0.100	0.000	612.30	487.57
0.000397	260.	260.	260.	2	0	0	0.00	164.08	651.65

*SECNO 5.500
X

5.50	3.11	617.66	0.00	0.00	617.63	0.02	0.21	0.01	614.80
510.	60.	143	307.	128.	78.	657.	17.	8.	614.80
0.34	0.47	1.34	0.47	0.100	0.035	0.100	0.000	612.33	452.34
0.000357	480.	480	470.	2	0	0	0.00	319.32	771.87

*SECNO 6.000
SURVEY SECTION 16

6.00	5.07	617.87	0.00	0.00	617.91	0.04	0.23	0.01	614.50
510.	75.	146.	290.	74.	57.	397.	25.	11.	614.70
0.44	1.02	2.35	0.73	0.100	0.050	0.100	0.000	612.80	473.24
0.001136	520.	480.	450.	2	0	0	0.00	276.38	749.52

STORD / FINE	DEPTH / SLOB / VLOB	BASEL / RC / VCH	DRIVS / DRDB / VROB	WIDLC / ALOB / XNB	RO / XCH / XNCH	WO / AROB / XNF	RL / VO / UTN	DLOSH / TMB / FLMIN	ABN. LEV / FLOB / SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICOMAT	CLARM	TOPSTO	EROST
&SECNO 5.100									
X									
5.15	3.34	615.24	0.00	0.00	619.23	0.19	0.28	0.05	615.93
510.	38.	296.	27.	29.	53.	192.	26.	12.	615.90
0.46	1.14	4.63	1.13	0.100	0.050	0.100	0.000	614.20	473.21
0.005832	130.	130.	130.	2	0	0	0.00	231.43	69.84
&SECNO 6.150									
X									
6.30	3.31	618.92	0.00	0.00	619.25	0.38	1.00	0.04	617.00
510.	32.	288.	190.	20.	43.	123.	27	12.	617.00
0.46	1.08	4.31	1.05	0.100	0.050	0.100	0.000	616.60	475.21
0.005832	130.	130.	130.	2	0	0	0.00	263.35	69.96
&SECNO 6.300									
X									
6.50	3.62	620.58	0.00	0.00	620.97	0.61	1.27	0.07	618.70
510.	34.	313.	167.	23.	47.	107.	32.	13.	618.70
0.47	1.65	6.62	1.62	0.100	0.050	0.100	0.000	617.10	477.23
0.012300	130.	130.	130.	2	0	0	0.00	158.26	352.10
&SECNO 1.300									
X									
6.10	3.64	622.54	0.00	0.00	622.60	0.81	1.30	0.30	620.10
510.	36.	310.	144.	24.	48.	107.	28.	12.	620.10
0.43	1.53	6.12	1.53	0.00	0.050	0.100	0.000	618.50	476.24
0.010878	130.	130.	130.	1	0	0	0.00	147.38	623.62
&SECNO 6.400									
X									
6.50	3.60	625.20	0.00	0.00	625.96	0.46	1.47	0.01	621.20
510.	39	322.	150.	27.	48.	95.	25.	14.	621.50
0.45	1.76	7.02	1.74	0.100	0.050	0.100	0.000	619.90	475.28
0.013547	130.	130.	40	2	0	0	0.00	132.13	513.05
&SECNO 6.600									
X									
6.60	3.63	625.83	0.00	0.00	626.48	0.67	1.35	0.00	623.20
510.	41.	335.	132.	26	52.	95.	29	14.	623.20
0.43	1.93	6.50	1.76	0.100	0.050	0.100	0.000	621.40	475.14
0.010101	140.	140.	140.	2	0	0	0.00	117.99	534.00

SECNO	DEPTH	CUSEL	DRAFT	UBELK	ED	MU	TC	DRESS	RANK ELEV
	GLOB	BDH	DROB	ANG	ACH	APSR	VOL	T/A	LEFT/RIGHT
	TIME	GLOB	BCH	DROB	XNL	XNCH	XNA	JTP	ELMIN	ESTS
	SCOPE	XLOBG	XLCH	LCOBS	I BIAS	IDC	ICCNT	CORER	TGPUT	ENDST
#SECNO 6.700										
	6.70	3.38	625.79	0.00	0.00	626.25	0.57	1.16	0.05	627.41
	310.	13.	334.	154.	35.	52.	62.	29.	0.	627.10
	0.50	1.69	7.67	1.68	0.100	0.050	0.100	0.000	622.80	472.66
	0.012129	130.	130.	130.	2	0	0	0.00	96.37	372.06
#SECNO 6.800										
	6.80	3.71	627.01	0.00	0.00	623.50	0.39	1.54	0.01	623.70
	310.	49.	378.	83.	38.	53.	49.	30.	15.	623.70
	0.5	1.75	8.03	1.71	0.100	0.050	0.100	0.000	624.20	477.51
	0.013513	20.	20.	20.	3	0	0	0.00	97.00	377.42
#SECNO 7.000										
SURVEY SECTION 47										
	7.00	3.72	629.43	0.00	0.00	629.64	0.21	1.01	0.04	629.10
	310.	224.	257.	120.	77.	32.	62.	30.	15.	627.10
	0.52	.72	4.85	1.72	0.100	0.050	0.100	0.000	625.70	457.65
	0.005765	130.	130.	130.	2	0	0	0.00	96.53	354.20
#SECNO 0.000										
3470 ENGINEMENT STATION=			435.0	420.0	TYPE=	1	TARGET=	215.000		
	6.90	3.37	630.67	0.00	0.00	630.69	0.02	1.03	0.02	630.90
	310.	234.	50.	186.	238.	41.	217.	33.	17.	628.40
	0.62	0.95	8.24	0.36	0.000	0.050	0.100	0.000	627.27	465.00
	0.001326	120.	120.	120.		0	0	0.00	215.00	620.00
#SECNO 8.300										
3470 ENGINEMENT STATION=			420.0	350.0	TYPE=	1	TARGET=	170.000		
	8.30	4.00	631.10	0.00	0.00	631.35	0.28	0.61	0.08	629.50
	310.	153.	229.	120.	85.	35.	76.	35.	13.	629.70
	0.64	1.77	6.03	1.76	0.100	0.050	0.100	0.000	628.30	450.00
	0.013002	200.	200.	200.	3	0	0	0.00	170.00	390.00

	DEPTH	VSET	UNITS	HSEL	FB	HV	HC	DCOEF	RANK SEV
SHE	CLSD	VSD	USUB	XNL	XNCH	XNR	VOL	FHA	LEFT/RIGHT
ELOPE	XLOBL	XSLOF	XLOBR	ITRIAL	IDC	ICTN	CORAR	TOPWID	ENDST

3/70 ENCROACHMENT STATIONS= 440.0 593.0 TYPE= 1 TARGET= 153.000

1.80	3.28	632.06	0.00	0.00	632.27	0.31	0.87	0.02	630.30
510.	150.	234.	126.	103.	75.	90.	31.	19.	630.40
0.63	1.42	5.22	1.40	0.100	0.045	0.100	0.000	628.80	420.00
0.000700	100	100	100	2	0	0	0.00	155.00	91.00

3/70 ENCROACHMENT STATIONS= 150.0 600.0 TYPE= 1 TARGET= 200.000
D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.20	5.48	632.88	0.00	0.00	633.22	0.34	0.51	0.09	631.50
510.	150.	234.	126.	103.	75.	90.	31.	19.	630.40
0.65	1.70	5.64	1.70	0.080	0.045	0.080	0.000	628.80	420.00
0.010018	90	50	30	2	0	0	0.00	200.00	200.00

BL	XC	MNOR	CO	XBLEM	B/C	BHP	SPRF	FB	ELCHU	ELCHD
	0.00	2.26	3.00	0.00	6.26	0.00	24.00	0.00	629.40	629.40

ENTRU	EGLIN	S	QWEIR	DMT	DARFA	TRAPEZOID AREA	ELLT	E TRD
647.12	636.00	0.00	187.	326	26.	25.	553.40	637.60

6145 Blum

4345

SECN	DESTN	QWEEP	CNTRF	WSECN	EG	HW	RL	CLOSS	PRAX E
0	GLOB	NCH	QTOB	A_DW	YSH	ARCH	CHL	TWA	FF/RIGHT
TYP	GLOB	YC	UPCA	XHW	XWCH	MCR	WTN	ELMIN	SSTA
SLOPE	XLOB_	XLCH	XLOBR	TRIAL	ICC	ICONT	CHRAD	TOPWID	ENDS

*SECNO 0.100

0.100 ENCROACHMENT STA 62.36			600.0	600.0	TYPE	1	TARGET	0.0000	
W/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
9.50	9.50	638.00	0.00	0.00	638.31	0.01	0.03	0.01	634.00
510.	478.	107.	230.	52.	178.	656.	41.	20.	634.00
0.78	0.68	1.35	0.35	0.100	0.033	0.100	0.000	629.80	300.30
0.000114	200.	200.	95.	2	0	0	0.01	436.96	731.18

*SECNO 0.200

W/S FACE OF 36' TWIN CULVERTS									
10.30	4.35	638.85	0.00	0.00	638.35	0.00	0.04	0.00	636.00
510.	201.	39.	220.	292.	82.	660.	51.	23.	636.00
0.97	0.34	1.10	0.33	0.100	0.033	0.100	0.000	632.50	300.00
0.000121	230.	340.	400.	1	0	0	0.00	471.22	731.22

*SECNO 10.300

3370 NORMAL BRIDGE.NRO= 10 HIV ENTRE= 637.40 MAX ELLC= 650.00									
1' INSIDE OF E/S FACE OF 36' TWIN CULVERTS									
10.30	4.35	638.85	0.00	0.00	638.35	0.00	0.00	0.00	636.00
510.	216.	39.	230.	569.	39.	658.	51.	23.	636.00
0.97	0.37	1.00	0.34	0.100	0.033	0.100	0.000	632.50	300.00
0.000141	21.	21.	21.	0	0	0	-24.57	451.22	731.22

*SECNO 10.400

3370 NORMAL BRIDGE.NRO= 10 HIV ENTRE= 637.40 MAX ELLC= 650.00									
1' INSIDE OF E/S FACE OF 36' TWIN CULVERTS									
10.30	4.35	638.85	0.00	0.00	638.35	0.00	0.00	0.00	636.00
510.	216.	39.	230.	569.	39.	658.	51.	23.	636.00
0.97	0.37	1.00	0.34	0.100	0.033	0.100	0.000	632.50	300.00
0.000141	21.	21.	21.	0	0	0	-24.57	451.22	731.22

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SECNO   DEPTH   CMSEL   CRITA   OBELK   EG      HV      HL      DOORS   MANN ELEV
C       CLOD    ACH     GRCT    ALOR    ACH     PROB    VOL     THA     EFT/RIGHT
TONL    VSOB    VCH     VROD    KNL     KNCH    KVR     NTY     ELMIN   SSCA
SCOPE   XCOL    XLCH    XLOER   ITRIAC  IDL     SCOPE   CURAR   TOWTD   ENDST

*SECNO 10.300
      D/S FACE OF 34" TWIN CULVERTS
   0.50    0.32   638.85    0.00    0.00   632.20    0.00    0.00    0.00   636.00
   510.    206.     80.     224.    591.     82.    459.     51.     24.   636.00
   0.96    0.35    0.98    0.34   0.100   0.040   0.100   0.000  632.50  300.00
0.000127     1.      1.      1.      0       0       0    0.00  451.22  751.22

*SECNO 10.600
      D/S OF 36" TWIN CULVERTS
  10.60    4.31   638.51    0.00    0.00   639.02    0.11    0.11    0.05   636.60
   510.    151.    232.    129.    181.     61.    155.     52.     27.   636.60
   1.05    0.83    1.00    0.82   0.100   0.000   0.000   0.000  [illegible]  [illegible]
0.001903   [illegible]  [illegible]  270.      1       0       0    0.00  293.60  648.60

CCHV=   0.100 CEHV=   0.300
*SECNO 11.100
  11.10    3.97   639.87    0.00    0.00   640.21    0.31    1.12    0.07   638.80
   510.     52.    311.    141     56.     54.    122.     61.     29.   638.80
   1.02    0.94    5.37    1.18   0.100   0.040   0.100   0.000  637.90  428.39
0.005490   610.    380.    400.      1       0       0    0.00  214.95  643.55

*SECNO 11.150
      SURVEY SECTION  XN
  11.15    4.56   641.56    0.00    0.00   641.90    0.34    1.69    0.00   637.80
   510.     25.    311.    175.     20.     53.    144.     62.     30.   638.90
   1.07    1.23    3.90    1.21   0.100   0.040   0.100   0.000  637.20  481.8.
0.005401   270.    300.    320.      2       0       0    0.00  144.97  641.70

CCHV=   0.300 CEHV=   0.300
*SECNO 11.200
      D/S FACE OF FEBRDGE - L BNK ENDED @ STA 430 FOR CONTR - FLP300=641.2
  11.20    4.63   642.03    0.00    0.00   642.08    0.05    0.10    0.09   639.50
   510.    126.    182.    202.    159.     64.    273.     63.     30    638.70
   1.00    0.79    2.83    0.72   0.100   0.040   0.100   0.000  637.40  430.00
0.000904    50.     50.     50.      2       0       0    0.00  742.80  673.80
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SECND	DEPTH	SPEED	TRIGS	MERGE	ES	NV	RI	OLDER	JANK SLEW
Q	OLDR	ROR	DROR	ALGT	ACC	APSP	VOL	T.A	LEFT/RIGHT
TIME	VLCH	JCH	VTOS	ANL	KNCH	XWT	CTW	ELMIN	BSTP
SLOPE	XEOBC	XLCH	XLOBR	TTRIM	TDC	TCORT	CORVR	TSPMOD	ENDST

SECOND 11.700

ASSD NORMAL HRTICE/RD = 7 HDWELTD= 639.50 MAX EILC = 640.00

1' INSIDE OF D/S FACE OF FOOTBRIDGE

11.80	4.65	642.06	0.00	0.00	642.09	0.03	0.30	0.01	639.50
510.	141.	113.	253.	151.	46.	219.	63.	30.	638.70
1.08	6.94	2.47	0.90	0.100	0.022	0.100	0.000	637.10	1.00.00
0.001806	1.	3.	1.	2	0	0	-99.03	243.45	673.15

SECND 11.400

ASSC NORMAL HRTICE/RD = 7 X1 FLTRL= 639.60 MAX E.L.= 10.00

HDWTH OF CHANNEL = 30.00 FREE

11.40	4.66	642.06	0.00	0.00	642.09	0.03	0.30	0.00	639.50
510.	141.	113.	253.	151.	46.	219.	63.	30.	638.70
1.08	6.94	2.47	0.90	0.100	0.022	0.100	0.000	637.10	1.00.00
0.001454	1.	3.	2.	0	0	0	-99.03	202.50	673.50

SECND 11.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.70	4.65	642.05	0.00	0.00	642.10	0.03	0.00	0.01	639.50
420.	126.	81.	203.	101.	43.	234.	62.	30.	638.20
1.08	6.75	2.75	0.77	0.100	0.040	0.100	0.000	637.40	455.00
0.000947	1	1	1.	0	0	0	0.00	244.58	673.35

1470 IN CARD USER

SSECFC 11.600

100 U/S OF FOOTBRIDGE

11.60	4.62	642.12	0.00	0.00	642.40	0.28	0.18	0.12	640.00
510.	71.	389.	150	37	53.	135.	64.	31.	640.30
1.09	1.51	3.49	1.18	0.05	0.040	0.100	0.000	638.00	460.02
0.000303	100.	100.	100	2	0	0	0.00	150.39	630.62

1470 IN CARD USER

SSECND 12.200

1470 ENCROACHMENT STATION= 466.0 SES.0 TYPE= 1 TARGET= 55.030

```
                  3/8 FACE OF BRIDGE @ TRIBUTARY
  23.10    3.91    6.45    3.00    3.00   343.41    0.31    1.21    3.00   639.50
   310.     42.     61.     36.     29.     24.     65.     65.     31.   640.00
   1.10     1.11    5.18    1.75    0.100   0.040   0.100   1.000  637.20  440.00
0.005064    200.    200.    200.      2       1       0     0.00   95.00  585.00

SPECIAL BRIDGE

 SS   XR      XRGR    CCFO    RD_EN    BLC     DUP     BARE#    SS     ELCHL    ELCHU
 0.00          0.86    3.00    95.00    6.00    0.00    37.00    0.95   639.20   639.20

INTERP 17,200
PRESSURE & WEIR FLOW

 EPRE     ISLUC     MS      QWEIR     QFR      BARE#   TRAPEZOID AREA    ELLC     ELTRD
 600.     -4.01     1.00     328.     357.      29.        7.          642.60   642.00

3470 ENCROACHMENT STATIONS=    460.0     530.0   TYPE=    1  TARGET=     95.000
                  3/8 FACE OF BRIDGE @ TRIBUTARY
  12.30    5.45    6.43    0.00    0.00   644.85    0.19    1.43    0.20   641.00
   311.     52.     346.    112.     29.     32.     43.     65      32    641.00
   1.11     3.67    4.23    1.14    0.100   0.040   0.100   1.000  639.20  460.00
0.001719    19.     19.     19.      2       0       4     0.00   93.00  523.00

%SECNO 12,110

  11.40    5.93    6.73    645.05    0.00   644.80    0.67    0.70    0.21   643.50
   310.     66      379.     65       56.     52      43.     65.     37.   643.50
   1.12     1.25    7.24    1.33    0.100   0.040   0.100   0.000  641.20  647.61
0.000933    310.    220.    210.      1       1       0     0.00   1.0136  571.56

LCHV= 0.100 RCHV= 0.500
%SECNO 12,900

  10.00    5.92    6.70    0.00    0.00   643.53    0.17    1.70    0.21   645.50
   310.     91.     339.    60.     21.     23      45.     67.     38.   645.50
   1.13     1.28    5.32    1.12    0.100   0.040   0.100   0.000  643.20  507.72
0.000103    220.    220.    210.      2       0       0     0.00   1.0171  571.56

%SECNO 12,750

3170 ENCROACHMENT STATIONS=    410.0     585.0   TYPE=    1  TARGET=    125.000
```

CNO	DEPTH	CWSEL	CROWS	WSELM	TEA	SO	AL	DIORR	BANK ELEV
0	ALOB	QOX	VROB	ALOB	ACH	ARQB	VOL	TIM	LEFT/RIGHT
LINE	XLOB	YCH	VRQB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLOR	XLOR	ITRIAL	ISS	ICONT	CCURAR	TOPWII	ENDS
1.00	0.00	647.80	0.00	10.00	648.17	0.50	0.80	0.01	646.00
0.0	114.	582.	22.	75.	52.	56.	27.	23.	646.01
1.00	6.73	1.17	0.00	0.340	0.100	0.001	644.00	646.00	
0.002754	110.	110.	110.	3	0	0	0.00	622.00	642.00

SCHV= 0.709 SCM= 0.500

SECNO 2.0100

4.85 HIGHEST SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 30.000

D/S FACE OF I-35 CULVERTS-WEST CULVERT-TO BRUSHED

30.0	0.0	30.0	30.0	0.00	0.06	0.74	1.13	0.13	643.40
30.	0.	60.	60.	30.	6.	28.	37.	75.	647.50
1.00	2.00	4.00	2.00	0.040	0.040	0.080	0.100	645.50	647.00
0.001905	1.0	1.0.	1.0.	3	8	0	0.00	75.76	542.76

PRELIMINARY BRIDGE

XR	XRLR	CDFD	BOLEN	BHC	BWF	BAREA	SS	ELCHU	ELCHD
0.00	3.35	5.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

SECNO 3.200

3701 HV CHANGE HERE STAY IN CNB

PRESSURE AND WEIR FLOW

EGPRE	ENLNC	HL	ANCIR	CPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
861.62	650.36	0.00	465	46.	7.	7.	648.20	649.40

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 50.000

U/S FACE OF I-35 CULVERTS

13.20	5.33	650.33	0.00	0.00	650.59	0.15	0.93	0.00	647.00
510.	136.	264.	110.	89.	66.	78.	67.	33.	647.30
1.00	1.33	4.00	1.33	0.030	0.040	0.080	0.000	645.30	647.00
0.001905	24.	24.	24.	2	0	2	0.01	80.00	547.00

SECNO	DEPTH	COSEL	DRIUS	QSECK	ES	HV	RL	SCOPE	BANK ELEV
R	QLOB	QCH	DROB	QLOB	QCH	AROB	VOL	TWA	PFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	ISBTA
SLOPE	XLOBL	XLCH	XLOBR	XTRCHL	XDO	XCONV	CHAMX	TOPSIN	EXIST

SECNO [illegible] 000
[illegible] U/S OF [illegible] CULVERTE

[illegible]	4.[illegible]	[illegible]	0.00	0.00	451.56	0.27	0.[illegible]	0.06	849.00
510.	116.	319.	72.	144.	61.	71.	29.	34.	349.00
1.16	0.31	5.25	1.05	0.100	0.040	0.100	0.000	518.60	312.62
0.003468	200.	200.	200.	3	0	0	0.00	248.58	581.20

[illegible] 0.300 [illegible] 0.300
SECNO 14 000
110' R/S of CHOCOLAY TOWNSHIP CORPORATE BOUNDARY

14.00	4.30	652.40	0.00	0.00	632.51	0.20	1.04	0.0	450.80
510.	2[illegible]	2[illegible]	2[illegible]	[illegible]	5[illegible]	2[illegible]	[illegible]	[illegible]	[illegible]
1.[illegible]	1.[illegible]	[illegible]	1.00	0.100	0.000	0.100	0.000	[illegible]	317.02
0.[illegible]	280.	280.	280.	2	0	0	0.00	220.[illegible]	537.[illegible]

THIS RUN EXECUTED 13-FEB-85 [illegible]

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03 04,05,06
MODIFICATION - [illegible]

T1 ENCROACHMENT RUN
T2
T3 [illegible]

J1	ICHECK	INQ	NUNV	IPIR	ETRT	METRIC	HVINS	Q	NSEL	FQ
	0.	6.	0.	0.	0.000000	0.00	0.0	0.	607.500	0.000

J2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	0.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000

```
      SECNO    DEPTH    RESEL    CROWN    WSELP    ZZ        HV        AL        D-DAM    PARAMETER
      ITHR     VLOB     VCH      VROB     CNL      ANCH      XNR       WTN       FLMIN    LEFT/RIGHT
      SLOPE    XLOBO    XCHO     RLOBR    STRIKL   QQO       ICONT     CURAR     TOPWID   ENDST

 CONV=   0.150  ENV=   0.300
 #SECNO 1.000
 2800 NAT O.=    106.90  WSEL=    607.50  ENC O.=    106.90  HSEL=    607.50  RATIO=  0.0000
 NAT O.=    112.  RATIOS LOB,CH,ROB=  0.0845  0.8949  0.0207  WSEL=    607.80
 3470 ENCROACHMENT STATIONS=    472.6     506.0  TYPE=    4  TARGET=    0.045
      CONFLUENCE OF SILVER CREEK AND CALCULAY RIVER.
      1.17     5120    607.30    0.00    607.50    607.52    0.42      0.00      0.00    606.50
      510.      30.     480.      0.      30.      90.       0.        0.        0.     606.00
      0.00     0.67     5.34     0.00     0.00     0.030     0.000     0.000   601.30   422.61
 0.002618        0.       0.       0.       0.       0.        0.      0.000   407.29   15.4700

 SLOPE=   0.300  CONV=   0.500
 #SECNO 1.200
 2900 NAT O.=    112.12  WSEL=    607.77  ENC O.=    112.12  HSEL=    607.87  RATIO=  0.0000
 NAT O.=    112.  RATIOS LOB,CH,ROB=  0.0252  0.9281  0.0467  WSEL=    607.80
 3170 ENCROACHMENT STATIONS=    497.     537.6  TYPE=    4  TARGET=    0.042
      USE FACTORED FLOW BRIDGE.
      1.20     3.10    607.80    0.00    607.77    608.18    0.37      0.24      0.11    606.50
      510       3.      496.      2.      3.       100.      13.       0.        3.     606.10
      0.01     0.82     6.47     1.67     0.100     0.053     0.100     0.000   602.30   492.43
 0.006173      100.     100.     100.       2         5         0      0.00     40.28   523.69

 #SECNO 1.300
 3200.   BRIDGE STENCIL    607.42    BIENCR=    557.65
 2900 NAT O.=    112.12  WSEL=    607.77  ENC O.=    40.98  AF=    207.85  RATIO=  0.0000
 NAT O.=    32.  RATIOS LOB,CH,ROB=  0.0031  0.9469  0.0551  WSEL=    607.80

 3470 ENCROACHMENT STATIONS=    472.6     506.0  TYPE=    4  TARGET=    0.038
      USE FACTORED FLOW BRIDGE.
      1.20     3.37    607.77    0.00    607.78    608.24    0.44      0.00      0.03    606.50
      510       32.     464.      35.      6.       65.       21.       0.        3.     606.10
      0.01     1.60     5.56     1.51     0.100     0.053     0.100     0.000   602.40   492.68
 0.011698        1.       1.       1.       2         0         0      -16.71    48.90   541.57
```

```
 SEND    LEVPR   CMBEL   CRISS   SELR    EQ      RV      NP      DC-95   BRNK ELEV
 CL      CLDM    DC      ERCS    ALOS    ACM     ARSD    VOL     TOA     LEFT/RIGHT
 YSNS    W.CM    YCM     YROB    XNL     XNCP    XNR     WTA     ELMIN   SBTM
 SLOPE   XLOBL   XLOM    XECSR   ITRIAL  ITC     ICONT   CORAT   TOPBOM  END=

 SECND   CC
 2800 NAT 01=    62.30   SEL=    607.65  EXC 01=    62.20  WSEL=    607.93  RATIO=  0.0310
 NAT 01=   8.    RATIOS LOB,CH,ROB=  0.0586  0.8807  0.1063  WSEL=    607.95

 3370 NORMAL BRIDGE.NRD=  A MIN ELTRD=  607.00 MAX ELLOB=  607.10

 3360 CROSS SHORE STATIONS=    496.6   542.4  TYPE=     4  TARGET=     0.057
      U/S FACE OF L/B PAGE OF "30" BRIDGE.
      1.40    5.56    607.90    0.00    607.85    606.12#    0.58    3.05    3.07    607.50
      510.    13.     21.       4.      11.       86.        26.     0.      0.      606.10
      0.01    1.52    2.23      1.59    0.100     0.053      0.100   3.000   602.40  458.58
    0.010007    2.      5.        6.      3.        0.         0     15.7    52.95   542.55

 SECND   1.000
 2800 NAT 01=    18.79  WSEL=    607.90  EXC 01=    18.79  WSEL=    608.00  RATIO=  0.0000
 NAT 01=   24.  RATIOS LOB,CH,ROB=  0.0309  0.9763  0.0528  WSEL=    608.00

 3470 CROSS-SHARE STATIONS=    494.7   539.5  TYPE=     4  TARGET=     0.053
      U/S FACE OF FOOT.(RIDG.
      1.60    5.34    607.77    0.00    607.70    606.30    0.33    3.03    3.05    606.50
      3 0.    2.      188.      17.     7.        103.      24.     0.      0.      606.10
      0.0.    0.69    4.74      0.70    0.100     0.035     0.100   0.000   602.40  194.67
    0.00499    1.      2.        1.      2.        0         0       3.03    11.AM   535.51

 SECND   2.000
 2800 NAT 01=    96.25  WSEL=    607.68  EXC 01=    96.25  WSEL=    607.98  RATIO=  0.0000
 NAT 01=  100.  RATIOS LOB,CH,ROB=  0.0231  0.9254  0.0518  WSEL=    607.98

 3470 CROSS-SHARE STATIONS=    498.1   537.1  TYPE=     4  TARGET=     0.042
      U/S FACE OF FOOT BRIDGE.
      1.60    5.34    607.77    0.00    607.68    606.03    0.31    3.04    3.07    606.00
      510.    1.      495.      16.     2.        85        13.     0.      0.      606.00
      0.01    2.69    3.02      1.02    0.100     0.035     0.100   3.000   602.40  458.67
    0.002910    58.     25.       25.     2.        0         0       0.00    28.57   537.10

 SECND   3.000
 2800 NAT 01=    74.83  WSEL=    609.31  EXC 01=    74.83  WSEL=    609.61  RATIO=  0.0000
 NAT 01=   90.  RATIOS LOB,CH,ROB=  0.4414  0.4506  0.1080  WSEL=    609.61
```

SEC NO	DEPTH	SHAPE	CRWN	HEIGHT	SLT	THV	RI	NCORS	BANK ELEV
B	BLSH	QCH	QRT	PLCE	SCF	KROS	VOL	TRA	LFT/RIGHT
TYPE	VLSH	VOL	QRDS	XNL	XNCH	XRR	WTR	ELMIN	BETA
SLOPE	XLOSS	XSCH	XLOSF	ITRIB	IIC	ICONT	LTRAS	TOPWID	PPDR

2420 ENCROACHMENT STATIONS= 435. 825.0 TYPE= 1 TARGET= 0.075
SURVEY SECTION

2.10	2.02	609.82	0.00	609.82	609.82	0.20	1.34	0.07	607.00
330.	224.	246.	40.	134.	50.	36.	4.	1.	607.60
0.04	1.63	4.91	1.34	0.100	0.045	0.100	0.000	604.60	435.40
0.0043C2	220.	320.	230.	2	0	0	0.100	75.61	220.00

SECNO 2.700
2800 NAT QI= 152.86 USEL= 609.91 ENC QI= 152.86 WSEL= 610.01 RATIO= 0.0000
NAT QI= 162. RATIOS LOB:CH:ROB= 0.3670 0.4215 0.2116 WSEL= 610.01

2430 ENCROACHMENT STATIONS= 435. 825.0 TYPE= 4 TARGET= 0.00

2.10	3.62	611.82	0.00	609.91	610.59	0.07	0.24	0.01	605.00
510.	184.	326.	30.	189.	70.	105.	3.	1.	606.00
0.06	0.97	2.59	0.97	0.100	0.045	0.100	0.000	604.70	438.84
0.0021C3	220.	310.	210.	2	0	0	0.00	178.96	547.00

SECNO 2.700
2800 NAT QI= 106.70 USEL= 610.06 ENC QI= 106.70 WSEL= 610.16 RATIO= 0.0000
NAT QI= 114. RATIOS LOB:CH:ROB= 0.3666 0.6496 0.0148 WSEL= 610.16

2440 ENCROACHMENT STATIONS= 440.2 820.0 TYPE= 1 TARGET= 0.061

2.20	.50	610.19	0.00	610.06	610.54	0.04	0.22	0.03	607.00
530.	384.	324.	0.	138.	55.	0.	4.	1.	607.00
0.07	1.34	2.83	0.00	0.100	0.045	0.000	0.000	604.80	414.58
0.0025C8	250.	270.	190.	2	0	0	0.00	75.45	220.00

SECNO 2.800
2800 NAT QI= 73.75 WSEL= 610.45 ENC QI= 73.75 WSEL= 610.55 RATIO= 0.0000
NAT QI= 78. RATIOS LOB:CH:ROB= 0.1195 0.8610 0.0195 WSEL= 610.55

2450 ENCROACHMENT STATIONS= 405. 849.3 TYPE= 1 TARGET= 0.05

2.30	3.13	610.53	0.00	610.44	610.59	0.03	0.50	0.05	608.00
510.	48.	370.	92.	31.	70.	58.	4.	2.	608.00
0.08	1.56	5.18	1.37	0.100	0.045	0.100	0.000	606.90	445.40
0.0047A8	150.	450.	460.	2	0	0	0.00	63.93	547.34

```
 RECRD    DEPTH    DELTA     TRIAL     WSEL      CR        TW        AREA      HYD RAD    CLOSE   BANK ELEV
  NO      FLOW     STA       VEL       WSEL      CHNL      CHNL      CHNL      TOP WIDTH  TOLER   LEFT  RIGHT
  SLOPE   ALPHA    XLOB      XCH       XROB      WTG       NTRIAL    ITRY      ICONT      ICRWS   ITRNT   ENDST
```

```
SECND 2.000
```

```
3470 ENCROACHMENT STATIONS=     490.0      520.0  TYPE=     1  TARGET=     170.000
```

```
    TO  D/S FROM LAKE SUPERIOR AND INTERSTATE RAILROAD BRIDGE
     3.10     3.29    411.29     0.00    411.17    411.81     0.56      0.8F      0.07     409.30
      310       11.      395.      104.       E.       59.      56.        3.        2.     605.80
    0.000     0.000    1.000     1.000    1.000    0.000    0.100     0.000     608.00     90.00
   0.0105/1      250      150.      150.        3        6        0     0.00     79.04     560.05
```

```
 OCHV=   0.300 OEHV=   0.500
 #SECND 3.000
 RHOM NAT 3=      37.69  WSEL      392.29  END D.=      38.74  USR.=     42.18  TOTB=    102.8
 MAT 3.=      35.  RATIOE LOS CORTOR=  0.0000    3000    2.0000  WSEL=     412.49
```

```
3470 ENCROACHMENT STATIONS=     500.0      540.0  TYPE=     4  TARGET=     0.000
```

```
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA=      618.40 ELTEA=      619.60
```

```
    1/6 FACE TO LAKE SUPERIOR AND INTERSTATE RAILROAD BRIDGE
     3.30     3.52    412.43     0.07    412.45    413.33     0.99      1.26      3.22     612.60
      510        0.      510.       0.        0.       67.       0.        5.        2.     619.20
     0.09     0.00     8.00      0.00     0.000     0.045     0.000     0.000    608.50     509.26
 0.01/ 55      100.      20.       20.         3         0         0      0.00     25.74     534.99
```

```
 SECND 3.00
 3470 ENCROACHMENT STATIONS=     500.00      540.00  TYPE=     4  TARGET=     0.000
 2800 NAT RL=      35.55  WSEL=     412.39  END RL=      39.05  WSEL=     412.49  SAT'D= -0.0577
 MAT RL=      35.  RATIOE LOS:C-.ROB=  0.0000  1.0000  0.0000  WSEL=     412.19
```

```
 3470 NORMAL BRIDGE:RD= 0, MIN EL TW=  617.60 MAX EL TW=  617.60
```

```
3470 ENCROACHMENT STATIONS=     500.0      548.0  TYPE=     4  TARGET=     0.000
```

```
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA=      619.60 ELTEA=      619.60
```

```
    1/6 INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE
     4.30     3.34    613.34     1.00    612.33    613.34     1.00      0.01      0.00     619.60
      510.       0.      310.       0.        0        64.       0.        3.        2.     619.60
     0.09     0.00     8.01      0.00     0.000     0.025     0.000     0.000    608.20     509.17
 0.00/235         1         1         1         0         0         0     -0.65     23.02     534.99
```

CODE	OPTN	ISB	CRVS	WSEL	ES	HV	NL	CLOSS	2OPT	ELEV	
C	LCB	3DH	XRDI	ALOS	ACR	PFDR	VD	TW	ELTYP	SHT	
TOPE	LCB	VC	XSDS	XNL	XNC	K-R	WTY	ELMIN	SETA		
SLOPE	MODEL	XSCH	XLOSS	TRIAL	DIS	ICONT	CLRAC	TOPWID	ENDSTA		

SECOM 3.300
2800 NAT QI= 07.44 WSEL= 613.93 ES 31= 70.68 WAPE= 613.93 RATIO= 0.0170
NAT 01= 221. RATIOS LOB,CH,ROB= 0.000 1.0000 0.0000 WSEL= 612.91

3370 NORMAL BRIDGE:NRD= 21 MIN ELTRD= 609.00 MAX ELLC= 617.60

3420 ENCROACHMENT STATIONS= 500.0 OAC.C TYPE= 4 TARGET = 0.000

3440 OVERBANK AREA ASSUMED TO BE EFFECTIVE FLOW= 619.60 ELTARG= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

5.00	0.	510.	0.	0.	77.	0.	5	2	615.60	
0.09	0.00	6.61	0.00	0.000	0.036	0.000	0.000	608.80	607.19	
0.000857	4	0.	10.	7	0	0	-1.22	50.81	.3* 77	

SECOM 3.300
2800 NAT QI= 07.30 WSEL= 613.50 ES 31= 45.38 WAPE= 613.05 RATIO= 0.0183
NAT 01= 45. RATIOS LOB,CH,ROB= 0.0000 .0000 0.0000 WSEL= 613.05

3470 ENCROACHMENT STATIONS= 500.0 540.0 TYPE= 4 TARGET= 0.000

3440 OVERBANK AREA ASSUMED NON-EFFECTIVE FLOW= 619.60 ELTRG= 619.60

LOW FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

5.50	0.17	6.29	0.01	602.24	605.56	0.60	0.0	0.02	615.60	
510.	0.	510.	0.	0.	82.	0.	5.	2.	615.60	
0.09	0.00	6.20	0.00	0.000	0.035	0.000	0.000	608.80	607.19	
0.000851	1.	21.	2.	2	0	0	0.01	50.03	558.27	

SECOM 3.300
2800 NAT QI= 178.80 WSEL= 613.83 ES QI= 178.80 WSEL= 613.93 RATIO= 0.0000
NAT 01= 184. RATIOS LOB,CH,ROB= 0.2917 0.6544 0.0750 WSEL= 613.93

3470 ENCROACHMENT STATIONS= 462.5 53.5 TYPE= 4 TARGET= 0.541

510' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

5.80	0.73	6.53	0.00	613.34	613.94	0.13	0.24	0.1	610.00	
510.	143.	359.	28.	139.	98.	34.	5.	2.	610.00	
0.11	0.03	3.17	0.62	0.100	0.035	0.100	0.000	609.10	462.63	
0.000888	126.	140.	106.	2	0	0	0.00	45.74	534.60	

BEND	DEPTH	DESIGN	TRANS	PRESENT	FD	HV	DIC	DIODE	SHIELDED
R	OLOF	JCH	BEND	ALOR	ACH	BIOR	VOL	TRA	LEFT/RIGHT
TILE	LLOD	VCH	VRES	XML	XNCH	XNR	WTH	BLHIR	BSTR
SLOPE	XLOBC	XLCH	XLOBS	ITRIAL	IDC	ICONT	SCRAM	TTPOTS	ENDST

CLIN= 0.400 CLNH= 0.100

*SECAD 3.700

*300 NAT 01= 30.36 WSEL= 642.74 ENCD1= 80.76 WSEL= 615.86 RA 00= 0.000

NAT 01= 35. RATIOS-LOB/CH/ROB= 0.391 0.110 0.0508 WSEL= 623.36

3670 ENCROACHMENT STATIONS= 577.2 521.5 TYPE= 4 TARGET= 0.050

3.00	4.32	613.22	1.00	615.74	614.31	0.62	0.23	0.18	614.50
300.	58.	441.	11.	42.	65.	9.	6.	2.	611.30
0.12	1.42	6.78	1.27	0.100	0.075	0.100	0.000	609.40	477.22
0.004809	110.	140.	160.	3	0	0	0.00	44.25	521.46

*SECAD 4.000

*300 NAT 01= 30.58 WSEL= 643.21 ENCD1= 81.08 WSEL= 616.13 RA 00= 0.000

NAT 01= 45. RATIOS-LOB/CH/ROB= 0.117 0.7454 0.1375 WSEL= 624.41

3.70 ENCROACHMENT STATIONS= 466.3 331.2 TYPE= 4 TARGET= 0.050

SURVEY SECTION #

4.00	1.57	614.37	1.00	616.31	615.18	0.81	0.75	0.06	612.50
319.	49.	401.	60.	27.	49.	53.	6.	2.	612.30
0.12	1.52	8.10	1.22	0.100	0.035	0.100	0.000	609.80	484.24
0.007180	110.	140.	150.	2	0	0	0.00	44.84	531.18

*SECAD 4.301

3670 ENCROACHMENT STATIONS= 400.0 700.0 TYPE= 4 TARGET= 300.000

0.30	3.26	613.66	0.00	613.75	615.49	0.54	1.21	0.03	613.00
300.	37.	446.	37.	29.	94.	29.	7.	5.	612.00
0.13	1.26	4.82	0.93	0.100	0.035	0.100	0.000	610.60	987.85
0.003261	260.	260.	260.	1	0	0	0.00	56.01	558.89

*SECAD 4.600

5.20	0.32	614.78	0.00	616.70	617.15	0.47	0.57	0.03	613.00
500.	32.	420.	31.	21.	92.	3.	8.	5.	615.00
0.13	1.26	5.49	0.98	0.100	0.035	0.100	0.000	611.76	483.66
0.002106	260.	260.	260.	2	0	0	0.00	37.81	523.47

```
   REACH    REPT    DSS     OSS     HSSLR    EG      BW      HL      OLDHS   36W.E.EO
    NO.     QLOB    QCH     PROB    PLOB     ACH     ABOR    VOL     TRA     EFFYE.BAT
    TYPE    VLOB    VCH     VROB    KWL      PCH     XNR     XTN     ELMIN   BSTA
    SLOP    XLOBL   XLOB    XLOBR   TRIAL    TIC     TICINT  COURAN  TOPWID  ENGST

 3470 ENCROACHMENT STATIONS=      500.0     409.7  TYPE=      4  TARGET=       0.051
      SURVEY SECTION 15
      0.00     5.00    45.00     0.50     2.50    417.41     0.21     0.37     0.03    414.90
         5.       0.      35.       0.       0.      99.     215.       3.       3.     51.80
      0.00     0.00    5.00      0.50     0.00     0.035    0.100    0.000   612.30   300.00
   0.000.033     260.    260.      260.       2        0        0     0.00   1179.74   609.73

 3470 ENCROACHMENT STATIONS=      455.8     241.3  TYPE=      4  TARGET=       0.054
      X
      0.00     5.12    51.72     0.00    17.64    417.75     0.03     0.23     0.01    414.80
         5.       0.      45.       1.       3.      13.       0.      75.      631.     15.      6.40.EC
      0.33     0.47    1.68      0.49     2.00     0.035    0.100    0.003   615.35   463.20
   0.000277     430.    430.      430.       2        0        0     0.00   1278.03   741.27

 3470 ENCROACHMENT STATIONS=      430.9     433.7  TYPE=      4  TARGET=       0.060
      SURVEY SECTION 16
      2.00     5.11    62.71     0.00    20.67    417.88     0.04     0.23     0.11    414.70
         3.       4.      31.       1.      90.      42.      58.      5.       1.      73.       5.      40.30
      1.42     1.11    2.62      0.00     0.100    0.050    0.100    0.000   613.40   430.87
   0.000.000     320.    320.      320.       2        0        0     0.00   1184.79   632.06

 3470 ENCROACHMENT STATIONS=      395.8     398.1  TYPE=      4  TARGET=       0.091
      X
      1.10     5.00    40.10     0.00     7.00    418.35     0.27     0.29     0.06    415.90
         5.      13.      37.      13.       6.      54.      42.      23.       8.      61.      6.40.EC
      0.43     1.43    5.02      1.39     3.130    0.030    0.100    0.300   616.20   495.46
   0.000727     150.    150.      150.       2        0        0     0.00   1202.67   748.13
```

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SECNO	PERM	CPSEL	CRIMS	USEUK	EG	AV	HL	OLCAR	RSMC ELEV
0	DLOB	BCH	ORJB	ALOJ	MCH	ARTB	VBL	TSA	EFFTRGHT
TIME	VLOB	UCH	WROB	XMC	XYCH	YMB	YTN	ELMIN	SSTP
SLOPE	XLOBL	XLCH	XLCBR	ITRIAL	ITP	ICONT	CORAR	TOPWID	ENDST

SECNO 5.000

2800 MAT 01= 47.29 WSEL= 618.91 EG 01= 47.29 WSEL= 618.01 RATIO= 0.0000
MAT 01= 5. RATIOS LOB,CH,ROB= 0.0550 0.5440 0.3910 WSEL= 618.01

3470 ENCROACHMENT STATIONS= 497.2 371.5 TYPE= 4 TARGET= 0.090

X									
5.00	1.39	616.00	0.00	615.9	619.63	0.41	1.04	0.00	618.00
5.0	9.	356.	195	5.	46.	90.	23.	8.	617.00
0.13	2.77	5.63	3.18	0.100	0.050	0.000	3.000	615.80	497.24
0.01	138	130.	130.	130.	0	0	0	75.22	575.4

SECNO 6.000

2800 MAT 01= 47.17 WSEL= 620.58 EG 01= 46.7 WSEL= 620.46 RATIO= 0.0000
MAT 31= 5. RATIOS LOB,CH,ROB= 0.0490 0.5903 0.3644 WSEL= 620.63

3470 ENCROACHMENT STATIONS= 496.5 364.8 TYPE= 4 TARGET= 0.082

X									
5.30	3.50	626.61	0.00	623.37	624.13	0.49	1.48	0.31	618.79
5.0	13.	338	170.	6.	48.	29.	24.	5.	618.70
0.14	1.85	3.83	2.14	0.100	0.050	0.100	0.000	617.0	496.31
0.01	140	140.	140.	140.	2	0	0	0.00	70.23	326.77

SECNO 6.500

2800 MAT 01= 47.03 WSEL= 622.20 EG 01= 47.05 WSEL= 622.60 RATIO= 0.0000
MAT 31= 5. RATIOS LOB,CH,ROB= 0.0727 0.6124 0.3079 WSEL= 622.60

3470 ENCROACHMENT STATIONS= 494.5 333.6 TYPE= 4 TARGET= 0.078

X									
4.50	3.30	623.40	0.00	623.50	624.11	0.51	1.47	0.02	621.50
5.0	21.	339.	150.	10	48.	43	25.	5.	621.70
0.14	0.95	6.37	3.32	0.100	0.050	0.100	0.000	619.50	494.71
0.01	130	130.	130.	130.	2	0	0	0.00	61.24	265.53

RECNO	NE S	USE L	UNITS	WEEK	ID	N	HL	DESH	BOOPE
	QLCH	QC4	IRDS	ALDS	AGM	PROE	VOL	TOR	LT/KGT
DIE	VLDS	VGJ	XROI	XRL	XRCH	XYR	WIN	ELAIN	S3T
SLOPE	XLOBL	XLCX	XLOBX	TRYBL	IDC	CCIN	CINRS	TOPDIS	ENDST

RECNO 5 000
DSOO, UP 0.= 30.7; NSEL= 625.03 ENC 01= 50.74 SFL= 625.13 RATIO= 0.0000
UPT 0.= 25. RATIOS LOS:CH:ROR= 0.0942 0.8480 0.0665 XSEL= 625.13

3470 ENCROACHMENT STATIONS= 493.1 539.0 TYPE= 4 TARGET= 0.070
X

6.60	5.27	425.13	0.00	622.05	625.53	0.150	1.32	0.00	622.90	
5.0	4.	32.	12.	0.	54.	66.	25.	9.	622.90	
0.34	2.00	5.62	2.85	0.100	0.080	0.100	0.000	622.90	494.33	
0.010271	140.	140.	140.	2	0	0	0.00	55.87	559.00	

2800 UP 01= 49.41 NSEL= 626.50 ENC 01= 56.31 SFL= 626.48 RATIO= 0.0000
UPT 01= 30. RATIOS LOS:CH:ROR= 0.0880 0.8977 0.2142 XSEL= 626.48

3470 ENCROACHMENT STATIONS= 493.1 539.7 TYPE= 4 TARGET= 0.068
X

6.70	3.89	520.14	0.00	626.56	627.11	0.65	1.41	0.01	622.90	
5.0	32.	95.	9.	13.	53.	43.	26.	9.	62?.90	
0.37	2.18	7.23	2.30	0.100	0.080	0.100	0.000	622.90	491.50	
0.013275	150.	150.	150.	3	0	0	0.00	55.87	559.72	

2800 UP 01= 47.36 NSEL= 627.31 ENC 01= 57.54 SFL= 628.31 RATIO= 0.0000
UPT 01= 25. RATIOS LOS:CH:ROR= 0.1005 0.9270 0.1725 XSEL= 628.31

3470 ENCROACHMENT STATIONS= 491.3 532.9 TYPE= 4 TARGET= 0.063
X

6.00	4.32	622.22	0.00	627.91	628.16	0.64	.64	0.00	625.70	
5.0	37.	396.	77.	17.	53.	47.	26.	9.	625.70	
0.28	3.23	7.19	3.70	0.100	0.080	0.100	0.000	625.20	491.52	
0.011271	130.	130.	130.	2	0	0	0.00	41.41	552.95	

2800 UP 01= 47.36 NSEL= 628.27 ENC 01= 57.36 SFL= 629.03 RATIO= 0.0000
UPT 01= 25. RATIOS LOS:CH:ROR= 0.2661 0.4953 5.2386 XSEL= 629.03

3470 ENCROACHMENT STATIONS= 493.2 539.0 TYPE= 4 TARGET= 0.062
SURVEY SECTION 47

6.00	3.87	499.57	0.00	629.93	630.79	0.23	1.09	0.04	627.10	
5.0	173.	270.	113.	3.	53.	58.	26.	10.	627.10	
2.48	1.95	7.93	1.14	0.00	0.050	0.100	0.000	625.76	473.19	
0.005662	140.	140.	140.	2	0	0	0.00	65.78	538.77	

ID	SECND	DPTH	CHSL	CHTWST	WSEL	EG	HV	AL	QLOSS	BAN	ELEV
	TIME	QLOB	VCH	ORBL	XNL	XNCH	XNR	WTN	ELMIN	LFT/RIGHT	
	SLOPE	XLOBL	XLCH	XLOBR	TRIAL	IDC	ICOR	CHAN	CHMID	ENDST	

SECND 0.000

1470 ENCROACHMENT STATIONS= 405.0 620.0 TYPE= 1 TARGET= 215.000
SURVEY SECTION 69

8.00	3.43	630.75	0.00	630.67	630.77	0.09	0.93	0.02	625.90
510.	254.	69.	183.	243.	43.	225.	30.	31.	628.10
0.02	1.48	2.13	0.00	0.00	0.050	0.100	0.000	457.30	495.00
0.001131	20.	20.	20.	0	0	0.00	215.00	320.00	

SECND 8.000

1470 ENCROACHMENT STATIONS= 420.0 590.0 TYPE= 1 TARGET= 270.000

8.10	3.63	631.13	0.00	631.10	631.35	0.16	0.53	0.02	579.90
510.	154.	225.	131.	89.	38.	98.	3.	12.	627.70
0.02	1.48	2.08	1.57	0.000	0.050	0.100	0.000	228.30	470.00
0.012019	200.	200.	200.	3	0	0	0.00	170.00	390.00

SECND 8.200

1470 ENCROACHMENT STATIONS= 420.0 590.0 TYPE= 1 TARGET= 165.000

8.60	3.25	632.03	0.00	632.04	632.27	0.22	0.37	0.00	630.50
510.	179.	225.	125.	104.	45.	85.	32.	12.	630.40
0.02	1.48	2.08	1.61	0.101	0.045	0.100	0.000	228.30	480.00
0.008398	100.	100.	100.	2	0	0	0.00	165.00	585.00

SECND 8.400

1470 ENCROACHMENT STATIONS= 440.0 595.0 TYPE= 1 TARGET= 135.000

8.70	3.28	632.38	0.00	632.38	632.69	0.31	0.43	0.03	631.20
510.	98.	262.	165.	57.	43.	30.	32.	12.	631.30
0.02	1.48	2.08	1.65	0.100	0.045	0.100	0.000	625.10	440.00
0.009668	50.	50.	50.	2	0	0	0.00	155.00	595.00

CUR= 0.800 DELV= 0.500
SECND 9.200

1470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000
E/B FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

8.20	3.40	632.80	0.00	632.88	632.22	0.34	0.54	0.02	631.60
510.	141.	230.	127.	82.	36.	72.	32.	13.	631.50
0.02	1.78	2.61	1.70	0.080	0.047	0.080	0.000	525.40	400.00
0.010944	30.	30.	30.	2	0	0	0.00	200.00	590.00

SECNO	ITYP	ISPEC	ITEM	ISECK	IS3	HV	HL	DLOSS	BAN	ITER
0	KLOS	XCH	CHVE	KLOE	XSCH	A503	UQI	TCH	SFT/IGH	C
YM-1	VLOE	YCH	VHOB	XNL	XNCH	XNR	ATN	ELMIN	BST	

SLOPE	XLOBL	XLOR	XLOEX	CRIAL	ZYC	ICONT	CORAR	TRPOTD	ENDST

SPECIAL PRISM

SB	XR	XNOR	CSFO	RTOER	ENC	SBF	BAREA	BS	ELCHO	ELCHO
0.00	2.20	3.00	0.30	6.20	0.00	24.80	0.00	629.40	623.40	

RESUME 0.000
RESUME A OTHER FILE

EGPRS	EGLNC	AS	CMEIN	QMR	BARE	TRAPEZOID AREA	ELLC	ELTRO
					25	25.	629.40	629.00

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000
U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

0.50	0.57	638.79	0.00	638.79	638.78	0.00	0.56	0.00	629.00
1510.	114.	330.	137.	330.	134.	262	33.	0	334.00
0.68	0.05	1.72	0.50	0.085	0.082	0.090	2.000	629.40	403.66
0.000228	109.	109.	109.	2	0	0	0.00	196.40	800.00

RESUME 7.600
2800 AT 31. 376.47 YCEL= 638.85 IMC 01= 476.47 HEL= 638.90 RATIO= 0.0000
MANNING = .059. RATIOS LOSS,CH,BOX= 0.2629 0.3157 0.4570 WSEL= 638.50

3470 ENCROACHMENT STATIONS= 371.2 373.8 TYPE= 4 TARGET= 0.014
100' D/S OF 4.0' X 6.2' CONCRETE BOX CULVERT

0.00	0.00	638.30	0.00	638.30	638.61	0.01	0.02	0.00	629.00	
510.	470.	10.	38F.	455	79.	185.	37.	14.	634.60	
0.34	0.29	1.15	0.39	0.100	0.035	0.100	0.000	629.30	376.15	
0.000124	200	200.	190.	2	0	0	0.00	297.69	673.84	

RESUME 10.200
2800 MAT D= 102.99 YSE= 638.28 IMC 01= 462.99 HEL= 638.95 RATIO= 0.0000
MAT 31= .085. RATIOS LOSS,CH,BOX= 0.3584 0.1721 0.4375 WSEL= 638.95

3470 ENCROACHMENT STATIONS= 35..4 716.1 TYPE= 4 TARGET= 0.047
U/S FACE OF 36 THIN CULVERTS

1n.00	0.35	639.05	0.00	639.05	639.08	0.01	0.04	0.00	630.00
510.	157.	34.	200.	236.	31.	603.	46.	12.	634.00
0.9.	0.37	1.13	0.30	0.103	0.035	0.00	0.000	638.80	33. 37
0.000134	120.	240.	600.	0	0	0	0.00	98.61	916.05

```
SECNO   DEPTH   QWSEL   BRIDG   WSEL   EG      HV      HL      QLOSS   BANK ELE
 0      QLOB    QCH     QROB    ALOB   ACH     ARO2    VOL     TWA     KEPT/STOPT
 TINL   VLOB    VCH     VROB    XNL    XNCH    XNR     WTN     ELMIN   SSTA
 SLOPE  XLOBL   XLCH    XLOBR   ITRIAL  IDC     IQCNT   CORAR   TOPWID  ENDST

SECNO 10.300
 3700   BRIDGE STENCL=   331.37   STENCR=   7.6.05
 2800 NAT D1=   428.85  WSEL=   638.85  ENC D1=   428.85  WSEL=   638.95  RATIO=  0.0000
 NAT D1=   455.  RATIOS LOB,CH,ROB=  0.4231  0.1180  0.4630  WSEL=   638.95

3370 NORMAL BRIDGE,NAD= 16.MIN ELTRD=  635.40 MAX ELLC=  636.00

3470 ENCROACHMENT STATIONS=    332.7    7 4.3  TYPE=    4  TARGET=    0.054
      1/4 INSIDE OF D/S FACE OF 36" TWIN CULVERTS
   10.30    6.36   638.86    0.00   638.85   638.86    0.00    0.00    0.00   636.00
    510.     214.     62.     234.     533.     59.     403      46.     17.   636.00
    0.91     0.40    1.05    0.30    0.100    0.025    0.100   0.000   632.50   332.70
 0.000136      1.      1.      1.       0        0        0   -21.37   382.11   714.31

SECNO 10.400
 2800 NAT D1=   429.85  WSEL=   638.85  ENC D1=   429.85  WSEL=   638.95  RATIO=  0.0000
 NAT D1=   456.  RATIOS LOB,CH,ROB=  0.4231  0.1139  0.4630  WSEL=   638.95

3370 NORMAL BRIDGE,NAD= 16 MIN ELTRD=  635.40 MAX ELLC=  636.00

3470 ENCROACHMENT STATIONS=    332.4    715.1  TYPE=    4  TARGET=    0.053
      1/4 INSIDE OF U/S FACE OF 36" TWIN CULVERTS
   10.40    6.36   638.86    0.00   638.85   638.86    0.00    0.00    0.00   636.00
    510.     214.     62.     234.     535.     59.     605.     46.     17.   636.00
    0.93     0.40    1.05    0.39    0.100    0.025    0.100   0.000   632.50   332.39
 0.000155      21.     21.     21.       0        0        0   -24.57   382.71   715.10

SECNO 10.500
 2800 NAT D1=   452.43  WSEL=   638.85  ENC D1=   452.43  WSEL=   638.95  RATIO=  0.0000
 NAT D1=   477.  RATIOS LOB,CH,ROB=  0.4041  0.1538  0.4421  WSEL=   638.95

3470 ENCROACHMENT STATIONS=    332.4    715.1  TYPE=    4  TARGET=    0.051
      U/S FACE OF 36" TWIN CULVERTS
   10.50    6.36   638.86    0.00   638.85   638.86    0.00    0.00    0.00   636.00
    510      203.     84.     223.     536.     83.     606.     46.     17.   636.00
    0.93     0.38    1.03    0.37    0.100    0.040    0.100   0.000   632.50   332.38
 0.000100      1.      1.      1.       0        0        0    0.00   382.73   715.11
```

SECNO	DEPTH	CHSL	CHSS	PSEEK	SO	KQ	HL	CLOSS	RARK ELE
0	3438	QCH	QPCW	ALOAT	ACH	AREA	VOL	TCA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	ANL	XSCH	XNR	WTH	ELMIN	3STA
TYPE	XLOBL	XLCH	XLOBR	ITRIAL	INC	ICONT	CHRAR	TYPWD	ENDST

3800 NAT ID=	116.PC	WSEL=	458.91	EG EL=	464.90	WSFL=	459.01	RATIO=	0.0000
KAT 01:	138	RATIOS LOB,CH,ROB=	0.3045	0.4350	0.259	WSEL=	459.01		

3470 ENCROACHMENT STATIONS= 416.9 863.9 TYPE= 4 TARGET= 0.083

370' L/B OF 36 TWIN CULVERTS

30	1.32	238.32	0.00	458.91	459.05	0.13	2.17	0.00	458.50
10.	163.	245.	118.	114.	52.	119	52.	89.	458.40
0.63	0.09	1.03	0.99	0.00	0.040	0.100	0.000	434.60	416.93
0.0023B6	330.	370.	370.	2	0	0	0.00	166.93	583.86

CHL=	0.200	CHR=	0.200						
SECNO=	1.100								
3800 NAT ID=		WSEL=	459.35	EG EL=	464.83	WSFL=	459.07	RATIO=	0.0000
KAT 01:	5.	RATIOS LOB,CH,ROB=	0.1132	0.5960	0.2927	WSEL=	459.07		

3470 ENCROACHMENT STATIONS= 480.4 593.7 TYPE= 4 TARGET= 0.085

1.10	4.07	639.57	0.00	639.67	640.14	0.37	1.22	0.07	638.30
310.	34.	332.	139.	26.	56.	105.	55.	29.	638.30
0.99	1.53	5.98	1.35	0.100	0.040	0.100	0.000	438.90	480.33
0.003492	310.	380.	400.	2	0	0	0.00	113.24	593.67

SECNO=	1.130								
3800 NAT ID=		WSEL=	641.56	EG EL=	648.12	WSFL=	641.66	RATIO=	0.0000
KAT 01:		RATIOS LOB,CH,ROB=	0.0551	0.5890	0.3559	WSEL=	641.66		

3470 ENCROACHMENT STATIONS= 497.3 608.9 TYPE= 4 TARGET= 0.080

5	1.46	641.66	0.00	641.76	642.03	0.37	1.65	0.00	439.80
310.	34.	327.	128.	4.	54.	130.	26.	21.	638.90
1.01	1.55	6.03	1.37	0.100	0.040	0.100	0.000	437.20	497.52
0.005503	270.	300.	320.	2	0	0	0.00	111.42	608.97

CHL=	0.200	CHR=	0.500						
SECNO=	1.200								
3800 NAT ID=		WSEL=	642.08	EG EL=	648.03	WSFL=	642.18	RATIO=	0.0000
KAT 01:	173	RATIOS LOB,CH,ROB=	0.2481	0.3487	0.4033	WSEL=	642.13		

3470 ENCROACHMENT STATIONS= 475 628.8 TYPE= 4 TARGET= 0.063

```
                U/S FACE OF STRIDGE TO ENCROACHED @ STA 430 FOR CORNER 4 ELEV00=640.2
    1.20      0.77      6.31  17        0.00      642.07    642.22      0.05      0.07      2.10      636.00
     110.      110.      182.      203.      46.      67.      288.      34.      21.      633.30
    1.02      0.81      2.08      0.79      0.100     0.050     0.100     0.000     437.40    439.50
 0.000936       50.       50.       30.        2         0         0      0.00    190.37    629.83

 $ECHO 11,500
 2000 PATCH STENCIL    4.0 34.    0 E/CR=    633.81
 2800 MAT 01=    151.74  WSEL=    642.06  ENC 01=    151.74  USPL=    642.14  RATIO=  0.0000
 NAT 01=    142.  RATIOS LOB-CH-ROB=  0.2774  0.2191  0.5034  WSEL=    642.16

 3170 NUMBER OF TREE WIDTHS=    3  TREE SPACING=    25.00  MAX SIDE=    640.00

 3470 ENCROACHMENT STATIONS=    439.6    630.4  TYPE=    4  TARGET=    0.072
      1' INSIDE OF D/S FACE OF FOOTBRIDGE
     11.30      4.80    642.26      0.00    642.05    642.23      0.03      0.00      0.01    639.30
      516.      130.      186.      264.      48.      364.      56.      21.      638.70
     1.02      0.82      2.62      0.97      0.100     0.033     0.100     0.000     437.40    439.41
 0.000213         1.        1.        1.        2         0         0     -29.03    190.77    630.38

 $ECHO 11,600
 2000 MAT 01=    151.97  WSEL=    642.04  ENC 01=    151.97  WSEL=    642.14  RATIO=  0.0000
 NAT 01=    142.  RATIOS LOB-CH-ROB=  0.2774  0.2190  0.5034  WSEL=    642.16

 3170 NUMBER OF TREE WIDTHS=    3  TREE SPACING=    25.00  MAX SIDE=    640.00

 3470 ENCROACHMENT STATIONS=    439.4    630.4  TYPE=    4  TARGET=    0.072
      1' INSIDE OF D/S FACE OF FOOTBRIDGE
     11.40      4.60    642.20      0.00    642.04    642.23      0.03      0.00      0.00    639.50
      516.      130.      186.      264.      48.      364.      56.      21.      638.70
     1.02      0.75      2.49      0.97      0.100     0.033     0.100     0.000     437.40    439.64
 0.000211         2.        2.        2         3         3         0     -29.03    190.73    630.37

 $ECHO 11,650
 2000 MAT 01=    163.71  WSEL=    642.03  ENC 01=    163.71  WSEL=    642.13  RATIO=  0.0000
 NAT 01=    176.  RATIOS LOB-CH-ROB=  0.3490  0.3472  0.4946  WSEL=    642.13

 3470 ENCROACHMENT STATIONS=    439.6    630.4  TYPE=    4  TARGET=    0.072
      D/S FACE OF FOOTBRIDGE - 30' SETBACK LIST OF TRAILER PARK
     11.50      4.70    642.19      0.00    642.05    642.24      0.05      0.00      0.01    639.50
      516.      130.      186.      264.      130.      47.      264.      56.      21.      638.70
     1.02      0.00      2.77      0.77      0.100     0.040     0.100     0.000     437.40    439.33
 0.000594         1.        1.        1.        0         0         0      0.00    190.91    630.45
```

RECORD	REA	LOSS	BACK	SE	EG	HJ	HL	CLOSS	BANK ELE
TIME	CO.B	CRC	ALOS	ACH	ACOB	VOL	TJA	LEFT	RGHT
SCALE	XLOC	XLOB	ITRIAL	IDS	ICONT	ICRA	TOPWS	ENDST	

SECOND 11,600
SECOND UNIT Q = 79.89 WSEL= 6.212 ENCL= 71.39 WSEL= 612.23 RATIO= 0.0000
UNIT DIS= 79. RATIOS LOSS,CP,FR,OB= 0.1496 0.0401 0.3431 WSELE= 640.22

3470 ENCROACHMENT STATIONS= 462.5 602.4 TYPE= 1 TARGET= 0.085
D/S OF ROUTEDRIDGE

11.60	5.30	642.24	0.00	640.73	642.54	0.30	0.19	0.13	640.05
116.	53.	302.	151.	33.	91.	117.	57.	22.	640.00
1.02	2.42	5.54	1.29	0.060	0.340	0.100	0.000	639.00	487.50
0.004667	100.	100.	100.	2	0	0	0.00	114.62	402.12

SECOND 11,200

3470 ENCROACHMENT STATIONS= 460.0 535.0 TYPE= 1 TARGET= 95.000
D/S FACE OF BRIDGE @ TRAILER PARK

12.00	7.00	643.20	0.30	642.11	643.19	0.22	0.94	0.00	641.50
510.	47.	307.	136.	42.	27.	50.	38.	25.	640.30
1.04	1.10	5.27	1.73	0.100	0.040	0.100	0.000	639.20	460.00
0.001552	200.	200.	200.	3	0	0	0.00	95.00	535.00

CRITICAL DEPTH

SB	XK	YNOW	CORR	WSELE	DCC	SNP	AREA	QS	ELCH	ELCHO
	0.00	1.86	3.00	95.00	5.00	0.00	37.00	0.93	639.20	639.20

SECOND 11,000
PRESSURE AND MOM FLUX

SSPRS	SSLND	HS	QWEIR	OPS	BAREA	TRAPEZOID AREA	ELLC	ELTRD
640.00	642.83	0.30	22.	38.	37.	3.	642.80	641.00

3470 ENCROACHMENT STATIONS= 460.0 535.0 TYPE= 1 TARGET= 95.000
D/S FACE OF BRIDGE @ TRAILER PARK

2.30	5.43	644.31	0.00	644.04	644.37	0.17	1.53	0.00	641.00
510.	65.	316.	12.	55.	82.	99.	58.	22.	640.00
1.04	0.29	4.20	1.13	0.300	0.040	0.100	0.000	639.20	460.00
0.001690	19.	19.	19.	2	0	4	0.00	95.00	535.00

SECNO	DEPTH	QSEC	CRWD	WSEL	EG	HV	SL	CLOSS	JRNK	ELEV
TYPE	VLOB	VCH	VROB	XRL	ENGR	PWR	WTR	ELMIN		ESTA
SLOPE	XLOB	XCH	XROB	TRIAL	FRO	FCHNT	MESWSW	TIMWTR		ENDST

*SECNO 12.900

SEC ENCROACHMENT STATIONS= 229.0 POC 0 TYPE= 1 TARGET= 472.000

12.90	3.99	649.19	649.05	649.18	649.80	0.61	0.72	0.21	649.30
510.	66.	379.	63.	83.	53.	63.	59.	23.	649.50
1.00	1.25	7.31	1.50	0.200	0.010	0.100	0.000	641.40	407.97
0.006923	220.	220.	220.	3	19	0	0.00	123.28	592.66

CONV= 0.100 DIV= 0.300
*SECNO 12.900

SEC NO	OPTN CODE	ISSEC CODE	PRINT CODE	USER SPEC	30	40	41	INCLUDE THE	BANK LOSS
TIDE	VLOB	VCH	VRCH	KNL	XNCH	XNR	WTH	EDITH	EXPO
SLOPE	XLOBL	XLCH	XLOBR	ITRIBC	ZCL	ICORAR	TOPWID	ENDST	

BRIDGE

SS	SK	XNOR	CO=D	RDLEN	BWC	DWP	BAREA	SE	ELCPR	ELTRD
	0.00	2.05	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

SECNO 5.200

5301 NUM CHANGED MORE THAN .0100

PRESSURE AND WEIR FLOW

LOBAR	CHAN	HR	QWEIR	QFR	BAREA	TRAPEZOID AREA	ELC	ELTRD
851.82	850.50	1.00	485.	31.	7.	7.	648.20	647.40

5470 ENCROACHMENT STATIONS= 447.0 567.0 TYPE= TARGET= 80.00%
U/S FACE OF 3-36" CULVERTS

12.20	5.25	350.05	0.00	350.85	851.99	0.45	0.45	3.00	647.50
810.	136.	254.	1.0.	89.	56	78.	31.	24.	647.50
.108	1.32	4.02	1.42	0.080	0.040	0.090	0.000	646.50	467.00
0.000705	24.	24.	24.	2	0	0	0.00	80.00	647.00

SECNO 15.500

2800 NAT Q1= 86.90 WSEL= 651.29 END Q1= 86.90 WSEL= 651.37 RATIO= 0.0000
NAT Q1= 94. RATIOS LOB,CH,ROB= 0.2466 0.4911 0.1393 WSEL= 651.39

5470 ENCROACH BNT STATIONS= 520.0 541.3 TYPE= 4 TARGET= 0.077
SOUTH U/S OF 3-36" CULVERTS

15.50	4.00	221.29	0.00	151.29	851.31	0.33	0.33	0.09	649.00
516	109	239.	62.	99.	61	46.	62.	25.	649.00
1.09	1.11	3.38	1.34	0.100	0.040	0.100	0.000	546.60	670.41
0.000344	200.	200.	200.	2	0	0	0.00	130.84	5.33

CENW= 0.100 CENH= 0.300

SECNO 15.000

2000 NAT Q1= 80.92 WSEL= 652.40 END Q1= 80.92 WSEL= 652.50 RATIO= 0.0000
NAT Q1= 94. RATIOS LOB,CH,ROB= 0.4747 0.4770 0.0493 WSEL= 652.50

5470 ENCROACHMENT STATIONS= 541.3 561.0 TYPE= 4 TARGET= 0.093

110' d/s of

CHOCOLAY TOWNSHIP CORPORATE BOUNDARY

14.00	[illegible]	652.5[illegible]	0.00	652.40	652.73	0.22	1.10	0.31	650.80
310.	2[illegible]1.	265.	1.	20[illegible]	53.	1.	63.	25.	350.70
[illegible]	[illegible]	[illegible]	[illegible]	0.00	0.040	[illegible]	0.000	648.10	[illegible]
0.003971	280.	280.	280.	2	0	0	0.00	153.72	515.20

THESIS RUN EXECUTED 3-FEB-83 0:58:10

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CODE = 01,02,03,04,05,06

EXECUTION ON PRIME 750 AT 2:37:15

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES CHANGE IN SUMMARY OF ERRORS TEST

BULL CREEK 100 YR
SUMMARY PRINTOUT TABLE 110

STA	OPER	LEFT	CHAN	RIGHT	Q	CWSEL	CRITW	EG	IFLOD	VCH	AREA	VEL
1.200	1.00	0.00	0.00	601.40	510.00	607.50	0.00	607.88	23.26	5.16	145.82	103.90
1.200	0.00	0.00	0.00	601.20	510.00	607.50	0.00	607.92	26.58	5.36	175.77	98.74
1.200	00.00	0.00	0.70	602.00	510.00	607.77	0.00	608.11	20.69	4.83	151.08	112.12
1.200	00.00	0.00	0.00	602.00	510.00	607.50	0.00	608.11	21.15	4.99	131.06	108.40
1.300	1.00	602.00	602.00	602.40	510.00	607.75	0.00	608.14	108.40	3.36	152.70	48.58
1.300	1.00	602.00	602.10	602.40	510.00	607.77	0.00	608.21	116.8	3.06	170.00	47.13
1.400	5.00	602.00	602.00	602.40	510.00	607.85	0.00	608.30	95.47	5.09	141.59	32.20
1.400	5.00	602.00	602.00	602.40	510.00	607.90	0.00	608.29	90.07	5.25	142.91	29.58
1.500	1.00	0.00	0.00	602.10	510.00	607.90	0.00	608.23	93.43	1.69	162.98	119.79
1.500	1.00	0.00	0.00	602.40	510.00	607.94	0.00	608.30	15.91	1.71	153.77	117.28
1.600	23.00	0.00	0.00	602.40	510.00	607.98	0.00	608.32	25.08	5.68	130.84	95.25
1.600	25.00	0.00	0.00	602.40	510.00	607.94	0.00	608.31	20.10	5.03	102.00	94.51
2.000	58.00	0.00	0.00	603.00	510.00	608.51	0.00	608.69	90.18	4.88	362.05	78.53
2.000	58.00	0.00	0.00	603.20	510.00	608.51	0.00	608.82	45.79	5.04	345.71	75.25
2.100	150.00	0.00	0.00	604.70	510.00	609.91	0.00	609.98	10.18	2.97	466.13	159.68
2.100	150.00	0.00	0.00	604.20	510.00	610.00	0.00	610.09	10.03	2.99	367.79	161.07
2.200	150.00	0.00	0.00	605.80	510.00	610.06	0.00	610.23	32.83	3.94	277.82	105.70
2.200	150.00	0.00	0.00	605.30	510.00	610.07	0.00	610.34	23.18	3.83	242.84	101.43
2.300	150.00	0.00	0.00	606.90	510.00	610.15	0.00	610.74	49.14	3.14	186.80	72.75
2.300	150.00	0.00	0.00	606.50	510.00	610.14	0.00	610.89	47.18	3.18	160.57	71.02
2.100	150.00	0.00	0.00	608.00	510.00	611.17	0.00	611.81	125.20	2.87	114.22	48.58
2.100	150.00	0.00	0.00	608.00	510.00	611.23	0.00	611.90	103.71	2.73	123.21	50.08

SECND	XLOC	ELTRO	ELLC	ELTTM	Q	CUSEL	CRFWR	ES	IOTRS	VCR	AREA	VIX
3.300	90.00	0.00	0.00	608.80	510.00	612.38	0.00	613.32	186.03	7.80	65.35	37.32
3.300	90.00	0.00	0.00	608.80	510.00	612.33	0.00	613.33	199.36	8.00	63.75	36.10
3.300	1.00	619.60	617.60	608.80	510.00	612.39	0.00	613.34	83.09	7.82	64.96	35.95
3.300	1.00	619.60	617.60	608.80	510.00	612.34	0.00	613.34	87.79	8.01	63.66	54.43
3.400	14.00	619.60	617.60	608.80	510.00	612.83	0.00	613.52	57.14	6.65	76.69	67.47
3.400	14.00	619.60	617.60	608.80	510.00	612.85	0.00	613.53	56.17	6.61	77.19	67.97
3.500	1.00	0.00	0.00	608.80	510.00	612.95	0.00	613.50	66.88	6.25	81.61	62.36
3.500	1.00	0.00	0.00	608.80	510.00	612.97	0.00	613.56	65.54	6.20	82.25	63.00
3.600	140.00	0.00	0.00	609.10	510.00	613.82	0.00	613.95	8.14	3.33	313.76	178.80
3.600	140.00	0.00	0.00	609.10	510.00	613.83	0.00	613.96	8.84	3.47	270.40	171.51
3.700	140.00	0.00	0.00	609.40	510.00	613.76	0.00	614.28	40.27	6.38	155.12	80.36
3.700	140.00	0.00	0.00	609.40	510.00	613.77	0.00	614.34	40.09	6.70	114.41	73.12
4.000	140.00	0.00	0.00	609.80	510.00	614.31	0.00	615.05	68.60	7.86	119.84	61.58
4.000	140.00	0.00	0.00	609.80	510.00	614.37	0.00	615.18	71.80	8.10	109.56	60.19
4.300	260.00	0.00	0.00	610.60	510.00	615.75	0.00	616.34	36.83	6.54	121.20	84.03
4.300	260.00	0.00	0.00	610.60	510.00	615.88	0.00	616.45	32.61	6.25	128.77	89.31
4.600	260.00	0.00	0.00	611.80	510.00	616.70	0.00	617.08	21.62	5.13	125.17	109.69
4.600	260.00	0.00	0.00	611.80	510.00	616.74	0.00	617.11	21.06	5.09	126.43	111.43
5.000	260.00	0.00	0.00	612.30	510.00	617.35	0.00	617.45	8.97	3.25	363.31	170.33
5.000	260.00	0.00	0.00	612.30	510.00	617.39	0.00	617.51	10.33	3.28	312.65	158.65
5.500	480.00	0.00	0.00	612.50	510.00	617.64	0.00	617.68	2.69	1.84	862.11	310.80
5.500	480.00	0.00	0.00	612.50	510.00	617.74	0.00	617.74	2.77	1.88	816.94	306.54
6.000	480.00	0.00	0.00	612.80	510.00	617.87	0.00	617.91	11.35	2.55	527.24	151.38
6.000	480.00	0.00	0.00	612.80	510.00	617.91	0.00	617.95	11.65	2.67	433.68	149.21
6.100	130.00	0.00	0.00	614.20	510.00	618.04	0.00	618.23	34.32	4.83	274.40	69.20
6.100	130.00	0.00	0.00	614.20	510.00	618.10	0.00	618.33	37.27	5.09	208.17	67.39
6.200	130.00	0.00	0.00	615.60	510.00	618.91	0.00	619.29	116.28	6.44	187.93	47.25
6.200	130.00	0.00	0.00	615.60	510.00	618.99	0.00	619.43	119.36	6.65	141.23	46.68
6.300	140.00	0.00	0.00	617.10	510.00	620.54	0.00	620.97	122.04	6.69	174.42	46.17
6.300	140.00	0.00	0.00	617.10	510.00	620.64	0.00	621.13	121.08	6.81	133.80	46.35
6.400	130.00	0.00	0.00	618.50	510.00	622.06	0.00	622.47	108.73	6.46	178.33	48.91
6.400	130.00	0.00	0.00	618.50	510.00	622.17	0.00	622.62	108.80	6.59	137.56	48.89
6.500	130.00	0.00	0.00	619.90	510.00	623.50	0.00	623.96	117.47	6.77	164.89	47.05
6.500	130.00	0.00	0.00	619.90	510.00	623.60	0.00	624.11	117.64	6.87	127.31	47.02

6,300	140.00	0.00	0.00	629.40	510.00	632.18	0.00	633.44	101.71	6.82	126.90	50.82
6,700	130.00	0.00	0.00	628.80	510.00	628.85	0.00	626.95	131.29	7.07	138.40	46.31
6,900	140.00	0.00	0.00	628.80	510.00	628.45	0.00	627.11	142.78	7.23	105.94	46.08
6,900	150.00	0.00	0.00	624.20	510.00	627.91	0.00	628.50	114.73	7.03	170.75	42.35
7,000	140.00	0.00	0.00	624.30	510.00	626.02	0.00	623.62	114.99	7.19	175.28	47.81
7,000	40.00	0.00	0.00	625.70	510.00	629.43	0.00	635.67	57.33	4.88	196.78	67.08
7,000	140.00	0.00	0.00	620.70	510.00	629.57	0.00	629.29	106.38	4.98	177.23	61.13
8,000	40.00	0.00	0.00	627.00	510.00	630.47	0.00	630.39	13.25	2.41	498.88	193.12
8,000	130.00	0.00	0.00	627.30	510.00	630.75	0.00	630.77	11.95	2.13	512.73	197.63
8,100	200.00	0.00	0.00	628.20	510.00	631.10	0.00	631.38	130.02	6.03	200.10	64.73
8,100	200.00	0.00	0.00	628.20	510.00	631.13	0.00	630.39	130.19	6.05	199.68	64.52
8,400	100.00	0.00	0.00	631.80	510.00	632.04	0.00	632.37	54.31	5.22	240.16	83.50
8,400	100.00	0.00	0.00	628.80	510.00	632.08	0.00	632.27	65.96	5.27	238.82	82.79
8,700	50.00	0.00	0.00	629.10	510.00	632.38	0.00	632.69	96.09	6.06	200.73	52.03
8,700	50.00	0.00	0.00	629.10	510.00	632.38	0.00	632.69	96.31	6.07	200.53	51.97
9,200	50.00	0.00	0.00	629.40	510.00	632.80	0.00	632.92	105.16	6.64	193.17	48.31
9,200	50.00	0.00	0.00	629.40	510.00	632.78	0.00	633.16	105.16	6.64	193.19	48.31
9,300	100.00	632.40	633.40	629.40	510.00	638.75	0.00	638.78	7.28	75	823.01	328.00
9,300	100.00	632.40	633.40	629.40	510.00	638.75	0.00	638.78	2.20	1.71	823.01	328.00
9,700	200.00	0.00	0.00	629.80	510.00	638.80	0.00	638.81	1.69	1.37	1045.65	416.67
9,700	200.00	0.00	0.00	629.80	510.00	638.70	0.00	638.81	1.24	1.43	1106.50	440.92
10,100	300.00	0.00	0.10	632.50	510.00	639.85	0.00	638.65	1.31	1.10	1333.02	462.99
10,100	300.00	0.00	0.00	630.80	510.00	638.55	0.00	638.86	1.34	1.15	1292.67	449.83
10,300	1.00	633.40	636.00	632.50	510.00	638.35	0.00	638.83	1.11	1.00	1305.29	458.30
10,300	1.00	632.40	636.00	632.50	510.00	638.82	0.00	638.86	1.28	1.05	1276.24	447.77
10,400	21.00	635.40	636.00	632.50	510.00	638.84	0.00	638.85	1.41	0.99	1307.49	459.65
10,400	21.00	633.40	636.00	632.50	510.00	638.84	0.00	638.86	1.35	1.05	1298.31	457.07
10,500	1.00	0.00	0.00	633.30	510.00	638.85	0.00	638.86	1.27	0.99	1332.25	468.45
10,500	1.00	0.00	0.00	633.30	510.00	638.86	0.00	638.86	1.40	1.03	1323.13	465.24
10,600	370.00	0.00	0.00	634.60	510.00	638.91	0.00	639.02	19.03	3.80	397.44	136.90
10,600	370.00	0.00	0.00	634.60	510.00	638.90	0.00	639.05	21.06	4.07	384.57	109.07
11,000	380.00	0.00	0.00	635.30	510.00	639.32	0.00	640.31	54.90	3.87	291.24	68.53
11,000	380.00	0.00	0.00	633.90	510.00	639.97	0.00	640.34	54.92	5.96	183.55	68.69

11,600	300,00	0,00	0,00	637,20	510,00	641,56	0,00	642,03	56,03	8,50	216,59	68,13
11,150	300,00	0,00	0,00	637,20	510,00	641,56	0,00	642,03	56,08	6,03	158,36	60,10
11,200	50,00	0,00	0,00	637,40	510,00	642,03	0,00	642,08	9,80	2,63	502,46	162,58
11,200	50,00	0,00	0,00	637,40	510,00	642,17	0,00	642,22	9,83	2,58	502,46	162,58
11,300	1,00	639,00	640,00	637,40	510,00	642,06	0,00	642,09	14,96	2,48	429,50	131,73
11,300	1,00	639,60	640,00	637,40	510,00	642,20	0,00	642,23	14,97	2,47	431,43	133,47
11,400	1,50	639,60	640,00	637,40	510,00	642,06	0,00	642,09	14,94	2,47	420,00	131,53
11,400	1,00	639,60	640,00	637,40	510,00	642,20	0,00	642,23	14,95	2,47	421,93	133,27
11,600	1,00	0,00	0,00	637,80	510,00	642,05	0,00	642,10	8,45	3,79	599,30	165,72
11,900	1,00	0,00	0,00	638,80	510,00	642,19	0,00	642,24	8,94	3,77	601,20	170,61
11,600	100,00	0,00	0,00	638,00	510,00	643,12	0,00	642,40	50,33	5,49	222,21	71,89
11,600	100,00	0,00	0,00	638,00	510,00	643,26	0,00	642,54	49,67	5,51	15,18	73,10
12,100	250,00	0,00	0,00	639,20	510,00	643,11	0,00	642,39	50,64	5,38	131,74	71,62
12,200	200,00	0,00	0,00	639,20	510,00	643,20	0,00	642,49	45,33	5,27	169,99	75,75
12,300	10,00	644,00	642,60	639,20	510,00	644,65	0,00	644,85	17,19	4,23	230,99	123,02
12,300	10,00	644,00	642,60	639,20	510,00	644,68	0,00	644,87	17,19	4,20	230,87	124,05
12,400	220,00	0,00	0,00	641,20	510,00	645,18	645,05	645,50	39,73	7,24	136,12	38,90
12,400	220,00	0,00	0,00	641,20	510,00	645,19	645,05	645,50	38,63	7,2	148,91	51,11
12,500	220,00	0,00	0,00	643,10	510,00	647,06	0,00	647,53	68,83	6,32	184,02	61,47
12,900	230,00	0,00	0,00	643,10	510,00	647,06	0,00	647,53	67,07	5,02	153,44	50,30
12,900	110,00	0,00	0,00	644,00	510,00	647,84	0,00	648,35	73,30	4,79	63,98	21,69
12,900	110,00	0,00	0,00	644,00	510,00	647,85	0,00	648,35	76,16	6,78	164,41	57,67
* 13,100	110,00	0,00	0,00	645,50	510,00	649,30	649,50	650,06	140,02	8,23	109,02	43,10
* 13,100	110,00	0,00	0,00	645,50	510,00	649,30	649,50	650,06	140,00	2,27	109,78	43,10
13,200	84,00	649,00	648,20	645,50	510,00	650,85	0,00	650,99	15,05	9,02	232,72	116,79
13,200	84,00	649,00	648,20	645,50	510,00	650,85	0,00	650,99	15,07	4,00	230,72	116,74
13,300	200,00	0,00	0,00	646,40	510,00	651,29	0,00	651,56	34,66	5,25	275,42	88,60
13,300	200,00	0,00	0,00	646,60	510,00	651,27	0,00	651,61	33,47	5,28	205,60	0,47
14,000	280,00	0,00	0,00	650,10	510,00	653,40	0,00	653,61	39,55	2,00	291,82	80,93
14,000	280,00	0,00	0,00	648,10	510,00	653,51	0,00	653,73	39,71	5,1	254,47	80,84

SILVER CREEK 100 YR

SUMMARY PRINTOUT TABLE 100

SECNO	Q	C.BEL	DIFWSP	DIFWSX	DIFKWS	OPNTD	XLCA
1.100	510.00	607.50	0.00	0.00	0.00	123.73	0.00
1.100	510.00	607.50	0.00	0.00	0.00	45.39	0.00
1.200	510.00	607.77	0.00	0.27	0.00	86.25	100.00
1.200	510.00	607.80	0.03	0.30	0.03	40.27	100.00
1.300	510.00	607.75	0.00	-0.02	0.00	88.63	1.00
1.300	510.00	607.77	0.02	-0.03	0.02	48.90	1.00
1.400	510.00	607.85	0.00	0.10	0.00	82.89	5.00
1.400	510.00	607.90	0.05	0.13	0.05	31.99	5.00
1.500	510.00	607.93	0.00	0.05	0.00	90.40	1.00
1.500	510.00	607.97	0.07	0.07	0.07	44.88	1.00
1.600	510.00	607.88	0.00	-0.02	0.00	68.32	25.00
1.600	510.00	607.94	0.06	-0.03	0.06	28.23	25.00
2.000	510.00	609.51	0.00	1.63	0.00	184.50	330.00
2.000	510.00	609.61	0.11	1.68	0.11	93.66	330.00
2.100	510.00	609.91	0.00	0.40	0.00	215.50	150.00
2.100	510.00	610.02	0.11	0.41	0.11	108.94	150.00
2.200	510.00	610.06	0.00	0.15	0.00	146.11	150.00
2.200	510.00	610.19	0.12	0.16	0.12	73.47	150.00
2.300	510.00	610.43	0.00	0.39	0.00	107.68	150.00
2.300	510.00	610.56	0.13	0.39	0.13	63.92	150.00
3.100	510.00	611.17	0.00	0.72	0.00	70.00	130.00
3.100	510.00	611.29	0.12	0.71	0.12	70.00	130.00
3.200	510.00	612.38	0.00	1.21	0.00	25.95	90.00
3.200	510.00	612.33	-0.05	1.04	-0.05	25.74	90.00
3.300	510.00	612.39	0.00	0.01	0.00	25.99	1.00
3.300	510.00	612.34	-0.04	0.01	-0.04	23.82	1.00
3.400	510.00	612.83	0.00	0.45	0.00	30.09	14.00
3.400	510.00	612.83	0.02	0.51	0.02	30.21	14.00
3.500	510.00	612.95	0.00	0.11	0.00	30.93	1.00
3.500	510.00	612.97	0.02	0.11	0.02	31.07	1.00
3.600	510.00	613.83	0.00	0.89	0.00	103.87	140.00
3.600	510.00	613.83	0.00	0.87	0.00	69.26	140.00

BLCNO	P	CWSEL	DIFWSP	DIFWSX	DIFWWS	TOPWID	YLCH
3.700	510.00	613.76	0.00	-0.08	0.00	96.30	140.00
3.700	510.00	613.72	-0.03	-0.11	-0.03	48.25	140.00
4.000	510.00	614.31	0.00	0.56	0.00	56.06	140.00
4.000	510.00	614.37	0.05	0.65	0.05	44.84	140.00
4.300	510.00	615.75	0.00	1.44	0.00	54.29	260.00
4.300	510.00	615.88	0.13	1.51	0.13	56.01	260.00
4.600	510.00	616.70	0.00	0.93	0.00	37.66	260.00
4.600	510.00	616.74	0.03	0.85	0.03	37.31	260.00
5.000	510.00	617.62	0.00	0.65	0.00	164.08	260.00
5.000	510.00	617.39	0.05	0.66	0.05	109.74	260.00
5.500	510.00	617.66	0.00	0.33	0.00	319.52	480.00
5.500	510.00	617.72	0.07	0.33	0.07	278.07	480.00
6.000	510.00	617.87	0.00	0.2	0.00	278.28	480.00
6.000	510.00	617.94	0.07	0.22	0.07	154.77	480.00
6.100	510.00	618.04	0.00	0.17	0.00	221.63	130.00
6.100	510.00	618.10	0.06	0.16	0.06	102.67	130.00
6.200	510.00	618.91	0.00	0.87	0.00	165.45	130.00
6.200	510.00	618.99	0.08	0.89	0.08	75.22	130.00
6.300	510.00	620.56	0.00	1.63	0.00	154.26	140.00
6.300	510.00	620.64	0.1	1.65	0.11	70.23	140.00
6.400	510.00	622.06	0.00	1.52	0.00	147.48	130.00
6.400	510.00	622.17	0.10	1.53	0.10	68.52	130.00
6.500	510.00	623.50	0.00	1.43	0.00	132.13	130.00
6.500	510.00	623.60	0.10	1.43	0.10	61.24	130.00
6.600	510.00	625.03	0.00	1.52	0.00	117.92	140.00
6.600	510.00	625.14	0.11	1.54	0.11	55.67	140.00
6.700	510.00	626.35	0.00	1.35	0.00	93.37	130.00
6.700	510.00	626.49	0.10	1.35	0.10	46.67	130.00
6.800	510.00	627.91	0.00	1.53	0.00	94.99	130.00
6.800	510.00	628.02	0.11	1.54	0.11	41.41	130.00
7.000	510.00	629.43	0.00	1.52	0.00	93.53	140.00
7.000	510.00	629.57	0.13	1.54	0.13	65.73	140.00
8.000	510.00	630.61	0.00	1.23	0.00	215.00	430.00
8.000	510.00	630.75	0.08	1.19	0.08	215.00	430.00

STORD	DWSEL	DEPJBF	TIPWSX	DIFKWS	TOPWTP	XLCH
8,500	510.00	633.05	0.00	0.00	170.00	200.00
8,400	510.00	632.95	+0.01	0.00	170.00	200.00
8,400	510.00	632.95	-0.40	0.00	168.00	100.00
8,400	510.00	632.55	+0.11	-0.01	144.00	100.00
9,700	510.00	632.88	0.00	0.00	155.00	50.00
9,700	510.00	632.88	0.00	0.00	155.00	50.00
9,200	510.00	632.88	0.00	0.00	200.00	50.00
9,200	510.00	632.88	0.00	0.00	200.00	50.00
9,700	510.00	633.00	0.00	0.00	190.00	150.00
9,700	510.00	632.95	0.00	0.00	136.40	100.00
9,700	510.00	633.80	0.00	0.00	476.96	200.00
9,400	510.00	633.80	0.00	0.00	297.69	200.00
10,300	510.00	638.05	0.00	0.00	451.22	340.00
10,300	510.00	638.05	0.00	0.00	382.75	340.00
10,300	510.00	638.85	0.00	0.00	451.22	1.00
10,300	510.00	638.85	0.00	0.00	382.75	1.00
10,600	510.00	638.85	0.00	0.00	451.22	1.00
10,600	510.00	638.84	0.00	0.00	382.75	1.00
10,600	510.00	638.92	0.00	0.04	0.00	350.00
10,600	510.00	638.92	0.00	0.04	0.00	370.00
11,100	510.00	639.87	0.00	0.96	0.00	350.00
11,100	510.00	639.97	0.10	1.05	0.10	380.00
11,150	510.00	641.54	0.00	1.69	0.00	150.00
11,150	510.00	641.64	0.10	1.84	0.10	300.00
11,200	510.00	642.03	0.00	0.47	0.00	342.80	30.00
11,200	510.00	642.17	0.14	0.51	0.14	158.37	30.00
11,300	510.00	642.06	0.00	0.02	0.00	202.45	1.00
11,300	510.00	642.20	0.14	0.03	0.14	190.77	1.00
11,400	510.00	642.06	0.00	0.00	0.00	242.50	1.00
11,400	510.00	642.20	0.14	0.00	0.14	190.73	1.00
11,500	510.00	642.05	0.00	-0.01	0.00	302.55	1.00
11,307	510.00	642.19	0.14	-0.01	0.14	192.91	1.00

SECNO	Z	CWSEL	DIFWSP	DIFWSX	DIFXUS	TOPWID	XLCH
11.600	510.00	642.12	0.00	0.07	0.00	140.00	100.00
11.600	510.00	642.24	0.12	0.03	0.12	144.62	100.00
12.200	510.00	643.11	0.00	0.99	0.00	95.00	200.00
12.200	510.00	643.20	0.09	0.96	0.09	95.00	200.00
12.300	510.00	644.66	0.00	1.55	0.00	95.00	19.00
12.300	510.00	644.68	0.02	1.48	0.02	95.00	19.00
12.400	510.00	645.13	0.00	0.52	0.00	124.85	220.00
12.400	510.00	643.16	0.01	0.51	0.01	125.23	220.00
12.900	510.00	647.06	0.00	1.88	0.00	163.78	220.00
12.900	510.00	647.06	0.00	1.87	0.00	163.48	220.00
12.930	510.00	647.84	0.00	0.79	0.00	122.00	110.00
12.930	510.00	647.85	0.00	0.79	0.00	122.04	110.00
13.100	510.00	649.20	0.00	1.44	0.00	75.76	110.00
13.100	510.00	649.20	0.00	1.45	0.00	75.76	110.00
13.200	510.00	650.85	0.00	1.55	0.00	80.00	24.00
13.200	510.00	650.95	0.00	1.55	0.00	80.00	24.00
13.300	510.00	651.29	0.00	0.44	0.00	268.58	200.00
13.300	510.00	651.29	0.00	0.44	0.00	170.89	200.00
14.000	510.00	652.40	0.00	1.11	0.00	220.37	280.00
14.000	510.00	652.51	0.10	1.22	0.10	153.92	280.00

SUMMARY OF PROCESSING SPECIAL NOTES

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CAUTION  STCNO=   13.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   13.100  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 2  MINIMUM SPECIFIC ENERGY
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FLOODWAY ANALYSIS, 100-YR FLOOD PROFILE # 2

STATION	WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
0	35.	124.	3.	607.8	607.8	0.0
1,200	40.	121.	4.2	607.8	607.8	0.0
1,300	62.	113.	4.5	607.7	607.7	0.0
1,400	52.	121.	4.1	607.9	607.9	0.0
1,500	42.	104.	3.8	608.0	607.9	0.1
1,600	38.	102.	3.9	608.0	607.9	0.1
1,700	24.	91.	3.4	608.5	608.5	0.1
2,100	109.	368.	1.4	610.0	609.9	0.1
2,200	75.	223.	2.3	610.2	610.1	0.1
2,300	44.	161.	3.2	610.6	610.5	0.1
2,400	70.	178.	2.8	611.3	611.2	0.1
2,500	26.	64.	5.8	612.0	612.0	0.0
3,200	22.	64.	2.0	612.4	612.4	0.0
3,400	30.	77.	4.6	612.8	612.8	0.0
3,500	31.	82.	6.2	612.9	612.9	0.0
3,600	43.	270.	1.9	613.8	613.8	0.0
3,700	74.	1103.	0.8	613.8	613.8	0.0
4,000	43.	110.	4.6	614.4	614.3	0.1
4,100	52.	122.	4.0	614.9	614.8	0.1
5,100	33.	126.	4.0	616.7	616.7	0.0
5,200	110.	343.	1.6	617.3	617.3	0.0
5,500	278.	817	1.6	617.8	617.7	0.1
6,000	112	450.	1.2	618.0	617.9	0.1
6,100	103.	205.	2.3	618.1	618.0	0.1
6,200	75.	141.	3.3	618.0	618.9	0.1
6,300	70.	139.	3.6	620.6	620.5	0.1
6,400	69.	138.	3.7	622.2	622.1	0.1
6,500	61.	122.	4.0	623.6	623.5	0.1
7,200	52.	120	4.0	625.1	625.0	0.1
7,300	47.	109.	4.7	626.5	626.4	0.1
7,900	91.	193	2.8	628.0	627.9	0.1
8,000	66.	173.	3.5	629.5	629.4	0.1
8,000	215.	512.	1.0	630.8	630.7	0.1
8,300	170.	304.	2.3	631.1	631.	0.0
8,600	165.	278.	2.4	632.1	632.	0.0
8,700	155.	200.	2.5	632.4	632.4	0.0
9,200	100.	192.	2.6	632.9	632.9	0.0
9,500	93.	633.	0.8	638.9	638.8	0.0
9,600	298.	1100.	0.3	638.8	638.8	0.0
10,700	785.	1042.	0.4	638.8	638.8	0.0
10,800	782.	1192.	0.4	638.8	638.8	0.0
10,900	386.	1198.	0.4	638.9	638.9	0.0

[illegible] DATA SILVER CREEK 100 YR.
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	WATER SURFACE ELEVATION DIFFERENCE
10.000	233.	[illegible]	0.[illegible]	638.[illegible]	638.[illegible]	0.0
10.500	167.	325	[illegible]	630.9	638.9	0.0
11.000	117.	185.	2.7	640.0	639.9	0.1
11.500	11.	188.	2.7	641.7	641.6	0.1
11.[illegible]	118.	47[illegible]	1.1	642.1	642.0	0.1
11.[illegible]	[illegible]	[illegible]	[illegible]	642.2	642.1	0.1
11.[illegible]	[illegible]	[illegible]	[illegible]	642.2	642.1	0.1
11.500	19[illegible]	481.	1.1	642.2	642.1	0.1
11.[illegible]	11[illegible]	194.	2.6	642.2	642.1	0.1
12.200	9[illegible]	190.	2.7	64[illegible]	64[illegible]	0.1
12.300	[illegible]	541.	2.1	64[illegible]	64[illegible]	0.0
12.400	[illegible]	1[illegible]	3.[illegible]	64[illegible]	6[illegible]	0.0
12.[illegible]	[illegible]	[illegible]	2.8	647.1	647.1	0.0
12.950	122.	164.	3.1	647.8	647.[illegible]	0.0
13.100	7[illegible]	110.	4.7	649.3	649.[illegible]	0.0
13.200	[illegible]	23[illegible]	2.[illegible]	650.8	650.[illegible]	0.0
13.500	1[illegible]	20[illegible]	2.5	651.3	651.[illegible]	0.0
14.000	[illegible]	234.	2.[illegible]	652.3	652.4	0.1

00BREAK00

1) COUNTY: Marquette

2) STUDY NAME: Chocolay Twp.

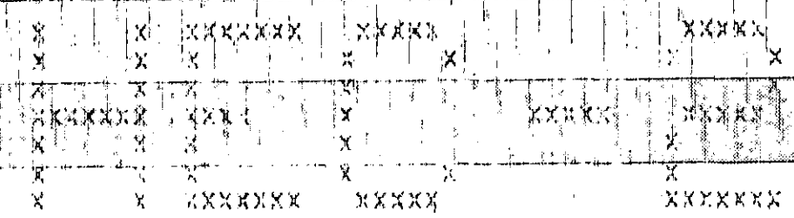
3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: 10, 50, 100, 500 year flood

00BREAK00

LATED SURFACE PROFILES
VERSION [illegible] NOVEMBER 1975
UPDATED [illegible] 1980

U.S. ARMY CORPS OF ENGINEERS
THE HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET, SUITE D
[illegible]



CHOCOLAY RIVER

-10 YR

-50 YR

-100 YR

-500 YR

RECEIVED
FEB 25 1985
WATER MANAGEMENT

THIS RUN EXECUTED 15-FEB-85 09:47:27

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*****************************************************************
#FC2 RELEASE DATED NOV 76 UPDATED MAY  1984
ERROR CORR -  01,02,03,04,05,06
MODIFICATION -  50,51,52,53,54,55
*****************************************************************

T1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1985
T2        J28 T105H CHOCMUTHEC INHEFF3 100 YR FLOOD PROFILE RUN
T3        CHOCOLAY RIVER  STARTING WITH MEAN ANNUAL LAKE LEVEL

J1  IC.ICK    INC      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     PE
      0.       4.       0.       0.  0.000000     0.00      0.0      0.   603.100    0.000

J2  XPROT    IPLOT    PXFVS    YSECV    XSECV    FN       ALLDC    IBW      UNIN     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

    250.000  201.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

CT      4.000  2900.000  4100.000  4600.000  5900.000  4600.000  1950.000     0.000     0.000     0.000
NC      0.050     0.050     0.025     0.010     0.300     0.000     0.000     0.000     0.000     0.000
NH      4.000     0.100  1820.000     0.030  2000.000     0.030  2129.000     0.050  2560.000     0.000
        SURVEY SEC. 01  90' U/S OF MOUTH AT LAKE SUPERIOR
X1      1.000    17.000  2063.200  2109.700     0.000     0.000     0.000     0.000     0.000     0.000
GR    609.500  1590.000  608.400  1820.000   606.000  1890.000   603.000  2000.000   602.700  2038.200
GR    600.800  2047.200  596.900  2061.600   595.600  2050.000   596.500  2087.500   599.200  2101.700
GR    602.200  2105.000  602.700  2109.700   605.100  2129.200   608.400  2157.900   610.900  2197.500
GR    610.000  2320.000  613.000  2560.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.050     0.070     0.030     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
        240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)
X1      2.210     9.000  2000.000  2130.000   590.000   375.000   590.000     0.000     0.000     0.000
GR    607.000  1900.000  605.000  2000.000   602.000  2040.000   595.300  2065.000   602.000  2110.000
GR    605.000  2130.000  610.000  2160.000   615.000  2620.000   620.000  2670.000     0.000     0.000

NC      0.060     0.100     0.026     0.300     0.500     0.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000
        D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)
X1      2.220    31.000  2000.000  2106.000   230.000   250.000   240.000     0.000     0.000     0.000
X2     10.000     0.000     0.000     0.000     0.000     0.000     0.000   614.500   614.700     0.000
GR    614.000  1560.000  611.400  1980.000   611.400  2000.000   611.400  2000.000   611.400  2005.000
GR    607.300  2007.000  602.400  2021.000   600.500  2041.000   593.200  2039.000   596.000  2051.000
GR    596.100  2051.100  597.300  2052.000   597.300  2052.100   595.000  2053.400   592.100  2053.500
GR    599.000  2056.500  599.100  2056.600   599.100  2058.000   599.500  2053.100   599.400  2058.900
GR    599.300  2059.000  599.300  2064.000   595.900  2073.000   600.400  2085.000   602.500  2094.000
GR    [illegible].300  2102.500  611.400  2106.000   611.400  2112.500   613.700  2112.600   614.000  2120.000
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	SURVEY SEC: 06									
X1	8.000	15.000	2000.000	2130.400	900.300	2040.000	1540.000	0.000	0.000	0.000
XR	0.000	0.000	0.000	1800.000	0.000	2100.000	0.000	0.000	0.000	0.000
GR	60.700	1579.300	604.200	2000.000	602.900	2508.800	633.500	2003.100	593.200	2026.400
GR	602.100	2065.700	594.500	2092.300	594.000	2089.200	598.700	2105.100	605.300	2101.500
GR	603.100	2105.100	621.700	2127.500	623.100	2211.000	0.000	0.000	0.000	0.000
XC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC: 07									
X1	17.000	17.000	2000.000	2058.800	463.000	1110.000	1630.000	0.000	0.000	0.000
GR	620.000	1230.000	602.000	1715.000	613.000	1120.300	603.200	1150.300	604.500	1992.300
GR	604.800	2000.000	602.900	2001.800	601.800	2018.400	598.300	2027.500	594.200	2021.200
GR	595.800	2046.300	595.600	2073.300	599.500	2034.100	601.200	2090.000	605.500	2091.800
GR	621.000	2122.700	621.000	2179.200	0.000	0.000	0.000	0.000	0.000	0.000
XC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC: 08									
X1	8.000	18.000	2000.000	2057.100	960.000	1400.000	1920.000	0.000	0.000	0.000
GR	620.000	1670.000	615.000	1705.000	610.000	1730.000	603.000	1650.000	604.200	1936.400
GR	604.500	2050.000	603.300	2002.800	602.900	2010.600	601.200	2010.000	600.900	2026.400
GR	600.500	2052.600	599.100	2078.400	596.400	2059.100	594.800	2072.100	599.000	2071.600
GR	602.900	2078.100	621.200	2111.500	623.200	2135.200	0.000	0.000	0.000	0.000
	SURVEY SEC: 09									
X1	9.000	15.000	2000.000	2046.300	530.000	1490.000	1630.000	0.000	0.000	0.000
GR	637.000	1948.100	605.100	2000.000	602.100	2007.700	593.800	2007.800	592.800	2012.200
GR	594.000	2030.900	599.300	2029.800	603.400	2055.900	603.000	2041.900	602.500	2048.500
GR	605.700	2067.700	604.000	2090.000	610.000	2500.000	615.000	2575.000	620.000	2615.100
XC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC: 010									
X1	10.000	21.000	2034.000	2119.200	170.000	1350.000	1690.000	0.000	0.000	0.000
GR	630.500	2000.000	603.300	2020.500	603.500	2054.000	596.000	2042.500	595.000	2065.100
GR	595.100	2042.200	595.900	2075.000	597.200	2083.800	595.000	2094.300	601.800	2146.200
GR	607.000	2115.000	602.500	2116.100	606.800	2119.300	607.400	2124.500	605.500	2139.300
GR	607.000	2125.900	610.000	2160.700	612.000	2125.000	620.000	2155.900	625.000	2152.000
X1	627.000	2670.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
XC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC: 011									
X1	11.000	21.000	2000.000	2081.700	1380.000	1370.000	1390.000	0.000	0.000	0.000
GR	620.700	1812.600	606.400	2011.400	607.400	2000.000	603.200	2014.700	602.300	2021.500
GR	600.200	2031.100	600.400	2042.300	600.200	2048.400	600.300	2059.100	600.200	2067.800
GR	602.800	2072.200	605.800	2081.700	606.800	2104.300	610.000	2170.000	615.000	2190.000
GR	620.000	2230.000	625.000	2290.000	0.000	0.000	0.000	0.000	0.000	0.000

	30 O'S FROM M-28 BRIDGE									
[illegible]	1[illegible]	1[illegible]	2000.000	2045.000	270.000	260.000	260.000	0.000	0.000	0.000
GR	620.000	1842.000	615.000	1950.000	610.000	1870.000	605.000	1992.000	601.200	2000.000
GR	600.000	2002.000	598.900	2006.100	598.900	2025.000	598.900	2038.900	600.000	2040.000
GR	603.400	2045.000	605.000	2070.000	610.000	2100.000	615.000	2110.000	620.000	2145.000
[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	0.000
[illegible]	[illegible]	[illegible]	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.000
	U/S FACE M-28 BRIDGE									
X1	12.200	27.000	2000.000	2135.100	280.000	470.000	320.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	615.000	0.000
[illegible]	619.000	1950.000	618.300	1950.000	618.300	1950.100	618.300	2000.000	615.000	2002.000
[illegible]	612.200	2002.500	605.000	2027.000	603.200	2028.000	602.900	2028.100	598.500	2038.000
GR	597.300	2046.400	597.300	2044.500	597.200	2046.000	597.300	2046.100	599.700	2060.000
GR	600.700	2076.500	601.200	2089.100	601.200	2089.200	601.300	2090.700	601.300	2090.200
GR	603.300	2099.000	605.100	2102.000	602.700	2116.000	613.000	2132.800	617.900	2135.100
GR	617.900	2185.100	619.000	3875.000	0.000	0.000	0.000	0.000	0.000	0.000
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF M-28 BRIDGE									
X1	12.300	0.000	0.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000
[illegible]	27.000	1115.000	620.000	619.000	1950.000	618.500	618.300	1950.100	620.000	618.300
[illegible]	2000.000	619.800	618.500	2002.000	619.800	415.000	2002.500	619.800	614.900	2027.000
[illegible]	619.700	614.500	2028.000	619.700	614.500	2028.100	619.700	614.500	2038.000	619.600
[illegible]	614.300	2044.400	619.500	614.200	2044.500	619.400	597.300	2046.000	599.100	597.200
[illegible]	2046.100	619.400	614.200	2064.000	619.400	614.100	2076.000	619.400	614.000	2089.100
[illegible]	619.400	614.000	2089.200	619.400	601.200	2090.700	619.400	601.300	2090.800	619.400
[illegible]	614.000	2099.000	619.400	614.000	2102.000	619.400	614.000	2116.000	619.400	615.900
[illegible]	2132.800	619.400	618.800	2135.100	619.400	617.900	2185.100	618.000	617.900	3875.000
[illegible]	620.000	619.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF M-28 BRIDGE									
X1	12.400	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
[illegible]	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
	U/S FACE OF M-20 BRIDGE									
X1	12.300	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
	60' U/S OF M-20 BRIDGE									
X1	12.600	27.000	2000.000	2060.000	340.000	560.000	300.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	1600.000	0.000	2180.000	0.000	0.000	0.000	0.000
[illegible]	650.000	1240.000	615.000	1460.000	610.000	1770.000	605.000	1360.000	605.000	1960.000
GR	605.000	1990.000	603.300	2000.000	600.000	2005.000	597.200	2007.800	597.200	2055.000
GR	597.200	2056.000	600.000	2058.000	603.300	2060.000	603.000	2160.000	610.000	2185.000
GR	615.000	2195.000	620.000	2200.000	0.000	0.000	0.000	0.000	0.000	0.000

	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.100	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SURVEY SEC. #13

	15.000	30.000	2030.000	2042.000	770.000	930.000	1130.000	0.000	0.000	0.000
	615.000	150.000	612.150	1353.000	605.700	2014.300	605.500	2067.000	603.900	2717.600
	600.000	1742.000	607.500	1847.000	609.200	1392.000	609.200	999.000	609.100	2801.500
	602.300	2000.300	605.100	2003.100	604.600	2004.000	603.300	2010.900	599.100	2319.300
	594.600	2022.700	599.100	2030.200	597.700	2037.600	602.800	2055.800	605.200	2059.800
	607.800	2042.000	601.100	2034.200	609.500	2122.000	608.900	2167.000	601.000	2.67.000
	610.000	2280.000	610.000	2280.000	615.000	2900.000	620.000	3190.000	622.000	3190.000

SURVEY SEC. #14

	10.000	30.000	2030.300	2073.100	1170.000	1160.000	1340.000	0.000	0.000	0.000
	615.000	155.000	615.030	600.500	615.000	1150.000	614.200	1670.000	610.700	2605.100
	600.000	1742.100	610.500	1991.500	606.100	2000.000	605.400	2001.000	600.100	2001.150
	604.300	2007.000	605.200	2017.000	599.700	2022.300	597.700	2028.000	599.500	2033.000
	602.100	2038.000	605.600	2071.700	606.600	2078.400	606.800	2125.100	604.500	2148.000
	606.000	2071.000	602.000	1954.200	602.000	2207.600	601.400	2257.000	602.000	2254.600
	609.100	2284.600	601.000	2264.000	600.300	2464.600	601.300	2474.600	603.000	2513.000
	615.000	2822.000	613.600	3120.000	620.000	3320.000	620.000	3220.000	620.000	3220.000
	625.000	3470.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SURVEY SEC. #17

	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	12.000	20.000	2030.000	2042.100	830.300	710.000	1340.000	0.000	0.000	0.000
	0.000	0.000	0.000	1230.000	0.000	2185.000	0.000	0.000	0.000	0.000
	625.000	670.000	625.000	1200.000	615.200	1743.100	615.300	1107.200	612.200	1092.600
	607.100	1913.500	605.400	1939.300	604.700	1959.700	604.600	2000.000	605.100	2010.200
	600.900	2025.200	601.000	2027.300	603.400	2033.600	604.200	2039.400	603.300	2047.800
	605.400	2047.400	607.900	2078.600	614.000	2400.000	620.000	3000.000	620.000	3000.000

	SURVEY SEC. 26									
	13,000	15,000	2000,000	2021,200	600,000	650,000	750,000	0,000	0,000	0,000
NC	616,000	1950,000	612,800	1982,700	608,800	1981,000	640,700	2050,000	607,200	200,600
GR	607,200	2001,700	605,500	2007,600	604,500	2002,700	603,400	2018,200	603,200	2029,900
GR	602,900	2039,000	606,800	2033,800	607,300	2059,300	609,100	2065,900	609,600	2190,300
GR	609,900	2501,300	611,000	2700,000	613,000	3250,000	620,000	4700,000	625,000	5100,000
NC	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 012									
NC	19,000	20,000	2000,000	2019,100	850,000	900,000	1250,000	0,000	0,000	0,000
GR	614,000	1050,000	614,000	2100,000	613,000	1450,000	611,000	1700,000	610,000	1967,000
GR	608,300	2000,000	607,500	2000,200	605,000	2012,500	604,600	2000,500	604,200	2029,700
GR	604,300	2038,700	599,300	2042,700	603,200	2063,500	605,300	2082,200	607,200	2055,000
GR	609,600	2038,100	611,900	2115,500	614,000	2473,000	620,000	3675,000	625,000	4000,000
NC	0,130	0,130	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 020									
NC	20,000	22,000	2000,000	2018,200	730,000	800,000	950,000	0,000	0,000	0,000
GR	611,000	1950,000	612,000	1960,000	613,000	1260,000	610,700	1961,000	610,200	2000,000
GR	607,700	2002,000	604,900	2014,000	602,000	2008,000	603,000	2013,000	604,100	2020,000
GR	602,200	2012,000	606,400	2037,000	605,600	2042,000	606,700	2047,000	608,200	2048,000
GR	609,000	2071,000	609,700	2097,000	610,000	2340,000	612,000	2360,000	614,000	2470,000
GR	616,000	2690,000	618,000	2770,000	620,000	3100,000	625,000	3150,000	0,000	0,000
NC	0,150	0,100	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 021									
NC	21,000	24,000	2000,000	2021,200	1000,000	1090,000	1350,000	0,000	0,000	0,000
GR	620,000	0,000	615,000	600,000	613,000	1100,000	611,000	1050,000	608,500	1319,900
GR	600,200	1872,000	609,700	1958,600	609,400	2000,000	608,500	2001,500	608,100	2002,200
GR	607,700	1964,800	606,700	2012,600	605,700	2017,600	607,000	2020,800	606,100	2029,600
GR	600,000	2032,200	603,900	2057,600	604,100	2040,700	607,100	2050,600	608,500	2121,200
GR	616,300	2102,500	615,000	2170,000	620,000	2710,000	625,000	2800,000	0,000	0,000
NC	0,000	0,150	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 022									
NC	2,000	18,000	2000,000	2015,600	950,000	850,000	790,000	0,000	0,000	0,000
GR	620,000	700,000	615,500	1150,000	613,000	1470,000	610,400	1752,500	608,900	1962,700
GR	608,700	2000,000	608,900	2000,700	608,500	2001,500	607,300	2007,000	606,500	2017,800
GR	604,000	2026,200	604,200	2026,500	606,500	2042,200	607,500	2050,100	608,500	2051,600
GR	611,700	2113,900	620,000	3350,000	625,000	3400,000	0,000	0,000	0,000	0,000
NC	5,000	0,120	2000,000	0,045	2004,000	0,100	2328,900	0,045	2264,900	0,120
GR	3860,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 023									
NC	21,000	23,000	2006,600	2024,200	1640,000	1450,000	1370,000	0,000	0,000	0,000
GR	620,000	440,000	614,000	450,000	613,000	1250,000	610,200	2000,000	609,600	2017,500
GR	603,700	2019,600	607,300	2023,600	607,600	2035,700	607,800	2046,600	606,800	2054,600
GR	607,200	2057,500	607,600	2055,700	609,600	2064,000	605,700	2102,400	609,100	2144,400
GR	609,000	2130,500	609,700	2205,900	607,100	2238,000	605,700	2248,000	608,300	2261,000
GR	614,200	2513,300	615,100	2610,000	617,200	2773,600	620,300	3300,600	625,000	3100,000

DR	0.000	0.000	2000.000	0.000	2050.000	0.000	2111.100	0.000	1200.000	0.000
DR	2000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 32									
XI	30.000	18.000	2000.000	2205.000	1460.000	1480.000	750.000	0.000	0.000	0.000
3+	620.000	450.000	620.000	450.000	413.000	1230.000	610.800	2000.000	505.300	2032.000
DR	2000.000	2025.000	310.200	2035.000	610.800	2079.500	509.600	2111.400	310.300	2135.000
DR	505.000	2025.000	310.200	2208.000	610.300	2264.200	610.200	2213.200	451.400	2220.000
DR	2000.000	2017.000	620.000	2030.000	625.300	2061.000	0.000	0.000	0.000	0.000
XD	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 33									
DR	2000.000	17.000	2000.000	2158.000	1000.000	1000.000	1100.000	0.000	0.000	0.000
DR	620.000	405.000	618.200	1200.000	618.000	1800.000	613.600	1800.000	613.000	2000.000
DR	610.600	2010.000	610.200	2015.000	609.500	2025.000	609.400	2030.300	610.900	2033.000
DR	612.000	2037.000	612.800	2038.000	610.600	2250.000	611.200	2300.000	611.600	2850.000
DR	612.300	3010.000	614.600	3110.000	620.000	3190.000	625.300	3200.000	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

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	FV	HL	OLOSS	BANK STA	
Q	ALOB	DCH	DLOB	ALOB	ACH	AROB	VOL	TWA	LEFT	RIGHT
ITRD	VLOB	VCH	VAOB	AREA	XNCH	PAR	HTI	ELMIN	BSTL	
SLOPE	KLOB	KLCH	XLOBR	FTRIAC	IDC	CCONT	CJCOR	TOPWTH	ENDS	

REA

CHU= 0.010 CE HC= 0.300

1.0 FR LOW FLOW

#SECNO 1.000

3760 CRITICAL DEPTH ASSUMED

UPSTREAM SECTION OF LOW FLOW AT LAKE SUPERIOR

1.00	2.68	603.4	603.44	603.0	603.60	2.42	0.00	0.0	603.7
1000.	10.	4UBE.	3.	2.	367.	2.	0.	3.	602.70
0.00	2.19	12.9	2.10	0.030	0.030	0.050	0.000	59.69	2055.99
0.007430	0.	0.	0.	0	7	0	0.00	89.68	2115.67

SECNO 2.0

3501 HV CHANGES MORE THAN H-TOL

200' D/S ERCH RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)

2.22	11.66	606.74	0.00	0.00	607.24	0.47	1.57	0.02	605.00
4400.	71.	4123.	6.	78.	612.	3.	5.	2.	606.00
0.82	0.21	5.52	0.65	0.050	0.040	0.070	0.000	595.30	1515.77
0.002671	500.	510.	575.	3	0	0	0.00	92E-82	2110.39

CWU= 0.300 CEH= 0.500

CSEC= 2.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.30 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.27	15.70	606.79	0.00	0.00	607.66	0.76	0.23	0.10	611.40
4400.	0.	4600.	0.	0.	635.	0.	13.	3.	611.40
0.83	0.00	6.79	0.00	0.000	0.026	0.000	0.000	595.20	2008.12
0.002137	550	641	256	2	0	0	0.00	94.97	2105.89

SECNO 2.230

3375 NORMAL BRIDGE, XRD= 31 MIN ELTRD= 614.30 MAX CLC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.30 ELREA= 614.70

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        INSIDE OF U/S FACE OF R.R. BRIDGE
    [illegible]   [illegible]   [illegible]   0.00   0.00   607.70   0.85   0.00   0.04   611.40
   4600.   0.   4600.   0.   0.   629.   0.   13.   3.   611.40
    0.04   0.00   7.36   0.00   0.000   0.026   0.000   0.000   595.20   2008.08
 0.002232   1.   1.   1.   2   0   0   -23.28   94.85   2103.06

#SECNO 2.220

3470 NORMAL BRIDGE:NRD= 31 MIN ELTRD= 614.50 MAX ELTC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA= 614.50 ELRFA= 614.70

        1/ INSIDE OF U/S FACE OF R.R. BRIDGE
    2.24   12.72   306.92   0.00   0.00   607.74   0.22   0.04   0.00   611.40
   4600.   0.   4600.   0.   0.   634.   0.   13.   3.   611.40
    0.04   0.00   7.36   0.00   0.000   0.026   0.000   0.000   595.20   2008.08
 0.002185   1.   1.   1.   2   0   0   -5.49   95.02   2103.10

#SECNO 2.230

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA= 614.50 ELRFA= 614.70

        U/S FACE OF RAILROAD BRIDGE
    2.26   11.14   607.05   0.00   0.00   607.77   0.73   0.00   0.03   611.40
   4600.   0.   4600.   0.   0.   670.   0.   12.   3.   611.40
    0.04   0.00   6.86   0.00   0.000   0.026   0.000   0.000   595.20   2007.75
 0.001174   1.   1.   1.   2   0   0   0.00   95.42   2103.17

#SECNO 2.230

3501 HV CHANGED MORE THAN HVINS

        110' U/S OF R.R. BRIDGE
    2.26   13.45   607.75   0.00   0.00   607.97   0.27   0.03   0.15   602.50
   4600.   32.   4275.   293.   53.   1102.   511.   16.   4.   602.50
    0.05   0.69   5.88   0.55   0.060   0.026   0.100   0.000   594.30   1970.91
 0.000214   110.   110.   110.   2   0   0   0.00   286.11   2257.02

