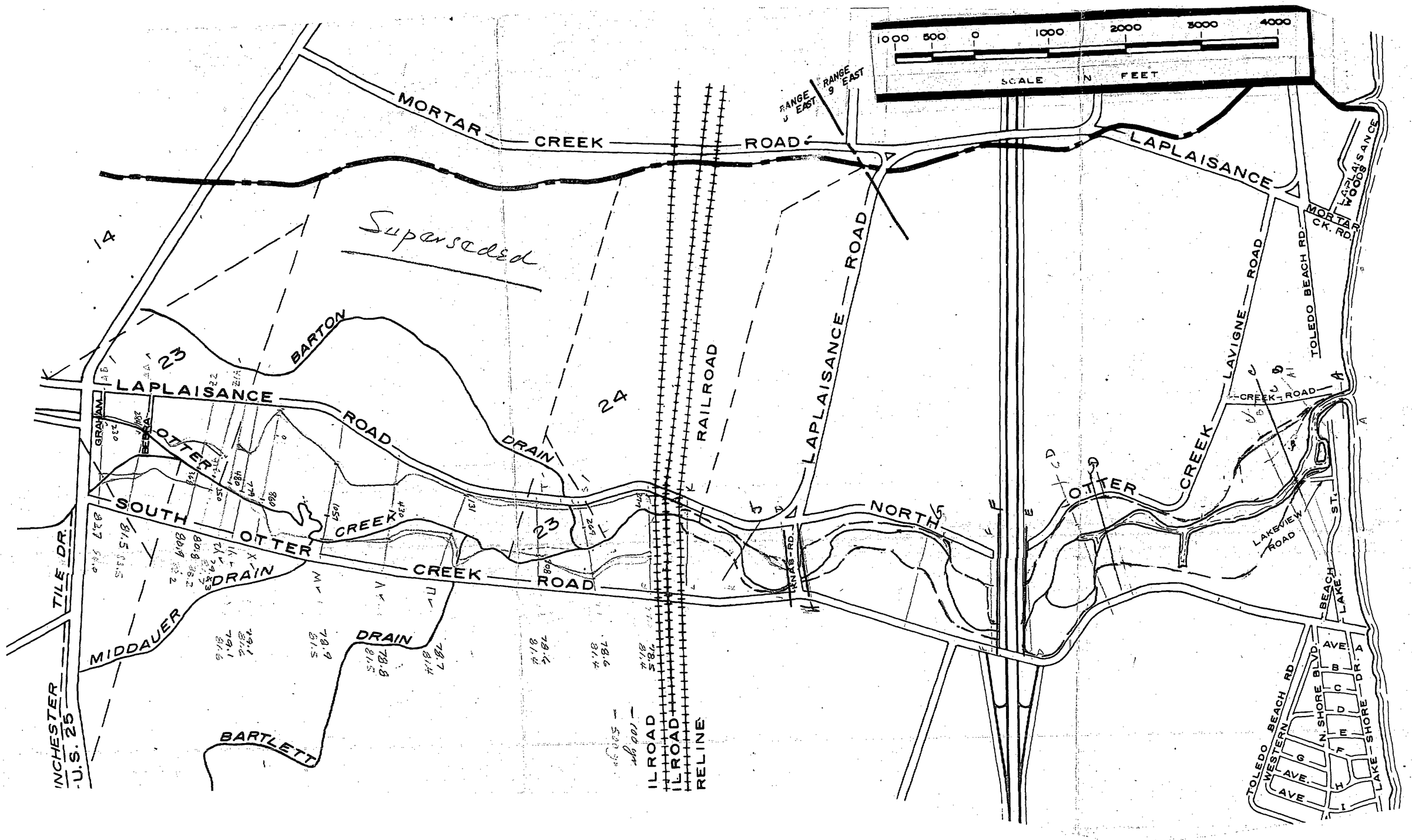
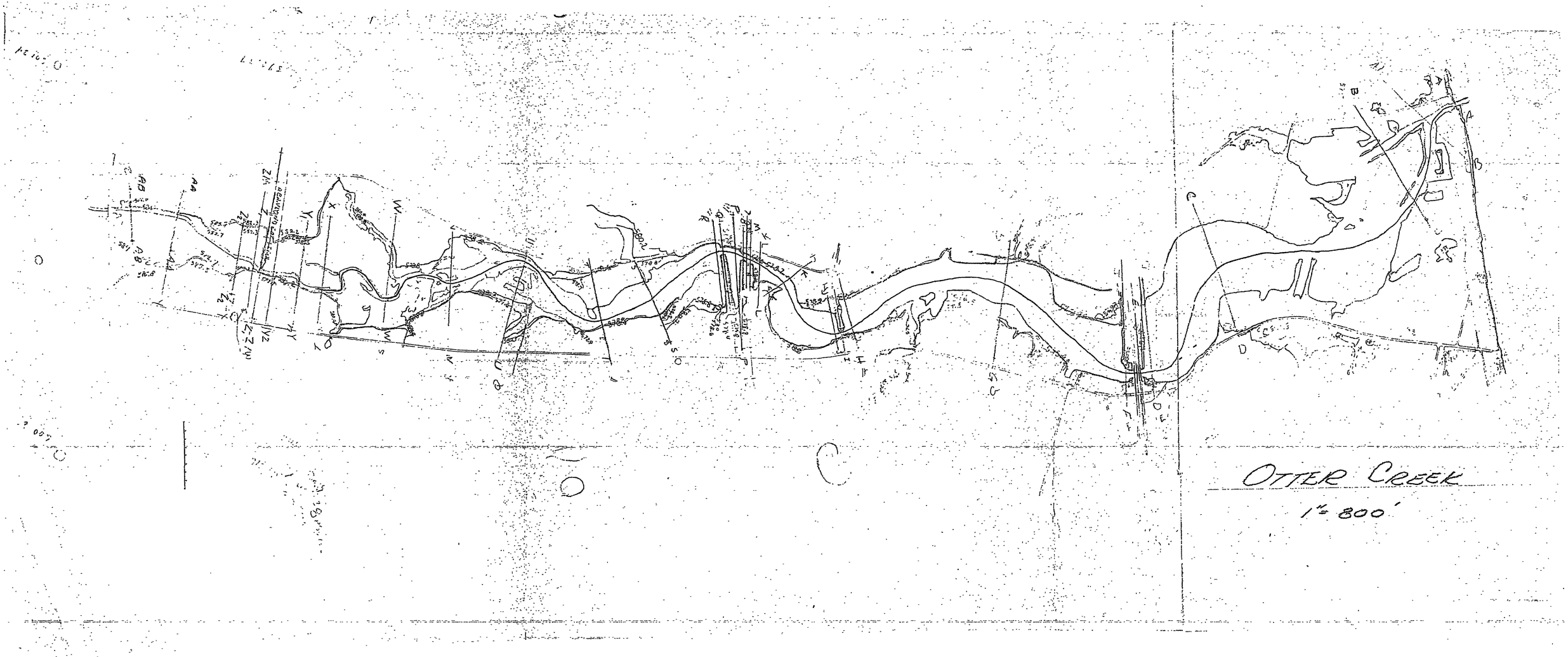
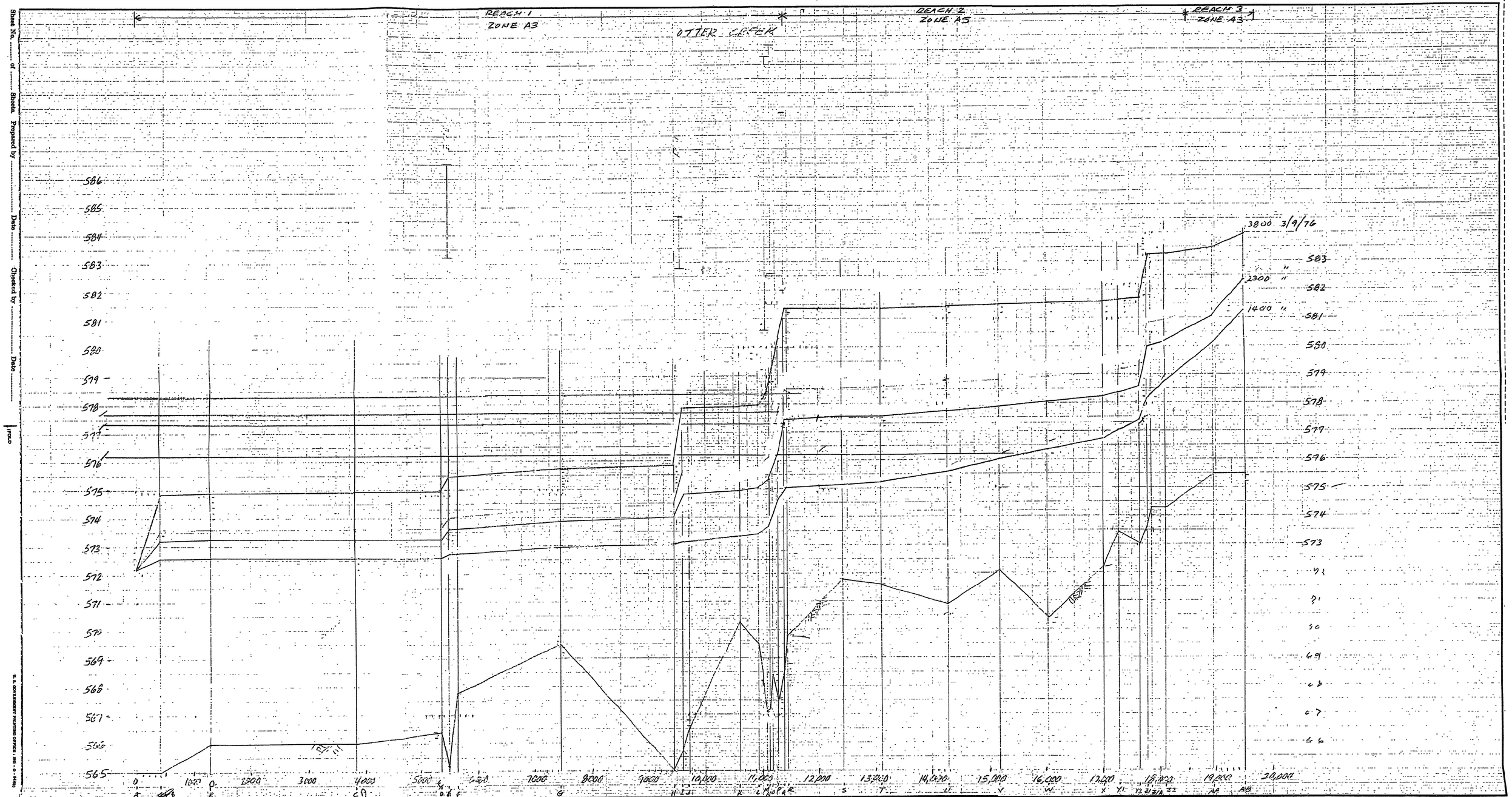


1000 500 0 1000 2000 3000 4000
SCALE IN FEET
MORTAR CREEK ROAD
RANGE 9 EAST
RANGE 9 EAST
LAPLAISANCE
LAPLAISANCE WOODS
MORTAR CK. RD.
TOLEDO BEACH RD.
LAVIGNE ROAD
CREEK ROAD
Superseded
14
23
24
23
BARTON
LAPLAISANCE ROAD
DRAIN
RAILROAD
LAPLAISANCE ROAD
NORTH OTTER CREEK
OTTER CREEK
SOUTH OTTER CREEK ROAD
CREEK
DRAIN
MIDDAUER DRAIN
BARTLETT
TILE DR.
INCHESTER
U.S. 25
ILROAD
ILROAD
RELINE
LAKEVIEW ROAD
BEACH ST.
LAKE
TOLEDO BEACH RD
WESTERN
N. SHORE BLVD.
LAKE SHORE DR.
AVE.
AVE.
AVE
A
B
C
D
E
F
G
H
I


OTTER CREEK
1" = 800'



UNITED STATES DEPARTMENT OF THE INTERIOR
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WATER RESOURCES DIVISION

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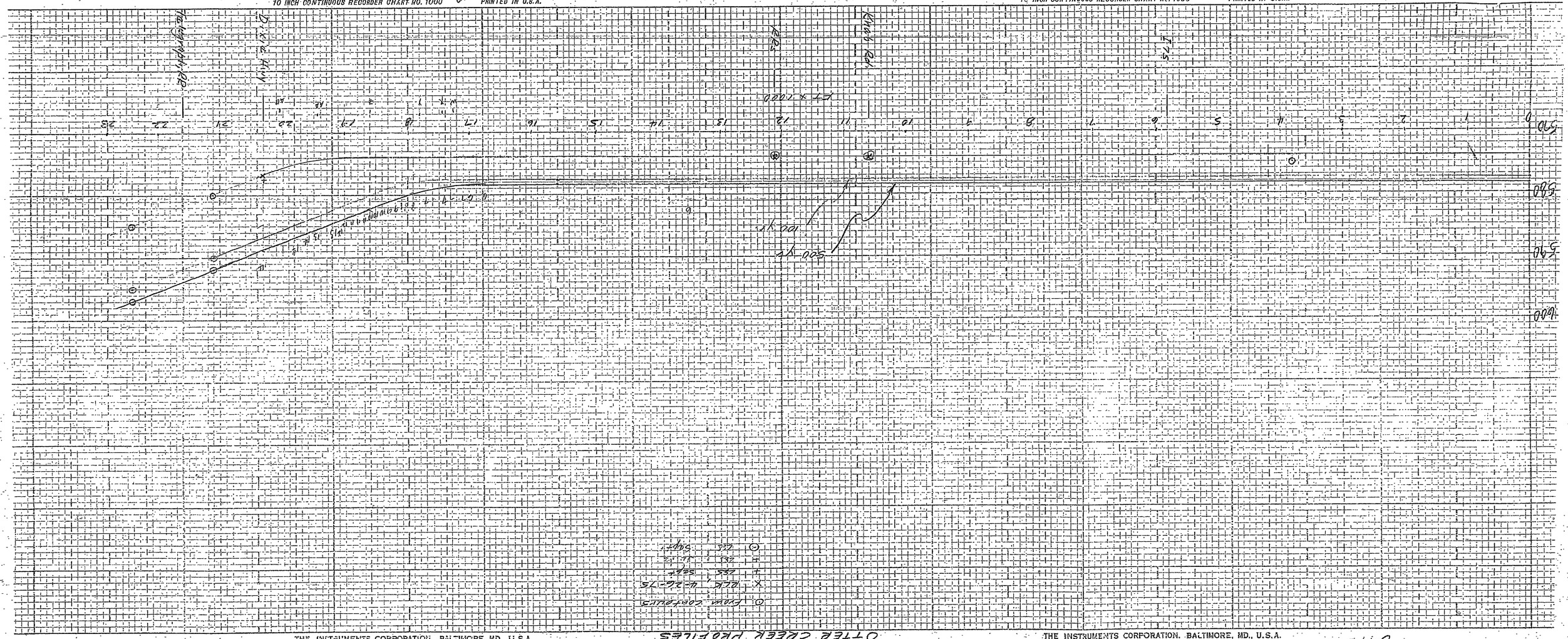

Otter Creek Profiles
Otter Creek
Dike Mtn.
Transmission Line
Dike Mtn.
Otter Creek
Otter Creek
Otter Creek

9-218-F
(March 1949)
Cross-Section—Double

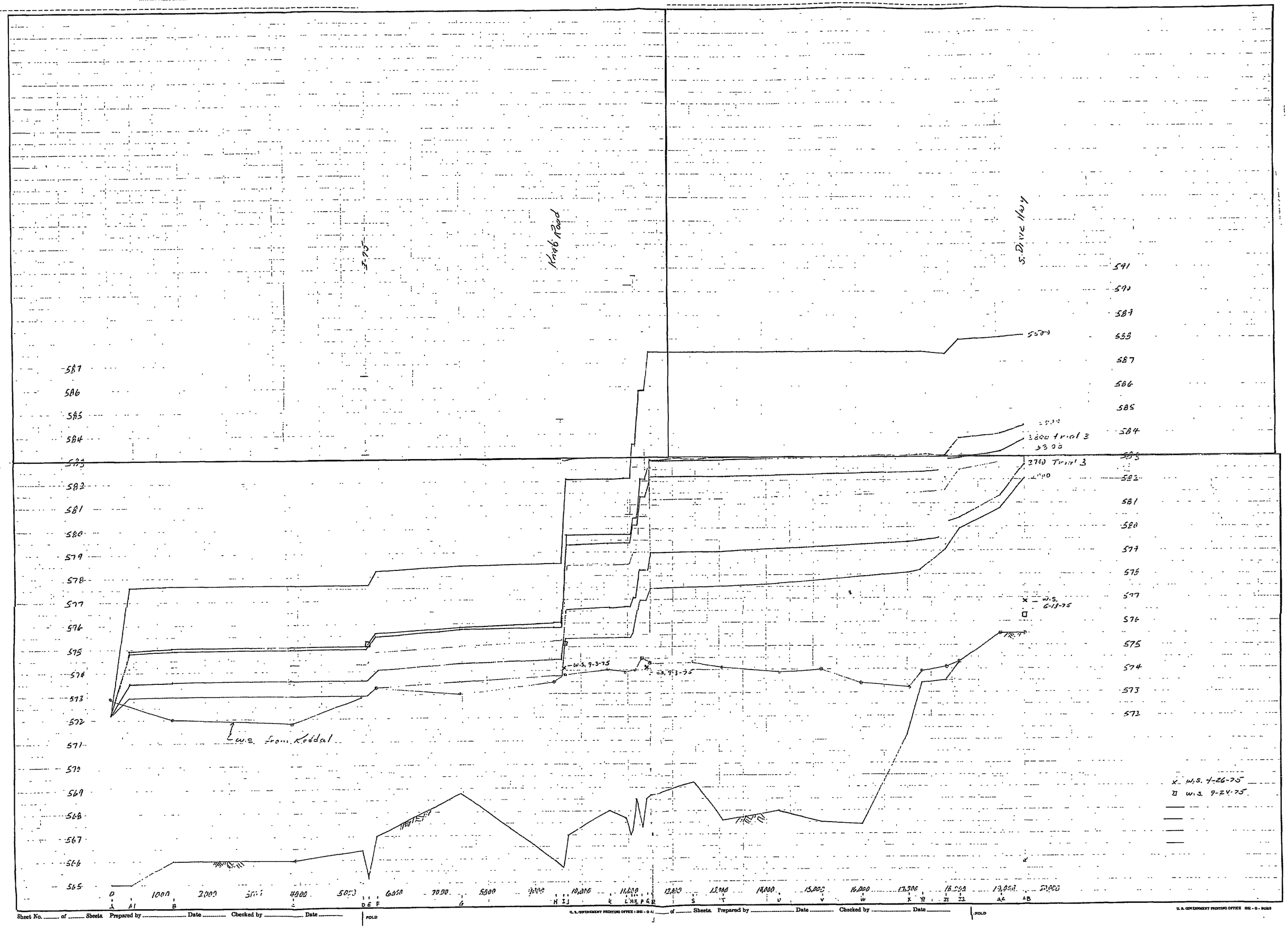
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

577.7 578.3



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1) COUNTY: Monroe

2) STUDY NAME: LaSalle Twp

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: 10yr



WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 4

SECID AT DISTANCE/ WS ELEV	LENGTH/DISCHARGE/ HV	HF	HE	AREA /CONVEYANCE/ EG	V	ALPHA/ FN	LEW / ACC	REW *ID*
A AT	0 / 0.33	0 /	1400. /	302. / 572.53	55211. / 4.63	1.00 / 0.30/	169. /	211. *IS*
	572.20 /							
A1 AT	400 / 0.01	400 / 0.05	1400. / 0.0	1514. / 572.58	295743. / 0.92	1.00 / 0.06	1000. / -0.000	1200. *XS*
	572.57 /							
B AT	1300 / 0.00	900 / 0.01	1400. / 0.0	3484. / 572.59	616218. / 0.40	1.07 / 0.03	547. / -0.000	1440. *XS*
	572.59 /							
C AT	3850 / 0.00	2550 / 0.01	1400. / 0.0	5986. / 572.59	1050210. / 0.23	1.09 / 0.02	286. / -0.010	1970. *XS*
	572.59 /							
D AT	5350 / 0.00	1500 / 0.00	1400. / 0.00	4045. / 572.59	576812. / 0.35	1.00 / 0.03	268. / -0.005	1178. *XS*
	572.59 /							
========== BEGIN BRIDGE ANALYSIS ==========								
E BR AT	5350 /	/	1400. /	381. /	43192. / 3.67	1.00 / 0.29	19. /	99. *BO*
	572.59 / 0.21 /							
NO ROAD OVERFLOW								*RG*
F AT	5650 / 0.04	300 / 0.01	1400. / 0.05	902. / 572.64	132384. / 1.55	1.00 / 0.13	931. / -0.011	1119. *AS*
	572.60 /							
M = 0.36 / E = 0.03 / K* = 0.80				936. /	140601. / 1.50	1.01 / 0.12	931. /	1119. *AS*
	572.78 / 0.03 /			572.81 /				
========== END BRIDGE ANALYSIS ==========								
F1 AT	5660 / 0.03	10 / 0.00	1400. / 0.00	936. / 572.81	140601. / 1.50	1.01 / 0.12	931. / -0.001	1119. *XS*
	572.78 /							
G AT	7450 / 0.01	1790 / 0.13	1400. / 0.0	1639. / 572.94	196457. / 0.85	1.00 / 0.08	168. / 0.000	646. *XS*
	572.93 /							
H AT	9450 / 0.01	2000 / 0.11	1400. / 0.00	1516. / 573.05	185961. / 0.92	1.00 / 0.09	217. / 0.000	634. *XS*
	573.04 /							
========== BEGIN BRIDGE ANALYSIS ==========								
I BR AT	9450 /	/	1400. /	240. /	28212. / 5.84	1.00 / 0.46	22. /	76. *BO*
	573.04 / 0.53 /							
NO ROAD OVERFLOW								*RG*
J AT	9690 / 0.06	240 / 0.02	1400. / 0.05	794. / 573.11	109756. / 1.76	1.30 / 0.14	146. / -0.011	502. *AS*
	573.05 /							

10 YR

WATER-SURFACE PROFILE FOR: OTTER CR

SECID / WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HF	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW / *ID*
M = 0.05 / E = 1.00 / K* = 0.14 /				824. / 573.19	113246. / 1.70	1.32 / 0.14	146. /	502. / *AS*
573.13 /	0.06 /							
========== END BRIDGE ANALYSIS ==========								
J1 AT	9700 /	10 /	1400. /	824. / 573.19	113246. / 1.70	1.32 / 0.14	146. / -0.002	502. / *XS*
573.13 /	0.06 /	0.00 /	0.0 /					
K AT	10590 /	890 /	1400. /	723. / 573.39	79231. / 1.94	1.00 / 0.20	196. / 0.001	435. / *XS*
573.33 /	0.06 /	0.19 /	0.0 /					
L AT	10930 /	340 /	1400. /	1171. / 573.44	148492. / 1.20	1.00 / 0.11	208. / 0.001	523. / *XS*
573.42 /	0.02 /	0.05 /	0.0 /					
========== BEGIN BRIDGE ANALYSIS ==========								
M BR AT	10930 /	/	1400. /	295. /	35155. / 4.75	1.00 / 0.42	1. /	84. / *BO*
573.42 /	0.35 /							
NO ROAD OVERFLOW								*RG*
N AT	11120 /	190 /	1400. /	773. / 573.48	146334. / 1.81	1.00 / 0.13	431. / -0.011	555. / *AS*
573.73 /	0.05 /	0.02 /	0.03 /					
M = 0.32 / E = 1.00 / K* = 0.80 /				809. / 573.77	157559. / 1.73	1.00 / 0.12	431. /	555. / *AS*
573.72 /	0.05 /							
========== END BRIDGE ANALYSIS ==========								
N1 AT	11130 /	10 /	1400. /	809. / 573.77	157559. / 1.73	1.00 / 0.12	431. / -0.001	555. / *XS*
573.72 /	0.05 /	0.00 /	0.00 /					
========== BEGIN BRIDGE ANALYSIS ==========								
O BR AT	11130 /	/	1400. /	274. /	33887. / 5.10	1.00 / 0.45	0. /	78. / *BO*
573.72 /	0.41 /							
NO ROAD OVEPFLOW								*RG*
P AT	11270 /	140 /	1400. /	1865. / 573.78	207488. / 0.75	1.29 / 0.07	450. / -0.000	1135. / *AS*
573.77 /	0.01 /	0.01 /	0.0 /					
M = 0.68 / E = 1.00 / K* = 2.05 /				2439. / 574.61	311061. / 0.57	1.16 / 0.05	450. /	1141. / *AS*
574.60 /	0.01 /							
========== END BRIDGE ANALYSIS ==========								
P1 AT	11280 /	10 /	1400. /	2439. / 574.61	311061. / 0.57	1.16 / 0.05	450. / -0.000	1141. / *XS*
574.60 /	0.01 /	0.00 /	0.00 /					
========== BEGIN BRIDGE ANALYSIS ==========								
Q BR AT	11280 /	/	1400. /	338. /	44268. / 4.14	1.00 / 0.34	0. /	77. / *BO*
574.60 /	0.27 /							

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 3 OF 4

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
NO ROAD OVERFLOW								*RG*
R AT 11480 /	200 /	1400. /	1066. /	109544. /	1.17 /	276. /	659.	
574.61 /	0.03 /	0.01 /	0.03 /	574.65 /	1.31 /	0.14 /	-0.011	*AS*
M = 0.57 / E = 0.80 / K* = 1.51 /			1228. /	135408. /	1.14 /	275. /	665.	
575.03 /	0.02 /			575.06 /	1.14 /	0.11 /		*AS*
========== END BRIDGE ANALYSIS ==========								
R1 AT 11490 /	10 /	1400. /	1228. /	135408. /	1.14 /	275. /	665.	
575.03 /	0.02 /	0.00 /	0.00 /	575.06 /	1.14 /	0.11 /	-0.001	*XS*
S AT 12430 /	940 /	1400. /	1529. /	155730. /	1.14 /	8. /	693.	
575.13 /	0.01 /	0.09 /	0.0 /	575.14 /	0.92 /	0.10 /	0.000	*XS*
T AT 13080 /	650 /	1400. /	868. /	80699. /	1.11 /	492. /	810.	
575.22 /	0.04 /	0.10 /	0.01 /	575.26 /	1.61 /	0.16 /	0.000	*XS*
U AT 14260 /	1180 /	1400. /	1023. /	77779. /	1.77 /	125. /	592.	
575.58 /	0.05 /	0.37 /	0.00 /	575.63 /	1.37 /	0.17 /	0.001	*XS*
V AT 15180 /	920 /	1400. /	1348. /	58051. /	1.31 /	92. /	782.	
576.01 /	0.02 /	0.40 /	0.0 /	576.04 /	1.04 /	0.15 /	0.002	*XS*
W AT 16030 /	850 /	1400. /	2265. /	83979. /	1.70 /	404. /	1357.	
576.37 /	0.01 /	0.34 /	0.0 /	576.38 /	0.62 /	0.06 /	0.001	*XS*
X AT 17010 /	980 /	1400. /	2303. /	63993. /	2.29 /	-330. /	906.	
576.73 /	0.01 /	0.36 /	0.00 /	576.74 /	0.61 /	0.06 /	0.000	*XS*
Y1 AT 17300 /	290 /	1400. /	663. /	22597. /	2.51 /	305. /	799.	
577.04 /	0.17 /	0.39 /	0.08 /	577.21 /	2.11 /	0.40 /	0.001	*XS*
Y2 AT 17650 /	350 /	1400. /	2403. /	163139. /	1.50 /	7. /	528.	
577.39 /	0.01 /	0.19 /	0.0 /	577.40 /	0.58 /	0.02 /	-0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
ZI BR AT 17650 /	/	1400. /	238. /	19423. /	1.05 /	640. /	724.	
577.39 /	0.54 /			/	5.88 /	0.55 /		*BO*
NO ROAD-GRADE DATA								*RG*
Z1A AT 17880 /	230 /	1400. /	263. /	12799. /	1.51 /	242. /	486.	
577.40 /	0.67 /	0.22 /	0.46 /	578.07 /	5.32 /	0.82 /	-0.011	*AS*

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
M = 0.33 / E = 0.27 / K* = 0.71			647.	29171.	2.13	-8.	522.	
578.30	0.16		578.46	2.17	0.38			*AS*
END BRIDGE ANALYSIS								
Z2 AT 18100	220	1400.	824.	35490.	2.20	34.	578.	
578.78	0.10	0.42	0.0	578.87	1.70	0.32	0.000	*XS*
AA AT 18960	860	1400.	425.	30505.	2.16	276.	695.	
580.19	0.36	1.56	0.13	580.56	3.30	0.43	-0.008	*XS*
AB AT 19500	540	1400.	310.	32390.	1.11	216.	329.	
581.28	0.35	1.07	0.0	581.63	4.52	0.41	0.002	*XS*

END OF THIS PROFILE

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: La Salle Twp.

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: 50 yr.