DEHV= 0.100 DEHV= 0.300
#SECNO 3.000
        SURVEY SECT 03
    3.00   16.45   607.93   0.00   0.00   608.05   0.12   0.07   0.01   607.30
   4600.   0.   4252.   348.   1.   1454.   691.   29.   6.   603.90
    0.03   0.67   2.93   0.30   0.060   0.035   0.100   0.000   591.50   1996.93
 0.000238   400.   320.   250.   2   0   0   0.00   368.37   2245.11
```

SECTN	CSTTN	COSEL	CROSS	WSELK	EG	SV	WL	DESGN	MARK ELEV
NO.	FLOW	XLOBL	XLOB	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDCH

SECNO 3.000

370 ENCROACHMENT STATIONING SAVED 2160.0 TYPE= 1 TARGET= 530.00
SURVEY SEQ. #1

0.00	18.70	608.20	0.00	0.00	608.35	0.15	0.25	0.01	603.60
4630.	759.	58411	0.	1166.	1136.	0.	79.	13.	617.30
0.17	0.63	3.53	3.17	0.100	0.055	0.000	0.000	596.50	2001.60
0.000392	780.	1000.	280.	2	3	0	0.00	605.75	2138.39

SECNO 5.000

270' D/S FROM GREEN BAY ST. BRIDGE

5.16	14.92	604.58	0.00	0.00	604.50	0.13	0.25	604.01	602.70
500.	101.	321.	83.	250.	197.	125.	99.	16.	570.00
0.23	0.37	3.25	1.43	1.100	0.035	0.035	0.004	795.10	1815.34
0.000256	571.	460.	594.	2	0	0	0.00	223.25	2102.64

~~0.00 0.300 SEHV 0.300~~

~~SECNO 5.300~~

~~405 OVERBANK AREA ASSUMED NON-EFFECTIVE; ELLEA= 614.90 ELREA= 611.20~~

370 ROADWAY BRIDGE; MP= 31 IN ELTRD= 615.20 MAX ELLO= 624.00

2493 OVERBANK AREA ASSUMED NON-EFFECTIVE; ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

5.60	14.74	608.31	0.00	0.00	608.73	0.42	0.00	0.02	614.00
4300.	0.	4300.	0.	0.	384.	0.	107.	20.	610.00
0.33	0.00	5.20	0.00	0.000	0.028	0.000	0.000	591.60	2006.35
0.000941	1.	1.	1.	1	0	0	-33.99	98.85	2105.07

SCALE	DEPTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	HC	CLOSS	[illegible]
Q	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AROB	VOL	TWA	LEFT/RIGHT
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	XNR	HTY	ELMIN	SSTA
SLOPE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CORAR	TOPWID	ENDST

[illegible]

[illegible] NORMAL BRIDGE [illegible] E [illegible] NAX ELLC= 624.00

3490 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1 INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

[illegible]	16.74	[illegible]	0.00	0.00	608.76	0.42	0.02	0.00	614.00
4600.	0.	4600.	0.	0.	386.	0.	110.	20.	610.00
0.25	0.00	5.19	0.00	0.000	0.028	0.000	0.000	591.60	2006.18
0.000937	26	26.	26.	0	0	0	-34.05	98.89	2105.08

[illegible]SECNO 5.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 E RFA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.78	608.38	0.00	0.00	608.77	0.38	0.00	0.01	614.00
4600.	0	4600.	0	0.	925.	0.	110.	20.	610.00
0.25	0.00	4.97	0.00	0.000	0.028	0.000	0.000	591.60	2006.08
0.000517	1.	1.	1.	2	0	0	0.00	99.03	2105.08

[illegible]SECNO [illegible]

[illegible] ENCROACHMENT STATIONS= 1945.0 2100.0 TYPE= 1 TARGET= 215.000

[illegible] U/S OF GREEN BAY ST. BRIDGE

5.60	16.90	608.80	0.00	0.00	608.38	0.08	0.02	0.09	605.00
[illegible]	24.	4574.	0.	112.	1989.	0.	110.	21.	100000.00
0.24	0.31	2.30	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000071	240.	120.	60.	2	0	0	0.00	215.00	3160.00

CCHV= 0.100 CEHV= 0.300

[illegible]SECNO [illegible]

[illegible] ENCROACHMENT STATIONS= 1600.0 2100.0 TYPE= 1 TARGET= 500.000

SURVEY LOC. #1

6.00	12.94	608.94	0.00	0.00	609.17	0.23	0.23	0.04	604.60
4600	321.	4079.	0.	972.	1001.	0.	192.	31.	100000.00
0.39	4.54	4.03	0.00	0.100	0.029	0.000	0.000	396.00	1607.09
0.00051.	700.	1940.	2060.	2	0	0	0.00	492.91	2100.00

TIME	CLOS	DCH	QRDS	PLDS	QCH	ARCS	VOL	TWA	ELMIN	BSTA
SLOPE	XCOSL	XCOS	XLOSX	ITRTBL	ITC	ICSVT	CCRWF	TMFUID		ERDST

$SECND 2.000
SURVEY SEC. 7

2.00	5.00	60.23V	0.00	0.00	609.89	0.25	0.42	0.01	604.80
4600.	30V.	1228.	3.	376.	1635.	15.	232.	42.	605.80
0.49	0.34	4.14	0.36	0.090	0.328	0.100	0.000	594.20	1777.42
0.000259	1460.	1460.	1110.	2	0	0	0.00	322.08	2099.48

$SECND 6.000
SURVEY SEC. 8

3.00	13.71	610.11	0.00	0.00	610.33	0.37	0.73	0.00	604.50
4600.	1127.	3423.	48.	1122.	804.	50.	332.	60.	602.90
0.65	1.01	4.26	0.66	0.090	0.000	0.100	0.000	594.20	1796.62
0.000259	1460.	1460.	1110.	2	0	0	0.00	322.08	2099.04

$SECND 9.000
SURVEY SEC. 09

9.00	6.00	609.00	0.00	0.00	611.3	0.17	0.29	0.01	607.10
4600.	82.	2506.	1602.	48.	730.	1965.	416.	76.	604.40
0.81	0.60	3.78	0.8.	0.100	0.045	0.100	0.000	594.00	1987.91
0.000420	1550.	1000.	1450.	2	0	0	0.00	376.98	2364.44

$SECND 10.000
SURVEY SEC. 010

10.00	10.11	611.31	0.00	0.00	611.62	0.11	0.19	0.00	605.50
4600.	20.	3431.	1129.	97.	1184.	1903.	318.	76.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2027.17
0.000239	1170.	1540.	1450.	2	0	0	0.00	585.26	2612.44

$SECND 11.000
SURVEY SEC. 11

11.00	11.67	611.07	0.00	0.00	612.17	0.30	0.69	0.06	607.40
4600.	335.	3431.	326.	274.	828.	362.	288.	109.	605.80
1.48	1.02	4.72	0.63	0.060	0.037	0.100	0.000	600.20	1897.23
0.000291	1280.	1330.	1250.	2	0	0	0.00	280.26	2177.48

$SECND 12.100
260.0' D/S FROM F-28 BRIDGE

12.00	12.11	612.07	0.00	0.00	612.34	0.34	0.14	0.01	608.40
6450.	1142.	3110.	457.	306.	561.	334.	397.	111.	608.10
1.07	1.73	5.05	0.28	0.060	0.035	0.100	0.000	596.90	1865.97
0.000241	2740.	2730.	2250.	2	0	0	0.00	234.02	2099.81

STA	DEPTH	CHNNEL	DRIFT	WIDTH	CP	HV	WL	OLDEST	BANK FLOW
	LEFT	RGHT	DEPTH	FLOW	AREA	SLOPE	VOL	TIME	OFF/STORAGE
ID#	VLOCITY	VCH	VAVE	XNL	XNCH	SSQR	VOL	ELMIN	ESTO
	XLEFT	XLOB	XROB	ITRIAL	LOB	LOSS	ERROR	ENDWTR	ENDAT

SECID 13.200

3470 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 618.50 ELREA= 618.00

D/S FACE 4-25 BRIDGE

12.20	15.00	612.25	0.00	0.00	612.52	0.27	0.15	0.00	618.30
1600.	0.	1600.	0.	0.	1067.	0.	607.	112.	617.90
1.1	0.00	4.15	0.00	0.000	0.035	0.000	0.000	597.20	2003.32
0.000312	100.	100.	4.	2	0	0	0.00	126.55	2129.87

SECNO 13.215

3470 NORMAL BRIDGE:NRD 17 MIN ELTRD= 618.00 MAX ELOC= 619.00

3470 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 618.50 ELREA= 618.50

INSIDE OF D/S FACE OF 4-25 BRIDGE

12.30	15.00	612.26	0.00	0.00	612.55	0.29	0.01	0.00	618.30
1600.	0.	1600.	0.	0.	1565.	0.	607.	112.	617.90
1.1	0.00	4.32	0.00	0.000	0.025	0.000	0.000	597.20	2003.32
0.000326		1.	1.	1	0	0	-41.27	126.55	2129.87

SECNO 13.500

3370 NORMAL BRIDGE:NRD 17 MIN ELTRD= 618.00 MAX ELOC= 619.00

3470 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 618.50 ELREA= 618.00

INSIDE OF U/S FACE OF 4-25 BRIDGE

12.40	15.06	612.26	0.00	0.00	612.55	0.29	0.02	0.00	618.30
1600.	0.	1600.	0.	0.	1067.	0.	607.	112.	617.90
1.1	0.00	4.31	0.00	0.000	0.024	0.000	0.000	597.20	2003.32
0.000334	36.	36.	34.	0	0	0	-41.31	126.63	2129.93

SECNO 13.500

SECNO	DEPTH	SUBSEC	CRIMS	TRECN	SG	AV	ML	DCLOSS	2WAY ELEV
C	VLOS	SCH	ARQB	ALOS	SCH	ARQB	VOL	TVA	LEFT/RIGHT
TIME	VLOS	VCH	VRQS	XAL	XLOS	XVR	NTP	ELMIN	ESTR
SLOPE	ACCEL	XCCR	XCLOBR	TTRIAL	DD	ICONT	CDRVR	EFFIC	ENDST

OVERRUN DIST ASSUMED NON-EFFECTIVE ELLEN= 516.50 ELDI= 613.00

H/S	ACC	DT	M-2U	KILOBI					
12.50	13.05	612.29	0.00	0.00	612.54	0.27	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1112.	0.	607.	122.	617.90
1.18	0.00	4.14	0.00	0.000	0.026	0.100	0.000	597.20	1623.52
0.000120	540.	300.	260.	2	0	0	0.00	536.38	2130.00

SSECNO 12.600

12.60	13.32	612.91	0.00	0.00	612.60	0.13	0.00	0.04	603.30
4600.	872.	111.	514.	1527.	852.	260.	625.	135.	203.30
1.18	0.54	3.54	0.56	0.100	0.026	0.100	0.000	597.20	1623.52
0.000120	540.	300.	260.	2	0	0	0.00	536.38	2130.00

SCHD= 0.00 CENO= 0.300

SSECNO 13.000

SURVEY SEC. 215

13.00	13.11	612.81	0.00	0.00	612.54	0.03	0.19	0.01	606.50
4600.	2621.	1992.	59.	3740.	716.	63.	729.	131.	505.90
1.18	0.90	2.63	1.53	0.120	0.040	0.050	0.000	596.20	1621.51
0.000120	1100.	1100.	1100.	2	0	0	0.00	725.24	2078.71

SSECNO 14.000

SURVEY SEC. 347

14.00	14.00	613.06	0.00	0.30	613.38	0.02	0.27	0.00	607.10
4600.	1107.	1191.	2225.	1355.	887.	3257.	885.	152.	608.50
1.75	0.64	3.02	0.58	0.160	0.040	0.100	0.000	576.30	1710.61
0.000133	1340.	1540.	1210.	2	0	0	0.00	732.22	2468.03

SSECNO 15.000

SURVEY SEC. 15

15.00	15.14	613.24	0.00	0.00	613.30	0.06	0.31	0.01	606.60
4600.	1898.	1643.	1056.	2305.	507.	1526.	990.	176.	607.90
1.92	0.96	3.24	0.65	0.120	0.048	0.100	0.000	596.60	1043.39
0.000047	770.	1150.	530.	1	0	0	0.00	1637.46	2610.56

S E	SECNO VLOS	CHSEC DSF	CRIVR CROP	TBELA REDE	EQ ACH	HU eROS	HL VOL	SLOPE TYP	SAND FILES FF/B CH1
	HEDPH	XCTBL	XLOF	WIDBR	TRAL	IDC	TICON1	CHARA	SUM(I)	ENDAT

	2.00	1.92	3.92	0.00	0.00	113.68	0.04	0.35	0.00	406.20
	4200.	387.	1920.	2289.	958.	804.	2789.	1115.	209.	606.20
	2.15	0.40	2.39	0.82	0.123	0.084	0.100	0.000	597.73	1687.93
	0.000229	1170.	1340.	1150.	2	3	0	0.00	812.14	2500.13

*SECNO 17.000

2670 ENCROACHMENT STATIONS= 1890.0 2185.0 TYPE= 1 TARGET= 495.000
SURVEY SEC. 017

	19.00	13.10	611.00	0.00	0.00	611.17	0.25	0.47	0.06	704.20
	4200.	1597.	2453.	955.	850.	497.	703.	1196.	223.	602.20
	2.36	1.02	3.02	1.39	0.100	0.240	0.100	0.000	600.50	1850.30
	0.000126	790.	1870.	710.	2	0	0	0.00	990.50	2185.00

*SECNO 17.500
SURVEY SEC. 018

	15.00	12.30	615.50	0.00	0.00	611.54	0.04	0.32	0.02	509.20
	4200.	1321.	2172.	2258.	198.	686.	2187.	1223.	208.	604.10
	2.36	0.77	3.01	3.63	0.100	0.040	0.100	0.000	602.20	1960.45
	0.000231	600.	750.	650.	2	0	0	0.00	1174.16	3434.61

*SECNO 19.000
SURVEY SEC. 019

	19.00	13.10	614.30	0.00	0.00	611.90	0.10	0.32	0.01	606.50
	4300.	1595.	2254.	241.	2482	661.	920.	1311	259.	610.20
	2.15	0.41	2.56	0.10	0.100	0.100	0.100	0.000	599.20	1000.05
	0.000275	720.	1430.	500.	1	0	0	0.00	1445.72	2525.78

*SECNO 20.000
SURVEY SEC 020

	20.00	13.00	615.40	0.00	0.00	611.20	0.05	0.30	0.00	610.30
	4200.	1721.	2152.	594.	4457.	498.	1979.	1401.	296.	603.30
	2.15	0.51	2.01	0.82	0.107	0.040	0.150	0.000	602.20	957.15
	0.000231	750.	990.	800.	1	0	0	0.00	1828.72	2595.48

SECNO	DEPTH	FROST	DEPTH	FROST	FT	FV	HL	CLOSS	TRANK	FLEX
@	@.DP	DCH	DROP	FLOF	ADM	SADD	HDL	THA	EFT.RIGHT	
SINE	VLEB	VCH	VROF	XNL	XNCM	YNR	HTR	ELMIN	PSTA	
SLOPE	(LIM)	XLCR	XLOER	ITRIAL	ISO	ICONT	CAYAR	TOFWIP	ENDST	

USECNO 22.000
SURVEY SEC. 021

22.00	11.55	615.44	0.00	0.00	615.30	0.04	0.30	0.00	602.46
4300.	2001.	2256.	31.	3119.	1692.	36.	1563.	52.	606.90
2.90	0.39	2.22	0.43	0.150	0.040	0.100	0.000	603.90	341.52
0.000211	1005.	1780.	1030.	2	0	0.	0.00	1555.63	2140.16

USECNO 22.000
SURVEY SEC. 023

23.00	11.71	615.71	0.00	0.00	615.83	0.02	0.28	0.01	609.70
4300.	1966.	1519.	614.	3315.	525.	1535.	1677.	359.	608.90
2.90	0.38	2.24	0.43	0.150	0.040	0.150	0.000	604.20	1665.52
0.000215	930.	940.	883.	2	0	0	0.00	1667.55	2710.83

1490 NM CARD USED
USECNO 23.000
SURVEY SEC. 025

23.00	7.55	616.16	0.00	0.00	616.17	0.01	0.32	0.01	610.23
4300.	2390.	1785.	14.	3353.	1844.	443.	1932.	436.	609.90
2.72	0.36	2.20	0.43	0.130	0.040	0.130	0.000	606.60	1665.52
0.000134	1640.	1670.	1430.	2	0	0	0.00	1990.16	2436.58

USECNO 24.000
SURVEY SEC. 024

24.00	7.63	616.43	0.00	0.00	616.47	0.01	0.26	0.00	610.80
4300.	1464.	1795.	1043.	4034.	1346.	2561.	2226.	478.	610.30
2.74	0.34	2.38	0.40	0.150	0.053	0.170	0.000	608.90	867.28
0.000203	1436.	1750.	1483.	2	0	0	0.00	2054.49	2951.72

USECNO 25.000
SURVEY SEC. 025

25.00	7.51	616.71	0.00	0.00	616.77	0.01	0.28	0.00	613.00
4300.	640.	909.	3120.	1577.	229.	5452.	3799.	243.	613.90
2.72	0.25	2.31	0.37	0.130	0.040	0.150	0.000	609.40	1870.45
0.000284	1600.	1150.	1006.	2	0	0	0.00	2743.73	3141.21

THIS RUN EXECUTED 13-FEB-81 [illegible]

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1980
ERROR CORR - 01,02,03,04,05,06

[illegible]

T1 CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1980
T2 JOB 01027F CHOCMLT,HEC DSNEFHD 10 YR. FLOOD PROFILE RUN
T3 CHOCOLAY RIVER STARTING WITH MEAN ANNUAL LAKE LEVEL

T1	ICHECK	INQ	NINQ	EDIR	STRT	METRIC	HVINS	T	USEL	FN
	0.	2.	0.	0.	0.000000	0.00	0.0	0.	603.100	0.000

T2	NPROF	IPLOT	PRFNO	XSECV	XSECH	FN	ALTDC	TPN	TOMACH	TRACE
	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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     SECNO       DELTA      CHNEL      CRITSS      WSELK       EG          FV          AL          SLOPES     BANK ELEV
                 ELOB       OLOB       ORIFD       VLOB        AREA        AREA#       VCL         THA        FRZVR.CNT
      TIME       VLOB       VCH        AREA        AREL        YNCH        XCR         HTA         SLMAN      SSTA
                 SLOPE      XLOBL      XLOBR       XLCHR       ITRIAL      IDC         XCONT       CONTAR     TOPSTT     EPOST

CCHV=   0.300 CSHV=   0.500
ASECNO 1.000
 SURVEY SEC. 01  70' U/S OF MOUTH AT LAKE SUPERIOR
    0.05        20       602.10        0       602.10      602.21        1.11        0.00        0.00      302.70
   20.00         2       2196.         1.          0.        392.          1.          0.          0.       602.70
    0.03      1.03       8.43         .05        0.030       0.080       0.030       0.000     595.80    2253.56
  0.00637        0.          0.          0.          0.          0.          0.          0.00      0.35     2112.75

ASECNO 2.210
 SOLAY CHANNEL MORE THAN FULL

          240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)
       2.21        9.76      605.05        0.00        0.00      605.44        0.37        1.22        0.01      605.00
       2000.          0.       2000.          0.          0.        521.          0.          0.          1.       600.00
       0.03        0.11        4.90        0.01      0.0001       0.040       0.050       0.000     295.30    1996.82
  0.001321         250.        550.        575.           2           0           0        0.00     133.56    2130.38

CCHV=   0.300 CSHV=   0.500
ASECNO 2.220
 3493 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA=      614.50 ELREA=      614.70

          D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)
       2.22       10.08      605.28        0.00        0.00      605.79        0.30        0.28        0.07      611.40
       2000.          0.       2000.          0.          0.        509.          0.          0.          2.       611.40
       0.01        0.00        5.50        0.00       0.000       0.026       0.000       0.000     295.30    2012.22
  0.000011         250.        300.        350.           2           0           3        0.00      97.98    2100.73

ASECNO 2.230
 3370 NORMAL BRIDGE XRD:  0' MIN EL TOW=  614.50 MIN ELLC=  614.00

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA=      614.50 ELREA=      614.70

          14 INDEX OF D/S FACE OF R.R. BRIDGE
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REACH NAME	PROFILE	DESCRIPTION	CNTRL DIST	USECK FLOW	EG ACH	WS ELEV	HL VEL	CLOSS TOTAL	CONK ENER
	SECNO	XLOBL	XCH	XROB	CHNL	XNCH	CWR	NCH	ELMCH
	2.44	0.00	5.00	0.000	0.00	SUP 81	0.25	0.00	0.00
	1605.	0.	2700.	0.	0.	18.	0.	0	2.
	0.05	0.00	5.84	0.00	0.000	0.026	0.000	0.000	595.30
	0.001718	1.	1.	1.	2	0	0	-18.57	87.87

SECNO 2.340

3490 NORMAL SECTION HAS 21 MID ELEVS= 614.50 MAX ELEV= 614.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 614.50 ELREA= 614.70

	2.25	10.00	200.50	3.30	0.50	498.34	0.54	0.03	0.01
	2100.	0.	2700.	0.	0	491.	0.	10.	2.
	0.03	0.00	5.91	0.00	0.000	0.026	0.000	0.000	595.20
	0.001497	17.	17.	17.	1	0	0	-18.43	88.03

SECNO 2.330

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 614.50 ELREA= 614.70

U/S FACE OF RAILROAD BRIDGE

	2.25	10.00	60.36	0.00	0.00	602.84	0.19	0.03	0.02
	2900.	0.	2900.	0.	0.	514.	3.	10.	2.
	0.04	0.00	5.02	0.00	0.000	0.024	0.000	0.000	594.20
	0.001001	1.	1.	1.	2	0	0	0.00	88.43

SECNO 2.320

U/S OF R.R. BRIDGE

	2.25	11.05	205.05	0.00	0.00	603.00	0.15	0.04	0.10
	2900.	3.	2804.	90.	14.	903.	272.	12.	3.
	0.06	0.43	3.11	0.32	0.060	0.076	0.130	0.000	594.30
	0.000179	110.	111.	100	2	0	0	0.00	254.30

ECHO 0.100 GEHV 0.500

SECNO 3.000

SURVEY SEC. 23

	2.00	1.10	103.95	0.00	0.00	606.07	0.09	0.06	0.01
	3900.	0.	3803.	91.	0.	1170.	282.	21.	4.
	0.06	0.00	2.0	0.32	0.000	0.035	0.100	0.000	592.50
	0.000267	640.	620.	420.	0	0	0	0.00	300.58

STCOD	DEPTH	CHSEL	CRING	CHEEK	SG	HV	NI	CLOSS	BANK ELEV
AMT	BLOB	DCS	DROB	SLOB	ACM	ACOH	USL	TWA	LEFT/RIGHT
SLOPE	XCOSL	XLOS	XLEER	TRIAL	IEC	ISORT	CONAR	TOWID	EXIST

SSECNO 4.000

4.00 FROM STATION= 1630.0 2 50.0 TYPE= 1 TARGET= 550.000

SURVEY TEC

4.00	9.73	604.23	0.00	0.00	604.37	0.14	0.29	0.02	603.60
2300.	492	2700.	0.	495.	868.	0.	52.	10.	617.30
0.40	0.41	2.45	0.00	0.100	0.153	0.000	0.000	591.50	1065.81
1.000000	150.	72.	890.	2	0	0	0.00	473.20	2134.18

SSECNO 5.100

270' D/S FROM GREEN BAY ST. BRIDGE

5.10	12.99	604.59	0.00	0.00	604.51	0.12	0.13	0.00	605.70
2510.	23.	2430.	75.	422.	913.	75.	36.	17.	614.00
0.428	0.49	2.82	1.00	0.200	0.285	0.050	0.000	591.50	1512.25
1.000093	370.	460.	850.	0	0	0	0.00	566.50	2102.77

SSECNO 5.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

D/S FACE OF GREEN BAY ST. BRIDGE

5.20	14.91	606.11	0.00	0.00	605.97	0.24	0.08	0.04	611.00
2909.	0.	2900.	0.	0.	735.	0.	73.	18.	620.00
0.25	0.00	3.44	0.00	0.000	0.053	0.000	0.000	591.50	2011.47
0.000621	460.	260.	470.	2	0	0	0.00	52.50	2103.97

SSECNO 5.300

270 D/S GREEN BRIDGE,ISO= 51 KIN ELTRD= 611.20 YOK BILC= 624.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1' UPSTR OF D/S FACE OF GREEN BAY ST. BRIDGE

5.30	14.80	606.10	0.00	0.00	606.03	0.36	0.00	0.01	611.00
2900.	0.	2500.	0.	0.	708.	0.	93.	18.	620.00
0.25	0.00	4.09	0.00	0.000	0.025	0.000	0.000	591.00	2011.47
0.000680	1.	1.	1.	0	0	0	-26.38	92.50	2103.97

SECNO	IPLTB	CURVE	CRITD	USELK	ES	HV	HL	OLOSS	PRINTSW
ELM	PLOB	OCH	DROP	XNL	XNCH	SNR	WTN	ELATA	DEFVRSN
SLOPE	XOBL	XLSW	XLOBW	ITRIAL	ESP	ICONT	CORAR	OPTIN	ENDST

CROSS SECTION

0.0 0.000 RCHDIR=0.0 S.S MC) E.IRD= 621.20 AT EL.C= 624.00

>>>> OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLE= 614.90 ELREA= 611.20

U/S FACE OF BRIDGE OF THIS SECTION

5.00	23.32	496.42	0.00	0.00	608.66	0.25	0.02	0.06	614.00
2900.	0.	2900.	0.	0.	739.	0.	73.	18.	610.00
0.34	0.00	4.09	0.00	0.000	0.028	0.000	0.000	521.60	2011.45
0.000673	26.	26.	26.	0	0	0	-27.01	92.54	2103.99

CROSS SECTION

>>>> OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLE= 614.90 ELREA= 611.20

D/S FACE OF BRIDGE OF THIS SECTION

5.00	23.85	506.75	0.00	0.00	608.65	0.24	0.03	0.06	614.00
2900.	0.	2900.	0.	0.	739.	0.	74.	18.	610.00
0.27	0.00	3.93	0.00	0.000	0.028	0.000	0.000	521.60	2011.38
0.000692	1.	1.	1.	2	0	0	0.00	92.67	2104.05

SECNO 5.000

>>>> RCH+TACHMENT STATION= 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.00	14.31	406.71	0.00	0.00	606.76	0.07	0.01	0.06	605.00
2900.	0.	2900.	0.	33.	1055.	0.	77.	19.	100000.00
0.27	0.13	1.74	0.00	0.100	0.028	0.000	0.300	521.60	1967.64
0.000653	240	120.	40.	2	0	0	0.00	93.36	2150.00

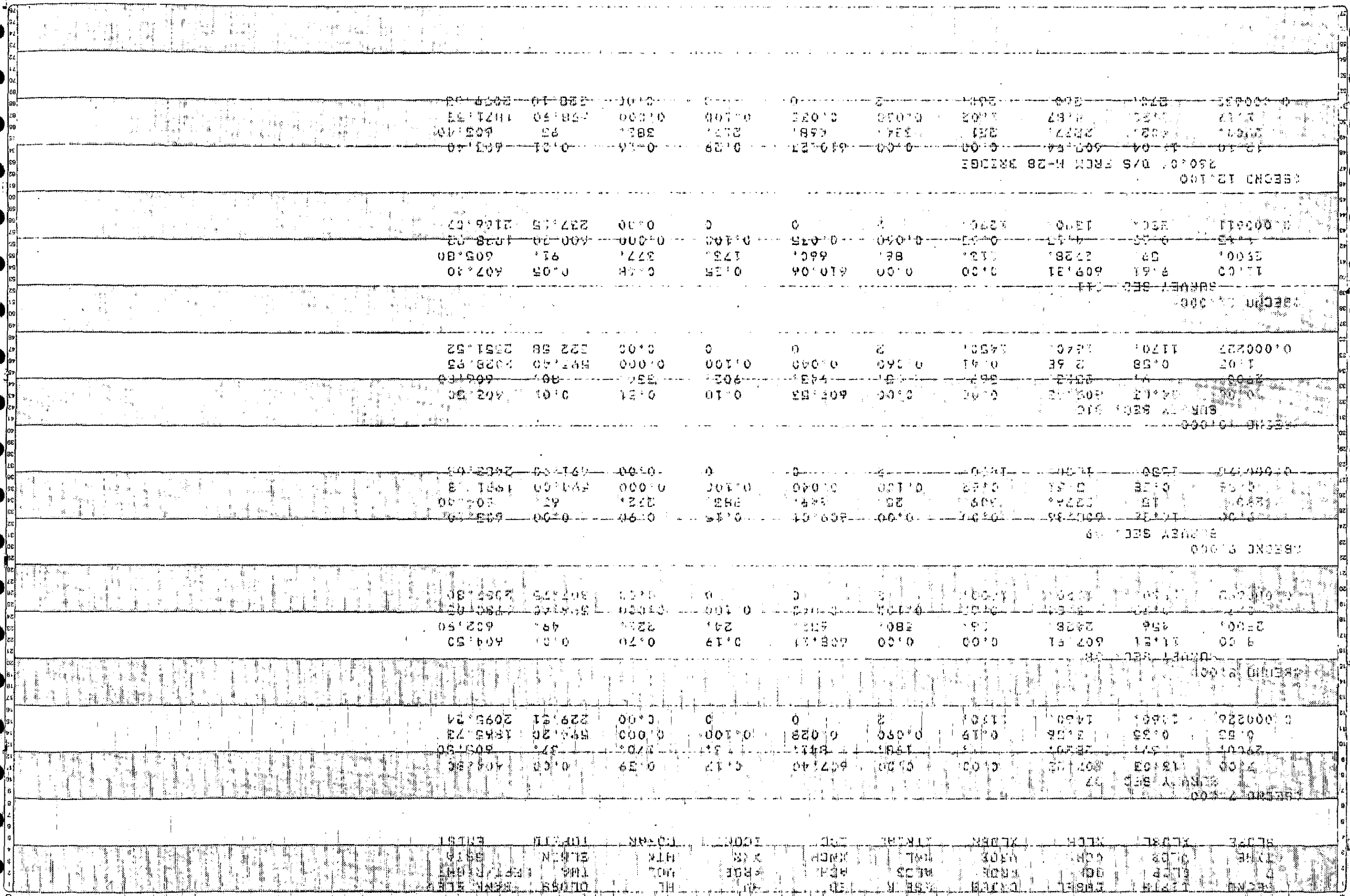
CCHV= 0.100 CEHV= 0.300

SECNO 4.000

>>>> ENCRO+CHMENT STATIONS= 1600.0 2131.3 TYPE= 1 TARGET= 500.000

SCRUB SEC 4.5

6.00	10.82	606.82	0.00	0.00	607.01	0.19	0.21	0.04	604.50
2900.	103.	2797.	0.	302.	788.	0.	134.	27.	100000.00
0.47	1.51	3.33	0.00	0.100	0.025	0.000	0.000	493.00	1746.47
0.000778	200.	240.	200.	2	0	0	0.00	356.55	2100.00



SECNO / B / SLOPE	DEPTH / ELTR / XLOBL	CHNSL / TP / VEH / XLCH	CR WP / MANN / XMOR / XLOER	WSEL / ALOB / XNL / ITRIAL	ES / ACH / XNCH / SOC	HV / AMOR / XNR / ICONT	BL / VOL / WTF / CONVR	CLOSE / TIA / ELMIN / CPTIO	HARD ELEV / LEFT / RGT / SETO / ENDST
CCHV= 0.300 CEHV= 0.500									
ELRR= 11.00									
3495 BUENA PR AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELTRA= 619.00									
N/S FACE H-2B BRIDGE									
12.30	13.03	610.21	0.00	0.00	610.41	0.19	0.01	0.00	618.50
2900.	0.	2900.	0.	0.	832.	0.	390	94.	617.90
1.39	0.00	3.49	0.00	0.000	0.026	0.000	0.000	597.20	2009.91
0.000406	80	326	170	0	0	0	-34.57	112.07	2121.98
*SECNO 12.400									
3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00									
3495 BUENA AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.50									
1' INSIDE OF U/S FACE OF H-2B BRIDGE									
12.40	13.03	610.22	0.00	0.00	610.43	0.19	0.01	0.00	618.50
2900.	0.	2900.	0.	0.	832.	0.	390	94.	617.90
1.39	0.00	3.49	0.00	0.000	0.026	0.000	0.000	597.20	2009.89
0.000406	80.	326.	34.	0	0	0	-34.57	112.11	2122.00
*SECNO 12.500									

STA	LEFT	CHSEL	CROSS	TOP	ED	LB	HL	OLOSS	BANK ELEV
Q	DLOB	YCH	XRC	ELCB	ACH	XRHB	YCU	TW	EFT/RIGHT
DTIME	BLOB	YCU	YROB	XHL	XHS	XSRI	DTA	ELMIN	SETO
SLOPE	XLOBL	XLCR	XLOBR	STRTAL	IPS	CCONT	UCHAR	MUFILT	EXOST

.WSEL OVERBANK AREA ASSUMED NON-EFFECTIVE: ELLEA= 618.50 ELREA= 613.00

U/S FACE OF H-20 BRIDGE

12.50	13.06	610.26	0.00	0.00	610.43	0.17	0.00	0.00	618.30
2900.	0.	2900.	0.	0.	869.	0.	390.	94.	617.90
1.00	0.00	7.35	0.00	0.000	0.006	0.000	0.000	397.20	2000.00
0.000033	0.	1.	1.	2	0	0	0.10	512.28	2182.00

.BSECNO 12.600

.WSEL SPECIFIED:UNKNOWN STATION= 1200.0 FLOW= 1. TYPE= 1 TARGET= 1804.600

D/S FACE OF H-20 BRIDGE

12.50	13.38	610.50	0.02	0.00	610.58	0.10	0.04	0.02	606.30
2700.	97.	2163.	351.	973.	704.	493.	402.	96.	605.30
1.25	0.42	2.87	0.48	0.100	0.026	0.100	0.000	397.20	1763.40
0.000097	340.	300.	260.	2	0	0	0.00	416.60	2180.00

.WSEL= 0.100 CEAV= 0.350

.BSECNO 13.000

SURVEY SEC: 313

13.00	13.92	610.63	0.00	0.00	610.69	0.06	0.19	0.00	606.90
2900.	1240.	1129.	24.	3339.	589.	20.	474.	41.	605.90
1.65	0.57	2.58	0.86	0.100	0.040	0.050	0.000	596.20	1538.10
0.000259	1100.	1400.	1100.	2	0	0	0.00	712.90	2670.99

.BSECNO 14.000

SURVEY SEC: 314

14.00	14.83	610.93	0.00	0.00	610.93	0.00	0.23	0.00	607.10
2900.	672.	803.	134.	1293.	484.	2370.	335.	923.	608.50
1.67	0.55	1.31	0.28	0.100	0.040	0.100	0.000	596.50	1743.21
0.000157	1300.	1540.	1210.	2	0	0	0.00	718.13	2660.34

.BSECNO 15.000

SURVEY SEC: 315

15.00	15.52	611.12	0.00	0.00	611.23	0.10	0.25	0.03	606.60
2900.	1102.	1462.	316.	1368.	418.	530.	650.	147.	607.80
1.99	0.81	3.54	0.53	0.100	0.045	0.100	0.000	596.60	1412.78
0.000677	770.	1450.	930.	0	0	0	0.00	793.20	2417.98

RECRD TIME SLOPE	DEP R DISP VLOS XLOSL	CURVE ZCR VCH XLCH	CRISP DRCH VIOS XLOSR	SEC S ALGS XNL ITRIA	ED ACH ENCH SHC	AC AROB XNP ICONT	HL VOL HTN COSAR	CLOSS TWA ELMIN TOPSYD	SAFE ELEV EFFXN SST ENDST
RECRD 13.00									
SURVEY SEC. 016									
24.00	3.77	6.07	2.30	0.00	0.13	0.04	0.43	0.13	666.10
2700.	90.	1459.	1231.	338.	840.	1969.	733.	169.	605.60
2.24	0.22	2.18	0.70	0.120	0.045	0.100	0.000	592.70	1692.75
0.000349	2170.	1340.	1150.	2	0	0	0.00	785.91	2478.66
SECRD 14.00									
3470 ENCROACHMENT STATIONS= 1690.0 2585.0 TYPE= 1 TARGET= 485.000									
SURVEY SEC. 017									
25.00	1.54	2.90	0.50	0.30	0.24	0.20	0.80	0.05	666.60
2500.	10.	175.	643.	518.	285.	137.	773.	105.	605.60
1.21	0.22	3.27	0.69	0.100	0.045	0.100	0.000	600.30	893.82
0.000097	980.	1470.	710.	2	0	0	0.00	962.12	2105.06
SECRD 15.00									
SURVEY SEC. 018									
24.00	19.73	317.64	0.00	0.00	512.74	0.10	0.47	0.03	608.70
2700.	72.	1693.	1112.	997.	514.	1907.	722.	190.	609.10
2.43	0.76	3.28	0.60	0.100	0.040	0.103	0.000	602.25	1969.83
0.000328	300.	750.	650.	2	0	0	0.00	1074.58	3044.41
SECRD 17.00									
SURVEY SEC. 019									
15.00	13.93	613.15	0.00	0.00	513.28	0.13	0.51	0.01	608.20
2700.	631.	1209.	119.	1116.	562.	204.	339.	203.	610.60
0.57	0.57	3.45	1.50	0.100	0.060	0.100	0.000	579.30	1644.62
0.000471	850.	1350.	500.	2	0	0	0.00	921.57	2825.96
SECRD 20.00									
SURVEY SEC. 020									
20.00	14.39	413.20	0.00	0.00	513.47	0.07	0.39	0.01	610.20
2700.	736.	1210.	302.	1583.	926.	1259.	893.	224.	608.70
2.32	0.62	3.10	0.43	0.120	0.045	0.130	0.000	602.50	1921.34
0.000117	730.	980.	600.	2	0	0	0.00	1423.80	2447.52

INC	DEPTH CLOSE	CREEP ICH	CREEP PROJ	RESIDUAL	EXCESS PCH	RADIUS ARCS	VOLUME	DEPTH THAL	SPACING FT/RCHT	
SLOPE	CLOSE	XCCS	XCOR	TRIAL	INC	ICCNT	CORAR	OF TO	ERROR	

SECND 21.000
SURVEY SEC 321

22.00	10.00	623.94	0.00	0.00	614.03	0.00	0.35	0.00	609.60	
2700.	1659.	1829.	10.	3154.	842.	41.	984.	258.	608.30	
2.97	0.37	1.93	0.40	0.150	0.040	0.130	0.000	603.80	854.25	
0.000208	1000.	1580.	1030.	2	0	0	0.00	1281.40	2136.12	

SECND 22.000
SURVEY SEC 322

22.00	10.28	614.23	0.00	0.00	614.53	0.03	0.29	0.00	609.70	
2700.	1013.	1433.	255.	2020.	437.	722.	1062.	255.	608.90	
5.07	0.60	3.00	0.75	0.120	0.040	0.130	0.000	606.00	1343.10	
0.000150	930.	1210.	1200.	2	0	0	1.00	1538.52	2690.50	

1490 NR CARD USED
SECND 23.000
SURVEY SEC 323

23.00	7.94	615.74	0.00	0.00	614.74	0.01	0.11	0.01	610.20	
2700.	1211.	1536.	51.	4159.	1437.	257.	1229.	313.	609.50	
5.83	0.82	0.90	0.30	0.120	0.040	0.130	0.000	606.30	1341.77	
0.000157	1660.	1670.	1430.	2	0	0	0.00	1935.29	2564.06	

1490 NR CARD USED
SECND 24.000
SURVEY SEC 324

24.00	6.24	615.04	0.00	0.00	613.03	0.01	1.31	0.00	610.80	
2700.	811.	1337.	602.	2622.	1040.	145.	1427.	409.	610.30	
4.46	0.31	1.31	0.41	0.150	0.040	0.130	0.000	605.80	1038.47	
0.000231	1480.	1750.	1600.	2	0	0	0.00	1740.05	2778.38	

SECND 25.000
SURVEY SEC 325

25.00	9.27	615.37	0.00	0.00	615.38	0.01	0.33	0.00	615.00	
2700.	1200	1584.	2041.	4157.	1716.	3993.	1594.	747.	612.80	
1.82	0.28	2.18	0.32	0.120	0.040	0.130	0.000	609.40	1510.31	
0.000483	600.	1156.	1400.	2	0	0	0.00	1370.80	3121.41	

THIS RUN EXECUTED 13-FEB-85 09:00:35

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55

T1 CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1985
T2 JOB 010572 CHOCOLT,HEC (SHEFF) 50 YR. FLOOD PROFILE RUN
T3 CHOCOLAY TOWN STARTING FROM MEAN ANNUAL ARE ELVFL

J1	[illegible]	INP	NINV	IDIR	NTRT.	NITRT.	NVINS	Q	WSEL	FC
	0	3.	0.	0.	0.000000	0.00	0.0	0.	503.100	0.000

J2	[illegible]	[illegible]	[illegible]	X	[illegible]	[illegible]	FN	FLLDC	[illegible]	[illegible]	[illegible]
	3.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

STAGE	DEPTH	QBEG	QPEAK	WSEL	FR	AU	AO	DLOSS	RAN. FLEX
TIME	VLOB	VCH	VRCH	ALOB	ACH	AROB	VOL	IWA	LEFT/RIGHT
SLOPE	XLOBL	XRCH	XLOBR	ITRIAL	IPO	ICONT	CDRAG	TOPWID	ENDF

*PAGE 3

LCHV= 0.300 CEHV= 0.500

*SECNO 1.000

SURVEY SEC. 01 190' D/S OF SOUTH AT LAKE SUPERIOR

7.00	7.50	608.10	608.13	605.30	605.52	2.21	0.06	0.30	612.70
1.000	12	4027	1	1	348	1	0.	2.	202.70
0.00	1.16	11.52	1.46	0.030	0.030	0.030	0.000	595.60	2021.58
0.00/100	0.	0.	0.	0	0	0	0.00	91.39	2115.98

*SECNO 2.010

STCI REV CHANGED MORE THAN 0.1FT

DAM D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHICOLAY (MAIN CHANNEL)

2.22	10.99	606.29	0.00	0.00	606.74	0.45	1.41	0.02	605.30
0.00	0.	4065	0.	0.	751.	0.	0.	2.	605.00
0.03	0.96	3.46	0.00	0.000	0.030	0.078	0.000	595.20	1915.38
0.00116	799.	652	672.	3	0	3	0.00	92.91	2103.77

CCHV= 0.300 CEHV= 0.500

*SECNO 2.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLE= 614.50 ELREA= 614.70

I/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.22	11.26	606.46	0.00	0.00	607.15	0.69	0.29	0.15	611.40
0.00	0.	4048	0.	0.	616.	0.	12.	2.	611.40
0.03	0.30	3.58	0.00	0.000	0.034	0.089	0.008	595.20	1909.39
0.00119	250	342	950.	2	0	0	0.00	93.91	2103.60

*SECNO 2.230

2270 NORMAL BRIDGE,NRD= 21 CM ELTRD= 614.50 MAX ELLC= 614.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLE= 614.50 ELREA= 614.70

1' INCREASE OF D/S FACE OF R.R. BRIDGE

SECNO	DEPTH	CHNEL	CRIWS	AREA	PER	FO	HCT	OLDSS	BANKELEV
WSEL	QLOB	ROH	QROB	ALOB	WCH	AREA	VOL	TOP	LEFT/RIGHT
	VLOB	VCH	VROB	XNL	XNCH	XAE	HTS	ELMIN	SSTA
	SLOPE	KLOBL	KLCH	KLOBR	ITRIAL	IMC	ICONT	CCMAX	TOPWID	ENIST
	4100.	11.	696.47	0.00	0.00	607.18	0.75	0.00	0.00	611.40
	4100.	0.	2197.	0.	0.	551.	0.	12.	3.	611.40
	0.04	0.00	3.98	0.00	0.000	0.026	0.000	0.000	595.20	2099.55
	0.002030	41.	11.	1.	2	0	0	-22.18	95.30	2102.73

*SECNO 2.210

SBR-WIDTH, BRIDGE WID= 31 MIN ELTRD= 614.00 MAX ELBC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, LEA= 614.70 ELREA= 614.70

(1 SIDE OF U.S FACE OF D.S. BRIDGE

2.21	11.28	604.48	0.00	0.00	597.25	0.74	0.02	0.00	611.40
4100.	0.	2166.	0.	0.	594.	0.	12.	3.	611.40
0.04	0.00	3.90	0.00	0.000	0.026	0.000	0.000	595.20	2099.55
0.002000	17.	17.	17.	1	0	0	-22.29	93.42	2102.80

*SECNO 2.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 614.50 ELREA= 614.70

(1 SIDE OF D/S FACE OF BRIDGE

2.25	11.07	604.57	0.00	0.00	607.04	0.67	0.00	0.00	611.40
4100.	0.	2190.	0.	0.	626.	0.	12.	3.	611.40
0.04	0.00	3.94	0.00	0.000	0.025	0.000	0.000	595.20	2099.07
0.001138	1.	1.	1.	2	0	0	0.00	93.80	2102.37

*SECNO 2.150

(0' S/B OF D.S. BRIDGE

2.36	12.73	607.23	0.00	0.00	597.42	0.10	0.04	0.16	602.50
4100.	21.	3853.	225.	39.	1047.	472.	15.	3.	602.50
0.05	0.03	5.66	0.48	0.060	0.036	0.100	0.000	594.30	1973.51
0.000207	10.	110.	110.	2	0	0	0.00	277.31	2282.61

(CHO= 0.450 BE-0 0.300

*SECNO 2.000

SURVEY SEC. #3

2.40	13.39	607.37	0.00	0.00	597.50	0.65	0.07	0.31	607.30
4100.	0.	3342.	352.	0.	1275.	515.	27.	5.	625.60
0.05	0.00	2.17	0.46	0.070	0.035	0.100	0.000	591.50	1999.32
0.000229	10.	326.	200.	2	0	0	0.00	357.39	2355.76

SECNO	STATION	OUTFL	CNTUR	ROUGH	EB	XL	NC	BRDGE EL	
P	WSEL	QCH	QBR	ALOB	ALCH	PROF	LCE	TWA	LFRT/RGHT
TIME	VCH	VOB	VBR	XML	XNCH	XNR	MTA	ELKOB	ESTA
SLOPE	XLOBL	XLCH	XLOBR	TRIAL	IBR	ICONT	CORAR	TOPWID	ENDST

SECNO 5.000

4.00	11.16	607.66	0.00	0.00	607.81	0.15	0.30	0.01	603.60
4100.	577.	3533.	0.	949.	1061	0.	71.	13.	617.30
0.23	0.00	4.73	0.00	0.000	0.035	0.000	0.000	591.60	2087.73
0.000775	1.	1.	1.	1	0	0	0.00	97.32	2165.05

SECNO 5.100

270' D/S FROM GREEN BAY ST. BRIDGE

4.07	11.40	607.79	0.00	0.00	607.93	0.14	0.19	0.00	603.70
0123.	0.65	3483.	113.	603.	1029.	112.	90.	18.	603.00
0.000330	990.	400.	530.	1	0	0	0.00	296.19	2165.37

~~SECNO 5.200 CENW= 0.300 CENC= 0.300~~

~~1600.0 5.200~~

~~5192 BRIDGE AREA SKEWED NOT EFFECTIVE FLEA= 614.90 ELRFA= 611.20~~

C/S FACE OF GREEN BAY ST. BRIDGE

~~5.20~~	~~16.20~~	~~607.80~~	~~0.00~~	~~0.00~~	~~607.15~~	~~0.35~~	~~0.00~~	~~0.09~~	~~611.00~~
~~4100.~~	~~0.~~	~~3100.~~	~~0.~~	~~0.~~	~~857.~~	~~0.~~	~~99.~~	~~20.~~	~~610.00~~
~~0.23~~	~~0.00~~	~~4.73~~	~~0.00~~	~~0.000~~	~~0.035~~	~~0.000~~	~~0.000~~	~~591.60~~	~~2087.73~~
~~0.000775~~	~~1.00~~	~~550.~~	~~170.~~	~~2~~	~~0~~	~~0~~	~~0.00~~	~~97.32~~	~~2165.05~~

~~SECNO 5.300~~

~~3570 TRIAL BRIDGE:NP= 21 HCH.ELTRD= 615.20 HH4 ELLO= 604.00~~

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE FLEA= 614.90 ELRFA= 611.20

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

5.20	16.19	607.79	0.00	0.00	608.16	0.37	0.00	0.01	610.00
~~4100.~~	~~0.~~	~~4100.~~	~~0.~~	~~0.~~	~~855.~~	~~0.~~	~~97.~~	~~20.~~	~~610.00~~
0.23	0.00	4.91	0.00	0.000	0.028	0.000	0.000	591.60	2087.73
0.000874	1.	1.	1.	1	0	0	-32.00	97.31	2165.05

SLOPE	SLOBL	XSEC4	XLOSX	TOTAL	TOPWT	TOPAR	ENDST
CLOPE	DEPTH	WRSS	ALPHA	KSKW	KPRS	TAB	EMPTY
FLOW	0.00	0.00	0.00	0.00	0.00	VOL	LEFT/RIGHT
0.00	0.00	0.00	0.00	0.00	0.00	TW	ECT4
0.00	1.	1.	1.	2	0	0.00	37.48

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEN4 614.90 ELBE4= 611.20

0.00	0.00	24.	24.	26.	0	0	0.000	0.000	0.00
0.23	0.00	4.90	0.00	0.00	0.000	0.000	3.000	55.60	1007.46
1100.	27.	4.00	0.	0.	836.	0.	99.	20.	0.00
0.00	2.00	107.36	0.00	0.00	0.37	603.13	0.53	0.00	414.03

1 INSIDE 3-1/2 FACE OF SIDEWALL AT, CLOSE

0.00	14.32	405.23	0.00	0.00	0.07	676.29	0.07	0.09	405.00
0.00	0.00	0.00	0.00	0.00	0.	102.	0.	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	831.93	1264.03
0.00	0.00	0.00	0.00	0.00	0	0	0	313.00	2160.00

CEHV= 0.100 CEHV= 0.300

SUBCLIP 4 OBJ

3495 ENCR CHANNEL STATTYPE= 1 TABOBF= 300.000

RADNEXT-SEC 4

0.00	12.36	538.34	0.00	0.00	408.58	0.32	0.24	0.04	405.40
1100.	372.	3729.	0.	754.	942.	0.	173.	30.	10200.00
0.23	0.49	3.24	0.00	3.00	0.028	0.000	0.000	794.06	1448.44
0.00	0.00	0.00	0	2	2045.	0.	0.00	430.36	2130.60

0.00	14.32	405.23	0.00	0.00	0.07	676.29	0.07	0.09	405.00
0.00	0.00	0.00	0.00	0.00	0.	102.	0.	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	831.93	1264.03
0.00	0.00	0.00	0.00	0.00	0	0	0	313.00	2160.00

130' 1/8 OF GREEN BAY ST. BRIDGE

3490 ENCROACHMENT STATIONS= 1940.00 2160.00 1775= ...TANSFER= 215.000

NAS FMC OF SHEET 3ST CST FMC320

0.00	14.70	407.38	0.00	0.00	0.34	401.19	0.03	0.03	405.00
0.	0.	0100.	0.	0.	873.	0.	79.	30.	410.00
0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00
0.00	1.	1.	1.	2	0	0	0.00	37.48	2105.05

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEN4 611.90 ELBE4= 612.20

0.00	0.00	24.	24.	26.	0	0	0.000	0.000	0.00
0.23	0.00	4.90	0.00	0.00	0.022	0.000	3.000	55.60	1007.46
1100.	27.	4.00	0.	0.	836.	0.	99.	20.	0.00
0.00	2.00	107.36	0.00	0.00	0.37	603.13	0.53	0.00	414.03

1 INSIDE 3-1/2 FACE OF SIDEWALL AT, CLOSE

0.00	14.32	405.23	0.00	0.00	0.07	676.29	0.07	0.09	405.00
0.00	0.00	0.00	0.00	0.00	0.	102.	0.	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	831.93	1264.03
0.00	0.00	0.00	0.00	0.00	0	0	0	313.00	2160.00

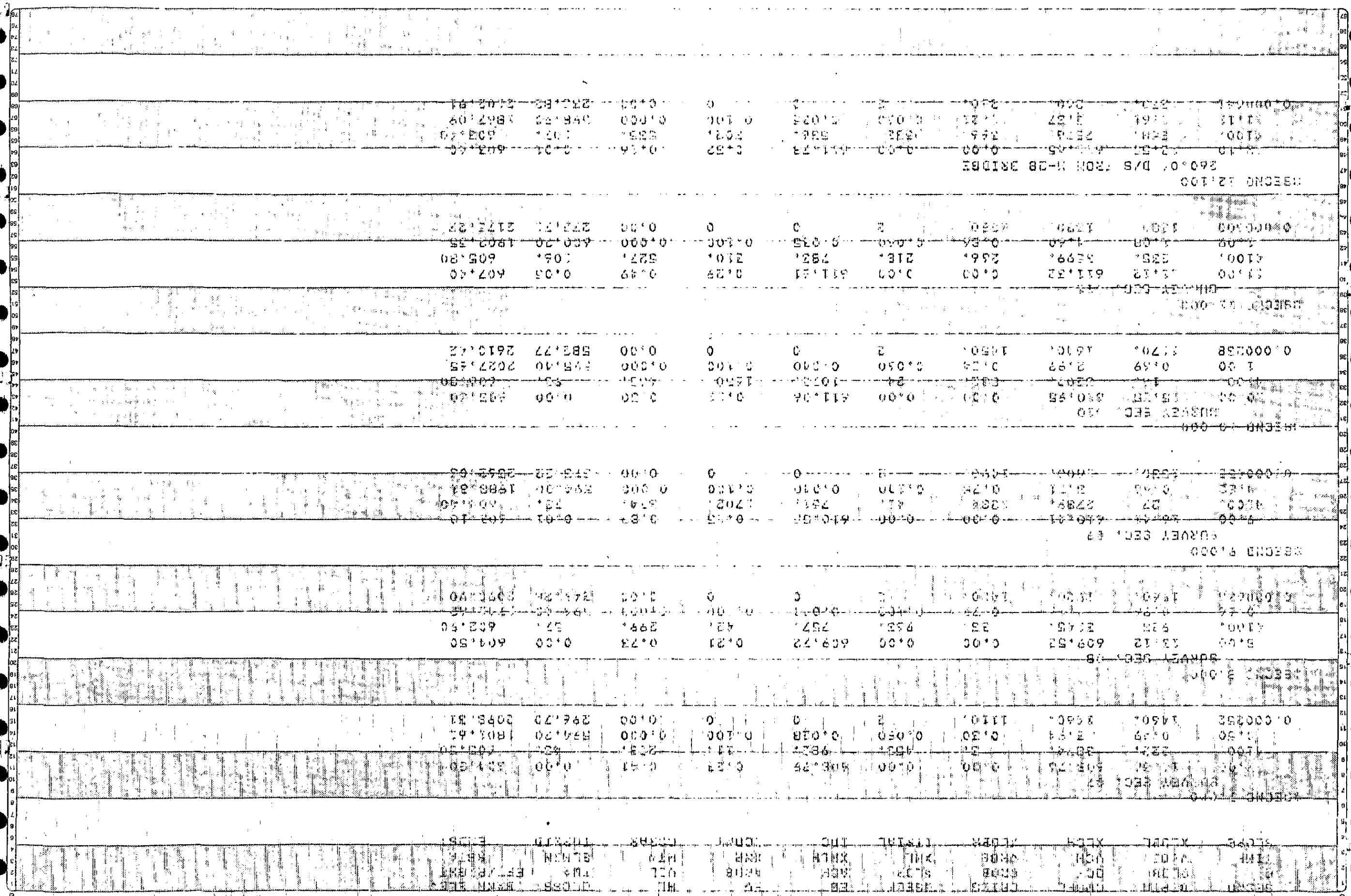
CEHV= 0.100 CEHV= 0.300

SUBCLIP 4 OBJ

3495 ENCR CHANNEL STATTYPE= 1 TABOBF= 300.000

RADNEXT-SEC 4

0.00	12.36	538.34	0.00	0.00	408.58	0.32	0.24	0.04	405.40
1100.	372.	3729.	0.	754.	942.	0.	173.	30.	10200.00
0.23	0.49	3.24	0.00	3.00	0.028	0.000	0.000	794.06	1448.44
0.00	0.00	0.00	0	2	2045.	0.	0.00	430.36	2130.60



CROWN	DEPTH	CHSEL	CTIC	LREL	BV	AV	HL	DLOSS	BANK ELEV
0.	ALOB.	30.	QROB	ALOB	ACH	ARQB	VOL	TW	EFFARIGHT
SOME	50.	VCH	USCO	VNL	EXCH	XNR	UTW	ELMIN	ESTA
SLOPE	XLOBL	XLOF	XLOER	STRIAL	LOC	ICONT	CORAR	DPSTA	ZREST

3490 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEA= 615.50 ELREA= 616.50

D/S FACE N-28 BRIDGE

12.30	14.52	611.72	0.00	0.00	611.98	0.26	0.00	0.00	618.30
4100.	0.	4100.	0.	0.	1001.	0.	548.	108.	617.90
1.15	0.00	4.10	0.30	0.000	0.026	0.000	0.000	597.20	2003.06
0.000587	100.	320.	470.	2	0	0	0.00	122.71	2127.78

*SECNO 12.100

3370 BRIDGE:NRO= 27 MIN ELTRO= 616.00 MAX ELLO= 619.00

3493 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLE= 613.50 ELREA= 616.50

1 INSIDE OF D/S FACE OF N-28 BRIDGE

12.30	14.52	611.72	0.00	0.00	611.98	0.26	0.00	0.00	618.30
4100.	0.	4100.	0.	0.	1001.	0.	548.	108.	617.90
1.15	0.00	4.10	0.30	0.000	0.026	0.000	0.000	597.20	2003.06
0.000587	1.	1.	1.	0	0	0	-39.45	122.72	2127.78

*SECNO 12.110

3370 BRIDGE:NRO= 27 MIN ELTRO= 616.00 MAX ELLO= 619.00

3493 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLE= 613.50 ELREA= 616.50

1 INSIDE OF D/S FACE OF N-28 BRIDGE

12.30	14.52	611.72	0.00	0.00	611.98	0.26	0.00	0.00	618.30
4100.	0.	4100.	0.	0.	1001.	0.	548.	108.	617.90
1.15	0.00	4.10	0.30	0.000	0.026	0.000	0.000	597.20	2003.06
0.000587	1.	1.	1.	0	0	0	-39.45	122.72	2127.78

*SECNO 12.300

SECNO	DEPTH	CROSEC	DRIVE	AREA	EC	HV	HC	CLOSE	RACK ELEV
	SLOPE	ALOB	ASH	AROB	BCH	AROB	VOL	TUB	LEFT/RIGHT
	TYPE	VLOB	VCH	VROB	BKL	KWCH	XIS	UTIL	ELMCN	BB'S
	SCOPE	XLOB	XLCH	XROB	ITRIAL	ICC	ICONT	COMBR	TOPWID	ERDST

S DS COMPARK AREA RESERVEI ...-EFFECTIVE EL_FF= 613.50 FARFA= 618.00

U/S FACE OF PARC BASE

12.50	14.53	611.75	0.00	0.00	611.93	0.28	0.00	0.01	616.30
4100.	0.	4100.	0.	0.	1045.	0.	544.	108.	617.90
1.15	0.16	3.93	0.00	0.000	0.026	0.000	0.003	347.21	2105.93
0.000253	1.	1.	1.	2	0	0	0.00	722.98	2227.98

*SECNO 12.600

CURVE RADIUS= (+=IN)= 600. PI00.0 TYP= 1 TARGET= -530.000

600' U/E OF I-35 W. BCE

12.60	14.75	611.88	0.00	0.00	612.08	0.12	0.03	0.08	603.30
4100.	732.	3368.	328.	1620.	892.	680.	557.	115.	603.30
1.26	0.51	5.26	0.60	0.100	0.026	0.100	0.000	597.20	1641.00
0.000110	300.	300.	269.	2	0	0	0.00	819.00	2160.00

CURVE 0.100 CE= 0.300

*SECND 13.000

SURVEY SEC. 013

13.00	15.05	612.22	0.00	0.00	612.23	0.05	0.19	0.21	606.80
4100.	2547.	1156.	97.	325.	389.	291.	656.	127.	605.60
1.32	0.52	3.62	0.84	0.102	0.040	0.050	0.000	594.73	1358.22
0.000117	1.00.	1.00.	1.00.	2	0	0	0.00	721.87	2079.19

*SECND 14.000

CURVE) SEC. 14

14.00	15.05	612.17	0.00	0.00	612.51	0.00	0.23	0.05	602.10
4100.	1035.	1100.	1964.	1700.	1269.	3017.	799.	149.	609.50
1.76	0.64	4.45	0.63	0.110	0.048	0.000	0.000	594.38	1997.05
0.000133	1240.	1240.	1210.	2	0	0	0.00	725.47	2463.96

*SECND 15.000

SURVEY SEC. 15

15.00	15.05	612.67	0.00	0.00	612.74	0.07	0.27	0.07	600.60
4100.	1662.	1613.	825.	2042.	455.	1282.	892.	169.	607.80
1.92	0.81	5.34	0.64	0.120	0.043	0.100	0.000	596.60	1351.36
0.000148	770.	1150.	930.	1	0	0	0.00	1778.35	2610.22

RECNO	REF	LBEG	ECODE	MSL	ES	HQ	TSL	OLOSS	RANK ELEV
IDE	QUOB	SCH	QUOE	AUOB	ACH	ARCB	UOI	TWA	IFFT/ITBM
	OLOS	UCH	USCB	XML	XOCH	XNS	LTW	EXCIN	CSTA
	SLOPE	XLOSL	YLOS	XLOSS	NISL	COC	ILOSS	SORAS	TIFWID	ENDST

16.00	15.31	3.31	3.00	3.00	2 3.5	0.05	0.40	0.20	602.10	
2100.	2011.	1787.	2025.	802.	765.	2343.	1000.	197.	606.60	
2.17	0.36	2.32	0.79	0.120	0.043	0.100	0.000	497.70	1489.28	
0.000234	1170	1340.	1150.	2	0	0	0.00	505.09	2494.36	

RECNO 17.000

7470 ENCROACHMENT STATIONS= 1690.0 1185.0 TYPE= 1 TARGET= 495.000
SURVEY SEC. 017

7.00	7.00	4.05	0.00	0.00	17.07	0.07	0.58	0.00	608.90	
700.	703.	727.	772.	404.	432.	921.	1052.	220.	606.20	
1.24	1.49	1.13	0.93	0.130	0.040	0.150	0.000	406.50	1179.81	
0.000702	760.	1270.	710.	2	0	0	0.00	578.09	2185.00	

RECNO 18.000

SURVEY SEC. 018

18.00	13.50	14.00	3.87	0.00	13.07	0.07	0.58	0.00	608.70	
1100.	1051.	1180.	2123.	1391.	605.	3429.	1109.	224.	609.10	
2.37	0.77	3.07	0.82	0.100	0.040	0.100	0.000	602.50	1963.93	
0.000370	600.	750.	650.	2	0	0	0.00	1305.69	3327.53	

RECNO 19.000

SURVEY SEC. 019

19.00	15.11	414.36	0.00	0.00	4 4.05	0.11	0.37	0.07	603.50	
3300.	1281.	2187.	330.	2071.	635.	716.	1172.	241.	610.60	
2.77	0.62	2.05	0.96	0.100	0.060	0.100	3.000	599.20	1921.58	
0.000405	650.	1250.	700.	2	0	0	0.00	1581.14	3472.72	

RECNO 20.000

SURVEY SEC. 020

20.00	12.54	414.7	0.00	0.00	324.27	0.06	0.30	0.10	610.30	
3300.	1480.	1447.	871.	3027.	472.	1773.	1250.	270.	605.20	
2.65	0.57	3.06	0.90	0.150	0.040	0.150	0.000	602.20	758.22	
0.000541	750.	750.	850.	2	0	0	0.00	1590.15	2348.41	

PEAK/ PIE SLOPE	DEPT BLOCK VLOCK XLOSL	CASED HOLE VCH XCSG	TVD DEPTH XLOBR	USE/N ALES XNL I*SIKL	PB MECH XNG IDS	AV ABOB VEP ZCONT	HL VOL WTR GTN CORAR	CLOSS TYS ELAIR TOTWTR	RAPID/EV PRYDRCT SBTM ENUST

$SECNO 21.000
SURVEY SEC. 021

24.00	10.13	615.63	0.00	0.00	613.69	0.01	0.31	0.00	609.40
3800.	1595.	2062.	27.	4524.	971.	58.	1981.	363.	708.30
3.90	0.37	2.1.	0.46	0.190	0.040	0.190	0.000	403.90	394.33
0.000211	1000.	1580.	1090.	2	0	0	0.00	1344.49	2139.02

$SECNO 22.000
SURVEY SEC. 022

22.00	11.30	615.30	0.00	0.00	613.38	0.01	0.26	0.01	609.70
3800.	1595.	1711.	493.	3932.	493.	3377.	1491.	340.	608.90
4.00	0.54	2.08	0.19	0.150	0.040	0.150	0.000	404.00	1675.93
0.000158	920.	1570.	820.	1	0	0	0.00	1575.26	2430.08

490 RH CARD USED
$SECNO 23.000
SURVEY SEC. 023

23.00	8.76	615.76	0.00	0.00	615.17	0.01	0.28	0.01	610.20
3800.	1053.	1557.	120.	3705.	1738.	379.	1334.	35.	609.80
3.99	0.36	0.4.	0.33	0.210	0.048	0.190	0.000	404.80	447.97
0.000128	640.	1670.	1430.	2	0	0	0.00	1975.47	2422.53

490 RH CARD USED
$SECNO 24.000
SURVEY SEC. 024

24.00	7.27	616.03	0.00	0.00	615.04	0.01	0.27	0.00	610.80
3800.	1259.	1640.	900.	3876.	1264.	2076.	1990.	476.	610.50
4.27	0.37	1.79	0.43	0.150	0.038	0.130	0.000	408.60	935.68
0.000210	1430.	1750.	1610.	2	0	0	0.00	1963.52	2502.20

*SECNO 25.000
SURVEY SEC. 025

25.00	4.02	616.32	0.00	0.00	616.34	0.01	0.29	0.00	617.00
3800.	509.	497.	2197.	1145.	314.	5039.	2143.	515.	622.80
4.75	0.48	3.10	0.24	0.170	0.040	0.150	0.000	409.40	1435.76
0.000290	1000.	2454.	1000.	4	0	0	0.00	1761.77	3158.54

THIS RUN EXECUTED 13-FEB-85 08:04:33

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06

T1 CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1985
T2 JOB 01057F CHOCNUT,REC CHEFFS 1500 YR. FLOOD PROFILE RUN
T3 CHOCOLAY RIVER STARTING WITH MEAN ANNUAL LAKE LEVEL

JUNCH	INC	NINV	IDIR	STRT	KETRIC	HVINS	Q	WSEL	FC
0	5	0	0.	0.000000	0.00	0.0	0.	603.100	0.000

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.000	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SECTION ID	DEPTH SLOPE	CHNL CON	CROSS SECT	MANNING N/LOB	ET ACH	HV AAOB	HC VQ	DISTANCE TWA	BANK ELEV LEFT/RIGHT
CUM	FLOB	VOL	VRSB	KNL	K2CH	ANR	HTN	FLOIN	SETA
	XLOBL	XLOB	XLOBR	ITRIAL	CDC	ICONT	CORAR	TOPWIT	EXDBT

1000F

CP=1.00 TEN= 0.300

1172 WS GRID USED

WSECID 1.000

4720 CRITICAL DEPTH ASSUMED

3.00	0.	46.11	104.44	609.0	607.04	2.52	0.00	0.00	632.10
3400.	125.	1430.	156.	38.	155.	15.	0.	0.	302.20
0.00	3.17	13.25	5.10	0.000	0.050	0.030	0.000	595.30	2006.01
0.005750	0.	0.	0.	0	0	0	0.00	119.43	2125.45

CP=1.00 TEN= 0.300

3419 CROSS SECTION 3.2(EXTRUDED 0.76 FEET

3301 HV CHANGED MORE THAN .05FWS

2.0' S/B FROM RAILROAD BRIDGE NEAR SOUTH OF CHOCOLAY (MAIN CHANNEL)

3.22	12.16	607.74	0.00	0.00	606.30	0.95	1.22	0.93	855.84
3396.	247.	3634.	141.	176.	712.	23.	11.	2.	605.00
0.03	1.40	2.96	0.85	0.050	0.050	0.070	0.000	595.30	1900.10
0.001053	590.	590.	573.	2	0	0	0.00	244.58	2144.68

CP=1.00 TEN= 0.300

SECOND 3.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE: ELLEA= 614.30 ELREA= 614.70

B/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

3.22	12.65	607.23	0.00	0.00	606.50	0.97	0.39	0.29	651.60
3396.	0.	3396.	0.	0.	716.	0.	35.	5.	621.00
0.03	0.00	7.89	0.00	0.000	0.026	0.000	0.000	595.30	2004.78
0.001384	230.	540.	210.	2	0	0	0.00	96.95	2102.69

SECOND 3.230

3370 NORMAL BRIDGE:NRD= 31 MIN EL:BR= 614.30 MAX EL:LC= 614.00

SECNO	XSTYP	CODEL	CAREA	XSERVA	IED	HU	HL	TLOAD	BANK FLG	
Q	DLOB	RLV	QR30	AL30	AIH	AR30	VCL	TWA	LEFTXSTCAT	
YCOE	YLOB	YCH	Y30D	XSL	XNCH	XNR	UTV	ELMIN	SRTA	
SLOPE	ALOBL	ACCH	XAREA	ITRIAL	IDD	IDCNT	CORR.I	TOPWID	ENDS	

*345 OPEN WATER AREA ASSUMED NON-EFFECTIVE FLOW ELEVS= 614.50 ELEVA= 614.70

1' INSIDE OF U/S FACE OF R.R. BRIDGE

2.23	12.58	607.78	0.00	0.00	608.34	1.07	0.00	0.03	611.40
5900.	0.	5900.	0	0.	716.	0.	18.	3.	611.40
0.04	0.00	8.31	0.00	0.000	0.026	0.000	0.000	595.20	2006.93
0.002564	1.	1	1	2	0	0	+32.44	96.97	2103.41

*SECNO 2.240

*330 CHANNEL BRIDGE MID= 51 FLOW ELEV= 607.00 MAX ELEV= 614.50

*345 OPEN WATER AREA ASSUMED NON-EFFECTIVE FLOW ELEVS= 614.50 ELEVA= 614.70

1' INSIDE OF U/S FACE OF R.R. BRIDGE

2.21	12.58	607.63	0.00	0.00	608.30	1.04	0.04	0.01	611.40
5900.	0.	5900.	0.	0.	716.	0.	17.	3.	611.40
0.04	0.00	8.31	0.00	0.000	0.026	0.000	0.000	595.20	2006.93
0.002563	1.	1	1	2	0	0	+32.46	96.97	2103.40

*SECNO 2.250

*345 OPEN WATER AREA ASSUMED NON-EFFECTIVE FLOW ELEVS= 614.50 ELEVA= 614.70

U/S FACE OF RAILROAD BRIDGE

2.23	12.82	608.02	0.00	0.00	608.97	0.92	0.00	0.04	611.40
5900.	0.	5900.	0.	0.	736.	0.	12.	5.	611.40
0.04	0.00	7.72	0.00	0.000	0.027	0.000	0.000	595.20	2004.05
0.002520	1.	1	1	2	0	0	0.00	97.07	2103.81

*SECNO 2.260

*330 MAIN CHANNEL BRIDGE MID= 51 FLOW ELEV= 607.00 MAX ELEV= 614.50

*340 LOW CHORD OF R.R. BRIDGE

2.26	11.62	606.92	0.00	0.00	609.19	0.27	0.05	0.20	602.50
5900.	67.	5551.	48.	93.	1225.	735.	20.	4.	602.50
0.05	0.72	1.07	0.14	3.060	0.026	0.150	0.000	79.36	1940.47
0.0002334	110.	11.	11.	2	0	0	0.00	315.78	2268.43

BEGIN	ELEV	CREST	CROSS	WEIR	XS	HQ	XL	CLOSS	BANK ELEV	
D	FUNC	GT	GROB	GLOB	ACH	AROB	VCL	TWA	LFT/RIGHT	
TYPE	GLOB	VCH	VROB	XNV	XNCH	XNR	WTP	ELMIN	BETA	
SLOPE	XLOBC	XLCH	XLOBR	STRXL	FPC	ICONT	CORAR	TOPWID	EINST	

SEC TYPE	DIR CODE	EDGE COL	CROSS PROF	WSEL FLOW	ER ACH	QV ARDB	NC VOL	OLDRS TWA	KOU LEFT	ELOV CH
				XHL	XNCH	XNR	WTP	ELMIN		SAT
SLOPE	XLOSL	XLCH	XLOSR	CTRIA	TOS	ICONT	CLRAR	TS-BIC	ERDB	

...14.90 ELTFA= 61.20

INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

5.50	17.67	609.47	0.00	0.00	610.06	0.56	0.00	0.56	614.00
5900.	3.	3000.	0.	0.	953.	0.	131.	21.	610.00
0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	391.90	3002.45
0.000967	1.	1.	1.	2	0	0	0.00	105.09	2906.89

SECNO 5.400

...ENT STATIONS= 1915.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.66	17.28	610.11	0.00	0.00	610.27	0.11	0.02	0.21	665.00
5900.	52.	5844.	0	180.	2314.	0.	137.	22.	30000.00
0.23	0.31	2.64	0.00	0.100	0.028	0.000	0.000	391.90	1945.00
0.000967	240.	130.	60.	2	0	0	0.00	210.00	2160.00

...14.90 ELTFA= 61.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	18.09	609.64	0.00	0.00	610.13	0.49	0.00	0.03	614.00
5900.	0.	5900.	0.	0.	1052.	0.	134.	21.	540.00
0.23	0.00	5.61	0.00	0.000	1.028	0.000	0.000	391.90	3002.45
0.000967	1.	1.	1.	2	0	0	0.00	105.09	2906.89

SECNO 5.600

...ENT STATIONS= 1915.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.66	17.28	610.11	0.00	0.00	610.27	0.11	0.02	0.21	665.00
5900.	52.	5844.	0	180.	2314.	0.	137.	22.	30000.00
0.23	0.31	2.64	0.00	0.100	0.028	0.000	0.000	391.90	1945.00
0.000967	240.	130.	60.	2	0	0	0.00	210.00	2160.00

DEPTH	CMSEC	CRIT&	PROK	EG	AV	HL	CLOSS	BANK ELE
CO	DCH	XSCH	XLP3	SCH	ARGE	VOL	TW4	FRYR SSH
TIME	XLS3	VCH	XR06	XNL	XNC	XAR	WTM	ELMCN
SLOPE	XLOPE	XECH	XLC3R	RTIAL	IRC	ICONT	MARGR	TOPOTL
								ENDE

CSEC 3.100 CENT 300

SECND 5.000

270 ENDCAL EM STATION= 1600.0 2100.0 PE= E YARDS= 500.00

SURVEY SEC. 06

6.00	16.33	610.33	0.00	0.00	650.57	0.24	0.24	0.04	504.60
5220.	1300.	760.	97.	152.	1140.	62.	281.	72.	00000.00
0.53	0.61	0.32	0.00	0.100	0.026	0.000	0.000	596.00	1800.10
1.000285	500.	1140.	2061.	2	0	0	0.00	500.06	2100.20

SECND 7.000

SURVEY SEC. 07

7.00	14.00	611.33	0.00	0.00	648.00	0.20	0.41	0.05	401.30
5920.	1600.	2000.	13.	510.	1140.	27.	310.	55.	605.80
0.47	0.57	0.05	0.03	0.000	0.026	0.000	0.000	574.20	1700.00
3.000287	1450.	1440.	1110.	2	0	0	0.00	357.15	2102.18

SECND 8.000

SURVEY SEC. 08

8.00	15.41	611.41	0.00	0.00	647.74	0.22	0.78	0.01	404.50
5900.	1740.	4097.	84.	1505.	912.	72.	413.	63.	602.90
0.62	1.15	0.49	0.07	0.100	0.040	0.100	0.000	576.40	1712.44
2.000350	1360.	1990.	1100.	2	0	0	0.00	372.29	2071.50

SECND 9.000

SURVEY SEC. 09

9.00	16.34	612.34	0.00	0.00	646.48	0.14	0.72	0.01	403.10
5960.	1700.	3401.	5847.	891.	873.	2665.	320.	79.	601.40
0.79	0.72	0.27	0.02	0.09	0.040	0.100	0.000	591.00	1585.06
0.000380	1530.	1490.	1490.	2	0	0	0.00	585.83	2371.39

SECND 10.000

SURVEY SEC. 10

10.00	17.43	613.53	0.00	0.00	645.53	0.12	0.47	0.00	402.50
5900.	81.	4035.	1810.	37.	1235.	2341.	66.	95.	606.30
0.78	0.83	0.27	0.07	0.060	0.040	0.100	0.000	575.40	5023.72
0.000340	1170.	1640.	1430.	2	0	0	0.00	591.43	2617.20

SEC/ DIST TIME SLOPE	DEPTH ULOC XLOC	CSSEC DCH UCH	CRCHB CRCD VRCD	USELK CCS XNL	ESC SCH XMCH	AVG AFD3 XNP	FL VOL VCH	CLOSS TCA ELMIN	DSNT ELEV LEFT/RIGHT STA ENDST

SECNO	DEL X	CHSEL	TRIBS	XSELK	ED	HC	SL	CLOSS	CHAN	LEFTBKNT
Q	DEL Z	CC	#OB	#LOB	SOP	#OB	VOL	TWA	ELMIN	BSTR
TME	DLOB	VCN	CROSS	XWL	XNCH	KAR	STA	ELMIN	BSTR	
SLOPE	ELOSL	KLCH	NEGTR	ITRIAL	THC	ICONT	DSRAR	TOPWTR	ELOS	

SECNO 12.00

3175 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 618.50 ELREA= 618.00

U/S FACE OF N-3B BRIDGE

12.50	16.32	618.32	0.00	0.00	618.08	0.35	0.02	0.03	618.30
5900.	0.	5900.	0.	0.	1276.	0.	758.	116.	619.90
1.09	0.00	0.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.30
0.000597	56.	56.	56.	0	0	0	-45.55	130.75	2133.04

SECNO 12.50

3175 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 618.50 ELREA= 618.00

U/S FACE OF N-3B BRIDGE

12.50	16.32	618.32	0.00	0.00	618.08	0.35	0.00	0.03	618.30
5900.	0.	5900.	0.	0.	1277.	0.	758.	116.	619.90
1.09	0.00	0.31	0.00	0.000	0.025	0.000	0.000	597.20	2003.30
0.000335	1.	1.	1.	2	0	0	0.00	130.75	2133.06

SECNO 12.600

3170 ENC CROSSVENT STR #WB= 1000.0 2120.0 YY=3.

TARGET= 559.600

500' U/S OF N-3B BRIDGE

12.60	16.35	615.85	0.00	0.00	611.01	0.15	0.06	0.05	603.30
5940.	1300.	4740.	-83.	4100.	941.	1107.	778.	-118.	603.30
1.13	0.61	3.92	0.70	0.100	0.026	0.100	0.000	597.20	1000.00
0.000122	300.	300.	242.	2	0	0	0.00	380.00	2160.00

CCHV= 0.100 CEHV= 0.300

SECNO 13.000

BRIDGE NO. 245

13.00	16.66	611.66	0.00	0.00	610.21	0.09	0.20	0.01	606.30
5940.	3985.	2930.	-95.	4645.	756.	96.	962.	133.	609.96
1.24	0.77	2.79	1.02	0.100	0.040	0.050	0.000	596.70	1347.51
0.000193	1100.	1400.	1100.	2	0	0	0.00	732.79	2050.30

SCOU	DEPT	CORE	CCMS	USER	ES	AU	SL	DLOPE	SAN	ELEV
	OLS	33	CMS	OLDS	4CH	ASCII	VOL	TWA	FT/REEL	
	OLD2	JCH	0103	31	++OP	XYR	VTP	ELHED	SSS	
SLOPE	XLOSL	XLS	BLOCK	TKLAL	TIME	ICONT	TIKAR	UPJTD	PRTST	

SECOND 0.000
SURVEY SEC. 15

4.00	17.23	611.11	0.00	0.00	611.43	0.03	0.02	0.00	607.20
5900.	1063.	1422.	2884.	2114.	1595.	2305.	1072.	138.	606.50
1.69	6.72	2.17	0.76	0.100	0.040	0.100	0.000	696.50	1731.77
0.000134	1347.	1560.	1210.	2	0	0	0.00	741.11	2472.88

SECOND 6.000
SURVEY SEC. 16

12.00	17.98	614.39	0.00	0.00	614.68	0.03	0.18	0.00	607.60
5900.	7390.	1861.	1649.	4240.	563.	2595.	1284.	139.	607.60
1.00	2.70	1.50	0.20	0.100	0.000	0.100	0.000	1076.00	2576.20
0.000152	750.	1.50	920.	3	0	0	0.00	5183.57	5176.93

SECOND 12.000
SURVEY SEC. 16

16.00	17.17	614.32	0.00	0.00	614.94	0.03	0.33	0.00	607.60
5900.	172.	3255.	2903.	5174.	596.	3332.	1411.	239.	606.60
1.00	0.15	2.02	0.95	0.100	0.043	0.100	0.000	537.70	1230.25
0.000221	1170.	1310.	1150.	2	0	0	0.00	1263.51	2513.85

SECOND 18.000
SURVEY SEC. 17

17.00	14.67	613.19	0.00	0.00	613.47	0.25	0.02	0.04	606.60
5900.	1754.	2864.	1261.	243.	540.	667.	1301.	258.	606.40
1.22	1.70	1.67	1.45	0.100	0.000	0.100	0.000	690.50	1695.05
0.000144	850.	1470.	750.	1	0	0	0.00	993.00	2185.00

SECOND 18.000
SURVEY SEC. 18

18.00	17.48	613.00	0.00	0.00	613.75	0.05	0.29	0.02	606.70
5900.	122.	3068.	2672.	309.	716.	3938.	1372.	275.	605.10
1.00	0.73	2.30	0.83	0.100	0.040	0.100	0.000	502.20	1252.21
0.000121	500.	750.	650.	2	0	0	0.00	1751.04	3402.22

SPEED / TYPE / MODE	DEPTH / FLOS / XLOSL	CMSEC / DCH / XLCH	CRUISE / GRDB / XLDBR	WAVE / ALCS / CAL / RIPL	SE / ACM / ANCH / CRS	THV / APOP / ZWR / ISCNT	XL / VEL / ATM / CORAN	DCOSR / TWD / E-MIN / T-PATH	MARKERS LEFT / RIGHT / ESTK / ERIST

$RECNO 3.000
SURVEY SEC 22

20.00	12.78	615.98	0.00	0.00	615.78	0.07	0.24	0.01	608.50
3300.	2344.	2585.	708.	3330.	724.	1516.	1671.	299.	610.38
2.49	0.67	3.20	0.30	0.100	0.040	0.100	0.000	799.20	1052.28
0.000320	858.	1250.	500.	2	0	3	0.00	1211.50	2665.38

$RECNO 20.000
SURVEY SEC 20

20.00	13.95	615.18	0.00	0.00	615.23	0.04	0.24	0.00	610.20
3300.	2761.	1638.	1334.	3570.	548.	2605.	1791.	228.	608.20
2.91	0.54	2.45	0.50	0.100	0.040	0.150	0.000	602.00	1044.55
0.000320	1230.	910.	350.	2	1	0	0.00	1742.75	2897.83

$RECNO 21.000

SURVEY SEC 21

21.00	13.36	615.48	0.00	0.00	615.50	0.01	0.27	0.00	609.40
3300.	2788.	2664.	42.	3492.	1142.	132.	1931.	371.	608.50
2.91	0.42	2.33	0.39	0.130	0.040	0.130	0.000	603.90	425.38
0.000320	1064.	1730.	1490.	3	0	0	0.00	1527.12	2953.90

$RECNO 22.000
SURVEY SEC 22

22.00	12.69	615.69	0.00	0.00	615.77	0.08	0.26	0.01	609.70
3300.	2734.	2053.	948.	2331.	766.	2548.	2140.	440.	608.50
2.97	0.57	3.23	0.48	0.150	0.040	0.180	0.000	604.00	945.38
0.000320	956.	1700.	1500.	2	0	0	0.00	1850.59	2853.38

1490 NH CARD USED
$RECNO 23.000
SURVEY SEC 23

23.00	13.35	617.19	0.00	0.00	617.13	0.01	0.33	0.01	610.30
3300.	2781.	2028.	990.	3753.	2093.	442.	3465.	401.	608.50
3.79	0.42	0.99	0.35	0.120	0.067	0.120	0.000	606.80	444.23
0.000320	1640.	1670.	1430.	3	0	0	0.00	2024.40	2469.23

SECTR	DEPTH	CUBEC	CRIDS	WEEK	EG	HV	HI	DENES	MARK ELEV
	ALCB	ACH	ANOB	ALCB	ACH	ANOP	VOL	TUA	EF/RIGHT
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ELMCH	SSTA
SLOPE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ENDST
[illegible]									
SECNO [illegible]									
SURVEY SEC. [illegible]									
[illegible]	[illegible]	617.[illegible]	0.00	0.00	617.[illegible]	0.0[illegible]	0.2[illegible]	0.00	[illegible]
5[illegible]00.	1563.	2132.	1405.	5105.	1535.	3056.	2829.	258.	6[illegible]0.30
4.33	0.28	[illegible].39	0.45	0.[illegible]0	0.05[illegible]	0.[illegible]20	0.000	608.50	809.27
[illegible]	[illegible]	1750.	[illegible]	[illegible]	0	0	0.00	2[illegible].27	[illegible]
SECNO 25.000									
SURVEY SEC. 325									
25.00	8.20	617.60	0.00	0.00	617.61	0.0[illegible]	0.26	0.00	613.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	3.6[illegible]	0.60	0.120	0.[illegible]	[illegible]	0.00[illegible]	[illegible]	[illegible]
0.00[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		0	0.00	1905.[illegible]	[illegible]

U.S. ARMY EXECUTED 13-FEB-85 08:08:37

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES DIFFERENCE IN SUMMARY OF ERRORS TST

SUMMARY OUTPUT

SUMMARY PRINTOUT MODE 130

STRTG	XLCH	ELTRD	ELOSS	CHNL	Q	SINDEL	SAREA	SS	AREA	VEL	AREA	TOP
2,300	0.00	0.00	1.00	593.60	4600.00	606.20	607.84	607.87	23.32	11.12	372.64	533.65
2,290	0.00	0.00	0.00	595.60	5300.00	603.20	0.00	606.21	20.17	8.48	363.02	478.57
2,280	0.00	0.00	0.00	593.60	4100.00	602.10	602.93	605.31	14.29	11.94	343.02	475.67
2,270	0.00	0.00	0.00	592.60	3700.00	604.14	604.64	607.06	57.50	12.62	359.12	778.05
2,260	0.00	0.00	0.00	591.60	3500.00	604.76	0.00	607.34	43.34	5.57	359.50	778.05
2,250	0.00	0.00	0.00	593.20	4600.00	606.36	0.00	607.86	10.01	5.62	316.00	513.46
2,240	0.00	0.00	0.00	595.20	5900.00	607.63	0.00	608.30	25.33	8.24	345.82	1179.25
2,230	1.00	614.50	614.00	595.20	4600.00	606.92	0.00	607.74	21.55	7.26	633.64	984.09
2,220	1.00	614.50	614.00	594.20	5900.00	606.30	0.00	607.84	16.94	5.91	490.60	704.30
2,210	1.00	614.50	614.00	595.20	4100.00	606.48	0.00	607.11	20.00	6.70	384.03	516.86
2,200	1.00	614.50	614.00	593.20	3900.00	607.63	0.00	608.30	25.33	8.24	345.82	1179.25
2,190	1.00	0.00	0.00	0.00	595.20	4600.00	607.24	0.00	607.45	12.73	6.86	670.82	1442.54
2,180	1.00	0.00	0.00	0.00	593.20	5900.00	606.36	0.00	606.86	10.01	5.62	316.00	513.46
2,170	1.00	0.00	0.00	0.00	595.20	4100.00	606.37	0.00	607.24	11.38	6.54	626.47	1213.11
2,160	1.00	0.00	0.00	0.00	593.20	3900.00	607.02	0.00	607.45	12.84	7.71	745.67	1464.34
2,150	1.00	0.00	0.00	0.00	594.20	4600.00	607.74	0.00	607.91	9.14	3.85	1761.94	3102.54
2,140	1.00	0.00	0.00	0.00	594.20	5900.00	607.84	0.00	608.01	1.77	3.44	1492.70	2463.25
2,130	1.00	0.00	0.00	0.00	594.20	4100.00	607.23	0.00	607.42	2.07	3.63	1557.33	2852.92
2,120	1.00	0.00	0.00	0.00	594.20	3900.00	608.50	0.00	609.19	2.56	4.57	2053.40	3842.42

2,000	320.00	0.00	0.00	591.50	4600.00	607.97	0.00	608.00	2.53	2.93	2145.38	3015.18
3,000	320.00	0.00	0.00	591.50	4600.00	607.97	0.00	608.00	2.53	2.93	2145.38	3015.18
3,000	320.00	0.00	0.00	591.50	4600.00	607.97	0.00	607.50	2.29	2.79	1949.68	2710.39
3,000	320.00	0.00	0.00	591.50	5900.00	609.23	0.00	609.29	3.46	3.25	2602.69	3758.23
2,000	320.00	0.00	0.00	596.50	4600.00	608.20	0.00	608.25	3.32	3.38	2302.15	3232.53
2,000	320.00	0.00	0.00	596.50	5900.00	609.36	0.00	609.37	4.19	4.17	2956.57	4154.47
1,000	320.00	0.00	0.00	596.50	4100.00	607.05	0.00	607.81	4.09	3.32	2029.32	2827.35
4,000	990.00	0.00	0.00	596.50	5900.00	609.42	0.00	609.38	3.70	3.56	2924.41	3965.83
5,000	320.00	0.00	0.00	592.40	4600.00	608.22	0.00	608.50	2.96	2.52	1927.41	2870.68
5,000	320.00	0.00	0.00	592.40	5900.00	609.38	0.00	609.51	3.52	2.82	2415.98	3606.01
4,000	320.00	0.00	0.00	596.40	4100.00	607.79	0.00	607.85	3.30	3.24	1787.46	2657.90
5,000	990.00	0.00	0.00	592.40	5900.00	609.52	0.00	609.74	4.19	4.11	2582.51	3858.82
5,200	320.00	0.00	0.00	591.40	4600.00	608.33	0.00	608.72	8.22	5.01	919.05	1604.40
5,200	320.00	0.00	0.00	591.40	5900.00	609.51	0.00	609.71	9.51	5.99	1119.11	1954.19
5,200	320.00	0.00	0.00	591.40	4100.00	607.81	0.00	608.01	7.79	5.25	877.84	1075.78
5,200	990.00	0.00	0.00	591.40	5900.00	609.51	0.00	609.81	9.55	5.68	1030.73	1905.39
5,300	1.00	611.20	624.00	591.60	4600.00	606.31	0.00	606.73	2.31	3.20	804.38	1499.30
5,300	1.00	611.20	624.00	591.60	5900.00	606.40	0.00	606.66	2.90	4.09	708.21	1112.20
5,300	1.00	611.20	624.00	591.60	4100.00	607.25	0.00	607.56	2.71	4.11	954.79	1337.03
5,300	1.00	611.20	624.00	591.60	5900.00	611.47	0.00	611.04	17.58	4.12	963.13	1403.01
5,300	26.00	611.20	624.00	591.60	4600.00	606.42	0.00	606.68	2.76	4.09	708.98	1113.66
5,300	26.00	611.20	624.00	591.60	5900.00	607.31	0.00	608.18	3.70	4.90	857.10	1390.07
5,300	26.00	611.20	624.00	591.60	5900.00	609.21	0.00	609.10	3.70	5.11	955.50	1402.82
5,300	1.00	0.00	0.00	591.60	4600.00	608.31	0.00	608.77	3.12	4.93	959.70	1023.25
5,300	1.00	0.00	0.00	591.60	5900.00	606.45	0.00	606.89	3.02	3.93	753.53	1264.65
5,300	1.00	0.00	0.00	591.60	4100.00	607.35	0.00	608.19	4.86	4.70	872.25	1060.12
5,300	1.00	0.00	0.00	591.60	5900.00	609.44	0.00	610.13	5.22	5.41	1052.34	1435.19
5,300	320.00	0.00	0.00	591.60	4600.00	608.30	0.00	608.86	0.72	2.30	2130.21	3233.25
5,300	320.00	0.00	0.00	592.00	5900.00	608.71	0.00	608.79	0.63	1.74	1607.83	3245.39
5,300	320.00	0.00	0.00	592.00	4100.00	608.22	0.00	608.39	0.97	2.14	1978.38	3061.20
5,300	320.00	0.00	0.00	591.90	5900.00	610.14	0.00	610.27	0.85	2.64	2392.44	3477.33
6,000	320.00	0.00	0.00	592.00	4600.00	608.93	0.00	609.17	2.15	2.98	1778.13	2589.69
6,000	320.00	0.00	0.00	596.00	5901.00	609.82	0.00	609.91	3.21	3.82	2098.29	3321.17
6,000	320.00	0.00	0.00	596.00	4100.00	608.34	0.00	608.58	3.20	3.98	1698.33	2598.18
6,000	990.00	0.00	0.00	596.00	5900.00	610.53	0.00	610.57	3.99	4.50	2627.04	3909.44
7,000	1460.00	0.00	0.00	591.20	4600.00	609.24	0.00	609.29	2.59	4.14	1625.67	2857.22
7,000	1460.00	0.00	0.00	591.20	5900.00	607.33	0.00	607.40	2.24	3.56	1042.94	1770.11
7,000	1460.00	0.00	0.00	591.20	4100.00	608.26	0.00	608.59	2.53	3.94	1246.24	1951.51
7,000	1460.00	0.00	0.00	591.20	5900.00	610.71	0.00	611.00	2.97	4.53	2027.73	3210.06

SECOND	FLOW	ELTRI	TELEC	EL IN	M	WHEEL	DRIVR	DB	INPUT	MEM	PRES	
8.000	1910.00	0.00	0.00	594.40	4400.00	610.11	0.00	610.65	5.17	4.25	1924.44	1821.81
8.000	1920.00	0.00	0.00	596.40	4400.00	607.91	0.00	608.71	5.92	3.64	1748.63	1625.21
8.000	1920.00	0.00	0.00	596.40	4400.00	609.53	0.00	609.72	6.36	4.15	1752.63	1625.35
8.000	1920.00	0.00	0.00	594.40	4400.00	611.31	0.00	611.74	5.72	4.49	2489.97	2452.61
9.000	1600.00	0.00	0.00	594.40	4400.00	610.38	0.00	611.13	5.30	3.78	1664.65	1324.69
9.000	1600.00	0.00	0.00	592.40	4400.00	608.84	0.00	609.37	5.46	3.51	1468.93	1178.56
9.000	1600.00	0.00	0.00	594.40	4400.00	610.43	0.00	610.80	5.27	3.71	2494.45	1928.10
9.000	1600.00	0.00	0.00	594.00	5900.00	612.3	0.00	612.48	5.27	3.57	3416.57	3000.72
10.000	1600.00	0.00	0.00	595.40	4400.00	611.11	0.00	611.62	5.26	3.05	2053.58	1925.01
10.000	1600.00	0.00	0.00	594.40	5900.00	609.46	0.00	609.85	5.37	3.65	1960.13	1652.71
10.000	1600.00	0.00	0.00	596.40	4400.00	610.95	0.00	611.06	5.28	3.93	2725.54	2018.29
10.000	1600.00	0.00	0.00	594.40	5900.00	612.87	0.00	612.95	5.40	3.69	3536.80	3016.89
11.000	1600.00	0.00	0.00	600.20	4400.00	611.37	0.00	612.17	5.96	4.75	1953.56	1887.46
11.000	1600.00	0.00	0.00	598.20	5900.00	609.05	0.00	610.07	6.01	3.11	2173.36	1972.38
11.000	1600.00	0.00	0.00	598.20	4400.00	611.32	0.00	611.41	6.06	4.00	2210.73	1875.13
11.000	1600.00	0.00	0.00	600.20	5900.00	611.93	0.00	612.38	5.79	3.92	1870.30	2451.85
12.000	260.00	0.00	0.00	595.20	4400.00	611.01	0.00	612.54	6.46	5.55	1301.37	1912.29
12.000	260.00	0.00	0.00	596.20	5900.00	609.94	0.00	610.23	6.32	4.87	1017.74	1153.20
12.000	260.00	0.00	0.00	598.20	4400.00	611.45	0.00	611.78	6.08	5.37	1376.51	1619.77
12.000	260.00	0.00	0.00	594.20	5900.00	613.51	0.00	613.67	5.55	4.92	1813.95	2500.20
12.000	320.00	0.00	0.00	597.20	4400.00	610.23	0.00	610.53	4.15	3.11	1107.29	1223.74
12.000	320.00	0.00	0.00	597.20	5900.00	610.23	0.00	610.44	3.16	3.33	865.89	1020.31
12.000	320.00	0.00	0.00	593.20	4400.00	611.72	0.00	611.93	3.87	3.94	1040.16	2082.64
12.000	320.00	0.00	0.00	595.20	5900.00	613.51	0.00	613.64	4.34	4.62	1246.23	2716.33
12.000	1.00	618.00	619.00	597.20	4400.00	612.24	0.00	612.53	5.54	4.52	1085.42	1986.95
12.000	1.00	618.00	619.00	597.20	5900.00	610.32	0.00	610.41	4.66	3.47	841.37	1438.51
12.000	1.00	618.00	619.00	597.20	4400.00	611.71	0.00	611.97	5.03	4.10	1060.71	1830.66
12.000	1.00	618.00	619.00	597.20	5900.00	613.50	0.00	613.84	5.39	4.32	1224.16	2410.37
12.000	16.00	618.00	619.00	597.20	4400.00	612.24	0.00	612.55	5.35	4.31	1046.34	1939.41
12.000	32.00	618.00	619.00	597.20	5900.00	610.24	0.00	610.47	4.35	3.49	831.77	1540.25
12.000	32.00	618.00	619.00	597.20	4400.00	611.72	0.00	611.98	5.04	4.05	1001.46	1532.45
12.000	32.00	618.00	619.00	597.20	5900.00	613.52	0.00	613.88	5.97	4.81	1225.75	2415.50
12.000	.00	0.00	0.00	597.20	4400.00	612.25	0.00	612.54	5.04	4.14	1015.63	2150.25
12.000	1.00	0.00	0.00	597.20	5900.00	610.26	0.00	610.43	3.38	3.34	869.12	1390.52
12.000	1.00	0.00	0.00	597.20	4400.00	611.71	0.00	611.90	3.87	3.93	1041.70	1813.25
12.000	1.00	0.00	0.00	597.20	5900.00	613.50	0.00	613.80	3.35	4.02	1224.64	2325.86
12.000	300.00	0.00	0.00	597.20	4400.00	612.32	0.00	612.63	5.20	3.34	3421.49	4207.68
12.000	300.00	0.00	0.00	597.20	2900.00	610.40	0.00	610.50	0.97	2.87	2126.15	2951.06
12.000	300.00	0.00	0.00	597.20	4400.00	611.93	0.00	612.05	1.34	3.23	3144.53	3845.37
12.000	300.00	0.00	0.00	597.20	5900.00	613.65	0.00	613.81	1.31	3.82	4239.65	4953.07

9.000	1400.00	0.00	0.00	596.70	4400.00	613.64	0.00	613.64	2.29	2.39	4760.83	3038.42
13.000	1400.00	0.00	0.00	596.70	4400.00	613.64	0.00	613.64	2.29	2.39	4760.83	3038.42
13.000	1400.00	0.00	0.00	596.70	3900.00	613.64	0.00	613.64	1.95	2.79	5527.74	4242.30
9.000	1400.00	0.00	0.00	596.70	4400.00	613.64	0.00	613.64	2.29	2.39	4760.83	3038.42
9.000	1400.00	0.00	0.00	596.70	4400.00	613.64	0.00	613.64	2.29	2.39	4760.83	3038.42
11.000	1360.00	0.00	0.00	596.50	5900.00	612.49	0.00	612.81	1.95	1.95	3282.29	3554.83
11.000	1360.00	0.00	0.00	596.50	5900.00	612.41	0.00	612.49	1.34	2.17	6693.13	5106.17
11.000	1350.00	0.00	0.00	596.50	5900.00	612.41	0.00	612.49	1.34	2.17	6693.13	5106.17
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SECND	PSCR	ELKRO	ELKC	ELMIN	N	CUBEL	TRIGS	EO	LOGS	PSR	RRR	PSI
23.000	1670.00	0.00	0.00	606.80	4300.00	615.14	0.00	615.17	1.38	0.96	8625.19	3232.22
23.000	1670.00	0.00	0.00	606.80	2700.00	615.74	0.00	615.77	1.38	0.94	7822.77	3231.16
23.000	1670.00	0.00	0.00	606.80	3800.00	615.74	0.00	615.77	1.38	0.94	7822.77	3231.16
23.000	1670.00	0.00	0.00	606.80	5500.00	617.10	0.00	617.13	1.24	0.99	10507.90	4949.17
24.000	1750.00	0.00	0.00	608.80	4300.00	616.47	0.00	616.50	1.41	1.37	7790.59	3810.79
24.000	1750.00	0.00	0.00	608.80	2700.00	616.04	0.00	616.07	1.41	1.28	6734.63	1776.21
24.000	1750.00	0.00	0.00	608.80	3800.00	616.04	0.00	616.07	1.41	1.30	6966.19	2621.71
24.000	1750.00	0.00	0.00	608.80	5500.00	617.34	0.00	617.36	1.87	1.35	9736.73	4023.88
25.000	1750.00	0.00	0.00	609.80	4300.00	616.74	0.00	616.77	1.41	2.33	7857.97	3805.90
25.000	1750.00	0.00	0.00	609.80	2700.00	616.32	0.00	616.35	1.41	2.19	6859.59	1769.06
25.000	1750.00	0.00	0.00	609.80	3800.00	616.32	0.00	616.34	1.41	2.20	7068.12	2609.65
25.000	1750.00	0.00	0.00	609.80	5500.00	617.60	0.00	617.63	1.87	2.44	9588.98	3979.80

S-FED-430 C3.K2.25M

S-PARAMETRIC TABLE 150

SECND	Q	DKSEL	DCFUBP	DCFUBX	DTFREQ	TOPWID	FLOW
1.000	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
1.000	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
1.000	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
1.000	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
1.240	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
1.240	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
1.240	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
1.240	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
1.250	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
1.250	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
1.250	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
1.250	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
2.000	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
2.000	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
2.000	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
2.000	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
2.240	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
2.240	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
2.240	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
2.240	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
2.250	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
2.250	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
2.250	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
2.250	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
3.000	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
3.000	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
3.000	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
3.000	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
3.240	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
3.240	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
3.240	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
3.240	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
3.250	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
3.250	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
3.250	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
3.250	3900.00	604.66	1.84	0.00	1.54	129.43	0.00
4.000	4600.00	606.47	0.00	0.00	0.34	32.15	0.00
4.000	2900.00	603.10	-1.24	0.00	0.00	81.59	0.00
4.000	4100.00	606.46	0.00	0.00	0.00	91.32	0.00
4.000	3900.00	604.66	1.84	0.00	1.54	129.43	0.00

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.100	4600.00	608.32	0.00	0.12	0.00	268.23	460.00
5.100	2900.00	606.39	-1.73	0.13	0.00	250.54	460.00
5.100	4100.00	607.79	1.40	0.15	0.00	266.19	460.00
5.100	3900.00	609.52	1.73	0.10	0.00	273.09	460.00
5.200	4600.00	608.33	0.00	0.01	0.00	98.37	260.00
5.200	2900.00	606.91	-1.92	0.02	0.00	92.50	260.00
5.200	4100.00	608.30	1.39	0.01	0.00	97.23	260.00
5.200	5900.00	609.51	1.73	-0.01	0.00	105.41	260.00
5.300	4600.00	608.33	0.00	-0.01	0.00	98.35	1.00
5.300	2900.00	606.40	-1.93	-0.01	0.00	92.50	1.00
5.300	4100.00	607.79	1.39	-0.01	0.00	97.23	1.00
5.300	5900.00	609.47	1.69	0.04	0.00	103.15	1.00
5.400	4600.00	608.34	0.00	0.03	0.00	98.39	26.00
5.400	2900.00	606.42	-1.92	0.02	0.00	92.54	26.00
5.400	4100.00	608.35	1.39	0.03	0.00	97.36	26.00
5.400	5900.00	609.28	1.73	0.05	0.00	103.49	26.00
5.500	4600.00	608.33	0.00	0.05	0.00	99.03	1.00
5.500	2900.00	606.45	-1.94	0.03	0.00	92.67	1.00
5.500	4100.00	608.05	1.60	0.06	0.00	97.68	1.00
5.500	5900.00	609.37	1.73	0.12	0.00	103.19	1.00
5.600	4600.00	608.83	0.00	0.41	0.00	215.00	120.00
5.600	2900.00	606.71	-2.09	0.26	0.00	192.36	120.00
5.600	4100.00	608.22	1.51	0.37	0.00	215.00	120.00
5.600	5900.00	610.14	1.54	0.52	0.00	215.00	120.00
6.000	4600.00	608.54	0.00	0.14	0.00	557.91	1940.00
6.000	2900.00	606.32	-2.12	0.11	0.00	533.59	1940.00
6.000	4100.00	608.36	1.54	0.13	0.00	550.36	1940.00
6.000	5900.00	610.33	1.98	0.17	0.00	500.00	1940.00
7.000	4600.00	609.34	0.00	0.30	0.00	592.54	1460.00
7.000	2900.00	607.23	-2.11	0.41	0.00	539.51	1460.00
7.000	4100.00	608.76	1.54	0.41	0.00	576.70	1460.00
7.000	5900.00	610.71	1.95	0.38	0.00	533.12	1460.00
8.000	4600.00	610.14	0.00	0.77	0.00	562.63	1920.00
8.000	2900.00	607.91	-2.20	0.69	0.00	507.75	1920.00
8.000	4100.00	609.52	1.60	0.71	0.00	549.25	1920.00
8.000	5900.00	611.51	2.00	0.80	0.00	572.32	1920.00
9.000	4600.00	610.58	0.00	0.87	0.00	576.96	1600.00
9.000	2900.00	608.06	-2.13	0.97	0.00	491.90	1600.00
9.000	4100.00	610.11	1.53	0.89	0.00	573.37	1600.00
9.000	2900.00	612.31	1.75	0.82	0.00	587.83	1600.00

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.000	4600.00	611.51	0.00	0.54	0.00	585.26	1640.00
10.000	2900.00	609.43	-2.01	[illegible]	0.00	522.53	1640.00
10.000	4100.00	610.95	1.51	0.36	0.00	582.77	1640.00
10.000	3900.00	612.83	1.88	0.30	0.00	591.43	1640.00
11.000	4600.00	611.69	0.00	0.36	0.00	290.26	1390.00
11.000	2900.00	609.81	-2.00	0.33	0.00	277.15	1390.00
11.000	4100.00	611.32	1.51	0.37	0.00	272.71	1390.00
11.000	3900.00	612.17	1.86	0.34	0.00	293.03	1390.00
12.100	4600.00	612.31	0.00	0.24	0.00	[illegible]	280.00
12.100	2900.00	609.94	-2.07	0.33	0.00	222.10	280.00
12.100	4100.00	611.45	1.52	0.24	0.00	225.51	280.00
12.100	3900.00	612.31	1.86	0.12	0.00	243.22	280.00
12.200	4600.00	612.25	0.00	0.25	0.00	126.53	320.00
12.200	2900.00	610.27	-2.02	0.23	0.00	112.00	320.00
12.200	4100.00	611.72	1.48	0.26	0.00	122.77	320.00
12.200	3900.00	613.22	1.50	0.21	0.00	130.74	320.00
12.300	4600.00	612.24	0.00	-0.01	0.00	126.55	1.00
12.300	2900.00	610.23	-2.02	-0.01	0.00	112.07	1.00
12.300	4100.00	611.70	1.48	-0.01	0.00	122.[illegible]	1.00
12.300	3900.00	613.50	1.20	-0.01	0.00	130.[illegible]	1.00
12.400	4600.00	612.24	0.00	0.02	0.00	126.[illegible]	36.00
12.400	2900.00	610.24	-2.03	0.02	0.00	112.11	36.00
12.400	4100.00	611.72	1.49	0.02	0.00	122.77	36.00
12.400	3900.00	613.[illegible]	1.50	0.02	0.00	130.75	36.00
12.500	4600.00	612.27	0.00	0.03	0.00	126.57	1.00
12.500	2900.00	610.26	-2.03	0.02	0.00	112.28	1.00
12.500	4100.00	611.75	1.49	0.03	0.00	122.98	1.00
12.500	5900.00	613.56	1.81	0.04	0.00	130.79	1.00
12.600	4600.00	612.22	0.00	0.23	0.00	556.38	300.00
12.600	2900.00	610.40	-2.12	0.14	0.00	416.60	300.00
12.600	4100.00	611.75	1.35	0.20	0.00	519.00	300.00
12.600	5900.00	613.25	1.90	0.27	0.00	550.00	300.00
13.000	4600.00	612.81	0.00	0.29	0.00	725.44	1400.00
13.000	2900.00	610.63	-2.17	0.33	0.00	712.50	1400.00
13.000	4100.00	612.25	1.52	0.27	0.00	721.87	1400.00
13.000	5900.00	614.26	1.94	0.34	0.00	732.79	1400.00
14.000	4600.00	613.06	0.00	0.26	0.00	732.22	1540.00
14.000	2900.00	610.71	-2.17	0.29	0.00	719.13	1540.00
14.000	4100.00	612.45	1.26	0.26	0.00	723.45	540.00
14.000	5900.00	614.[illegible]	1.9[illegible]	0.25	0.00	741.11	1540.00

DEPTH	WOB	TORQUE	DIFF PSI	DIFF RPM	DIFF MUD	SPM IN	ROP
15.000	4600.00	614.24	0.00	0.18	0.00	1437.44	1150.00
15.000	2900.00	611.12	-2.12	0.19	0.00	795.20	1150.00
15.000	4100.00	612.67	1.55	0.15	0.00	1273.83	1150.00
15.000	5700.00	614.56	1.91	0.17	0.00	2480.67	1150.00
16.000	5900.00	614.89	1.78	0.32	0.00	1293.51	1300.00
17.000	4600.00	614.50	0.00	0.56	0.00	1674.16	750.00
18.000	4300.00	615.80	0.00	0.30	0.00	1470.72	1250.00
19.000	3700.00	613.13	-1.67	0.43	0.00	921.53	1150.00
20.000	3700.00	614.71	1.58	0.35	0.00	1550.19	950.00
21.000	3800.00	615.95	1.24	0.33	0.00	1380.00	1380.00
22.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
23.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
24.000	4300.00	616.45	0.00	0.25	0.00	2074.49	1750.00
25.000	3800.00	615.33	1.08	0.33	0.00	1380.00	1380.00
26.000	3900.00	615.57	0.24	0.33	0.00	1380.00	1380.00
27.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
28.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
29.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
30.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
31.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
32.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
33.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
34.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
35.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
36.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
37.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
38.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
39.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
40.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
41.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
42.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
43.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
44.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
45.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
46.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
47.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
48.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
49.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
50.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
51.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
52.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
53.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
54.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
55.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
56.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
57.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
58.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
59.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
60.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
61.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
62.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
63.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
64.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
65.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
66.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
67.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
68.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
69.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
70.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
71.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
72.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
73.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
74.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
75.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
76.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
77.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
78.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
79.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
80.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
81.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
82.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
83.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
84.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
85.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
86.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
87.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
88.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
89.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
90.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
91.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
92.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
93.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
94.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
95.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00
96.000	3800.00	615.05	1.39	0.33	0.00	1380.00	1380.00
97.000	3500.00	615.71	0.00	0.30	0.00	1467.56	990.00
98.000	3700.00	614.23	-1.48	0.26	0.00	1241.29	990.00
99.000	3800.00	615.23	1.00	0.33	0.00	1380.00	1380.00
100.000	3500.00	613.66	-1.57	0.27	0.00	1241.29	990.00

SECND	[illegible]	[illegible]	DIFHSP	DIFUSP	DIFRNP	TOPLIN	[illegible]
25.000	[illegible]	[illegible]	0.00	0.22	0.00	1768.78	1150.00
25.000	[illegible]	[illegible]	[illegible]	0.22	0.00	[illegible]	[illegible]
25.000	[illegible]	[illegible]	0.95	0.29	0.00	[illegible]	1150.00
25.000	3500.00	617.60	1.27	0.25	0.00	1900.45	1150.00

CAUTION SECNO= 1.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 2.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

FLOOD HAZARD FACTORS FOR ENTIRE REACH BEING SECTIONED

CHANNEL DISTANCE	FLOW	DEPTH	BASE ELEV	WIDTH
1.300	0	0.34	0.00	1.74
2.211	190	0.47	-0.23	1.67
2.220	0	0.14	-0.23	1.21
2.240	50	0.40	-0.17	0.35
2.240	859	0.85	-1.18	1.57
2.260	0	0.15	-0.17	1.45
2.260	859	0.51	-1.17	1.70
3.100	859	0.50	-1.41	1.75
4.000	0	0.15	-1.55	1.45
4.000	1328	0.58	-1.42	1.83
4.500	1328	0.53	-1.47	1.81
4.500	2529	0.75	-1.32	1.95
5.100	2529	0.53	-1.25	1.82
5.300	3077	0.63	-1.40	1.99
5.300	3077	0.15	-1.55	1.45
6.000	3077	0.56	-1.50	1.73
6.000	4554	0.83	-1.33	1.91
6.000	4554	0.10	-1.10	1.43
7.100	10017	0.82	-1.25	1.97
8.000	11607	0.86	-1.52	1.89
9.000	13308	0.91	-1.47	1.93
10.000	15008	0.96	-1.42	1.97
11.000	16708	1.01	-1.37	2.01
12.000	18408	1.06	-1.32	2.05
12.500	19258	1.08	-1.30	2.07
13.000	20108	1.11	-1.27	2.09
14.000	21808	1.16	-1.22	2.13
15.000	23508	1.21	-1.17	2.17
16.000	25208	1.26	-1.12	2.21
17.000	26908	1.31	-1.07	2.25
18.000	28608	1.36	-1.02	2.29
19.000	30308	1.41	-0.97	2.33
20.000	32008	1.46	-0.92	2.37
21.000	33708	1.51	-0.87	2.41
22.000	35408	1.56	-0.82	2.45
23.000	37108	1.61	-0.77	2.49
24.000	38808	1.66	-0.72	2.53
25.000	40508	1.71	-0.67	2.57
26.000	42208	1.76	-0.62	2.61
27.000	43908	1.81	-0.57	2.65
28.000	45608	1.86	-0.52	2.69

[illegible] THE REACH [illegible]

THE FOR THE REACH = 0.05 WITH 100.0 PERCENT OF THE REACH WITHIN 0.0 FEET
ZONE FOR THE REACH = A 1

00BREAK00

1) COUNTY: Marquette

2) STUDY NAME: Chocolay Twp.

3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: 10, 50, 100, 500 year flood

00BREAK00

RECEIVED

FEB 25 1985

WATER MANAGEMENT

THIS RUN EXECUTED 15-FEB-85 09:42:12

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1981
ERROR CODE - 01,02,03,04,05,06

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1985
JOB TITLE - CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY FLOOD PROFILE RUN
CHOCOLAY RIVER STARTING WITH MAIN ANNUAL LAKE LEVEL

IT	IO	LCK	LNG	NPU	IDTR	STM	METRIC	NWINS	0	MSEL	PC
	3		4,	0,	0,	0.000000	0.00	0.0	0,	603.00	0.000

NO	XPRT	IPLOT	PVOP	XSECO	XSEC	FR	ALTBC	IBW	CHNIM	ITRACE
	0.0	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.0	0.000

JE VARIABLE CODES FOR SUMMARY PRINTOUT

	700.000	701.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CT	4.000	2900.000	4100.000	4600.000	5900.000	4600.000	.950.000	0.000	0.000	0.000
NC	0.030	0.030	0.025	0.010	0.300	0.030	0.000	0.000	0.000	0.000
NH	4.000	0.100	1850.000	0.030	2000.000	0.030	3.29.000	0.050	2550.000	0.000
	SURVEY SEC, 31 90' D/S OF MOUTH AT LAKE SUPERIOR									
XI	0.000	17.000	2033.200	2109.700	0.000	0.000	0.000	0.000	0.000	0.000
GR	604.500	1500.000	604.400	1820.000	605.000	1850.000	603.000	2000.000	602.700	2038.200
GR	600.800	2047.200	596.900	2061.600	595.600	2050.000	595.500	2087.500	599.200	2101.700
GR	602.200	2105.000	602.700	2.07.700	605.100	2129.200	608.400	2157.900	610.900	2197.300
HH	610.000	2320.000	615.000	2340.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.050	0.070	0.030	0.100	0.000	0.000	0.000	0.000	0.000	0.000
T	0.500	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
	240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)									
XI	2.210	9.000	2000.000	2130.000	590.000	375.000	590.000	0.000	0.000	0.000
GR	607.000	1500.000	595.000	2000.000	602.000	2040.000	595.300	2065.000	602.000	2110.000
GR	605.000	2130.000	610.000	2160.000	615.000	2620.000	620.000	2670.000	0.000	0.000
NC	0.030	0.100	0.026	0.300	0.500	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000
	D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)									
X	2.220	31.000	2000.000	2405.000	250.000	250.000	240.000	0.000	0.000	0.000
XI	10.000	0.000	0.000	0.000	0.000	0.000	0.000	614.500	614.700	0.000
GR	611.000	1550.000	611.400	1880.000	611.400	2000.000	611.400	2000.000	611.400	2082.000
GR	605.300	2007.000	602.400	2021.000	600.500	2041.000	595.200	2039.100	596.000	2051.000
GR	596.100	2051.100	597.300	2062.000	597.300	2071.100	595.000	2078.400	592.100	2085.500
GR	599.000	2096.500	597.100	2081.100	592.100	2096.000	590.300	2093.100	599.400	2098.900
GR	599.300	2135.000	598.300	2106.100	595.000	2073.000	610.400	2085.000	602.500	2094.100
GR	604.300	2102.500	611.400	2106.000	611.400	2112.300	611.700	2112.600	610.000	2122.000

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	620.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	600.000	[illegible]	598.900	2006.100	598.900	[illegible]	598.900	[illegible]	[illegible]	[illegible]
[illegible]	603.400	2045.000	605.000	2070.000	610.000	2100.000	613.000	2110.000	620.000	2145.000
[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	0.000
[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	12.200	[illegible]	2000.000	2135.100	280.000	470.000	320.000	0.000	0.000	0.000
[illegible]	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	615.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	603.300	2079.000	605.100	2102.000	602.700	[illegible]	613.000	2132.800	[illegible]	2135.100
CK	[illegible]	[illegible]	[illegible]	3875.000	0.000	0.000	0.000	0.000	0.000	0.000
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	0.000
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	[illegible]
[illegible]	[illegible]	1115.000	620.000	619.000	[illegible]	618.500	618.300	1950.100	620.000	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	619.700	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	619.400	614.000	2089.300	619.400	601.200	2090.700	619.400	601.300	2090.800	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2102.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	12.400	0.000	0.000	0.000	36.000	36.000	36.000	0.000	0.000	0.000
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	[illegible]	0.000
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
[illegible]	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	619.000	0.000
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	12.600	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	300.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	605.000	1990.000	[illegible]	2000.000	[illegible]	2005.000	597.200	2007.800	597.200	2055.000
GR	597.200	2056.000	[illegible]	2058.000	603.300	2060.000	603.000	[illegible]	[illegible]	2135.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000

	SURVEY SEC. 115									
	8,000	15,000	2000,000	2028,200	600,000	650,000	733,000	0,000	0,000	0,000
TR	816,000	1950,000	812,800	1952,700	601,800	1981,000	2000,000	807,200	800,600	
BR	807,000	200, 700	805,500	2007,600	804,500	202,700	803,400	2018,200	807,200	2029,900
PR	802,900	2039,000	80a 800	2053,800	807,300	2059,300	809 100	2049,900	808,600	2190,300
[illegible]	[illegible]	253,700	[illegible]	2700,000	[illegible]	3250,000	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	SURVEY SEC. 117									
[illegible]	9,000	20 000	2000,000	2079,100	850,000	900,000	1250,000	0,000	0,000	0,000
BR	814,000	1050,000	814,000	2100,000	813,000	1450,000	811,000	1700,000	810,000	1967,000
PR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	0,150	0,150	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 120									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	810,100	2,1,200	812,000	2,60,000	812,000	1200,010	810,200	2041,400	810,200	2200,000
MR	807,700	2002,000	804,000	2024,000	804,000	2008,000	803,400	2013,000	804,100	2020,000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	809,000	2071,500	809,700	2097,000	810,000	2340,000	812,000	2360,000	814,000	2470,300
BR	806,000	2690,000	810,000	2770,000	810,000	3100,000	825,300	3150,300	0,000	0,000
NC	0,150	0,100	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 123									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	820,000	0,000	815,000	800,000	813,000	1100,000	811,000	1850,000	808,000	1879,900
SR	[illegible]	1872,000	809,700	1958,600	809,400	2000,000	808,300	2011,300	803,100	2302,200
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	2032,200	803,900	2072,600	804,100	2040,900	807,100	2051,400	803,500	2121,200
SR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	0,000	0,150	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 122									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	820,000	700,000	815,000	1130,000	813,000	1470,000	810,000	[illegible]	808,000	1942,700
SR	807,700	2000,000	808,000	2000,700	808,300	2001,500	807,300	2007,000	804,500	2017,800
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	811,700	2113,900	820,000	2350,000	825,000	2400,000	0,000	0,000	0,000	0,000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	5,000	0,120	3000,000	3,045	2004,000	0,100	2348,900	0,045	2264,900	0,120
TR	3860,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	SURVEY SEC. 121									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	820,000	440,000	814,000	450,000	812,000	1750,000	810,200	2000,000	809,600	2017,600
BR	803,700	2019,600	807,300	2023,600	807,600	2035,700	807,800	2046,600	804,800	2054,600
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	814,000	2130,500	809,700	2206,900	807,100	2238,000	805,210	2240,000	439,300	2241,000
GR	814,200	2317,300	815,100	2410,300	817,700	2475,000	820,200	2500,000	815,000	2500,000

TH	14,500	0.150	5000,000	0.010	2000,000	0.00	21,150	0	1200,000	0.150	
US	2,500,000	0.000	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	
	EUROPEAN SECTOR										
KI	24,000	8.000	200,000	2205.000	1460.000	1480.000	750.000	0.000	0.000	0.000	
**	620,000	450.000	600.000	450.000	617.000	1250.000	610.800	2000.000	505.300	2032.000	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
OR	305,500	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
BP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	
MD	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	EUROPEAN FEL SEC										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2158.000	000.000	[illegible]	[illegible]	0.000	0.000	
OP	621,000	1.00 000	610 200	1200.000	615,100	1460 000	613.600	1800.000	613.000	2000 000	
OR	610,600	2010 000	610 200	2010.000	600.500	3025 000	600.400	2030.300	610.900	2035.000	
OR	612,000	2030 000	512,800	2048.000	610,600	2750.000	611 100	2300.000	511.600	2850.000	
OP	512,300	3010 000	614 400	3110.000	620 000	3190 000	625.300	3200.000	0 000	0.000	
TJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

SEC #	GE TYP	CURVE	DR MB	MSCLK	EB	TV	HL	OLDQB	CHNL SLOPE
0	OLOD	DSH	0.008	4.03	MSH	APCB	VOL	T=A	15 T/RIGHT
LINE	VLOB	VOX	VNOB	ANB	XUCA	PNR	HIT	ELMIN	BSTO
SLOPE	SLOBL	FLCH	XLCBR	TTRIAC	TMS	CONT	CLOAD	TOPTO	ESOB

NOT

CHN= 0.010 CE M= 3.30

TYPICAL OPEN SEC

SECNO 1.000

NO CRITICAL DEPTH ASSUMED

SEC										
1.00	4.58	605.4	605.14	605.0	605.56	2.42	0.30	0.00	603.7	
450.	10.	4583	3.	2.	367.	2.	0.	5.	800.00	
0.00	2.19	12.7	2.10	0.000	0.036	0.036	0.000	59.69	2075.99	
0.007430	0.	0.	0.	0	7	0	0.00	89.68	2115.67	

SECNO 2.000

THIS SECTION IS MORE THAN 4 FEET

210 U/S ARCH RAILROAD BRIDGE NEAR (OUT) OF CHOCOLAY (MAIN CHANNEL)

2.22	11.48	607.72	0.00	0.00	607.72	0.47	1.19	0.02	605.00
4800.	71	1.23	6	78.	810.	2.	5.	2.	605.00
0.31	0.31	5.37	0.45	0.050	0.010	0.171	0.000	599.36	1511.77
0.002	5.0	0.0	5.5	3	0	0	0.00	92E-02	2+10.39

CU(L= 0.300 CEM= 0.500

CNEL= 1.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 614.70 ELREA= 614.70

U/S FACE OF 7A LINCAL BRIDGE (MAIN CHANNEL)

2.22	1.74	606.29	0.00	5.00	607.64	0.74	0.23	0.10	61.40
4800.	0.	4800	0.	0.	855.	0.	13.	5.	611.40
0.31	0.00	8.99	0.00	0.000	0.026	0.000	0.000	395.20	2008.12
0.002	250	24.1	250	3	0	0	0.00	94.97	2148.89

SECNO 2.250

TYP NORMAL BRIDGE; PJ= 5. .M ELTRD= 610.50 MAX CLC= 610.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 614.70 ELREA= 614.70

[illegible]

[illegible]

[illegible]

STATION	DEPTH	CORREL	TOTAL	TYPECLK	EH	V	WL	DEPTH	MARK ELEV
	CLAS	OCH	DROP	HALL	AD	AROB	ICL	TMP	DEPOSIGHT
	VLOW	VOW	VROB	WIL	KHC	NJR	VTP	ELIGH	SSTA
FLOPP	XCNTBL	XLC	XCOBR	ITRCAL	IDC	ICONT	CORRR	TOPTIP	ENDST

SPECIFICATIONS

SOIL EQUIPMENT EDITING- USED 0 AT 160.0 TYPE- 1 TARGET= 530.000

SHOVEL SET #1

0.00	11.70	508.20	0.00	0.00	508.35	0.15	0.25	0.01	603.60
4630.	759.	5821.	0.	1166.	1136.	0.	79.	15.	617.50
0.27	9.65	3.59	0.00	0.000	0.000	0.000	0.000	596.54	2005.60
0.000393	760.	760.	760.	1.	1.	0.	0.00	0.00	1138.39

SPECIFICATIONS

N/S FACE OF GREEN BAY ST. BRIDGE

0.00	11.70	508.20	0.00	0.00	508.35	0.15	0.25	0.01	603.60
4630.	759.	5821.	0.	1166.	1136.	0.	79.	15.	617.50
0.27	9.65	3.59	0.00	0.000	0.000	0.000	0.000	596.54	2005.60
0.000393	760.	760.	760.	1.	1.	0.	0.00	0.00	1138.39

SPECIFICATIONS

S/S FACE OF GREEN BAY ST. BRIDGE

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible] NAX ELEV= [illegible]

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= [illegible] ELREA= 611.20

[illegible] INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

[illegible]	16.74	608.[illegible]	0.00	0.00	608.76	0.42	0.22	0.00	614.00
[illegible]	0	[illegible]	0	0	3867	[illegible]	1107	20.	[illegible]
0.25	0.00	[illegible]	0.00	0.000	0.028	0.000	0.000	591.60	2006.18
0.000937	26	26.	26.	0	0	0	-[illegible]	98.89	2105.08

[illegible]

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 614.90 ELREA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.78	608.38	0.00	0.00	608.77	0.38	0.00	0.01	614.40
[illegible]	0	4600.	0	0.	[illegible]	0.	110.	20.	[illegible]
0.25	0.00	[illegible]	0.00	0.000	0.028	0.000	0.000	591.60	2006.0[illegible]
0.000517	1.	1	1	2	0	0	0.00	99.03	2105.08

[illegible]

[illegible] ENCROACHMENT STATIONS= 1945.0 [illegible] TYPE= 1 TARGET= 215.000

[illegible] U/S OF GREEN BAY ST. BRIDGE

5.60	16.90	608.80	0.00	0.00	608.38	0.08	0.07	0.09	605.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]
[illegible]	0.71	2.30	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000071	[illegible]	[illegible]	60.	2	0	0	0.00	215.00	2160.00

[illegible] CHV= 0.100 CEFV= 0.300

[illegible]

[illegible] ENCROACHMENT STATIONS= 1600.0 2.00 0 TYPE= 1 TARGET= 500.000

SURVEY LEG [illegible]

5.00	[illegible]	608.9[illegible]	0.00	0.00	609.17	0.23	0.2[illegible]	0.04	604.60
4600	321	4079	0.	972	1001.	0.	192.	31.	100000.00
[illegible]	[illegible]	[illegible]	0.00	0.100	0.029	0.000	0.000	[illegible]	[illegible]
0.00051.	00	1,40.	2060	2	0	0	0.00	[illegible]	2100.00

TIME	FLOW	TEMP	TEMP	WEIGHT	PH	TDS	TURB	COLOR	BACTERIA
SLOPE	RECESS	RECH	X-CORR	TTRIAL	TTC	ICONST	CCRAM	TOFUID	ERIE

SECOND 2.00
SURVEY SEC. 17

0.00	30.	4254.	0.	376.	1030.	12.	232.	42.	606.30
0.00	0.54	7.14	0.36	0.090	0.328	2.100	0.000	494.20	1777.42
0.000259	1460.	1460	1110.	2	0	0	0.00	322.04	2055.46

SECOND 3.000
SURVEY SEC. 14

3.00	13.71	610.11	0.00	0.00	610.33	0.5	0.73	0.00	604.50
4600.	1127	3423.	40.	.122.	804.	50.	332.	60.	602.90
0.00	0.0	0.00	0.00	0.000	0.000	0.100	0.000	594.60	1992.02
0.000	1.1	1.1	1100	2	0	0	0.00	362.83	2092.02

SECOND 4.000
SURVEY SEC. 19

0.00	30.	2546	1002.	18.	710.	1285.	416.	76.	604.70
0.81	0.80	3.74	0.8	0.100	0.045	0.130	0.000	594.00	1987.92
0.000100	1550.	1600.	1450.	2	0	0	0.00	376.98	2240.91

SECOND 10.000
SURVEY SEC. 16

10.00	10.11	611.31	0.00	0.00	611.62	0.1	0.19	0.00	605.50
4600.	20.	5431.	129.	97.	1180.	1903.	318.	76.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2037.17
0.000239	1170.	1640.	1450.	2	0	0	0.00	585.26	2612.44

SECOND 11.000
SURVEY SEC. 21

11.00	11.67	611.07	0.00	0.00	611.17	0.30	0.69	0.06	607.40
4600.	335.	3931.	326.	27.	828.	362.	288.	109.	605.80
0.88	0.32	4.75	0.67	0.060	0.037	0.100	0.000	600.20	1897.23
0.000210	120.	1270.	1250.	2	0	0	0.00	380.26	2277.48

SECOND 12.100
260.07 D/S FROM F-28 BRIDGE

12.00	12.14	642.0	0.00	0.00	642.34	0.74	0.14	0.01	605.40
4600	1162.	3110.	157.	106.	561.	332.	297.	111.	603.10
0.85	0.75	2.04	0.2F	0.045	0.035	0.100	0.000	595.00	1985.99
0.000244	240.	750.	260.	2	0	0	0.00	234.00	2.01.61

	CND	DEPTH	CREST	CRUD	WEIGHT	FV	HV	AL	DIOBS	BANK FLEX
	LED	&D/	DROI	ALOL	PCK	6602	VOL	TRA	CF/SHOT	
	TUB	CIOW	VSH	VXOF	XAL	KNCH	XYL	CTN	ELNIA	BST
	SLOPE	XLCJC	ALCP	XLUG	ITRIA	I'C	LION	COPAR	APLTN	ENDFT

SECTD 02.200

3/23 CHECKPOINT PREP ASSUMED NON-EFFECTIVE FLLEA= 618.50 CLREA= 618.00

D/S TAPE 1-23 BRIEF

1.33	0.00	611.22	0.00	0.00	613.57	0.27	0.15	0.00	618.00
1600.	0.	1600.	0.	0.	1102.	0.	602.	112.	617.90
1.1	0.00	0.05	0.00	0.000	0.037	0.300	0.000	597.20	2003.30
0.000126	100.	100.	100.	2	0	0	0.00	126.75	2129.99

SECTD 12.200

3/23 NORMAL OPTIMIZATION AT MTH LIMB= 618.00 HAT E LIM= 619.00

TAPE OVERRAN AR-A ASSUMED NON-EFFECTIVE FLLEA= 618.50 CLREA= 618.50

12.30	13.01	612.74	0.00	0.00	612.58	0.29	0.00	0.11	618.30
4600.	0.	4600.	0.	0.	1565.	0.	602.	112.	617.90
1.1	0.00	4.32	0.00	0.000	0.021	0.300	0.000	597.20	2003.32
0.000126		1.	1.	1	0	0	-41.37	126.75	2129.87

SECTD 13.000

3370 NORM+ TRIDS NRG ? MIN E.TRD= 618.00 MAX EL.C= 619.00

3195 OVERUP+ DATA YES TO PO-EFFECTIVE FLLEA= 618.00 CLR-A= 618.00

12.40	13.06	612.26	0.00	0.00	612.63	0.29	0.02	0.00	618.30
4600.	0	4600.	0.	0.	1047.	0.	602.	112.	617.90
1.1	0.00	4.31	0.00	0.000	0.024	0.300	0.000	597.20	2003.28
0.000126	36	36	36	0	0	0	-41.31	126.63	2129.93

SECNO 14.500

SECNO 15.000

SET P	DEPTH	AZIM	TYPE	CHECK	R	AJ	HL	DOORS	DRAFT	ELEV
SHOT	INCL	DCH	DROP	ALSO	DCH	ADJR	VD	TVA	LEFT	CONSTR
BLOCK	ACCEL	XCH	CLOSR	TRIAL	TD	ICONT	CDSEP	APPEND	ENDST	

OVERLAP ADJ ASSUMED NON-ZERO ELEV= 616.50 ELDT= 618.01

M/S	DEPTH	OF	M-D	KTUDE						
12.50	12.07	612.29	0.00	0.00	612.36	0.27	0.00	0.01	618.30	
2600.	0.	2600.	3.	0.	1112.	0.	207.	112.	617.90	
0.00	0.00	1.14	0.00	0.00	0.026	0.000	0.000	197.20	2073.17	
0.000 34	1.	1.	1.	2	0	0	0.00	526.37	2130.00	

SECNO 12,600

0.00	0.00	612.81	0.00	0.00	612.84	0.13	0.04	-0.30	
2600.	897.	1117.	512.	1527.	807.	240.	675.	115.	605.30
1.15	0.54	3.57	0.56	0.100	0.026	0.100	0.000	197.20	1493.52
0.000 20	340.	300.	260.	2	0	0	0.00	526.38	2130.00

SCHO= 0.00 CEMO= 0.30

SECNO 13,000

SURVEY SEC. 113

13.00	12.11	612.81	0.00	0.00	612.84	0.03	0.19	0.01	606.70
4600.	2431.	1992.	99.	3740.	716.	63.	729.	531.	605.90
1.76	0.72	2.03	1.03	0.101	0.040	0.090	0.000	197.20	1551.51
0.000 02	1100.	1100.	1.00	2	0	0	0.00	725.14	2073.71

SECNO 14,000

SURVEY SEC. 114

14.00	13.00	613.06	0.00	0.70	613.38	0.07	0.27	0.00	607.10
3600.	1107.	1191.	2525.	1350.	887.	3257.	885.	152.	608.50
1.75	0.64	5.02	0.98	0.100	0.040	0.100	0.000	526.70	1730.61
0.000 33	1340.	1540.	1210.	2	0	0	0.00	732.22	2468.03

SECNO 15,000

SURVEY SEC. 115

14.00	13.14	613.34	0.50	0.00	613.30	0.04	0.31	0.01	606.60
4600.	1898.	1643	1035.	2305.	507	1526.	990.	176	607.80
1.92	0.70	3.21	0.65	0.170	0.045	0.100	0.000	526.60	1043.39
0.000 34	720	1190	720		0	0	0.00	1637.46	2610.06

SECNO @ TIME SLOPE	DEPTH @ CP VLCB VLCH	DCH VCH VLCH	DEPTH DRUG VRGI XLCH	MBELK #LOF XWL ITPTAC	TB ADM YXCM YOS	FO 4SOB ;NR CCONT	HL U5_ UTP CSTAR	CLOSS TMA TOTUTP	BANKFLEV LEFTARTBNT #LMIN ENDST	$PD
SECNO 17.000										
SURVEY SEC. 21										
24.00	11.55	613.44	0.00	0.00	615.30	0.04	0.50	0.00	609.10	
4300.	2001.	2206.	31.	5114.	1652.	46.	1569.	52.	606.90	
3.90	0.39	2.22	0.43	0.150	0.940	0.100	0.000	603.90	544.62	
0.000211	1000.	1590.	1090.	2	0	0.	0.00	1555.83	2140.16	
SECNO 22.000										
CHANGE SECTION 23										
22.00	11.71	615.71	0.00	0.00	613.80	0.02	0.20	0.00	609.70	
4300.	1960.	1519.	614.	3315.	513.	1535.	1677.	359.	606.90	
3.72	0.38	2.03	0.43	0.150	0.940	0.100	0.000	603.90	1005.62	
0.000154	930.	1510.	841.	0	0	0.	0.00	1557.55	2730.83	
1490 NR CARD USED										
AS END 23.000										
SURVEY SEC. 22										
22.00	7.34	616.16	0.00	0.00	616.17	0.01	0.32	0.00	610.83	
4300.	2350.	1765.	1.	3317.	1548.	341.	1552.	416.	609.90	
3.72	0.38	2.20	0.43	0.150	0.940	0.100	0.000	603.90	1005.62	
0.000134	1640.	1670.	2450.	2	0	0	0.00	1990.16	2436.58	
USED NT CARD USED										
SECNO 24.000										
SURVEY SEC. 24										
24.00	7.63	616.3	0.00	0.00	617.11	0.01	0.26	0.00	610.80	
4300.	1466.	1793.	843.	4014.	1516.	2565.	2726.	498.	606.30	
3.74	0.36	2.34	0.42	0.150	0.958	0.110	0.000	603.90	857.29	
0.000201	1130.	1710.	1680.	2	0	0	0.00	1954.49	2951.28	
SECNO 23.000										
SURVEY SEC. 23										
23.00	7.54	615.7	0.00	0.00	616.77	0.01	0.28	0.00	613.00	
4300.	1480	1759.	3150.	1077.	259.	5352.	5796.	243.	613.80	
3.72	0.38	2.01	0.43	0.150	0.910	0.150	0.000	609.40	1002.45	
0.000154	1400	1750	1406	2	0	0	0.00	1963.73	2141.64	

THIS RUN EXECUTED 13-[illegible]-81 [illegible]

HEC2 RELEASE DATED NOV 76 UPDATED MAY 198[illegible]
ERROR CORR - 01 02 03 04 05 06
[illegible]

11 CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1983
12 JOB 01027F CHOCOLAY HEC DSWEFH 10 YR. FLOOD PROFILE RUN
13 CHOCOLAY RIVER STARTING WITH MEAN ANNUAL LAKE LEVEL

ICHECK	INQ	INV	ITER	STRT	METRIC	HVINE		WSEL	FWT
0.	2	0.	0	0.000000	0.00	0.0	0.	603.100	0.000

NPROF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ITRACE
0.000	0.000	1.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SECTID	LENTH	CHNEL	ELTRS	WSEL	EG	FQ	AR	OLOSS	BANK ELEV
	ELOB	ORCH	ORCD	VLOB	AREA	AROB	VEL	DIA	LEFT/RIGHT
	TIME	VLOF	VCH	AROB	ANGL	YNCH	XCR	HTA	SLMAN	SSTO
	SLOPE	KLOSS	XLCH	XLOBR	TTRIAL	IDC	CONT	CONTAR	TOPWIT	ENDST

CCHV= 0.200 CEHV= 0.500

.990 NH LEFT USED

.SECNO 1.000

SURVEY SEC. 3: 10' U/S OF MOUTH AT LANE SURVEYOR

2500.	2.	2196.	0.	600.12	600.27	1.	0.00	0.00	602.70
0.000	1.00	8.42	.05	0.030	0.030	0.030	0.000	595.60	2350.30
0.0037	0.	0.	0.	0.	0.	0.	0.00	0.	1.0275

ASECNO 2.210

.501 NV CHANGED MORE THAN .1FT'S

240' D/S ERIE RAILROAD BRIDGE NEAR MOUTH OF CHAGOGAY (MAIN CHANNEL)

2.21	9.76	605.04	0.00	0.00	605.44	0.37	1.22	0.01	605.60
2000.	0.	2000.	0.	0.	501.	0.	6.	1.	400.00
0.01	0.10	4.90	0.01	0.000	0.040	0.010	0.000	295.30	1596.82
0.001521	240.	520.	520.	2	0	0	0.00	152.57	2130.38

CCHV= 0.200 CEHV= 0.500

.SECNO 2.220

AREA OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEN= 614.50 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.23	10.18	605.28	0.00	0.00	605.79	0.38	0.28	0.07	611.40
2000.	0.	2000.	0.	0.	509.	0.	5.	2.	400.00
0.01	0.00	5.50	0.00	0.000	0.040	0.000	0.000	303.10	2012.32
0.001011	250.	270.	550.	2	0	0	0.00	97.98	2100.73

ASECNO 2.230

.370 NORMAL BRIDGE-PRO- OF MIN ELTOP= 614.50 MAY ELLC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEN= 614.50 ELREA= 614.70

14 INCREMENTS OF D/S FACE REQUIRED

SECT	DEPTH	DECEG	CNTRE	USECP	EG	QU	HL	CLOSS	RUNK ETE	
TYPE	CLOB	D H	BACT	ALOA	ACH	DROF	VOL	TMR	FRACTURE	
	WIDE	UCK	UNDB	CHL	XMGM	BR	MC4	ELICH	SECO	
	SLOPE	FLOW	FLSH	VELSH	TURBA	TM	CICLE	CONA	TRCOIN	E-DOS
	2.00	0.00	SAND	0.000	0.00	SOFT BI	0.55	0.00	0.00	614.40
	1500.		2700.	0.	0.	138.	0.	0.	2.	41.40
	0.05	0.00	5.91	0.00	0.500	0.026	0.000	0.000	595.30	2013.75
	0.001118		1	1	2	0	0	-18.58	87.87	2100.70

SECEND 2.290

3490 NORMAL PERIOD AREA 614.40 ELREA= 614.40 RUNAGE= 614.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 614.40 ELREA= 614.70

	SIDE OF L.O.B.	CROWN								
	2.50	10.00	300.00	3.20	0.70	605.51	1.04	0.03	0.01	611.40
	2000.	0.	2000.	0.	0.	491.	91.	10.	2.	611.40
	0.05	0.00	5.91	0.00	0.000	0.026	0.000	0.000	595.20	2013.75
	0.001118	17.	17.	17.	1	0	0	-18.58	88.03	2100.77

SECEND 2.300

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 614.50 ELREA= 614.70

	FACE OF R.H.B.	CROWN								
	2.50	10.00	60.36	0.00	0.00	60.36	0.19	0.03	0.02	614.40
	2900.	0.	2900.	0	0.	0.0	0.	10.	2.	614.40
	0.05	0.00	5.92	0.00	0.000	0.026	0.000	0.000	595.20	2013.75
	0.001001	1.	1	1	2	0	0	0.00	88.13	2100.96

SECEND 2.360

	SIDE OF C.S.	BRIDGE								
	2.26	11.02	202.03	0.00	0.00	203.00	0.35	1.04	0.16	602.50
	2900.	0.	2804.	50.	24	903.	272.	12.	3.	602.50
	0.06	0.43	2.41	0.52	0.060	0.026	0.130	0.000	595.30	1987.52
	0.000179	110.	171	100	2	0	0	0.00	85.10	2041.23

SECNO 2.380 SECW 0.00 SECW 0.50

SECEND 3.000

SURVEY SEC 23

	3.00	1.16	203.96	0.00	0.00	404.07	0.09	0.06	0.01	607.50
	3900.	0.	3900.	81.	0.	1170.	988.	21	5.	602.90
	0.06	0.00	5	0.52	0.000	0.035	0.130	0.000	59.50	2011.55
	0.000167	600	620	420	4	6	0	0.00	200.50	2211.75

STRUCT	DEPTH	WIDTH	SKEW	CRIMP	WIDTH	SQ	RV	NI	CLOSS	BARR ELEV
NO	RUCB	OUT	SKEW	SLOP	ACH	FLOW	VEL	TW	LFT/RIGHT	
TYPE	WLOW	JCP	WIDR	XNL	XNCH	JAR	HI	CLMIN	BSTN	
	FLOPE	FLOSL	FLSK	XLEFR	TRIAL	IEC	ISOPT	CSCAR	TRNUTO	ERDST

PSECNC 4.000

SO FURTHER ENTRY STATION= 1630.0 I SO.0 TYPE= 1 TARGET= 500.000

A 01	9.73	604.23	0.00	0.00	604.37	0.14	0.29	0.02	603.60
2360.	.92	2708.	0.	439.	868	0.	52.	10.	617.30
0.0	0.	21.2	0.00	0.100	0.753	0.000	0.000	556.50	1085.21
1.000000	50.	72.	83%	2	0	0	0.00	473.94	2630.18

PSECNC 5.000

270 D/S FROM GREEN DAY ST ARTDLE

25.01	23.	548.	0.00	0.00	0.51	0.2	0.3	0.00	605.70
0.23	0.47	2.63	1.02	0.00	0.139	0.000	6.000	592.10	1912.26
1.000091	3.6.	166.	850.	0	0	0	0.00	360.50	2102.77

CUM 0.750 CSI 4= 0.300

SECOND 5.200

3495 OVERFLOW AREA ASSUMED NON-EFFECTIVE,ELLEA= 610.90 ELRE4= 611.20

D/S FACE OF GREEN DAY ST. BRIDGE

3.20	1.40	606.10	0.00	0.00	606.37	0.24	0.08	0.06	611.00
2900.	0.	2900.	0.	0.	735.	0.	92.	18.	620.00
0.23	0.00	2.54	0.00	0.000	0.032	0.000	0.000	591.60	2011.47
0.000680	1.	1.	1.	0	0	0	-36.98	92.50	2103.97

SECOND 5.300

3270 FINAL BRIDGE,ISO= 51 FIX ELTR= 610.20 MAX TILE= 624.00

3495 OVERFLOW AREA ASSUMED NON-EFFECTIVE,ELLEA= 610.90 ELRE4= 611.20

1% S.BASE OF D/S FACE OF GREEN DAY ST. BRIDGE

3.20	1.40	606.10	0.00	0.00	606.37	0.26	0.00	0.01	611.00
2900.	0.	2906.	0.	0.	735.	0.	92.	18.	620.00
0.23	0.00	4.09	0.00	0.000	0.035	0.000	0.000	591.60	2011.47
0.000680	1.	1.	1.	0	0	0	-36.98	92.50	2103.97

FLOOD	DEPTH	RUNOFF	CRITICAL	TABLE	ES	AO	HL	CLOSED	TIME OF CONC		
INL	VLOC	QCB	VRCH	RNL	XMCH	SAR	BTW	FLOW	OPTION		
SLOPE	K-DEC	XLOW	XLOW2	ITRIAL	CAP	TCONT	CONAR	OPTION	ENDST		

STORM # 100

100 YEAR HYDROGRAPH= 0.0 + 3.7 M.S. STRT= 611.20 AT ELEV= 634.00

MISS OVERLAND AREA ASSUMED NON-EFFECTIVE;ELLE= 614.90 ELREA= 611.20

0.00	0.00	506.42	0.00	0.00	606.66	0.25	0.02	0.00	614.00
0.00	0	2906	0	0	709	0	23	18	610.00
0.25	0.00	1.09	0.00	0.000	0.028	0.000	0.000	521.60	2011.45
0.000673	26	16	26	0	0	0	-27.01	92.54	2105.99

STORM # 100

100 OVERLAND AREA ASSUMED NON-EFFECTIVE;ELLEA= 614.90 ELREA= 611.20

0.20	14.05	506.42	0.00	0.00	606.67	0.24	0.03	0.01	614.00
2500	0.	1906	1	0.	739.	0	24	3	610.00
0.25	1.01	5.05	0.00	0.000	0.028	0.000	0.000	521.60	2011.38
0.000392	1.	1.	1.	2	0	0	0.00	92.67	2104.05

STORM # 100

120' U/S OF GREEN BAY ST. BRIDGE

5.60	14.31	506.71	0.00	0.00	606.76	0.07	0.01	0.06	605.00
2900	2	2906	0	0	25	0	7	19	100000.00
0.24	0.10	1.07	0.00	0.000	0.028	0.000	0.000	521.60	1967.61
0.000653	2.0	120	1.0	2	0	0	0.00	93.36	2150.00

LOSS= 0.100 CEN= 0.300

STORM # 100

3470 ENCRO; RIVER STATIONS= 1400.0 1331.3 TYPE= 1 TARGET= 503.000

SERVICE SIDE

6.00	17.82	603.87	0.00	0.00	607.01	0.19	0.21	0.04	604.50
7900.	103.	2797.	0.	302.	788.	0.	134.	27.	100000.00
0.43	1.71	3.35	0.00	0.100	0.025	0.000	0.000	334.00	1745.97
0.000273	710.	940.	2020.	2	0	0	0.00	336.55	2100.00

SECNO / TYPE / SUBSEC	DEPTH / ELEVP / ELEVB	CMSEL / OBJ / CAM	CRJCB / VROE / TAPE	SSE R / ALGO / XMCP	TEM / ACM / ICOR	AP / VROE / TOPAR	HL / VOL / HTA	OLOSS / TWA / SLOPN	SEAM SLED / LEFT/RIGHT / SBTB
	SLOPE	FLOAT	YLCH	XLOBR	STRIAL	CND	ICOR	TOPAR	TOPFID	ENTST
&SECNO 7.500									
SURVEY SEC 57									
7.00	13.03	607.02	0.00	0.00	607.40	0.12	0.39	0.00	604.28C
2900.	57.	2820.	19.	811.	31.	270.	37.	80.	607.50
0.63	0.35	3.56	0.19	0.090	0.028	0.100	0.000	599.20	1563.73
0.000226	1360.	1450.	1170.	2	0	0	0.00	229.51	2095.24
&SECNO 8.000									
SURVEY SEC 58									
8.00	11.81	607.81	0.00	0.00	608.31	0.19	0.70	0.01	604.50
2700.	156.	2838.	6.	780.	53.	24.	32.	48.	602.50
0.00	0.00	0.00	0.00	0.000	0.000	0.100	0.000	597.75	1980.00
0.000000	1360.	1450.	1170.	2	0	0	0.00	307.75	2095.80
&SECNO 9.000									
SURVEY SEC 9									
9.00	11.32	607.36	0.00	0.00	609.01	0.19	0.90	0.00	603.10
1290.	15.	1224.	309.	25.	149.	283.	222.	47.	604.30
0.04	0.28	5.5.	0.29	0.130	0.040	0.100	0.000	591.00	1981.3
0.000000	1360.	1450.	1170.	2	0	0	0.00	291.00	2095.80
&SECNO 9.500									
SURVEY SEC 10									
10.00	10.43	607.52	0.00	0.00	607.53	0.10	0.21	0.01	602.50
2900.	4.	2913.	367.	5.	143.	903.	337.	98.	606.60
1.07	0.58	2.65	0.41	0.260	0.040	0.100	0.000	597.40	1979.93
0.000227	1170.	1440.	1450.	2	0	0	0.00	222.58	2351.52
&SECNO 10.500									
SURVEY SEC 11									
11.00	9.61	609.31	0.00	0.00	610.06	0.15	0.78	0.05	607.40
2500.	57.	2728.	13.	86.	660.	173.	377.	91.	605.80
1.43	0.30	4.17	0.33	0.040	0.035	0.100	0.000	600.30	1938.03
0.000611	1360.	1450.	1270.	1	0	0	0.00	237.15	2106.07
&SECNO 12.100									
750.0' D/S FROM I-28 BRIDGE									
12.10	1.04	607.54	0.00	0.00	610.27	0.09	0.44	0.01	603.40
2760.	782.	2777.	251.	334.	668.	217.	381.	93.	605.40
1.17	0.21	2.67	0.03	0.010	0.032	0.100	0.000	598.50	1871.53
0.000611	270.	300.	264.	2	0	0	0.00	220.10	2059.32

```
   STATION    DEPTH    CHORD    CHORD    WEIGHT    EQ        HW        WL          CLOSE   INVERT ELEV
     NO.      BLOW      EP      INCR     ALONG     ARCH      ARCH      VOL         TYP     LOAD   FACT
     SECT     FLOW     XSECH    CENTER   TRIAL     INC       ICONT     THRUST      CLOSE   ENDSET

 SECH=  1.300 CENV=  0.500
 CHECKS AT 200
 ** SUCTION AT  ISSUED NON-CONSERVATIVE DELTA=     613.50 ELTRA=     619.00

   U/S FACE H-28 BRIDGE
  12.30    13.04    610.24     0.00     0.00    610.43     0.19     0.01     0.00   618.30
   2900.       0.     2900.       0.       0.      832.       0.      390       9%    617.90
   1.20     0.00     3.49     0.00    0.000    0.024    0.000    0.000   397.20  2009.89
0.000106       1.       1.       1.       0        0        0   -54.57   112.07  2121.98

 SECH=  1.300 CENV=  0.500
 CHECKS AT 200
 ** SUCTION AT  ISSUED NON-CONSERVATIVE DELTA=     613.50 ELTRA=     619.00

 3491 DS BRANK AREA ASSUMED NON-EFFECTIVE;ELLEA=     613.50 ELREA=     618.50

   INSIDE OF U/S H-28 OF TWIN BRIDGE
  12.40    13.22    610.32     0.00     0.00    610.11     0.19     0.00     0.00   618.30
   2900.       0.     2900.       0.       0.      854.       0.      390       9%    617.90
   1.20     0.00     3.49     0.00    0.000    0.024    0.000    0.000   397.20  2009.91
0.000106       1.       1.       1.       0        0        0   -54.57   112.07  2121.98

 SECH=  1.300 CENV=  0.500
 CHECKS AT 200
 3370 NORMAL BRIDGE WRD= 27 MIN ELTRD=  618.00 MAX ELLC=  619.00

 3495 DOWNSTREAM AREA ASSUMED NON-EFFECTIVE; LEA=     613.50 ELREA=     618.50

   INSIDE OF U/S FACE OF H-28 BRIDGE
  12.40    13.04    610.24     0.00     0.00    610.43     0.19     0.01     0.00   618.30
   2900.       0.     2900.       0.       0.      832.       0.      390       9%    617.90
   1.20     0.00     3.49     0.00    0.000    0.024    0.000    0.000   397.20  2009.89
0.000106       1.       1.       1.       0        0        0   -54.57   112.11  2122.00

 SECHO 13.500
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STA	ELEMENT	CHSEL	CENTER	TOP	ED		HL	OCOEF	BANK ELEV
D	BLCK	DC1	RRE	ALG3	DCM	BRDB	VCI	INC	FFT/RIGHT
TIME	BLCK	V2D	VROT	XWL	XNS	XSRI	HTA	ELMIN	SSTA
SLOPE	XLOBE	XLCR	XLOSR	STR/AC	IPS	COUT	UCHAR	MAP11D	ERUST

>ADD OVERBANK AREA ASSUMED NON-EFFECTIVE FLEA .00 ELEV= 618.50 ELSE= 618.00

U/S FACE OF H-25 FRIDGE

12.50	13.06	610.26	0.00	0.00	610.43	0.17	0.00	0.00	618.30
2900.	0.	2900.	0.	0.	869.	0.	390.	0.	617.90
1.00	0.00	7.34	0.00	0.000	0.000	0.000	0.000	397.20	0000.00
0.000017	0.	0.	1.	2	0	0	0.00	416.28	2182.00

>SECNO 12.600

D/S FACE OF CULVERT 1 (FRIDGE 1) 1 FOR 0 FOR 2 TYPE= 1 TARGET= 618.600

12.50	13.26	610.26	0.00	0.00	610.58	0.10	0.24	0.02	618.30
2700.	97.	2167.	351.	973.	2700.	492.	402.	56.	605.50
1.25	0.42	2.87	0.18	0.100	0.026	0.100	0.000	397.20	1763.10
0.003097	340.	300.	260.	2	0	0	0.00	416.60	2180.00

>CONV= 0.100 LEAV= 1.00

>SECNO 13.000

SURVEY SEC. 13

13.00	13.92	610.65	0.00	0.00	610.67	0.06	0.19	0.10	606.90
2900.	1240.	1.29	24.	2339.	599.	20.	474.	11.	605.90
1.03	0.67	2.57	0.80	0.100	0.040	0.090	1.000	596.70	1733.10
0.000019	1100.	1400.	1100.	2	0	0	0.00	712.90	2070.99

>SECNO 14.000

SURVEY SEC. 01

14.00	14.83	610.93	0.00	0.00	610.93	0.00	0.27	0.00	607.10
2900.	672.	859.	134.	1293.	494.	2270.	235.	173.	606.50
1.27	0.52	1.31	0.25	0.100	0.040	0.100	0.000	596.50	1743.21
0.000157	1340	1540	1210.	2	0	0	0.00	718.13	2460.34

>SECNO 15.00

SURVEY SEC. 13

15.00	15.52	611.17	0.00	0.10	611.37	0.10	0.25	0.03	624.60
2900.	1102.	1462.	314.	1368.	418.	530.	650.	117.	607.20
1.99	0.8	3.54	0.53	0.100	0.045	0.100	0.000	596.60	1612.78
0.000022	470.	1150.	930.	0	0	0	0.00	293.20	2417.98

THIS RUN EXECUTED [illegible] 09:00:35

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - [illegible]

T1 CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1985
T2 JOB [illegible] CHOCOLAY-REC [illegible] 50 YR. FLOOD PROFILE RUN
CHOCOLAY [illegible] STARTING [illegible] MEAN ANGLE [illegible]

J1	[illegible]	INV	NINV	IDIR	NITRT	NITRI	NVINS	U	WSEL	FQ
	0	3.	0.	0.	0.000000	0.00	0.0	0.	303.100	0.000

J2	[illegible]	[illegible]	[illegible]	X	[illegible]	[illegible]	FN	[illegible]	[illegible]	[illegible]	ITRACE
	[illegible]	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

```
   STATION      DEPTH      XSEC      CRIMP      WSEL       EG        QU        WS        D/STAB    MAN. ELEV
     O           CL OF      UCH       XROB       ALCH       ALCH      AROF      VOL       XSA       LEFT/RIGHT
    WLNE         VLOB       VCH       XRCB       XNL        XNCH      XLOB      XTN       ELMIN     ESTA
     SLOPE       XLOBL      XLCH      XLOBR      TWTA       IC        ICONT     CONRA     TOPWID    ENDFL

 #PROF 3

 #CHNL  3.000 CE=  0.500
 #CONTR PARA USER
 #SECNO 1.000
      SURVEY SEC. 1  POT D/S OF SOUTH AT LANE BUFFIO#
    0.00      7.60     203.10     206.73     205.50     205.52        2/21      0.00      0.00     592.70
    2.500     2.7      40.7.        1          1+       34B.          1+        0%        2.      407.70
    0.00      1.16      1.2         0.60      0.030     0.040      0.070      0.300    395.60    2021.72
    0.000 100           0.          0.         0.         0.          0        0.00     91.39     211.95

 #SECNO 2.10

 NTC1 HV LINKS 20 MORE THAN 10 TRS

      D/S OF D/S FACE RAILROAD BRIDGE AERA RIGHT OF FLOODWAY (MAIN CHANNEL)
    2.22     10.99    606.29      0.00       0.00     606.24      0.49      1.41      0.02     611.30
    (OUT      0.       FOR         3.         2.        TEL        0.        3.       FOR=0.00
    0.37      3.75      1.4        0.5       0.050      0.030      0.071     0.300    393.20   2125.26
    0.001156  930       350        972          3          0          0      0.00     90.91    2107.77

 #CHNL  2.300 CE=  0.500
 #SECNO 2.20

 #105 OVERBANK AREA ASSUMED NON EFFECTIVE/ELLER=      614.50 ELBEA=      614.70

      U/S FACE OF 16 LOAD BRIDGE (MAIN CHANNEL)
    2.22     11.26    606.46      0.00       0.00     607.15      0.49      0.29      0.15     611.40
    (OUT      0.       FOR         0.         0.        TEL        0.        2.       FOR=0.00
    0.04      0.30      3.55       0.00       0.000     0.030      0.051     0.000    395.20   2009.39
    0.001156  930       24         950          2          0          0      0.00     90.91    2107.50

 #SECNO 2.230

 #70 NORMAL BRIDGE:ID= 21  CM ELMIN= 606.30 MAX FLO= 6 4.30

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE/ELLER=      614.50 ELBEA=      614.70

          1% INCREASE OF D/S FACE OF P-3 BRIDGE
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      ELEV      DEPTH      DISCH      CROSS      SECT      EP          FR          HL          OLDSS    BANKSIDE
       WSEL       OLOB       XSA        QAOB       ALOB       WSN         ARO3        VOL         TUA    LEFT/RIGHT
      VEL       VLOB       VOL        VIOB       VOL        YNCH        XAP         WP          ELM N      SETA
     SLOPE      XLOBL      XLCH       XLOBP      TTA A      DMS         SOOST       ELMAX       TOPWTH     EPIST

                                                                                                                
                                                                                                                
                                                                                                                
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PCND	ITEM	CURFL	CURVR	KBELT	FD	DV	N	OLCAB	BARR ELEV	
P A	SCALE	DEC	DRAG	BLDH	DEM	SPDF	VCL	INA	CFT/R DIST	
TYPE	V(0)	VCA	VBOS	RML	SNC	XNR	HTA	ELK/N	BSD	
SLOPE	XLCPL	XLCH	XLCBR	TRIAL	IOC	ICONT	FORAR	TOPNTO	EYOST	

SECND 4.CCO

EXCO FOUNDATION/CONCRETE STRUCTURE 1461.0 PLAN & TYPES TARGET= 330.000

SURVEY SEC 21

4.00	11.16	607.66	0.00	0.00	507.81	0.15	0.30	0.01	603.60
4300.	577.	3533.	0.	949.	1061	0.	71.	13.	617.30
0.23	0.00	4.73	0.00	0.000	0.033	0.000	0.000	59.60	2007.73
0.000872	400.	650.	170.	2	0	0	0.00	97.32	2105.05

SECND 5.00

270' D/S FROM GREEN BAY ST BRIDGE

4.00	11.16	607.66	0.00	0.00	507.81	0.15	0.30	0.01	603.60
4300.	577.	3533.	0.	949.	1061	0.	71.	13.	617.30
0.23	0.00	4.73	0.00	0.000	0.033	0.000	0.000	59.60	2007.73
0.000872	400.	650.	170.	2	0	0	0.00	97.32	2105.05

SECND 5.200

3195 OVERBANK AREA ASSUMED NON-EFFECTIVE: LEA= 614.90 ELRFA= 611.20

C/S FACE OF GREEN BAY ST. BRIDGE

5.00	10.20	607.80	0.00	0.00	607.16	0.35	0.00	0.09	610.00
5400.	0.	1200	0.	0.	857.	0.	99.	20	610.00
0.23	0.00	4.73	0.00	0.000	0.033	0.000	0.000	59.60	2007.73
0.000872	400.	650.	170.	2	0	0	0.00	97.32	2105.05

SECND 5.500

3270 NORMAL SECTION-NP = 41 ELCHL,ELTRD= 611.20 HWM ELEV= 610.00

3195 OVERBANK AREA ASSUMED NON-EFFECTIVE: LEA= 614.90 ELRFA= 611.20

1' UPSTREAM OF D/S FACE OF GREEN BAY ST. BRIDGE

5.20	16.19	607.79	0.00	0.00	608.10	0.37	0.00	0.01	610.00
4.90.	0.	1100.	0.	0.	855.	0.	97.	20.	610.00
0.23	0.00	4.91	0.00	0.000	0.028	0.000	0.000	791.60	2007.73
0.000872	1	1.	1	1	0	0	-32.00	97.31	2105.05

STATION	DEPTH CLOSE	CREST WIDTH	CURVE DOWN	CREST ALONG	TW SLOPE	HGT ABOVE	HL ADJ	D/S TOE TOP	MAX ELEV LEFT/RIGHT
	SLOPE	GLOBAL	XSECT	GLOBAL	CRITICAL	DC	TOPWT	SPRAY	OVLTP	ENDST

SPECIAL 1 (1)

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEN= 614.90 ELREA= 611.20

CODE 1 DOWNSTREAM FACE OF DEER PARK ST. BRIDGE

5.00	4.00	607.38	0.00	0.00	603.38	0.37	0.33	0.00	614.00
NUM=	51	4.00	0.	0.	854	0.	59.	20.	0.00
0.23	0.00	4.90	0.00	0.000	0.000	0.000	58.60	3007.65	
0.000570	25	24.	20.	0	0	0	-2.00	97.38	2105.05

SPECIAL 5.300

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEN= 611.90 ELREA= 611.20

NAME= PARK ST. BRIDGE DS

5.00	0.00	607.38	0.00	0.00	-00.19	0.31	0.00	0.00	0.00
.00	2	4.00	0.	3.	854	0.	59.	20.	310.00
0.23	0.00	4.90	0.00	0.000	0.000	0.000	58.60	3007.65	
0.000606	1	1.	1	0	0	0	0.00	97.38	2105.05

SPECIAL 7 (1)

3490 ENCROACHMENT STATION= 10.00 SLOPE= 0.00 TYPE= 1 TARGET= 615.010

130' D/S OF GREEN BAY ST. BRIDGE

5.00	15.32	605.27	0.00	0.00	605.09	0.07	0.02	0.03	605.00
NUM=	24	4.00	0.	03	100	0.	103	20.	10000.00
0.23	0.10	2.10	0.00	0.130	0.055	0.300	0.000	551.81	1915.05
0.000062	210	210.	40.	2	0	0	0.00	213.00	2.60.00

ECHO= 0.300 ECHO= 0.300

SPECIAL 4 (NM)

3.70 ENCROACHMENT STATION= 10.00 SLOPE= 0.00 TYPE= 1 TARGET= 300.000

RIVER-SEC= 1

0.00	2.36	608.36	0.00	0.00	608.58	0.22	0.24	0.04	10.60
0.00	372.	3729.	0.	754.	942.	0.	75.	70.	.0C300.00
1.22	0.49	3.96	1.90	0.00	0.078	0.000	0.092	394.06	1459.34
0.020570	500.	940.	7300.	2	0	0	0.00	490.36	7120.00

SECND 1.000
CD WAY SEC 67

2.00	1.30	405.75	0.00	0.00	406.75	0.29	0.41	0.00	321.30		
1100.	325.	30.	31.	455.	962.	11.	205.	52.	705.50		
1.00	0.69	3.94	0.30	0.050	0.018	0.100	0.000	574.20	1801.65		
0.000752	1460.	7960.	1110.	2	0	0	0.00	296.70	2098.31		

SECND 3.000
SURVEY SEC, 8

5.00	13.12	609.52	0.00	0.00	609.72	0.21	0.74	0.00	404.50		
1100.	525.	3.45.	35.	935.	757.	43.	299.	57.	602.50		
0.44	0.97	6.75	0.00	0.00	0.00	0.00	1.00	384.20	1998.90		
0.000252	1460.	4130.	1410.	2	0	0	0.00	384.20	1998.90		

SECND 9.000
SURVEY SEC, 67

9.00	36.74	610.81	0.00	0.00	610.56	0.15	0.87	0.01	407.10		
1100.	27.	2799.	38.	4.	751.	1702.	574.	73.	605.40		
1.62	0.43	3.71	0.75	0.170	0.010	0.100	0.000	574.20	1998.81		
0.000152	1460.	4130.	1410.	2	0	0	0.00	384.20	2098.65		

SECND 9.000
SURVEY SEC 68

9.00	15.57	610.95	0.00	0.00	611.06	0.15	0.50	0.00	405.20		
1100.	1.0.	2807.	38.	24.	1073.	1250.	403.	52.	606.80		
1.00	0.69	3.97	0.29	0.030	0.010	0.100	0.000	574.20	2027.45		
0.000152	1460.	4130.	1410.	2	0	0	0.00	384.20	2098.65		

SECND 12.000
SURVEY SEC 69

12.00	13.12	611.32	0.00	0.00	611.21	0.29	0.89	0.00	407.40		
1100.	335.	3899.	236.	216.	793.	210.	527.	105.	605.80		
1.00	1.00	1.40	0.24	0.000	0.035	0.100	0.000	460.20	1902.35		
0.000393	1390.	1790.	1750.	2	0	0	0.00	273.51	2172.27		

SECND 12.100
260.0' D/S FROM H-28 BRIDGE

0.10	2.57	6.45	0.00	0.00	611.73	0.32	0.16	0.01	403.40		
1100.	271.	2270.	345.	313.	736.	2021.	535.	107.	604.01		
1.13	61.	3.37	1.21	0.010	1.074	0.100	0.000	346.70	1807.09		
0.000151	1390.	2140.	2150.	2	0	0	0.00	230.69	2442.91		

```
    NO    DEP IN   CASE1    CODE     USER1     BY       NO        RL       UCOBS    BANK SLEP
     0     BLDG.    LOC      BRDG     BLDG      BCP      ARCH      VOL      CPU      DEPTH/SHIP
    1960   W.D.S    WCH      DSCR     XNL       EACH     XYS       WTR      SCHED    ESTR
    SLOPE  XLOSL    XLOF     XLOER    STRING    INC      ICONT     SHEAR    SPCTN    ZNERT

 *COMMENT  D/S PACE N-2B BRIDGE

 *END OVERBANK USER ASSUMED NON-EFFECTIVE FLOW AREA          615.50 ELEMENT          616.50

 D/S PACE N-2B BRIDGE

    1.00    1.00    616.72    0.00    611.95    0.24      0.00      0.00    617.50
     100.     100.     100.      0.      0.      100.      0.        108.    617.50
     .13     0.00     3.94     0.00    0.000     0.030     0.000     0.000   197.20   2003.06
  0.000058    100.     320.     470.      2       0         0       5.50    122.72   2127.78

 *SECNO  2.00

 2370 HORIZONTAL BRIDGE WAY= 27 MIN ELEVATION= 616.00 MAX ELEVATION= 619.00

 3893 OUTSIDE USER ASSUMED NON-EFFECTIVE FLOW AREA          613.50 ELEMENT          616.50

 ( INSIDE OF D/S FACE OF N-2B BRIDGE
    2.30    14.52    611.72    0.00    0.00     611.98    0.24      0.00      0.00    618.30
     100.      0.      100.      0.      0.       100.      0.        108.    617.50
     .13     0.00     .10      0.30    0.000     0.030     0.000     0.000   197.20   2003.06
  0.000058    100.     320.     470.      2       0         0       5.50    122.72   2127.78

 *SECNO  2.30

 2370 HORIZONTAL BRIDGE WAY= 27 MIN ELEVATION= 616.00 MAX ELEVATION= 619.00

 3893 OUTSIDE USER ASSUMED NON-EFFECTIVE FLOW AREA          613.50 ELEMENT          616.50

 ( INSIDE OF D/S FACE OF N-2B BRIDGE
    12.30    14.52    611.72    0.00    0.00     611.98    0.24      0.00      0.00    618.30
     4100.     0.      4100.     0.      0.       100.      0.        108.    617.50
     .13     0.00     .10      0.30    0.000     0.030     0.000     0.000   197.20   2003.06
  0.000058    100.     320.     470.      2       0         0       5.50    122.72   2127.78

 *SECNO  2.300

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SECNO	DEPTH	DBSIC	DRIFT	CREEP	EC	AV	HC	SLOPE	ROCK	SLED
	0	DLOS	DCM	0.00	BLOB	BCH	APOR	JBL	FOR	LEFT/RIGHT
	TIME	0.05	DCH	VBOB	BIL	KNCM	XIP	UTM	ELMCM	BB.P
	SLOPE	XLOBS	XLOB	XDRAG	ITRIAL	ICC	T-ONT	COPAR	TOPDCO	ENDST

&PD OVERRUN OPEN ASSUMED,NO-EFFECTIVE-EL_DF= 613.50 FORFA= 618.00

12.50	14.53	617.75	0.00	0.00	617.99	0.28	0.00	0.00	416.30
4100.	0.	4100.	0.	0.	1045.	0.	514.	138.	617.90
1.76	0.00	0.00	0.00	0.000	0.027	0.000	0.00	0.00	0.00
0.000025			2	0	0	0.00	722.98	2227.28	

&SECNO 12.600

	600' U E OF I-35 3 DCH								
12.60	14.75	611.75	0.00	0.00	612.38	0.27	0.04	0.14	403.80
4100.	731.	2049.	520.	1620.	1175.	2804.	553.	1117.	607.90
1.6	0.31	3.26	0.30	0.100	1.054	0.100	0.300	727.30	1661.00
0.000110	310.	300.	260.	2	0	0	0.30	519.00	2160.00

CCRV= 0.100 CC-V= 0.300

&SECNO 12.640

SURVEY SEC, C13

13.00	13.03	617.22	0.00	0.00	612.24	0.05	0.19	0.21	404.90
1110.	2247.	1104.	47.	52.	498.	53.	632.	27.	695.60
1.30	0.32	3.36	0.80	0.100	0.003	0.050	0.000	724.73	1353.32
0.000111	1.00	300.	1121.	2	0	0	0.00	721.87	2070.19

&SECNO 13.000

SURVEY SEC, C13

13.00	13.09	612.17	0.00	0.00	612.51	0.07	0.23	0.00	402.10
4100.	1035.	1100.	1964.	1200.	683.	3017.	799.	349.	603150
1.76	0.64	3.45	0.65	0.100	0.000	0.000	0.00	724.38	1357.55
0.000155	1340	1340	240.	2	0	0	0.00	725.47	2362.96

&SECNO 13.060

SURVEY SEC, C13

13.00	13.07	611.67	0.00	0.00	612.24	0.07	0.23	0.00	400.60
4100.	662.	1613.	825.	2042.	457.	1382	692.	169.	607.80
1.92	0.81	2.36	0.64	0.100	0.343	0.100	0.000	594.60	1351.36
0.000163	770.	450.	930.	1	0	0	0.00	1778.35	2610.23

RECRD	DEPT	LOSS	DEPS	WELL	HS	HU	SAL	OLDPE	BANK EDIT
NBR	CLOG	SCH	CODE	AUOR	ACH	AROB	COI	TAN	IFFT/TBG
	CLOG	VCH	USC1	XNL	XXCH	XMS	L"M	E.MIN	SRTA
	SLOPE	XLOEC	YLOC	XLOSS	NIPC	JC	ILOAT	TORAR	TIMO

SECOND 10.000
SURVEY SEC. 10

16.00	16.00	5.94	5.00	5.50	5.05	0.40	0.30	603.10	
4100.	1811.	1787.	2025.	902.	785.	2343.	7000.	197.	806.60
2.12	0.36	2.32	0.79	0.120	0.045	0.100	0.000	497.70	1499.28
0.000023	1170.	1540.	1150.	2	0	0	0.00	305.09	2494.36

SECOND 7.000

MAIN ENCAPSULATION STATIONS= 1690.0 85.0 TYPE= 1 TARGET= 495.000
SURVEY SEC. 217

16.00	16.00	5.94	5.00	5.50	5.05	0.40	0.30	603.10	
4100.	1811.	1787.	2025.	902.	785.	2343.	7000.	197.	806.60
2.12	0.36	2.32	0.79	0.120	0.045	0.100	0.000	497.70	1499.28
0.000023	1170.	1540.	1150.	2	0	0	0.00	305.09	2494.36

SECOND 7.000

SURVEY SEC. 217

19.00	1.50	4.00	3.81	5.03	21.07	0.07	0.52	0.09	603.30
4100.	105.	1100.	2125.	1390.	905.	3429.	1109.	224.	609.10
2.37	0.77	3.37	0.62	0.100	0.040	0.100	0.000	607.20	1963.93
0.000370	600.	720.	650.	2	0	0	0.00	305.09	2327.56

SECOND 7.000

SURVEY SEC. 7

19.00	3.11	6.14	0.00	0.00	5.05	0.12	0.37	0.07	603.50
3800.	781.	2187.	320.	1071.	905.	716.	1172.	34.	610.60
2.20	0.82	2.93	0.07	0.100	0.040	0.100	3.000	597.20	902.58
0.000.03	850.	1250.	700.	2	0	0	0.00	305.14	2472.72

SECOND 20.000

SURVEY SEC. 220

20.00	2.51	4.07	0.00	0.00	3.14.27	0.76	0.32	0.10	610.20
3800.	1069.	1693.	871.	3037.	1999.	1773.	1250.	270	605.30
0.65	0.42	3.0.	0.50	0.150	0.100	0.100	0.000	602.25	788.22
0.000541	750.	950.	850.	2	0	0	0.00	590.19	2548.41

RECORD TYPE / SECNO	DEPTH OF LOG / SURVEY	CASEL OF / SCH	TIME FROM / SOT	SPEED OF / SNL	TD OF / SNO	MUD WGT / TYP	MV OF / GYN	HT OF / ELMIN	CLOSS AZIMUTH / SBTM	RMKS ELEV / PERMANENT / SBTS / SNDST
SECNO 21.000 SURVEY SEC. 021										
4.00	1.13	599.04	0.00	0.00	611.69	0.01	0.31	0.00	615.40	
3800.	1515.	2062.	27.	4521.	9.	56.	1264.	343.	208.50	
3.70	0.37	2.14	0.46	0.190	0.040	3.120	0.000	403.90	594.52	
0.000211	1000.	3500.	1090.	2	0	0	0.00	1344.49	2139.02	
SECNO 22.000 SURVEY SEC. 022										
22.00	1.30	615.30	0.00	0.00	613.38	0.01	0.28	0.01	609.70	
3800.	1595.	2711.	193.	3932.	495.	277.	1491.	340.	608.90	
4.79	0.36	2.08	0.49	0.50	0.200	0.150	0.000	403.90	1075.92	
0.000136	900.	3500.	810.	0	0	0	0.00	1574.26	2470.80	
490 LH CARD USED SECNO 23.000 SURVEY SEC. 023										
23.00	8.96	615.36	0.00	0.00	615.37	0.01	0.38	0.01	610.00	
3800.	2053.	1557.	140.	1705.	728.	379.	1327.	85.	609.80	
5.79	0.36	0.65	0.53	0.210	0.038	0.120	0.000	402.80	997.97	
0.000136	1500.	1670.	1430.	2	0	0	0.00	1970.47	2423.53	
490 LH CARD USED SECNO 24.000 SURVEY SEC. 024										
24.00	7.22	611.02	0.00	0.00	611.04	0.01	0.27	0.00	610.80	
3800.	1259.	1670.	910.	3474.	1264.	2074.	1990.	476.	610.50	
4.27	0.37	1.90	0.43	0.155	0.033	0.120	0.000	408.60	994.68	
0.000210.	1.30	17.0	16.0	2	0	0	0.00	96.52	2502.20	
SECNO 25.000 SURVEY SEC. 025										
3.00	4.23	616.31	0.00	0.00	616.34	0.01	0.29	0.00	617.00	
3830.	5.09.	497.	2797.	1195.	317.	8039.	2174.	519.	613.60	
4.75	0.34	2.11	0.56	0.170	0.040	0.150	0.000	409.40	1015.74	
0.000220	1400.	34.	1000.	4	0	0	0.00	1741.77	2153.51	

THIS RUN EXECUTED 13-APR-85 09:04:53

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY JANUARY 1983
JOB 1057F CHOCNUT.HEC [illegible] 500 YR. FLOOD PROFILE RUN
CHOCOLAY RIVER STARTING WITH MEAN ANNUAL LAKE LEVEL

[illegible]	[illegible]	[illegible]	[illegible]	STAT	KETRIC	[illegible]	Q	WSEL	FE
0	5	0	0.	0.000000	0.00	0.0	0.	603.100	0.000

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FN	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SECNO	DEPTH	CHSEL	CRIWH	NSTEN	EP	HV	HL	OLCRS	RANK ELEV
U	ELOB	CCH	CROB	KLOB	ACH	ARCH	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	KNL	KNCH	XNR	HTN	FLXIN	SETA
SLOPE	XLOBL	XLCH	XLOBR	STRIAL	TDC	TCONT	CORAR	TOPOIT	EXDST

[illegible]

[illegible] 0.300

[illegible]

*SECNO 1.000

3720 [illegible] DEPTH ASSUMED

[illegible] SUPERIOR

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	607.04	2.42	0.00	0.00	[illegible]
3900.	115.	[illegible]	56.	31	103.	15.	0.	0.	302.70
[illegible]	[illegible]	[illegible]	[illegible]	0.020	0.000	0.000	0.000	5.5[illegible]	[illegible]
0.005750	0.	0.	0.	0	0	0	0.00	[illegible]	2125.45

*SECNO 2.[illegible]

3300 [illegible] EXTENDED 0.74 FEET

3301 HV CHANGED [illegible]

[illegible] FROM RAILROAD BRIDGE NEAR MOUTH OF SHOPCLAY (MAIN CHANNEL)

[illegible]	[illegible]	607.[illegible]	0.00	0.00	[illegible]	0.33	1.22	0.02	605.00
3700.	247.	363.	[illegible]	[illegible]	[illegible]	23.	11.	2.	[illegible]
0.03	1.40	2.96	0.85	0.050	0.030	0.070	0.000	395.30	1900.00
0.001053	590.	390.	373.	2	0	0	0.00	246.58	2146.[illegible]

[illegible]

*SECNO 3.[illegible]

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= [illegible] ELREA= 611.70

[illegible] FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

[illegible]	[illegible]	607.83	0.00	0.00	[illegible]	0.97	0.99	0.29	[illegible]
3900.	0.	3700.	0.	0.	748.	0.	[illegible]	3.	[illegible]
0.00	0.00	7.89	0.00	0.000	0.024	0.000	0.000	555.20	2006.74
0.001384	230.	540.	210.	2	0	0	0.00	96.95	2103.69

*SECNO [illegible]

3370 NORMAL BRIDGE-NRD= 31 MIN ELTRI= 614.30 MAX ELLC= 614.00

STA	OFFSET	CODE	CHNG	ISEQN	ED	HV	HL	TLDAS	SSPK FILT
	DLOB	QIV	QMOD	ADJV	AIH	ARCH	CL	TMA	LEFT/RIGHT
DATE	YLOB	XSH	VTOB	XXL	XNFA	XNG	UTV	FLMIN	SRTS
SLOPE	XLOBL	XCCH	XCMBR	IPRT	ICC	IDCNT	COFB.I	YJ-WID	ENDS

XSECNO 2.240

2.25	12.58	607.78	0.30	0.00	608.34	1.07	0.00	0.03	651.40
5900.	0.	5900.	0	0.	716.	0.	28.	3.	651.40
0.04	0.00	3.31	0.00	0.000	0.026	0.000	0.000	59.20	7005.75
0.000256	1.	1	1	0	0	0	-32.47	96.97	2103.63

XSECNO 2.240

1' INSIDE OF U/S FACE OF R.R. BRIDGE

2.40	12.18	607.38	0.30	0.00	608.70	1.04	0.04	0.01	644.40
5900.	0.	5900.	0.	0.	716.	0.	47.	3.	644.40
0.04	0.00	8.31	0.00	0.000	0.026	0.000	0.000	59.20	7004.75
0.000256	1.	1.	1.	0	0	0	-32.46	96.97	2103.70

XSECNO 2.240

U/S FACE OF RAILRD BRIDGE

2.25	12.83	607.02	0.00	0.00	608.98	0.98	0.00	0.04	644.40
5900.	0.	5900.	0.	0.	716.	0.	47.	3.	644.40
0.04	0.00	7.7	0.00	0.000	0.026	0.000	0.000	59.20	7004.75
0.000256	1.	1.	1.	0	0	0	0.00	96.97	2103.70

XSECNO 2.230

TSOI RD CROSSED JOBS TO RD#18

2.26	11.62	606.92	0.30	0.00	609.19	0.27	0.07	0.20	602.50
5900.	67.	5551.	48.	53.	1225.	735	20	4.	602.50
0.05	0.72	1.17	0.31	1.560	0.026	0.130	0.000	59.20	7004.75
0.000256	110.	11.	11.	1	0	0	0.00	315.78	2268.43

```
   DEPTH    FLOW    AREA    CRTWS    WEIGHT    FE      TW      WSEL     CWPS   CHNL.SLOPE
    WPS     VLOB     VCH     VROB      XNA      XNCH    XNE     KTC     ELMIN    SSTA
   SLOPE    XLOBL    XLCH    XLOBR     TRIAL    FRC     ICONT   CORNER   TOPWID   EINST

 SECNO 5.000
      SUBKEY-SEQ. 22
    3.00    17.03    169.3     0.01      0.00    629.20    0.15    .508      0.01    607.30
    5700.      2.    529.      901.       5.    2430.     96%.     36.       6.    605.90
    0.00     0.74     3.23     0.52     5.050    0.033    0.103    0.000   791.50  1090.42
 1.000000     900.     250.     150.       2.       0       0      0.00    384.18   327.50

 SECNO 5.000

 3470 ENCROACHMENT STATIONS-    1620.0    2160.0  TYPE=     1  TARGET=     250.000
      SURVEY SEQ. 9
    4.00    62.92    405.5      0.0      0.00    15.38      0.       0.5     8.00    407.30
    3960.    1252.     80.       3.      .500     .500      0.      38.      6.     617.38
    0.79     0.27     2.03     0.00     0.100    0.055    0.000    1.050   59.50    80.00
 0.000370     960.     960.     850.       2        0        0      0.00   511.07  2141.02

 SECNO 5.100
      SUBKEY-SEQ. 23
    5.00    13.12    30.55     0.00      0.00    109.76    0.29     0.5      3.07    51.79
    5900.     754.    1854.     873.      727.    1162.     139.     122       30.    880.00
    0.23     0.65     1.15     1.71     0.100    0.335    0.070    1.000   513.40  1835.96
 0.000554     900.     450.     450.       2        0        0      0.00   273.05  2100.07

 SECNO 5.200

 3192 ENCROACHMENT STATIONS-    410.90 ELREF=     411.20
      SUBKEY-SEQ. 24
    3.00    12.5     397.31    0.00      0.00     6=0.01    0.30     0.13     0.14    414.60
    3500.      0.    3900.       0         0      1039.       0.     134.      21.    410.00
    0.3      0.30     5.68     0.30     0.000    0.035    0.000    0.000   39.60  2002.32
 0.000544     400      760.     576.       1        0        0      0.00    83.41  3106.33

 SECNO 5.300

 3470 NORMAL BRIDGE:NPD= 3  MIN EL TW=   411.20 MAX EL LC=   424.30
```

SECT	DIR	CROSS	LANES	WIDTH	EA	V	HC	OLANES	PSR	EL	SO
GRUP	SIG	ICR	GRDE	RLDR	ACH	GRDR	VOL	TWA	LEFT/R	CHF	
TYPE	LOAD	VCR	GRCE	XML	XMCH	XNR	TOP	CLMTP		SST	
SECTE	MODEL	RECDY	RECOFF	TXTA	TOS	ICONT	CONAK	TURNT	ENDS		

PIER PROTECTION WORK (REDUCED MIN-EFFECTIVE EL= 414.90 ELTFA= 411.20

5.10	17.67	609.47	0.00	0.00	0.06	0.58	0.00	0.34	414.00	
5900	1	3900.	0	0.	983.	0.	131.	24.	610.00	
0.00	0.00	0.00	0.00	0.000	0.028	0.000	0.000	591.90	2002.85	
0.000263	2	1	0	0	0	0	0.00	0.00	2106.89	

SECOND 5.400

5900.	5.	5900	0.	0.	983.	0	131.	24.	410.00	
0.23	0.01	2.61	0.00	0.000	0.028	0.000	0.000	591.90	1945.00	
0.000263	240	120	60	2	0	0	0.00	210.00	2160.00	

5900.	56	5814.	0	280.	2214.	0.	131.	22.	30000.00	
0.23	0.01	2.61	0.00	0.100	0.028	0.000	0.000	591.90	1945.00	
0.000263	240	120	60	2	0	0	0.00	210.00	2160.00	

SECOND 5.600

5900.	56	5814.	0	280.	2214.	0.	131.	22.	30000.00	
0.23	0.01	2.61	0.00	0.100	0.028	0.000	0.000	591.90	1945.00	
0.000263	240	120	60	2	0	0	0.00	210.00	2160.00	

DEPTH	CSGL	CRIC	CNCF	EG	HV	HT	DELHS	BARN ELEV
TIME	MUD	VDC	CROS	ANL	CNC-	MAR	MTM	ELCIN	ISSTN			
SLOTS	XLIBL	XECH	XLC3R	TTIAL	ITC	IGSAT	TIMER	TMFOTI	ERJE			

SECND 0.100 CINV 300

SECND 5.00

SURVEY SEC. 16

6.00	6.53	610.33	0.00	0.00	610.57	0.14	0.24	0.04	604.60
5900	1000	600	07	15	1140	67	231	72	00000.00
1.53	0.61	0.30	0.00	0.040	0.026	0.040	0.000	591.00	1800.0
1.000259	500.	1140	2061	2	0	0	0.00	585.66	2100.30

SECND 7.000

SURVEY SEC. 17

0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00
5900	700	0397	84	1505.	.913.	72.	413	63.	602.90
0.62	1.15	0.19	0.07	0.100	0.040	0.100	0.000	576.00	1771.14
2.000579	7911	0791	1400	1	0	0	0.00	582.29	2071.24

SECND 7.000

SURVEY SEC. 18

9.00	1E.34	12.37	0.00	0.00	612.48	0.11	0.22	0.01	603.10
5900	700	0401	84	1505	913	7665	520	79	00000.00
0.79	0.72	0.27	0.12	0.00	0.010	0.100	0.000	591.00	1805.00
0.000387	1550.	1190	1420.	1	0	0	0.00	585.60	2371.00

SECND 0.000

SURVEY SEC. 19

10.01	17.43	612.23	0.00	0.00	6.3.91	0.12	0.17	0.01	603.52
5900	697	0398	1110	17.	.233.	2561	64	95.	00000.00
2.78	0.63	1.20	0.7	0.040	0.040	0.100	0.000	575.40	2023.72
0.000310	1170.	1610	1420.	1	0	0	0.00	591.43	2617.20

SECTION NO.	DEPTH BLDG TIME	CHANNEL WIDTH XCH	CENTER DIST XRB	WSEL XNL	ES XNCH	AV XNP	F VOL	DOSS TWA ELMIN	INVERT ELEV ESTA
	CLOM	XLOB	XCH	XCHEV	XNAL	SRC	ICONT	ICPAV	ENDST

CROSS SECTION
SURVEY ELEV DIJ

14.00	13.77	6.47	0.30	0.00	613.50	0.87	0.49	0.08	607.20
5900.	527.	1284.	430.	818.	995.	490.	738.	113.	605.30
1.00	8.29	3.08	1.00	0.040	0.035	0.100	0.000	600.30	1884.64
0.0005879	1380.	1390.	1290.	2	0	0	0.00	256.03	2102.69

SECNO 12.100

12.10	11.41	613.51	0.00	0.00	613.67	0.37	0.16	0.01	603.40
5900	3633	3693.	592.	782.	815.	413.	746.	111.	603.40
0.0061	2.3	2.0	1.0	2	0	0	0.00	142.23	310.6

TOTV= 0.000 CONV= 0.000
SECNO 13.200

13.20	6.30	613.82	0.00	0.00	613.83	0.34	0.17	0.01	618.30
5900	0.	5900.	0.	0.	1209.	0.	757.	116.	617.90
1.00	0.00	0.02	0.00	0.000	0.000	0.000	0.000	597.21	3002.30
0.000879	14.	1.	1.	1	0	0	0.00	125.71	2153.04

SECNO 13.300

13.30	6.30	613.82	0.00	0.00	613.83	0.34	0.17	0.01	618.30
5900.	0.	5900.	0.	0.	1209.	0.	757.	116.	617.90
1.00	0.00	0.02	0.00	0.000	0.000	0.000	0.000	597.21	3002.30
0.000879	14.	1.	1.	1	0	0	0.00	125.71	2153.04

SECT	DEC	CHSEL	TRIMB	PSEUK	ED	HP	NL	CLOP	SMAX ELEV
0	ELOB	CDC	CROB	ALOB	VOP	#ROH	VOL	TAP	LEFT/RIGHT
DIKE	VLOB	VCR	U-OB	#IL	XRCH	NSR	STX	E.MIX	BETA
SLOPE	ALOBL	ELCH	ALCHR	ITRIAL	TOC	ICONT	CSTAR	TOPWID	E.DS

SECTION 12.00

3490 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 618.50 E.REA= 413.00

1.00	0.00	1.31	0.00	0.000	0.026	0.000	0.000	577.20	2003.30
0.000592	36.	36.	36.	0	0	0	-45.55	130.75	2123.03

SECTION 11.50

3193 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 618.50 ELREA= 413.00

12.50	.00	614.50	0.00	0.00	613.89	0.35	0.00	0.01	1415.30
3206.	0.	3500.	0.	0.	1277.	0.	758.	138.	403.90
1.00	0.00	1.15	0.00	0.000	0.025	0.000	0.000	577.20	2003.30
0.000593	1.	1.	1.	2	0	0	0.00	130.75	2133.06

RECORD 12.00

3170 ENCROACHMENT STATIONING 2000.0 2160.0 TARGET= 360.000

3001 USE OF N-SU BRIDGE

12.00	.00	613.65	0.00	0.00	612.01	0.15	0.04	0.05	403.30
5944.	1792.	1745.	83.	100.	941.	107.	728.	1.81	403.30
1.00	0.65	2.52	0.72	0.000	0.025	0.000	0.000	577.20	2000.00
0.000592	36.	200.	36.	2	0	0	0.00	130.00	2160.00

CCHV= 0.100 CEHV= 0.300

*SCFIN8 15.000

13.00	12.00	21.00	0.00	0.00	612.11	0.00	0.00	0.01	404.70
3400.	3400.	2120.	0.	464.	750.	90.	967.	138.	405.90
1.00	0.77	2.79	1.02	0.000	0.010	0.050	0.000	577.20	1947.51
0.000593	100.	1400.	1100.	2	0	0	0.00	732.79	2050.30


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 ST NO.    DEPTH    CHSEL    CABLE    WEEL    SG      INV      XL      DCORR    THKNESS
  (M)      SLOP     WCH      GNCB     ALCI    ACH     APOP     VEL     TWN      LEFT SP GHT
  TYPE     ALCI     VCH      USDA     CVL     XNCH    ZWR      EPM     E_NIS    ESTK
  SLOPE    XLCOSL   XCCH     XLOPA    RIPL    INC     ISOWT    COPRS    I FO JT  SMCST

SET NO  3.000
  SURVEY SEQ  4.00
 10.00    13.29    5.91     0.00     0.00    615.98    0.07     0.34     0.01    408.50
 1.000    1.000    1.000    1.000    1.000   1.000    1.000    1.000    1.000   1.000
   2.43     0.67     3.24     0.30     0.00    0.340    0.100    0.000   299.20  1052.33
0.000230   8.86    1259.     500.      2        0        3      0.00    1211.50  2645.38

SET NO  4.000
  SURVEY SEQ  20
 20.00    13.95    611.13     0.00     0.00    616.20    0.04     0.34     0.00    410.20
 .300     2561     1637     1334.     2570.     548     2665.     179.     328     409.20
   0        0        0        0        0        0        0        0        0        0
 0.130     230.     510.     310.                        0      0.00    1211.72  2647.23

RECNO 21.000

 SURVEY SEQ  30
 21.00    11.56    615.45     0.00     0.00    615.50    0.01     0.27     0.00    409.01
 3300.    2288.    7664.     44.      2272.    1142.     172.    1931.     32.     606.50
 2.91     0.42     2.53     0.39     0.30     0.010     0.00     0.000   405.90   125.58
0.000000  1440.    1490.    1490.     1        0        0      0.00    1537.40  2343.98

RECNO 22.000

 SURVEY SEQ  33
 22.00    14.69    613.69     0.00     0.00    614.77    0.05     0.26     0.01    409.30
 3.00     4234.    3054.     948.     1338.     746.     2248.    2140.     440.     408.50
 2.27     0.47     3.20     0.43     0.30     0.040     0.00     0.000   404.00   935.39
0.000310  8.0.     295      .50%                0        1      0.00    1250.59  2894.03

1490 NH CARD USED
RECNO 23.000

 SURVEY SEQ  35
 23.00    10.05    617.19     0.00     0.00    617.11    0.01     0.33     0.01    410.20
 3300.    2288.    7664.     44.      2272.    1142.     172.    1931.     32.     609.50
 3.79     0.41     3.59     0.35     0.30     0.069     0.120    0.000   404.80   941.23
0.000324  1640     1670.    1490      3        0        0      0.00    2024.40  2469.23
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HEC2 RELEASE DATED JUN 76 UPDATED MAY 1984
ERROR CORR - 0,.02,.03,.04,.05,.06

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES USER-NOTE IN SUMMARY OF ERRORS TABLE

SUMMARY PRINTOUT TABLE 150

SECNO	XLOB	XROB	XLCH	XRCH	LLOB	CHNL	QCHNL	VCHNL	AREA	TOPW
2.300	1.00	3.00	1.00	991.60	4900.00	607.00	607.64	607.68	13.32	11.63	182.64	1733.69
2.290	1.00	3.00	1.00	995.40	4900.00	603.20	0.00	604.21	17.79	8.42	344.02	478.67
2.280	1.00	3.00	1.00	993.80	4900.00	603.10	607.93	605.31	14.29	11.94	345.02	173.67
2.270	1.00	3.00	1.00	992.60	4900.00	604.40	604.64	607.06	57.50	12.62	959.12	778.05
2.260	1.00	3.00	1.00	991.40	4900.00	604.70	607.29	607.34	5.57	5.57	893.00	1878.03
2.250	1.00	3.00	1.00	993.00	4900.00	603.00	0.00	603.44	13.21	4.90	57.34	297.87
2.240	1.00	3.00	1.00	992.30	4900.00	606.30	0.00	606.79	10.49	5.70	108.85	872.56
2.230	1.00	3.00	1.00	993.20	4900.00	606.60	0.00	607.15	11.96	6.65	414.05	1168.48
2.220	1.00	3.00	1.00	995.00	4900.00	607.60	0.00	608.00	13.00	7.00	747.54	1386.40
2.210	1.00	3.00	1.00	995.20	4900.00	607.87	0.00	607.79	23.27	7.51	629.02	973.60
2.200	1.00	3.00	1.00	995.20	4900.00	606.20	0.00	607.11	17.19	5.94	486.13	697.71
2.190	1.00	3.00	1.00	993.20	4900.00	607.00	0.00	607.58	26.30	6.91	1359.87	9840.05
2.180	1.00	3.00	1.00	995.20	4900.00	607.76	0.00	608.03	32.61	8.51	709.75	1164.39
2.170	1.00	3.00	1.00	995.20	4900.00	606.92	0.00	607.74	21.55	7.24	633.61	984.09
2.160	1.00	3.00	1.00	992.20	4900.00	605.30	0.00	605.84	16.94	5.91	490.60	701.10
2.150	1.00	3.00	1.00	993.20	4900.00	606.40	0.00	607.21	20.00	6.70	594.03	914.58
2.140	1.00	3.00	1.00	995.20	4900.00	607.23	0.00	608.70	25.63	8.34	745.62	1179.38
2.130	1.00	3.00	1.00	995.20	4900.00	607.24	0.00	607.45	12.72	6.86	670.50	1342.34
2.120	1.00	3.00	1.00	995.20	4900.00	605.36	0.00	605.86	10.01	5.52	316.00	513.46
2.110	1.00	3.00	1.00	995.20	4900.00	606.37	0.00	607.21	11.35	6.54	625.47	1213.11
2.100	1.00	3.00	1.00	995.20	4900.00	607.02	0.00	607.84	13.84	7.71	745.67	1464.34
2.090	1.00	3.00	1.00	994.20	4900.00	607.74	0.00	608.53	21.14	3.88	1701.91	5142.54
2.080	1.00	3.00	1.00	994.20	4900.00	605.75	0.00	606.61	14.77	3.44	1491.78	2143.25
2.070	1.00	3.00	1.00	994.30	4900.00	607.22	0.00	607.82	21.07	7.65	1557.84	2812.51
2.060	1.00	3.00	1.00	994.20	4900.00	608.52	0.00	609.19	2.56	6.57	2053.40	3842.42

RECNO	WLIN	ELEVTN	TYLCS	ELEVTN	M	SNEGL	SRICH	FB				
8.000	1910.00	0.00	0.00	594.40	6400.00	610.41	0.00	610.72	5.47	4.72	1923.34	1821.01
8.000	1920.00	0.00	0.00	594.40	6300.00	609.51	0.00	609.71	5.47	4.71	1920.50	1820.21
8.000	1930.00	0.00	0.00	594.40	6200.00	608.53	0.00	608.72	5.35	4.13	1762.65	1625.35
8.000	1940.00	0.00	0.00	594.40	6100.00	607.53	0.00	607.74	5.22	4.49	2480.97	2452.61
9.000	1900.00	0.00	0.00	594.00	6400.00	610.38	0.00	611.13	5.30	5.70	3603.18	3224.54
9.000	1910.00	0.00	0.00	594.00	6300.00	609.84	0.00	610.21	5.26	5.58	3465.82	3123.36
9.000	1920.00	0.00	0.00	594.00	6200.00	608.43	0.00	609.30	5.13	5.41	3278.15	2951.10
9.000	1600.00	0.00	0.00	594.00	5900.00	612.33	0.00	612.46	5.27	5.57	3456.57	3000.72
10.000	1600.00	0.00	0.00	595.40	5900.00	611.41	0.00	611.62	5.16	5.00	3050.68	2702.71
10.000	1610.00	0.00	0.00	595.40	5800.00	609.43	0.00	609.53	5.02	4.68	2860.11	2512.71
10.000	1620.00	0.00	0.00	595.40	5700.00	610.95	0.00	611.06	5.28	5.14	3225.94	2864.19
10.000	1630.00	0.00	0.00	595.40	5600.00	612.85	0.00	612.98	5.40	5.46	3536.80	3146.50
11.000	1540.00	0.00	0.00	596.20	6400.00	611.37	0.00	612.17	5.90	4.75	2953.56	1887.40
11.000	1550.00	0.00	0.00	596.20	6300.00	610.41	0.00	611.61	5.77	4.61	2753.36	1773.58
11.000	1560.00	0.00	0.00	596.20	6200.00	611.32	0.00	611.51	5.90	4.80	2901.57	1875.33
11.000	1570.00	0.00	0.00	596.20	6100.00	612.22	0.00	612.37	5.79	5.00	3038.52	2001.35
12.000	260.00	0.00	0.00	595.90	6400.00	611.04	0.00	612.54	6.40	5.55	1301.37	1912.29
12.000	265.00	0.00	0.00	595.90	6300.00	609.94	0.00	610.23	6.35	4.87	1017.79	1155.20
12.000	270.00	0.00	0.00	595.90	6200.00	611.85	0.00	611.78	6.37	5.37	1376.31	1819.72
12.000	275.00	0.00	0.00	595.90	6100.00	613.5	0.00	613.67	6.55	5.97	1813.01	2305.20
12.300	320.00	0.00	0.00	597.10	6400.00	611.23	0.00	611.55	4.15	3.07	1107.25	1221.2
12.300	320.00	0.00	0.00	597.20	6300.00	610.24	0.01	610.24	3.16	3.37	865.89	1020.31
12.300	320.00	0.00	0.00	597.20	6100.00	61. 72	0.00	611.57	3.87	3.9.	940.16	1081.62
12.300	320.00	0.00	0.00	597.20	5900.00	613.2	0.00	613.4	4.34	4.62	1245.23	1376.74
12.300	4.00	18.00	19.00	597.20	6400.00	611.34	0.00	611.53	1.51	4.33	1045.47	1984.15
12.300	4.00	18.00	19.00	597.20	6300.00	610.33	0.00	610.41	4.66	3.77	841.37	1438.51
12.300	4.00	18.00	19.00	597.20	6100.00	611.71	0.00	611.57	5.03	4.10	1080.71	1830.46
12.300	4.00	18.00	19.00	597.20	5900.00	613.56	0.00	613.84	5.39	4.37	1327.16	2410.37
12.600	15.00	18.00	19.00	597.50	6400.00	612.26	0.00	612.35	5.35	4.21	1046.34	1939.31
12.600	35.00	18.00	19.00	597.20	6300.00	610.34	0.00	610.47	5.35	3.49	331.97	1.40.35
12.600	36.00	18.00	19.00	597.20	6100.00	611.72	0.00	611.91	5.51	4.05	1001.46	1532.42
12.600	36.00	18.00	19.00	597.20	5900.00	613.52	0.00	613.88	5.97	4.31	1225.75	2415.56
12.600	1.00	0.00	0.00	597.20	6400.00	612.37	0.00	612.54	5.96	4.14	1118.43	2130.26
12.600	1.00	0.00	.00	597.20	6300.00	610.24	0.00	610.43	5.38	3.34	469.12	1390.50
12.600	1.00	0.00	0.00	597.20	6100.00	611.71	0.00	611.87	5.87	3.93	707.70	1813.21
12.600	1.00	0.00	0.00	597.20	5900.00	613.56	0.00	613.69	5.95	4.62	1226.61	2215.86
12.600	300.00	0.00	0.00	597.20	6400.00	612.72	0.00	612.86	.20	3.34	3421.49	2227.68
12.600	300.00	0.00	0.00	597.20	6300.00	610.40	0.00	610.50	0.97	2.67	2126.15	1851.00
12.600	300.00	0.00	0.00	597.20	6100.00	611.93	0.00	612.05	1.14	3.2.	3104.53	1843.97
12.600	300.00	0.00	0.00	597.20	5900.00	613.65	0.00	613.8	1.37	3.92	4218.62	3153.07

5.000	1400.00	0.00	0.00	556.20	4200.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
5.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
1.000	1500.00	0.00	0.00	596.20	4100.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
1.000	1500.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	2.45	2.55	2997.93	1836.27
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
1.000	1500.00	0.00	0.00	596.20	4100.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
1.000	1500.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	2.45	2.55	4119.81	2805.58
1.000	1500.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	1.45	2.39	5527.74	4242.38
1.000	1340.00	0.00	0.00	496.10	5900.00	612.41	0.00	612.41	1.34	2.17	6693.15	5106.17
15.000	1500.00	0.00	0.00	596.20	4100.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
15.000	1500.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	2.45	2.55	4119.81	2805.58
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
6.000	1300.00	0.00	0.00	516.20	3600.00	613.64	0.00	613.64	2.29	2.39	4760.83	3036.02
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
12.000	1470.00	0.00	0.00	596.20	4400.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
17.000	1470.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
18.000	1470.00	0.00	0.00	596.20	4400.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
17.000	1470.00	0.00	0.00	596.20	3900.00	613.64	0.00	613.64	2.45	2.55	4119.81	2805.58
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
13.000	1400.00	0.00	0.00	556.20	3900.00	613.64	0.00	613.64	2.29	2.39	4738.13	3207.89
18.000	1470.00	0.00	0.00	596.20	4400.00	613.66	0.00	613.66	2.45	2.55	2997.93	1836.27
18

SECND	X,CM	ELAR	EL,C	SLMCN	D	CUBEC	CBJ,S	EG	LOKC	MGH	KEA	
23.000	1670.00	0.00	0.00	404.30	4300.00	616.14	0.00	6[illegible].17	.38	0.96	8635.15	6[illegible]
23.000	1670.00	0.00	0.00	404.30	2700.00	616.14	0.00	614.70	.37	0.90	2822.89	2158.07
23.000	1670.00	0.00	0.00	60[illegible].80	3800.00	615.74	0.00	615.27	.38	0.94	7822.77	3231.16
23.000	1670.00	0.00	0.00	604.80	5500.00	617.10	0.00	617.[illegible]	.27	0.99	10507.90	1949.17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.000	1750.00	0.00	0.00	604.80	5500.00	617.34	0.00	617.33	1.87	1.39	9736.73	4027.88
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

EMPTY PRINTOUT TABLE 170

SECND		CASEL	DJOBP	DOFWRK	OFFRET	STDWTC	XLOF
1.000	4600.00	606.47	0.00	0.00	0.00	34.55	0.00
1.000	2600.00	505.21	-1.23	0.00	0.00	87.87	0.00
1.000	1100.00	506.46	-0.32	0.00	0.00	93.42	0.00
1.000	1900.00	604.66	1.34	0.00	1.51	1.9143	0.00
2.000	4600.00	606.20	0.00	0.00	0.00	34.55	0.00
2.000	4600.00	606.37	0.00	-0.63	0.00	34.55	1.00
2.000	2600.00	505.21	-1.23	-0.32	0.00	87.87	1.00
2.000	1100.00	506.46	0.32	-0.00	0.00	93.42	1.00
2.000	1900.00	604.66	1.34	-0.05	0.00	91.97	1.00
2.000	4600.00	606.20	0.00	0.00	0.00	34.55	0.00
2.000	4600.00	606.37	0.00	-0.63	0.00	34.55	1.00
2.000	2600.00	505.21	-1.23	-0.32	0.00	87.87	1.00
2.000	1100.00	506.46	0.32	-0.00	0.00	93.42	1.00
2.000	1900.00	604.66	1.34	-0.05	0.00	91.97	1.00
2.000	4600.00	606.20	0.00	0.00	0.00	34.55	0.00
2.000	4600.00	606.37	0.00	-0.63	0.00	34.55	1.00
2.000	2600.00	505.21	-1.23	-0.32	0.00	87.87	1.00
2.000	1100.00	506.46	0.32	-0.00	0.00	93.42	1.00
2.000	1900.00	604.66	1.34	-0.05	0.00	91.97	1.00
4.000	4600.00	606.20	0.00	0.27	0.00	30[illegible].8	990.00

CAT		SPEED	DIFFER	DIFF%	DIFF2	TOFWIN	SIZE
	1600.00	606.35	0.00	0.12	0.20	783.33	480.00
	1100.00	606.39	-1.74	1.21	3.21	250.58	360.00
3,100	1100.00	607.74	1.40	0.23	0.00	246.67	450.00
5,200	3500.00	609.32	1.73	0.29	0.00	273.09	480.00
3,300	5100.00	609.8	1.78	0.01	0.00	103.71	240.
5,400	7600.00	606.24	1.00	0.07	0.00	98.39	24.00
	650.00	606.31	0.00	0.03	0.00	99.03	.00
2,500	2900.00	606.35	-1.98	0.05	0.00	97.67	.00
6,000	4000.00	608.36	1.56	0.27	0.00	0.34	1920.00
5,000	1900.00	606.33	1.38	0.17	0.00	200.00	1920.00
7,600	5400.00	609.5	0.00	0.10	0.00	102.14	1440.00
7,000	5200.00	607.53	-2.11	0.31	0.00	215.51	1440.00
7,000	5900.00	610.71	1.93	0.32	0.00	223.12	1440.00
9,000	7600.00	610.53	0.00	0.27	0.00	174.96	1440.00
9,000	7400.00	610.11	1.50	0.24	0.00	173.14	1440.00
9,000	7900.00	610.73	1.75	0.32	0.00	224.82	1440.00

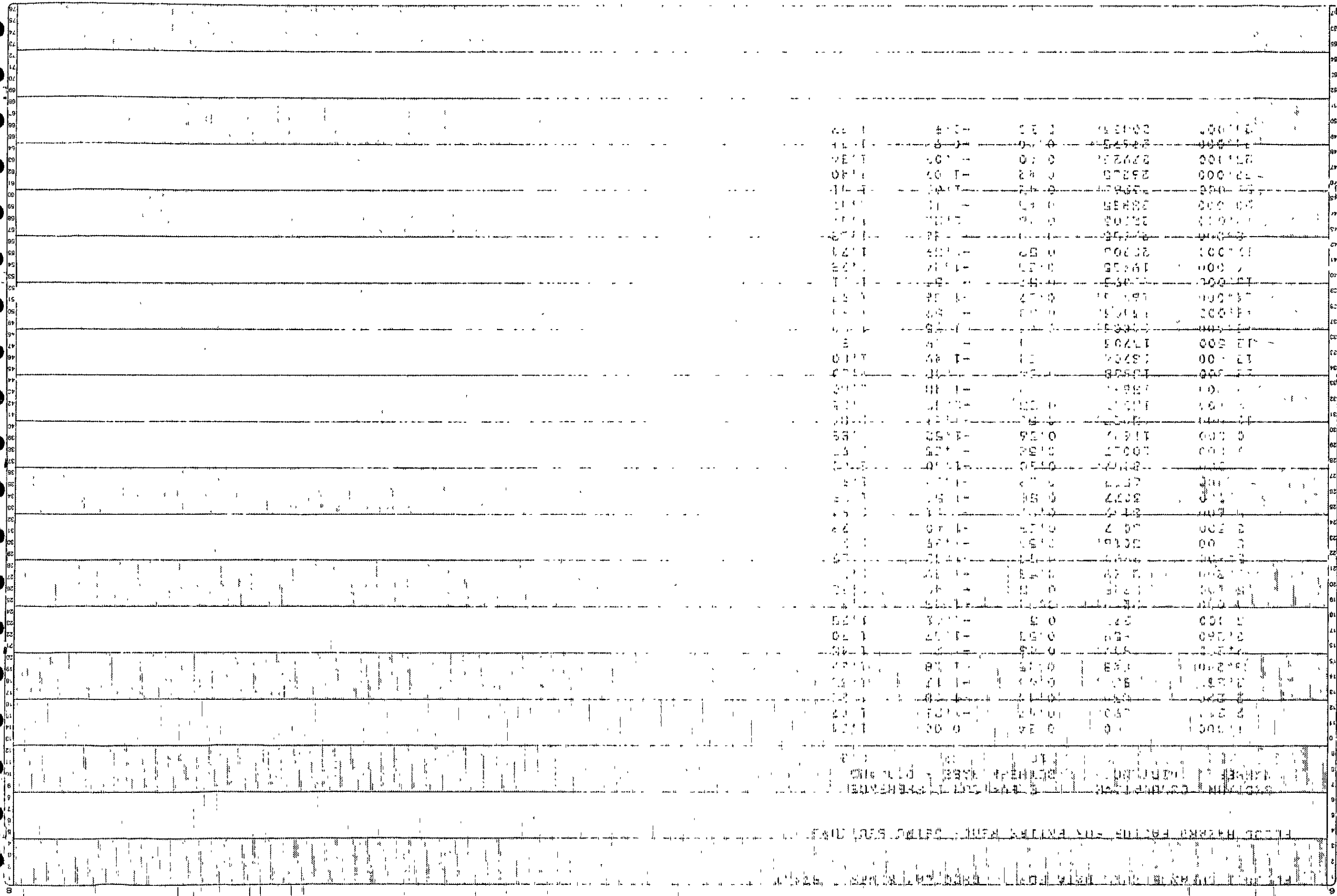
	10,000	4400.00	41.81	0.00	0.54	0.00	402.30	1640.00
	12,000	7900.00	604.43	1.08	0.57	0.00	522.69	1347.50
	10,000	4100.00	610.95	1.24	0.34	0.00	592.77	1640.00
	10,000	3900.00	612.35	1.88	0.00	0.00	571.43	1640.00
	11,000	6600.00	41.67	0.00	0.44	0.00	290.36	1790.00
	11,000	2900.00	604.81	1.04	0.34	0.00	527.05	1350.00
	13,000	8100.00	611.35	1.51	0.37	0.00	771.71	1870.00
	11,000	3900.00	612.17	1.04	0.00	0.00	295.00	1350.00
	11,000	6800.00	412.31	0.00	0.00	0.00	396.00	290.00
	11,000	2800.00	609.91	-2.67	0.04	0.00	305.19	340.00
	11,000	4500.00	611.45	1.84	0.14	0.00	515.51	240.00
	11,000	7900.00	412.35	1.80	0.13	0.00	540.82	280.00
	11,200	6800.00	412.35	0.00	0.25	0.00	396.74	340.00
	11,200	7900.00	609.91	-2.67	0.04	0.00	305.19	340.00
	11,200	4100.00	611.45	1.84	0.14	0.00	515.51	240.00
	11,200	3900.00	612.35	1.88	0.00	0.00	540.82	280.00
	11,200	6800.00	612.35	0.00	-0.01	0.00	396.74	340.00
	12,300	7900.00	610.24	-2.65	0.02	0.00	305.19	340.00
	12,400	4100.00	611.72	1.84	0.02	0.00	515.77	240.00
	12,300	3900.00	612.35	1.88	0.00	0.00	540.82	280.00
	12,300	6800.00	612.35	0.00	-0.01	0.00	396.74	340.00
	12,400

12.000	4600.00	626.24	0.00	0.48	0.00	427.45	1150.00	
13.000	2900.00	621.12	-2.12	0.19	0.00	795.20	1150.00	
13.000	4100.00	612.67	1.55	0.15	0.00	1275.80	1150.00	
15.000	5700.00	614.56	1.91	0.17	0.00	2480.67	1150.00	
15.000	4600.00	615.38	1.01	0.10	0.00	2425.35	1150.00	
13.000	3700.00	613.47	-1.47	0.08	0.00	785.01	1150.00	
16.000	4200.00	611.11	-1.00	0.14	0.00	1437.97	1150.00	
16.000	5900.00	614.89	1.78	0.32	0.00	1293.51	1150.00	
17.000	4600.00	615.71	0.00	0.32	0.00	499.48	1150.00	
17.000	4200.00	615.05	-1.20	0.09	0.00	785.15	1150.00	
17.000	4600.00	615.05	0.00	0.34	0.00	1258.39	1150.00	
17.000	5900.00	615.17	1.79	0.32	0.00	1293.51	1150.00	
18.000	4600.00	615.50	0.00	0.34	0.00	674.16	750.00	
18.000	4200.00	614.94	-1.10	0.09	0.00	1238.89	750.00	
18.000	5900.00	615.06	1.50	0.33	0.00	1765.58	750.00	
19.000	4600.00	615.43	1.58	0.31	0.00	1.81	750.00	
19.000	4300.00	614.80	0.00	0.20	0.00	472.72	1250.00	
19.000	3700.00	615.19	-1.63	0.43	0.00	871.30	1250.00	
19.000	4300.00	614.64	1.71	0.21	0.00	1284.44	1250.00	
19.000	5700.00	615.04	1.97	0.22	0.00	1.60	1250.00	
20.000	4300.00	615.41	0.00	0.25	0.00	1052.72	950.00	
20.000	3700.00	615.29	-1.55	0.43	0.00	1.30	950.00	
20.000	3800.00	614.71	1.15	0.36	0.00	1552.19	950.00	
21.000	4300.00	615.48	0.00	0.27	0.00	1741.79	950.00	
21.000	4300.00	615.46	0.00	0.23	0.00	1525.35	1350.00	
21.000	4500.00	615.48	0.00	0.39	0.00	1741.79	1350.00	
21.000	3800.00	615.35	1.05	0.35	0.00	1552.19	1350.00	
21.000	5300.00	615.72	1.41	0.27	0.00	1827.12	1350.00	
22.000	4500.00	615.71	0.00	0.34	0.00	1437.56	950.00	
22.000	3700.00	615.33	-1.48	0.25	0.00	1.29	950.00	
22.000	4300.00	615.00	-1.07	0.21	0.00	1574.25	950.00	
22.000	5500.00	615.67	1.40	0.24	0.00	1892.99	950.00	
23.000	4500.00	615.71	0.00	0.42	0.00	1095.15	1670.00	
23.000	3700.00	615.71	-1.53	0.41	0.00	1535.39	1670.00	
23.000	3816.00	615.74	1.00	0.35	0.00	1932.42	1670.00	
23.000	4500.00	615.71	0.00	0.41	0.00	2024.40	1670.00	
24.000	4300.00	616.45	0.00	0.25	0.00	2024.49	1750.00	
24.000	3700.00	615.96	-1.50	0.30	0.00	1744.61	1750.00	
24.000	3900.00	616.37	0.95	0.37	0.00	1926.75	1750.00	
24.000	4500.00	616.34	1.41	0.26	0.00	2356.39	1750.00	

SECND		CUSEL	DIFUEF	DIFUSX	DIFKNCT	OPLIM	XLTH
25.000	[illegible]	[illegible]	0.00	[illegible]	0.00	1768.78	1150.00
25.000	2700.00	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]
25.000	3800.00	[illegible]	0.9[illegible]	[illegible]	0.00	[illegible].77	1150.00
25.000	3500.00	617.50	1.27	[illegible]	0.00	[illegible]	1150.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 1.000 PROFILE= CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.000 PROFILE= CRITICAL DEPTH ASSUMED



[illegible]

HF FOR THE REACH = [illegible] WITH [illegible] PERCENT OF THE REACH WITHIN [illegible] FEET
ZONE FOR THE REACH = [illegible]