00BREAK00

50yr

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC									*ID*
A	AT	0 /	0 /	2300. /	302. /	55211. /	1.00 /	169. /	211.
	572.20 /	0.90 /		/ 573.10 /	7.61 /	0.50/			*IS*
A1	AT	400 /	400 /	2300. /	1640. /	336712. /	1.00 /	1000. /	1200.
	573.20 /	0.03 /	0.11 /	0.0 /	573.23 /	1.40 /	0.09 /	0.017	*XS*
R	AT	1300 /	900 /	2300. /	4050. /	726034. /	1.17 /	502. /	1441.
	573.24 /	0.01 /	0.02 /	0.0 /	573.25 /	0.57 /	0.04 /	-0.000	*XS*
C	AT	3850 /	2550 /	2300. /	6941. /	1237822. /	1.19 /	223. /	1984.
	573.24 /	0.00 /	0.02 /	0.0 /	573.25 /	0.33 /	0.02 /	-0.019	*XS*
D	AT	5350 /	1500 /	2300. /	4646. /	723966. /	1.00 /	247. /	1181.
	573.24 /	0.00 /	0.01 /	0.00 /	573.25 /	0.50 /	0.04 /	-0.008	*XS*
BEGIN BRIDGE ANALYSIS									
E	BR AT	5350 /		2300. /	432. /	51020. /	1.00 /	18. /	101.
	573.24 /	0.44 /			/	5.32 /	0.40 /		*BO*
NO ROAD OVERFLOW									*RG*
F	AT	5650 /	300 /	2300. /	1025. /	163264. /	1.01 /	931. /	1119.
	573.25 /	0.08 /	0.01 /	0.08 /	573.33 /	2.24 /	0.18 /	-0.011	*AS*
	M = 0.35 / E = 0.03 / K* = 0.78 /				1094. /	180912. /	1.01 /	930. /	1120.
	573.62 /	0.07 /			/ 573.69 /	2.10 /	0.16 /		*AS*
END BRIDGE ANALYSIS									
F1	AT	5660 /	10 /	2300. /	1094. /	180912. /	1.01 /	930. /	1120.
	573.62 /	0.07 /	0.00 /	0.0 /	573.69 /	2.10 /	0.16 /	-0.002	*XS*
G	AT	7450 /	1790 /	2300. /	2092. /	291266. /	1.00 /	167. /	653.
	573.87 /	0.02 /	0.18 /	0.0 /	573.89 /	1.10 /	0.09 /	0.020	*XS*
H	AT	9450 /	2000 /	2300. /	1918. /	273577. /	1.00 /	215. /	635.
	574.00 /	0.02 /	0.13 /	0.00 /	574.02 /	1.20 /	0.10 /	-0.000	*XS*
BEGIN BRIDGE ANALYSIS									
I	BR AT	9450 /		2300. /	289. /	35229. /	1.00 /	19. /	79.
	574.00 /	0.99 /			/	7.96 /	0.60 /		*BO*
NO ROAD OVERFLOW									*RG*
J	AT	9690 /	240 /	2300. /	1137. /	156579. /	1.39 /	145. /	502.
	574.01 /	0.09 /	0.03 /	0.06 /	574.10 /	2.02 /	0.17 /	-0.011	*AS*

WATER-SURFACE PROFILE FOR: OTTER CR

SECID	AT	DISTANCE/ WS ELEV	LENGTH/ HV	DISCHARGE/ HF	AREA / HF	CONVEYANCE/ EG	ALPHA/ V	LEW / FN	REW / ACC	*ID*
	M = 0.25 / E = 1.00 / K* = 0.77 /		1447. /	207073. /	1.38 /	26. /	504.			
		574.81 /	0.05 /		/	574.86 /	1.59 /	0.13 /		*AS*
========== END BRIDGE ANALYSIS ==========										
J1	AT	9700 /	10 /	2300. /	1447. /	207073. /	1.38 /	26. /	504.	
		574.81 /	0.05 /	0.00 /	0.0 /	574.86 /	1.59 /	0.13 /	-0.001	*XS*
K	AT	10590 /	890 /	2300. /	1112. /	159525. /	1.00 /	193. /	437.	
		574.94 /	0.07 /	0.14 /	0.01 /	575.01 /	2.07 /	0.17 /	-0.000	*XS*
L	AT	10930 /	340 /	2300. /	1771. /	252585. /	1.00 /	203. /	597.	
		575.03 /	0.03 /	0.04 /	0.0 /	575.06 /	1.30 /	0.11 /	0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========										
M	BR AT	10930 /		2300. /	415. /	59120. /	1.00 /	1. /	84.	
		575.03 /	0.48 /			/	5.55 /	0.41 /		*BO*
NO ROAD OVERFLOW										*RG*
N	AT	11120 /	190 /	2300. /	1043. /	187485. /	1.28 /	429. /	668.	
		575.04 /	0.10 /	0.02 /	0.07 /	575.14 /	2.20 /	0.17 /	-0.011	*AS*
	M = 0.24 / E = 1.00 / K* = 0.56 /		1114. /	203127. /	1.28 /	428. /	678.			
		575.33 /	0.09 /		/	575.41 /	2.07 /	0.16 /		*AS*
========== END BRIDGE ANALYSIS ==========										
N1	AT	11130 /	10 /	2300. /	1114. /	203127. /	1.28 /	428. /	678.	
		575.33 /	0.09 /	0.00 /	0.00 /	575.41 /	2.07 /	0.16 /	-0.002	*XS*
========== BEGIN BRIDGE ANALYSIS ==========										
O	BR AT	11130 /		2300. /	386. /	56995. /	1.00 /	0. /	78.	
		575.33 /	0.55 /			/	5.96 /	0.45 /		*BO*
NO ROAD OVERFLOW										*RG*
P	AT	11270 /	140 /	2300. /	3008. /	426709. /	1.11 /	448. /	1162.	
		575.41 /	0.01 /	0.01 /	0.0 /	575.42 /	0.76 /	0.06 /	-0.000	*AS*
	M = 0.76 / E = 1.00 / K* = 2.45 /		3991. /	661692. /	1.06 /	444. /	1180.			
		576.77 /	0.01 /		/	576.77 /	0.58 /	0.04 /		*AS*
========== END BRIDGE ANALYSIS ==========										
P1	AT	11280 /	10 /	2300. /	3991. /	661692. /	1.06 /	444. /	1180.	
		576.77 /	0.01 /	0.00 /	0.00 /	576.77 /	0.58 /	0.04 /	-0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========										
Q	BR AT	11280 /		2300. /	494. /	78166. /	1.00 /	0. /	77.	
		576.77 /	0.34 /			/	4.66 /	0.31 /		*BO*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 3 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HF / EG / V / FN / ACC	*ID*
NO ROAD OVERFLOW	*RG*
R AT 11480 / 200 / 2300. / 2301. / 282588. / 1.38 / 271. / 964. 576.78 / 0.02 / 0.01 / 0.03 / 576.80 / 1.00 / 0.09 / -0.011	*AS*
M = 0.69 / E = 0.83 / K* = 2.05 / 2804. / 359765. / 1.44 / 269. / 1000. 577.48 / 0.02 / / 577.50 / 0.82 / 0.07 /	*AS*
========== END BRIDGE ANALYSIS ==========	
R1 AT 11490 / 10 / 2300. / 2804. / 359765. / 1.44 / 269. / 1000. 577.48 / 0.02 / 0.00 / 0.00 / 577.50 / 0.82 / 0.07 / -0.001	*XS*
S AT 12430 / 940 / 2300. / 3179. / 410217. / 1.36 / 6. / 838. 577.52 / 0.01 / 0.03 / 0.0 / 577.53 / 0.72 / 0.06 / 0.000	*XS*
T AT 13080 / 650 / 2300. / 1857. / 199552. / 1.47 / 253. / 814. 577.55 / 0.04 / 0.04 / 0.01 / 577.59 / 1.24 / 0.11 / -0.000	*XS*
U AT 14260 / 1180 / 2300. / 2074. / 191464. / 1.57 / 116. / 634. 577.72 / 0.03 / 0.16 / 0.0 / 577.75 / 1.11 / 0.12 / 0.000	*XS*
V AT 15180 / 920 / 2300. / 2668. / 166380. / 1.26 / 76. / 789. 577.89 / 0.01 / 0.15 / 0.0 / 577.90 / 0.86 / 0.09 / -0.000	*XS*
W AT 16030 / 850 / 2300. / 3875. / 186314. / 1.37 / 392. / 1366. 578.04 / 0.01 / 0.15 / 0.0 / 578.05 / 0.59 / 0.05 / -0.000	*XS*
X AT 17010 / 980 / 2300. / 4166. / 156320. / 1.72 / -349. / 912. 578.22 / 0.01 / 0.18 / 0.00 / 578.23 / 0.55 / 0.05 / 0.000	*XS*
Y1 AT 17300 / 290 / 2300. / 1329. / 58247. / 1.84 / 278. / 801. 578.35 / 0.09 / 0.17 / 0.04 / 578.44 / 1.73 / 0.19 / 0.000	*XS*
Y2 AT 17650 / 350 / 2300. / 3033. / 208634. / 1.41 / -14. / 529. 578.58 / 0.01 / 0.15 / 0.0 / 578.59 / 0.76 / 0.03 / -0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========	
ZI BR AT 17650 / / 2300. / 330. / 30275. / 1.13 / 640. / 724. 578.58 / 0.75 / / 6.96 / 0.59 /	*BO*
NO ROAD-GRADE DATA	*RG*
Z1A AT 17880 / 230 / 2300. / 807. / 37732. / 2.08 / -11. / 530. 578.60 / 0.26 / 0.15 / 0.13 / 578.87 / 2.85 / 0.49 / -0.001	*AS*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 4 OF 4

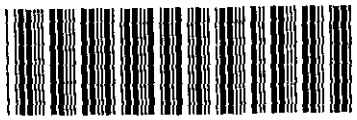
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
M = 0.58 / E = 0.22 / K* = 1.64 /				1604. /	97352. /	1.62 /	-25. /	535.
580.05 /	0.05 /			/ 580.10 /	1.43 /	0.20 /		*AS*
========== END BRIDGE ANALYSIS ==========								
Z2 AT	18100 /	220 /	2300. /	1604. /	91729. /	1.59 /	17. /	583.
580.18 /	0.05 /	0.13 /	0.0 /	580.23 /	1.43 /	0.13 /	0.001	*XS*
AA AT	18960 /	860 /	2300. /	766. /	45707. /	3.54 /	274. /	827.
581.04 /	0.50 /	1.09 /	0.22 /	581.54 /	3.00 /	0.49 /	-0.000	*XS*
AB AT	19500 /	540 /	2300. /	523. /	47922. /	1.77 /	213. /	499.
582.33 /	0.53 /	1.30 /	0.02 /	582.87 /	4.40 /	0.47 /	0.003	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 56,DATE= 3/ 9/76

PAGE 1 OF PROFILE NOTES FOR: OTTER CR
INITIAL VALUES ARE: Q = 2700. H = 572.20

SECID	ERROR OR WARNING MESSAGE	INTERMEDIATE RESULTS(IF ANY)	ACTION TAKEN
F	HIN TOO LOW		ADJUST HE SO HIN>WSD
J	HIN TOO LOW		ADJUST HE SO HIN>WSD
N	HIN TOO LOW		ADJUST HE SO HIN>WSD
R	HIN TOO LOW		ADJUST HE SO HIN>WSD



1) COUNTY: Monroe

2) STUDY NAME: La Salle Twp.

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: 100 yr.



100yr.

WATER-SURFACE PROFILE FOR: OTTER CR

SECID	AT	DISTANCE/ WS	LENGTH/ ELEV	DISCHARGE/ HV	AREA / HF	CONVEYANCE/ HE	ALPHA/ EG	LEW / V	REW / FN	ACC	*ID*
A	AT	0	0	2700.	302.	55211.	1.00	169.	211.		
		572.20	1.24			573.44	8.93	0.59			*IS*
A1	AT	400	400	2700.	1710.	360069.	1.00	1000.	1200.		
		573.55	0.04	0.15	0.0	573.59	1.58	0.10	-0.000		*XS*
B	AT	1300	900	2700.	4387.	791717.	1.22	478.	1442.		
		573.60	0.01	0.02	0.0	573.61	0.62	0.04	-0.000		*XS*
C	AT	3850	2550	2700.	7610.	1360474.	1.25	186.	1992.		
		573.62	0.00	0.02	0.0	573.63	0.35	0.03	0.000		*XS*
D	AT	5350	1500	2700.	5006.	815071.	1.01	223.	1183.		
		573.62	0.00	0.01	0.00	573.63	0.54	0.04	-0.009		*XS*
				BEGIN BRIDGE ANALYSIS							
E	BR AT	5350		2700.	463.	55871.	1.00	17.	102.		
		573.62	0.53				5.83	0.43			*BO*
		NO ROAD OVERFLOW									*RG*
F	AT	5650	300	2700.	1097.	181733.	1.01	930.	1120.		
		573.63	0.09	0.01	0.10	573.73	2.46	0.19	-0.011		*AS*
	M = 0.35	/ E = 0.03	/ K* = 0.77		1179.	203594.	1.01	929.	1121.		
		574.06	0.08			574.15	2.29	0.17			*AS*
				END BRIDGE ANALYSIS							
F1	AT	5660	10	2700.	1179.	203594.	1.01	929.	1121.		
		574.06	0.08	0.00	0.0	574.15	2.29	0.17	-0.002		*XS*
G	AT	7450	1790	2700.	2310.	341601.	1.00	166.	657.		
		574.31	0.02	0.19	0.0	574.34	1.17	0.09	0.001		*XS*
H	AT	9450	2000	2700.	2107.	318488.	1.00	213.	636.		
		574.45	0.03	0.13	0.00	574.47	1.28	0.10	0.000		*XS*
				BEGIN BRIDGE ANALYSIS							
I	BR AT	9450		2700.	314.	38909.	1.00	18.	80.		
		574.45	1.15				8.61	0.64			*BO*
		NO ROAD OVERFLOW									*RG*
J	AT	9690	240	2700.	1303.	183618.	1.38	109.	503.		
		574.46	0.09	0.03	0.06	574.55	2.07	0.17	-0.011		*AS*

WATER-SURFACE PROFILE FOR: OTTER CR


```
SECID AT DISTANCE/ LENGTH/DISCHARGE/  AREA  /CONVEYANCE/ ALPHA/  LEW  /  REW
  WS ELEV /    HV  /    HF  /    HE  /     EG  /     V  /    FN  /   ACC   *ID*
   M = 0.33 / E = 1.00 / K* = 0.99 /  1851. /  273546. / 1.39 /   13. /  507.
   575.66 /   0.05 /                /  575.70 /   1.46 /   0.11 /          *AS*
============================ END BRIDGE ANALYSIS ============================
J1    AT    9700 /    10 /   2700. /  1851. /  273546. / 1.39 /   13. /  507.
   575.66 /   0.05 /   0.00 /   0.0  /  575.70 /   1.46 /   0.11 / -0.001  *XS*
-------------------------------------------------------------------------------
K     AT   10590 /   890 /   2700. /  1313. /  208000. / 1.00 /  191. /  438.
   575.76 /   0.07 /   0.11 /   0.01 /  575.83 /   2.06 /   0.16 /  0.000  *XS*
-------------------------------------------------------------------------------
L     AT   10930 /   340 /   2700. /  2093. /  328962. / 1.00 /  200. /  603.
   575.84 /   0.03 /   0.04 /   0.0  /  575.86 /   1.29 /   0.10 / -0.000  *XS*
============================ BEGIN BRIDGE ANALYSIS ============================
M  BR AT   10930 /       /   2700. /   475. /   72419. / 1.00 /    1. /   84.
   575.84 /   0.50 /                               /   5.69 /   0.40 /          *BO*
-------------------------------------------------------------------------------
 NO ROAD OVERFLOW                                                          *RG*
-------------------------------------------------------------------------------
N     AT   11120 /   190 /   2700. /  1303. /  217279. / 1.66 /  427. /  967.
   575.85 /   0.11 /   0.02 /   0.09 /  575.96 /   2.07 /   0.18 / -0.011  *AS*
-------------------------------------------------------------------------------
   M = 0.25 / E = 0.99 / K* = 0.57 /  1458. /  241664. / 1.69 /  426. /  979.
   576.17 /   0.09 /                /  576.26 /   1.85 /   0.16 /          *AS*
============================ END BRIDGE ANALYSIS ============================
N1    AT   11130 /    10 /   2700. /  1458. /  241664. / 1.69 /  426. /  979.
   576.17 /   0.09 /   0.00 /   0.0  /  576.26 /   1.85 /   0.16 / -0.001  *XS*
============================ BEGIN BRIDGE ANALYSIS ============================
O  BR AT   11130 /       /   2700. /   444. /   70347. / 1.00 /    0. /   78.
   576.17 /   0.57 /                               /   6.08 /   0.42 /          *BO*
-------------------------------------------------------------------------------
 NO ROAD OVERFLOW                                                          *RG*
-------------------------------------------------------------------------------
P     AT   11270 /   140 /   2700. /  3617. /  567684. / 1.08 /  445. / 1173.
   576.25 /   0.01 /   0.01 /   0.0  /  576.26 /   0.75 /   0.06 / -0.000  *AS*
-------------------------------------------------------------------------------
   M = 0.79 / E = 1.00 / K* = 2.54 /  4701. /  853372. / 1.05 /  441. / 1194.
   577.72 /   0.01 /                /  577.72 /   0.57 /   0.04 /          *AS*
============================ END BRIDGE ANALYSIS ============================
P1    AT   11280 /    10 /   2700. /  4701. /  853372. / 1.05 /  441. / 1194.
   577.72 /   0.01 /   0.00 /   0.0  /  577.72 /   0.57 /   0.04 / -0.000  *XS*
============================ BEGIN BRIDGE ANALYSIS ============================
Q  BR AT   11280 /       /   2700. /   562. /   94612. / 1.00 /    0. /   77.
   577.72 /   0.36 /                               /   4.80 /   0.30 /          *BO*
-------------------------------------------------------------------------------
```

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 3 OF 4

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
NO ROAD OVERFLOW *RG*
R AT 11480 / 200 / 2700. / 2984. / 388575. / 1.47 / 269. / 1014. 577.73 / 0.02 / 0.00 / 0.03 / 577.75 / 0.90 / 0.08 / -0.011 *AS*
M = 0.72 / E = 0.84 / K* = 2.19 / 3596. / 491190. / 1.52 / 267. / 1045. 578.53 / 0.01 / / 578.54 / 0.75 / 0.06 / *AS*
========== END BRIDGE ANALYSIS ==========
R1 AT 11490 / 10 / 2700. / 3596. / 491190. / 1.52 / 267. / 1045. 578.53 / 0.01 / 0.00 / 0.00 / 578.54 / 0.75 / 0.06 / -0.001 *XS*
S AT 12430 / 940 / 2700. / 3976. / 554732. / 1.41 / 5. / 867. 578.56 / 0.01 / 0.03 / 0.0 / 578.57 / 0.68 / 0.06 / 0.000 *XS*
T AT 13080 / 650 / 2700. / 2458. / 276336. / 1.57 / 209. / 815. 578.58 / 0.03 / 0.03 / 0.01 / 578.61 / 1.10 / 0.10 / -0.000 *XS*
U AT 14260 / 1180 / 2700. / 2599. / 260677. / 1.51 / 112. / 662. 578.70 / 0.03 / 0.12 / 0.0 / 578.73 / 1.04 / 0.10 / -0.000 *XS*
V AT 15180 / 920 / 2700. / 3340. / 237327. / 1.25 / 72. / 793. 578.83 / 0.01 / 0.11 / 0.0 / 578.84 / 0.81 / 0.08 / 0.000 *XS*
W AT 16030 / 850 / 2700. / 4755. / 254322. / 1.30 / 385. / 1380. 578.94 / 0.01 / 0.10 / 0.0 / 578.94 / 0.57 / 0.05 / -0.000 *XS*
X AT 17010 / 980 / 2700. / 5234. / 223791. / 1.60 / -360. / 917. 579.06 / 0.01 / 0.13 / 0.00 / 579.07 / 0.52 / 0.04 / 0.000 *XS*
Y1 AT 17300 / 290 / 2700. / 1751. / 87633. / 1.66 / 261. / 803. 579.14 / 0.06 / 0.11 / 0.03 / 579.20 / 1.54 / 0.16 / -0.000 *XS*
Y2 AT 17650 / 350 / 2700. / 3437. / 242996. / 1.35 / -27. / 529. 579.31 / 0.01 / 0.12 / 0.0 / 579.32 / 0.79 / 0.03 / -0.000 *XS*
========== BEGIN BRIDGE ANALYSIS ==========
ZI BR AT 17650 / / 2700. / 388. / 37842. / 1.16 / 640. / 724. 579.31 / 0.75 / / 6.97 / 0.56 / *BO*
NO ROAD-GRADE DATA *RG*
Z1A AT 17880 / 230 / 2700. / 1217. / 65396. / 1.80 / -19. / 533. 579.35 / 0.14 / 0.11 / 0.06 / 579.49 / 2.22 / 0.34 / -0.000 *AS*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 4 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW								
WS ELEV /	HV /	HF /	HF /	EG /	V /	FN /	ACC	*ID*
M = 0.62 / E = 0.27 / K* = 1.84 /			2048. /	140055. /	1.51 /	-33. /	538.	
580.83 /	0.04 /		/ 580.88 /	1.32 /	0.17 /			*AS*
========== END BRIDGE ANALYSIS ==========								
Z2 AT 18100 /	220 /	2700. /	2027. /	130568. /	1.46 /	9. /	585.	
580.92 /	0.04 /	0.09 /	0.0 /	580.96 /	1.33 /	0.11 /	0.001	*XS*
AA AT 18960 /	860 /	2700. /	1047. /	60066. /	3.87 /	273. /	848.	
581.54 /	0.40 /	0.80 /	0.18 /	581.94 /	2.58 /	0.44 /	0.000	*XS*
AB AT 19500 /	540 /	2700. /	630. /	53536. /	2.16 /	213. /	955.	
582.66 /	0.62 /	1.22 /	0.11 /	583.28 /	4.29 /	0.49 /	-0.001	*XS*

END OF THIS PROFILE



1) COUNTY: Monroe

2) STUDY NAME: La Salle Twp

3) WATERCOURSE: ~~Otter~~ Creek

4) DOCUMENT TYPE: 100yr Encroached



*** INPUT CARD PRINTOUT ***

```
1     1 OTTER CR                                                  8  2  2 10 12
2     2  57220  57220
3     3 A      1  13  3  570        0  1  3
4     4   2700   2700
5   350       51  1  5785   75  1  5766  120  1  5746  167  2  5747  169  2  5729
5   351      169  2  5650  211  2  5650  211  2  5730  213  3  5752  241  3  5767
5   352      296  3  5763  352  3  5773  352  3  5785
6   370  1  2 060 060  1  2 025 025  1  2 060 060
3   375 A1     0   6  3  570      400  1  3
5   380      600  1  5790 1000  2  5740 1000  2  5650 1200  2  5650 1200  3  5740
5   381     1450  3  5790
6   385  1  2 060 060  1  2 028 028  1  2 060 060
3   400 B      0  25  3  570     1300  1  3
5   450      300  1  5800  375  1  5751  581  1  5721  649  1  5721  652  1  5734
5   451      665  1  5734  668  1  5721  761  1  5721  765  1  5734  786  2  5733
5   452      789  2  5720  789  2  5660 1297  2  5660 1297  2  5721 1299  3  5732
5   453     1312  3  5732 1315  3  5722 1439  3  5722 1444  3  5745 1487  3  5750
5   454     1509  3  5755 1555  3  5762 1583  3  5748 1653  3  5747 1657  3  5800
6   470  1  2 060 060  1  2 028 028  1  2 070 070
3   500 C      0  24  3  570     3850  1  3
5   550     -400  1  5800     0  1  5750  140  1  5741  295  1  5725  351  1  5712
5   551      450  1  5714  558  1  5719  674  1  5736  788  1  5723  880  1  5730
5   552     1000  1  5730 1067  1  5732 1081  2  5732 1088  2  5718 1088  2  5660
5   553     1950  2  5660 1950  2  5718 1960  3  5721 2009  3  5744 2079  3  5763
5   554     2205  3  5768 2278  3  5778 2339  3  5792 2451  3  5806
6   570  1  2 060 060  1  2 028 028  1  2 070 070
3   600 D      0  15  3  570     5350  1  3
5   650     -200  1  5800     0  1  5778   88  1  5773  126  1  5753  188  1  5742
5   651      268  2  5729  268  2  5664  568  2  5664  568  2  5690 1178  2  5690
5   652     1178  2  5729 1189  3  5744 1231  3  5752 1267  3  5774 1325  3  6016
6   660  1  2 060 060  1  2 028 028  1  2 070 070
3   700 F  BR 2  21  1  570     5350         0        3 0
                                                      M
5   750        0  1  5833     0  1  5790   12  1  5752   20  1  5724   35  1  5685
5   751       35  1  5833     0 -9  5833   37  1  5833   37  1  5666   50  1  5659
5   752       65  1  5652    80  1  5652   80  1  5833   37 -9  5833   82  1  5833
5   753       82  1  5668    95  1  5711  107  1  5753  117  1  5790  117  1  5833
5   754       82 -9  5833
6   770  1  2 032 032
3   800 F HWY 4   7  2  100          1  2          1 1                  1
5   840        0  1  5854  236  1  5857  406  2  5868  671  2  5859  929  2  5855
5   841     1163  2  5848 1360  2  5853
3   900 F      5  16  5  570     5650  2  4
5   940      824  1  5868  848  1  5806  859  1  5806  893  1  5856  907  1  5846
5   941      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5   942     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5   943     1262  5  6033
6   970  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
```

Otter FW
FW A-E

100yr Encroached

ERROR(S)

PAGE 1 OF EDITING NOTES FOR: OTTER CR

SECID	ERROR SEVERITY	PRIMARY VARIABLE	NO.	ERROR MESSAGE	SECOND VARIABLE	NO.	VALUE ASSUMED
F BR	WARNING	STATION	7	IS LESS THAN	STATION	6	
F BR	WARNING	STATION	14	IS LESS THAN	STATION	13	
F BR	WARNING	STATION	21	IS LESS THAN	STATION	20	

USGS STEP-PACKWATER PROGRAM - VERSION 72.279 *** PAGE COUNT= 3.DATE= 5/17/76

INPUT SUMMARY FOR: OTTER CR

8 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 8 TYPE 3 CARDS

KEPT   8 CROSS SECTIONS FOR EDITING

       8 "   "   VALID END PROPERTY COMPUTATIONS

       8 "   "   "   " PROFILE   "

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / EN / ACC *ID*								
A AT 0 / 0 / 2700. / 302. / 55211. / 1.00 / 169. / 211.								
572.20 / 1.24 / / 573.44 / 8.93 / 0.59/ *IS*								
A1 AT 400 / 400 / 2700. / 1710. / 360069. / 1.00 / 1000. / 1209.								
573.55 / 0.04 / 0.15 / 0.0 / 573.59 / 1.58 / 0.10 / -0.000 *XS*								
B AT 1300 / 900 / 2700. / 4387. / 791717. / 1.22 / 478. / 1442.								
573.60 / 0.01 / 0.02 / 0.0 / 573.61 / 0.62 / 0.04 / -0.000 *XS*								
C AT 3850 / 2550 / 2700. / 7610. / 1360474. / 1.25 / 186. / 1992.								
573.62 / 0.00 / 0.02 / 0.0 / 573.63 / 0.35 / 0.03 / 0.000 *XS*								
D AT 5350 / 1500 / 2700. / 5006. / 815071. / 1.01 / 223. / 1183.								
573.62 / 0.00 / 0.01 / 0.00 / 573.63 / 0.54 / 0.04 / -0.009 *XS*								
========== BEGIN BRIDGE ANALYSIS ==========								
E BR AT 5350 / / 2700. / 463. / 55871. / 1.00 / 17. / 102.								
573.62 / 0.53 / / 5.83 / 0.43 / *BO*								
NO ROAD OVERFLOW *RG*								
F AT 5650 / 300 / 2700. / 1097. / 181733. / 1.01 / 930. / 1120.								
573.63 / 0.09 / 0.01 / 0.10 / 573.73 / 2.46 / 0.19 / -0.011 *AS*								
M = 0.35 / E = 0.03 / K* = 0.77 / 1179. / 203594. / 1.01 / 929. / 1121.								
574.06 / 0.08 / / 574.15 / 2.29 / 0.17 / *AS*								
========== END BRIDGE ANALYSIS ==========								

END OF THIS PROFILE

```
==========================================================================
WATER-SURFACE PROFILE FOR: OTTER CR
PAGE  1 OF  1
*** FLOODWAY ANALYSIS *** HOR EW
==========================================================================
SECTD AT DISTANCE/ LENGTH/DISCHARGE/  AREA  /CONVEYANCE/ ALPHA/  LEV  /  REV
  WS ELEV /    HV  /    HE  /    HF  /     EG  /     V  /    EV  /   ACC   *TD*
==========================================================================
A     AT       0 /     0 /  2700. /   302. /  55211. / 1.00 /  169. /  211.
   572.20 /  1.24 /                 /  573.44 /   8.93 /  0.59/          *TS*
--------------------------------------------------------------------------
A1    AT     400 /   400 /  2700. /  1710. / 360969. / 1.00 / 1000. / 1200.
   573.55 /  0.04 /  0.15 /   0.0  /  573.59 /   1.58 /  0.10 / -0.000  *XS*
--------------------------------------------------------------------------
B     AT    1300 /   900 /  2700. /  4203. / 786745. / 1.14 /  478. / 1299.
   573.60 /  0.01 /  0.02 /   0.0  /  573.61 /   0.64 /  0.04 / 0.000  *XS*
--------------------------------------------------------------------------
C     AT    3850 /  2550 /  2700. /  5590. / 1335102. / 1.00 / 1083. / 1960.
   573.63 /  0.00 /  0.02 /   0.0  /  573.63 /   0.41 /  0.03 / -0.000  *XS*
--------------------------------------------------------------------------
D     AT    5350 /  1500 /  2700. /  4991. / 814564. / 1.00 /  268. / 1193.
   573.63 /  0.00 /  0.01 /   0.00 /  573.63 /   0.54 /  0.04 / -0.009  *XS*
============================ BEGIN BRIDGE ANALYSIS ============================
E  BR AT    5350 /       /  2700. /   463. /  55878. / 1.00 /   16. /  102.
   573.63 /  0.53 /                 /       /   5.83 /  0.43 /         *BO*
--------------------------------------------------------------------------
 NO ROAD OVERFLOW
                                                                      *BG*
--------------------------------------------------------------------------
F     AT    5650 /   300 /  2700. /  1097. / 181757. / 1.01 /  930. / 1120.
   573.63 /  0.09 /  0.01 /  0.10 /  573.73 /   2.46 /  0.19 / -0.011  *AS*
--------------------------------------------------------------------------
   M = 0.35 / E = 0.03 / K* = 0.77 /  1179. / 203619. / 1.01 /  929. / 1121.
   574.07 /  0.08 /                 /  574.15 /   2.29 /  0.17 /         *AS*
============================ END BRIDGE ANALYSIS ============================

                          END OF THIS PROFILE
```

A
B
C
D
E
F

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 5/11/76

*** INPUT CARD PRINTOUT ***

```
1      1 OTTER CR                                                  12  2  2 10 12
2      2  57406  57407
3    980 F1     1  16  5  570     5660  1  5
4      4   2700   2700
                                                                                                  SEQUENCE ERROR
5    981      824  1  5868  848  1  5806  859  1  5806  883  1  5856  907  1  5846
5    982      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5    983     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5    984     1262  5  6033
6    990  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
3   1000 G      0  18  3  572     7450  1  3
5   1040     -600  1  5800 -100  1  5779    0  1  5770   80  1  5768   98  1  5749
5   1041      108  1  5761  119  1  5761  165  2  5750  168  2  5730  168  2  5695
5   1042      646  2  5695  646  2  5730  658  3  5744  728  3  5749  808  3  5756
5   1043      842  3  5768  900  3  5779 1007  3  5801
6   1060  1  2 060 060  1  2 028 028  1  2 060 060
3   1100 H      0  13  3  572     9450  1  3
5   1140        0  1  5871   48  1  5833  103  1  5807  156  1  5787  203  2  5766
5   1141      217  2  5735  217  2  5700  584  2  5700  584  2  5650  634  2  5650
5   1142      634  2  5735  645  3  5802  686  3  5820
6   1160  1  2 070 070  1  2 028 028  1  2 060 060
3   1500 I  BR 2  28  1  570     9450        0        3 1
                                                      M                                          **ERROR(S)**
5   1520        0  1  5826    0  1  5800    6  1  5794   12  1  5771   18  1  5743
5   1521       24  1  5723   31  1  5712   31  1  5827    0 -9  5826   34  1  5827
5   1522       34  1  5666   40  1  5664   46  1  5657   52  1  5658   58  1  5659
5   1523       64  1  5665   66  1  5667   66  1  5829   34 -9  5827   69  1  5829
5   1524       69  1  5710   75  1  5725   81  1  5750   87  1  5774   93  1  5796
5   1525      100  1  5805  100  1  5830   69 -9  5829
6   1530  1  2 030 030
3   1535 I HWY 4  16  3   33          1  3          1 1 1              1
5   1540        0  1  5878  141  1  5881  206  1  5882  266  1  5887  343  1  5874
5   1541      420  2  5857  519  3  5838  589  3  5823  750  3  5812  850  3  5818
5   1542      931  3  5828 1006  3  5834 1110  3  5840 1191  3  5843 1257  3  5842
5   1543     1311  3  5842
3   1550 J      5  17  4  572     9690  2  4
5   1560     -100  1  5800    0  1  5766   30  1  5745   61  1  5752   85  1  5749
5   1561      112  1  5744  144  1  5742  146  2  5738  146  2  5725  402  3  5725
5   1562      402  3  5665  502  3  5665  502  4  5740  520  4  5802  530  4  5821
5   1563      554  4  5820  600  4  5818
6   1570  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3   1572 J1     0  17  4  572     9700  1  4
5   1573     -100  1  5800    0  1  5766   30  1  5745   61  1  5752   85  1  5749
5   1574      112  1  5744  144  1  5742  146  2  5738  146  2  5725  402  3  5725
5   1575      402  3  5665  502  3  5665  502  4  5740  520  4  5802  530  4  5821
5   1576      554  4  5820  600  4  5818
6   1579  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3   1580 K      0  15  1  572    10590 99 99
5   1590        0  1  5857   48  1  5857   94  1  5850  126  1  5842  127  1  5828
5   1591      152  1  5817  178  1  5805  196  1  5740  196  1  5703  435  1  5703
```

FW
F to K

*** INPUT CARD PRINTOUT ***

```
5  1592      435  1  5740  441  1  5771  467  1  5767  471  1  5792  478  1  5812
6  1595  1  2 028 028
3  1600 L      0  14  1  573   10930 99 99
5  1610      122  1  5875  144  1  5871  151  1  5871  163  1  5796  191  1  5789
5  1611      211  1  5724  226  1  5739  226  1  5695  523  1  5695  523  1  5739
5  1612      564  1  5735  590  1  5741  608  1  5765  618  1  5785
6  1615  1  2 028 028
3  1620 M  RR 2  16  1  573   10930       15       2 0
                                                M                                    **ERROR(S)**
5  1630        1  1  5806    1  1  5719   10  1  5693   20  1  5685   30  1  5688
5  1631       39  1  5697   39  1  5806    1 -9  5806   45  1  5806   45  1  5721
5  1632       54  1  5671   64  1  5685   74  1  5703   84  1  5728   84  1  5806
5  1633       45 -9  5806
6  1635  1  2 030 030
3  1640 M  RR 4   9  2   36          1  2          2 2                1
5  1645        0  1  5895  114  1  5895  276  1  5895  341  1  5898  359  1  5898
5  1646      444  2  5898  566  2  5898  663  2  5892  839  2  5892
3  1650 N      5  24  3  573   11120  1  3
5  1660      376  1  5901  391  1  5858  405  1  5852  431  2  5740  431  2  5672
5  1661      514  3  5672  555  3  5672  555  3  5740  579  3  5741  633  3  5746
5  1662      663  3  5749  680  3  5754  722  3  5756  757  3  5773  798  3  5756
5  1663      850  3  5755  903  3  5755  937  3  5760  955  3  5755  991  3  5765
5  1664     1040  3  5768 1109  3  5776 1145  3  5786 1145  3  5900
6  1670  1  2 025 025  1  2 025 025  1  2 025 025
```

PAGE 1 OF EDITING NOTES FOR: OTTER CR

SECID	ERROR SEVERITY	PRIMARY VARIABLE	NO.	ERROR MESSAGE	SECOND VARIABLE	NO.	VALUE ASSUMED
I BR	WARNING	STATION	9	IS LESS THAN	STATION	8	
I BR	WARNING	STATION	19	IS LESS THAN	STATION	18	
I BR	WARNING	STATION	28	IS LESS THAN	STATION	27	
M BR	WARNING	STATION	8	IS LESS THAN	STATION	7	
M BR	WARNING	STATION	16	IS LESS THAN	STATION	15	

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 4.DATE= 5/11/76

INPUT SUMMARY FOR: OTTER CR

12 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 12 TYPE 3 CARDS

KEPT 12 CROSS SECTIONS FOR EDITING

12 " " VALID FOR PROPERTY COMPUTATIONS

12 " " " " PROFILE "

```
==========================================================================
WATER-SURFACE PROFILE FOR: OTTER CR
PAGE  1 OF  1
==========================================================================
SECID AT DISTANCE/ LENGTH/DISCHARGE/  AREA  /CONVEYANCE/ ALPHA/  LFW  /  REW
  WS ELEV /    HV  /    HF  /    HF  /     EG  /     V  /    FN  /   ACC   *ID*
==========================================================================
F1     AT    5660 /     0 /  2700. / 1178. / 203340. / 1.01 /  929. / 1121.
   574.06 /   0.08 /                / 574.14 /   2.29 /  0.17/         *IS*
--------------------------------------------------------------------------
G      AT    7450 /  1790 /  2700. / 2308. / 341034. / 1.00 /  166. /  657.
   574.31 /   0.02 /  0.19 /   0.0  / 574.33 /   1.17 /  0.10 / 0.000  *XS*
--------------------------------------------------------------------------
H      AT    9450 /  2000 /  2700. / 2105. / 318008. / 1.00 /  213. /  636.
   574.44 /   0.03 /  0.13 /  0.00 / 574.47 /   1.28 /  0.10 / -0.000 *XS*
========================== BEGIN BRIDGE ANALYSIS ==========================
I  BR AT    9450 /       /  2700. /  313. /  38869. / 1.00 /   18. /   80.
   574.44 /   1.16 /                       /   8.62 /  0.64 /         *BO*
--------------------------------------------------------------------------
 NO ROAD OVERFLOW                                                    *RG*
--------------------------------------------------------------------------
J      AT    9690 /   240 /  2700. / 1301. / 183321. / 1.38 /  109. /  503.
   574.45 /   0.09 /  0.03 /  0.06 / 574.54 /   2.08 /  0.17 / -0.011 *AS*
--------------------------------------------------------------------------
   M = 0.33 / E = 1.00 / K* = 0.99 /  1849. /  273208. / 1.39 /   14. /  507.
   575.65 /   0.05 /                / 575.70 /   1.46 /  0.11 /         *AS*
========================== END BRIDGE ANALYSIS ============================
J1     AT    9700 /    10 /  2700. / 1849. / 273208. / 1.39 /   14. /  507.
   575.65 /   0.05 /  0.00 /   0.0  / 575.70 /   1.46 /  0.11 / -0.001 *XS*
--------------------------------------------------------------------------
K      AT   10590 /   890 /  2700. / 1312. / 207771. / 1.00 /  191. /  438.
   575.76 /   0.07 /  0.11 /  0.01 / 575.82 /   2.06 /  0.16 / -0.000 *XS*
--------------------------------------------------------------------------
L      AT   10930 /   340 /  2700. / 2091. / 328621. / 1.00 /  200. /  603.
   575.83 /   0.03 /  0.04 /   0.0  / 575.86 /   1.29 /  0.10 / 0.000  *XS*
========================== BEGIN BRIDGE ANALYSIS ==========================
M  BR AT   10930 /       /  2700. /  474. /  72361. / 1.00 /    1. /   84.
   575.83 /   0.50 /                       /   5.69 /  0.40 /         *BO*
--------------------------------------------------------------------------
 NO ROAD OVERFLOW                                                    *RG*
--------------------------------------------------------------------------
N      AT   11120 /   190 /  2700. / 1302. / 217048. / 1.65 /  427. /  967.
   575.84 /   0.11 /  0.02 /  0.09 / 575.95 /   2.07 /  0.18 / -0.011 *AS*
--------------------------------------------------------------------------
   M = 0.25 / E = 0.99 / K* = 0.57 /  1456. /  241333. / 1.69 /  426. /  979.
   576.16 /   0.09 /                / 576.25 /   1.85 /  0.16 /         *AS*
========================== END BRIDGE ANALYSIS ============================

                          END OF THIS PROFILE
```

*** INPUT CARD PRINTOUT ***

```
9 20010   980 HOR       923 1131
9 20011  1000 HOR       165  658
9 20012  1100 HOR       203  645
9 20013  1572 HOR       146  502
9 20014  1580 HOR       178  435
9 20015  1600 HOR       226  523
9 20015       END                    HOR FW
```

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*									
F1 AT	5660 /	0 /	2700. /	1180. /	203861. /	1.01 /	929. /	1121.	
574.07 /	0.08 /		/	574.15 /	2.29 /	0.17/		*IS*	F
G AT	7450 /	1790 /	2700. /	2313. /	342198. /	1.00 /	166. /	657.	
574.32 /	0.02 /	0.19 /	0.0 /	574.34 /	1.17 /	0.09 /	0.001	*XS*	G
H AT	9450 /	2000 /	2700. /	2109. /	318967. /	1.00 /	213. /	636.	
574.45 /	0.03 /	0.13 /	0.00 /	574.48 /	1.28 /	0.10 /	0.000	*XS*	H
BEGIN BRIDGE ANALYSIS									
I BR AT	9450 /	/	2700. /	314. /	38950. /	1.00 /	18. /	80.	
574.45 /	1.15 /			/	8.60 /	0.64 /		*BO*	
NO ROAD OVERFLOW								*RG*	
J AT	9690 /	240 /	2700. /	1305. /	183915. /	1.38 /	109. /	503.	
574.46 /	0.09 /	0.03 /	0.06 /	574.55 /	2.07 /	0.17 /	-0.011	*AS*	
M = 0.33 / E = 1.00 / K* = 0.99 /				1853. /	273863. /	1.39 /	13. /	507.	
575.66 /	0.05 /			/ 575.71 /	1.46 /	0.11 /		*AS*	
END BRIDGE ANALYSIS									
J1 AT	9700 /	10 /	2700. /	1725. /	267129. /	1.26 /	146. /	502.	
575.66 /	0.05 /	0.00 /	0.00 /	575.71 /	1.57 /	0.12 /	-0.000	*XS*	I
K AT	10590 /	890 /	2700. /	1311. /	208765. /	1.00 /	191. /	435.	
575.77 /	0.07 /	0.12 /	0.01 /	575.83 /	2.06 /	0.16 /	0.000	*XS*	J
L AT	10930 /	340 /	2700. /	1882. /	333625. /	1.00 /	226. /	523.	
575.84 /	0.03 /	0.04 /	0.0 /	575.87 /	1.43 /	0.10 /	0.000	*XS*	K
BEGIN BRIDGE ANALYSIS									
M BR AT	10930 /	/	2700. /	475. /	72427. /	1.00 /	1. /	84.	
575.84 /	0.50 /			/	5.69 /	0.40 /		*BO*	
NO ROAD OVERFLOW								*RG*	
N AT	11120 /	190 /	2700. /	1303. /	217312. /	1.66 /	427. /	968.	
575.85 /	0.11 /	0.02 /	0.08 /	575.96 /	2.07 /	0.18 /	-0.011	*AS*	
M = 0.25 / E = 0.99 / K* = 0.57 /				1458. /	241726. /	1.69 /	426. /	979.	
576.17 /	0.09 /			/ 576.26 /	1.85 /	0.16 /		*AS*	
END BRIDGE ANALYSIS									

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 5/18/76

*** INPUT CARD PRINTOUT ***

```
1      1 OTTER CR                                          9  2  2 10 12
2      2  57616  57616
3   1672 N1     1  24  3  573   11130  1  3
4      4   2700   2700
                                                                                SEQUENCE ERROR
5   1673      376  1  5901  391  1  5858  405  1  5852  431  2  5740  431  2  5672
5   1674      514  3  5672  555  3  5672  555  3  5740  579  3  5741  633  3  5746
5   1675      663  3  5749  680  3  5754  722  3  5756  757  3  5773  798  3  5756
5   1676      850  3  5755  903  3  5755  937  3  5760  955  3  5755  991  3  5765
5   1677     1040  3  5768 1109  3  5776 1145  3  5786 1145  3  5900
6   1679  1  2 025 025  1  2 025 025  1  2 025 025
3   1680 O  BR 2  20  1  573   11130       15       2 0
                                                M                                   **ERROR(S)**
5   1685        0  1  5826    0  1  5730    6  1  5722   12  1  5710   18  1  5697
5   1686       24  1  5691   30  1  5692   36  1  5697   36  1  5826    0 -9  5826
5   1687       42  1  5826   42  1  5700   48  1  5693   54  1  5688   60  1  5691
5   1688       66  1  5690   72  1  5684   78  1  5704   78  1  5826   42 -9  5826
6   1695  1  2 028 028
3   1700 O  RR 4  10  2   18          1  2          2 2                1
5   1705        0  1  5901  126  1  5901  243  2  5907  261  2  5907  372  2  5898
5   1706      468  2  5898  542  2  5898  607  2  5898  722  2  5898  763  2  5898
3   1710 P      5  20  3  573   11270  1  3
5   1715      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5   1716      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5   1717     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5   1718     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6   1720  1  2 028 028  1  2 028 028  1  2 028 028
3   1722 P1     0  20  3  573   11280  1  3
5   1723      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5   1724      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5   1725     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5   1726     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6   1728  1  2 028 028  1  2 028 028  1  2 028 028
3   1730 Q  BR 2  23  1  574   11280        0       2 0
                                                M                                   **ERROR(S)**
5   1735        0  1  5820    0  1  5708    5  1  5702   10  1  5697   15  1  5694
5   1736       20  1  5689   25  1  5686   30  1  5687   36  1  5698   36  1  5820
5   1737        0 -9  5820   41  1  5820   41  1  5704   45  1  5701   50  1  5695
5   1738       55  1  5691   60  1  5702   65  1  5706   70  1  5713   75  1  5723
5   1739       77  1  5724   77  1  5820    0 -9  5820
6   1745  1  2 028 028
3   1750 Q  RR 4  16  2   36          1  2          2 2                1
5   1760        0  1  5879  167  1  5871  356  1  5875  377  1  5870  491  1  5870
5   1761      617  1  5865  755  1  5866  884  1  5868 1024  1  5875 1239  2  5881
5   1762     1427  2  5885 1626  2  5888 1759  2  5895 1781  2  5895 1896  2  5890
5   1763     1997  2  5891
3   1770 R      5  20  5  574   11480  2  4
5   1775      135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5   1776      277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5   1777      404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
```

FW L-M

*** INPUT CARD PRINTOUT ***

```
5  1778      860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6  1780  1   2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
3  1782 R1     0  20  5  574   11490  1  5
5  1783      135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5  1784      277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5  1785      404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5  1786      860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6  1788  1   2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
```

PAGE 1 OF EDITING NOTES FOR: OTTER CR

SECID	ERROR SEVERITY	PRIMARY VARIABLE	NO.	ERROR MESSAGE	SECOND VARIABLE	NO.	VALUE ASSUMED
0 BR	WARNING	STATION	10	IS LESS THAN	STATION	9	
0 BR	WARNING	STATION	20	IS LESS THAN	STATION	19	
0 BR	WARNING	STATION	11	IS LESS THAN	STATION	10	
0 BR	WARNING	STATION	23	IS LESS THAN	STATION	22	

INPUT SUMMARY FOR: OTTER CR

9 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 9 TYPE 3 CARDS

KEPT 9 CROSS SECTIONS FOR EDITING

9 " " VALID FOR PROPERTY COMPUTATIONS

9 " " " " PROFILE "

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 13,DATE= 5/18/76

PAGE 1 OF PROFILE NOTES FOR: OTTER CR
     INITIAL VALUES ARE: Q = 2700. H = 576.16

SECID,ERROR OR WARNING MESSAGE,INTERMEDIATE RESULTS(IF ANY),ACTION TAKEN

R   ,HIN TOO LOW
                                                    ,ADJUST HE SO HIN>WSD

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
N1 AT 11130 / 576.16	0 / 0.09	2700. /	1455. / 576.25	241147. / 1.86	1.69 / 0.16	426. /	979.	*IS*
BEGIN BRIDGE ANALYSIS								
0 BR AT 11130 / 576.16	/ 0.58	2700. /	444. /	70247. / 6.08	1.00 / 0.42	0. /	78.	*BO*
NO ROAD OVERFLOW								*RG*
P AT 11270 / 576.25	140 / 0.01	2700. / 0.01	3613. / 0.0	566688. / 576.26	1.08 / 0.75	445. / 0.06	1173. / 0.000	*AS*
M = 0.79 / E = 1.00 / K* = 2.54 / 577.72			4698. /	852594. / 577.72	1.05 / 0.57	441. / 0.04	1194. /	*AS*
END BRIDGE ANALYSIS								
P1 AT 11280 / 577.72	10 / 0.01	2700. / 0.00	4698. / 0.0	852594. / 577.72	1.05 / 0.57	441. / 0.04	1194. / -0.000	*XS*
BEGIN BRIDGE ANALYSIS								
Q BR AT 11280 / 577.72	/ 0.36	2700. /	562. /	94547. / 4.80	1.00 / 0.30	0. /	77.	*BO*
NO ROAD OVERFLOW								*RG*
R AT 11480 / 577.73	200 / 0.02	2700. / 0.00	2982. / 0.03	388136. / 577.74	1.47 / 0.91	269. / 0.08	1014. / -0.011	*AS*
M = 0.72 / E = 0.84 / K* = 2.19 / 578.53			3594. /	490761. / 578.54	1.52 / 0.75	267. / 0.06	1045. /	*AS*
END BRIDGE ANALYSIS								
R1 AT 11490 / 578.53	10 / 0.01	2700. / 0.00	3594. / 0.00	490761. / 578.54	1.52 / 0.75	267. / 0.06	1045. / -0.001	*XS*

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
9 20020   1672 HOR       431  531
9 20024   1722 HOR       441  541
9 20030   1782 HOR       267  667
9 20035        END                        HOR FW
```

CROSS-SECTION PROPERTIES FOR: OTTER CR
SECID=N1 AT DISTANCE= 11130

*** FLOODWAY ANALYSIS *** HOR FW

WS	A	K	ALPHA	B	P	LEW	REW
573.0	580.	104141.	1.01	100.	112.	431.	531.
574.0	680.	134323.	1.01	100.	114.	431.	531.
575.0	780.	167103.	1.01	100.	116.	431.	531.
576.0	880.	202274.	1.02	100.	118.	431.	531.
577.0	980.	239660.	1.02	100.	120.	431.	531.
578.0	1080.	279112.	1.02	100.	122.	431.	531.
579.0	1180.	320497.	1.02	100.	124.	431.	531.
580.0	1280.	363697.	1.03	100.	126.	431.	531.
581.0	1380.	408610.	1.03	100.	128.	431.	531.
582.0	1480.	455139.	1.03	100.	130.	431.	531.
583.0	1580.	503201.	1.03	100.	132.	431.	531.
584.0	1680.	552718.	1.04	100.	134.	431.	531.
585.0	1780.	603619.	1.04	100.	136.	431.	531.
586.0	1880.	655837.	1.04	100.	138.	431.	531.
587.0	1980.	709312.	1.04	100.	140.	431.	531.
588.0	2080.	763990.	1.04	100.	142.	431.	531.
589.0	2180.	819817.	1.05	100.	144.	431.	531.
590.0	2280.	876746.	1.05	100.	146.	431.	531.
590.1	2290.	882490.	1.05	100.	146.	431.	531.

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 17.DATE= 5/18/76

CROSS-SECTION PROPERTIES FOR: OTTER CR
SECID=P1 AT DISTANCE= 11280 PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

WS	A	K	ALPHA	B	P	LEW	REW
573.0	449.	67149.	1.04	91.	102.	450.	541.
574.0	540.	89213.	1.04	91.	104.	450.	541.
575.0	631.	114003.	1.04	92.	107.	449.	541.
576.0	725.	141659.	1.04	95.	111.	446.	541.
577.0	821.	171847.	1.05	98.	115.	443.	541.
578.0	920.	204571.	1.06	100.	118.	441.	541.
579.0	1020.	239790.	1.06	100.	120.	441.	541.
580.0	1120.	277182.	1.07	100.	122.	441.	541.
581.0	1220.	316624.	1.07	100.	124.	441.	541.
582.0	1320.	358023.	1.08	100.	126.	441.	541.
583.0	1420.	401300.	1.08	100.	128.	441.	541.
584.0	1520.	446394.	1.08	100.	130.	441.	541.
585.0	1620.	493249.	1.09	100.	132.	441.	541.
586.0	1720.	541817.	1.09	100.	134.	441.	541.
587.0	1820.	592057.	1.10	100.	136.	441.	541.
588.0	1920.	643932.	1.10	100.	138.	441.	541.
589.0	2020.	697405.	1.11	100.	140.	441.	541.
590.0	2120.	752447.	1.11	100.	142.	441.	541.
590.5	2170.	780548.	1.12	100.	143.	441.	541.

CROSS-SECTION PROPERTIES FOR: OTTER CR
SECID=R1 AT DISTANCE= 11490

*** FLOODWAY ANALYSIS *** HOR FW

WS	A	K	ALPHA	B	P	LEW	REW
574.0	833.	75917.	1.26	377.	385.	277.	654.
575.0	1215.	133241.	1.14	389.	398.	275.	664.
576.0	1607.	206268.	1.09	394.	404.	273.	667.
577.0	2003.	292978.	1.06	397.	408.	270.	667.
578.0	2401.	391916.	1.04	399.	412.	268.	667.
579.0	2800.	502843.	1.03	400.	414.	267.	667.
580.0	3200.	624739.	1.02	400.	416.	267.	667.
581.0	3600.	756691.	1.02	400.	418.	267.	667.
582.0	4000.	898190.	1.02	400.	420.	267.	667.
583.0	4400.	1048794.	1.01	400.	422.	267.	667.
584.0	4800.	1208117.	1.01	400.	424.	267.	667.
585.0	5200.	1375812.	1.01	400.	426.	267.	667.
586.0	5600.	1551568.	1.01	400.	428.	267.	667.
587.0	6000.	1735104.	1.01	400.	430.	267.	667.
588.0	6400.	1926160.	1.01	400.	432.	267.	667.
588.8	6720.	2084225.	1.01	400.	434.	267.	667.

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
N1 AT	11130 /	0 /	2700. /	896. /	208107. /	1.02 /	431. /	531.
576.16 /	0.14 /		/	576.30 /	3.01 /	0.18/		*IS*
BEGIN BRIDGE ANALYSIS								
0 BR AT	11130 /	/	2700. /	444. /	70247. /	1.00 /	0. /	78.
576.16 /	0.58 /			/	6.08 /	0.42 /		*BO*
NO ROAD OVERFLOW								*RG*
P AT	11270 /	140 /	2700. /	3652. /	576293. /	1.08 /	445. /	1174.
576.30 /	0.01 /	0.01 /	0.0 /	576.31 /	0.74 /	0.06 /	0.000	*AS*
M = 0.79 / E = 1.00 / K* = 2.55 /				4740. /	864652. /	1.05 /	441. /	1194.
577.77 /	0.01 /			/	577.78 /	0.57 /	0.04 /	*AS*
END BRIDGE ANALYSIS								
P1 AT	11280 /	10 /	2700. /	890. /	194468. /	1.06 /	441. /	541.
577.70 /	0.15 /	0.00 /	0.07 /	577.85 /	3.03 /	0.18 /	-0.000	*XS*
BEGIN BRIDGE ANALYSIS								
Q BR AT	11280 /	/	2700. /	561. /	94267. /	1.00 /	0. /	77.
577.70 /	0.36 /			/	4.81 /	0.30 /		*BO*
NO ROAD OVERFLOW								*RG*
R AT	11480 /	200 /	2700. /	3076. /	403442. /	1.48 /	268. /	1020.
577.85 /	0.02 /	0.02 /	0.0 /	577.87 /	0.88 /	0.08 /	-0.000	*AS*
M = 0.73 / E = 0.84 / K* = 2.21 /				3690. /	507588. /	1.53 /	266. /	1050.
578.65 /	0.01 /			/	578.66 /	0.73 /	0.06 /	*AS*
END BRIDGE ANALYSIS								
R1 AT	11490 /	10 /	2700. /	2661. /	462844. /	1.03 /	267. /	667.
578.65 /	0.02 /	0.00 /	0.00 /	578.67 /	1.01 /	0.07 /	0.001	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 5/25/76

*** INPUT CARD PRINTOUT ***

```
1      1 OTTER CR                                          15  2  2 99 12
2     10  57853  57863
3   1782 R1     1  20  5  574   11490  1  5
4    320   2700   2700
                                                                                  SEQUENCE ERROR
5   1783      135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5   1784      277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5   1785      404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5   1786      860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6   1788  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
3   1790 S      0  28  3  574   12430  1  3
5   1795        0  1  5789    4  1  5789    6  1  5783    8  1  5746   31  1  5743
5   1796       60  1  5746   78  1  5745  101  1  5749  149  1  5745  205  1  5755
5   1797      218  1  5756  226  1  5744  269  2  5743  269  2  5718  691  2  5718
5   1798      691  2  5743  707  3  5802  736  3  5808  772  3  5785  800  3  5771
5   1799      834  3  5774  864  3  5784  910  3  5806  960  3  5823 1007  3  5840
5   1800     1064  3  5852 1068  3  5852 1093  3  5853
6   1805  1  2 070 070  1  2 030 030  1  2 060 060
3   1810 T      0  18  2  574   13080  1  99
5   1815        0  1  5841   16  1  5841   30  1  5832   93  1  5840  148  1  5800
5   1816      255  1  5775  321  1  5773  483  1  5752  584  2  5741  584  2  5716
5   1817      808  2  5716  808  2  5741  824  2  5837  836  2  5853  885  2  5858
5   1818      929  2  5862  966  2  5864  985  2  5864
6   1825  1  2 060 060  1  2 035 035
3   1830 U      0  24  3  575   14260 99  3
5   1835        0  1  5886   40  1  5877   54  1  5870   58  1  5862   73  1  5863
5   1836       84  1  5861  131  1  5739  131  1  5709  248  1  5709  248  2  5739
5   1837      271  2  5743  327  2  5740  423  2  5739  451  2  5747  506  2  5742
5   1838      566  3  5742  580  3  5750  599  3  5759  623  3  5773  657  3  5786
5   1839      692  3  5794  731  3  5800  771  3  5814  806  3  5827
6   1845  1  2 035 035  1  2 055 055  1  2 060 060
3   1850 V      0  30  3  575   15180  1  3
5   1855        0  1  5901   35  1  5876   59  1  5826   78  1  5772  101  1  5752
5   1856      139  1  5751  171  1  5740  241  1  5742  268  1  5750  293  1  5746
5   1857      303  1  5741  318  1  5741  334  1  5749  375  1  5740  408  2  5755
5   1858      421  2  5747  430  2  5740  430  2  5721  544  2  5721  544  2  5740
5   1859      561  2  5734  580  2  5743  759  3  5743  778  3  5751  793  3  5788
5   1860      817  3  5809  851  3  5830  891  3  5838  948  3  5839 1009  3  5841
6   1865  1  2 080 080  1  2 050 050  1  2 060 060
3   1870 W      0  34  4  575   16030  2  4
5   1875        0  1  5911   48  1  5916  105  1  5904  161  1  5891  218  1  5887
5   1876      282  1  5881  324  2  5872  428  2  5731  726  2  5731  739  2  5735
5   1877      790  2  5742  817  2  5743  867  2  5747  901  2  5748  967  2  5744
5   1878     1019  3  5734 1019  3  5704 1057  3  5704 1057  4  5734 1061  4  5755
5   1879     1067  4  5736 1074  4  5754 1125  4  5748 1156  4  5747 1211  4  5751
5   1880     1241  4  5752 1289  4  5749 1346  4  5754 1353  4  5754 1363  4  5779
5   1881     1376  4  5786 1387  4  5795 1393  4  5858 1401  4  5863
6   1885  1  2 060 060  1  2 080 080  1  2 050 050  1  2 080 080
3   1890 X      0  43  3  575   17010  1  3
5   1894     -455  1  5890 -424  1  5857 -377  1  5804 -313  1  5754 -238  1  5769
```

FW see N

*** INPUT CARD PRINTOUT ***

```
5  1895    -191  1  5744  -75  1  5749    0  1  5736   44  1  5742   73  1  5741
5  1896     123  1  5749  184  1  5741  248  1  5749  306  1  5753  380  1  5755
5  1897     440  1  5755  504  1  5763  562  1  5768  590  1  5766  607  1  5766
5  1898     618  1  5739  644  1  5739  648  1  5739  684  1  5743  729  1  5743
5  1899     784  1  5743  825  2  5732  825  2  5722  860  2  5722  860  2  5734
5  1900     900  2  5739  908  3  5776  931  3  5815  956  3  5853  984  3  5860
5  1901    1047  3  5874 1063  3  5860 1076  3  5870 1121  3  5878 1197  3  5875
5  1902    1233  3  5882 1268  3  5881 1280  3  5875
6  1905  1  2 100 100  1  2 050 050  1  2 060 060
3  1910 Y1    0  44  5  575   17300  2  4
5  1915       0  1  5889   61  1  5888  131  1  5880  178  1  5870  196  1  5885
5  1916     256  1  5794  306  1  5770  350  1  5760  376  1  5760  380  1  5768
5  1917     393  1  5765  433  1  5768  497  1  5768  509  1  5771  540  1  5740
5  1918     559  1  5746  582  2  5756  615  2  5772  650  2  5762  673  2  5755
5  1919     698  2  5740  729  3  5739  729  3  5734  779  3  5734  779  3  5739
5  1920     785  4  5751  797  4  5760  816  4  5860  838  4  5862  848  4  5848
5  1921     891  5  5859  918  5  5865  934  5  5869  948  5  5872  995  5  5870
5  1922    1036  5  5875 1069  5  5878 1115  5  5882 1147  5  5884 1174  5  5886
5  1923    1213  5  5880 1228  5  5874 1236  5  5879 1259  5  5874
6  1930  1  2 060 060  1  2 120 120  1  2 050 050  1  2 080 080  1  2 060 060
3  1940 Y2    0  14  4  575   17650  2  4
5  1945    -180  1  5880   40  1  5755  200  1  5765  300  2  5750  430  3  5735
5  1946     430  3  5730  480  3  5730  480  3  5735  490  3  5750  500  4  5760
5  1947     510  4  4855  530  4  5860  540  4  5855  840  4  5880
6  1950  1  2 060 060  1  2 120 120  1  2 050 050  1  2 060 060
3  1960 ZI BR 2  10  2  575   17650        0       3 0
                                                M                                    **ERROR(S)**
5  1965     640  1  5882  640  1  5770  657  1  5770  657  1  5882  640 -9  5882
5  1966     663  2  5882  663  2  5736  724  2  5736  724  2  5887  663 -9  5882
6  1967  1  2 100 100  1  2 040 040
3  1990 Z1A   5  14  3  575   17880  1  3
5  1995    -100  1  5875    0  1  5775  150  1  5775  220  1  5785  250  1  5770
5  1996     280  2  5770  320  2  5743  350  2  5743  360  3  5780  430  3  5760
5  1997     530  3  5785  550  3  5845  570  3  5845  620  3  5875
6  2000  1  2 060 060  1  2 040 040  1  2 060 060
3  2001 Z1B   0  14  3  575   17890  1  3
5  2002    -100  1  5875    0  1  5775  150  1  5775  220  1  5785  250  1  5770
5  2003     280  2  5770  320  2  5743  350  2  5743  360  3  5780  430  3  5760
5  2004     530  3  5785  550  3  5845  570  3  5845  620  3  5875
6  2005  1  2 060 060  1  2 040 040  1  2 060 060
3  2010 Z2    0  32  4  575   18100  1  3
5  2015     -64  1  5894    0  1  5817   33  1  5788   93  1  5772  161  1  5779
5  2016     201  1  5778  268  1  5784  284  1  5776  298  1  5759  311  1  5768
5  2017     338  1  5773  360  2  5770  368  2  5743  395  2  5743  410  3  5780
5  2018     444  3  5771  461  3  5760  473  3  5774  503  3  5764  533  3  5773
5  2019     545  3  5776  573  3  5775  597  3  5842  620  3  5841  627  3  5853
5  2020     634  3  5850  675  3  5875  685  3  5883  720  4  5894  731  4  5898
5  2021     776  4  5893  835  4  5907
6  2025  1  2 060 060  1  2 040 040  1  2 060 060  1  2 060 060
3  2030 AA    0  34  3  578   18960  1  3
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*** INPUT CARD PRINTOUT ***

```
5  2035      223  1  5910  240  1  5894  256  1  5873  263  1  5871  284  2  5755
5  2036      331  2  5755  338  3  5803  354  3  5780  385  3  5779  405  3  5790
5  2037      414  3  5801  435  3  5801  452  3  5812  461  3  5801  502  3  5801
5  2038      553  3  5806  593  3  5811  628  3  5806  636  3  5801  641  3  5784
5  2039      645  3  5784  649  3  5793  665  3  5804  683  3  5793  698  3  5804
5  2040      719  3  5810  730  3  5807  799  3  5804  872  3  5821  965  3  5861
5  2041      988  3  5881 1072  3  5906 1133  3  5910 1203  3  5921
6  2045  1   2 040 040  1  2 035 035  1  2 080 080
3  2050 AB     0  32  3  578    19500  1  3
5  2055        0  1  5934   62  1  5911  105  1  5902  119  1  5902  167  1  5878
5  2056      181  1  5870  206  2  5852  230  2  5760  264  2  5755  284  3  5804
5  2057      303  3  5808  341  3  5815  389  3  5819  428  3  5818  459  3  5817
5  2058      494  3  5822  522  3  5830  575  3  5824  623  3  5826  700  3  5827
5  2059      766  3  5845  796  3  5850  851  3  5849  924  3  5846  938  3  5857
5  2060      949  3  5826  955  3  5826  967  3  5856  996  3  5857 1039  3  5873
5  2061     1093  3  5907 1133  3  5917
6  2065  1   2 040 040  1  2 035 035  1  2 080 080
```

PAGE 1 OF EDITING NOTES FOR: OTTER CR

SECID	ERROR SEVERITY	PRIMARY VARIABLE	NO.	ERROR MESSAGE	SECOND VARIABLE	NO.	VALUE ASSUMED
ZI BR	WARNING	STATION	5	IS LESS THAN	STATION	4	
ZI BR	WARNING	STATION	10	IS LESS THAN	STATION	9	

INPUT SUMMARY FOR: OTTER CR

15 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 15 TYPE 3 CARDS

KEPT 15 CROSS SECTIONS FOR EDITING

15 " " VALID FOR PROPERTY COMPUTATIONS

15 " " " " PROFILE "

*** INPUT CARD PRINTOUT ***

```
7 20000                                0 1
8 20001                                0 0
```

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
R1 AT 11490 / 0 / 2700. / 3595. / 490993. / 1.52 / 267. / 1045. 578.53 / 0.01 / / 578.54 / 0.75 / 0.06/ *IS*
S AT 12430 / 940 / 2700. / 3974. / 554514. / 1.41 / 5. / 867. 578.56 / 0.01 / 0.03 / 0.0 / 578.57 / 0.68 / 0.06 / -0.000 *XS*
T AT 13080 / 650 / 2700. / 2457. / 276216. / 1.57 / 209. / 815. 578.58 / 0.03 / 0.03 / 0.01 / 578.61 / 1.10 / 0.10 / -0.000 *XS*
U AT 14260 / 1180 / 2700. / 2598. / 260585. / 1.51 / 112. / 662. 578.70 / 0.03 / 0.12 / 0.0 / 578.73 / 1.04 / 0.10 / -0.000 *XS*
V AT 15180 / 920 / 2700. / 3339. / 237229. / 1.25 / 72. / 793. 578.82 / 0.01 / 0.11 / 0.0 / 578.84 / 0.81 / 0.08 / -0.000 *XS*
W AT 16030 / 850 / 2700. / 4749. / 267724. / 1.31 / 385. / 1380. 578.93 / 0.01 / 0.10 / 0.0 / 578.94 / 0.57 / 0.04 / -0.000 *XS*
X AT 17010 / 980 / 2700. / 5218. / 222741. / 1.60 / -360. / 917. 579.05 / 0.01 / 0.12 / 0.00 / 579.06 / 0.52 / 0.04 / 0.000 *XS*
Y1 AT 17300 / 290 / 2700. / 1745. / 87178. / 1.66 / 262. / 803. 579.13 / 0.06 / 0.11 / 0.03 / 579.19 / 1.55 / 0.16 / 0.000 *XS*
Y2 AT 17650 / 350 / 2700. / 3431. / 242510. / 1.35 / -27. / 529. 579.30 / 0.01 / 0.12 / 0.0 / 579.31 / 0.79 / 0.03 / 0.000 *XS*
========== BEGIN BRIDGE ANALYSIS ==========
ZI BR AT 17650 / / 2700. / 387. / 37737. / 1.16 / 640. / 724. 579.30 / 0.76 / / 6.98 / 0.56 / *BO*
NO ROAD-GRADE DATA *RG*
Z1A AT 17880 / 230 / 2700. / 1211. / 64999. / 1.80 / -18. / 533. 579.34 / 0.14 / 0.11 / 0.06 / 579.48 / 2.23 / 0.34 / -0.000 *AS*
M = 0.62 / E = 0.27 / K* = 1.83 / 2046. / 139855. / 1.51 / -33. / 538. 580.83 / 0.04 / / 580.87 / 1.32 / 0.17 / *AS*
========== END BRIDGE ANALYSIS ==========
Z1B AT 17890 / 10 / 2700. / 2046. / 139855. / 1.51 / -33. / 538. 580.83 / 0.04 / 0.00 / 0.0 / 580.87 / 1.32 / 0.17 / -0.004 *XS*
Z2 AT 18100 / 210 / 2700. / 2023. / 130170. / 1.46 / 9. / 585. 580.92 / 0.04 / 0.08 / 0.0 / 580.96 / 1.33 / 0.11 / 0.001 *XS*

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
AA	AT	18960 /	860 /	2700. /	1045. /	59942. /	3.87 /	273. /	848.
581.54 /	0.40 /	0.80 /	0.18 /	581.94 /	2.58 /	0.44 /	-0.000	*XS*	
AB	AT	19500 /	540 /	2700. /	630. /	53528. /	2.16 /	213. /	955.
582.66 /	0.62 /	1.23 /	0.11 /	583.27 /	4.29 /	0.49 /	-0.001	*XS*	