1) COUNTY: Manistee

2) STUDY NAME: Chocolay Twp

3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: 100 yr encroached



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*****************************************************************************
*  WATER SURFACE PROFILES                                                   *
*  VERSION OF NOVEMBER 1976                                                 *
*  UPDATED MAY 1984                                                         *
*                                                                           *
*  RUN DATE 30-JAN-85 TIME 12:59:20                                         *
*****************************************************************************
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*****************************************************************************
*  U.S. ARMY CORPS OF ENGINEERS                                             *
*  THE HYDROLOGIC ENGINEERING CENTER                                        *
*  609 SECOND STREET, SUITE D                                               *
*  DAVIS, CALIFORNIA 95616                                                  *
*  (916) 440-2105 (FTS) 448-2105                                            *
*****************************************************************************
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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
```

CHOCOLAY RIVER

- 100 YR

- ENCROACHMENT

[illegible]

1-30-85 [illegible]

CHOCOLAY RIVER

THIS RUN EXECUTED 30-JAN-85 12:59:36

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
**************************************************

C
T1      CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1985
T2      JOB #1057F CHOC100,HEC (SHEFFI  100 YR. FLOOD PROFILE RUN
T3      CHOCOLAY RIVER  STARTING WITH MEAN ANNUAL LAKE LEVEL
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	0.000000	0.00	0.0	0.	603.100	0.000
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLOC	IRW	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									
	110.000	150.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	4.000	2900.000	4100.000	4600.000	5900.000	4600.000	1950.000	0.000	0.000	0.000
NC	0.050	0.050	0.025	0.010	0.300	0.000	0.000	0.000	0.000	0.000
NH	4.000	0.100	1820.000	0.030	2000.000	0.030	2129.000	0.050	2560.000	0.000
	SURVEY SEC. #1 90' U/S OF MOUTH AT LAKE SUPERIOR									
X1	1.000	17.000	2038.200	2109.700	0.000	0.000	0.000	0.000	0.000	0.000
GR	609.500	1390.000	608.400	1820.000	608.000	1890.000	605.000	2000.000	602.700	2038.200
GR	600.800	2047.200	596.900	2061.600	595.600	2080.000	596.500	2087.500	599.200	2101.700
GR	602.200	2108.000	602.700	2109.700	605.100	2129.200	608.400	2157.900	610.900	2197.500
GR	610.000	2320.000	615.000	2560.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.050	0.070	0.030	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
	240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)									
X1	2.210	9.000	2000.000	2130.000	590.000	575.000	590.000	0.000	0.000	0.000
GR	607.000	1900.000	605.000	2000.000	602.000	2030.000	595.300	2065.000	602.000	2110.000
GR	605.000	2130.000	610.000	2160.000	615.000	2620.000	620.000	2670.000	0.000	0.000
NC	0.060	0.100	0.026	0.300	0.500	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000
	D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)									
X1	2.220	31.000	2000.000	2106.000	230.000	250.000	240.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	614.500	614.700	0.000
GR	614.000	1560.000	611.400	1980.000	611.400	2000.000	611.400	2000.100	611.400	2005.000
GR	607.300	2007.000	602.400	2021.000	600.500	2031.000	595.200	2039.000	596.000	2051.000
GR	596.100	2051.100	597.300	2052.000	597.300	2052.100	598.000	2053.400	598.100	2053.500
GR	599.000	2056.500	599.100	2056.600	599.500	2058.000	599.500	2058.100	599.400	2058.900
GR	599.300	2059.000	599.300	2064.000	595.900	2075.000	600.600	2085.000	602.500	2094.000
GR	606.000	2102.500	611.400	2106.000	611.400	2112.500	613.700	2112.600	614.000	2120.000

GR	614.000	2280.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	1' INSIDE OF D/S FACE OF R.R. BRIDGE										
X1	2.230	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	614.500	614.700	0.000	
BT	31.000	1560.000	615.000	614.000	1980.000	614.500	611.400	2000.000	614.500	611.400	
BT	2000.100	615.500	611.400	2005.000	615.500	611.400	2007.000	615.500	611.400	2021.000	
BT	615.500	611.400	2031.000	615.500	611.400	2039.000	615.500	611.400	2051.000	615.500	
BT	611.400	2051.100	614.600	606.500	2052.000	614.600	606.500	2052.100	614.600	597.300	
BT	2053.400	614.600	598.600	2053.500	614.600	606.500	2055.500	614.600	606.500	2056.600	
BT	614.600	599.600	2058.000	614.600	599.500	2058.100	617.200	606.500	2058.900	617.200	
BT	606.500	2059.000	617.200	611.400	2064.000	617.200	611.400	2075.000	617.200	611.400	
BT	2085.000	617.200	611.400	2094.000	617.200	611.400	2102.500	617.200	611.400	2106.000	
BT	617.200	611.400	2112.500	617.200	611.400	2112.600	614.700	613.700	2120.000	615.000	
BT	614.000	2280.000	615.000	614.000	0.000	0.000	0.000	0.000	0.000	0.000	
	1' INSIDE OF U/S FACE OF R.R. BRIDGE										
X1	2.240	0.000	0.000	0.000	17.000	17.000	17.000	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	614.500	614.700	0.000	
	U/S FACE OF RAILROAD BRIDGE										
X1	2.250	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	614.500	614.700	0.000	
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000	
	110' U/S OF R.R. BRIDGE										
X1	2.260	15.000	2000.000	2105.000	110.000	110.000	110.000	0.000	0.000	0.000	
GR	609.000	1830.000	609.000	1960.000	605.000	1995.000	602.500	2000.000	600.000	2003.000	
GR	594.300	2010.700	594.300	2040.000	594.300	2064.300	600.000	2070.000	602.500	2105.000	
GR	605.000	2235.000	610.000	2275.000	615.000	2295.000	620.000	2330.000	623.000	2375.000	
NC	0.000	0.000	0.035	0.100	0.300	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. #3										
X1	3.000	21.000	2000.000	2146.000	400.000	250.000	320.000	0.000	0.000	0.000	
GR	620.000	1980.000	609.300	1988.500	607.300	2000.000	602.500	2004.900	597.800	2011.700	
GR	594.000	2020.100	591.500	2039.700	595.200	2050.000	595.500	2057.200	596.600	2068.800	
GR	596.900	2077.100	598.300	2089.600	599.300	2103.100	600.800	2111.800	601.800	2126.000	
GR	603.900	2146.000	605.000	2330.000	610.000	2390.000	610.000	2425.000	620.000	2450.000	
GR	623.000	2500.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
NC	0.100	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. #4										
X1	4.000	22.000	2000.000	2158.000	980.000	890.000	990.000	0.000	0.000	0.000	
X3	0.000	0.000	0.000	1630.000	0.000	2140.000	0.000	0.000	0.000	0.000	
GR	625.000	1310.000	620.000	1370.000	615.000	1380.000	620.000	1590.000	610.000	1610.000	
GR	605.000	1670.000	605.000	1730.000	605.000	1800.000	605.000	1900.000	605.000	1950.000	
GR	605.000	1970.000	603.100	1970.600	603.600	2000.000	602.500	2018.000	601.500	2030.600	
GR	597.400	2070.900	596.500	2095.000	598.100	2114.400	600.800	2122.600	602.500	2126.100	
GR	617.300	2158.000	620.000	2185.000	0.000	0.000	0.000	0.000	0.000	0.000	

	270' D/S FROM GREEN BAY ST. BRIDGE									
X1	5.100	19.000	2000.000	2080.000	370.000	350.000	460.000	0.000	0.000	0.000
GR	622.000	1780.000	620.000	1810.000	615.000	1820.000	610.000	1835.000	605.000	1845.000
GR	600.000	1855.000	600.000	1870.000	605.000	1910.000	605.000	1995.000	602.700	2000.000
GR	600.000	2010.000	593.400	2014.600	593.400	2045.000	593.400	2073.400	600.000	2080.000
GR	602.700	2090.000	605.000	2100.000	610.000	2110.000	613.000	2130.000	0.000	0.000
NC	0.000	0.100	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000
	D/S FACE OF GREEN BAY ST. BRIDGE									
X1	5.200	31.000	2000.000	2107.000	400.000	170.000	260.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	614.900	611.200	0.000
GR	624.000	1850.000	619.000	1880.000	615.000	1950.000	614.000	2000.000	614.000	2000.100
GR	609.800	2002.000	607.000	2010.000	603.800	2018.000	601.900	2018.100	598.100	2027.500
GR	595.600	2028.000	595.100	2029.000	595.100	2029.500	594.700	2031.000	598.300	2040.000
GR	591.600	2050.000	595.100	2060.000	597.600	2074.500	597.900	2075.000	597.900	2076.000
GR	597.900	2076.500	598.400	2078.000	600.000	2081.000	602.200	2089.000	602.200	2093.000
GR	603.100	2097.000	606.900	2105.000	608.800	2105.100	610.000	2107.000	610.200	2107.100
GR	612.100	2500.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE									
X1	5.300	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	614.900	611.200	0.000
BT	31.000	1850.000	625.000	624.000	1880.000	620.000	619.000	1950.000	615.900	615.000
BT	2000.000	614.900	614.000	2000.100	616.100	614.000	2002.000	616.000	611.800	2010.000
BT	615.800	611.000	2018.000	615.500	610.800	2018.100	615.500	610.700	2027.500	615.100
BT	610.700	2028.000	615.100	595.600	2029.000	615.000	595.100	2029.500	615.100	610.300
BT	2031.000	615.000	610.200	2040.000	614.700	609.900	2050.000	614.400	609.600	2060.000
BT	614.000	609.200	2074.500	613.500	608.700	2075.000	613.500	597.900	2076.000	613.500
BT	597.900	2076.500	613.400	608.600	2078.000	613.400	608.600	2081.000	613.400	608.600
BT	2089.000	613.400	608.600	2093.000	613.400	608.600	2097.000	613.400	608.600	2105.000
BT	613.400	608.800	2105.500	613.400	608.800	2107.000	613.300	610.000	2107.100	611.200
BT	610.200	2500.000	612.100	611.100	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE									
X1	5.400	0.000	0.000	0.000	26.000	26.000	26.000	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	614.900	611.200	0.000
	U/S FACE OF GREEN BAY ST. BRIDGE									
X1	5.500	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	614.900	611.200	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
	120' U/S OF GREEN BAY ST. BRIDGE									
X1	5.600	10.000	1995.000	2160.000	240.000	60.000	120.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1945.000	0.000	2160.000	0.000	0.000	0.000	0.000
GR	620.000	1875.000	615.000	1895.000	610.000	1915.000	605.000	1995.000	600.000	2005.000
GR	591.900	2080.000	600.000	2150.000	605.000	2160.000	610.000	2170.000	613.000	2180.000

ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1789.000	2100.400	
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 06										
X1	6.000	18.000	2000.000	2100.400	900.000	2060.000	1940.000	0.000	0.000	0.000	
X3	0.000	0.000	0.000	1600.000	0.000	2100.000	0.000	0.000	0.000	0.000	
GR	625.000	1330.000	620.000	1490.000	615.000	1520.000	610.000	1530.000	606.000	1821.000	
GR	604.700	1979.300	604.600	2000.000	602.900	2008.000	600.500	2031.200	598.700	2038.600	
GR	597.400	2055.700	596.300	2082.100	596.000	2089.200	598.700	2100.400	603.300	2100.500	
GR	603.400	2105.100	621.700	2127.500	621.100	2141.000	0.000	0.000	0.000	0.000	
NC	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 07										
X1	7.000	17.000	2000.000	2091.800	1460.000	1110.000	1460.000	0.000	0.000	0.000	
GR	620.000	1680.000	615.000	1715.000	610.000	1750.000	603.200	1950.300	604.800	1992.300	
GR	604.800	2000.000	602.800	2010.800	601.800	2016.400	598.300	2027.500	594.200	2043.600	
GR	595.800	2068.500	595.600	2073.300	598.500	2084.100	601.200	2090.000	603.500	2091.800	
GR	621.000	2122.700	621.000	2179.200	0.000	0.000	0.000	0.000	0.000	0.000	
NC	0.100	0.100	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 08										
X1	8.000	18.000	2000.000	2078.100	1960.000	1400.000	1920.000	0.000	0.000	0.000	
GR	620.000	1690.000	615.000	1705.000	610.000	1730.000	605.000	1850.000	604.500	1986.400	
GR	604.500	2000.000	603.500	2002.800	602.900	2010.600	601.900	2018.000	600.400	2026.400	
GR	600.500	2031.800	599.100	2044.400	596.400	2059.400	596.800	2071.100	599.000	2074.600	
GR	602.900	2078.100	621.200	2113.500	622.200	2123.800	0.000	0.000	0.000	0.000	
	SURVEY SEC. 09										
X1	9.000	15.000	2000.000	2066.300	1530.000	1490.000	1600.000	0.000	0.000	0.000	
GR	637.000	1948.100	603.100	2000.000	602.100	2007.700	598.800	2007.800	596.600	2012.200	
GR	594.000	2020.900	599.000	2039.800	602.000	2050.900	603.000	2064.900	604.400	2066.300	
GR	605.700	2107.700	606.000	2290.000	610.000	2560.000	615.000	2585.000	620.000	2615.000	
NC	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 10										
X1	10.000	21.000	2034.000	2119.200	1170.000	1450.000	1640.000	0.000	0.000	0.000	
GR	630.200	2000.000	612.300	2026.500	603.500	2034.000	598.800	2042.500	595.600	2055.100	
GR	595.400	2065.200	595.900	2075.000	597.200	2083.800	598.900	2094.800	601.800	2106.500	
GR	602.800	2115.000	605.300	2116.100	606.800	2119.200	607.400	2124.800	605.500	2139.400	
GR	607.000	2315.000	610.000	2607.000	615.000	2625.000	620.000	2635.000	625.000	2652.000	
GR	627.000	2670.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
NC	0.060	0.100	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 11										
X1	11.000	17.000	2000.000	2081.700	1380.000	1290.000	1390.000	0.000	0.000	0.000	
GR	620.700	1812.000	610.400	1911.400	607.400	2000.000	603.500	2014.700	601.300	2021.500	
GR	600.200	2031.100	600.400	2041.300	600.200	2048.400	600.300	2059.100	600.200	2067.800	
GR	602.800	2079.200	605.800	2081.700	606.800	2104.800	610.000	2170.000	615.000	2190.000	
GR	620.000	2230.000	625.000	2290.000	0.000	0.000	0.000	0.000	0.000	0.000	

	260.0' D/S FROM M-28 BRIDGE									
X1	12.100	16.000	2000.000	2045.000	270.000	260.000	260.000	0.000	0.000	0.000
GR	620.000	1845.000	615.000	1860.000	610.000	1870.000	605.000	1995.000	603.400	2000.000
GR	600.000	2005.000	598.900	2006.100	598.900	2025.000	598.900	2038.900	600.000	2040.000
GR	603.400	2045.000	605.000	2070.000	610.000	2100.000	615.000	2110.000	620.000	2145.000
GR	625.000	2175.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.030	0.300	0.300	0.000	0.000	0.000	0.000	0.000
	D/S FACE M-28 BRIDGE									
X1	12.200	27.000	2000.000	2135.100	180.000	470.000	320.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
GR	619.000	1150.000	618.300	1950.000	618.300	1950.100	618.300	2000.000	615.000	2002.000
GR	612.500	2002.500	605.000	2027.000	603.200	2028.000	602.900	2028.100	598.300	2038.000
GR	597.300	2044.400	597.300	2044.500	597.200	2046.000	597.200	2046.100	598.700	2064.000
GR	600.700	2073.000	601.200	2089.100	601.200	2089.200	601.300	2090.700	601.300	2090.800
GR	603.300	2099.000	605.100	2102.000	608.700	2116.000	613.000	2132.800	617.900	2135.100
GR	617.900	2185.100	619.000	3875.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF D/S FACE OF M-28 BRIDGE									
X1	12.300	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	618.500	618.000
BT	27.000	1115.000	620.000	619.000	1950.000	618.500	618.300	1950.100	620.000	618.300
BT	2000.000	619.800	618.300	2002.000	619.800	615.000	2002.500	619.800	614.900	2027.000
BT	619.700	614.500	2028.000	619.700	614.500	2028.100	619.700	614.300	2038.000	619.600
BT	614.300	2044.400	619.500	614.200	2044.500	619.400	597.300	2046.000	619.400	597.200
BT	2046.100	619.400	614.200	2064.000	619.400	614.100	2076.000	619.400	614.000	2089.100
BT	619.400	614.000	2089.200	619.400	601.200	2090.700	619.400	601.300	2090.800	619.400
BT	614.000	2099.000	619.400	614.000	2102.000	619.400	614.000	2116.000	619.400	613.900
BT	2132.800	619.400	613.800	2135.100	619.400	617.900	2185.100	618.000	617.900	3875.000
BT	620.000	619.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF M-28 BRIDGE									
X1	12.400	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
	U/S FACE OF M-28 BRIDGE									
X1	12.500	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	618.500	618.000	0.000
	300' U/S OF M-28 BRIDGE									
X1	12.600	17.000	2000.000	2060.000	340.000	260.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1600.000	0.000	2180.000	0.000	0.000	0.000	0.000
GR	620.000	1240.000	615.000	1460.000	610.000	1790.000	605.000	1860.000	605.000	1960.000
GR	605.000	1990.000	603.300	2000.000	600.000	2005.000	597.200	2007.800	597.200	2055.000
GR	597.200	2056.000	600.000	2058.000	603.300	2060.000	605.000	2160.000	610.000	2185.000
GR	615.000	2193.000	620.000	2200.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.000	0.050	0.040	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #13									
X1	13.000	18.000	2000.000	2058.500	1100.000	1100.000	1400.000	0.000	0.000	0.000
GR	620.000	1340.000	615.000	1345.000	610.000	1360.000	605.000	1750.000	606.000	1800.000
GR	606.400	1982.800	606.500	2000.000	604.200	2009.800	600.900	2016.900	598.700	2023.800
GR	596.700	2038.900	596.700	2043.600	599.700	2048.000	603.200	2057.200	604.200	2057.300
GR	605.900	2058.500	623.600	2105.200	627.900	2134.600	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	0.100	0.100	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #14									
X1	14.000	30.000	2000.000	2048.400	1340.000	1210.000	1540.000	0.000	0.000	0.000
GR	620.000	1400.000	624.000	1430.000	620.000	1585.000	615.000	1730.000	610.000	1745.000
GR	605.000	1780.000	605.000	1810.000	606.000	1900.000	605.000	1980.000	608.600	1993.200
GR	607.100	2000.000	604.700	2000.400	604.200	2000.500	596.500	2010.400	597.000	2020.400
GR	599.200	2025.400	600.000	2030.400	604.700	2035.400	605.000	2045.400	608.500	2048.400
GR	608.500	2058.400	604.700	2073.400	605.000	2180.000	604.700	2215.000	604.700	2250.000
GR	605.000	2435.000	610.000	2457.000	615.000	2475.000	620.000	2485.000	625.000	2500.000
NC	0.120	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #15									
X1	15.000	30.000	2000.000	2042.000	770.000	930.000	1150.000	0.000	0.000	0.000
GR	615.000	150.000	612.100	1616.000	605.700	1634.000	605.500	1667.000	605.900	1717.000
GR	606.800	1742.000	607.700	1847.000	609.200	1852.000	609.300	1952.000	608.600	1989.200
GR	606.600	2000.000	605.100	2003.100	604.500	2004.000	603.300	2010.900	599.400	2019.800
GR	596.600	2027.700	598.400	2030.800	599.700	2037.400	602.800	2039.800	605.200	2039.900
GR	607.900	2042.000	608.100	2065.200	609.600	2122.000	608.900	2167.000	608.900	2167.000
GR	610.000	2280.000	610.000	2280.000	615.000	2900.000	620.000	3190.000	625.000	3390.000
	SURVEY SEC. #16									
X1	16.000	36.000	2000.000	2073.400	1170.000	1150.000	1340.000	0.000	0.000	0.000
GR	618.000	0.000	615.000	600.000	615.000	1150.000	614.300	1686.400	610.700	1695.100
GR	610.600	1742.300	610.500	1991.500	606.100	2000.000	605.400	2001.000	604.800	2001.100
GR	604.300	2007.000	603.200	2012.000	598.700	2022.000	597.700	2028.000	599.500	2033.000
GR	602.600	2038.000	605.600	2071.900	606.600	2073.400	606.800	2126.100	604.800	2148.000
GR	608.000	2181.000	608.400	2251.200	603.800	2307.600	605.400	2337.600	608.900	2344.600
GR	609.200	2384.600	605.000	2414.600	605.300	2464.600	611.300	2474.600	615.000	2515.000
GR	616.000	2820.000	618.000	3120.000	620.000	3320.000	620.000	3720.000	620.000	3970.000
GR	625.000	4270.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #17									
X1	17.000	20.000	2000.000	2047.100	980.000	710.000	1470.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1690.000	0.000	2185.000	0.000	0.000	0.000	0.000
GR	625.000	670.000	616.000	1500.000	613.200	1743.100	613.300	1849.200	612.700	1898.000
GR	607.400	1913.500	605.400	1939.800	606.700	1959.700	606.600	2000.000	605.100	2010.200
GR	600.500	2019.200	601.000	2022.500	603.400	2033.600	604.200	2039.400	605.500	2043.800
GR	606.400	2047.100	607.900	2072.800	616.000	2400.000	620.000	3900.000	625.000	4150.000

	SURVEY SEC. 418									
X1	18.000	19.000	2000.000	2065.900	600.000	650.000	750.000	0.000	0.000	0.000
GR	616.000	1950.000	613.600	1966.700	608.600	1983.000	608.700	2000.000	607.300	2001.600
GR	607.100	2001.700	605.300	2007.600	604.500	2012.700	603.400	2018.200	602.200	2029.900
GR	602.900	2039.000	606.800	2053.800	607.300	2059.300	609.100	2065.900	609.600	2190.500
GR	609.900	2331.300	611.000	2700.000	614.000	3750.000	620.000	4750.000	625.000	5100.000
GT	4.000	2700.000	3800.000	4300.000	5500.000	4300.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #19									
X1	19.000	20.000	2000.000	2058.100	850.000	500.000	1250.000	0.000	0.000	0.000
GR	616.000	1050.000	614.000	1100.000	613.000	1450.000	611.000	1700.000	610.000	1967.000
GR	608.500	2000.000	607.400	2001.200	605.000	2012.700	604.100	2020.500	601.800	2028.200
GR	599.200	2036.700	599.900	2042.700	602.200	2048.500	605.300	2053.200	607.400	2057.000
GR	610.600	2058.100	611.400	2115.500	614.000	2675.000	620.000	3675.000	625.000	4000.000
NC	0.120	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #20									
X1	20.000	24.000	2000.000	2048.000	730.000	800.000	980.000	0.000	0.000	0.000
GR	618.000	950.000	614.000	960.000	613.000	1260.000	610.700	1961.800	610.200	2000.000
GR	607.700	2003.000	606.900	2004.000	606.000	2006.000	603.600	2013.000	604.100	2020.000
GR	602.200	2028.000	604.400	2037.000	605.600	2042.000	606.700	2047.000	608.200	2048.000
GR	609.000	2071.000	609.700	2097.000	610.000	2340.000	612.000	2360.000	614.000	2470.000
GR	616.000	2690.000	618.000	2770.000	620.000	3100.000	625.000	3150.000	0.000	0.000
NC	0.150	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #21									
X1	21.000	24.000	2000.000	2121.200	1000.000	1090.000	1380.000	0.000	0.000	0.000
GR	620.000	0.000	615.000	600.000	613.000	1100.000	611.000	1450.000	608.900	1819.900
GR	608.500	1872.000	609.700	1908.600	609.400	2000.000	608.500	2001.500	608.100	2002.200
GR	607.500	2004.800	606.700	2012.600	605.700	2017.600	605.000	2020.900	606.100	2029.600
GR	605.900	2032.200	603.900	2037.600	604.100	2040.900	607.100	2050.600	608.500	2121.200
GR	616.800	2143.800	615.800	2174.000	620.000	2750.000	625.000	2800.000	0.000	0.000
NC	0.000	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #22									
X1	22.000	18.000	2000.000	2051.600	930.000	850.000	990.000	0.000	0.000	0.000
GR	620.000	700.000	615.000	1100.000	613.000	1470.000	610.400	1752.300	608.900	1912.700
GR	609.700	2000.000	608.900	2000.700	608.500	2001.500	607.300	2007.000	604.800	2017.800
GR	604.000	2026.200	604.500	2036.500	606.900	2047.200	607.500	2050.100	608.900	2051.600
GR	611.700	2113.900	620.000	3350.000	625.000	3400.000	0.000	0.000	0.000	0.000
NH	5.000	0.120	2000.000	0.045	2064.000	0.100	2228.900	0.045	2264.900	0.120
NH	3600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 423									
X1	23.000	25.000	2000.000	2264.900	1640.000	1430.000	1670.000	0.000	0.000	0.000
GR	620.000	440.000	614.000	450.000	612.000	1250.000	610.200	2000.000	609.600	2017.900
GR	608.700	2019.600	607.300	2025.600	607.600	2035.500	607.800	2044.600	606.800	2054.600
GR	607.600	2057.800	607.600	2058.700	609.600	2064.000	609.700	2102.400	609.100	2144.100
GR	609.800	2180.800	609.700	2228.900	607.100	2238.000	609.700	2248.000	609.800	2264.900
GR	613.200	2323.800	615.400	2410.000	617.200	2472.600	620.000	3100.000	625.000	3200.000

NH	5.000	0.150	2000.000	0.045	2035.000	0.100	2111.100	0.045	2206.900	0.120
NH	3600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #24									
X1	24.000	18.000	2000.000	2206.900	1480.000	1680.000	1750.000	0.000	0.000	0.000
GR	620.000	450.000	620.000	550.000	613.000	1230.000	610.800	2000.000	609.300	2002.000
GR	609.300	2033.000	610.800	2035.000	610.800	2039.500	609.600	2111.100	610.300	2186.700
GR	608.800	2196.800	610.300	2206.900	610.300	2264.200	610.800	2343.200	611.100	2391.900
GR	612.500	2459.700	620.000	3400.000	625.000	3600.000	0.000	0.000	0.000	0.000
NC	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #25									
X1	25.000	19.000	2000.000	2038.000	1000.000	1000.000	1150.000	0.000	0.000	0.000
GR	620.000	700.000	618.000	1200.000	615.000	1600.000	613.500	1800.000	613.000	2000.000
GR	610.800	2010.000	610.200	2015.000	609.500	2023.000	609.400	2030.000	610.900	2033.000
GR	612.000	2037.000	612.800	2038.000	610.600	2250.000	611.200	2380.000	611.600	2890.000
GR	612.300	3010.000	614.600	3110.000	620.000	3190.000	625.000	3210.000	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

1112 S.B.

SECNO	DEPTH	CUSEL	CRIWS	WSELK	EG	HV	HL	QLOBS	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

*PROF 1

CCHV= 0.010 CEHV= 0.300
1490 NH CARD USED
*SECNO 1.000
3720 CRITICAL DEPTH ASSUMED

SURVEY SEC. #1 90' U/S OF MOUTH AT LAKE SUPERIOR

1.00	7.84	603.44	603.44	603.10	605.85	2.42	0.00	0.00	602.70
4600.	10.	4585.	5.	4.	367.	2.	0.	0.	602.70
0.00	2.19	12.49	2.18	0.030	0.030	0.030	0.000	595.30	2025.99
0.007430	0.	0.	0.	0	7	0	0.00	89.66	2115.67

*SECNO 2.210

3301 HV CHANGED MORE THAN HVINS

240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)

2.21	11.46	606.76	0.00	0.00	607.24	0.47	1.47	0.02	605.00
4600.	71.	4523.	6.	78.	812.	9.	9.	2.	605.00
0.03	0.91	5.57	0.65	0.050	0.030	0.070	0.000	595.30	1911.77
0.001114	590.	590.	575.	3	0	0	0.00	228.82	2140.59

CCHV= 0.300 CEHV= 0.500
*SECNO 2.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.22	11.70	606.90	0.00	0.00	607.66	0.76	0.28	0.14	611.40
4600.	0.	4600.	0.	0.	638.	0.	13.	3.	611.40
0.04	0.00	6.99	0.00	0.000	0.026	0.000	0.000	595.20	2008.12
0.001239	230.	240.	250.	2	0	0	0.00	94.97	2103.09

*SECNO 2.230

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE

2.23	11.67	606.87	0.00	0.00	607.20	0.83	0.00	0.01	611.40
4600.	0.	4600.	0.	0.	629.	0.	13.	3.	611.40
0.04	0.00	7.31	0.00	0.000	0.026	0.000	0.000	595.20	2008.23
0.002232	1.	1.	1.	2	0	0	-25.28	94.83	2103.06

*SECNO 2.240

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF U/S FACE OF R.R. BRIDGE

2.24	11.72	606.92	0.00	0.00	607.24	0.82	0.04	0.00	611.40
4600.	0.	4600.	0.	0.	634.	0.	13.	3.	611.40
0.04	0.00	7.26	0.00	0.000	0.026	0.000	0.000	595.20	2008.08
0.002185	17.	17.	17.	2	0	0	-23.69	95.02	2103.10

*SECNO 2.250

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

U/S FACE OF RAILROAD BRIDGE

2.25	11.84	607.04	0.00	0.00	607.77	0.73	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	670.	0.	13.	3.	611.40
0.04	0.00	6.86	0.00	0.000	0.026	0.000	0.000	595.20	2007.75
0.001174	1.	1.	1.	2	0	0	0.00	93.42	2103.17

*SECNO 2.260

3301 HV CHANGED MORE THAN HVINS

110' U/S OF R.R. BRIDGE

2.26	13.45	607.75	0.00	0.00	607.97	0.22	0.05	0.15	602.50
4600.	32.	4275.	293.	53.	1102.	591.	16.	4.	602.50
0.05	0.60	3.88	0.53	0.060	0.026	0.100	0.000	594.30	1970.91
0.000214	110.	110.	110.	2	0	0	0.00	286.11	2257.02

CCHV= 0.100 CEHV= 0.300

*SECND 3.000

SURVEY SEC. #3

3.00	16.43	607.93	0.00	0.00	608.05	0.12	0.07	0.01	607.30
4600.	0.	4252.	348.	1.	1454.	691.	29.	6.	603.90
0.08	0.17	2.93	0.50	0.060	0.035	0.100	0.000	591.50	1996.73
0.000233	400.	420.	250.	2	0	0	0.00	368.37	2365.11

SECNO	DEPTH	CUSEL	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

*SECNO 4.000

3470 ENCROACHMENT STATIONS= 1630.0 2160.0 TYPE= 1 TARGET= 530.000

SURVEY SEC. #4

4.00	11.70	608.20	0.00	0.00	608.35	0.15	0.29	0.01	603.60
4600.	759.	3841.	0.	1166.	1136.	0.	29.	15.	617.30
0.17	0.65	3.38	0.00	0.100	0.035	0.000	0.000	596.50	1631.60
0.000392	980.	990.	890.	2	0	0	0.00	506.78	2138.39

*SECNO 5.100

270' D/S FROM GREEN BAY ST. BRIDGE

5.10	14.92	608.32	0.00	0.00	608.50	0.18	0.14	0.01	602.70
4600.	308.	3911.	182.	731.	1071.	125.	99.	19.	600.00
0.21	0.69	3.65	1.45	0.100	0.035	0.050	0.000	593.40	1838.36
0.000256	370.	460.	550.	2	0	0	0.00	268.28	2106.64

CCHV= 0.300 CEHV= 0.500

*SECNO 5.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 614.90 ELREA= 611.20

D/S FACE OF GREEN BAY ST. BRIDGE

5.20	16.73	608.33	0.00	0.00	608.72	0.39	0.11	0.11	614.00
4600.	0.	4600.	0.	0.	919.	0.	109.	20.	610.00
0.23	0.00	5.01	0.00	0.000	0.035	0.000	0.000	591.60	2006.21
0.000822	400.	260.	170.	2	0	0	0.00	98.87	2103.08

HWM 2.68' below bridge deck ≈ 606.1

*SECNO 5.300

3370 NORMAL BRIDGE, NRD= 31 MIN ELTRD= 611.20 MAX ELLC= 624.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

5.30	16.71	608.31	0.00	0.00	608.73	0.42	0.00	0.02	614.00
4600.	0.	4600.	0.	0.	884.	0.	109.	20.	610.00
0.23	0.00	5.20	0.00	0.000	0.028	0.000	0.000	591.60	2006.23
0.000941	1.	1.	1.	1	0	0	-33.99	98.85	2105.07

SECNO	DEPTH	CWSEL	CROWS	MSELK	EG	HV	HL	OLOSS	BANK ELEV
O	GLOB	GCH	GROB	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

*SECNO 5.400

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 611.20 MAX ELLC= 624.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

5.40	16.74	608.34	0.00	0.00	608.76	0.42	0.02	0.00	614.00
4600.	0.	4600.	0.	0.	886.	0.	110.	20.	610.00
0.23	0.00	5.19	0.00	0.000	0.028	0.000	0.000	591.60	2006.18
0.000937	26.	26.	26.	0	0	0	-34.05	98.89	2105.08

*SECNO 5.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.78	608.38	0.00	0.00	608.77	0.38	0.00	0.01	614.00
4600.	0.	4600.	0.	0.	925.	0.	110.	20.	610.00
0.23	0.00	4.97	0.00	0.000	0.028	0.000	0.000	591.60	2006.05
0.000517	1.	1.	1.	2	0	0	0.00	99.03	2105.08

*SECNO 5.600

3470 ENCROACHMENT STATIONS= 1945.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.60	16.90	608.80	0.00	0.00	608.88	0.08	0.02	0.09	605.00
4600.	24.	4576.	0.	112.	1989.	0.	114.	21.	100000.00
0.24	0.21	2.30	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000072	240.	120.	60.	2	0	0	0.00	215.00	2160.00

CCHV= 0.100 CEHV= 0.300

*SECNO 6.000

3470 ENCROACHMENT STATIONS= 1600.0 2100.0 TYPE= 1 TARGET= 500.000

SURVEY SEC. #6

6.00	12.94	608.94	0.00	0.00	609.17	0.23	0.25	0.04	604.60
4600.	521.	4079.	0.	972.	1001.	0.	192.	31.	100000.00
0.39	0.54	4.08	0.00	0.100	0.028	0.000	0.000	596.00	1607.09
0.000315	900.	1940.	2060.	2	0	0	0.00	492.91	2100.00

SECNO	DEPTH	CWSEL	CRITWS	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	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 7.000
SURVEY SEC. #7

7.00	15.14	609.34	0.00	0.00	609.59	0.25	0.42	0.01	604.80
4600.	309.	4286.	5.	576.	1035.	15.	252.	45.	605.50
0.49	0.54	4.14	0.34	0.090	0.028	0.100	0.000	594.20	1777.42
0.000259	1440.	1460.	1110.	2	0	0	0.00	322.04	2099.46

*SECNO 8.000
SURVEY SEC. #8

8.00	13.71	610.11	0.00	0.00	610.33	0.21	0.73	0.00	604.50
4600.	1137.	3423.	40.	1122.	804.	60.	332.	60.	602.90
0.65	1.01	4.26	0.80	0.100	0.040	0.100	0.000	596.40	1729.42
0.000617	1960.	1920.	1400.	2	0	0	0.00	362.63	2092.06

*SECNO 9.000
SURVEY SEC. #9

9.00	16.98	610.98	0.00	0.00	611.13	0.14	0.79	0.01	603.10
4600.	32.	2966.	1602.	48.	790.	1989.	414.	76.	604.40
0.81	0.68	3.76	0.81	0.100	0.040	0.100	0.000	594.00	1987.93
0.000420	1530.	1600.	1490.	2	0	0	0.00	576.98	2564.91

*SECNO 10.000
SURVEY SEC. #10

10.00	16.11	611.51	0.00	0.00	611.62	0.11	0.49	0.00	603.50
4600.	20.	3451.	1129.	27.	1120.	1905.	518.	96.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2027.17
0.000239	1170.	1640.	1450.	2	0	0	0.00	585.26	2612.44

*SECNO 11.000
SURVEY SEC. #11

11.00	11.67	611.87	0.00	0.00	612.17	0.30	0.49	0.06	607.40
4600.	333.	3931.	336.	274.	828.	362.	588.	109.	605.80
1.08	1.22	4.75	0.93	0.060	0.035	0.100	0.000	600.20	1897.22
0.000594	1380.	1390.	1290.	2	0	0	0.00	280.26	2177.48

*SECNO 12.100
260.0' D/S FROM M-28 BRIDGE

12.10	13.11	612.01	0.00	0.00	612.34	0.34	0.16	0.01	603.40
4600.	1062.	3110.	429.	606.	561.	334.	597.	111.	603.40
1.09	1.75	5.55	1.28	0.060	0.035	0.100	0.000	598.90	1865.99
0.000644	270.	260.	260.	2	0	0	0.00	238.03	2104.01

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	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	XDC	ICONT	CORAR	TOPWID	FNDST

CCHV= 0.300 CEHV= 0.500
*SECNO 12.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

D/S FACE M-28 BRIDGE

12.20	15.05	612.25	0.00	0.00	612.52	0.27	0.16	0.02	618.30
4600.	0.	4600.	0.	0.	1107.	0.	606.	112.	617.90
1.11	0.00	4.15	0.00	0.000	0.030	0.000	0.000	597.20	2003.30
0.000412	180.	320.	470.	2	0	0	0.00	126.58	2129.89

1.75 below I-Beam
1325

*SECNO 12.300

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.30 ELREA= 618.50

1' INSIDE OF D/S FACE OF M-28 BRIDGE

12.30	15.04	612.24	0.00	0.00	612.53	0.29	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1065.	0.	606.	112.	617.90
1.11	0.00	4.32	0.00	0.000	0.026	0.000	0.000	597.20	2003.32
0.000536	1.	1.	1.	1	0	0	-41.27	126.55	2129.87

*SECNO 12.400

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

1' INSIDE OF U/S FACE OF M-28 BRIDGE

12.40	15.06	612.26	0.00	0.00	612.55	0.29	0.02	0.00	618.30
4600.	0.	4600.	0.	0.	1067.	0.	607.	112.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.28
0.000535	36.	36.	36.	0	0	0	-41.31	126.63	2129.91

*SECNO 12.500

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	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

HWM 1.55 [illegible]

613.45

U/S FACE OF M-28 BRIDGE

12.50	15.09	612.29	0.00	0.00	612.56	0.27	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1112.	0.	607.	112.	617.90
1.12	0.00	4.14	0.00	0.000	0.026	0.000	0.000	597.20	2003.17
0.000306	1.	1.	1.	2	0	0	0.00	126.87	2130.04

*SECNO 12.600

3470 ENCROACHMENT STATIONS= 1600.0 2180.0 TYPE= 1 TARGET= 580.000

≈13500

300' U/S OF M-28 BRIDGE

12.60	15.32	612.52	0.00	0.00	612.65	0.13	0.05	0.04	603.30
4600.	872.	3117.	610.	1623.	881.	948.	623.	115.	603.30
1.15	0.54	3.54	0.64	0.100	0.026	0.100	0.000	597.20	1623.62
0.000120	340.	300.	260.	2	0	0	0.00	556.38	2180.00

612.6[illegible] [illegible] 13500 [illegible]

CCHV= 0.100 CEHV= 0.300

*SECNO 13.000

SURVEY SEC. #13

13.00	16.11	612.81	0.00	0.00	612.86	0.05	0.19	0.01	606.90
4600.	2620.	1922.	59.	3760.	716.	63.	729.	131.	605.90
1.38	0.70	2.68	0.93	0.100	0.040	0.050	0.000	596.70	1351.58
0.000206	1100.	1400.	1100.	2	0	0	0.00	725.14	2076.72

*SECNO 14.000

SURVEY SEC. #14

14.00	16.56	613.06	0.00	0.00	613.08	0.02	0.22	0.00	607.10
4600.	1187.	1191.	2222.	1855.	589.	3257.	885.	153.	608.50
1.75	0.64	2.02	0.68	0.100	0.040	0.100	0.000	596.50	1735.81
0.000133	1340.	1540.	1210.	2	0	0	0.00	732.22	2468.03

*SECNO 15.000

SURVEY SEC. #15

15.00	16.64	613.24	0.00	0.00	613.30	0.06	0.21	0.01	606.60
4600.	1898.	1643.	1058.	2505.	507.	1626.	990.	176.	607.80
1.92	0.76	3.24	0.65	0.120	0.045	0.100	0.000	596.60	1043.39
0.000434	770.	1150.	930.	1	0	0	0.00	1637.46	2680.86

SECNO	DEPTH	CWSEL	CRIWS	MSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	RCH	RROB	ALOB	ACH	AROB	VOL	TRA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 16.000
SURVEY SEC. #16

16.00	15.94	613.64	0.00	0.00	613.68	0.04	0.38	0.00	606.10
4600.	388.	1923.	2289.	968.	804.	2789.	1115.	209.	606.60
2.15	0.40	2.39	0.82	0.120	0.045	0.100	0.000	597.20	1687.99
0.000229	1170.	1340.	1150.	2	0	0	0.00	812.19	2500.18

*SECNO 17.000

3470 ENCROACHMENT STATIONS= 1690.0 2185.0 TYPE= 1 TARGET: 495.000
SURVEY SEC. #17

17.00	13.46	613.96	0.00	0.00	614.19	0.23	0.45	0.06	606.60
4600.	1225.	2459.	916.	859.	483.	700.	1186.	223.	606.40
2.24	1.43	5.09	1.31	0.100	0.040	0.100	0.000	600.50	1690.00
0.000889	980.	1470.	710.	2	0	0	0.00	495.00	2185.00

*SECNO 18.000
SURVEY SEC. #18

18.00	12.30	614.50	0.00	0.00	614.56	0.06	0.35	0.02	608.70
4600.	121.	1922.	2558.	158.	638.	4088.	1238.	238.	609.10
2.36	0.76	3.01	0.63	0.100	0.040	0.100	0.000	602.20	1960.45
0.000331	600.	750.	650.	2	0	0	0.00	1474.27	3434.72

*SECNO 19.000
SURVEY SEC. #19

19.00	15.60	614.80	0.00	0.00	614.90	0.10	0.32	0.01	608.50
4300.	1595.	2264.	441.	2493.	661.	920.	1311.	259.	610.60
2.49	0.64	3.42	0.48	0.100	0.040	0.100	0.000	599.20	1080.04
0.000375	850.	1250.	500.	2	0	0	0.00	1448.78	2528.82

*SECNO 20.000
SURVEY SEC. #20

20.00	12.94	615.14	0.00	0.00	615.20	0.05	0.30	0.00	610.20
4300.	1794.	1512.	994.	3487.	498.	1979.	1401.	286.	608.20
2.65	0.51	3.04	0.50	0.120	0.040	0.150	0.000	602.20	957.14
0.000324	730.	980.	800.	2	0	0	0.00	1438.76	2595.90

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TMA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMTN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 21.000
SURVEY SEC. #21

21.00	11.56	615.46	0.00	0.00	615.50	0.04	0.30	0.00	609.40
4300.	2002.	2266.	31.	5119.	1022.	66.	1549.	328.	608.50
2.90	0.39	2.22	0.48	0.150	0.040	0.100	0.000	603.90	544.60
0.000211	1000.	1380.	1090.	2	0	0	0.00	1595.56	2140.16

*SECNO 22.000
SURVEY SEC. #22

22.00	11.71	615.71	0.00	0.00	615.80	0.08	0.28	0.01	609.70
4300.	1866.	1819.	614.	3315.	513.	1534.	1672.	359.	608.90
3.04	0.56	3.54	0.40	0.150	0.040	0.150	0.000	604.00	1043.31
0.000445	930.	990.	850.	0	0	0	0.00	1667.60	2710.90

1490 NH CARD USED
*SECNO 23.000
SURVEY SEC. #23

23.00	9.36	616.16	0.00	0.00	616.17	0.01	0.37	0.01	610.20
4300.	2390.	1765.	146.	6334.	1845.	446.	1932.	426.	609.80
3.78	0.38	0.96	0.33	0.120	0.068	0.120	0.000	606.80	446.39
0.000134	1640.	1570.	1430.	2	0	0	0.00	1990.19	2436.58

1490 NH CARD USED
*SECNO 24.000
SURVEY SEC. #24

24.00	7.63	616.43	0.00	0.00	616.44	0.01	0.26	0.00	610.80
4300.	1464.	1793.	1043.	4054.	1346.	2361.	2226.	498.	610.30
4.36	0.36	1.33	0.44	0.150	0.058	0.120	0.000	608.80	897.27
0.000204	1480.	1750.	1680.	2	0	0	0.00	2054.34	2951.81

*SECNO 25.000
SURVEY SEC. #25

25.00	7.31	616.71	0.00	0.00	616.72	0.01	0.28	0.00	613.00
4300.	640.	539.	3120.	1377.	229.	5452.	2399.	543.	612.80
4.73	0.46	2.36	0.57	0.120	0.040	0.150	0.000	609.10	1372.42
0.000381	1000.	1150.	1000.	2	0	0	0.00	1768.79	3141.21

THIS RUN EXECUTED 30-JAN-85 13:08:56

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55
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T1          CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY   JANUARY 1985
T2          JOB #1057F CHOC100.HEC (SHEFFI  100 YR. ENCROACHMENT RUN
T3          CHOCOLAY RIVER  STARTING WITH MEAN ANNUAL LAKE LEVEL

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0.       6.        0.        0.  0.000000      0.00      0.0       0.    603.100     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     CB        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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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TMA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	XTRIAL	IDC	XCONT	CORAR	TOPWID	ENDST

*PROF 2

CCHV= 0.010 CEHV= 0.300
1490 NH CARD USED
*SECNO 1.000
3720 CRITICAL DEPTH ASSUMED
SURVEY SEC. #1 90' U/S OF MOUTH AT LAKE SUPERIOR

1.00	7.84	603.44	603.44	603.10	605.85	2.42	0.00	0.00	602.70
4600.	10.	4585.	5.	4.	367.	2.	0.	0.	602.70
0.00	2.19	12.49	2.18	0.030	0.030	0.030	0.000	595.20	2025.99
0.007430	0.	0.	0.	0	7	0	0.00	89.68	2115.67

*SECNO 2.210
2800 NAT Q1= 1378.02 WSEL= 606.76 ENC Q1= 1391.04 WSEL= 606.86 RATIO= -0.0094
NAT Q1= 1418. RATIOS LOB,CH,ROB= 0.0174 0.9812 0.0015 WSEL= 606.86

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 2000.0 2130.0 TYPE= 4 TARGET= 0.019
240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)

2.21	11.50	606.80	0.00	606.76	607.29	0.49	1.42	0.02	605.00
4600.	0.	4600.	0.	0.	817.	0.	8.	1.	605.00
0.03	0.00	5.63	0.00	0.000	0.030	0.000	0.000	595.30	2000.00
0.001174	590.	590.	575.	3	0	0	0.00	130.00	2130.00

CCHV= 0.300 CEHV= 0.500
*SECNO 2.220
2800 NAT Q1= 1306.82 WSEL= 606.90 ENC Q1= 1333.12 WSEL= 607.00 RATIO= -0.0201
NAT Q1= 1333. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELREA= 614.50 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.22	11.76	606.96	0.00	606.90	607.70	0.75	0.29	0.13	611.40
4600.	0.	4600.	0.	0.	663.	0.	12.	2.	611.40
0.04	0.00	6.94	0.00	0.000	0.026	0.000	0.000	595.20	2007.98
0.001215	230.	240.	250.	2	0	0	0.00	95.14	2103.12

SECNO	DEPTH	CWSEL	CRIWS	WSELR	FQ	HV	HL	QLOBS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 2.230
3700. BRIDGE STENCL= 2000.00 STENCR= 2106.00
2800 NAT Q1= 973.66 WSEL= 606.87 ENC Q1= 993.32 WSEL= 606.97 RATIO= -0.0202
NAT Q1= 993. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 606.97

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE									
2.23	11.72	606.92	0.00	606.87	607.74	0.82	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	634.	0.	12.	2.	611.40
0.04	0.00	7.26	0.00	0.000	0.026	0.000	0.000	595.20	2008.08
0.002184	1.	1.	1.	2	0	0	-25.70	93.02	2103.10

*SECNO 2.240
2800 NAT Q1= 984.09 WSEL= 606.92 ENC Q1= 1003.87 WSEL= 607.02 RATIO= -0.0201
NAT Q1= 1004. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.02

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE									
2.24	11.77	606.97	0.00	606.92	607.78	0.81	0.04	0.00	611.40
4600.	0.	4600.	0.	0.	637.	0.	12.	2.	611.40
0.04	0.00	7.22	0.00	0.000	0.026	0.000	0.000	595.20	2007.96
0.002148	17.	17.	17.	1	0	0	-26.02	95.17	2103.13

*SECNO 2.250
2800 NAT Q1= 1342.74 WSEL= 607.04 ENC Q1= 1370.91 WSEL= 607.14 RATIO= -0.0210
NAT Q1= 1371. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.14

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	RV	HI	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	BSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

U/S FACE OF RAILROAD BRIDGE

2.25	11.89	607.09	0.00	607.04	607.81	0.72	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	675.	0.	12.	2.	611.40
0.04	0.00	6.81	0.00	0.000	0.026	0.000	0.000	595.20	2007.61
0.001149	1.	1.	1.	2	0	0	0.00	95.60	2103.21

*SECNO 2.260

2800 NAT Q1= 3142.65 WSEL= 607.75 ENC Q1= 3142.65 WSEL= 607.85 RATIO= 0.0000
NAT Q1= 3198. RATIOS LOB,CH,ROB= 0.0073 0.9274 0.0654 WSEL= 607.85

3470 ENCROACHMENT STATIONS= 2000.0 2210.4 TYPE= 4 TARGET= 0.017

110' U/S OF R.R. BRIDGE

2.26	13.48	607.78	0.00	607.75	608.01	0.23	0.05	0.15	602.50
4600.	0.	4337.	263.	0.	1105.	450.	15.	3.	602.50
0.05	0.00	3.92	0.58	0.000	0.026	0.100	0.000	594.30	2000.00
0.000233	110.	110.	110.	2	0	0	0.00	210.35	2210.35

CCHV= 0.100 CEHV= 0.300

*SECNO 3.000

2800 NAT Q1= 3015.13 WSEL= 607.93 ENC Q1= 3015.13 WSEL= 608.03 RATIO= 0.0000
NAT Q1= 3073. RATIOS LOB,CH,ROB= 0.0001 0.9221 0.0779 WSEL= 608.03

3470 ENCROACHMENT STATIONS= 2000.0 2285.7 TYPE= 4 TARGET= 0.019

SURVEY SEC. #3

3.00	16.46	607.96	0.00	607.93	608.09	0.13	0.07	0.01	607.30
4600.	0.	4327.	273.	0.	1459.	509.	27.	4.	603.90
0.08	0.00	2.97	0.54	0.000	0.035	0.100	0.000	591.50	2000.00
0.000240	400.	320.	250.	2	0	0	0.00	285.68	2285.68

*SECNO 4.000

3470 ENCROACHMENT STATIONS= 1630.0 2160.0 TYPE= 1 TARGET= 530.000

SURVEY SEC. #4

4.00	11.74	608.24	0.00	608.20	608.39	0.15	0.29	0.01	603.60
4600.	768.	3832.	0.	1183.	1142.	0.	75.	13.	617.30
0.17	0.65	3.36	0.00	0.100	0.035	0.000	0.000	596.50	1631.08
0.000384	980.	990.	890.	2	0	0	0.00	507.40	2138.48

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   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

*SECNO 5.100
 2800 NAT Q1=   2875.88  WSEL=    608.32  ENC Q1=   2875.88  WSEL=    608.42  RATIO=  0.0000
 NAT Q1=   2921.  RATIOS LOB,CH,ROB=  0.1124  0.8476  0.0401  WSEL=    608.42

3470 ENCROACHMENT STATIONS=    1852.1    2096.4  TYPE=     4  TARGET=       0.015
        270' D/S FROM GREEN BAY ST. BRIDGE
     5.10    14.96   608.36     0.00   608.32   608.54     0.18     0.14     0.01   602.70
    4600.     482.    3966.     151.     690.    1074.     102.      96.      16.   600.00
     0.21     0.70     3.69     1.49    0.100    0.035    0.050    0.000   593.40  1852.07
 0.000261     370.     460.     550.        2        0        0     0.00   244.36  2096.43

CCHV=   0.300 CEHV=   0.500
*SECNO 5.200
 2800 NAT Q1=   1604.40  WSEL=    608.33  ENC Q1=   1629.34  WSEL=    608.43  RATIO= -0.0155
 NAT Q1=   1629.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    608.43

3470 ENCROACHMENT STATIONS=    2000.0    2107.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      614.90 ELREA=      611.20

        D/S FACE OF GREEN BAY ST. BRIDGE
     5.20    16.77   608.37     0.00   608.33   608.76     0.39     0.11     0.10   614.00
    4600.       0.    4600.       0.       0.     923.       0.     105.      18.   610.00
     0.23     0.00     4.98     0.00    0.000    0.035    0.000    0.000   591.60  2006.08
 0.000811     400.     260.     170.        2        0        0     0.00    98.99  2105.08

*SECNO 5.300
     3700.   BRIDGE STENCL=   2000.00    STENCR=   2107.00
 2800 NAT Q1=   1499.30  WSEL=    608.31  ENC Q1=   1519.32  WSEL=    608.41  RATIO= -0.0134
 NAT Q1=   1519.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    608.41

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD=  611.20 MAX ELLC=  624.00

3470 ENCROACHMENT STATIONS=    2000.0    2107.0  TYPE=     4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      614.90 ELREA=      611.20

        1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE
     5.30    16.76   608.36     0.00   608.31   608.77     0.42     0.00     0.02   614.00
    4600.       0.    4600.       0.       0.     889.       0.     105.      18.   610.00
     0.23     0.00     5.18     0.00    0.000    0.028    0.000    0.000   591.60  2006.10
 0.000930       1.       1.       1.        1        0        0   -34.16    98.97  2105.08
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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	XLOWR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 5.400
2800 NAT Q1= 1502.58 WSEL= 608.34 ENC Q1= 1525.03 WSEL= 608.44 RATIO= -0.0149
NAT Q1= 1525. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.44

3370 NORMAL BRIDGE,NRD= 31 MIN EL,RD= 611.20 MAX EL,LC= 624.00

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELEA= 614.90 ELREA= 611.20

1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

5.40	16.78	608.38	0.00	608.34	608.80	0.41	0.02	0.00	614.00
4600.	0.	4600.	0.	0.	890.	0.	106.	18.	610.00
0.23	0.00	5.17	0.00	0.000	0.028	0.000	0.000	591.60	2006.06
0.000925	26.	26.	26.	0	0	0	-34.22	99.02	2105.08

*SECNO 5.500
2800 NAT Q1= 2023.26 WSEL= 608.38 ENC Q1= 2054.55 WSEL= 608.48 RATIO= -0.0155
NAT Q1= 2053. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.48

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELEA= 614.90 ELREA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.83	608.43	0.00	608.38	608.81	0.38	0.00	0.01	614.00
4600.	0.	4600.	0.	0.	929.	0.	106.	18.	610.00
0.23	0.00	4.95	0.00	0.000	0.028	0.000	0.000	591.60	2005.92
0.000510	1.	1.	1.	2	0	0	0.00	99.16	2103.08

*SECNO 5.600

3470 ENCROACHMENT STATIONS= 1945.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.60	16.93	608.83	0.00	608.80	608.92	0.08	0.02	0.09	605.00
4600.	24.	4576.	0.	114.	1995.	0.	110.	18.	100000.00
0.24	0.21	2.29	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000071	240.	120.	60.	2	0	0	0.00	215.00	2160.00

SECNO	DEPTH	CWSEL	CRTWS	WSELK	EG	HV	HL	OLOSS	RANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBI	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.100 CEHV= 0.300
*SECNO 6.000

3470 ENCROACHMENT STATIONS= 1600.0 2100.0 TYPE= 1 TARGET= 500.000
SURVEY SEC. #6

6.00	12.98	608.98	0.00	608.94	609.20	0.23	0.24	0.04	604.60
4600.	528.	4072.	0.	986.	1004.	0.	188.	29.	100000.00
0.38	0.53	4.06	0.00	0.100	0.028	0.000	0.000	596.00	1604.38
0.000311	900.	1940.	2060.	2	0	0	0.00	493.62	2100.00

*SECNO 7.000
SURVEY SEC. #7

7.00	15.17	609.37	0.00	609.34	609.62	0.25	0.41	0.01	604.80
4600.	312.	4283.	5.	582.	1068.	15.	249.	42.	605.50
0.49	0.54	4.12	0.34	0.090	0.028	0.100	0.000	594.20	1776.12
0.000256	1460.	1460.	1110.	2	0	0	0.00	323.41	2099.52

*SECNO 8.000
SURVEY SEC. #8

8.00	13.74	610.14	0.00	610.11	610.35	0.21	0.73	0.00	604.50
4600.	1141.	3418.	41.	1128.	806.	51.	329.	58.	602.90
0.65	1.01	4.24	0.80	0.100	0.040	0.100	0.000	596.40	1729.31
0.000611	1960.	1920.	1400.	2	0	0	0.00	362.80	2092.10

*SECNO 9.000
SURVEY SEC. #9

9.00	17.00	611.00	0.00	610.98	611.14	0.14	0.75	0.01	603.10
4600.	32.	2962.	1606.	48.	791.	1997.	414.	74.	604.40
0.81	0.67	3.75	0.80	0.100	0.040	0.100	0.000	594.00	1987.91
0.000417	1530.	1600.	1490.	2	0	0	0.00	527.09	2564.99

*SECNO 10.000
SURVEY SEC. #10

10.00	16.12	611.52	0.00	611.51	611.63	0.11	0.49	0.00	603.50
4600.	20.	3448.	1132.	27.	1121.	1912.	516.	94.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2027.16
0.000238	1170.	1640.	1450.	2	0	0	0.00	385.32	2612.48

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	ICONT	CORAR	TOPWID	ENDST

*SECNO 11.000
SURVEY SEC. 911

11.00	11.68	611.88	0.00	611.87	612.16	0.30	0.49	0.06	607.40
4600.	334.	3929.	337.	275.	829.	363.	584.	107.	605.80
1.08	1.22	4.74	0.93	0.060	0.035	0.100	0.000	600.20	1897.12
0.000591	1380.	1390.	1290.	2	0	0	0.00	280.40	2177.52

*SECNO 12.100
260.0' D/S FROM M-28 BRIDGE

12.10	13.12	612.02	0.00	612.01	612.35	0.34	0.16	0.01	603.40
4600.	1063.	3108.	429.	608.	561.	335.	595.	108.	603.40
1.09	1.75	5.54	1.28	0.060	0.035	0.100	0.000	598.90	1865.97
0.000642	270.	260.	260.	2	0	0	0.00	238.07	2104.03

CCHV= 0.300 CFHV= 0.500
*SECNO 12.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

D/S FACE M-28 BRIDGE

12.20	15.06	612.26	0.00	612.25	612.53	0.27	0.16	0.02	618.30
4600.	0.	4600.	0.	0.	1108.	0.	604.	110.	617.90
1.12	0.00	4.15	0.00	0.000	0.030	0.000	0.000	597.20	2003.28
0.000411	180.	320.	470.	2	0	0	0.00	126.44	2129.92

*SECNO 12.300

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.30 ELREA= 618.50

1' INSIDE OF D/S FACE OF M-28 BRIDGE

12.30	15.05	612.25	0.00	612.24	612.54	0.29	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1066.	0.	604.	110.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.29
0.000535	1.	1.	1.	1	0	0	-41.30	126.61	2129.90

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOBR	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 12.400

3370 NORMAL BRIDGE,NRU= 27 MIN ELTRU= 618.00 MAX ELLC= 612.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.30 ELREA= 618.00

1' INSIDE OF U/S FACE OF M-28 BRIDGE

12.40	15.07	612.27	0.00	612.26	612.56	0.29	0.02	0.00	618.30
4600.	0.	4600.	0.	0.	1068.	0.	605.	110.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.25
0.000533	36.	36.	36.	0	0	0	-41.34	126.69	2127.94

*SECNO 12.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

U/S FACE OF M-28 BRIDGE

12.50	15.10	612.30	0.00	612.29	612.57	0.27	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1113.	0.	605.	110.	617.90
1.12	0.00	4.13	0.00	0.000	0.026	0.000	0.000	597.20	2003.14
0.000305	1.	1.	1.	2	0	0	0.00	126.93	2130.08

*SECNO 12.600

3470 ENCROACHMENT STATIONS= 1600.0 2180.0 TYPE= 1 TARGET= 580.000

300' U/S OF M-28 BRIDGE

12.60	15.33	612.53	0.00	612.52	612.66	0.13	0.05	0.04	603.30
4600.	873.	3116.	611.	1626.	382.	948.	621.	112.	603.30
1.15	0.54	3.53	0.64	0.100	0.026	0.100	0.000	597.20	1623.11
0.000119	340.	300.	240.	2	0	0	0.00	556.89	2180.00

CCHV= 0.100 CEHV= 0.300

*SECNO 13.000

SURVEY SEC. #13

13.00	16.11	612.81	0.00	612.81	612.86	0.05	0.19	0.01	606.90
4600.	2621.	1921.	59.	3764.	717.	63.	727.	129.	605.90
1.38	0.70	2.68	0.93	0.100	0.040	0.050	0.000	596.70	1351.56
0.000205	1100.	1400.	1100.	2	0	0	0.00	725.18	2076.74

SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	HL	OLOSS	RANK 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	XTRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 14.000
2800 NAT Q1= 3992.45 WSEL= 613.06 ENC Q1= 3992.45 WSEL= 613.16 RATIO= 0.0000
NAT Q1= 4071. RATIOS LOB,CH,ROB= 0.2589 0.2574 0.4838 WSEL= 613.16

3470 ENCROACHMENT STATIONS= 1761.4 2442.6 TYPE= 4 TARGET= 0.019
SURVEY SEC. #14

14.00	16.57	613.07	0.00	613.06	613.10	0.02	0.23	0.00	607.10
4600.	1167.	1213.	2220.	1773.	590.	3176.	881.	150.	608.50
1.75	0.66	2.06	0.70	0.100	0.040	0.100	0.000	596.50	1761.38
0.000137	1340.	1540.	1210.	2	0	0	0.00	681.20	2442.59

*SECNO 15.000
2800 NAT Q1= 2208.35 WSEL= 613.24 ENC Q1= 2208.35 WSEL= 613.34 RATIO= 0.0000
NAT Q1= 2284. RATIOS LOB,CH,ROB= 0.4143 0.4506 0.2350 WSEL= 613.34

3470 ENCROACHMENT STATIONS= 1619.0 2413.3 TYPE= 4 TARGET= 0.033
SURVEY SEC. #15

15.00	16.66	613.26	0.00	613.24	613.33	0.07	0.22	0.01	606.60
4600.	1889.	1684.	1027.	2185.	508.	1346.	978.	163.	607.80
1.90	0.86	3.31	0.76	0.120	0.045	0.100	0.000	596.60	1618.96
0.000453	770.	1150.	930.	2	0	0	0.00	794.38	2414.34

*SECNO 16.000
2800 NAT Q1= 3038.42 WSEL= 613.64 ENC Q1= 3038.42 WSEL= 613.74 RATIO= 0.0000
NAT Q1= 3108. RATIOS LOB,CH,ROB= 0.0869 0.4149 0.4982 WSEL= 613.74

3470 ENCROACHMENT STATIONS= 1745.1 2468.1 TYPE= 4 TARGET= 0.022
SURVEY SEC. #16

16.00	15.97	613.67	0.00	613.64	613.72	0.04	0.39	0.00	606.10
4600.	646.	1954.	2300.	844.	806.	2741.	1093.	183.	606.60
2.13	0.41	2.42	0.84	0.120	0.045	0.100	0.000	597.70	1735.06
0.000235	1170.	1340.	1150.	0	0	0	0.00	733.09	2468.14

*SECNO 17.000

3470 ENCROACHMENT STATIONS= 1690.0 2185.0 TYPE= 1 TARGET= 495.000
SURVEY SEC. #17

17.00	13.50	614.00	0.00	613.96	614.23	0.23	0.46	0.05	606.60
4600.	1230.	2452.	919.	871.	485.	705.	1162.	198.	606.40
2.22	1.41	5.06	1.30	0.100	0.040	0.100	0.000	600.50	1690.00
0.000872	980.	1470.	710.	2	0	0	0.00	495.00	2185.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HI	QLOSS	BANK FLEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 18.000
2800 NAT Q1= 2528.06 WSEL= 614.50 ENC Q1= 2528.06 WSEL= 614.60 RATIO= 0.0000
NAT Q1= 2613. RATIOS LOB,CH,ROB= 0.0263 0.4111 0.3626 WSEL= 614.60

3470 ENCROACHMENT STATIONS= 1987.9 3000.9 TYPE= 4 TARGET= 0.033
SURVEY SEC. #18

18.00	12.34	614.54	0.00	614.50	614.60	0.07	0.56	0.02	608.70
4600.	49.	1968.	2583.	71.	640.	3673.	1211.	209.	609.10
2.33	0.69	3.07	0.70	0.100	0.040	0.100	0.000	602.20	1987.95
0.000343	600.	750.	650.	2	0	0	0.00	1012.97	3000.91

*SECNO 19.000
2800 NAT Q1= 2219.49 WSEL= 614.80 ENC Q1= 2219.49 WSEL= 614.90 RATIO= 0.0000
NAT Q1= 2293. RATIOS LOB,CH,ROB= 0.3777 0.5165 0.1058 WSEL= 614.90

3470 ENCROACHMENT STATIONS= 1296.1 2258.8 TYPE= 4 TARGET= 0.033
SURVEY SEC. #19

19.00	15.65	614.85	0.00	614.80	614.95	0.10	0.34	0.01	608.50
4300.	1589.	2314.	396.	2304.	664.	629.	1278.	225.	610.60
2.45	0.69	3.49	0.63	0.100	0.040	0.100	0.000	599.20	1296.10
0.000387	850.	1250.	500.	1	0	0	0.00	962.70	2258.79

*SECNO 20.000
2800 NAT Q1= 2390.23 WSEL= 615.14 ENC Q1= 2390.23 WSEL= 615.24 RATIO= 0.0000
NAT Q1= 2472. RATIOS LOB,CH,ROB= 0.4229 0.3455 0.2316 WSEL= 615.24

3470 ENCROACHMENT STATIONS= 1103.2 2371.2 TYPE= 4 TARGET= 0.033
SURVEY SEC. #20

20.00	13.01	615.21	0.00	615.14	615.26	0.06	0.31	0.00	610.20
4300.	1798.	1946.	955.	3308.	501.	1725.	1360.	244.	608.20
2.61	0.54	3.09	0.55	0.120	0.040	0.150	0.000	602.20	1103.21
0.000332	730.	980.	800.	2	0	0	0.00	1268.01	2371.22

*SECNO 21.000
2800 NAT Q1= 2958.67 WSEL= 615.46 ENC Q1= 2958.67 WSEL= 615.56 RATIO= 0.0000
NAT Q1= 3044. RATIOS LOB,CH,ROB= 0.4702 0.5224 0.0074 WSEL= 615.56

3470 ENCROACHMENT STATIONS= 996.0 2121.2 TYPE= 4 TARGET= 0.028
SURVEY SEC. #21

21.00	11.64	615.54	0.00	615.46	615.58	0.04	0.32	0.00	609.40
4300.	2025.	2275.	0.	4688.	1031.	0.	1497.	273.	608.50
2.85	0.43	2.21	0.00	0.150	0.040	0.000	0.000	603.90	995.99
0.000222	1000.	1380.	1090.	2	0	0	0.00	1125.22	2121.20

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	XTRIAL	XDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 22.000
2800 NAT Q1= 2038.28 WSEL= 615.71 ENC Q1= 2038.28 WSEL= 615.81 RATIO= 0.0000
NAT Q1= 2107. RATIOS LOB,CH,ROB= 0.4373 0.4165 0.1462 WSEL= 615.81

3470 ENCROACHMENT STATIONS= 1311.9 2346.4 TYPE= 4 TARGET= 0.033
SURVEY SEC. #22

22.00	11.80	615.80	0.00	615.71	615.89	0.09	0.29	0.01	609.70
4300.	1867.	1852.	580.	3085.	518.	1114.	1609.	296.	608.90
2.99	0.61	3.58	0.52	0.150	0.040	0.150	0.000	604.00	1311.94
0.000448	930.	990.	850.	2	0	0	0.00	1034.42	2346.35

1490 NH CARD USED
*SECNO 23.000
2800 NAT Q1= 3712.56 WSEL= 616.16 ENC Q1= 3712.56 WSEL= 616.26 RATIO= 0.0000
NAT Q1= 3836. RATIOS LOB,CH,ROB= 0.5592 0.4064 0.0344 WSEL= 616.26

3470 ENCROACHMENT STATIONS= 572.2 2302.1 TYPE= 4 TARGET= 0.032
SURVEY SEC. #23

23.00	9.46	616.26	0.00	616.16	616.26	0.01	0.37	0.01	610.20
4300.	2410.	1808.	82.	6170.	1867.	200.	1850.	347.	609.80
3.71	0.39	0.97	0.41	0.120	0.068	0.120	0.000	606.80	572.22
0.000135	1640.	1670.	1430.	0	0	0	0.00	1729.84	2302.06

1490 NH CARD USED
*SECNO 24.000
2800 NAT Q1= 3011.03 WSEL= 616.43 ENC Q1= 3011.02 WSEL= 616.53 RATIO= 0.0000
NAT Q1= 3114. RATIOS LOB,CH,ROB= 0.3426 0.4134 0.2440 WSEL= 616.53

3470 ENCROACHMENT STATIONS= 1176.0 2623.5 TYPE= 4 TARGET= 0.033
SURVEY SEC. #24

24.00	7.72	616.52	0.00	616.43	616.53	0.01	0.27	0.00	610.80
4300.	1449.	1836.	1015.	3735.	1366.	1972.	2125.	403.	610.30
4.25	0.39	1.34	0.51	0.150	0.058	0.120	0.000	608.80	1176.02
0.000204	1480.	1750.	1680.	0	0	0	0.00	1447.30	2623.52

*SECNO 25.000
2800 NAT Q1= 2203.95 WSEL= 616.71 ENC Q1= 2203.95 WSEL= 616.81 RATIO= 0.0000
NAT Q1= 2285. RATIOS LOB,CH,ROB= 0.1527 0.1243 0.7230 WSEL= 616.81

3470 ENCROACHMENT STATIONS= 1640.7 3048.8 TYPE= 4 TARGET= 0.036

SURVEY SEC. #25

25.00	7.40	616.80	0.00	616.71	616.82	0.02	0.28	0.00	613.00	
4300.	601.	554.	3144.	1142.	233.	3346.	2286.	437.	612.80	
4.61	0.53	2.38	0.59	0.120	0.040	0.150	0.000	609.40	1640.73	
0.000381	1000.	1150.	1000.	1	0	0	0.00	1408.09	3048.82	

THIS RUN EXECUTED 30-JAN-85 13:13:49

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	OLOB	UCH	OROB	FFRENC	STENCL	STCHL	STCHR	STENCR
*	1.000	603.44	0.34	605.85	89.68	9.82	4585.39	4.79	0.00	0.00	2038.20	2109.70	0.00
*	1.000	603.44	0.34	605.85	89.68	9.82	4585.39	4.79	0.00	0.00	2038.20	2109.70	0.00
	2.210	606.76	0.00	607.24	228.82	71.04	4522.92	6.03	0.00	0.00	2000.00	2130.00	0.00
	2.210	606.80	0.03	607.29	130.00	0.00	4600.00	0.00	0.02	2000.00	2000.00	2130.00	2130.00
	2.220	606.90	0.00	607.66	94.97	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.220	606.96	0.05	607.70	95.14	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.230	606.87	0.00	607.70	94.83	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.230	606.92	0.05	607.74	95.02	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.240	606.92	0.00	607.74	95.02	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.240	606.97	0.05	607.78	95.17	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.250	607.04	0.00	607.77	95.42	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.250	607.09	0.05	607.81	95.60	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.260	607.75	0.00	607.97	286.11	31.79	4274.75	294.46	0.00	0.00	2000.00	2105.00	0.00
	2.260	607.78	0.03	608.01	210.35	0.00	4337.18	262.82	0.02	2000.00	2000.00	2105.00	2210.35
	3.000	607.93	0.00	608.05	368.37	0.18	4252.21	347.61	0.00	0.00	2000.00	2146.00	0.00
	3.000	607.96	0.04	608.09	285.68	0.00	4327.01	272.99	0.02	2000.00	2000.00	2146.00	2285.68
	4.000	608.20	0.00	608.35	506.78	739.28	3840.72	0.00	530.00	1630.00	2000.00	2158.00	2160.00
	4.000	608.24	0.04	608.39	507.40	767.87	3832.13	0.00	530.00	1630.00	2000.00	2158.00	2160.00
	5.100	608.32	0.00	608.50	268.28	307.24	3910.64	181.62	0.00	0.00	2000.00	2080.00	0.00
	5.100	608.36	0.04	608.54	244.36	482.17	3966.39	151.45	0.02	1852.07	2000.00	2080.00	2096.44
	5.200	608.33	0.00	608.72	98.87	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
	5.200	608.37	0.04	608.76	98.99	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00

SECNO	CWSEL	DIFKWS	LG	TOPWID	QLOB	QCH	QROB	PENFNC	STENCL	STCHL	STCHR	STENCR
5.300	608.31	0.00	608.73	98.85	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.300	608.36	0.04	608.77	98.97	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.400	608.34	0.00	608.76	98.89	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.400	608.38	0.04	608.80	99.02	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.500	608.38	0.00	608.77	99.03	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.500	608.43	0.04	608.81	99.16	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.600	608.80	0.00	608.88	215.00	23.80	4576.20	0.00	215.00	1945.00	1995.00	2160.00	2160.00
5.600	608.83	0.04	608.92	215.00	24.35	4575.65	0.00	215.00	1945.00	1995.00	2160.00	2160.00
6.000	608.94	0.00	609.17	492.91	520.91	4079.09	0.00	500.00	1600.00	2000.00	2100.40	2100.00
6.000	608.98	0.04	609.20	495.62	527.56	4072.44	0.00	500.00	1600.00	2000.00	2100.40	2100.00
7.000	609.34	0.00	609.59	322.04	309.02	4265.93	5.05	0.00	0.00	2000.00	2091.80	0.00
7.000	609.37	0.03	609.62	323.41	312.29	4282.58	5.13	0.00	0.00	2000.00	2091.80	0.00
8.000	610.11	0.00	610.33	362.63	1136.96	3422.63	40.41	0.00	0.00	2000.00	2078.10	0.00
8.000	610.14	0.02	610.35	362.80	1141.14	3418.30	40.55	0.00	0.00	2000.00	2078.10	0.00
9.000	610.98	0.00	611.13	576.98	32.11	2966.27	1601.62	0.00	0.00	2000.00	2066.30	0.00
9.000	611.00	0.02	611.14	577.09	32.16	2962.08	1605.76	0.00	0.00	2000.00	2066.30	0.00
10.000	611.51	0.00	611.62	585.26	19.79	3451.43	1128.78	0.00	0.00	2034.00	2119.20	0.00
10.000	611.52	0.01	611.63	585.32	19.82	3448.46	1131.72	0.00	0.00	2034.00	2119.20	0.00
11.000	611.87	0.00	612.17	280.26	333.05	3930.66	336.29	0.00	0.00	2000.00	2081.70	0.00
11.000	611.88	0.01	612.18	280.40	334.33	3928.39	336.97	0.00	0.00	2000.00	2081.70	0.00
12.100	612.01	0.00	612.34	238.03	1061.56	3109.84	428.60	0.00	0.00	2000.00	2045.00	0.00
12.100	612.02	0.01	612.35	238.07	1063.24	3107.87	428.89	0.00	0.00	2000.00	2045.00	0.00
12.200	612.25	0.00	612.52	126.58	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.200	612.26	0.01	612.53	126.64	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.300	612.24	0.00	612.53	126.55	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.300	612.25	0.01	612.54	126.61	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.400	612.26	0.00	612.55	126.63	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.400	612.27	0.01	612.56	126.69	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.500	612.29	0.00	612.56	126.87	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.500	612.30	0.01	612.57	126.93	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.600	612.52	0.00	612.65	556.38	872.19	3117.45	610.36	580.00	1600.00	2000.00	2060.00	2180.00
12.600	612.53	0.01	612.66	556.89	873.02	3116.39	610.59	580.00	1600.00	2000.00	2060.00	2180.00
13.000	612.81	0.00	612.86	725.14	2619.61	1921.81	58.58	0.00	0.00	2000.00	2058.50	0.00
13.000	612.81	0.01	612.86	725.18	2620.73	1920.62	58.65	0.00	0.00	2000.00	2058.50	0.00

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	FFRENC	STENCL	STCHL	STCHR	STENCR
14.000	613.06	0.00	613.08	732.22	1186.71	1190.82	2222.47	0.00	0.00	2000.00	2048.40	0.00
14.000	613.07	0.01	613.10	681.20	1166.60	1213.46	2219.94	0.02	1761.38	2000.00	2048.40	2442.59
15.000	613.24	0.00	613.30	1637.46	1898.33	1643.48	1058.19	0.00	0.00	2000.00	2042.00	0.00
15.000	613.26	0.02	613.33	794.38	1888.99	1683.90	1027.11	0.03	1618.96	2000.00	2042.00	2413.35
16.000	613.64	0.00	613.68	812.19	388.09	1922.79	2289.12	0.00	0.00	2000.00	2073.40	0.00
16.000	613.67	0.03	613.72	733.09	346.01	1953.83	2300.16	0.02	1735.06	2000.00	2073.40	2468.14
17.000	613.96	0.00	614.19	495.00	1225.20	2459.28	915.52	495.00	1690.00	2000.00	2047.10	2185.00
17.000	614.00	0.04	614.23	495.00	1229.51	2451.90	918.58	495.00	1690.00	2000.00	2047.10	2185.00
18.000	614.50	0.00	614.56	1474.27	120.58	1921.54	2557.88	0.00	0.00	2000.00	2065.90	0.00
18.000	614.54	0.04	614.60	1012.97	48.59	1968.41	2583.00	0.03	1987.95	2000.00	2065.90	3000.91
19.000	614.80	0.00	614.90	1448.78	1595.40	2263.92	440.68	0.00	0.00	2000.00	2058.10	0.00
19.000	614.85	0.05	614.95	962.70	1589.36	2314.46	396.18	0.03	1296.10	2000.00	2058.10	2258.79
20.000	615.14	0.00	615.20	1638.76	1793.88	1512.37	993.74	0.00	0.00	2000.00	2048.00	0.00
20.000	615.21	0.06	615.26	1268.01	1798.27	1546.28	955.44	0.03	1103.21	2000.00	2048.00	2371.22
21.000	615.46	0.00	615.50	1595.56	2002.18	2266.44	31.38	0.00	0.00	2000.00	2121.20	0.00
21.000	615.54	0.08	615.58	1125.22	2025.48	2274.52	0.00	0.03	995.99	2000.00	2121.20	2121.20
22.000	615.71	0.00	615.80	1667.60	1866.22	1819.38	614.40	0.00	0.00	2000.00	2051.60	0.00
22.000	615.80	0.08	615.89	1034.42	1867.31	1852.20	580.49	0.03	1311.94	2000.00	2051.60	2346.35
23.000	616.16	0.00	616.17	1990.19	2389.87	1764.56	145.57	0.00	0.00	2000.00	2264.90	0.00
23.000	616.26	0.09	616.26	1729.84	2409.95	1807.98	82.07	0.03	572.22	2000.00	2264.90	2302.06
24.000	616.43	0.00	616.44	2054.54	1464.09	1792.70	1043.21	0.00	0.00	2000.00	2206.90	0.00
24.000	616.52	0.09	616.53	1447.50	1449.11	1836.15	1014.73	0.03	1176.02	2000.00	2206.90	2623.52
25.000	616.71	0.00	616.72	1768.79	640.27	539.32	3120.41	0.00	0.00	2000.00	2038.00	0.00
25.000	616.80	0.09	616.82	1408.09	601.23	554.48	3144.28	0.04	1640.73	2000.00	2038.00	3048.82

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRITWS	EG	10K*S	VCH	AREA	.01K
*	1.000	0.00	0.00	0.00	595.60	4600.00	603.44	603.44	605.85	74.30	12.49	373.68	533.65
*	1.000	0.00	0.00	0.00	595.60	4600.00	603.44	603.44	605.85	74.30	12.49	373.68	533.65
	2.210	590.00	0.00	0.00	595.30	4600.00	606.76	0.00	607.24	11.14	5.57	899.60	1378.02
	2.210	590.00	0.00	0.00	595.30	4600.00	606.80	0.00	607.29	11.74	5.63	816.60	1342.27
	2.220	240.00	0.00	0.00	595.20	4600.00	606.90	0.00	607.66	12.39	6.99	658.09	1306.82
	2.220	240.00	0.00	0.00	595.20	4600.00	606.96	0.00	607.70	12.15	6.94	662.57	1319.94
	2.230	1.00	614.50	614.00	595.20	4600.00	606.87	0.00	607.70	22.32	7.31	629.02	973.66
	2.230	1.00	614.50	614.00	595.20	4600.00	606.92	0.00	607.74	21.84	7.26	633.70	984.22
	2.240	17.00	614.50	614.00	595.20	4600.00	606.92	0.00	607.74	21.85	7.26	633.64	984.09
	2.240	17.00	614.50	614.00	595.20	4600.00	606.97	0.00	607.78	21.48	7.22	637.35	992.47
	2.250	1.00	0.00	0.00	595.20	4600.00	607.04	0.00	607.77	11.74	6.86	670.31	1342.74
	2.250	1.00	0.00	0.00	595.20	4600.00	607.09	0.00	607.81	11.49	6.81	675.15	1357.05
	2.260	110.00	0.00	0.00	594.30	4600.00	607.75	0.00	607.97	2.14	3.88	1705.96	3142.65
	2.260	110.00	0.00	0.00	594.30	4600.00	607.78	0.00	608.01	2.33	3.92	1554.88	3016.76
	3.000	320.00	0.00	0.00	591.50	4600.00	607.93	0.00	608.05	2.33	2.93	2145.54	3015.13
	3.000	320.00	0.00	0.00	591.50	4600.00	607.96	0.00	608.09	2.40	2.97	1967.88	2972.15
	4.000	990.00	0.00	0.00	596.50	4600.00	608.20	0.00	608.35	3.92	3.38	2302.15	2322.54
	4.000	990.00	0.00	0.00	596.50	4600.00	608.24	0.00	608.39	3.84	3.36	2324.33	2347.31
	5.100	460.00	0.00	0.00	593.40	4600.00	608.32	0.00	608.50	2.56	3.63	1927.41	2875.88
	5.100	460.00	0.00	0.00	593.40	4600.00	608.36	0.00	608.54	2.61	3.69	1865.30	2848.79
	5.200	260.00	0.00	0.00	591.60	4600.00	608.33	0.00	608.72	8.22	5.01	919.05	1604.40
	5.200	260.00	0.00	0.00	591.60	4600.00	608.37	0.00	608.76	8.11	4.98	923.36	1615.22
	5.300	1.00	611.20	624.00	591.60	4600.00	608.31	0.00	608.73	9.41	5.20	884.38	1499.30
	5.300	1.00	611.20	624.00	591.60	4600.00	608.36	0.00	608.77	9.30	5.16	888.53	1508.76
	5.400	26.00	611.20	624.00	591.60	4600.00	608.34	0.00	608.76	9.37	5.19	885.82	1502.58
	5.400	26.00	611.20	624.00	591.60	4600.00	608.38	0.00	608.80	9.25	5.17	890.06	1512.25
	5.500	1.00	0.00	0.00	591.60	4600.00	608.38	0.00	608.77	5.17	4.97	924.70	2023.26
	5.500	1.00	0.00	0.00	591.60	4600.00	608.43	0.00	608.81	5.10	4.95	928.93	2036.59
	5.600	120.00	0.00	0.00	591.90	4600.00	608.80	0.00	608.88	0.72	2.30	2100.21	5423.23
	5.600	120.00	0.00	0.00	591.90	4600.00	608.83	0.00	608.92	0.71	2.29	2108.52	5452.07
	6.000	1940.00	0.00	0.00	596.00	4600.00	608.94	0.00	609.17	3.15	4.08	1972.13	2589.89
	6.000	1940.00	0.00	0.00	596.00	4600.00	608.98	0.00	609.20	3.11	4.06	1990.57	2609.68

SECNO	XLCH	ELTRN	FILC	FMIN	R	CWSEI	CRIWS	FB	10KSB	VCH	ARFA	.01K
7.000	1460.00	0.00	0.00	594.20	4600.00	609.34	0.00	609.59	2.59	4.14	1625.67	2859.32
7.000	1460.00	0.00	0.00	594.20	4600.00	609.37	0.00	609.62	2.56	4.12	1635.72	2874.75
8.000	1920.00	0.00	0.00	596.40	4600.00	610.11	0.00	610.33	6.17	4.26	1976.43	1851.44
8.000	1920.00	0.00	0.00	596.40	4600.00	610.14	0.00	610.35	6.11	4.24	1984.94	1860.83
9.000	1600.00	0.00	0.00	594.00	4600.00	610.98	0.00	611.13	4.20	3.76	2826.18	2244.65
9.000	1600.00	0.00	0.00	594.00	4600.00	611.00	0.00	611.14	4.17	3.75	2835.32	2252.81
10.000	1640.00	0.00	0.00	595.40	4600.00	611.51	0.00	611.62	2.39	3.08	3053.08	2975.01
10.000	1640.00	0.00	0.00	595.40	4600.00	611.52	0.00	611.65	2.38	3.08	3060.32	2982.25
11.000	1390.00	0.00	0.00	600.20	4600.00	611.87	0.00	612.17	5.94	4.75	1463.56	1887.46
11.000	1390.00	0.00	0.00	600.20	4600.00	611.88	0.00	612.18	5.91	4.74	1466.49	1891.64
12.100	260.00	0.00	0.00	598.90	4600.00	612.01	0.00	612.34	6.44	5.55	1501.37	1812.29
12.100	260.00	0.00	0.00	598.90	4600.00	612.02	0.00	612.35	6.42	5.54	1503.71	1815.82
12.200	320.00	0.00	0.00	597.20	4600.00	612.25	0.00	612.52	4.12	4.15	1107.29	2265.44
12.200	320.00	0.00	0.00	597.20	4600.00	612.26	0.00	612.53	4.11	4.15	1108.37	2268.38
12.300	1.00	618.00	619.00	597.20	4600.00	612.24	0.00	612.53	3.36	4.32	1065.42	1986.15
12.300	1.00	618.00	619.00	597.20	4600.00	612.25	0.00	612.54	5.35	4.31	1066.46	1988.67
12.400	36.00	618.00	619.00	597.20	4600.00	612.26	0.00	612.55	5.35	4.31	1066.84	1989.61
12.400	36.00	618.00	619.00	597.20	4600.00	612.27	0.00	612.56	5.33	4.31	1067.88	1992.13
12.500	1.00	0.00	0.00	597.20	4600.00	612.29	0.00	612.56	3.06	4.14	1112.45	2630.25
12.500	1.00	0.00	0.00	597.20	4600.00	612.30	0.00	612.57	3.05	4.13	1113.48	2633.53
12.600	300.00	0.00	0.00	597.20	4600.00	612.52	0.00	612.65	1.20	3.54	3451.49	4207.68
12.600	300.00	0.00	0.00	597.20	4600.00	612.53	0.00	612.66	1.19	3.53	3455.82	4212.82
13.000	1400.00	0.00	0.00	596.70	4600.00	612.81	0.00	612.86	2.06	2.68	4539.15	3207.39
13.000	1400.00	0.00	0.00	596.70	4600.00	612.81	0.00	612.86	2.05	2.68	4544.35	3212.51
14.000	1540.00	0.00	0.00	596.50	4600.00	613.06	0.00	613.08	1.33	2.02	5700.93	3992.45
14.000	1540.00	0.00	0.00	596.50	4600.00	613.07	0.00	613.10	1.37	2.06	5539.52	3923.22
15.000	1150.00	0.00	0.00	596.60	4600.00	613.24	0.00	613.30	4.34	3.24	4638.60	2208.35
15.000	1150.00	0.00	0.00	596.60	4600.00	613.26	0.00	613.33	4.53	3.31	4039.81	2162.46
16.000	1340.00	0.00	0.00	597.70	4600.00	613.64	0.00	613.68	2.29	2.39	4560.83	3038.42
16.000	1340.00	0.00	0.00	597.70	4600.00	613.67	0.00	613.72	2.35	2.42	4390.97	3000.97
17.000	1470.00	0.00	0.00	600.50	4600.00	613.96	0.00	614.19	8.89	5.09	2041.08	1542.97
17.000	1470.00	0.00	0.00	600.50	4600.00	614.00	0.00	614.23	8.72	5.06	2061.35	1557.92
18.000	750.00	0.00	0.00	602.20	4600.00	614.50	0.00	614.56	3.31	3.01	4883.76	2528.06
18.000	750.00	0.00	0.00	602.20	4600.00	614.54	0.00	614.60	3.43	3.07	4385.97	2483.65

SECND	XLCH	FLTRU	ELLC	FLMIN	Q	CNSFL	CRINS	FB	10KHS	UCH	AREA	01K
19.000	1250.00	0.00	0.00	599.20	4300.00	614.80	0.00	614.90	3.75	3.42	4074.33	2219.49
19.000	1250.00	0.00	0.00	599.20	4300.00	614.85	0.00	614.95	3.87	3.49	3597.28	2184.95
20.000	980.00	0.00	0.00	602.20	4300.00	615.14	0.00	615.20	3.24	3.04	5963.80	2390.23
20.000	980.00	0.00	0.00	602.20	4300.00	615.21	0.00	615.26	3.32	3.09	5533.97	2360.93
21.000	1380.00	0.00	0.00	603.90	4300.00	615.46	0.00	615.50	2.11	2.23	6207.28	2958.67
21.000	1380.00	0.00	0.00	603.90	4300.00	615.54	0.00	615.58	2.22	2.21	5719.40	2884.29
22.000	990.00	0.00	0.00	604.00	4300.00	615.71	0.00	615.80	4.45	3.54	5362.18	2038.28
22.000	990.00	0.00	0.00	604.00	4300.00	615.80	0.00	615.89	4.48	3.58	4716.53	2032.15
23.000	1670.00	0.00	0.00	606.80	4300.00	616.16	0.00	616.17	1.34	0.96	8623.94	3712.56
23.000	1670.00	0.00	0.00	606.80	4300.00	616.26	0.00	616.26	1.35	0.97	8237.22	3696.31
24.000	1750.00	0.00	0.00	608.80	4300.00	616.43	0.00	616.44	2.04	1.33	7761.15	3011.03
24.000	1750.00	0.00	0.00	608.80	4300.00	616.52	0.00	616.53	2.04	1.34	7072.49	3012.59
25.000	1150.00	0.00	0.00	609.40	4300.00	616.71	0.00	616.72	3.81	2.36	7058.07	2203.95
25.000	1150.00	0.00	0.00	609.40	4300.00	616.80	0.00	616.82	3.81	2.38	6721.27	2202.12

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	1.000	4600.00	603.44	0.00	0.00	0.34	89.68	0.00
*	1.000	4600.00	603.44	0.00	0.00	0.34	89.68	0.00
	2.210	4600.00	606.76	0.00	3.33	0.00	228.82	590.00
	2.210	4600.00	606.80	0.03	3.36	0.03	130.00	590.00
	2.220	4600.00	606.90	0.00	0.14	0.00	94.97	240.00
	2.220	4600.00	606.96	0.05	0.16	0.05	95.14	240.00
	2.230	4600.00	606.87	0.00	-0.03	0.00	94.83	1.00
	2.230	4600.00	606.92	0.05	-0.03	0.05	95.02	1.00
	2.240	4600.00	606.92	0.00	0.05	0.00	95.02	17.00
	2.240	4600.00	606.97	0.05	0.05	0.05	95.17	17.00
	2.250	4600.00	607.04	0.00	0.11	0.00	95.42	1.00
	2.250	4600.00	607.09	0.05	0.12	0.05	95.60	1.00
	2.260	4600.00	607.75	0.00	0.71	0.00	286.11	110.00
	2.260	4600.00	607.78	0.03	0.69	0.03	210.35	110.00
	3.000	4600.00	607.93	0.00	0.17	0.00	368.37	320.00
	3.000	4600.00	607.96	0.04	0.18	0.04	285.68	320.00
	4.000	4600.00	608.20	0.00	0.27	0.00	506.78	990.00
	4.000	4600.00	608.24	0.04	0.28	0.04	507.40	990.00
	5.100	4600.00	608.32	0.00	0.12	0.00	268.28	460.00
	5.100	4600.00	608.36	0.04	0.11	0.04	244.36	460.00
	5.200	4600.00	608.33	0.00	0.01	0.00	98.87	260.00
	5.200	4600.00	608.37	0.04	0.01	0.04	98.99	260.00
	5.300	4600.00	608.31	0.00	-0.01	0.00	98.85	1.00
	5.300	4600.00	608.36	0.04	-0.01	0.04	98.97	1.00
	5.400	4600.00	608.34	0.00	0.03	0.00	98.89	26.00
	5.400	4600.00	608.38	0.04	0.03	0.04	99.02	26.00
	5.500	4600.00	608.38	0.00	0.05	0.00	99.03	1.00
	5.500	4600.00	608.43	0.04	0.04	0.04	99.16	1.00
	5.600	4600.00	608.80	0.00	0.41	0.00	215.00	120.00
	5.600	4600.00	608.83	0.04	0.41	0.04	215.00	120.00
	6.000	4600.00	608.94	0.00	0.14	0.00	492.91	1940.00
	6.000	4600.00	608.98	0.04	0.14	0.04	495.62	1940.00

SECND	R	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
7.000	4600.00	609.34	0.00	0.40	0.00	322.04	1460.00
7.000	4600.00	609.37	0.03	0.40	0.03	323.41	1460.00
8.000	4600.00	610.11	0.00	0.77	0.00	362.63	1920.00
8.000	4600.00	610.14	0.02	0.76	0.02	362.80	1920.00
9.000	4600.00	610.98	0.00	0.87	0.00	576.98	1600.00
9.000	4600.00	611.00	0.02	0.86	0.02	577.09	1600.00
10.000	4600.00	611.51	0.00	0.53	0.00	580.26	1640.00
10.000	4600.00	611.52	0.01	0.52	0.01	585.32	1640.00
11.000	4600.00	611.87	0.00	0.36	0.00	280.26	1390.00
11.000	4600.00	611.88	0.01	0.36	0.01	280.40	1390.00
12.100	4600.00	612.01	0.00	0.14	0.00	238.03	260.00
12.100	4600.00	612.02	0.01	0.14	0.01	238.07	260.00
12.200	4600.00	612.25	0.00	0.25	0.00	126.58	320.00
12.200	4600.00	612.26	0.01	0.25	0.01	126.64	320.00
12.300	4600.00	612.24	0.00	-0.01	0.00	126.55	1.00
12.300	4600.00	612.25	0.01	-0.01	0.01	126.61	1.00
12.400	4600.00	612.26	0.00	0.02	0.00	126.63	36.00
12.400	4600.00	612.27	0.01	0.02	0.01	126.69	36.00
12.500	4600.00	612.29	0.00	0.03	0.00	126.87	1.00
12.500	4600.00	612.30	0.01	0.03	0.01	126.93	1.00
12.600	4600.00	612.52	0.00	0.23	0.00	556.38	300.00
12.600	4600.00	612.53	0.01	0.23	0.01	556.89	300.00
13.000	4600.00	612.81	0.00	0.29	0.00	725.14	1400.00
13.000	4600.00	612.81	0.01	0.28	0.01	725.18	1400.00
14.000	4600.00	613.06	0.00	0.26	0.00	732.22	1540.00
14.000	4600.00	613.07	0.01	0.26	0.01	681.20	1540.00
15.000	4600.00	613.24	0.00	0.18	0.00	1637.46	1150.00
15.000	4600.00	613.26	0.02	0.18	0.02	794.38	1150.00
16.000	4600.00	613.64	0.00	0.40	0.00	812.19	1340.00
16.000	4600.00	613.67	0.03	0.42	0.03	733.09	1640.00
17.000	4600.00	613.96	0.00	0.32	0.00	495.00	1470.00
17.000	4600.00	614.00	0.04	0.33	0.04	495.00	1470.00
18.000	4600.00	614.50	0.00	0.54	0.00	1474.27	750.00
18.000	4600.00	614.54	0.04	0.53	0.04	1012.97	750.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
19.000	4300.00	614.80	0.00	0.30	0.00	1448.78	1250.00
19.000	4300.00	614.85	0.05	0.31	0.05	962.70	1250.00
20.000	4300.00	615.14	0.00	0.35	0.00	1638.76	980.00
20.000	4300.00	615.21	0.06	0.36	0.06	1268.01	980.00
21.000	4300.00	615.46	0.00	0.32	0.00	1595.56	1380.00
21.000	4300.00	615.54	0.08	0.33	0.08	1125.22	1380.00
22.000	4300.00	615.71	0.00	0.25	0.00	1662.60	990.00
22.000	4300.00	615.80	0.08	0.26	0.08	1034.42	990.00
23.000	4300.00	616.16	0.00	0.45	0.00	1990.19	1670.00
23.000	4300.00	616.26	0.09	0.46	0.09	1729.84	1670.00
24.000	4300.00	616.43	0.00	0.26	0.00	2034.54	1750.00
24.000	4300.00	616.52	0.09	0.26	0.09	1447.50	1750.00
25.000	4300.00	616.71	0.00	0.28	0.00	1768.79	1150.00
25.000	4300.00	616.80	0.09	0.28	0.09	1408.09	1150.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 1.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

FLOODWAY DATA, CHOCOLAY RIVER START
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
1.000	90.	374.	12.3	603.4	603.4	0.0
2.210	130.	817.	5.6	606.8	606.8	0.0
2.220	95.	663.	6.9	607.0	606.9	0.1
2.230	95.	634.	7.3	607.0	606.9	0.1
2.240	95.	637.	7.2	606.9	606.9	0.0
2.250	96.	675.	6.8	607.1	607.0	0.1
2.260	210.	1555.	3.0	607.8	607.8	0.0
3.000	286.	1968.	2.3	607.9	607.9	0.0
4.000	507.	2324.	2.0	608.2	608.2	0.0
5.100	244.	1865.	2.5	608.3	608.3	0.0
5.200	99.	923.	5.0	608.3	608.3	0.0
5.300	99.	889.	5.2	608.3	608.3	0.0
5.400	99.	890.	5.2	608.3	608.3	0.0
5.500	99.	929.	5.0	608.4	608.4	0.0
5.600	215.	2109.	2.2	608.8	608.8	0.0
6.000	496.	1991.	2.3	608.9	608.9	0.0
7.000	323.	1636.	2.8	609.3	609.3	0.0
8.000	363.	1985.	2.3	610.1	610.1	0.0
9.000	577.	2835.	1.6	611.0	611.0	0.0
10.000	585.	3060.	1.5	611.5	611.5	0.0
11.000	280.	1466.	3.1	611.9	611.9	0.0
12.100	238.	1504.	3.1	612.0	612.0	0.0
12.200	127.	1108.	4.2	612.3	612.3	0.0
12.300	127.	1066.	4.3	612.2	612.2	0.0
12.400	127.	1068.	4.3	612.3	612.3	0.0
12.500	127.	1113.	4.1	612.3	612.3	0.0
12.600	557.	3456.	1.3	612.5	612.5	0.0
13.000	725.	4544.	1.0	612.8	612.8	0.0
14.000	681.	5840.	0.8	613.1	613.1	0.0
15.000	794.	4040.	1.1	613.2	613.2	0.0
16.000	733.	4391.	1.0	613.6	613.6	0.0
17.000	495.	2061.	2.2	614.0	614.0	0.0
18.000	1013.	4386.	1.0	614.5	614.5	0.0
19.000	963.	3597.	1.2	614.8	614.8	0.0
20.000	1268.	5534.	0.8	615.2	615.1	0.1
21.000	1125.	5719.	0.8	615.6	615.5	0.1
22.000	1034.	4717.	0.9	615.8	615.7	0.1
23.000	1730.	8237.	0.5	616.3	616.2	0.1
24.000	1448.	7072.	0.6	616.5	616.4	0.1
25.000	1408.	6721.	0.6	616.8	616.7	0.1

00BREAK00

1) COUNTY: Manistee

2) STUDY NAME: Chocolay Twp

3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: 100 yr encroached

00BREAK00

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*********************************************
*  WATER SURFACE PROFILES                   *
*  VERSION OF NOVEMBER 1976                 *
*  UPDATED MAY 1984                         *
*                                           *
*  RUN DATE 30-JAN-85 TIME 12:59:20         *
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*********************************************
*  U.S. ARMY CORPS OF ENGINEERS             *
*  THE HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D               *
*  DAVIS, CALIFORNIA 95616                  *
*  (916) 440-2105 (FTS) 448-2105            *
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X     X  XXXXXXX   XXXXX                XXXXX
X     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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THIS RUN EXECUTED 30-JAN-85 12:59:36

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

C
T1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1985
T2        JOB #1057F CHOC100,HEC [SHEFF]  100 YR. FLOOD PROFILE RUN
T3        CHOCOLAY RIVER   STARTING WITH MEAN ANNUAL LAKE LEVEL

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.  0.000000      0.00       0.0       0.    603.100     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

   110.000   150.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      4.000   2900.000   4100.000   4600.000   5900.000   4600.000   1950.000      0.000      0.000      0.000
NC      0.050      0.050      0.025      0.010      0.300      0.000      0.000      0.000      0.000      0.000
NH      4.000      0.100   1820.000      0.030   2000.000      0.030   2129.000      0.050   2560.000      0.000
        SURVEY SEC. M1  90' U/S OF MOUTH AT LAKE SUPERIOR
X1      1.000     17.000   2038.200   2109.700      0.000      0.000      0.000      0.000      0.000      0.000
GR    609.500   1590.000    608.400   1820.000    608.000   1890.000    605.000   2000.000    602.700   2038.200
GR    600.800   2047.200    596.900   2061.600    595.600   2080.000    596.500   2087.500    599.200   2101.700
GR    602.200   2108.000    602.700   2109.700    605.100   2129.200    608.400   2157.900    610.900   2197.500
GR    610.000   2320.000    615.000   2560.000      0.000      0.000      0.000      0.000      0.000      0.000

NC      0.050      0.070      0.030      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
        240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)
X1      2.210      9.000   2000.000   2130.000    590.000    575.000    590.000      0.000      0.000      0.000
GR    607.000   1900.000    605.000   2000.000    602.000   2030.000    595.300   2065.000    602.000   2110.000
GR    605.000   2130.000    610.000   2160.000    615.000   2620.000    620.000   2670.000      0.000      0.000

NC      0.060      0.100      0.026      0.300      0.500      0.000      0.000      0.000      0.000      0.000
ET      0.000      0.000      0.000      0.000      0.000      1.410      0.000      0.000      0.000      0.000
        D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)
X1      2.220     31.000   2000.000   2106.000    230.000    250.000    240.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    614.500    614.700      0.000
GR    614.000   1560.000    611.400   1980.000    611.400   2000.000    611.400   2000.100    611.400   2005.000
GR    607.300   2007.000    602.400   2021.000    600.500   2031.000    595.200   2039.000    596.000   2051.000
GR    596.100   2051.100    597.300   2052.000    597.300   2052.100    598.000   2053.400    598.100   2053.500
GR    599.000   2056.500    599.100   2056.600    599.500   2058.000    599.500   2058.100    599.400   2058.900
GR    599.300   2059.000    599.300   2064.000    595.900   2075.000    600.600   2085.000    602.500   2094.000
GR    606.000   2102.500    611.400   2106.000    611.400   2112.500    613.700   2112.600    614.000   2120.000
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BR	614.000	2280.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	1' INSIDE OF D/S FACE OF R.R. BRIDGE										
X1	2.230	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	614.300	614.700	0.000	
BT	31.000	1560.000	615.000	614.000	1980.000	614.300	611.400	2000.000	614.500	611.400	
BT	2000.100	615.500	611.400	2005.000	615.500	611.400	2007.000	615.500	611.400	2021.000	
BT	615.500	611.400	2031.000	615.500	611.400	2039.000	615.500	611.400	2051.000	615.500	
BT	611.400	2051.100	614.600	606.500	2052.000	614.600	606.500	2052.100	614.600	597.300	
BT	2053.400	614.600	598.600	2053.500	614.600	606.500	2055.500	614.600	606.500	2056.600	
BT	614.600	599.600	2058.000	614.600	599.500	2058.100	617.200	606.500	2058.900	617.200	
BT	606.500	2059.000	617.200	611.400	2064.000	617.200	611.400	2075.000	617.200	611.400	
BT	2085.000	617.200	611.400	2094.000	617.200	611.400	2102.500	617.200	611.400	2106.000	
BT	617.200	611.400	2112.500	617.200	611.400	2112.600	614.700	614.700	2120.000	615.000	
BT	614.000	2280.000	615.000	614.000	0.000	0.000	0.000	0.000	0.000	0.000	
	1' INSIDE OF U/S FACE OF R.R. BRIDGE										
X1	2.240	0.000	0.000	0.000	17.000	17.000	17.000	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	614.500	614.700	0.000	
	U/S FACE OF RAILROAD BRIDGE										
X1	2.250	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	614.500	614.700	0.000	
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000	
	110' U/S OF R.R. BRIDGE										
X1	2.260	15.000	2000.000	2105.000	110.000	110.000	110.000	0.000	0.000	0.000	
GR	609.000	1830.000	609.000	1960.000	605.000	1995.000	602.500	2000.000	600.000	2005.000	
GR	594.300	2010.700	594.300	2040.000	594.300	2044.300	600.000	2070.000	602.500	2105.000	
GR	605.000	2235.000	610.000	2275.000	615.000	2295.000	620.000	2330.000	623.000	2375.000	
NC	0.000	0.000	0.035	0.100	0.300	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. #3										
X1	3.000	21.000	2000.000	2146.000	400.000	250.000	320.000	0.000	0.000	0.000	
GR	620.000	1980.000	609.500	1988.500	607.300	2000.000	602.500	2004.900	597.800	2011.700	
GR	594.000	2020.100	591.500	2039.700	595.200	2050.000	595.500	2057.200	596.600	2068.800	
GR	596.900	2077.100	598.300	2089.600	599.300	2103.100	600.800	2111.800	601.800	2126.000	
GR	603.900	2146.000	605.000	2330.000	610.000	2390.000	610.000	2425.000	620.000	2450.000	
GR	633.000	2500.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
NC	0.100	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. #4										
X1	4.000	22.000	2000.000	2158.000	980.000	890.000	990.000	0.000	0.000	0.000	
X3	0.000	0.000	0.000	1630.000	0.000	2140.000	0.000	0.000	0.000	0.000	
GR	625.000	1310.000	620.000	1370.000	615.000	1580.000	620.000	1590.000	610.000	1610.000	
GR	605.000	1670.000	605.000	1750.000	605.000	1800.000	605.000	1900.000	605.000	1950.000	
GR	605.000	1970.000	603.100	1970.600	603.600	2000.000	602.500	2018.000	601.500	2030.600	
GR	797.400	2070.900	598.500	2095.000	598.100	2114.400	600.800	2122.600	602.500	2126.100	
GR	617.300	2158.000	620.000	2185.000	0.000	0.000	0.000	0.000	0.000	0.000	

270' D/S FROM GREEN BAY ST. BRIDGE

X1	5.100	19.000	2000.000	2080.000	370.000	550.000	460.000	0.000	0.000	0.000
GR	622.000	1780.000	620.000	1810.000	615.000	1820.000	610.000	1833.000	605.000	1843.000
GR	600.000	1855.000	600.000	1870.000	605.000	1910.000	605.000	1995.000	602.700	2000.000
GR	600.000	2010.000	593.400	2014.600	593.400	2045.000	593.400	2073.400	600.000	2080.000
GR	602.700	2090.000	605.000	2100.000	610.000	2110.000	613.000	2130.000	0.000	0.000
NC	0.000	0.100	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000

D/S FACE OF GREEN BAY ST. BRIDGE

X1	5.200	31.000	2000.000	2107.000	400.000	170.000	260.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	614.900	611.200	0.000
GR	624.000	1850.000	619.000	1880.000	615.000	1950.000	614.000	2000.000	614.000	2000.100
GR	609.800	2002.000	607.000	2010.000	603.800	2018.000	601.900	2018.100	596.100	2027.500
GR	595.600	2028.000	595.100	2029.000	595.100	2029.500	594.700	2031.000	598.300	2040.000
GR	591.600	2050.000	593.100	2060.000	597.600	2074.500	597.900	2075.000	597.900	2076.000
GR	597.900	2076.500	598.400	2078.000	600.000	2081.000	602.200	2089.000	602.200	2093.000
GR	603.100	2097.000	606.900	2105.000	608.800	2105.100	610.000	2107.000	610.200	2107.100
GR	612.100	2500.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

X1	5.300	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	614.900	611.200	0.000
BT	31.000	1850.000	625.000	624.000	1880.000	620.000	619.000	1950.000	615.900	615.000
BT	2000.000	614.900	614.000	2000.100	616.100	614.000	2002.000	616.000	611.800	2010.000
BT	615.800	611.000	2018.000	615.500	610.800	2018.100	615.500	610.700	2027.500	615.100
BT	610.700	2028.000	615.100	595.600	2029.000	615.000	595.100	2029.500	615.100	610.300
BT	2031.000	615.000	610.200	2040.000	614.700	609.900	2050.000	614.400	609.600	2060.000
BT	614.000	609.200	2074.500	613.500	608.700	2075.000	613.500	597.900	2076.000	613.500
BT	597.900	2076.500	613.400	608.600	2078.000	613.400	608.600	2081.000	613.400	608.600
BT	2089.000	613.400	608.600	2093.000	613.400	608.600	2097.000	613.400	608.600	2103.000
BT	613.400	608.800	2105.500	613.400	608.800	2107.000	613.300	610.000	2107.100	611.200
BT	610.200	2500.000	612.100	611.100	0.000	0.000	0.000	0.000	0.000	0.000

1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

X1	5.400	0.000	0.000	0.000	26.000	26.000	26.000	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	614.900	611.200	0.000

U/S FACE OF GREEN BAY ST. BRIDGE

X1	5.500	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	614.900	611.200	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000

120' U/S OF GREEN BAY ST. BRIDGE

X1	5.600	10.000	1995.000	2160.000	240.000	60.000	120.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1945.000	0.000	2160.000	0.000	0.000	0.000	0.000
GR	620.000	1875.000	615.000	1895.000	610.000	1915.000	605.000	1995.000	600.000	2005.000
GR	591.900	2080.000	600.000	2150.000	603.000	2160.000	610.000	2170.000	613.000	2180.000

ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1789.000	2100.400
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 06									
X1	6.000	18.000	2000.000	2100.400	900.000	2060.000	1940.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1600.000	0.000	2100.000	0.000	0.000	0.000	0.000
GR	625.000	1330.000	620.000	1490.000	615.000	1520.000	610.000	1530.000	606.000	1821.000
GR	604.700	1979.300	604.600	2000.000	602.900	2008.000	600.500	2031.200	598.700	2038.600
GR	597.400	2055.700	596.300	2082.100	596.000	2089.200	598.700	2100.400	603.300	2100.500
GR	603.400	2105.100	621.700	2127.500	621.100	2141.000	0.000	0.000	0.000	0.000
NC	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 07									
X1	7.000	17.000	2000.000	2091.800	1460.000	1110.000	1460.000	0.000	0.000	0.000
GR	620.000	1680.000	615.000	1715.000	610.000	1750.000	605.200	1950.300	604.800	1992.300
GR	604.800	2000.000	602.800	2010.800	601.800	2018.400	598.300	2027.500	594.200	2043.600
GR	595.800	2068.500	595.600	2073.300	598.500	2084.100	601.300	2090.000	605.500	2091.800
GR	621.000	2122.700	621.000	2179.200	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 08									
X1	8.000	18.000	2000.000	2078.100	1960.000	1400.000	1920.000	0.000	0.000	0.000
GR	620.000	1690.000	615.000	1705.000	610.000	1730.000	605.000	1850.000	604.500	1986.400
GR	604.500	2000.000	603.500	2002.800	602.900	2010.600	601.900	2018.000	600.400	2026.400
GR	600.500	2031.800	599.100	2044.400	596.400	2059.400	596.800	2071.100	599.000	2074.600
GR	602.900	2078.100	621.200	2113.500	622.200	2123.800	0.000	0.000	0.000	0.000
	SURVEY SEC. 09									
X1	9.000	15.000	2000.000	2066.300	1530.000	1490.000	1600.000	0.000	0.000	0.000
GR	637.000	1948.100	603.100	2000.000	602.100	2007.700	598.800	2007.800	596.600	2012.200
GR	594.000	2020.900	599.000	2039.800	602.000	2050.900	603.000	2064.900	604.400	2066.300
GR	605.700	2107.700	606.000	2290.000	610.000	2560.000	615.000	2585.000	620.000	2615.000
NC	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 10									
X1	10.000	21.000	2034.000	2119.200	1170.000	1450.000	1640.000	0.000	0.000	0.000
GR	630.200	2000.000	612.300	2026.500	603.500	2034.000	598.800	2042.500	595.600	2055.100
GR	595.400	2065.200	595.900	2075.000	597.200	2083.800	598.900	2094.800	601.800	2106.500
GR	602.800	2115.000	605.300	2116.100	606.800	2119.200	607.400	2124.800	605.500	2139.400
GR	607.000	2315.000	610.000	2607.000	615.000	2625.000	620.000	2635.000	625.000	2652.000
GR	627.000	2670.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.060	0.100	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. 11									
X1	11.000	17.000	2000.000	2081.700	1380.000	1290.000	1390.000	0.000	0.000	0.000
GR	620.700	1812.000	610.400	1911.400	607.400	2000.000	603.500	2014.700	601.300	2021.500
GR	600.200	2031.100	600.400	2041.300	600.200	2048.400	600.300	2059.100	600.200	2067.800
GR	602.800	2079.200	605.800	2081.700	606.800	2104.800	610.000	2170.000	615.000	2190.000
GR	620.000	2230.000	625.000	2290.000	0.000	0.000	0.000	0.000	0.000	0.000

	260.0' D/S FROM M-28 BRIDGE									
X1	12.100	16.000	2000.000	2045.000	270.000	260.000	260.000	0.000	0.000	0.000
GR	620.000	1845.000	615.000	1860.000	610.000	1870.000	605.000	1995.000	603.400	2000.000
GR	600.000	2005.000	598.900	2006.100	598.900	2025.000	598.900	2038.900	600.000	2040.000
GR	603.400	2045.000	605.000	2070.000	610.000	2100.000	615.000	2110.000	620.000	2145.000
GR	625.000	2175.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE M-28 BRIDGE									
X1	12.200	27.000	2000.000	2135.100	180.000	470.000	320.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
GR	619.000	1150.000	618.300	1950.000	618.300	1950.100	618.300	2000.000	615.000	2002.000
GR	612.500	2002.500	605.000	2027.000	603.200	2028.000	602.900	2028.100	598.300	2038.000
GR	597.300	2044.400	597.300	2044.500	597.200	2046.000	597.200	2046.100	598.700	2064.000
GR	600.700	2076.000	601.200	2089.100	601.200	2089.200	601.300	2090.700	601.300	2090.800
GR	603.300	2099.000	605.100	2102.000	608.700	2116.000	613.000	2132.800	617.900	2135.100
GR	617.900	2185.100	619.000	3875.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF D/S FACE OF M-28 BRIDGE									
X1	12.300	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	618.500	618.000
BT	27.000	1115.000	620.000	619.000	1950.000	618.500	618.300	1950.100	620.000	618.300
BT	2000.000	619.800	618.300	2002.000	619.800	615.000	2002.500	619.800	614.900	2027.000
BT	619.700	614.500	2028.000	619.700	614.500	2028.100	619.700	614.300	2038.000	619.600
BT	614.300	2044.400	619.500	614.200	2044.500	619.400	597.300	2046.000	619.400	597.200
BT	2046.100	619.400	614.200	2064.000	619.400	614.100	2076.000	619.400	614.000	2089.100
BT	619.400	614.000	2089.200	619.400	601.200	2090.700	619.400	601.300	2090.800	619.400
BT	614.000	2099.000	619.400	614.000	2102.000	619.400	614.000	2116.000	619.400	613.900
BT	2132.800	619.400	613.800	2135.100	619.400	617.900	2185.100	618.000	617.900	3075.000
BT	620.000	619.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF M-28 BRIDGE									
X1	12.400	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	618.500	618.000	0.000
	U/S FACE OF M-28 BRIDGE									
X1	12.500	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	618.500	618.000	0.000
	300' U/S OF M-28 BRIDGE									
X1	12.600	17.000	2000.000	2060.000	340.000	260.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1600.000	0.000	2180.000	0.000	0.000	0.000	0.000
GR	620.000	1240.000	615.000	1460.000	610.000	1790.000	605.000	1860.000	605.000	1960.000
GR	605.000	1990.000	603.300	2000.000	600.000	2005.000	597.200	2007.800	597.200	2055.000
GR	597.200	2056.000	600.000	2058.000	603.300	2060.000	605.000	2160.000	610.000	2185.000
GR	615.000	2193.000	620.000	2200.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.000	0.050	0.040	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #13									
X1	13.000	18.000	2000.000	2058.500	1100.000	1100.000	1400.000	0.000	0.000	0.000
GR	620.000	1340.000	615.000	1345.000	610.000	1360.000	605.000	1750.000	606.000	1800.000
GR	606.400	1982.800	606.500	2000.000	604.200	2009.800	600.900	2016.900	598.700	2023.800
GR	596.700	2038.900	596.700	2043.600	599.700	2048.000	603.200	2057.200	604.200	2057.300
GR	605.900	2058.500	623.600	2105.200	627.900	2134.600	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	0.100	0.100	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #14									
X1	14.000	30.000	2000.000	2048.400	1340.000	1210.000	1540.000	0.000	0.000	0.000
GR	620.000	1400.000	624.000	1450.000	620.000	1585.000	615.000	1730.000	610.000	1745.000
GR	605.000	1780.000	605.000	1810.000	606.000	1900.000	605.000	1980.000	608.600	1993.200
GR	607.100	2000.000	604.700	2000.400	604.200	2000.300	596.500	2010.400	597.000	2020.400
GR	599.200	2025.400	600.000	2030.400	604.700	2035.400	605.000	2045.400	608.500	2048.400
GR	608.500	2058.400	604.700	2073.400	605.000	2180.000	604.700	2215.000	604.700	2250.000
GR	605.000	2435.000	610.000	2457.000	615.000	2475.000	620.000	2485.000	625.000	2500.000
NC	0.120	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #15									
X1	15.000	30.000	2000.000	2042.000	770.000	930.000	1150.000	0.000	0.000	0.000
GR	615.000	150.000	612.100	1616.000	605.700	1634.000	605.500	1667.000	605.900	1717.000
GR	606.800	1742.000	607.700	1847.000	609.200	1892.000	609.300	1952.000	608.600	1989.200
GR	606.600	2000.000	605.100	2003.100	604.500	2004.000	603.300	2010.900	599.400	2019.800
GR	596.600	2027.700	598.400	2030.800	599.700	2037.400	602.800	2039.800	605.200	2039.900
GR	607.300	2042.000	608.100	2065.200	609.600	2122.000	608.900	2167.000	608.900	2167.000
GR	610.000	2280.000	610.000	2280.000	615.000	2900.000	620.000	3190.000	625.000	3390.000
	SURVEY SEC. #16									
X1	16.000	36.000	2000.000	2073.400	1170.000	1150.000	1340.000	0.000	0.000	0.000
GR	618.000	0.000	615.000	600.000	615.000	1150.000	614.300	1686.400	610.700	1695.100
GR	610.600	1742.300	610.500	1991.500	604.100	2000.000	605.400	2001.000	604.800	2001.100
GR	604.300	2007.000	603.200	2012.000	598.700	2022.000	597.700	2028.000	599.500	2033.000
GR	602.600	2038.000	605.600	2071.900	606.600	2073.400	606.800	2126.100	604.800	2148.000
GR	608.000	2181.000	608.400	2251.200	603.800	2307.600	605.400	2337.600	608.900	2344.600
GR	609.200	2384.600	605.000	2414.600	605.300	2464.600	611.300	2474.600	615.000	2515.000
GR	616.000	2820.000	618.000	3120.000	620.000	3320.000	620.000	3720.000	620.000	3970.000
GR	625.000	4270.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #17									
X1	17.000	20.000	2000.000	2047.100	980.000	710.000	1470.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1690.000	0.000	2185.000	0.000	0.000	0.000	0.000
GR	625.000	670.000	616.000	1500.000	613.200	1743.100	613.300	1849.200	612.700	1898.000
GR	607.400	1913.500	605.400	1939.800	606.700	1959.700	606.600	2000.000	605.100	2010.200
GR	600.500	2019.200	601.000	2022.500	603.400	2043.600	604.200	2039.400	605.500	2043.800
GR	606.400	2047.100	607.900	2072.800	616.000	2400.000	620.000	3900.000	625.000	4150.000

	SURVEY SEC. #18									
X1	18.000	19.000	2000.000	2065.900	600.000	650.000	750.000	0.000	0.000	0.000
GR	616.000	1950.000	613.600	1966.700	608.600	1983.000	608.700	2000.000	607.300	2001.600
GR	607.100	2001.700	605.300	2007.600	604.500	2012.700	603.400	2018.200	602.200	2029.900
GR	602.900	2039.000	606.800	2053.800	607.300	2059.300	609.100	2065.900	609.600	2190.500
GR	609.900	2331.300	611.000	2700.000	616.000	3750.000	620.000	4750.000	625.000	5100.000
AT	4.000	2700.000	3800.000	4300.000	5500.000	4300.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #19									
X1	19.000	20.000	2000.000	2058.100	850.000	500.000	1250.000	0.000	0.000	0.000
GR	616.000	1030.000	614.000	1100.000	613.000	1450.000	611.000	1700.000	610.000	1967.000
GR	608.500	2000.000	607.400	2001.200	605.000	2012.700	604.100	2020.500	601.800	2028.200
GR	599.200	2036.700	599.900	2042.700	602.200	2048.500	605.300	2053.200	607.400	2057.000
GR	610.600	2058.100	611.400	2115.500	616.000	2675.000	620.000	3675.000	625.000	4000.000
NC	0.120	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #20									
X1	20.000	24.000	2000.000	2048.000	730.000	800.000	980.000	0.000	0.000	0.000
GR	618.000	950.000	614.000	960.000	612.000	1260.000	610.700	1961.800	610.200	2000.000
GR	607.700	2003.000	606.900	2004.000	606.000	2008.000	603.600	2013.000	604.100	2020.000
GR	602.200	2028.000	604.400	2037.000	605.600	2042.000	606.700	2047.000	608.200	2048.000
GR	609.000	2071.000	609.700	2097.000	610.000	2340.000	612.000	2360.000	614.000	2470.000
GR	616.000	2620.000	618.000	2770.000	620.000	3100.000	625.000	3150.000	0.000	0.000
NC	0.150	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #21									
X1	21.000	24.000	2000.000	2121.200	1000.000	1090.000	1380.000	0.000	0.000	0.000
GR	620.000	0.000	615.000	600.000	613.000	1100.000	611.000	1450.000	608.900	1819.900
GR	608.500	1872.000	609.700	1908.600	609.400	2000.000	608.500	2001.500	608.100	2002.200
GR	607.500	2004.800	606.700	2012.600	605.700	2017.600	605.000	2020.900	606.100	2029.600
GR	605.900	2032.200	603.900	2037.600	604.100	2040.900	607.100	2050.600	608.500	2121.200
GR	616.800	2143.800	615.800	2174.000	620.000	2750.000	625.000	2800.000	0.000	0.000
NC	0.000	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #22									
X1	22.000	18.000	2000.000	2051.600	930.000	850.000	990.000	0.000	0.000	0.000
GR	620.000	700.000	615.000	1100.000	613.300	1470.000	610.400	1752.300	608.900	1912.700
GR	609.700	2000.000	608.900	2000.700	608.500	2001.500	607.300	2007.000	604.800	2017.800
GR	604.000	2026.200	604.500	2036.500	606.900	2047.200	607.500	2050.100	608.900	2051.600
GR	611.700	2113.900	620.000	3350.000	625.000	3400.000	0.000	0.000	0.000	0.000
NH	5.000	0.120	2000.000	0.045	2064.000	0.100	2228.900	0.045	2264.900	0.120
NH	3600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SEC. #23									
X1	23.000	25.000	2000.000	2264.900	1640.000	1430.000	1670.000	0.000	0.000	0.000
GR	620.000	440.000	614.000	450.000	612.000	1250.000	610.200	2000.000	609.600	2017.900
GR	608.700	2019.600	607.300	2025.600	607.600	2035.500	607.800	2046.600	606.800	2054.600
GR	607.600	2057.800	607.600	2058.700	609.600	2064.000	609.700	2102.400	609.100	2144.100
GR	609.800	2180.800	609.700	2228.900	607.100	2238.000	609.700	2248.000	609.800	2264.900
GR	614.200	2323.800	615.400	2410.000	617.200	2472.600	620.000	3100.000	625.000	3200.000

NH	5.000	0.150	2000.000	0.048	2035.000	0.100	2111.100	0.045	2206.900	0.120	
NH	3600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. 424										
X1	24.000	18.000	2000.000	2206.900	1480.000	1680.000	1750.000	0.000	0.000	0.000	
GR	620.000	450.000	620.000	550.000	613.000	1230.000	610.800	2000.000	609.300	2002.000	
GR	609.300	2033.000	610.800	2035.000	610.800	2039.500	609.600	2111.100	610.300	2186.700	
GR	608.800	2196.800	610.300	2206.900	610.300	2264.200	610.800	2343.200	611.100	2391.900	
GR	612.500	2459.700	620.000	3400.000	625.000	3600.000	0.000	0.000	0.000	0.000	
NC	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	SURVEY SEC. #25										
X1	25.000	19.000	2000.000	2038.000	1600.000	1000.000	1150.000	0.000	0.000	0.000	
GR	620.000	700.000	618.000	1200.000	615.000	1600.000	613.500	1800.000	613.000	2000.000	
GR	610.800	2010.000	610.200	2015.000	609.500	2023.000	609.400	2030.000	610.900	2033.000	
GR	612.000	2037.000	612.800	2038.000	610.600	2250.000	611.200	2380.000	611.600	2890.000	
GR	612.300	3010.000	614.600	4110.000	620.000	3190.000	625.000	3210.000	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	

SECNO	DEPTH	CUSEL	CRIWS	QSECR	FR	HV	HL	QLOSS	BANK ELEV
Q	QLOB	RCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNI	XNCH	XNR	WTN	FLMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	TTRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= 0.010 CEHV= 0.300
1490 NH CARD USED
*SECNO 1.000
3720 CRITICAL DEPTH ASSUMED
SURVEY SEC, #1 90' D/S OF MOUTH AT LAKE SUPERIOR

1.00	7.80	603.44	603.44	603.10	605.85	2.42	0.00	0.00	602.70
4600.	10.	4585.	5.	4.	367.	2.	0.	0.	602.70
0.00	2.19	12.49	2.18	0.030	0.030	0.030	0.000	595.60	2021.99
0.007430	0.	0.	0.	0	7	0	0.00	89.68	2115.67

*SECNO 2.210

3301 HV CHANGED MORE THAN HVINS

240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)

2.21	11.46	606.76	0.00	0.00	607.24	0.47	1.47	0.02	605.00
4600.	71.	4523.	6.	78.	812.	9.	9.	2.	605.00
0.03	0.91	5.57	0.65	0.050	0.030	0.070	0.000	595.30	1911.77
0.001114	590.	590.	575.	3	0	0	0.00	228.82	2140.59

CCHV= 0.300 CEHV= 0.500
*SECNO 2.220

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.22	11.70	606.90	0.00	0.00	607.66	0.76	0.28	0.14	611.40
4600.	0.	4600.	0.	0.	638.	0.	13.	3.	611.40
0.04	0.00	6.99	0.00	0.000	0.026	0.000	0.000	595.20	2008.12
0.001239	230.	240.	250.	2	0	0	0.00	94.97	2103.09

*SECNO 2.230

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE

2.23	11.67	606.87	0.00	0.00	607.70	0.83	0.00	0.01	611.40	
4600.	0.	4600.	0.	0.	629.	0.	13.	3.	611.40	
0.04	0.00	7.31	0.00	0.000	0.026	0.000	0.000	595.20	2008.23	
0.002232	1.	1.	1.	2	0	0	-25.28	94.83	2103.06	

*SECNO 2.240

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLO= 614.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF U/S FACE OF R.R. BRIDGE

2.24	11.72	606.92	0.00	0.00	607.74	0.82	0.04	0.00	611.40
4600.	0.	4600.	0.	0.	634.	0.	13.	3.	611.40
0.04	0.00	7.26	0.00	0.000	0.026	0.000	0.000	595.20	2008.08
0.002185	17.	17.	17.	2	0	0	-25.69	95.02	2103.10

*SECNO 2.250

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

U/S FACE OF RAILROAD BRIDGE

2.25	11.84	607.04	0.00	0.00	607.77	0.73	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	670.	0.	13.	3.	611.40
0.04	0.00	6.86	0.00	0.000	0.026	0.000	0.000	595.20	2007.75
0.001174	1.	1.	1.	2	0	0	0.00	93.42	2103.17

*SECNO 2.260

3301 HV CHANGED MORE THAN HVINS

110' U/S OF R.R. BRIDGE

2.26	13.45	607.75	0.00	0.00	607.97	0.22	0.05	0.15	602.50
4600.	32.	4275.	293.	54.	1102.	351.	16.	4.	602.50
0.05	0.60	3.88	0.53	0.060	0.026	0.100	0.000	594.30	1970.91
0.000214	110.	110.	110.	2	0	0	0.00	286.11	2257.02

CCHV= 0.100 CEHV= 0.300

*SECNO 3.000

SURVEY SEC. #3

3.00	16.43	607.93	0.00	0.00	608.05	0.12	0.07	0.01	607.30
4600.	0.	4252.	348.	1.	1454.	421.	29.	6.	603.90
0.08	0.17	2.93	0.50	0.060	0.035	0.100	0.000	591.50	1996.73
0.000233	400.	320.	250.	2	0	0	0.00	368.37	2365.11

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AILOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	XCONT	CORAR	TOPWID	ENDST

*SECNO 4.000

3470 ENCROACHMENT STATIONS= 1630.0 2160.0 TYPE= 1 TARGET= 530.000

SURVEY SEC: #4

4.00	11.70	608.20	0.00	0.00	608.35	0.15	0.29	0.01	603.60
4600.	769.	3841.	0.	1166.	1136.	0.	29.	15.	617.30
0.17	0.65	3.38	0.00	0.100	0.035	0.000	0.000	596.50	1633.60
0.000392	980.	990.	890.	2	0	0	0.00	506.78	2138.39

*SECNO 5.100

270' D/S FROM GREEN BAY ST. BRIDGE

5.10	14.92	608.32	0.00	0.00	608.50	0.18	0.14	0.01	602.70
4600.	308.	3911.	182.	731.	1071.	125.	99.	19.	600.00
0.21	0.69	3.65	1.45	0.100	0.035	0.050	0.000	593.40	1838.36
0.000256	370.	460.	550.	2	0	0	0.00	268.28	2106.64

CCHV= 0.300 CEHV= 0.500

*SECNO 5.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

D/S FACE OF GREEN BAY ST. BRIDGE

5.20	16.73	608.33	0.00	0.00	608.72	0.39	0.11	0.11	614.00
4600.	0.	4600.	0.	0.	919.	0.	109.	20.	610.00
0.23	0.00	5.01	0.00	0.000	0.035	0.000	0.000	591.60	2006.21
0.000822	400.	260.	170.	2	0	0	0.00	98.87	2105.08

HWM 268 below bridge deck ≈ 606'

*SECNO 5.300

3370 NORMAL BRIDGE,NRD= 31 MIN FLTRD= 611.20 MAX FLLC= 624.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

5.30	16.71	608.31	0.00	0.00	608.73	0.42	0.00	0.02	614.00
4600.	0.	4600.	0.	0.	884.	0.	109.	20.	610.00
0.23	0.00	5.20	0.00	0.000	0.028	0.000	0.000	591.60	2006.23
0.000941	1.	1.	1.	1	0	0	-33.92	98.85	2105.07

SECNO	DEPTH	CWSEL	CRIWS	MSELK	EG	HV	AL	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

*SECNO 5.400

3370 NORMAL BRIDGE,NRD= 41 MIN EL TRD= 611.20 MAX EL LC= 624.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

5.40	16.74	608.34	0.00	0.00	608.76	0.42	0.02	0.00	614.00
4600.	0.	4600.	0.	0.	886.	0.	110.	20.	610.00
0.23	0.00	5.19	0.00	0.000	0.028	0.000	0.000	591.60	2006.18
0.000937	26.	26.	26.	0	0	0	-34.05	98.89	2105.08

*SECNO 5.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.78	608.38	0.00	0.00	608.77	0.38	0.00	0.01	614.00
4600.	0.	4600.	0.	0.	925.	0.	110.	20.	610.00
0.23	0.00	4.97	0.00	0.000	0.028	0.000	0.000	591.60	2006.05
0.000517	1.	1.	1.	2	0	0	0.00	99.03	2105.08

*SECNO 5.600

3470 ENCROACHMENT STATIONS= 1945.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.60	16.90	608.80	0.00	0.00	608.88	0.08	0.02	0.09	605.00
4600.	24.	4576.	0.	112.	1989.	0.	114.	21.	100000.00
0.24	0.21	2.30	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000072	240.	120.	60.	2	0	0	0.00	215.00	2160.00

CCHV= 0.100 CEHV= 0.300

*SECNO 6.000

3470 ENCROACHMENT STATIONS= 1600.0 2100.0 TYPE= 1 TARGET= 500.000

SURVEY SEC. #6

6.00	12.94	608.94	0.00	0.00	609.17	0.23	0.25	0.04	604.60
4600.	521.	4079.	0.	972.	1001.	0.	192.	31.	100000.00
0.39	0.54	4.08	0.00	0.100	0.028	0.000	0.000	596.00	1607.09
0.000315	900.	1940.	2060.	2	0	0	0.00	492.91	2100.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TPA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	NTN	ELMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 7.000
SURVEY SEC. #7

7.00	15.14	609.34	0.00	0.00	609.59	0.25	0.42	0.01	604.80
4600.	409.	4286.	5.	576.	1035.	15.	252.	45.	605.50
0.49	0.54	4.14	0.34	0.090	0.028	0.100	0.000	594.20	1777.42
0.000259	1440.	1460.	1110.	2	0	0	0.00	322.04	2099.46

*SECNO 8.000
SURVEY SEC. #8

8.00	13.71	610.11	0.00	0.00	610.33	0.21	0.73	0.00	604.50
4600.	113.	3423.	40.	1122.	804.	60.	332.	60.	602.90
0.65	1.01	4.26	0.80	0.100	0.040	0.100	0.000	598.40	1729.42
0.000617	1960.	1920.	1400.	2	0	0	0.00	362.63	2092.06

*SECNO 9.000
SURVEY SEC. #9

9.00	16.98	610.98	0.00	0.00	611.13	0.14	0.79	0.01	603.10
4600.	32.	2966.	1602.	48.	790.	1989.	416.	76.	604.40
0.81	0.68	3.76	0.81	0.100	0.040	0.100	0.000	594.00	1987.93
0.000420	1530.	1600.	1490.	2	0	0	0.00	576.98	2564.91

*SECNO 10.000
SURVEY SEC. #10

10.00	16.11	611.51	0.00	0.00	611.62	0.11	0.49	0.00	603.50
4600.	20.	3451.	1129.	27.	1120.	1905.	518.	96.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2027.17
0.000239	1120.	1140.	1450.	2	0	0	0.00	585.26	2612.44

*SECNO 11.000
SURVEY SEC. #11

11.00	11.67	611.87	0.00	0.00	612.17	0.30	0.49	0.06	607.40
4600.	333.	3931.	336.	274.	828.	362.	588.	109.	605.80
1.08	1.22	4.75	0.93	0.060	0.030	0.100	0.000	600.20	1897.22
0.000594	1380.	1390.	1290.	2	0	0	0.00	280.26	2177.48

*SECNO 12.100
260.0' D/S FROM M-28 BRIDGE

12.10	13.11	612.01	0.00	0.00	612.34	0.34	0.16	0.01	603.40
4600.	1062.	3110.	429.	606.	561.	334.	597.	111.	603.40
1.09	1.75	5.55	1.28	0.060	0.035	0.100	0.000	598.90	1865.99
0.000644	270.	260.	260.	2	0	0	0.00	238.03	2104.01

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	ACH	AROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	XDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.300 CEHV= 0.500
*SECNO 12.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

D/S FACE M-28 BRIDGE

12.20	15.05	612.25	0.00	0.00	612.52	0.27	0.16	0.02	618.30
4600.	0.	4600.	0.	0.	1107.	0.	606.	112.	617.90
1.11	0.00	4.15	0.00	0.000	0.030	0.000	0.066	597.20	2003.30
0.000412	180.	320.	470.	2	0	0	0.00	126.58	2129.89

1.75 below I-Beam
613.25

*SECNO 12.300

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.30 ELREA= 618.50

1' INSIDE OF D/S FACE OF M-28 BRIDGE

12.30	15.04	612.24	0.00	0.00	612.53	0.29	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1065.	0.	606.	112.	617.90
1.11	0.00	4.32	0.00	0.000	0.026	0.000	0.000	597.20	2003.32
0.000536	1.	1.	1.	1	0	0	-41.27	126.55	2129.87

*SECNO 12.400

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

1' INSIDE OF D/S FACE OF M-28 BRIDGE

12.40	15.06	612.26	0.00	0.00	612.55	0.29	0.02	0.00	618.30
4600.	0.	4600.	0.	0.	1067.	0.	607.	112.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.28
0.000535	36.	36.	36.	0	0	0	-41.31	126.63	2129.91

*SECNO 12.500

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	GLOB	RCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	CTRIAL	IJC	ICONT	CORGR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.50 ELREA= 618.00

U/S FACE OF M-28 BRIDGE

12.50	15.09	612.79	0.00	0.00	613.56	0.27	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1112.	0.	607.	112.	617.90
1.12	0.00	4.14	0.00	0.000	0.026	0.000	0.000	597.20	2003.17
0.000306	1.	1.	1.	2	0	0	0.00	126.87	2130.04

*SECNO 12.600

3470 ENCROACHMENT STATIONS= 1606.0 2180.0 TYPE= 1 TARGET= 580.000

300' U/S OF M-28 BRIDGE

12.60	15.32	612.52	0.00	0.00	612.65	0.13	0.05	0.04	603.30
4600.	873.	3117.	610.	1623.	881.	948.	623.	113.	603.30
1.15	0.54	3.54	0.64	0.100	0.026	0.100	0.000	597.20	1623.62
0.000120	340.	300.	260.	2	0	0	0.00	556.38	2180.00

CCHV= 0.100 CEHV= 0.300

*SECNO 13.000

SURVEY SEC. #13

13.00	16.11	612.81	0.00	0.00	612.86	0.05	0.19	0.01	606.90
4600.	2620.	1922.	39.	3760.	716.	63.	729.	131.	605.90
1.38	0.70	2.68	0.93	0.100	0.040	0.000	0.000	596.70	1351.58
0.000206	1100.	1400.	1100.	2	0	0	0.00	725.14	2076.72

*SECNO 14.000

SURVEY SEC. #14

14.00	16.56	613.06	0.00	0.00	613.08	0.02	0.22	0.00	607.10
4600.	1187.	1191.	2222.	1855.	589.	3257.	885.	154.	608.50
1.75	0.64	2.02	0.68	0.100	0.040	0.100	0.000	596.50	1735.81
0.000136	1340.	1540.	1210.	2	0	0	0.00	732.22	2468.03

*SECNO 15.000

SURVEY SEC. #15

15.00	16.64	613.24	0.00	0.00	613.30	0.06	0.21	0.01	606.60
4600.	1898.	1643.	1058.	2505.	507.	1326.	990.	176.	607.80
1.92	0.76	3.24	0.65	0.120	0.045	0.100	0.000	596.60	1043.39
0.000434	770.	1150.	930.	1	0	0	0.00	1637.46	2680.86

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FQ	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 16.000
SURVEY SEC. #16

16.00	15.94	613.64	0.00	0.00	613.68	0.04	0.38	0.00	606.10
4600.	388.	1923.	2289.	968.	804.	2789.	1115.	209.	606.60
2.15	0.40	2.39	0.82	0.120	0.045	0.100	0.000	597.20	1687.99
0.000229	1170.	1340.	1150.	2	0	0	0.00	813.19	2500.18

*SECNO 17.000

3470 ENCROACHMENT STATIONS= 1690.0 2185.0 TYPE= 1 TARGET: 495.000
SURVEY SEC. #17

17.00	13.46	613.96	0.00	0.00	614.19	0.23	0.45	0.06	606.60
4600.	1225.	2459.	916.	859.	483.	700.	1186.	223.	606.40
2.24	1.43	5.09	1.31	0.100	0.040	0.100	0.000	600.50	1690.00
0.000889	980.	1470.	710.	2	0	0	0.00	495.00	2185.00

*SECNO 18.000
SURVEY SEC. #18

18.00	12.30	614.50	0.00	0.00	614.56	0.06	0.35	0.02	608.70
4600.	121.	1922.	2558.	158.	630.	4088.	1238.	238.	609.10
2.36	0.76	3.01	0.63	0.100	0.040	0.100	0.000	602.20	1960.45
0.000331	600.	750.	650.	2	0	0	0.00	1474.27	3434.72

*SECNO 19.000
SURVEY SEC. #19

19.00	15.60	614.80	0.00	0.00	614.90	0.10	0.32	0.01	608.50
4300.	1595.	2264.	441.	2493.	661.	920.	1311.	259.	610.60
2.49	0.64	3.42	0.48	0.100	0.040	0.100	0.000	599.20	1080.04