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
9 20010  1782 HOR      267  667
9 20011  1790 HOR      203  703
9 20012  1810 HOR      265  815
9 20013  1830 HOR      112  662
9 20014  1850 HOR      200  750
9 20015  1870 HOR      400 1350
9 20016  1890 HOR       17  917
9 20017  1910 HOR      203  803
9 20018  1940 HOR      -71  529
9 20019  2001 HOR       50  500
9 20020  2010 HOR       35  585
9 20021  2030 HOR      273  673
9 20022  2050 HOR      213  613
9 20023       END                    HOR FW MAR 17
```

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 2
*** FLOODWAY ANALYSIS *** HOR FW MAR 17

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW	
WS ELEV		HV	HF	HE	EG	V	FN	ACC		*ID*
R1	AT	11490	0	2700.	2652.	460393.	1.03	267.	667.	
578.63		0.02			578.65	1.02	0.07			*IS*
S	AT	12430	940	2700.	3183.	526515.	1.10	203.	703.	
578.66		0.01	0.03	0.0	578.67	0.85	0.06	-0.000		*XS*
T	AT	13080	650	2700.	2480.	286670.	1.50	265.	815.	
578.69		0.03	0.03	0.01	578.71	1.09	0.10	0.000		*XS*
U	AT	14260	1180	2700.	2652.	268237.	1.50	112.	662.	
578.80		0.02	0.11	0.0	578.83	1.02	0.10	-0.000		*XS*
V	AT	15180	920	2700.	2768.	211834.	1.18	200.	750.	
578.93		0.02	0.12	0.0	578.94	0.98	0.09	0.000		*XS*
W	AT	16030	850	2700.	4800.	278672.	1.28	400.	1350.	
579.04		0.01	0.10	0.0	579.05	0.56	0.04	-0.000		*XS*
X	AT	17010	980	2700.	3916.	179680.	1.66	17.	917.	
579.18		0.01	0.14	0.00	579.20	0.69	0.05	0.000		*XS*
Y1	AT	17300	290	2700.	1831.	93675.	1.63	258.	803.	
579.29		0.06	0.13	0.02	579.34	1.47	0.15	0.000		*XS*
Y2	AT	17650	350	2700.	3509.	249576.	1.34	-29.	529.	
579.44		0.01	0.11	0.0	579.45	0.77	0.03	0.000		*XS*
BEGIN BRIDGE ANALYSIS										
ZI BR	AT	17650		2700.	398.	39246.	1.16	640.	724.	
579.44		0.72				6.79	0.54			*BO*
NO ROAD-GRADE DATA										*RG*
Z1A	AT	17880	230	2700.	1288.	70859.	1.76	-20.	533.	
579.48		0.12	0.09	0.05	579.60	2.10	0.32	-0.000		*AS*
M = 0.63 / E = 0.27 / K* = 1.85					2077.	143017.	1.50	-34.	538.	
580.89		0.04			580.92	1.30	0.16			*AS*
END BRIDGE ANALYSIS										
Z1B	AT	17890	10	2700.	1758.	127949.	1.46	50.	500.	
580.89		0.05	0.00	0.01	580.94	1.54	0.18	0.003		*XS*
Z2	AT	18100	210	2700.	2033.	134341.	1.43	35.	585.	
580.99		0.04	0.09	0.0	581.03	1.33	0.11	-0.000		*XS*

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW									
WS ELEV	HV	HF	HE	EG	V	FN	ACC		*ID*
R1 AT 11490	0	2700.	3595.	490993.	1.52	267.	1045.		
578.53	0.01			578.54	0.75	0.06			*IS*
S AT 12430	940	2700.	3974.	554514.	1.41	5.	867.		
578.56	0.01	0.03	0.0	578.57	0.68	0.06	-0.000		*XS*
T AT 13080	650	2700.	2457.	276216.	1.57	209.	815.		
578.58	0.03	0.03	0.01	578.61	1.10	0.10	-0.000		*XS*
U AT 14260	1180	2700.	2598.	260585.	1.51	112.	662.		
578.70	0.03	0.12	0.0	578.73	1.04	0.10	-0.000		*XS*
V AT 15180	920	2700.	3339.	237229.	1.25	72.	793.		
578.82	0.01	0.11	0.0	578.84	0.81	0.08	-0.000		*XS*
W AT 16030	850	2700.	4749.	267724.	1.31	385.	1380.		
578.93	0.01	0.10	0.0	578.94	0.57	0.04	-0.000		*XS*
X AT 17010	980	2700.	5218.	222741.	1.60	-360.	917.		
579.05	0.01	0.12	0.00	579.06	0.52	0.04	0.000		*XS*
Y1 AT 17300	290	2700.	1745.	87178.	1.66	262.	803.		
579.13	0.06	0.11	0.03	579.19	1.55	0.16	0.000		*XS*
Y2 AT 17650	350	2700.	3431.	242510.	1.35	-27.	529.		
579.30	0.01	0.12	0.0	579.31	0.79	0.03	0.000		*XS*
BEGIN BRIDGE ANALYSIS									
ZI BR AT 17650		2700.	387.	37737.	1.16	640.	724.		
579.30	0.76				6.98	0.56			*BO*
NO ROAD-GRADE DATA									*RG*
Z1A AT 17880	230	2700.	1211.	64999.	1.80	-18.	533.		
579.34	0.14	0.11	0.06	579.48	2.23	0.34	-0.000		*AS*
M = 0.62 / E = 0.27 / K* = 1.83			2046.	139855.	1.51	-33.	538.		
580.83	0.04			580.87	1.32	0.17			*AS*
END BRIDGE ANALYSIS									
Z1B AT 17890	10	2700.	2046.	139855.	1.51	-33.	538.		
580.83	0.04	0.00	0.0	580.87	1.32	0.17	-0.004		*XS*
Z2 AT 18100	210	2700.	2023.	130170.	1.46	9.	585.		
580.92	0.04	0.08	0.0	580.96	1.33	0.11	0.001		*XS*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 2 OF 2

SECID	AT	DISTANCE / WS	LENGTH / ELEV	DISCHARGE / HV	AREA / HF	CONVEYANCE / HE	ALPHA / EG	LEW / V	REW / FN	ACC	*ID*
AA	AT	18960 /	860 /	2700. /	1045. /	59942. /	3.87 /	273. /	848.		
		581.54 /	0.40 /	0.80 /	0.18 /	581.94 /	2.58 /	0.44 /	-0.000		*XS*
AB	AT	19500 /	540 /	2700. /	630. /	53528. /	2.16 /	213. /	955.		
		582.66 /	0.62 /	1.23 /	0.11 /	583.27 /	4.29 /	0.49 /	-0.001		*XS*

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
9 20010  1782 HOR      267  867
9 20011  1790 HOR      103  703
9 20012  1810 HOR      215  815
9 20013  1830 HOR      112  712
9 20014  1850 HOR      150  750
9 20015  1870 HOR      400 1350
9 20016  1890 HOR       17  917
9 20017  1910 HOR      203  803
9 20018  1940 HOR      -71  529
9 20019  2001 HOR       50  500
9 20020  2010 HOR       35  585
9 20021  2030 HOR      273  673
9 20022  2050 HOR      213  613
9 20023       END                    HOR FW MAR 17
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WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 2
*** FLOODWAY ANALYSIS *** HOR FW MAR 17

SECID	AT	DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
R1	AT	11490 / 578.63	0 / 0.01	2700. /	3321. / 578.64	494501. /	1.33 / 0.81	267. / 0.06	867.	*IS*
S	AT	12430 / 578.66	940 / 0.01	2700. / 0.03	3562. / 0.0	545612. / 578.67	1.24 / 0.76	103. / 0.06	703. / 0.000	*XS*
T	AT	13080 / 578.68	650 / 0.03	2700. / 0.03	2517. / 0.01	285321. / 578.71	1.56 / 1.07	215. / 0.10	815. / 0.000	*XS*
U	AT	14260 / 578.80	1180 / 0.02	2700. / 0.11	2649. / 0.0	267627. / 578.82	1.51 / 1.02	112. / 0.10	666. / -0.000	*XS*
V	AT	15180 / 578.92	920 / 0.02	2700. / 0.11	3000. / 0.0	223740. / 578.93	1.19 / 0.90	150. / 0.08	750. / 0.000	*XS*
W	AT	16030 / 579.03	850 / 0.01	2700. / 0.10	4785. / 0.0	277212. / 579.03	1.28 / 0.56	400. / 0.04	1350. / -0.000	*XS*
X	AT	17010 / 579.17	980 / 0.01	2700. / 0.14	3903. / 0.00	178688. / 579.18	1.66 / 0.69	17. / 0.05	917. / 0.000	*XS*
Y1	AT	17300 / 579.27	290 / 0.06	2700. / 0.13	1823. / 0.02	93104. / 579.33	1.63 / 1.48	259. / 0.15	803. / 0.000	*XS*
Y2	AT	17650 / 579.43	350 / 0.01	2700. / 0.11	3503. / 0.0	248956. / 579.44	1.34 / 0.77	-29. / 0.03	529. / 0.000	*XS*
	BEGIN BRIDGE ANALYSIS									
ZI	BR AT	17650 / 579.43	/ 0.72	2700. /	397. /	39114. / 6.80	1.16 / 0.54	640. /	724.	*BO*
	NO ROAD-GRADE DATA									*RG*
Z1A	AT	17880 / 579.47	230 / 0.12	2700. / 0.10	1281. / 0.05	70331. / 579.59	1.76 / 2.11	-20. / 0.32	533. / -0.000	*AS*
	M = 0.63 / E = 0.27 / K* = 1.85				2074. /	142699. / 580.92	1.50 / 1.30	-34. / 0.16	538.	*AS*
	END BRIDGE ANALYSIS									
Z1B	AT	17890 / 580.88	10 / 0.05	2700. / 0.00	1756. / 0.01	127678. / 580.93	1.46 / 1.54	50. / 0.18	500. / 0.003	*XS*
Z2	AT	18100 / 580.98	210 / 0.04	2700. / 0.09	2030. / 0.0	134062. / 581.02	1.43 / 1.33	35. / 0.11	585. / -0.000	*XS*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 2 OF 2
*** FLOODWAY ANALYSIS *** HOR FW MAR 17

SECID	AT	DISTANCE /	LENGTH /	DISCHARGE /	AREA /	CONVEYANCE /	ALPHA /	LEW /	REW
	WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
AA	AT	18960 /	860 /	2700. /	896. /	58526. /	3.12 /	273. /	673.
	581.58 /	0.44 /	0.80 /	0.20 /	582.02 /	3.01 /	0.46 /	0.000	*XS*
AB	AT	19500 /	540 /	2700. /	652. /	55550. /	2.16 /	213. /	613.
	582.73 /	0.58 /	1.21 /	0.07 /	583.30 /	4.14 /	0.48 /	0.000	*XS*

END OF THIS PROFILE

1) COUNTY: Monroe

2) STUDY NAME: La Salle Twp.

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: 500 yr.

500yr

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 61,DATE= 3/ 9/76

PAGE 1 OF PROFILE NOTES FOR: OTTER CR
INITIAL VALUES ARF: Q = 3800. H = 572.20

SECID	ERROR OR WARNING MESSAGE	INTERMEDIATE RESULTS(IF ANY)	ACTION TAKEN
F	HIN TOO LOW		ADJUST HE SO HIN>WSD
J	HIN TOO LOW		ADJUST HE SO HIN>WSD
N	HIN TOO LOW		ADJUST HE SO HIN>WSD
R	HIN TOO LOW		ADJUST HE SO HIN>WSD

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 1 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
A AT 0 / 0 / 3800. / 302. / 55211. / 1.00 / 169. / 211. 572.20 / 2.46 / / 574.66 / 12.57 / 0.83/ *IS*
A1 AT 400 / 400 / 3800. / 2010. / 453785. / 1.04 / 934. / 1241. 574.83 / 0.06 / 0.23 / 0.0 / 574.89 / 1.89 / 0.11 / -0.000 *XS*
B AT 1300 / 900 / 3800. / 5720. / 1057344. / 1.41 / 388. / 1653. 574.90 / 0.01 / 0.03 / 0.0 / 574.91 / 0.66 / 0.05 / -0.000 *XS*
C AT 3850 / 2550 / 3800. / 10091. / 1836924. / 1.45 / 11. / 2029. 574.93 / 0.00 / 0.02 / 0.0 / 574.93 / 0.38 / 0.03 / 0.000 *XS*
D AT 5350 / 1500 / 3800. / 6323. / 1165402. / 1.03 / 147. / 1217. 574.93 / 0.01 / 0.01 / 0.00 / 574.94 / 0.60 / 0.04 / -0.009 *XS*
========== BEGIN BRIDGE ANALYSIS ==========
E BR AT 5350 / / 3800. / 575. / 74307. / 1.00 / 13. / 106. 574.93 / 0.68 / / 6.61 / 0.46 / *BO*
NO ROAD OVERFLOW *RG*
F AT 5650 / 300 / 3800. / 1349. / 251429. / 1.02 / 927. / 1123. 574.94 / 0.13 / 0.01 / 0.13 / 575.06 / 2.82 / 0.20 / -0.011 *AS*
M = 0.34 / E = 0.03 / K* = 0.75 / 1456. / 283191. / 1.02 / 925. / 1125. 575.48 / 0.11 / / 575.59 / 2.61 / 0.18 / *AS*
========== END BRIDGE ANALYSIS ==========
F1 AT 5660 / 10 / 3800. / 1456. / 283191. / 1.02 / 925. / 1125. 575.48 / 0.11 / 0.00 / 0.0 / 575.59 / 2.61 / 0.18 / -0.002 *XS*
G AT 7450 / 1790 / 3800. / 3138. / 531244. / 1.07 / 90. / 812. 575.73 / 0.02 / 0.17 / 0.0 / 575.75 / 1.21 / 0.09 / -0.006 *XS*
H AT 9450 / 2000 / 3800. / 2702. / 475590. / 1.00 / 206. / 638. 575.84 / 0.03 / 0.11 / 0.00 / 575.87 / 1.41 / 0.10 / -0.000 *XS*
========== BEGIN BRIDGE ANALYSIS ==========
I BR AT 9450 / / 3800. / 396. / 52062. / 1.00 / 15. / 83. 575.84 / 1.43 / / 9.60 / 0.67 / *BO*
NO ROAD OVERFLOW *RG*
J AT 9690 / 240 / 3800. / 1947. / 290627. / 1.38 / 11. / 507. 575.85 / 0.08 / 0.03 / 0.05 / 575.93 / 1.95 / 0.15 / -0.011 *AS*

WATER-SURFACE PROFILE FOR: OTTER CR

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
M = 0.48 / E = 0.99 / K* = 1.35 /			2985. /	502164. /	1.32 /	-37. /	513.	
577.85 /	0.03 /			577.88 /	1.27 /	0.09 /		*AS*
========== END BRIDGE ANALYSIS ==========								
J1 AT	9700 /	10 /	3800. /	2985. /	502164. /	1.32 /	-37. /	513.
577.85 /	0.03 /	0.00 /	0.0 /	577.88 /	1.27 /	0.09 /	-0.001	*XS*
K AT	10590 /	890 /	3800. /	1881. /	345804. /	1.00 /	185. /	469.
577.91 /	0.06 /	0.07 /	0.02 /	577.97 /	2.02 /	0.14 /	-0.000	*XS*
L AT	10930 /	340 /	3800. /	2973. /	572775. /	1.00 /	194. /	615.
577.97 /	0.03 /	0.02 /	0.0 /	578.00 /	1.28 /	0.08 /	0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
M BR AT	10930 /	/	3800. /	633. /	110658. /	1.00 /	1. /	84.
577.97 /	0.56 /				6.00 /	0.36 /		*BO*
NO ROAD OVERFLOW								*RG*
N AT	11120 /	190 /	3800. /	2578. /	441202. /	1.66 /	422. /	1123.
577.98 /	0.06 /	0.01 /	0.04 /	578.04 /	1.47 /	0.13 /	-0.011	*AS*
M = 0.51 / E = 0.99 / K* = 1.39 /			3158. /	573655. /	1.52 /	420. /	1145.	
578.79 /	0.03 /			578.82 /	1.20 /	0.08 /		*AS*
========== END BRIDGE ANALYSIS ==========								
N1 AT	11130 /	10 /	3800. /	3158. /	573655. /	1.52 /	420. /	1145.
578.79 /	0.03 /	0.00 /	0.0 /	578.82 /	1.20 /	0.08 /	-0.001	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
O BR AT	11130 /	/	3800. /	627. /	116386. /	1.00 /	0. /	78.
578.79 /	0.57 /				6.06 /	0.36 /		*BO*
NO ROAD OVERFLOW								*RG*
P AT	11270 /	140 /	3800. /	5539. /	1101212. /	1.04 /	438. /	1209.
578.82 /	0.01 /	0.00 /	0.0 /	578.83 /	0.69 /	0.04 /	0.000	*AS*
M = 0.82 / E = 1.00 / K* = 2.71 /			6754. /	1496260. /	1.03 /	434. /	1230.	
580.37 /	0.01 /			580.38 /	0.56 /	0.03 /		*AS*
========== END BRIDGE ANALYSIS ==========								
P1 AT	11280 /	10 /	3800. /	6754. /	1496260. /	1.03 /	434. /	1230.
580.37 /	0.01 /	0.00 /	0.00 /	580.38 /	0.56 /	0.03 /	-0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
Q BR AT	11280 /	/	3800. /	753. /	144011. /	1.00 /	0. /	77.
580.37 /	0.40 /				5.04 /	0.27 /		*BO*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 3 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC	*ID*
NO ROAD OVERFLOW	*RG*
R AT 11480 / 200 / 3800. / 5102. / 772950. / 1.61 / 262. / 1100. 580.38 / 0.01 / 0.00 / 0.03 / 580.40 / 0.74 / 0.06 / -0.011	*AS*
M = 0.77 / E = 0.85 / K* = 2.45 / 5926. / 949633. / 1.62 / 260. / 1100. 581.36 / 0.01 / / 581.37 / 0.64 / 0.05 /	*AS*
========== END BRIDGE ANALYSIS ==========	
R1 AT 11490 / 10 / 3800. / 5926. / 949633. / 1.62 / 260. / 1100. 581.36 / 0.01 / 0.00 / 0.00 / 581.37 / 0.64 / 0.05 / -0.000	*XS*
S AT 12430 / 940 / 3800. / 6390. / 1049601. / 1.54 / 0. / 932. 581.36 / 0.01 / 0.01 / 0.0 / 581.37 / 0.59 / 0.05 / -0.016	*XS*
T AT 13080 / 650 / 3800. / 4291. / 556287. / 1.62 / 129. / 820. 581.36 / 0.02 / 0.02 / 0.01 / 581.38 / 0.89 / 0.07 / -0.011	*XS*
U AT 14260 / 1180 / 3800. / 4275. / 509781. / 1.44 / 102. / 772. 581.42 / 0.02 / 0.06 / 0.0 / 581.44 / 0.89 / 0.08 / -0.000	*XS*
V AT 15180 / 920 / 3800. / 5311. / 491209. / 1.24 / 63. / 826. 581.49 / 0.01 / 0.05 / 0.0 / 581.50 / 0.72 / 0.06 / -0.000	*XS*
W AT 16030 / 850 / 3800. / 7391. / 505642. / 1.19 / 366. / 1389. 581.54 / 0.00 / 0.05 / 0.0 / 581.55 / 0.51 / 0.03 / -0.000	*XS*
X AT 17010 / 980 / 3800. / 8530. / 485858. / 1.43 / -388. / 932. 581.60 / 0.00 / 0.06 / 0.0 / 581.60 / 0.45 / 0.03 / 0.000	*XS*
Y1 AT 17300 / 290 / 3800. / 3131. / 216938. / 1.40 / 241. / 808. 581.62 / 0.03 / 0.04 / 0.01 / 581.66 / 1.21 / 0.10 / -0.000	*XS*
Y2 AT 17650 / 350 / 3800. / 4819. / 385331. / 1.23 / -69. / 529. 581.71 / 0.01 / 0.06 / 0.0 / 581.72 / 0.79 / 0.02 / 0.000	*XS*
========== BEGIN BRIDGE ANALYSIS ==========	
ZI BR AT 17650 / / 3800. / 574. / 66010. / 1.21 / 640. / 724. 581.71 / 0.68 / / 6.62 / 0.46 /	*BO*
NO ROAD-GRADE DATA	*RG*
ZIA AT 17880 / 230 / 3800. / 2565. / 196807. / 1.42 / -42. / 541. 581.73 / 0.05 / 0.04 / 0.02 / 581.78 / 1.48 / 0.11 / -0.000	*AS*

WATER-SURFACE PROFILE FOR: OTTER CR
PAGE 4 OF 4

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
M = 0.69 / E = 0.34 / K* = 2.15 / 3448. / 308697. / 1.35 / -57. / 546.
583.22 / 0.03 / / 583.24 / 1.10 / 0.07 / *AS*
========== END BRIDGE ANALYSIS ==========
Z2 AT 18100 / 220 / 3800. / 3408. / 289987. / 1.29 / -13. / 594.
583.25 / 0.02 / 0.04 / 0.0 / 583.28 / 1.11 / 0.08 / -0.000 *XS*
AA AT 18960 / 860 / 3800. / 2242. / 142921. / 3.35 / 270. / 905.
583.50 / 0.15 / 0.30 / 0.06 / 583.65 / 1.70 / 0.11 / 0.012 *XS*
AB AT 19500 / 540 / 3800. / 1302. / 91649. / 3.26 / 209. / 960.
583.96 / 0.43 / 0.60 / 0.14 / 584.39 / 2.92 / 0.42 / -0.000 *XS*

END OF THIS PROFILE

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: LaSalle Twp.

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: Input Data

00BREAK00

9f.

Input Deck Data Listing

```
1      1 OTTER CR                                                  8  2  2 10 12
2      2  57220  57220
3      3 A      1  13  3  570        0  1  3
5    350       51  1  5785   75  1  5766  120  1  5746  167  2  5747  169  2  5729
5    351      169  2  5650  211  2  5650  211  2  5730  213  3  5752  241  3  5767
5    352      296  3  5763  352  3  5773  352  3  5785
6    370  1  2 060 060  1  2 025 025  1  2 060 060
3    375 A1     0   6  3  570      400  1  3
5    380      600  1  5790 1000  2  5740 1000  2  5650 1200  2  5650 1200  3  5740
5    381     1450  3  5790
6    385  1  2 060 060  1  2 028 028  1  2 060 060
3    400 B      0  25  3  570     1300  1  3
5    450      300  1  5800  375  1  5751  581  1  5721  649  1  5721  652  1  5734
5    451      665  1  5734  668  1  5721  761  1  5721  765  1  5734  786  2  5733
5    452      789  2  5720  789  2  5660 1297  2  5660 1297  2  5721 1299  3  5732
5    453     1312  3  5732 1315  3  5722 1439  3  5722 1444  3  5745 1487  3  5750
5    454     1509  3  5755 1555  3  5762 1583  3  5748 1653  3  5747 1657  3  5800
6    470  1  2 060 060  1  2 028 028  1  2 070 070
3    500 C      0  24  3  570     3850  1  3
5    550     -400  1  5800    0  1  5750  140  1  5741  295  1  5725  351  1  5712
5    551      450  1  5714  558  1  5719  674  1  5736  788  1  5723  880  1  5730
5    552     1000  1  5730 1067  1  5732 1081  2  5732 1088  2  5718 1088  2  5660
5    553     1950  2  5660 1950  2  5718 1960  3  5721 2009  3  5744 2079  3  5763
5    554     2205  3  5768 2278  3  5778 2339  3  5792 2451  3  5806
6    570  1  2 060 060  1  2 028 028  1  2 070 070
3    600 D      0  15  3  570     5350  1  3
5    650     -200  1  5800    0  1  5778   88  1  5773  126  1  5753  188  1  5742
5    651      268  2  5729  268  2  5664  568  2  5664  568  2  5690 1178  2  5690
5    652     1178  2  5729 1189  3  5744 1231  3  5752 1267  3  5774 1325  3  6016
6    660  1  2 060 060  1  2 028 028  1  2 070 070
3    700 E  BR 2  21  1  570     5350        0        3 0
5    750        0  1  5833    0  1  5790   12  1  5752   20  1  5724   35  1  5685
5    751       35  1  5833    0 -9  5833   37  1  5833   37  1  5666   50  1  5659
5    752       65  1  5652   80  1  5652   80  1  5833   37 -9  5833   82  1  5833
5    753       82  1  5668   95  1  5711  107  1  5753  117  1  5790  117  1  5833
5    754       82 -9  5833
6    770  1  2 032 032
3    800 E HWY 4   7  2  100          1  2          1 1                1
5    840        0  1  5854  236  1  5857  406  2  5868  671  2  5859  929  2  5855
5    841     1163  2  5848 1360  2  5853
3    900 F      5  16  5  570     5650  2  4
5    940      824  1  5868  848  1  5806  859  1  5806  883  1  5856  907  1  5846
5    941      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5    942     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5    943     1262  5  6033
6    970  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
7  20000                                  0 1
8  20001                                  0 0
9  20009      3 HOR       167  213
9  20010    375 HOR      1000 1200
9  20011    400 HOR       375 1299
9  20012    500 HOR      1088 1960
9  20013    600 HOR       268 1189
9  20022        END                      HOR FW
3    980 F1     1  16  5  570     5660  1  5
5    981      824  1  5868  848  1  5806  859  1  5806  883  1  5856  907  1  5846
5    982      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5    983     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5    984     1262  5  6033
6    990  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
3   1000 G      0  18  3  572     7450  1  3
5   1040     -600  1  5800 -100  1  5779    0  1  5770   80  1  5768   98[illegible]  5749
5   1041      108  1  5761  119  1  5761  165  2  5750  168  2  5730  168  2  5695
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5  1043      842  3  5768  900  3  5779 1007  3  5801
6  1060  1   2 060 060   1  2 028 028   1  2 060 060
```

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3  1100 H      0  13   3  572     9450  1   3
5  1140        0   1  5871   48   1  5833  103  1  5807  156  1  5787  203  2  5766
5  1141      217   2  5735  217   2  5700  584  2  5700  584  2  5650  634  2  5650
5  1142      634   2  5735  645   3  5802  686  3  5820
6  1160   1  2 070 070  1  2 028 028  1  2 060 060
3  1500 I  BR 2  28   1  570     9450          0        3 1
5  1520        0   1  5826    0   1  5800    6  1  5794   12  1  5771   18  1  5743
5  1521       24   1  5723   31   1  5712   31  1  5827    0 -9  5826   34  1  5827
5  1522       34   1  5666   40   1  5664   46  1  5657   52  1  5658   58  1  5659
5  1523       64   1  5665   66   1  5667   66  1  5829   34 -9  5827   69  1  5829
5  1524       69   1  5710   75   1  5725   81  1  5750   87  1  5774   93  1  5796
5  1525      100   1  5805  100   1  5830   69 -9  5829
6  1530   1  2 030 030
3  1535 I HWY 4  16   3   33           1   3           1 1 1                 1
5  1540        0   1  5878  141   1  5881  206  1  5882  266  1  5887  343  1  5874
5  1541      420   2  5857  519   3  5838  589  3  5823  750  3  5812  850  3  5818
5  1542      931   3  5828 1006   3  5834 1110  3  5840 1191  3  5843 1257  3  5842
5  1543     1311   3  5842
3  1550 J      5  17   4  572     9690  2   4
5  1560     -100   1  5800    0   1  5766   30  1  5745   61  1  5752   85  1  5749
5  1561      112   1  5744  144   1  5742  146  2  5738  146  2  5725  402  3  5725
5  1562      402   3  5665  502   3  5665  502  4  5740  520  4  5802  530  4  5821
5  1563      554   4  5820  600   4  5818
6  1570   1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3  1572 J1     0  17   4  572     9700  1   4
5  1573     -100   1  5800    0   1  5766   30  1  5745   61  1  5752   85  1  5749
5  1574      112   1  5744  144   1  5742  146  2  5738  146  2  5725  402  3  5725
5  1575      402   3  5665  502   3  5665  502  4  5740  520  4  5802  530  4  5821
5  1576      554   4  5820  600   4  5818
6  1579   1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3  1580 K      0  15   1  573    10590 99 99
5  1590        0   1  5857   48   1  5857   94  1  5850  126  1  5842  127  1  5828
5  1591      152   1  5817  178   1  5805  196  1  5740  196  1  5703  435  1  5703
5  1592      435   1  5740  441   1  5771  467  1  5767  471  1  5792  478  1  5812
6  1595   1  2 028 028
3  1600 L      0  14   1  573    10930 99 99
5  1610      122   1  5875  144   1  5871  151  1  5871  163  1  5796  191  1  5789
5  1611      211   1  5724  226   1  5739  226  1  5695  523  1  5695  523  1  5739
5  1612      564   1  5735  590   1  5741  608  1  5765  618  1  5785
6  1615   1  2 028 028
3  1620 M  BR 2  16   1  573    10930          15        2 0
5  1630        1   1  5806    1   1  5719   10  1  5693   20  1  5685   30  1  5688
5  1631       39   1  5697   39   1  5806    1 -9  5806   45  1  5806   45  1  5721
5  1632       54   1  5671   64   1  5685   74  1  5703   84  1  5728   84  1  5806
5  1633       45 -9  5806
6  1635   1  2 030 030
3  1640 M  RR 4   9  2   36           1   2           2 2                   1
5  1649        0   1  5895  114   1  5895  276  1  5895  341  1  5898  359  1  5898
5  1646      444   2  5898  566   2  5898  663  2  5892  839  2  5892
3  1650 N      5  24   3  573    11120  1   3
5  1660      376   1  5901  391   1  5858  405  1  5852  431  2  5740  431  2  5672
5  1661      514   3  5672  555   3  5672  555  3  5740  579  3  5741  633  3  5746
5  1662      663   3  5749  680   3  5754  722  3  5756  757  3  5773  798  3  5756
5  1663      850   3  5755  903   3  5755  937  3  5760  955  3  5755  991  3  5765
5  1664     1040   3  5768 1109   3  5776 1145  3  5786 1145  3  5900
6  1670   1  2 025 025  1  2 025 025  1  2 025 025
9 20010    980 HOR       923 1131
9 20011   1000 HOR       165  658
9 20012   1100 HOR       203  645
9 20013   1572 HOR       146  502
9 20014   1580 HOR       178  435
9 20015   1600 HOR       226  523
9 20016        END                        HOR FW
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2      2  57616  57616
3   1672 N1     1  24  3  573    11130  1  3
4      4   2700   2700
5   1673      376  1  5901  391  1  5858  405  1  5852  431  2  5740  431  2  5672
5   1674      514  3  5672  555  3  5672  555  3  5740  579  3  5741  633  3  5746
5   1675      663  3  5749  680  3  5754  722  3  5756  757  3  5773  798  3  5756
5   1676      850  3  5755  903  3  5755  937  3  5760  955  3  5755  991  3  5765
5   1677     1040  3  5768 1109  3  5776 1145  3  5786 1145  3  5900
6   1679  1  2 025 025  1  2 025 025  1  2 025 025
3   1680 O  BR 2  20  1  573    11130       15        2 0
5   1685        0  1  5826    0  1  5730    6  1  5722   12  1  5710   18  1  5697
5   1686       24  1  5691   30  1  5692   36  1  5697   36  1  5826    0 -9  5826
5   1687       42  1  5826   42  1  5700   48  1  5693   54  1  5688   60  1  5691
5   1688       66  1  5690   72  1  5684   78  1  5704   78  1  5826   42 -9  5826
6   1695  1  2 028 028
3   1700 O  RR 4  10  2   18          1  2          2 2                  1
5   1705        0  1  5901  126  1  5901  243  2  5907  261  2  5907  372  2  5898
5   1706      468  2  5898  542  2  5898  607  2  5898  722  2  5898  763  2  5898
3   1710 P      5  20  3  573    11270  1  3
5   1715      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5   1716      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5   1717     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5   1718     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6   1720  1  2 028 028  1  2 028 028  1  2 028 028
3   1722 P1     0  20  3  573    11280  1  3
5   1723      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5   1724      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5   1725     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5   1726     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6   1728  1  2 028 028  1  2 028 028  1  2 028 028
3   1730 Q  BR 2  23  1  574    11280        0        2 0
5   1735        0  1  5820    0  1  5708    5  1  5702   10  1  5697   15  1  5694
5   1736       20  1  5689   25  1  5686   30  1  5687   36  1  5698   36  1  5820
5   1737        0 -9  5820   41  1  5820   41  1  5704   45  1  5701   50  1  5695
5   1738       55  1  5691   60  1  5702   65  1  5706   70  1  5713   75  1  5723
5   1739       77  1  5724   77  1  5820    0 -9  5820
6   1745  1  2 028 028
3   1750 Q  RR 4  16  2   36          1  2          2 2                  1
5   1760        0  1  5879  167  1  5871  356  1  5875  377  1  5870  491  1  5870
5   1761      617  1  5865  755  1  5866  884  1  5868 1024  1  5875 1239  2  5881
5   1762     1427  2  5885 1626  2  5888 1759  2  5895 1781  2  5895 1896  2  5890
5   1763     1997  2  5891
3   1770 R      5  20  5  574    11480  2  4
5   1775      135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5   1776      277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5   1777      404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5   1778      860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6   1780  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
9  20020  1672 HOR       431  531
9  20024  1722 HOR       441  541
9  20030  1782 HOR       267  667
9  20035       END                        HOR FW
1      1 OTTER CR                                          15  2  2 99 12
2     10  57853  57863
3   1782 R1     1  20  5  574    11490  1  5
4    320   2700   2700
5   1783      135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5   1784      277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5   1785      404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5   1786      860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6   1788  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
3   1790 S      0  28  3  574    12430  1  3
5   1795        0  1  5789    4  1  5789    6  1  5783    8  1  5746   31  1  5743
5   1796       60  1  5746   78  1  5745  101  1  5749  149  1  5745  205  1  5755
5   1797      218  1  5756  226  1  5744  269  2  5743  269  2  5718  691  2  5718
```