0.000375	850.	1250.	500.	- 2	0	0	0.00	1448.78	2598.82

*SECNO 20.000
SURVEY SEC. #20

20.00	12.94	615.14	0.00	0.00	615.20	0.05	0.30	0.00	610.20
4300.	1794.	1512.	994.	3487.	498.	1979.	1401.	286.	608.90
2.65	0.51	3.04	0.50	0.120	0.040	0.150	0.000	602.20	957.14
0.000324	730.	980.	800.	2	0	0	0.00	1638.76	2593.90

SECNO	DEPTH	CNSEL	CRIWS	WSELK	EG	HV	HL	DI OSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XI ORL	XI CH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 21.000
SURVEY SEC. #21

21.00	11.56	615.46	0.00	0.00	615.50	0.04	0.30	0.00	609.40
4300.	2002.	2366.	31.	5119.	1022.	461.	1549.	328.	608.50
2.90	0.39	2.22	0.48	0.150	0.040	0.100	0.000	603.90	544.60
0.000211	1000.	1380.	1090.	2	0	0	0.00	1595.56	2140.16

*SECNO 22.000
SURVEY SEC. #22

22.00	11.71	615.71	0.00	0.00	615.80	0.08	0.28	0.01	609.70
4300.	1866.	1819.	614.	3315.	513.	1534.	1672.	359.	608.90
3.04	0.56	3.54	0.40	0.150	0.040	0.150	0.000	604.00	1043.31
0.000445	930.	990.	850.	0	0	0	0.00	1667.60	2710.90

1490 NH CARD USED
*SECNO 23.000
SURVEY SEC. #23

23.00	9.36	616.16	0.00	0.00	616.17	0.01	0.37	0.01	610.20
4300.	2390.	1765.	146.	6334.	1845.	446.	1932.	426.	609.80
3.78	0.38	0.96	0.33	0.120	0.068	0.120	0.000	606.80	446.39
0.000134	1640.	1670.	1430.	2	0	0	0.00	1990.19	2436.58

1490 NH CARD USED
*SECNO 24.000
SURVEY SEC. #24

24.00	7.63	616.43	0.00	0.00	616.44	0.01	0.26	0.00	610.80
4300.	1464.	1793.	1043.	4054.	1346.	2361.	2226.	498.	610.30
4.36	0.36	1.33	0.44	0.150	0.058	0.120	0.000	608.80	897.27
0.000204	1480.	1750.	1680.	2	0	0	0.00	2054.34	2951.81

*SECNO 25.000
SURVEY SEC. #25

25.00	7.31	616.71	0.00	0.00	616.72	0.01	0.28	0.00	613.00
4300.	640.	539.	3120.	1377.	229.	5452.	2399.	543.	612.80
4.73	0.46	2.36	0.57	0.120	0.040	0.150	0.000	609.40	1372.42
0.000381	1000.	1150.	1000.	2	0	0	0.00	1768.79	3141.21

THIS RUN EXECUTED 30-JAN-85 13:08:56

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,04,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY   JANUARY 1985
T2        JOB 01057F CHOC100.HEC (SHEET)  100 YR. ENCROACHMENT RUN
T3        CHOCOLAY RIVER  STARTING WITH MEAN ANNUAL LAKE LEVEL

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q          WSEL      FQ

        0.       6.        0.        0.  0.000000      0.00      0.0         0.     603.100     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     CBW       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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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	WLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	XTRIAL	IDC	XCONT	CORAR	TOPWID	ENDST

*PROF 2

CCHV= 0.030 CEHV= 0.300
1490 NH CARD USED
*SECNO 1.000
3720 CRITICAL DEPTH ASSUMED
SURVEY SEC. #1 90' D/S OF MOUTH AT LAKE SUPERIOR

1.00	7.84	603.44	603.44	603.10	605.85	2.42	0.00	0.00	602.70
4600.	10.	4585.	5.	4.	367.	2.	0.	0.	602.70
0.00	2.19	12.49	2.18	0.030	0.030	0.030	0.000	595.20	2025.99
0.007430	0.	0.	0.	0	7	0	0.00	89.68	2115.67

*SECNO 2.210
2800 NAT Q1= 1378.02 WSEL= 606.76 ERC Q1= 1391.04 WSEL= 606.86 RATIO= -0.0094
NAT Q1= 1418. RATIOS LOB,CH,ROB= 0.0174 0.9812 0.0015 WSEL= 606.86

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 2000.0 2130.0 TYPE= 4 TARGET= 0.019
240' D/S FROM RAILROAD BRIDGE NEAR MOUTH OF CHOCOLAY (MAIN CHANNEL)

2.21	11.50	606.80	0.00	606.76	607.29	0.49	1.42	0.02	605.00
4600.	0.	4600.	0.	0.	817.	0.	8.	1.	605.00
0.03	0.00	5.63	0.00	0.000	0.030	0.000	0.000	595.30	2000.00
0.001174	590.	590.	575.	3	0	0	0.00	130.00	2130.00

CCHV= 0.300 CEHV= 0.500
*SECNO 2.220
2800 NAT Q1= 1306.82 WSEL= 606.90 ERC Q1= 1333.12 WSEL= 607.00 RATIO= -0.0201
NAT Q1= 1333. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

D/S FACE OF RAILROAD BRIDGE (MAIN CHANNEL)

2.22	11.76	606.96	0.00	606.90	607.70	0.75	0.29	0.13	611.40
4600.	0.	4600.	0.	0.	663.	0.	12.	2.	611.40
0.04	0.00	6.94	0.00	0.000	0.026	0.000	0.000	595.20	2007.98
0.001215	230.	240.	250.	2	0	0	0.00	95.14	2103.12

SECNO	DEPTH	CWSEL	CRIWS	WSELR	FR	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MIN	ELMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 2.230
3700. BRIDGE STENCL= 2000.00 STENCR= 2106.00
2800 NAT Q1= 973.66 WSEL= 606.87 ENC Q1= 993.32 WSEL= 606.97 RATIO= -0.0202
NAT Q1= 993. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 606.97

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE

2.23	11.72	606.92	0.00	606.87	607.74	0.82	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	634.	0.	12.	2.	611.40
0.04	0.00	7.26	0.00	0.000	0.026	0.000	0.000	595.20	2008.08
0.002184	1.	1.	1.	2	0	0	-25.70	93.02	2103.10

*SECNO 2.240
2800 NAT Q1= 984.09 WSEL= 606.92 ENC Q1= 1003.87 WSEL= 607.02 RATIO= -0.0201
NAT Q1= 1004. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.02

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 614.50 MAX ELLC= 614.00

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.50 ELREA= 614.70

1' INSIDE OF D/S FACE OF R.R. BRIDGE

2.24	11.77	606.97	0.00	606.92	607.78	0.81	0.04	0.00	611.40
4600.	0.	4600.	0.	0.	637.	0.	12.	2.	611.40
0.04	0.00	7.22	0.00	0.000	0.026	0.000	0.000	595.20	2007.96
0.002148	17.	17.	17.	1	0	0	-26.02	95.17	2103.13

*SECNO 2.250
2800 NAT Q1= 1342.74 WSEL= 607.04 ENC Q1= 1370.91 WSEL= 607.14 RATIO= -0.0210
NAT Q1= 1371. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 607.14

3470 ENCROACHMENT STATIONS= 2000.0 2106.0 TYPE= 4 TARGET= 0.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	RV	HI	DLOSS	RANK 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,ELLEO= 614.50 ELREA= 614.70

U/S FACE OF RAILROAD BRIDGE

2.25	11.89	607.09	0.00	607.04	607.81	0.72	0.00	0.03	611.40
4600.	0.	4600.	0.	0.	675.	0.	12.	2.	611.40
0.04	0.00	6.81	0.00	0.000	0.026	0.000	0.000	595.20	2007.61
0.001149	1.	1.	1.	2	0	0	0.00	95.60	2103.21

*SECNO 2.260

2800 NAT Q1= 3142.65 WSEL= 607.75 ENC Q1= 3142.65 WSEL= 607.85 RATIO= 0.0000
NAT Q1= 3198. RATIOS LOB,CH,ROB= 0.0073 0.9274 0.0654 WSEL= 607.85

3470 ENCROACHMENT STATIONS= 2000.0 2210.4 TYPE= 4 TARGET= 0.017

110' U/S OF R.R. BRIDGE

2.26	13.40	607.78	0.00	607.75	608.01	0.23	0.05	0.15	602.50
4600.	0.	4337.	263.	0.	1105.	450.	15.	3.	602.50
0.05	0.00	3.92	0.58	0.000	0.026	0.100	0.000	594.30	2000.00
0.000233	110.	110.	110.	2	0	0	0.00	210.35	2210.35

CCHV= 0.100 CEHV= 0.300

*SECNO 3.000

2800 NAT Q1= 3015.13 WSEL= 607.93 ENC Q1= 3015.13 WSEL= 608.03 RATIO= 0.0000
NAT Q1= 3073. RATIOS LOB,CH,ROB= 0.0001 0.9221 0.0779 WSEL= 608.03

3470 ENCROACHMENT STATIONS= 2000.0 2285.7 TYPE= 4 TARGET= 0.019

SURVEY SEC. 03

3.00	16.46	607.96	0.00	607.93	608.09	0.13	0.07	0.01	607.30
4600.	0.	4327.	273.	0.	1459.	509.	27.	4.	603.90
0.08	0.00	2.97	0.54	0.000	0.035	0.100	0.000	591.50	2000.00
0.000240	400.	320.	250.	2	0	0	0.00	285.68	2285.68

*SECNO 4.000

3470 ENCROACHMENT STATIONS= 1630.0 2160.0 TYPE= 1 TARGET= 530.000

SURVEY SEC. 04

4.00	11.74	608.24	0.00	608.20	608.39	0.15	0.29	0.01	603.60
4600.	768.	3832.	0.	1183.	1142.	0.	75.	13.	617.30
0.17	0.65	3.36	0.00	0.100	0.035	0.000	0.000	596.50	1631.08
0.000384	980.	990.	890.	2	0	0	0.00	507.40	2138.48

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	RANK ELEV
Q	GLOB	RCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	XTRIAL	IDC	TCONT	CORAR	TOPWID	FROST

*SECNO 5.100
2800 NAT Q1= 2875.88 WSEL= 608.42 ENC Q1= 2875.88 WSEL= 608.42 RATIO= 0.0000
NAT Q1= 2921. RATIOS LOB,CH,ROB= 0.1124 0.8476 0.0401 WSEL= 608.42

3470 ENCROACHMENT STATIONS= 1852.1 2096.4 TYPE= 4 TARGET= 0.015
270' D/S FROM GREEN BAY ST. BRIDGE

5.10	14.96	608.36	0.00	608.32	608.54	0.18	0.13	0.01	602.20
4600.	482.	3966.	151.	690.	1074.	102.	96.	16.	600.00
0.21	0.70	3.69	1.49	0.100	0.035	0.030	0.000	593.40	1852.07
0.000261	370.	460.	550.	2	0	0	0.00	244.36	2096.43

CCHV= 0.300 CEHV= 0.500
*SECNO 5.200
2800 NAT Q1= 1604.40 WSEL= 608.33 ENC Q1= 1629.34 WSEL= 608.43 RATIO= -0.0155
NAT Q1= 1629. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.43

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 FLREA= 611.20

D/S FACE OF GREEN BAY ST. BRIDGE

5.20	16.77	608.37	0.00	608.33	608.76	0.39	0.11	0.10	614.00
4600.	0.	4600.	0.	0.	923.	0.	105.	18.	610.00
0.23	0.00	4.98	0.00	0.000	0.035	0.000	0.000	591.60	2006.08
0.000811	400.	260.	170.	2	0	0	0.00	98.99	2105.08

*SECNO 5.300
3700. BRIDGE STENCL= 2000.00 STENCR= 2107.00
2800 NAT Q1= 1499.30 WSEL= 608.31 ENC Q1= 1519.32 WSEL= 608.41 RATIO= -0.0134
NAT Q1= 1519. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.41

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 611.20 MAX ELLC= 624.00

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 FLREA= 611.20

1' INSIDE OF D/S FACE OF GREEN BAY ST. BRIDGE

5.30	16.76	608.36	0.00	608.31	608.77	0.42	0.00	0.02	614.00
4600.	0.	4600.	0.	0.	889.	0.	105.	18.	610.00
0.23	0.00	5.18	0.00	0.000	0.028	0.000	0.000	591.60	2006.10
0.000930	1.	1.	1.	1	0	0	-34.16	98.97	2105.08

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	ERDST

*SECNO 5.400
2800 NAT Q1= 1502.58 WSEL= 608.34 ENC Q1= 1525.03 WSFL= 608.44 RATIO= -0.0149
NAT Q1= 1520. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.44

3370 NORMAL BRIDGE,NRD= 31 MIN ELTRD= 611.20 MAX ELLC= 624.00

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

1' INSIDE OF U/S FACE OF GREEN BAY ST. BRIDGE

5.40	16.78	608.38	0.00	608.34	608.80	0.41	0.02	0.00	614.00
4600.	0.	4600.	0.	0.	890.	0.	106.	18.	610.00
0.23	0.00	5.17	0.00	0.000	0.028	0.000	0.000	591.60	2006.06
0.000925	26.	26.	26.	0	0	0	-34.22	99.02	2105.08

*SECNO 5.500
2800 NAT Q1= 2023.26 WSEL= 608.38 ENC Q1= 2054.55 WSFL= 608.48 RATIO= -0.0155
NAT Q1= 2055. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 608.48

3470 ENCROACHMENT STATIONS= 2000.0 2107.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 614.90 ELREA= 611.20

U/S FACE OF GREEN BAY ST. BRIDGE

5.50	16.83	608.43	0.00	608.38	608.81	0.38	0.00	0.01	614.00
4600.	0.	4600.	0.	0.	929.	0.	106.	18.	610.00
0.23	0.00	4.95	0.00	0.000	0.028	0.000	0.000	591.60	2005.92
0.000510	1.	1.	1.	2	0	0	0.00	99.16	2105.08

*SECNO 5.600

3470 ENCROACHMENT STATIONS= 1945.0 2160.0 TYPE= 1 TARGET= 215.000

120' U/S OF GREEN BAY ST. BRIDGE

5.60	16.93	608.83	0.00	608.80	608.92	0.08	0.02	0.09	603.00
4600.	24.	4576.	0.	114.	1995.	0.	110.	18.	100000.00
0.24	0.21	2.29	0.00	0.100	0.028	0.000	0.000	591.90	1945.00
0.000071	240.	120.	40.	2	0	0	0.00	215.00	2160.00

SECNO	DEPTH	CWSEL	CRTWS	QSELR	FB	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBI	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.100 CEHV= 0.300
*SECNO 6.000

3470 ENCROACHMENT STATIONS= 1600.0 2100.0 TYPE= 1 TARGET= 500.000
SURVEY SEC. #6

6.00	12.98	608.98	0.00	608.94	609.20	0.23	0.24	0.04	604.60
4600.	528.	4072.	0.	986.	1004.	0.	188.	29.	100000.00
0.38	0.53	4.06	0.00	0.100	0.028	0.000	0.000	596.00	1604.38
0.000311	900.	1940.	2060.	2	0	0	0.00	493.62	2100.00

*SECNO 7.000
SURVEY SEC. #7

7.00	15.17	609.37	0.00	609.34	609.62	0.25	0.41	0.01	604.80
4600.	312.	4283.	5.	582.	1048.	15.	249.	42.	605.50
0.49	0.54	4.12	0.34	0.090	0.028	0.100	0.000	594.20	1776.12
0.000256	1460.	1460.	1110.	2	0	0	0.00	323.41	2099.52

*SECNO 8.000
SURVEY SEC. #8

8.00	13.74	610.14	0.00	610.11	610.35	0.21	0.73	0.00	604.50
4600.	1141.	3418.	41.	1128.	806.	51.	329.	58.	602.90
0.65	1.01	4.24	0.80	0.100	0.040	0.100	0.000	596.40	1729.31
0.000611	1960.	1920.	1400.	2	0	0	0.00	382.80	2092.10

*SECNO 9.000
SURVEY SEC. #9

9.00	17.00	611.00	0.00	610.98	611.14	0.14	0.75	0.01	603.10
4600.	32.	2942.	1606.	48.	791.	1997.	414.	74.	604.40
0.81	0.67	3.75	0.80	0.100	0.040	0.100	0.000	594.00	1987.91
0.000417	1530.	1600.	1490.	2	0	0	0.00	577.09	2564.99

*SECNO 10.000
SURVEY SEC. #10

10.00	16.12	611.52	0.00	611.51	611.63	0.11	0.49	0.00	603.50
4600.	20.	3448.	1132.	27.	1121.	1912.	516.	94.	606.80
0.99	0.72	3.08	0.59	0.060	0.040	0.100	0.000	595.40	2027.16
0.000238	1170.	1640.	1450.	2	0	0	0.00	585.32	2612.48

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

*SECNO 11.000

SURVEY SEC. 911

11.00	11.68	611.88	0.00	611.87	612.16	0.30	0.42	0.06	607.40
4600.	334.	3929.	337.	275.	829.	363.	584.	107.	605.80
1.08	1.22	4.74	0.93	0.060	0.035	0.100	0.000	600.20	1897.12
0.000591	1380.	1390.	1290.	2	0	0	0.00	280.40	2127.52

*SECNO 12.100

260.0' D/S FROM M-28 BRIDGE

12.10	13.12	612.02	0.00	612.01	612.35	0.34	0.16	0.01	603.40
4600.	1063.	3108.	429.	608.	561.	335.	595.	108.	603.40
1.09	1.75	5.54	1.28	0.060	0.035	0.100	0.000	598.90	1865.97
0.000642	270.	260.	260.	2	0	0	0.00	238.07	2104.03

CCHV= 0.300 CEHV= 0.500

*SECNO 12.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELFEA= 618.50 ELREA= 618.00

D/S FACE M-28 BRIDGE

12.20	15.06	612.26	0.00	612.25	612.53	0.27	0.16	0.02	618.30
4600.	0.	4600.	0.	0.	1108.	0.	604.	110.	617.90
1.12	0.00	4.15	0.00	0.000	0.030	0.000	0.000	597.20	2003.28
0.000411	180.	330.	470.	2	0	0	0.00	126.64	2129.92

*SECNO 12.300

3370 NORMAL BRIDGE,NRD= 77 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.30 ELREA= 618.50

1' INSIDE OF D/S FACE OF M-28 BRIDGE

12.30	15.05	612.25	0.00	612.24	612.54	0.29	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1066.	0.	604.	110.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.29
0.000535	1.	1.	1.	1	0	0	-41.30	126.61	2129.90

SECNO	DEPTH	CWSEL	CRIWS	MSELK	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
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 12.400

3370 NORMAL BRIDGE,NRD= 27 MIN ELTRD= 618.00 MAX ELLC= 619.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.00 ELREA= 618.00

1' INSIDE OF U/S FACE OF M-28 BRIDGE

12.40	15.07	612.27	0.00	612.26	612.56	0.29	0.02	0.00	618.30
4600.	0.	4600.	0.	0.	1068.	0.	605.	110.	617.90
1.12	0.00	4.31	0.00	0.000	0.026	0.000	0.000	597.20	2003.25
0.000533	36.	36.	36.	0	0	0	-41.34	126.69	2129.94

*SECNO 12.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.00 ELREA= 618.00

U/S FACE OF M-28 BRIDGE

12.50	15.10	612.30	0.00	612.29	612.57	0.27	0.00	0.01	618.30
4600.	0.	4600.	0.	0.	1113.	0.	605.	110.	617.90
1.12	0.00	4.13	0.00	0.000	0.026	0.000	0.000	597.20	2003.14
0.000305	1.	1.	1.	2	0	0	0.00	126.93	2130.08

*SECNO 12.600

3470 ENCROACHMENT STATIONS= 1600.0 2180.0 TYPE= 1 TARGET= 580.000

300' U/S OF M-28 BRIDGE

12.60	15.33	612.53	0.00	612.52	612.66	0.13	0.05	0.04	603.30
4600.	873.	3116.	611.	1636.	382.	948.	621.	112.	605.30
1.15	0.54	3.53	0.64	0.100	0.026	0.100	0.000	597.20	1623.11
0.000119	340.	300.	240.	2	0	0	0.00	556.89	2180.00

CCHV= 0.100 CEHV= 0.300

*SECNO 13.000

SURVEY SEC. #13

13.00	16.11	612.81	0.00	612.81	612.86	0.05	0.19	0.01	606.90
4600.	2621.	1921.	59.	3764.	717.	68.	727.	129.	605.90
1.38	0.70	2.68	0.93	0.100	0.040	0.050	0.000	596.70	1351.56
0.000203	1100.	1400.	1100.	2	0	0	0.00	725.18	2076.74

SECNO	DEPTH	CWSEL	CRTWS	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	ELMTN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 14.000
2800 NAT Q1= 3992.45 WSEL= 613.06 ENC Q1= 3992.45 WSEL= 613.16 RATIO= 0.0000
NAT Q1= 4071. RATIOS LOB,CH,ROB= 0.2589 0.3574 0.4838 WSEL= 613.16

3470 ENCROACHMENT STATIONS= 1761.4 2442.6 TYPE= 4 TARGET= 0.019

SURVEY SEC. #14

14.00	16.57	613.07	0.00	613.06	613.10	0.02	0.23	0.00	607.10
4600.	1167.	1213.	2220.	1773.	590.	3176.	881.	150.	608.50
1.75	0.66	2.06	0.70	0.100	0.040	0.100	0.000	596.50	1761.38
0.000137	1340.	1540.	1210.	2	0	0	0.00	681.20	2442.59

*SECNO 15.000
2800 NAT Q1= 2208.35 WSEL= 613.24 ENC Q1= 2208.35 WSEL= 613.34 RATIO= 0.0000
NAT Q1= 2284. RATIOS LOB,CH,ROB= 0.4143 0.3506 0.2350 WSEL= 613.34

3470 ENCROACHMENT STATIONS= 1619.0 2413.3 TYPE= 4 TARGET= 0.033

SURVEY SEC. #15

15.00	16.66	613.26	0.00	613.24	613.33	0.07	0.22	0.01	606.60
4600.	1889.	1684.	1027.	2185.	308.	1346.	978.	163.	607.80
1.90	0.86	3.31	0.76	0.120	0.045	0.100	0.000	596.60	1618.96
0.000453	770.	1150.	930.	2	0	0	0.00	794.38	2413.34

*SECNO 16.000
2800 NAT Q1= 3038.42 WSEL= 613.64 ENC Q1= 3038.42 WSEL= 613.74 RATIO= 0.0000
NAT Q1= 3108. RATIOS LOB,CH,ROB= 0.0869 0.4149 0.4982 WSEL= 613.74

3470 ENCROACHMENT STATIONS= 1735.1 2468.1 TYPE= 4 TARGET= 0.022

SURVEY SEC. #16

16.00	15.97	613.67	0.00	613.64	613.72	0.04	0.39	0.00	606.10
4600.	446.	1954.	2300.	844.	806.	2741.	1093.	135.	606.60
2.13	0.41	2.42	0.84	0.120	0.045	0.100	0.000	597.70	1735.06
0.000235	1170.	1340.	1150.	0	0	0	0.00	733.09	2468.14

*SECNO 17.000

3470 ENCROACHMENT STATIONS= 1690.0 2185.0 TYPE= 1 TARGET= 495.000

SURVEY SEC. #17

17.00	13.50	614.00	0.00	613.96	614.23	0.23	0.46	0.05	606.60
4600.	1230.	2452.	919.	871.	485.	705.	1162.	198.	606.40
2.22	1.41	5.06	1.30	0.100	0.040	0.100	0.000	600.50	1690.00
0.000872	980.	1470.	710.	2	0	0	0.00	495.00	2185.00

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HI	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 18.000
2800 NAT Q1= 2528.06 WSEL= 614.50 ENC Q1= 2528.06 WSEL= 614.60 RATIO= 0.0000
NAT Q1= 2613. RATIOS LOB,CH,ROB= 0.0263 0.4111 0.5626 WSEL= 614.60

3470 ENCROACHMENT STATIONS= 1987.9 3000.9 TYPE= 4 TARGET= 0.033
SURVEY SEC. #18

18.00	12.34	614.54	0.00	614.50	614.60	0.07	0.36	0.02	608.70
4600.	49.	1968.	2583.	71.	640.	3623.	1211.	209.	609.10
2.33	0.69	3.07	0.70	0.100	0.040	0.100	0.000	602.20	1987.95
0.000343	600.	750.	650.	2	0	0	0.00	1012.97	3000.91

*SECNO 19.000
2800 NAT Q1= 2219.49 WSEL= 614.80 ENC Q1= 2219.49 WSEL= 614.90 RATIO= 0.0000
NAT Q1= 2293. RATIOS LOB,CH,ROB= 0.3777 0.5165 0.1058 WSEL= 614.90

3470 ENCROACHMENT STATIONS= 1296.1 2258.8 TYPE= 4 TARGET= 0.033
SURVEY SEC. #19

19.00	15.65	614.85	0.00	614.80	614.95	0.10	0.34	0.01	608.50
4300.	1589.	2314.	396.	2304.	664.	629.	1278.	225.	610.60
2.45	0.69	3.49	0.63	0.100	0.040	0.100	0.000	599.20	1296.10
0.000387	850.	1250.	500.	1	0	0	0.00	962.70	2258.79

*SECNO 20.000
2800 NAT Q1= 2390.23 WSEL= 615.14 ENC Q1= 2390.23 WSEL= 615.24 RATIO= 0.0000
NAT Q1= 2472. RATIOS LOB,CH,ROB= 0.4229 0.3455 0.2316 WSEL= 615.24

3470 ENCROACHMENT STATIONS= 1103.2 2371.2 TYPE= 4 TARGET= 0.033
SURVEY SEC. #20

20.00	13.01	615.21	0.00	615.14	615.26	0.06	0.31	0.00	610.20
4300.	1798.	1546.	955.	3308.	501.	1725.	1360.	244.	608.20
2.61	0.54	3.09	0.55	0.120	0.040	0.150	0.000	602.20	1103.21
0.000332	730.	980.	800.	2	0	0	0.00	1268.01	2371.22

*SECNO 21.000
2800 NAT Q1= 2958.67 WSEL= 615.46 ENC Q1= 2958.67 WSEL= 615.56 RATIO= 0.0000
NAT Q1= 3044. RATIOS LOB,CH,ROB= 0.4702 0.5224 0.0074 WSEL= 615.56

3470 ENCROACHMENT STATIONS= 996.0 2121.2 TYPE= 4 TARGET= 0.028
SURVEY SEC. #21

21.00	11.64	615.54	0.00	615.46	615.58	0.04	0.32	0.00	609.40
4300.	2025.	2275.	0.	4688.	1031.	0.	1497.	273.	608.50
2.85	0.43	2.21	0.00	0.150	0.040	0.000	0.000	603.90	995.99
0.000222	1000.	1380.	1090.	2	0	0	0.00	1125.22	2121.20

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	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 22.000
2800 NAT Q1= 2038.28 WSEL= 615.71 ENC Q1= 2038.28 WSEL= 615.81 RATIO= 0.0000
NAT Q1= 2107. RATIOS LOB,CH,ROB= 0.4373 0.4165 0.1462 WSEL= 615.81

3470 ENCROACHMENT STATIONS= 1311.9 2346.4 TYPE= 4 TARGET= 0.033
SURVEY SEC. #22

22.00	11.80	615.80	0.00	615.71	615.89	0.09	0.29	0.01	609.70
4300.	1867.	1852.	580.	3005.	518.	1114.	1609.	296.	608.90
2.99	0.61	3.38	0.52	0.150	0.040	0.150	0.000	604.00	1311.94
0.000448	930.	990.	850.	2	0	0	0.00	1034.42	2346.35

1490 NH CARD USED
*SECNO 23.000
2800 NAT Q1= 3712.56 WSEL= 616.16 ENC Q1= 3712.56 WSEL= 616.26 RATIO= 0.0000
NAT Q1= 3836. RATIOS LOB,CH,ROB= 0.5592 0.4064 0.0344 WSEL= 616.26

3470 ENCROACHMENT STATIONS= 572.2 2302.1 TYPE= 4 TARGET= 0.032
SURVEY SEC. #23

23.00	9.46	616.26	0.00	616.16	616.26	0.01	0.37	0.01	610.20
4300.	2410.	1808.	82.	6170.	1867.	200.	1850.	347.	609.80
3.71	0.39	0.97	0.41	0.120	0.068	0.120	0.000	606.80	572.22
0.000135	1640.	1670.	1430.	0	0	0	0.00	1729.84	2302.06

1490 NH CARD USED
*SECNO 24.000
2800 NAT Q1= 3011.03 WSEL= 616.43 ENC Q1= 3011.02 WSEL= 616.53 RATIO= 0.0000
NAT Q1= 3114. RATIOS LOB,CH,ROB= 0.3426 0.4134 0.2440 WSEL= 616.53

3470 ENCROACHMENT STATIONS= 1176.0 2623.5 TYPE= 4 TARGET= 0.033
SURVEY SEC. #24

24.00	7.72	616.52	0.00	616.43	616.53	0.01	0.27	0.00	610.80
4300.	1449.	1836.	1015.	3735.	1366.	1972.	2325.	403.	610.30
4.25	0.39	1.34	0.51	0.150	0.058	0.120	0.000	608.80	1176.02
0.000204	1480.	1750.	1680.	0	0	0	0.00	1447.50	2623.52

*SECNO 25.000
2800 NAT Q1= 2203.95 WSEL= 616.71 ENC Q1= 2203.95 WSEL= 616.81 RATIO= 0.0000
NAT Q1= 2285. RATIOS LOB,CH,ROB= 0.1527 0.1243 0.7230 WSEL= 616.81

3470 ENCROACHMENT STATIONS= 1640.7 3048.8 TYPE= 4 TARGET= 0.036

SURVEY SEC. #25

25.00	7.40	616.80	0.00	616.71	616.82	0.02	0.28	0.00	613.00	
4300.	601.	554.	3144.	1142.	233.	3346.	2286.	437.	612.80	
4.61	0.53	2.38	0.59	0.120	0.040	0.150	0.000	609.40	1640.73	
0.000381	1000.	1150.	1000.	1	0	0	0.00	1408.09	3048.82	

THIS RUN EXECUTED 30-JAN-85 13:13:49

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -   01,02,04,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	FRFRNO	STENCL	STCHL	STCHR	STENCR
*	1.000	603.44	0.34	605.85	89.68	9.82	4583.39	4.79	0.00	0.00	2038.20	2109.70	0.00
*	1.000	603.44	0.34	605.85	89.68	9.82	4585.39	4.79	0.00	0.00	2038.20	2109.70	0.00
	2.210	606.76	0.00	607.24	228.82	71.04	4522.92	6.03	0.00	0.00	2000.00	2130.00	0.00
	2.210	606.80	0.03	607.29	130.00	0.00	4600.00	0.00	0.02	2000.00	2000.00	2130.00	2130.00
	2.220	606.90	0.00	607.66	94.97	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.220	606.96	0.05	607.70	95.14	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.230	606.87	0.00	607.70	94.83	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.230	606.92	0.05	607.74	95.02	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.240	606.92	0.00	607.74	95.02	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.240	606.97	0.05	607.78	95.17	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.250	607.04	0.00	607.77	95.42	0.00	4600.00	0.00	0.00	0.00	2000.00	2106.00	0.00
	2.250	607.09	0.05	607.81	95.60	0.00	4600.00	0.00	0.00	2000.00	2000.00	2106.00	2106.00
	2.260	607.75	0.00	607.97	286.11	31.79	4274.75	296.46	0.00	0.00	2000.00	2105.00	0.00
	2.260	607.78	0.03	608.01	210.35	0.00	4337.18	262.82	0.02	2000.00	2000.00	2105.00	2210.35
	3.000	607.93	0.00	608.05	368.37	0.18	4352.21	347.61	0.00	0.00	2000.00	2146.00	0.00
	3.000	607.96	0.04	608.09	285.68	0.00	4327.01	272.99	0.02	2000.00	2000.00	2146.00	2285.68
	4.000	608.20	0.00	608.35	506.78	739.28	3840.72	0.00	530.00	1630.00	2000.00	2158.00	2160.00
	4.000	608.24	0.04	608.39	507.40	767.87	3832.13	0.00	530.00	1630.00	2000.00	2158.00	2160.00
	5.100	608.32	0.00	608.50	268.28	302.74	3910.64	181.62	0.00	0.00	2000.00	2080.00	0.00
	5.100	608.36	0.04	608.54	244.36	482.17	3966.39	151.45	0.02	1852.07	2000.00	2080.00	2096.44
	5.200	608.33	0.00	608.72	98.87	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
	5.200	608.37	0.04	608.76	98.99	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERFRC	STERCL	STCHB	STCHF	STERCR
5.300	608.31	0.00	608.73	98.85	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.300	608.36	0.04	608.77	98.97	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.400	608.34	0.00	608.76	98.89	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.400	608.38	0.04	608.80	99.02	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.500	608.38	0.00	608.77	99.03	0.00	4600.00	0.00	0.00	0.00	2000.00	2107.00	0.00
5.500	608.43	0.04	608.81	99.16	0.00	4600.00	0.00	0.00	2000.00	2000.00	2107.00	2107.00
5.600	608.80	0.00	608.88	215.00	23.80	4576.20	0.00	215.00	1945.00	1995.00	2160.00	2160.00
5.600	608.83	0.04	608.92	215.00	24.35	4575.65	0.00	215.00	1945.00	1995.00	2160.00	2160.00
6.000	608.94	0.00	609.17	492.91	520.91	4079.09	0.00	500.00	1600.00	2000.00	2100.40	2100.00
6.000	608.98	0.04	609.20	495.62	527.56	4072.44	0.00	500.00	1600.00	2000.00	2100.40	2100.00
7.000	609.34	0.00	609.59	322.04	309.02	4285.93	5.05	0.00	0.00	2000.00	2091.80	0.00
7.000	609.37	0.03	609.32	323.41	312.29	4282.58	5.13	0.00	0.00	2000.00	2091.80	0.00
8.000	610.11	0.00	610.33	362.63	1136.96	3422.63	40.41	0.00	0.00	2000.00	2078.10	0.00
8.000	610.14	0.02	610.35	362.80	1141.14	3418.30	40.55	0.00	0.00	2000.00	2078.10	0.00
9.000	610.98	0.00	611.13	576.98	32.11	2966.27	1601.62	0.00	0.00	2000.00	2066.30	0.00
9.000	611.00	0.02	611.14	577.09	32.16	2962.08	1605.76	0.00	0.00	2000.00	2066.30	0.00
10.000	611.51	0.00	611.62	585.26	19.79	3451.43	1128.78	0.00	0.00	2034.00	2119.20	0.00
10.000	611.52	0.01	611.63	585.32	19.82	3448.46	1131.72	0.00	0.00	2034.00	2119.20	0.00
11.000	611.87	0.00	612.17	280.26	333.05	3930.66	336.29	0.00	0.00	2000.00	2081.70	0.00
11.000	611.88	0.01	612.18	280.40	334.33	3928.69	336.97	0.00	0.00	2000.00	2081.70	0.00
12.100	612.01	0.00	612.34	238.03	1061.56	3109.84	428.60	0.00	0.00	2000.00	2045.00	0.00
12.100	612.02	0.01	612.35	238.07	1063.24	3107.87	428.89	0.00	0.00	2000.00	2045.00	0.00
12.200	612.25	0.00	612.52	126.58	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.200	612.26	0.01	612.53	126.64	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.300	612.24	0.00	612.53	126.55	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.300	612.25	0.01	612.54	126.61	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.400	612.26	0.00	612.55	126.63	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.400	612.27	0.01	612.56	126.69	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.500	612.29	0.00	612.56	126.87	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.500	612.30	0.01	612.57	126.93	0.00	4600.00	0.00	0.00	0.00	2000.00	2135.10	0.00
12.600	612.52	0.00	612.65	556.38	872.19	3117.45	610.36	580.00	1600.00	2000.00	2060.00	2180.00
12.600	612.53	0.01	612.66	556.89	873.02	3116.39	610.59	580.00	1600.00	2000.00	2060.00	2180.00
13.000	612.81	0.00	612.86	725.14	2619.61	1921.81	58.58	0.00	0.00	2000.00	2058.50	0.00
13.000	612.81	0.01	612.86	725.18	2620.73	1920.62	58.65	0.00	0.00	2000.00	2058.50	0.00

SECNO	CWSEL	DIFKWS	EB	TOPWID	QIOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
14.000	613.06	0.00	613.08	732.22	1184.71	1190.82	2222.47	0.00	0.00	2000.00	2048.40	0.00
14.000	613.07	0.01	613.10	681.20	1166.60	1213.46	2219.94	0.02	1761.38	2000.00	2048.40	2442.59
15.000	613.24	0.00	613.30	1637.46	1898.33	1644.18	1058.19	0.00	0.00	2000.00	2042.00	0.00
15.000	613.26	0.02	613.33	794.38	1888.99	1683.90	1027.11	0.03	1618.96	2000.00	2042.00	2413.35
16.000	613.64	0.00	613.68	812.19	388.09	1932.79	2289.12	0.00	0.00	2000.00	2073.40	0.00
16.000	613.67	0.03	613.72	733.09	346.61	1953.83	2300.16	0.02	1735.66	2000.00	2073.40	2468.14
17.000	613.96	0.00	614.19	495.00	1225.20	2459.28	915.52	495.00	1690.00	2000.00	2047.10	2185.00
17.000	614.00	0.04	614.23	495.00	1229.51	2451.90	918.58	495.00	1690.00	2000.00	2047.10	2185.00
18.000	614.50	0.00	614.56	1474.27	120.38	1921.54	2557.88	0.00	0.00	2000.00	2065.90	0.00
18.000	614.54	0.04	614.60	1012.97	48.59	1968.41	2583.00	0.03	1987.95	2000.00	2065.90	3000.91
19.000	614.80	0.00	614.90	1448.78	1595.40	2263.92	440.68	0.00	0.00	2000.00	2058.10	0.00
19.000	614.85	0.05	614.95	962.70	1589.36	2314.46	396.18	0.03	1256.10	2000.00	2058.10	2258.79
20.000	615.14	0.00	615.20	1638.76	1793.88	1512.37	993.74	0.00	0.00	2000.00	2048.00	0.00
20.000	615.21	0.06	615.26	1268.01	1798.27	1546.28	955.44	0.03	1103.21	2000.00	2048.00	2371.22
21.000	615.46	0.00	615.50	1595.56	2002.18	2266.44	31.38	0.00	0.00	2000.00	2121.20	0.00
21.000	615.54	0.08	615.58	1125.22	2025.48	2274.52	0.00	0.03	995.99	2000.00	2121.20	2121.20
22.000	615.71	0.00	615.80	1667.60	1856.22	1819.38	614.40	0.00	0.00	2000.00	2051.60	0.00
22.000	615.80	0.08	615.89	1034.42	1867.31	1852.20	580.49	0.03	1311.94	2000.00	2051.60	2346.35
23.000	616.16	0.00	616.17	1990.19	2389.87	1764.56	145.57	0.00	0.00	2000.00	2264.90	0.00
23.000	616.26	0.09	616.26	1729.84	2409.95	1807.98	82.07	0.03	572.22	2000.00	2264.90	2302.06
24.000	616.43	0.00	616.44	2054.54	1464.09	1792.70	1043.21	0.00	0.00	2000.00	2206.90	0.00
24.000	616.52	0.09	616.53	1447.50	1449.11	1836.15	1014.73	0.03	1176.02	2000.00	2206.90	2623.52
25.000	616.71	0.00	616.72	1748.79	640.27	539.32	3120.41	0.00	0.00	2000.00	2038.00	0.00
25.000	616.80	0.09	616.82	1408.09	601.23	554.48	3144.28	0.04	1640.73	2000.00	2038.00	3048.82

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRITS	FG	10K*S	VCH	AREA	Q1K
*	1.000	0.00	0.00	0.00	595.60	4600.00	603.44	603.44	605.85	74.30	12.49	373.68	533.65
*	1.000	0.00	0.00	0.00	595.60	4600.00	603.44	603.44	605.85	74.30	12.49	373.68	533.65
	2.210	590.00	0.00	0.00	595.30	4600.00	606.76	0.00	607.24	11.14	5.57	899.60	1378.02
	2.210	590.00	0.00	0.00	595.30	4600.00	606.80	0.00	607.29	11.74	5.63	816.60	1342.27
	2.220	240.00	0.00	0.00	595.20	4600.00	606.90	0.00	607.66	12.39	6.99	658.09	1406.82
	2.220	240.00	0.00	0.00	595.20	4600.00	606.96	0.00	607.70	12.15	6.94	662.57	1319.94
	2.230	1.00	614.50	614.00	595.20	4600.00	606.87	0.00	607.70	22.32	7.31	629.07	973.66
	2.230	1.00	614.50	614.00	595.20	4600.00	606.92	0.00	607.74	21.84	7.26	633.70	984.22
	2.240	17.00	614.50	614.00	595.20	4600.00	606.92	0.00	607.74	21.85	7.26	633.64	984.09
	2.240	17.00	614.50	614.00	595.20	4600.00	606.97	0.00	607.78	21.48	7.22	637.35	992.47
	2.250	1.00	0.00	0.00	595.20	4600.00	607.04	0.00	607.77	11.74	6.86	670.31	1342.74
	2.250	1.00	0.00	0.00	595.20	4600.00	607.09	0.00	607.81	11.49	6.81	675.15	1357.05
	2.260	110.00	0.00	0.00	594.30	4600.00	607.75	0.00	607.97	3.14	4.88	1705.96	3142.65
	2.260	110.00	0.00	0.00	594.30	4600.00	607.78	0.00	608.01	2.33	3.92	1554.88	3016.76
	3.000	320.00	0.00	0.00	591.50	4600.00	607.93	0.00	608.05	2.33	2.93	2145.54	3015.13
	3.000	320.00	0.00	0.00	591.50	4600.00	607.96	0.00	608.09	2.40	2.97	1967.88	2972.15
	4.000	990.00	0.00	0.00	596.50	4600.00	608.20	0.00	608.35	3.92	3.38	2302.15	2322.54
	4.000	990.00	0.00	0.00	596.50	4600.00	608.24	0.00	608.39	3.84	3.36	2324.33	2347.31
	5.100	460.00	0.00	0.00	593.40	4600.00	608.32	0.00	608.50	2.56	3.63	1927.41	2875.88
	5.100	460.00	0.00	0.00	593.40	4600.00	608.36	0.00	608.54	2.61	3.69	1865.30	2848.79
	5.200	260.00	0.00	0.00	591.60	4600.00	608.33	0.00	608.72	8.22	5.01	919.05	1604.40
	5.200	260.00	0.00	0.00	591.60	4600.00	608.37	0.00	608.76	8.11	4.98	923.36	1615.22
	5.300	1.00	611.20	624.00	591.60	4600.00	608.31	0.00	608.73	9.41	5.20	884.38	1499.30
	5.300	1.00	611.20	624.00	591.60	4600.00	608.36	0.00	608.77	9.30	5.18	888.53	1508.76
	5.400	26.00	611.20	624.00	591.60	4600.00	608.34	0.00	608.76	9.37	5.19	885.82	1502.58
	5.400	26.00	611.20	624.00	591.60	4600.00	608.38	0.00	608.80	9.25	5.17	890.06	1512.25
	5.500	1.00	0.00	0.00	591.60	4600.00	608.48	0.00	608.77	5.17	4.97	924.70	2023.26
	5.500	1.00	0.00	0.00	591.60	4600.00	608.43	0.00	608.81	5.10	4.95	928.93	2036.59
	5.600	120.00	0.00	0.00	591.90	4600.00	608.80	0.00	608.88	0.72	2.30	2100.21	5423.23
	5.600	120.00	0.00	0.00	591.90	4600.00	608.83	0.00	608.92	0.71	2.29	2108.52	5452.07
	6.000	1940.00	0.00	0.00	596.00	4600.00	608.94	0.00	609.17	3.15	4.08	1972.13	2589.89
	6.000	1940.00	0.00	0.00	596.00	4600.00	608.98	0.00	609.20	3.11	4.06	1990.57	2609.68

SECNO	XLCH	ELTRD	ELLC	F MIN	Q	CWSEL	CRTWS	FG	10KES	VCH	AREA	.01K
7.000	1460.00	0.00	0.00	594.20	4600.00	609.34	0.00	609.59	2.59	4.14	1625.67	2859.32
7.000	1460.00	0.00	0.00	594.20	4600.00	609.37	0.00	609.62	2.56	4.12	1635.72	2874.75
8.000	1920.00	0.00	0.00	596.40	4600.00	610.11	0.00	610.33	6.17	4.26	1976.43	1851.44
8.000	1920.00	0.00	0.00	596.40	4600.00	610.14	0.00	610.35	6.11	4.24	1984.94	1860.83
9.000	1600.00	0.00	0.00	594.00	4600.00	610.98	0.00	611.13	4.20	3.76	2826.18	2244.65
9.000	1600.00	0.00	0.00	594.00	4600.00	611.00	0.00	611.14	4.17	3.75	2835.32	2252.81
10.000	1640.00	0.00	0.00	595.40	4600.00	611.51	0.00	611.62	2.39	3.08	3053.08	2975.01
10.000	1640.00	0.00	0.00	595.40	4600.00	611.52	0.00	611.63	2.38	3.08	3060.32	2982.25
11.000	1390.00	0.00	0.00	600.20	4600.00	611.87	0.00	612.17	5.94	4.75	1463.56	1887.46
11.000	1390.00	0.00	0.00	600.20	4600.00	611.88	0.00	612.18	5.91	4.74	1466.49	1891.66
12.100	260.00	0.00	0.00	598.90	4600.00	612.01	0.00	612.34	6.44	5.55	1501.37	1812.29
12.100	260.00	0.00	0.00	598.90	4600.00	612.02	0.00	612.35	6.42	5.54	1503.71	1815.82
12.200	320.00	0.00	0.00	597.20	4600.00	612.25	0.00	612.52	4.12	4.15	1107.29	2265.44
12.200	320.00	0.00	0.00	597.20	4600.00	612.26	0.00	612.53	4.11	4.15	1108.37	2268.38
12.300	1.00	618.00	619.00	597.20	4600.00	612.24	0.00	612.53	3.36	4.32	1065.42	1986.15
12.300	1.00	618.00	619.00	597.20	4600.00	612.25	0.00	612.54	5.35	4.31	1066.46	1988.67
12.400	36.00	618.00	619.00	597.20	4600.00	612.26	0.00	612.55	5.35	4.31	1066.84	1989.61
12.400	36.00	618.00	619.00	597.20	4600.00	612.27	0.00	612.56	5.33	4.31	1067.88	1992.13
12.500	1.00	0.00	0.00	597.20	4600.00	612.29	0.00	612.56	3.06	4.14	1112.45	2630.25
12.500	1.00	0.00	0.00	597.20	4600.00	612.30	0.00	612.57	3.05	4.13	1113.48	2633.53
12.600	300.00	0.00	0.00	597.20	4600.00	612.52	0.00	612.65	1.20	3.54	3451.49	4207.68
12.600	300.00	0.00	0.00	597.20	4600.00	612.53	0.00	612.66	1.19	3.53	3456.82	4212.82
13.000	1400.00	0.00	0.00	596.70	4600.00	612.81	0.00	612.86	2.06	2.68	4549.15	3207.39
13.000	1400.00	0.00	0.00	596.70	4600.00	612.81	0.00	612.86	2.05	2.68	4544.35	3212.51
14.000	1540.00	0.00	0.00	596.50	4600.00	613.06	0.00	613.08	1.33	2.02	5700.93	3992.45
14.000	1540.00	0.00	0.00	596.50	4600.00	613.07	0.00	613.10	1.37	2.06	5639.52	3923.22
15.000	1150.00	0.00	0.00	596.60	4600.00	613.24	0.00	613.30	4.34	3.24	4638.60	2208.35
15.000	1150.00	0.00	0.00	596.60	4600.00	613.26	0.00	613.33	4.53	3.31	4039.81	2162.46
16.000	1340.00	0.00	0.00	597.70	4600.00	613.64	0.00	613.68	2.29	2.39	4560.83	3038.42
16.000	1340.00	0.00	0.00	597.70	4600.00	613.67	0.00	613.72	2.35	2.42	4390.97	3000.97
17.000	1470.00	0.00	0.00	600.50	4600.00	613.96	0.00	614.19	8.89	5.09	2041.08	1542.97
17.000	1470.00	0.00	0.00	600.50	4600.00	614.00	0.00	614.23	8.72	5.06	2061.35	1557.92
18.000	750.00	0.00	0.00	602.20	4600.00	614.50	0.00	614.56	3.31	3.01	4883.76	2528.06
18.000	750.00	0.00	0.00	602.20	4600.00	614.54	0.00	614.60	3.43	3.07	4385.97	2483.65

SECND	XLCH	ELTRU	ELLC	ELMIN	Q	CMSEL	CRINS	EA	10KWS	UCH	AREA	Q1K
19.000	1250.00	0.00	0.00	599.20	4300.00	614.80	0.00	614.90	3.75	3.42	4074.33	2219.49
19.000	1250.00	0.00	0.00	599.20	4300.00	614.85	0.00	614.95	3.87	3.49	3997.28	2184.95
20.000	980.00	0.00	0.00	602.20	4300.00	615.14	0.00	615.20	3.24	3.04	5963.80	2390.23
20.000	980.00	0.00	0.00	602.20	4300.00	615.21	0.00	615.26	3.32	3.09	5833.97	2360.93
21.000	1380.00	0.00	0.00	603.90	4300.00	615.46	0.00	615.50	2.11	2.22	6207.28	3958.67
21.000	1380.00	0.00	0.00	603.90	4300.00	615.54	0.00	615.58	2.22	2.21	5719.40	2684.29
22.000	990.00	0.00	0.00	604.00	4300.00	615.71	0.00	615.80	4.45	3.54	5362.18	2038.28
22.000	990.00	0.00	0.00	604.00	4300.00	615.80	0.00	615.89	4.48	3.56	4714.53	2032.15
23.000	1670.00	0.00	0.00	606.80	4300.00	616.16	0.00	616.17	1.34	0.96	8623.94	3712.56
23.000	1670.00	0.00	0.00	606.80	4300.00	616.26	0.00	616.26	1.35	0.97	8237.22	3696.31
24.000	1750.00	0.00	0.00	608.80	4300.00	616.43	0.00	616.44	2.04	1.33	7761.15	3011.03
24.000	1750.00	0.00	0.00	608.80	4300.00	616.52	0.00	616.53	2.04	1.34	7072.49	3012.59
25.000	1150.00	0.00	0.00	609.40	4300.00	616.71	0.00	616.72	3.81	2.36	7056.07	2203.95
25.000	1150.00	0.00	0.00	609.40	4300.00	616.80	0.00	616.82	3.81	2.38	6721.27	2202.12

CHOCOLAY RIVER START

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XI CH
*	1.000	4600.00	603.44	0.00	0.00	0.34	89.68	0.00
*	1.000	4600.00	603.44	0.00	0.00	0.34	89.68	0.00
	2.210	4600.00	606.76	0.00	3.33	0.00	328.82	590.00
	2.210	4600.00	606.80	0.03	3.36	0.03	130.00	590.00
	2.220	4600.00	606.90	0.00	0.14	0.00	94.97	240.00
	2.220	4600.00	606.96	0.05	0.16	0.05	95.14	240.00
	2.230	4600.00	606.87	0.00	-0.03	0.00	94.83	1.00
	2.230	4600.00	606.92	0.05	-0.03	0.05	95.02	1.00
	2.240	4600.00	606.92	0.00	0.05	0.00	95.02	17.00
	2.240	4600.00	606.97	0.05	0.05	0.05	95.17	17.00
	2.250	4600.00	607.04	0.00	0.11	0.00	95.42	1.00
	2.250	4600.00	607.09	0.05	0.12	0.05	95.60	1.00
	2.260	4600.00	607.75	0.00	0.71	0.00	286.11	110.00
	2.260	4600.00	607.78	0.03	0.69	0.03	210.35	110.00
	3.000	4600.00	607.93	0.00	0.17	0.00	368.37	320.00
	3.000	4600.00	607.96	0.04	0.18	0.04	285.68	320.00
	4.000	4600.00	608.20	0.00	0.27	0.00	506.78	990.00
	4.000	4600.00	608.24	0.04	0.28	0.04	507.40	990.00
	5.100	4600.00	608.32	0.00	0.12	0.00	268.28	460.00
	5.100	4600.00	608.36	0.04	0.11	0.04	244.36	460.00
	5.200	4600.00	608.33	0.00	0.01	0.00	98.87	260.00
	5.200	4600.00	608.37	0.04	0.01	0.04	98.99	260.00
	5.300	4600.00	608.31	0.00	-0.01	0.00	98.85	1.00
	5.300	4600.00	608.36	0.04	-0.01	0.04	98.97	1.00
	5.400	4600.00	608.34	0.00	0.03	0.00	98.89	26.00
	5.400	4600.00	608.38	0.04	0.03	0.04	99.02	26.00
	5.500	4600.00	608.38	0.00	0.05	0.00	99.03	1.00
	5.500	4600.00	608.43	0.04	0.04	0.04	99.16	1.00
	5.600	4600.00	608.80	0.00	0.41	0.00	215.00	120.00
	5.600	4600.00	608.83	0.04	0.41	0.04	215.00	120.00
	6.000	4600.00	608.94	0.00	0.14	0.00	492.91	1940.00
	6.000	4600.00	608.98	0.04	0.14	0.04	495.62	1940.00

SECNO	B	CWSEL	DIFMSP	DIFMSX	DIFKWS	TOPWID	XLCH
7.000	4600.00	609.34	0.00	0.40	0.00	322.04	1460.00
7.000	4600.00	609.37	0.03	0.40	0.03	323.41	1460.00
8.000	4600.00	610.11	0.00	0.77	0.00	362.63	1920.00
8.000	4600.00	610.14	0.02	0.76	0.02	362.80	1920.00
9.000	4600.00	610.98	0.00	0.87	0.00	376.98	1600.00
9.000	4600.00	611.00	0.02	0.86	0.02	377.09	1600.00
10.000	4600.00	611.51	0.00	0.53	0.00	580.26	1640.00
10.000	4600.00	611.52	0.01	0.52	0.01	585.32	1640.00
11.000	4600.00	611.87	0.00	0.36	0.00	280.26	1390.00
11.000	4600.00	611.88	0.01	0.36	0.01	280.40	1390.00
12.100	4600.00	612.01	0.00	0.14	0.00	238.03	260.00
12.100	4600.00	612.02	0.01	0.14	0.01	238.07	260.00
12.200	4600.00	612.25	0.00	0.25	0.00	126.58	320.00
12.200	4600.00	612.26	0.01	0.25	0.01	126.64	320.00
12.300	4600.00	612.24	0.00	-0.01	0.00	126.55	1.00
12.300	4600.00	612.25	0.01	-0.01	0.01	126.61	1.00
12.400	4600.00	612.26	0.00	0.02	0.00	126.63	36.00
12.400	4600.00	612.27	0.01	0.02	0.01	126.69	36.00
12.500	4600.00	612.29	0.00	0.03	0.00	126.87	1.00
12.500	4600.00	612.30	0.01	0.03	0.01	126.93	1.00
12.600	4600.00	612.52	0.00	0.23	0.00	556.38	300.00
12.600	4600.00	612.53	0.01	0.23	0.01	556.89	300.00
13.000	4600.00	612.81	0.00	0.29	0.00	725.14	1400.00
13.000	4600.00	612.81	0.01	0.28	0.01	725.18	1400.00
14.000	4600.00	613.06	0.00	0.26	0.00	732.22	1540.00
14.000	4600.00	613.07	0.01	0.26	0.01	681.20	1540.00
15.000	4600.00	613.24	0.00	0.18	0.00	1637.46	1150.00
15.000	4600.00	613.26	0.02	0.18	0.02	794.38	1150.00
16.000	4600.00	613.64	0.00	0.40	0.00	812.19	1340.00
16.000	4600.00	613.67	0.03	0.42	0.03	733.09	1340.00
17.000	4600.00	613.96	0.00	0.32	0.00	495.00	1420.00
17.000	4600.00	614.00	0.04	0.33	0.04	495.00	1420.00
18.000	4600.00	614.50	0.00	0.54	0.00	1474.27	750.00
18.000	4600.00	614.54	0.04	0.53	0.04	1012.97	750.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
19.000	4300.00	614.80	0.00	0.30	0.00	1448.78	1250.00
19.000	4300.00	614.85	0.05	0.31	0.05	962.70	1250.00
20.000	4300.00	615.14	0.00	0.35	0.00	1638.76	980.00
20.000	4300.00	615.21	0.06	0.36	0.06	1268.01	980.00
21.000	4300.00	615.46	0.00	0.32	0.00	1595.56	1380.00
21.000	4300.00	615.54	0.08	0.33	0.08	1125.22	1380.00
22.000	4300.00	615.71	0.00	0.25	0.00	1667.60	990.00
22.000	4300.00	615.80	0.08	0.26	0.08	1034.42	990.00
23.000	4300.00	616.16	0.00	0.45	0.00	1990.19	1670.00
23.000	4300.00	616.26	0.09	0.46	0.09	1729.84	1670.00
24.000	4300.00	616.43	0.00	0.26	0.00	2034.54	1750.00
24.000	4300.00	616.52	0.09	0.26	0.09	1447.50	1750.00
25.000	4300.00	616.71	0.00	0.28	0.00	1768.79	1150.00
25.000	4300.00	616.80	0.09	0.28	0.09	1408.09	1150.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 1.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

FLOODWAY DATA, CHOCOLAY RIVER START
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
1.000	90.	374.	12.3	603.4	603.4	0.0
2.210	130.	817.	5.6	606.8	606.8	0.0
2.220	95.	663.	6.9	607.0	606.9	0.1
2.230	95.	634.	7.3	607.0	606.9	0.1
2.240	95.	637.	7.2	606.9	606.9	0.0
2.250	96.	675.	6.8	607.1	607.0	0.1
2.260	210.	1555.	3.0	607.8	607.8	0.0
3.000	286.	1968.	2.3	607.9	607.9	0.0
4.000	507.	2324.	2.0	608.2	608.2	0.0
5.100	244.	1865.	2.5	608.3	608.3	0.0
5.200	99.	923.	5.0	608.3	608.3	0.0
5.300	99.	889.	5.2	608.3	608.3	0.0
5.400	99.	890.	5.2	608.3	608.3	0.0
5.500	99.	929.	5.0	608.4	608.4	0.0
5.600	215.	2109.	2.2	608.8	608.8	0.0
6.000	496.	1991.	2.3	608.9	608.9	0.0
7.000	323.	1636.	2.8	609.3	609.3	0.0
8.000	363.	1985.	2.3	610.1	610.1	0.0
9.000	577.	2835.	1.6	611.0	611.0	0.0
10.000	585.	3060.	1.5	611.5	611.5	0.0
11.000	280.	1466.	3.1	611.9	611.9	0.0
12.100	238.	1504.	3.1	612.0	612.0	0.0
12.200	127.	1108.	4.2	612.3	612.3	0.0
12.300	127.	1066.	4.3	612.2	612.2	0.0
12.400	127.	1068.	4.3	612.3	612.3	0.0
12.500	127.	1113.	4.1	612.3	612.3	0.0
12.600	557.	3456.	1.3	612.5	612.5	0.0
13.000	725.	4544.	1.0	612.8	612.8	0.0
14.000	681.	5540.	0.8	613.1	613.1	0.0
15.000	794.	4040.	1.1	613.2	613.2	0.0
16.000	733.	4391.	1.0	613.6	613.6	0.0
17.000	495.	2061.	2.2	614.0	614.0	0.0
18.000	1013.	4386.	1.0	614.5	614.5	0.0
19.000	963.	3597.	1.2	614.8	614.8	0.0
20.000	1268.	5534.	0.8	615.2	615.1	0.1
21.000	1125.	5719.	0.8	615.6	615.5	0.1
22.000	1034.	4717.	0.9	615.8	615.7	0.1
23.000	1730.	8237.	0.5	616.3	616.2	0.1
24.000	1448.	7072.	0.6	616.5	616.4	0.1
25.000	1408.	6721.	0.6	616.8	616.7	0.1

00BREAK00

1) COUNTY: Marquette

2) STUDY NAME: Chocolay Twp.

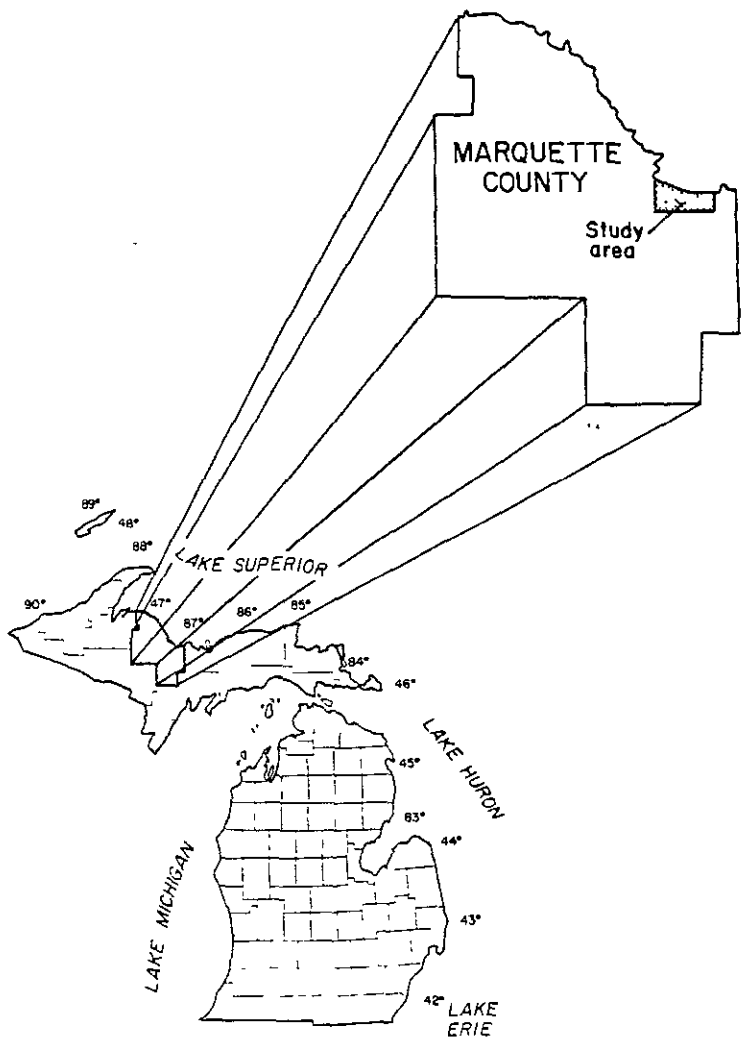
3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: Analysis

00BREAK00

A HYDROLOGIC ANALYSIS OF THE APRIL 1985 FLOOD ON THE CHOCOLAY RIVER, MARQUETTE COUNTY, MICHIGAN

By: Hope M. Croskey, P. E. and
Richard C. Sorrell, P. E.



MICHIGAN DEPARTMENT OF
NATURAL RESOURCES

Engineering-Water Management Division
August, 1985

DNR

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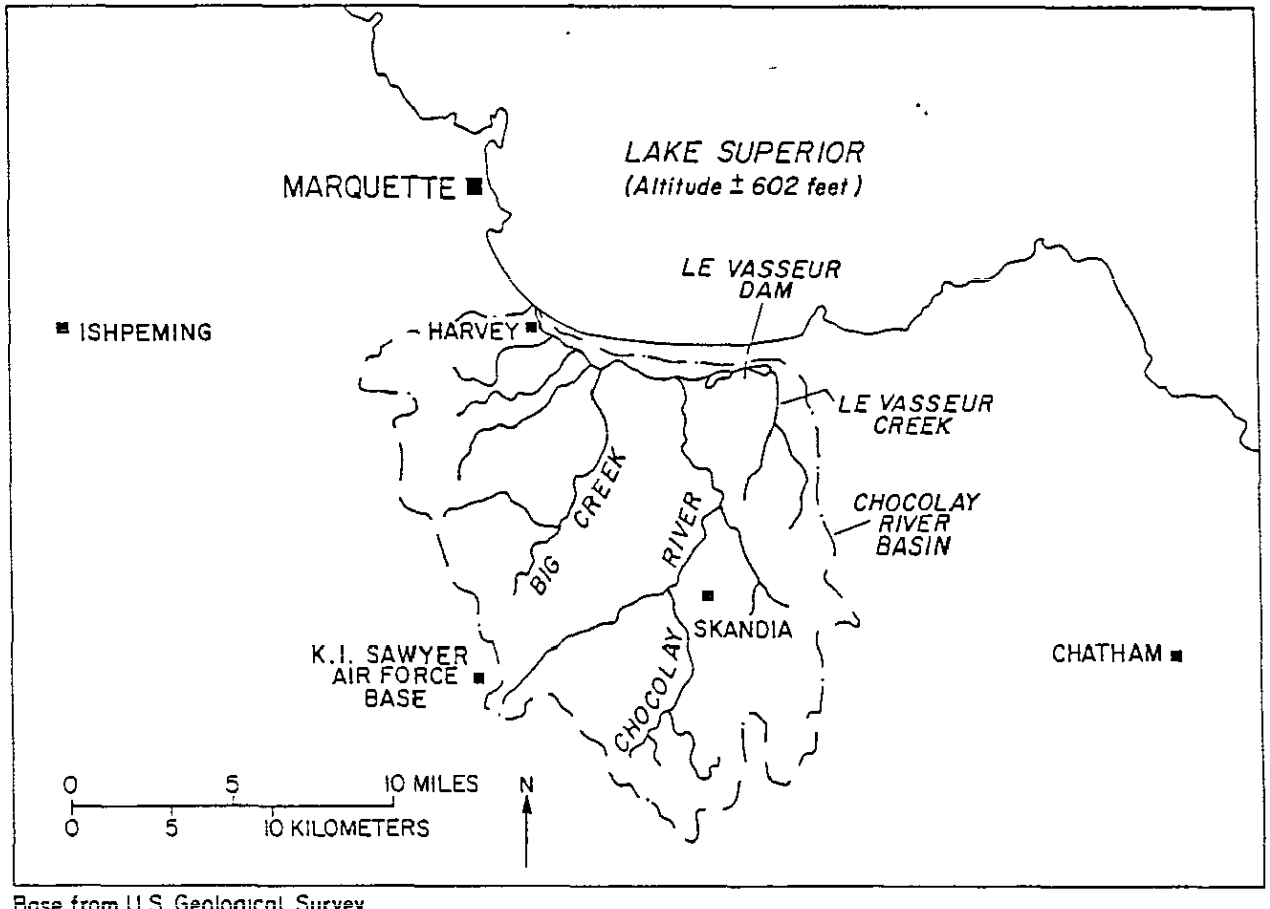
I. Introduction

The entire Chocolay River basin experienced record flooding in April 1985 as did many areas in Michigan's upper peninsula and northern Wisconsin. This regional flooding followed a 30-day period that brought record snowstorms, rainstorms, and high temperatures to the area. All of these factors contributed significantly to the severity of the flood.

The Chocolay River has a total drainage area of approximately 159 square miles at its outlet to Lake Superior (Figure 1). This drainage area covers most of Chocolay Township and includes parts of Skandia, Sands, Westbranch, and Forsyth Townships. The Chocolay River watershed is mostly wooded with a small number of farms and population generally centered near Lake Superior.



Base from U.S. Geological Survey
1:250,000 quadrangles

Figure 1.-- Map of Chocolay River Basin

The purpose of this study is to evaluate the climatologic data concerning this flood and to estimate how often a flood of similar magnitude should occur. The results of this analysis will be used to evaluate the flood profiles being considered for the Chocolay Township Flood Insurance Study (FIS). This analysis also simulates the breach which occurred at Lake LeVasseur Dam on April 20th and evaluates its impact on downstream flooding.

II. Climatic Conditions

Meteorological data collected from the National Weather Service (NWS) station observers and K. I. Sawyer Air Force Base were used to determine conditions during and prior to the flood.

Snowstorms at the beginning of April left over two feet of heavy, wet snow on the ground by April 10th. This was followed by a rapid melt, especially in the upper portions of the watershed. Then record amounts of rain fell on April 19th which culminated the sequence of events leading to the flood.

The 10-day period beginning on April 10th started a sequence of climatic events which favored the development of the heavy thunderstorms on April 19th. As the polar jet stream started moving north, warm, moist air began flowing into the region. Much of the energy in the warm air was absorbed by the snowpack starting the snowmelt. Significantly, the southern portion of the watershed (upstream area) lost nearly all of its snowpack by April 15th while the northern portions (downstream area) retained about a foot of snowcover. The lack of snowpack in the south allowed a second surge of warm air to flow relatively unhindered nearly to Lake Superior before being absorbed by, and melting, the remaining snowpack in the area. The now unstable air over the region was the final ingredient needed for the formation of the April 19th thunderstorms.

Just prior to the rains of Friday, April 19th, most of the water running off was concentrated in the lower watershed. The snowmelt from the upper watershed had traveled downstream and filled most rivers and streams throughout the basin. The now rapidly melting snowpack in the lower watershed saturated the natural, low retention areas and created a drainage area which could very efficiently carry surface runoff to the river system.

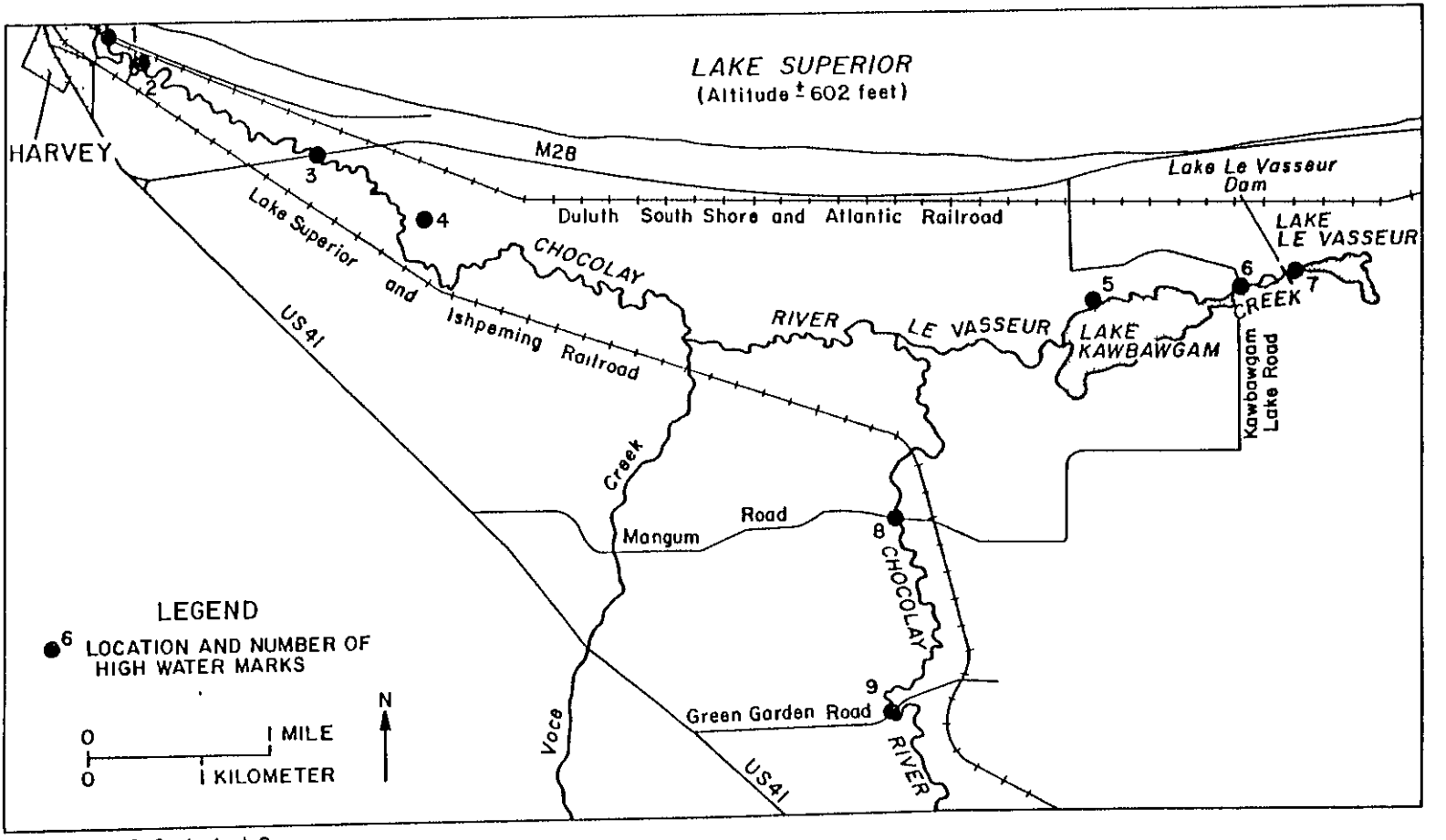
When the rains struck, the heavier amounts fell over the lower watershed, melting the rest of the snowpack. The rainfall and the liquid water from the melted snowpack caused a flood peak to pass through the lower Chocolay River on Saturday afternoon and evening. Later on Sunday, after the initial peak began receding, a second peak of similar magnitude occurred. The data indicates that this was the runoff from the upper portion of the watershed. This peak was delayed because of a lower rainfall amount in the upper watershed, which also had begun drying out to some degree from the snowmelt 5 days previous. This would allow for some more infiltration of the rainfall and would increase its travel time to the river. An additional delay is due to the time it physically takes water to flow from the upper portions of the basin to the lower.

III. Modeling of the April Flood

The flood is simulated by collecting all available data and then using various computer programs to generate the observed flood profile. Much of the data was collected during a one-week field trip to the area in early June. Observed high water marks were inspected and surveyed at a number of points in the watershed. These points are shown in Figure 2.

Computer program DAMBRK, developed by the National Weather Service, was used to model the flood profile. This program also has the capability of simulating a dam breach. The complete model extends from Lake LeVassuer Dam downstream to Lake Superior. The hydrograph from the watershed upstream of the dam is input as the inflow to Lake LeVasseur. The flow from the upper Chocolay watershed was input based on data observed at Green Garden Road (Site 9, Figure 2). Cross-section data from the pending FIS were used for the lower 5 miles of the river. Cross-section information from Lake LeVasseur to the outlet of Lake Kawbawgam were obtained from construction plans for the dam and direct measurement during the field trip. Additional cross-sections were obtained from topographic maps for the area.

High water marks at M-28 and further upstream were used to compute a peak discharge of approximately 5400 cfs. This was used in DAMBRK and adjusted slightly until the computed and observed elevations reasonably matched at the locations shown in Figure 2. We also checked to make sure



Base from U S. Geological Survey
1:62,500 quadrangles

Figure 2.-- Map Showing Location of High Water Marks

that the elevations not only matched the observed but also occurred at the appropriate time, as deduced from questioning residents along the river. This included matching the time of rise on Lake Kawbawgam and the approximate time to peak in the vicinity of Candace Estates Subdivision upstream from the M-28 bridge. Peak time information was also available at the Harvey Pump Station near the mouth of the Chocolay River and was used in the calibration. A comparison of observed and computed elevations for the calibrated model is shown in Table 1. The localized discrepancy at the pump station and Green Bay Street resulted from a complex hydraulic contraction at the DSS&A Railroad immediately downstream of the pump station. This localized phenomena does not impact the results at M-28 or further upstream.

Table 1.-- Observed vs. Computed Elevations on Lake Kawbawgam

Site	Location	Observed	Computed
1.	DSS&A Railroad	605.3	606.9
2.	Bay Street	607.0	608.0
3.	M-28	613.5	613.5
4.	Candace Estates	614.6	614.4
5.	Lake Kawbawgam	623.8	623.7
6.	Kawbawgam Lake Rd.	624.3	624.6

IV. Flood Frequency

Assigning a frequency to this event is a difficult task. The complication is the fact that a primary cause of the flood was a rapidly melting snowpack. Snowmelt is one of the more complex phenomena to analyze since it depends on the condition of the snowpack, the amount of equivalent liquid water in the snowpack, the temperature sequence during the melt period, the condition of the ground (frozen/unfrozen) under the snowpack, and the amount of rain falling on the melting snow. Necessarily then, any conclusions about the frequency involve an objective analysis of the available data and a somewhat subjective inference about the individual factors occurring in combination with the others.

Daily precipitation, snowpack, snowfall and temperature data from 1901 to 1980 at the NWS Chatham Station were evaluated to determine the frequency of this flood. The precipitation and snowpack data were analyzed by a computer program, CALMET, which is co-written by the authors. This program computes annual maximum data from a given set of daily records. Any number of consecutive days in a year can be grouped together. One-day, 10-day and 30-day intervals were analyzed for precipitation data. Precipitation amounts for a range of recurrence intervals were then computed using standard statistical methods.

CALMET was modified to analyze the Chatham data over a portion of the year. Winter data (December 1 - April 30) was analyzed to determine if the snowpack and precipitation were excessively unusual for the winter season. Data for only the month of April was then analyzed to evaluate its frequency this late in the winter season.

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Recurrence Interval (yr.)	Annual	Winter	April
2	1.8		
5	2.5 *		
10	3.0		
20	3.5	2.0	
50	4.2	2.9 *	
100	4.8	3.4	1.9
200			2.1
500			2.2 *

Table 3.-- Maximum 10-day Precipitation (April 10-19 3.4 inches)

Recurrence Interval (yr.)	Annual	Winter
2	3.7 *	2.0
5	4.8	2.6
10	5.5	3.0
20	6.3	3.4 *
50	7.5	4.0
100	8.4	4.4
200	9.3	
500	10.7	

Table 4.-- Maximum 30-day Precipitation (March 26-April 24 7.5 inches)

Recurrence Interval (yr.)	Annual	Winter
2	7.1 *	
5	8.2	
10	9.1	5.1
20	10.3	5.4
50	11.2	6.3
100	12.0	6.8
200		7.3 *
500		7.9

Table 5.-- Maximum 1-day Snowpack (April 9 28 inches)

Recurrence Interval (yr.)	Winter	April
2	31 *	16
5	38	24
10	41	28 *
20	44	31

During April, the Marquette NWS measured 6.56 inches of precipitation (snow & rain). Over 6 inches of this fell prior to April 20th. This was the second highest April value since record-keeping started in 1871. Table 6 shows how April 1985 ranks with the other large April values for both Marquette and Chatham.

Table 6.-- Maximum April Precipitation

	Marquette		Chatham	
Rank	Year	Precipitation (inches)	Year	Precipitation (inches)
1	1914	6.80	1960	5.08
2	1985	6.56	1913	4.65
3	1960	5.73	1954	4.40
4	1947	5.28	1985	4.19
5	1888	5.07	1953	3.97

The severity of the flood was caused primarily by the 10-day sequence of climatic conditions discussed in Section II and the snowpack existing at the start of this period. The 10-day precipitation during this time is a 20-year event (Table 3). The snowpack at the start of this 10-day period is a 10-year event (Table 5). Since these two factors are meteorologically independent events, we are allowed to multiply the recurrence intervals to obtain a frequency of both factors occurring simultaneously. This results in a 200-year recurrence interval for this snowmelt/rainfall flood.

Another measure of the frequency of this event can be obtained by looking at the 30-day precipitation preceeding the flood. This is shown to have a frequency of between 200 and 500 years (Table 4). The 1-day rainfall on April 19th is shown to be an excessively rare event for April (Table 2) without even considering the snowmelt preceeding it. Even though statistically the 1-day rainfall is excessively rare, it would not be sufficient, by itself, to cause the April flood.

Although the Chocolay River does not have a stream gaging station, other rivers in the area do. Among those with more than 20 years of record, the Middle Branch Escanaba River near Humboldt and the East Branch Escanaba River near Gwinn show the 1985 flood as a 200-year event. The Black River

near Republic and the Peshekee River near Champion show this event with a recurrence interval of greater than 500 years.

Taking all the statistics in perspective, the meteorological frequency discussed above and data from the river gages in the area strongly suggest that the recurrence interval for this flood is greater than 200 years and perhaps as large as 500 years.

V. Failure of Lake LeVasseur Dam

The dam appears to have failed around noon on Saturday, April 20. Interviews with residents on Lake Kawbawgam downstream from the dam indicate that the lake levels were already causing flood damage to dwellings during Saturday morning preceding the dam failure. In the early afternoon after the failure, the lake rose about one and a half feet when the flood wave moved through.

From available evidence, it appears that the dam embankment was very nearly overtopped prior to the failure. Sloughed sod on the south embankment indicates that the pre-failure impoundment elevation was approximately 6 inches below the top. There were large amounts of wooded debris jammed in the spillway which decreased the efficiency of the outlet.

The failure of the north embankment was assumed to take place over a half hour period. No direct observation of the failure is available so this assumption is based on the characteristics of other sand-fill embankment failures. From our hydrologic analysis, it appears that the inflow hydrograph peak on Lake LeVasseur arrived about 4 hours after the breach formed. Our analysis also shows that if the dam had not failed, the elevation on Lake Kawbawgam would have still risen to the same level due to the flow from the watershed above Lake LeVasseur. The only discernible effect of the dam breach was to cause the lake to reach its flood stage sooner and then recede at a somewhat slower rate. Figure 3 illustrates the flood elevations on Lake Kawbawgam.

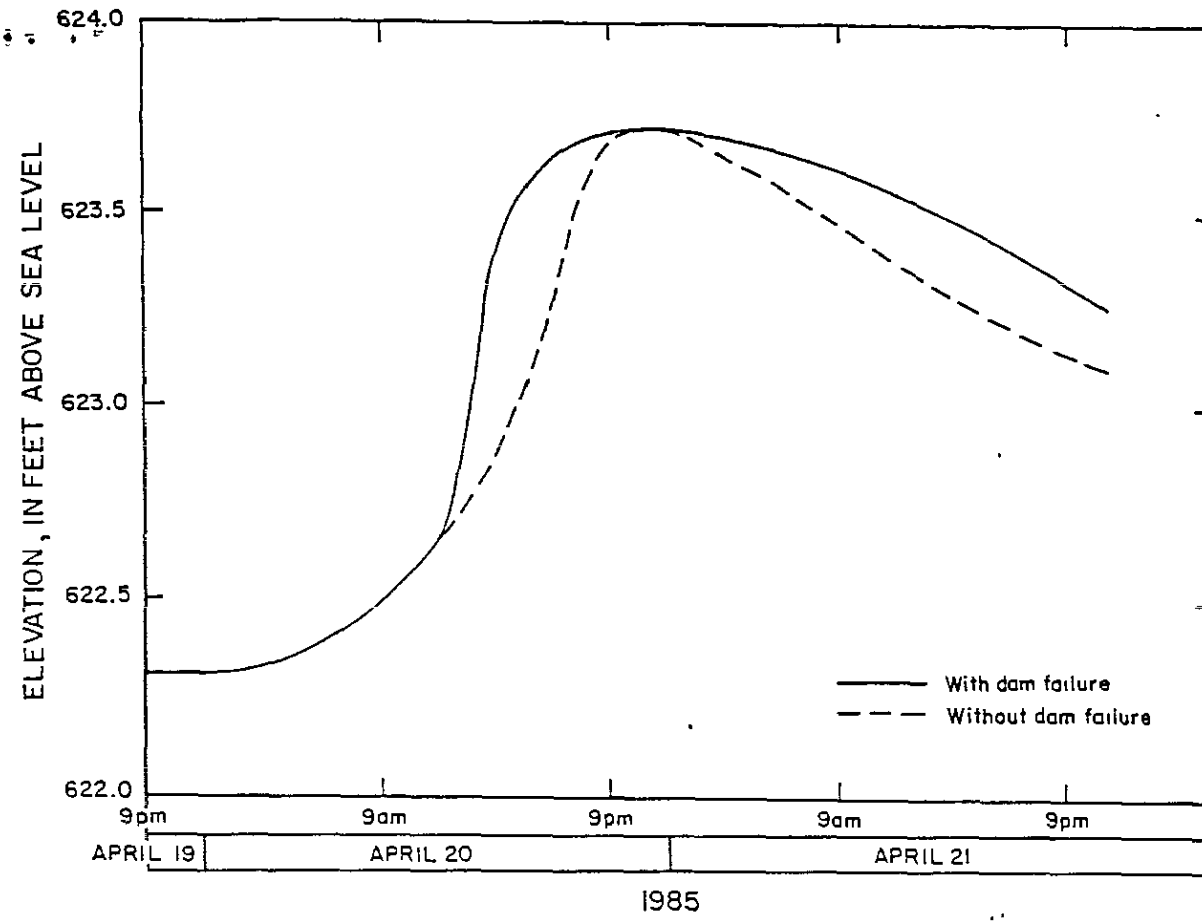


Figure 3.-- Graph of Lake Kawbawgam Elevations

VI. Conclusions

The flooding experienced in the Chocolay River watershed in April 1985 resulted from a severe combination of frozen ground, record snowfall, rapid snowmelt, and record rainfall. A statistical analysis of 80 years of daily climatological data at Chatham indicates that the recurrence interval for this event is between 200 and 500 years.

The breach of Lake LeVasseur Dam did not affect the peak flood stages on Lake Kawbawgam or areas farther downstream. The breach did cause a quicker rise and slower receding of stages on Lake Kawbawgam but the peak stage resulted from the natural runoff from the watershed above the dam.

The observed high water data fit in well with the 500-year profile being considered for the Chocolay Township FIS. Discharges used in our analysis are reasonably close to those used in the FIS. It appears, therefore, that the FIS profiles adequately represent flood stages in Chocolay Township.

00BREAK00

1) COUNTY: Marquette

2) STUDY NAME: Chocolay Twp.

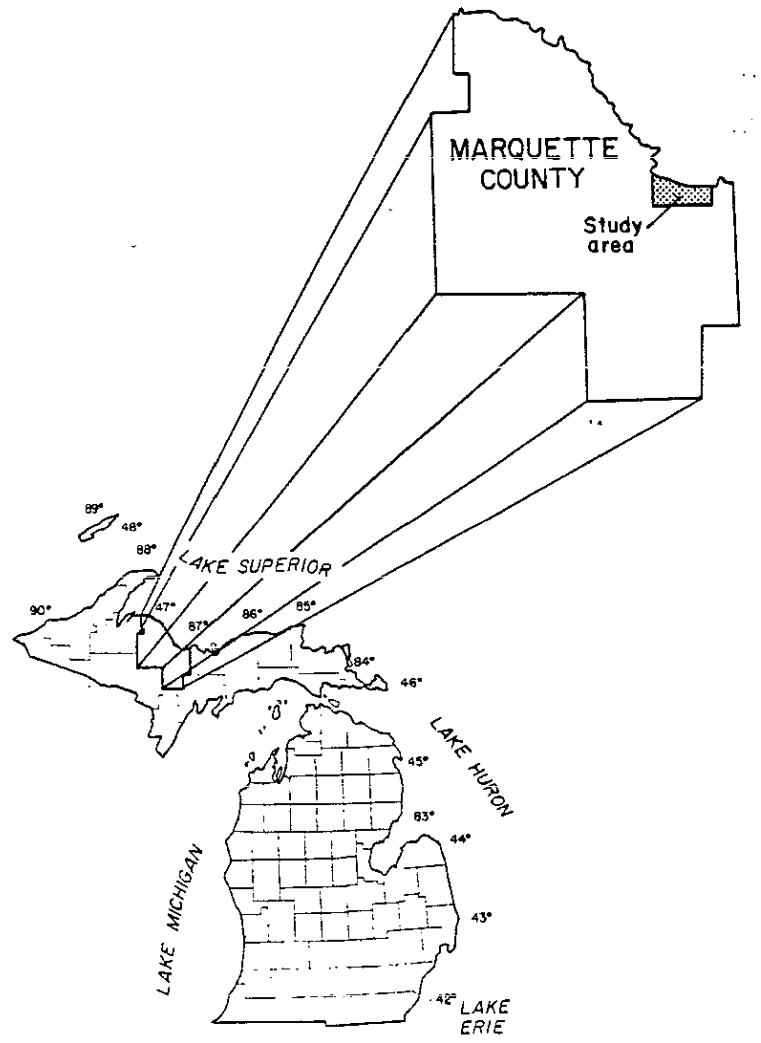
3) WATERCOURSE: Chocolay River

4) DOCUMENT TYPE: Analysis

00BREAK00

A HYDROLOGIC ANALYSIS OF THE APRIL 1985 FLOOD ON THE CHOCOLAY RIVER, MARQUETTE COUNTY, MICHIGAN

By: Hope M. Croskey, P. E. and
Richard C. Sorrell, P. E.



MICHIGAN DEPARTMENT OF
NATURAL RESOURCES

Engineering-Water Management Division
August, 1985

DNR

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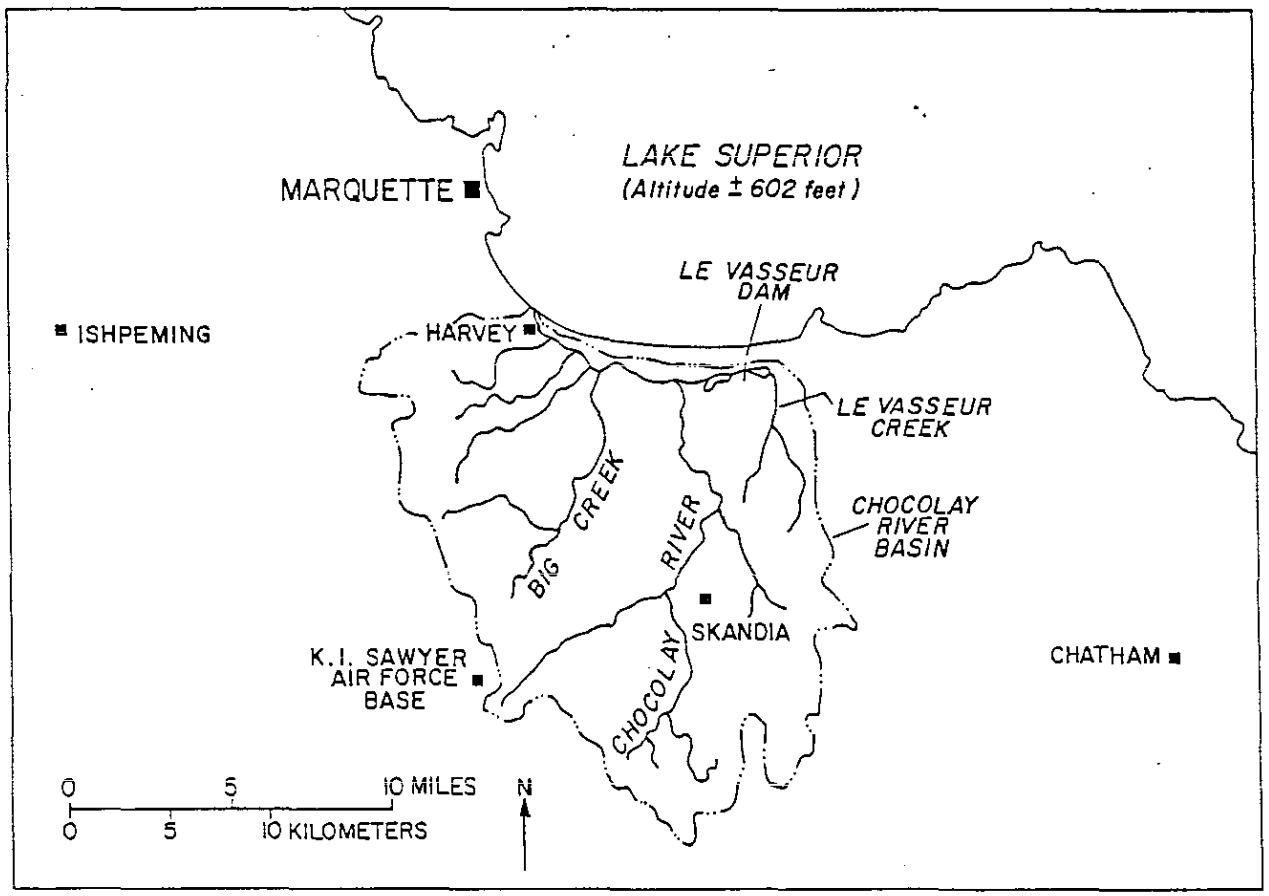
I. Introduction

The entire Chocolay River basin experienced record flooding in April 1985 as did many areas in Michigan's upper peninsula and northern Wisconsin. This regional flooding followed a 30-day period that brought record snowstorms, rainstorms, and high temperatures to the area. All of these factors contributed significantly to the severity of the flood.

The Chocolay River has a total drainage area of approximately 159 square miles at its outlet to Lake Superior (Figure 1). This drainage area covers most of Chocolay Township and includes parts of Skandia, Sands, Westbranch, and Forsyth Townships. The Chocolay River watershed is mostly wooded with a small number of farms and population generally centered near Lake Superior.



Base from U.S. Geological Survey
1:250,000 quadrangles

Figure 1.-- Map of Chocolay River Basin

The purpose of this study is to evaluate the climatologic data concerning this flood and to estimate how often a flood of similar magnitude should occur. The results of this analysis will be used to evaluate the flood profiles being considered for the Chocolay Township Flood Insurance Study (FIS). This analysis also simulates the breach which occurred at Lake LeVasseur Dam on April 20th and evaluates its impact on downstream flooding.

II. Climatic Conditions

Meteorological data collected from the National Weather Service (NWS) station observers and K. I. Sawyer Air Force Base were used to determine conditions during and prior to the flood.

Snowstorms at the beginning of April left over two feet of heavy, wet snow on the ground by April 10th. This was followed by a rapid melt, especially in the upper portions of the watershed. Then record amounts of rain fell on April 19th which culminated the sequence of events leading to the flood.

The 10-day period beginning on April 10th started a sequence of climatic events which favored the development of the heavy thunderstorms on April 19th. As the polar jet stream started moving north, warm, moist air began flowing into the region. Much of the energy in the warm air was absorbed by the snowpack starting the snowmelt. Significantly, the southern portion of the watershed (upstream area) lost nearly all of its snowpack by April 15th while the northern portions (downstream area) retained about a foot of snowcover. The lack of snowpack in the south allowed a second surge of warm air to flow relatively unhindered nearly to Lake Superior before being absorbed by, and melting, the remaining snowpack in the area. The now unstable air over the region was the final ingredient needed for the formation of the April 19th thunderstorms.

Just prior to the rains of Friday, April 19th, most of the water running off was concentrated in the lower watershed. The snowmelt from the upper watershed had traveled downstream and filled most rivers and streams throughout the basin. The now rapidly melting snowpack in the lower watershed saturated the natural, low retention areas and created a drainage area which could very efficiently carry surface runoff to the river system.

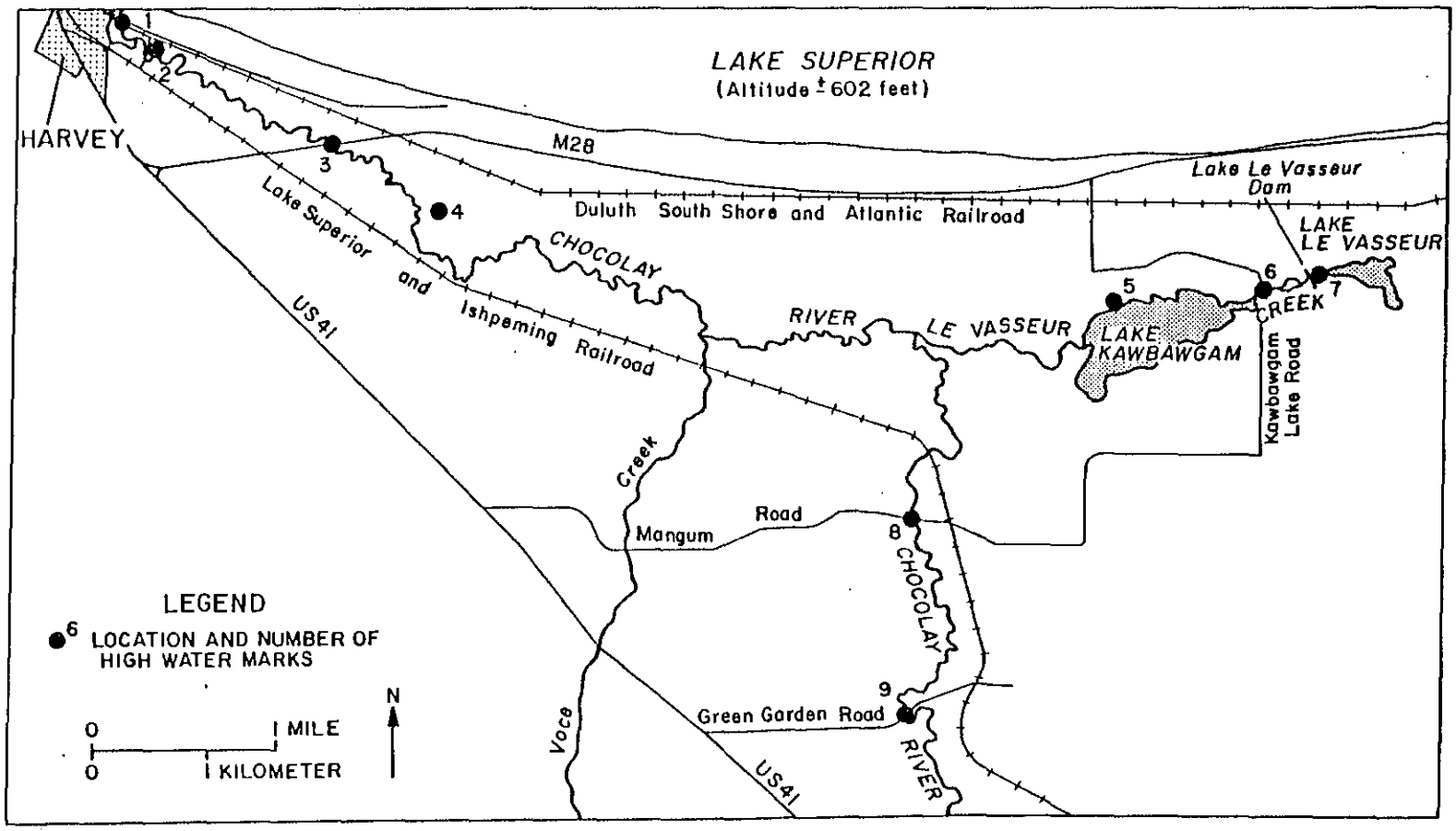
When the rains struck, the heavier amounts fell over the lower watershed, melting the rest of the snowpack. The rainfall and the liquid water from the melted snowpack caused a flood peak to pass through the lower Chocolay River on Saturday afternoon and evening. Later on Sunday, after the initial peak began receding, a second peak of similar magnitude occurred. The data indicates that this was the runoff from the upper portion of the watershed. This peak was delayed because of a lower rainfall amount in the upper watershed, which also had begun drying out to some degree from the snowmelt 5 days previous. This would allow for some more infiltration of the rainfall and would increase its travel time to the river. An additional delay is due to the time it physically takes water to flow from the upper portions of the basin to the lower.

III. Modeling of the April Flood

The flood is simulated by collecting all available data and then using various computer programs to generate the observed flood profile. Much of the data was collected during a one-week field trip to the area in early June. Observed high water marks were inspected and surveyed at a number of points in the watershed. These points are shown in Figure 2.

Computer program DAMBRK, developed by the National Weather Service, was used to model the flood profile. This program also has the capability of simulating a dam breach. The complete model extends from Lake LeVassuer Dam downstream to Lake Superior. The hydrograph from the watershed upstream of the dam is input as the inflow to Lake LeVasseur. The flow from the upper Chocolay watershed was input based on data observed at Green Garden Road (Site 9, Figure 2). Cross-section data from the pending FIS were used for the lower 5 miles of the river. Cross-section information from Lake LeVasseur to the outlet of Lake Kawbawgam were obtained from construction plans for the dam and direct measurement during the field trip. Additional cross-sections were obtained from topographic maps for the area.

High water marks at M-28 and further upstream were used to compute a peak discharge of approximately 5400 cfs. This was used in DAMBRK and adjusted slightly until the computed and observed elevations reasonably matched at the locations shown in Figure 2. We also checked to make sure



Base from U.S. Geological Survey
1:62,500 quadrangles

Figure 2.-- Map Showing Location of High Water Marks

that the elevations not only matched the observed but also occurred at the appropriate time, as deduced from questioning residents along the river. This included matching the time of rise on Lake Kawbawgam and the approximate time to peak in the vicinity of Candace Estates Subdivision upstream from the M-28 bridge. Peak time information was also available at the Harvey Pump Station near the mouth of the Chocolay River and was used in the calibration. A comparison of observed and computed elevations for the calibrated model is shown in Table 1. The localized discrepancy at the pump station and Green Bay Street resulted from a complex hydraulic contraction at the DSS&A Railroad immediately downstream of the pump station. This localized phenomena does not impact the results at M-28 or further upstream.

Table 1.-- Observed vs. Computed Elevations on Lake Kawbawgam

Site	Location	Observed	Computed
1.	DSS&A Railroad	605.3	606.9
2.	Bay Street	607.0	608.0
3.	M-28	613.5	613.5
4.	Candace Estates	614.6	614.4
5.	Lake Kawbawgam	623.8	623.7
6.	Kawbawgam Lake Rd.	624.3	624.6

IV. Flood Frequency

Assigning a frequency to this event is a difficult task. The complication is the fact that a primary cause of the flood was a rapidly melting snowpack. Snowmelt is one of the more complex phenomena to analyze since it depends on the condition of the snowpack, the amount of equivalent liquid water in the snowpack, the temperature sequence during the melt period, the condition of the ground (frozen/unfrozen) under the snowpack, and the amount of rain falling on the melting snow. Necessarily then, any conclusions about the frequency involve an objective analysis of the available data and a somewhat subjective inference about the individual factors occurring in combination with the others.

Daily precipitation, snowpack, snowfall and temperature data from 1901 to 1980 at the NWS Chatham Station were evaluated to determine the frequency of this flood. The precipitation and snowpack data were analyzed by a computer program, CALMET, which is co-written by the authors. This program computes annual maximum data from a given set of daily records. Any number of consecutive days in a year can be grouped together. One-day, 10-day and 30-day intervals were analyzed for precipitation data. Precipitation amounts for a range of recurrence intervals were then computed using standard statistical methods.

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During April, the Marquette NWS measured 6.56 inches of precipitation (snow & rain). Over 6 inches of this fell prior to April 20th. This was the second highest April value since record-keeping started in 1871. Table 6 shows how April 1985 ranks with the other large April values for both Marquette and Chatham.

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Another measure of the frequency of this event can be obtained by looking at the 30-day precipitation preceeding the flood. This is shown to have a frequency of between 200 and 500 years (Table 4). The 1-day rainfall on April 19th is shown to be an excessively rare event for April (Table 2) without even considering the snowmelt preceeding it. Even though statistically the 1-day rainfall is excessively rare, it would not be sufficient, by itself, to cause the April flood.

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V. Failure of Lake LeVasseur Dam

The dam appears to have failed around noon on Saturday, April 20. Interviews with residents on Lake Kawbawgam downstream from the dam indicate that the lake levels were already causing flood damage to dwellings during Saturday morning preceding the dam failure. In the early afternoon after the failure, the lake rose about one and a half feet when the flood wave moved through.

From available evidence, it appears that the dam embankment was very nearly overtopped prior to the failure. Sloughed sod on the south embankment indicates that the pre-failure impoundment elevation was approximately 6 inches below the top. There were large amounts of wooded debris jammed in the spillway which decreased the efficiency of the outlet.

The failure of the north embankment was assumed to take place over a half hour period. No direct observation of the failure is available so this assumption is based on the characteristics of other sand-fill embankment failures. From our hydrologic analysis, it appears that the inflow hydrograph peak on Lake LeVasseur arrived about 4 hours after the breach formed. Our analysis also shows that if the dam had not failed, the elevation on Lake Kawbawgam would have still risen to the same level due to the flow from the watershed above Lake LeVasseur. The only discernible effect of the dam breach was to cause the lake to reach its flood stage sooner and then recede at a somewhat slower rate. Figure 3 illustrates the flood elevations on Lake Kawbawgam.

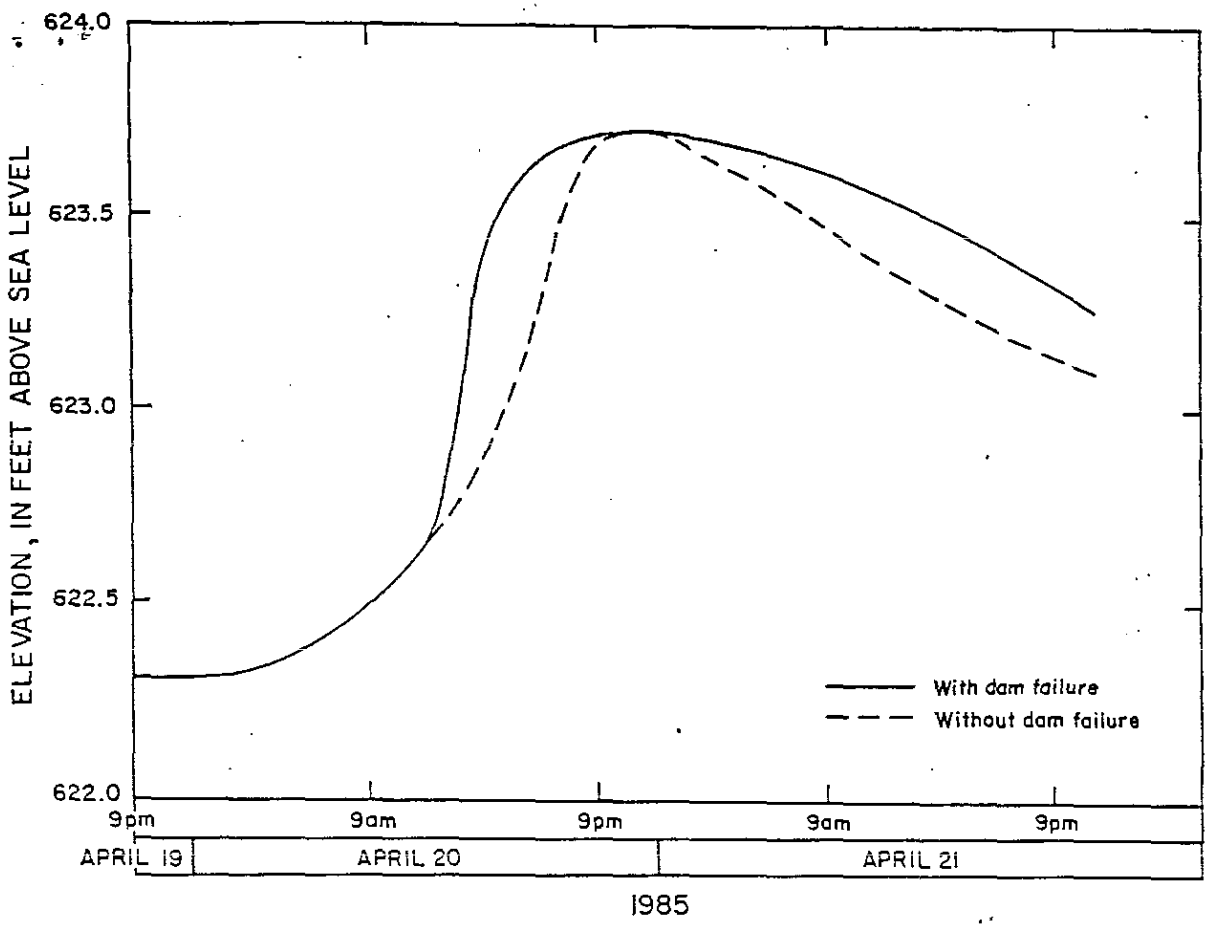

Figure 3.-- Graph of Lake Kawbawgam Elevations

VI. Conclusions

The flooding experienced in the Chocolay River watershed in April 1985 resulted from a severe combination of frozen ground, record snowfall, rapid snowmelt, and record rainfall. A statistical analysis of 80 years of daily climatological data at Chatham indicates that the recurrence interval for this event is between 200 and 500 years.

The breach of Lake LeVasseur Dam did not affect the peak flood stages on Lake Kawbawgam or areas farther downstream. The breach did cause a quicker rise and slower receding of stages on Lake Kawbawgam but the peak stage resulted from the natural runoff from the watershed above the dam.

The observed high water data fit in well with the 500-year profile being considered for the Chocolay Township FIS. Discharges used in our analysis are reasonably close to those used in the FIS. It appears, therefore, that the FIS profiles adequately represent flood stages in Chocolay Township.



1) COUNTY: Marquette

2) STUDY NAME: Chocolay Twp
Chocolay River
Silver Creek

3) WATERCOURSE: Lake Superior Coast

4) DOCUMENT TYPE: Analysis



STS Consultants Ltd.
Consulting Engineers

3340 Ranger Road
Lansing, Michigan 48906
(517) 321-4964

RECEIVED
FEB 25 1985
WATER MANAGEMENT

January 7, 1985

Mr. Steve Miller
Michigan Department of Natural Resources
Water Management Division
P.O. Box 30028
Lansing, Michigan 48909

RE: Chocolay Township Flood Insurance Study
Hydraulic Analysis Report

Dear Mr. Miller:

Enclosed is the hydraulic analysis report for the Chocolay Township Flood Insurance Study (FIS). Chocolay Township is located in northern Marquette County, Michigan. This report is in partial fulfillment of the Chocolay Township FIS which is being developed by STS Consultants, Ltd. under contract with the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (Contract No. EMW-83-C-1169).

The enclosed report summarizes the technical analyses which were performed to develop flood plain elevations and limits for the Chocolay River, Silver Creek, and the Lake Superior coast. Flood events which were investigated included the 10-, 50-, 100- and 500-year frequency events.

Your review of this report is requested. Upon receipt of the approval of this report from your office, STS will proceed with finalizing the FIS for Chocolay Township. In the meantime, if you have any questions regarding the report, please feel free to call at (517) 321-4964.

Sincerely,

STS CONSULTANTS, LTD.

Bernard B. Sheff, EIT
Assistant Project Engineer

William J. Weaver, P.E.
Project Manager

Enclosure

cc: Don Glondys, FEMA w/enclosure

STS Job No. 1057F

FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION V
300 SOUTH WACKER DRIVE
24TH FLOOR
CHICAGO, IL 60606

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY

HYDRAULIC ANALYSIS REPORT FOR THE CHOCOLAY RIVER AND SILVER CREEK

STS JOB NO. 1057F

JANUARY 7, 1985

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Appendix C - Cross Section Plots

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Appendix E - Silver Creek Computation Sheets

Appendix F - Bridge Survey Notes

Appendix G - Computer Printouts

1.0 INTRODUCTION

This hydraulic analysis report has been developed as part of the Chocolay Township Flood Insurance Study (FIS) which STS Consultants, Ltd. is performing as part of their contract with the Federal Emergency Management Agency (FEMA). The objective of this study is to develop flood plain limits and elevations, define floodway areas which are sensitive to development, and estimate the relative risk of flooding for the Chocolay River, Silver Creek, and coastal areas of Lake Superior. The purpose of this report is to summarize the technical analyses which were performed in the development of the flood elevations and delineations.

The scope of this study includes the analysis of the 10-, 50-, 100- and 500-year frequency flood events for the following:

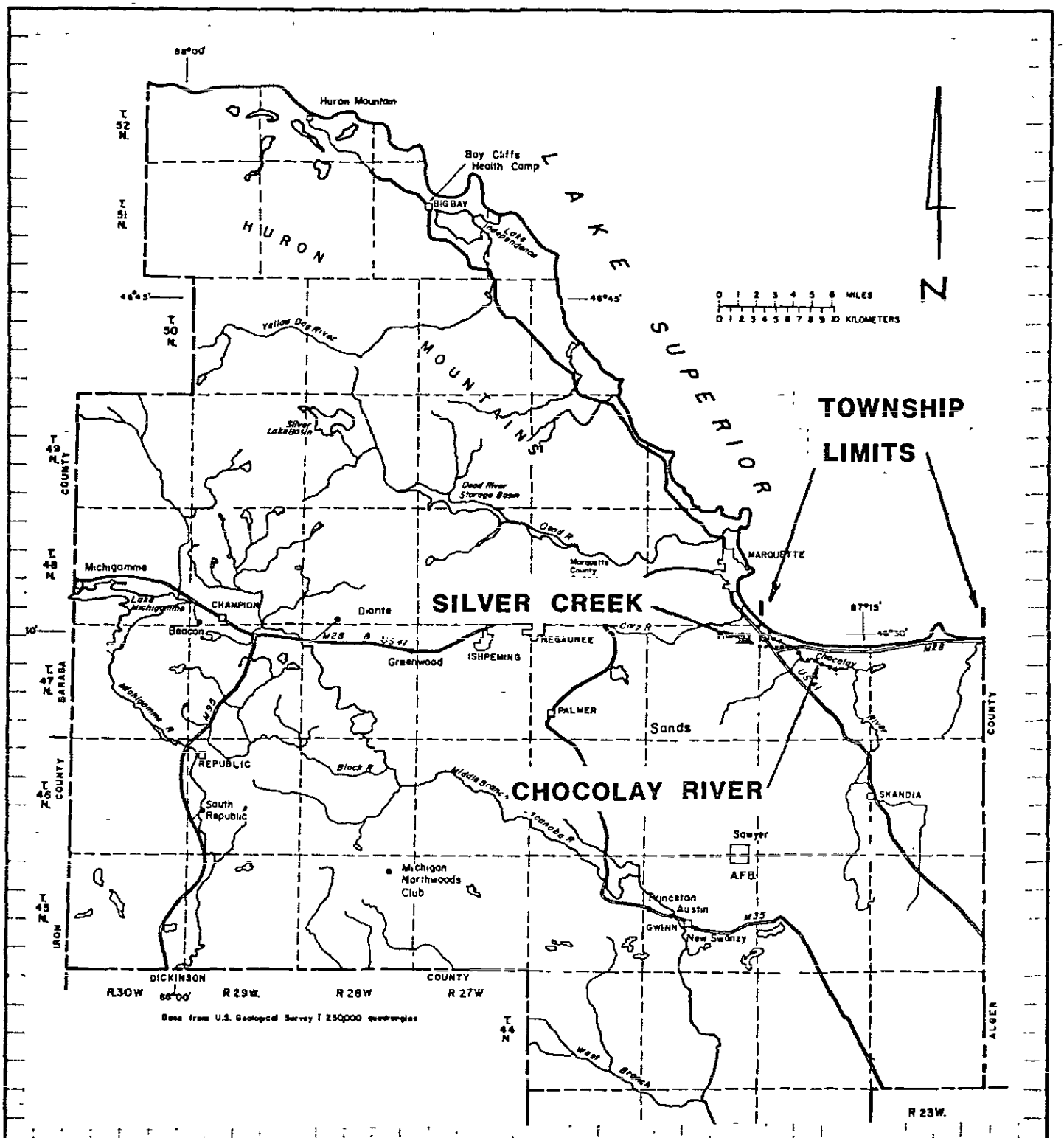
a. Chocolay River - beginning at the mouth of the river at Lake Superior, and ending approximately 4.5 miles upstream.

b. Silver Creek - beginning at its confluence with the Chocolay River and ending at the upstream township boundary, a distance of about 1.7 miles.

c. Coastal Areas of Lake Superior - the entire Lake Superior shoreline within Chocolay Township, a distance of approximately 13.5 miles.

A vicinity map showing the areas being studied is presented in Figure 1. The Chocolay River has a total drainage area of approximately 159 square miles and is tributary to Lake Superior. This drainage area covers most of Chocolay Township and includes parts of Skandia, Sands, West Branch, and Forsyth Townships. The Chocolay River watershed is mostly wooded with a small number of farms and population generally centered near Lake Superior.

Silver Creek is tributary to the Chocolay River. The confluence of these streams is located approximately 1.5 miles above Lake Superior. Silver Creek has a drainage area of approximately 10 square miles.



STS Consultants Ltd. FIGURE SHEET	PROJECT: CHOCOLAY TOWNSHIP F.I.S.			FIGURE NO.: 1
	TITLE: VICINITY MAP			JOB NO.: 1057F
	DATE: 2-7-85	DRAWN BY: TMR	APPROVED BY: WJW	SCALE: 1" = 7.5 MI.

2.0 HYDRAULIC ANALYSIS

2.1 General

Hydraulic analyses of the Chocolay River, Silver Creek, and Lake Superior were performed to develop 10-, 50-, 100-, and 500-year flood elevations and delineations. In addition, a floodway was developed to identify areas of the flood plain which are sensitive to development. Finally, flood hazard analyses were performed to determine the relative degree of risk at different locations along the river, creek, and lake systems which are under study. The portion of the Chocolay River being studied by detailed methods begins at the mouth of the river at Lake Superior and ends approximately 4.5 miles upstream. The portion of Silver Creek being studied begins at its confluence with the Chocolay River and ends at the upstream township boundary, a distance of about 1.7 miles. The Lake Superior shoreline was studied for its entire length within the township boundaries.

2.2 Methodology

2.2.1 General

For the Chocolay River and Silver Creek, the Army Corps of Engineers HEC-2 computer model (Reference 1) was utilized to simulate the 10-, 50-, 100-, and 500-year floods and to

estimate water surface elevations for the areas being studied by detailed methods. This program calculates water surface profiles for steady gradually varied flow in natural or manmade channels based upon the solution of the one-dimensional energy equation. Energy losses due to friction are evaluated using Manning's equation. The program has the capability to assess the impacts of various obstructions to flow including bridges, culverts, and weirs. The computational procedure utilized by the program is generally known as the standard step method. Parameters which were inut to the HEC-2 computer model included: stream, bridge, and dam cross section dimensions and elevations; roughness coefficients associated with stream bed and overbank areas; expansion and contraction loss coefficients; and the distance between cross sections and structures.

Stream and bridge cross section data utilized in the backwater analysis of the Chocolay River and Silver Creek were obtained as follows:

1. A land survey was performed in November 1983 by STS to obtain below water channel elevations and detailed dimensions and elevations of all river crossings.

2. An aerial survey map and USGS quadrangle maps were utilized to obtain elevations in overbank areas (References 2 and 3). Results of the land and aerial surveys were spliced to form composite river valley cross sections. Plots of each cross section are presented in Appendix C. Table 1 presents a cross reference between cross section designations for the HEC-2 model, the land survey, and mapping in the FIS. Cross section locations are illustrated on Plate 1.

Distances between cross sections and structures for both the channel and overbank areas were obtained from the work map which was generated from enlargements of the U.S.G.S. quadrangles for Gwinn and Skandia, Michigan (Reference 3).

2.2.2 Chocolay River

Starting conditions for the backwater analysis of the Chocolay River were established based upon the mean annual elevation of Lake Superior. This elevation was extrapolated from flood elevation/frequency data developed by the U.S. Army Corps of Engineers (Reference 4), and presented in the Chocolay Hydrologic Analysis Report (Reference 5). A summary of the flood elevations developed for Lake Superior is presented in Section 2.2.4.

TABLE 1

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY

CROSS SECTION - CROSS REFERENCE TABLE
CHOCOLAY RIVER

HEC-2 Designation	Land Survey Cross Section	FIS Map Designation	Description
1.00	1.0	A	~~150'~~ 90' U/S of Lake Superior
2.25	2.0	B	~~1,000'~~ 940' U/S of Lake Superior (U/S Face R.R. Bridge)
3.00	3.0	C	1,370' U/S of Lake Superior
4.00	4.0	D	2,360' U/S of Lake Superior
5.50	5.0	E	U/S Face of Green Bay Street Bridge
6.00	6.0	F	2,060' U/S of Green Bay Street Bridge
7.00	7.0	G	3,500' U/S of Green Bay Street Bridge
8.00	8.0	H	5,440' U/S of Green Bay Street Bridge
9.00	9.0	I	~~3,600~~ 3600' D/S of M-28
10.00	10.0	J	~~1,970~~ 1970' D/S of M-28
11.00	11.0	K	580' D/S of M-28
12.50	12.0	L	U/S Face of M-28 Bridge

TABLE 1 (Continued)

HEC-2 Designation	Land Survey Cross Section	FIS Map Designation	Description
13.00	13.0	M	~~1,830~~ 1700' U/S of M-28
14.00	14.0	N	~~3,370~~ 3240' U/S of M-28 Bridge
15.00	15.0	O	~~4,520~~ 4390' U/S of M-28
16.00	16.0	P	~~5,860~~ 5730' U/S of M-28
17.00	17.0	Q	~~7,330~~ 7200' U/S of M-28
18.00	18.0	R	~~8,740~~ 7950' U/S of M-28
19.00	19.0	S	~~9,410~~ 9200' U/S of M-28
20.00	20.0	T	~~2.0~~ 1.93 mi U/S of M-28 Bridge
21.00	21.0	U	~~2.23~~ 2.19 mi U/S of M-28
22.00	22.0	V	~~2.42~~ 2.36 mi U/S of M-28
23.00	23.0	W	~~2.73~~ 2.69 mi U/S of M-28 Bridge
24.00	24.0	X	~~3.06~~ 3.02 mi U/S of M-28
25.00	25.0	Y	~~3.42~~ 3.24 mi U/S of M-28 Bridge

Manning's roughness coefficients (Reference 6) utilized in the backwater analysis ranged from 0.035 to 0.045 for the stream channel and from 0.06 to 0.15 in the stream overbank areas. Contraction and expansion coefficients (Reference 1) were established as .1 and .3 for smooth transitions and .3 and .5 for abrupt transitions, respectively. Selection of these parameters were based upon extensive field investigations. Bridges which cross the Chocolay River were modeled with the HEC-2 normal bridge routine.

2.2.3 Silver Creek

Starting conditions for the backwater analysis of Silver Creek were established based upon the mean annual flood elevation of the Chocolay River. This elevation was obtained from a stage-frequency curve developed for the Chocolay River. This curve and computations which were performed in its development are presented in Appendix E.

Table 2 presents a cross reference between cross section designations for the HEC-2 model, the land survey, and mapping in the FIS for Silver Creek. Cross section locations are illustrated on Plate 1.

TABLE 2

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY

CROSS SECTION - CROSS REFERENCE TABLE
SILVER CREEK

HEC-2 Designation	Land Survey Cross Section	FIS Map Designation	Description
1.1	-	A	Confluence of Silver Creek and Chocolay River
1.2	-	B	D/S Face of Foot Bridge
1.5	1.0	C	U/S Face of Foot Bridge
2.0	2.0	D	~~600~~ 560' U/S of Chocolay River
3.5	3.0	E	U/S Face of LS&I R.R. Bridge
4.0	4.0	F	~~960~~ 420' U/S of LS&I R.R. Bridge
5.0	5.0	G	~~1,570~~ 1200' U/S of LS&I R.R. Bridge
6.0	6.0	H	~~2,340~~ 2160' U/S of LS&I R.R. Bridge
7.0	7.0	I	~~3,650~~ 3360' U/S of LS&I R.R. Bridge
8.0	8.0	J	~~4,300~~ 3790' U/S of LS&I R.R. Bridge
9.2	-	K	D/S Face of U.S. 41 Bridge
9.3	9.0	L	U/S Face of U.S. 41 Bridge

TABLE 2 (Continued)

HEC-2 Designation	Land Survey Cross Section	FIS Map Designation	Description
10.5	10.0	M	U/S Face of Dual Culverts, 550' U/S of U.S. 41 Bridge
11.5	11.0	N	U/S Face of Trailer Park Foot Bridge
12.2	-	O	D/S Face of Trailer Park Road Bridge
12.3	12.0	P	U/S Face of Trailer Park Road Bridge
13.1	-	Q	D/S Face of Willow Road Crossing
13.2	13.0	R	U/S Face of Willow Road Crossing
14.0	14.0	S	110' at U/S Legal Township Boundary Line

Distances between cross sections and structures for both the channel and overbank areas were obtained from enlargements of U.S.G.S. quadrangle maps for Gwinn and Skandia, Michigan (Reference 8). The Lake Superior and Ishpeming Railroad Bridge and two foot bridges were modeled with the HEC-2 Normal Bridge Routine. The remaining three structures, a box culvert, a dual arch culvert, and a trailer park bridge were modeled with the HEC-2 Special Bridge Routine.

Manning's roughness coefficients (Reference 6) utilized in the backwater analysis computer model ranged between 0.035 and 0.06 for the stream channel, and between 0.06 and 0.12 in the stream overbank areas. Contraction and expansion coefficients (Reference 1) were established as .1 and .3 for smooth transitions and .3 and .5 for abrupt transitions, respectively. Selection of these parameters were based upon extensive field investigations.

2.2.4 Lake Superior

Flood elevations for Lake Superior were developed by the U.S. Army Corps of Engineers (Reference 4). A detailed discussion of the development of these elevations is

presented in the Chocolay Township Hydrologic Analysis Report (Reference 5). Following is a summary of these flood elevations:

Recurrence Interval (year)	Lake Superior Elevation (feet)
2.33 (Mean Annual)	603.1
10	603.7
50	604.1
100	604.3
500	604.6

These elevations were utilized for the flood hazard area delineation for the Lake Superior shoreline within the Chocolay Township boundaries.

2.3 Floodway Development

Development of floodways for the Chocolay River and Silver Creek was performed with the HEC-2 model. Stream encroachment method number four was utilized for this analysis. This modeling option utilizes the equal conveyance reduction method to compute the floodway limits. As required by the Michigan Department of Natural Resources, an allowable rise in flood stage of 0.1 feet after encroachment was utilized.

Plate 1, presented in Appendix A, illustrates the resultant floodway limits for the Chocolay River and Silver Creek.

2.4 Hydraulic Analysis Results

Results of the hydraulic analysis include an estimation of 10-, 50-, 100-, and 500-year flood elevations for the Chocolay River, Silver Creek, and Lake Superior. In addition, the limits of the 100- and 500-year flood plain were assessed. Finally, floodway limits were established to estimate the area of the 100-year flood plain which should be reserved as open space to maintain existing flood conveyance capacities of these rivers without adversely impacting flood elevations. Table Nos. 3 and 4 present a summary of 10-, 50-, 100-, and 500-year flood elevations at selected locations along the Chocolay River and Silver Creek, respectively. Flood profiles which illustrate estimated flood elevations at all locations along the study reach for each waterway are presented in Appendix B. Note that the flood profiles do not reflect the results of the HEC-2 backwater analyses near the confluence of the Chocolay River with Lake Superior, and the Silver Creek with the Chocolay River. In these areas, the higher flood elevations of the system to which each river is contributing flow was superimposed upon the flood profile to reflect backwater conditions from the larger system. Plate No. 1, which illustrates the limits of the floodway and the 100- and 500-year flood plain limits, is presented in Appendix A.

3.0 SUMMARY

Hydraulic studies were performed to develop flood elevations, floodway limits and flood plain delineations for the Chocolay River, Silver Creek and Lake Superior for the Chocolay Township FIS. This study included the following tasks: reconnaissance, data collection and field surveys; computer aided hydraulic analyses; and development of flood profiles, flood plain delineations, and floodway limits.

Flood discharges which were utilized in the hydraulic analysis were obtained from a hydrologic analysis report (Reference 5) which was developed for the Chocolay FIS. Tables 3 and 4 present a hydrologic/hydraulic analysis summary including estimated flows and elevations at selected locations for the 10-, 50-, 100-, and 500-year flood events.

The flood plain delineation map was developed based upon the results of the backwater analyses and is illustrated on Plate 1. This map, presented in Appendix A, shows the estimated boundaries of the 100- and 500-year floods, and the floodway. At locations where the 500-year and 100-year boundaries coincide, only the 100-year boundary is shown. Furthermore, only the floodway line is shown when the delineation coincides with those of the 100- and 500-year boundaries.

TABLE 3

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
HYDROLOGIC/HYDRAULIC ANALYSIS SUMMARY
CHOCOLAY RIVER

Cross Section Designation	Location	Flood Elevation (ft)* 10-Year	50-Year	100-Year	500-Year
	DISCHARGE (CFS)	2,900	4,100	4,600	5,900
A	~~150~~ 90' U/S of Lake Superior	603.1	603.1	603.4	603.6
B	~~17000~~ 940' U/S of Lake Superior (U/S Face R.R. Bridge)	605.4	606.6	607.0	608.0
E	U/S Face of Green Bay St. Bridge	606.5	607.9	608.4	609.6
J	~~57440~~ 8680' U/S of Green Bay St. Bridge	609.4	611.0	611.5	612.8
L	U/S Face of M-28 Bridge	610.3	611.8	612.3	613.6
N	~~3.370~~ 3240' U/S of M-28 Bridge	610.9	612.5	613.0	614.4
Q	~~7330~~ 7200' U/S of M-28	612.0	613.5	614.0	615.2
	DISCHARGE (CFS)	2,100	3,800	4,300	5,500
T	~~2.0~~ 1.93 mi. U/S of M-28 Bridge	613.6	614.7	615.1	616.2
W	~~2.73~~ 2.69 mi. U/S of M-28 Bridge	614.7	615.8	616.2	617.1
Y	~~3.42~~ 3.24 Mi. U/S of M-28 Bridge	615.4	616.3	616.7	617.6

*Referenced to National Geodetic Vertical Datum

TABLE 4

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
HYDROLOGIC/HYDRAULIC ANALYSIS SUMMARY
SILVER CREEK

Cross Section Designation	Location	Flood Elevation (ft)* 10-Year	50-Year	100-Year	500-Year
	DISCHARGE (cfs)	200.0	410.0	510.0	780.0
A	Confluence of Silver Creek and Chocolay River	607.5	607.5	607.5	607.5
B	130' U/S of Chocolay River (Foot Bridge)	607.5	607.7	607.8	608.4
E	U/S Face L.S. & I. Railroad Bridge	611.5	612.5	613.0	614.1
H	~~2,340~~ 2160' U/S of L.S. & .I Railroad Bridge	616.4	617.4	617.9	618.9
I	~~3,650~~ 3360' U/S of L.S. & I. Railroad Bridge	628.2	629.1	629.4	630.2
K	D/S Face of U.S. 41 Bridge	932.3	932.7	932.9	933.4
L	U/S Face of U.S 41 Bridge	635.0	638.5	638.8	639.2
M	U/S Face of Dual Culverts 550' U/S of U.S. 41 Bridge (Farm Lane Crossing)	636.7	638.6	638.9	639.4
N	U/S Face of Trailer Park Foot Bridge	641.1	641.8	642.1	642.6
P	~~2,200~~ 1990' U/S of U.S. 41 Bridge (Trailer Park Bridge)	642.9	644.5	644.7	645.1
R	U/S Face of Willow Road Bridge	650.1	650.7	650.9	651.3
S	110' U/S of Legal Township Boundary Line	650.3	651.0	651.3	651.9

*Based upon National Geodetic Vertical Datum

Water surface profiles which illustrate the estimated elevations of the 10-, 50-, 100- and 500-year flood events for the Chocolay River and Silver Creek are presented in Appendix B. Plots of cross sections which were used for the backwater analysis are enclosed in Appendix C. Computation sheets for the development of parameters which were input to the backwater analyses are presented in Appendices D and E for the Chocolay River and Silver Creek, respectively. Bridge survey notes are presented in Appendix F. Finally, all HEC-2 computer printouts for the backwater analyses which were performed are presented in Appendix G under separate cover.

4.0 REFERENCES

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Computer Program 723-X6-L202A, HEC-2 Water Surface Profiles; Davis, California, September 1982.

2. Marquette County Planning Commission, Aerial Topography of Portions of Chocolay Township, 5 foot contour interval, obtained from Chocolay Township offices, 1955.

3. U.S. Geological Survey, Quadrangles of Gwinn, Michigan (1952), Skandia, Michigan (1958), Marquette, Michigan (1975), Laughing Fish Point, Michigan (1958).

4. U.S. Army Corps of Engineers, Great Lakes Open Coast Flood Levels, Detroit, Michigan, February 1977.

5. STS Consultants, Ltd., Chocolay Township Flood Insurance Study - Report on Hydrologic Analyses, Lansing, Michigan, August 1984.

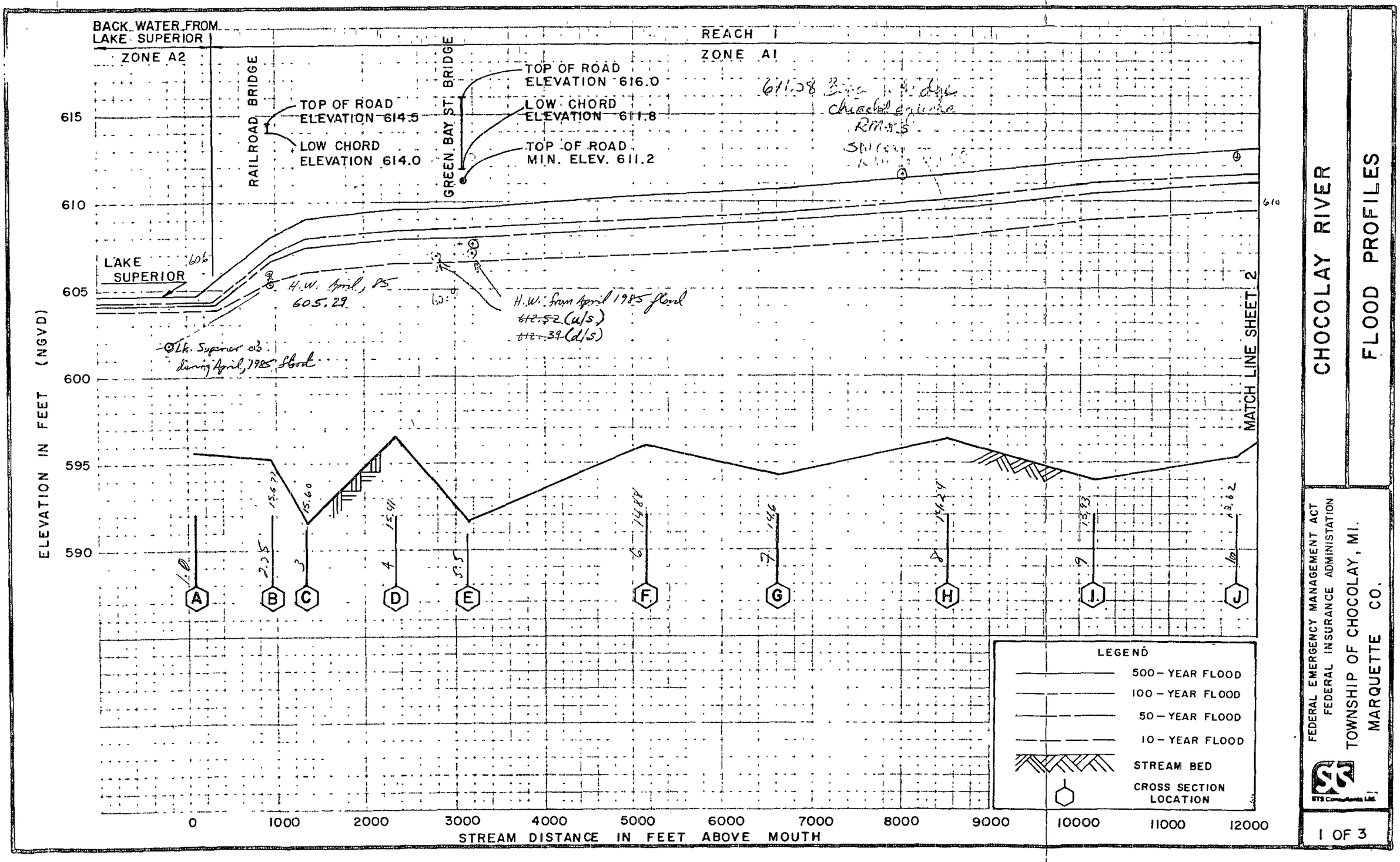
6. Chow, Ven Te, Open - Channel Hydraulics, McGraw-Hill, New York, 1959.

APPENDIX A

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
FLOOD PLAIN MAPS

APPENDIX B

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
WATER SURFACE PROFILES

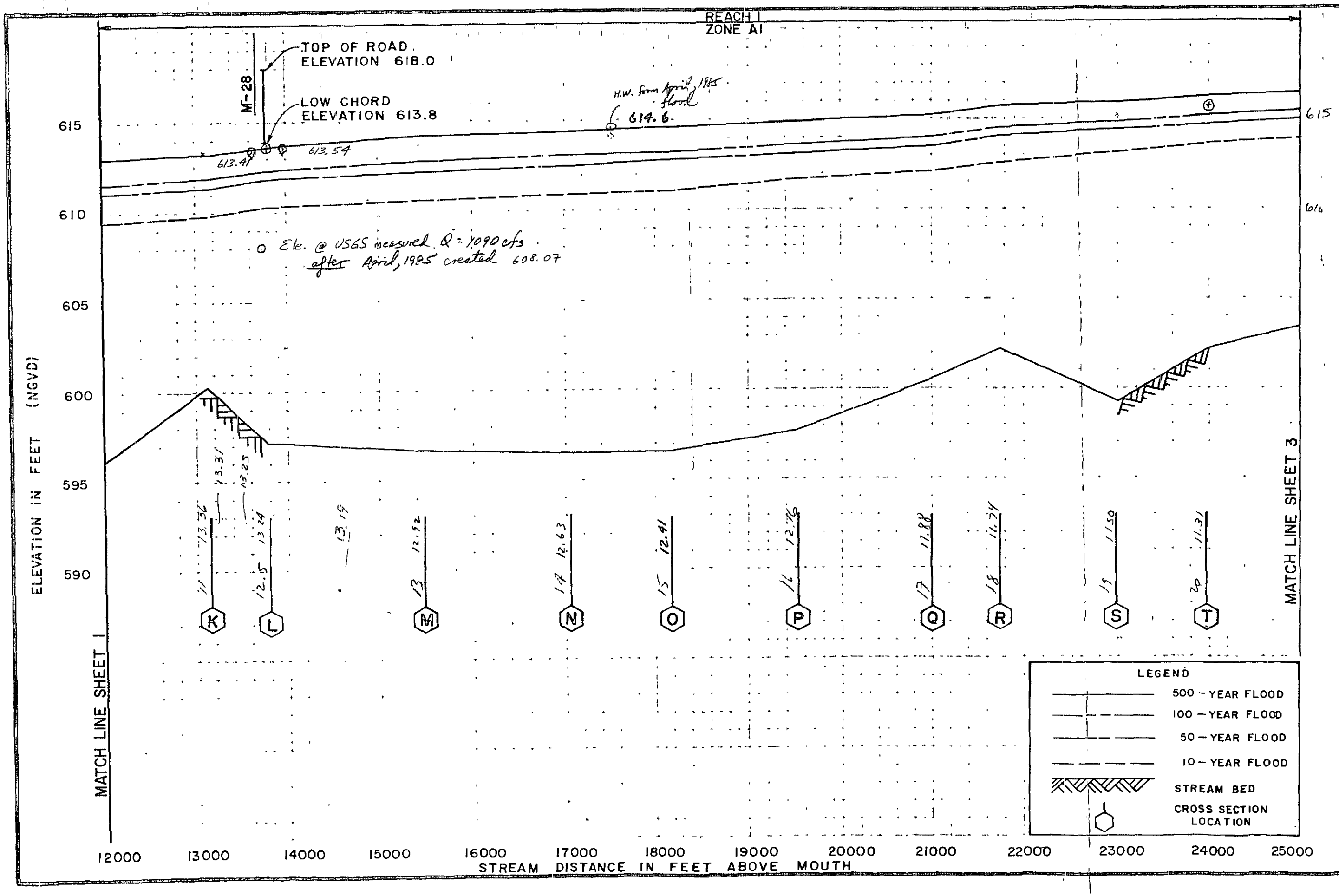


CHOCOLAY RIVER

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.
MARQUETTE CO.



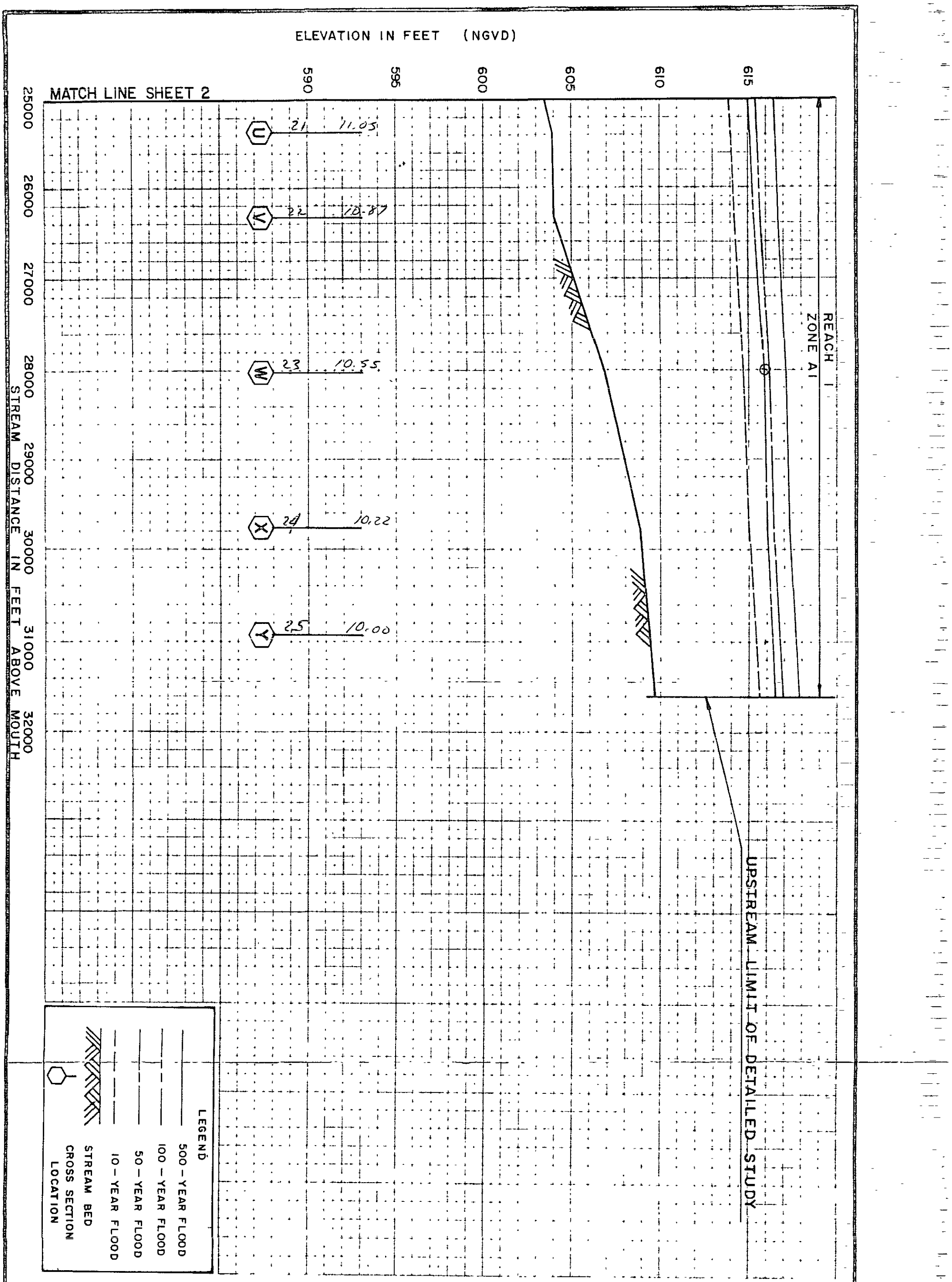
CHOCOLAY RIVER

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.
MARQUETTE CO.

STS Consultants Ltd.



3 OF 3

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.
MARQUETTE CO.

CHOCOLAY RIVER

FLOOD PROFILES

ZONE A1

BACK WATER FROM CHOCOLAY RIVER

FOOT BRIDGE

L.S. & I. RAILROAD BRIDGE

ZONE A3

REACH ONE

MATCH LINE SHEET 2

TOP OF ROAD ELEVATION 619.6

LOW CHORD ELEVATION 617.6

TOP OF ROAD ELEVATION 607.5

LOW CHORD ELEVATION 607.1

TOP OF ROAD MIN. ELEV. 607.0

ELEVATION IN FEET (NGVD)

620

610

600

A

B

C

D

E

F

0'

400'

800'

1200'

1600'

2000

STREAM DISTANCE IN FEET ABOVE MOUTH

LEGEND

500 - YEAR FLOOD

100 - YEAR FLOOD

50 - YEAR FLOOD

10 - YEAR FLOOD

STREAM BED

CROSS SECTION LOCATION

SILVER CREEK

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT

FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.

MARQUETTE CO.

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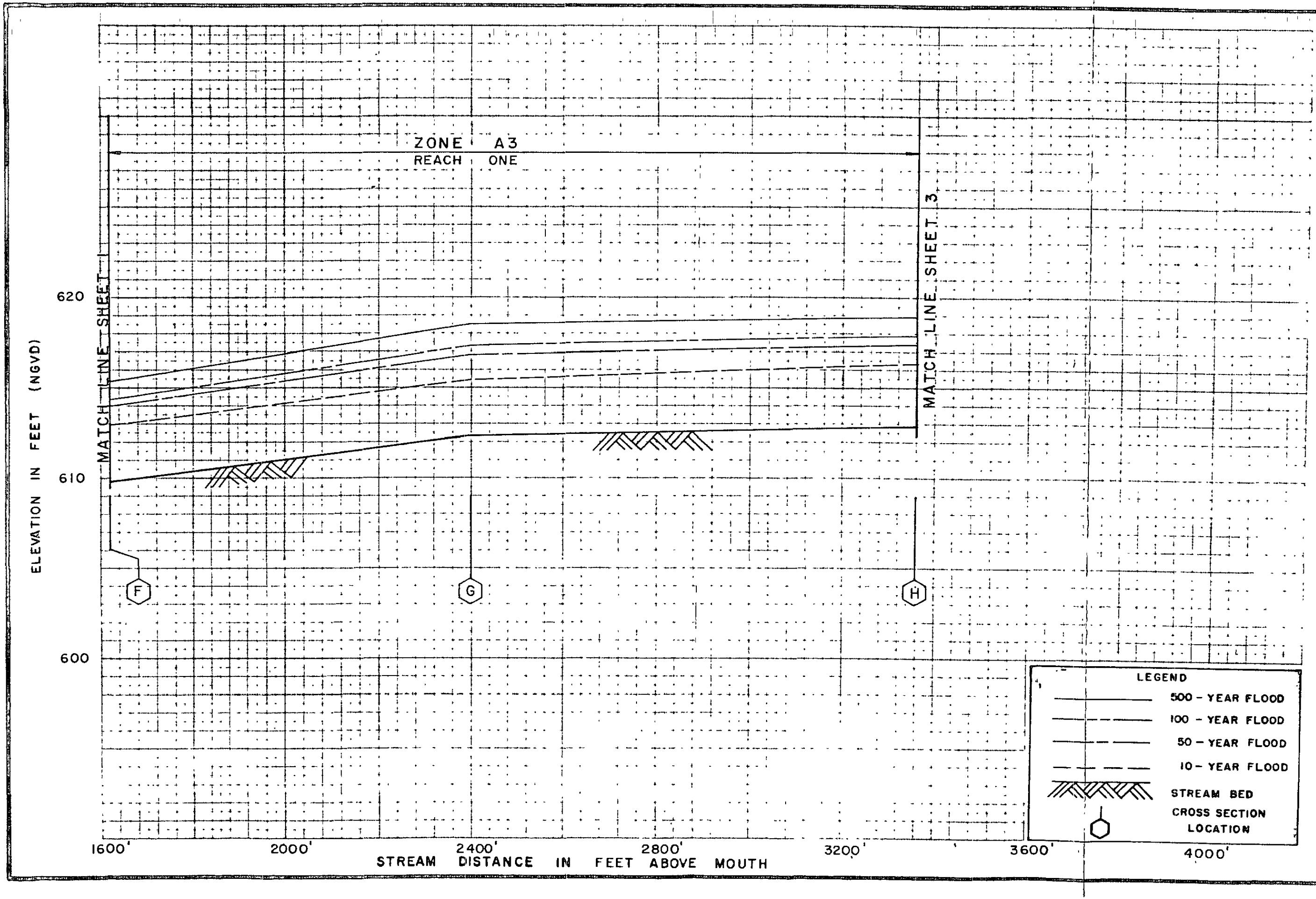

SILVER CREEK

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.
MARQUETTE CO.

STS Consultants Ltd.

ZONE A3
REACH ONE

M-28 CULVERT

TOP OF ROAD ELEVATION 637.6

LOW CHORD ELEVATION 633.4

640
630
620
610

ELEVATION IN FEET (NGVD)

MATCH LINE SHEET 2

MATCH LINE SHEET 4

H I J K L

3200' 3600' 4000' 4400' 4800' 5200' 5600'

STREAM DISTANCE IN FEET ABOVE MOUTH

LEGEND
500 - YEAR FLOOD
100 - YEAR FLOOD
50 - YEAR FLOOD
10 - YEAR FLOOD
STREAM BED
CROSS SECTION LOCATION

SILVER CREEK

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTATION

TOWNSHIP OF CHOCOLAY, MI.
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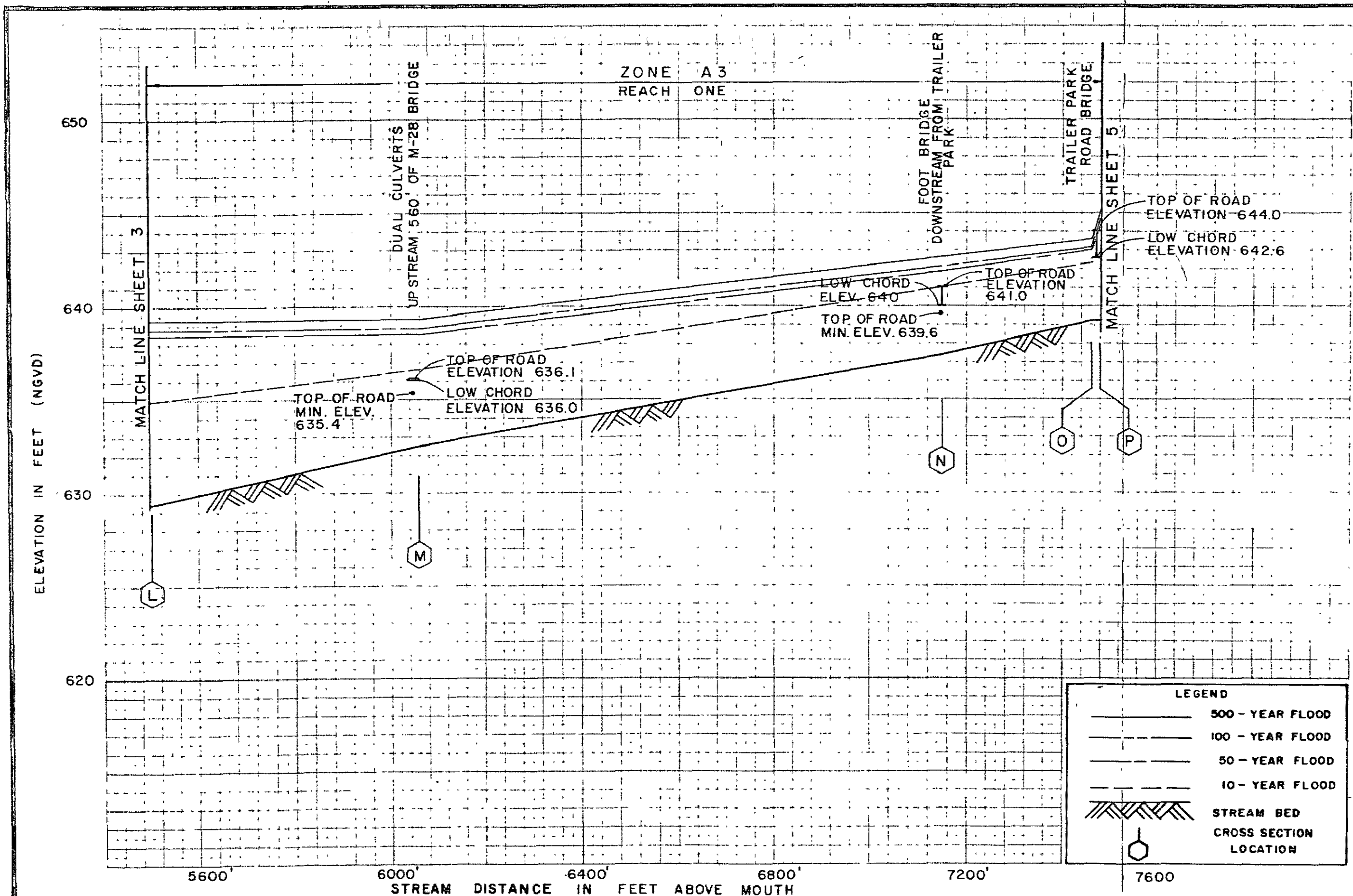

SILVER CREEK

FLOOD PROFILES

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FEDERAL INSURANCE ADMINISTRATION

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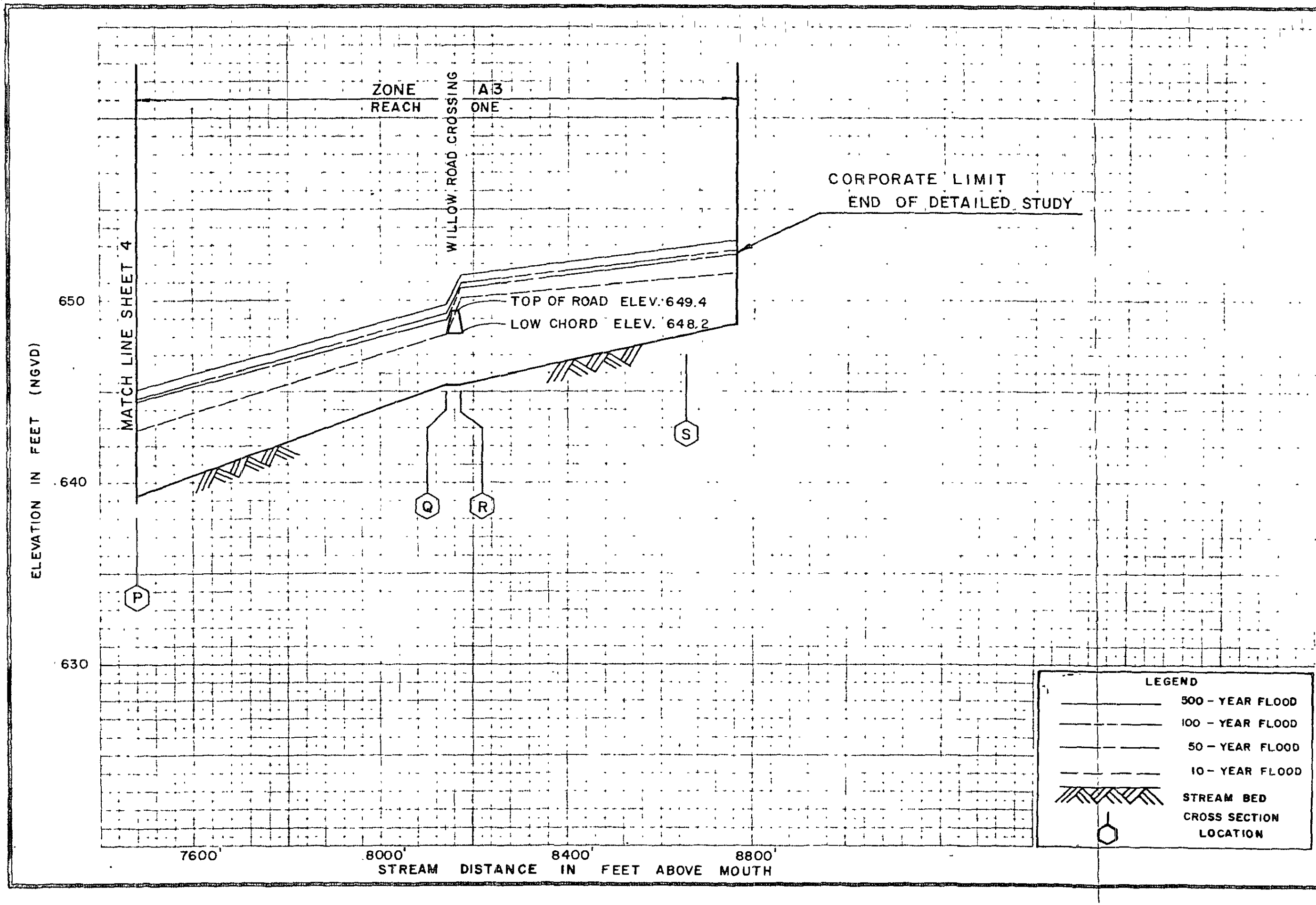

SILVER CREEK

FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT ACT
FEDERAL INSURANCE ADMINISTRATION

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APPENDIX C

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
CROSS SECTION PLOTS

APPENDIX D

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
CHOCOLAY RIVER COMPUTATION SHEETS

APPENDIX

CALCULATION COVER SHEET

PROJECT Chocolay Twp. F.T.S. JOB NO 1057F DIVISION H/H

SUBJECT Chocolay River Hydraulics FILE NO 1057F

CALC NO.

ORIGINATOR JTP DATE Jan 85

CHECKER (I.L.) DATE 1/85 NO. OF SHEETS 4

RECORD OF ISSUES

NO	DESCRIPTION	BY	DATE	CHKD	DATE	APPRD		
1								
2								
3								
4								
5								
6								

PRELIMINARY CALC ☐

SUPERSEDED CALC ☐ FINAL CALC ☒

BRIEF SUMMARY OF CALCULATIONS INCLUDING SCOPE AND RESULTS

INDEX

1.0 GENERAL

2.0 CALCULATIONS

The purpose of these calculations is to estimate the Mannings coeff for the bridges which cross the Chocolay River.

Summary

	weighted "n"
Rail Road Bridge Near Mouth	0.026
Green Bay St. Bridge	0.028
M-28 Bridge	0.026

STS Consultants Ltd.
CALCULATION SHEET

PROJECT: Chocolay Twp. FIS JOB NO.: 1057F PAGE: 1 OF: 4

SUBJECT: Chocolay River Hydraulics DIVISION: H/H

ORIGINATOR: JTP DATE: Jan 85 CHECKED BY: [illegible] DATE: [illegible]

I.0 General

THE PURPOSE OF THESE CALCULATIONS IS TO DEVELOPE THE COMPOSITE MANNINGS "N" VALUES TO BE USED IN THE NORMAL BRIDGE ROUTINES. THESE COMPOSITE "N" VALUES ARE NEEDED BECAUSE STEEL AND CONCRETE PIERS IN THE RIVER REDUCE FLOW RESISTANCE CAUSED BY FRICTION IN THE RIVER.

2.0 Calculations

Simple mathmatical averaging was used to determine the composte value. Typical Manning's values were determined from: Chow, OPEN CHANNEL Hydraulics, (1959).

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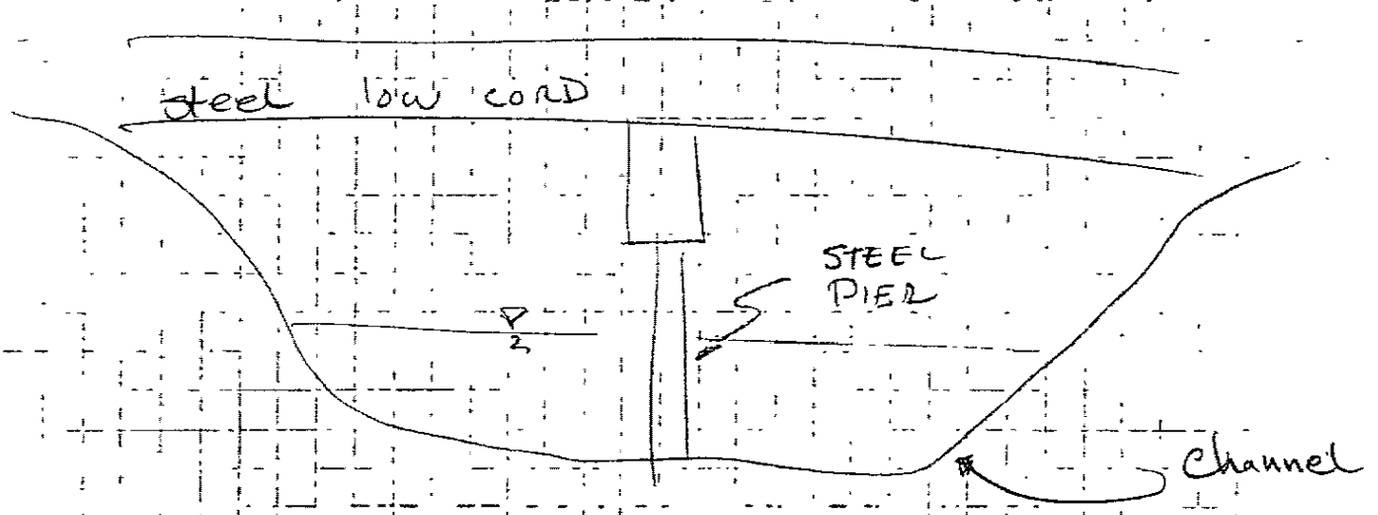
CALCULATION SHEET

PROJECT CHOCOLAY TWP FIS JOB NO 1057F PAGE 2 OF 4

SUBJECT CHOCOLAY RIVER HYDRAULICS DIVISION H/H

ORIGINATOR JTP DATE Jan. 85 CHECKED BY [illegible] DATE [illegible]

COMPOSITE MANNINGS COEFFICIENT FOR BRIDGE @ XS-2
RAIL ROAD Bridge above mouth of Chocolay approx 300 ft



n = channel = 0.040 ~ 75%

n = steel = 0.014 ~ 25%

$n = (0.75)(0.04) + (0.25)(0.014)$

$n = 0.026$

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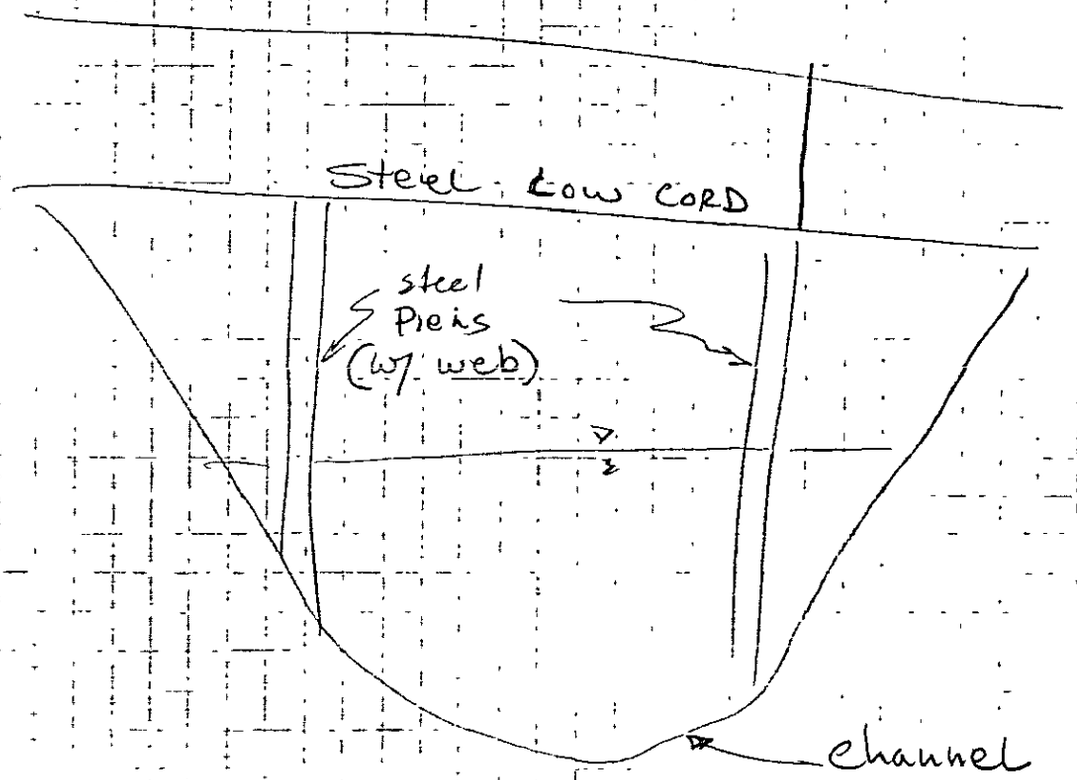
CALCULATION SHEET

PROJECT CHOCOLAY TWP FIS JOB NO 1057 PAGE 3 OF 4

SUBJECT CHOCOLAY RIVER HYDRAULICS DIVISION H/H

ORIGINATOR JTP DATE Jan 85 CHECKED BY [illegible] DATE [illegible]

COMPOSITE "n" FOR BRIDGE AT GREEN BAY ST.



n = steel = 0.012 ~ 30%

n = channel = 0.035 ~ 70%

$$n = (0.012)(0.3) + (0.70)(0.035)$$

$$n = 0.028$$

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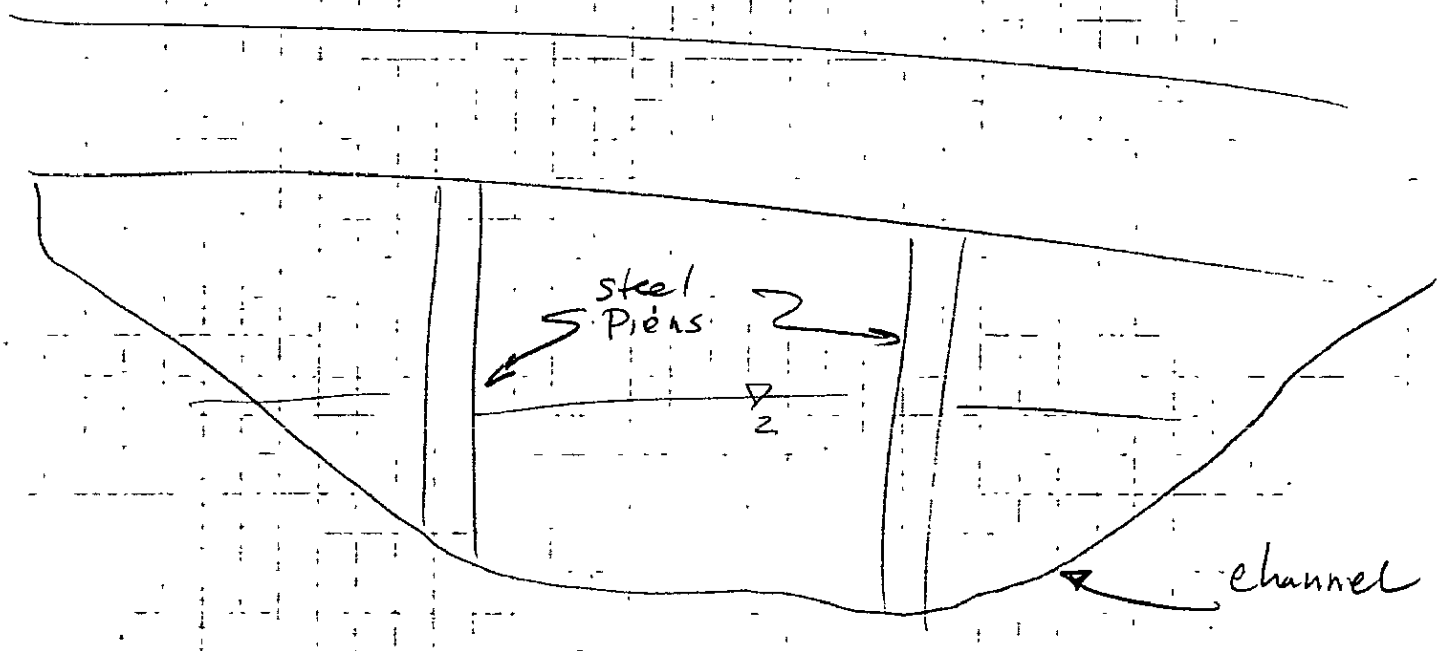
CALCULATION SHEET

PROJECT CHOCOLAY TWP FIS JOB NO 1057 PAGE 4 OF 4

SUBJECT CHOCOLAY RIVER HYDRAULICS DIVISION M/H

ORIGINATOR JTP DATE Jan 85 CHECKED BY DLL DATE 1/15

COMPOSITE "n" FOR BRIDGE AT M-28 (XS-12)



n = STEEL = 0.012 ~ 25%

n - channel = 0.030 ~ 75%

$$n = (0.012)(0.25) + (0.030)(0.75)$$

$$n = 0.026$$

APPENDIX E

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
SILVER CREEK COMPUTATION SHEETS

CALCULATION COVER SHEET

PROJECT CHOCOLAY TWP FIS JOB NO. 1057F DIVISION H/H

SUBJECT Silver Creek CALCULATIONS FILE NO 1057F

CALC. NO

ORIGINATOR JTP/BBS DATE Jan 85

CHECKER DATE 1/85 NO OF SHEETS 10.

RECORD OF ISSUES

NO	DESCRIPTION	BY	DATE	CHKD	DATE	APPRD		
1								
2								
3								
4								
5								
6								

PRELIMINARY CALC ☐

SUPERSEDED CALC ☐ FINAL CALC ☐

BRIEF SUMMARY OF CALCULATIONS INCLUDING SCOPE AND RESULTS

ENCLOSED CALCULATIONS Estimate: 1) COMPOSITE MANNING'S COEFFICIENTS FOR NORMAL BRIDGE ROUTINES IN THE HEC-2 MODEL OF SILVER CREEK, 2) Develope estimates of Bridge Losses For Special Bridge Cards, 3) ESTIMATE A Starting Elevation and Determine 10-, 50-, 100- and 500-yr FLOOD Elevations At the mouth of the Silver Creek Caused By the Chocolay River.

INDEX

1.0 Composite "n" values
- 1.1 General
- 1.2 calculations

2.0 Special Bridge Losses
- 2.1 General
- 2.2 calculations

3.0 STARTING CONDITIONS
- 3.1 General
- 3.2 Calculations

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CALCULATION SHEET

PROJECT: CHOCOLAM TWP FIS JOB NO.: 1057F PAGE: 1 OF: 10

SUBJECT: SILVER CREEK HYDRAULICS DIVISION: H/H

ORIGINATOR: JP DATE: 1/85 CHECKED BY: DJL DATE: 1/85

1.0 COMPOSITE "n" VALUES

1.1 GENERAL

The purpose of the following calculations is to estimate the Manning's coefficients for bridges that cross Silver Creek; to be used as input variables for the normal bridge routines in the HEC-2 computer model. These calculations are necessary because bridge materials reduce flow resistance caused by friction between these materials and the flowing water.

1.2 CALCULATIONS

The composite "n" values were determined using simple mathematical averaging. Typical Manning's coefficient values were taken from Open Channel Hydraulics, Chow, McGraw-Hill (1959).

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CALCULATION SHEET

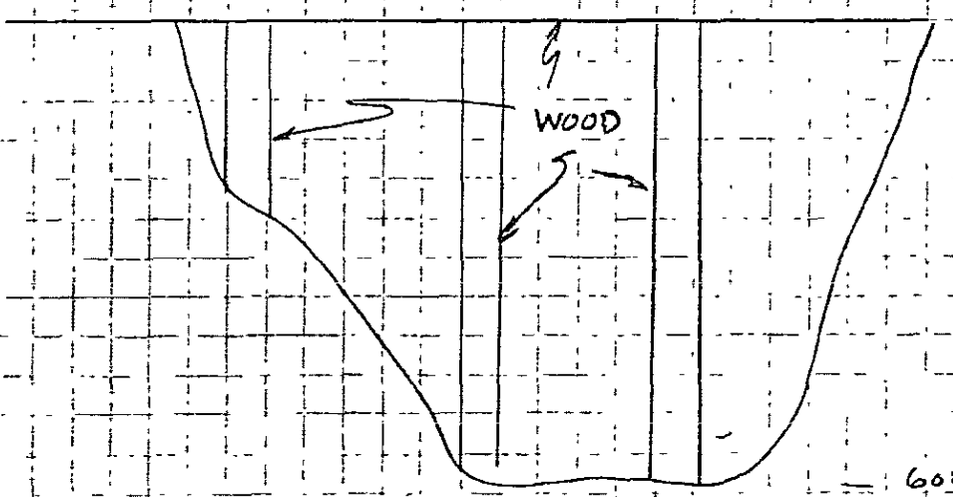
PROJECT CHOCOLAY TWP FIS JOB NO 1057 PAGE 2 OF 10

SUBJECT SILVER CREEK HY DRAULICS DIVISION H/H

ORIGINATOR JTP DATE 14 JAN 85 CHECKED BY [illegible] DATE 1/85

COMPOSITE "n" FOR LAKE SUPERIOR & ISPHEMING R.R. BRIDGE

XS - #3



"n" - channel = 0.035 ~ 60 %

"n" - wood = 0.012 ~ 40 %

$$n = \frac{(0.60)(0.035) + (0.40)(0.012)}{}$$

$n = 0.026$

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CALCULATION SHEET

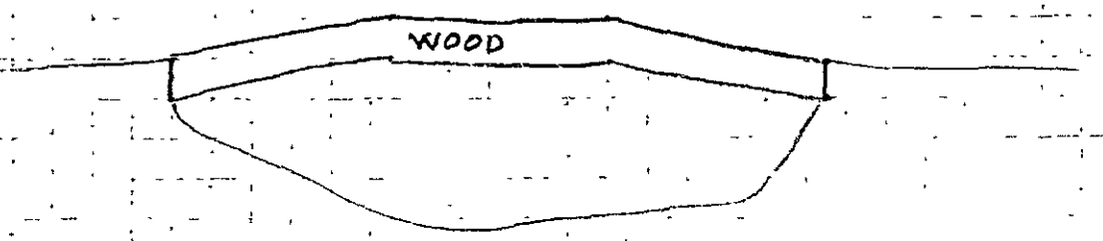
PROJECT: CHOCOLAY TWP F.I.S JOB NO.: 1057F PAGE: 3 OF: 10

SUBJECT: SILVER CREEK HYDRAULICS DIVISION: H/H

ORIGINATOR: JTP DATE: 14JAN85 CHECKED BY: HH DATE: 1/85

COMPOSITE "n" VALUE FOR FOOT BRIDGE @ XS-11

n = 0.012



CHANNEL n = 0.03

WOOD = 40% of PERIMETER

CHANNEL = 60% of PERIMETER

(0.4)(0.012) + (0.03)(0.6) = 0.0228

USE "n" = 0.023

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CALCULATION SHEET

PROJECT: CHOCOLAY TWP FIS JOB NO.: 1057F PAGE: 4 OF: 10

SUBJECT: SILVER CREEK HYDRAULICS DIVISION: H/H

ORIGINATOR: JTP DATE: 1/95 CHECKED BY: HW DATE: 1/95

2.0 SPECIAL BRIDGE LOSSES

2.1 GENERAL

The purpose of these calculations is to estimate coefficients to account for head losses due to piers in the channel and culvert entrance conditions; to estimate discharge coefficients in the event of weir flow; to determine area available for flow. This data is used as input variables in special bridge routines in the HEC-2 computer model.

2.2 CALCULATIONS

These calculations were performed as presented on the following sheets, with the references as given.

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CALCULATION SHEET

PROJECT: CHOC. FIS - FEMA JOB NO: 1057 E PAGE: 5 OF: 10

SUBJECT: SILVER CREEK, BRIDGE 9 DIVISION: H & H

ORIGINATOR: JMR DATE: 9/10/84 CHECKED BY: WW DATE: 1/85

Bridge Location:

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0.0

XKOR (Loss Coefficient) = 1.0 + k, $k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

HEC-2 Manual

Description of Bridge:

$k_f = 29.1 n^2 L/R^{4/3}$ for English units

Area = 6.2'(4') = 24.8 wp = 2(6.2) + 2(4) = 20.4

R = A/sp = 1.22 $R^{4/3}$ = 1.2975 L = 109'

n(composite) = $(0.03^{3/2}(6.2)_4\ 0.011^{3/2}(14.2))^{2/3}/20.4^{2/3}$ = 0.018

k_f = 29.1 x (.018)^2 x 109 / 1.2975 = 0.7921

k_e = 0.1

k_p = 0 if bridge has no intermediate piers

k_p = 0.05 if bridge has intermediate piers

Hydraulic Charts for Selection of Highway Culverts, Circular No. 5, December 1965, Page 49.

HEC-2 Manual

2. XKOR = 1 + 0.79 + 0.1 + 0 = 2.19

3. COFQ = Coefficient of discharge = 3.0 HEC-2 Manual

4. RDLEN = Length of weir = 0 (0 if read off BT cards)

5. BWC = Bottom width of bridge opening (inc. piers) = 6.2

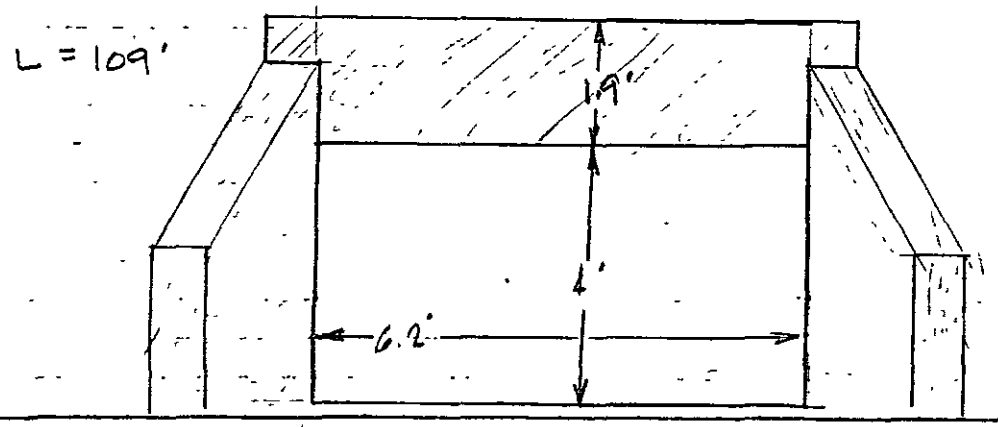
6. BWP = Total width of obstruction = 0

7. BAREA = Bridge opening inc. piers = 24.8 field data

8. SS = Side slope = 0 (horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 629.4
(0 if equal to minimum elevation in previous X-sect.)

10. ELCHD = Elevation of channel invert D/S side = 629.4
(0 if equal to minimum elevation in previous X-sect.)



STS Consultants Ltd.
CALCULATION SHEET

PROJECT: CHOCOLAY TWP F.I.S. JOB NO.: 1057F PAGE: 6 OF: 10

SUBJECT: SPECIAL BRIDGE ROUTINE FOR XS #12 DIVISION: HHH

ORIGINATOR: BBS DATE: 7 Sept 84 CHECKED BY: UJU DATE: 1/85

Bridge Location: XS #12 AT TRAILER PARK SILVER CREEK

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + k, $k = k_f + k_e + k_p$

where k_f = friction loss coefficient

k_e = entrance loss coefficient

k_p = loss from intermediate piers

Description of Bridge: SLAB OF CONCRETE ATOP SS TRUSSES

$k_f = 29.1 n^2 L/R^{4/3}$ for English units

Area = 37.0 = 37.0 wp = 31.8

R = A/sp = 1.16 $R^{4/3}$ = 1.22 L = 19.2

n (composite) = (0.014)(15) + 0.04(16.8)/31.8 = 0.028

k_f = 29.1 x $(0.028)^2$ x 19.2 / 1.22 = 0.36

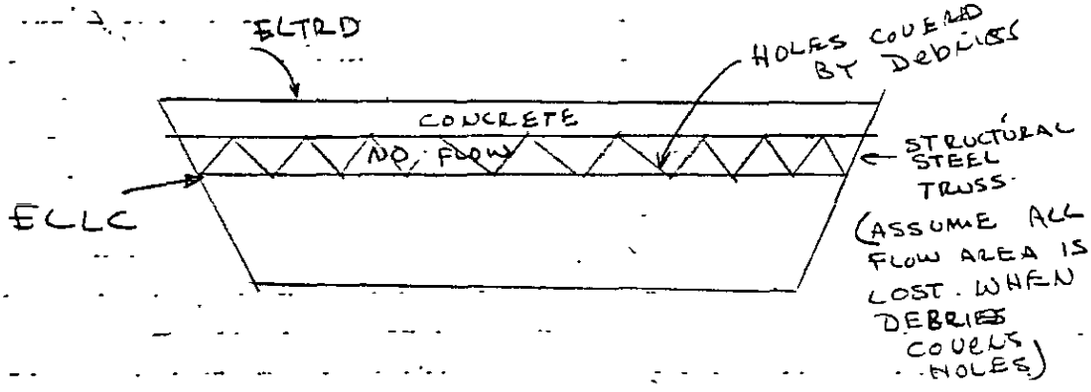
k_e = 0.5 TREAT LIKE BOX CULVERT

k_p = 0 if bridge has no intermediate piers ✓

k_p = 0.05 if bridge has intermediate piers

Hydraulic Charts for Selection of Highway Culverts Circular No. 5, December 1965, Page 49. HEC-2 Manual

2. XKOR = 1 + 0.36 + 0.5 + 0 = 1.86
3. COFQ = Coefficient of discharge = ~~[illegible]~~ 3.0 NOB LOWER THAN TRD — HEC-2 Manual
4. RDLEN = Length of weir = 95.0 (0 if read off BT cards)
5. BWC = Bottom width of bridge opening (inc. piers) = 6.0
6. BWP = Total width of obstruction = 0 — field data
7. BAREA = Bridge opening inc. piers = 37.0
8. SS = Side slope = 0.93 (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 639.2
(0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 639.2
(0 if equal to minimum elevation in previous X-sect.)



STS Consultants Ltd.
CALCULATION SHEET

PROJECT: CHOCOLAY TWP F18 JOB NO.: 1057F PAGE: 7 OF: 10

SUBJECT: SPECIAL BRIDGE ROUTINE XS#13 SILVER CREEK DIVISION: H+H

ORIGINATOR: BBS DATE: 7 Sept 84 CHECKED BY: [illegible] DATE: 1/85

Bridge Location: CROSS SECTION #13 NEAR U/S STUDY LIMIT

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + k, $k = k_f + k_e + k_p$

where k_f = friction loss coefficient

k_e = entrance loss coefficient

k_p = loss from intermediate piers

Description of Bridge: DUAL 36" CMP (ONE PIPE crushed)

$k_f = 29.1 n^2 L/R^{4/3}$ for English units

Area = 7.1 = 7.1 ft wp = 9.4

R = A/wp = 0.75 $R^{4/3}$ = 0.689 L = 24.0

n(composite) = 0.025

k_f = 29.1 x (0.025)^2 x 24.0/0.689 = 0.64

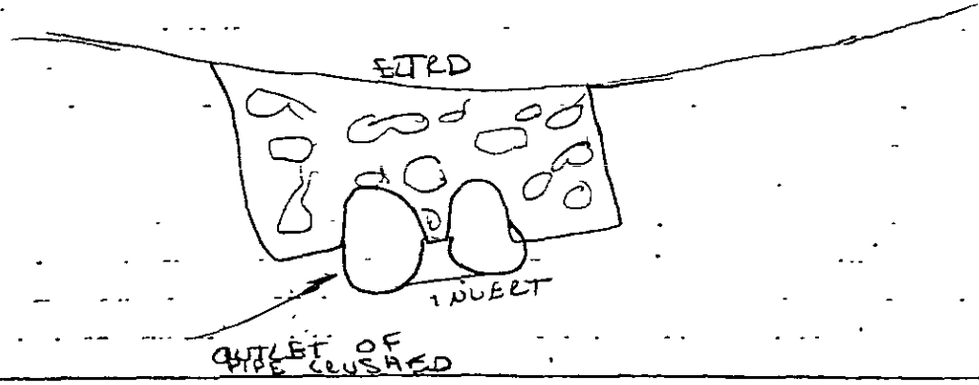
k_e = 0.5

k_p = 0 if bridge has no intermediate piers

k_p = 0.05 if bridge has intermediate piers

Hydraulic Charts for Selection of Highway Culverts Circular No. 5, December 1965, Page 49. HEC-2 Manual

2. XKOR = 1 + 0.64 + 0.5 + 0.0 = 2.14
3. COFQ = Coefficient of discharge = 3.0 — HEC-2 Manual
4. RDLEN = Length of weir = 0 (0 if read off BT cards)
5. BWC = Bottom width of bridge opening (inc. piers) = 3.0
6. BWP = Total width of obstruction = 0.0 — field data
7. BAREA = Bridge opening inc. piers = 7.1
8. SS = Side slope = 0 (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 645.4
(0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 645.4
(0 if equal to minimum elevation in previous X-sect.)



STS Consultants Ltd.
CALCULATION SHEET

PROJECT: Chocolay Twp. FIS JOB NO.: 1057F PAGE: 8 OF: 10

SUBJECT: Silver Creek Starting Elev. DIVISION: H+W

ORIGINATOR: BBS. DATE: Jan 85 CHECKED BY: WW DATE: 1/85

3.0 STARTING ELEVATION

3.1 GENERAL

The purpose of these calculations is to Determine the starting elevation which will be used for the Silver Creek hydraulic ANALYSIS. By plotting the recurrance interval versus flood stage in the Chocolay at the point of interest, the flood stage for a mean annual storm can be determined.

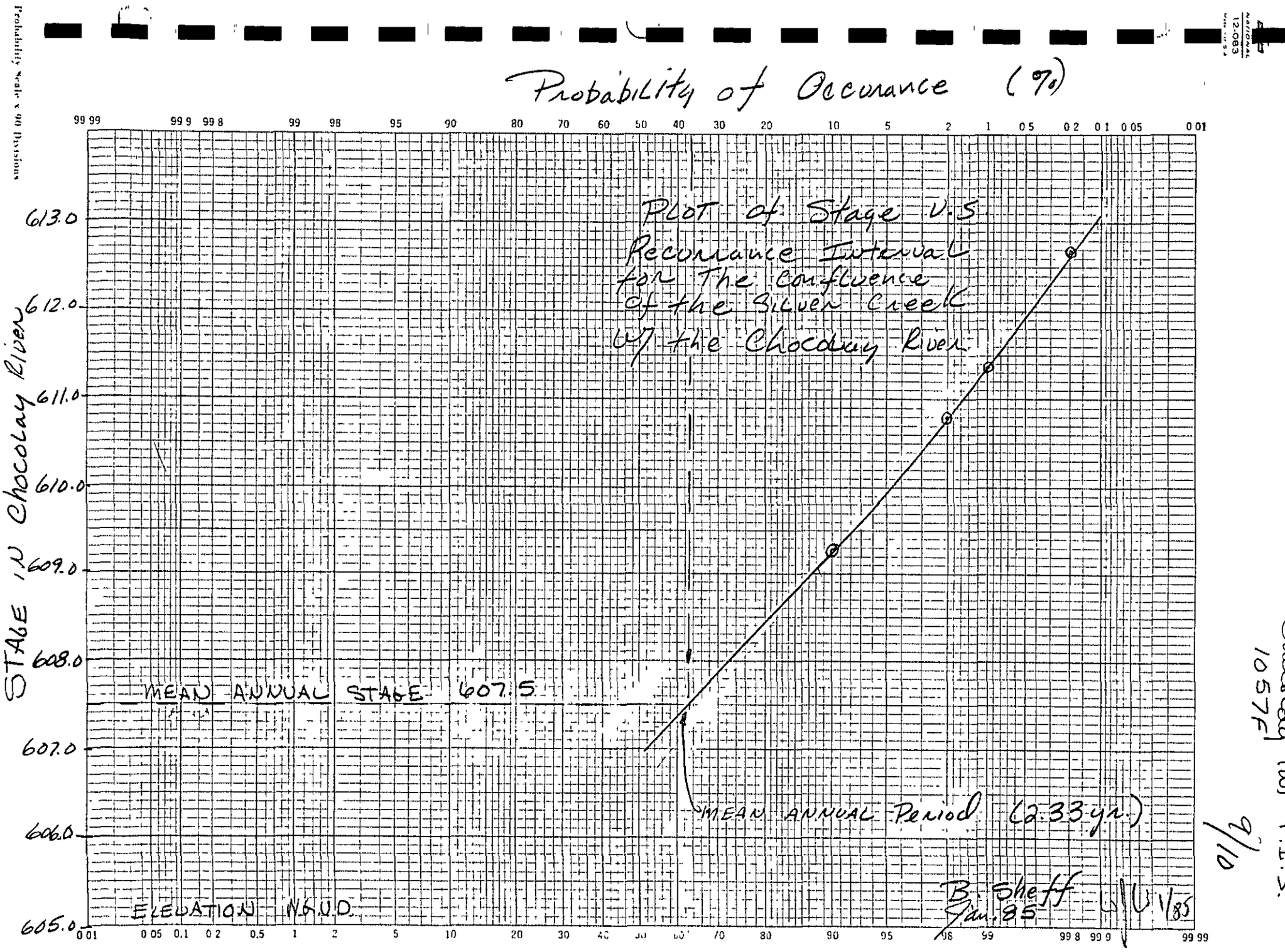
3.2 Calculations

The HEC-2 Multiple Profile computer run for the Chocolay River will be used to determine the flood elevation at the mouth of the Silver Creek. This confluence is located between X-sections I + J. See plot pg. 2 for plot of table below.

Return Interval (years)	X Section I (ELEV)	X Section J (ELEV)	* Confluence of Silver Creek (elev)
10	608.86	609.43	609.27
50	610.41	610.95	610.80
100	610.98	611.51	611.36
500	612.34	612.83	612.69

* Based on Linear Interpolation between X-Sec I AND J (9+10)

CONFLUENCE IS (≈)400 ft. d/s of X-SEC. J AND (≈)1400 ft. U/S of X-Sec. I



Chocolay Twp F.I.S.
10576
9/10

STS Consultants Ltd.
CALCULATION SHEET

PROJECT: Chocolay Twp. F.I.S. JOB NO.: 1057F PAGE: 10 OF: 10

SUBJECT: Silver Creek Starting Elev. DIVISION: H+H

ORIGINATOR: BBS DATE: Jan 85 CHECKED BY: WJW DATE: 1/85

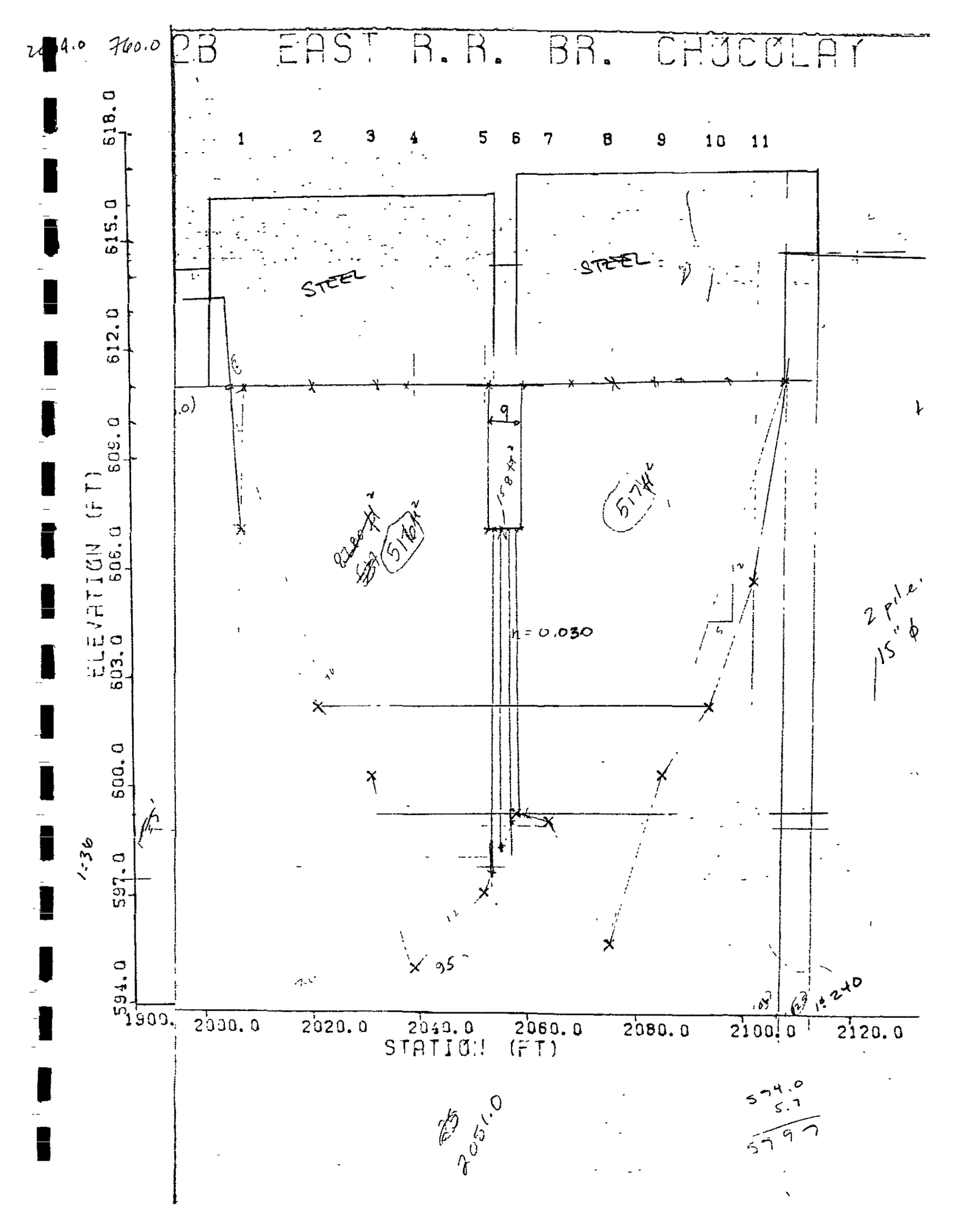
3.3 Conclusion

The Stage in the Chocolay River corresponding to a 2.33 yr return interval is approx. 607.5.

Utilize this Elevation for Silver Creek Backwater Analysis Starting Conditions.

APPENDIX F

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
BRIDGE SURVEY NOTES


2B EAST R.R. BR. CHOCOLAY
1 2 3 4 5 6 7 8 9 10 11
STEEL
STEEL
n = 0.030
2 pile
15" ϕ
1:240
ELEVATION (FT)
618.0
615.0
612.0
609.0
606.0
603.0
600.0
597.0
594.0
1900.
2000.0
2020.0
2040.0
2060.0
2080.0
2100.0
2120.0
STATION (FT)

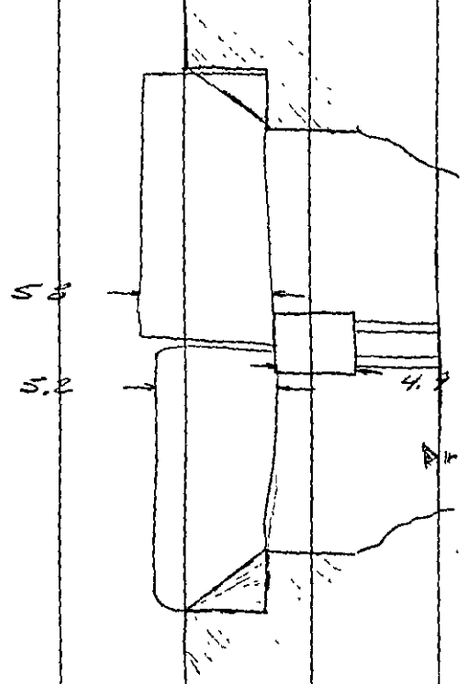
[illegible]-85 FIS CHOCOLAT

39

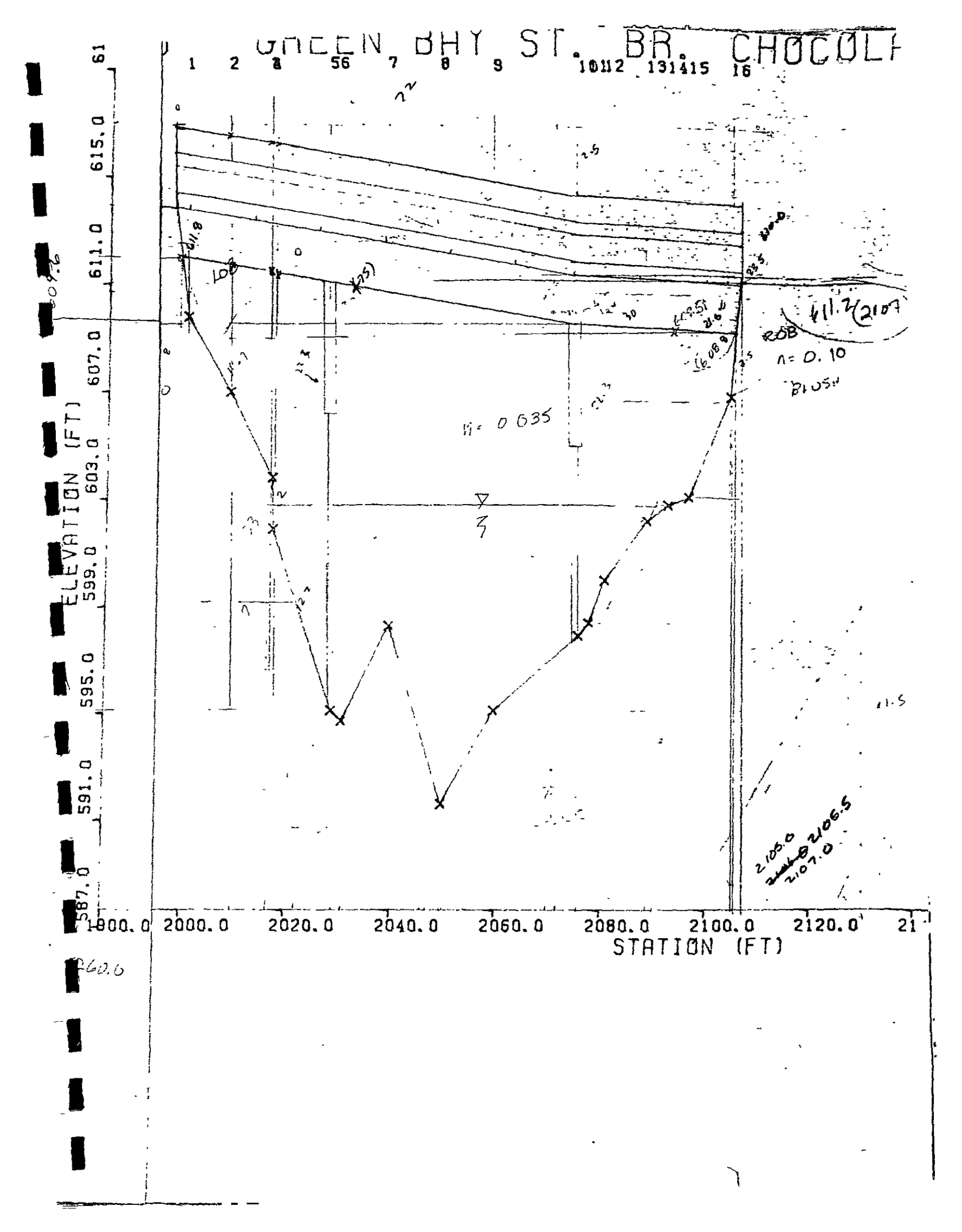
CROSS-SECTION 2B

STA.		DROPS		
20+00	DROPS FROM LOWER RAILING			
20+02		2.8	E/FACE OF W/HEADWALL	TOP
		5.2		BOT
20+07		9.2	E/FACE OF W/HEADWALL	GRD
20+21		14.1	ED/WATER	
20+31		16.0	CHANNEL	
20+39		21.3	CH.	
20+52		19.2	W/ED OF CONC PIER	
20+58		17.7	E/ED OF CONC PIER	
20+64		17.9	CH.	
20+75	DROPS FROM UPPER RAIL	21.3	"	
20+85		16.6	"	
20+94		14.7	ED/WATER	

	-83	FIS	CHOCOLAY							40
A.			DROP							
21+02.5			11.2				W/FACE OF E HEADWALL			GRID
21+06.5			6.5				"END" "HIGH RAIL"			CONC.
21+08.8			3.1				E/FACE OF E HEADWALL			



5 SETS OF 2 PILINGS
15" DIA STEEL PILIES


GREEN BAY ST. BR. CHOCOLA
1 2 3 56 7 8 9 10112 131415 16
ELEVATION (FT)
615.0
611.0
607.0
603.0
599.0
595.0
591.0
587.0
1800.0 2000.0 2020.0 2040.0 2060.0 2080.0 2100.0 2120.0
STATION (FT)
n= 0.035
n= 0.10
ROB
BLUSH
2105.0
2106.5
2107.0

	-83	F.I.S.	CHOCOLAY							
—	WIRE	—	AZ ∠		ROD	VERT ∠		— DESC. —		
320.80			225-36-30		6.7	91-32-12		GRD. FL. EL. HSE.		

10-28-83

CROSS SECTION #5

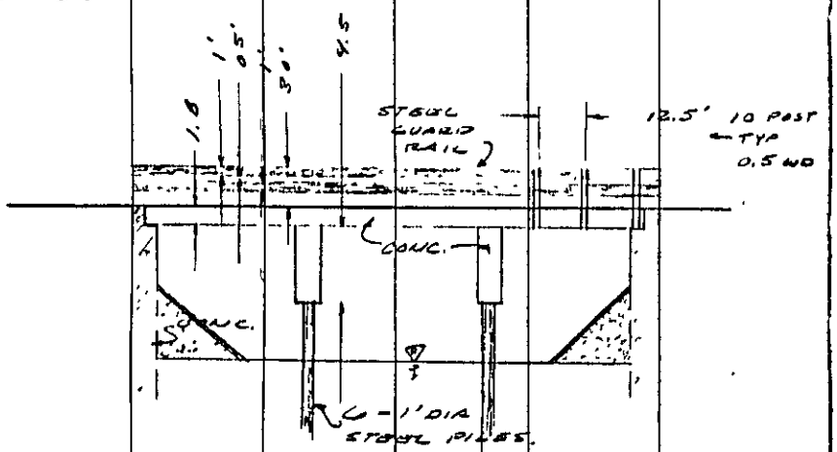
BRIDGE @ GREENBAY ST

20+00				3.0		S/EDGE	T/HEADWALL			
20+01						N/FACE HEADWALL				
20+02		EL. PTS. #1		7.1		"		T/SLOPE PAVING		
20+10				9.5		SLOPE PAVING		(BREAK)		
20+18		(20+22 #2)		12.3 P 14.2 CH.		END "	"	PLUS VERT CROW		
20+29	4.9 T/PIER			20.6		S/FACE PIER		ON		
20+31				21.0		N/FACE PIER		CH.		
20+40		(20+47 #3)		26.2		CH.				
20+50				23.6		CH.				
20+60				19.8		"				

-83 F I S. CHOCOLAY

CON'T.

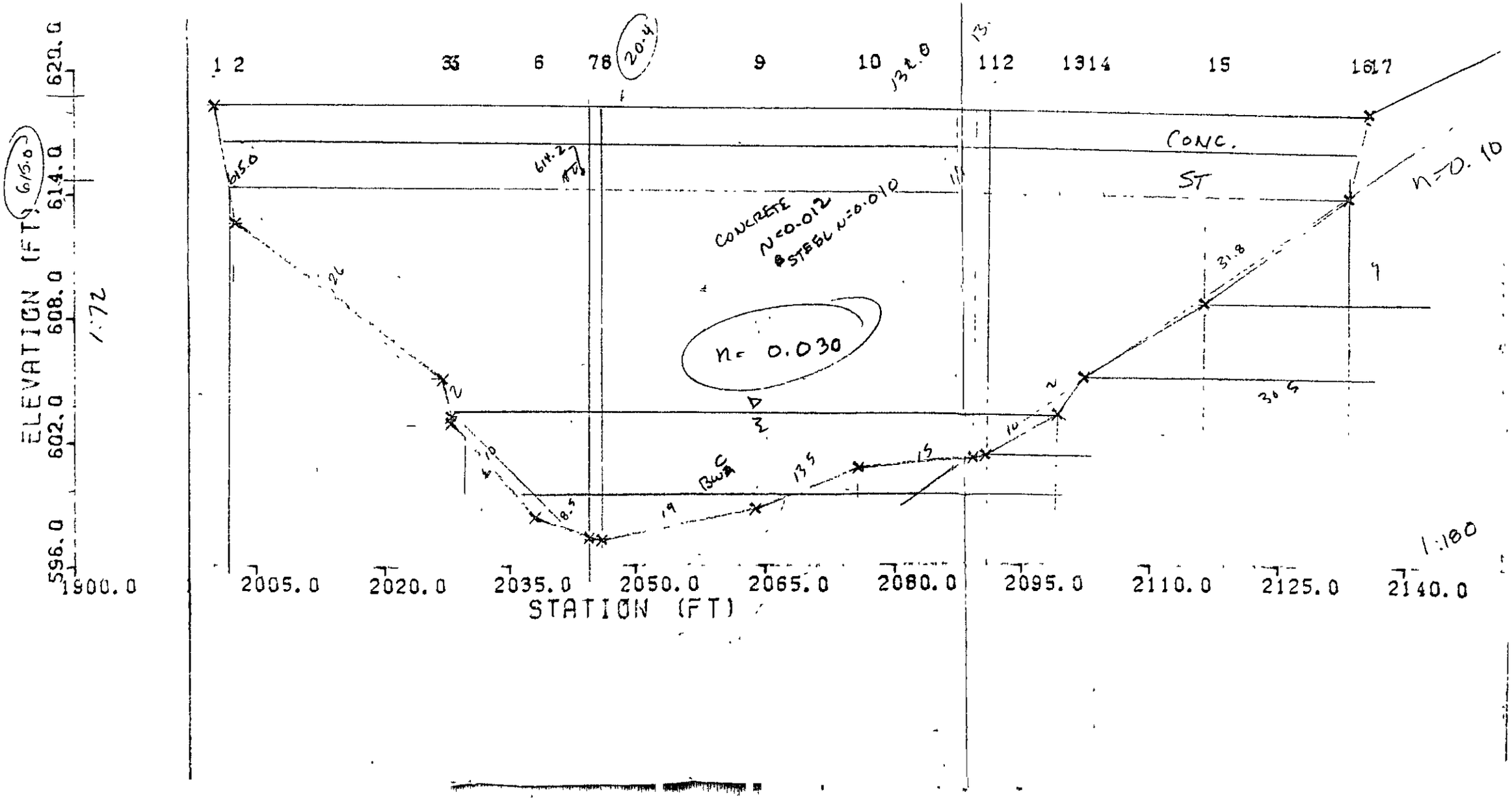
20+76	20+72 #4	16.7	S/FACE PIER CH
	4.8 T/PIER		
20+78		16.1	N/FACE PIER CH
20+81		14.5	CH
20+89		12.2	CH & EDGE/PAVING (SLOPE)
20+93		11.6	E/WATER
20+97	#5	11.1	PAVING & END
21+05		7.3	S/FACE N. HEADWALL & T/SLOPE PAVING GRD
21+06			" " CONC.
21+07		3.0	N/EDGE HEADWALL T/BANK



28' WD. PIER CAPS EXTEND 3' OUT ON EITHER SIDE

0 0 0.10 0.030
0 0 19.0 2000.0
0.0

CLAY (M-28 BRIDGE).



CONT. CROSS SECTION # 11

—	WIRE	—	AZ ∡	ROD	VERT ∡	—	DESC	—
93.02			359-38-00	4.3	95-50-30	CH.		
103.94			358-28-00	7.0	92-18-00	B/BANK	CH.	
106.48			358-27-00	5.0	91-40-51	T/BANK		
129.46			359-10-00	"	90-57-18	GRD.		

CROSS-SECTION # 12

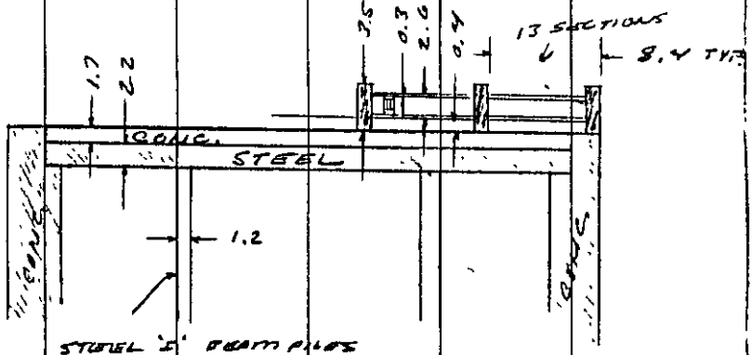
M-28 BRIDGE

20+00		3.0		W/EDGE BRIDGE
20+02.5	EL.	8.7		E/FACE E/END BRIDGE GRR
20+27		16.2		T/BANK
20+28		18.0		E/WATER
" "		18.3		CH.
20+38		22.9		CH.
20+44.5		23.9		W/FACE STEEL W/PIER
20+46		24.0		E/FACE " "

CON'T. CROSS SECTION "12

20+64		22.4	CH.
20+74	EL.		T/STEEL RAIL
20+76		20.4	CH.
20+89.2		19.8	W/FACE PIER (STEEL)
20+90.7		19.7	E/
20+99		17.7	E/WATER CH.
21+02		15.9	T/BANK
21+16		12.3	MID. PT. GND.
21+25			EL. T/STEEL RAIL
21+32.8		7.7	W/FACE WALL E/END ER. GND.
21+35.1		3.0	E/EDGE WALL

38.5' WIDE ⊥ FLOW

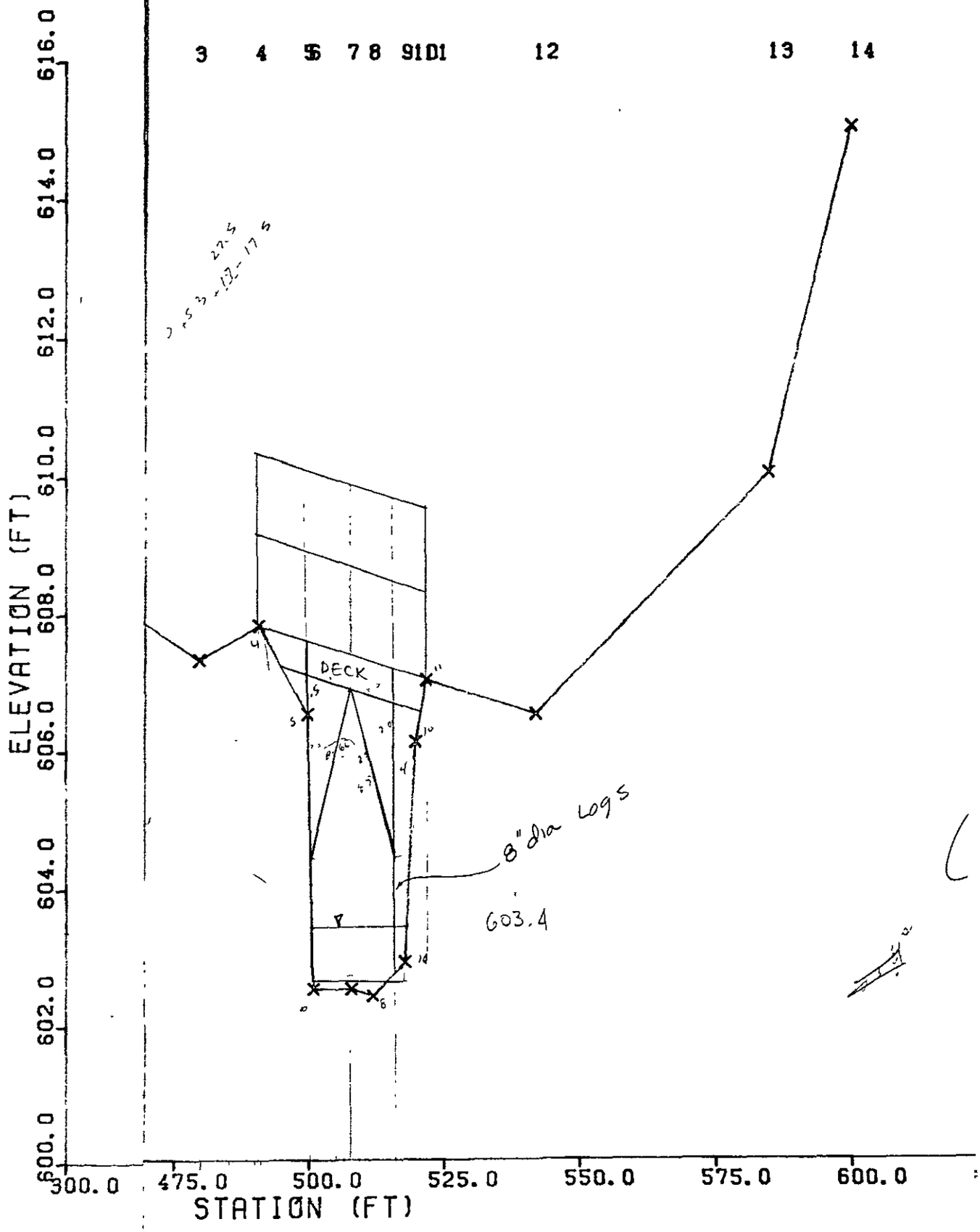


0 12 0.060

10 500.0 520.0 0

CREEK

SILVER CREEK
BRIDGE #1



HARVEY, MICH.

FROST, POLE
40°, CLEAR

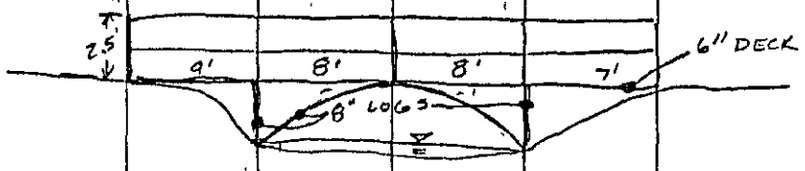
LEVELS & SECTIONS FOR SILVER CREEK (1 THRU 6)

STA	BS.	HI	FS	TP	ELEV.	
	16.22	636.19			619.97	CORRECTED
	1.75	628.22		9.72	626.47	TOP OF ROCK
	5.93	612.04		21.61	606.61	MID. STONE ON TOP / STONE COR. POST
						F.E. SILVERF CREEK X-S #1 @ BR.
4+80			4.7			
4+91			4.2			GRND.
5+00			5.5			END / BR.
5+01			9.5			TOP / BANK
5+08			9.5		▽ 8.6	BOT / BANK (CHANNEL)
5+12			9.6			CHANNEL (2 BR.)
5+18			9.1			BOT / BANK (CHANNEL)

45-85

30

STA	BS	HI	FS	TP	ELEV		
		612.04					
5+20			5.9				TOP/BANK
5+22			5.0				
5+42			5.5				END/BR.
	21.76	628.37		5,43	606.61		T/B
	10.07	636.54		1.90	626.47	(626.47)	TOP / STONE POST
				16.56	619.98	(619.97)	TOP/ROCK

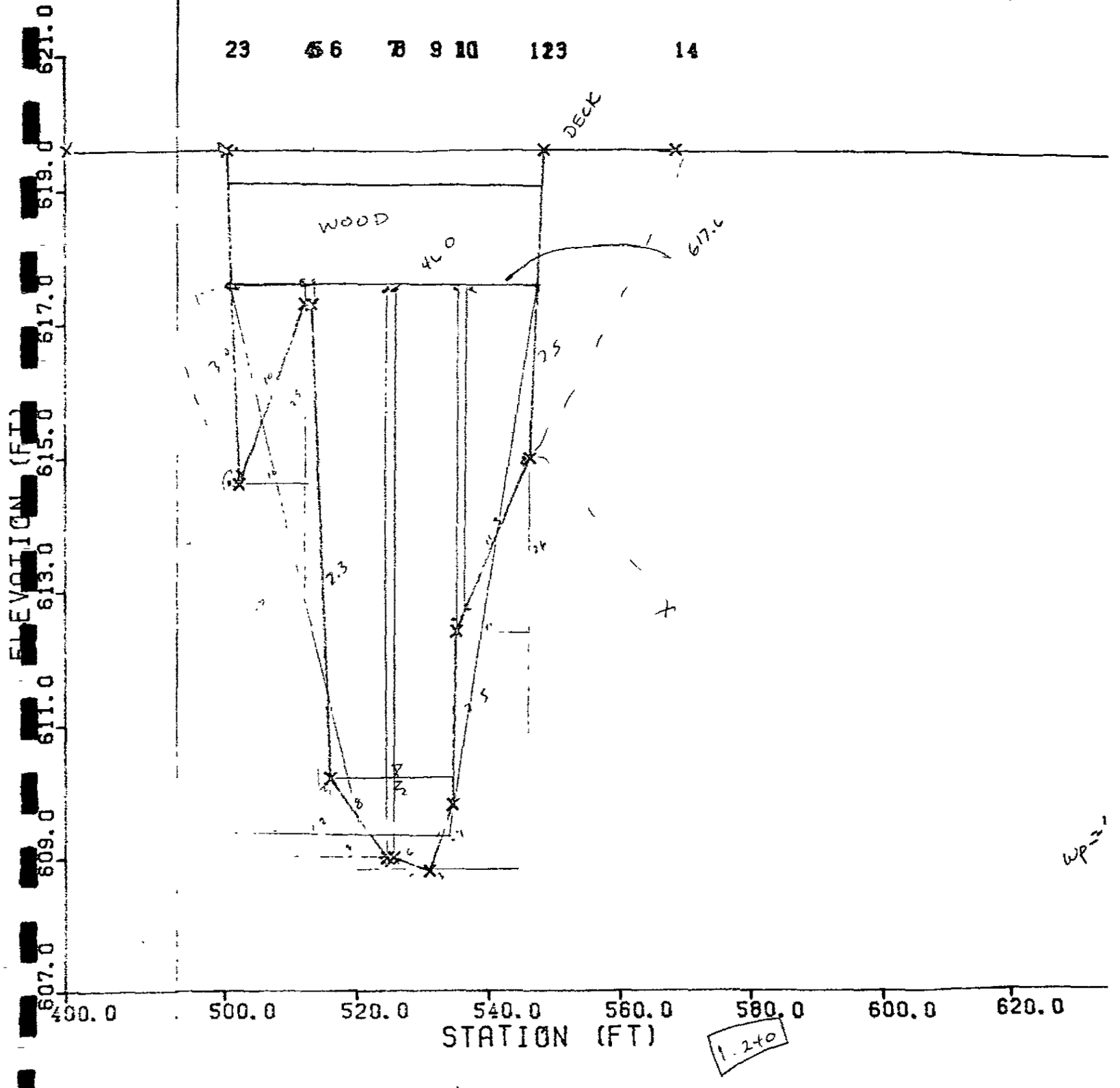


7' WIDE

50' @ 108° S.W. OF CONFLUENCE OF CHOCOLAY

SILVER CREEK
BRIDGE #3

3 SILVER CREEK



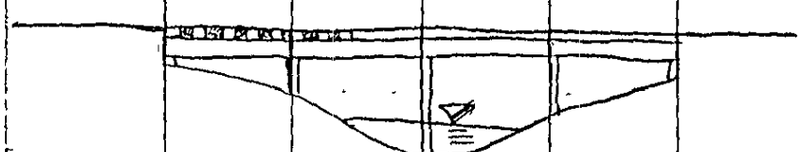
1.240

27.6

SILVER CREEK
XS-3 @ ABANDONED R.R. BR.

STA.	ELEV	FT'S CORRECTED	
	619.58		TOP OF TIES (NO RAILS)
4+80		0.0	GRND
5+00		0.0	TOP/BANK
5+02		5.0	BOT/WALL
5+12		2.3	W. EDGE/PIER 3 TOP/PIERS (TYP.)
5+13			E. EDGE/PIER 3
5+16		9.4	EDGE/WATER
5+24.5		10.6	W. EDGE/PIER
5+25.5		10.6	E. " "
5+31		10.8	CHAN.
5+34.5		9.8	BOT/WALL (CHAN.)
5+35		7.2	TOP/RET. WALL (W. EDGE PIER)
5+36			E. EDGE PIER (STA. ONLY)
5+46		4.6	BOT. WALL
5+48		0.0	TOP/BANK
5+68		0.0	GRND.

14.0' TOTAL WIDE
PIERS EXTEND 2.0' EACH SIDE



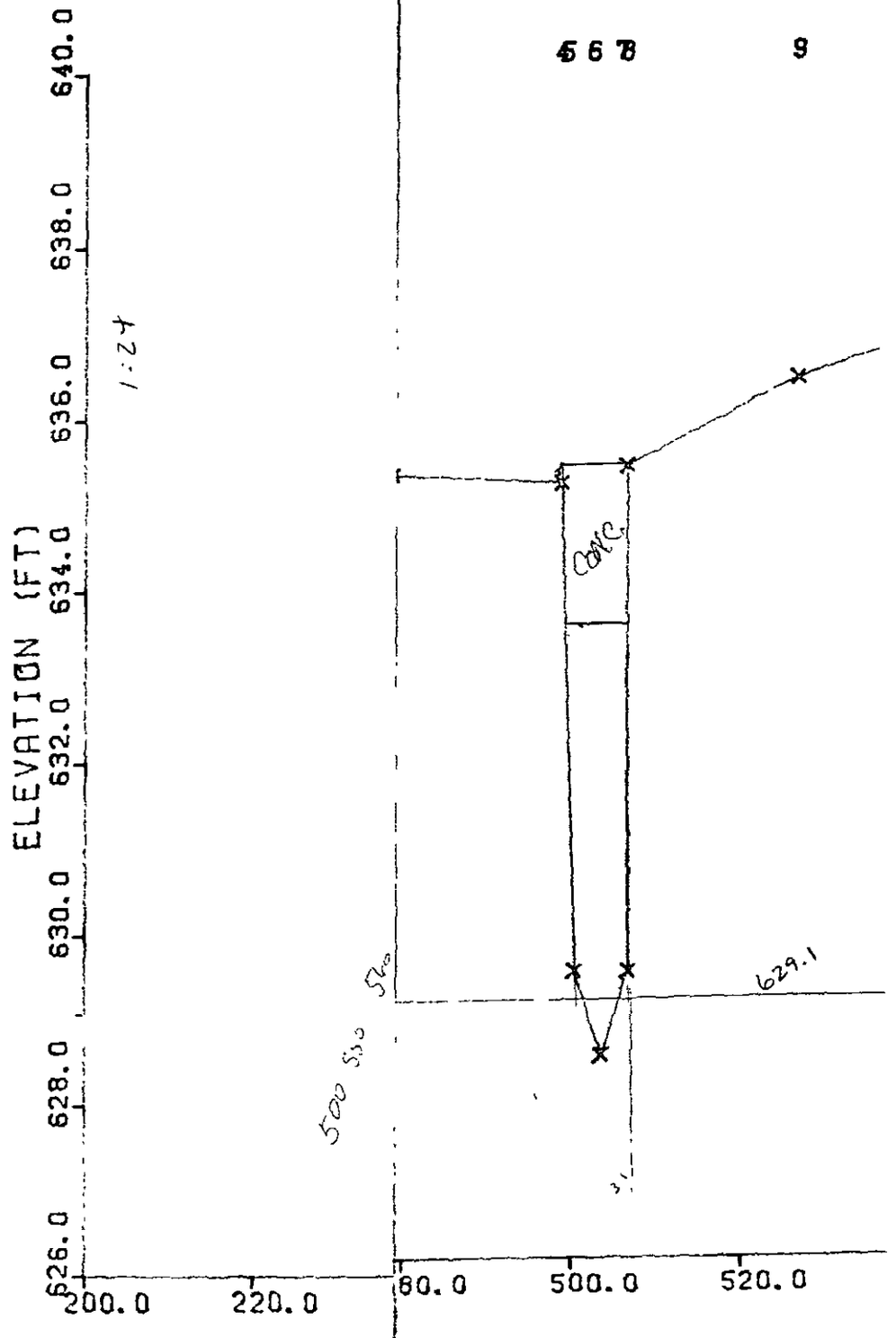
0 10.0 500.0 587.6 510.0 590.0 580.0

JT DATA

ELEVATION (FT)
634.8
635.1
635.2
635.3
629.4
628.4
629.4
635.3
636.3
638.6

CROS

SILVER CREEK BRIDGE #9



		#1				
		641.02				
3+00			6.2	634.82		
4+00			5.9	635.12		
4+80			5.8	635.22		
5+00			5.69	635.33		
5+07.6			5.69	635.33		
5+28			4.7	636.32		
6+00			2.4	638.62		
			1.6	639.42		
			2.6	638.42		
			3.4	637.62		
			4.9	636.12		
			3.9	637.12		
			3.0	638.02		
	3.41	642.36		2.07	638.95	
	1.53	642.01		1.88	640.48	

XS-9 @ U.S. 41 BR.

GRND.

TOP/N. EDGE HEADWALL

TOP/S. EDGE HEADWALL

GRND.

GRND - 50' S. ℄ CRK

" ℄ CRK

" 50' N ℄ CRK

℄ RD. @ 50' N. CRK

℄ RD @ ℄ CRK.

℄ RD @ 50' S. CRK

TOP/METAL PIPE @ GAS PUMP

TOP/FENCE POST BY BARN

10 0 10.0 500.0 516.0 4200 580 0 530.

UT DATA

ELEVATION (FT)
640.0
637.5
636.1
636.7
637.0
634.2
633.2
634.0
637.0
637.0
636.7
640-0

509.0 633.5

3 45 6 7 8 9

SILVER CREEK
BRIDGE #10

X(P)=14.14

ELEVATION (FT)

640.0
639.0
638.0
637.0
636.0
635.0
634.0
633.0
632.0

200.0 480.0 500.0 520.0 540.0

1:12

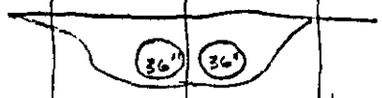
633.8

633.3

		642.01				
3+00			4.5			
4+00			5.9			
4+80			5.3			
5+00			5.0			
5+02			7.8			
5+06			8.2			
			8.8			
5+09			8.5			
5+12			8.0			
5+16			5.0			
5+36			5.0			
			7.9			
6+00						
557.5 ~~557.5~~			5.7	636.3		
			4.9	637.1		
457.5 ~~557.5~~			5.6	638.4		
	4.52	645.61		0.92	641.09	

SILVER CREEK
BR. @ 500'± W. OF US. 41
MOVE X S - 10 TO HERE

GRND
TOP / BANK
BOT. / BANK (CHANNEL)
INVERT ~~BOT~~ N. 36" CULVERT
℄ CHANNEL
INVERT ~~BOT~~ S. 36" CULVERT
BOT / BANK
TOP / BANK
GRND.

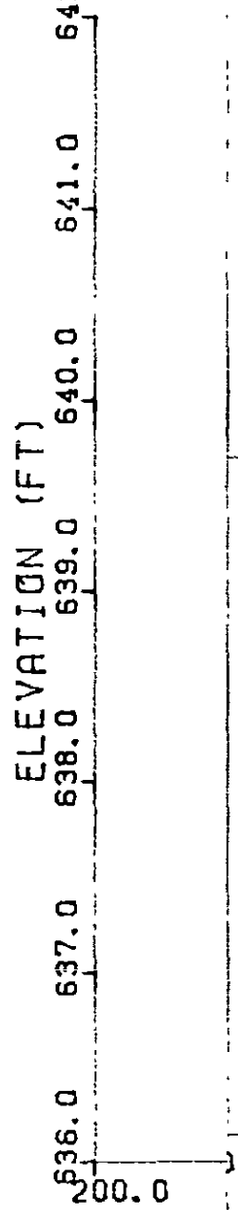


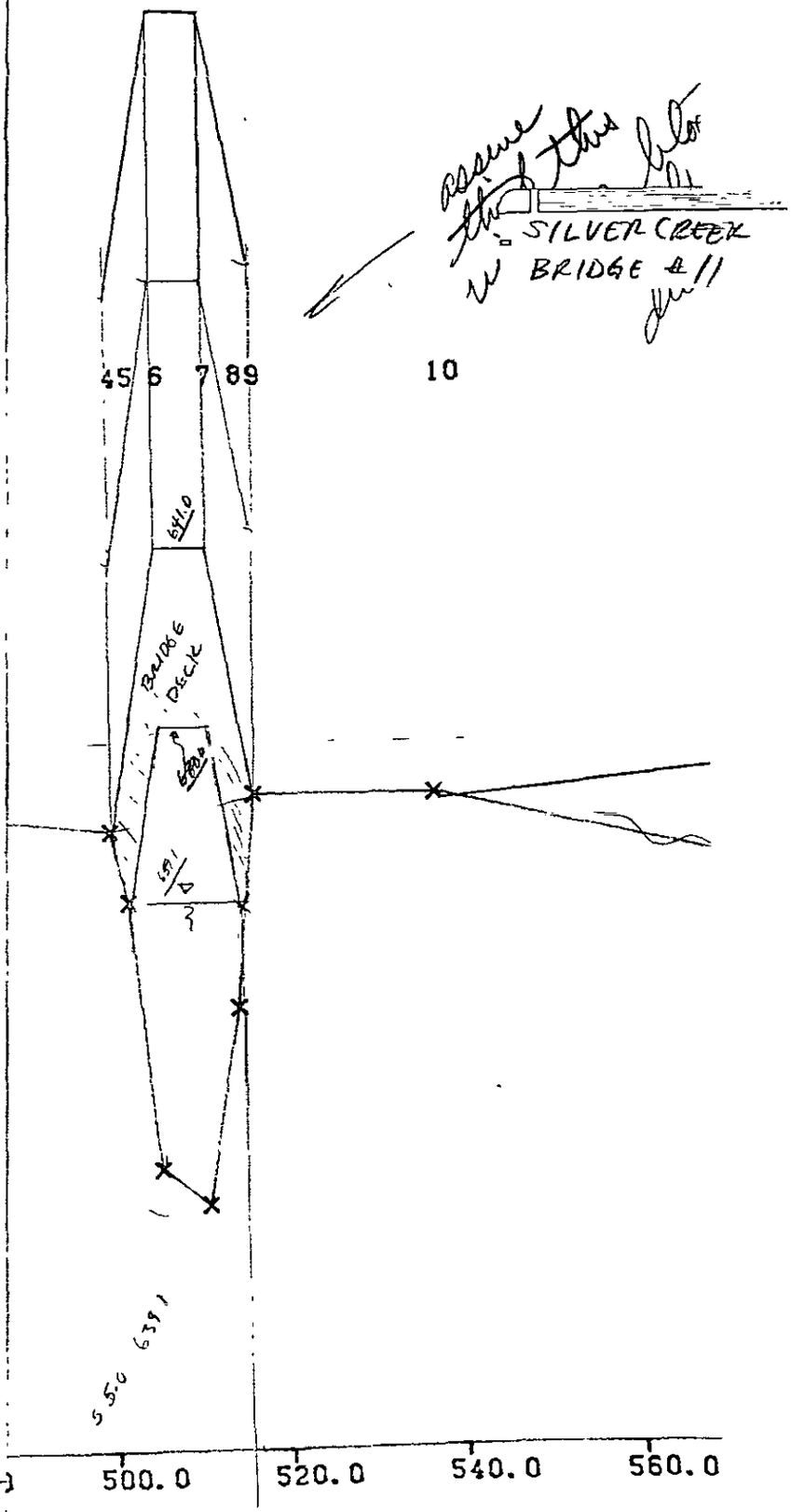
℄ RD @ 50'S ℄ RK.
℄ RD @ ℄ CRK ← 23' →
℄ RD @ 50' N. CRK
TOP / FENCE POST.

11.0 11.0 500.0 516.5 970.0 1140.0 1110

JT DATA
ELEVATION (FT)
641.2
640.4
639.6
639.5
639.1
637.6
637.4
638.5
639.7
639.7
639.0
640.0







		645.61				
	1.04	644.88		1.77	643.84	TOP/FENCE POST SILVER CREEK BR@X S 11 - E. SIDE OF TAYLOR PK.
3+80			3.7			
4+00			4.5			
4+80			5.3			GRND
5+00			5.4			TOP/BANK (END OF BR)
5+02			5.8			EDGE/WATER
5+05.5			7.3			CHANNEL (ALSO BREAK IN BR.)
5+11			7.5		639.38	CHANNEL (" " " ")
5+14.5			6.4			BOT./BANK (CHANNEL)
5+16.5			5.2			TOP/BANK (END OF BR)
5+37			5.2			
6+00			5.9			
						ALL WOOD CONST.
						
			3.8	641.1		TOP/BR. DECK 3.5' WIDE
	7.81	647.42		5.27	639.61	P.B

1?.0 500.0 517.3 240.0 350.0 290.0

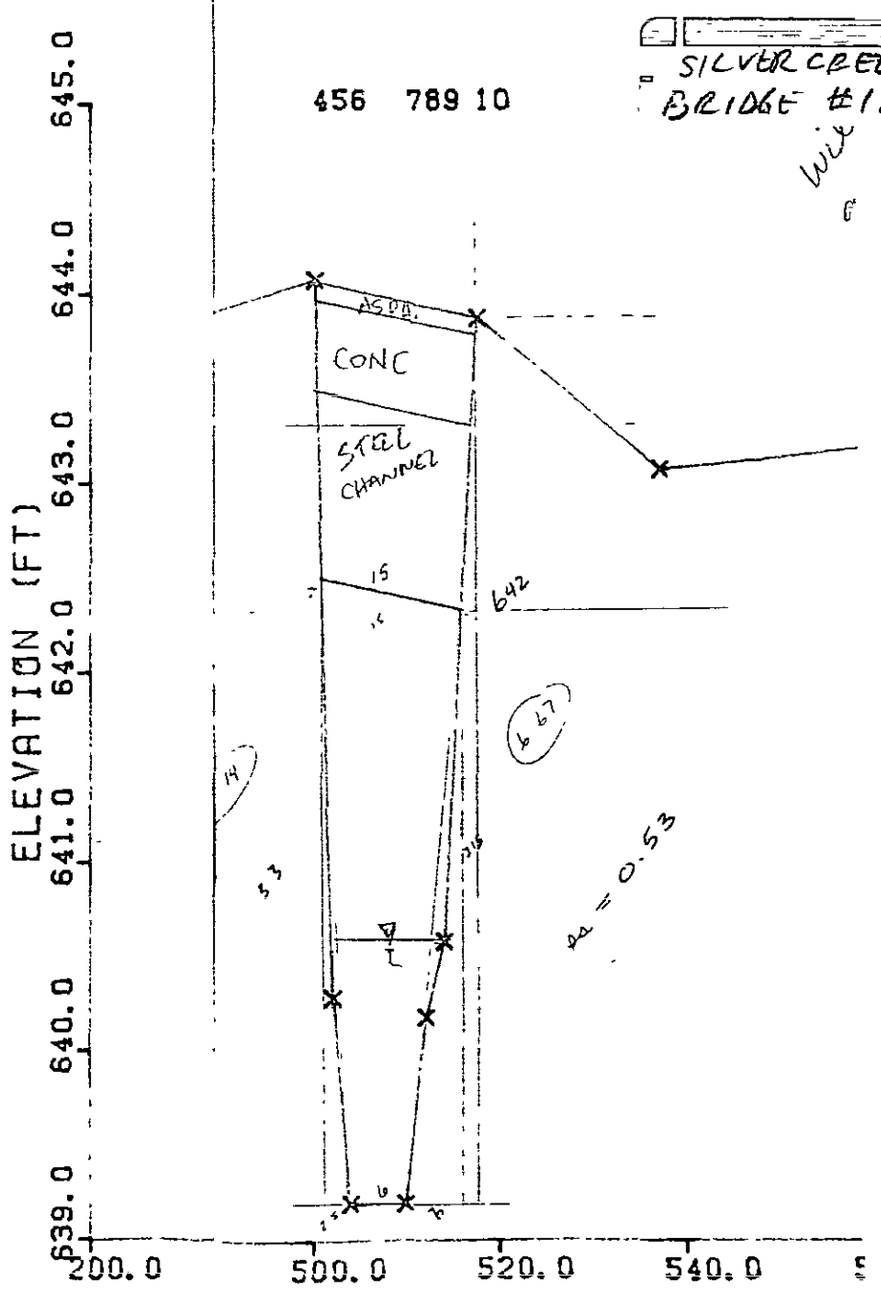
INPUT DATA

ELEVATION (FT)
644.3
644.1
643.8
644.1
640.3
639.2
639.2
640.2
640.6
643.9
643.1
643.4

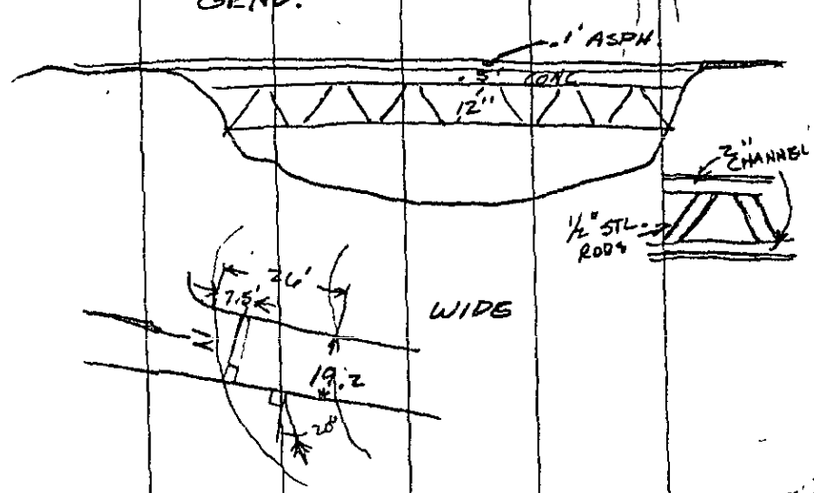
1 184

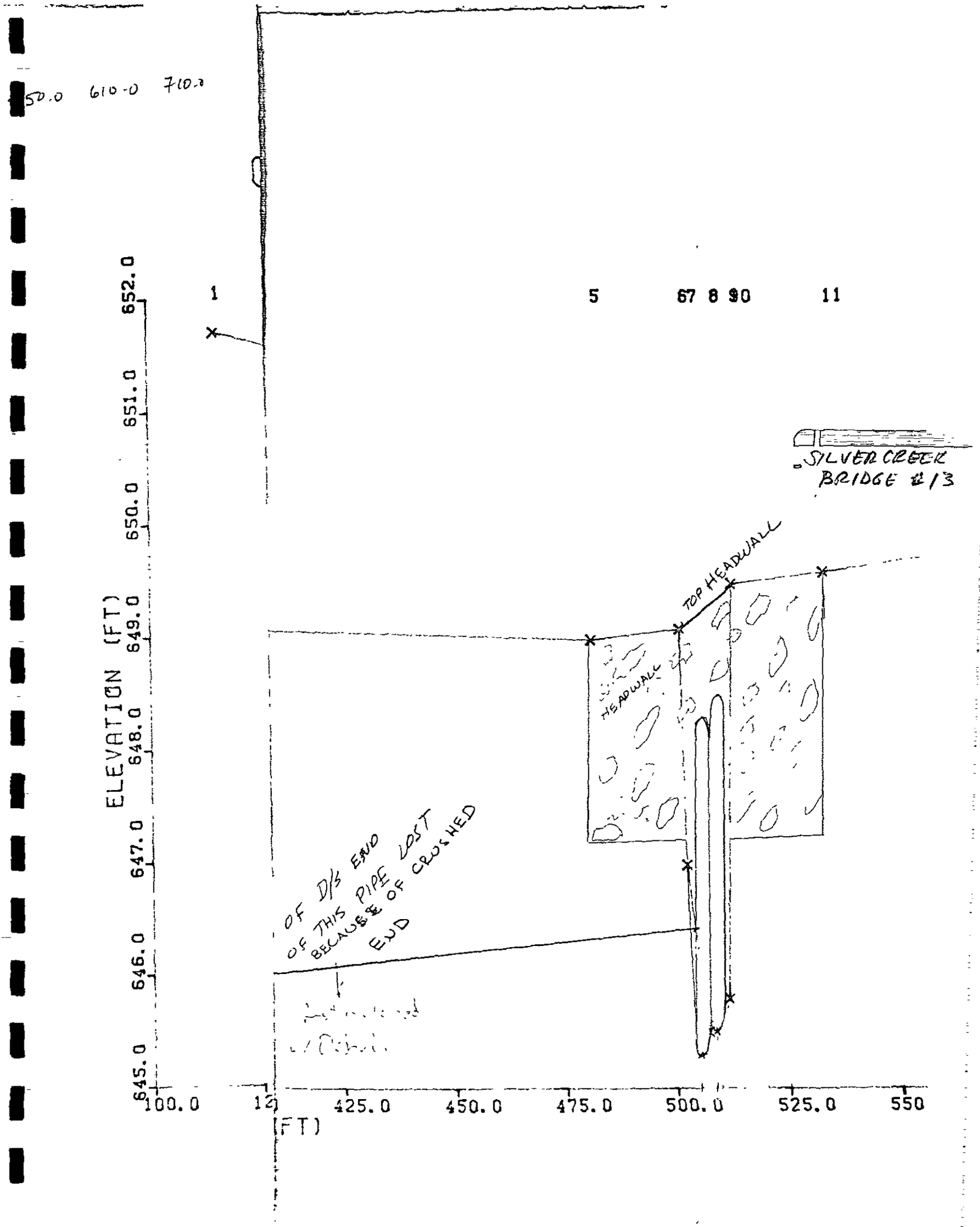
456 789 10

SILVER CREEK
BRIDGE #12



		647.42				
	5.68	648.56		4.54	642.88	SIDEWALK @ TRAILER COURT
3+00			4.3			SILVER CREEK
4+00			4.5		644.1	BR. @ XS - 12 (W. SIDE TRAILER CT.)
4+80			4.8			GRND
5+00			4.5			TOP/BANK (END/BR.)
5+02			8.3			BOT/BANK
5+04			9.4			CHANNEL
5+10			9.4			"
5+12			8.4			"
5+14			8.0			EDGE/WATER (BOT./BANK)
5+17.25			4.7		643.9	TOP/BANK (END/BR.)
5+37			5.5			GRND.
6+00			5.2			
	BR. AND GRND. SHOTS GOOD FOR ROADWAY SHOTS					
	7.21	651.47		4.33	644.26	




50.0 610.0 710.0
1
5
67 8 90
11
652.0
651.0
650.0
649.0
648.0
647.0
646.0
645.0
ELEVATION (FT)
SILVER CREEK
BRIDGE #13
TOP HEADWALL
HEADWALL
OF D/S END
OF THIS PIPE LOST
BECAUSE OF CRUSHED
END
100.0
425.0
450.0
475.0
500.0
525.0
550
(FT)

-EV-83

26

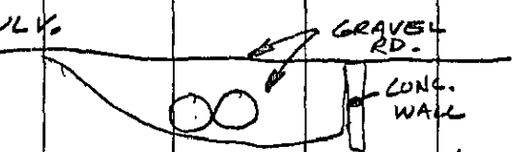
		651.47				
	7.80	653.85		5.42	646.05	STUMP
4+80			4.9			
5+00			4.8			
5+02			6.9			
5+05.5			8.6			
5+07			8.4			
5+08.5			8.4			
5+11.5			8.1			
"			4.4			
5+32			4.3			
6+00			3.9			
4+00			4.8			
3+00			4.5			
2+05*			3.1			
1+15			2.2			
			4.2	649.65		
			4.3	649.55		
			4.6	[illegible]		

SILVER CREEK
BR. @ XS-13

GRND
TOP/BANK (N. EDGE CONC. HD/WLL)
EDGE/WATER (BOT/BANK)
℄ N. CULVERT (36") INVERT
℄ CHANNEL
℄ S. 36" CULVERT INVERT
BOT/WALL (CHANNEL)
TOP/WALL (TOP/BANK)
GRND

NOTE -
D/S END OF N. CULV.
IS 3/4 CRUSHED

*S. END CHURCH
N. " "



24' WIDE

℄ RD @ 50' S.
℄ RD @ ℄ CRK.
℄ RD @ 50' N.

295

APPENDIX G

CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
COMPUTER PRINTOUTS

00BREAK00

1) COUNTY: Manistee

2) STUDY NAME: Chocolay Twp.

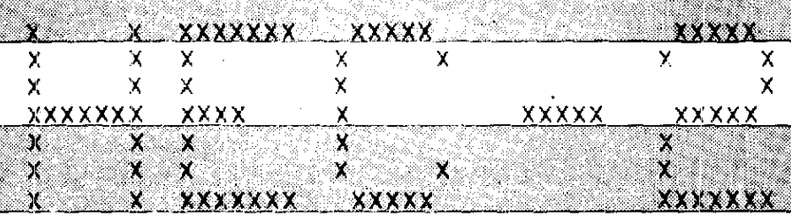
3) WATERCOURSE: Silver Creek

4) DOCUMENT TYPE: 10, 50, 100, 500 year encroached

00BREAK00

```
*********************************************
*  WATER SURFACE PROFILES                   *
*  VERSION OF NOVEMBER 1976                 *
*  UPDATED MAY 1984                         *
*                                           *
*  RUN DATE 13-FEB-85 TIME 11:30:30         *
*********************************************
```

```
*********************************************
*  U.S. ARMY CORPS OF ENGINEERS             *
*  THE HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D               *
*  DAVIS, CALIFORNIA 95616                  *
*  (916) 440-2105 (FTS) 448-2105            *
*********************************************
```



SILVER CREEK

- 10 YR

- 50 YR

- 100 YR

- 500 YR

13 FEB 85 JTP

THIS RUN EXECUTED 13-FEB-85 11:30:46

```
**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55
**************************************************

C
T1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1985
T2         JOB #1057F  SCTHREE.HEC   [SHEFF] 10 YR. FLOOD PROFILE RUN
T3        SILVER CREEK                                  JIP
J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL     FQ
          0.       2.       0.       0.  0.000000      0.00      0.0       0.  607.500    0.000
J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN        ALLOC     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
    150.000  201.000    0.000    0.000    0.000    0.000     0.000     0.000    0.000    0.000

BT    4.000  200.000  410.000  510.000  780.000  510.000     0.000     0.000    0.000    0.000
NC    0.100    0.100    0.035    0.100    0.300    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
      CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.
X1    1.100    8.000  500.000  518.000    0.000    0.000     0.000     0.000    0.000    0.000
GR  610.000  280.000  606.000  500.000  601.300  504.700   601.300   513.300  606.000  518.000
GR  610.000  580.000  615.000  595.000  620.000  610.000   625.000   710.000    0.000    0.000

NC    0.000    0.000    0.000    0.300    0.500    0.000     0.000     0.000    0.000    0.000
      D/S FACE OF FOOT BRIDGE.
X1    1.200   15.000  500.000  520.000  100.000  100.000   100.000     0.000    0.000    0.000
GR  615.000  375.000  610.000  430.000  607.300  480.000   606.500   500.000  602.500  500.900
GR  602.500  501.000  602.500  508.000  602.400  512.000   602.900   518.000  602.700  518.100
GR  606.100  520.000  607.000  522.000  606.500  542.000   610.000   585.000  615.000  600.000

ET    0.000    0.000    0.000    0.000    0.000    1.410     0.000     0.000    0.000    0.000
      1' INSIDE OF D/S FACE OF FOOT BRIDGE.
X1    1.300    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   607.300  606.500    0.000
BT    6.000  491.000  607.800  600.000  500.900  607.500   602.500   501.000  607.500  607.100
BT  518.000  607.100  606.600  518.100  607.100  602.900   522.000   607.000  600.000    0.000

      1' INSIDE OF U/S FACE OF FOOT BRIDGE.
X1    1.400    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   10.000    0.000    0.000    0.000    0.000    0.000     0.000   607.300  606.500    0.000
```

FT	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
	U/S FACE OF FOOT BRIDGE.									
X1	1.500	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	607.300	606.500	0.000
	25' U/S OF FOOT BRIDGE.									
X1	1.600	11.000	500.000	518.000	25.000	25.000	25.000	0.000	0.000	0.000
GR	620.000	290.000	615.000	405.000	610.000	465.000	606.000	500.000	602.600	503.400
GR	602.600	514.600	606.000	518.000	610.000	590.000	615.000	600.000	620.000	620.000
GR	625.000	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.045	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #2									
X1	2.000	12.000	500.000	511.000	320.000	440.000	380.000	0.000	0.000	0.000
GR	615.000	320.000	610.000	355.000	607.200	480.000	607.000	500.000	605.400	501.000
GR	604.900	505.000	604.900	508.000	603.600	510.000	607.600	511.000	608.400	531.000
GR	610.000	575.000	615.000	590.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	2.100	11.000	500.000	515.000	120.000	180.000	150.000	0.000	0.000	0.000
GR	620.000	220.000	615.000	320.000	610.000	370.000	606.000	500.000	605.000	502.000
GR	604.700	507.500	605.000	514.000	606.000	515.000	610.000	590.000	615.000	610.000
GR	620.000	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	2.200	10.000	500.000	520.000	150.000	140.000	150.000	0.000	0.000	0.000
GR	620.000	320.000	615.000	350.000	610.000	380.000	607.000	500.000	606.000	501.000
GR	605.800	510.000	606.000	519.000	607.000	520.000	610.000	525.000	615.000	580.000
	X									
X1	2.300	10.000	500.000	520.000	150.000	140.000	150.000	0.000	0.000	0.000
GR	620.000	370.000	615.000	440.000	610.000	470.000	608.000	500.000	607.000	501.000
GR	606.900	510.000	607.000	519.000	608.000	520.000	610.000	370.000	615.000	625.000
	90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.100	8.000	500.000	520.000	130.000	130.000	130.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	490.000	0.000	560.000	0.000	0.000	0.000	0.000
GR	620.000	375.000	615.000	460.000	609.800	500.000	608.000	504.000	608.000	516.000
GR	609.800	520.000	610.000	560.000	615.000	700.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.200	17.000	500.000	548.000	100.000	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	618.600	0.000	0.000
GR	619.600	400.000	619.600	480.000	619.600	500.000	614.600	502.000	610.200	516.000
GR	609.000	524.400	609.000	524.500	609.000	525.500	608.800	531.000	609.800	534.500
GR	612.400	535.000	612.400	535.100	612.400	536.000	612.400	536.100	615.000	546.000
GR	619.600	548.000	619.600	700.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.000	0.000	0.026	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	1.410	0.000	0.000	0.000	0.000
	1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.300	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	619.600	619.600	0.000
BT	21.000	480.000	619.600	611.000	500.000	619.600	614.600	502.000	619.600	617.600
BT	512.000	619.600	617.600	512.100	619.600	617.300	512.900	619.600	617.300	513.000
BT	619.600	617.600	516.000	619.600	617.600	524.400	619.600	617.600	524.500	619.600
BT	609.200	525.400	619.600	609.200	525.500	619.600	617.600	531.000	619.600	617.600
BT	534.500	619.600	617.600	535.000	619.600	617.600	535.100	619.600	612.400	534.000
BT	619.600	612.400	536.100	619.600	617.600	546.000	619.600	617.600	548.000	619.600
BT	615.000	568.000	619.600	611.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.400	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	619.600	619.600	0.000
NC	0.000	0.000	0.035	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
	U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
X1	3.500	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	619.600	619.600	0.000
	110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
X1	3.600	9.000	500.000	521.000	120.000	150.000	140.000	0.000	0.000	0.000
BR	615.000	440.000	610.000	470.000	610.000	500.000	609.100	500.000	609.100	519.000
BR	610.000	521.000	615.000	560.000	620.000	720.000	625.000	740.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	X									
X1	3.700	8.000	500.000	517.000	110.000	160.000	140.000	0.000	0.000	0.000
BR	619.000	400.000	615.000	410.000	611.500	500.000	609.400	500.000	609.400	519.000
BR	611.500	517.000	615.000	550.000	620.000	590.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #4									
X1	4.000	12.000	500.000	513.000	110.000	150.000	140.000	0.000	0.000	0.000
BR	619.500	458.000	619.300	473.000	612.500	485.000	612.300	500.000	610.600	502.000
BR	609.800	505.000	610.700	510.000	611.300	512.000	612.300	513.000	612.800	534.000
BR	615.000	540.000	620.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	400.000	700.000
	X									
X1	4.300	10.000	500.000	515.000	260.000	260.000	260.000	0.000	0.000	0.000
BR	619.400	460.000	619.200	475.000	615.000	485.000	613.000	500.000	611.000	502.000
BR	610.600	507.500	611.000	513.000	613.500	515.000	616.000	540.000	619.000	700.000
	X									
X1	4.600	9.000	500.000	520.000	260.000	260.000	260.000	0.000	0.000	0.000
BR	619.200	460.000	619.000	480.000	615.000	490.000	613.000	500.000	612.000	502.000
BR	611.800	510.000	612.000	518.000	615.000	520.000	620.000	530.000	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
	SURVEY SECTION #5									
X1	5.000	11.000	500.000	523.000	260.000	260.000	260.000	0.000	0.000	0.000
GR	619.000	466.000	618.900	480.000	614.800	500.000	613.400	502.000	613.100	502.100
GR	612.300	505.000	612.400	510.000	612.300	513.000	614.800	523.000	615.000	600.000
GR	620.000	710.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	5.500	8.000	500.000	517.000	480.000	470.000	480.000	0.000	0.000	0.000
GR	620.000	450.000	615.000	455.000	614.800	500.000	612.550	504.000	612.550	513.000
GR	614.800	517.000	615.000	740.000	620.000	800.000	650.000	810.000	0.000	0.000
NC	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #6									
X1	6.000	14.000	500.000	512.000	520.000	450.000	480.000	0.000	0.000	0.000
GR	625.000	350.000	620.000	410.000	619.100	457.000	619.300	470.000	614.900	480.000
GR	614.500	500.000	613.400	501.000	613.200	504.000	612.800	508.000	612.800	511.500
GR	614.700	512.000	614.800	532.000	620.000	900.000	625.000	920.000	0.000	0.000
	X									
X1	6.100	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	618.700	465.000	615.900	500.000	614.500	501.400	614.200	507.500
GR	614.500	513.600	615.900	515.000	618.700	750.000	620.000	900.000	625.000	920.000
	X									
X1	6.200	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	620.100	465.000	617.000	500.000	616.000	501.300	615.600	507.500
GR	616.000	513.700	617.000	515.000	620.100	725.000	620.000	910.000	625.000	920.000
	X									
X1	6.300	10.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	300.000	625.000	350.000	621.600	465.000	618.700	500.000	617.500	501.200
GR	617.100	507.500	617.500	513.800	618.700	515.000	621.600	700.000	630.000	910.000
	X									
X1	6.400	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	300.000	623.000	465.000	620.100	500.000	619.000	501.100	618.500	507.500
GR	619.000	513.900	620.100	515.000	623.000	675.000	625.000	930.000	630.000	940.000
	X									
X1	6.500	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	350.000	624.400	465.000	621.500	500.000	620.500	501.000	619.900	507.500
GR	620.500	514.000	621.500	515.000	624.400	650.000	625.000	750.000	630.000	800.000
	X									
X1	6.600	9.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	400.000	625.900	465.000	622.900	500.000	621.400	501.500	621.400	513.500
GR	622.900	515.000	625.900	625.000	626.500	680.000	630.000	700.000	0.000	0.000

	X									
X1	6.700	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	300.000	630.000	360.000	627.300	465.000	624.300	500.800	622.800	501.500
GR	622.800	513.500	624.300	515.000	627.300	600.000	630.000	720.000	635.000	740.000
	X									
X1	6.800	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	300.000	630.000	380.000	628.700	465.000	625.700	500.000	624.200	501.500
GR	624.200	513.500	625.700	515.000	628.700	575.000	630.000	700.000	635.000	750.000
	SURVEY SECTION #7									
X1	7.000	11.000	500.000	515.100	140.000	140.000	140.000	0.000	0.000	0.000
GR	635.000	400.000	627.000	480.000	627.100	500.000	626.500	501.000	625.800	501.100
GR	625.700	505.000	625.800	510.000	626.400	515.000	627.100	515.100	627.100	535.000
GR	635.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	405.000	620.000	432.000	582.000
	SURVEY SECTION #8									
X1	8.000	15.000	500.000	513.000	420.000	430.000	430.000	0.000	0.000	0.000
GR	635.000	0.000	631.000	390.000	628.400	400.000	627.900	480.000	628.200	490.000
GR	628.900	500.000	628.400	500.100	627.600	501.000	627.300	505.000	627.500	510.000
GR	627.700	512.000	628.400	513.000	629.100	533.000	628.200	600.000	640.000	950.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	420.000	590.000	453.000	563.000
X1	8.500	11.000	500.000	515.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	635.000	200.000	631.500	390.000	630.200	400.000	629.900	500.000	628.500	501.000
GR	628.300	507.500	628.400	512.000	629.700	515.000	630.300	541.000	629.900	600.000
GR	640.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	420.000	585.000	477.000	537.000
NC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.600	11.000	500.000	515.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	635.000	200.000	631.800	390.000	631.100	400.000	630.300	500.000	628.900	501.000
GR	628.800	507.500	628.900	512.000	630.400	515.000	630.900	545.000	630.800	600.000
GR	640.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	440.000	595.000	485.000	525.000
X1	8.700	11.000	497.500	513.500	50.000	50.000	50.000	0.000	0.000	0.000
GR	637.500	299.500	632.200	395.000	631.800	402.500	631.200	497.500	629.200	500.500
GR	629.100	506.900	630.400	512.000	631.000	513.500	631.700	547.500	630.200	600.000
GR	640.000	625.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.080	0.080	0.045	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.200	12.000	497.000	509.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	400.000	0.000	600.000	0.000	632.600	632.600	0.000
GR	640.000	399.000	632.600	400.000	632.500	405.000	631.500	497.000	629.400	500.000
GR	629.400	500.100	629.400	506.200	629.400	506.300	631.500	509.000	632.500	550.000
GR	631.700	600.000	640.000	601.000	0.000	0.000	0.000	0.000	0.000	0.000

SB	0.000	2.200	3.000	0.000	6.200	0.000	24.800	0.000	629.400	629.400
	U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.300	12.000	495.000	512.000	109.000	109.000	109.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	633.400	637.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	400.000	0.000	600.000	0.000	637.600	637.600	0.000
BT	7.000	400.000	639.400	630.000	500.000	638.400	629.400	500.100	638.400	633.400
BT	506.200	638.400	633.400	506.300	638.400	629.400	550.000	637.600	630.000	600.000
BT	638.600	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	640.000	399.000	639.400	400.000	638.500	405.000	634.000	495.000	629.400	500.000
GR	629.400	500.100	629.400	506.200	629.400	506.300	634.000	512.000	637.000	590.000
GR	638.600	600.000	640.000	601.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.400	11.000	500.000	512.000	200.000	180.000	200.000	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	640.000	100.000	639.000	300.000	636.000	400.000	634.000	500.000	632.000	504.000
GR	629.800	506.000	632.000	508.000	634.000	512.000	636.000	650.000	639.000	750.000
GR	640.000	950.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.410	0.000	0.000	310.000	645.000
	D/S FACE OF 36" TWIN CULVERTS									
X1	10.200	23.000	500.000	516.000	220.000	400.000	340.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	636.100	636.000	0.000
GR	645.000	300.000	637.500	300.000	635.100	400.000	635.700	480.000	636.000	500.000
GR	633.200	502.000	634.300	504.500	633.000	505.000	632.800	506.000	633.000	507.000
GR	634.300	507.500	632.800	508.000	632.500	509.000	632.800	510.000	634.000	510.500
GR	633.000	512.000	636.000	516.000	636.000	536.000	635.400	550.000	635.700	600.000
GR	636.000	700.000	638.000	750.000	645.000	760.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.410	0.000	0.000	310.000	645.000
	1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS									
X1	10.300	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	636.100	636.000	0.000
BT	16.000	480.000	635.700	630.000	500.000	636.100	636.000	502.000	636.000	633.200
BT	504.500	636.000	634.300	505.000	636.000	635.600	506.000	636.000	635.800	507.000
BT	636.000	635.600	507.500	636.000	634.300	508.000	636.100	635.300	509.000	636.100
BT	635.500	510.000	636.100	635.300	510.500	636.000	634.000	512.000	635.900	633.000
BT	516.000	636.100	636.000	536.000	636.000	630.000	550.000	635.400	630.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	0.000	0.000	0.000	310.000	645.000
	1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS									
X1	10.400	0.000	0.000	0.000	21.000	21.000	21.000	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	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.400	0.000	0.000	310.000	645.000

U/S FACE OF 36" TWIN CULVERTS

X1	10.500	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	636.100	636.000	0.000

370' U/S OF 36" TWIN CULVERTS

X1	10.600	9.000	500.000	516.000	330.000	370.000	370.000	0.000	0.000	0.000
GR	645.000	200.000	640.000	300.000	638.000	400.000	636.600	500.000	634.600	504.000
GR	634.600	512.000	636.600	516.000	638.000	600.000	640.000	700.000	0.000	0.000
NC	0.000	0.000	0.040	0.100	0.300	0.000	0.000	0.000	0.000	0.000
X1	11.100	10.000	500.000	516.000	310.000	400.000	380.000	0.000	0.000	0.000
GR	645.000	100.000	643.000	200.000	640.500	400.000	638.300	500.000	635.900	504.000
GR	635.900	512.000	638.300	516.000	639.000	600.000	640.000	650.000	645.000	800.000

SURVEY SECTION 11A

X1	11.150	19.000	500.000	516.000	270.000	320.000	300.000	0.000	0.000	0.000
GR	642.600	169.000	642.600	271.000	642.500	300.000	642.600	362.000	642.700	400.000
GR	642.500	447.000	642.100	480.000	640.900	484.000	639.800	500.000	638.700	501.000
GR	637.200	504.000	638.200	508.000	638.600	511.000	638.500	513.000	638.900	516.000
GR	640.300	517.000	640.500	537.000	640.000	600.000	645.000	750.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000

D/S FACE OF FTBRDGE - L BNK ENDED @ STA 430 FOR CONTR - EL@300=641.2

X1	11.200	16.000	500.000	516.500	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	639.500	639.700	0.000
GR	645.000	430.000	645.000	430.000	640.100	430.000	639.600	480.000	639.500	500.000
GR	639.100	502.000	637.600	505.500	637.400	511.000	638.500	514.500	638.600	515.000
GR	638.700	516.500	639.700	516.600	639.700	537.000	640.000	600.000	640.000	620.000
GR	645.000	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.023	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	1.410	0.000	0.000	0.000	0.000

1' INSIDE OF D/S FACE OF FOOTBRIDGE

X1	11.300	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	7.000	480.000	639.600	630.000	500.000	640.500	639.500	502.000	641.000	639.100
BT	505.500	641.000	640.000	511.000	641.000	640.000	516.500	639.700	638.700	537.000
BT	639.700	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1' INSIDE OF U/S FACE OF FOOTBRIDGE

X1	11.400	0.000	0.000	0.000	1.500	1.500	1.500	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	0.040	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

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

X1	11.500	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	639.500	639.700	0.000

NH	7.000	0.050	340.000	10.000	360.000	0.050	410.000	10.000	471.000	0.060
NH	500.000	0.040	517.000	0.100	750.000	0.000	0.000	0.000	0.000	0.000
	100' U/S OF FOOTBRIDGE									
X1	11.600	16.000	500.000	517.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	650.000	329.000	643.300	330.000	643.200	340.000	643.100	360.000	642.700	410.000
GR	642.500	447.000	641.800	471.000	640.000	500.000	639.000	504.000	638.000	508.000
GR	639.000	512.000	640.000	517.000	640.900	537.000	641.100	600.000	642.000	650.000
GR	650.000	651.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	11.000	0.100	308.000	10.000	326.000	0.100	348.000	10.000	370.000	0.100
NH	389.000	10.000	404.000	0.100	427.000	10.000	443.000	0.100	500.000	0.040
NH	517.300	0.100	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF BRIDGE @ TRAILER PARK									
X1	12.200	24.000	500.000	517.300	200.000	200.000	200.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	460.000	0.000	555.000	0.000	642.400	642.900	0.000
GR	650.000	285.000	644.300	286.000	644.200	308.000	644.200	326.000	644.200	348.000
GR	644.100	362.000	644.100	389.000	644.100	400.000	644.100	404.000	644.000	427.000
GR	644.000	443.000	643.000	458.000	642.000	482.000	641.500	500.000	640.300	502.000
GR	639.200	504.000	639.200	510.000	640.200	512.000	640.400	514.000	640.600	517.300
GR	641.000	555.000	643.000	600.000	645.000	750.000	650.000	751.000	0.000	0.000
SB	0.000	1.860	3.000	95.000	6.000	0.000	37.000	0.930	639.200	639.200
	U/S FACE OF BRIDGE @ TRAILER PARK									
X1	12.300	24.000	500.000	517.300	19.000	19.000	19.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	642.600	644.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	460.000	0.000	555.000	0.000	643.800	643.100	0.000
GR	650.000	285.000	644.300	286.000	644.200	308.000	644.200	326.000	644.200	348.000
GR	644.100	362.000	644.100	389.000	644.100	400.000	644.100	404.000	644.000	427.000
GR	644.000	443.000	643.900	458.000	643.800	482.000	641.000	500.000	640.300	502.000
GR	639.200	504.000	639.200	510.000	640.200	512.000	640.600	514.000	641.000	517.300
GR	643.100	555.000	643.400	600.000	645.000	750.000	650.000	751.000	0.000	0.000
NC	0.100	0.100	0.040	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	9.100	0.000	0.000	229.000	701.000
	X									
X1	12.400	12.000	500.000	517.000	220.000	220.000	220.000	0.000	0.000	0.000
GR	652.000	229.000	646.800	400.000	645.800	415.000	643.500	500.000	642.200	503.000
GR	641.200	507.000	642.200	514.000	643.500	517.000	644.000	536.000	646.200	585.000
GR	646.700	700.000	650.000	701.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	X									
X1	12.900	12.000	500.000	517.000	220.000	220.000	220.000	0.000	0.000	0.000
GR	655.000	169.000	651.500	170.000	647.200	400.000	645.300	500.000	643.800	503.000
GR	643.100	506.000	643.700	514.000	645.400	517.000	645.800	534.000	648.000	600.000
GR	648.300	650.000	655.000	651.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	12.950	12.000	500.000	517.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	440.000	0.000	565.000	0.000	0.000	0.000	0.000
GR	655.000	150.000	648.000	320.000	647.500	400.000	646.200	500.000	644.500	504.000
GR	644.000	506.000	644.500	513.000	646.200	517.000	647.800	560.000	648.700	600.000
GR	648.900	625.000	655.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.080	0.080	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)									
X1	13.100	14.000	500.000	514.500	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	648.000	648.000	0.000
GR	655.000	465.000	649.300	467.000	647.000	500.000	647.000	502.000	645.300	505.500
GR	645.500	507.000	645.600	508.000	647.300	508.500	646.500	510.000	645.800	511.500
GR	646.500	513.000	647.300	514.500	649.600	547.000	655.000	548.000	0.000	0.000
SB	0.000	2.650	3.000	0.000	3.000	0.000	7.100	0.000	645.800	645.800
	U/S FACE OF 2-36" CULVERTS									
X1	13.200	0.000	0.000	0.000	24.000	24.000	24.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	648.200	649.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	648.400	648.400	0.000
BT	10.000	467.000	649.300	640.000	500.000	649.400	640.000	502.000	649.400	640.000
BT	507.000	649.400	640.000	508.500	649.400	647.300	510.000	649.400	648.000	511.500
BT	649.400	648.800	513.000	649.400	648.000	514.500	649.500	647.300	547.000	649.600
BT	640.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.040	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
	200' U/S OF 2-36" CULVERTS									
X1	13.500	8.000	500.000	515.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	652.000	220.000	650.000	480.000	649.000	500.000	646.600	504.000	646.600	511.000
GR	649.000	515.000	650.000	540.000	655.000	700.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
X1	14.000	12.000	500.000	515.000	280.000	280.000	280.000	0.000	0.000	0.000
GR	657.300	200.000	655.800	300.000	651.800	320.000	650.700	480.000	650.800	500.000
GR	649.300	502.000	648.200	506.000	648.100	510.000	649.800	513.000	650.700	515.000
GR	651.800	535.000	658.700	565.000	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

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
D	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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 1.100
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.

1.10	6.20	607.50	0.00	607.50	607.56	0.06	0.00	0.00	606.00
200.	14.	182.	4.	62.	90.	17.	0.	0.	606.00
0.00	0.23	2.03	0.23	0.100	0.035	0.100	0.000	601.30	417.50
0.000350	0.	0.	0.	0	0	0	0.00	123.75	541.25

CCHV= 0.300 CEHV= 0.500
*SECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	5.14	607.54	0.00	0.00	607.60	0.06	0.04	0.00	606.50
200.	3.	192.	6.	13.	94.	24.	0.	0.	606.10
0.01	0.21	2.03	0.23	0.100	0.035	0.100	0.000	602.40	475.65
0.000390	100.	100.	100.	0	0	0	0.00	79.07	554.72

*SECNO 1.300

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF D/S FACE OF FOOT BRIDGE.

1.30	5.13	607.53	0.00	0.00	607.60	0.07	0.00	0.01	606.50
200.	7.	181.	13.	13.	79.	23.	0.	0.	606.10
0.01	0.50	2.30	0.54	0.100	0.035	0.100	0.000	602.40	475.63
0.002163	1.	1.	1.	0	0	0	-16.71	79.09	554.73

607.1
1.93
605-15

*SECNO 1.400

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.40	5.14	607.54	0.00	0.00	607.61	0.07	0.01	0.00	606.50
200.	7.	181.	13.	13.	79.	23.	0.	0.	606.10
0.02	0.50	2.30	0.54	0.100	0.035	0.100	0.000	602.40	475.63
0.002162	5.	5.	5.	0	0	0	-16.71	79.10	554.73

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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

*SECNO 1.500
      U/S FACE OF FOOT BRIDGE
    1.50     5.16   607.56     0.00     0.00   607.62     0.06     0.00     0.00   606.50
    200.       3.     191.       6.      14.      95.      25.       0.       0.   606.10
    0.02     0.21     2.02     0.24    0.100    0.035    0.100    0.000   602.40   475.36
0.000384       1.       1.       1.        1        0        0     0.00    79.55   554.91

*SECNO 1.600
      25' U/S OF FOOT BRIDGE.
    1.60     4.96   607.56     0.00     0.00   607.65     0.09     0.01     0.01   606.00
    200.       3.     190.       7.      11.      78.      22.       0.       0.   606.00
    0.02     0.30     2.45     0.30    0.100    0.035    0.100    0.000   602.60   486.38
0.000575      25.      25.      25.        2        0        0     0.00    59.65   546.02

CCHV=   0.100 CEHV=   0.300
*SECNO 2.000
      SURVEY SECTION #2
    2.00     4.32   607.92     0.00     0.00   608.29     0.38     0.56     0.09   607.00
    200.      31.     169.       1.      28.      32.       1.       1.       1.   607.60
    0.04     1.08     5.34     0.45    0.100    0.045    0.100    0.000   603.60   447.51
0.010039     320.     380.     440.        2        0        0     0.00    71.69   519.20

*SECNO 2.100
      X
    2.10     3.87   608.57     0.00     0.00   608.62     0.04     0.29     0.03   606.00
    200.      54.     115.      31.     107.      54.      62.       2.       1.   606.00
    0.07     0.50     2.14     0.50    0.100    0.045    0.100    0.000   604.70   416.43
0.000810     120.     150.     180.        2        0        0     0.00   146.79   563.21

*SECNO 2.200
      X
    2.20     2.91   608.71     0.00     0.00   608.82     0.11     0.19     0.02   607.00
    200.      37.     162.       1.      59.      55.       2.       2.       2.   607.00
    0.09     0.62     2.94     0.56    0.100    0.045    0.100    0.000   605.80   431.37
0.002163     150.     150.     140.        2        0        0     0.00    91.49   522.86

*SECNO 2.300
      X
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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
2.30	2.23	609.13	0.00	0.00	609.38	0.25	0.51	0.04	608.00
200.	8.	179.	13.	10.	43.	16.	3.	2.	608.00
0.10	0.81	4.22	0.81	0.100	0.045	0.100	0.000	606.90	483.02
0.006292	150.	150.	140.	2	0	0	0.00	65.28	548.30

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 560.0 TYPE= 1 TARGET= 70.000
90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	2.14	610.14	609.81	0.00	610.58	0.44	1.14	0.06	609.80
200.	0.	193.	6.	0.	36.	10.	3.	2.	609.80
0.10	0.52	5.43	0.66	0.100	0.045	0.100	0.000	608.00	497.37
0.013147	130.	130.	130.	5	12	0	0.00	62.63	560.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60
D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.20	2.52	611.32	0.00	0.00	611.72	0.39	1.13	0.01	619.60
200.	0.	200.	0.	0.	40.	0.	3.	2.	619.60
0.11	0.00	5.04	0.00	0.000	0.045	0.000	0.000	608.80	512.42
0.011914	100.	90.	90.	3	0	0	0.00	22.37	534.79

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60
1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	2.53	611.33	0.00	0.00	611.73	0.39	0.01	0.00	619.60
200.	0.	200.	0.	0.	40.	0.	3.	2.	619.60
0.11	0.00	5.04	0.00	0.000	0.026	0.000	0.000	608.80	512.38
0.004971	1.	1.	1.	0	0	0	-0.30	22.41	534.80

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	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3.400

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	2.66	611.46	0.00	0.00	611.80	0.35	0.06	0.01	619.60
200.	0.	200.	0.	0.	42.	0.	3.	2.	619.60
0.11	0.00	4.74	0.00	0.000	0.026	0.000	0.000	608.80	512.02
0.004187	14.	14.	14.	0	0	0	-0.33	22.80	534.82

*SECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.50	2.67	611.47	0.00	0.00	611.81	0.34	0.00	0.00	619.60
200.	0.	200.	0.	0.	43.	0.	3.	2.	619.60
0.11	0.00	4.66	0.00	0.000	0.035	0.000	0.000	608.80	511.97
0.005764	1.	1.	1.	1	0	0	0.00	22.85	534.82

*SECNO 3.600

110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	2.96	612.06	0.00	0.00	612.13	0.07	0.24	0.08	610.00
200.	48.	145.	7.	75.	60.	17.	3.	2.	610.00
0.13	0.64	2.41	0.43	0.100	0.035	0.100	0.000	609.10	457.63
0.000805	120.	140.	150.	2	0	0	0.00	79.44	537.08

CCHV= 0.100 CEHV= 0.300

*SECNO 3.700

X

3.70	2.63	612.03	0.00	0.00	612.48	0.45	0.24	0.12	611.50
200.	2.	198.	1.	4.	36.	1.	3.	2.	611.50
0.14	0.49	5.44	0.49	0.100	0.035	0.100	0.000	609.40	486.32
0.006439	110.	140.	160.	3	0	0	0.00	35.70	522.02

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
*SECNO 4.000									
SURVEY SECTION #4									
4.00	3.14	612.94	612.69	0.00	613.47	0.53	0.97	0.02	612.30
200.	7.	187.	5.	8.	31.	8.	4.	3.	612.30
0.14	0.85	4.05	0.69	0.100	0.035	0.100	0.000	609.80	484.22
0.007474	110.	140.	150.	5	8	0	0.00	49.24	533.46
*SECNO 4.300									
X									
4.30	3.68	614.28	0.00	0.00	614.54	0.26	1.04	0.03	613.00
200.	3.	195.	1.	6.	47.	3.	4.	3.	613.50
0.16	0.55	4.16	0.40	0.100	0.035	0.100	0.000	610.60	490.39
0.002497	260.	260.	260.	3	0	0	0.00	32.42	522.81
*SECNO 4.600									
X									
4.60	3.13	614.93	0.00	0.00	615.11	0.18	0.56	0.01	613.00
200.	6.	194.	0.	9.	56.	0.	4.	3.	615.00
0.18	0.62	3.46	0.00	0.100	0.035	0.000	0.000	611.80	490.37
0.001880	260.	260.	260.	2	0	0	0.00	29.58	519.95
*SECNO 5.000									
SURVEY SECTION #5									
5.00	3.17	615.47	0.00	0.00	615.61	0.15	0.50	0.00	614.80
200.	0.	179.	20.	1.	55.	46.	5.	3.	614.80
0.21	0.31	3.26	0.44	0.100	0.035	0.100	0.000	612.30	496.75
0.001954	260.	260.	260.	2	0	0	0.00	113.52	610.27
*SECNO 5.500									
X									
5.50	3.47	616.02	0.00	0.00	616.04	0.03	0.42	0.01	614.80
200.	18.	92.	90.	51.	50.	256.	7.	6.	614.80
0.33	0.35	1.85	0.35	0.100	0.035	0.100	0.000	612.55	453.98
0.000492	480.	480.	470.	3	0	0	0.00	298.24	752.22
*SECNO 6.000									
SURVEY SECTION #6									
6.00	3.59	616.39	0.00	0.00	616.44	0.05	0.39	0.01	614.50
200.	30.	95.	75.	36.	39.	123.	10.	8.	614.70
0.42	0.84	2.42	0.61	0.100	0.050	0.100	0.000	612.80	476.61
0.001674	520.	480.	450.	2	0	0	0.00	168.16	644.77

SECNO / TIME / SLOPE	DEPTH / QLOB / VLOB / XLOBL	CWSEL / QCH / VCH / XLCH	CRIWS / QROB / VROB / XLOBR	WSELK / ALOB / XNL / ITRIAL	EG / ACH / XNCH / IDC	HV / AROB / XNR / ICONT	HL / VOL / WTN / CORAR	OLOSS / INA / ELMIN / TOPWID	BANK ELEV LEFT/RIGHT / SSTA / ENDST
*SECNO 6.100									
X									
6.10	2.40	616.60	616.51	0.00	617.05	0.45	0.49	0.12	615.90
200.	3.	178.	19.	3.	31.	21.	11.	9.	615.90
0.43	0.91	5.62	0.91	0.100	0.050	0.100	0.000	614.20	491.19
0.014986	130.	130.	130.	4	11	0	0.00	83.00	574.19
*SECNO 6.200									
X									
6.20	2.60	618.20	0.00	0.00	618.42	0.22	1.35	0.02	617.00
200.	7.	148.	45.	8.	34.	48.	11.	9.	617.00
0.44	0.92	4.34	0.92	0.100	0.050	0.100	0.000	615.60	486.49
0.007574	130.	130.	130.	3	0	0	0.00	109.56	596.05
*SECNO 6.300									
X									
6.30	2.40	619.50	619.38	0.00	619.94	0.44	1.45	0.07	618.70
200.	4.	176.	20.	4.	31.	20.	11.	9.	618.70
0.45	0.99	5.68	0.99	0.100	0.050	0.100	0.000	617.10	490.39
0.015123	140.	140.	140.	4	11	0	0.00	75.42	565.81
*SECNO 6.400									
X									
6.40	2.67	621.17	0.00	0.00	621.46	0.29	1.50	0.02	620.10
200.	6.	164.	29.	7.	35.	32.	11.	9.	620.10
0.45	0.93	4.75	0.94	0.100	0.050	0.100	0.000	618.50	487.10
0.009137	130.	130.	130.	2	0	0	0.00	86.86	573.97
*SECNO 6.500									
X									
6.50	2.57	622.47	0.00	0.00	622.85	0.38	1.37	0.03	621.50
200.	6.	172.	22.	6.	32.	22.	11.	10.	621.50
0.46	1.01	5.30	1.02	0.100	0.050	0.100	0.000	619.90	488.28
0.012245	130.	130.	130.	2	0	0	0.00	71.92	560.20
*SECNO 6.600									
X									
6.60	2.59	623.99	0.00	0.00	624.29	0.31	1.43	0.01	622.90
200.	6.	174.	20.	7.	37.	22.	12.	10.	622.90
0.47	0.92	4.76	0.92	0.100	0.050	0.100	0.000	621.40	487.34
0.008702	140.	140.	140.	1	0	0	0.00	67.44	554.78

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
*SECNO 6.700									
	X								
6.70	2.43	625.23	0.00	0.00	625.64	0.41	1.32	0.03	624.30
200.	5.	183.	12.	5.	34.	12.	12.	10.	624.30
0.48	0.97	5.34	0.98	0.100	0.050	0.100	0.000	622.80	489.11
0.011947	130.	130.	130.	2	0	0	0.00	52.34	541.45
*SECNO 6.800									
	X								
6.80	2.52	626.72	0.00	0.00	627.11	0.38	1.46	0.00	625.70
200.	6.	184.	10.	6.	36.	10.	12.	10.	625.70
0.49	0.98	5.17	0.98	0.100	0.050	0.100	0.000	624.20	488.07
0.010615	130.	130.	130.	2	0	0	0.00	47.38	535.45
*SECNO 7.000									
SURVEY SECTION #7									
7.00	2.46	628.16	0.00	0.00	628.33	0.17	1.20	0.02	627.10
200.	35.	134.	31.	29.	33.	26.	12.	10.	627.10
0.50	1.23	4.00	1.21	0.100	0.050	0.100	0.000	625.70	468.44
0.007095	140.	140.	140.	1	0	0	0.00	75.24	543.69
*SECNO 8.000									
3470 ENCROACHMENT STATIONS=		432.0	582.0	TYPE=	1	TARGET=	150.000		
SURVEY SECTION #8									
8.00	2.44	629.74	0.00	0.00	629.77	0.03	1.42	0.01	628.90
200.	98.	60.	42.	110.	28.	67.	14.	11.	628.40
0.60	0.89	2.10	0.63	0.100	0.050	0.100	0.000	627.30	432.00
0.001932	420.	430.	430.	5	0	0	0.00	150.00	582.00
*SECNO 8.500									
7185 MINIMUM SPECIFIC ENERGY									
3720 CRITICAL DEPTH ASSUMED									
3470 ENCROACHMENT STATIONS=		453.0	563.0	TYPE=	1	TARGET=	110.000		
8.50	2.18	630.48	630.48	0.00	630.83	0.35	0.84	0.10	629.90
200.	28.	154.	18.	24.	29.	18.	14.	12.	629.70
0.61	1.15	5.36	1.00	0.100	0.050	0.100	0.000	628.30	453.00
0.014880	200.	200.	200.	4	12	0	0.00	110.00	563.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FQ	HV	HL	OLOSS	RANK 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

*SECNO 8.600

3470 ENCROACHMENT STATIONS=			477.0	537.0	TYPE=	1	TARGET=	60.000	
8.60	2.69	631.49	0.00	0.00	631.72	0.23	0.88	0.01	630.50
200.	22.	157.	21.	21.	36.	20.	14.	12.	630.40
0.62	1.05	4.31	1.04	0.100	0.045	0.100	0.000	628.80	477.00
0.005807	100.	100.	100.	3	0	0	0.00	60.00	537.00

*SECNO 8.700

3470 ENCROACHMENT STATIONS=			485.0	525.0	TYPE=	1	TARGET=	40.000	
8.70	2.64	631.74	0.00	0.00	632.19	0.46	0.40	0.07	631.20
200.	6.	185.	8.	6.	33.	7.	14.	12.	631.00
0.62	1.00	5.62	1.15	0.100	0.045	0.100	0.000	629.10	485.00
0.011868	50.	50.	50.	2	0	0	0.00	40.00	525.00

CCHV= 0.300 CEHV= 0.500

*SECNO 9.200

3470 ENCROACHMENT STATIONS=			400.0	600.0	TYPE=	1	TARGET=	200.000	

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 632.60 ELREA= 632.60

D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.20	2.88	632.28	0.00	0.00	633.04	0.76	0.69	0.15	631.50
200.	0.	200.	0.	0.	29.	0.	14.	12.	631.50
0.62	0.00	7.01	0.00	0.000	0.045	0.000	0.000	629.40	497.00
0.016407	50.	50.	50.	2	0	0	0.00	12.00	509.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.20	3.00	0.00	6.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300

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

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= 0.000 EGLWC= 633.083 ELLC= 633.400 PCWSF= 632.277 ELTRD= 637.600

4575 CRITICAL DEPTH ASSUMED BELOW ELLC OF 633.400 EGLC= 634.410 EGC= 639.001 WSEL= 638.706

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 637.60 MAX ELLC= 633.40

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 637.60 ELREA= 637.60

U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.30	5.56	634.96	632.55	0.00	635.97	1.01	2.80	0.12	634.00
200.	0.	200.	0.	0.	25.	0.	15.	12.	634.00
0.63	0.00	8.06	0.00	0.000	0.045	0.000	0.000	629.40	495.00
0.045973	109.	109.	109.	5	20	0	-56.94	17.00	512.00

*SECNO 9.400

3301 HV CHANGED MORE THAN HVINS

200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.40	6.65	636.45	0.00	0.00	636.47	0.02	0.21	0.30	634.00
200.	49.	83.	68.	149.	50.	204.	15.	13.	634.00
0.49	0.33	1.67	0.33	0.100	0.035	0.100	0.000	629.80	384.87
0.000309	200.	200.	180.	4	0	0	0.00	280.25	665.13

*SECNO 10.200

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000

D/S FACE OF 36" TWIN CULVERTS

10.20	4.10	636.60	0.00	0.00	636.63	0.03	0.15	0.00	636.00
200.	68.	87.	46.	159.	46.	116.	18.	15.	636.00
0.77	0.42	1.90	0.39	0.100	0.035	0.100	0.000	632.50	337.16
0.000793	220.	340.	400.	3	0	0	0.00	307.84	645.00

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

*SECNO 10.300

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.30	4.12	636.62	0.00	0.00	636.63	0.01	0.00	0.00	636.00
200.	95.	41.	64.	158.	23.	115.	18.	15.	636.00
0.77	0.60	1.79	0.56	0.100	0.025	0.100	0.000	632.50	337.17
0.001590	1.	1.	1.	1	0	0	-24.52	307.83	645.00

*SECNO 10.400

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS

10.40	4.15	636.65	0.00	0.00	636.66	0.01	0.03	0.00	636.00
200.	95.	41.	64.	164.	24.	119.	18.	15.	636.00
0.78	0.58	1.73	0.54	0.100	0.025	0.100	0.000	632.50	335.80
0.001438	21.	21.	21.	0	0	0	-24.57	309.20	645.00

*SECNO 10.500

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
U/S FACE OF 36" TWIN CULVERTS

10.50	4.15	636.65	0.00	0.00	636.67	0.02	0.00	0.00	636.00
200.	72.	78.	49.	166.	46.	121.	18.	15.	636.00
0.78	0.44	1.69	0.41	0.100	0.040	0.100	0.000	632.50	335.40
0.000801	1.	1.	1.	0	0	0	0.00	309.60	645.00

*SECNO 10.600
370' U/S OF 36" TWIN CULVERTS

10.60	2.52	637.12	636.97	0.00	637.62	0.50	0.71	0.24	636.60
200.	6.	189.	5.	10.	32.	8.	20.	17.	636.60
0.80	0.62	5.86	0.62	0.100	0.040	0.100	0.000	634.60	463.00
0.010517	330.	370.	370.	4	11	0	0.00	84.08	547.08

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,NRO= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF U/S FACE OF FOOTBRIDGE

11.40	3.67	641.07	0.00	0.00	641.09	0.02	0.00	0.00	639.50
200.	53.	56.	91.	82.	30.	142.	21.	19.	638.70
0.86	0.65	1.89	0.64	0.100	0.023	0.100	0.000	637.40	430.00
0.001562	2.	2.	2.	0	0	0	-29.03	217.92	647.92

*SECNO 11.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	3.67	641.07	0.00	0.00	641.10	0.03	0.00	0.01	639.50
200.	43.	96.	61.	92.	49.	142.	21.	19.	638.70
0.86	0.47	1.97	0.43	0.100	0.040	0.100	0.000	637.40	430.00
0.000696	1.	1.	1.	0	0	0	0.00	217.99	647.99

1490 NH CARD USED
*SECNO 11.600

100' U/S OF FOOTBRIDGE

11.60	3.09	641.08	640.72	0.00	641.42	0.34	0.16	0.15	640.00
200.	13.	174.	13.	9.	35.	18.	22.	19.	640.00
0.87	1.39	4.99	0.73	0.060	0.040	0.100	0.000	638.00	482.61
0.007194	100.	100.	100.	4	12	0	0.00	110.91	593.52

1490 NH CARD USED
*SECNO 12.200

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 642.40 ELREA= 642.90

D/S FACE OF BRIDGE @ TRAILER PARK

12.20	3.12	642.32	0.00	0.00	642.67	0.35	1.24	0.01	641.50
200.	0.	200.	0.	0.	42.	0.	22.	20.	640.60
0.88	0.00	4.78	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.005437	200.	200.	200.	2	0	0	0.00	17.39	517.30

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROR	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,NRO= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF U/S FACE OF FOOTBRIDGE

11.40	3.67	641.07	0.00	0.00	641.09	0.02	0.00	0.00	639.50
200.	53.	56.	91.	82.	30.	142.	21.	19.	638.70
0.86	0.65	1.89	0.64	0.100	0.023	0.100	0.000	637.40	430.00
0.001562	2.	2.	2.	0	0	0	-29.03	217.92	647.92

*SECNO 11.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	3.67	641.07	0.00	0.00	641.10	0.03	0.00	0.01	639.50
200.	43.	96.	61.	92.	49.	142.	21.	19.	638.70
0.86	0.47	1.97	0.43	0.100	0.040	0.100	0.000	637.40	430.00
0.000496	1.	1.	1.	0	0	0	0.00	217.99	647.99

1490 NH CARD USED
*SECND 11.600

100' U/S OF FOOTBRIDGE

11.60	3.08	641.08	640.72	0.00	641.42	0.34	0.16	0.15	640.00
200.	13.	174.	13.	9.	35.	18.	22.	19.	640.00
0.87	1.39	4.99	0.73	0.060	0.040	0.100	0.000	638.00	482.61
0.007194	100.	100.	100.	4	12	0	0.00	110.91	593.52

1490 NH CARD USED
*SECNO 12.200

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 642.40 ELREA= 642.90

D/S FACE OF BRIDGE @ TRAILER PARK

12.20	3.12	642.32	0.00	0.00	642.67	0.35	1.24	0.01	641.50
200.	0.	200.	0.	0.	42.	0.	22.	20.	640.60
0.88	0.00	4.78	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.005437	200.	200.	200.	2	0	0	0.00	17.30	517.30

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	IBC	ICONT	CORAR	TOPWID	ENDST

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.86	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20

*SECNO 12.300
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
643.16	642.68	0.00	0.	200.	37.	31.	642.60	644.00

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 643.80 ELREA= 643.10

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	3.73	642.93	0.00	0.00	643.16	0.23	0.49	0.00	641.00
200.	0.	200.	0.	0.	52.	0.	22.	20.	641.00
0.88	0.00	3.87	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.002655	19.	19.	19.	3	0	0	0.00	17.30	517.30

*SECNO 12.400

X									
12.40	2.68	643.88	643.82	0.00	644.53	0.65	1.16	0.21	643.50
200.	2.	197.	2.	3.	30.	3.	22.	20.	643.50
0.89	0.60	6.52	0.60	0.100	0.040	0.100	0.000	641.20	485.96
0.015188	220.	220.	220.	4	15	0	0.00	45.48	531.44

CCHV= 0.100 CEHV= 0.300
*SECNO 12.900

X									
12.90	3.03	646.13	0.00	0.00	646.43	0.30	1.87	0.03	645.30
200.	11.	182.	7.	18.	39.	11.	22.	20.	645.40
0.90	0.61	4.62	0.66	0.100	0.040	0.100	0.000	643.10	456.32
0.005420	220.	220.	220.	3	0	0	0.00	87.58	543.90

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	CORAR	TOPWID	ENDST

*SECNO 12.950

3470 ENCROACHMENT STATIONS= 440.0 565.0 TYPE= 1 TARGET= 125.000

12.95	2.79	646.79	646.50	0.00	647.23	0.44	0.76	0.04	646.20
200.	8.	189.	3.	13.	34.	5.	23.	20.	646.20
0.91	0.63	5.49	0.63	0.100	0.040	0.100	0.000	644.00	454.55
0.009039	110.	110.	110.	6	8	0	0.00	78.32	532.88

CCHV= 0.300 CEHV= 0.500
*SECNO 13.100
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	2.85	648.15	648.15	0.00	648.76	0.61	1.34	0.08	647.00
200.	16.	177.	7.	10.	27.	5.	23.	21.	647.30
0.92	1.69	6.62	1.38	0.080	0.040	0.080	0.000	645.30	483.43
0.017249	110.	110.	110.	3	5	0	0.00	43.15	526.58

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

*SECNO 13.200

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
680.81	648.93	0.00	151.	50.	7.	7.	648.20	649.40

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
U/S FACE OF 2-36" CULVERTS

13.20	4.83	650.13	0.00	0.00	650.17	0.04	1.41	0.00	647.00
200.	48.	116.	36.	65.	55.	55.	23.	21.	647.30
0.92	0.73	2.09	0.66	0.080	0.040	0.080	0.000	645.30	467.00
0.000653	24.	24.	24.	2	0	7	0.00	80.00	547.00

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	INC	ICONT	CORAR	TOPWID	ENDST
*SECNO 13.500									
200' U/S OF 2-36" CULVERTS									
13.50	3.69	650.29	0.00	0.00	650.49	0.20	0.23	0.08	649.00
200.	12.	175.	13.	21.	46.	21.	23.	21.	649.00
0.94	0.54	3.83	0.63	0.100	0.040	0.100	0.000	646.60	642.46
0.002694	200.	200.	200.	2	0	0	0.00	106.79	549.24
CCHV= 0.100 CEHV= 0.300									
*SECNO 14.000									
CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
14.00	3.21	651.31	651.08	0.00	651.65	0.34	1.12	0.04	650.80
200.	25.	173.	2.	39.	35.	3.	24.	22.	650.70
0.95	0.63	4.99	0.55	0.100	0.040	0.100	0.000	648.10	389.87
0.006563	280.	280.	280.	5	15	0	0.00	136.40	526.27

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                                                        THIS RUN EXECUTED 13-FEB-85  11:42:44
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1      50 YEAR FLOOD PROFILE
T2
T3      SILVER CREEK

J1  ICHECK     INQ      NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       3.        0.        0.  0.000000      0.00      0.0       0.    607.500     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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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	DLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOFF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*PROF 2									
CCHV= 0.100 CEHV= 0.300									
*SECNO 1.100									
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.									
1.10	6.20	607.50	0.00	607.50	607.75	0.25	0.00	0.00	606.00
410.	29.	373.	8.	62.	90.	17.	0.	0.	606.00
0.00	0.47	4.16	0.47	0.100	0.035	0.100	0.000	601.30	417.50
0.001471	0.	0.	0.	0	0	0	0.00	123.75	541.25
CCHV= 0.300 CEHV= 0.500									
*SECNO 1.200									
D/S FACE OF FOOT BRIDGE.									
1.20	5.26	607.66	0.00	0.00	607.89	0.24	0.15	0.00	606.50
410.	7.	389.	14.	16.	97.	28.	0.	0.	606.10
0.01	0.45	4.02	0.50	0.100	0.035	0.100	0.000	602.40	473.57
0.001485	100.	100.	100.	0	0	0	0.00	82.52	556.09
*SECNO 1.300									
3370 NORMAL BRIDGE, NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10									
1' INSIDE OF D/S FACE OF FOOT BRIDGE.									
1.30	5.24	607.64	0.00	0.00	607.92	0.28	0.00	0.02	606.50
410.	17.	362.	31.	16.	81.	27.	0.	0.	606.10
0.01	1.04	4.48	1.12	0.100	0.035	0.100	0.000	602.40	473.53
0.007908	1.	1.	1.	1	0	0	-16.71	82.58	556.12
*SECNO 1.400									
3370 NORMAL BRIDGE, NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10									
1' INSIDE OF U/S FACE OF FOOT BRIDGE.									
1.40	5.30	607.70	0.00	0.00	607.96	0.26	0.04	0.00	606.50
410.	18.	359.	33.	17.	82.	29.	0.	0.	606.10
0.01	1.05	4.39	1.13	0.100	0.035	0.100	0.000	602.40	472.68
0.007473	5.	5.	5.	2	0	0	-16.71	84.01	556.69

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
*SECNO 1.500									
U/S FACE OF FOOT BRIDGE									
1.50	5.35	607.75	0.00	0.00	607.98	0.22	0.00	0.01	606.50
410.	9.	385.	16.	19.	99.	32.	0.	0.	606.10
0.01	0.46	3.90	0.51	0.100	0.035	0.100	0.000	602.40	471.60
0.001354	1.	1.	1.	2	0	0	0.00	85.80	557.40
*SECNO 1.600									
25' U/S OF FOOT BRIDGE.									
1.60	5.14	607.74	0.00	0.00	608.07	0.33	0.04	0.05	606.00
410.	8.	385.	17.	13.	81.	27.	0.	0.	606.00
0.01	0.61	4.76	0.61	0.100	0.035	0.100	0.000	602.60	484.77
0.002052	25.	25.	25.	2	0	0	0.00	64.56	549.33
CCHV= 0.100 CEHV= 0.300									
*SECNO 2.000									
SURVEY SECTION #2									
2.00	5.46	609.06	0.00	0.00	609.30	0.24	1.22	0.01	607.00
410.	155.	227.	28.	116.	44.	27.	2.	1.	607.60
0.04	1.34	5.16	1.05	0.100	0.045	0.100	0.000	603.60	397.21
0.006029	320.	380.	440.	3	0	0	0.00	151.78	549.00
*SECNO 2.100									
X									
2.10	4.84	609.54	0.00	0.00	609.60	0.06	0.29	0.02	606.00
410.	140.	190.	80.	204.	68.	118.	3.	2.	606.00
0.06	0.68	2.78	0.68	0.100	0.045	0.100	0.000	604.70	384.90
0.000991	120.	150.	180.	2	0	0	0.00	196.50	581.40
*SECNO 2.200									
X									
2.20	3.89	609.69	0.00	0.00	609.84	0.15	0.22	0.03	607.00
410.	127.	278.	5.	145.	75.	6.	4.	2.	607.00
0.08	0.87	3.72	0.79	0.100	0.045	0.100	0.000	605.80	392.15
0.002317	150.	150.	140.	2	0	0	0.00	132.34	524.49
*SECNO 2.300									
X									

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	IBC	ICONT	CORAR	TOPWID	ENDST
2.30	3.19	610.09	0.00	0.00	610.39	0.30	0.50	0.04	608.00
410.	38.	309.	63.	33.	62.	55.	4.	3.	608.00
0.09	1.15	4.99	1.15	0.100	0.045	0.100	0.000	606.90	469.42
0.005361	150.	150.	140.	2	0	0	0.00	101.63	571.06

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 560.0 TYPE= 1 TARGET= 70.000
90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	2.91	610.91	0.00	0.00	611.48	0.57	1.01	0.08	609.80
410.	5.	339.	66.	5.	51.	40.	5.	3.	609.80
0.09	1.10	6.65	1.63	0.100	0.045	0.100	0.000	608.00	491.47
0.012251	130.	130.	130.	3	0	0	0.00	68.53	560.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60
D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.20	3.30	612.10	0.00	0.00	612.87	0.78	1.29	0.10	619.60
410.	0.	410.	0.	0.	58.	0.	5.	3.	619.60
0.10	0.00	7.07	0.00	0.000	0.045	0.000	0.000	608.80	509.96
0.016865	100.	90.	90.	2	0	0	0.00	24.98	534.94

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60
1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	3.30	612.10	0.00	0.00	612.89	0.78	0.01	0.00	619.60
410.	0.	410.	0.	0.	58.	0.	5.	3.	619.60
0.10	0.00	7.10	0.00	0.000	0.026	0.000	0.000	608.80	509.92
0.007398	1.	1.	1.	0	0	0	-0.55	25.02	534.94

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

*SECNO 3.400

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	3.62	612.42	0.00	0.00	613.03	0.60	0.09	0.05	619.60
410.	0.	410.	0.	0.	66.	0.	5.	3.	619.60
0.10	0.00	6.23	0.00	0.000	0.026	0.000	0.000	608.80	508.90
0.005249	14.	14.	14.	2	0	0	-0.71	27.31	536.22

*SECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE'

3.50	3.67	612.47	0.00	0.00	613.04	0.57	0.01	0.01	619.60
410.	0.	410.	0.	0.	68.	0.	5.	3.	619.60
0.10	0.00	6.05	0.00	0.000	0.035	0.000	0.000	608.80	508.77
0.006973	1.	1.	1.	2	0	0	0.00	27.61	536.38

*SECNO 3.600

110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	4.23	613.33	0.00	0.00	613.43	0.10	0.25	0.14	610.00
410.	115.	270.	26.	133.	87.	43.	5.	3.	610.00
0.12	0.86	3.10	0.59	0.100	0.035	0.100	0.000	609.10	450.02
0.000820	120.	140.	150.	2	0	0	0.00	96.97	546.98

CCHV= 0.100 CEHV= 0.300

*SECNO 3.700

X

3.70	3.84	613.24	0.00	0.00	613.79	0.55	0.22	0.13	611.50
410.	37.	360.	13.	39.	57.	14.	6.	4.	611.50
0.12	0.94	6.32	0.93	0.100	0.035	0.100	0.000	609.40	455.16
0.004786	110.	140.	160.	3	0	0	0.00	78.28	533.44

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 4.000									
SURVEY SECTION #4									
4.00	4.14	613.94	0.00	0.00	614.62	0.68	0.79	0.04	612.30
410.	40.	325.	45.	25.	44.	30.	6.	4.	612.30
0.13	1.61	7.41	1.50	0.100	0.035	0.100	0.000	609.80	482.46
0.007045	110.	140.	150.	3	0	0	0.00	54.16	536.62
*SECNO 4.300									
X									
4.30	4.77	615.37	0.00	0.00	615.87	0.50	1.23	0.02	613.00
410.	22.	374.	14.	21.	63.	18.	7.	4.	613.50
0.14	1.05	5.91	0.82	0.100	0.035	0.100	0.000	610.60	484.12
0.003372	260.	260.	260.	2	0	0	0.00	49.60	533.71
*SECNO 4.600									
X									
4.60	4.44	616.24	0.00	0.00	616.56	0.31	0.67	0.02	613.00
410.	26.	383.	1.	24.	82.	2.	8.	4.	615.00
0.16	1.08	4.65	0.45	0.100	0.035	0.100	0.000	611.80	486.90
0.002041	260.	260.	260.	2	0	0	0.00	35.58	522.48
*SECNO 5.000									
SURVEY SECTION #5									
5.00	4.53	616.83	0.00	0.00	616.94	0.11	0.37	0.02	614.80
410.	5.	278.	127.	10.	87.	186.	9.	5.	614.80
0.19	0.48	3.21	0.69	0.100	0.035	0.100	0.000	612.30	490.08
0.001039	260.	260.	260.	2	0	0	0.00	150.26	640.34
*SECNO 5.500									
X									
5.50	4.63	617.18	0.00	0.00	617.20	0.02	0.25	0.01	614.80
410.	47.	127.	236.	105.	70.	536.	14.	7.	614.80
0.34	0.45	1.82	0.44	0.100	0.035	0.100	0.000	612.55	452.82
0.000307	480.	480.	470.	2	0	0	0.00	313.29	766.12
*SECNO 6.000									
SURVEY SECTION #6									
6.00	4.63	617.43	0.00	0.00	617.47	0.04	0.26	0.01	614.50
410.	62.	133.	215.	62.	52.	298.	20.	10.	614.70
0.44	1.00	2.59	0.72	0.100	0.050	0.100	0.000	612.80	474.26
0.001327	520.	480.	450.	2	0	0	0.00	243.71	717.97

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
*SECNO 6.100									
X									
6.10	3.42	617.62	0.00	0.00	617.88	0.26	0.34	0.07	615.90
410.	21.	244.	144.	18.	47.	124.	21.	11.	615.90
0.45	1.17	5.24	1.17	0.100	0.050	0.100	0.000	614.20	478.54
0.007567	130.	130.	130.	2	0	0	0.00	180.55	659.09
*SECNO 6.200									
X									
6.20	3.12	618.72	0.00	0.00	619.06	0.34	1.16	0.02	617.00
410.	23.	248.	139.	17.	42.	100.	21.	11.	617.00
0.45	1.38	5.91	1.39	0.100	0.050	0.100	0.000	615.60	480.59
0.010663	130.	130.	130.	3	0	0	0.00	150.88	631.47
*SECNO 6.300									
X									
6.30	3.17	620.27	0.00	0.00	620.72	0.44	1.63	0.03	618.70
410.	21.	225.	113.	15.	43.	79.	22.	12.	618.70
0.46	1.43	6.45	1.43	0.100	0.050	0.100	0.000	617.10	480.98
0.012724	140.	140.	140.	2	0	0	0.00	134.54	615.53
*SECNO 6.400									
X									
6.40	3.34	621.84	0.00	0.00	622.22	0.38	1.50	0.01	620.10
410.	25.	269.	116.	18.	45.	84.	22.	12.	620.10
0.47	1.38	6.03	1.39	0.100	0.050	0.100	0.000	618.50	479.00
0.010462	130.	130.	130.	2	0	0	0.00	132.01	611.01
*SECNO 6.500									
X									
6.50	3.34	623.24	0.00	0.00	623.68	0.44	1.44	0.02	621.50
410.	27.	280.	103.	18.	44.	70.	23.	13.	621.50
0.48	1.47	6.36	1.47	0.100	0.050	0.100	0.000	619.90	479.00
0.011763	130.	130.	130.	2	0	0	0.00	117.00	596.00
*SECNO 6.600									
X									
6.60	3.36	624.76	0.00	0.00	625.18	0.42	1.50	0.00	622.90
410.	28.	293.	89.	20.	48.	64.	23.	13.	622.90
0.49	1.40	6.07	1.40	0.100	0.050	0.100	0.000	621.40	478.26
0.009777	140.	140.	140.	2	0	0	0.00	105.06	583.32

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 6.700									
X									
6.70	3.29	626.09	0.00	0.00	626.62	0.53	1.41	0.03	624.30
410.	28.	313.	69.	19.	47.	45.	24.	13.	624.30
0.49	1.51	6.64	1.52	0.100	0.050	0.100	0.000	622.80	479.10
0.012058	130.	130.	130.	2	0	0	0.00	86.65	565.75
*SECNO 6.800									
X									
6.80	3.41	627.61	0.00	0.00	628.14	0.54	1.52	0.00	625.70
410.	32.	322.	56.	21.	49.	36.	24.	14.	625.70
0.50	1.53	6.59	1.53	0.100	0.050	0.100	0.000	624.20	477.77
0.011340	130.	130.	130.	2	0	0	0.00	75.35	553.12
*SECNO 7.000									
SURVEY SECTION #7									
7.00	3.40	629.10	0.00	0.00	629.29	0.20	1.11	0.03	627.10
410.	101.	219.	90.	63.	48.	56.	24.	14.	627.10
0.51	1.60	4.61	1.61	0.100	0.050	0.100	0.000	625.70	459.06
0.005872	140.	140.	140.	2	0	0	0.00	92.35	551.41
*SECNO 8.000									
3470 ENCROACHMENT STATIONS=		405.0		620.0	TYPE=	1	TARGET=	215.000	
SURVEY SECTION #8									
8.00	3.05	630.35	0.00	629.74	630.38	0.02	1.07	0.02	628.90
410.	191.	77.	143.	208.	36.	183.	27.	15.	628.40
0.62	0.92	2.10	0.78	0.100	0.050	0.100	0.000	627.30	405.00
0.001382	420.	430.	430.	5	0	0	0.00	215.00	620.00
*SECNO 8.500									
3470 ENCROACHMENT STATIONS=		420.0		590.0	TYPE=	1	TARGET=	170.000	
8.50	2.48	630.78	0.00	630.48	631.17	0.39	0.69	0.11	629.90
410.	104.	222.	84.	61.	33.	52.	29.	16.	629.70
0.63	1.70	6.67	1.61	0.100	0.050	0.100	0.000	628.10	420.00
0.018952	200.	200.	200.	3	0	0	0.00	170.00	590.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	RANK 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

*SECNO 8.600

3470 ENCROACHMENT STATIONS= 420.0 585.0 TYPE= 1 TARGET= 165.000

8.60	3.13	631.93	0.00	631.49	632.10	0.17	0.91	0.02	630.50
410.	115.	198.	97.	95.	43.	81.	29.	17.	630.40
0.64	1.21	4.60	1.19	0.100	0.045	0.100	0.000	628.80	420.00
0.005310	100.	100.	100.	2	0	0	0.00	165.00	585.00

*SECNO 8.700

3470 ENCROACHMENT STATIONS= 440.0 595.0 TYPE= 1 TARGET= 155.000

8.70	3.09	632.19	0.00	631.74	632.48	0.29	0.34	0.04	631.20
410.	58.	228.	124.	47.	40.	85.	29.	17.	631.00
0.65	1.24	5.67	1.46	0.100	0.045	0.100	0.000	629.10	440.00
0.009253	50.	50.	50.	2	0	0	0.00	155.00	595.00

CCHV= 0.300 CEHV= 0.500

*SECNO 9.200

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000
D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.20	3.32	632.72	632.72	632.28	633.07	0.36	0.50	0.03	631.50
410.	104.	217.	89.	67.	34.	60.	29.	17.	631.50
0.65	1.55	6.43	1.48	0.080	0.045	0.080	0.000	629.40	400.00
0.010998	50.	50.	50.	8	8	0	0.00	200.00	600.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.20	3.00	0.00	6.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300

PRESSURE AND WEIR FLOW

SECNO / TIME / SLOPE	DEPTH / QLOB / VLOB / XLOBL	CWSEL / QCH / VCH / XLCH	CRIWS / QROB / VROB / XLOBR	WSELK / ALOB / XNL / ITRIAL	EG / ACH / XNCH / IDC	HV / AROB / XNR / ICONT	HL / VOL / WTN / CORAR	OLOSS / TWA / ELMIN / TOPWID	BANK ELEV LEFT/RIGHT / SSTA / ENDST
EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA		ELLC	ELTRD
642.05	635.02	0.00	88.	323.	25.	25.		633.40	637.60
3470 ENCROACHMENT STATIONS=		400.0	600.0	TYPE=	1	TARGET=	200.000'		
U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
9.30	9.08	638.48	0.00	634.96	638.50	0.02	5.42	0.00	634.00
410.	87.	200.	123.	202.	130.	240.	30.	17.	634.00
0.68	0.43	1.54	0.51	0.080	0.045	0.080	0.000	629.40	405.21
0.000184	109.	109.	109.	1	0	6	0.00	194.10	599.31
*SECNO 9.400									
200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT									
9.40	8.72	638.52	0.00	636.45	638.53	0.01	0.02	0.00	634.00
410.	137.	91.	182.	458.	75.	592.	34.	19.	634.00
0.79	0.30	1.22	0.31	0.100	0.035	0.100	0.000	629.80	315.94
0.000096	200.	200.	180.	2	0	0	0.00	418.13	734.06
*SECNO 10.200									
D/S FACE OF 36" TWIN CULVERTS									
10.20	6.06	638.56	0.00	636.60	638.56	0.00	0.03	0.00	636.00
410.	160.	76.	173.	534.	77.	593.	43.	22.	636.00
1.00	0.30	0.99	0.29	0.100	0.035	0.100	0.000	632.50	300.00
0.000107	220.	340.	400.	0	0	0	0.00	450.81	750.81
*SECNO 10.300									
3370 NORMAL BRIDGE, NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00									
1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS									
10.30	6.06	638.56	0.00	636.62	638.56	0.00	0.00	0.00	636.00
410.	173.	49.	188.	532.	54.	590.	43.	22.	636.00
1.00	0.33	0.90	0.32	0.100	0.025	0.100	0.000	632.50	300.00
0.000128	1.	1.	1.	0	0	0	-24.57	450.80	750.80

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	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 10.400									
3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00									
1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS									
10.40	6.06	638.56	0.00	636.65	638.57	0.00	0.00	0.00	636.00
410.	173.	49.	188.	532.	54.	590.	43.	22.	636.00
1.01	0.33	0.90	0.32	0.100	0.025	0.100	0.000	632.50	300.00
0.000127	21.	21.	21.	0	0	0	-24.57	450.80	750.80
*SECNO 10.500									
U/S FACE OF 36" TWIN CULVERTS									
10.50	6.06	638.56	0.00	636.65	638.57	0.00	0.00	0.00	636.00
410.	164.	68.	178.	533.	77.	591.	43.	22.	636.00
1.01	0.31	0.89	0.30	0.100	0.040	0.100	0.000	632.50	300.00
0.000113	1.	1.	1.	0	0	0	0.00	450.80	750.80
*SECNO 10.600									
370' U/S OF 36" TWIN CULVERTS									
10.60	4.01	638.61	0.00	637.12	638.73	0.12	0.11	0.06	636.60
410.	108.	211.	91.	140.	56.	119.	49.	25.	636.60
1.06	0.77	3.75	0.77	0.100	0.040	0.100	0.000	634.60	369.75
0.002070	330.	370.	370.	0	0	0	0.00	260.50	630.25
CCHV= 0.100 CEHV= 0.300									
*SECNO 11.100									
X									
11.10	3.74	639.64	0.00	639.27	639.97	0.33	1.18	0.07	638.30
410.	34.	280.	96.	41.	50.	93.	51.	27.	638.30
1.08	0.84	5.58	1.03	0.100	0.040	0.100	0.000	635.90	439.15
0.005455	310.	380.	400.	4	0	0	0.00	192.79	631.94
*SECNO 11.150									
SURVEY SECTION 11A									
11.15	4.12	641.32	0.00	640.40	641.64	0.33	1.67	0.00	639.80
410.	17.	272.	121.	16.	49.	113.	53.	28.	638.90
1.10	1.07	5.58	1.06	0.100	0.040	0.100	0.000	637.20	482.61
0.005546	270.	300.	320.	2	0	0	0.00	156.94	639.54

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	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.300 CEHV= 0.500

*SECNO 11.200

D/S FACE OF FTBRDGE - L BNK ENDED @ STA 430 FOR CONTR - FL@300=641.2

11.20	4.38	641.78	0.00	641.06	641.82	0.04	0.09	0.09	639.50
410.	99.	156.	155.	141.	60.	241.	53.	28.	638.70
1.11	0.70	2.59	0.64	0.100	0.040	0.100	0.000	637.40	430.00
0.000903	50.	50.	50.	2	0	0	0.00	236.21	666.21

*SECNO 11.300

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF D/S FACE OF FOOTBRIDGE

11.30	4.40	641.80	0.00	641.07	641.83	0.03	0.00	0.00	639.50
410.	113.	95.	201.	132.	41.	242.	53.	28.	638.70
1.11	0.86	2.31	0.83	0.100	0.023	0.100	0.000	637.40	430.00
0.001485	1.	1.	1.	1	0	0	-29.03	236.53	666.53

*SECNO 11.400

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF U/S FACE OF FOOTBRIDGE

11.40	4.40	641.80	0.00	641.07	641.83	0.03	0.00	0.00	639.50
410.	113.	95.	201.	133.	42.	244.	53.	28.	638.70
1.11	0.85	2.29	0.83	0.100	0.023	0.100	0.000	637.40	430.00
0.001457	2.	2.	2.	0	0	0	-29.03	236.83	666.83

*SECNO 11.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	4.40	641.80	0.00	641.07	641.84	0.04	0.00	0.01	639.50
410.	99.	155.	156.	143.	61.	245.	53.	28.	638.70
1.11	0.70	2.55	0.64	0.100	0.040	0.100	0.000	637.40	430.00
0.000870	1.	1.	1.	0	0	0	0.00	236.89	666.89

1490 NH CARD USED

*SECNO 11.600

100' U/S OF FOOTBRIDGE

11.60	3.84	641.84	0.00	641.08	642.15	0.30	0.18	0.13	640.00
410.	49.	261.	101.	27.	48.	97.	54.	29.	640.00
1.12	1.78	5.44	1.04	0.060	0.040	0.100	0.000	638.00	469.45
0.005598	100.	100.	100.	2	0	0	0.00	171.96	641.41

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

1490 NH CARD USED
*SECNO 12.200
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000
D/S FACE OF BRIDGE @ TRAILER PARK

12.20	3.79	642.99	642.99	642.32	643.22	0.23	0.92	0.02	641.50
410.	31.	255.	124.	34.	54.	83.	55.	30.	640.60
1.13	0.91	4.25	1.51	0.100	0.040	0.100	0.000	639.20	460.00
0.003858	200.	200.	200.	20	B	0	0.00	95.00	555.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.86	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20

*SECNO 12.300
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
646.54	643.92	0.00	134.	276.	37.	31.	642.60	644.00

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000
U/S FACE OF BRIDGE @ TRAILER PARK

12.30	3.26	644.46	0.00	642.93	644.61	0.15	1.38	0.00	641.00
410.	38.	285.	87.	51.	78.	91.	55.	30.	641.00
1.14	0.75	3.64	0.96	0.100	0.040	0.100	0.000	639.20	460.00
0.001354	19.	19.	19.	2	0	4	0.00	95.00	555.00

*SECNO 12.400
X

12.40	3.65	644.85	644.78	643.88	645.48	0.63	0.64	0.24	643.50
410.	39.	331.	40.	34.	47.	29.	55.	30.	643.50
1.15	1.14	7.08	1.38	0.100	0.040	0.100	0.000	641.20	449.87
0.009960	220.	220.	220.	4	19	0	0.00	105.20	555.07

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROR	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.100 CEHV= 0.300
*SECNO 12.900

X									
12.90	3.72	646.82	0.00	646.13	647.25	0.43	1.74	0.02	645.30
410.	61.	308.	41.	61.	51.	37.	56.	31.	645.40
1.16	1.00	6.02	1.11	0.100	0.040	0.100	0.000	643.10	419.64
0.006464	220.	220.	220.	2	0	0	0.00	145.16	564.80

*SECNO 12.950

3470 ENCROACHMENT STATIONS= 440.0 565.0 TYPE= 1 TARGET= 125.000

12.95	3.57	647.57	0.00	646.79	648.06	0.49	0.79	0.02	646.20
410.	77.	307.	26.	59.	48.	25.	56.	31.	646.20
1.17	1.31	6.44	1.04	0.100	0.040	0.100	0.000	644.00	440.00
0.008059	110.	110.	110.	3	0	0	0.00	113.85	553.85

CCHV= 0.300 CEHV= 0.500
*SECNO 13.100

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	3.65	648.95	648.95	648.15	649.73	0.78	1.21	0.15	647.00
410.	62.	308.	39.	27.	38.	19.	57.	31.	647.30
1.17	2.30	8.07	2.05	0.080	0.040	0.080	0.000	645.30	472.06
0.015896	110.	110.	110.	3	8	0	0.00	65.72	537.78

SPECIAL BRIDGE

SB	XK	XKOR	COFD	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

*SECNO 13.200

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROR	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA		ELLC	ELTRD
786.17	650.23	0.00	363.	47.	7.	7.		648.20	649.40
3470 ENCROACHMENT STATIONS=		467.0	547.0	TYPE=	1	TARGET=	80.000		
U/S FACE OF 2-36" CULVERTS									
13.20	5.35	650.65	0.00	650.13	650.76	0.11	1.03	0.00	647.00
410.	107.	218.	85.	82.	63.	71.	57.	31.	647.30
1.17	1.29	3.47	1.19	0.080	0.040	0.080	0.000	645.30	467.00
0.001514	24.	24.	24.	2	0	9	0.00	80.00	547.00
*SECNO 13.500									
200' U/S OF 2-36" CULVERTS									
13.50	4.41	651.01	0.00	650.29	651.29	0.28	0.44	0.08	649.00
410.	72.	286.	53.	96.	56.	54.	58.	32.	649.00
1.19	0.75	5.06	0.98	0.100	0.040	0.100	0.000	646.60	349.39
0.003546	200.	200.	200.	3	0	0	0.00	222.75	572.15
CCHV= 0.100 CEHV= 0.300									
*SECNO 14.000									
160' U/S of CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
14.00	4.05	652.15	0.00	651.31	652.37	0.21	1.08	0.01	650.80
410.	163.	231.	16.	172.	47.	18.	59.	33.	650.70
1.21	0.95	4.89	0.89	0.100	0.040	0.100	0.000	648.10	318.25
0.004186	280.	280.	280.	2	0	0	0.00	218.28	536.53

THIS RUN EXECUTED 13-FEB-85 11:48:35

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

T1      100 YEAR FLOOD PROFILE
T2
T3      SILVER CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       0.        4.        0.        0.  0.000000      0.00       0.0        0.   607.500     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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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

*PROF 3

CCHV= 0.100 CEHV= 0.300
*SECNO 1.100
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.

1.10	6.20	607.50	0.00	607.50	607.88	0.38	0.00	0.00	606.00
510.	36.	464.	10.	62.	90.	17.	0.	0.	606.00
0.00	0.59	5.18	0.58	0.100	0.035	0.100	0.000	601.30	412.50
0.002276	0.	0.	0.	0	0	0	0.00	123.75	541.25

CCHV= 0.300 CEHV= 0.500
*SECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	5.37	607.77	0.00	0.00	608.11	0.34	0.22	0.01	606.50
510.	11.	478.	21.	19.	99.	33.	0.	0.	606.10
0.01	0.58	4.83	0.63	0.100	0.035	0.100	0.000	602.40	471.33
0.002069	100.	100.	100.	2	0	0	0.00	86.25	557.58

*SECNO 1.300

3170 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF D/S FACE OF FOOT BRIDGE.

1.30	5.35	607.75	0.00	0.00	608.14	0.39	0.00	0.02	606.50
510.	25.	442.	43.	19.	83.	31.	0.	0.	606.10
0.01	1.31	5.33	1.40	0.100	0.035	0.100	0.000	602.40	471.69
0.010840	1.	1.	1.	2	0	0	-16.71	85.65	557.34

*SECNO 1.400

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.40	5.45	607.85	0.00	0.00	608.20	0.35	0.05	0.01	606.50
510.	29.	432.	49.	22.	85.	35.	0.	0.	606.10
0.01	1.30	5.09	1.40	0.100	0.035	0.100	0.000	602.40	469.74
0.009547	5.	5.	5.	2	0	0	-16.71	88.89	558.63

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

*SECNO 1.500
U/S FACE OF FOOT BRIDGE

1.50	5.30	607.90	0.00	0.00	608.21	0.31	0.00	0.01	606.50
510.	14.	472.	24.	23.	102.	38.	0.	0.	606.10
0.01	0.59	4.64	0.64	0.100	0.035	0.100	0.000	602.40	468.84
0.001843	1.	1.	1.	2	0	0	0.00	90.40	559.23

*SECNO 1.600
25' U/S OF FOOT BRIDGE.

1.60	5.28	607.88	0.00	0.00	608.35	0.47	0.06	0.08	606.00
510.	12.	474.	24.	15.	84.	32.	0.	0.	606.00
0.01	0.75	5.68	0.76	0.100	0.035	0.100	0.000	602.60	483.54
0.002808	25.	25.	25.	2	0	0	0.00	68.32	551.86

CCHV= 0.100 CEHV= 0.300

*SECNO 2.000
SURVEY SECTION #2

2.00	5.91	609.51	0.00	0.00	609.69	0.19	1.32	0.03	607.00
510.	220.	238.	52.	167.	49.	47.	2.	1.	607.60
0.04	1.32	4.86	1.10	0.100	0.045	0.100	0.000	603.60	376.97
0.004646	320.	380.	440.	3	0	0	0.00	184.50	561.47

*SECNO 2.100
X

2.10	5.21	609.91	0.00	0.00	609.98	0.06	0.27	0.01	606.00
510.	184.	219.	106.	249.	74.	143.	3.	2.	606.00
0.07	0.74	2.97	0.74	0.100	0.045	0.100	0.000	604.70	372.85
0.001018	120.	150.	180.	2	0	0	0.00	215.50	588.35

*SECNO 2.200
X

2.20	4.26	610.06	0.00	0.00	610.22	0.16	0.22	0.03	607.00
510.	180.	323.	7.	188.	82.	8.	5.	3.	607.00
0.08	0.96	3.94	0.86	0.100	0.045	0.100	0.000	605.80	379.61
0.002285	150.	150.	140.	2	0	0	0.00	146.11	525.72

*SECNO 2.300
X

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
	2.30	3.55	610.45	0.00	0.00	610.74	0.29	0.48	0.04	608.00
	510.	58.	354.	92.	44.	69.	74.	5.	3.	608.00
	0.09	1.32	3.14	1.32	0.100	0.045	0.100	0.000	606.90	467.29
	0.004914	150.	150.	140.	2	0	0	0.00	107.68	574.97

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 560.0 TYPE= 1 TARGET= 70.000
90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.10	3.17	611.17	0.00	0.00	611.81	0.64	0.97	0.11	609.80
	510.	10.	403.	97.	7.	56.	51.	6.	3.	609.80
	0.10	1.32	7.17	1.91	0.100	0.045	0.100	0.000	608.00	490.00
	0.012520	130.	130.	130.	3	0	0	0.00	70.00	560.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.20	3.58	612.38	0.00	0.00	613.33	0.95	1.36	0.15	619.60
	510.	0.	510.	0.	0.	65.	0.	6.	3.	619.60
	0.10	0.00	7.80	0.00	0.000	0.045	0.000	0.000	608.80	509.04
	0.018603	100.	90.	90.	2	0	0	0.00	25.95	535.00

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.30	3.59	612.39	0.00	0.00	613.34	0.96	0.01	0.01	619.60
	510.	0.	510.	0.	0.	65.	0.	6.	3.	619.60
	0.10	0.00	7.85	0.00	0.000	0.026	0.000	0.000	608.80	509.01
	0.008309	1.	1.	1.	0	0	0	-0.67	25.99	535.00

SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	RANK 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

*SECNO 3.400

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	4.03	612.83	0.00	0.00	613.52	0.69	0.10	0.08	619.60
510.	0.	510.	0.	0.	77.	0.	6.	3.	619.60
0.10	0.00	6.65	0.00	0.000	0.026	0.000	0.000	608.80	507.64
0.005714	14.	14.	14.	3	0	0	-1.25	30.09	537.73

*SECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.50	4.15	612.95	0.00	0.00	613.55	0.61	0.01	0.02	619.60
510.	0.	510.	0.	0.	82.	0.	6.	3.	619.60
0.10	0.00	6.25	0.00	0.000	0.035	0.000	0.000	608.80	507.26
0.006688	1.	1.	1.	2	0	0	0.00	30.93	538.19

*SECNO 3.600

110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	4.73	613.03	0.00	0.00	613.95	0.11	0.25	0.15	610.00
510.	148.	328.	37.	159.	98.	57.	7.	4.	610.00
0.12	0.93	3.33	0.65	0.100	0.035	0.100	0.000	609.10	447.01
0.000814	120.	140.	150.	2	0	0	0.00	103.87	550.88

CCHV= 0.100 CEHV= 0.300

*SECNO 3.700

X

3.70	4.36	613.76	0.00	0.00	614.28	0.52	0.21	0.12	611.50
510.	67.	419.	24.	65.	66.	24.	7.	4.	611.50
0.12	1.02	6.38	1.02	0.100	0.035	0.100	0.000	609.40	441.98
0.004027	110.	140.	160.	3	0	0	0.00	96.30	538.28

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
*SECNO 4.000									
SURVEY SECTION #4									
4.00	4.51	614.31	0.00	0.00	615.05	0.74	0.71	0.06	612.30
510.	58.	384.	68.	32.	49.	39.	8.	4.	612.30
0.13	1.83	7.86	1.73	0.100	0.035	0.100	0.000	609.80	481.78
0.006860	110.	140.	150.	2	0	0	0.00	56.06	537.85
*SECNO 4.300									
X									
4.30	5.15	615.75	0.00	0.00	616.34	0.59	1.28	0.01	613.00
510.	34.	451.	25.	27.	69.	25.	8.	4.	613.50
0.14	1.28	6.54	0.97	0.100	0.035	0.100	0.000	610.60	483.21
0.003683	260.	260.	260.	2	0	0	0.00	54.29	537.50
*SECNO 4.600									
X									
4.60	4.90	616.70	0.00	0.00	617.08	0.38	0.72	0.02	613.00
510.	38.	470.	2.	31.	92.	3.	9.	5.	615.00
0.16	1.24	5.13	0.58	0.100	0.035	0.100	0.000	611.80	485.75
0.002162	260.	260.	260.	2	0	0	0.00	37.66	523.40
*SECNO 5.000									
SURVEY SECTION #5									
5.00	5.05	617.35	0.00	0.00	617.45	0.11	0.34	0.03	614.80
510.	8.	319.	182.	16.	98.	249.	11.	5.	614.80
0.19	0.52	3.25	0.73	0.100	0.035	0.100	0.000	612.30	487.57
0.000897	260.	260.	260.	2	0	0	0.00	164.08	651.65
*SECNO 5.500									
X									
5.50	5.11	617.66	0.00	0.00	617.68	0.02	0.21	0.01	614.80
510.	60.	143.	307.	128.	78.	657.	17.	8.	614.80
0.34	0.47	1.84	0.47	0.100	0.035	0.100	0.000	612.55	452.34
0.000269	480.	480.	470.	2	0	0	0.00	319.52	771.87
*SECNO 6.000									
SURVEY SECTION #6									
6.00	5.07	617.87	0.00	0.00	617.91	0.04	0.23	0.01	614.50
510.	75.	146.	290.	74.	57.	397.	25.	11.	614.70
0.44	1.02	2.55	0.73	0.100	0.050	0.100	0.000	612.80	473.24
0.001135	520.	480.	450.	2	0	0	0.00	276.28	749.52

SECNO	DEPTH	QWEL	CRIWS	WSELK	EG	KV	HL	QLOBS	BANK ELEV
	Q_CP	VOL	CEQR	ALOB	ACH	ORDB	VOL	TWA	LEFT/RIGHT
TYPE	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SECA
SLOPE	X_COL	XLCH	SLOBR	ITRIAL	TOC	ICONT	CORAR	XCPMIN	ENLRT
*SECNO 6.100									
6.00	3.84	616.04	0.00	0.00	613.25	0.19	0.93	0.05	612.40
510.	39.	322.	150.	24.	53.	173.	28.	13.	619.60
0.47	1.62	6.67	1.62	0.100	0.050	0.100	0.000	614.20	475.21
0.005432	130.	130.	130.	2	0	0	0.00	22.67	694.84
*SECNO 6.200									
6.20	2.81	618.82	0.00	0.00	617.29	0.38	1.00	0.06	317.00
510.	37.	328.	150.	20.	45.	123.	27.	12.	617.00
0.46	1.55	6.44	1.55	0.100	0.050	0.100	0.000	615.60	473.51
0.011628	130.	130.	130.	5	0	0	0.00	163.45	643.95
*SECNO 6.300									
6.30	3.73	620.58	0.00	0.00	620.97	0.44	1.67	0.32	618.70
510.	31.	312.	150.	30.	17.	107.	27.	13.	618.70
0.47	1.55	6.43	1.55	0.100	0.050	0.100	0.000	617.10	477.85
0.012304	130.	130.	130.	2	0	0	0.00	154.26	632.10
*SECNO 6.400									
6.40	3.55	622.65	0.00	0.00	622.97	0.47	1.50	0.00	620.10
510.	36.	330.	150.	25.	48.	107.	28.	13.	620.10
0.48	1.59	6.61	1.59	0.100	0.050	0.100	0.000	618.50	476.24
0.010873	130.	130.	130.	1	0	0	0.00	147.38	623.62
*SECNO 6.500									
6.50	3.30	626.50	0.00	0.00	625.36	0.44	1.67	0.01	621.50
510.	39.	322.	150.	24.	48.	95.	28.	14.	621.50
0.49	1.61	6.72	1.61	0.100	0.050	0.100	0.000	619.90	473.88
0.011747	130.	130.	130.	2	0	0	0.00	132.18	608.02
*SECNO 6.600									
6.60	3.63	625.03	0.00	0.00	625.48	0.45	1.32	0.00	622.90
510.	41.	339.	139.	26.	52.	53.	29.	14.	622.90
0.50	1.52	6.34	1.54	0.100	0.055	0.100	0.000	621.40	475.16
0.010132	140.	140.	140.	2	0	0	0.00	117.52	593.02

SSCNO	DEPTH	CWSEL	CRICS	LSELK	SB	NV	BL	OLOBS	BANK ELEV
	OLOB	OCH	CROB	ALOB	OCH	CROB	VOL	TWA	LEFT/RIGHT
FMS	VLOB	VCH	VROB	XNV	XNCH	XNS	WTN	ELMIN	BETA
SLOPE	KLOBL	KLCH	KLOBR	CTRIA	INC	ICONT	CHRAR	TOPWID	SNAST

*SECNO 6.700

1.70	2.06	621.33	0.00	1.22	626.55	0.57	1.40	0.08	629.13
510.	441.	364.	503.	25.	52.	62.	29.	15.	634.30
0.15	1.47	5.83	1.68	0.100	0.050	0.100	0.000	622.80	574.06
0.012129	130.	130.	130.	2	0	0	0.00	98.37	574.06

*SECNO 6.600

4.20	1.72	627.91	0.00	0.00	628.50	0.59	1.59	0.01	635.70
510.	49.	378.	55.	28.	53.	49.	30.	15.	625.70
0.51	1.73	7.03	1.71	0.100	0.050	0.100	0.000	624.20	574.21
0.011593	130.	130.	130.	2	0	0	0.10	64.99	579.20

*ECNO 7.000

SURVEY SECTION 17

7.00	3.73	629.43	0.00	0.00	629.64	0.21	1.11	0.04	627.30
510.	134.	257.	120.	22.	52.	69.	30.	15.	632.10
0.57	1.47	4.98	1.71	0.100	0.050	0.100	0.000	621.70	403.67
0.005754	140.	140.	140.	2	0	0	0.00	98.53	554.20

*SECNO 8.000

8.00	3.37	478.67	0.00	629.74	630.65	0.92	1.03	0.52	625.00
510.	234.	90.	156.	233.	41.	237.	32.	17.	628.40
0.82	0.98	2.21	0.86	0.100	0.050	0.100	0.000	627.30	403.00
0.031323	430.	430.	430.	4	0	0	0.30	215.00	422.00

*SECNO 8.300

8.30	2.80	631.10	0.00	630.45	644.38	0.29	0.81	0.08	629.90
510.	193.	229.	187.	85.	29.	74.	35.	18.	625.70
0.68	1.72	6.08	1.70	2.100	0.050	0.100	0.000	628.30	420.00
0.013500	200.	200.	200.	3	0	0	0.00	170.00	520.00

SECNO	DEPTH	CUBSL	CRIME	WSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	PLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	CTN	ELMIN	SSTA
SLOPE	KLOB	KCON	KLOBP	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 8.600

3470 ENCROACHMENT STATIONS=			420.0	585.0	TYPE=	1	TARGET=	165.000	
8.60	3.26	632.26	0.00	631.40	632.27	0.21	0.39	0.01	630.50
510.	20.	270.	124.	125.	83.	90.	36.	18.	630.40
0.65	1.42	5.22	1.40	0.100	0.045	0.100	0.000	628.80	420.00
0.006451	100.	100.	100.	2	0	0	0.00	165.00	585.00

*SECNO 8.700

3470 ENCROACHMENT STATIONS=			440.0	595.0	TYPE=	1	TARGET=	155.000	
8.70	3.78	632.38	0.00	631.74	632.69	0.31	0.39	0.02	631.70
510.	93.	262.	143.	58.	43.	100.	36.	18.	631.00
0.65	1.43	6.06	1.65	0.100	0.043	0.100	0.000	629.10	430.00
0.00[illegible]	50.	50.	50.	2	0	0	0.00	155.00	595.00

CCHV= 0.300 CEHV= 0.500

*SECNO 9.200

3470 ENCROACHMENT STATIONS=			400.0	600.0	TYPE=	1	TARGET=	200.000	
U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
9.20	3.49	632.83	0.00	632.28	633.22	0.34	0.51	0.02	631.30
310.	145.	238.	127.	82.	36.	75.	36.	18.	631.50
0.65	1.76	6.64	1.70	0.050	0.045	0.050	0.000	629.40	400.00
0.010918	50	50.	50.	2	0	0	0.00	200.00	400.00

SPECIAL BRIDGE

EB	XX	XXCR	COFQ	RDLEN	CNC	SWP	BAREA	BS	ELLU	ELCHD
	0.00	2.20	3.00	0.00	6.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300
PRESSURE AND WEIR FLOW

COPRS	EGLWC	HS	QLEIN	QPR	BAREA	TRAPEZOID AREA	EULC	ELTRD
647.32	636.00	0.00	187.	326.	25.	25.	633.40	637.60

SECNO	DEPTH	CWBEL	CRTWR	WRCLK	EB	XS	RL	QLOBS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	WDL	TWA	LEFT/RIGHT
TIME	ALOB	QCH	VROB	XNL	XNCH	XNR	WTR	ELMIN	ELMAX
ELOSS	VLOBL	VLCH	QLOBR	STRCBL	IRC	TCONT	CORAR	TOPWID	ENDST

3420 ENCROACHMENT STATIONS= 400.0 400.0 TYPE= 1 TARGET= 200.000

U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.80	7.25	673.79	0.00	624.54	628.79	0.02	0.56	0.00	636.00
510.	172.	23.	156.	335.	34.	295.	27.	15.	636.00
0.60	0.52	1.75	0.60	0.080	0.043	0.080	0.000	629.40	403.60
0.000228	109.	109.	109.	2	0	4	0.00	196.40	600.00

SSECNO 9.400

U/S FACE OF 3.0' X 4.0' CONCRETE BOX CULVERT

9.40	9.00	678.50	0.00	616.45	618.31	0.01	0.03	0.01	634.00
510.	173.	107.	330.	512.	78.	456.	41.	20.	634.00
0.78	0.74	1.37	0.35	0.100	0.035	0.100	0.000	629.50	304.52
0.000218	200.	200.	150.	3	0	0	0.05	638.76	743.48

SSECNO 10.200

D/S FACE OF 36" TWIN CULVERTS

10.20	5.35	638.85	0.00	636.60	638.85	0.00	0.04	0.01	636.00
510.	214.	59.	220.	592.	52.	660.	51.	23.	636.00
0.97	0.34	1.00	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000231	249.	340.	400.	1	0	0	0.00	651.22	751.22

SSECND 10.300

3420 NORMAL BRIDGE XSEC= 14 MIN ELTRD= 635.40 MAX ELLC= 636.00

1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.30	5.35	638.85	0.00	636.62	638.85	0.00	0.00	0.00	636.00
510.	216.	59.	296.	568.	59.	657.	51.	23.	636.00
0.97	0.37	1.00	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000214	249.	340.	400.	1	0	0	-24.57	451.22	751.22

SSECND 10.100

3420 NORMAL BRIDGE XSEC= 12 MIN ELTRD= 635.40 MAX ELLC= 636.00

INSIDE OF U/S FACE OF 36" TWIN CULVERTS

10.40	5.35	638.85	0.00	636.65	638.85	0.00	0.00	0.00	636.00
510.	216.	59.	296.	590.	59.	658.	51.	24.	636.00
0.98	0.37	0.99	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000241	249.	340.	400.	1	0	0	-24.57	451.22	751.22

(SECND	DEPTH	CUSEL	DRIMS	USELK	EG	HV	SL	CLOSE	BANK ELEV
D	QLOB	QCH	QROB	QLOB	ACH	ARCR	VOL	DNA	LEFT/RIGHT
TAG	VLOB	VCH	VROB	VOL	ANCH	XNR	WTN	ELMIN	BSTA
S	AREA	XLC	XLOB	STRIKL	FOC	ICONT	CORAR	TOPWTH	ENDST

*SECNO 10.500

D/S FACE OF 36" TWIN CULVERTS

10.53	6.35	639.53	0.30	634.45	638.65	0.00	0.00	0.30	476.00
1.67	200.	80.	82.	52.	82.	459.	51.	33.	638.00
3.73	0.75	2.33	0.54	0.00	0.040	0.100	0.000	622.50	300.00
0.000137	1.	1.	1.	0	0	0	0.00	451.32	751.32

*SECNO 10.500

370' D/S OF 36" TWIN CULVERTS

10.43	4.31	638.31	1.20	637.12	638.02	0.11	0.11	0.05	476.60
510.	151.	232.	128.	181.	61.	135.	58.	27.	636.60
1.67	0.83	3.60	0.82	0.100	0.040	0.100	0.000	634.60	354.70
0.001903	350.	370.	370.	1	0	0	0.00	290.60	645.30

DCH= 0.400 CEN= 0.100

*SECNO 11.000

X

11.10	3.97	639.87	0.00	639.22	640.21	0.34	1.19	0.07	639.30
240.	92.	314.	141.	96.	94.	192.	60.	29.	678.30
1.33	0.84	2.87	1.16	0.100	0.040	0.100	0.000	637.90	422.57
0.002402	340.	300.	300.	1	0	0	0.00	214.95	643.55

*SECNO 11.150

SURVEY SECTION 11

10.13	4.26	641.36	0.30	640.10	641.90	0.24	1.69	0.00	639.50
410.	93.	241.	125.	78.	85.	194.	81.	52.	638.50
1.07	1.25	3.90	1.31	0.100	0.040	0.100	0.000	637.20	481.31
0.005803	370.	300.	320.	2	0	0	0.00	244.95	646.71

DCH= 0.500 CEN= 0.100

*SECNO 11.200

D/S FACE OF FTBRIDGE - L BNK ENDED @ STA 430 FOR CONTR - FLEVOD=642.2

11.20	4.63	642.03	0.00	641.06	642.09	0.05	0.10	0.09	639.50
510	126.	182.	202.	159.	64.	279.	63.	30.	638.70
1.08	0.79	2.63	0.75	0.100	0.020	0.100	0.000	637.20	430.03
0.000784	80.	50.	50.	2	0	0	0.00	245.80	676.50

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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       Q OBS    BANK ELEV
C        QLOB     QCH      QROB     ALOB     ACH      AROB     VCL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     KNL      XNCH     KNR      UTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    LTRIAL   IDC      ICONT    DORAR    TORWID   ENDS

*SECNO 11.300

*370 NORMAL BRIDGE,NRO=  7 MIN ELTRD=  639.60 MAX ELLC=  640.00
      1 INSIDE OF U/S FACE OF FOOTBRIDGE
   11.30     4.66   642.06     0.00   641.07   642.09     0.03     0.00     0.02   639.50
    510.     141.     113.     255.     130.      46.     283.      63.      30.   638.70
    1.08     0.94     2.48     0.90     0.100    0.023    0.100    0.000   637.40   430.00
0.001494       1.       1.       1.        2        0        0   -29.03   243.45   673.45

*SECNO 11.400

*370 NORMAL BRIDGE,NRO=  7 MIN ELTRD=  639.60 MAX ELLC=  640.00
      1 INSIDE OF U/S FACE OF FOOTBRIDGE
   11.40     4.66   642.06     0.00   641.07   642.09     0.03     0.00     0.02   639.50
    510.     141.     113.     255.     130.      46.     284.      63.      30.   638.70
    1.08     0.94     2.47     0.90     0.100    0.023    0.100    0.000   637.40   430.00
0.001494       2.       2.       2.        0        0        0   -29.03   243.50   673.50

*SECNO 11.500
      U/S FACE OF FOOTBRIDGE - IDENSTREAM LIMIT OF TRAILER PARK
   11.50     4.65   642.05     0.00   641.07   642.10     0.05     0.00     0.01   639.30
    510.     136.     181.     203.     161.      45.     284.      63.      30.   638.70
    1.08     2.77     2.77     0.92     0.100    0.000    0.100    0.000   637.40   430.00
0.000247       1.       1.       1.        0        0        0     0.00   243.55   673.55

1490 NR CARD USED
*SECNO 11.600
      1 U/S U/S OF FOOTBRIDGE
   11.60     1.12   642.12     0.00   641.08   642.40     0.28     0.18     0.12   640.00
    [illegible]      21.     339.     150.      27.      53.     133.      64.      31.   640.00
    1.09     1.91     5.49     1.11     0.031    0.040    0.100    0.000   638.00   460.02
0.005033     100.     100.     100.        2        0        0     0.00   190.00   650.02

1490 NR CARD USED
*SECNO 12.200

*470 ENCROACHMENT STATIONS=     460.0     553.0  TYPE=     1  TARGET=     95.000
```

D/S FACE OF BRIDGE @ TRAILER PARK

12.20	5.21	643.11	0.00	642.32	643.42	0.83	1.01	0.02	641.50
313.	72.	511.	5.5%	39.	56.	87.	85.	31.	640.30
0.10	0.72	5.50	1.79	0.200	0.040	0.100	0.000	638.20	460.00
0.000421	200.	200.	200.	1	0	0	0.00	95.00	455.00

TOTAL EN ABE

SO	Y/DR	QTFO	QLEN	LO	SF	BASEO	SE	ELO<	ELCHO
0.00	2.86	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20

SECNO 12.300

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	KS	QWEIR	QPR	AREA	TRAPEZOIDAL AREA	ELLO	ELTRD
642.60	644.01	0.00	205.	287.	37.	31.	643.60	644.20

3470 ENCROACHMENT STATIONS= 460.0 505.0 TYP= 1 TARGET= 95.300

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	5.46	644.66	0.00	642.93	644.83	0.39	1.43	0.00	641.05
305.	82.	541.	17.	57.	72.	90.	85.	52.	640.63
0.12	0.89	1.20	1.34	0.100	0.040	0.100	0.000	638.20	460.00
0.001759	12.	12.	12.	2	0	3	0.00	95.00	502.00

SECNO 12.400

12.40	5.30	645.13	645.53	645.38	645.70	0.81	0.73	0.21	642.50
313.	86.	326.	65.	57.	93.	43.	66.	27.	642.56
0.12	1.26	7.24	1.20	0.00	0.040	0.100	0.000	638.20	437.61
0.000953	220.	220.	220.	1	19	0	0.00	124.86	563.47

CHV= 3.100 CSW= 0.300

SECNO 12.500

12.90	5.96	647.06	0.00	646.13	647.13	0.47	1.72	0.01	643.30
310.	91.	359.	60.	83.	55.	68.	67.	33.	645.40
1.19	0.13	6.52	1.15	5.00	0.040	0.100	0.000	638.13	407.79
0.000933	220.	220.	221.	2	0	0	0.00	163.74	571.56

SECNO 12.900

3470 ENCROACHMENT STATIONS= 460.0 505.0 TYP= 1 TARGET= 125.306

SECNO	DEPTH	CNEEL	CRIWS	CSELK	EG	HV	NL	OLOSS	BANK ELEV
D	DLOP	CCH	DADJ	ALOB	ACH	ARCB	VOL	TWA	LEFT/RIGHT
JTYPE	YLOB	JOB	WPDG	KNL	KNCH	XNR	STA	ELMIN	BSTA
SLOPE	XLOBI	YLOP	OBR	ITRIAL	IOC	ICONT	CDRAR	TOPWID	BINST
13.93	3.84	647.84	0.00	646.79	646.35	0.50	0.8	0.01	646.20
910.	114.	301.	13.	23.	52.	36.	67.	33.	646.20
0.014	0.E	0.35	1.42	0.100	0.040	0.100	0.000	44.30	440.00
0.000283	13.	242.	110.	3	0	3	0.00	132.00	562.00

SCHVP= 0.500 CEHV= 0.500

$BEGIN 13.00

HEC METHOD SPECIFIED ENERGY
FIXED CRITICAL DEPTH ASSUMED

3-72 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF 2-36 CULVERTS (LEFT CULVERT IS CRUSHED)

12.10	.20	448.30	481.30	468.15	450.24	0.74	1.13	0.63	447.00
2	95.	357.	62.	56.	3	28.	67.	33.	647.00
0.016	2.41	0.35	1.42	0.100	0.040	0.100	0.000	44.30	440.00
0.000283	13.	242.	110.	3	0	3	0.00	132.00	562.00

CROSSING DATA

SA	XR	XLOB	CWSP	ELEV	INV	RAP	BARFA	SZ	BLOCK	BLOCKC
0.0	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80	

$SECNO = 201

FLOW UP A MIXED FLOW TYPE BRIDGE

PRESSURE AND WEIR FLOW

SKEW	FPLAC	C	CWSP	APR	BARFA	TRAPEZOID AREA	ELLC	ELTRD
82.70	150.96	0.00	600.	50.	2.	7.	650.20	647.83

HEC METHOD SPECIFIED ENERGY

3-72 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF 2-36" CULVERTS

13.30	2.55	490.8.	4.00	480.12	650.95	0.15	0.53	0.00	647.00
310.	124.	254.	110.	89.	86.	78.	67.	33.	647.30
.11	1.92	4.00	1.42	0.030	0.040	0.080	0.000	645.30	647.00
0.001900	24.	24.	24.	2	0	9	0.00	80.00	547.00

SECNO	DEPTH	CUSEL	CRIWS	USERK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	ARCF	VOL	TWA	FEET/RIGHT
TWE	VLOB	VCH	VROB	XKL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	KLOBL	KLCH	KLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 13.500

200' U/S OF 2-36" CULVERTS

3.50	4.69	631.29	0.00	630.29	631.56	0.27	0.50	0.36	643.00
510.	116.	315.	75.	140.	81.	71.	69.	34.	649.00
1.18	0.31	5.25	1.00	0.100	0.040	0.100	0.000	636.60	312.02
0.003438	200.	200.	200.	3	0	0	0.00	268.58	581.20

CORD= 0.100 SERV= 0.200

*SECNO 14.000

110' d/s of CROSSLAY TOWNSHIP CORPORATE BOUNDARY

14.00	4.30	652.40	0.00	651.31	652.61	0.20	1.04	0.01	650.80
510.	232.	255.	24.	217.	51.	24.	70.	36.	650.70
1.18	1.07	5.00	1.00	0.100	0.040	0.100	0.000	648.10	317.02
0.003[illegible]	200.	200.	280.	7	0	0	0.00	220.57	537.39

THIS RUN EXECUTED 13-FEB-81 11:24:29

NEW2 RELEASE DATED NOV 26 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55

T1 500 YEAR FLOOD PROFILE
T2
T3 SILVER CREEK

J1	IOMIT	INA	NXNA	IDIM	ETRT	METRIC	EVINS	Q	QSEL	PQ
	0	5	0	0	0.000000	0.00	0.1	0	402.500	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLIC	TBW	CHNIH	ITRACE
	5.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
LO	QLOB	QCH	QROB	ALOB	ACH	AROB	WOL	TWA	LEFT/RIGHT
TIME	XLOB	VCH	VROB	XNL	XVCH	XNR	QTN	BLMIN	SRT4
QLCFS	XLOBL	XLC	XLOBR	ITRIAL	IOC	ICONT	CDRAR	IOMLTD	ENDST

*PROF 4

CCHV= 0.100 CEHV= 0.300
*SECNO 1.100
CONTLUSIDE OF SILVER CREEK AND CHOCOLAT RIVER.

1.10	6.20	607.30	606.82	607.50	608.39	0.89	0.00	0.00	606.00
780.	35.	709.	16.	62.	90.	117.	0.	0.	606.00
0.00	0.89	7.92	0.39	0.100	0.035	0.100	0.000	401.30	417.50
0.003320	0.	0.	0.	0	7	0	0.00	123.75	541.25

CCHV= 0.300 CEHV= 0.300
*SECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	2.95	608.32	0.00	0.00	608.88	0.53	0.39	0.10	606.00
780.	35.	637.	53.	37.	11.	56.	0.	0.	606.10
0.00	0.90	6.23	0.28	0.100	0.035	0.100	0.000	602.40	460.61
0.003972	100.	100.	100.	3	0	0	0.00	104.05	564.69

*SECNO 1.300

BRIDGE NORMAL BRIDGE:NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF D/S FACE OF FOOT BRIDGE.