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5 1799     834  3  5774  864  3  5784  910  3  5806  960  3  5823 1007  3  5840
5 1800    1064  3  5852 1068  3  5852 1093  3  5853
6 1805  1  2 070 070  1  2 030 030  1  2 060 060
3 1810 T     0  18  2  574   13080  1 99
5 1815       0  1  5841   16  1  5841   30  1  5832   93  1  5840  148  1  5800
5 1818     255  1  5775  321  1  5773  483  1  5752  584  2  5741  584  2  5716
5 1817     808  2  5716  808  2  5741  824  2  5837  836  2  5853  885  2  5858
5 1818     929  2  5862  966  2  5864  985  2  5864
6 1825  1  2 060 060  1  2 035 035
3 1830 U     0  24  3  575   14260 99  3
5 1835       0  1  5886   40  1  5877   54  1  5870   58  1  5862   73  1  5863
5 1836      84  1  5861  131  1  5739  131  1  5709  248  1  5709  248  2  5739
5 1837     271  2  5743  327  2  5740  423  2  5739  451  2  5747  506  2  5742
5 1838     566  3  5742  580  3  5750  599  3  5759  623  3  5773  657  3  5786
5 1839     692  3  5794  731  3  5800  771  3  5814  806  3  5827
6 1845  1  2 035 035  1  2 055 055  1  2 060 060
3 1850 V     0  30  3  575   15180  1  3
5 1855       0  1  5901   35  1  5876   59  1  5826   78  1  5772  101  1  5752
5 1856     139  1  5751  171  1  5740  241  1  5742  268  1  5750  293  1  5746
5 1857     303  1  5741  318  1  5741  334  1  5749  375  1  5740  408  2  5755
5 1858     421  2  5747  430  2  5740  430  2  5721  544  2  5721  544  2  5740
5 1859     561  2  5734  580  2  5743  759  3  5743  778  3  5751  793  3  5788
5 1860     817  3  5809  851  3  5830  891  3  5838  948  3  5839 1009  3  5841
6 1865  1  2 080 080  1  2 050 050  1  2 060 060
3 1870 W     0  34  4  575   16030  2  4
5 1875       0  1  5911   48  1  5916  105  1  5904  161  1  5891  218  1  5887
5 1876     282  1  5881  324  2  5872  428  2  5731  726  2  5731  739  2  5735
5 1877     790  2  5742  817  2  5743  867  2  5747  901  2  5748  967  2  5744
5 1878    1019  3  5734 1019  3  5704 1057  3  5704 1057  4  5734 1061  4  5755
5 1879    1067  4  5736 1074  4  5754 1125  4  5748 1156  4  5747 1211  4  5751
5 1880    1241  4  5752 1289  4  5749 1346  4  5754 1353  4  5754 1363  4  5779
5 1881    1376  4  5786 1387  4  5795 1393  4  5858 1401  4  5863
6 1885  1  2 060 060  1  2 080 080  1  2 050 050  1  2 080 080
3 1890 X     0  43  3  575   17010  1  3
5 1894    -455  1  5890 -424  1  5857 -377  1  5804 -313  1  5754 -238  1  5769
5 1895    -191  1  5744  -75  1  5749    0  1  5736   44  1  5742   73  1  5741
5 1896     123  1  5749  184  1  5741  248  1  5749  306  1  5753  380  1  5755
5 1897     440  1  5755  504  1  5763  562  1  5768  590  1  5766  607  1  5766
5 1898     618  1  5739  644  1  5739  648  1  5739  684  1  5743  729  1  5743
5 1899     784  1  5743  825  2  5732  825  2  5722  860  2  5722  860  2  5734
5 1900     900  2  5739  908  3  5776  931  3  5815  956  3  5853  984  3  5860
5 1901    1047  3  5874 1063  3  5860 1076  3  5870 1121  3  5878 1197  3  5875
5 1902    1233  3  5882 1268  3  5881 1280  3  5875
6 1905  1  2 100 100  1  2 050 050  1  2 060 060
3 1910 Y1    0  44  5  575   17300  2  4
5 1915       0  1  5889   61  1  5888  131  1  5880  178  1  5870  196  1  5885
5 1916     256  1  5794  306  1  5770  350  1  5760  376  1  5760  380  1  5768
5 1917     393  1  5765  433  1  5768  497  1  5768  509  1  5771  540  1  5740
5 1918     559  1  5746  582  2  5756  615  2  5772  650  2  5762  673  2  5755
5 1919     698  2  5740  729  3  5739  729  3  5734  779  3  5734  779  3  5739
5 1920     785  4  5751  797  4  5760  816  4  5860  838  4  5862  848  4  5848
5 1921     891  5  5859  918  5  5865  934  5  5869  948  5  5872  995  5  5870
5 1922    1036  5  5875 1069  5  5878 1115  5  5882 1147  5  5884 1174  5  5886
5 1923    1213  5  5880 1228  5  5874 1236  5  5879 1259  5  5874
6 1930  1  2 060 060  1  2 120 120  1  2 050 050  1  2 080 080  1  2 060 060
3 1940 Y2    0  14  4  575   17650  2  4
5 1945    -180  1  5880   40  1  5755  200  1  5765  300  2  5750  430  3  5735
5 1946     430  3  5730  480  3  5730  480  3  5735  490  3  5750  500  4  5760
5 1947     510  4  4855  530  4  5860  540  4  5855  840  4  5880
6 1950  1  2 060 060  1  2 120 120  1  2 050 050  1  2 060 060
3 1960 ZI BR 2  10  2  575   17650        0       3 0
5 1965     640  1  5882  640  1  5770  657  1  5770  657  1  5882  640 -9  5882
5 1966     663  2  5882  663  2  5736  724  2  5736  724  2  5887  663 -9  5882
6 1967  1  2 100 100  1  2 040 040
3 1990 ZIA   5  14  3  575   17880  1  3
```

```
5  1996      280  2  5770  320  2  5743  350  2  5743  360  3  5780  430  3  5760
5  1997      530  3  5785  550  3  5845  570  3  5845  620  3  5875
6  2000  1   2 060 060   1   2 040 040   1   2 060 060
3  2001 Z1B    0  14   3  575   17890  1   3
5  2002     -100  1  5875    0  1  5775  150  1  5775  220  1  5785  250  1  5770
5  2003      280  2  5770  320  2  5743  350  2  5743  360  3  5780  430  3  5760
5  2004      530  3  5785  550  3  5845  570  3  5845  620  3  5875
6  2005  1   2 060 060   1   2 040 040   1   2 060 060
3  2010 Z2     0  32   4  575   18100  1   3
5  2015      -64  1  5894    0  1  5817   33  1  5788   93  1  5772  161  1  5779
5  2016      201  1  5778  268  1  5784  284  1  5776  298  1  5759  311  1  5768
5  2017      338  1  5773  360  2  5770  368  2  5743  395  2  5743  410  3  5780
5  2018      444  3  5771  461  3  5760  473  3  5774  503  3  5764  533  3  5773
5  2019      545  3  5776  573  3  5775  597  3  5842  620  3  5841  627  3  5853
5  2020      634  3  5850  675  3  5875  685  3  5883  720  4  5894  731  4  5898
5  2021      776  4  5893  835  4  5907
6  2025  1   2 060 060   1   2 040 040   1   2 060 060   1   2 060 060
3  2030 AA     0  34   3  578   18960  1   3
5  2035      223  1  5910  240  1  5894  256  1  5873  263  1  5871  284  2  5755
5  2036      331  2  5755  338  3  5803  354  3  5780  385  3  5779  405  3  5790
5  2037      414  3  5801  435  3  5801  452  3  5812  461  3  5801  502  3  5801
5  2038      553  3  5806  593  3  5811  628  3  5806  636  3  5801  641  3  5784
5  2039      645  3  5784  649  3  5793  665  3  5804  683  3  5793  698  3  5804
5  2040      719  3  5810  730  3  5807  799  3  5804  872  3  5821  965  3  5861
5  2041      988  3  5881 1072  3  5906 1133  3  5910 1203  3  5921
6  2045  1   2 040 040   1   2 035 035   1   2 080 080
3  2050 AB     0  32   3  578   19500  1   3
5  2055        0  1  5934   62  1  5911  105  1  5902  119  1  5902  167  1  5878
5  2056      181  1  5870  206  2  5852  230  2  5760  264  2  5755  284  3  5804
5  2057      303  3  5808  341  3  5815  389  3  5819  428  3  5818  459  3  5817
5  2058      494  3  5822  522  3  5830  575  3  5824  623  3  5826  700  3  5827
5  2059      766  3  5845  796  3  5850  851  3  5849  924  3  5846  938  3  5857
5  2060      949  3  5826  955  3  5826  967  3  5856  996  3  5857 1039  3  5873
5  2061     1093  3  5907 1133  3  5917
6  2065  1   2 040 040   1   2 035 035   1   2 080 080
9 20010  1782 HOR       267  867
9 20011  1790 HOR       103  703
9 20012  1810 HOR       215  815
9 20013  1830 HOR       112  712
9 20014  1850 HOR       150  750
9 20015  1870 HOR       400 1350
9 20016  1890 HOR        17  917
9 20017  1910 HOR       203  803
9 20018  1940 HOR       -71  529
9 20019  2001 HOR        50  500
9 20020  2010 HOR        35  585
9 20021  2030 HOR       273  673
9 20022  2050 HOR       213  613
9 20023       END                    HOR FW MAR 17
```

*** INPUT CARD PRINTOUT ***

```
1      1 OTTER CR                                                  42  4  2 10 12
2      2  57220  57220  57220  57220
3      3 A      1  13  3  570        0  1  3
4      4   1400   2300   2700   3800
5    350       51  1  5785   75  1  5766  120  1  5746  167  2  5747  169  2  5729
5    351      169  2  5650  211  2  5650  211  2  5730  213  3  5752  241  3  5767
5    352      296  3  5763  352  3  5773  352  3  5785
6    370  1  2 060 060  1  2 025 025  1  2 060 060
3    375 A1     0   6  3  570      400  1  3
5    380      600  1  5790 1000  2  5740 1000  2  5650 1200  2  5650 1200  3  5740
5    381     1450  3  5790
6    385  1  2 060 060  1  2 028 028  1  2 060 060
3    400 B      0  25  3  570     1300  1  3
5    450      300  1  5800  375  1  5751  581  1  5721  649  1  5721  652  1  5734
5    451      665  1  5734  668  1  5721  761  1  5721  765  1  5734  786  2  5733
5    452      789  2  5720  789  2  5660 1297  2  5660 1297  2  5721 1299  3  5732
5    453     1312  3  5732 1315  3  5722 1439  3  5722 1444  3  5745 1487  3  5750
5    454     1509  3  5755 1555  3  5762 1583  3  5748 1653  3  5747 1657  3  5800
6    470  1  2 060 060  1  2 028 028  1  2 070 070
3    500 C      0  24  3  570     3850  1  3
5    550     -400  1  5800     0  1  5750  140  1  5741  295  1  5725  351  1  5712
5    551      450  1  5714  558  1  5719  674  1  5736  788  1  5723  880  1  5730
5    552     1000  1  5730 1067  1  5732 1081  2  5732 1088  2  5718 1088  2  5660
5    553     1950  2  5660 1950  2  5718 1960  3  5721 2009  3  5744 2079  3  5763
5    554     2205  3  5768 2278  3  5778 2339  3  5792 2451  3  5806
6    570  1  2 060 060  1  2 028 028  1  2 070 070
3    600 D      0  15  3  570     5350  1  3
5    650     -200  1  5800     0  1  5778   88  1  5773  126  1  5753  188  1  5742
5    651      268  2  5729  268  2  5664  568  2  5664  568  2  5690 1178  2  5690
5    652     1178  2  5729 1189  3  5744 1231  3  5752 1267  3  5774 1325  3  6016
6    660  1  2 060 060  1  2 028 028  1  2 070 070
3    700 E  BR 2  21  1  570     5350         0        3 0
                                                      M
5    750        0  1  5833     0  1  5790   12  1  5752   20  1  5724   35  1  5685
5    751       35  1  5833     0 -9  5833   37  1  5833   37  1  5666   50  1  5659
5    752       65  1  5652    80  1  5652   80  1  5833   37 -9  5833   82  1  5833
5    753       82  1  5668    95  1  5711  107  1  5753  117  1  5790  117  1  5833
5    754       82 -9  5833
6    770  1  2 032 032
3    800 E HWY 4    7  2  100          1  2          1 1                   1
5    840        0  1  5854  236  1  5857  406  2  5868  671  2  5859  929  2  5855
5    841     1163  2  5848 1360  2  5853
3    900 F      5  16  5  570     5650  2  4
5    940      824  1  5868  848  1  5806  859  1  5805  883  1  5856  907  1  5846
5    941      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5    942     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5    943     1262  5  6033
6    970  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
3    980 F1     0  16  5  570     5660  1  5
```

BW & pressures

3-9-76

ERROR(S)

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 2.DATE= 3/ 9/76

*** INPUT CARD PRINTOUT ***

```
5   981      824  1  5868  848  1  5806  859  1  5806  883  1  5856  907  1  5846
5   982      923  2  5764  931  2  5733  931  2  5678  966  3  5678 1083  4  5678
5   983     1119  4  5678 1119  4  5733 1131  5  5778 1189  5  5798 1207  5  5802
5   984     1262  5  6033
6   990  1  2 060 060  1  2 028 028  1  2 028 028  1  2 028 028  1  2 080 080
3  1000 G      0  18  3  572    7450  1  3
5  1040     -600  1  5800 -100  1  5779    0  1  5770   80  1  5768   98  1  5749
5  1041      108  1  5761  119  1  5761  165  2  5750  168  2  5730  168  2  5695
5  1042      646  2  5695  646  2  5730  658  3  5744  728  3  5749  808  3  5756
5  1043      842  3  5768  900  3  5779 1007  3  5801
6  1060  1  2 060 060  1  2 028 028  1  2 060 060
3  1100 H      0  13  3  572    9450  1  3
5  1140        0  1  5871   48  1  5833  103  1  5807  156  1  5787  203  2  5766
5  1141      217  2  5735  217  2  5700  584  2  5700  584  2  5650  634  2  5650
5  1142      634  2  5735  645  3  5802  686  3  5820
6  1160  1  2 070 070  1  2 028 028  1  2 060 060
3  1500 I  BR 2  28  1  570    9450        0        3 1
                                                  M                                  **ERROR(S)**
5  1520        0  1  5826    0  1  5800    6  1  5794   12  1  5771   18  1  5743
5  1521       24  1  5723   31  1  5712   31  1  5827    0 -9  5826   34  1  5827
5  1522       34  1  5666   40  1  5664   46  1  5657   52  1  5658   58  1  5659
5  1523       64  1  5665   66  1  5667   66  1  5829   34 -9  5827   69  1  5829
5  1524       69  1  5710   75  1  5725   81  1  5750   87  1  5774   93  1  5796
5  1525      100  1  5805  100  1  5830   69 -9  5829
6  1530  1  2 030 030
3  1535 I HWY 4  16  3   33          1  3          1 1 1              1
5  1540        0  1  5878  141  1  5881  206  1  5882  266  1  5887  343  1  5874
5  1541      420  2  5857  519  3  5838  589  3  5823  750  3  5812  850  3  5818
5  1542      931  3  5828 1006  3  5834 1110  3  5840 1191  3  5843 1257  3  5842
5  1543     1311  3  5842
3  1550 J      5  17  4  572    9690  2  4
5  1560     -100  1  5800    0  1  5766   30  1  5745   61  1  5752   85  1  5749
5  1561      112  1  5744  144  1  5742  146  2  5738  146  2  5725  402  3  5725
5  1562      402  3  5665  502  3  5665  502  4  5740  520  4  5802  530  4  5821
5  1563      554  4  5820  600  4  5818
6  1570  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3  1572 J1     0  17  4  572    9700  1  4
5  1573     -100  1  5800    0  1  5766   30  1  5745   61  1  5752   85  1  5749
5  1574      112  1  5744  144  1  5742  146  2  5738  146  2  5725  402  3  5725
5  1575      402  3  5665  502  3  5665  502  4  5740  520  4  5802  530  4  5821
5  1576      554  4  5820  600  4  5818
6  1579  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030
3  1580 K      0  15  1  572   10590 99 99
5  1590        0  1  5857   48  1  5857   94  1  5850  126  1  5842  127  1  5828
5  1591      152  1  5817  178  1  5805  196  1  5740  196  1  5703  435  1  5703
5  1592      435  1  5740  441  1  5771  467  1  5767  471  1  5792  478  1  5812
6  1595  1  2 028 028
3  1600 L      0  14  1  573   10930 99 99
5  1610      122  1  5875  144  1  5871  151  1  5871  163  1  5796  191  1  5789
5  1611      211  1  5724  226  1  5739  226  1  5695  523  1  5695  523  1  5739
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*** INPUT CARD PRINTOUT ***

```
5  1612      564  1  5735  590  1  5741  608  1  5765  618  1  5785
6  1615  1  2 028 028
3  1620 M  BR 2  16  1  573   10930       15       2 0
                                                M                                    **ERROR(S)**
5  1630        1  1  5806    1  1  5719   10  1  5693   20  1  5685   30  1  5688
5  1631       39  1  5697   39  1  5806    1 -9  5806   45  1  5806   45  1  5721
5  1632       54  1  5671   64  1  5685   74  1  5703   84  1  5728   84  1  5806
5  1633       45 -9  5806
6  1635  1  2 030 030
3  1640 M  RR 4   9  2   36          1  2          2 2                1
5  1645        0  1  5895  114  1  5895  276  1  5895  341  1  5898  359  1  5898
5  1646      444  2  5898  566  2  5898  663  2  5892  839  2  5892
3  1650 N      5  24  3  573   11120  1  3
5  1660      376  1  5901  391  1  5858  405  1  5852  431  2  5740  431  2  5672
5  1661      514  3  5672  555  3  5672  555  3  5740  579  3  5741  633  3  5746
5  1662      663  3  5749  680  3  5754  722  3  5756  757  3  5773  798  3  5756
5  1663      850  3  5755  903  3  5755  937  3  5760  955  3  5755  991  3  5765
5  1664     1040  3  5768 1109  3  5776 1145  3  5786 1145  3  5900
6  1670  1  2 025 025  1  2 025 025  1  2 025 025
3  1672 N1     0  24  3  573   11130  1  3
5  1673      376  1  5901  391  1  5858  405  1  5852  431  2  5740  431  2  5672
5  1674      514  3  5672  555  3  5672  555  3  5740  579  3  5741  633  3  5746
5  1675      663  3  5749  680  3  5754  722  3  5756  757  3  5773  798  3  5756
5  1676      850  3  5755  903  3  5755  937  3  5760  955  3  5755  991  3  5765
5  1677     1040  3  5768 1109  3  5776 1145  3  5786 1145  3  5900
6  1679  1  2 025 025  1  2 025 025  1  2 025 025
3  1680 O  BR 2  20  1  573   11130       15       2 0
                                                M                                    **ERROR(S)**
5  1685        0  1  5826    0  1  5730    6  1  5722   12  1  5710   18  1  5697
5  1686       24  1  5691   30  1  5692   36  1  5697   36  1  5826    0 -9  5826
5  1687       42  1  5826   42  1  5700   48  1  5693   54  1  5688   60  1  5691
5  1688       66  1  5690   72  1  5684   78  1  5704   78  1  5826   42 -9  5826
6  1695  1  2 028 028
3  1700 O  RR 4  10  2   18          1  2          2 2                1
5  1705        0  1  5901  126  1  5901  243  2  5907  261  2  5907  372  2  5898
5  1706      468  2  5898  542  2  5898  607  2  5898  722  2  5898  763  2  5898
3  1710 P      5  20  3  573   11270  1  3
5  1715      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5  1716      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5  1717     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5  1718     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6  1720  1  2 028 028  1  2 028 028  1  2 028 028
3  1722 P1     0  20  3  573   11280  1  3
5  1723      372  1  5892  379  1  5889  398  1  5886  403  1  5886  420  1  5827
5  1724      428  1  5827  450  2  5745  450  2  5675  528  2  5675  528  3  5715
5  1725     1135  3  5715 1135  3  5745 1153  3  5748 1185  3  5771 1232  3  5805
5  1726     1279  3  5837 1350  3  5861 1382  3  5893 1435  3  5899 1487  3  5905
6  1728  1  2 028 028  1  2 028 028  1  2 028 028
3  1730 Q  BR 2  23  1  574   11280        0       2 0
                                                M                                    **ERROR(S)**
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*** INPUT CARD PRINTOUT ***

```
5 1735       0  1  5820    0  1  5708    5  1  5702   10  1  5697   15  1  5694
5 1736      20  1  5689   25  1  5686   30  1  5687   36  1  5698   36  1  5820
5 1737       0 -9  5820   41  1  5820   41  1  5704   45  1  5701   50  1  5695
5 1738      55  1  5691   60  1  5702   65  1  5706   70  1  5713   75  1  5723
5 1739      77  1  5724   77  1  5820    0 -9  5820
6 1745  1  2 028 028
3 1750 Q  RR 4  16  2   36          1  2          2 2                1
5 1760       0  1  5879  167  1  5871  356  1  5875  377  1  5870  491  1  5870
5 1761     617  1  5865  755  1  5866  884  1  5868 1024  1  5875 1239  2  5881
5 1762    1427  2  5885 1626  2  5888 1759  2  5895 1781  2  5895 1896  2  5890
5 1763    1997  2  5891
3 1770 R     5  20  5  574   11480  2  4
5 1775     135  1  5888  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5 1776     277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5 1777     404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5 1778     860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6 1780  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
3 1782 R1    0  20  5  574   11490  1  5
5 1783     135  1  5886  165  1  5879  213  1  5874  235  2  5873  245  2  5873
5 1784     277  2  5743  277  2  5723  327  3  5723  327  3  5698  404  3  5698
5 1785     404  4  5723  654  4  5723  654  4  5743  670  5  5754  759  5  5751
5 1786     860  5  5755  908  5  5755  983  5  5772 1018  5  5778 1100  5  5800
6 1788  1  2 040 040  1  2 030 030  1  2 030 030  1  2 030 030  1  2 070 070
3 1790 S     0  28  3  574   12430  1  3
5 1795       0  1  5789    4  1  5789    6  1  5783    8  1  5746   31  1  5743
5 1796      60  1  5746   78  1  5745  101  1  5749  149  1  5745  205  1  5755
5 1797     218  1  5756  226  1  5744  269  2  5743  269  2  5718  691  2  5718
5 1798     691  2  5743  707  3  5802  736  3  5808  772  3  5785  800  3  5771
5 1799     834  3  5774  864  3  5784  910  3  5806  960  3  5823 1007  3  5840
5 1800    1064  3  5852 1068  3  5852 1093  3  5853
6 1805  1  2 070 070  1  2 030 030  1  2 060 060
3 1810 T     0  18  2  574   13080  1 99
5 1815       0  1  5841   16  1  5841   30  1  5832   93  1  5840  148  1  5800
5 1816     255  1  5775  321  1  5773  483  1  5752  584  2  5741  584  2  5716
5 1817     808  2  5716  808  2  5741  824  2  5837  836  2  5853  885  2  5858
5 1818     929  2  5862  966  2  5864  985  2  5864
6 1825  1  2 060 060  1  2 035 035
3 1830 U     0  24  3  575   14260 99  3
5 1835       0  1  5886   40  1  5877   54  1  5870   58  1  5862   73  1  5863
5 1836      84  1  5861  131  1  5739  131  1  5709  248  1  5709  248  2  5739
5 1837     271  2  5743  327  2  5740  423  2  5739  451  2  5747  506  2  5742
5 1838     566  3  5742  580  3  5750  599  3  5759  623  3  5773  657  3  5786
5 1839     692  3  5794  731  3  5800  771  3  5814  806  3  5827
6 1845  1  2 035 035  1  2 055 055  1  2 060 060
3 1850 V     0  30  3  575   15180  1  3
5 1855       0  1  5901   35  1  5876   59  1  5826   78  1  5772  101  1  5752
5 1856     139  1  5751  171  1  5740  241  1  5742  268  1  5750  293  1  5746
5 1857     303  1  5741  318  1  5741  334  1  5749  375  1  5740  408  2  5755
5 1858     421  2  5747  430  2  5740  430  2  5721  544  2  5721  544  2  5740
5 1859     561  2  5734  580  2  5743  759  3  5743  778  3  5751  793  3  5788
```

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 5,DATE= 3/ 9/76

*** INPUT CARD PRINTOUT ***

```
5  1860      817  3  5809  651  3  5830  891  3  5838  948  3  5839 1009  3  5841
6  1865  1  2 080 080  1  2 050 050  1  2 060 060
3  1870 W      0  34  4  575   16030  2  4
5  1875        0  1  5911   48  1  5916  105  1  5904  161  1  5891  218  1  5887
5  1876      282  1  5881  324  2  5872  428  2  5731  726  2  5731  739  2  5735
5  1877      790  2  5742  817  2  5743  867  2  5747  901  2  5748  967  2  5744
5  1878     1019  3  5734 1019  3  5704 1057  3  5704 1057  4  5734 1061  4  5755
5  1879     1067  4  5736 1074  4  5754 1125  4  5748 1156  4  5747 1211  4  5751
5  1880     1241  4  5752 1289  4  5749 1346  4  5754 1353  4  5754 1363  4  5779
5  1881     1376  4  5786 1387  4  5795 1393  4  5858 1401  4  5863
6  1885  1  2 060 060  1  2 080 080  1  2 055 055  1  2 100 100
3  1890 X      0  43  3  575   17010  1  3
5  1894     -455  1  5890 -424  1  5857 -377  1  5804 -313  1  5754 -238  1  5769
5  1895     -191  1  5744  -75  1  5749    0  1  5736   44  1  5742   73  1  5741
5  1896      123  1  5749  184  1  5741  248  1  5749  306  1  5753  380  1  5755
5  1897      440  1  5755  504  1  5763  562  1  5768  590  1  5766  607  1  5766
5  1898      618  1  5739  644  1  5739  648  1  5739  684  1  5743  729  1  5743
5  1899      784  1  5743  825  2  5732  825  2  5722  860  2  5722  860  2  5734
5  1900      900  2  5739  908  3  5776  931  3  5815  956  3  5853  984  3  5860
5  1901     1047  3  5874 1063  3  5860 1076  3  5870 1121  3  5878 1197  3  5875
5  1902     1233  3  5882 1268  3  5881 1280  3  5875
6  1905  1  2 100 100  1  2 050 050  1  2 060 060
3  1910 Y1     0  44  5  575   17300  2  4
5  1915        0  1  5889   61  1  5888  131  1  5880  178  1  5870  196  1  5885
5  1916      256  1  5794  306  1  5770  350  1  5760  376  1  5760  380  1  5768
5  1917      393  1  5765  433  1  5768  497  1  5768  509  1  5771  540  1  5740
5  1918      559  1  5746  582  2  5756  615  2  5772  650  2  5762  673  2  5755
5  1919      698  2  5740  729  3  5739  729  3  5734  779  3  5734  779  3  5739
5  1920      785  4  5751  797  4  5760  816  4  5860  838  4  5862  848  4  5848
5  1921      891  5  5859  918  5  5865  934  5  5869  948  5  5872  995  5  5870
5  1922     1036  5  5875 1069  5  5878 1115  5  5882 1147  5  5884 1174  5  5886
5  1923     1213  5  5880 1228  5  5874 1236  5  5879 1259  5  5874
6  1930  1  2 060 060  1  2 120 120  1  2 050 050  1  2 080 080  1  2 060 060
3  1940 Y2     0  14  4  575   17650  2  4
5  1945     -180  1  5880   40  1  5755  200  1  5765  300  2  5750  430  3  5735
5  1946      430  3  5730  480  3  5730  480  3  5735  490  3  5750  500  4  5760
5  1947      510  4  4855  530  4  5860  540  4  5855  840  4  5880
6  1950  1  2 060 060  1  2 120 120  1  2 050 050  1  2 060 060
3  1960 ZI BR 2  10  2  575   17650        0        3 0
                                                  M                                    **ERROR(S)**
5  1965      640  1  5882  640  1  5770  657  1  5770  657  1  5882  640 -9  5882
5  1966      663  2  5882  663  2  5736  724  2  5736  724  2  5887  663 -9  5882
6  1967  1  2 100 100  1  2 040 040
3  1990 Z1A    5  14  3  575   17880  1  3
5  1995     -100  1  5875    0  1  5775  150  1  5775  220  1  5785  250  1  5770
5  1996      280  2  5770  320  2  5743  350  2  5743  360  3  5780  430  3  5760
5  1997      530  3  5785  550  3  5845  570  3  5845  620  3  5875
6  2000  1  2 060 060  1  2 040 040  1  2 060 060
3  2010 Z2     0  32  4  575   18100  1  3
5  2015      -64  1  5894    0  1  5817   33  1  5788   93  1  5772  161  1  5779
```

*** INPUT CARD PRINTOUT ***