1.30	6.13	608.53	0.00	0.00	608.93	0.40	0.01	0.04	606.50
780.	54.	573.	124.	47.	99.	64.	0.	0.	606.10
0.00	1.78	5.30	1.92	0.100	0.035	0.100	0.000	602.40	457.04
0.010162	1.	1.	1.	2	0	0	-16.71	110.03	567.04

*SECNO 1.400

BRIDGE NORMAL BRIDGE:NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.40	6.22	608.62	0.00	0.00	608.99	0.37	0.03	0.01	606.50
780.	88.	563.	129.	50.	100.	68.	0.	0.	606.10
0.0	1.72	5.62	1.89	0.100	0.035	0.100	0.000	602.40	455.60
0.009[illegible]	5.	5.	5	2	0	0	-16.71	112.42	548.02

SECNO	DEPTH	QWSEL	QF-WS	WSELR	EB	RO	RL	DLOSS	BANK ELEV
0	CLOB	QCH	QCL2	A_OB	ACH	CROS	WCL	TWR	LEFT-OUT
EXIT	VOCS	VCH	VEOS	XNL	XNCH	XNR	MTN	CLMIN	SETA
SLOPE	XLOBL	XLCH	XLOBR	ICRIAL	ITC	ICONT	CORAN	TOPWID	ENDST

&SECNO 1.500

U/S FACE OF EAST BRIDGE

1.50	5.16	603.38	3.50	0.00	609.03	0.06	0.30	0.56	606.50
780.	40.	370.	55.	90.	116.	47.	9.	0.	606.00
0.0	1.82	5.23	2.52	100	1.035	0.100	3.330	602.40	4.37
0.002467	1.	1.	1.	2	0	0	0.00	111.17	567.52

&SECNO 1.600

D/S FACE OF EAST BRIDGE

1.60	5.21	608.32	0.00	0.00	609.74	0.23	0.08	0.15	606.00
780.	30.	389.	82.	28.	95.	57.	1.	0.	606.00
0.01	1.07	7.25	1.07	0.100	0.035	0.100	0.000	602.60	677.93
0.003867	25	25	25	2	0	0	0.00	85.47	563.10

C CHO= 0.100 CC-WS 0.330

&SECNO 2.000

BRDG UV CHANEC MORE THAN UVDS

2.00	5.33	610.85	0.00	0.00	610.53	0.12	0.26	0.04	606.00
780.	398.	261.	122.	296.	59.	103.	3.	2.	607.60
0.05	1.35	6.41	1.18	0.100	0.045	0.100	0.000	603.60	302.99
0.002971	520.	580.	140.	2	0	0	0.00	226.30	576.29

&BRECO 2.100

X

2.10	5.02	610.72	0.00	0.00	610.78	0.06	0.29	0.01	606.00
780.	322.	276.	184.	325.	86.	205.	5.	2.	606.00
0.07	3.79	4.22	0.93	0.100	0.045	0.100	0.000	604.70	342.55
0.002171	320.	150.	130.	2	0	0	0.00	220.01	572.64

&SECNO 2.200

X

2.20	3.03	610.95	0.00	0.00	611.02	0.16	0.21	0.03	607.00
780.	345.	220.	121.	285.	78.	14.	7.	5.	607.00
0.08	1.21	4.50	0.92	0.100	0.045	0.100	0.000	605.80	376.88
0.002151	150.	150.	140.	2	0	0	0.00	159.50	534.38

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	VV	HL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	QLOB	ACH	AROB	VOL	T/A	LEFTRIGHT
TIME	VLOB	VCH	VROB	KW	XNCH	KNR	WTN	ELMIN	BSTA
FLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	ADRAR	TOPWID	ENDST

XSECNO 2.300

2.30	5.80	611.20	0.00	0.00	611.51	0.32	0.49	0.05	608.00
780.	0.	780.	0.	0.	84.	118.	8.	4.	608.00
0.10	0.00	9.65	0.00	0.000	0.045	0.000	0.000	608.00	442.82
0.004507	150.	150.	140.	2	0	0	0.00	120.35	553.16

XSECNO 3.100

BRIDGE ENCROACHMENT STATIONS= 420.0 460.0 TYPE= 1 TARGET= 20.000

90° D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	5.79	611.79	0.00	0.00	612.58	0.79	0.97	0.14	609.80
780.	26.	564.	188.	13.	65.	76.	9.	3.	609.80
0.10	1.75	8.25	2.18	0.200	0.045	0.130	0.000	608.00	355.09
0.012500	150.	130.	130.	2	0	0	0.00	70.00	540.00

CCHV= 0.300 CEXV= 0.500

XSECNO 3.200

BRIDGE NO. 2500 - TYPE TRANSITIONS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELTRA= 618.60 ELLEA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.20	4.24	613.04	613.03	0.00	614.36	1.32	1.39	0.17	619.60
780.	0.	750.	0.	0.	85.	0.	5.	4.	619.60
0.11	0.00	9.22	0.00	0.000	0.043	0.000	0.000	608.80	306.56
0.012329	150.	90.	90.	2	8	0	0.00	21.39	538.25

XSECNO 3.700

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 607.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE;ELLEA= 618.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	4.22	613.02	613.02	0.00	614.41	1.39	0.02	0.03	619.60
780.	0.	780.	0.	0.	82.	0.	3.	4.	619.60
0.11	0.00	9.46	0.00	0.000	0.026	0.000	0.000	608.80	507.01
0.012179	1.	1.	1.	1	32	0	-1.55	31.46	538.23

SECNO	DEPTH	CWSEL	CRIWS	WSELX	E3	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TEMP	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SSECNO 3.400

3301 HV CHANGED MORE THAN 4VIS

3370 NORMAL BRIDGE,NRO= 21 MIN ELTRO= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 FLREA= 619.60

10' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	5.21	614.01	0.00	0.00	614.72	0.71	0.10	0.20	619.60
780.	0.	730.	0.	0.	115.	0.	9.	4.	619.60
0.11	0.00	6.77	0.00	0.000	0.026	0.000	0.000	608.90	503.89
0.005[illegible]	24.	14	14.	6	0	0	-3.0	43.32	542.21

SSECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 FLREA= 619.60

10' U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.50	5.23	614.19	0.00	0.00	614.75	0.63	0.01	0.08	619.60
780.	0.	780.	0.	0.	123.	0.	9.	4.	619.60
0.11	0.00	6.35	0.00	0.000	0.035	0.000	0.000	608.90	503.51
0.005405	1.	1.	1.	3	0	0	0.00	39.16	542.67

SSECNO 3.600

10' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	5.88	614.93	0.00	0.00	615.12	0.14	0.23	0.15	610.00
780.	240.	466.	74.	224.	122.	97.	10.	4.	610.00
0.12	1.07	3.83	0.77	0.100	0.035	0.100	0.000	609.10	440.11
0.00[illegible]	120.	110.	120.	3	0	0	0.00	117.74	559.8[illegible]

CCHV= 0.100 CEHV= 0.300

SSECNO 3.700

3.70	5.53	614.97	0.00	0.00	615.39	0.44	0.18	0.09	611.50
780.	172.	544	63.	153.	36.	56.	11.	5.	611.50
0.13	1.12	3.33	1.12	0.100	0.035	0.100	0.000	609.40	411.20
0.002769	110.	140.	160.	3	0	0	0.00	138.36	549.56

SECNO	DEPTH	CWSEL	CRCWS	WSELK	EG	HP	HL	QLOBS	BANK ELEV
ID	FLOB	ACH	CRCB	ALOB	ACH	AREA	VOL	TWA	LEFT/RIGHT
TYPE	VLOB	VCH	CRCH	XNJ	XNCH	KNR	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLOCH	XLOCR	JTX-OA	LOC	ICONT	COPAR	TCP313	ENDST
SECNO 4.000									
SURVEY SECTION 04									
4.00	5.92	618.22	0.00	0.00	618.37	0.84	0.55	0.12	613.30
780.	110.	153.	153.	15.	61.	63.	12.	3.	612.30
0.34	2.28	6.76	2.19	0.100	0.035	0.100	0.000	609.50	551.32
0.000513	110.	140.	150.	2	0	0	0.00	66.72	546.92
SECNO 4.300									
4.30	4.08	618.38	0.00	0.00	618.50	0.70	1.82	0.61	613.00
780.	75.	83.	72.	43.	82.	28.	13.	5.	613.50
0.15	1.72	7.72	1.35	0.100	0.035	0.100	0.000	610.60	481.11
0.004060	260.	260.	250.	2	0	0	0.00	92.61	573.73
SECNO 4.600									
4.60	5.88	617.63	0.00	0.00	618.24	0.56	0.82	0.32	613.00
720.	72.	702.	6.	16.	11.	7.	14.	6.	615.30
0.14	1.59	5.34	0.54	0.100	0.035	0.100	0.000	614.70	487.30
0.003585	260.	260.	260.	2	0	0	0.00	42.61	525.56
SECNO 5.000									
SURVEY SECTION 05									
5.00	5.20	618.50	0.51	0.00	618.80	0.33	0.37	0.08	614.30
780.	30.	43.	33.	33.	12.	412.	16.	6.	614.30
0.34	0.90	2.40	0.32	0.100	0.035	0.100	0.000	612.30	481.94
0.000715	260.	260.	260.	2	0	0	0.00	194.99	676.95
SECNO 5.300									
5.30	6.24	618.76	0.00	0.00	618.78	0.03	0.07	0.01	614.80
780.	97.	156.	498.	181.	57.	945.	26.	9.	614.80
0.34	0.52	1.92	0.52	0.100	0.033	0.100	0.000	612.58	451.24
0.000221	430.	450.	470.	2	0	0	0.00	333.91	785.15
SECNO 6.100									
SURVEY SECTION 06									
6.00	6.13	618.93	0.00	0.00	618.96	0.03	0.12	0.00	614.80
780.	105.	171.	504.	103.	70.	889.	37.	13.	614.70
0.36	1.01	2.49	0.75	0.100	0.050	0.100	0.000	612.80	470.33
0.000801	630.	630.	630.	2	0	0	0.00	353.76	824.59

SECNO	DEPTH	CUBEL	CRIWS	WSELK	EG	HV	AL	QLOBF	BANK ELEV
TITLE	FLOB	WCH	VCHO	XNL	XNCH	XNR	STN	ELMIN	LEFT/RIGHT
ELMIN	FLOBL	FLCH	CRITH	ITRIAL	ITRC	ICONT	LOBAR	TOPWID	ENDST

SECNO 6.100

6.10	3.69	615.06	0.00	0.00	619.15	0.09	1.17	0.02	618.98
780.	99.	363.	258.	34.	53.	205.	40.	15.	617.00
0.48	1.74	6.34	1.74	0.100	0.050	0.100	0.000	615.60	472.2
0.010425	130.	130.	130.	2	0	0	0.00	207.54	481.75

SECNO 6.200

6.30	3.89	620.99	0.00	0.00	621.49	0.30	1.63	0.04	618.70
780.	99.	407.	313.	32.	53.	168.	41.	14.	618.70
0.49	1.86	7.62	1.87	0.100	0.050	0.100	0.000	617.10	472.32
0.013116	140.	140.	140.	3	0	0	0.00	289.00	641.32

SECNO 6.300

6.30	4.11	622.61	0.00	0.00	622.04	0.45	1.54	0.01	622.10
780.	99.	404.	311.	38.	54.	174.	42.	16.	620.15
0.49	1.96	7.72	1.97	0.100	0.050	0.100	0.000	618.50	472.20
0.010743	130	130.	130.	2	0	0	0.00	165.54	653.52

SECNO 6.400

6.30	4.13	624.43	0.00	0.00	624.91	0.30	1.48	0.02	621.80
780.	74.	421.	283.	39.	54.	145.	42.	16.	621.50
0.31	1.90	7.54	1.91	0.100	0.050	0.100	0.000	619.90	469.42
0.012007	130.	130.	130.	2	0	0	0.00	163.55	632.97

SECNO 6.500

6.40	4.20	625.60	0.00	0.00	626.11	0.31	1.57	0.00	622.90
780.	80.	448.	352.	43.	61.	135.	43.	17.	622.50
0.34	1.84	7.36	1.87	0.100	0.050	0.100	0.000	621.40	468.37
0.010729	140.	140.	140.	1	0	0	0.00	146.04	614.42

SECNO	DEPTH	CWSEL	DRIWS	WSELK	EG	HV	PL	DLOSS	BANK ELEV
Q	QLOB	QCH	ERQB	ALOB	ACH	AROB	WDL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XKL	XNCH	XNR	XTM	ELMIN	SSTA
SLUFF	XLOB	XLCH	XLOSP	ITRIAL	IRC	ICONT	COSAR	TOPLIN	ENDST

*SECNO 6.700

X									
6.00	4.80	627.00	0.00	0.00	627.64	0.64	1.49	0.04	626.30
780.	86.	455.	209.	42.	61.	103.	44.	17.	624.30
0.52	2.02	8.00	2.03	0.100	0.050	0.100	0.000	627.80	468.34
0.012485	130.	130.	130.	2	0	0	0.00	122.88	591.41

*SECNO 6.800

X									
6.00	4.36	628.56	0.00	0.00	629.25	0.69	1.60	0.01	625.70
780.	99.	511.	170.	48.	63.	82.	44.	15.	625.70
0.53	2.07	8.09	2.07	0.100	0.050	0.100	0.000	624.20	466.61
0.012102	130.	130.	130.	2	0	0	0.00	105.44	572.65

*SECNO 7.000

SURVEY SECTION 87

7.00	4.47	630.17	0.00	0.00	630.42	0.25	1.12	0.04	627.10
730.	226.	352.	202.	113.	64.	100.	45.	18.	627.10
0.24	2.00	5.52	2.03	0.100	0.050	0.100	0.000	625.70	448.31
0.002699	140.	140.	140.	2	0	0	0.00	111.93	560.25

*SECNO 8.000

3470 ENCROACHMENT STATIONS= 405.0 520.0 TYPE= 1 TARGET= 212.000

SURVEY SECTION [illegible]

8.00	4.11	631.41	0.01	625.74	631.44	0.05	1.00	0.02	623.90
780.	351.	125.	304.	308.	50.	296.	50.	20.	625.40
0.63	1.14	2.49	1.03	0.100	0.050	0.100	0.000	637.30	405.00
0.001274	420.	430.	430.	4	0	0	0.00	215.00	620.00

*SECNO 8.500

3470 ENCROACHMENT STATIONS= 420.0 590.0 TYPE= 1 TARGET= 170.000

8.50	3.51	631.81	0.00	630.48	632.01	0.20	0.52	0.05	629.90
780.	275.	267.	240.	142.	45.	129.	52.	21.	625.70
0.65	1.90	5.49	1.85	0.100	0.050	0.100	0.000	628.30	420.00
0.007745	200.	200.	200.	2	0	0	0.00	170.00	590.00

SECNO	DEPTH	CWSEL	CRWS	LSELK	EG	HV	HL	QLOSS	BANK ELEV
	OLOB	QCH	QRCB	ALOB	ACH	ARCB	VOL	TWA	LEFT/RIGHT
TIME	CPU	VCH	VROB	XNL	XNCH	XNR	KTW	ELMCO	SSTA
ITERS	KLOB	KLC	KLOB	ICRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

USECNO 8.600

3470 ENCROACHMENT STATIONS= 420.0 295.0 TYPE= 1 TARGET= 165.000

9.40	3.20	632.55	0.00	631.94	632.76	0.25	0.24	0.02	630.50
780.	253.	329.	244.	142.	82.	122.	53.	21.	630.30
0.65	1.80	5.99	1.78	0.100	0.045	0.100	0.000	628.80	420.00
0.007027	100.	100.	100.	2	0	0	0.00	163.00	383.00

USECNO 8.700

3470 ENCROACHMENT STATIONS= 440.0 295.0 TYPE= 1 TARGET= 155.000

9.70	3.75	642.85	0.00	631.74	635.20	0.24	0.41	0.03	631.20
780.	157.	342.	251.	65.	91.	138.	57.	21.	631.00
0.66	1.	6.74	2.04	0.100	0.045	0.101	0.000	625.10	0.00
0.007513	50.	50.	50.	2	0	0	0.00	158.00	595.00

CCHV= 0.300 CEHV= 0.500

USECNO 9.200

3470 ENCROACHMENT STATIONS= 430.0 400.0 TYPE= 1 TARGET= 200.000

D/S FACE OF 4.0' X 3.2' CONCRETE BOX CULVERT

9.20	4.01	637.40	0.00	632.28	632.64	0.35	0.43	0.03	631.50
780.	272.	253.	244.	134.	93.	123.	53.	21.	631.30
0.66	2.07	5.25	1.98	0.080	0.045	0.090	0.000	629.40	400.00
0.007706	50.	50.	50.	2	0	0	0.00	208.50	630.00

SPECIAL BRIDGE

SS	SK	HTCR	CDFO	ROLEN	BLC	B:P	BAREA	SS	ELSKU	ELSKD
1	0.00	2.20	3.00	3.00	0.20	0.00	74.80	0.00	629.40	629.40

USECNO 9.300
PRESSURE AND WEIR FLOW

ESPR	ESLO	KS	WEIR	DFR	BARTA	TRAPEZOID AREA	ELLC	ELTSD
667.20	648.30	0.00	438.	324.	25.	25.	633.40	637.50

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	PV	HL	CLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	BETA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TO WID	ENCST

3470 ENCROACHMENT STATIONS= 400.0 400.0 TYPE= 1 TARGET= 200.000

U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.30	8.02	639.22	0.00	634.96	639.28	0.04	5.60	0.00	634.00
72[illegible]	92.	325.	294.	248.	142.	304.	53.	22.	634.00
0.69	0.73	2.31	0.84	0.080	0.045	0.080	0.000	629.40	401.03
0.000369	109.	109.	109.	2	0	7	0.00	198.97	600.00

*SECNO 9.400

200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.40	9.50	639.30	0.00	636.45	639.31	0.01	0.05	0.01	634.00
780.	274.	148.	358.	619.	84.	782.	39.	23.	634.00
0.[illegible]	0.44	1.76	0.46	0.100	0.037	0.100	0.000	629.80	240.09
0.000[illegible]	200.	200.	280.	2	0	0	0.00	569.52	80[illegible].91

*SECNO 10.200

U/S FACE OF 36" TWIN CULVERTS

10.20	6.84	639.36	0.00	636.60	639.37	0.01	0.06	0.00	636.00
780.	311.	135.	344.	693.	90.	779.	71.	27.	636.00
0.9[illegible]	0.45	1.39	0.44	0.100	0.035	0.100	0.000	632.50	300.00
0.000[illegible]	220.	340.	400.	2	0	0	0.00	451.94	751.94

*SECNO 10.300

3370 NORMAL BRIDGE NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS

10.30	6.56	639.36	0.00	636.62	639.37	0.01	0.00	0.00	636.00
780.	330.	86.	364.	692.	67.	778.	71.	27.	636.00
0.9[illegible]	0.48	1.18	0.47	0.100	0.025	0.100	0.000	632.50	300.00
0.000195	[illegible]	[illegible]	1.	0	0	0	-24.57	451.94	751.94

*SECNO 10.400

3370 NORMAL BRIDGE NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS

10.40	6.57	639.37	0.00	636.63	639.37	0.01	0.00	0.00	636.00
780.	330.	86.	364.	693.	67.	780.	71.	27.	636.00
0.92	0.48	1.28	0.47	0.100	0.025	0.100	0.000	632.50	300.00
0.000194	24.	24.	21.	0	0	0	-24.57	451.95	751.92

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOBS	BANK ELEV
D	DLOB	CCH	DROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TWIN	VLOB	VCH	VROB	XHL	XNCH	XNR	WTN	SLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAS	TOPWID	EMBST

*SECNO 10.500
U/S FACE OF 36" TWIN CULVERTS

11.50	6.87	63[illegible].27	0.00	636.6[illegible]	639.37	0.01	0.00	0.00	636.00
780.	3[illegible].	112.	351.	67[illegible].	70.	7[illegible]1.	71.	27.	6[illegible]4.00
0.9[illegible]	0.[illegible]	[illegible]	0.45	0.100	0.040	0.100	0.000	632.50	300.00
0.000179	1.	1.	1.	0	0	0	0.00	451.95	751.95

*SECNO 10.600
[illegible] U/S OF 36" TWIN CULVERTS

10.60	[illegible]	63[illegible].46	0.00	63[illegible].1[illegible]	63[illegible].57	0.11	0.15	0.0[illegible]	636.60
780.	263.	291.	226	270.	70.	235.	80.	31.	634.60
0.96	0.97	4.17	0.96	0.100	0.040	0.100	0.000	634.60	326.73
0.001906	370.	370.	370.	2	0	0	0.00	346.43	673.22

[illegible] 0.100 CENV= 0.500

*SECNO 11.100
X

11.[illegible]0	4.5[illegible]	640.41	0.00	639.27	640.73	0.32	1.09	0.06	638.30
780.	[illegible]	393.	2[illegible]	100.	62	195.	54.	33.	638.30
0.[illegible]9	[illegible]	[illegible].30	1.4[illegible]	0.100	0.040	0.100	0.000	63[illegible].90	404.43
0.00[illegible]203	210.	280.	400.	2	0	0	0.00	257.64	662.07

*SECNO 11.150
CURVE SECTION 11[illegible]

11.15	0.36	642.06	0.00	640.[illegible]0	642.[illegible]	0.33	1.69	0.02	639.80
780.	47.	406.	327.	30.	61.	21[illegible].	86.	35.	638.90
1.01	1.57	6.69	1.53	0.100	0.040	0.100	0.000	637.20	480.11
0.005[illegible]	270.	300.	320.	2	0	0	0.00	181.87	661.98

CONV= [illegible] CENV= 0.500
*SECNO 11.200
D/S FACE OF FTBRDSE - L BNK ENDED @ STA 430 FOR CONTR - EL@300=641.2

11.20	5.18	642.58	0.00	641.06	642.65	0.07	0.11	0.09	639.50
780.	197.	248.	335.	197.	73.	369.	27.	35.	638.70
1.02	1.00	3.38	0.9[illegible]	0.100	0.040	0.100	0.000	637.40	430.00
0.00[illegible]1	50.	50.	50.	2	0	0	0.00	257.12	637.12

SECNO	DEPTH	CHSEL	CRIWS	WSELK	ES	AU	HL	OLOSS	BANK ELEV
	CLOB	CCH	CRLB	ALOB	ACH	AROB	VOL	TWA	EELBR
ICO	FLOB	VCH	VROB	XN3	XNSH	XNB	WTN	ELMIN	EBTA
LCE	XLOB	XLCH	XLOBR	DTFIAL	IDC	ICONT	CORAR	TOPWID	ENDS

SECNO 11.500

FOOTBRIDGE-NRD= 2 NPT= 5 ZTR= 639.40 MAX ELTR= 640.00

U/S FACE OF FOOTBRIDGE

11.50	5.21	642.61	0.00	641.07	642.64	0.04	0.00	0.01	639.50
780.	216.	161.	403.	189.	55.	375.	87.	35.	638.70
1.03	1.14	2.23	1.08	0.100	0.023	0.100	0.000	637.40	430.00
0.001435	1.	1.	1.	0	0	0	-99.03	257.94	637.94

SECNO 11.400

BRIDGE-NRD= 2 MIN ELTR= 639.60 MAX ELTR= 640.00

D/S FACE OF FOOTBRIDGE

11.40	5.21	642.61	0.00	641.07	642.64	0.04	0.00	0.01	639.50
780.	216.	161.	403.	189.	55.	375.	87.	35.	638.70
1.03	1.14	2.23	1.08	0.100	0.023	0.100	0.000	637.40	430.00
0.001435	2.	2.	2.	0	0	0	-99.03	258.00	688.00

SECNO 1.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	5.21	642.61	0.00	641.07	642.67	0.06	0.00	0.01	639.50
780.	197.	247.	336.	199.	74.	375.	87.	35.	638.70
1.02	0.97	3.21	2.50	0.100	0.040	0.100	0.000	637.40	430.00
0.021452	1.	1.	1.	1	0	0	0.00	257.91	687.91

1490 NF CARD USED

SECNO 11.300

D/S FACE OF FOOTBRIDGE

11.30	4.71	642.71	0.00	641.08	642.97	0.23	0.20	0.10	640.00
740.	128.	243.	391.	70.	62.	211.	88.	36.	640.00
1.03	1.33	3.77	1.28	0.048	0.040	0.100	0.000	638.00	408.60
0.004396	100.	100.	100.	2	0	0	0.00	241.35	650.09

1490 NF CARD USED

SECNO 12.200

3470 ENCROACHMENT STATIONS= 460.0 535.0 TYPE= 1 TARGET= 95.000

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	1.45	443.45	0.00	642.30	644.08	0.44	1.02	0.09	641.50	
780.	95.	124.	341.	61.	65.	108.	69.	36.	640.50	
1.00	2.57	6.08	8.36	0.100	0.040	0.100	0.000	639.20	460.00	
0.006163	100.	280.	200.	2	0	0	0.00	93.00	555.00	

SPECIAL BRIDGE

EN	XK	XKQC	QCFO	RELE	EMC	BNF	AREA	SF	ELCRI	ELCRD
0.00	1.E4	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20	

*SECNO 12.300

PRESSURE FLOW

EGPRS	EGLWC	K3	QWEIR	QFR	BARR	TRAPEZOID AREA	ELLC	ELTRD
656.49	644.93	2.00	490.	291.	77	31.	642.60	644.00

3470 ENCROACHMENT STATION= 440.0 555.0 TYPE= 1 TARGET= 75.000

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	3.91	443.11	0.00	642.93	644.54	0.73	.34	0.00	45.05
780.	97.	502.	101.	77.	90.	116.	89.	36.	641.00
1.00	2.20	5.62	1.56	0.100	0.040	0.100	0.000	639.20	460.00
0.007286	100.	220.	220.	2	0	0	0.00	97.00	555.00

*SECNO 12.102

12.10	4.11	445.51	0.00	643.15	644.07	0.34	0.91	0.12	643.30
780.	120.	295.	132.	107.	60.	93.	51.	37.	643.50
1.03	1.43	7.51	1.58	0.100	0.040	0.100	0.000	641.20	413.38
0.007286	220.	220.	220.	2	0	0	0.00	165.11	378.49

INVS= 0.100 DINV= 0.300

*SECNO 12.200

12.50	4.43	442.53	0.00	644.17	643.06	0.57	1.59	0.01	645.30
780.	197.	465.	118.	134.	61.	79.	92.	55.	645.40
1.57	1.17	5.1	1.47	0.100	0.040	0.100	0.000	643.10	231.05
0.007286	220.	220.	220.	2	0	0	0.00	205.67	546.13

*SECNO 12.050

3470 ENCROACHMENT STATION= 440.0 555.0 TYPE= 1 TARGET= 125.000

SECNO	DEPTH	CHSEL	CRIVE	ESEL	EO	HV	HL	CLOSP	BANK ELEV
Q	QLOB	QCH	QRCV	ALCB	ACH	AROB	SOL	TAA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	SLMSN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST
12.95	4.33	643.35	0.00	646.79	643.94	0.60	0.86	0.03	646.20
280.	207.	474.	33.	105.	61.	60.	93.	38.	646.20
1.32	1.57	7.30	1.64	0.100	0.040	0.100	0.000	641.00	640.00
0.002889	210.	210.	110	0	0	0	0.00	125.00	565.00

CCHV= 0.300 CEHV= 0.500

*SECNO 13.100

*** HIGH VELOCITY SPECIFIC ENERGY

*** UNIT DISCHARGE

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF 3-36" CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	4.53	649.67	649.83	648.15	650.73	0.91	1.32	0.16	647.00
760.	132.	482.	127.	82.	51.	45.	55.	39.	647.30
1.08	3.16	3.40	3.79	0.070	0.040	0.030	0.000	645.30	647.00
0.001881	581.	112.	110.	5	0	0	0.00	80.00	547.00

SPECIAL BRIDGE

SB_NO	XKON	CDFO	RILEN	WU	BWF	BAREA	SF	ELCHJ	E.CHK
0.00	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

*SECNO 13.200

*** 4% CHANGED MORE THAN ALLOWED

PRESSURE AND WEIR FLOW

EGPRE	EGLOC	HS	Q_BR	CPR	BAREA	TRAPEZOID AREA	ELLC	E_TRC
1146.49	65.21	0.00	733.	44.	7.	7.	645.21	649.40

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF 3-36" CULVERTS

13.20	4.02	651.82	0.00	650.13	651.04	0.24	0.83	0.00	647.00
760.	216.	383.	191.	105.	73.	93.	93.	39.	647.30
1.08	2.07	5.23	1.94	0.080	0.040	0.080	0.000	645.30	647.00
0.002889	24.	24.	24.	2	0	8	0.00	80.00	547.00

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
U	OLOB	OCH	ORDB	ALOB	ACH	ARDB	UDL	TWA	LEFT/RIGHT
TIME	VLOB	VOR	VRDB	XND	XNCH	XNR	WTH	ELMIN	SSTA
SLOPE	XLOB	XLCH	XLOBX	ITERAL	IEC	ICONT	CURAS	TOPWID	ENDS

*SECNO 13.500

200' U/S OF 2-36" CULVERTS

14.50	3.53	631.92	0.00	650.29	652.45	0.23	0.59	0.00	649.00
780.	2[illegible]	379.	1[illegible]	270.	70.	120.	95.	40.	649.00
1.05	[illegible]	[illegible]	[illegible]	0.100	0.040	0.100	0.000	446.40	299.58
0.003009	200.	200.	200.	3	0	0	0.00	372.44	601.72

DCHV= 0.100 CEHV= 0.200

*SECNO 14.000

110 d/s of

CROCKER TRANSFER CONDUIT BOUNDARY

14.00	4.81	632.91	0.00	651.31	653.12	0.21	0.96	0.00	650.30
780.	115.	320.	43.	311.	59.	36.	98.	42.	650.70
1.12	1.33	3.47	1.25	0.100	0.040	0.100	0.000	448.10	314.47
0.003945	280.	280.	280.	2	0	0	0.00	228.33	539.50

THIS RUN EXECUTED 13-FEB-85 14:00:26

USGS RELEASE DATED JULY 76 (CREATED MAY 1984)

ERROR CODE - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55

NOTE - ASTERISK (*) AT LEFT OF RECORD-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS

SILVER CREEK

SUMMARY PRINTOUT TABLE 1SC

RECNO	XLOC	YLTRD	YLLC	YHIY	Q	QUSE1	QRIVR	EG	LOSS	VCH	AREA	WIDTH
1,100	0.00	0.00	0.00	601.30	200.00	607.30	0.00	607.30	3.50	2.03	98.62	130.90
1,100	0.00	0.00	0.00	601.30	410.00	607.30	0.00	607.78	10.21	4.14	99.07	106.79
1,100	0.00	0.00	0.00	601.30	510.00	607.30	0.00	607.83	12.09	5.13	165.33	106.90
1,100	0.00	0.00	0.00	601.30	780.00	607.30	606.82	608.39	53.24	7.92	168.82	106.90
1,200	100.00	0.00	0.00	600.40	200.00	607.54	0.00	607.60	3.50	2.03	131.62	101.31
1,200	100.00	0.00	0.00	600.40	410.00	607.64	0.00	607.95	14.65	4.33	140.88	104.39
1,200	100.00	0.00	0.00	600.40	510.00	607.77	0.00	608.11	20.69	4.83	151.06	112.12
1,200	100.00	0.00	0.00	600.40	780.00	608.35	0.00	608.58	29.72	5.13	204.30	243.67
1,300	1.00	607.00	607.10	600.40	200.00	607.53	0.00	607.60	21.63	2.30	113.17	43.01
1,300	1.00	607.00	607.10	600.40	410.00	607.64	0.00	607.52	79.08	4.43	134.33	46.11
1,300	1.00	607.00	607.10	600.40	510.00	607.75	0.00	607.19	102.40	5.33	152.70	48.93
1,300	1.00	607.00	607.10	600.40	780.00	608.33	0.00	608.98	70.92	5.50	210.08	77.37
1,400	3.00	607.00	607.10	602.40	200.00	607.54	0.00	607.61	21.62	2.30	115.18	43.01
1,400	3.00	607.00	607.10	602.40	410.00	607.70	0.00	607.96	74.72	4.39	128.19	47.43
1,400	3.00	607.00	607.10	602.40	510.00	607.83	0.00	608.20	95.47	5.09	141.39	52.20
1,400	3.00	607.00	607.10	602.40	780.00	608.62	0.00	608.99	92.52	5.62	213.76	80.79
1,500	1.00	0.00	0.00	602.40	200.00	607.56	0.00	607.62	3.54	2.02	135.06	102.00
1,500	1.00	0.00	0.00	602.40	410.00	607.75	0.00	607.99	13.54	3.96	149.33	111.41
1,500	1.00	0.00	0.00	602.40	510.00	607.90	0.00	608.21	18.43	4.64	162.78	118.79
1,500	1.00	0.00	0.00	602.40	780.00	608.58	0.00	609.03	24.67	5.83	230.93	137.03
1,600	25.00	0.00	0.00	602.60	200.00	607.56	0.00	607.65	5.75	2.45	210.08	83.39
1,600	25.00	0.00	0.00	602.60	410.00	607.74	0.00	608.07	20.32	4.76	121.49	90.51
1,600	25.00	0.00	0.00	602.60	510.00	607.88	0.00	608.35	28.08	5.68	130.44	96.25
1,600	25.00	0.00	0.00	602.60	780.00	608.32	0.00	609.24	38.45	7.25	180.13	125.79
2,000	380.00	0.00	0.00	603.60	200.00	607.52	0.00	608.29	100.39	5.30	61.33	19.96
2,000	380.00	0.00	0.00	603.60	410.00	609.06	0.00	609.50	60.29	5.14	188.82	32.81
2,000	380.00	0.00	0.00	603.60	510.00	609.81	0.00	609.49	46.46	4.86	263.08	74.82
2,000	380.00	0.00	0.00	603.60	780.00	610.43	0.00	610.53	29.71	4.49	458.18	143.09

SECNO	XLOC	ELTRD	ZLLO	ELMIN	Q	CWSEL	CRTWS	SO	LOKKS	VOH	AREA	.01K
2.100	150.00	0.00	0.00	604.70	200.00	608.57	0.00	608.62	9.10	3.14	223.31	70.89
2.100	150.00	0.00	0.00	604.70	410.00	609.36	0.00	609.60	3.91	3.78	349.8	130.24
2.100	150.00	0.00	0.00	604.70	510.00	609.91	0.00	609.98	11.10	3.89	444.19	159.18
2.100	150.00	0.00	0.00	604.70	780.00	610.72	0.00	610.78	9.77	3.21	646.15	249.56
2.200	150.00	0.00	0.00	605.80	200.00	608.71	0.00	608.82	21.63	2.94	114.44	47.01
2.200	150.00	0.00	0.00	605.80	410.00	609.69	0.00	609.84	23.12	3.72	226.18	85.18
2.200	150.00	0.00	0.00	605.80	510.00	610.26	0.00	610.34	23.92	3.94	277.62	104.70
2.200	150.00	0.00	0.00	605.80	780.00	611.83	0.00	611.92	23.92	4.30	398.14	148.98
2.300	150.00	0.00	0.00	606.90	200.00	609.13	0.00	609.36	62.92	4.22	68.16	25.21
2.300	150.00	0.00	0.00	606.90	410.00	610.09	0.00	610.39	33.41	1.99	149.38	56.00
2.300	150.00	0.00	0.00	606.90	510.00	610.65	0.00	610.71	49.14	5.14	136.30	72.75
2.300	150.00	0.00	0.00	606.90	780.00	612.20	0.00	612.5	43.67	4.65	27.75	135.72
3.100	130.00	0.00	0.00	608.00	200.00	610.14	609.81	610.38	131.47	5.43	85.76	37.44
3.100	130.00	0.00	0.00	608.00	410.00	610.91	0.00	611.48	122.51	6.65	96.06	37.04
3.100	130.00	0.00	0.00	608.00	510.00	611.37	0.00	611.8	125.25	7.17	114.22	43.33
3.100	130.00	0.00	0.00	608.00	780.00	612.59	0.00	612.68	124.07	8.33	152.92	69.47
3.200	140.00	0.00	0.00	608.80	200.00	611.32	0.00	611.78	115.12	6.04	53.70	18.39
3.200	140.00	0.00	0.00	608.80	410.00	612.10	0.00	612.87	166.65	7.07	57.99	31.57
3.200	140.00	0.00	0.00	608.80	510.00	612.58	0.00	613.33	186.03	7.80	65.35	37.39
3.200	140.00	0.00	0.00	608.80	780.00	613.84	613.82	614.34	235.91	9.22	84.57	50.78
3.300	1.00	619.60	617.60	608.80	200.00	611.33	0.00	611.78	52.71	5.04	39.69	23.37
3.300	1.00	619.60	617.60	608.80	410.00	612.10	0.00	612.89	78.38	7.10	57.74	37.67
3.300	1.00	619.60	617.60	608.80	510.00	612.39	0.00	613.34	83.09	7.85	64.96	55.95
3.300	1.00	619.60	617.60	608.80	780.00	613.02	613.02	614.41	152.72	9.46	82.47	73.47
3.400	14.00	619.40	617.60	608.30	200.00	611.46	0.00	611.80	61.87	4.74	42.20	30.91
3.400	14.00	619.40	617.60	608.30	410.00	612.42	0.00	613.38	92.49	6.75	65.85	50.59
3.400	14.00	619.40	617.60	608.30	510.00	612.95	0.00	613.52	92.85	7.65	76.63	67.46
3.400	14.00	619.40	617.60	608.30	780.00	614.01	0.00	614.72	50.39	6.77	113.21	109.83
3.500	1.00	0.00	0.00	608.80	200.00	611.47	0.00	611.81	57.44	4.66	42.85	26.34
3.500	1.00	0.00	0.00	608.80	410.00	612.43	0.00	613.04	89.75	6.05	67.72	49.13
3.500	1.00	0.00	0.00	608.80	510.00	612.95	0.00	613.55	86.88	6.25	81.61	62.24
3.500	1.00	0.00	0.00	608.80	780.00	614.12	0.00	614.72	51.02	6.35	122.86	104.10
3.600	140.00	0.00	0.00	609.10	200.00	612.06	0.00	612.13	8.05	2.41	151.53	70.51
3.600	140.00	0.00	0.00	609.10	410.00	613.33	0.00	613.43	5.20	3.10	263.52	143.21
3.600	140.00	0.00	0.00	609.10	510.00	613.83	0.00	613.93	5.14	3.53	313.76	178.60
3.600	140.00	0.00	0.00	609.10	780.00	615.03	0.00	615.13	7.99	3.83	442.36	277.80
3.700	140.00	0.00	0.00	609.40	200.00	612.05	0.00	612.48	64.39	5.44	41.32	24.92
3.700	140.00	0.00	0.00	609.40	410.00	613.29	0.00	613.79	47.86	6.32	110.36	69.26
3.700	140.00	0.00	0.00	609.40	510.00	613.76	0.00	614.25	40.27	6.38	155.12	80.34
3.700	140.00	0.00	0.00	609.40	780.00	614.55	0.00	614.69	27.65	6.33	295.56	143.22

	SECNO	XLOC	ELTRD	ELLO	ELMIN	D	CWPEL	CRIWS	ED	10KQS	VCH	AREA	.01K
	4.000	240.00	0.00	0.00	609.80	200.00	612.94	612.69	613.47	74.74	4.05	47.25	23.13
	4.000	240.00	0.00	0.00	609.80	410.00	613.94	0.00	614.62	70.45	7.44	98.58	48.85
	4.000	240.00	0.00	0.00	609.80	510.00	614.31	0.00	615.05	68.60	7.86	119.84	61.38
	4.000	140.00	0.00	0.00	609.80	780.00	615.22	0.00	616.07	65.13	8.83	172.56	96.65
	4.300	260.00	0.00	0.00	610.60	200.00	614.28	0.00	614.84	24.37	4.16	56.13	40.03
	4.300	260.00	0.00	0.00	610.60	410.00	615.37	0.00	615.87	23.72	5.91	101.52	70.61
	4.300	260.00	0.00	0.00	610.60	510.00	615.78	0.00	616.30	36.38	6.54	121.50	86.03
	4.300	260.00	0.00	0.00	610.60	780.00	616.84	0.00	617.60	40.80	7.72	182.34	122.61
	4.600	260.00	0.00	0.00	611.30	200.00	614.93	0.00	615.11	18.80	3.46	63.37	46.12
	4.600	260.00	0.00	0.00	611.30	410.00	616.24	0.00	616.56	20.41	4.65	108.27	90.76
	4.600	260.00	0.00	0.00	611.30	510.00	616.70	0.00	617.08	21.62	5.13	133.17	109.69
	4.600	260.00	0.00	0.00	611.30	780.00	617.68	0.00	618.24	25.35	6.31	184.08	155.23
	5.000	260.00	0.00	0.00	612.30	200.00	615.47	0.00	615.61	19.54	3.26	102.15	45.25
	5.000	260.00	0.00	0.00	612.30	410.00	616.85	0.00	616.94	10.39	3.21	282.49	127.21
	5.000	360.00	0.00	0.00	612.30	510.00	617.35	0.00	617.45	8.97	3.23	363.31	170.33
	5.000	260.00	0.00	0.00	612.30	780.00	618.50	0.00	618.60	7.05	3.40	569.73	291.72
	5.300	180.00	0.00	0.00	613.10	200.00	616.02	0.00	616.04	4.92	1.83	356.34	90.26
	5.500	180.00	0.00	0.00	613.50	410.00	617.18	0.00	617.20	3.07	1.52	710.19	234.03
	5.500	480.00	0.00	0.00	613.50	510.00	617.65	0.00	617.68	2.65	1.84	862.14	310.84
	5.500	480.00	0.00	0.00	613.50	780.00	618.77	0.00	618.79	2.21	1.92	1323.81	524.10
	5.900	480.00	0.00	0.00	614.60	200.00	616.39	0.00	616.40	14.78	2.42	198.30	48.86
	6.000	480.00	0.00	0.00	614.80	410.00	617.60	0.00	617.62	13.27	3.39	411.31	102.30
	6.000	480.00	0.00	0.00	614.80	510.00	617.97	0.00	617.91	11.35	3.85	527.24	151.38
	6.000	480.00	0.00	0.00	614.80	780.00	618.93	0.00	618.96	8.01	3.45	861.41	275.66
	6.100	120.00	0.00	0.00	615.00	200.00	616.80	616.51	617.03	98.85	5.57	61.43	26.54
	6.100	120.00	0.00	0.00	615.00	410.00	617.62	0.00	617.65	75.67	5.24	88.73	47.13
	6.100	120.00	0.00	0.00	615.00	510.00	618.00	0.00	618.03	34.53	5.53	274.16	69.20
	6.100	120.00	0.00	0.00	615.00	780.00	619.06	0.00	619.10	24.85	5.87	252.25	156.35
	6.200	120.00	0.00	0.00	615.20	200.00	618.20	0.00	618.42	75.74	4.34	90.69	22.98
	6.200	120.00	0.00	0.00	615.20	410.00	619.32	0.00	619.35	100.53	5.25	158.72	38.70
	6.200	120.00	0.00	0.00	615.20	510.00	619.71	0.00	619.77	125.28	6.44	197.98	47.22
	6.200	120.00	0.00	0.00	615.20	780.00	620.75	0.00	620.85	106.23	6.84	292.52	76.32
	6.300	140.00	0.00	0.00	617.10	200.00	619.80	619.38	619.94	181.23	5.68	53.09	16.26
	6.300	140.00	0.00	0.00	617.10	410.00	620.27	0.00	620.42	127.24	6.43	136.90	36.35
	6.300	140.00	0.00	0.00	617.10	510.00	620.55	0.00	620.92	132.04	6.89	174.12	46.17
	6.300	140.00	0.00	0.00	617.10	780.00	621.28	0.00	621.43	121.64	7.32	268.03	67.98
	6.400	120.00	0.00	0.00	618.20	200.00	621.17	0.00	621.46	91.37	4.75	72.92	20.92
	6.400	120.00	0.00	0.00	618.20	410.00	621.84	0.00	622.22	104.42	6.03	146.41	40.08
	6.400	120.00	0.00	0.00	618.20	510.00	622.06	0.00	622.47	106.73	6.46	178.33	48.91
	6.400	120.00	0.00	0.00	618.20	780.00	622.61	0.00	622.84	107.01	7.43	266.11	73.26

SECNO	XLCH	ELTRO	ELLC	ELMIN	Q	CUSEL	CRIWS	ED	10%SR	VCH	AREA	.01K
6.500	130.00	0.00	0.00	615.90	200.00	622.47	0.00	622.95	122.45	5.50	60.09	18.07
6.500	130.00	0.00	0.00	615.90	410.00	627.24	0.00	628.68	210.63	8.84	162.73	37.90
6.500	130.00	0.00	0.00	615.90	510.00	629.50	0.00	630.98	242.67	7.72	199.89	47.05
6.500	130.00	0.00	0.00	615.90	780.00	634.03	0.00	634.54	190.07	7.54	244.13	71.18
6.600	130.00	0.00	0.00	621.40	200.00	623.39	0.00	624.29	87.22	4.76	64.57	21.44
6.600	130.00	0.00	0.00	621.40	410.00	628.76	0.00	629.28	97.77	6.07	132.10	41.46
6.600	130.00	0.00	0.00	621.40	510.00	631.05	0.00	631.48	101.32	6.50	161.77	50.78
6.600	130.00	0.00	0.00	621.40	780.00	635.60	0.00	636.1	138.33	7.36	228.57	76.03
6.700	130.00	0.00	0.00	622.80	200.00	625.23	0.00	625.64	119.47	5.34	51.49	18.30
6.700	130.00	0.00	0.00	622.80	410.00	626.09	0.00	626.42	120.58	6.64	111.29	37.34
6.700	130.00	0.00	0.00	622.80	510.00	626.33	0.00	626.75	151.82	7.07	138.60	46.33
6.700	130.00	0.00	0.00	622.80	780.00	627.00	0.00	627.46	126.93	8.00	204.17	69.81
6.800	130.00	0.00	0.00	624.20	200.00	626.72	0.00	627.11	106.15	5.17	52.14	19.41
6.800	130.00	0.00	0.00	624.20	410.00	627.61	0.00	628.14	113.40	6.59	106.34	38.50
6.800	130.00	0.00	0.00	624.20	510.00	627.91	0.00	628.50	115.55	7.08	130.75	47.36
6.800	130.00	0.00	0.00	624.20	780.00	628.34	0.00	627.23	121.03	8.09	192.72	70.90
7.000	130.00	0.00	0.00	627.70	200.00	628.14	0.00	628.33	70.53	1.00	57.75	23.71
7.000	130.00	0.00	0.00	627.70	410.00	629.10	0.00	629.35	58.72	4.61	166.03	53.50
7.000	130.00	0.00	0.00	627.70	510.00	629.43	0.00	629.64	57.33	4.38	195.76	67.36
7.000	130.00	0.00	0.00	627.70	780.00	630.17	0.00	630.42	56.95	5.62	324.15	103.32
8.000	430.00	0.00	0.00	637.30	200.00	629.74	0.00	630.77	15.32	2.16	203.29	45.30
8.000	430.00	0.00	0.00	637.30	410.00	630.35	0.00	630.78	13.92	5.10	434.61	110.22
8.000	430.00	0.00	0.00	637.30	510.00	630.67	0.00	630.99	13.23	2.21	495.88	140.12
8.000	430.00	0.00	0.00	637.30	780.00	631.41	0.00	631.64	12.74	2.49	634.01	218.65
8.300	200.00	0.00	0.00	629.32	200.00	630.68	630.48	630.83	148.80	5.36	72.13	16.49
8.300	200.00	0.00	0.00	629.32	410.00	630.75	0.00	631.17	182.82	6.47	146.83	29.78
8.300	200.00	0.00	0.00	629.32	510.00	631.10	0.00	631.38	136.06	6.02	200.16	44.72
8.300	200.00	0.00	0.00	629.32	780.00	632.18	0.00	632.01	77.45	5.49	321.43	88.63
8.400	30.00	0.00	0.00	632.80	200.00	631.49	0.00	631.72	58.07	4.31	77.68	26.25
8.400	30.00	0.00	0.00	632.80	410.00	631.93	0.00	632.12	53.10	6.40	217.66	56.25
8.400	30.00	0.00	0.00	632.80	510.00	632.05	0.00	632.27	64.53	5.32	240.16	63.50
8.400	30.00	0.00	0.00	632.80	780.00	632.35	0.00	632.56	72.27	5.29	311.78	83.05
8.700	30.00	0.00	0.00	639.10	200.00	641.74	0.00	632.19	118.68	5.62	46.49	18.36
8.700	50.00	0.00	0.00	639.10	410.00	632.15	0.00	632.48	92.53	5.67	171.74	42.62
8.700	50.00	0.00	0.00	639.10	510.00	642.33	0.00	642.62	96.39	6.06	209.73	52.53
8.700	50.00	0.00	0.00	639.10	780.00	632.84	0.00	633.20	96.20	6.76	293.52	72.50
9.200	30.00	0.00	0.00	654.80	200.00	632.26	0.00	633.04	164.07	7.01	28.54	10.61
9.200	30.00	0.00	0.00	654.80	410.00	632.72	632.72	633.07	109.98	6.43	161.02	39.10
9.200	50.00	0.00	0.00	649.40	510.00	632.98	0.00	633.22	109.18	6.64	193.17	48.81
9.200	50.00	0.00	0.00	649.40	780.00	633.41	0.00	633.66	77.66	5.25	297.29	68.71

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CNSEL	CRINS	EO	10XIS	VCH	AREA	.01K
9,300	109.00	637.60	633.40	629.40	780.00	639.22	0.00	639.26	3.69	2.37	714.48	405.94
9,400	200.00	0.00	0.00	629.30	200.00	636.45	0.00	636.47	3.09	1.67	402.72	113.72
9,400	200.00	0.00	0.00	629.80	410.00	638.52	0.00	638.53	0.78	1.22	1124.69	317.93
9,400	200.00	0.00	0.00	629.50	510.00	638.80	0.00	638.81	1.16	1.37	1245.63	476.67
9,400	200.00	0.00	0.00	629.80	780.00	639.30	0.00	639.31	1.72	1.76	1438.16	594.91
10,200	340.00	0.00	0.00	632.60	200.00	636.60	0.00	636.63	7.93	1.90	320.53	71.04
10,200	340.00	0.00	0.00	632.50	410.00	638.56	0.00	638.56	1.07	0.95	1204.06	395.81
10,200	340.00	0.00	0.00	632.60	510.00	638.85	0.00	638.85	1.21	1.10	1333.03	442.99
10,200	340.00	0.00	0.00	632.50	780.00	639.36	0.00	639.37	1.72	1.39	1542.20	593.00
10,300	1.00	635.40	636.00	632.50	200.00	636.62	0.00	636.63	15.90	1.79	295.83	50.16
10,300	1.00	635.40	636.00	632.50	410.00	638.56	0.00	638.56	1.28	0.90	1175.44	362.46
10,300	1.00	635.40	636.00	632.50	510.00	638.85	0.00	638.85	1.41	1.00	1305.39	428.85
10,300	1.00	635.40	636.00	632.50	780.00	639.36	0.00	639.37	1.93	1.23	1517.32	558.29
10,400	82.00	636.00	636.00	632.50	200.00	636.65	0.00	636.66	10.38	1.72	303.92	52.73
10,400	21.00	636.40	636.00	632.50	410.00	638.56	0.00	638.57	1.27	0.90	1177.14	363.30
10,400	21.00	636.40	636.00	632.50	510.00	638.85	0.00	638.85	1.41	0.99	1307.49	429.85
10,400	21.00	636.40	636.00	632.50	780.00	639.37	0.00	639.37	1.94	1.28	1520.37	559.84
10,500	1.00	0.00	0.00	632.50	200.00	636.65	0.00	636.67	8.01	1.69	335.51	70.68
10,500	1.00	0.00	0.00	632.50	410.00	638.56	0.00	638.57	2.13	0.89	1201.38	385.52
10,500	1.00	0.00	0.00	632.50	510.00	638.85	0.00	638.86	1.27	0.98	1332.20	452.43
10,500	1.00	0.00	0.00	632.50	780.00	639.37	0.00	639.37	1.79	1.24	1545.24	582.85
11,100	375.00	0.00	0.00	636.40	200.00	637.10	636.97	637.62	305.17	3.86	43.92	19.30
11,100	376.00	0.00	0.00	636.40	410.00	638.61	0.00	638.73	20.70	3.75	314.56	90.11
11,100	370.00	0.00	0.00	636.40	510.00	638.91	0.00	639.02	19.08	3.80	397.44	116.90
11,100	370.00	0.00	0.00	636.40	780.00	639.46	0.00	639.57	19.06	4.17	575.29	178.64
11,150	380.00	0.00	0.00	636.50	200.00	639.27	0.00	639.43	26.65	3.58	121.36	38.89
11,150	380.00	0.00	0.00	636.50	410.00	639.56	0.00	639.67	54.55	3.58	184.21	55.51
11,150	380.00	0.00	0.00	636.50	510.00	640.87	0.00	640.98	54.93	5.27	231.54	68.88
11,150	380.00	0.00	0.00	636.50	780.00	640.81	0.00	640.93	32.53	6.30	307.46	108.13
11,150	300.00	0.00	0.00	637.20	200.00	640.40	639.91	640.87	50.64	5.42	50.42	21.01
11,150	300.00	0.00	0.00	637.20	410.00	641.32	0.00	641.64	55.46	5.58	177.99	55.05
11,150	300.00	0.00	0.00	637.20	510.00	641.64	0.00	641.90	54.03	5.90	216.59	68.15
11,150	300.00	0.00	0.00	637.20	780.00	642.06	0.00	642.14	55.36	6.69	304.71	101.24
11,200	50.00	0.00	0.00	637.40	200.00	641.06	0.00	641.09	7.24	2.00	278.13	74.32
11,200	50.00	0.00	0.00	637.40	410.00	641.78	0.00	641.85	9.03	2.59	441.71	136.42
11,200	50.00	0.00	0.00	637.40	510.00	642.03	0.00	642.05	9.84	2.83	502.44	162.58
11,200	50.00	0.00	0.00	637.40	780.00	642.58	0.00	642.63	31.21	3.38	640.11	236.93

SECAD	XLOW	ELTRD	ELLO	ELMIN	Z	CASEL	DRIVS	EQ	IONER	VCH	PREA	.01M
11,350	1.20	639.40	640.00	637.40	200.00	641.07	0.00	641.09	17.95	1.90	221.39	50.13
11,200	.90	639.60	640.50	637.40	410.00	641.80	0.00	641.84	21.35	2.31	415.41	106.38
11,350	1.00	639.61	640.00	637.40	510.00	642.06	0.00	642.05	20.65	2.40	479.51	131.70
11,300	1.00	639.60	640.00	637.40	780.00	642.61	0.00	642.66	16.39	2.93	619.22	192.65
11,400	1.50	639.60	640.00	637.40	200.00	641.07	0.00	641.09	15.62	1.89	252.97	50.60
11,400	1.00	639.60	640.00	637.40	410.00	641.80	0.00	641.83	19.57	2.25	413.38	107.43
11,400	1.00	639.60	640.00	637.40	510.00	642.06	0.00	642.09	21.59	2.47	490.00	131.93
11,400	1.00	639.60	640.00	637.40	780.00	642.62	0.00	642.68	16.36	2.92	618.78	192.91
11,500	1.00	0.00	0.00	637.40	200.00	641.07	0.00	641.10	6.96	1.97	382.57	75.82
11,500	1.00	0.00	0.00	637.40	410.00	641.80	0.00	641.84	8.70	2.53	447.91	139.04
11,500	1.00	0.00	0.00	637.60	510.00	642.05	0.00	642.10	7.87	2.79	509.50	165.71
11,500	1.00	0.00	0.00	637.40	780.00	642.61	0.00	642.67	11.62	3.84	642.91	230.76
11,600	100.00	0.00	0.00	638.00	200.00	641.08	640.72	641.42	71.94	4.99	61.89	23.58
11,600	100.00	0.00	0.00	638.00	410.00	641.84	0.00	642.15	53.98	5.64	171.91	54.80
11,600	100.00	0.00	0.00	638.20	510.00	642.12	0.00	642.40	50.33	5.49	222.21	71.89
11,600	100.00	0.00	0.00	638.00	780.00	642.72	0.00	642.97	42.96	6.77	303.45	117.65
12,200	200.00	0.00	0.00	639.20	200.00	642.32	0.00	642.37	50.42	4.78	91.80	27.12
12,200	200.00	0.00	0.00	639.20	410.00	642.95	642.89	643.22	36.58	4.75	170.40	66.01
12,200	200.00	0.00	0.00	639.20	510.00	643.11	0.00	643.42	50.64	5.56	181.94	71.67
12,200	200.00	0.00	0.00	639.20	780.00	643.67	0.00	644.04	41.43	4.83	233.07	99.34
12,300	19.00	644.00	642.60	639.20	200.00	642.57	0.00	642.16	24.55	3.87	34.71	36.82
12,300	19.00	644.00	642.60	639.20	410.00	643.04	0.00	643.61	19.54	3.44	219.43	11.43
12,300	19.00	644.00	642.60	639.20	510.00	643.66	0.00	643.85	17.19	4.23	238.99	123.02
12,300	19.00	644.00	642.60	639.20	780.00	645.11	0.00	645.44	26.73	2.60	291.79	150.81
12,300	210.00	0.00	0.00	639.20	200.00	642.08	642.82	643.53	151.98	6.52	55.52	14.23
12,300	220.00	0.00	0.00	641.20	410.00	644.85	644.28	645.48	92.60	7.03	102.90	41.08
12,300	220.00	0.00	0.00	641.20	510.00	645.19	645.02	645.80	89.53	7.24	118.12	53.90
12,400	220.00	0.00	0.00	641.20	780.00	645.91	0.00	646.47	72.36	7.51	233.14	91.38
12,900	220.00	0.00	0.00	643.40	200.00	644.15	0.00	644.53	54.30	4.62	68.12	27.17
12,900	220.00	0.00	0.00	643.40	410.00	644.87	0.00	645.31	46.00	6.02	169.21	81.00
12,900	220.00	0.00	0.00	643.40	510.00	645.06	0.00	645.35	48.85	6.52	184.62	81.47
12,900	220.00	0.00	0.00	643.40	780.00	645.75	0.00	646.06	71.08	7.31	276.73	92.35
12,950	110.00	0.00	0.00	644.00	200.00	644.79	644.50	645.23	90.39	5.49	52.50	21.04
12,950	110.00	0.00	0.00	644.00	410.00	645.37	0.00	645.06	60.59	6.44	131.78	65.67
12,950	110.00	0.00	0.00	644.00	510.00	645.34	0.00	645.35	78.31	6.75	163.96	57.66
12,950	110.00	0.00	0.00	644.00	780.00	645.25	0.00	645.94	85.53	7.50	224.24	84.31
13,100	110.00	0.00	0.00	645.20	200.00	645.15	645.15	645.75	173.49	6.62	41.42	15.23
13,100	110.00	0.00	0.00	645.20	410.00	645.75	645.75	646.73	155.96	8.07	84.57	32.52
13,100	110.00	0.00	0.00	645.20	510.00	646.30	646.30	647.06	140.02	8.23	109.52	43.10
13,100	110.00	0.00	0.00	645.20	780.00	646.85	646.85	647.72	145.51	9.43	158.95	64.01

SECNO	XLC-	ELTRO	ELLC	ELMIN	D	CWSEL	CRIWS	EG	10K*B	VCR	AREA	.01K
13.200	24.00	649.40	648.20	645.30	200.00	650.13	0.00	650.17	6.57	2.09	175.27	78.29
13.200	24.00	649.40	648.20	645.30	410.00	650.62	0.00	650.76	15.14	3.47	216.70	105.38
13.200	24.00	649.40	648.20	645.30	510.00	650.83	0.00	650.99	19.09	4.02	232.73	116.74
13.200	24.00	649.40	648.20	645.30	780.00	651.32	0.00	651.56	28.89	5.28	270.26	145.12
13.500	200.00	0.00	0.00	646.60	200.00	650.29	0.00	650.49	26.94	3.83	87.98	38.53
13.500	200.00	0.00	0.00	646.60	410.00	651.01	0.00	651.29	35.46	5.06	205.94	68.86
13.500	200.00	0.00	0.00	646.60	510.00	651.29	0.00	651.54	24.65	5.25	273.42	86.60
13.500	200.00	0.00	0.00	646.60	780.00	651.93	0.00	652.15	30.09	5.40	480.90	142.19
14.000	280.00	0.00	0.00	648.10	200.00	651.31	651.08	651.65	65.63	4.99	77.55	24.69
14.000	280.00	0.00	0.00	648.10	410.00	652.13	0.00	652.37	41.86	4.89	237.57	63.37
14.000	280.00	0.00	0.00	648.10	510.00	652.40	0.00	652.61	38.72	5.00	291.37	80.92
14.000	280.00	0.00	0.00	648.10	780.00	652.91	0.00	653.12	39.45	5.47	405.28	124.19

SILVER CREEK

SUMMARY PRINTOUT TABLE 30

SECND	D	CNSEL	DIFXSP	DIFUSX	DIFXNS	TOPAID	XLCH
1.100	200.00	607.50	0.00	0.00	0.00	123.75	0.00
1.100	410.00	607.50	0.00	0.00	0.00	123.75	0.00
1.100	510.00	607.50	0.00	0.00	0.00	123.75	0.00
1.100	780.00	607.50	0.00	0.00	0.00	123.75	0.00
1.200	200.00	607.54	0.00	0.04	0.00	79.07	100.00
1.200	410.00	607.66	0.12	0.16	0.00	82.52	100.00
1.200	510.00	607.71	0.11	0.27	0.00	86.25	100.00
1.200	780.00	608.5[illegible]	0.52	0.85	0.00	104.09	100.00
1.300	200.00	607.53	0.00	-0.01	0.00	79.09	1.00
1.300	410.00	607.64	0.11	-0.02	0.00	82.58	1.00
1.300	510.00	607.75	0.11	-0.02	0.00	85.65	1.00
1.300	780.00	608.53	0.78	0.18	0.00	110.01	1.00
1.400	200.00	607.54	0.00	0.01	0.00	79.10	5.00
1.400	410.00	607.70	0.16	0.06	0.00	84.01	5.00
1.400	510.00	607.85	0.16	0.10	0.00	88.89	5.00
1.400	780.00	608.62	0.74	0.09	0.00	112.42	5.00
1.500	200.00	607.56	0.00	0.02	0.00	79.51	1.00
1.500	410.00	607.75	0.19	0.06	0.00	85.80	1.00
1.500	510.00	607.90	0.15	0.05	0.00	90.40	1.00
1.500	780.00	608.58	0.67	-0.04	0.00	111.17	1.00
1.600	200.00	607.56	0.00	0.00	0.00	59.65	25.00
1.600	410.00	607.74	0.18	-0.01	0.00	64.56	25.00
1.600	510.00	607.88	0.14	-0.02	0.00	65.32	25.00
1.600	780.00	608.52	0.64	-0.06	0.00	85.47	25.00
2.000	200.00	607.92	0.00	0.36	0.00	71.69	380.00
2.000	410.00	609.06	1.14	1.32	0.00	151.78	380.00
2.000	510.00	609.51	0.45	1.68	0.00	134.10	380.00
2.000	780.00	610.43	0.82	1.91	0.00	224.70	380.00
2.100	200.00	608.57	0.00	0.65	0.00	146.79	150.00
2.100	410.00	609.54	0.97	0.49	0.00	196.50	150.00
2.100	510.00	609.9[illegible]	0.37	0.40	0.00	210.50	150.00
2.100	780.00	610.72	0.80	0.28	0.00	230.01	150.00
2.200	200.00	608.71	0.00	0.14	0.00	91.49	150.00
2.200	410.00	609.69	0.98	0.15	0.00	132.34	150.00
2.200	510.00	610.06	0.37	0.15	0.00	146.11	150.00
2.200	780.00	610.85	0.79	0.18	0.00	159.30	150.00

SECNO	Q	CWSEL	DIF:SP	DIFWSX	DIFKWS	TOPWID	XLCH
2.300	200.00	609.[illegible]	0.00	0.42	0.00	65.22	150.00
2.300	410.00	610.09	0.97	0.40	0.00	101.63	150.00
2.300	510.00	610.[illegible]	0.36	0.39	0.00	107.68	150.00
2.300	780.00	611.20	0.75	0.34	0.00	120.35	150.00
3.100	200.00	610.14	0.00	1.01	0.00	62.63	130.00
3.100	410.00	610.91	0.77	0.82	0.00	68.53	130.00
3.100	510.00	611.17	0.26	0.72	0.00	70.00	130.00
3.100	780.00	611.79	0.62	0.60	0.00	70.00	130.00
3.200	200.00	611.32	0.00	1.19	0.00	22.37	90.00
3.200	410.00	612.10	0.77	1.19	0.00	24.98	90.00
3.200	510.00	612.38	0.29	1.21	0.00	28.95	90.00
3.200	780.00	613.04	0.66	1.23	0.00	31.59	90.00
3.300	200.00	611.33	0.00	0.01	0.00	22.41	1.00
3.300	410.00	612.10	0.77	0.01	0.00	25.09	1.00
3.300	510.00	612.39	0.28	0.01	0.00	25.99	1.00
3.300	780.00	613.02	0.64	-0.02	0.00	31.46	1.00
3.400	200.00	611.46	0.00	0.12	0.00	22.80	14.00
3.400	410.00	612.47	0.97	0.32	0.00	27.31	14.00
3.400	510.00	612.83	0.41	0.45	0.00	30.09	14.00
3.400	780.00	614.01	1.17	0.98	0.00	38.32	14.00
3.500	200.00	611.47	0.00	0.02	0.00	22.85	1.00
3.500	410.00	612.47	1.00	0.05	0.00	27.61	1.00
3.500	510.00	612.95	0.47	0.11	0.00	30.93	1.00
3.500	720.00	614.12	1.18	0.12	0.00	39.16	1.00
3.600	200.00	612.03	0.00	0.59	0.00	79.44	140.00
3.600	410.00	613.38	1.37	0.86	0.00	96.97	140.00
3.600	510.00	613.83	0.30	0.89	0.00	103.87	140.00
3.600	720.00	614.98	1.15	0.86	0.00	119.74	140.00
3.700	200.00	612.02	0.00	-0.03	0.00	35.70	140.00
3.700	410.00	613.34	1.32	-0.09	0.00	78.28	140.00
3.700	510.00	613.76	0.31	-0.08	0.00	96.30	140.00
3.700	780.00	614.95	1.20	-0.03	0.00	138.86	140.00
4.000	200.00	612.94	0.00	0.91	0.00	49.24	140.00
4.000	410.00	613.94	1.00	0.70	0.00	54.16	140.00
4.000	510.00	614.31	0.38	0.56	0.00	56.06	140.00
4.000	780.00	615.22	0.90	0.26	0.00	64.72	140.00
4.300	200.00	614.28	0.00	1.34	0.00	32.42	260.00
4.300	410.00	615.37	1.09	1.43	0.00	47.60	260.00
4.300	510.00	615.75	0.38	1.44	0.00	54.29	260.00
4.300	780.00	616.64	0.89	1.42	0.00	92.61	260.00

SECNO	D	TWREL	DIFSP	DIFJRX	DIFCLS	TOPVID	XLOCH
6,600	200.00	614.93	0.00	0.45	0.00	29.58	260.00
6,600	410.00	615.24	1.31	0.82	0.00	33.58	260.00
6,600	510.00	616.71	0.46	0.25	0.00	37.66	260.00
6,600	780.00	617.68	0.98	1.04	0.00	42.05	260.00
6,500	200.00	615.47	0.00	0.55	0.00	113.52	260.00
6,500	410.00	616.13	1.57	0.59	0.00	150.24	260.00
6,500	510.00	617.35	0.41	0.45	0.00	164.08	260.00
6,500	780.00	618.34	1.15	0.82	0.00	194.25	260.00
6,400	200.00	616.02	0.00	0.35	0.00	298.24	480.00
6,400	410.00	617.18	1.16	0.35	0.00	343.29	480.00
6,400	510.00	617.66	0.48	0.31	0.00	319.32	480.00
6,400	780.00	618.77	1.15	0.27	0.00	353.93	480.00
6,000	200.00	616.39	0.00	0.38	0.00	168.16	480.00
6,000	410.00	617.43	1.03	0.25	0.00	243.71	480.00
6,000	510.00	617.87	0.45	0.21	0.00	276.38	480.00
6,000	780.00	618.93	1.06	0.17	0.00	353.76	480.00
6,100	200.00	616.51	0.00	0.31	0.00	83.00	130.00
6,100	410.00	617.63	1.01	0.19	0.00	180.55	130.00
6,100	510.00	618.04	0.36	0.17	0.00	221.63	130.00
6,100	780.00	619.05	1.07	0.13	0.00	315.16	130.00
6,200	200.00	616.29	0.00	1.59	0.30	105.56	130.00
6,200	410.00	617.32	0.92	1.13	0.00	150.38	130.00
6,200	510.00	618.91	0.19	0.87	0.00	165.45	130.00
6,200	780.00	619.45	0.55	0.39	0.00	209.54	130.00
6,300	200.00	619.10	0.00	1.50	0.00	77.42	140.00
6,300	410.00	620.37	0.78	1.35	0.00	176.54	140.00
6,300	510.00	620.75	0.26	1.43	0.00	156.26	140.00
6,300	780.00	620.79	0.43	1.54	0.00	199.00	140.00
6,100	200.00	621.17	0.00	1.67	0.00	85.86	130.00
6,100	410.00	621.84	0.67	1.67	0.00	142.01	130.00
6,100	510.00	622.61	0.72	1.43	0.00	169.39	130.00
6,100	780.00	622.41	0.45	1.62	0.00	183.84	130.00
6,500	200.00	622.47	0.00	1.31	0.00	71.92	130.00
6,500	410.00	623.24	0.77	1.40	0.00	117.00	130.00
6,500	510.00	623.50	0.30	1.43	0.00	132.13	130.00
6,500	780.00	624.03	0.54	1.42	0.00	163.56	130.00
6,600	200.00	623.59	0.00	1.51	0.00	67.44	140.00
6,600	410.00	624.76	0.78	1.52	0.00	130.06	140.00
6,600	510.00	625.03	0.27	1.53	0.00	147.92	140.00
6,600	780.00	625.60	0.57	1.57	0.00	186.04	140.00

SECNO	Q	CUSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
6.700	200.00	625.23	0.00	1.25	0.00	52.34	130.00
6.700	410.00	626.09	0.35	1.33	0.00	56.65	130.00
6.700	510.00	626.38	0.25	1.35	0.00	58.32	130.00
6.700	780.00	627.00	0.61	1.39	0.00	122.88	130.00
6.900	200.00	626.72	0.00	1.49	0.00	47.38	130.00
6.900	410.00	627.61	0.58	1.51	0.00	75.35	130.00
6.900	510.00	627.91	0.30	1.53	0.00	84.99	130.00
6.900	780.00	628.54	0.62	1.57	0.00	105.66	130.00
7.000	200.00	628.16	0.00	1.43	0.00	75.24	140.00
7.000	410.00	629.10	0.94	1.49	0.00	92.35	140.00
7.000	510.00	629.63	0.34	1.52	0.00	98.53	140.00
7.000	780.00	630.17	0.74	1.61	0.00	111.93	140.00
8.000	200.00	629.74	0.00	1.58	0.00	150.00	430.00
8.000	410.00	630.35	0.61	1.26	0.61	215.00	430.00
8.000	510.00	630.67	0.31	1.23	0.93	215.00	430.00
8.000	780.00	631.41	0.74	1.29	1.67	215.00	430.00
8.500	200.00	630.48	0.00	0.74	0.00	110.00	200.00
8.500	410.00	630.75	0.30	0.43	0.30	170.00	200.00
8.500	510.00	631.10	0.32	0.44	0.61	170.00	200.00
8.500	780.00	631.81	0.71	0.40	1.33	170.00	200.00
8.600	200.00	631.65	0.00	1.01	0.00	40.00	100.00
8.600	410.00	631.93	0.44	1.15	0.44	165.00	100.00
8.600	510.00	632.06	0.13	0.96	0.57	165.00	100.00
8.600	780.00	632.51	0.45	0.70	1.02	165.00	100.00
8.700	200.00	631.74	0.00	0.74	0.00	40.00	50.00
8.700	410.00	632.15	0.44	0.76	0.46	155.00	50.00
8.700	510.00	632.38	0.13	0.77	0.64	155.00	50.00
8.700	780.00	632.85	0.47	0.34	1.12	155.00	50.00
9.200	200.00	633.28	0.00	0.34	0.00	12.00	50.00
9.200	410.00	633.72	0.44	0.33	0.44	200.00	50.00
9.200	510.00	633.85	0.13	0.50	0.44	200.00	50.00
9.200	780.00	633.91	0.33	0.56	1.13	200.00	50.00
9.300	200.00	634.96	0.00	2.68	0.00	17.00	109.00
9.300	410.00	638.48	3.52	5.76	3.52	194.10	109.00
9.300	510.00	638.72	0.27	5.29	3.80	196.40	109.00
9.300	780.00	639.72	0.43	5.83	4.24	195.97	109.00
9.400	200.00	634.45	0.00	1.50	0.00	280.25	200.00
9.400	410.00	638.52	2.07	0.04	2.07	418.13	200.00
9.400	510.00	638.80	0.28	0.05	2.33	436.96	200.00
9.400	780.00	639.30	0.45	0.03	2.83	569.82	200.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFXWS	TOPWID	XLCH
10.200	200.00	634.60	0.00	0.15	0.00	307.34	340.00
10.200	410.00	638.53	1.96	0.04	1.96	450.81	340.00
10.200	510.00	638.85	0.29	0.04	2.35	451.22	340.00
10.200	780.00	639.36	0.51	0.06	2.76	451.94	340.00
10.300	200.00	636.62	0.00	0.02	0.00	307.22	1.00
10.300	410.00	638.56	1.94	0.00	1.94	450.80	1.00
10.300	510.00	638.85	0.29	0.00	2.23	451.21	1.00
10.300	780.00	639.36	0.51	0.00	2.75	451.94	1.00
10.400	200.00	636.65	0.00	0.03	0.00	309.20	21.00
10.400	410.00	638.56	1.91	0.00	1.91	450.81	21.00
10.400	510.00	638.85	0.29	0.00	2.20	451.21	21.00
10.400	780.00	639.37	0.51	0.00	2.72	451.94	21.00
10.500	200.00	636.61	0.00	0.00	0.00	309.60	1.00
10.500	410.00	638.53	1.92	0.00	1.92	450.80	1.00
10.500	510.00	638.85	0.29	0.00	2.20	451.22	1.00
10.500	780.00	639.37	0.52	0.00	2.72	451.95	1.00
10.600	200.00	637.13	0.00	0.47	0.00	[illegible]	370.00
10.600	410.00	638.61	1.49	0.05	1.49	260.50	370.00
10.600	510.00	638.91	0.30	0.06	1.80	290.30	370.00
10.600	780.00	639.46	0.55	0.[illegible]	2.35	[illegible]	370.00
11.100	200.00	639.77	0.00	2.16	0.00	158.64	380.00
11.100	410.00	639.[illegible]	0.37	0.00	0.37	192.79	380.00
11.100	510.00	639.37	0.25	0.96	0.60	214.93	380.00
11.100	780.00	640.41	0.54	0.94	1.13	227.64	380.00
11.150	200.00	640.40	0.00	1.13	0.00	[illegible]	300.00
11.150	410.00	641.52	0.92	1.68	0.92	164.94	300.00
11.150	510.00	641.56	0.26	1.69	1.16	164.9[illegible]	300.00
11.150	780.00	642.0[illegible]	0.50	1.63	1.66	181.87	300.00
11.200	200.00	641.06	0.00	0.67	0.00	217.46	50.00
11.200	410.00	641.78	0.72	0.46	0.72	236.21	50.00
11.200	510.00	642.03	0.25	0.[illegible]	0.97	242.81	50.00
11.200	780.00	642.53	0.53	0.52	1.52	257.12	50.00
11.300	200.00	641.07	0.00	0.02	0.00	217.73	1.00
11.300	410.00	641.80	0.73	0.02	0.73	236.53	1.00
11.300	510.00	642.06	0.26	0.03	0.98	243.47	1.00
11.300	780.00	642.61	0.56	0.03	1.54	257.94	1.00
11.400	200.00	641.07	0.00	0.00	0.00	217.92	1.50
11.400	410.00	641.80	0.73	0.00	0.73	236.83	1.50
11.400	510.00	642.06	0.26	0.00	0.98	243.50	1.50
11.400	780.00	642.62	0.56	0.00	1.54	258.00	1.50

SECNO	S	CASE_	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLOC
11,300	200.00	641.07	0.00	0.00	0.00	217.99	1.00
11,300	410.00	641.80	0.72	-0.01	0.72	236.89	1.00
11,300	510.00	642.25	0.26	-0.01	0.28	243.53	1.00
11,300	780.00	642.81	0.56	-0.01	1.54	257.91	1.00
11,400	200.00	641.08	0.00	0.01	0.00	110.91	100.00
11,400	410.00	641.84	0.77	0.05	0.77	171.96	100.00
11,400	510.00	642.12	0.28	0.07	1.04	190.00	100.00
11,400	780.00	642.77	0.65	0.00	1.69	241.28	100.00
12,200	200.00	642.32	0.00	1.24	0.00	17.30	200.00
12,200	410.00	643.02	0.68	1.19	0.68	95.00	200.00
12,300	510.00	643.10	0.12	0.99	0.80	95.00	200.00
12,300	780.00	643.81	0.70	0.94	1.50	95.00	200.00
12,300	200.00	642.93	0.00	0.61	0.00	17.30	19.00
12,300	410.00	644.48	1.57	1.47	1.57	95.00	19.00
12,300	510.00	644.66	0.20	1.55	1.77	95.00	19.00
12,300	780.00	645.41	0.76	1.43	2.53	95.00	19.00
12,400	200.00	643.48	0.00	0.95	0.00	43.49	220.00
12,400	410.00	644.85	0.37	0.39	0.37	105.20	220.00
12,400	510.00	645.18	0.32	0.52	0.69	124.86	220.00
12,400	780.00	645.92	0.75	0.80	1.44	175.11	220.00
12,500	200.00	646.12	0.00	2.25	0.00	57.38	220.00
12,500	410.00	646.32	0.19	1.97	0.19	183.14	220.00
12,900	510.00	647.06	0.74	1.68	0.93	163.78	220.00
12,900	780.00	647.35	0.29	1.64	1.22	205.37	220.00
12,950	200.00	646.78	0.00	2.65	0.00	78.32	110.00
12,950	410.00	647.57	0.78	2.75	0.78	113.85	110.00
12,950	510.00	647.86	0.27	2.75	1.05	132.00	110.00
12,950	780.00	648.53	0.67	2.80	1.72	25.00	110.00
13,100	200.00	648.15	0.00	1.36	0.00	43.15	110.00
13,100	410.00	648.93	0.78	1.38	0.78	58.79	110.00
13,100	510.00	649.28	0.35	1.43	1.13	75.74	110.00
13,100	780.00	649.97	0.69	1.48	1.82	80.00	110.00
13,200	200.00	650.13	0.00	1.95	0.00	80.39	24.00
13,200	410.00	650.83	0.69	1.70	0.69	80.00	24.00
13,200	510.00	651.03	0.20	1.55	0.89	80.00	24.00
13,200	780.00	651.72	0.69	1.49	1.58	80.00	24.00
13,300	200.00	650.29	0.00	0.16	0.00	104.79	200.00
13,300	410.00	651.01	0.72	0.36	0.72	222.75	200.00
13,300	510.00	651.29	0.28	0.46	1.00	268.58	200.00
13,300	780.00	651.93	0.64	0.41	1.64	372.44	200.00

SECNO	Q	CWSEL	DIFLSP	DIFWSX	DIFKMS	TOPWID	XLCR
10.000	200.00	65[illegible]	0.00	1.03	0.00	136.40	280.00
10.000	[illegible]0.00	652.[illegible]	0.84	1.15	0.[illegible]	218.23	280.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.07	240.[illegible]	280.00
14.000	730.00	652.9[illegible]	0.51	0.58	1.40	225.33	280.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 8.800 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 8.800 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 9.200 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 9.200 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 12.200 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 12.200 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 12.200 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE ABEL

CAUTION SECNO= 13.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 13.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 13.100 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 13.100 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 13.100 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 13.100 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 13.100 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 13.100 PROFILE= 4 MINIMUM SPECIFIC ENERGY

FLOOD INSURANCE ZONE DATA FOR SILVER CREEK

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 0	2	0.2
1.000	0.	0.00	0.00	0.00
1.200	100.	-0.22	-0.11	0.58
1.300	101.	-0.22	-0.11	0.73
1.400	106.	-0.31	-0.16	0.76
1.500	107.	-0.34	-0.15	0.67
1.600	732.	-0.32	-0.16	0.64
2.000	812.	-1.59	-0.45	0.92
2.100	662.	-1.34	-0.37	0.80
2.200	812.	-1.33	-0.37	0.79
2.300	962.	-1.32	-0.36	0.75
3.100	1092.	-1.07	-0.26	0.62
3.200	1182.	-1.06	-0.25	0.66
3.300	1133.	-1.04	-0.28	0.64
3.400	1197.	-1.38	-0.41	1.17
3.500	1198.	-1.47	-0.47	1.18
3.600	1378.	-1.72	-0.50	1.15
3.700	1428.	-1.72	-0.51	1.20
4.000	1613.	-1.37	-0.38	0.90
4.300	1824.	-1.47	-0.48	0.89
4.600	2173.	-1.77	-0.46	0.98
5.000	2398.	-1.39	-0.51	1.15
5.300	2578.	-1.64	-0.48	1.11
6.000	3533.	-1.48	-0.45	1.04
6.100	3438.	-1.44	-0.43	1.02
6.200	5608.	-0.71	-0.42	0.85
6.300	3758.	-1.04	-0.26	0.46
6.400	3888.	-0.90	-0.27	0.55
6.500	4018.	-1.02	-0.26	0.54
6.600	4128.	-1.04	-0.27	0.57
6.700	4288.	-1.16	-0.28	0.61
6.800	4418.	-1.19	-0.30	0.65
7.000	4558.	-1.28	-0.34	0.74
8.000	4988.	-0.93	-0.3[illegible]	0.74
8.500	5138.	-0.61	-0.32	0.71
8.600	5238.	-0.57	-0.32	0.45
8.700	5338.	-0.44	-0.29	0.47
9.000	5381.	-0.60	-0.13	0.53
9.300	5497.	-3.80	-0.27	0.46
9.600	5697.	-2.35	-0.28	0.49
10.200	6037.	-2.25	-0.29	0.51
10.300	6038.	-2.23	-0.27	0.51
10.400	6037.	-2.20	-0.27	0.52
10.500	6040.	-2.20	-0.27	0.52
10.600	6430.	-1.80	-0.30	0.55

11,100	6810	-0.60	-0.2[illegible]	0.54
11,150	7110.	-1.16	-0.2[illegible]	0.50
11,200	7160.	-0.77	-0.2[illegible]	0.55
[illegible]	7[illegible]	-0.95	-0.2[illegible]	0.56
[illegible]	7167.	-0.98	-0.2[illegible]	0.5[illegible]
11,300	7164.	-0.93	-0.2[illegible]	0.56
11,600	7264.	-1.04	-0.2[illegible]	0.59
12,200	7464.	-0.90	-0.[illegible]	0.54
12,800	7483.	-1.73	-0.[illegible]	0.45
12,[illegible]	7703.	-1.30	-0.[illegible]	0.72
12,900	7[illegible]	-0.93	-0.[illegible]	0.49
12,950	8033.	-1.05	-0.[illegible]	0.50
13,100	8143.	-1.15	-0.[illegible]	0.53
13,200	8167.	-0.72	-0.[illegible]	0.47
13,500	8367.	-1.00	-0.[illegible]	0.64
14,000	8647.	-1.09	-0.[illegible]	0.5[illegible]
HEIGHTED AVG FOR REACH		-1.35	-0.3[illegible]	0.72

[illegible] FOR THE REACH = 0.3 WITH 8[illegible].8 PERCENT OF THE REACH WITHIN 0.3 FEET
ZONE FOR THE REACH = 0.3



1) COUNTY: Manistee

2) STUDY NAME: Chocolay Twp.

3) WATERCOURSE: Silver Creek

4) DOCUMENT TYPE: 10,50,100,500 year Encroached



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**********************************************
*  WATER SURFACE PROFILES                    *
*  VERSION OF NOVEMBER 1976                  *
*  UPDATED MAY 1984                          *
*                                            *
*  RUN DATE 13-FEB-85 TIME 11:30:30          *
**********************************************
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**********************************
*  U.S. ARMY CORPS OF ENGINEERS  *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D    *
*  DAVIS, CALIFORNIA 95616       *
*  (916) 440-2105 (FTS) 448-2105 *
**********************************
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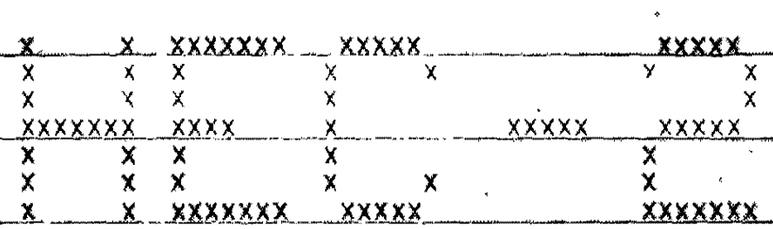

SILVER CREEK

- 10 YR

- 50 YR

- 100 YR

- 500 YR

13 FEB 85 JTP

THIS RUN EXECUTED 13-FEB-85 11:30:46

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

C
T1        CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY  JANUARY 1985
T2         JOB #1057F  SCTHREE.HEC   [SHEFF] 10 YR. FLOOD PROFILE RUN
T3        SILVER CREEK                                  JTP

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q       WSEL     FQ
       0.       2.       0.       0.  0.000000     0.00      0.0       0.   607.500    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

    150.000  201.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

BT      4.000   200.000   410.000   510.000   780.000   510.000     0.000     0.000     0.000     0.000
NC      0.100     0.100     0.035     0.100     0.300     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
        CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.
X1      1.100     8.000   500.000   518.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    610.000   280.000   606.000   500.000   601.300   504.700   601.300   513.300   606.000   518.000
GR    610.000   580.000   615.000   595.000   620.000   610.000   625.000   710.000     0.000     0.000

NC      0.000     0.000     0.000     0.300     0.500     0.000     0.000     0.000     0.000     0.000
        D/S FACE OF FOOT BRIDGE.
X1      1.200    15.000   500.000   520.000   100.000   100.000   100.000     0.000     0.000     0.000
GR    615.000   375.000   610.000   430.000   607.300   480.000   606.500   500.000   602.500   500.900
GR    602.500   501.000   602.500   508.000   602.400   512.000   602.900   518.000   602.900   518.100
GR    606.100   520.000   607.000   522.000   606.500   542.000   610.000   585.000   615.000   600.000

ET      0.000     0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000
        1' INSIDE OF D/S FACE OF FOOT BRIDGE.
X1      1.300     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   607.300   606.500     0.000
BT      6.000   491.000   607.800   600.000   500.900   607.500   602.500   501.000   607.500   607.100
BT    518.000   607.100   606.600   518.100   607.100   602.900   522.000   607.000   600.000     0.000

        1' INSIDE OF U/S FACE OF FOOT BRIDGE.
X1      1.400     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     10.000     0.000     0.000     0.000     0.000     0.000     0.000   607.300   606.500     0.000
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ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
	U/S FACE OF FOOT BRIDGE									
X1	1.500	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	607.300	606.500	0.000
	25' U/S OF FOOT BRIDGE.									
X1	1.600	11.000	500.000	518.000	25.000	25.000	25.000	0.000	0.000	0.000
GR	620.000	290.000	615.000	405.000	610.000	465.000	606.000	500.000	602.600	503.400
GR	602.600	514.600	606.000	518.000	610.000	590.000	615.000	600.000	620.000	620.000
GR	625.000	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.045	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #2									
X1	2.000	12.000	500.000	511.000	320.000	440.000	380.000	0.000	0.000	0.000
GR	615.000	320.000	610.000	355.000	607.200	480.000	607.000	500.000	605.400	501.000
GR	604.900	505.000	604.900	508.000	603.600	510.000	607.600	511.000	608.400	531.000
GR	610.000	575.000	615.000	590.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	2.100	11.000	500.000	515.000	120.000	180.000	150.000	0.000	0.000	0.000
GR	620.000	220.000	615.000	320.000	610.000	370.000	606.000	500.000	605.000	502.000
GR	604.700	507.500	605.000	514.000	606.000	515.000	610.000	590.000	615.000	610.000
GR	620.000	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	2.200	10.000	500.000	520.000	150.000	140.000	150.000	0.000	0.000	0.000
GR	620.000	320.000	615.000	350.000	610.000	380.000	607.000	500.000	606.000	501.000
GR	605.800	510.000	606.000	519.000	607.000	520.000	610.000	525.000	615.000	580.000
	X									
	X									
X1	2.300	10.000	500.000	520.000	150.000	140.000	150.000	0.000	0.000	0.000
GR	620.000	370.000	615.000	440.000	610.000	470.000	608.000	500.000	607.000	501.000
GR	606.900	510.000	607.000	519.000	608.000	520.000	610.000	570.000	615.000	625.000
	90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.100	8.000	500.000	520.000	130.000	130.000	130.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	490.000	0.000	560.000	0.000	0.000	0.000	0.000
GR	620.000	375.000	615.000	460.000	609.800	500.000	608.000	504.000	608.000	516.000
GR	609.800	520.000	610.000	560.000	615.000	700.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.200	17.000	500.000	548.000	100.000	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	618.600	0.000	0.000
GR	619.600	400.000	619.600	480.000	619.600	500.000	614.600	502.000	610.200	516.000
GR	609.000	524.400	609.000	524.500	609.000	525.500	608.800	531.000	607.800	534.500
GR	612.400	535.000	612.400	535.100	612.400	536.000	612.400	536.100	615.000	546.000
GR	619.600	548.000	619.600	700.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.000	0.000	0.026	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	1.410	0.000	0.000	0.000	0.000
	1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
X1	3.300	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	619.600	619.600	0.000
BT	21.000	480.000	619.600	611.000	500.000	619.600	614.600	502.000	619.600	617.600
BT	513.000	619.600	617.600	512.100	619.600	617.300	512.900	619.600	617.300	513.000
BT	619.600	617.600	516.000	619.400	617.600	524.400	619.600	617.600	524.500	619.600
BT	609.200	525.400	619.400	609.200	525.500	619.600	617.600	531.000	619.600	617.600
BT	534.500	619.600	617.600	535.000	619.600	617.600	535.100	619.600	612.400	536.000
BT	619.600	612.400	536.100	619.600	617.600	546.000	619.600	617.600	568.000	619.600
BT	615.000	568.000	619.600	611.000	0.000	0.000	0.000	0.000	0.000	0.000
	1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPENING RAILROAD BRIDGE.									
X1	3.400	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	619.600	619.600	0.000
NC	0.000	0.000	0.035	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
	U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
X1	3.500	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	619.600	619.600	0.000
	110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
X1	3.600	8.000	500.000	521.000	120.000	150.000	140.000	0.000	0.000	0.000
BR	615.000	440.000	610.000	470.000	610.000	500.000	609.100	500.000	609.100	519.000
BR	610.000	521.000	615.000	560.000	620.000	720.000	625.000	540.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	X									
X1	3.700	8.000	500.000	517.000	110.000	160.000	140.000	0.000	0.000	0.000
BR	619.000	400.000	615.000	410.000	611.500	500.000	609.400	500.000	609.400	519.000
BR	611.500	517.000	615.000	550.000	620.000	590.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #4									
X1	4.000	12.000	500.000	513.000	110.000	150.000	140.000	0.000	0.000	0.000
BR	619.500	458.000	619.300	473.000	612.500	485.000	612.300	500.000	610.600	500.000
BR	609.800	505.000	610.700	510.000	611.300	512.000	612.300	513.000	612.800	513.000
BR	615.000	540.000	620.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	400.000	700.000
	Y									
X1	4.300	10.000	500.000	515.000	260.000	260.000	260.000	0.000	0.000	0.000
BR	619.400	460.000	619.200	475.000	615.000	485.000	613.000	500.000	614.000	502.000
BR	610.600	507.500	611.000	513.000	613.500	515.000	616.000	540.000	619.000	700.000
	X									
X1	4.600	9.000	500.000	520.000	260.000	260.000	260.000	0.000	0.000	0.000
BR	619.200	460.000	619.000	480.000	615.000	490.000	613.000	500.000	612.000	502.000
BR	611.800	510.000	612.000	518.000	615.000	520.000	620.000	530.000	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
	SURVEY SECTION #5									
X1	5.000	11.000	500.000	523.000	260.000	260.000	260.000	0.000	0.000	0.000
GR	619.000	466.000	618.900	480.000	614.800	500.000	613.400	502.000	613.100	502.100
GR	612.300	505.000	612.400	510.000	612.300	513.000	614.800	523.000	615.000	600.000
GR	620.000	710.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X									
X1	5.500	8.000	500.000	517.000	480.000	470.000	480.000	0.000	0.000	0.000
GR	620.000	450.000	615.000	455.000	614.800	500.000	612.550	504.000	612.550	513.000
GR	614.800	517.000	615.000	740.000	620.000	800.000	630.000	810.000	0.000	0.000
NC	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	SURVEY SECTION #6									
X1	6.000	14.000	500.000	512.000	520.000	450.000	480.000	0.000	0.000	0.000
GR	625.000	350.000	620.000	410.000	619.100	457.000	619.300	470.000	614.900	480.000
GR	614.500	500.000	613.400	501.000	613.200	504.000	612.800	508.000	612.800	511.500
GR	614.700	512.000	614.800	532.000	620.000	900.000	625.000	920.000	0.000	0.000
	X									
X1	6.100	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	618.700	465.000	615.900	500.000	614.500	501.400	614.200	507.500
GR	614.500	513.600	615.900	515.000	618.700	750.000	620.000	900.000	625.000	920.000
	X									
X1	6.200	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	625.000	350.000	620.100	465.000	617.000	500.000	616.000	501.300	615.600	507.500
GR	616.000	513.700	617.000	515.000	620.100	725.000	620.000	910.000	625.000	920.000
	X									
X1	6.300	10.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	300.000	625.000	350.000	621.600	465.000	618.700	500.000	617.500	501.200
GR	617.100	507.500	617.500	513.800	618.700	515.000	621.600	700.000	630.000	910.000
	X									
X1	6.400	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	300.000	623.000	465.000	620.100	500.000	619.000	501.100	618.500	507.500
GR	619.000	513.900	620.100	515.000	623.000	675.000	625.000	930.000	630.000	940.000
	X									
X1	6.500	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	630.000	350.000	624.400	465.000	621.500	500.000	620.500	501.000	619.900	507.500
GR	620.500	514.000	621.500	515.000	624.400	650.000	625.000	750.000	630.000	800.000
	X									
X1	6.600	9.000	500.000	515.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	630.000	400.000	625.900	465.000	622.900	500.000	621.400	501.500	621.400	513.500
GR	622.900	515.000	625.900	625.000	626.500	680.000	630.000	700.000	0.000	0.000

		X								
X1	6.700	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	300.000	630.000	360.000	627.300	465.000	624.300	500.000	622.800	501.300
GR	622.800	513.500	624.300	515.000	627.300	600.000	630.000	720.000	635.000	740.000
		X								
X1	6.800	10.000	500.000	515.000	130.000	130.000	130.000	0.000	0.000	0.000
GR	635.000	300.000	630.000	380.000	628.700	465.000	625.700	500.000	624.200	501.300
GR	624.200	513.500	625.700	515.000	628.700	575.000	630.000	700.000	635.000	750.000
	SURVEY SECTION #7									
X1	7.000	11.000	500.000	515.100	140.000	140.000	140.000	0.000	0.000	0.000
GR	635.000	400.000	627.000	480.000	627.100	500.000	626.500	501.000	625.800	501.100
GR	625.700	505.000	625.800	510.000	626.400	515.000	627.100	515.100	627.100	535.000
GR	635.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	405.000	620.000	432.000	582.000
	SURVEY SECTION #8									
X1	8.000	15.000	500.000	513.000	420.000	430.000	430.000	0.000	0.000	0.000
GR	635.000	0.000	631.000	390.000	628.400	400.000	627.900	480.000	628.200	490.000
GR	628.900	500.000	628.400	500.100	627.600	501.000	627.300	505.000	627.500	510.000
GR	627.700	512.000	628.400	513.000	629.100	533.000	628.200	600.000	640.000	950.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	430.000	590.000	453.000	563.000
X1	8.500	11.000	500.000	515.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	635.000	200.000	631.500	390.000	630.200	400.000	629.900	500.000	628.500	501.000
GR	628.300	507.500	628.400	512.000	629.700	515.000	630.300	541.000	629.900	600.000
GR	640.000	700.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	420.000	585.000	477.000	537.000
NC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.600	11.000	500.000	515.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	635.000	200.000	631.800	390.000	631.100	400.000	630.500	500.000	628.900	501.000
GR	628.800	507.500	628.900	512.000	630.400	515.000	630.900	545.000	630.800	600.000
GR	640.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	7.100	7.100	7.100	440.000	595.000	485.000	525.000
X1	8.700	11.000	497.500	513.500	50.000	50.000	50.000	0.000	0.000	0.000
GR	637.500	299.500	632.200	395.000	631.800	402.500	631.200	497.500	629.200	500.500
GR	629.100	506.900	630.400	512.000	631.000	513.500	631.700	547.500	630.200	600.000
GR	640.000	625.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.080	0.080	0.045	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.200	12.000	497.000	509.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	400.000	0.000	600.000	0.000	632.600	632.600	0.000
GR	640.000	399.000	632.600	400.000	632.500	405.000	631.500	497.000	629.400	500.000
GR	629.400	500.100	629.400	506.200	629.400	506.300	631.500	509.000	632.500	550.000
GR	631.700	600.000	640.000	601.000	0.000	0.000	0.000	0.000	0.000	0.000

SB	0.000	2.200	3.000	0.000	6.200	0.000	24.800	0.000	629.400	629.400
	U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.300	12.000	495.000	512.000	109.000	109.000	109.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	633.400	637.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	400.000	0.000	600.000	0.000	637.600	637.600	0.000
BT	7.000	400.000	639.400	630.000	300.000	638.400	629.400	500.100	638.400	633.400
BT	506.200	638.400	633.400	506.300	638.400	629.400	550.000	637.600	630.000	600.000
BT	638.600	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BR	640.000	399.000	639.400	400.000	638.500	405.000	634.000	495.000	629.400	500.000
BR	629.400	500.100	629.400	506.200	629.400	506.300	634.000	512.000	637.000	590.000
GR	638.600	600.000	640.000	601.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT									
X1	9.400	11.000	500.000	512.000	200.000	180.000	200.000	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	640.000	100.000	639.000	300.000	636.000	400.000	634.000	500.000	632.000	504.000
GR	629.800	506.000	632.000	508.000	634.000	512.000	636.000	650.000	639.000	750.000
GR	640.000	950.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.410	0.000	0.000	310.000	645.000
	D/S FACE OF 36" TWIN CULVERTS									
X1	10.200	23.000	500.000	516.000	220.000	400.000	340.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	636.100	636.000	0.000
GR	645.000	300.000	637.500	300.000	635.100	400.000	635.700	480.000	636.000	500.000
GR	633.200	502.000	634.300	504.500	633.000	505.000	632.800	506.000	633.000	507.000
GR	634.300	507.500	632.800	508.000	632.500	509.000	632.800	510.000	634.000	510.500
GR	633.000	512.000	636.000	516.000	636.000	536.000	635.400	550.000	635.700	600.000
GR	636.000	700.000	638.000	750.000	645.000	760.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.410	0.000	0.000	310.000	645.000
	1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS									
X1	10.300	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	636.100	636.000	0.000
BT	16.000	480.000	635.700	630.000	500.000	636.100	636.000	502.000	636.000	633.200
BT	504.500	636.000	634.300	505.000	636.000	635.600	506.000	636.000	635.800	507.000
BT	636.000	635.600	507.500	636.000	634.300	508.000	636.100	635.300	509.000	636.100
BT	635.500	510.000	636.100	635.300	510.500	636.000	634.000	512.000	635.900	633.000
BT	516.000	636.100	636.000	536.000	636.000	630.000	550.000	635.400	630.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	0.000	0.000	0.000	310.000	645.000
	1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS									
X1	10.400	0.000	0.000	0.000	21.000	21.000	21.000	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	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	1.400	0.000	0.000	310.000	645.000

U/S FACE OF 36" TWIN CULVERTS

X1	10.500	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	636.100	636.000	0.000

370' U/S OF 36" TWIN CULVERTS

X1	10.600	9.000	500.000	516.000	330.000	370.000	370.000	0.000	0.000	0.000
GR	645.000	200.000	640.000	300.000	638.000	400.000	636.600	500.000	634.600	504.000
GR	634.600	512.000	636.600	516.000	638.000	600.000	640.000	700.000	0.000	0.000
NC	0.000	0.000	0.040	0.100	0.300	0.000	0.000	0.000	0.000	0.000

X

X1	11.100	10.000	500.000	516.000	310.000	400.000	380.000	0.000	0.000	0.000
GR	645.000	100.000	643.000	200.000	640.500	400.000	638.300	500.000	635.900	504.000
GR	635.900	512.000	638.300	516.000	639.000	600.000	640.000	650.000	645.000	800.000

SURVEY SECTION 11A

X1	11.150	19.000	500.000	516.000	270.000	320.000	300.000	0.000	0.000	0.000
GR	642.600	169.000	642.600	271.000	642.500	300.000	642.600	362.000	642.700	400.000
GR	642.500	447.000	642.100	480.000	640.900	484.000	639.800	500.000	638.700	501.000
GR	637.200	504.000	638.200	508.000	638.600	511.000	638.500	513.000	638.900	516.000
GR	640.300	517.000	640.500	537.000	640.000	600.000	645.000	750.000	0.000	0.000
NC	0.000	0.000	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000

D/S FACE OF FTBRDGE - L BNK ENDED @ STA 430 FOR CONTR - EL@300=641.2

X1	11.200	16.000	500.000	516.500	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	639.500	639.700	0.000
GR	645.000	430.000	645.000	430.000	640.100	430.000	639.600	480.000	639.500	500.000
GR	639.100	502.000	637.600	505.500	637.400	511.000	638.500	514.500	638.600	515.000
GR	638.700	516.500	639.700	516.600	639.700	537.000	640.000	600.000	640.000	620.000
GR	645.000	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.023	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	1.410	0.000	0.000	0.000	0.000

1' INSIDE OF D/S FACE OF FOOTBRIDGE

X1	11.300	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	7.000	480.000	639.600	630.000	500.000	640.500	639.500	502.000	641.000	639.100
BT	505.500	641.000	640.000	511.000	641.000	640.000	516.500	639.700	638.700	537.000
BT	639.700	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1' INSIDE OF U/S FACE OF FOOTBRIDGE

X1	11.400	0.000	0.000	0.000	1.500	1.500	1.500	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	0.040	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

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

X1	11.500	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	639.500	639.700	0.000

NH	7.000	0.050	340.000	10.000	360.000	0.050	410.000	10.000	471.000	0.060
NH	500.000	0.040	517.000	0.100	750.000	0.000	0.000	0.000	0.000	0.000
100' U/S OF FOOTBRIDGE										
X1	11.400	14.000	500.000	517.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	650.000	329.000	643.300	330.000	643.200	340.000	643.100	360.000	642.700	410.000
GR	642.500	447.000	641.800	471.000	640.000	500.000	639.000	504.000	638.000	508.000
GR	639.000	512.000	640.000	517.000	640.900	537.000	641.100	600.000	642.000	650.000
GR	650.000	651.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	11.000	0.100	308.000	10.000	326.000	0.100	348.000	10.000	370.000	0.100
NH	389.000	10.000	404.000	0.100	427.000	10.000	443.000	0.100	500.000	0.040
NH	517.300	0.100	750.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D/S FACE OF BRIDGE @ TRAILER PARK										
X1	12.200	24.000	500.000	517.300	200.000	200.000	200.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	460.000	0.000	555.000	0.000	642.400	642.900	0.000
GR	650.000	285.000	644.300	286.000	644.200	308.000	644.200	326.000	644.200	348.000
GR	644.100	362.000	644.100	389.000	644.100	400.000	644.100	404.000	644.000	427.000
GR	644.000	443.000	643.000	458.000	642.000	482.000	641.500	500.000	640.300	502.000
GR	639.200	504.000	639.200	510.000	640.200	512.000	640.400	514.000	640.600	517.300
GR	641.000	555.000	643.000	600.000	645.000	750.000	650.000	751.000	0.000	0.000
SB	0.000	1.860	3.000	95.000	6.000	0.000	37.000	0.930	639.200	639.200
U/S FACE OF BRIDGE @ TRAILER PARK										
X1	12.300	24.000	500.000	517.300	19.000	19.000	19.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	642.600	644.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	460.000	0.000	555.000	0.000	643.800	643.100	0.000
GR	650.000	285.000	644.300	286.000	644.200	308.000	644.200	326.000	644.200	348.000
GR	644.100	362.000	644.100	389.000	644.100	400.000	644.100	404.000	644.000	427.000
GR	644.000	443.000	643.900	458.000	643.800	482.000	641.000	500.000	640.300	502.000
GR	639.200	504.000	639.200	510.000	640.200	512.000	640.600	514.000	641.000	517.300
GR	643.100	555.000	643.400	600.000	645.000	750.000	650.000	751.000	0.000	0.000
NC	0.100	0.100	0.040	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	9.100	0.000	0.000	229.000	701.000
X										
X1	12.400	12.000	500.000	517.000	220.000	220.000	220.000	0.000	0.000	0.000
GR	652.000	229.000	646.800	400.000	645.800	415.000	643.500	500.000	642.200	503.000
GR	641.200	507.000	642.200	514.000	643.500	517.000	644.000	536.000	646.200	585.000
GR	646.700	700.000	650.000	701.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
X										
X1	12.900	12.000	500.000	517.000	220.000	220.000	220.000	0.000	0.000	0.000
GR	655.000	150.000	648.000	170.000	647.200	400.000	645.300	500.000	643.800	503.000
GR	643.100	506.000	643.700	514.000	645.400	517.000	645.800	534.000	648.000	600.000
GR	648.300	650.000	655.000	651.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	12.950	12.000	500.000	517.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	440.000	0.000	565.000	0.000	0.000	0.000	0.000
GR	655.000	150.000	648.000	320.000	647.500	400.000	646.200	500.000	644.500	504.000
GR	644.000	506.000	644.500	513.000	646.200	517.000	647.800	560.000	648.700	600.000
GR	648.900	625.000	655.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	0.080	0.080	0.000	0.300	0.500	0.000	0.000	0.000	0.000	0.000
	D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)									
X1	13.100	14.000	500.000	514.500	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	648.000	648.000	0.000
GR	655.000	465.000	649.300	467.000	647.000	500.000	647.000	502.000	645.300	505.500
GR	645.500	507.000	645.600	508.000	647.300	508.500	646.500	510.000	645.800	511.500
GR	646.500	513.000	647.300	514.500	649.600	542.000	655.000	548.000	0.000	0.000
ES	0.000	2.650	3.000	0.000	3.000	0.000	7.100	0.000	645.800	645.800
	U/S FACE OF 2-36" CULVERTS									
X1	13.200	0.000	0.000	0.000	24.000	24.000	24.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	648.200	649.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	467.000	0.000	547.000	0.000	648.400	648.400	0.000
BT	10.000	467.000	649.300	640.000	500.000	649.400	640.000	502.000	649.400	640.000
BT	507.000	649.400	640.000	508.500	649.400	647.300	510.000	649.400	648.000	511.500
BT	649.400	648.800	513.000	649.400	648.000	514.500	649.500	647.300	547.000	649.600
BT	640.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.100	0.100	0.040	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
	200' U/S OF 2-36" CULVERTS									
X1	13.300	8.000	500.000	515.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	652.000	220.000	650.000	480.000	649.000	500.000	646.600	504.000	646.600	511.000
GR	649.000	515.000	650.000	540.000	655.000	700.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.100	0.300	0.000	0.000	0.000	0.000	0.000
	CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
X1	14.000	12.000	500.000	515.000	280.000	280.000	280.000	0.000	0.000	0.000
GR	657.300	200.000	655.800	300.000	651.800	320.000	650.700	480.000	650.800	500.000
GR	649.300	502.000	648.200	506.000	648.100	510.000	649.800	513.000	650.700	515.000
GR	651.800	535.000	658.700	565.000	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

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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

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 1.100
        CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.
     1.10     6.20   607.50     0.00   607.50   607.56     0.06     0.00     0.00   606.00
     200.      14.     182.       4.      62.      90.      17.       0.       0.   606.00
     0.00     0.23     2.03     0.23    0.100    0.035    0.100    0.000   601.30   417.50
 0.000350       0.       0.       0.        0        0        0     0.00   123.75   541.25

CCHV=   0.300 CEHV=   0.500
*SECNO 1.200
        D/S FACE OF FOOT BRIDGE.
     1.20     5.14   607.54     0.00     0.00   607.60     0.06     0.04     0.00   606.50
     200.       3.     192.       6.      13.      94.      24.       0.       0.   606.10
     0.01     0.21     2.03     0.23    0.100    0.035    0.100    0.000   602.40   475.65
 0.000390     100.     100.     100.        0        0        0     0.00    79.07   554.72

*SECNO 1.300

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  607.00 MAX ELLC=  607.10

        1' INSIDE OF D/S FACE OF FOOT BRIDGE.
     1.30     5.13   607.53     0.00     0.00   607.60     0.07     0.00     0.01   606.50
     200.       7.     181.      13.      13.      79.      23.       0.       0.   606.10
     0.01     0.50     2.30     0.54    0.100    0.035    0.100    0.000   602.40   475.63
 0.002163       1.       1.       1.        0        0        0   -16.71    79.09   554.73

*SECNO 1.400

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  607.00 MAX ELLC=  607.10

        1' INSIDE OF U/S FACE OF FOOT BRIDGE.
     1.40     5.14   607.54     0.00     0.00   607.61     0.07     0.01     0.00   606.50
     200.       7.     181.      13.      13.      79.      23.       0.       0.   606.10
     0.02     0.50     2.30     0.54    0.100    0.035    0.100    0.000   602.40   475.63
 0.002162       5.       5.       5.        0        0        0   -16.71    79.10   554.73
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607.1
1.95
605-35

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
*SECNO 1.500									
U/S FACE OF FOOT BRIDGE									
1.50	5.16	607.56	0.00	0.00	607.62	0.06	0.00	0.00	606.50
200.	3.	191.	6.	14.	95.	25.	0.	0.	606.10
0.02	0.21	2.02	0.24	0.100	0.035	0.100	0.000	602.40	475.36
0.000384	1.	1.	1.	1	0	0	0.00	79.55	554.91
*SECNO 1.600									
25' U/S OF FOOT BRIDGE.									
1.60	4.96	607.56	0.00	0.00	607.65	0.09	0.01	0.01	606.00
200.	3.	190.	7.	11.	78.	22.	0.	0.	606.00
0.02	0.30	2.45	0.30	0.100	0.035	0.100	0.000	602.60	496.38
0.000575	25.	25.	25.	2	0	0	0.00	59.65	546.02
CCHV= 0.100 CEHV= 0.300									
*SECNO 2.000									
SURVEY SECTION #2									
2.00	4.32	607.92	0.00	0.00	608.29	0.38	0.56	0.09	607.00
200.	31.	169.	1.	28.	32.	1.	1.	1.	607.60
0.04	1.08	5.34	0.45	0.100	0.045	0.100	0.000	603.60	447.51
0.010039	320.	380.	440.	2	0	0	0.00	71.69	519.20
*SECNO 2.100									
X									
2.10	3.87	608.57	0.00	0.00	608.62	0.04	0.29	0.03	606.00
200.	54.	115.	31.	107.	54.	62.	2.	1.	606.00
0.07	0.50	2.14	0.50	0.100	0.045	0.100	0.000	604.70	416.43
0.000810	120.	150.	180.	2	0	0	0.00	146.79	563.21
*SECNO 2.200									
X									
2.20	2.91	608.71	0.00	0.00	608.82	0.11	0.19	0.02	607.00
200.	37.	162.	1.	59.	55.	2.	2.	2.	607.00
0.09	0.62	2.94	0.56	0.100	0.045	0.100	0.000	605.80	431.37
0.002163	150.	150.	140.	2	0	0	0.00	91.49	522.86
*SECNO 2.300									
X									

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	IBC	ICONT	CORAR	TOPWID	ENDST
	2.30	2.23	609.13	0.00	0.00	609.38	0.25	0.51	0.04	608.00
	200.	8.	179.	13.	10.	43.	16.	3.	2.	608.00
	0.10	0.81	4.22	0.81	0.100	0.045	0.100	0.000	606.90	483.02
	0.006292	150.	150.	140.	2	0	0	0.00	65.28	548.30

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 560.0 TYPE= 1 TARGET= 70.000

90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	2.14	610.14	609.81	0.00	610.58	0.44	1.14	0.06	609.80
200.	0.	193.	6.	0.	36.	10.	3.	2.	609.80
0.10	0.52	5.43	0.66	0.100	0.045	0.100	0.000	608.00	497.37
0.013147	130.	130.	130.	5	12	0	0.00	62.63	560.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.20	2.52	611.32	0.00	0.00	611.72	0.39	1.13	0.01	619.60
200.	0.	200.	0.	0.	40.	0.	3.	2.	619.60
0.11	0.00	5.04	0.00	0.000	0.045	0.000	0.000	608.80	512.42
0.011914	100.	90.	90.	3	0	0	0.00	22.37	534.79

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	2.53	611.33	0.00	0.00	611.73	0.39	0.01	0.00	619.60
200.	0.	200.	0.	0.	40.	0.	3.	2.	619.60
0.11	0.00	5.04	0.00	0.000	0.026	0.000	0.000	608.80	512.38
0.004971	1.	1.	1.	0	0	0	-0.30	22.41	534.80

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

*SECNO 3.400

6370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	2.66	611.46	0.00	0.00	611.80	0.35	0.06	0.01	619.60
200.	0.	200.	0.	0.	42.	0.	3.	2.	619.60
0.11	0.00	4.74	0.00	0.000	0.026	0.000	0.000	608.80	512.02
0.004187	14.	14.	14.	0	0	0	-0.33	22.80	534.82

*SECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.50	2.67	611.47	0.00	0.00	611.81	0.34	0.00	0.00	619.60
200.	0.	200.	0.	0.	43.	0.	3.	2.	619.60
0.11	0.00	4.66	0.00	0.000	0.035	0.000	0.000	608.80	511.97
0.005744	1.	1.	1.	1	0	0	0.00	22.85	534.82

*SECNO 3.600

110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	2.96	612.06	0.00	0.00	612.13	0.07	0.24	0.08	610.00
200.	48.	145.	7.	75.	60.	17.	3.	2.	610.00
0.13	0.64	2.41	0.43	0.100	0.035	0.100	0.000	609.10	457.63
0.000805	120.	140.	150.	2	0	0	0.00	79.44	537.08

CCHV= 0.100 CEHV= 0.300

*SECNO 3.700

X

3.70	2.63	612.03	0.00	0.00	612.48	0.45	0.24	0.12	611.50
200.	2.	198.	1.	4.	36.	1.	3.	2.	611.50
0.14	0.49	5.44	0.49	0.100	0.035	0.100	0.000	609.40	486.32
0.006439	110.	140.	160.	3	0	0	0.00	35.70	522.02

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 4.000									
SURVEY SECTION #4									
4.00	3.14	612.94	612.69	0.00	613.47	0.53	0.97	0.02	612.30
200.	7.	187.	5.	8.	31.	8.	4.	3.	612.30
0.14	0.85	4.05	0.69	0.100	0.035	0.100	0.000	609.80	484.22
0.007474	110.	140.	150.	5	8	0	0.00	49.24	533.46
*SECNO 4.300									
X									
4.30	3.68	614.28	0.00	0.00	614.54	0.26	1.04	0.03	613.00
200.	3.	195.	1.	6.	47.	3.	4.	3.	613.50
0.16	0.55	4.16	0.40	0.100	0.035	0.100	0.000	610.60	490.39
0.002497	260.	260.	260.	3	0	0	0.00	32.42	522.81
*SECNO 4.600									
X									
4.60	3.13	614.93	0.00	0.00	615.11	0.18	0.56	0.01	613.00
200.	6.	194.	0.	9.	56.	0.	4.	3.	615.00
0.18	0.62	3.46	0.00	0.100	0.035	0.000	0.000	611.80	490.37
0.001880	260.	260.	260.	2	0	0	0.00	29.58	519.95
*SECNO 5.000									
SURVEY SECTION #5									
5.00	3.17	615.47	0.00	0.00	615.61	0.15	0.50	0.00	614.80
200.	0.	179.	20.	1.	55.	46.	5.	3.	614.80
0.21	0.31	3.26	0.44	0.100	0.035	0.100	0.000	612.30	496.75
0.001954	260.	260.	260.	2	0	0	0.00	113.52	610.27
*SECNO 5.500									
X									
5.50	3.47	616.02	0.00	0.00	616.04	0.03	0.42	0.01	614.80
200.	18.	92.	90.	51.	50.	256.	7.	6.	614.80
0.33	0.35	1.85	0.35	0.100	0.035	0.100	0.000	612.55	453.98
0.000492	480.	480.	470.	3	0	0	0.00	298.24	752.22
*SECNO 6.000									
SURVEY SECTION #6									
6.00	3.59	616.39	0.00	0.00	616.44	0.05	0.39	0.01	614.50
200.	30.	95.	75.	36.	39.	123.	10.	8.	614.70
0.42	0.84	2.42	0.61	0.100	0.050	0.100	0.000	612.80	476.61
0.001674	520.	480.	450.	2	0	0	0.00	168.16	644.77

SECNO / Q / TIME / SLOPE	DEPTH / QLOB / VLOB / XLOBL	CWSEL / QCH / VCH / XLCH	CRIWS / QROB / VROB / XLOBR	WSELK / ALOB / XNL / ITRIAL	EG / ACH / XNCH / IDC	HV / AROB / XNR / ICONT	HL / VOL / WTN / CORAR	OLOSS / TWA / ELMIN / TOPWID	BANK ELEV LEFT/RIGHT / SSTA / ENDST
*SECNO 6.100									
X									
6.10	2.40	614.60	616.51	0.00	617.05	0.45	0.49	0.12	615.90
200.	3.	178.	19.	3.	31.	21.	11.	9.	615.90
0.43	0.91	5.67	0.91	0.100	0.050	0.100	0.000	614.20	491.19
0.014986	130.	130.	130.	4	11	0	0.00	83.00	574.19
*SECNO 6.200									
X									
6.20	2.60	618.20	0.00	0.00	618.42	0.22	1.35	0.02	617.00
200.	7.	148.	45.	8.	34.	48.	11.	9.	617.00
0.44	0.92	4.34	0.92	0.100	0.050	0.100	0.000	615.60	486.49
0.007574	130.	130.	130.	3	0	0	0.00	109.56	596.05
*SECNO 6.300									
X									
6.30	2.40	619.50	619.38	0.00	619.94	0.44	1.45	0.07	618.70
200.	4.	176.	20.	4.	31.	20.	11.	9.	618.70
0.45	0.99	5.68	0.99	0.100	0.050	0.100	0.000	617.10	490.39
0.015123	140.	140.	140.	4	11	0	0.00	75.42	565.81
*SECNO 6.400									
X									
6.40	2.67	621.17	0.00	0.00	621.46	0.29	1.50	0.02	620.10
200.	6.	164.	29.	7.	35.	32.	11.	9.	620.10
0.45	0.93	4.75	0.94	0.100	0.050	0.100	0.000	618.50	487.10
0.009137	130.	130.	130.	2	0	0	0.00	86.86	573.97
*SECNO 6.500									
X									
6.50	2.57	622.47	0.00	0.00	622.85	0.38	1.37	0.03	621.50
200.	6.	172.	22.	6.	32.	22.	11.	10.	621.50
0.46	1.01	5.30	1.02	0.100	0.050	0.100	0.000	619.90	488.28
0.012245	130.	130.	130.	2	0	0	0.00	71.92	560.20
*SECNO 6.600									
X									
6.60	2.59	623.99	0.00	0.00	624.29	0.31	1.43	0.01	622.90
200.	6.	174.	20.	7.	37.	22.	12.	10.	622.90
0.47	0.92	4.76	0.92	0.100	0.050	0.100	0.000	621.40	487.34
0.008702	140.	140.	140.	1	0	0	0.00	67.44	554.78

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	INC	ICONT	CORAR	TOPWID	ENDST
*SECNO 6.700									
	X								
6.70	2.43	625.23	0.00	0.00	625.64	0.41	1.32	0.03	624.30
200.	5.	183.	12.	5.	34.	12.	12.	10.	624.30
0.48	0.97	5.34	0.98	0.100	0.050	0.100	0.000	622.80	489.11
0.011947	130.	130.	130.	2	0	0	0.00	52.34	541.45
*SECNO 6.800									
	X								
6.80	2.52	626.72	0.00	0.00	627.11	0.38	1.46	0.00	625.70
200.	6.	184.	10.	6.	36.	10.	12.	10.	625.70
0.49	0.98	5.17	0.98	0.100	0.050	0.100	0.000	624.20	488.07
0.010615	130.	130.	130.	2	0	0	0.00	47.38	535.45
*SECNO 7.000									
SURVEY SECTION #7									
7.00	2.46	628.16	0.00	0.00	628.33	0.17	1.20	0.02	627.10
200.	35.	134.	31.	29.	33.	26.	12.	10.	627.10
0.50	1.23	4.00	1.21	0.100	0.050	0.100	0.000	625.70	468.44
0.007095	140.	140.	140.	1	0	0	0.00	75.24	543.69
*SECNO 8.000									
3470 ENCROACHMENT STATIONS=		432.0	582.0	TYPE=	1	TARGET=		150.000	
SURVEY SECTION #8									
8.00	2.44	629.74	0.00	0.00	629.77	0.03	1.42	0.01	628.90
200.	98.	60.	42.	110.	28.	67.	14.	11.	628.40
0.60	0.89	2.10	0.63	0.100	0.050	0.100	0.000	627.30	432.00
0.001932	420.	430.	430.	5	0	0	0.00	150.00	582.00
*SECNO 8.500									
7185 MINIMUM SPECIFIC ENERGY									
3720 CRITICAL DEPTH ASSUMED									
3470 ENCROACHMENT STATIONS=		453.0	563.0	TYPE=	1	TARGET=		110.000	
8.50	2.18	630.48	430.48	0.00	630.83	0.35	0.84	0.10	629.90
200.	28.	154.	18.	24.	29.	18.	14.	12.	629.70
0.61	1.15	5.36	1.00	0.100	0.050	0.100	0.000	628.30	453.00
0.014880	200.	200.	200.	4	12	0	0.00	110.00	563.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FR	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	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 8.600

3470 ENCROACHMENT STATIONS= 477.0 537.0 TYPE= 1 TARGET= 60.000

8.60	2.69	631.49	0.00	0.00	631.72	0.23	0.88	0.01	630.50
200.	22.	152.	21.	21.	36.	20.	14.	12.	630.40
0.62	1.05	4.31	1.04	0.100	0.045	0.100	0.000	628.80	477.00
0.005807	100.	100.	100.	3	0	0	0.00	60.00	537.00

*SECNO 8.700

3470 ENCROACHMENT STATIONS= 485.0 525.0 TYPE= 1 TARGET= 40.000

8.70	2.64	631.74	0.00	0.00	632.19	0.46	0.40	0.07	631.20
200.	6.	185.	8.	6.	33.	7.	14.	12.	631.00
0.62	1.00	5.62	1.15	0.100	0.045	0.100	0.000	629.10	485.00
0.011868	50.	50.	50.	2	0	0	0.00	40.00	525.00

CCHV= 0.300 CEHV= 0.500
*SECNO 9.200

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 632.60 ELREA= 632.60

D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.20	2.88	632.28	0.00	0.00	633.04	0.76	0.69	0.15	631.50
200.	0.	200.	0.	0.	29.	0.	14.	12.	631.50
0.62	0.00	7.01	0.00	0.000	0.045	0.000	0.000	629.40	497.00
0.016407	50.	50.	50.	2	0	0	0.00	12.00	509.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.20	3.00	0.00	6.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300

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

6070,LOW FLOW BY NORMAL BRIDGE

XOPNS= 0.000 EGLWC= 633.083 ELLC= 633.400 PCWSF= 632.277 FLTRD= 637.600

4575 CRITICAL DEPTH ASSUMED BELOW ELLC OF 633.400 EGLC= 634.410 EGC= 639.001 WSEL= 638.706

3370 NORMAL BRIDGE,NRD= 7 MIN FLTRD= 637.60 MAX ELLC= 633.40

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 637.60 ELREA= 637.60

U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.30	5.56	634.96	632.55	0.00	635.97	1.01	2.80	0.12	634.00
200.	0.	200.	0.	0.	25.	0.	15.	12.	634.00
0.63	0.00	8.06	0.00	0.000	0.045	0.000	0.000	629.40	495.00
0.045973	109.	109.	109.	5	20	0	-56.94	17.00	512.00

*SECNO 9.400

3301 HV CHANGED MORE THAN HVINS

200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.40	6.65	636.45	0.00	0.00	636.47	0.02	0.21	0.30	634.00
200.	49.	83.	68.	149.	50.	204.	15.	13.	634.00
0.49	0.33	1.67	0.33	0.100	0.035	0.100	0.000	629.80	384.87
0.000309	200.	200.	180.	4	0	0	0.00	280.25	665.13

*SECNO 10.200

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000

D/S FACE OF 36" TWIN CULVERTS

10.20	4.10	636.60	0.00	0.00	636.63	0.03	0.15	0.00	636.00
200.	68.	87.	46.	159.	46.	116.	18.	15.	636.00
0.77	0.42	1.90	0.39	0.100	0.035	0.100	0.000	632.50	337.16
0.000793	220.	340.	400.	3	0	0	0.00	307.84	645.00

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	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 10.300

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.30	4.12	636.62	0.00	0.00	636.63	0.01	0.00	0.00	636.00
200.	95.	41.	64.	158.	23.	115.	18.	15.	636.00
0.77	0.60	1.79	0.56	0.100	0.025	0.100	0.000	632.50	337.17
0.001590	1.	1.	1.	1	0	0	-24.52	307.83	645.00

*SECNO 10.400

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS

10.40	4.15	636.65	0.00	0.00	636.66	0.01	0.03	0.00	636.00
200.	95.	41.	64.	164.	24.	119.	18.	15.	636.00
0.78	0.58	1.73	0.54	0.100	0.025	0.100	0.000	632.50	335.80
0.001438	21.	21.	21.	0	0	0	-24.57	309.20	645.00

*SECNO 10.500

3470 ENCROACHMENT STATIONS= 310.0 645.0 TYPE= 1 TARGET= 335.000
U/S FACE OF 36" TWIN CULVERTS

10.50	4.15	636.65	0.00	0.00	636.67	0.02	0.00	0.00	636.00
200.	72.	78.	49.	166.	46.	121.	18.	15.	636.00
0.78	0.44	1.69	0.41	0.100	0.040	0.100	0.000	632.50	335.40
0.000801	1.	1.	1.	0	0	0	0.00	309.60	645.00

*SECNO 10.600
370' U/S OF 36" TWIN CULVERTS

10.60	2.52	637.12	636.97	0.00	637.69	0.50	0.71	0.24	636.60
200.	6.	189.	5.	10.	32.	8.	20.	17.	636.60
0.80	0.62	5.86	0.62	0.100	0.040	0.100	0.000	634.60	463.00
0.010517	330.	370.	370.	4	11	0	0.00	84.08	547.08

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	IRC	ICONT	CORAR	TOPWID	ENDST
3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00									
1' INSIDE OF U/S FACE OF FOOTBRIDGE									
11.40	3.67	641.07	0.00	0.00	641.09	0.02	0.00	0.00	639.50
200.	53.	56.	91.	82.	30.	142.	21.	19.	638.70
0.86	0.65	1.89	0.64	0.100	0.023	0.100	0.000	637.40	430.00
0.001562	2.	2.	2.	0	0	0	-29.03	217.92	647.92
*SECNO 11.500									
U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK									
11.50	3.67	641.07	0.00	0.00	641.10	0.03	0.00	0.01	639.50
200.	43.	96.	61.	92.	49.	142.	21.	19.	638.70
0.86	0.47	1.97	0.43	0.100	0.040	0.100	0.000	637.40	430.00
0.000696	1.	1.	1.	0	0	0	0.00	217.99	647.99
1490 NH CARD USED									
*SECNO 11.600									
100' U/S OF FOOTBRIDGE									
11.60	3.08	641.08	640.72	0.00	641.42	0.34	0.16	0.15	640.00
200.	13.	174.	13.	9.	35.	18.	22.	19.	640.00
0.87	1.39	4.99	0.73	0.060	0.040	0.100	0.000	638.00	482.61
0.007194	100.	100.	100.	4	12	0	0.00	110.91	593.52
1490 NH CARD USED									
*SECNO 12.200									
3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000									
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 642.40 ELREA= 642.90									
D/S FACE OF BRIDGE @ TRAILER PARK									
12.20	3.12	642.32	0.00	0.00	642.67	0.35	1.24	0.01	641.50
200.	0.	200.	0.	0.	42.	0.	22.	20.	640.60
0.88	0.00	4.78	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.005437	200.	200.	200.	2	0	0	0.00	17.30	517.30

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	ORCB	ALOB	ACH	ARCR	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRCB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF U/S FACE OF FOOTBRIDGE

11.40	3.67	641.07	0.00	0.00	641.09	0.02	0.00	0.00	639.50
200.	53.	56.	91.	82.	30.	142.	21.	19.	638.70
0.86	0.65	1.89	0.64	0.100	0.023	0.100	0.000	637.40	430.00
0.001562	2.	2.	2.	0	0	0	-29.03	217.92	647.92

*SECNO 11.500

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	3.67	641.07	0.00	0.00	641.10	0.03	0.00	0.01	639.50
200.	43.	96.	61.	92.	49.	142.	21.	19.	638.70
0.86	0.47	1.97	0.43	0.100	0.040	0.100	0.000	637.40	430.00
0.000696	1.	1.	1.	0	0	0	0.00	217.99	647.99

1490 NH CARD USED
*SECNO 11.600

100' U/S OF FOOTBRIDGE

11.60	3.08	641.08	640.72	0.00	641.42	0.34	0.16	0.15	640.00
200.	13.	174.	13.	9.	35.	18.	22.	19.	640.00
0.87	1.39	4.99	0.73	0.060	0.040	0.100	0.000	638.00	482.61
0.007194	100.	100.	100.	4	12	0	0.00	110.91	593.52

1490 NH CARD USED
*SECNO 12.200

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 642.40 ELREA= 642.90

D/S FACE OF BRIDGE & TRAILER PARK

12.20	3.12	642.32	0.00	0.00	642.67	0.35	1.24	0.01	641.50
200.	0.	200.	0.	0.	42.	0.	22.	20.	640.60
0.88	0.00	4.78	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.005437	200.	200.	200.	2	0	0	0.00	17.30	517.30

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	INA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BARFA	SS	ELCHU	ELCHD
	0.00	1.84	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20

*SECNO 12.300
PRESSURE FLOW

EGPRS	EGLWC	WS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
643.16	642.68	0.00	0.	200.	37.	31.	642.60	644.00

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 643.80 ELREA= 643.10

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	3.73	642.93	0.00	0.00	643.16	0.23	0.49	0.00	641.00
200.	0.	200.	0.	0.	52.	0.	22.	20.	641.00
0.88	0.00	3.87	0.00	0.000	0.040	0.000	0.000	639.20	500.00
0.002655	19.	19.	19.	3	0	0	0.00	17.30	517.30

*SECNO 12.400
X

12.40	2.68	643.88	643.82	0.00	644.53	0.65	1.16	0.21	643.50
200.	2.	197.	2.	3.	30.	3.	22.	20.	643.50
0.89	0.60	6.52	0.60	0.100	0.040	0.100	0.000	641.20	485.96
0.015188	220.	220.	220.	4	15	0	0.00	45.48	531.44

CCHV= 0.100 CEHV= 0.300
*SECNO 12.900
X

12.90	3.03	646.13	0.00	0.00	646.43	0.30	1.87	0.03	645.30
200.	11.	182.	7.	18.	39.	11.	22.	20.	645.40
0.90	0.61	4.62	0.66	0.100	0.040	0.100	0.000	643.10	456.32
0.005420	220.	220.	220.	3	0	0	0.00	87.58	543.90

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	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 12.950

3470 ENCROACHMENT STATIONS= 440.0 565.0 TYPE= 1 TARGET= 125.000

12.95	2.79	646.79	646.50	0.00	647.23	0.44	0.76	0.04	646.20
200.	8.	189.	3.	13.	34.	5.	23.	20.	646.20
0.91	0.63	5.49	0.63	0.100	0.040	0.100	0.000	644.00	454.55
0.009039	110.	110.	110.	6	8	0	0.00	78.32	532.88

CEHV= 0.300 CEHV= 0.300

*SECNO 13.100

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	2.85	648.15	648.15	0.00	648.76	0.61	1.34	0.08	647.00
200.	16.	177.	7.	10.	27.	5.	23.	21.	647.30
0.92	1.69	6.62	1.38	0.080	0.040	0.080	0.000	645.30	483.43
0.017249	110.	110.	110.	3	5	0	0.00	43.15	526.58

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.63	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

*SECNO 13.200

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QFR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
680.81	648.93	0.00	151.	50.	7.	7.	648.20	649.40

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
U/S FACE OF 2-36" CULVERTS

13.20	4.83	650.13	0.00	0.00	650.17	0.04	1.41	0.00	647.00
200.	48.	116.	36.	65.	55.	55.	23.	21.	647.30
0.92	0.73	2.09	0.66	0.080	0.040	0.080	0.000	645.30	467.00
0.000653	24.	24.	24.	2	0	7	0.00	80.00	547.00

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 13.500									
200' U/S OF 2-36" CULVERTS									
13.50	3.69	650.29	0.00	0.00	650.49	0.20	0.23	0.08	649.00
200.	12.	175.	13.	21.	46.	21.	23.	21.	649.00
0.94	0.54	3.83	0.63	0.100	0.040	0.100	0.000	646.60	642.46
0.002694	200.	200.	200.	2	0	0	0.00	106.79	549.24
CCHV= 0.100 CEHV= 0.300									
*SECNO 14.000									
CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
14.00	3.21	651.31	651.08	0.00	651.65	0.34	1.12	0.04	650.80
200.	25.	173.	2.	39.	35.	3.	24.	22.	650.70
0.95	0.63	4.99	0.55	0.100	0.040	0.100	0.000	648.10	389.87
0.006563	280.	280.	280.	5	15	0	0.00	136.40	526.27

THIS RUN EXECUTED 13-FEB-85 11:42:44

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
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T1      50 YEAR FLOOD PROFILE
T2
T3      SILVER CREEK

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL     FQ
      0.       3.       0.       0.  0.000000     0.00      0.0       0.   607.500   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
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	IWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPF	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 2

CCHV= 0.100 CEHV= 0.300
*SECNO 1.100
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.

1.10	6.20	607.50	0.00	607.50	607.75	0.25	0.00	0.00	606.00
410.	29.	373.	8.	62.	90.	17.	0.	0.	606.00
0.00	0.47	4.16	0.47	0.100	0.035	0.100	0.000	601.30	417.50
0.001471	0.	0.	0.	0	0	0	0.00	123.75	541.25

CCHV= 0.300 CEHV= 0.500
*SECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	5.26	607.66	0.00	0.00	607.89	0.24	0.15	0.00	606.50
410.	7.	389.	14.	16.	97.	28.	0.	0.	606.10
0.01	0.45	4.02	0.50	0.100	0.035	0.100	0.000	602.40	473.57
0.001485	100.	100.	100.	0	0	0	0.00	82.52	556.09

*SECNO 1.300

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF D/S FACE OF FOOT BRIDGE.

1.30	5.24	607.64	0.00	0.00	607.92	0.28	0.00	0.02	606.50
410.	17.	362.	31.	16.	81.	27.	0.	0.	606.10
0.01	1.04	4.48	1.12	0.100	0.035	0.100	0.000	602.40	473.53
0.007908	1.	1.	1.	1	0	0	-16.71	82.58	556.12

*SECNO 1.400

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.40	5.30	607.70	0.00	0.00	607.96	0.26	0.04	0.00	606.50
410.	18.	359.	33.	17.	82.	29.	0.	0.	606.10
0.01	1.05	4.39	1.13	0.100	0.035	0.100	0.000	602.40	472.68
0.007473	5.	5.	5.	2	0	0	-16.71	84.01	556.69

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	IBC	ICONT	CORAR	TOPWID	ENDST

*SECNO 1.500
U/S FACE OF FOOT BRIDGE

1.50	5.35	607.75	0.00	0.00	607.98	0.22	0.00	0.01	606.50
410.	9.	385.	16.	19.	99.	32.	0.	0.	606.10
0.01	0.46	3.90	0.51	0.100	0.035	0.100	0.000	602.40	471.60
0.001354	1.	1.	1.	2	0	0	0.00	85.80	557.40

*SECNO 1.600
25' U/S OF FOOT BRIDGE.

1.60	5.14	607.74	0.00	0.00	608.07	0.33	0.04	0.05	606.00
410.	8.	385.	17.	13.	81.	27.	0.	0.	606.00
0.01	0.61	4.76	0.61	0.100	0.035	0.100	0.000	602.60	484.77
0.002052	25.	25.	25.	2	0	0	0.00	64.56	549.33

ECHV= 0.100 CEHV= 0.300

*SECNO 2.000
SURVEY SECTION #2

2.00	5.46	609.06	0.00	0.00	609.30	0.24	1.22	0.01	607.00
410.	155.	227.	28.	116.	44.	27.	2.	1.	607.60
0.04	1.34	5.16	1.05	0.100	0.045	0.100	0.000	603.60	397.21
0.006029	320.	380.	440.	3	0	0	0.00	151.78	549.00

*SECNO 2.100
X

2.10	4.84	609.54	0.00	0.00	609.60	0.06	0.29	0.07	606.00
410.	140.	190.	80.	204.	68.	118.	3.	2.	606.00
0.06	0.68	2.78	0.68	0.100	0.045	0.100	0.000	604.70	384.90
0.000991	120.	150.	180.	2	0	0	0.00	196.50	581.40

*SECNO 2.200
X

2.20	3.89	609.69	0.00	0.00	609.84	0.15	0.22	0.03	607.00
410.	127.	278.	5.	145.	75.	6.	4.	2.	607.00
0.08	0.87	3.72	0.79	0.100	0.045	0.100	0.000	605.80	392.15
0.002317	150.	150.	140.	2	0	0	0.00	132.34	524.49

*SECNO 2.300
X

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	INA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST
	2.30	3.19	610.09	0.00	0.00	610.39	0.30	0.50	0.04	608.00
	410.	38.	309.	63.	33.	62.	55.	4.	3.	608.00
	0.09	1.15	4.99	1.15	0.100	0.045	0.100	0.000	606.90	469.42
	0.005361	150.	150.	140.	2	0	0	0.00	101.63	571.06

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 560.0 TYPE= 1 TARGET= 70.000
90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.10	2.91	610.91	0.00	0.00	611.48	0.57	1.01	0.08	609.80
	410.	5.	339.	66.	5.	51.	40.	5.	3.	609.80
	0.09	1.10	6.65	1.63	0.100	0.045	0.100	0.000	608.00	491.47
	0.012251	130.	130.	130.	3	0	0	0.00	68.53	560.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.20	3.30	612.10	0.00	0.00	612.87	0.78	1.29	0.10	619.60
	410.	0.	410.	0.	0.	58.	0.	5.	3.	619.60
	0.10	0.00	7.07	0.00	0.000	0.045	0.000	0.000	608.80	509.96
	0.016865	100.	90.	90.	2	0	0	0.00	24.98	534.94

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

	3.30	3.30	612.10	0.00	0.00	612.89	0.78	0.01	0.00	619.60
	410.	0.	410.	0.	0.	58.	0.	5.	3.	619.60
	0.10	0.00	7.10	0.00	0.000	0.026	0.000	0.000	608.80	509.92
	0.007398	1.	1.	1.	0	0	0	-0.55	25.02	534.94

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	RANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	IWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	BSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3.400

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.40	3.62	612.42	0.00	0.00	613.03	0.60	0.09	0.05	619.60
410.	0.	410.	0.	0.	66.	0.	5.	3.	619.60
0.10	0.00	6.23	0.00	0.000	0.026	0.000	0.000	608.80	508.90
0.005249	14.	14.	14.	2	0	0	-0.71	27.31	536.22

*SECNO 3.500

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.50	3.67	612.47	0.00	0.00	613.04	0.57	0.01	0.01	619.60
410.	0.	410.	0.	0.	68.	0.	5.	3.	619.60
0.10	0.00	6.05	0.00	0.000	0.035	0.000	0.000	608.80	508.77
0.006973	1.	1.	1.	2	0	0	0.00	27.61	536.38

*SECNO 3.600

110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE

3.60	4.23	613.33	0.00	0.00	613.43	0.10	0.25	0.14	610.00
410.	115.	270.	26.	133.	87.	43.	5.	3.	610.00
0.12	0.86	3.10	0.59	0.100	0.035	0.100	0.000	609.10	450.02
0.000820	120.	140.	150.	2	0	0	0.00	96.97	546.98

CCHV= 0.100 CEHV= 0.300

*SECNO 3.700

X

3.70	3.84	613.24	0.00	0.00	613.79	0.55	0.22	0.13	611.50
410.	37.	360.	13.	39.	57.	14.	6.	4.	611.50
0.12	0.94	6.32	0.93	0.100	0.035	0.100	0.000	609.40	455.16
0.004786	110.	140.	160.	3	0	0	0.00	78.28	533.44

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 4.000									
SURVEY SECTION #4									
4.00	4.14	613.94	0.00	0.00	614.62	0.68	0.79	0.04	612.30
410.	40.	325.	45.	25.	44.	30.	6.	4.	612.30
0.13	1.61	7.41	1.50	0.100	0.035	0.100	0.000	609.80	482.46
0.007045	110.	140.	150.	3	0	0	0.00	54.16	536.62
#SECNO 4.300									
X									
4.30	4.77	615.37	0.00	0.00	615.87	0.50	1.23	0.02	613.00
410.	22.	374.	14.	21.	63.	18.	7.	4.	613.50
0.14	1.05	5.91	0.82	0.100	0.035	0.100	0.000	610.60	484.12
0.003372	260.	260.	260.	2	0	0	0.00	49.60	533.71
*SECNO 4.600									
X									
4.60	4.44	616.24	0.00	0.00	616.56	0.31	0.67	0.02	613.00
410.	26.	383.	1.	24.	82.	2.	8.	4.	615.00
0.16	1.08	4.65	0.45	0.100	0.035	0.100	0.000	611.80	486.90
0.002041	260.	260.	260.	2	0	0	0.00	35.58	522.48
*SECNO 5.000									
SURVEY SECTION #5									
5.00	4.53	616.83	0.00	0.00	616.94	0.11	0.37	0.02	614.80
410.	5.	278.	127.	10.	87.	186.	9.	5.	614.80
0.19	0.48	3.21	0.69	0.100	0.035	0.100	0.000	612.30	490.08
0.001039	260.	260.	260.	2	0	0	0.00	150.26	640.34
*SECNO 5.500									
X									
5.50	4.63	617.18	0.00	0.00	617.20	0.02	0.25	0.01	614.80
410.	47.	127.	236.	105.	70.	536.	14.	7.	614.80
0.34	0.45	1.82	0.44	0.100	0.035	0.100	0.000	612.55	452.82
0.000307	480.	480.	470.	2	0	0	0.00	313.29	766.12
*SECNO 6.000									
SURVEY SECTION #6									
6.00	4.63	617.43	0.00	0.00	617.47	0.04	0.26	0.01	614.50
410.	62.	133.	215.	62.	52.	298.	20.	10.	614.70
0.44	1.00	2.59	0.72	0.100	0.050	0.100	0.000	612.80	474.26
0.001327	520.	480.	450.	2	0	0	0.00	243.71	717.97

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	IBC	ICONT	CORAR	TOPWID	ENDST
*SECNO 6.100									
X									
6.10	3.42	617.62	0.00	0.00	617.88	0.26	0.34	0.07	615.90
410.	21.	244.	144.	18.	47.	124.	21.	11.	615.90
0.45	1.17	5.24	1.17	0.100	0.050	0.100	0.000	614.20	478.54
0.007567	130.	130.	130.	2	0	0	0.00	180.55	659.09
*SECNO 6.200									
X									
6.20	3.12	618.72	0.00	0.00	619.06	0.34	1.16	0.02	617.00
410.	23.	248.	139.	17.	42.	100.	21.	11.	617.00
0.45	1.38	5.91	1.39	0.100	0.050	0.100	0.000	615.60	480.59
0.010663	130.	130.	130.	3	0	0	0.00	150.88	631.47
*SECNO 6.300									
X									
6.30	3.17	620.27	0.00	0.00	620.72	0.44	1.63	0.03	618.70
410.	21.	275.	113.	15.	43.	79.	22.	12.	618.70
0.46	1.43	6.45	1.43	0.100	0.050	0.100	0.000	617.10	480.98
0.012724	140.	140.	140.	2	0	0	0.00	134.54	615.53
*SECNO 6.400									
X									
6.40	3.34	621.84	0.00	0.00	622.22	0.38	1.50	0.01	620.10
410.	25.	269.	116.	18.	45.	84.	22.	12.	620.10
0.47	1.38	6.03	1.39	0.100	0.050	0.100	0.000	618.50	479.00
0.010462	130.	130.	130.	2	0	0	0.00	132.01	611.01
*SECNO 6.500									
X									
6.50	3.34	623.24	0.00	0.00	623.68	0.44	1.44	0.02	621.50
410.	27.	280.	103.	18.	44.	70.	23.	13.	621.50
0.48	1.47	6.36	1.47	0.100	0.050	0.100	0.000	619.90	479.00
0.011763	130.	130.	130.	2	0	0	0.00	117.00	596.00
*SECNO 6.600									
X									
6.60	3.36	624.76	0.00	0.00	625.18	0.42	1.50	0.00	622.90
410.	28.	293.	89.	20.	48.	64.	23.	13.	622.90
0.49	1.40	6.07	1.40	0.100	0.050	0.100	0.000	621.40	478.26
0.009777	140.	140.	140.	2	0	0	0.00	105.06	583.32

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	IBC	ICONT	CORAR	TOPWTD	ENDST
*SECNO 6.700									
X									
6.70	3.29	626.09	0.00	0.00	626.62	0.53	1.41	0.03	624.30
410.	28.	313.	69.	19.	47.	45.	24.	13.	624.30
0.49	1.51	6.64	1.52	0.100	0.050	0.100	0.000	622.80	479.10
0.012058	130.	130.	130.	2	0	0	0.00	86.65	565.75
*SECNO 6.800									
X									
6.80	3.41	627.61	0.00	0.00	628.14	0.54	1.52	0.00	625.70
410.	32.	322.	56.	21.	49.	36.	24.	14.	625.70
0.50	1.53	6.59	1.53	0.100	0.050	0.100	0.000	624.20	477.77
0.011340	130.	130.	130.	2	0	0	0.00	75.35	553.12
*SECNO 7.000									
SURVEY SECTION #7									
7.00	3.40	629.10	0.00	0.00	629.29	0.20	1.11	0.03	627.10
410.	101.	219.	90.	63.	48.	56.	24.	14.	627.10
0.51	1.60	4.61	1.61	0.100	0.050	0.100	0.000	625.70	459.06
0.005872	140.	140.	140.	2	0	0	0.00	92.35	551.41
*SECNO 8.000									
3470 ENCROACHMENT STATIONS=		405.0	620.0	TYPE=	1	TARGET=	215.000		
SURVEY SECTION #8									
8.00	3.05	630.35	0.00	629.74	630.38	0.02	1.07	0.02	628.90
410.	191.	77.	143.	208.	36.	183.	27.	15.	628.40
0.62	0.92	2.10	0.78	0.100	0.050	0.100	0.000	627.30	405.00
0.001382	420.	430.	430.	5	0	0	0.00	215.00	620.00
*SECNO 8.500									
3470 ENCROACHMENT STATIONS=		420.0	590.0	TYPE=	1	TARGET=	170.000		
8.50	2.48	630.78	0.00	630.48	631.17	0.39	0.69	0.11	629.90
410.	104.	222.	84.	61.	33.	52.	29.	16.	629.70
0.63	1.70	6.67	1.61	0.100	0.050	0.100	0.000	628.30	420.00
0.018952	200.	200.	200.	3	0	0	0.00	170.00	590.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	RANK EL.EV
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

*SECNO 8.600

3470 ENCROACHMENT STATIONS= 420.0 585.0 TYPE= 1 TARGET= 165.000

8.60	3.13	631.93	0.00	631.49	632.10	0.17	0.91	0.02	630.50
410.	115.	198.	97.	95.	43.	81.	29.	17.	630.40
0.64	1.21	4.60	1.19	0.100	0.045	0.100	0.000	628.80	420.00
0.005310	100.	100.	100.	2	0	0	0.00	165.00	585.00

*SECNO 8.700

3470 ENCROACHMENT STATIONS= 440.0 595.0 TYPE= 1 TARGET= 155.000

8.70	3.09	632.19	0.00	631.74	632.48	0.29	0.34	0.04	631.20
410.	58.	228.	124.	47.	40.	85.	29.	17.	631.00
0.65	1.24	-5.67	1.46	0.100	0.045	0.100	0.000	629.10	440.00
0.009253	50.	50.	50.	2	0	0	0.00	155.00	595.00

CCHV= 0.300 CEHV= 0.500

*SECNO 9.200

7105 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000

D/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.20	3.32	632.72	632.72	632.28	633.07	0.36	0.50	0.03	631.50
410.	104.	217.	89.	67.	34.	60.	29.	17.	631.50
0.65	1.55	6.43	1.48	0.080	0.045	0.080	0.000	629.40	400.00
0.010998	50.	50.	50.	8	8	0	0.00	200.00	600.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.20	3.00	0.00	6.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300

PRESSURE AND WEIR FLOW

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

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
642.05	635.02	0.00	88.	323.	25.	25.	633.40	637.40

3470 ENCROACHMENT STATIONS= 400.0 600.0 TYPE= 1 TARGET= 200.000'

U/S FACE OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.30	9.08	638.48	0.00	634.96	638.50	0.02	5.42	0.00	634.00
410.	87.	200.	123.	202.	130.	240.	30.	17.	634.00
0.68	0.43	1.54	0.51	0.080	0.045	0.080	0.000	629.40	405.21
0.000184	109.	109.	109.	1	0	6	0.00	194.10	599.31

*SECNO 9.400

200' U/S OF 4.0' X 6.2' CONCRETE BOX CULVERT

9.40	8.72	638.52	0.00	636.45	638.53	0.01	0.02	0.00	634.00
410.	137.	91.	182.	458.	75.	592.	34.	19.	634.00
0.79	0.30	1.22	0.31	0.100	0.035	0.100	0.000	629.80	315.94
0.000096	200.	200.	180.	2	0	0	0.00	418.13	734.06

*SECNO 10.200

D/S FACE OF 36" TWIN CULVERTS

10.20	6.06	638.56	0.00	636.60	638.56	0.00	0.03	0.00	636.00
410.	160.	76.	173.	534.	77.	593.	43.	22.	636.00
1.00	0.30	0.99	0.29	0.100	0.035	0.100	0.000	632.50	300.00
0.000107	220.	340.	400.	0	0	0	0.00	450.81	750.81

*SECNO 10.300

3370 NORMAL BRIDGE, NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00

1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.30	6.06	638.56	0.00	636.62	638.56	0.00	0.00	0.00	636.00
410.	173.	49.	188.	532.	54.	590.	43.	22.	636.00
1.00	0.33	0.90	0.32	0.100	0.035	0.100	0.000	632.50	300.00
0.000128	1.	1.	1.	0	0	0	-24.57	450.80	750.80

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	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 10.400									
3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 635.40 MAX ELLC= 636.00									
1' INSIDE OF U/S FACE OF 36" TWIN CULVERTS									
10.40	6.06	638.56	0.00	636.65	638.57	0.00	0.00	0.00	636.00
410.	173.	49.	188.	532.	54.	590.	43.	22.	636.00
1.01	0.33	0.90	0.32	0.100	0.025	0.100	0.000	632.50	300.00
0.000127	21.	21.	21.	0	0	0	-74.57	450.80	750.80
*SECNO 10.500									
U/S FACE OF 36" TWIN CULVERTS									
10.50	6.06	638.56	0.00	636.65	638.57	0.00	0.00	0.00	636.00
410.	164.	68.	178.	533.	77.	591.	43.	22.	636.00
1.01	0.31	0.89	0.30	0.100	0.040	0.100	0.000	632.50	300.00
0.000113	1.	1.	1.	0	0	0	0.00	450.80	750.80
*SECNO 10.600									
370' U/S OF 36" TWIN CULVERTS									
10.60	4.01	638.61	0.00	637.12	638.73	0.12	0.11	0.06	636.60
410.	108.	211.	91.	140.	56.	119.	49.	25.	636.60
1.06	0.77	3.75	0.77	0.100	0.040	0.100	0.000	634.60	369.75
0.002070	330.	370.	370.	0	0	0	0.00	260.50	630.25
CCHV= 0.100 CEHV= 0.300									
*SECNO 11.100									
X									
11.10	3.74	639.64	0.00	639.27	639.97	0.33	1.18	0.07	638.30
410.	34.	280.	96.	41.	50.	93.	51.	27.	638.30
1.08	0.84	5.58	1.03	0.100	0.040	0.100	0.000	635.90	439.15
0.005455	310.	380.	400.	4	0	0	0.00	192.79	631.94
*SECNO 11.150									
SURVEY SECTION 11A									
11.15	4.12	641.32	0.00	640.40	641.64	0.33	1.67	0.00	639.80
410.	17.	272.	121.	16.	49.	113.	53.	28.	638.90
1.10	1.07	5.58	1.06	0.100	0.040	0.100	0.000	637.20	482.61
0.005546	270.	300.	320.	2	0	0	0.00	156.94	639.54

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.300 CEHV= 0.500
*SECNO 11.200
D/S FACE OF FTBRDGE - L BNK ENDED @ STA 430 FOR CONTR - FL@300=641.2

11.20	4.38	641.78	0.00	641.06	641.82	0.04	0.09	0.09	639.50
410.	99.	156.	155.	141.	60.	241.	53.	28.	638.70
1.11	0.70	2.59	0.64	0.100	0.040	0.100	0.000	637.40	430.00
0.000903	50.	50.	50.	2	0	0	0.00	236.21	666.21

*SECNO 11.300

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF D/S FACE OF FOOTBRIDGE

11.30	4.40	641.80	0.00	641.07	641.83	0.03	0.00	0.00	639.50
410.	113.	95.	201.	132.	41.	242.	53.	28.	638.70
1.11	0.86	2.31	0.83	0.100	0.023	0.100	0.000	637.40	430.00
0.001485	1.	1.	1.	1	0	0	-29.03	236.53	666.53

*SECNO 11.400

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 639.60 MAX ELLC= 640.00

1' INSIDE OF U/S FACE OF FOOTBRIDGE

11.40	4.40	641.80	0.00	641.07	641.83	0.03	0.00	0.00	639.50
410.	113.	95.	201.	133.	42.	244.	53.	28.	638.70
1.11	0.85	2.29	0.83	0.100	0.023	0.100	0.000	637.40	430.00
0.001457	2.	2.	2.	0	0	0	-29.03	236.83	666.83

*SECNO 11.500
U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	4.40	641.80	0.00	641.07	641.84	0.04	0.00	0.01	639.50
410.	99.	155.	156.	143.	61.	245.	53.	28.	638.70
1.11	0.70	2.55	0.64	0.100	0.040	0.100	0.000	637.40	430.00
0.000870	1.	1.	1.	0	0	0	0.00	236.89	666.89

1490 NH CARD USED
*SECNO 11.600
100' U/S OF FOOTBRIDGE

11.60	3.84	641.84	0.00	641.08	642.15	0.30	0.18	0.13	640.00
410.	49.	261.	101.	27.	48.	97.	54.	29.	640.00
1.12	1.78	5.44	1.04	0.060	0.040	0.100	0.000	638.00	469.45
0.005598	100.	100.	100.	2	0	0	0.00	171.96	641.41

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

1490 NH CARD USED
*SECNO 12.200
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
X220 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000
D/S FACE OF BRIDGE @ TRAILER PARK

12.20	3.79	642.99	642.99	642.32	643.22	0.23	0.92	0.02	641.50
410.	31.	255.	124.	34.	54.	83.	55.	30.	640.60
1.13	0.91	4.25	1.51	0.100	0.040	0.100	0.000	639.20	460.00
0.003858	200.	200.	200.	20	8	0	0.00	95.00	555.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BARFA	SS	ELCHU	ELCHD
	0.00	1.86	3.00	95.00	6.00	0.00	37.00	0.93	639.20	639.20

*SECNO 12.300
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BARFA	TRAPEZOID AREA	FLLC	ELTRD
646.54	643.92	0.00	134.	276.	37.	31.	642.60	644.00

3470 ENCROACHMENT STATIONS= 460.0 555.0 TYPE= 1 TARGET= 95.000
U/S FACE OF BRIDGE @ TRAILER PARK

12.30	3.26	644.46	0.00	642.93	644.61	0.15	1.38	0.00	641.00
410.	38.	285.	87.	51.	78.	91.	55.	30.	641.00
1.14	0.75	3.64	0.96	0.100	0.040	0.100	0.000	639.20	460.00
0.001354	19.	19.	19.	2	0	4	0.00	95.00	555.00

XSECNO 12.400
X

12.40	3.65	644.85	644.78	643.88	645.48	0.63	0.64	0.24	643.50
410.	39.	331.	40.	34.	47.	29.	55.	30.	643.50
1.15	1.14	7.08	1.38	0.100	0.040	0.100	0.000	641.20	449.87
0.009960	220.	220.	220.	4	19	0	0.00	105.20	555.07

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	IBC	ICONT	CORAR	TOPWID	ENDST
CCHV= 0.100 CEHV= 0.300									
*SECND 12.900									
X									
12.90	3.72	644.82	0.00	646.13	647.25	0.43	1.74	0.02	645.30
410.	61.	308.	41.	61.	51.	37.	56.	31.	645.40
1.16	1.00	6.02	1.11	0.100	0.040	0.100	0.000	643.10	419.64
0.006464	220.	220.	220.	2	0	0	0.00	145.16	564.80
*SECND 12.950									
3470 ENCROACHMENT STATIONS= 440.0 565.0 TYPE= 1 TARGET= 125.000									
12.95	3.57	647.57	0.00	646.79	648.06	0.49	0.79	0.02	646.20
410.	77.	307.	26.	59.	48.	25.	56.	31.	646.20
1.17	1.31	6.44	1.04	0.100	0.040	0.100	0.000	644.00	440.00
0.008059	110.	110.	110.	3	0	0	0.00	113.85	553.85
CCHV= 0.300 CEHV= 0.500									
*SECND 13.100									
7185 MINIMUM SPECIFIC ENERGY									
3720 CRITICAL DEPTH ASSUMED									
3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000									
D/S FACE OF 2-36" CULVERTS (LEFT CULVERT IS CRUSHED)									
13.10	3.65	648.95	648.95	648.15	649.73	0.78	1.21	0.15	647.00
410.	62.	308.	39.	27.	38.	19.	57.	31.	647.30
1.17	2.30	8.07	2.05	0.080	0.040	0.080	0.000	645.30	472.06
0.013896	110.	110.	110.	3	8	0	0.00	65.72	537.78

SPECIAL BRIDGE

SD	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

*SECND 13.200

X301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR 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
EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	
786.17	650.23	0.00	363.	47.	7.	7.	648.20	649.40	
3470 ENCROACHMENT STATIONS=		467.0	547.0	TYPE=	1	TARGET=	80.000		
U/S FACE OF 2-36" CULVERTS									
13.20	5.35	650.65	0.00	650.13	650.76	0.11	1.03	0.00	647.00
410.	107.	218.	85.	82.	63.	71.	57.	31.	647.30
1.17	1.29	3.47	1.19	0.080	0.040	0.080	0.000	645.30	467.00
0.001514	24.	24.	24.	2	0	9	0.00	80.00	547.00
*SECNO 13.500									
200' U/S OF 2-36" CULVERTS									
13.50	4.41	651.01	0.00	650.29	651.29	0.28	0.44	0.08	649.00
410.	72.	286.	53.	96.	56.	54.	58.	32.	649.00
1.19	0.75	5.06	0.98	0.100	0.040	0.100	0.000	646.60	349.39
0.003546	200.	200.	200.	3	0	0	0.00	222.75	572.15
CCHV= 0.100 CEHV= 0.300									
*SECNO 14.000									
150' U/S of CHOCOLAY TOWNSHIP COPORATE BOUNDARY									
14.00	4.05	652.15	0.00	651.31	652.37	0.21	1.08	0.01	650.80
410.	163.	231.	16.	172.	47.	18.	59.	33.	650.70
1.21	0.95	4.89	0.89	0.100	0.040	0.100	0.000	648.10	318.25
0.004186	280.	280.	280.	2	0	0	0.00	218.28	536.53