```
5  2016      201  1  5778  268  1  5784  284  1  5776  298  1  5759  311  1  5768
5  2017      338  1  5773  360  2  5770  368  2  5743  395  2  5743  410  3  5780
5  2018      444  3  5771  461  3  5760  473  3  5774  503  3  5764  533  3  5773
5  2019      545  3  5776  573  3  5775  597  3  5842  620  3  5841  627  3  5853
5  2020      634  3  5850  675  3  5875  685  3  5883  720  4  5894  731  4  5898
5  2021      776  4  5893  835  4  5907
6  2025  1   2 060 060  1  2 040 040  1  2 060 060  1  2 060 060
3  2030 AA     0  34  3  578   18960  1  3
5  2035      223  1  5910  240  1  5894  256  1  5873  263  1  5871  284  2  5755
5  2036      331  2  5755  338  3  5803  354  3  5780  385  3  5779  405  3  5790
5  2037      414  3  5801  435  3  5801  452  3  5812  461  3  5801  502  3  5801
5  2038      553  3  5806  593  3  5811  628  3  5806  636  3  5801  641  3  5784
5  2039      645  3  5784  649  3  5793  665  3  5804  683  3  5793  698  3  5804
5  2040      719  3  5810  730  3  5807  799  3  5804  872  3  5821  965  3  5861
5  2041      988  3  5881 1072  3  5906 1133  3  5910 1203  3  5921
6  2045  1   2 040 040  1  2 035 035  1  2 080 080
3  2050 AB     0  32  3  578   19500  1  3
5  2055        0  1  5934   62  1  5911  105  1  5902  119  1  5902  167  1  5878
5  2056      181  1  5870  206  2  5852  230  2  5760  264  2  5755  284  3  5804
5  2057      303  3  5808  341  3  5815  389  3  5819  428  3  5818  459  3  5817
5  2058      494  3  5822  522  3  5830  575  3  5824  623  3  5826  700  3  5827
5  2059      766  3  5845  796  3  5850  851  3  5849  924  3  5846  938  3  5857
5  2060      949  3  5826  955  3  5826  967  3  5856  996  3  5857 1039  3  5873
5  2061     1093  3  5907 1133  3  5917
6  2065  1   2 040 040  1  2 035 035  1  2 080 080
```

PAGE 1 OF EDITING NOTES FOR: OTTER CR

SECID	ERROR SEVERITY	PRIMARY VARIABLE	NO.	ERROR MESSAGE	SECOND VARIABLE	NO.	VALUE ASSUMED
E BR	WARNING	STATION	7	IS LESS THAN	STATION	6	
E BR	WARNING	STATION	14	IS LESS THAN	STATION	13	
E BR	WARNING	STATION	21	IS LESS THAN	STATION	20	
I BR	WARNING	STATION	9	IS LESS THAN	STATION	8	
I BR	WARNING	STATION	19	IS LESS THAN	STATION	18	
I BR	WARNING	STATION	28	IS LESS THAN	STATION	27	
M BR	WARNING	STATION	8	IS LESS THAN	STATION	7	
M BR	WARNING	STATION	16	IS LESS THAN	STATION	15	
O BR	WARNING	STATION	10	IS LESS THAN	STATION	9	
O BR	WARNING	STATION	20	IS LESS THAN	STATION	19	
Q BR	WARNING	STATION	11	IS LESS THAN	STATION	10	
Q BR	WARNING	STATION	23	IS LESS THAN	STATION	22	
ZI BR	WARNING	STATION	5	IS LESS THAN	STATION	4	
ZI BR	WARNING	STATION	10	IS LESS THAN	STATION	9	



1) COUNTY: Monroe

2) STUDY NAME: LaSalle Twp.

3) WATERCOURSE: Otter Creek

4) DOCUMENT TYPE: Report



9-230

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington _____ / District _____

Other

SCC Old	SCC Use	Sta.		Bottom	10		50		150		
A	A		0	565.0	576.2		577.2		577.6		578.3
A1	B	4	00	65.0	"						"
B	C	13	00	66.0	"						"
C	D	38	50 ~~4800~~	66.0	"						
D	E	53	50	66.4	"						
F	F	56	70	67.8	"						
G	G	14	50	69.5	"						
H	H	7	50 ~~4600~~	65.0	"						
J	I	96	90	6 .5	"						
K	J	10,5	90	70.	"						
L	K	11,7	30 ~~11,010~~	67.1 67.5	"						~~78.3~~
N	L	11,1	20 ~~11,110~~	69.4 67.2	"						78.79
P	M	11,3	70 ~~11,430~~	68.6 67.5			~~77.2~~		~~577.6~~		~~78.79~~ ~~78.37~~
R	N	11,4	10	68.8			77.48		78.53		~~50.37~~ 81.36
S	O	12,		71.8			77.52	✓	78.56	✓	81.36 ✓
T	P	13,0	80	71.0			77.55	✓	78.58	✓	81.36 ✓
U	Q	14,2	60	70.9			77.12	✓	78.70	✓	81.42 ✓
V	R	15,1	80	72.1	76.2	✓	77.89	✓	78.83	✓	81.49 ✓
W	S	16,0	30	70.4	76.57	✓	78.04	✓	78.94		81.54 ✓
X	T	17,0	10	72.2	76.73	✓	78.22	✓	79.06		81.60 ✓
Y1	U	17,3	00	73.4	77.04	✓	78.35	✓	79,14		81.62 ✓
Y2	V	17,6	50 ~~7,850~~	73.6 73.0	77.39 ~~77.34~~	✓	78.58 ~~78.54~~	✓	79.31 ~~79.31~~		81.71 ~~81.71~~ ✓
Z1A	W	17,8	80	74.3	78.30	✓	80.05	✓	80.83		83.22 ✓
Z2	X	18,1	00	74.3	78.78	✓	80.1	✓	80.92		83.25 ✓
AA	Y	18,9	60	75 5	80.19		81.04		81.54		83.50
AB	Z	19,5	00	75 5	81.28		82.33		82.66		83.96

U. S. GOVERNMENT PRINTING OFFICE 16—48721-1

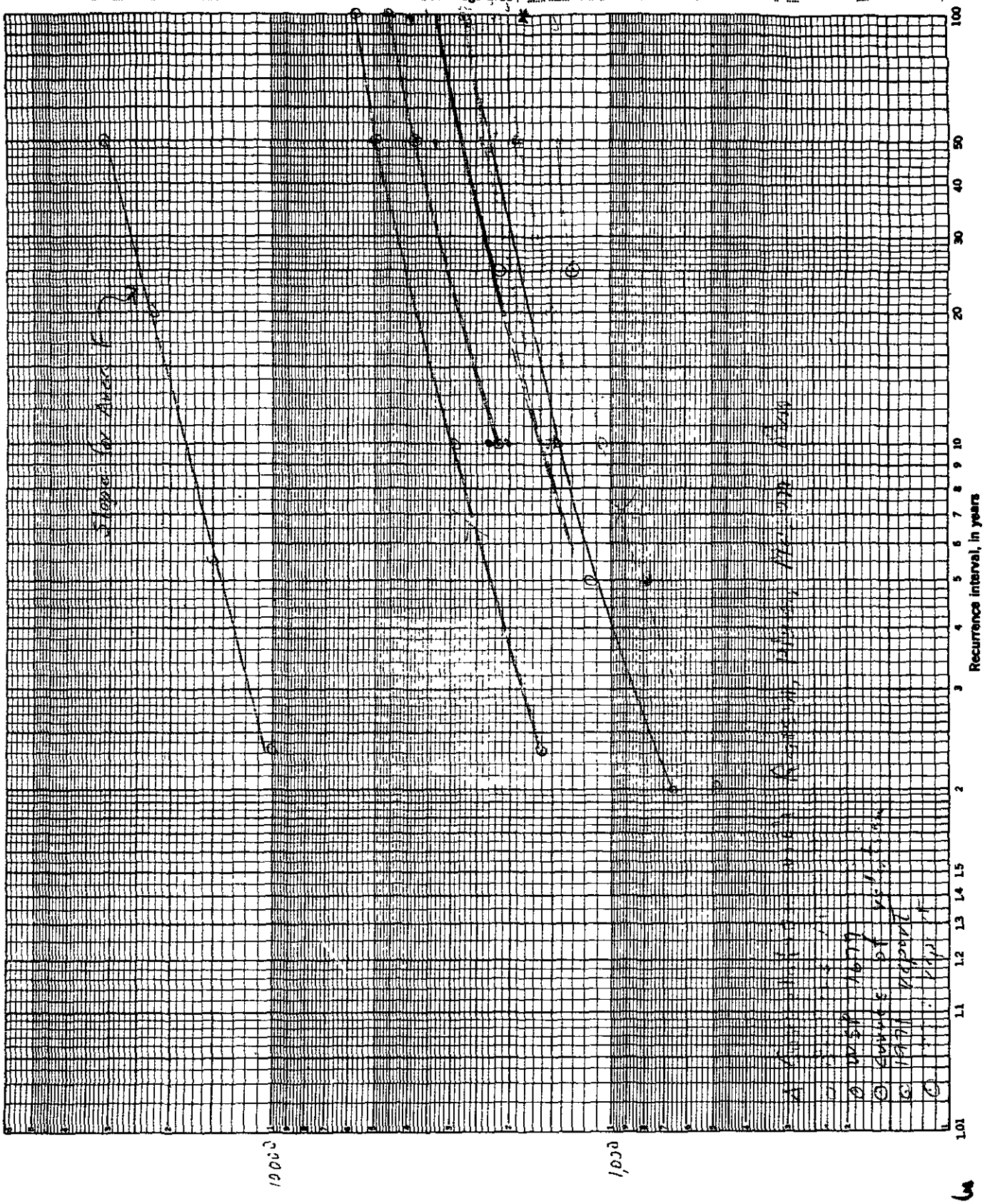
9-179b
Extreme log data plot
(Rev. 7-67)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Sta. No. .....

Magnitude and frequency of Otter Creek ..... on .....

Drainage area 55.4 sq. mi. Period .....



1000

1000

Sheet No ____ of ____ Sheets. Prepared by VH Date 8-15-75 Checked by ____ Date

GPO 862-155

Bracters Method

Otter Creek - Pop. density (55.4 mi²)

Summerfield - 42 mi², Pop. 3,844
- Pop. density for otter Creek D.A. which does not include Petersburg = $\frac{3,844 - 1,227}{42}$ = 62.3 people/mi².

Ida - 36 mi², Pop. 3,377
- Pop. density = $\frac{3,377}{36}$ = 93.8 people/mi²

LaSalle - 26 mi² (approx.)
- Pop. density = $\frac{4,151}{26}$ = 160 people/mi².

Summerfield - % of otter Creek D.A. = 20 % (approx.) 12.5

Ida - % of otter Creek D.A. = 57 % (approx.) 53.5

LaSalle - % of otter Creek D.A. = 23 % (approx.) 36.8

103

Average density = 103 people/mi²

P_{10}	P_{20}	P_{30}	P_{50}	P_{100}
1,250	1,500	1,650	1,870	2,200

Otter Creek

Drainage area

at mouth - 55.4

at junction S. & N. Br. - 49.9

S Br. Otter Cr. at Junction - 9.34

above Albain Dr, - 8.10

above M. Br. Otter Cr. - 3.67

N. Br Otter Cr. at Junction - 40.5

above Grauf Dr. - 38.9

above Ida Dr - 37.5

above Lockwood Dr - 24.9

above Raudi Dr - 22.7

above Cooper Snell + Ansel Dr - 18.2.

above Peters Dr. - 10.3

Curves of relation, Drainage area vs peak discharges

D.A. = 55.4

P_{10} = 2,150

P_{50} = 3,800

P_{100} = 4,600 cfs

P_{500} = 5,900

WSP 1677 - Hardison

Hydrologic area 11

Flood frequency region F

Mean annual flood (fig. 3) = 1600

Otter Creek - cont.

$Q_{10}/Q_{2.33} = 1.82$ $\quad Q_{10} = 2910$ cfs

$Q_{50}/Q_{2.33} = 3.08$ $\quad Q_{50} = 4930$ cfs

$Q_{100}/Q_{2.33} = 3.57$ $\quad Q_{100} = 5710$ cfs

Otter Creek - % forest cover

(also Dundee Quad)

Erie Quad.		Sumaria Quad.			Monroe Quad.	
2	5	35	27	20	20	20
6	7	6	10	90	10	3
4	6	2	10	17	2	4
4	20	4	33	50	14	4
4	5	20	10	40	48	31
4	5	6	8	16		
6	10	4	12	14	Tiffin Quad	
4	9	12	15	43	10	10
20	12	20	30	6	9	21
6	3	20	60	23	10	22
5	28	30	20	77	10	5
5	3	5	10	33	23	24
8	6	10	80	12	22	7
20	18	25	38	13	20	2
17	137	55	10	90	7	1
115		70	25	10	10	13	2
		40	12	5	20	35	94
		80	4	3	60	159	

Total	130	20	35	24	75	26	45
	30	13	3	18	13	10	10
4114 / 640 = 11.6	7	11	20	15	16	35	22
554 %	20	10	13	70	17	30	55
forest cover	100	16	25	115	19	35	132
	30	7	10	40	11	40	
	37	70	25	10	26	200	
	5	150	60	15	40	35	
	3	20	18	20	30	15	
	552	612	600	961	247	426	

Otter Creek - Fl. of basin

Erie Quad		Sandwich Quad	Monroe Quad
615	582	626	618
610	575	630	61[illegible]
587		6[illegible]5	

Ida Quad	Dundee Quad	
630	625	630
625	675	680
621	670	675
621	650	665
	648	660
	635	648
	632	642
	630	635
	628	633
	675	668
	670	660
	660	650
	652	645
	634	640
	633	635
	680	672
	675	658
	665	652
	660	6[illegible]
	648	675
	640	673
	635	665

$\frac{37,367}{58}$ — 644 [illegible]

Otter Creek - Main channel length + slope (@ 10% + 85%)

Tech. Paper No. 8

length = 18.3 mi.

10% = 1.8 mi.

85% = 15.6 mi

Alt. @ I-15 (1.2 mi above mouth) = 572 ft

(N. Br.) Alt. @ Shober Drain (11.2 mi above mouth) = 628 ft

Av. slope in ft/mi = $\frac{\text{I.}}{12}$ 5.6 ft/mi

Av. slope for total length = 5.8 (P. 11)

Use 5.7 ft/mi. as average slope

1970 Open file report

Otter Creek

P_2

Variable	Value	Adjustment	log	Exponent	Extension
a	55,100		4.741		4.741
A	55.4		1.743	.88	1.534
S	5.7		0.756	.18	0.136
E	644		2.809	-.68	-1.910
F	11.6	+1%	1.100	-.22	-0.242
P	31		1.479	-1.45	-2.145
B	30		1.477	69	1.019
C	4.0		0.602	-.74	-0.445
				log summation	2.688
				Q =	488

P_5

Variable	Value	Adjustment	log	Exponent	Extension
a	57,900		4.763		4763
A	55.4		1.744	.86	1.500
S	5.7		0.756	.17	0.129
E	644		2.809	-.84	-2.360
I	2.45		0.389	-1.61	-0.626
C	4.0		0.602	-.85	-0.512
				log summation	2.894
				Q =	783

1970 Open file report

Otter Creek

P25

Variable	Value	Adjustment	log	Exponent	Extension
a	18,490		4.267		4.267
A	55.4		1.744	.85	1.482
S	5.7		0.756	.23	0.174
E	644		2.809	-.82	-2.303
C	.40		0.602	-.84	-0.506
				log summation	3,114
				Q =	1,300

1970 Open file report

Otter Creek

P_{10}

Variable	Value	Adjustment	log	Exponent	Extension
a	32,000		4.505		4.505
A	55.4		1.744	.84	1.465
S	5.7		0.756	.21	0.159
E	644		2.809	-1.08	-3.034
B	30		1.477	.31	0.458
C	4.0		0.602	-.89	-0.536
				log summation	3.017
				Q =	1,040

P_{50}

Variable	Value	Adjustment	log	Exponent	Extension
a	16,260		4.211		4.211
A	55.4		1.744	.84	1.465
S	5.7		0.756	.24	0.181
E	644		2.809	-.78	-2.191
C	4.0		0.602	-.85	-0.512
				log summation	3.154
				Q =	1,430

1971 Open file report

Otter Creek

P_2

Variable	Value	Adjustment	log	Exponent	Extension
a	1.21×10^6		6.082		6.082
A	55.4		1.743	.90	1569
S	5.7		0.756	.15	0.113
E	644		2.809	-1.27	-3.567
F	11.6	+1%	1.100	-.45	-0.495
I	2.45		0.389	-1.55	-0.603
T	19.7		1.294	-.76	-0.983
B	30		1.477	.35	0.517
D	0	x.9 +1%	0	.18	0
G	.65	+1%	1.820	.10	0.182
H	0	x5 +1%	0	.07	0
O	0	x65 +1%	0	-.05	0
				log summation	2.815

Q = 653

1971 Open file report

Otter Creek

P_5

Variable	Value	Adjustment	log	Exponent	Extension
a	242×10^7		7.383		7.383
A	55.4		1.744	.90	1.570
S	5.7		0.756	.15	0.113
E	644		2.809	-1.37	-3.848
F	11.6	+1%	1.100	-.42	-0.462
I	2.45		0.389	-1.88	-0.731
T	19.7		1.294	-.87	-1.126
D	0	X.9 + 1%	0	.21	0
G	65	+1%	1.820	.09	0.164
H	0	X5 + 1%	0	.07	0
O	0	X65 + 1%	0	-.06	0
				log summation	3.0630
				Q =	1160

1971 open file report

Otter Creek

P_{10}

Variable	Value	Adjustment	log	exponent	Extension
a	2.43×10^7		7.385		7.385
A	55.4		1.743	.89	1.551
S	5.7		0.756	.16	0.121
E	6.4		2.809	-1.37	-3.848
F	11.6	+1%	1.100	-.43	-0.473
I	2.45		0.389	-1.67	-0.650
T	19.7		1.294	-.86	-1.113
D	0	X.9 +1%	0	.22	0
G	65	+1%	1.820	.10	0.182
H	0	X5 +1%	0	.08	0
O	0	X65 +1%	0	-.06	0
				log summation	3.155
				Q =	1,430

1971 Open file report

Otter Creek

P25

Variable	Value	Adjustment	log	Exponent	Extension
a	1.79×10^7		7.253		7.253
A	55.4		1.744	.87	1.517
S	5.7		0.756	.19	0.144
F	644		2.809	-1.50	-4.214
F	11.6	+1%	1.100	-.37	-0.407
T	19.7		1.294	-.91	-1.178
D	0	x.9 +1%	0	.23	0
G	65	+1%	1.820	.12	0.218
H	0	x5 + 1%	0	.08	0
O	0	x.65 + 1%	0	-.06	0
				log summation	3.333
				Q =	2,150

1971 open file report

Otter Creek

P_{50}

Variable	Value	Adjustment	log	exponent	Extension
a	1.20×10^6		6.078		6.078
A	55.4		1.743 ✓	.86 ✓	1.499 ✓
S	5.7		0.756 ✓	.22 ✓	0.166 ✓
E	644		2.809 ✓	-1.16 ✓	-3.258 ✓
F	11.6	+1%	1.100 ✓	-.37 ✓	-0.407 ✓
T	19.7		1.294 ✓	-.77 ✓	-0.996 ✓
D	0	X.9 +1%	0 ✓	.23 ✓	0 ✓
G	65	+1%	1.820 ✓	.11 ✓	0.200 ✓
H	0	X5 +1%	0 ✓	.09 ✓	0
K	0	X25 +1%	0	.05 ✓	0
O	0	X65 +1%	0 ✓	-.06 ✓	0
				log summation	3.282
				Q =	1,910

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: [redacted] 10yr

00BREAK00

11:58:12 X47 DAN REC2 STTLTHC7 FEB 18, 1981

SALINE RIVER

4-PRUNE

R400 12*3 SM:1223 LM:12*3 FW:E6-04? 22A0C561 PR01 RA/R112/FI/SI/A/M132

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```
JOBID=HEC2                USER=DAN                PROJECT=BTTLTW07          BILLING=BTTLTW07          RON=X0047
```

```
11:32:56                                    JOB INTRODUCED FROM                                    FEB 18, 1981
                                                  HEC2 ENG
```

```
11:33:01  START OF TRANSLATION

          PARAMETER VALUES

&1        = DB-SALFOUR
&PAPER    = 3PART

          $JOB HEC2,USER=DAN      ;
WARNING   35  THIS STATEMENT HAS BEEN GENERATED
          VALUE FILENAM,NHOLD,WK=MEG200,CPU=30,PAPER=1PART,SIZE=200,STEP=HEC2,
                SUB=SUBNAME,COPIES=1,WKDVC=452;
          JUMP &PAPER$$X;
          2PARTX:
          OUTVAL &2, D=I12PRT,DVC=PR;
          JUMP CONTX;
          3PARTX:
          OUTVAL &2,MD=I13PRT,DVC=PR;
          JUMP CONTX;
          1PARTX:
          OUTVAL &2;
          CONTX:
          INVOKE HEC2,ENGJCLLIB,VALUES=(&1,&2,WK=&WK,CPU=&CPU,PAPER=&PAPER,SIZE=&SIZE,
                STEP=&STEP,SUB=&SUB,COPIES=&COPIES,WKDVC=&WKDVC);

          RECORD COUNT :     16

11:33:15  END OF TRANSLATION
```

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JOBID=HEC2 USER=DAN PROJECT=BTTLTM07 BILLING=BTTLTM07 RON=XD047

11:41:01 JOB EXECUTION LISTING FEB 18, 1987

```
                JUMP DONE TO $PARTX
                JUMP DONE TO CONTX
                JUMP DONE TO HEC2
                START OF PSCM2 EXECUTION
                STEP 4
                LOAD MODULE = HECM2 (7972 722 23:50) PREINITIALIZED
                LIBRARY = MTAENGLN
11:41:10        STEP STARTED XPRTY=5
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEMB
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEMC
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEMD
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEMA
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEME
                FPO4.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG20D FOR EFN: ;DD0047.FILEMF
                TASP '$IF' J=29 P=00 COMPLETED
                DUF01.IFN=FILEMB        REMEMBER REUSE=
                DUF01.IFN=FILEMC        REMEMBER REUSE=
                DUF01.IFN=FILEMD        REMEMBER REUSE=
                DUF01.IFN=FILEMA        REMEMBER REUSE=
                DUF01.IFN=FILEME        REMEMBER REUSE=
                DUF01.IFN=FILEMF        REMEMBER REUSE=          BLOCK BUFFER=       0   SEPARATE BUFFERS=      52
                TOTAL DISK FILES USED=    20 TRACKS
                FILEMB    ON  MEG20D :  NO  OF  IO  CONNECTS=       135
                FILEMC    ON  MEG20D :  NO  OF  IO  CONNECTS=       113
                FILEME    ON  MEG20D :  NO  OF  IO  CONNECTS=       422
                FILEMA    ON  MEG20D :  NO  OF  IO  CONNECTS=       215
                JOBD      ON  MEG20D :  NO  OF  IO  CONNECTS=        65
                HORD      ON  MTAPAC :  NO  OF  IO  CONNECTS=         4
                FILEMD    ON  MEG20D :  NO  OF  IO  CONNECTS=        83
                FILEMF    ON  MEG20D :  NO  OF  IO  CONNECTS=        30
                CPU          2.517                    PROG MISSING SEGTS      260   STACKOV      61
                ELAPSED      7.426                    SYS  MISSING SEGTS      561
                LINES          810   LIMIT    NOLIM    PACKING STORE        391720
                CARDS            0   LIMIT    NOLIM    ELFFER SIZE           15920   CPSIZE     8272
11:48:36        STEP COMPLETED

                JUMP DONE TO FINISH
                JUMP DONE TO $PART
                ********************************
                *  READY $PART  GREEN BAR PAPER  *
                ********************************

                START     11:41:01    LINES        810
                STOP      11:48:39    CARDS          0
                CPU          2.517
                ELAPSE       7.630
11:48:39        RESULT:  JOB COMPLETED
```

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```
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CODE -  01
  MODIFICATION -  50,51,52
*****************************************************

C
T1SALINE RIVER MILAN  TWP. FIS MOD 2020-07
T2 10 YR STORM
T3       SALINE R. MILAN TWP.

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        2.        0.        0.  0.000032      0.00       0.0        0.   676.900     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBH       CHNIM     ITRACE

      1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000

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

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********

    -10.000   -10.000     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     0.410     0.000     0.000     0.000     0.000     0.000
NC      0.150     0.150     0.045     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT      6.000  2060.000  3490.000  4060.000  4060.000  5190.000  1100.000     0.000     0.000     0.000

          VALLEY #9 AT CORP. BOUNDARY

X1      0.000    13.000  1033.000  1117.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    680.000     0.000   675.200     1.000   675.200   500.000   675.200   900.000   674.900  1011.000
GR    674.300  1040.000   674.300  1062.000   667.800  1033.000   664.800  1100.000   667.700  1117.000
GR    677.200  1127.000   678.200  1200.000   679.400  1400.000     0.000     0.000     0.000     0.000

          VALLEY #8

X1    610.000    12.000   744.000   776.000   500.000   700.000   610.000     0.000     0.000     0.000
GR    600.000     0.000   675.000    40.000   675.000   500.000   675.000   733.000   666.900   744.000
GR    664.300   760.000   668.100   776.000   675.900   786.000   675.900  1000.000   677.000  1200.000
GR    677.000  1500.000   680.000  1750.000     0.000     0.000     0.000     0.000     0.000     0.000

          VALLEY #7

X1   2260.000    11.000   327.000   353.000  1300.000   700.000  1650.000     0.000     0.000     0.000
GR    680.000     0.000   675.000    20.000   674.900   288.000   668.500   327.000   666.200   340.000
GR    669.800   353.000   677.900   366.000   678.000   600.000   678.000  1000.000   678.000  1400.000
GR    680.000  1500.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