THIS RUN EXECUTED 13-FEB-85 11:48:35

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55
**************************************************
T1      100 YEAR FLOOD PROFILE
T2
T3      SILVER CREEK
J1  ICHECK     INQ      NINV      IBIR      STRT      METRIC     HVINS      Q          WSEL      FQ
        0.       4.        0.        0.  0.000000      0.00       0.0        0.     607.500     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
```

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

*PROF 3

CCHV= 0.100 CEHV= 0.300
*SECNO 1.100
CONFLUENCE OF SILVER CREEK AND CHOCOLAY RIVER.

1.10	6.20	607.50	0.00	607.50	607.88	0.38	0.00	0.00	606.00
510.	36.	464.	10.	62.	90.	17.	0.	0.	606.00
0.00	0.59	5.18	0.58	0.100	0.035	0.100	0.000	601.30	417.50
0.002276	0.	0.	0.	0	0	0	0.00	123.75	541.25

CCHV= 0.300 CEHV= 0.500
*SECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	5.37	607.77	0.00	0.00	608.11	0.34	0.22	0.01	606.50
510.	11.	478.	21.	19.	99.	33.	0.	0.	606.10
0.01	0.58	4.83	0.63	0.100	0.035	0.100	0.000	602.40	471.33
0.002049	100.	100.	100.	2	0	0	0.00	86.25	557.58

*SECNO 1.300

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF D/S FACE OF FOOT BRIDGE.

1.30	5.35	607.75	0.00	0.00	608.14	0.39	0.00	0.02	606.50
510.	25.	442.	43.	19.	83.	31.	0.	0.	606.10
0.01	1.31	5.33	1.40	0.100	0.035	0.100	0.000	602.40	471.69
0.010840	1.	1.	1.	2	0	0	-16.71	85.65	557.34

*SECNO 1.400

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 607.00 MAX ELLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.40	5.45	607.85	0.00	0.00	608.20	0.35	0.05	0.01	606.50
510.	29.	432.	49.	22.	85.	35.	0.	0.	606.10
0.01	1.30	5.09	1.40	0.100	0.035	0.100	0.000	602.40	469.74
0.009547	5.	3.	5.	2	0	0	-16.71	88.89	558.63

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

*SECNO 1.500
U/S FACE OF FOOT BRIDGE

1.50	5.50	607.90	0.00	0.00	608.21	0.31	0.00	0.01	606.50
510.	14.	472.	24.	23.	102.	38.	0.	0.	606.10
0.01	0.59	4.64	0.64	0.100	0.035	0.100	0.000	602.40	468.84
0.001843	1.	1.	1.	2	0	0	0.00	90.40	559.23

*SECNO 1.600
25' U/S OF FOOT BRIDGE.

1.60	5.28	607.88	0.00	0.00	608.35	0.47	0.06	0.08	606.00
510.	12.	474.	24.	15.	84.	32.	0.	0.	606.00
0.01	0.75	5.68	0.76	0.100	0.035	0.100	0.000	602.60	483.54
0.002808	25.	25.	25.	2	0	0	0.00	68.32	551.86

CCHV= 0.100 CEHV= 0.300

*SECNO 2.000
SURVEY SECTION #2

2.00	5.91	609.51	0.00	0.00	609.69	0.19	1.32	0.03	607.00
510.	220.	238.	52.	167.	49.	47.	2.	1.	607.60
0.04	1.32	4.86	1.10	0.100	0.045	0.100	0.000	603.60	376.97
0.004446	320.	380.	440.	3	0	0	0.00	184.50	561.47

*SECNO 2.100
X

2.10	5.21	609.91	0.00	0.00	609.98	0.06	0.27	0.01	606.00
510.	184.	219.	106.	249.	74.	143.	3.	2.	606.00
0.07	0.74	2.97	0.74	0.100	0.045	0.100	0.000	604.70	372.85
0.001018	120.	150.	180.	2	0	0	0.00	215.50	588.35

*SECNO 2.200
X

2.20	4.26	610.06	0.00	0.00	610.22	0.16	0.22	0.03	607.00
510.	180.	323.	7.	188.	82.	8.	5.	3.	607.00
0.08	0.96	3.94	0.86	0.100	0.045	0.100	0.000	605.80	379.61
0.002285	150.	150.	140.	2	0	0	0.00	146.11	525.72

*SECNO 2.300
X

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
	2.30	3.55	610.45	0.00	0.00	610.74	0.29	0.48	0.04	608.00
	510.	58.	354.	92.	44.	69.	74.	5.	3.	608.00
	0.09	1.32	3.14	1.32	0.100	0.045	0.100	0.000	606.90	467.29
	0.004914	150.	150.	140.	2	0	0	0.00	107.68	574.97

*SECNO 3.100

3470 ENCROACHMENT STATIONS= 490.0 540.0 TYPE= 1 TARGET= 70.000
90' D/S FROM LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.10	3.17	611.17	0.00	0.00	611.81	0.64	0.92	0.11	609.80
510.	10.	403.	97.	7.	56.	51.	6.	3.	609.80
0.10	1.32	7.17	1.91	0.100	0.045	0.100	0.000	608.00	490.00
0.012520	130.	130.	130.	3	0	0	0.00	70.00	560.00

ECHV= 0.300 CEHV= 0.500

*SECNO 3.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 618.60 ELREA= 619.60

D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.20	3.58	612.38	0.00	0.00	613.33	0.95	1.36	0.15	619.60
510.	0.	510.	0.	0.	65.	0.	6.	3.	619.60
0.10	0.00	7.80	0.00	0.000	0.045	0.000	0.000	608.80	509.04
0.018603	100.	90.	90.	2	0	0	0.00	25.95	535.00

*SECNO 3.300

3370 NORMAL BRIDGE,NRD= 21 MIN EL TRD= 619.60 MAX EL LC= 617.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60

1' INSIDE OF D/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.30	3.59	612.39	0.00	0.00	613.34	0.96	0.01	0.01	619.60
510.	0.	510.	0.	0.	65.	0.	6.	3.	619.60
0.10	0.00	7.85	0.00	0.000	0.026	0.000	0.000	608.80	509.01
0.008309	1.	1.	1.	0	0	0	-0.67	25.99	535.00

	SECNO	DEPTH	CWSEL	CRIWS	WSELK	FR	HV	HL	OLOSS	RANK 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
	*SECNO 3.400									
	3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60									
	3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60									
	1' INSIDE OF U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.									
	3.40	4.03	612.83	0.00	0.00	613.52	0.69	0.10	0.08	619.60
	510.	0.	510.	0.	0.	77.	0.	6.	3.	619.60
	0.10	0.00	6.65	0.00	0.000	0.026	0.000	0.000	608.80	507.64
	0.005714	14.	14.	14.	3	0	0	-1.25	30.09	537.73
	*SECNO 3.500									
	3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 619.60 ELREA= 619.60									
	U/S FACE OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
	3.50	4.15	612.95	0.00	0.00	613.55	0.61	0.01	0.02	619.60
	510.	0.	510.	0.	0.	82.	0.	6.	3.	619.60
	0.10	0.00	6.25	0.00	0.000	0.035	0.000	0.000	608.80	507.26
	0.006688	1.	1.	1.	2	0	0	0.00	30.93	538.19
	*SECNO 3.600									
	110' U/S OF LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE									
	3.60	4.73	613.03	0.00	0.00	613.95	0.11	0.25	0.15	610.00
	510.	148.	328.	37.	159.	98.	57.	7.	4.	610.00
	0.12	0.93	3.33	0.65	0.100	0.035	0.100	0.000	609.10	447.01
	0.000814	120.	140.	150.	2	0	0	0.00	103.87	550.88
	CCHV= 0.100 CEHV= 0.300									
	*SECNO 3.700									
	X									
	3.70	4.36	613.76	0.00	0.00	614.28	0.52	0.21	0.12	611.50
	510.	67.	419.	24.	65.	66.	24.	7.	4.	611.50
	0.12	1.02	6.38	1.02	0.100	0.035	0.100	0.000	609.40	441.98
	0.004027	110.	140.	160.	3	0	0	0.00	96.30	538.28

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
*SECNO 4.000									
SURVEY SECTION #4									
4.00	4.51	614.31	0.00	0.00	615.05	0.74	0.71	0.06	612.30
510.	58.	384.	68.	32.	49.	39.	8.	4.	612.30
0.13	1.83	7.86	1.73	0.100	0.035	0.100	0.000	609.80	481.78
0.006860	110.	140.	150.	2	0	0	0.00	56.06	537.85
*SECNO 4.300									
X									
4.30	5.15	615.75	0.00	0.00	616.34	0.59	1.28	0.01	613.00
510.	34.	451.	25.	27.	69.	25.	8.	4.	613.50
0.14	1.28	6.54	0.97	0.100	0.035	0.100	0.000	610.60	483.21
0.003683	260.	260.	260.	2	0	0	0.00	54.29	537.50
*SECNO 4.600									
X									
4.60	4.90	616.70	0.00	0.00	617.08	0.38	0.72	0.02	613.00
510.	38.	470.	2.	31.	92.	3.	9.	5.	615.00
0.16	1.24	5.13	0.58	0.100	0.035	0.100	0.000	611.80	485.75
0.002162	260.	260.	260.	2	0	0	0.00	37.66	523.40
*SECNO 5.000									
SURVEY SECTION #5									
5.00	5.05	617.35	0.00	0.00	617.45	0.11	0.34	0.03	614.80
510.	8.	319.	182.	16.	98.	249.	11.	5.	614.80
0.19	0.52	3.25	0.73	0.100	0.035	0.100	0.000	612.30	487.57
0.000897	260.	260.	260.	2	0	0	0.00	144.08	651.65
*SECNO 5.500									
X									
5.50	5.11	617.46	0.00	0.00	617.68	0.02	0.21	0.01	614.80
510.	60.	143.	307.	128.	78.	657.	17.	8.	614.80
0.34	0.47	1.84	0.47	0.100	0.035	0.100	0.000	612.55	452.34
0.000269	480.	480.	470.	2	0	0	0.00	319.52	771.87
*SECNO 6.000									
SURVEY SECTION #6									
6.00	5.07	617.87	0.00	0.00	617.91	0.04	0.23	0.01	614.50
510.	75.	146.	290.	74.	57.	397.	25.	11.	614.70
0.44	1.02	2.55	0.73	0.100	0.050	0.100	0.000	612.80	473.24
0.001135	520.	480.	450.	2	0	0	0.00	276.28	749.52

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EA	KV	HL	OLOSS	BANK ELEV
	Q OB	UCH	QOB	ALOB	ACH	ARDB	VOL	TWA	FEET/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELMIN	SETA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IHC	ICONT	PERAR	TOPWID	ENGRT
*SECNO 6.100									
X									
6.10	3.84	618.04	0.00	0.00	618.23	0.19	0.28	0.05	618.90
510.	33.	256.	220.	29.	53.	173.	26.	12.	618.90
0.46	1.14	4.83	1.15	0.100	0.050	0.100	0.000	614.20	473.21
0.005432	130.	130.	130.	2	0	0	0.00	22[illegible].63	694.84
*SECNO 6.200									
X									
6.20	3.31	618.9[illegible]	0.00	0.00	617.29	0.38	1.00	0.06	617.00
510.	37.	288.	190.	20.	45.	123.	27.	12.	617.00
0.46	1.55	6.44	1.55	0.100	0.050	0.100	0.000	615.60	473.51
0.011628	130.	130.	130.	5	0	0	0.00	165.45	643.96
*SECNO 6.300									
X									
6.30	3.43	620.53	0.00	0.00	620.97	0.44	1.67	0.02	618.70
510.	31.	312.	167.	20.	47.	107.	27.	13.	618.70
0.47	1.57	6.67	1.5[illegible]	0.100	0.050	0.100	0.000	617.10	477.25
0.011204	140.	140.	140.	2	0	0	0.00	154.26	632.10
*SECNO 6.400									
X									
6.40	3.54	621.06	0.00	0.00	620.[illegible]7	0.[illegible]	1.50	0.00	620.10
510.	36.	310.	1[illegible]	25.	48.	107.	28.	13.	620.10
0.48	1.53	6.4[illegible]	1.5[illegible]	0.100	0.050	0.100	0.000	618.50	476.24
0.010873	130.	130.	130.	1	0	0	0.00	147.38	623.62
*SECNO 6.500									
X									
6.50	3.[illegible]	623.50	0.00	0.00	623.96	0.4[illegible]	1.67	0.01	621.50
510.	39.	322.	150.	24.	48.	93.	28.	14.	621.50
0.49	1.61	6.72	1.61	0.100	0.050	0.100	0.000	619.90	475.88
0.011747	130.	130.	130.	2	0	0	0.00	132.1[illegible]	608.02
*SECNO 6.600									
X									
6.60	3.63	625.03	0.00	0.00	625.48	0.45	1.32	0.00	622.90
510.	41.	339.	129.	26.	52.	53.	29.	14.	622.90
0.50	1.5[illegible]	[illegible]	1.56	0.100	0.050	0.100	0.000	621.40	475.16
0.010102	140.	140.	140.	2	0	0	0.00	117.9[illegible]	593.02

SECNO	DEPTH	CWSEL	CRITS	LSELK	SB	NV	NL	OLOBS	BANK ELEV
	OLOB	OCH	CROB	ALOB	OCH	LROB	VOL	TWO	LEFT/RIGHT
ICHG	VLOB	WCH	VROB	XOL	XNCH	XNS	WTN	ELMIN	BETA
SLOPE	KLOBL	XLOH	XLOBR	CTRIA	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 6.700									
0.20	2.06	621.33	0.00	0.00	626.55	0.02	1.42	0.08	629.13
510.	131.	354.	305.	25.	32.	29.	25.	15.	634.30
0.5	0.5	68	0.5	68	0.100	0.050	0.100	0.020	622.84
0.012129	130.	130.	130.	2	0	0	0.00	96.37	574.02
*SECNO 6.600									
6.10	1.71	622.91	0.00	0.00	628.00	0.09	1.54	0.01	635.30
5.0	49.	328.	55.	20.	53.	42.	30.	15.	625.70
0.51	1.7.	7.03	1.71	0.100	0.050	0.100	0.000	624.20	574.21
0.011593	130.	130.	130.	2	0	0	0.10	84.59	579.20
*SECNO 6.500									
SURVEY SECTION 17									
7.00	3.73	624.15	0.00	0.00	629.64	0.3	1.11	0.04	627.10
510	134.	357.	130.	22.	32.	69.	30.	15.	632.10
0.5	1.73	7.38	1.71	0.100	0.050	0.100	0.000	625.70	403.67
0.005752	130.	130.	130.	2	0	0	0.00	96.53	557.20
*SECNO 6.000									
3120 ENCROACHMENT STATIONS=		425.0	490.0	TYPE=		TAPER=		21.000	
SURVEY SECTION 16									
8.10	3.32	626.67	0.00	629.77	630.65	0.02	1.03	0.02	628.90
510.	254.	90.	156.	233.	41.	207.	32.	17.	638.80
0.27	0.98	2.7	0.82	0.100	0.050	0.100	0.000	627.30	463.00
0.001723	130.	130.	130.	2	0	0	0.00	96.00	453.00
*SECNO 5.500									
3120 ENCROACHMENT STATIONS=		425.0	490.0	TYPE=	1	TAPER=		170.000	
8.30	3.86	631.30	0.00	630.45	634.38	0.29	0.81	0.08	629.90
510.	193.	227.	107.	85.	29.	72.	35.	18.	635.70
0.40	1.77	6.03	1.70	0.100	0.050	0.100	0.000	628.30	420.00
0.013502	300.	300.	300.	3	0	0	0.00	170.00	520.00

SECNO	LEFTB	CJSD	CRWE	WEFLW	ES	HV	HL	ULOSS	PAVE ELEV
C	OLOB	OCH	URCS	ALCS	ACH	ARCR	VOL	TWA	LEFT/RIGHT
TMI	VLOB	VCR	VROB	XAL	XNCH	XAA	STN	ELMIN	98.00
SLO-E	KLOB	YLCN	KLOBP	IYRTA	YDS	ICENT	CORER	TOPWID	ENDST

*SECNO 8.600

3470 ENCROACHMENT STATIONS= 13.0 585.0 TYPE= 1 TARGET= 153.500

0.00	5.94	632.16	0.00	631.44	632.27	0.21	0.39	0.01	630.20
200.	10.	119.	155.	137.	41.	90.	36.	18.	633.80
0.35	1.42	5.22	1.40	0.100	0.045	0.100	0.000	628.80	620.05
0.0064S1	100.	100.	100.	2	0	0	0.00	165.00	565.00

*SECNO 9.700

3470 ENCROACHMENT STATIONS= 140.0 593.0 TYPE= 1 TARGET= 155.000

8.20	5.78	632.28	0.00	631.74	632.69	0.21	0.39	0.02	631.70
510.	93.	262.	140.	58.	43.	100.	36.	18.	631.03
0.45	1.73	6.04	1.50	0.100	0.043	0.100	0.000	629.10	630.00
0.006946	50.	50.	50.	2	0	0	0.00	155.00	555.00

CCHV= 0.300 CCHV= 0.500

*RECNO 9.200

3470 ENCROACHMENT STATIONS= 100.0 600.0 TYPE= 1 TARGET= 200.000

1/3 EQUIV D= 4.0' X 5.2' CORRUGATED BOX CULVERT

9.20	3.49	632.83	0.00	632.28	633.22	0.21	0.51	0.02	631.30
300.	145.	258.	127.	92.	36.	75.	36.	18.	631.50
2.43	1.76	6.34	1.70	0.050	0.043	0.050	0.000	629.40	600.00
0.002918	50.	50.	50.	2	0	0	0.00	100.00	400.00

SPECIAL BRIDGE

ES	XR	XLBR	ZOFD	RDWER	CWC	SWP	BAREA	BS	SLUIU	ELCHO
	0.00	2.20	3.00	0.00	0.20	0.00	24.80	0.00	629.40	629.40

*SECNO 9.300
PRESSURE AND WEIR FLOW

CDPRS	EGLWS	ES	OPEN	OPR	CAREA	TRAPEZOID AREA	ELLC	ELFRD
647.32	636.00	0.00	187.	326.	25.	25.	633.40	637.60

SECNO	DEPTH	CWBEL	CRTSH	UBELM	ZB	RC	RL	QLOBS	BANK ELEV
QMIX	VLOB	VCH	UROB	XNL	XNCH	XNR	WTR	TWA	LEFT/RIGHT
CODE	XLOCL	KLOB	CLOBM	ITRIAL	IDC	ICONT	CORAR	ICPXSO	ENDST

3470 ENCROACHMENT STATIONS= 120.0 400.0 TYPE= 1 TARGET= 200.000

U/S FACE OF 4.00' X 6.2' CONCRETE BOX CULVERT

0.80	7.25	673.44	0.00	664.16	672.78	2.02	9.26	0.00	684.00
10.	110.	21.	150.	165.	34.	193.	27.	15.	678.00
0.68	0.52	1.75	0.60	0.080	0.043	0.080	0.000	629.40	403.60
0.000328	109.	109.	109.	2	0	6	0.00	196.40	600.00

SECNO 9.400

7.40	9.00	678.00	0.00	676.49	678.31	0.01	0.03	0.01	674.00
50.	171.	107.	230.	512	78.	452.	41.	20.	634.00
0.78	0.74	1.32	0.35	0.100	0.035	0.100	0.000	629.30	364.58
0.000330	200.	200.	180.	2	0	0	0.00	148.76	743.48

SECNO 9.500

D/S FACE OF 3' 6.N CULVERTS

10.20	5.35	683.85	0.00	676.60	678.85	0.00	0.04	0.01	684.00
50.	221.	59.	240.	492.	52.	460.	51.	23.	636.00
0.77	0.54	1.19	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000330	250.	250.	260.	1	0	0	0.00	150.32	751.21

SECNO 10.300

3370 NORMAL BRIDGE,MID- IA HIGH FLOW= 685.40 MAX EL.C= 684.00

INSIDE OF D/S FACE OF 3' MIN CULVERTS

10.20	5.35	683.85	0.00	676.62	678.85	0.00	0.00	0.00	684.00
50.	216.	59.	256.	569.	59.	457.	51.	23.	636.00
0.77	0.57	1.00	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000330	250.	250.	260.	1	0	0	-24.57	150.32	751.21

SECNO 10.400

3370 NORMAL BRIDGE,MID- IA HIGH FLOW= 685.40 MAX EL.C= 684.00

INSIDE OF U/S FACE OF 3'6" MIN CULVERTS

10.20	5.35	683.85	0.00	676.65	678.85	0.00	0.00	0.00	684.00
50.	216.	59.	236.	590.	59.	458.	51.	24.	636.00
0.93	0.37	0.99	0.36	0.100	0.035	0.100	0.000	632.50	300.00
0.000341	2.	2.	2.	0	0	0	-24.57	150.32	751.21

SECNO	DEPTH	CUSSE	DRIMS	USELA	EG	HV	SL	OLDRE	SAVX ELEV
	QLOB	QCH	QROB	FLOB	SCH	AACR	VQ	INA	LEFT/FLOUT
CODE	VLOB	VCH	VROB	XSL	XNCH	MXS	WTN	ELMIN	BSTA
	YLOB	XLC	XLOFF	STRIKL	FRC	ICONT	CORAR	TOPWID	ENDST

*SECNO 10.500
/S FACE OF 36" TWIN CULVERTS

1.50	6.35	638.35	0.00	634.45	638.65	0.00	0.00	0.30	646.00
204.	254.	80.	254.	34.	82.	259.	51.	24.	638.00
1.67	0.83	3.60	0.82	0.100	0.040	0.100	0.000	632.50	300.00
0.000137	1.	1.	1.	0	0	0	0.00	151.82	751.32

*SECNO 10.800
3'0" D/S OF 36" TWIN CULVERTS

1.41	5.31	33.31	1.00	637.2	637.01	0.11	0.11	0.65	645.66
510.	451.	232.	128.	181.	61.	135.	56.	27.	636.60
1.17	0.83	3.60	0.82	0.100	0.040	0.100	0.000	634.60	354.70
0.001903	350.	370.	370.	1	0	0	0.00	230.60	643.30

RGHB= 0.102 CB= 0.100

*SECNO 11.00
X

1.10	3.97	639.87	0.00	635.25	640.2	0.34	.13	0.07	659.30
93.	70.	304.	141.	15.	54.	122.	61.	29.	638.30
1.35	0.84	3.60	1.15	0.100	0.040	0.100	0.000	637.90	423.59
0.004490	410.	500.	520.	1	0	0	0.00	214.95	648.55

*SECNO 11.150
SUPPLY SECTION 11

11.13	4.26	641.56	0.30	640.10	641.90	0.24	1.69	0.00	659.50
4126.	93.	3 1.	126.	72.	53.	144.	8:.	29.	638.70
1.07	1.35	3.90	1.31	0.100	0.040	0.100	0.000	637.20	441.31
0.003803	270.	300.	320.	1	0	0	0.00	144.93	646.71

RGHB= 0.500 TER= 0.00

*SECNO 11.200
D/S FACE OF STORAGE - L BNK ENDED @ STA 430 FOR CONTR - FLE300=64[illegible].2

1.20	4.63	642.03	0.00	641.04	642.03	0.05	0.10	0.09	659.50
510	126.	182.	205.	159.	64.	279.	63.	30.	638.70
1.05	0.79	2.60	0.75	0.100	0.020	0.100	0.000	637.40	430.09
0.000788	40.	50.	50.	2	0	0	0.00	267.80	648.50

SECNO	DEPTH	CUSEL	CRIMS	WSELK	EG	FV	AL	Q OBS	BANK ELEV
FQME	VLOB	VCH	VRTAL	KNL	XMTH	KNR	UTN	ELMIN	SGTA
XLOBE	XLOBL	XLOB	XLOBR	ITRIAL	IBC	ICONT	JORER	TCRWID	ENDSTA

XSECND 11,700

4320 NPE= 2 SINOF SRO= 7 XTW FLID= 439.50 MAP FLOW= 470.00

U/S FACE OF FOOTBRIDGE

11.30	1.66	642.06	0.00	641.37	642.09	0.03	0.00	0.01	639.50
510.	141.	113.	256.	130.	46.	284.	63.	30.	638.70
1.08	0.99	2.48	0.90	0.00	0.023	0.100	0.000	452.40	430.00
0.001194	2	2	2	0	0	0	-29.03	247.45	473.45

XSECND 11,400

4320 NPE= 2 SINOF SRO= 7 XTW FLID= 439.50 MAP FLOW= 480.00

D/S FACE OF FOOTBRIDGE

11.30	1.66	642.06	0.00	641.37	642.09	0.03	0.00	0.01	639.50
510.	141.	113.	256.	130.	46.	284.	63.	30.	638.70
1.08	0.99	2.48	0.90	0.00	0.023	0.100	0.000	452.40	430.00
0.001194	2	2	2	0	0	0	-29.03	247.45	473.45

XSECND 11,300

U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK

11.50	1.43	642.05	0.00	641.07	642.10	0.05	0.00	0.01	639.30
510.	139.	101.	203.	61.	47.	254.	45.	30.	638.20
1.09	0.97	1.55	0.71	0.000	0.000	0.000	0.000	437.10	430.00
0.000313	1	1	1	0	0	0	0.00	342.85	473.35

1490 NP MAP LOSS

XSECND 11,200

U/S FACE OF FOOTBRIDGE

11.60	1.72	642.12	0.00	641.08	642.10	0.38	1.11	0.17	638.00
510.	21.	139.	156.	67.	53.	173.	44.	31.	638.00
1.00	1.91	5.99	1.11	0.031	0.010	0.100	0.001	638.00	460.02
0.005033	100.	100.	100.	2	0	0	0.01	190.00	650.02

1490 MAP LOSS

XSECND 11,100

4470 ENCROACHMENT STATIONS- 600.0 642.0 TYPE- 1 TARGET= 25.000

D/S FACE OF BRIDGE @ TRAILER PARK

12.20	5.91	643.31	0.00	642.32	643.42	0.33	1.01	0.00	641.50	
300.	58.	511.	56.	79.	58.	82.	85.	33.	640.50	
0.116	0.12	5.65	1.28	0.100	0.040	0.110	0.000	459.20	460.00	
0.000243	200.	200.	200.	2	0	0	0.00	95.00	555.00	

SPECIAL BRIDGE

FB	XSF	DCFD	WLEN	CD	ASF	BLOSS	SF	ELO	ELCRO
0.00	2.86	3.00	95.00	6.00	0.50	57.30	0.93	639.20	639.20

ECHO 2 300

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	FB	QWEIR	QPR	QAREA	TRAPEZOID PRISM	ELLO	ELTRD
642.60	644.01	0.00	335.	787.	37.	31.	643.60	646.20

2470 ENCROACHMENT STATIONS= 460.0 0.5.0 FF= TARGET= 95.300

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	5.46	644.36	0.00	643.93	644.85	0.39	1.43	0.00	64..00
300.	62.	505.	17.	57.	59.	69.	85.	53.	643.62
0.11	0.89	1.23	1.15	0.100	0.040	0.30	0.000	459.20	460.00
0.001252	17.	12.	16.	3	0	1	0.00	95.00	555.00

SECOND 12.300

12.40	5.36	643.3	643.63	643.38	643.7	0.31	0.73	0.31	643.50
310.	56.	329.	65.	41.	92.	46.	85.	32.	643.50
0.12	0.96	1.21	1.20	0.30	1.040	0.100	0.000	459.20	460.00
0.000243	220.	227.	220.	1	25	0	0.00	124.84	563.47

CHU: 3.100 CHAN 0.300
BRIDGE 2.500

12.90	5.96	647.06	0.00	644.13	647.35	0.47	1.75	0.0.	643.30
310.	9%.	359.	60.	8..	55.	68	87	33.	643.40
1.19	0.13	0.83	1.15	0.06	0.040	0.100	0.000	643.13	107.79
0.002237	250.	253.	271.	2	0	0	0.00	162.78	572.53

SECOND 12.900

2470 ENCROACHMENT STATIONS= 460.0 250.0 FF= TARGET= 225.300

SECNO	DEPTH	CNFEL	CRIWS	WSELK	EG	HV	NL	OLOSS	BANK ELEV
Q	QLOL	CCH	QAOL	ALOL	ACH	AMUB	VOL	TWA	LEFT/RIGHT
TIME	VLOF	SCH	QMIN	KK	KNC	KWR	WTW	ELMIN	SSTA
SLOPE	XLOBL	VLCH	QOBR	ITRIAL	ISC	ICONT	CONAR	TOPWID	ELMAX
	13.93	3.84	547.81	0.00	646.79	646.35	0.50	0.8	0.01	646.20
	310.	114.	302.	13.	32.	52.	36.	67.	33.	646.20
	0.014	3.84	0.15	1.42	0.100	0.340	0.150	0.000	24.30	640.00
	0.00783	30.	2.	119.	3	0	3	0.00	133.30	562.00

SCHV= 0.500 CEHV= 0.500
#BEGIN 13.93
THIS REACH HAS SPECIFIED TAILWATER
ELEV OR TIDAL DEPTH ASSUMED

3.70 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
D/S FACE OF 2-75 CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	3.30	469.30	481.30	468.15	450.24	0.74	1.13	0.43	447.00
7.	54.	30.	2.	36.	3.	28.	67.	33.	647.30
1	1.2	3.40	3.6	3.0	2.0	0.040	0.030	0.700	646.30	647.00
0.01400	4	54.	54.	2	0	9	0.00	80.00	542.00

#SECNO = 401

PRESSURE FLOW FROM INVERT

SKEW	TOPC	e	COEL	BPR	BAREA	OPENING RATIO	ELUP	ELTRD
32.0	150.00	0.00	30.	60	2.	2	646.30	647.00

3.70 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000
D/S FACE OF 2-36" CULVERTS

3.30	2.55	469.8	0.00	480.12	450.95	0.15	0.53	0.00	647.00
110.	74.	2.5	110.	89.	86.	73.	67.	33.	647.30
1.1	.92	3.00	1.42	0.030	0.040	0.080	0.000	646.30	647.00
0.01900	4	54.	54.	2	0	9	0.00	80.00	542.00

SECNO	DEPTH	CUSEL	CRING	USEK	EG	HV	HL	GLOSS	BANK ELEV
D	DLOB	DCH	DROB	ALOB	ACH	ARGF	VGL	TWA	EFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XMR	VTN	FLPTN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 13.500

200' U/S OF 2-36" CULVERTS

3.50	4.69	631.29	0.00	630.29	631.56	0.27	0.50	0.06	647.00
510.	116.	319.	70.	40.	81.	71.	69.	34.	649.00
1.18	0.81	5.25	1.05	0.100	0.040	0.100	0.000	646.60	317.02
0.003438	200.	200.	200.	3	0	0	0.00	268.58	581.20

CORV= 0.100 CEMV= 0.200

*SECNO 14.000

110' d/s of CHOCOLAY TOWNSHIP CORPORATE BOUNDARY

14.00	4.30	652.40	0.00	651.31	652.61	0.20	1.04	0.01	650.90
510.	232.	255.	24.	217.	51.	24.	70.	36.	650.70
1.18	1.07	5.00	1.00	0.100	0.040	0.100	0.000	648.10	317.02
0.003[illegible]	200	200.	280	7	0	0	0.00	220.57	537.39

THIS RUN EXECUTED 13-FEB-85 11:41:29

NEW2 RELEASE DATED NOV 26 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICAT 3S - 50,51,52,53,54,55

01 500 YEAR FLOOD PROFILE
12
13 SILVER CREEK

11	NCHECK	NQ	NRPV	ITIM	ETRI	METRIC	VMXS	Q	USEL	FQ
	0	0	0	0	0.000000	0.00	0.1	0	402.500	0.000

12	VPROF	IPLOT	PREVS	XSECV	XSECH	FN	ALLIC	TBV	CHNIM	ITRACE
	15.000	10.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000

SECNO	DEPTH	CWSEL	CRIWS	MSELK	SG	HV	HL	QLOSS	BANK ELEV
	ELOB	QCH	DLOB	ALOB	ACH	AREA3	LVOL	TWA	LEFTZR3EC
	WLOB	VCH	VLOB	XM	VTH	XM3	QTH	ELMIN	SAT4
	ELCH3	ELCHL	XLS	XLOBR	ETRIAL	I3D	ICONT	CDFAR	CONTIN	FRSBT

XPROF 4

CCHV= 0.100 CEHV= 0.300
SSECNO 1.200
20' UPSTREAM OF QUINN CREEK (NOT CHOCTAW RIVER)

1.10	6.20	607.30	606.82	607.20	606.39	0.89	0.00	0.00	676.00
780	35.	709.	16.	62.	90.	117.	0.	0.	606.00
0.00	0.89	7.92	0.39	0.100	0.035	0.100	0.000	40.30	417.50
0.003324	0.	0	0.	5	7	0	0.00	193.75	841.25

CCHV= 0.300 CEHV= 0.600
SSECNO 1.200
D/S FACE OF FOOT BRIDGE.

1.20	5.95	606.32	0.00	0.00	606.81	0.53	0.34	0.1	40.00
780	35.	630.	21.	22.	1.	56.	0	0.	606.10
0.00	0.89	6.23	10.06	0.100	0.035	0.150	0.000	402.40	460.6
0.009972	100.	100.	100.	6	0	0	3.00	104.05	564.69

SSECNO 1.300

STA0 NORMAL SECTION ELV= 0.00 FIX FLRD= 602.00 ELV= 602.00

1' INSIDE U/S FACE OF FOOT BRIDGE.

1.00	6.33	608.33	0.00	0.00	608.97	0.40	0.21	0.04	606.50
780	34.	578.	13.	47.	39.	64.	0.	0.	606.10
0.00	1.78	5.00	1.02	0.100	0.035	0.100	0.000	402.40	457.00
0.010162	1.	1	1.	2	3	0	-16.71	110.01	507.25

SSECNO 1.400

STA0 NORMAL SECTION ELV= 0.00 MIN ELTRD= 607.00 MAX LLLC= 607.10

1' INSIDE OF U/S FACE OF FOOT BRIDGE.

1.00	4.22	608.62	0.00	0.00	608.99	0.37	0.03	0.0	606.50
780	86.	363.	129.	50.	100.	68.	0.	0	606.10
0.0	1.72	5.02	1.06	0.100	0.035	0.100	0.000	402.40	458.60
0.009943	5.	5.	5	2	0	0	-16.71	102.42	548.02

SECNO	DEPTH	CHSEL	CP-HS	HSELP	ES	HV	KL	DASS	BANK ELEV
D	FLOB	OCH	JACO	A_OB	ACH	RDA	VCL	JUP	ESTIMATE
SPK1	VLCB	VCH	JCOO	XNL	MKCH	XNR	MTN	FLIGH	SSTA
SPKE	XLOBL	XLCH	XLOBR	ISTRAL	TJD	ICONT	COCAR	TOPHAT	ENDST

&SECNO 1.000

U/S FACE OF EDT1 BRIDGE

1.60	5.26	658.38	0.00	0.00	409.03	0.26	0.30	0.06	606.00
780.	50.	272.	55.	0.	117.	47.	2.	0.	606.00
0.0	0.92	3.63	1.42	100	1.035	0.100	1.000	602.40	4.32
0.003467	1.	1.	1.	2	0	0	0.00	113.17	567.52

&SECND 1.500

D/S FACE OF EDT1 BRIDGE

1.40	2.	658.32	0.00	0.00	409.24	0.23	0.08	0.15	606.00
780.	30.	389.	62.	38.	95.	57.	1.	0.	606.00
0.0	1.07	7.25	1.07	0.100	0.035	0.100	0.000	602.00	477.93
0.003824	2.	2.	25.	2	0	0	0.00	85.47	503.10

&CHEC 0.100 0.30 0.330

&SECNO 2.000

SEQ JV CHANGED MORE THAN 0.01 FT

SURVEY REC 0.02

2.00	4.33	649.05	0.00	0.00	410.53	0.12	0.2	0.04	606.00
780.	398.	261.	22.	296.	59.	103.	3.	2.	607.60
0.05	1.32	7.41	1.8	0.100	0.035	0.100	0.000	602.60	381.99
0.002971	529.	580.	100.	2	0	0	0.00	276.30	576.29

&CHEC 2.100

X

2.10	5.02	610.72	0.00	0.00	610.78	0.06	0.2	0.01	606.00
780	332.	276	154.	315.	86.	205.	5.	2.	606.00
0.07	6.50	1.2	0.91	0.100	0.045	0.100	0.000	602.70	342.55
0.000171	120	150	130	2	0	0	0.00	230.5	572.84

&SECNO 2.200

2.20	3.23	610.95	0.00	0.00	611.02	0.16	0.2	0.03	607.00
780.	345.	120.	12.	265.	90.	15.	7.	3.	607.00
0.05	1.21	4.50	0.52	0.100	0.045	0.100	0.000	605.80	376.88
0.002151	150.	150.	140.	2	0	0	0.00	159.50	534.38

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	VV	HL	CLOSE	BANK ELEV
0	QLOB	QCH	QROB	QLOB	ACH	AROB	VOL	T/A	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNC	XNCH	XNR	WTN	ELMIN	BSTA
FLGTE	XLOBL	XLCH	XROB	ITRIB	IPC	ICONT	JORAD	TUPBID	CHOST

SECNO 2.500

2.30	4.80	611.20	0.00	0.00	611.51	0.32	0.45	0.05	608.00
780.	144.	972.	192.	172.	84.	128.	8.	4.	608.00
0.10	1.50	5.55	0.00	0.000	0.345	0.100	0.000	308.99	242.82
0.004507	150.	150.	140.	2	0	0	0.00	170.35	553.16

SECNO 3.100

BANK ENCROACHMENT STATIONS= 429.0 560.0 TYPE= 1 TARGET= 20.000

90° D/S FROM LAKE SUPERIOR AND IRONWOOD RAILROAD BRIDGE.

3.10	5.79	611.79	0.00	0.00	612.58	0.79	0.97	0.14	609.80
780.	26.	56.	186.	13.	65.	76.	9.	4.	609.80
0.10	1.75	5.25	0.18	0.000	0.345	0.100	0.000	308.99	555.10
0.012407	150.	30.	130.	2	0	0	0.00	70.00	560.00

QCHV= 0.200 CEHV= 0.500

SECNO 3.290

BRG: MN.DAMS-N.WORK TRAINING

1495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEB= 618.60 ELREB= 619.60

CWR RR & LAKE SUPERIOR AND ISHPEMING RAILROAD BRIDGE.

3.2	4.34	617.84	615.01	0.00	618.60	1.32	1.59	0.17	619.60
760.	0.	760.	0.	0.	35.	0.	5.	4.	619.60
0.11	0.00	9.22	0.00	0.000	0.043	0.000	0.000	608.80	306.56
0.042329	100.	90.	90.	5	8	0	0.00	21.39	578.25

SECNO 3.500

5370 NORMAL BRIDGE:NRB= 21 MIN ELTRD= 619.60 MAX ELLC= 617.60

1495 OVERBANK AREA ASSUMED NON-EFFECTIVE:ELLEB= 618.60 ELREB= 619.60

BRIDGE OF THE PACE OF LAKE EXPANSION AND ISHPEMING RAILROAD BRIDGE.

3.50	4.32	613.02	613.02	0.00	614.41	1.39	0.62	0.08	619.60
780.	0.	780.	0.	0.	82.	0.	9.	4.	619.60
0.11	0.00	9.46	0.00	0.000	0.026	0.000	0.000	608.80	507.01
0.042371	1.	1.	1.	1	12	0	-1.55	31.48	578.25

RECNO	DEPTH	CNSEL	CRIWS	WSEL	E.G.	HV	HL	QLOSS	BANK ELEV	
0	2.08	CUT	ARCH	WLOB	ACH	ARCH	VOL	TWS	LEFT	RIGHT
TIME	VLOB	VCH	VROB	AREA	XNTH	XNR	VTH	ELMIN	SETA	
SLOPE	KLOBL	KLCH	KLOBR	STRIA	IDC	ICONV	CORAY	TOPWID	SETB	

SSECNO 3.000

3301 NV CHANGED MORE THAN TOL 0

3370 NORMAL BRIDGE NRG= 21 MIN ELTRO= 619.60 MAX ELLC= 617.60

TAPE CHANNAL AREA ASSUMED NON-EFFECTIVE ELLEA= 619.60 ELR-EA 619.60

B/S FACE OF WATER OF LAKE SUPERIOR AND L-HEMING RAILROAD BRIDGE

3.00	5.21	614.01	0.00	0.00	6 0.72	0.71	0.10	0.20	619.60
780.	0.	780.	0.	0.	115.	0.	5.	4.	619.60
0.11	0.02	6.22	0.00	0.000	0.026	0.000	0.000	608.90	503.82
0.005409	1.	1.	1.	3	0	0	0.00	39.16	542.67

SSEC.C 3.300

4425 OLEFRAM AREA ASSUMED NON-EFFECTIVE ELEA= 619.60 ELRE= 619.60

B/S FACE OF LAKE SUPERIOR AND L-HEMING RAILROAD BRIDGE

3.00	5.21	614.01	0.00	0.00	6 0.75	0.63	0.01	0.02	619.60
780.	0	780.	0	0	123.	0.	9.	4.	619.60
0.11	0 00	6.35	0.00	0.000	0.035	0.000	0.000	608.90	503.81
0.005409	1.	1.	1.	3	3	0	0.00	39.16	542.67

SSECNO 3.600

10' U/S OF LAKE SUPERIOR AND L-HEMING RAILROAD BRIDGE

3.60	5.88	614.68	0.00	0.00	615.12	0.14	0.23	0.13	610.00
780.	240.	966.	74.	726.	132.	97.	10.	4.	610.00
0.12	1.07	8.83	0.77	7.00	0.035	0.100	0.000	609.11	190.11
0.006959	120.	110.	130.	2	0	0	0.00	611.71	589.84

CCHV= 0.100 CEHV= 0.300

ESECNO 3.700

3.70	5.93	614.97	0.00	0.00	613.39	0.49	0.18	0.07	610.00
780.	174.	954.	62.	155.	34.	96.	11.	5.	611.56
0.13	1.12	8.32	1.12	0.100	0.035	0.100	0.000	609.40	611.20
0.002769	110.	140	160.	3	0	0	0.00	138.44	545.56

SECNO	DEPTH	CWSEL	CRWS	USE.K	EG	HV	HL	OLOSS	BANK ELEV
R	FLOW	VCH	VHD	ALOB	ACH	ANF#	VOL	TUA	LEFT/RIGHT
TYPE	SLOPE	XLOBL	XLCH	XROB	XNCH	XNP	WTH	ELKM	BETA
SUBAR	XLOBL	XLCH	XLOB#	TIME	TRC	ICONT	COPAR	TCP#10	ENDST

SECNO 4.000
SURVEY SECTION 64

6.00	5.92	615.53	0.00	0.00	616.37	0.84	0.55	0.12	613.30
780.	110.	134.	130.	15.	61.	63.	12.	7.	615.30
0.34	1.55	5.78	1.15	0.100	0.035	0.100	0.000	609.50	451.2
0.000315	110.	140.	150.	2	0	0	0.00	66.72	546.92

SECNO 4.000
CHECK

4.30	4.06	614.80	0.00	0.00	617.50	0.74	1.62	0.01	613.00
750.	75.	634.	72.	43	82.	28.	3.	5.	613.50
0.15	1.72	7.72	1.25	0.100	0.035	0.100	0.000	610.60	681.1
0.004060	260.	360	250.	2	0	0	0.00	92.6	573.73

SECNO 4.500

4.40	5.88	617.83	0.00	0.00	618.21	0.54	0.82	0.00	613.00
720.	72.	705.	6.	16.	11.	7.	4.	6.	615.20
0.44	1.57	5.31	0.54	0.100	0.035	0.100	0.000	611.30	687.30
0.003885	240.	260.	280.	2	0	0	0.00	42.01	525.36

SECNO 4.000
SURVEY SECTION 65

6.00	5.20	613.50	0.00	0.00	616.60	0.30	0.38	0.08	614.30
780.	80.	92.	330.	99.	121.	412.	16.	8.	614.80
0.32	0.80	2.40	0.32	0.100	0.035	0.100	0.000	612.30	681.96
0.000715	260.	260.	260.	2	0	0	0.00	154.99	676.95

SECNO 3.500
X

4.30	4.04	616.76	0.00	0.00	618.78	0.01	0.7	0.0	614.80
780.	97.	156.	490.	161.	57.	945.	26.	9	614.80
0.34	0.83	1.92	0.32	0.100	0.035	0.100	0.000	613.75	451.24
0.000221	30.	430.	420.	2	0	0	0.00	353.9	765.15

SECNO 4.100
SURVEY SECTION 66

6.00	4.35	618.93	0.00	0.00	618.96	0.03	0.19	0.00	614.80
780	.05	171.	504.	103.	70.	889.	37.	13.	614.70
0.33	1.01	2.45	0.75	0.100	0.050	0.100	0.000	612.80	720.85
0.000760	320.	430.	430.	2	0	0	0.00	353.76	814.59

SECNO	DEPTH	CUSEL	CRIWS	WSELS	FR	HV	XL	DLOSF	RANK ELEV
	FLOW	PL	REACH	ALOB	ACH	ABOB	LOCL	TWA	LEFT/RIGHT
CHNL	WLOB	VCH	XBOB	XCL	XNCH	XNR	CTN	ELMIN	ESTA
CWP	XLOBL	VLOB	XLOB	LOBA	TRC	TOPWT	FORAR	FORHID	ENDST

XSECNO 6.100

6.10	3.69	619.06	0.00	0.00	619.15	0.03	1.15	0.02	618.95
780.	99.	384.	288.	40.	55.	42.	39.	14.	618.30
0.13	1.74	6.74	1.27	0.100	0.050	0.100	0.000	615.30	468.53
0.002189	130.	130.	130.	2	0	0	0.00	303.16	791.58

XSECNO 6.200

6.20	3.89	620.33	0.00	0.00	617.87	0.36	0.51	0.09	617.00
780.	99.	383.	298.	34.	53.	205.	40.	15.	617.00
0.48	1.74	6.74	1.27	0.100	0.050	0.100	0.000	615.60	472.2.
0.010425	130.	30.	30.	2	0	0	0.00	202.34	481.75

XSECNO 6.300

6.30	3.89	620.99	0.00	0.00	621.19	0.30	1.63	0.07	618.70
780.	99.	402.	410.	32.	53.	68.	41.	13.	618.70
0.39	1.86	7.62	1.27	0.100	0.050	0.100	0.000	617.10	472.32
0.011816	140.	140.	140.	3	0	0	0.00	289.00	454.32

XSECNO 6.400

6.40	4.11	622.61	0.00	0.00	621.07	0.45	1.51	0.01	621.70
780.	99.	401.	511.	38.	54.	174.	45.	16.	620.10
0.50	1.95	8.14	1.27	0.100	0.050	0.100	0.000	618.10	465.29
0.010724	130.	130.	130.	2	0	0	0.00	165.74	653.52

XSECNO 6.500

6.50	4.5	624.35	0.00	0.00	624.51	0.20	1.48	0.02	621.80
780.	76.	42.	285.	39.	54.	145.	42.	16.	621.50
0.31	1.90	7.54	1.91	0.100	0.050	0.100	0.000	619.90	469.42
0.012007	130.	130.	130.	2	0	0	0.00	163.55	632.97

XSECNO 6.600

6.60	4.20	625.60	0.00	0.00	626.11	0.31	1.57	0.00	622.90
780.	50.	440.	252.	43.	61.	135.	43.	17.	622.60
0.34	1.55	7.96	1.57	0.100	0.050	0.100	0.000	621.40	468.37
0.010239	140.	140.	140.	1	0	0	0.00	146.04	644.41

SECNO	DEPTH	CWSEL	[illegible]	WSELT	EG	HV	PL	DLOSS	BANK ELEV
Q	QLOB	QCH	ENOB	ALOB	ACH	AROB	WDL	TNA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	VAL	XNCH	XWR	XTN	ELMIN	SSTA
SLOPE	XLOB	XLCH	XLOSP	TTRIAL	IRC	ICONT	COSAR	TOPLIN	ENDST

*SECNO 6.700

X									
6.70	4.[illegible]	627.00	0.00	0.00	62[illegible].64	0.54	1.4[illegible]	0.04	6[illegible].30
780.	86.	4[illegible]	209.	42.	41.	103.	44	[illegible]	62[illegible].30
0.52	[illegible]	8.00	[illegible]	0.00	0.050	0.100	0.000	62[illegible].80	4[illegible].34
0.012485	130.	130.	130.	2	0	0	0.00	122.88	591.4[illegible]

*SECNO 3.800

X									
4.80	4.[illegible]	628.50	0.00	0.00	629.25	0.69	1.60	0.01	625.70
790.	99.	51.	170.	48.	63.	82	41.	15.	625.70
0.53	2.07	8.09	2.07	0.100	0.050	0.100	0.000	624.20	456.51
0.012102	160.	170.	170.	3	0	0	0.00	105.[illegible]	578.65

*SECNO 7.000

SURVEY SECTION 87

7.00	4.47	630.17	0.00	0.00	630.42	0.25	1.12	0.04	627.10
780.	226.	352.	202.	1[illegible].	64.	100.	45	18.	627.10
0.54	2.00	[illegible]	2.05	0.100	0.050	0.100	0.000	625.70	448.31
0.002[illegible]	140.	140.	140.	2	0	0	0.00	111.93	560.25

*SECNO 8.000

3470 ENCROACHMENT STATIONS= [illegible] TYPE= [illegible] TARGET= 212.000

SURVEY SECTION [illegible]

8.00	[illegible]	[illegible]	0.01	62[illegible]	631.44	0.05	1.00	0.03	62[illegible].90
780.	351	125	304	308.	50.	256.	50.	20.	623.40
0.63	[illegible]	2.47	1.03	0.100	0.050	0.100	0.000	637.30	405.00
0.001274	420	430	430.	4	0	0	0.00	215.00	620.00

*SECNO 8.500

3470 ENCROACHMENT STATIONS= 420.0 590.0 TYPE= 1 TARGET= 170.000

8.50	3.5[illegible]	631.01	0.00	630.48	632.01	0.20	0.52	0.05	629.90
780.	275.	267.	240.	1[illegible].	[illegible].	129	52.	51.	629.70
0.65	1.90	3.49	1.85	0.100	0.050	0.100	0.000	628.30	420.00
0.007[illegible]	200.	200.	200.	2	0	0	0.00	170.00	590.00

SECNO	DEPTH	CWSEL	CRICS	LSELK	EA	HV	HL	QLOSS	BANK ELEV
	QLOB	QCH	QROB	ALOB	ACH	ARCB	WPL	TWA	LEFT/RIGHT
TIME	QTOT	VCH	VROB	XNL	XNCH	XNR	WTW	ELMIN	SSTA
SLOPE	QLOB	XLOB	VLOB	TOTAL	ZCC	ICONT	CURAR	TOPW D	ENDST

QSECNO 8.600

3470 ENCROACHMENT STATIONS=			440.0	895.0	TYPE=	1	TARGET=	165.000	
8.70	3.75	642.30	0.00	631.49	632.76	0.75	0.74	0.03	630.50
780	152	342	251	65	31	133	52	23	631.00
0.66	1.80	5.92	1.78	0.100	0.045	0.100	0.000	628.80	420.00
0.007027	100	100	100	2	0	0	0.00	165.00	3H3.00

QSECNO 8.200

3470 ENCROACHMENT STATIONS=			440.0	895.0	TYPE=	1	TARGET=	165.000	
8.70	3.75	642.30	0.00	631.74	635.20	0.20	0.41	0.02	630.20
780	152	342	251	65	31	133	52	23	631.00
0.66	1.8	6.71	2.04	0.100	0.045	0.100	0.000	628.10	420.00
0.03 525	50	50	50	2	0	0	0.00	165.00	595.00

CCHV= 0.300 CEHV= 0.500

QSECNO 8.200

3470 ENCROACHMENT STATIONS			440.0	895.0	TYPE=	1	TARGET=	200.000	
8.70 E0.3 05 4.01 X 3.21 DOWSTR HW FOUND									
8.20	4.01	657.4	0.00	637.28	632.64	0.35	0.43	0.03	631.50
780	272.	253.	241.	31.	43.	123.	53.	21.	631.30
0.66	2.07	3.23	1.98	0.080	0.043	0.090	0.000	629.40	400.00
0.007705	50.	50	50	2	1	0	0.50	200.50	400.00

SPECIAL BRIDGE

BAXSK	HTBR	CDFO	WIDEN	ROP	KP	AREA	SS	ELMIN	ELMAX
0.00	2.30	0.60	3.00	0.20	0.00	74.80	0.00	629.40	629.40

QSECNO 8.300
PRESSURE AND WEIR FLOW

ELPRS	ELLC	KQ	QWEIR	QPR	EAPPA	TRAPEZOID AREA	ELLC	ELTRD
667.20	640.30	0.00	439.	327.	25.	25.	633.40	637.30

SECNO	DEPTH	CWSEL	CRTWS	VSELK	EG	VO	HL	CLOSS	BANK ELEV
Q	FLOW	VCH	AREA	ALPHA	ACH	AROB	WSEL	TWA	LEFT/RIGHT
TW	VLOB	VCH	AREA	VAL	KNCH	KNR	WTN	ELMIN	BETA
SLOPE	FLOBL	XLCH	XLBR	FTWTM	DSC	TCENT	DSRA	TO WID	ENDST

3470 ENCROACHMENT STATIONS= 420.0 400.0 TYPE= 1 TARGET= 200.000

1 3 FACE OF 4.0' X 4.0' CONCRETE BOX CULVERT

9.38	6.02	639.37	0.00	644.96	639.37	0.07	5.60	0.00	634.00
78.	97.	335.	69.	240.	42.	304.	55.	22.	634.00
0.69	0.73	2.31	0.84	0.080	0.005	0.080	0.000	629.40	401.03
0.000365	109.	109.	109.	2	3	7	0.00	198.37	600.00

SECNO 9.900

1 3 FACE OF 4.0' X 4.0' CONCRETE BOX CULVERT

9.41	9.50	639.30	0.00	636.45	639.37	0.01	0.05	0.01	634.00
780.	374.	48.	358.	419.	84.	782.	39.	23.	634.00
0.15	0.19	1.76	0.46	0.100	0.057	0.100	0.000	629.80	240.09
0.000012	100.	100.	100.	2	2	0	0.00	549.53	900.91

SECNO 10.000

1 3 FACE OF 36 TWIN CULVERTS

10.00	6.65	639.36	0.00	636.60	639.37	0.0	0.06	0.00	636.00
780.	311.	135.	142.	435.	90	779	71.	27.	636.00
0.81	0.49	1.32	0.51	0.100	0.035	0.100	0.000	332.50	300.00
0.000 781	220	340	400	2	0	0	0.00	451.94	751.94

SECNO 10.000

3370 NORMAL SECTION.(CONT 16 MIN ELT.= 635.40 MAX ELEC= 636.00

1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.50	6.56	639.36	0.00	636.62	639.37	0.0	0.00	0.00	636.00
780.	330.	86.	364.	692.	67.	778.	71.	27.	636.00
0.91	0.48	1.18	0.47	0.100	0.035	0.100	0.000	332.50	300.00
0.000195			1.	0	0	0	-24.07	451.94	751.94

SECNO 10.000

3370 NORMAL SECTION.(CONT 16 MIN ELTRO= 636.40 MAX ELEC= 636.00

1' INSIDE OF D/S FACE OF 36" TWIN CULVERTS

10.10	6.67	639.37	0.00	636.63	639.37	0.0	0.00	0.00	636.00
780.	330.	86.	364.	693.	67.	780.	71.	27.	636.00
0.93	0.48	1.28	0.47	0.100	0.035	0.100	0.000	332.50	300.00
0.000196	21	23.	21.	3	0	2	-24.07	451.95	751.95

RECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOBS	BANK ELEV
0	0.0	0.0	3605.	0.00	0.0	0.0000	0.00	TWA	LEFT/RIGHT
DTMIN	VLOB	VCH	VPROT	XNL	XRC4	XNR	WTS	SLMSK	SETA
SLOPE	X_OBL	XLOB	YLOBR	ITRIAL	IDS	ICONT	CIRAS	TOPWID	EPOST

*SECNO 10.000
U/S FACE OF 36" THRU CULVERTS

1.50	4.67	64.27	0.00	453.67	458.37	0.01	0.00	0.03	636.06
280.	56.	112.	351.	87.	30.	251.	71.	27.	380.00
0.52	0.16	0.45	0.105	0.100	0.010	0.00	0.000	632.50	800.00
0.000179	0.	1.	0.	0	0	0	0.00	451.93	751.90

*SECNO 10.500
U/S FACE OF 24" THRU CULVERTS

10.10	1.00	653.45	0.00	652.10	655.57	0.11	0.15	0.07	636.60
780.	263.	191.	226.	270.	70.	235.	89.	31.	634.10
0.96	0.97	4.37	0.96	0.100	0.040	0.100	0.000	634.60	326.73
0.001004	570.	320.	770.	2	0	0	0.00	344.47	623.22

0.0 0.00 CRWL= 0.500

*SECNO 11.00
X

1.0	4.5	660.4	0.00	657.27	660.73	0.32	1.09	0.06	638.70
780.	116.	193.	570.	100.	62.	195.	58.	70.	638.30
0.10	0.1	4.36	1.4	0.100	0.040	0.100	0.000	634.90	404.43
0.002803	310.	360.	490.	2	0	0.	0.00	257.54	642.07

*SECNO 11.150
SKEW: SECT.OF 11"

11.15	4.76	662.26	0.00	660.10	662.24	0.35	1.07	0.07	638.80
780.	87.	406.	832.	300.	60.	21.	56.	30.	638.50
1.0	1.37	6.69	1.53	0.00	0.040	0.100	0.000	637.20	480.11
0.005133	270	300.	520.	2	0	0	0.00	181.87	661.98

CSKW= 0.210 STHW= 0.500
*SECNO 11.200
D/S FACE OF FIRDOCE - L ENR ENCED @ STA 430 FOR CONTR - ELSKOL=641.2

11.20	4.18	662.58	0.00	661.06	662.65	0.37	0.11	0.09	639.50
780.	197.	216.	335.	197.	73.	369.	87.	35.	638.70
1.00	3.00	5.38	0.92	0.100	0.040	0.100	0.000	637.40	430.00
0.004231	30.	50.	80.	3	0	0	0.00	257.52	647.12

```
SECNO     DEPTH     CWSEL     CRIWS     WSELK     EP        HV        HL        OLOSS     BANK ELEV
          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       EFT/RIGHT
TIME      VLOB      VCH       VROB      XNV       XNCH      XNR       WTN       ELMIN     BETA
LOSE      XLOBL     XLOB      XLOBR     CTRIAL    TDC       CCONT     CCRAP     TOPNID    ENDS

SECNO 11.300

3370 NORMAL BRIDGE-NRD=  7 MIN ELTRD=  639.60 MAX ELLC=  640.00

      11 INSIDE OF D/S FACE OF FOOTBRIDGE
   11.30      5.21    642.61      0.00    641.07    642.66      0.04      0.00      0.01    639.50
    780.      216.      161.      403.      189.       55.      375       87.       35.    638.70
    1.02      1.14      2.93      1.08     0.100     0.023     0.100     0.000    637.40    430.00
 0.001635        1.        1.        1.         2         0         0    -29.03    257.94    687.94

SECNO 11.400

3370 NORMAL BRIDGE-NRD=  7 MIN ELTRD=  639.60 MAX ELLC=  640.00

      12 INSIDE OF U/S FACE OF FOOTBRIDGE
   11.40      5.22    642.66      0.00    641.07    642.66      0.04      0.00      0.00    639.50
    780.      216.      161.      403.      190.       55.      375.       87.       35.    638.70
    1.02      1.14      2.92      1.07     0.100     0.023     0.100     0.000    637.40    430.00
 0.001635        2.        2.        2.         0         0         0    -29.03    258.00    688.00

SECNO 11.500
      U/S FACE OF FOOTBRIDGE - DOWNSTREAM LIMIT OF TRAILER PARK
   11.50      5.21    642.61      0.00    641.07    642.67      0.06      0.00      0.01    639.50
    780       197       247       336.      199.       74.      375       87.       35.    638.70
    1.02      0.99      3.31      [illegible]     0.100     0.040     0.100     0.000    637.40    430.00
 0.001192        1.        1.        [illegible]         1         0         0      0.00    257.91    687.91

1490 KP CARD USED
SECNO 11.600
      00 D/S OF FOOTBRIDGE
   11.60      4.71    642.71      0.00    641.08    642.97      0.26      0.20      0.10    640.00
    780       128.      363.      291       70.       63.      211.       88.       36.    640.00
    1.03      1.83      5.77      1.28     0.068     0.040     0.100     0.000    638.00    408.80
 0.004396      100.      100.      100.         2         0         0      0.00    241.28    650.09

1490 KP CARD USED
SECNO 11.200

3470 ENCROACHMENT STATIONS=      460.0      535.0  TYPE=      1  TARGET=      95.000
```

D/S FACE OF BRIDGE @ TRAILER PARK

12.20	1.45	443.48	0.00	642.33	644.09	0.44	1.03	0.09	641.50	
760.	92.	12.	241.	81.	65.	08.	69.	36.	640.50	
1.08	1.87	6.03	1.34	0.100	0.040	0.100	0.000	539.20	486.00	
0.006163	220.	220.	202.	2	0	0	0.00	93.00	435.50	

#BRIDGE OPTIONS

SKEW	ANGD	DECK	RILE	EMC	SNF	AREA	SF	EICHI	EICHI
0.00	0.	3.00	95.00	0.00	0.00	37.00	0.93	639.20	639.20

#SECNO 12.300

PRESSURE FLOW

EOPKS	EGLNC	FB	QWEIR	DFR	ASRF	TRAPEZOID AREA	ELLC	ELTRD
656.49	644.93	0.00	490.	291.	57.	31.	642.60	644.00

2470 ENCROACHMENT STATION= 440.0 555.0 TYPE= 1 TARGET= 35.000

U/S FACE OF BRIDGE @ TRAILER PARK

12.30	1.42	445.11	0.00	642.93	644.09	0.35	.34	0.00	42.00	
760.	97.	502.	101.	77.	60.	1.5.	85.	36.	641.05	
1.04	1.37	5.64	1.56	0.100	0.040	0.100	0.000	639.20	480.00	
0.002625	15.	13.	27.	2	0	3	0.00	97.00	55.00	

#SECNO 12.100

12.10	4.11	445.51	0.00	644.67	644.67	0.04	0.21	0.12	643.30	
760.	1.0.	436.	132.	107.	68.	82.	51.	37.	645.30	
1.03	.43	7.51	.68	0.100	0.040	0.100	0.000	441.20	413.38	
0.007384	220.	220.	220.	2	0	0	0.00	165.11	378.49	

INVV= 0.100 SENV= 0.300

#SECNO 12.200

12.30	4.43	447.53	0.00	644.47	644.04	0.51	1.39	0.01	645.30	
760.	1.97.	460.	118.	84.	60.	79.	92.	35.	645.40	
1.12	1.17	7.1.	1.47	0.100	0.040	0.100	0.000	443.10	331.05	
0.007108	220.	220.	220	2	0	0	0.00	205.67	564.03	

#SECNO 12.950

2480 ENCROACHMENT STATION= 440.0 565.0 TYPE= 1 TARGET= 125.000

SECNO	DEPTH	CHSEL	CRIVE	SELM	EG	HV	HL	CLOSP	RANK ELEV
	BLOK	QCH	QRCH	ALCH	ACH	AROB	SOL	TIA	LEFT/RIGHT
TIME	VLOB	QCH	VXOB	KWL	XNCH	XNR	WTN	SLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOB	ITRIAL	TOP	ICOUNT	CORAR	TOPWID	KHOST
12.95	4.33	643.39	0.00	644.79	643.94	0.60	0.56	0.03	646.20
780.	707.	474.	99.	105.	61.	60.	95.	38.	646.20
1.32	0.57	3.30	1.64	0.120	0.040	0.100	0.030	641.00	640.00
0.002883	210.	210.	10.	7	0	0	0.00	125.00	565.00

QCHV= 0.300 QENV= 0.500

$SECNO 13.100

TRIDIMINICI SPECIFIC ENERGY

TYPE CRITICAL METHOD USED

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF I-35 CULVERTS (LEFT CULVERT IS CRUSHED)

13.10	1.53	649.63	647.83	648.15	650.73	0.91	1.22	0.16	647.00
780.	1.7.	483.	327.	82.	61.	95.	95.	39.	647.30
1.05	3.16	3.45	2.29	0.070	0.010	0.030	0.000	645.30	647.00
0.001991	112.	112.	110.	5	0	0	0.00	80.00	547.00

SPECIAL ARTOBF

SB	XK	AKON	CSEQ	RILEN	TAL	BW=	BAREA	QE	ELCHJ	ELCHL
	0.00	2.65	3.00	0.00	3.00	0.00	7.10	0.00	645.80	645.80

$SECNO 13.200

USGS FW SHARED BORE HWAY ROUTE

PRESSURE AND WEIR FLOW

SOPRE	IGEOC	NO	Q.EQA	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
1346.5	65.21	0.00	733.	44.	7.	7.	645.20	649.40

3470 ENCROACHMENT STATIONS= 467.0 547.0 TYPE= 1 TARGET= 80.000

D/S FACE OF I-35 CULVERTS

13.20	2.02	651.32	0.00	651.13	651.04	0.24	1.07	0.00	647.00
780.	2.6.	383.	191.	105.	73.	93.	93.	39.	647.30
1.08	2.07	5.22	1.94	0.080	0.040	0.080	0.000	645.30	647.00
0.002882	24	24	24	2	0	8	0.00	80.00	547.00

2-[illegible]-85 [illegible]

SECNO	DEPTH	CWSEL	CRIUS	WSELN	EG	HV	HL	OLOSS	BANK ELEV
U	OLOB	OCH	ORO	ALOB	AC	AROB	VOB	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNP	WTH	ELMIN	SSTA
SLOPE	XLOB	XLCH	XLOBR	ITRIAL	IEC	ICONT	CURAR	TOPWID	ENDS

*SECNO 13.500

200' U/S OF 2-36" CULVERTS

13.50	[illegible]	631.97	0.00	650.39	652.[illegible]	0.23	0.59	0.00	649.00
[illegible]	[illegible]	279.	[illegible]	290.	70.	120.	55.	40.	649.00
[illegible]	[illegible]	[illegible]	[illegible]	0.100	0.040	0.100	0.000	[illegible]	229.28
0.003009	200.	200.	200.	3	0	0	0.00	372.4[illegible]	601.72

CCHV= 0.100 CEXV= 0.200

*SECNO 14.000

110 d/s of

CROCOLAM TO [illegible] CO-[illegible] BOUNDARY

14.00	4.81	632.91	0.00	631.31	653.[illegible]	0.2[illegible]	0.96	0.00	650.30
730.	115.	320.	43.	31[illegible].	59.	36.	58.	42.	650.70
1.12	[illegible]	3.47	1.75	0.100	0.040	0.100	0.000	418.10	314.47
0.003945	250	250.	20[illegible].	2	0	0	0.00	[illegible]	539.50

THIS RUN EXECUTED 13-FEB-85 12:00:26.

ERROR CORR - 01 01;03;04;05;06
MODIFICATION - 00;51;52;53;54;55

NOTE- SETTING 'J' AT 1ST OF 2 CROSS-SECTION JUMPERS INDICATES INCREASE IN NUMBER OF FREQUENCIES USED

SILVER CREEK

SUBJECT DRAINAGE TABLE 1150

SECNO	XLOC	ELTRD	ELLOC	ELMIN	Q	CURFL	CRITS	EG	LOSS	VCH	AREA	.0.X
1.100J	0.00	0.00	0.00	607.00	200.00	607.50	0.00	607.75	7.50	2.05	128.62	106.90
1.100	0.00	0.00	0.00	601.50	410.00	607.50	0.00	607.75	14.71	3.24	169.85	106.90
1.130	3.00	3.00	0.00	601.50	510.00	607.50	0.00	607.83	22.09	3.59	185.31	106.90
1.100	0.00	0.00	0.00	601.50	780.00	607.50	606.83	608.35	53.34	7.92	168.82	.06 90
1.200	100.00	0.00	0.00	602.40	200.00	607.54	0.00	607.60	3.53	2.03	131.62	101.31
1.200	100.00	0.00	0.00	602.40	410.00	607.66	0.00	607.74	14.85	4.33	140.88	106.32
1.200	100.00	0.00	0.00	602.40	510.00	607.77	0.00	608.11	20.69	4.83	151.06	1.2.12
1.200	100.00	0.00	0.00	602.40	780.00	608.35	0.00	608.58	29.72	5.73	206.30	243.07
1.300	1.00	607.00	607.10	602.40	200.00	607.55	0.00	607.60	21.62	2.30	115.17	43.01
1.300	1.00	607.00	607.10	602.40	410.00	607.64	0.00	607.52	79.08	4.48	134.33	46.11
1.300	1.00	607.00	607.10	602.40	510.00	607.75	0.00	608.19	102.40	5.33	152.70	48.93
1.300	1.00	607.00	607.10	602.40	780.00	608.33	0.00	608.78	101.42	5.50	210.08	77.37
1.400	3.00	607.00	607.10	602.40	200.00	607.54	0.00	607.61	21.62	2.30	115.18	43.01
1.400	3.00	607.00	607.10	602.40	410.00	607.70	0.00	607.96	74.72	4.39	138.19	47.43
1.400	3.00	607.00	607.10	602.40	510.00	607.80	0.00	608.20	95.47	5.09	141.39	52.20
1.400	3.00	607.00	607.10	602.40	780.00	608.62	0.00	608.99	97.35	5.33	213.76	80.73
1.500	1.00	0.00	0.00	602.40	200.00	607.56	0.00	607.69	3.54	2.09	135.06	102.00
1.500	1.00	0.00	0.00	602.40	410.00	607.75	0.00	607.99	13.54	3.90	147.33	111.41
1.500	1.00	0.00	0.00	602.40	510.00	607.90	0.00	608.21	18.43	4.64	162.98	118.79
1.500	1.00	0.00	0.00	602.40	780.00	608.58	0.00	609.03	24.37	5.83	230.93	137.03
1.600	25.00	0.00	0.00	602.40	200.00	607.56	0.00	607.65	5.75	2.45	210.08	85.39
1.600	25.00	0.00	0.00	602.40	410.00	607.74	0.00	608.07	20.32	4.76	231.49	90.51
1.600	25.00	0.00	0.00	602.40	510.00	607.88	0.00	608.35	28.08	5.68	130.44	96.25
1.600	25.00	0.00	0.00	602.40	780.00	608.32	0.00	609.24	38.45	7.25	180.13	125.79
2.000	380.00	0.00	0.00	603.60	200.00	607.52	0.00	608.39	106.39	5.30	61.33	19.94
2.000	380.00	0.00	0.00	603.60	410.00	609.06	0.00	609.50	60.29	5.14	186.82	32.81
2.000	380.00	0.00	0.00	603.60	510.00	609.81	0.00	609.99	46.46	4.86	263.08	74.92
2.000	380.00	0.00	0.00	603.60	780.00	610.43	0.00	610.53	29.71	4.47	458.18	143.09

RFONO	XLOC	ELTRD	TLLO	ELMIN	Q	DWSEL	CRTWS	SO	JOKES	VCH	AREA	.01K
3.100	150.00	0.00	0.00	604.70	200.00	608.57	0.00	608.62	9.10	3.14	223.11	70.29
3.100	150.00	0.00	0.00	604.70	410.00	609.36	0.00	609.41	9.91	3.78	389.88	130.27
3.100	150.00	0.00	0.00	604.70	610.00	609.91	0.00	609.96	11.15	3.99	544.19	159.18
3.100	150.00	0.00	0.00	604.70	780.00	610.72	0.00	610.78	9.77	3.21	646.15	249.56
3.200	150.00	0.00	0.00	605.80	200.00	608.71	0.00	608.80	21.63	2.94	114.44	43.01
3.200	150.00	0.00	0.00	605.80	410.00	609.69	0.00	609.84	23.17	3.72	226.18	85.18
3.200	150.00	0.00	0.00	605.80	610.00	610.04	0.00	610.22	23.82	3.94	277.63	104.70
3.200	150.00	0.00	0.00	605.80	780.00	610.81	0.00	611.02	23.31	4.30	338.18	158.18
3.300	150.00	0.00	0.00	606.90	200.00	609.61	0.00	609.36	62.92	4.22	63.16	23.21
3.300	150.00	0.00	0.00	606.90	410.00	610.09	0.00	610.34	53.61	1.99	149.58	76.00
3.300	150.00	0.00	0.00	606.90	610.00	610.45	0.00	610.71	69.14	5.14	196.30	72.75
3.300	150.00	0.00	0.00	606.90	780.00	611.20	0.00	611.47	65.67	5.65	27.75	135.75
3.100	130.00	0.00	0.00	608.00	200.00	610.14	609.8	610.38	131.47	5.43	45.76	17.44
3.100	130.00	0.00	0.00	608.00	410.00	610.91	0.00	611.08	122.51	6.65	96.06	37.04
3.100	130.00	0.00	0.00	608.00	610.00	611.47	0.00	611.67	124.25	7.12	114.22	43.53
3.100	130.00	0.00	0.00	608.00	780.00	611.79	0.00	612.08	124.07	8.23	152.06	69.42
3.200	130.00	0.00	0.00	608.80	200.00	611.50	0.00	611.75	115.12	5.04	39.20	15.30
3.200	130.00	0.00	0.00	608.80	410.00	612.10	0.00	612.37	106.65	7.07	57.99	31.07
3.200	130.00	0.00	0.00	608.80	610.00	612.38	0.00	613.33	186.03	7.80	65.35	37.39
3.200	130.00	0.00	0.00	608.80	780.00	613.04	613.02	114.34	205.91	9.22	84.07	50.78
3.300	130.00	615.60	617.60	608.80	200.00	611.36	0.00	611.72	85.71	5.04	39.69	28.32
3.300	130.00	615.60	617.60	608.80	410.00	612.10	0.00	612.85	78.38	7.10	57.76	37.07
3.300	130.00	615.60	617.60	608.80	610.00	612.39	0.00	613.34	83.09	7.85	64.96	50.95
3.300	130.00	615.60	617.60	608.80	780.00	613.02	613.02	614.41	152.72	9.46	82.47	78.47
3.400	130.00	615.60	617.60	608.80	200.00	611.46	0.00	611.80	61.87	4.74	42.20	30.95
3.400	130.00	615.60	617.60	608.80	410.00	612.22	0.00	612.47	82.49	6.73	65.82	50.59
3.400	130.00	615.60	617.60	608.80	610.00	612.55	0.00	613.02	82.14	8.67	79.62	67.42
3.400	130.00	615.60	617.60	608.80	780.00	613.01	0.00	613.72	80.09	8.72	113.21	109.83
3.500	130.00	0.00	0.00	608.80	200.00	611.47	0.00	611.81	57.37	4.66	42.85	26.34
3.500	130.00	0.00	0.00	608.80	410.00	612.17	0.00	612.64	69.75	6.03	87.33	69.13
3.500	130.00	0.00	0.00	608.80	610.00	612.56	0.00	612.55	66.88	6.25	81.61	62.32
3.500	130.00	0.00	0.00	608.80	780.00	613.12	0.00	613.23	56.05	6.87	122.86	106.10
3.600	140.00	0.00	0.00	609.10	200.00	612.06	0.00	612.13	8.05	2.41	151.53	79.51
3.600	140.00	0.00	0.00	609.10	410.00	613.33	0.00	613.43	5.20	3.18	263.52	143.21
3.600	140.00	0.00	0.00	609.10	610.00	613.83	0.00	613.92	5.12	3.53	313.76	178.60
3.600	140.00	0.00	0.00	609.10	780.00	614.08	0.00	614.22	7.99	3.63	442.36	277.50
3.700	140.00	0.00	0.00	609.40	200.00	612.03	0.00	612.48	64.39	5.44	41.32	24.92
3.700	140.00	0.00	0.00	609.40	410.00	613.29	0.00	613.79	47.84	6.32	110.36	79.26
3.700	140.00	0.00	0.00	609.40	610.00	613.76	0.00	614.25	46.27	6.38	155.12	80.36
3.700	140.00	0.00	0.00	609.40	780.00	614.55	0.00	614.69	27.65	6.33	293.56	143.22

	SECNO	XLOC	ELTRD	ELLO	ELK.N	D	CMPEL	CRIMS	ED	LOKQS	VCR	SHEP	.01K
	4,000	140.00	0.00	0.00	609.80	200.00	612.94	612.69	613.47	74.74	4.05	47.25	23.13
	4,000	140.00	0.00	0.00	609.80	410.00	613.94	0.00	614.62	70.75	7.41	98.58	48.85
	4,300	140.00	0.00	0.00	608.60	510.00	614.31	0.00	615.07	68.60	7.84	119.80	60.38
	4,000	140.00	0.00	0.00	609.80	780.00	615.22	0.00	616.07	65.13	6.83	172.56	96.65
	4,300	260.00	0.00	0.00	610.60	200.00	614.28	0.00	614.84	24.57	1.16	56.13	40.03
	4,300	260.00	0.00	0.00	610.60	410.00	615.27	0.00	615.87	23.72	5.91	101.52	70.61
	4,300	260.00	0.00	0.00	610.60	510.00	615.78	0.00	616.38	36.38	6.54	121.00	84.03
	4,300	260.00	0.00	0.00	610.60	780.00	616.64	0.00	617.63	40.60	7.72	181.16	122.61
	4,600	260.00	0.00	0.00	611.30	200.00	614.93	0.00	615.11	18.80	3.46	63.37	46.12
	4,600	260.00	0.00	0.00	611.30	410.00	616.24	0.00	616.56	20.41	4.45	108.27	90.76
	4,600	260.00	0.00	0.00	611.30	510.00	616.70	0.00	617.08	21.62	5.13	135.17	109.69
	4,600	260.00	0.00	0.00	611.30	780.00	617.58	0.00	618.04	25.35	6.31	184.08	135.23
	5,000	260.00	0.00	0.00	612.30	200.00	615.47	0.00	615.61	19.54	3.26	102.15	45.25
	5,000	260.00	0.00	0.00	612.30	410.00	616.85	0.00	616.94	10.39	3.23	282.49	127.21
	5,000	260.00	0.00	0.00	612.30	510.00	617.35	0.00	617.45	8.97	3.25	363.31	170.33
	5,000	260.00	0.00	0.00	612.30	780.00	618.50	0.00	618.60	7.15	3.40	569.73	291.79
	3,300	180.00	0.00	0.00	613.37	200.00	616.02	0.00	616.04	14.92	1.53	306.31	90.21
	3,500	180.00	0.00	0.00	612.25	410.00	617.18	0.00	617.20	3.07	1.52	710.19	234.03
	3,500	180.00	0.00	0.00	612.55	510.00	617.66	0.00	617.68	2.65	1.84	862.14	310.84
	3,500	180.00	0.00	0.00	612.55	780.00	618.77	0.00	618.78	2.21	1.92	1323.81	324.10
	5,000	490.00	0.00	0.00	613.80	200.00	616.39	0.00	616.44	12.78	2.62	98.31	48.86
	5,000	490.00	0.00	0.00	613.80	410.00	617.77	0.00	617.82	8.27	3.20	241.31	102.35
	5,000	490.00	0.00	0.00	612.80	510.00	617.47	0.00	617.91	11.35	2.55	327.20	151.38
	5,000	490.00	0.00	0.00	612.80	780.00	618.53	0.00	618.96	8.01	2.45	361.41	175.66
	6,100	130.00	0.00	0.00	614.30	200.00	616.80	16.51	617.03	103.85	5.57	85.43	36.54
	6,100	130.00	0.00	0.00	614.30	410.00	617.63	0.00	617.67	75.67	6.24	148.73	67.13
	6,100	130.00	0.00	0.00	614.30	510.00	618.08	0.00	618.11	38.53	6.53	207.10	89.20
	6,100	130.00	0.00	0.00	614.30	780.00	619.06	0.00	619.10	24.89	7.87	252.35	156.35
	6,200	130.00	0.00	0.00	615.00	200.00	618.20	0.00	618.42	75.74	4.34	90.69	22.98
	6,300	130.00	0.00	0.00	615.00	410.00	618.73	0.00	618.78	106.63	5.75	158.72	39.70
	6,300	130.00	0.00	0.00	615.00	510.00	618.91	0.00	618.97	104.28	6.44	197.98	47.20
	6,300	130.00	0.00	0.00	615.00	780.00	619.45	0.00	619.53	102.23	5.84	192.52	36.32
	6,300	140.00	0.00	0.00	617.10	200.00	619.30	619.38	619.54	181.20	5.68	53.09	16.26
	6,300	140.00	0.00	0.00	617.10	410.00	620.27	0.00	620.42	122.24	6.43	136.90	36.35
	6,300	140.00	0.00	0.00	617.10	510.00	620.57	0.00	620.67	123.04	6.59	174.12	48.17
	6,300	140.00	0.00	0.00	617.10	780.00	620.98	0.00	621.49	121.44	7.32	253.03	67.98
	6,400	130.00	0.00	0.00	618.20	200.00	621.17	0.00	621.46	91.37	4.78	72.92	20.92
	6,400	130.00	0.00	0.00	618.50	410.00	621.84	0.00	622.22	104.32	6.03	144.41	40.08
	6,400	130.00	0.00	0.00	618.50	510.00	622.06	0.00	622.47	105.73	6.46	178.33	48.91
	6,400	130.00	0.00	0.00	618.50	780.00	622.61	0.00	622.84	107.61	7.13	246.11	75.26

SECNO	XLOW	ELTRO	ELLO	ELMIN	Z	CUSEL	CRIUS	ED	10\3R	VCH	AREA	.01K
6.500	130.00	0.00	0.00	615.90	700.00	622.47	0.00	632.95	132.45	8.50	60.09	18.07
6.500	130.00	0.00	0.00	615.90	410.00	627.24	0.00	633.68	115.63	6.34	157.23	37.80
6.500	130.00	0.00	0.00	615.90	510.00	625.50	0.00	632.94	117.47	6.72	166.99	42.05
6.500	130.00	0.00	0.00	615.90	780.00	624.03	0.00	624.54	170.07	7.54	214.13	71.18
6.600	140.00	0.00	0.00	621.10	200.00	613.89	0.00	624.29	87.22	4.76	64.57	21.44
6.600	140.00	0.00	0.00	621.10	410.00	624.76	0.00	625.28	97.77	6.07	132.10	41.46
6.600	140.00	0.00	0.00	621.10	510.00	625.05	0.00	629.48	101.32	6.50	161.77	50.76
6.600	140.00	0.00	0.00	621.10	780.00	625.60	0.00	626.11	154.29	7.36	239.37	76.03
6.700	130.00	0.00	0.00	622.80	200.00	625.23	0.00	625.64	119.47	5.34	51.69	18.30
6.700	130.00	0.00	0.00	622.80	410.00	626.09	0.00	626.42	120.58	6.64	111.79	32.64
6.700	130.00	0.00	0.00	622.80	510.00	626.38	0.00	626.93	121.84	7.07	138.60	46.31
6.700	130.00	0.00	0.00	622.80	780.00	627.00	0.00	627.46	124.93	8.00	206.17	69.81
6.800	130.00	0.00	0.00	624.20	200.00	626.72	0.00	627.11	106.17	5.17	52.14	19.41
6.800	130.00	0.00	0.00	624.20	410.00	627.61	0.00	628.14	113.40	6.59	106.34	38.50
6.800	130.00	0.00	0.00	624.20	510.00	627.91	0.00	628.50	115.55	7.02	130.75	47.36
6.800	130.00	0.00	0.00	624.20	780.00	628.54	0.00	629.17	121.53	8.09	192.72	70.90
6.900	140.00	0.00	0.00	627.50	200.00	628.16	0.00	628.85	90.53	4.90	57.75	23.74
6.900	140.00	0.00	0.00	627.50	410.00	629.10	0.00	629.39	98.72	6.61	166.43	53.50
6.900	140.00	0.00	0.00	627.50	510.00	629.47	0.00	629.84	97.33	7.38	198.76	67.36
6.900	140.00	0.00	0.00	627.50	780.00	630.17	0.00	630.42	96.95	8.52	226.15	83.32
8.000	200.00	0.00	0.00	629.30	200.00	629.74	0.00	630.72	13.55	3.10	203.29	85.50
8.000	200.00	0.00	0.00	629.30	410.00	630.35	0.00	630.43	13.93	3.10	336.41	110.22
8.000	200.00	0.00	0.00	627.30	510.00	630.67	0.00	630.49	13.23	2.21	495.88	140.12
8.000	200.00	0.00	0.00	627.30	780.00	631.41	0.00	631.74	12.74	2.49	674.01	218.35
8.500	200.00	0.00	0.00	629.30	200.00	630.68	630.48	630.83	148.80	5.36	72.13	16.40
8.500	200.00	0.00	0.00	629.30	410.00	630.24	0.00	630.47	152.62	6.37	146.83	29.78
8.500	200.00	0.00	0.00	629.30	510.00	630.40	0.00	631.38	136.00	6.03	200.16	44.73
8.500	200.00	0.00	0.00	629.30	780.00	631.18	0.00	631.01	77.15	5.49	321.43	88.63
8.600	90.00	0.00	0.00	631.90	200.00	631.39	0.00	631.72	38.07	4.31	77.68	26.25
8.600	90.00	0.00	0.00	630.10	410.00	631.04	0.00	632.10	33.70	4.50	131.65	56.25
8.600	90.00	0.00	0.00	631.80	510.00	631.65	0.00	632.37	64.58	5.32	240.16	83.50
8.600	120.00	0.00	0.00	629.80	780.00	631.92	0.00	632.26	72.27	5.29	316.78	93.05
8.700	50.00	0.00	0.00	635.10	200.00	631.74	0.00	632.19	118.68	5.62	46.95	18.36
8.700	50.00	0.00	0.00	635.10	410.00	632.15	0.00	632.48	92.53	5.67	171.94	42.62
8.700	50.00	0.00	0.00	635.10	510.00	632.33	0.00	632.63	96.09	6.06	200.73	52.53
8.700	50.00	0.00	0.00	635.10	780.00	632.84	0.00	633.20	96.39	6.34	273.39	78.50
8.200	50.00	0.00	0.00	629.50	200.00	632.28	0.00	633.04	144.07	7.01	28.54	10.61
8.200	50.00	0.00	0.00	625.00	410.00	632.72	632.72	633.07	107.98	6.43	141.02	39.10
8.200	50.00	0.00	0.00	629.10	510.00	632.58	0.00	633.22	109.18	6.64	193.17	48.01
8.200	50.00	0.00	0.00	629.10	780.00	633.41	0.00	633.64	77.66	4.23	299.29	88.51

SECNO	XLCH	ELTRO	ELLC	ELMIN	Q	DNSEL	CRONS	EO	TOTAS	VCH	AREA	.01K
9.300	105.00	637.60	633.40	629.40	200.00	631.96	632.53	625.97	659.73	8.06	24.80	9.35
9.300	109.00	637.60	633.40	629.40	410.00	638.48	0.00	638.50	1.84	3.54	571.62	302.36
9.300	105.00	637.60	633.40	629.40	510.00	638.35	0.00	638.38	2.38	1.75	423.01	338.00
9.300	109.00	637.60	633.40	629.40	780.00	639.22	0.00	639.26	3.69	2.3	714.48	405.94
9.400	200.00	0.00	0.00	629.30	200.00	636.45	0.00	636.47	3.09	1.67	402.72	113.72
9.400	205.00	0.00	0.00	629.80	410.00	638.52	0.00	638.53	0.76	1.22	1124.89	417.95
9.400	200.00	0.00	0.00	629.50	510.00	638.80	0.00	638.81	1.14	0.37	1245.63	476.67
9.400	300.00	0.00	0.00	629.80	780.00	639.70	0.00	639.71	1.72	1.24	1435.14	594.91
10.200	340.00	0.00	0.00	642.50	200.00	646.60	0.00	646.63	7.93	1 90	320.53	71.04
10.200	340.00	0.00	0.00	632.50	410.00	638.56	0.00	638.56	1.07	0.95	1204.06	395.01
10.200	340.00	0.00	0.00	632.50	510.00	638.80	0.00	638.80	1.21	1.10	1333.03	442.99
10.200	340.00	0.00	0.00	632.50	780.00	639.36	0.00	639.37	1.73	1.32	1532.20	503.00
10.300	1.00	635.40	634.00	632.50	200.00	636.62	0.00	636.63	15.90	1.79	295.83	50.16
0.300	1.00	635.40	634.00	632.50	410.00	638.56	0.00	638.56	1.28	0.90	1175.44	362.46
0.300	1.00	635.40	634.00	632.50	510.00	638.85	0.00	638.85	1.41	1.00	1303.59	428.85
0.300	1.00	635.40	634.00	632.50	780.00	639.64	0.00	639.64	1.93	1.25	1577.62	558.29
0.400	82.00	635.40	634.00	632.50	200.00	636.45	0.00	636.46	14.38	1.73	303.97	52.73
0.400	2.00	635.40	634.00	632.50	410.00	638.57	0.00	638.57	1.27	0.90	1177.14	363.30
0.400	21.00	635.40	634.00	632.50	510.00	638.85	0.00	638.85	1.41	0.99	1307.49	429.85
10.400	2.00	635.40	634.00	632.50	780.00	639.37	0.00	639.37	1.94	1.25	1540.17	559.84
10.500	1.00	0.00	0.00	632.50	200.00	636.65	0.00	636.67	8.01	1.69	837.5	70.68
10.500	1.00	0.00	0.00	632.50	410.00	638.56	0.00	638.57	1.13	0.89	1201.33	385.52
10.200	1.00	0.00	0.00	632.50	510.00	638.85	0.00	638.86	1.27	0.98	1332.25	452.43
10.300	1.00	0.00	0.00	632.50	780.00	639.37	0.00	639.37	1.79	1.24	1565.24	582.83
10.500	370.00	0.00	0.00	634.60	200.00	637.11	636.97	637.62	305.17	3.86	49.92	19.50
10.500	370.00	0.00	0.00	634.60	410.00	638.61	0.00	638.73	30.70	3.75	314.56	90.11
10.600	370.00	0.00	0.00	634.60	510.00	638.91	0.00	639.02	19.08	3.80	397.44	115.90
0.500	370.00	0.00	0.00	63 60	780.00	639.46	0.00	639.57	19.06	4.17	575.29	178.64
11.100	380.00	0.00	0.00	635.60	200.00	639.27	0.00	639.43	26.65	3.58	121.36	38.89
11.100	380.00	0.00	0.00	635 60	410.00	639.54	0.00	639.67	53.55	3.58	184.20	55.31
11.100	380.00	0.00	0.00	635.60	510.00	639.67	0.00	639.81	51.90	3.27	231.54	68.83
11.100	380.00	0.00	0.00	635.60	780.00	640.01	0.00	640.13	42.53	3.30	357.46	108.13
11.150	300.00	0.00	0.00	637.20	200.00	640.40	639.91	640.87	30.61	3.42	50.42	21.01
11.150	300.00	0.00	0.00	637.20	410.00	641.32	0.00	641.64	55.46	3.58	177.99	55.05
11.150	300.00	0.00	0.00	637.20	510.00	641.66	0.00	641.90	54.03	3.30	216.29	68.72
11.150	300.00	0.00	0.00	637.20	780.00	642.06	0.00	642.44	59.36	3.69	304.71	101.24
11.200	50.00	0.00	0.00	637.40	200.00	641.06	0.00	641.09	7.24	2.00	278.13	74.32
11.200	50.00	0.00	0.00	637.40	410.00	641.78	0.00	641.81	9.03	2.59	441.71	136.42
11.200	50.00	0.00	0.00	637.40	510.00	642.03	0.00	642.05	9.01	2.83	502.44	162.58
11.200	50.00	0.00	0.00	637.40	780.00	642.58	0.00	642.65	11.21	3.38	640.11	226.93

SECAO	XLOG	ELTSO	YLOC	ELMIN	S	CJSF_	CRTOS	EB	10XS^3	VCH	AREA	.01N
11,300	1.20	639.10	640.00	637.40	200.00	641.07	0.00	641.09	15.93	1.90	231.39	50.16
11,200	1.00	638.60	640.50	637.40	410.00	641.80	0.00	641.84	31.35	2.31	415.41	106.38
11,100	1.00	638.60	640.00	637.40	510.00	642.26	0.00	642.05	54.53	2.40	429.51	131.72
11 300	1.00	639.60	640.00	637.40	780.00	642.61	0.00	642.66	16.39	2.93	615.22	192.65
11,400	1.50	638.60	640.00	637.40	200.00	641.07	0.00	641.09	15.62	1.89	252.97	50.60
11,400	1.00	638.10	640.00	637.40	410.00	641.80	0.00	641.84	30.57	2.25	413.38	107.43
11,100	1.00	638.60	640.00	637.40	510.00	642.26	0.00	642.05	53.94	2.47	430.00	131.93
11,400	.50	638.60	640.00	637.40	780.00	642.62	0.00	642.66	16.35	2.82	618.76	192.91
11,500	.00	0.00	0.00	637.40	200.00	641.07	0.00	641.10	6.96	1.97	382.57	73.82
1,500	.00	0.00	0.00	637.40	410.00	641.80	0.00	641.31	8.20	2.53	842.94	139.04
11,500	1.00	0.00	0.00	637.40	510.00	642.25	0.00	642.10	7.47	2.79	309.20	165.71
11,500	.00	0.00	0.00	637.40	780.00	642.61	0.00	642.37	11.62	3.34	647.91	230.76
11,600	100.00	0.00	0.00	638.00	200.00	641.08	640.72	641.42	71.94	4.99	61.89	23.58
11,600	100.00	0.00	0.00	638.00	410.00	641.84	0.00	642.15	53.98	5.04	171.91	54.80
11,600	100.00	0.00	0.00	638.00	510.00	642.12	0.00	642.40	50.33	5.42	222.21	71.89
11,600	100.00	0.00	0.00	638.00	780.00	642.97	0.00	642.97	42.06	5.77	303.46	117.65
12,200	200.00	0.00	0.00	639.20	200.00	642.32	0.00	642.37	50.32	4.78	91.85	37.12
12,200	200.00	0.00	0.00	639.20	410.00	642.99	642.99	643.22	36.58	4.75	170.70	66.01
12,200	200.00	0.00	0.00	639.20	510.00	643.11	0.00	643.42	50.64	5.56	181.94	71.67
12,200	200.00	0.00	0.00	639.20	780.00	643.40	0.00	644.09	41.61	6.83	237.07	99.36
12,300	10.00	640.00	640.00	639.20	200.00	642.97	0.00	643.14	24.55	3.87	61.71	36.82
12,300	10.00	640.00	640.00	639.20	410.00	643.84	0.00	644.01	12.54	3.55	219.63	111.43
12,300	10.00	641.00	640.00	639.20	510.00	644.66	0.00	64..85	17..9	4.23	238.99	123.02
12,300	10.00	641.00	640.00	639.20	780.00	645.11	0.00	645.44	26.73	5.50	281.79	150.81
12,900	220.00	0.00	0.00	645.80	200.00	646.82	647.82	648.53	151.88	6.52	55.52	46.23
12,900	220.00	0.00	0.00	645.80	410.00	646.85	648.28	648.48	97.66	7.02	197.90	45.08
12,900	220.00	0.00	0.00	645.80	510.00	647.18	648.02	648.80	89.53	7.24	248.12	63.96
12,900	220.00	0.00	0.00	645.80	780.00	647.91	0.00	648.47	72.96	7.87	283.16	91.38
12,900	220.00	0.00	0.00	645.80	200.00	646.13	0.00	646.34	54.32	4.62	68.12	27.17
12,200	220.00	0.00	0.00	645.10	410.00	646.87	0.00	647.08	40.00	6.02	149.21	51.00
12,900	220.00	0.00	0.00	645.10	510.00	647.06	0.00	647.35	58.85	6.62	184.02	61.47
12,900	220.00	0.00	0.00	645.10	780.00	647.75	0.00	648.06	71.08	7.31	276.75	92.35
12,950	110.00	0.00	0.00	646.00	200.00	646.79	646.50	647.23	90.39	5.19	52.50	21.04
12,950	110.00	0.00	0.00	644.00	410.00	647.47	0.00	648.06	60.55	6.46	131.78	45.67
12,950	110.00	0.00	0.00	644.00	510.00	647.74	0.00	648.35	78.31	6.75	63.96	57.66
12,950	110.00	0.00	0.00	644.00	780.00	648.25	0.00	648.94	85.53	7.50	226.24	84.25
13,100	110.00	0.00	0.00	645.30	200.00	648.15	648.02	648.74	173.49	6.62	41.47	15.23
13,100	110.00	0.00	0.00	645.30	410.00	648.95	648.95	649.23	109.96	8.07	84.57	32.52
13,100	110.00	0.00	0.00	645.30	510.00	649.30	649.30	6P0.04	140.02	8.23	109.52	43.10
13,100	110.00	0.00	0.00	645.30	780.00	649.83	649.83	650.22	155.51	9.08	150.96	64.07

	SECNO	XLC-	ELTO	ELLC	ELMIN	D	CWSEL	CRCWS	EG	10K*3	VCH	AREA	.01K
1	15.200	24.00	649.40	644.20	645.30	200.00	650.13	0.00	650.17	6.52	2.09	175.27	78.29
2	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
3	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
4	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
5	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
6	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
7	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
8	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
9	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
10	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
11	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
12	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
13	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
14	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
15	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
16	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
17	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
18	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
19	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
20	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
21	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
22	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
23	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
24	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
25	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
26	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
27	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
28	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
29	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
30	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
31	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
32	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
33	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
34	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
35	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
36	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
37	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
38	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
39	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
40	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
41	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
42	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
43	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
44	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
45	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
46	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
47	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
48	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
49	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
50	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
51	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
52	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
53	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
54	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
55	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
56	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
57	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
58	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
59	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
60	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
61	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
62	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
63	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
64	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
65	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
66	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
67	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
68	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
69	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
70	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
71	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
72	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
73	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
74	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
75	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
76	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
77	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
78	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
79	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
80	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
81	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
82	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
83	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
84	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
85	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
86	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
87	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
88	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
89	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
90	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
91	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
92	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
93	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
94	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
95	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
96	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
97	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
98	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
99	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
100	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
101	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
102	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
103	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
104	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
105	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
106	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
107	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
108	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
109	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
110	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
111	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
112	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
113	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
114	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
115	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
116	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
117	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
118	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
119	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
120	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
121	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
122	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
123	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
124	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
125	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
126	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
127	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
128	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
129	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
130	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
131	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
132	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
133	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
134	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
135	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
136	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
137	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
138	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
139	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
140	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
141	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
142	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
143	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
144	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
145	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
146	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
147	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
148	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
149	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
150	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
151	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
152	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
153	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
154	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
155	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
156	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
157	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
158	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
159	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
160	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
161	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
162	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
163	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
164	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
165	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
166	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
167	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
168	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
169	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
170	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
171	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
172	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
173	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
174	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
175	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
176	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
177	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
178	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
179	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
180	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
181	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
182	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
183	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
184	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
185	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
186	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
187	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
188	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47	211.70	105.35
189	15.200	24.00	649.40	644.20	645.30	310.00	650.82	0.00	650.76	10.10	3.47

SILVER CREEK

SUMMARY PRINTOUT TABLE 130

SECND	D	QMSEL	STRSF	DIFQRV	DIFKNS	JDF ID	XLOH
1,100	200.00	607.20	0.00	0.00	0.00	125.75	0.00
1,100	410.00	607.20	0.00	0.00	0.00	125.75	0.00
1,100	510.00	607.20	0.00	0.00	0.00	125.75	0.00
1,100	780.00	607.20	0.00	0.00	0.00	125.75	0.00
1,200	200.00	607.54	0.00	0.04	0.00	79.37	100.00
1,200	410.00	607.44	0.12	0.14	0.00	82.37	80.00
1,200	510.00	607.29	0.19	0.27	0.00	84.25	100.00
1,200	780.00	606.51	0.38	0.57	0.00	124.09	130.00
1,300	200.00	607.53	0.00	-0.01	0.00	79.09	1.00
1,300	410.00	607.24	0.11	-0.02	0.00	82.58	1.00
1,300	510.00	607.09	0.17	-0.02	0.00	83.45	1.00
1,300	780.00	606.53	0.33	0.13	0.00	120.01	1.00
1,400	200.00	607.53	0.00	0.01	0.00	79.10	5.00
1,400	410.00	607.20	0.16	0.06	0.00	84.01	5.00
1,400	510.00	607.03	0.25	0.10	0.00	98.89	5.00
1,400	780.00	606.03	0.74	0.29	0.00	132.89	5.00
1,500	200.00	607.52	0.00	0.00	0.00	75.36	1.00
1,500	410.00	607.35	0.19	0.06	0.00	85.30	1.00
1,500	510.00	607.20	0.26	0.05	0.00	90.40	1.00
1,500	780.00	606.50	0.67	-0.01	0.00	141.17	1.00
1,600	200.00	607.51	0.00	0.00	0.00	59.45	25.00
1,600	410.00	607.24	0.10	-0.01	0.00	64.54	25.00
1,600	510.00	607.08	0.18	0.02	0.00	68.32	25.00
1,600	780.00	606.52	0.64	-0.01	0.00	99.47	25.00
2,000	200.00	607.32	0.00	0.36	0.00	72.45	380.00
2,000	410.00	607.06	0.13	1.37	0.00	151.78	380.00
2,000	510.00	606.91	0.23	1.83	0.00	194.10	380.00
2,000	780.00	606.43	0.52	1.61	0.00	274.70	380.00
2,100	200.00	607.57	0.00	0.65	0.00	146.79	150.00
2,100	410.00	607.49	0.07	0.19	0.00	196.50	150.00
2,100	510.00	607.45	0.10	0.10	0.00	217.56	150.00
2,100	780.00	607.32	0.20	0.08	0.00	270.21	150.00
2,200	200.00	606.71	0.00	0.11	0.00	91.49	150.00
2,200	410.00	607.69	0.08	0.15	0.00	132.34	150.00
2,200	510.00	610.06	0.17	0.15	0.00	145.31	150.00
2,200	780.00	610.85	0.39	0.16	0.00	180.20	150.00

SECNO	Q	CUSEL	DIF SP	DIFNSX	DIFKNS	TOPWID	XLCH
2.300	200.00	605.13	0.00	0.43	0.00	85.22	150.00
2.300	410.00	610.09	0.97	0.40	0.00	101.63	150.00
2.300	510.00	610.[illegible]	0.36	0.39	0.00	107.68	150.00
2.300	780.00	611.20	0.75	0.34	0.00	120.33	150.00
3.100	200.00	610.14	0.00	1.01	0.00	62.63	130.00
3.100	410.00	610.91	0.77	0.82	0.00	68.53	130.00
3.100	510.00	611.17	0.36	0.72	0.00	70.00	130.00
3.100	780.00	611.79	0.62	0.60	0.00	70.00	130.00
3.200	200.00	611.32	0.00	1.19	0.00	22.37	90.00
3.200	410.00	612.10	0.77	1.19	0.00	24.98	90.00
3.200	510.00	612.38	0.29	1.21	0.00	25.93	90.00
3.200	780.00	613.04	0.66	1.23	0.00	31.59	90.00
3.300	200.00	611.33	0.00	0.01	0.00	27.[illegible]	1.00
3.300	410.00	612.10	0.77	0.01	0.00	25.09	1.00
3.300	510.00	612.39	0.28	0.01	0.00	25.99	1.00
3.300	780.00	613.02	0.64	-0.03	0.00	31.46	1.00
3.400	200.00	611.46	0.00	0.12	0.00	22.80	14.00
3.400	410.00	612.47	0.97	0.32	0.00	27.31	14.00
3.400	510.00	612.83	0.41	0.45	0.00	30.09	14.00
3.400	780.00	614.01	1.17	0.58	0.00	38.32	14.00
3.500	200.00	611.47	0.00	0.02	0.00	22.85	1.00
3.500	410.00	612.47	1.00	0.05	0.00	27.61	1.00
3.500	510.00	612.95	0.47	0.[illegible]	0.00	30.93	1.00
3.500	720.00	614.12	1.18	0.12	0.00	39.16	1.00
3.600	200.00	612.03	0.00	0.59	0.00	79.47	140.00
3.600	410.00	613.[illegible]	1.37	0.86	0.00	96.97	140.00
3.600	510.00	613.83	0.30	0.89	0.00	103.37	140.00
3.600	780.00	614.59	1.[illegible]	0.86	0.00	119.74	140.00
3.700	200.00	612.02	0.00	-0.03	0.00	35.70	140.00
3.700	410.00	613.14	1.[illegible]	-0.[illegible]	0.00	78.28	140.00
3.700	510.00	613.74	0.21	-0.08	0.00	96.30	140.00
3.700	780.00	614.55	1.20	-0.03	0.00	138.86	140.00
4.000	200.00	612.91	0.00	0.91	0.00	49.24	140.00
4.000	410.00	613.94	1.00	0.70	0.00	54.16	140.00
4.000	510.00	614.31	0.38	0.56	0.00	56.06	140.00
4.000	780.00	615.22	0.90	0.26	0.00	64.72	140.00
4.300	200.00	611.28	0.00	1.34	0.00	32.42	260.00
4.300	410.00	612.37	1.09	1.43	0.00	47.60	260.00
4.300	510.00	615.75	0.38	1.44	0.00	54.29	260.00
4.300	780.00	616.64	0.89	1.42	0.00	92.61	260.00

SECNO	D	CWSEL	DIFSP	DIFWRX	DIFXLS	TOPUID	XLCH
4.600	200.00	614.93	0.00	0.65	0.00	29.58	260.00
4.600	410.00	616.24	1.31	0.87	0.00	33.58	260.00
4.600	510.00	616.70	0.46	0.25	0.00	37.66	260.00
4.600	780.00	617.68	0.98	1.04	0.00	42.05	260.00
5.000	200.00	615.47	0.00	0.55	0.00	13.52	260.00
5.000	410.00	616.87	1.37	0.59	0.00	150.26	260.00
5.000	510.00	617.35	0.31	0.65	0.00	164.08	260.00
5.000	780.00	618.50	1.15	0.82	0.00	194.95	260.00
5.500	200.00	616.02	0.00	0.35	0.00	298.24	480.00
5.500	410.00	617.18	1.16	0.33	0.00	313.29	480.00
5.500	510.00	617.66	0.48	0.31	0.00	319.32	480.00
5.500	780.00	618.77	1.11	0.27	0.00	333.91	480.00
6.000	200.00	616.39	0.00	0.38	0.00	168.16	480.00
6.000	410.00	617.43	1.03	0.25	0.00	243.71	480.00
6.000	510.00	617.37	0.45	0.21	0.00	276.38	480.00
6.000	780.00	618.93	1.06	0.17	0.00	343.76	480.00
6.100	200.00	616.40	0.00	0.31	0.00	183.00	130.00
6.100	410.00	617.62	1.01	0.19	0.00	180.55	130.00
6.100	510.00	618.04	0.43	0.17	0.00	221.63	130.00
6.100	780.00	619.06	1.02	0.13	0.00	333.16	130.00
6.200	200.00	618.20	0.00	1.59	0.00	105.56	130.00
6.200	410.00	618.72	0.12	1.11	0.00	150.38	130.00
6.200	510.00	618.91	0.19	0.87	0.00	165.45	130.00
6.200	780.00	619.45	0.55	0.39	0.00	209.54	130.00
6.300	200.00	619.10	0.00	1.50	0.00	77.42	140.00
6.300	410.00	620.27	0.78	1.33	0.00	134.54	140.00
6.300	510.00	620.53	0.26	1.63	0.00	159.26	140.00
6.300	780.00	620.79	0.46	1.54	0.00	189.00	140.00
6.400	200.00	621.17	0.00	1.67	0.00	85.86	130.00
6.400	410.00	621.84	0.67	1.57	0.00	147.01	140.00
6.400	510.00	622.01	0.32	1.43	0.00	147.39	130.00
6.400	780.00	622.41	0.55	1.62	0.00	153.84	140.00
6.500	200.00	622.47	0.00	1.31	0.00	71.92	130.00
6.500	410.00	623.24	0.77	1.40	0.00	117.00	130.00
6.500	510.00	623.50	0.26	1.43	0.00	132.13	130.00
6.500	780.00	624.03	0.54	1.42	0.00	163.57	140.00
6.600	200.00	623.99	0.00	1.51	0.00	67.44	140.00
6.600	410.00	624.76	0.78	1.52	0.00	103.06	140.00
6.600	510.00	625.03	0.27	1.53	0.00	117.92	140.00
6.600	780.00	625.60	0.57	1.57	0.00	146.04	140.00

	BEAM	Q	CHSEL	DIFMAP	DIFMAX	DIFMIN	TOTWID	XLOW
	4.200	230.00	625.33	0.00	1.25	0.00	52.34	130.00
	4.700	410.00	624.09	0.00	1.23	0.00	56.45	130.10
	5.200	1310.00	626.38	0.25	1.36	1.00	58.33	130.00
	6.700	700.00	627.00	0.61	1.39	0.00	102.88	130.00
	6.900	200.00	626.72	2.10	1.42	0.00	42.38	130.00
	6.800	130.00	627.61	0.58	1.38	0.00	72.35	130.00
	6.300	810.00	627.61	0.30	1.38	0.00	87.99	130.00
	6.300	280.00	626.56	0.66	1.32	0.20	105.66	130.00
	7.000	200.00	628.16	0.00	1.43	0.00	75.24	140.00
	7.000	110.00	627.10	0.31	1.49	0.00	97.35	140.00
	7.000	510.00	627.62	0.58	1.32	0.00	98.58	140.00
	7.000	780.00	628.07	0.24	1.41	0.00	91.93	140.00
	8.000	200.00	629.74	0.00	1.38	0.00	150.00	430.00
	8.000	110.00	630.35	0.61	1.24	0.6	215.00	430.00
	8.000	510.00	630.47	0.31	1.22	0.00	215.00	430.00
	8.000	780.00	630.81	0.74	1.25	0.2	215.00	430.00
	8.500	200.00	630.91	0.00	1.26	0.00	110.00	250.00
	8.200	110.00	630.75	0.33	0.47	0.30	170.00	200.00
	8.200	510.00	63..10	0.34	0.41	0.62	170.00	200.00
	8.00	780.00	63..31	0.11	0.40	1.36	170.00	200.00
	8.900	200.00	631.45	0.00	1.31	1.20	70.00	100.00
	8.800	110.00	631.53	0.11	1.13	0.82	65.00	100.00
	8.600	510.00	632.04	0.13	0.16	0.57	63.00	100.00
	8.600	780.00	632.21	0.45	0.70	1.02	63.00	100.00
	8.700	200.00	631.78	0.00	0.71	0.20	30.00	50.00
	8.700	110.00	631.83	0.14	0.16	0.16	35.00	50.00
	8.700	510.00	631.95	0.14	0.14	0.43	155.00	50.00
	8.700	780.00	632.15	0.47	0.31	1.12	75.00	50.00
	9.300	200.00	633.38	0.00	0.14	0.00	42.00	50.00
	9.200	110.00	633.12	0.16	0.13	0.14	200.00	50.00
	9.200	510.00	633.85	0.13	0.10	0.16	230.00	50.00
	9.200	780.00	634.01	0.23	0.56	1.13	200.00	50.00
	9.300	200.00	634.96	0.00	2.50	0.00	17.00	109.00
	9.500	10.00	638.48	0.52	5.74	5.52	194.10	109.00
	9.400	510.00	635.22	0.00	3.08	3.80	136.40	109.00
	9.400	780.00	635.38	0.00	3.08	3.24	193.97	109.00
	9.200	200.00	634.45	0.00	1.50	0.00	280.25	200.00
	9.400	410.00	636.92	2.07	3.04	2.07	416.13	200.00
	9.400	510.00	633.60	0.28	0.03	2.33	436.96	200.00
	9.600	780.00	634.30	0.25	0.03	1.83	569.83	200.00

SCLNO	A	CWEEL	TIF.SP	DIFJSX	DIFJWS	TOPVID	XLCH
.0.200	400.00	434.60	0.00	0.15	1.00	307.31	340.00
.10 300	410.00	425.59	0.55	0.04	1 56	310.81	340.00
10.200	411.00	501 82	0.22	0.14	2.35	451.32	340.00
10 200	780.01	657.74	0 51	0 06	2 76	451 94	340.00
10 300	200.00	625 67	0.00	0.02	0 00	307.31	1.00
10 300	410.00	578.56	1.54	0.00	1 94	450.81	1.00
10 300	5 0.00	578 65	0 29	0.10	2.33	451.31	1.00
10.300	780.00	626 41	0 41	0.00	2 79	15 .94	1.00
10.000	700 00	536 95	0 00	0.03	.00	305.20	21.00
0.000	410.00	538 16	.91	0.00	91	150.81	21.00
10.000	500.00	638.55	.29	0 00	2.32	451 31	21.00
0.100	780.00	638.07	2.01	0.00	3.72	4 .51	21.00
0.500	300.00	656.61	2.00	0.00	0.00	309.20	1 00
0.500	410 00	687.51	.93	0 01	1.62	450.31	1 00
10.500	550.00	658 55	0.32	0.00	2.22	451.02	1.00
0.500	780 00	678.47	0.01	0.01	3 42	450.25	1 00
10.200	200.00	637 11	0.00	0 02	0.00	307.18	371 00
10 600	410.00	623. 1	.49	0 03	1 69	340.00	370.00
10 000	511.00	65 .9	0.50	0.06	1 50	390. 0	370.00
10.000	7 0.00	678.56	0.55	0.01	2.35	3 0. 1.	370.00
1 .40	200.00	6 9.17	1.00	0.10	0.00	152.84	350.00
1 .50	0 0.00	685 1	1.47	0.07	0.87	199.71	350.00
1.100	5 0 00	619.37	0.35	0 00	0.40	2 4 93	380.00
11. 0	780 00	6 0.01	0.54	0.00	.19	2 7.04	380.00
1 .50	200.00	646.20	2.00	1.13	1.00	97.5	300.00
1 .50	0 0.00	541.03	0.92	1.05	1 92	166 34	300.00
1 .50	5 0.00	601.50	0.32	1.09	1.1	164.9	300.00
1 .50	780 00	642.90	0 30	1.03	1.46	181.87	300.00
.200	200.00	6 .16	0.00	0.47	0.00	217.4	10.00
200	0 0.00	6 1 .1	0 00	0.06	0.27	256.21	20.00
.400	0 0.00	6 0.02	0 02	0.12	0.91	252.81	20.00
1 .200	780.00	6 0.51	0.33	0.03	.57	282.12	20.00
1 .300	200.00	611.07	0.00	0.02	0.00	217.74	1.00
10 300	410.00	64 .80	0 24	0.07	0.73	256.55	1.00
1 .500	5 0.00	5 2.06	0.26	0.05	0.98	252.45	1.00
1 .300	7 0.00	6 5.61	0.04	0.05	.51	257.94	1.00
11.000	200.00	6 .07	0.00	0.00	0.00	217.52	1.50
11.000	410.00	64 .0	0.73	0.00	0.73	256.85	1.50
11.400	5 0.00	6 2.06	0.23	0.00	0.93	252.70	1.50
1 .400	7 0.00	5 2.02	0.26	0.00	.57	257.00	1.50

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLC-
11.300	200.00	641.07	0.00	0.00	0.00	217.99	1.00
11.300	410.00	641.80	0.72	-0.01	0.72	236.89	1.00
11.300	510.00	642.25	0.26	-0.01	0.98	243.55	1.00
11.300	780.00	642.6[illegible]	0.56	-0.01	1.54	257.91	1.00
11.600	200.00	641.08	0.00	0.01	0.00	110.91	100.00
11.600	410.00	641.8[illegible]	0.77	0.05	0.77	171.96	100.00
11.600	510.00	642.[illegible]	0.28	0.07	1.04	190.00	100.00
11.600	780.00	642.7[illegible]	0.[illegible]	0.[illegible]	1.63	241.[illegible]	100.00
12.200	200.00	642.37	0.00	1.24	0.00	17.30	200.00
12.200	410.00	642.92	0.68	1.15	0.68	95.00	200.00
12.200	510.00	643.11	0.12	0.99	0.80	95.00	200.00
12.200	780.00	643.62	0.5[illegible]	0.[illegible]	1.34	95.00	200.00
12.300	200.00	642.93	0.00	0.61	0.00	17.30	19.00
12.300	410.00	644.46	1.53	1.47	1.53	95.00	19.00
12.300	510.00	644.66	0.20	1.5[illegible]	1.73	95.00	19.00
12.300	780.00	645.11	0.4[illegible]	1.43	2.1[illegible]	95.00	19.00
12.400	200.00	643.[illegible]	0.00	0.95	0.00	[illegible]5.43	220.00
12.400	410.00	644.85	0.97	0.39	0.97	105.20	220.00
12.400	510.00	645.[illegible]8	0.32	0.52	[illegible].30	124.86	220.00
12.400	780.00	645.2[illegible]	0.7[illegible]	0.80	2.03	1[illegible]	220.00
12.900	200.00	646.12	0.00	2.25	0.00	57.33	220.00
12.900	410.00	646.32	0.[illegible]	1.97	1.67	1[illegible]	220.00
12.900	510.00	647.04	0.24	1.58	0.93	163.78	220.00
12.900	780.00	647.35	0.[illegible]	1.6[illegible]	1.4[illegible]	205.57	220.00
12.950	200.00	646.7[illegible]	0.00	0.[illegible]	0.00	78.32	110.00
12.950	410.00	647.57	0.78	0.75	0.78	113.85	110.00
12.950	510.00	647.3[illegible]	0.27	0.79	1.05	122.00	110.00
12.950	780.00	648.3[illegible]	0.50	0.80	1.54	25.00	110.00
13.100	200.00	648.15	0.00	1.36	0.00	4[illegible].15	110.00
13.100	410.00	648.93	0.[illegible]	1.38	0.[illegible]	[illegible]5.7[illegible]	110.00
13.100	510.00	649.3[illegible]	0.35	1.46	1.15	75.7[illegible]	110.00
13.100	780.00	649.5[illegible]	0.5[illegible]	1.48	1.67	80.00	110.00
13.200	200.00	650.13	0.00	1.9[illegible]	0.00	80.00	24.00
13.200	410.00	650.6[illegible]	0.52	1.70	0.52	80.00	24.00
13.200	510.00	650.85	0.20	1.35	0.72	80.00	24.00
13.200	780.00	651.32	0.47	1.[illegible]	1.19	80.00	24.00
13.300	200.00	650.29	0.00	0.16	0.00	104.79	200.00
13.500	410.00	651.01	0.72	0.36	0.72	222.75	200.00
13.500	510.00	651.29	0.28	0.4[illegible]	1.00	268.58	200.00
13.500	780.00	651.93	0.64	0.41	1.64	372.44	200.00

SECNO	Q	CHSEL	DIFLSP	DIFMSX	DIFNMS	TOPIO	XLCR
10.000	200.00	65[illegible]	0.00	1.03	0.[illegible]	136.40	280.00
12.000	[illegible]0.00	65[illegible]	0.8[illegible]	1.[illegible]5	0.[illegible]	218.23	280.00
[illegible].000	51[illegible].00	65[illegible]	[illegible]	[illegible]	[illegible].09	240.[illegible]	280.00
14.000	730.00	652.9[illegible]	0.51	0.98	1.40	235.53	280.00

```
SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION  SECNO=    8.500  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    8.500  PROFILE= 2  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=    9.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    9.200  PROFILE= 2  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   12.200  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   12.200  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   12.200  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE LEVEL

CAUTION  SECNO=   13.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   13.100  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   13.100  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 3  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   13.100  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.100  PROFILE= 4  MINIMUM SPECIFIC ENERGY
```

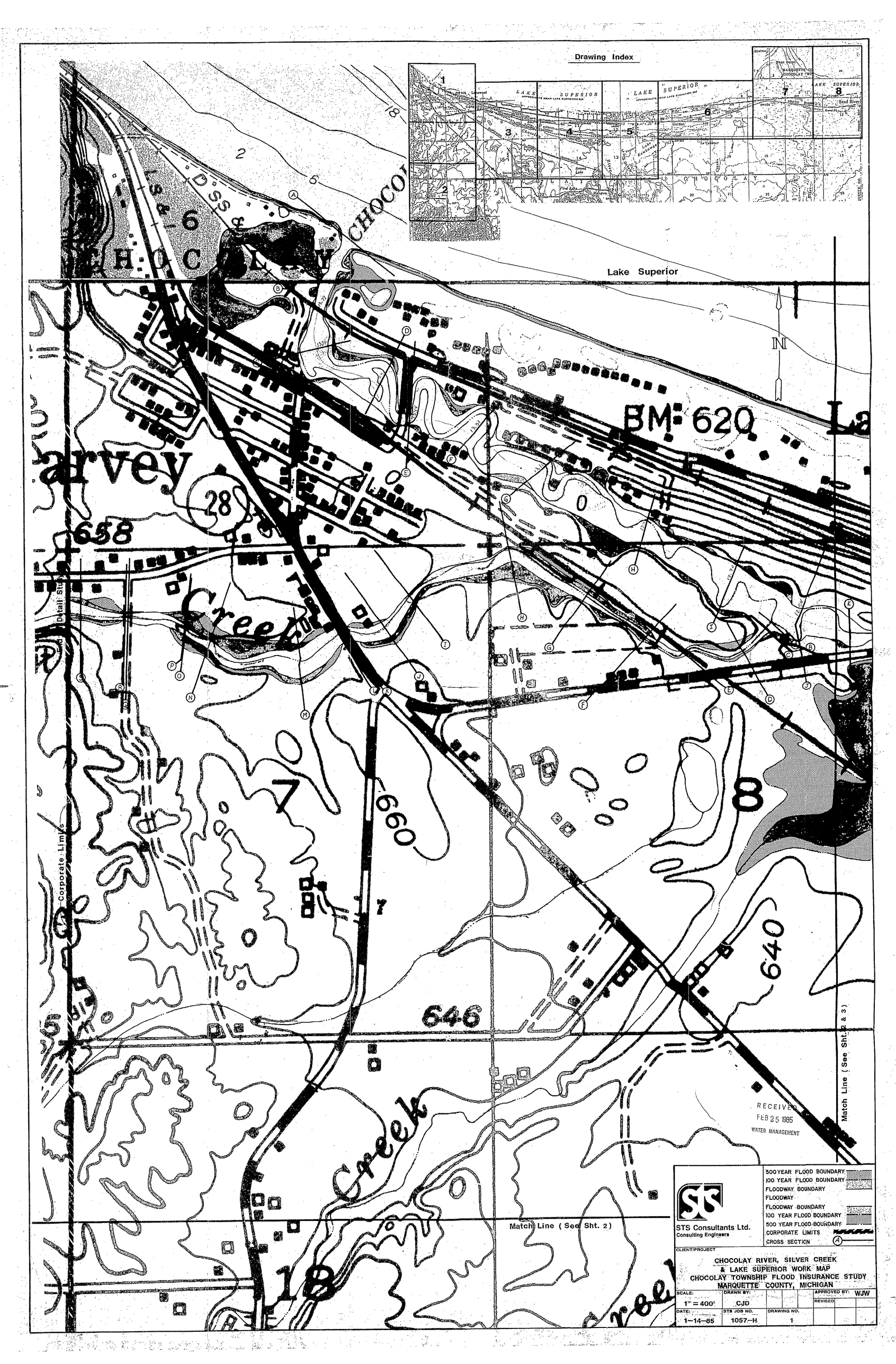
FLOOD INSURANCE ZONE DATA FOR SILVER CREEK

FLOOD MOTION FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 0	1	0.2
1.000	0.	0.00	0.00	0.00
1.200	100.	-0.23	-0.1	0.58
1.300	101.	-0.22	-0.11	0.73
1.400	106.	-0.31	-0.16	0.76
1.500	107.	-0.34	-0.15	0.67
1.600	132.	-0.32	-0.15	0.64
2.000	513.	-1.59	-0.45	0.92
2.100	562.	-1.34	-0.37	0.80
2.200	812.	-1.23	-0.37	0.79
2.300	962.	-1.32	-0.36	0.75
3.100	1052.	-1.07	-0.29	0.62
3.200	1182.	-1.06	-0.27	0.66
3.300	1173.	-1.04	-0.28	0.64
3.400	1197.	-1.38	-0.4	1.17
3.500	1198.	-1.47	-0.47	1.10
3.600	1273.	-1.71	-0.50	1.15
3.700	1278.	-1.73	-0.51	1.20
4.000	1[illegible].	-1.37	-0.38	0.90
4.300	1[illegible].	-1.47	-0.46	0.89
4.600	2113.	-1.77	-0.45	0.98
5.000	2398.	-1.39	-0.51	1.15
5.300	2528.	-1.61	-0.48	1.11
6.000	3153.	-1.48	-0.45	1.06
6.100	3438.	-1.44	-0.43	1.02
6.200	5618.	-0.71	-0.[illegible]	0.85
6.300	5758.	-1.04	-0.26	0.46
6.400	5888.	-0.90	-0.21	0.55
6.500	6018.	-1.02	-0.26	0.54
6.600	4[illegible].	-1.04	-0.[illegible]	0.[illegible]
6.700	4[illegible].	-1.16	-0.[illegible]	0.61
6.900	4[illegible].	-1.19	-0.[illegible]	0.65
7.000	4558.	-1.28	-0.[illegible]	0.74
8.000	4983.	-0.93	-0.3	0.74
8.500	5138.	-0.61	-0.32	0.71
8.600	5238.	-0.5[illegible]	-0.[illegible]	0.45
8.700	5338.	-0.44	-0.19	0.37
9.000	5381.	-0.60	-0.1[illegible]	0.53
9.300	5497.	-3.80	-0.27	0.46
9.600	5627.	-2.35	-0.28	0.49
10.200	6037.	-2.23	-0.29	0.5[illegible]
10.300	6038.	-2.23	-0.2[illegible]	0.51
10.400	6037.	-2.20	-0.2[illegible]	0.52
10.500	6040.	-2.20	-0.3[illegible]	0.52
10.600	6430.	-1.80	-0.30	0.[illegible]

11,100	6910	-0.60	-0.[illegible]	0.54
11,150	7110.	-1.16	-0.2[illegible]	0.50
11,200	7160.	-0.97	-0.[illegible]	0.55
[illegible],200	7[illegible]1.	-0.95	-0.2[illegible]	0.5[illegible]
[illegible]	7167.	-0.95	-[illegible]	0.5[illegible]
1,300	7164.	-0.93	-0.[illegible]	0.56
11,600	7264.	-1.04	-0.2[illegible]	0.59
12,200	7469.	-0.90	-0.[illegible]	0.5[illegible]
12,300	7483.	-1.73	-0.[illegible]	0.[illegible]
12,400	7703.	-1.30	-0.[illegible]	0.72
12,900	7933.	-0.93	-0.[illegible]	0.69
12,950	8033	-1.05	-0.2[illegible]	0.50
13,100	8143.	-1.15	-0[illegible]	0.53
13,200	8167.	-0.72	-0[illegible]	0.47
13,500	8367.	-1.00	-0[illegible]	0.64
14,000	8647.	-1.09	-0[illegible]	0.5[illegible]
HEIGHTED AVG FOR REACH		-1.35	-0.3[illegible]	0.72

[illegible] FOR THE REACH = 0.5 WITH 8 8 PERCENT OF THE REACH WITH N 0.5 FEET
ZONE FOR THE REACH = 0.5


Drawing Index
Lake Superior
BM 620
Creek
Creek
Creek
Corporate Limits
Match Line (See Sht. 2 & 3)
Match Line (See Sht. 2)
RECEIVED
FEB 25 1985
WATER MANAGEMENT
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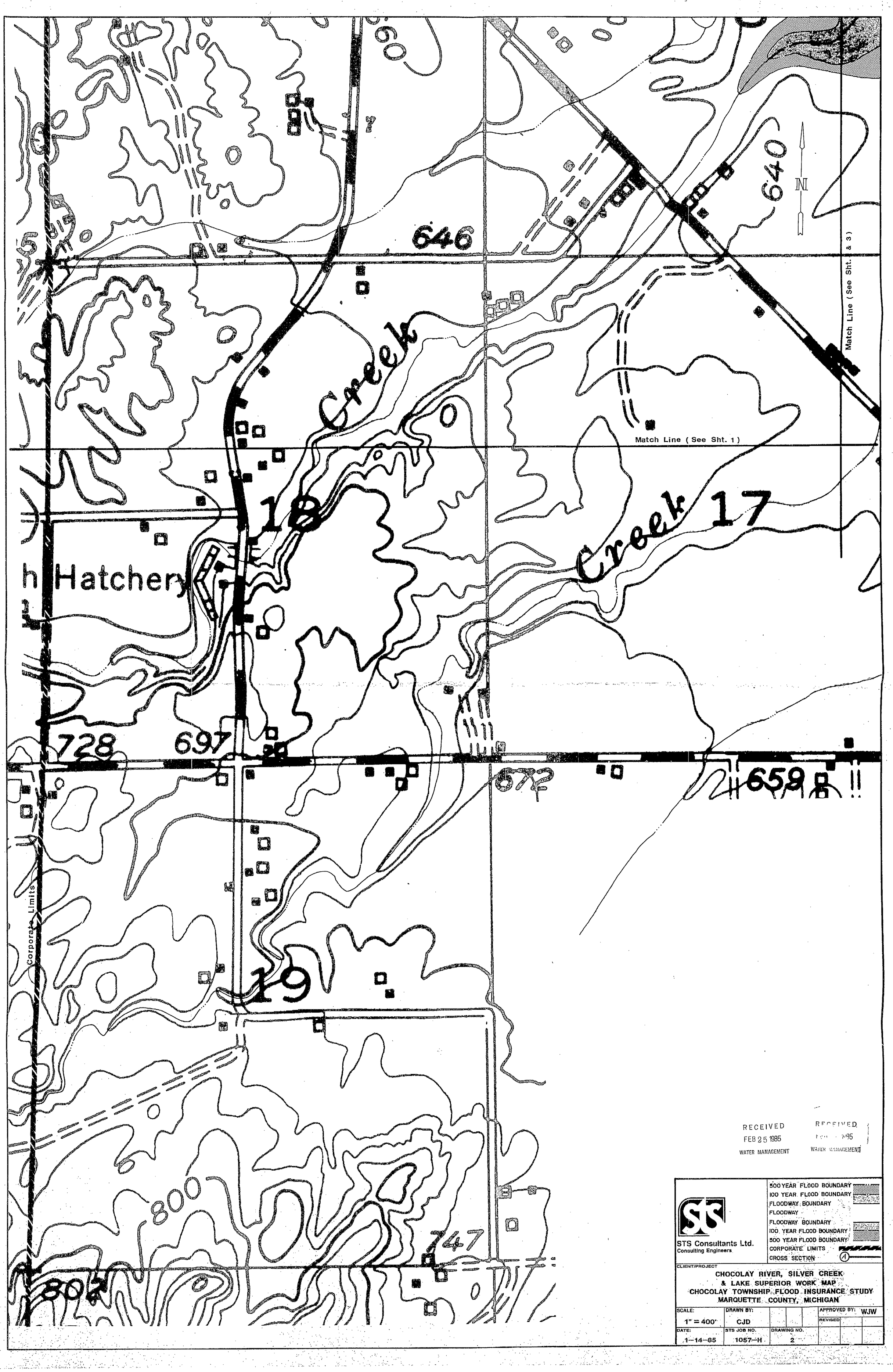
500 YEAR FLOOD BOUNDARY
100 YEAR FLOOD BOUNDARY
FLOODWAY BOUNDARY
FLOODWAY
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
CORPORATE LIMITS
CROSS SECTION
CLIENT/PROJECT
CHOCOLAY RIVER, SILVER CREEK
& LAKE SUPERIOR WORK MAP
CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
MARQUETTE COUNTY, MICHIGAN
SCALE: 1" = 400'
DRAWN BY: CJD
APPROVED BY: WJW
REVISED
DATE: 1-14-85
STS JOB NO. 1057-H
DRAWING NO. 1



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FLOODWAY BOUNDARY
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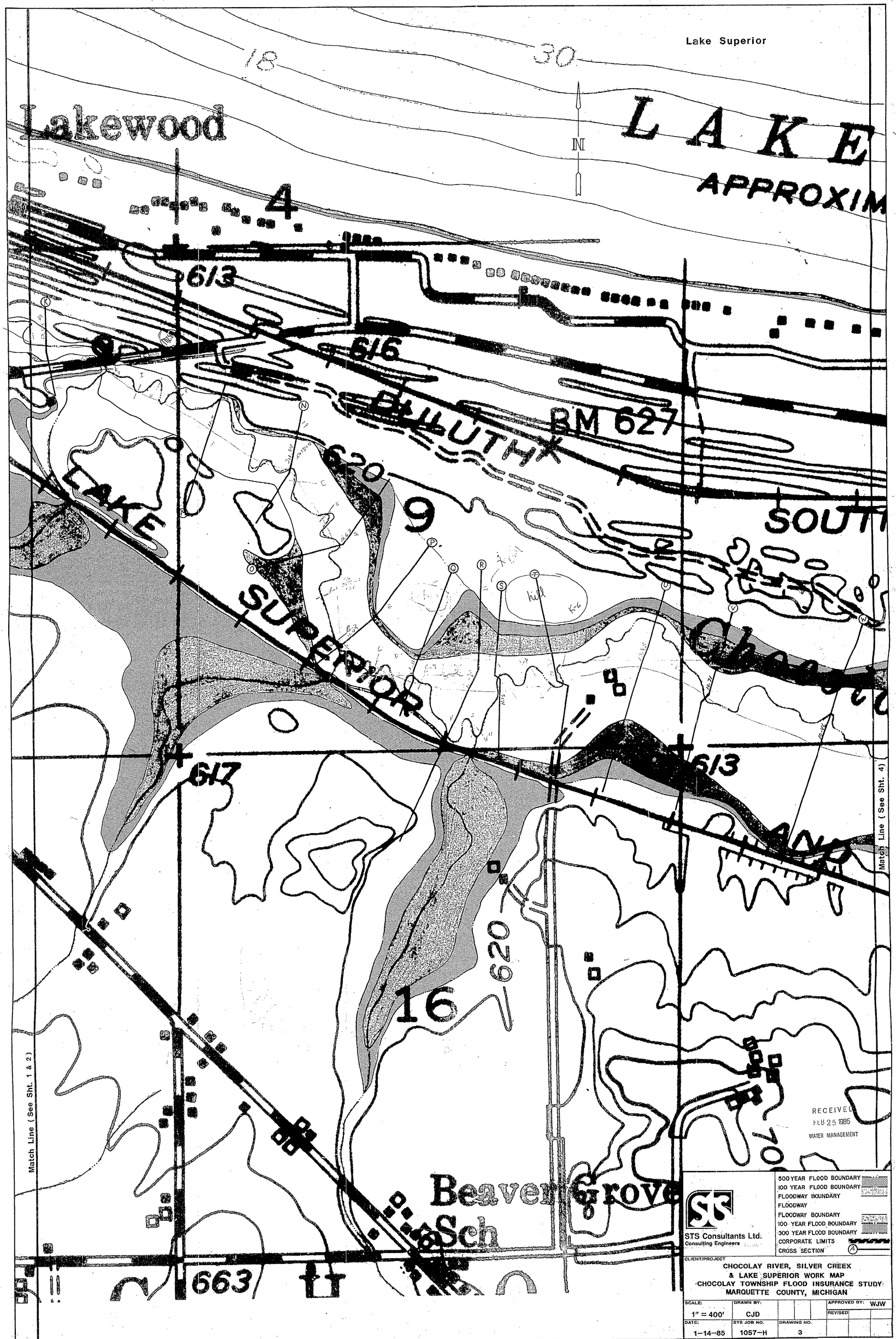
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
CORPORATE LIMITS
CROSS SECTION (A)

CLIENT/PROJECT

CHOCOLAY RIVER, SILVER CREEK & LAKE SUPERIOR WORK MAP
CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
MARQUETTE COUNTY, MICHIGAN

SCALE:	DRAWN BY:		APPROVED BY: WJW
1" = 400'	CJD		REVISED
DATE:	STS JOB NO.	DRAWING NO.	
1-14-85	1057-H	2	



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500 YEAR FLOOD BOUNDARY
100 YEAR FLOOD BOUNDARY
FLOODWAY BOUNDARY
FLOODWAY
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
300 YEAR FLOOD BOUNDARY
CORPORATE LIMITS
CROSS SECTION

CLIENT/PROJECT

CHOCOLAY RIVER, SILVER CREEK
& LAKE SUPERIOR WORK MAP
CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
MARQUETTE COUNTY, MICHIGAN

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1" = 400'	CJD		REVISED	
DATE:	STS JOB NO.	DRAWING NO.		
1-14-85	1057-H	3		

33

Lake Superior

33

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SUPERIOR

MATE MEAN LAKE ELEVATION 602

615

SHORE

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BM 621

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617

620

Bay

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1.22 mi

10.00

End of Detail Study

Match Line (See Sht. 3)

15

14

620

SHPEMING

Second Lake

Match Line (See Sht. 5)

627

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500 YEAR FLOOD BOUNDARY
100 YEAR FLOOD BOUNDARY
FLOODWAY BOUNDARY
FLOODWAY
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
CORPORATE LIMITS
CROSS SECTION (A)

CLIENT/PROJECT

CHOCOLAY RIVER, SILVER CREEK
& LAKE SUPERIOR WORK MAP
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SCALE:	DRAWN BY:		APPROVED BY: WJW
1" = 400'	GJD		REVISED
DATE:	STS JOB NO.	DRAWING NO.	
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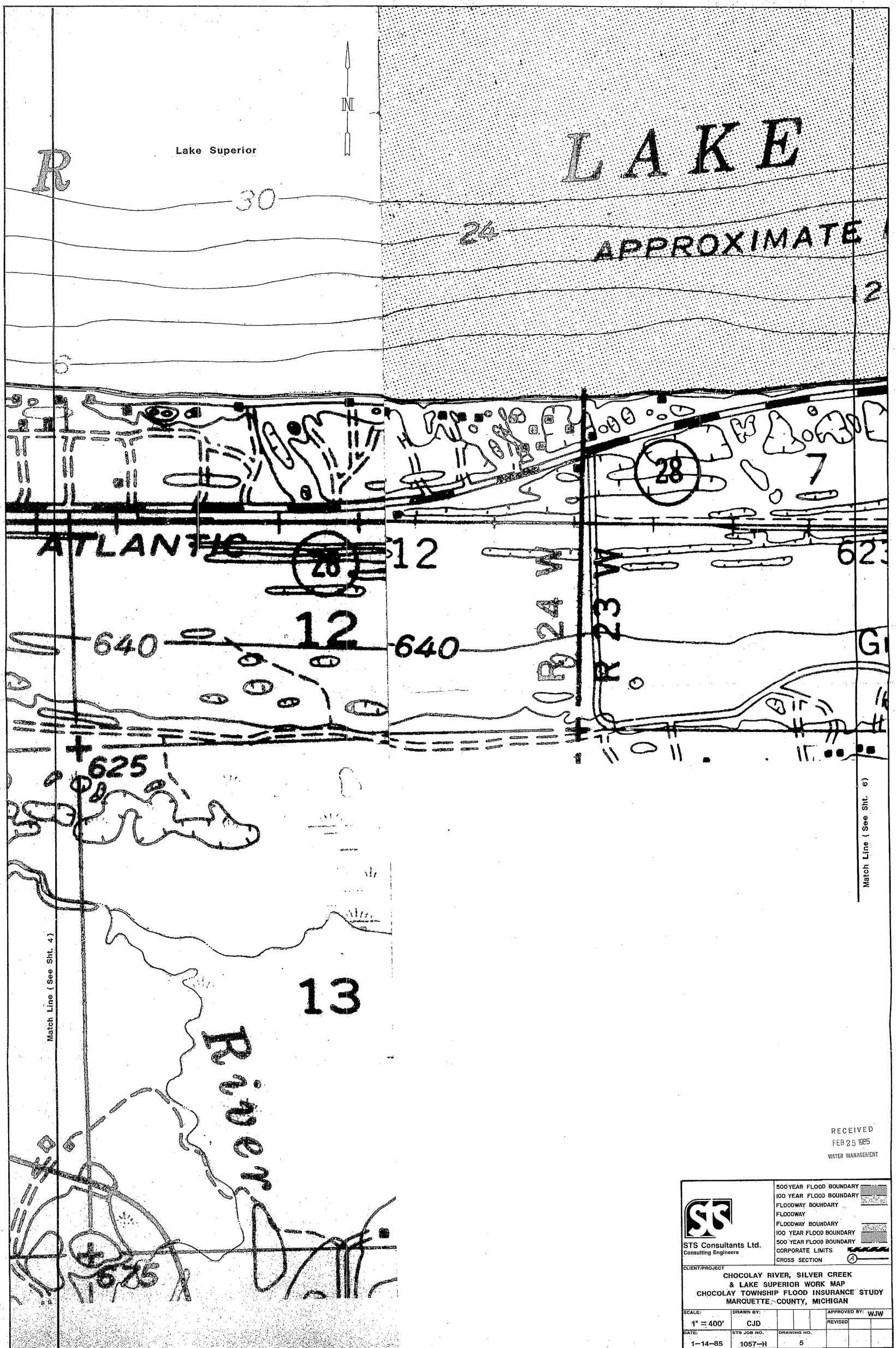

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500 YEAR FLOOD BOUNDARY
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FLOODWAY
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
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CLIENT/PROJECT
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1" = 400'	CJD	REVISED
DATE:	STS JOB NO.	DRAWING NO.
1-14-85	1057-H	5

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SUPERIOR

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TE MEAN LAKE ELEVATION 602

Lake Superior

6

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620

DULUTH

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Corporate Limits

Corporate Limits

BM

BM

623

628

641

Gordon

Gravel Pit

Creek

Match Line (See Sht. 5)

Match Line (See Sht. 7)

N

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WATER MANAGEMENT

STS Consultants Ltd.
Consulting Engineers

500 YEAR FLOOD BOUNDARY	
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100 YEAR FLOOD BOUNDARY	
500 YEAR FLOOD BOUNDARY	
CORPORATE LIMITS	
CROSS SECTION	4

CLIENT/PROJECT

CHOCOLAY RIVER, SILVER CREEK
& LAKE SUPERIOR WORK MAP
CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
MARQUETTE COUNTY, MICHIGAN

SCALE:	DRAWN BY:		APPROVED BY: WJW
1" = 400'			REVISED
DATE:	STS JOB NO.	DRAWING NO.	
1-14-85	1057-H	6	

N

(CENTRAL)

12

Lake Superior

Shot Point

MARQUE

CHOCOL

6

624

Corporate Limits

SOUTH SHOR

BM 626

Corporate Limits

10

11

Match Line (See Sht. 6)

Corporate Limits

Match Line (See Sht. 8)

Corporate Limits

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WATER MANAGEMENT

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Consulting Engineers

500 YEAR FLOOD BOUNDARY
100 YEAR FLOOD BOUNDARY
FLOODWAY BOUNDARY
FLOODWAY
FLOODWAY BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
CORPORATE LIMITS
CROSS SECTION (A)

CLIENT/PROJECT

CHOCOLAY RIVER, SILVER CREEK & LAKE SUPERIOR WORK MAP
CHOCOLAY TOWNSHIP FLOOD INSURANCE STUDY
MARQUETTE COUNTY, MICHIGAN

SCALE:	DRAWN BY:		APPROVED BY: WJW
1" = 400'	CJD		REVISED
DATE:	STS JOB NO.	DRAWING NO.	
1-14-85	1057-H	7	

N

LAKE SUPERIOR

24

12

617

ORE

Sand River

Corporate Limits

Gravel Pit

12

Corporate Limits

Corporate Limits

Match Line (See Sht. 7)

Corporate Limits

FOREST RD

6

RECEIVED
FEB 25 1985
WATER MANAGEMENT

STS Consultants Ltd.
Consulting Engineers

500 YEAR FLOOD BOUNDARY	
100 YEAR FLOOD BOUNDARY	
FLOODWAY BOUNDARY	
FLOODWAY	
FLOODWAY BOUNDARY	
100 YEAR FLOOD BOUNDARY	
500 YEAR FLOOD BOUNDARY	
CORPORATE LIMITS	
CROSS SECTION	(A)

CLIENT/PROJECT

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MARQUETTE COUNTY, MICHIGAN

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DATE:	STS JOB NO.	DRAWING NO.					
1-14-85	1057-H	8					