          VALLEY #6

X1   3660.000    11.000  1458.000  1502.000  1200.000  1200.000  1400.000     0.000     0.000     0.000
X4      1.000   681.000  1000.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    683.000     0.000   678.000  1030.000   677.800  1445.000   678.800  1458.000   666.000  1480.000
```

GR	670.000	1502.000	676.400	1509.000	676.000	1600.000	678.000	2200.000	681.000	2400.000
GR	683.000	2600.000	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	0.100	0.000	0.000	875.000	2175.000

VALLEY #3

X1	4785.000	11.000	1980.000	2023.000	900.000	1200.300	1125.000	0.500	0.000	0.000
X4	1.000	681.000	950.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000
GR	503.000	400.000	679.000	1500.000	679.000	1967.300	670.000	1980.300	667.200	2000.000
GR	670.700	2020.000	675.600	2025.000	680.300	2042.300	681.500	2270.300	682.000	3020.000
GR	683.000	3200.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000

VALLEY #4

X1	6590.000	12.000	1937.300	2013.000	1200.000	1250.300	1545.000	0.000	0.000	0.000
X3	0.000	0.000	0.300	1750.000	0.000	2250.300	0.000	0.000	0.000	0.000
GR	1061.000	950.000	601.000	1202.000	601.000	1630.300	667.900	1935.000	673.000	1951.000
GR	677.300	1973.000	671.000	1987.000	667.100	2000.300	670.700	2013.000	680.200	2026.000
GR	680.200	2500.000	685.000	2501.000	0.000	0.300	0.000	0.000	0.000	0.000
MC	0.000	0.000	0.000	0.300	0.500	0.300	0.000	0.000	0.000	0.000

VALLEY #3 100 FT D/S OF US-23

X1	7080.000	8.000	64.000	100.000	750.000	750.300	750.000	0.000	0.000	0.000
GR	685.000	0.000	685.000	35.000	670.700	64.000	669.800	42.000	670.800	100.000
GR	680.100	112.000	680.100	109.000	685.000	132.300	0.000	0.100	0.000	0.000
MC	0.000	0.000	0.065	0.070	0.002	0.700	0.000	0.300	0.000	0.000

D/S FACE OF N. BOUND US-23

X1	7190.000	13.000	1.000	115.000	100.000	130.300	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.100	0.000	0.000	0.000	0.000	689.000	689.000	0.000
GR	649.000	0.000	684.200	1.000	672.200	31.000	672.200	31.100	672.200	34.900
GR	672.200	35.000	670.400	58.000	672.100	81.000	672.100	81.100	672.100	84.900
GR	672.100	65.000	682.200	115.000	689.000	116.000	0.000	0.000	0.000	0.000

X1	7181.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.200	0.000	0.000	689.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.000	669.000	685.000	31.000	689.000	685.000
BT	31.100	689.000	0.000	34.900	689.000	0.000	35.000	689.000	685.000	58.000
BT	689.000	685.000	81.000	689.000	685.000	81.100	689.000	0.000	34.900	689.000
BT	0.000	85.000	689.000	685.000	115.000	639.000	685.000	116.000	639.000	0.000

X1	7227.000	0.000	0.000	0.000	46.000	46.000	46.000	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	689.000	689.000	0.000

U/S FACE OF N. BOUND US-23

X1	7228.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

U/S FACE OF S. BOUND US-23

X1	7276.000	1.000	0.000	0.000	48.000	48.000	48.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.200	0.000	0.000	689.000	689.000	0.000

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X1	7277.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	669.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.700	689.150	685.000	31.000	685.000	685.000
BT	31.100	689.000	0.000	34.900	689.000	0.000	35.000	689.000	685.000	54.000
BT	539.300	685.000	54.000	689.000	685.000	11.100	689.000	0.370	24.950	689.350
BT	0.000	85.000	689.000	685.000	715.000	689.000	685.000	116.000	689.000	0.000

X1	7323.000	0.000	0.000	0.000	46.000	46.000	46.000	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	15.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

U/S FACE OF S. BOUND US-23

X1	7324.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	669.000	689.000	0.000
XC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

50 FT U/S US-23 CORP. BOUNDARY

X1	7324.000	12.000	94.000	116.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	665.000	0.000	604.000	1.000	683.400	53.000	680.200	72.000	670.600	34.000
GR	669.500	100.000	672.000	116.000	674.200	121.000	673.300	138.000	679.900	154.000
GR	680.000	199.000	685.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
EJ	6.000	0.000	1305.000	0.100	1353.200	0.060	1354.100	0.065	1408.600	0.060
EJ	1530.300	0.000	2039.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000

550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION BB)

X1	7924.000	14.000	1354.700	1400.600	550.000	550.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	1400.000	0.000	0.000	0.000	0.000
SP	506.000	250.000	686.800	251.000	684.800	650.000	684.700	5000.000	664.000	1170.000
GR	664.000	1300.000	680.800	1338.000	671.500	1354.100	670.400	1358.100	669.800	1363.000
GR	670.100	1368.100	669.800	1373.100	671.600	1378.100	671.500	1408.400	680.400	1426.200
GR	680.000	1500.000	682.400	1700.000	682.500	2031.000	688.000	2032.000	0.000	0.000
NH	7.000	0.060	30.000	0.100	1420.000	0.300	1429.000	0.065	1448.000	0.060
NH	1456.000	0.100	1508.000	0.060	2450.000	0.300	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION B)

X1	9024.000	14.000	1429.000	1450.000	1100.000	1100.000	1100.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	640.000	0.000	2215.000	0.000	0.000	0.000	0.000
GR	668.000	50.000	684.000	90.000	684.000	1420.000	672.100	1429.000	671.100	1430.000
GR	670.600	1433.000	670.700	1438.000	670.600	1443.000	670.000	1448.000	672.100	1450.000
GR	678.800	1456.000	681.800	1508.000	682.000	2215.000	688.000	2325.000	0.000	0.000
NH	5.000	0.100	2479.000	0.070	2530.000	0.065	2550.000	0.070	2596.000	0.060
NH	2645.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

X1	10054.000	20.000	2529.000	2550.000	1030.000	1030.000	1030.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1490.000	0.000	2605.000	0.000	0.000	0.000	0.000
GR	638.000	520.000	684.700	820.000	684.900	1820.000	680.000	1790.000	686.400	1835.000
GR	680.000	2005.000	684.000	2050.000	683.300	2250.000	680.000	2479.000	672.100	2529.000
GR	671.700	2530.000	670.800	2533.000	670.700	2538.000	670.600	2543.000	670.000	2548.000
GR	672.700	2550.000	678.800	2556.000	680.000	2606.000	684.000	2705.000	688.300	2845.000
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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FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 676.10

STA=	1.	500.	930.	1010.	1040.	1062.	1083.	1197.	1226.
PER Q=	6.5	5.2	1.9	0.9	0.9	4.7	70.7	1.2	
AREA=	449.2	360.1	116.6	43.5	39.6	106.1	334.1	37.1	
VEL=	0.3	0.3	0.3	0.4	0.5	0.9	4.9	0.7	

FLOW DISTRIBUTION FOR SECNO= 610.00 CWSEL= 676.70

STA=	26.	40.	500.	733.	744.	776.	786.	1000.	1145.
PER Q=	0.9	14.4	7.3	2.3	72.1	1.5	1.9	0.4	
AREA=	11.5	701.1	305.6	63.2	343.5	47.0	170.6	57.9	
VEL=	0.2	2.4	0.6	0.7	4.3	0.6	0.2	0.1	

FLOW DISTRIBUTION FOR SECNO= 2250.00 CWSEL= 677.95

STA=	0.	20.	260.	327.	353.	366.	474.
PER Q=	0.3	24.7	12.1	61.1	1.8	0.0	
AREA=	17.4	803.0	243.6	267.0	53.2	2.5	
VEL=	0.4	0.6	1.0	4.7	0.7	0.3	

FLOW DISTRIBUTION FOR SECNO= 3660.00 CWSEL= 678.86

STA=	1021.	1030.	1445.	1458.	1502.	1509.	1800.	2200.	2257.
PER Q=	0.0	3.9	4.0	82.8	1.0	6.9	3.2	0.1	
AREA=	3.7	397.3	72.3	490.9	39.6	682.5	363.7	24.5	
VEL=	0.1	0.2	0.6	3.5	0.5	0.3	3.8	0.1	

FLOW DISTRIBUTION FOR SECNO= 4705.00 CWSEL= 679.42

STA=	1384.	1500.	1967.	1983.	2020.	2028.	2039.
PER Q=	0.1	1.5	2.3	94.4	1.2	0.5	
AREA=	24.4	196.7	64.0	425.8	31.4	26.4	
VEL=	0.1	0.2	0.7	4.6	0.8	0.4	

FLOW DISTRIBUTION FOR SECNO= 6330.00 CWSEL= 680.82

STA=	1935.	1951.	1973.	1987.	2013.	2026.	2250.
PER Q=	0.5	2.5	5.2	87.0	3.1	1.7	
AREA=	21.9	69.7	93.4	308.0	69.8	138.9	
VEL=	0.4	0.7	1.1	5.0	0.9	0.3	

FLOW DISTRIBUTION FOR SECNO= 7080.00 CWSEL= 681.73

STA=	42.	64.	100.	112.	143.	163.
PER Q=	4.5	91.1	2.9	1.5	0.0	
AREA=	119.1	462.4	95.4	88.2	0.3	
VEL=	0.8	4.6	0.8	5.4	0.1	

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FLOW DISTRIBUTION FOR SECNO= 7180.00 CHSEL= 682.04

STA= 6. 115.
PER Q= 100.0
AREA= 842.4
VEL= 2.4

FLOW DISTRIBUTION FOR SECNO= 7187.00 CHSEL= 682.03

STA= 6. 115.
PER Q= 100.0
AREA= 764.6
VEL= 2.7

FLOW DISTRIBUTION FOR SECNO= 7227.00 CHSEL= 682.05

STA= 6. 115.
PER Q= 100.0
AREA= 766.3
VEL= 2.7

FLOW DISTRIBUTION FOR SECNO= 7228.00 CHSEL= 682.08

STA= 6. 115.
PER Q= 100.0
AREA= 840.3
VEL= 2.4

FLOW DISTRIBUTION FOR SECNO= 7274.00 CHSEL= 682.10

STA= 6. 115.
PER Q= 100.0
AREA= 849.1
VEL= 2.4

FLOW DISTRIBUTION FOR SECNO= 7277.00 CHSEL= 682.09

STA= 6. 115.
PER Q= 100.0
AREA= 771.2
VEL= 2.7

FLOW DISTRIBUTION FOR SECNO= 7323.00 CHSEL= 682.12

STA= 6. 115.
PER Q= 100.0
AREA= 772.2
VEL= 2.7

FLOW DISTRIBUTION FOR SECNO= 7324.00 CHSEL= 682.14

STA= 6. 115.
PER Q= 100.0
AREA= 853.2
VEL= 2.4

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FLOW DISTRIBUTION FOR SECNO= 7374.00 CUSEL= 602.06

STA=	67.	72.	96.	114.	121.	138.	154.	199.	209.
PER Q=	0.1	3.1	87.7	2.3	7.4	3.3	2.0	2.0	
AREA=	10.5	30.2	379.8	44.9	161.7	37.7	96.0	0.4	
VEL=	0.3	0.3	6.5	1.1	1.1	0.3	0.4	0.1	

FLOW DISTRIBUTION FOR SECNO= 7924.00 CUSEL= 602.02

STA=	1310.	1354.	1400.	1426.	1500.	1700.	1800.
PER Q=	7.6	68.0	8.9	7.4	7.0	0.1	
AREA=	123.7	554.3	190.7	178.3	203.2	20.1	
VEL=	0.3	2.2	1.6	0.9	0.5	0.1	

FLOW DISTRIBUTION FOR SECNO= 9024.00 CUSEL= 603.21

STA=	1421.	1455.	1460.	1466.	1504.	2215.
PER Q=	3.5	83.6	5.2	6.9	0.8	
AREA=	46.6	263.0	46.3	157.0	922.3	
VEL=	1.7	3.4	2.3	0.9	0.9	

FLOW DISTRIBUTION FOR SECNO= 10054.00 CUSEL= 603.84

STA=	2095.	2479.	2529.	2550.	2556.	2606.	2685.
PER Q=	11.8	29.6	31.0	3.1	13.7	10.0	
AREA=	544.6	3N9.7	278.5	50.4	222.2	253.9	
VEL=	0.4	1.6	2.3	1.3	1.3	0.9	

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FORM 1211-03 PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 50yr

00BREAK00

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*****************************************************
 HEC2 RELEASE DATED NOV 76 [illegible]
 ERROR CORR - 01
 MODIFICATION - 50,[illegible],52
*****************************************************

T1SALINE RIVER MILAN TWP. AIS HUD 2028-07
T250 [illegible] STORM
T5      SALINE RIVER MILAN TWP.

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   KVINS    Q        WSEL     FQ

      0.       0.       0.       0.  0.021032     0.00     0.0      0.   677.400   0.000

J2  NPROF     IPLOT    PRFVS    XSFCV    XSECH    FN       ALLDC    IBW      CHNTM    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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PRINTED IN U.S.A.
FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR -  01
 MODIFICATION -  50,51,52
**************************************************

T1SALINE RIVER MILAN TWP. FIS MUD 2027-07
T2100 YR STORM
T3       SALINE RIVER MILAN TWP.

J1  ICHECK     ING       NINV      IDIR      STRT      METRIC    NWINS     0         USEL      FQ

      0.        4.        0.        0.  0.001032      0.00      0.0        0.   677.330    1.000

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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FORM 1411-GD-PRINTED BY ROTARY MANIFOLD FORMS.

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,52,52
*****************************************************

T1SALINE RIVER MILAN TWP. FIS HLD 2026-07
T2500 YR STORM
T3      SALINE RIVER MILAN TWP.

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    NVINS     Q         WSEL      FQ

       0.        6.        0.        0.  0.001332      0.00       0.        0.   670.500     0.000

J2  NPROF     IPLOT     PRTVS     XSELV     XSECH     FN        ALDC      IEJ       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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FORM 1411-GD PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100yR.

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
**************************************************


C
T1SALINE RIVER MILAN  TWP. FIS AUG 2024-07
T2TOP YR STOR
T3       SALINE R. MILAN TWP.

J1   ICHECK      INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          XSEL       FQ

          5.         6.         0.         0.   0.2001C3E        0.00       0.0         0.    677.890       0.200

J2   NPROF      IPLOT      PRFVS      XSECV      XSECH         FQ       ALLOC       IDC        CHNIP      ITRACE

       -1.000     0.000     -9.000     0.000      0.000      0.000      0.200      0.700      0.000      0.000

J3   LPRINT     NUMSEC                          ********REQUESTED SECTION NUMBERS********

       -10.000    -10.000     0.300      0.200      0.300      0.200      0.000      0.000      0.000      0.000
CT       0.000      0.000      0.000      0.000      1.613      0.000      0.000      0.000      0.000      0.000
NC       0.150      0.150      0.045      0.100      0.300      0.000      0.000      0.000      0.000      0.000
NT       5.000   2021.000   5490.000   4050.000   4060.000   5490.000   1400.000      0.000      0.000      0.000


                VALLEY 99 AT CORP. BOUNDARY

       X1         0.000     13.000   1063.000   1117.000      3.000      0.000      0.000      0.000      0.000      1.000
       GR       665.000      0.000    675.200      1.000    675.200    500.000    675.200    900.000    674.900   1071.000
       GR       674.300   1040.300    674.300   1062.000    667.000   1083.000    666.800   1100.000    667.700   1117.000
       GR       677.200   1127.000    678.200   1270.300    679.400   1400.000      0.300      0.000      0.000      0.000


                VALLEY #0

       X1       610.000     12.000    744.000    776.000    500.000    700.000    610.200      0.000      0.000      1.000
       GR       665.000      0.300    675.000     40.000    675.000    500.000    675.000    733.200    666.900    744.000
       GR       664.300    760.000    668.100    776.000    675.900    786.000    675.900   1000.000    677.000   1200.000
       GR       677.000   1500.300    680.000   1750.000      0.000      0.000      0.000      0.000      0.000      0.000


                VALLEY #7

       X1      2260.000     11.000    327.000    353.000   1300.000    700.000   1650.000      0.000      0.000      1.000
       GR       680.000      0.000    675.000     20.000    674.900    288.000    668.500    327.000    666.200    340.000
       GR       669.800    353.000    677.900    366.000    678.000    600.000    673.000   1000.000    678.000   1400.000
       GR       680.000   1500.300      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000


                VALLEY #8

       X1      3660.000     11.300   1458.000   1502.000   1200.000   1200.300   1400.000      0.000      0.000      1.000
       XS         1.000    631.000   1000.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
       GR       663.000      0.300    678.000   1030.000    677.800   1445.000    668.800   1458.000    666.300   1480.000
       GR       670.000   1502.300    676.600   1519.000    676.000   1530.300    673.000   2260.000    681.000   2400.000
       GR       683.000   2600.300      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
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VALLEY #5

X1	4785.000	11.000	1980.000	2020.000	970.000	1200.000	1125.000	0.000	0.000	1.000
X4	1.000	661.000	950.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	693.000	400.000	679.000	1500.000	679.000	2967.000	671.000	1963.000	667.200	2000.000
GR	670.700	2020.000	675.600	2025.000	680.300	2042.000	681.500	2200.000	682.000	3003.000
GR	682.000	3200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY #4

X1	6530.000	12.000	1987.000	2013.000	1200.000	1230.000	1545.000	0.000	0.000	1.000
X3	0.000	0.000	0.000	1750.000	0.000	2250.000	0.000	0.000	0.000	0.000
GR	685.000	950.000	681.000	1200.000	681.000	1630.000	680.900	1935.000	678.000	1951.000
GR	677.300	1975.000	671.000	1987.000	667.100	2020.000	670.700	2013.000	680.200	2026.000
GR	680.200	2500.000	685.000	2501.000	0.000	0.000	0.000	0.000	0.000	0.000
XS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY #3 100 FT D/S OF US-23

X1	7080.000	0.000	64.000	120.000	750.000	750.000	750.000	0.000	0.000	1.000
X3	0.000	0.000	685.000	36.000	672.700	67.000	669.900	32.000	670.900	900.000
GR	650.100	112.000	681.100	163.000	655.000	64.000	0.000	0.000	0.000	0.000
GR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF N. BOUND US-23

X1	7130.000	13.000	1.000	115.000	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
GR	689.000	0.000	684.200	1.000	672.200	31.000	672.200	31.100	672.200	34.900
GR	672.200	35.000	670.400	56.000	672.100	81.000	672.100	81.100	672.100	84.900
GR	672.100	85.000	682.200	115.000	689.000	116.000	0.000	0.000	0.000	0.000
X1	7181.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.000	689.000	685.000	31.000	689.000	685.000
BT	31.100	669.000	0.000	34.900	689.000	0.000	35.000	689.000	685.000	58.000
BT	689.000	685.000	84.900	689.000	685.000	84.100	689.000	0.000	84.900	669.000
BT	0.000	85.000	689.000	685.000	115.000	685.000	685.000	116.000	689.000	0.000

X1	7227.000	0.000	0.000	0.000	46.000	46.000	46.000	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	689.000	689.000	0.000

U/S FACE OF N. BOUND US-23

X1	7228.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

U/S FACE OF S. BOUND US-23

X1	7276.000	0.000	0.000	0.000	48.000	48.000	48.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
X1	7277.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.000	689.200	685.000	31.000	689.000	685.000

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FORM 1411-00 PRINTED BY ROTARY MANIFOLD FORMS.

BT	31.100	689.000	0.000	34.900	689.000	0.000	35.000	689.000	685.000	58.000
BT	689.000	685.000	81.000	689.000	685.000	61.100	685.000	0.000	84.900	689.000
BT	0.000	85.000	689.000	685.000	115.000	689.000	685.000	116.000	689.000	0.000
X2	7323.000	0.000	0.000	0.000	46.000	46.000	46.000	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	689.000	689.000	0.000

U/S FACE OF S. ABUT TO US-23

X1	7324.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
XC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

ST PT U/S US-23 CONP. BOUNDARY

X1	7374.000	72.000	84.000	116.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	685.000	0.000	684.000	1.000	683.400	53.000	680.200	72.000	670.600	84.000
GR	669.500	100.000	672.000	116.000	674.200	121.000	673.300	130.000	679.900	154.000
BR	685.000	199.000	686.000	230.000	0.000	0.000	0.000	0.000	0.000	0.000
BR	0.000	0.000	1500.000	0.000	1334.000	0.000	1354.100	0.000	1428.300	0.000
BR	1500.000	0.000	2050.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION AB)

X2	7924.000	19.000	1354.100	1401.400	550.000	550.000	550.000	0.000	0.000	1.000
X3	0.000	0.000	0.000	500.000	0.000	1400.000	0.000	0.000	0.000	0.000
GR	688.000	250.000	684.800	251.000	684.800	800.000	684.700	1000.000	684.000	1170.000
GR	684.000	1300.000	680.800	1336.000	671.500	1354.100	670.400	1358.100	669.800	1363.090
GR	670.100	1368.100	669.800	1373.100	671.400	1378.100	671.500	1408.400	680.400	1426.200
GR	690.000	1500.000	682.600	1700.000	682.500	2091.000	690.300	2532.000	0.000	0.000
XM	7.000	0.000	50.000	0.000	1420.000	0.000	1429.000	0.000	1446.000	0.000
X4	1656.000	0.000	1500.000	0.000	2325.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION B)

X1	9024.000	14.000	1429.000	1450.000	1100.000	1100.000	1100.000	0.000	0.000	1.000
X3	0.000	0.000	0.000	640.000	0.000	2215.000	0.000	0.000	0.000	0.000
GR	688.000	50.000	684.000	80.000	684.000	1420.000	672.100	1429.000	671.100	1430.000
GR	670.600	1433.000	670.700	1430.000	670.600	1443.000	670.000	1448.000	672.100	1450.000
GR	678.600	1456.000	681.800	1500.000	682.000	2215.000	688.000	2325.000	0.000	0.000
NR	5.000	0.000	2479.000	0.000	2530.000	0.000	2550.000	0.000	2554.000	0.000
NR	2845.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

X1	13054.000	20.000	2529.000	2550.000	1030.000	1030.000	1030.000	0.000	0.000	1.000
X3	0.000	0.000	0.000	1190.000	0.000	2695.000	0.000	0.000	0.000	0.000
GR	668.000	520.000	684.700	820.000	684.900	1320.000	688.000	1793.000	688.400	1835.000
GR	684.000	2005.000	686.000	2050.000	683.300	2250.000	680.000	2679.000	672.100	2529.000
GR	671.100	2530.000	670.600	2533.000	670.700	2538.000	670.600	2543.000	670.000	2548.000
GR	672.100	2550.000	678.800	2556.000	680.000	2636.000	684.000	2785.000	688.000	2845.000
GR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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FORM 1411-GS-PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100yR. (1979 Flood)

00BREAK00

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HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERIOR CORR - 01
IDENTIFICATION - 50,51,52
*****************************************************************
C
T1SALINE RIVER MILAN TWP. FIS HUD 2020-07
T2100 YR STORM
T3      SALINE R. MILAN TWP.

J1 ICHECK  INQ     NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
           0.      4.       3.       0.       0.00100S2 0.00     0.       677.030  1.000

J2 NPROF   IPLOT   PRFVS    XSECV    XSECH    FN       ALLOC    IDW      CHNIM    ITRACE
           1.000   0.000   -1.003    0.003    0.000    0.000    0.020    0.000    0.000    15.000

J3 VARIABLE CODES FOR SUM OF PRINTOUT
           150.003  0.000    0.000    3.020    0.020    0.000    0.000    0.000    0.003    0.000

ET         0.000    0.000    0.000    3.000    1.410    0.300    3.020    3.030    0.030    0.000
IT         0.153    0.150    0.045    1.100    4062.020 4760.300 9162.020 9.170    9.E30    3.010
JT         6.003    2.10E.000 3490.C00 4062.020 4760.300 5490.020 9.170    9.E30    3.C00    3.000

                                VALLEY #9 AT CORP. BOUNDARY

                                VALLEY #4

X1  3660.000  11.000  1502.000  1200.000  1200.000  1465.000  677.000  1030.000  1509.000  678.000  1900.000  679.000  643.000  1453.000  2200.000  681.000  2400.000
X4     1.000  681.000  9003.003     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
GR   683.000    0.000  679.000  1465.000  1453.000  2200.000  681.000  2400.000
GR   670.000 1502.000  675.000  1509.000  678.000  1900.000  679.000  643.000
GR   683.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

                                VALLEY #6

X1  2260.000  11.000  327.000  353.000  1650.000  700.000  1300.000  1750.000  680.020  1500.000  680.000
GR   680.000    0.000  675.000   20.000  674.900  288.000  668.500  327.000  666.200  340.000
GR   669.800  353.000  677.903  366.300  679.020  500.300  679.000  1000.300  578.000  1420.000
GR   680.000  1500.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

                                VALLEY #7

X1  610.000  12.000  744.020  776.000  410.000  705.020  520.000  776.000  1750.000  680.020  1500.000  677.000
GR   680.000    0.000  675.000   40.000  675.000  500.000  675.000  733.000  666.900  744.020
GR   664.300  760.000  668.100  776.000  675.900  786.000  675.900  1000.000  677.000  1200.000
GR   677.000  1500.000    0.000    0.000    0.000    0.000    0.003    0.000    0.000    0.000

                                VALLEY #8

X1  0.000  13.000  1093.000  1117.000  0.000  0.000  0.000  679.400  1200.000  678.200  1127.000  677.203
GR   674.300  1040.003  676.300  1062.020  1083.000  667.800  664.000  1103.020  667.720  1117.020
GR   680.000    0.000  675.200    1.000  675.200  570.020  675.220  903.020  674.930  1013.003
GR   670.000  1502.000  675.000  1509.000  678.000  1900.000  679.000  643.000  681.000  2400.000
GR   683.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

                                VALLEY #9 AT CORP. BOUNDARY

                                                                                    FORMTED IN U.S.C.S.

                                                                                    PRO.T.1411.00-PRINTED BY : STAFF MANIFOLD FORMS
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VALLEY #5

X1	4785.000	11.000	1980.000	2020.000	900.000	1200.000	1125.000	0.000	0.000	0.000
X4	1.000	601.000	950.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	683.000	400.000	679.000	1500.000	679.000	1967.000	670.000	1980.000	667.200	2000.000
GR	670.700	2020.000	675.600	2025.000	660.300	2042.000	681.500	2200.000	682.000	3000.000
GR	683.000	3200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY #4

X1	6330.000	12.000	1907.000	2013.000	900.000	1200.000	1545.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1750.000	0.000	2250.000	0.000	0.000	0.000	0.000
GR	685.000	950.000	681.000	1200.000	681.000	1600.000	680.900	1935.000	678.000	1951.000
GR	677.300	1973.000	671.000	1987.000	667.100	2000.000	670.700	2013.000	680.200	2026.000
GR	680.200	2500.000	685.000	2501.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000

VALLEY #3 100 FT D/S OF US-23

X1	7000.000	0.000	66.000	100.000	750.000	750.000	750.000	0.000	0.000	0.000
GR	675.000	0.000	685.000	36.000	670.700	64.000	669.300	32.000	670.300	100.000
GR	680.100	112.000	600.100	163.000	685.000	164.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF N. BOUND US-23

X1	7180.000	13.000	1.000	115.000	100.000	100.000	900.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
GR	689.000	0.000	684.200	1.000	672.200	31.000	672.200	31.100	672.200	34.900
GR	672.200	35.000	670.400	58.000	672.100	81.000	672.100	81.100	672.100	84.900
GR	672.100	85.000	682.200	115.000	689.000	116.000	0.000	0.000	0.000	0.000

X1	7181.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.000	689.000	685.000	31.000	689.000	685.000
BT	31.100	689.000	0.000	34.900	685.000	0.000	35.000	689.000	685.000	58.000
BT	689.000	685.000	81.000	689.000	685.000	81.100	689.000	0.000	64.900	689.000
BT	0.000	85.000	689.000	685.000	115.000	689.000	683.000	116.000	689.000	0.000

X1	7227.000	0.000	0.000	0.000	46.000	46.000	46.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

U/S FACE OF N. BOUND US-23

X1	7228.000	0.000	0.000	0.000	0.000	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	689.000	689.000	0.000

D/S FACE OF S. BOUND US-23

X1	7276.000	0.000	0.000	0.000	46.000	46.000	46.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

X1	7277.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

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ST	13.000	0.000	689.000	0.000	1.000	689.000	685.000	31.000	689.000	695.000
BT	31.100	689.000	0.000	34.900	689.000	0.000	35.000	689.000	685.000	58.000
BT	689.000	685.000	81.000	689.000	685.000	81.100	689.000	0.000	84.900	689.000
ST	0.000	85.000	689.000	685.000	115.000	689.000	685.000	116.000	689.000	0.000
X1	7323.000	0.000	0.000	0.000	46.000	46.000	46.000	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	689.000	689.000	0.000
U/S FACE OF S. BOUND US-23										
X1	7324.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
VC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 FT U/S US-23 CORP. BOUNDARY										
X1	7374.000	12.000	84.000	116.000	50.000	50.000	50.000	0.000	0.000	0.000
SR	685.000	0.000	604.000	1.000	603.400	53.000	680.200	72.000	670.600	86.000
SR	689.500	100.000	672.000	116.000	674.200	121.000	675.300	138.000	679.500	154.500
SP	680.000	199.000	685.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	6.000	0.070	1300.000	0.100	1339.000	0.060	1354.100	0.065	1400.400	0.080
NH	1500.000	0.070	2030.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION AA)										
X1	7924.000	19.000	1354.100	1400.400	550.000	550.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	1300.000	0.000	0.000	0.000	0.000
GR	688.000	250.000	684.800	251.000	684.800	800.000	686.700	1080.000	686.000	1170.000
GR	684.000	1300.000	680.800	1338.000	671.500	1354.100	670.400	1358.100	669.800	1363.000
GR	670.100	1368.100	669.800	1375.100	671.400	1376.100	671.500	1406.400	680.400	1426.250
GR	680.000	1500.000	682.400	1700.000	682.500	2031.000	686.000	2032.000	0.000	0.000
NH	7.000	0.060	50.000	0.100	1420.000	0.060	1439.000	0.065	1444.600	0.080
NH	1456.000	0.100	1508.000	0.060	2325.000	0.000	0.000	0.000	0.000	0.000
VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION B)										
X1	9024.000	14.000	1429.000	1450.000	1100.000	1100.000	1100.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	640.000	0.000	2215.000	0.000	0.000	0.000	0.000
GR	688.000	50.000	684.000	80.000	684.000	1420.000	672.100	1429.000	671.100	1430.000
GR	670.600	1433.000	670.700	1438.000	670.600	1443.000	670.000	1448.000	672.100	1450.000
GR	678.800	1456.000	681.800	1508.000	632.000	2215.000	688.000	2325.000	0.000	0.000
NH	5.000	0.100	2479.000	0.070	2530.000	0.065	2556.000	0.070	2356.000	0.060
NH	2845.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)										
X1	10054.000	20.000	2529.000	2550.300	1030.000	1030.000	1030.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1190.200	0.000	2685.000	0.000	0.000	0.000	0.000
GR	688.000	520.000	684.700	820.000	684.900	1320.000	686.000	1790.000	688.400	1835.000
GR	688.000	2005.000	684.000	2050.000	683.300	2250.000	680.000	2479.000	672.100	2529.000
GR	671.100	2533.000	670.600	2533.000	670.700	2538.000	670.600	2543.000	670.000	2548.000
GR	672.100	2551.000	670.800	2556.000	685.000	2606.000	686.000	2735.000	688.000	2845.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

FORM 347.00 PRINTED BY ROTARY MANIFOLD FORMS

*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO ****

SECNO	DEPTH	CHSEL	CRI.S	HSELK	EG	HV	XL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	WOL	TLA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

VALLEY #8 AT CORP. BOUNDARY

0.00	13.03	677.83	0.00	677.83	678.07	0.24	0.00	0.00	667.00
4060.	1907.	2108.	45.	2988.	393.	68.	0.	0.	667.70
0.00	0.64	5.37	0.65	0.150	0.045	0.150	0.000	664.30	0.45
0.001031	0.	0.	0.	0	0	0	0.00	1172.55	1173.00

FLOW DISTRIBUTION FOR SECNO= 0.00 CHSEL= 677.83

STA=	0.	500.	600.	1011.	1340.	1362.	1643.	1717.	1727.	1773.
PER Q=	14.6	15.7	4.8	1.6	1.4	3.2	51.5	1.0	0.1	
AREA=	1313.2	1352.1	308.6	93.7	77.7	142.4	332.5	53.1	14.3	
VEL=	0.6	0.6	0.6	0.7	0.7	1.1	5.4	0.8	0.1	

*SECNO 610.000

VALLEY #8

610.00	14.10	678.60	0.00	0.00	678.57	0.17	0.49	0.01	666.90
4060.	1520.	1903.	637.	2483.	400.	1490.	49.	18.	668.10
0.06	0.61	4.76	0.43	0.150	0.065	0.150	0.048	664.30	12.81
0.000735	500.	610.	700.	2	0	0	0.30	1603.75	1616.36

FLOW DISTRIBUTION FOR SECNO= 610.00 CHSEL= 678.60

STA=	13.	40.	500.	733.	744.	776.	786.	1000.	1200.	1500.	1617.
PER Q=	0.6	23.4	11.5	1.0	56.9	1.2	6.5	4.0	5.5	3.4	
AREA=	66.2	1565.4	791.9	81.9	400.0	66.0	534.7	369.7	419.6	61.5	
VEL=	0.6	0.6	0.6	0.9	4.8	0.9	0.5	0.6	0.3	0.2	

*SECNO 2260.000

VALLEY #7

2260.00	13.36	679.56	0.00	0.00	679.77	0.21	1.19	0.01	668.50
4060.	1534.	1721.	805.	1584.	309.	1763.	150.	51.	669.80
0.20	0.97	5.57	0.46	0.150	0.045	0.150	0.053	666.20	1.75
0.001086	1300.	1650.	700.	2	0	0	0.00	1476.38	1478.13

FLOW DISTRIBUTION FOR SECNO= 2260.00 CHSEL= 679.56

STA=	2.	20.	288.	327.	353.	366.	600.	1000.	1400.	1478.	
PER Q=	0.6	27.5	9.7	42.4	1.7	4.2	6.8	6.8	0.4		
AREA=	41.6	1236.2	306.6	309.1	74.3	377.5	625.0	625.0	61.0		
VEL=	0.6	0.4	1.3	5.6	0.9	0.4	0.6	0.4	0.3		

*SECNO 3660.000

VALLEY #6

3660.00	14.59	680.59	0.00	0.00	680.76	0.17	0.98	0.00	668.80
4060.	585.	2401.	1073.	1245.	967.	2299.	259.	90.	670.00
0.33	0.47	4.23	0.67	0.150	0.045	0.150	0.051	666.00	1004.09
0.000553	1200.	1400.	1200.	2	3	5	0.00	1360.57	2372.75

FLOW DISTRIBUTION FOR SECNO= 3660.00 CWSEL= 680.59

STA=	1006.	1030.	1445.	1458.	1502.	1509.	1800.	2200.	2373.
PER Q=	0.2	92.4	1.0	59.1	0.9	12.8	11.2	1.5	
AREA=	33.6	1196.9	94.0	567.2	51.7	986.9	1056.5	223.8	
VEL=	0.3	0.5	0.8	4.2	0.7	0.8	2.4	0.3	

*SECNO 4785.000

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	STA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTA	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IHP	ICONT	CORAR	TOPWID	ESTA

VALLEY #5

4785.00	14.06	681.26	0.00	0.00	681.67	0.41	0.64	0.07	670.00
4060.	970.	2954.	98.	1550.	500.	1597.	338.	121.	670.70
0.40	0.53	5.97	0.62	0.150	0.045	0.150	0.050	667.20	877.36
0.001146	900.	1125.	1200.	2	0	0	0.00	1291.59	2168.95

FLOW DISTRIBUTION FOR SECNO= 4785.00 CWSEL= 681.26

STA=	877.	950.	1500.	1967.	1980.	2020.	2025.	2042.	2169.
PER Q=	0.0	6.7	15.1	2.3	73.5	1.1	1.0	0.3	
AREA=	9.6	695.3	1057.4	87.9	499.6	40.3	56.3	61.2	
VEL=	0.1	0.4	0.6	1.1	6.0	1.1	0.7	0.2	

*SECNO 6330.000

3670 ENCROACHMENT STATIONS= 1750.0 2250.0 TYPE= 1 TARGET= 500.000

VALLEY #4

6330.00	15.97	683.07	0.00	0.00	683.67	0.60	1.94	0.06	671.00
4060.	682.	2753.	645.	701.	367.	764.	401.	146.	670.70
0.47	0.94	7.51	0.87	0.150	0.045	0.150	0.049	667.10	1750.00
0.001630	1200.	1545.	1200.	2	0	0	0.00	500.00	2250.00

FLOW DISTRIBUTION FOR SECNO= 6330.00 CWSEL= 683.07

STA=	1750.	1935.	1951.	1973.	1987.	2013.	2026.	2250.
PER Q=	6.4	1.3	3.6	2.9	67.8	3.5	12.6	
AREA=	398.2	59.1	119.5	125.5	366.7	99.2	645.1	
VEL=	0.7	0.9	1.2	1.6	7.5	1.5	0.8	

CCHV= 0.300 CEHV= 0.500

*SECNO 7080.000

VALLEY #3 100 FT D/S OF US-23

7080.00	14.84	684.15	0.00	0.00	684.01	0.67	3.17	0.04	670.70
4060.	214.	3516.	330.	177.	499.	312.	425.	152.	670.80
0.50	1.21	7.04	1.56	0.150	0.045	0.150	0.049	669.60	37.07

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0.001367     750.     750.     750.        2        0        0     0.00   126.15   163.83

FLOW DISTRIBUTION FOR SECNO=   7080.00          CWSEL=    684.15

STA=       38.       64.      100.      112.      163.      164.
  PER Q=       5.3      86.6       3.4       4.7       0.0
   AREA=     177.0     499.3     104.3     206.3       1.7
    VEL=       1.2       7.0       1.3       0.9       0.2

*SECNO 7180.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      689.00 ELREA=      689.00

            D/S FACE OF N. BOUND US-23

  7180.00     14.45    684.85      0.00      0.00    685.04      0.19      0.00      0.14    684.20
    4060.        0.     4060.        0.        0.     1156.        0.      428.      152.    682.20
     0.51      0.00      3.51      0.00     0.150     0.045     0.150     0.049    670.40      1.00
 0.000541      100.      100.      100.         2         0         0      0.00    114.00    115.00

FLOW DISTRIBUTION FOR SECNO=   7180.00          CWSEL=    684.85

STA=        1.      115.
  PER Q=     100.0
   AREA=    1156.4
    VEL=       3.5

*SECNO 7181.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX ELLC=  685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      689.00 ELREA=      689.00

  7181.00     14.43    684.83      0.00      0.00    685.06      0.23      0.00      0.02    684.20
    4060.        0.     4060.        0.        0.     1055.        0.      428.      152.    682.20
     0.51      0.00      3.85      0.00     0.150     0.045     0.150     0.049    670.40      1.00
 0.000734        1.        1.        1.         2         0         0    -98.90    114.00    115.00

FLOW DISTRIBUTION FOR SECNO=   7181.00          CWSEL=    684.83

STA=        1.      115.
  PER Q=     100.0
   AREA=    1055.3
    VEL=       3.8

*SECNO 7227.000
   SECNO     DEPTH     CWSEL     CRIMS     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    IHZ       ICONT     CORAR     TOPWID     ENDST

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX ELLC=  685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      689.00 ELREA=      689.00

  7227.00     14.46    684.86      0.00      0.00    685.09      0.23      0.03      0.00    684.20
```

4060.	0.	4060.	0.	0.	1058.	0.	429.	152.	682.20
0.52	0.00	3.84	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000727	46.	46.	46.	0	0	0	-99.13	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7227.00 C.SEL= 686.86

STA= 1. 115.
PER Q= 100.0
AREA= 1058.4
VEL= 3.8

*SECNO 7228.000

3695 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

U/S FACE OF U. BOUND US-23

7228.00	14.52	684.92	0.00	0.00	685.11	0.19	0.00	0.01	684.20
4060.	0.	4060.	0.	0.	1164.	0.	429.	152.	682.20
0.52	0.00	3.49	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000529	1.	1.	1.	1	0	0	0.00	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7223.00 CHSEL= 684.92

STA= 1. 115.
PER Q= 100.0
AREA= 1164.1
VEL= 3.5

*SECNO 7276.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7276.00	14.54	684.94	0.00	0.00	685.13	0.19	0.03	0.00	684.20
4060.	0.	4060.	0.	0.	1168.	0.	430.	152.	682.20
0.52	0.00	3.48	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000526	48.	48.	48.	0	0	0	0.00	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7276.00 CHSEL= 684.94

STA= 1. 115.
PER Q= 100.0
AREA= 1167.6
VEL= 3.5

*SECNO 7277.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7277.00	14.53	684.93	0.00	0.00	685.15	0.23	0.00	0.02	684.20
4060.	0.	4060.	0.	0.	1067.	0.	436.	152.	682.20
0.52	0.00	3.81	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000709	1.	1.	1.	1	0	0	-99.72	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7277.00 CWSEL= 684.93

STA= 1. 115.
PER Q= 100.0
AREA= 1366.5
VEL= 3.8

*SECNO 7323.000

3373 NORMAL BRIDGE,WAD= 13 MIN ELTRD= 689.00 MAX ELLO= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 669.00

7323.00	14.56	684.96	0.00	0.00	685.18	0.22	0.03	0.00	684.20
4060.	0.	4060.	0.	0.	1068.	0.	431.	152.	682.20
0.52	0.00	3.80	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000706	46.	46.	46.	0	0	0	-99.00	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7323.00 CWSEL= 684.96

STA= 1. 115.
PER Q= 100.0
AREA= 1068.5
VEL= 3.8

*SECNO 7324.000

SECNO	DEPTH	CWSEL	CRITHS	USELK	EG	HV	HL	OLOSS	BANK CLOW
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	HTY	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

U/S FACE OF S. BOUND.US-23

7324.00	14.61	685.01	0.00	0.00	685.20	0.19	0.00	0.01	684.20
4060.	0.	4060.	0.	0.	1175.	0.	431.	152.	682.20
0.52	0.00	3.46	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000514	1.	1.	1.	2	0	0	0.00	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7324.00 CWSEL= 685.01

STA= 1. 115.
PER Q= 100.0
AREA= 1174.7
VEL= 3.5

*SECNO 7374.000

50 FT U/S US-23 CORP. BOUNDARY

7374.00	15.38	686.38	0.00	0.00	685.40	0.51	0.04	0.16	670.60
4060.	809.	3053.	799.	234.	463.	605.	433.	152.	672.00
0.53	0.09	6.89	1.52	0.150	0.045	0.150	0.049	669.50	0.12
0.001138	50.	50.	50.	2	0	0	0.00	99.86	199.90

FORM 5411.00-PRINTED BY ROTARY MANIFOLD FORMS.

FLOW DISTRIBUTION FOR SECNO= 7374.00 CHSEL= 684.88

STA=	0.	53.	72.	84.	116.	121.	138.	154.	199.	200.
PER Q=	0.6	1.0	3.6	75.2	2.4	7.8	4.2	5.3	0.0	
AREA=	61.9	58.3	113.8	463.5	55.9	139.3	132.5	222.0	2.4	
VEL=	0.4	0.7	1.3	6.6	1.6	1.7	1.3	1.0	0.2	

1490 NH CARD USED
*SECNO 7924.000

3470 ENCROACHMENT STATIONS= 500.0 1800.0 TYPE= 1 TARGET= 1500.000

550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION BB)

7924.00	15.94	685.74	0.00	0.00	685.78	0.03	0.24	0.14	671.50	
4060.	628.	1655.	1777.	1194.	304.	1824.	465.	162.	671.50	
0.64	0.53	2.05	0.97	0.069	0.065	0.066	0.046	669.30	500.00	
0.000225	550.	550.	550.	2	3	0	0.00	1300.00	1800.00	

FLOW DISTRIBUTION FOR SECNO= 7924.00 CHSEL= 685.74

STA=	500.	1080.	1300.	1354.	1400.	1426.	1500.	1700.	1800.
PER Q=	6.3	3.8	7.6	40.8	6.8	11.7	19.6	5.7	
AREA=	560.8	351.8	281.6	304.1	174.3	407.0	308.4	332.7	
VEL=	0.3	0.4	1.1	2.1	1.6	1.2	0.9	0.7	

1490 NH CARD USED
*SECNO 9024.000

3470 ENCROACHMENT STATIONS= 640.0 2215.0 TYPE= 1 TARGET= 1575.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION B)

9024.00	16.00	686.30	0.00	0.00	686.08	0.02	0.23	0.01	672.10
4060.	594.	577.	2809.	1631.	322.	3258.	579.	198.	672.10
0.97	0.36	1.79	0.89	0.095	0.060	0.063	0.048	670.00	640.00
0.000205	1100.	1100.	1100.	2	0	0	0.00	1575.00	2215.00

FLOW DISTRIBUTION FOR SECNO= 9024.00 CHSEL= 686.30

STA=	640.	1420.	1429.	1450.	1456.	1508.	2215.
PER Q=	12.9	1.8	14.2	2.0	4.9	64.2	
AREA=	1559.4	71.5	321.7	63.3	296.4	2898.2	
VEL=	0.3	1.0	1.8	1.3	0.7	0.9	

1490 NH CARD USED
*SECNO 10054.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 1190.0 2685.0 TYPE= 1 TARGET= 1499.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

10054.00	16.25	686.25	0.00	0.00	686.29	0.03	0.26	0.01	672.10
4060.	2091.	806.	4204.	2431.	327.	632.	603.	220.	672.10
1.13	0.84	2.46	1.45	0.087	0.069	0.361	0.043	670.00	1190.00
0.000325	1050.	1330.	1030.	2	0	0	0.00	953.39	2685.00

FLOW DISTRIBUTION FOR SECNO= 10054.00 CHSEL= 686.25

STA=	1190.	2250.	2479.	2529.	2550.	2606.	2665.
PER Q=	8.9	19.2	22.6	19.8	15.9	13.8	
AREA=	866.9	1056.0	510.1	327.1	407.4	426.2	
VEL=	3.4	0.7	1.0	2.5	1.5	1.3	

FORM 1411-00-PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

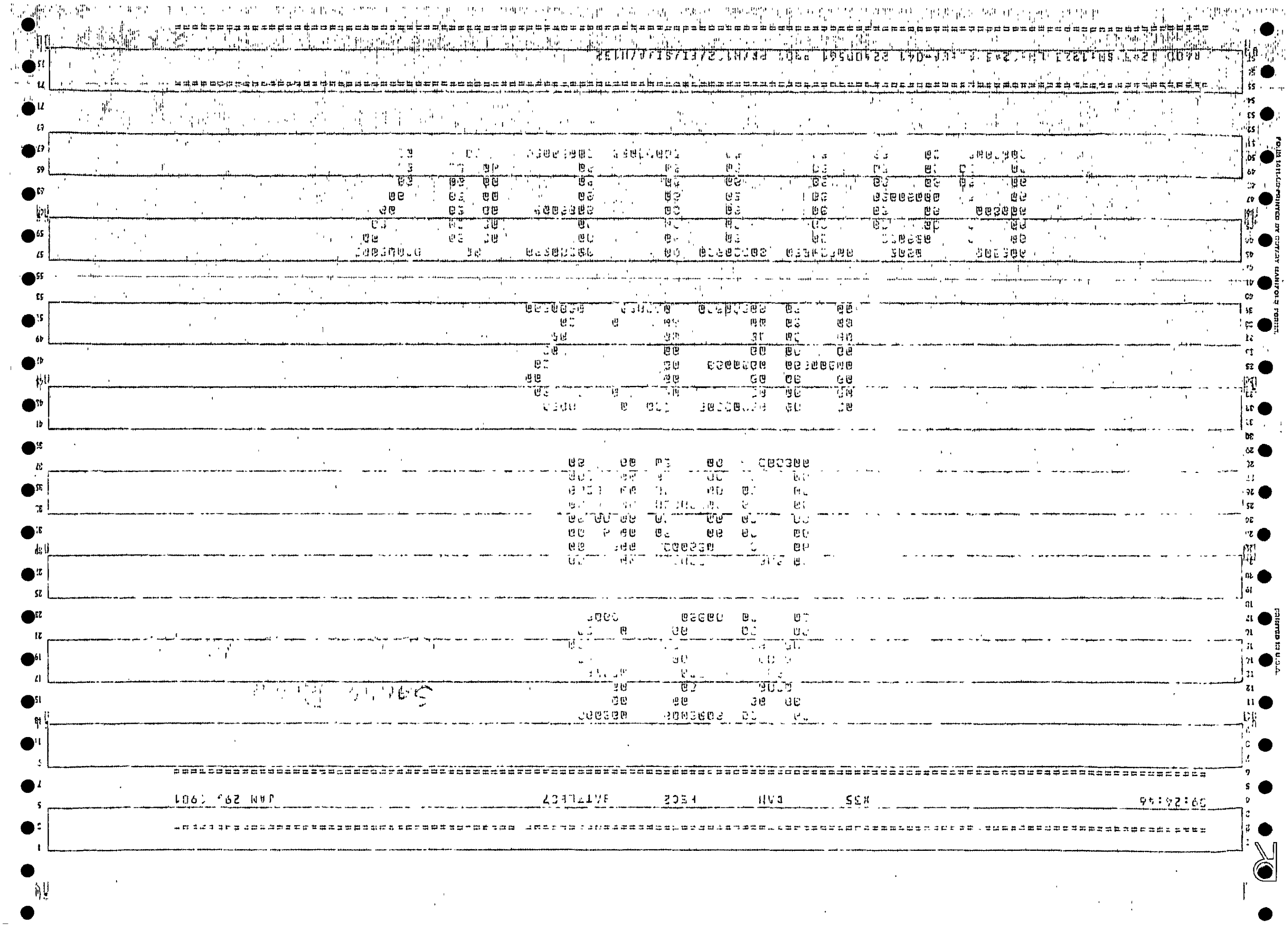
1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100 yr. Convergence

00BREAK00



```
JOBID=HEC2                USER=DAN                PROJECT=BATTLE07          BILLING=BATTLE07          RON=X0035
=====================================================================================================================

09:16:26                                  JOB INTRODUCED FROM                                          JAN 29, 19[illegible]
                                                  [illegible] SYSTEM [illegible]

=====================================================================================================================

09:16:45  START OF TRANSLATION

*          PARAMETER VALUES          *

G1        = DB-SALCON
&PAPER    = 3PART

          JOB HEC2,USER=DAN        ;
WARNING   36  THIS STATEMENT HAS BEEN GENERATED
          VALUE FILENAM,ANOLD,MD=MTAPAK,CPU=30,PAPER=1PART,SIZE=200,STEP=HEC2,
                SUB=SUBNAME,COPIES=1;
          JUMP &PAPERSSX;
          2PARTX:
          OUTVAL 12,MD=1[illegible]PRT,DVC=PR;
          JUMP CONTX;
          3PARTX:
          OUTVAL 12,MD=1[illegible]3PRT,DVC=PR;
          JUMP CONTX;
          [illegible]PARTX:
          OUTVAL 12;
          CONTX:
          INVOKE HEC2,ENGJCLLIB,VALUES=(G1,G2,MD=&MD,CPU=&CPU,PAPER=&PAPER,SIZE=&SIZE,
                    STEP=&STEP,SUB=&SUB,COPIES=&COPIES);

          RECORD COUNT :    16

09:17:15  END OF TRANSLATION
```

JOB ID=HEC2 USER=DAN PROJECT=BATTLE07 BILLING=BATTLEC7 ROM=XC035

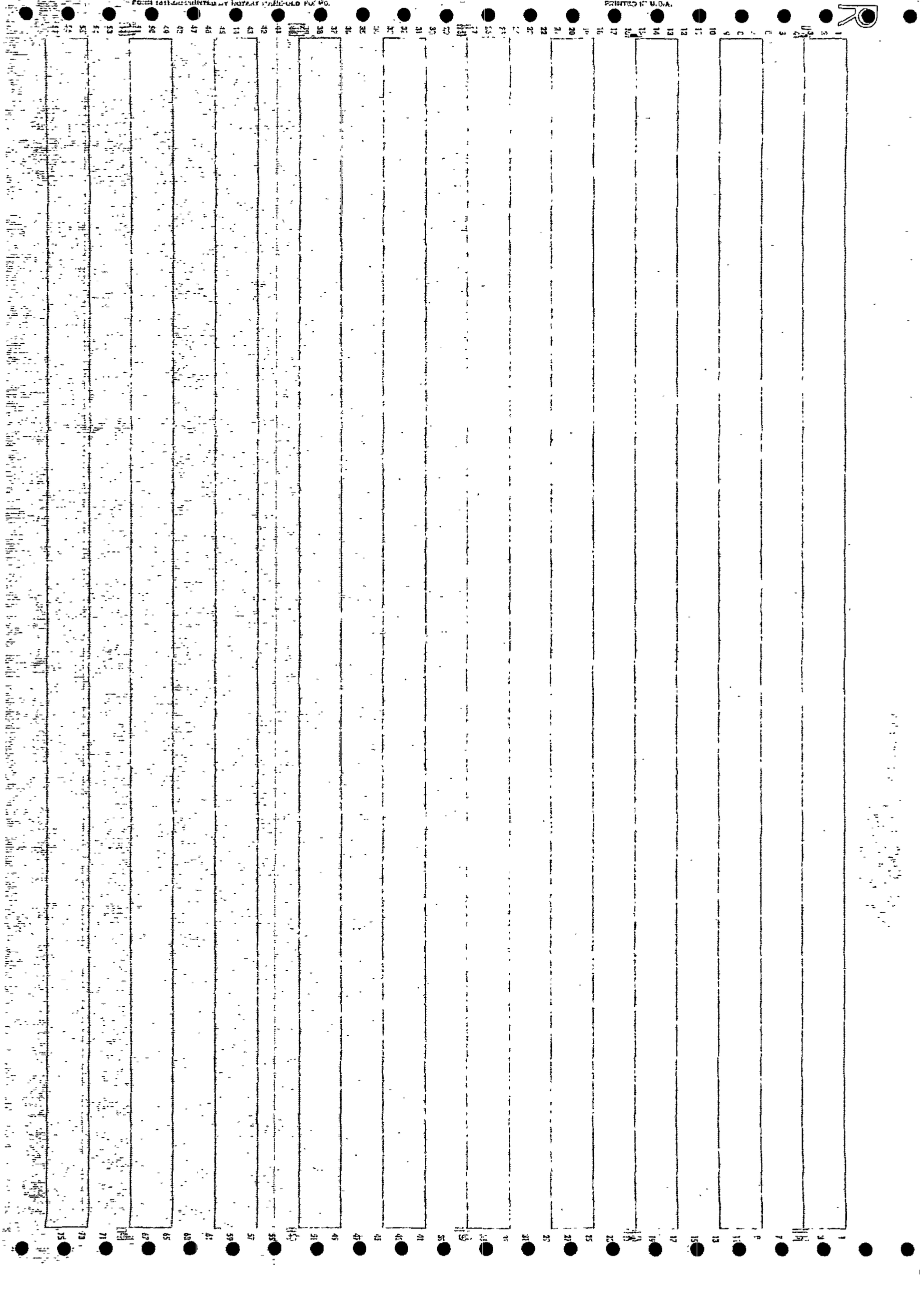
09:18:10 JOB EXECUTION LISTING JAN 25, 1979

JUMP DONE TO SPARTX
JUMP DONE TO COMTX
JUMP DONE TO TEST
START OF PROGRAM EXECUTION
STEP /
LOAD MODULE = HEC-2 (79/2 /22 23:58) PRIINITIALIZED
LIBRARY = "TAENGL"
09:18:23 STEP STARTED XPRTY=9
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=A
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=B
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=C
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=D
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=E
FP04. 2 CYLINDER(S) ALLOCATED ON VOLUME: "TAPAK FOR DFN: #300035.FILE=F
TASK 1 WAIT I=5 F=00 COMPLETED
DUF01,DFN=FILE=A RENEWED REUSE= 0
DUF01,DFN=FILE=B RENEWED REUSE= 0
DUF01,DFN=FILE=C RENEWED REUSE= 0
DUF01,DFN=FILE=D RENEWED REUSE= 0
DUF01,DFN=FILE=E RENEWED REUSE= 0
DUF01,DFN=FILE=F RENEWED REUSE= 0
TEMPORARY FILES USED= 224 ENTRIES UNLOCK BUFFERS= 1 CACHE BUFFERS= 23
FILE=A ON "TAPAK ; NB OF IO CONNECTS= 132
FILE=B ON "TAPAK ; NB OF IO CONNECTS= 84
FILE=C ON "TAPAK ; NB OF IO CONNECTS= 24
FILE=D ON "TAPAK ; NB OF IO CONNECTS= 63
FILE=E ON "TAPAK ; NB OF IO CONNECTS= 2
FILE=F ON "TAPAK ; NB OF IO CONNECTS= 30
CPU 1.570 PROG MISSING SECTS 235 STACKOV 80
ELAPSED 4.993 SYS MISSING SECTS 691
LINES 758 LIMIT NOLIM UNPACKED STORE 351640
CARDS 0 LIMIT NOLIM BUFFER SIZE 18920 CFSIZE 2272
09:23:23 STEP COMPLETED

JUMP DONE TO FINISH
JUMP DONE TO SPART
****
* *
* MOUNT SPART, GREEN BAR PAPER *
* *
****

START 09:18:12 LINES 758
STOP 09:23:28 CARDS 0
CPU 1.570
ELAPSE 5.102
09:23:28 RESULT: JOB COMPLETED

COMPUTER PRINTOUT OVERPRINTED BY CRAWFORD BURROUGHS FORMS, INC.



```
**********************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FE  1977
  ERROR CODE =  01
  VERSION - 5105.52
**********************************************************

C
T1 SALINE RIVER MILAN TWP HEC 2528 77
T2 CONVERGENCE RUN .5' HIGHER THAN JOB AT DEPTH STEP
T3       SALINE R.  MILAN TWP.

J1  ICHECK    INQ       NINV      IDIF      STRT      METRIC    HVINS     Q         WSEL      FQ
          0.        2.        0.        .2  2.062001  0.00      0.0       1.   675.400   0.001

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    10.000

NC        5.150     6.500     5.005     0.100     0.300     1.000     0.030     0.100     0.200     3.000
NC        3.000    10.000  1005.000  1050.000     0.070     0.000     0.030     0.100     0.200     3.000

          3000' D/S SHERIDAN

X1        0.000     3.000   973.000  1032.000     3.000     1.000     0.000     0.000     0.000     3.000
GR      675.000     0.000   672.000   700.000   672.000   700.000   672.000   690.000   670.000   690.000
GR      666.000   976.000   663.500  1300.000   666.000  1022.000   670.300  1031.000   672.000  1100.000
GR      672.000  1500.000   672.000  1900.000   675.000  2000.000     0.000     0.000     0.000     0.000

X1        1.000     0.300     3.000     0.000  1001.000  1300.000  1050.000     0.300     0.500     3.000

          VALLEY 500' D/S SHERMAN

X1        2.000    11.000   976.000  1022.000  1600.000  1300.000  1501.000     0.000     0.000     0.000
GR      677.000   150.000   673.000   400.000   672.000   690.300   672.500   970.000   667.500   978.000
GR      665.000   800.000   667.500  1022.000   672.500  1031.000   673.000  1100.000   675.000  1600.000
GR      677.000  1500.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC        0.000     0.000     0.000     0.300     0.300     0.000     0.000     0.000     0.000     0.000

          D/S PACE SHERMAN  Old Structure

X1        3.000    19.000   964.500  1035.500   500.000   500.000   500.000     0.000     0.000     0.000
X3       10.000     0.000     0.000     0.000     0.000     0.000     0.000   674.500   674.900     0.000
GR      677.000   300.000   674.500   400.000   673.800   500.000   674.100   600.000   674.500   800.000
GR      575.000   900.000   674.200   951.000   667.700   964.600   667.700   964.600   667.700   931.000
GR      665.300  1001.000   667.200  1019.000   667.200  1035.400   667.200  1035.500   675.000  1050.000
GR      674.900  1200.000   673.300  1350.000   677.200  1401.000     0.000     0.000     0.000     0.000
NC        0.000     0.000     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1        3.000    11.000     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   674.300   674.900     0.000
GT       19.000   300.000   677.000     0.000   400.000   674.500     0.000   530.700   673.800     0.000
GT      650.000   674.100     0.000   800.000   674.500     0.000   530.000   675.000     0.000   951.000
GT      674.500     0.000   964.500   677.800     0.000   964.600   677.800   676.300   981.000   677.800
GT      678.300  1000.000   677.600   676.300  1003.000   677.300   677.300  1003.400   677.600   675.300
```

BT	1035.500	677.600	0.000	1030.000	673.800	0.000	1200.000	674.900	0.000	1330.000
BT	675.300	0.000	1400.000	677.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.900	0.000	0.000	0.000	10.000	10.000	10.000	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	674.500	674.500	0.000
NC	0.000	0.000	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE SPERMAN

X1	4.000	0.000	0.000	0.000	1.000	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	674.500	674.500	0.000

100' U/S SPERMAN

X1	7.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	0.000	0.000
NC	0.150	0.150	0.045	0.100	0.300	0.000	0.000	0.000	0.000	0.000

CORP. BOUND.-CTAL TIME SEC.

X1	0.000	13.000	1083.000	1117.000	1400.000	1000.000	100.000	0.000	0.000	0.000
GR	680.000	0.000	673.200	1.000	675.200	500.000	675.200	900.000	674.900	1011.000
GR	674.300	1040.000	674.300	1062.000	667.800	1083.000	664.800	1100.000	667.700	1117.000
GR	677.200	1127.000	678.200	1200.000	679.400	1400.000	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

FORM 3411-00 PRINTED BY ROTARY TYPEFOLD PRESS

*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO ****
3250 CROSS SECTION 0.00 EXTENDED 0.00 FEET

SECNO	DEPTH	QTSEL	QCHL	WSELK	EG	HV	EL	QLOSS	BANK ELEV
Q	QLOB	VCH	SROC	ALOB	ACH	AROB	VOL	T A	LEFT/RIGHT
TIME	VLOB	VCH	VROB	FSL	XSCH	CNL	.TW	FLMIX	SOTA
SLOPE	NLOBL	XLCH	XLOCH	ITRIB	II2	DCF T	COEXT	TOPWID	EROAT

5000' D/S SHERMAN

0.00	0.00	675.00	0.00	675.00	675.47	0.05	0.00	0.00	666.00
4060.	1324.	1498.	1332.	3277.	468.	3230.	0.	0.	566.00
0.00	0.41	2.93	0.41	0.150	0.045	0.150	0.000	663.50	0.00
0.000332	0.	0.	0.	0	0	0	0.00	2000.00	2000.00

FLOW DISTRIBUTION FOR SECNO= 0.00 QTSEL= 675.00

STA=	0.	100.	300.	900.	970.	979.	1022.	1031.	1100.	1500.	1900.	2500.
PER Q=	1.3	13.7	13.7	3.7	0.9	35.3	1.1	3.6	13.7	13.7	1.3	
AREA=	190.0	1360.0	1360.0	368.0	89.2	668.6	66.6	305.4	1360.0	1360.0	190.0	
VEL=	0.3	0.4	0.4	0.5	0.3	2.9	0.5	0.5	0.4	0.4	0.3	

*SECNO 1.00
3250 CROSS SECTION 1.00 EXTENDED 0.24 FEET

1.00	11.75	675.75	0.00	0.50	675.50	0.05	0.37	0.00	666.50
4060.	1324.	1498.	1332.	3121.	462.	3134.	153.	44.	566.50
0.27	2.42	3.05	0.45	2.150	0.045	0.150	0.045	663.50	0.00
0.000375	1000.	1000.	1000.	1	0	0	0.00	2000.00	2000.00

FLOW DISTRIBUTION FOR SECNO= 1.00 QTSEL= 675.75

STA=	0.	100.	300.	900.	970.	979.	1022.	1031.	1100.	1500.	1900.	2500.
PER Q=	1.2	13.4	13.4	3.7	1.0	34.7	1.1	3.6	13.4	13.4	1.2	
AREA=	174.0	1296.1	1296.1	296.8	57.9	461.5	65.2	292.8	1296.1	1296.1	174.0	
VEL=	0.3	0.4	0.4	0.5	0.7	3.1	0.7	0.5	0.4	0.4	0.3	

*SECNO 2.000

VALLEY 500' D/S SHERMAN

2.00	11.44	676.44	0.00	0.00	676.56	0.12	0.74	0.02	667.50
4060.	324.	1849.	837.	2254.	468.	1493.	340.	99.	667.50
0.39	0.60	4.12	2.59	0.150	0.045	0.150	0.145	665.00	313.96
0.000711	1500.	1500.	1500.	2	0	2	0.00	1172.30	1436.04

FLOW DISTRIBUTION FOR SECNO= 2.00 QTSEL= 676.44

STA=	314.	400.	800.	970.	979.	1022.	1031.	1100.	1400.	1896.	
PER Q=	1.4	6.0	6.9	6.0	45.6	1.2	6.0	14.3	14.4		
AREA=	148.1	1378.7	527.6	56.5	448.4	56.0	256.7	1032.8	148.1		
VEL=	0.4	0.6	0.6	0.8	4.1	0.8	0.5	0.6	0.4		

CCIV= 0.300 CEHV= 0.500
*SECNO 3.000

D/S FACE SHERIDAN

3.00	11.57	676.77	0.00	0.00	676.53	0.24	0.00	0.00	667.70	
4060.	795.	3034.	211.	1397.	670.	502.	301.	113.	667.20	
0.44	0.57	4.34	0.42	0.150	0.030	0.150	0.045	665.20	309.13	
0.000773	500.	500.	500.	2	0	0	0.00	1306.16	1393.29	

FLOW DISTRIBUTION FOR SECNO= 3.00 CUSEL= 676.77

STA=	309.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1393.
PER Q=	0.9	3.4	3.8	6.2	2.2	1.4	1.7	73.6	1.6	2.0	2.4	0.2	
AREA=	103.2	262.2	282.2	494.3	202.2	115.9	79.9	704.6	82.2	273.3	250.8	31.9	
VEL=	0.3	0.5	0.6	0.5	0.5	0.5	0.1	4.2	0.2	0.4	0.5	0.2	

*SECNO 5.100

SECNO	DEPTH	CUSEL	CRIWS	WSELK	EG	FW	FL	OLOSS	BANK ELEV
0	ALOB	ACH	AROB	ALOB	ACH	AROB	VOL	TOA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XMCH	XNR	MTN	FLMIN	SSTA
SLOPE	RLNTL	RLOB	S.OBF	ITRIAL	TWL	ASOBT	CODAR	TLOMIN	SMIN

3370 NOR AL BRIDGE,NRD= 10 MIN ELTRD= 673.80 MAX ELLC= 676.30

3.10	11.55	676.75	0.10	0.10	677.02	0.24	0.00	0.00	667.70
4060.	795.	3034.	211.	1397.	670.	502.	301.	113.	667.20
0.44	0.57	4.34	0.42	0.150	0.030	0.150	0.045	665.20	309.07
0.001078	1.	1.	1.	1	0	0	-310.71	1083.56	1393.08

FLOW DISTRIBUTION FOR SECNO= 3.10 CUSEL= 676.75

STA=	309.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1393.
PER Q=	0.9	4.0	4.5	7.2	2.6	0.6	0.0	73.3	0.0	2.1	2.6	0.2	
AREA=	102.4	261.3	281.3	492.6	201.3	51.7	1.8	670.2	7.0	212.0	249.5	31.5	
VEL=	0.4	0.6	0.6	0.6	0.5	0.3	0.1	4.6	0.2	0.4	0.5	0.3	

*SECNO 3.900

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD= 673.80 MAX ELLC= 676.30

3.90	11.57	676.77	0.00	0.00	677.02	0.24	0.00	0.00	667.70
4060.	795.	3034.	211.	1397.	670.	502.	301.	113.	667.20
0.44	0.57	4.34	0.42	0.150	0.030	0.150	0.045	665.20	309.20
0.001021	10.	10.	10.	3	0	0	-311.69	1084.04	1393.24

FLOW DISTRIBUTION FOR SECNO= 3.90 CUSEL= 676.77

STA=	309.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1393.
PER Q=	0.9	4.0	4.5	7.2	2.6	0.6	0.0	73.2	0.0	2.1	2.6	0.2	
AREA=	103.1	262.0	282.0	494.0	202.0	52.0	1.8	670.2	7.0	213.0	250.5	31.8	
VEL=	0.4	0.6	0.6	0.6	0.5	0.3	0.1	4.6	0.2	0.4	0.5	0.3	

*SECNO 4.000

D/S FACE SHERIDAN

4.00	11.55	676.35	0.00	0.00	677.03	1.25	0.00	0.01	667.70
4060.	673.	2844.	293.	1590.	700.	560.	332.	110.	665.21

0.44	0.51	4.18	0.44	0.150	0.045	0.150	0.045	663.20	306.50	
0.030749	1.	1.	1.	2	2	0	0.30	1038.41	1395.39	

FLOW DISTRIBUTION FOR SECNO= 6.02 CHSEL= 676.69

STA=	307.	470.	705.	870.	1170.	1205.	1301.	1565.	1830.	1850.	1200.	1350.	1395.
PER Q=	0.8	3.5	3.9	6.3	2.3	1.4	1.7	73.3	1.5	2.9	2.5	0.2	
AREA=	130.9	262.3	206.3	506.6	203.3	119.0	80.3	700.9	93.1	232.5	260.2	34.6	
VEL=	0.3	2.5	0.5	0.5	0.4	0.5	0.3	4.2	0.3	0.4	0.4	0.2	

*SECNO 7.020

100' U/S SHERMAN

7.30	11.72	676.92	0.00	0.00	677.11	0.19	0.07	0.30	667.70
4061.	627.	2527.	736.	1642.	715.	493.	194.	115.	967.22
0.43	0.50	4.09	0.44	0.150	0.045	0.150	0.045	663.20	305.16
0.030749	100.	100.	100.	0	0	0	0.30	1034.70	1397.75

FLOW DISTRIBUTION FOR SECNO= 7.02 CHSEL= 676.92

STA=	305.	470.	705.	870.	1170.	1205.	1301.	1565.	1830.	1850.	1200.	1350.	1395.
PER Q=	0.8	3.6	3.9	6.3	2.4	1.4	1.7	72.2	1.5	2.9	2.7	0.2	
AREA=	117.5	277.4	207.4	526.7	217.4	123.6	82.0	715.4	96.6	296.0	273.5	36.8	
VEL=	0.3	2.5	0.5	0.5	0.4	0.5	0.3	4.2	0.3	0.4	0.4	0.2	

SCIM= 0.100 CE = 0.50
*SECNO 8.000

CORP. BOUND.-STARTING SEC.

6.00	13.59	677.89	0.00	0.00	677.11	0.22	1.00	0.31	667.30
4062.	993.	2242.	45.	1053.	395.	73.	457.	149.	969.70
0.56	0.63	5.27	0.53	0.150	0.045	0.150	0.044	664.30	0.14
0.020980	1400.	1100.	1000.	2	2	0	0.30	1176.56	1177.30

FLOW DISTRIBUTION FOR SECNO= 8.00 CHSEL= 677.89

STA=	0.	500.	730.	1011.	1040.	1252.	1035.	1117.	1127.	1177.			
PER Q=	18.9	16.0	4.8	1.0	1.4	3.5	5.4	1.0	0.1				
AREA=	1343.2	1076.1	395.3	95.4	79.0	143.6	394.9	54.4	17.4				
VEL=	0.6	0.6	0.6	0.7	0.7	1.1	5.3	0.8	0.2				

FORM 1419-CONTINUOUS STANDARD MANIFOLD FORM

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

T1 SALINE RIVER [illegible] T.P. AUG 2025 07
T2 CONVERGENCE FOR NORMAL DEPTH START
T3       SALINE R. [illegible] T.P.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        3.        0.        0.  0.000500      2.00      3.0        0.   575.000     0.000

J2  XPROF     IPLOT     PRFVS     XREV      XSECH     [illegible]     ALLSA     TP.       [illegible]     ITRACE

     2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000
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*PROF 2

CCHV= 0.100 CEHV= 0.300

+SECNO ****									
SECNO	DEPTH	DISCEL	CRITS	ZSEL	CC	MW	AL	FLOOD	DESK ELEV
C	FLOF	QCH	QRCB	FLOC	ACH	WCHB	WOL	0.00	LEFT/BANK
TIME	VLOB	VCH	VRCB	RHL	XKCH	SNB	QTH	BERM	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IP2	ICONT	CORAR	TOPWID	ESLOT

5.00' D/S SHERMAN

0.00	11.39	674.89	0.00	675.00	674.96	0.07	0.00	0.00	666.01
4060.	1263.	1331.	1266.	2777.	446.	2701.	0.	0.	565.00
0.00	0.45	3.45	0.44	0.150	2.043	0.152	0.000	567.30	2.76
0.000497	0.	0.	0.	0	0	1	2.00	1992.29	1991.25

FLOW DISTRIBUTION FOR SECNO= 0.00 CHSEL= 674.89

STA=	4.	100.	500.	900.	970.	978.	1022.	1031.	1100.	1500.	1900.	1996.
PER Q=	1.0	2.7	12.7	3.7	1.0	37.7	1.1	3.6	12.7	12.7	1.0	
AREA=	138.0	1155.2	1155.2	278.2	55.1	445.9	82.0	268.3	1155.2	1155.2	138.0	
VEL=	0.3	0.4	0.4	0.5	0.7	3.4	0.6	0.5	0.4	0.4	0.3	

*SECNO 1.000

1.00	11.36	675.39	0.00	5.00	674.96	0.57	0.53	0.00	666.01	
4060.	1262.	1332.	1266.	2777.	446.	2701.	1262.	0.	565.00	
0.13	0.46	3.45	0.46	0.150	0.043	0.150	0.043	664.02	2.76	
0.000498	1000.	1000.	1000.	0	0	0	0.00	1992.29	1996.14	

FLOW DISTRIBUTION FOR SECNO= 1.00 CHSEL= 675.39

STA=	4.	100.	500.	900.	970.	978.	1022.	1031.	1100.	1500.	1900.	1996.
PER Q=	1.0	12.7	12.7	3.7	1.0	37.7	1.1	3.6	12.7	12.7	1.0	
AREA=	138.7	1153.7	1153.7	271.9	55.1	445.9	82.0	268.0	1153.7	1153.7	138.7	
VEL=	0.3	0.6	0.4	0.5	0.7	3.4	0.6	0.5	0.4	0.4	0.3	

*SECNO 2.000

VALLEY 500' D/S SHERMAN

2.00	11.26	676.26	0.00	0.00	676.40	0.14	2.92	0.02	667.50
4060.	1288.	3909.	363.	2086.	463.	1406.	305.	99.	567.52
0.45	0.42	2.83	0.41	0.150	2.043	0.152	0.045	565.00	3.76
0.000805	1600.	1500.	1300.	2	0	2	6.00	1992.00	1991.50

FLOW DISTRIBUTION FOR SECNO= 2.00 CHSEL= 676.26

STA=	110.	400.	800.	970.	978.	1022.	1031.	1100.	1400.	1492.
PER Q=	1.2	10.7	5.5	1.1	47.0	1.2	5.9	14.4	1.8	
AREA=	132.8	1304.0	596.7	50.1	440.4	56.3	242.2	970.2	132.8	
VEL=	0.4	0.6	0.6	0.9	4.3	0.9	0.6	0.6	0.4	

CCHV= 0.300 CEHV= 0.500

*SECNO 3.000

D/S FACE SHERMAN

3.00	11.03	676.63	0.00	0.00	676.64	0.03	0.01	0.00	667.20

FORM 1411-00 PRINTED BY ROTARY BARTHOLD PERSO...

4060.	747.	3050.	263.	1448.	695.	388.	343.	111.	667.20	
0.39	0.52	4.39	0.45	0.150	0.345	0.150	0.045	665.20	314.77	
0.000349	500.	503.	500.	2	0	0	0.00	1074.38	1369.14	

FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 676.63

STA=	315.	400.	500.	600.	800.	920.	951.	965.	1036.	1050.	1200.	1350.	1389.
PER Q=	0.7	3.2	3.7	5.8	2.0	1.3	1.7	75.1	1.6	2.5	2.2	0.1	
AREA=	90.6	244.1	268.1	466.2	100.1	121.7	73.0	694.6	80.2	252.1	229.6	26.0	
VEL=	0.3	0.5	0.6	0.5	0.2	0.5	0.1	4.8	0.2	0.4	0.4	0.3	

*SECNO 3.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	FW	HL	OLOSS	BANK ELEV
C	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	SLOPE	SSTA
SLOPE	KLOB	KCH	KROB	ITRIAL	ICH	ICONT	CHNUM	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 673.00 MAX ELLC= 676.30

3.10	11.21	676.51	0.00	0.00	676.66	0.15	0.00	0.00	667.70
4060.	729.	3051.	101.	1292.	670.	707.	343.	112.	667.20
0.39	0.56	4.70	0.40	0.150	0.130	0.150	0.045	665.20	313.61
0.001139	1.	1.	1.	2	0	0	-297.78	1075.03	1380.56

FLOW DISTRIBUTION FOR SECNO= 3.10 CWSEL= 676.63

STA=	315.	400.	500.	600.	800.	920.	951.	965.	1036.	1050.	1200.	1350.	1389.
PER Q=	0.8	3.7	4.2	5.7	2.3	0.3	0.0	77.6	0.2	1.8	2.5	0.2	
AREA=	89.1	246.1	266.1	462.2	106.1	43.9	0.7	670.2	5.9	189.2	226.7	25.3	
VEL=	0.3	0.6	0.6	0.6	0.5	0.3	0.0	4.7	0.2	0.4	0.4	0.3	

*SECNO 3.900

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 673.00 MAX ELLC= 676.30

3.90	11.43	676.63	0.00	0.00	676.90	0.26	0.02	0.00	667.70
3060.	736.	3059.	104.	1336.	672.	653.	344.	112.	667.20
0.39	0.56	4.68	0.41	0.150	0.130	0.150	0.045	665.20	313.08
0.001131	11.	15.	10.	0	0		-295.22	1076.32	1389.05

FLOW DISTRIBUTION FOR SECNO= 3.90 CWSEL= 676.63

STA=	315.	400.	500.	600.	800.	920.	951.	965.	1036.	1050.	1200.	1350.	1389.
PER Q=	0.8	3.7	4.2	5.7	2.3	0.3	0.0	77.3	0.2	1.8	2.5	0.2	
AREA=	90.6	247.9	267.9	463.7	107.9	44.8	0.9	670.2	6.0	191.8	229.3	26.0	
VEL=	0.3	0.6	0.6	0.6	0.5	0.5	0.1	4.7	0.2	0.4	0.4	0.3	

*SECNO 4.000

CAR PACE EXPANSION

4.00	11.50	676.70	0.00	0.00	676.91	0.22	0.00	0.01	667.70
4060.	766.	3020.	273.	1492.	699.	612.	344.	112.	667.20
0.39	0.51	4.92	0.45	0.150	0.345	0.150	0.045	665.20	312.04
0.000314	1.	1.	1.	2	0	0	0.00	1079.11	1391.15

FLOW DISTRIBUTION FOR SECNO= 4.00 CWSEL= 676.70

FORM 1611-DESIGNED BY DONALD PANIELLO, PORO.
PRINTED IN U.S.A.

STA=	312.	400.	530.	603.	805.	900.	981.	995.	1036.	1050.	1200.	1350.	1390.
PER Q=	0.7	3.3	3.8	6.0	2.1	1.3	1.7	76.4	1.4	2.7	2.3	0.2	
AREA=	96.7	254.9	274.9	479.6	194.9	112.1	79.0	699.4	81.2	252.4	239.8	28.3	
VEL=	0.3	0.5	0.6	0.5	0.4	0.5	0.9	6.3	0.8	0.4	0.4	0.2	

*RECNO 7.000

100' U/S SHERMAN

7.00	11.59	676.79	0.00	0.30	677.09	0.29	0.06	0.70	667.70
4000.	797.	2930.	217.	495.	703.	749.	58.	194.	467.20
0.40	0.5*	4.22	0.54	1.150	1.043	0.117	0.15	665.20	376.10
0.0007?7	105.	100.	100.	0	1	1	0.00	1545.30	1323.01

FLOW DISTRIBUTION FOR RECNO= 7.00 CWSEL= 676.79

STA=	330.	450.	507.	600.	790.	1?7.	951.	965.	1?36.	1?5?.	1?0?.	1?5?.	1?9?.
PER Q=	0.5	3.4	3.2	6.2	2.?	.6	.7	77.4	1.0	2.1	2.4	1.2	
AREA=	135.4	264.9	204.5	495.1	204.5	117.1	?3.3	706.3	82.6	275.8	254.3	32.9	
VEL=	0.3	0.5	0.6	0.5	0.4	0.5	0.8	4.2	0.8	0.4	0.4	0.2	

CSLW= 0.100 CEXP= 1.500

*SLCNO 1.030

CORP. POUND.-STARTING SEC.

6.00	13.03	677.33	0.00	1.00	678.06	0.24	1.06	0.00	667.00
4000.	1927.	5?1?.	49.	2?30.	?3.	4	??0.	?70.	?39.?0
0.31	0.64	5.37	0.05	1.152	0.349	0.150	1.0?1	665.13	0.43
0.?01?3?	1970.	1112.	1000.	?		0	1.03	1??.?1	?1??.??

FLOW DISTRIBUTION FOR RECNO= 6.00 CWSEL= 677.33

STA=	0.	370.	920.	1011.	1140.	1?32.	?0L1.	117.	?127.	173.
PER Q=	19.6	15.7	4.5	1.0	1.6	3.?	5.5	?.0	0.1	
AREA=	1312.7	1051.7	303.5	9?.6	77.6	142.4	392.6	53.6	14.4	
VEL=	0.6	0.6	0.6	0.7	0.7	1.1	5.4	0.8	0.1	

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*****************************************************************
  HEC2 RELEASE DATED NOV 78 UPDATED FEB 1977
  ERROR CORR -  [illegible]
  MODIFICATION -  [illegible]
*****************************************************************

T1 SALINE RIVER DELAY TOP MUD 2022 HF
T2 CONVERGENCE FOR CRITICAL DEPTH START
T3       SALINE D. [illegible]

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
      [illegible]      4.       0.       0. -1.[illegible]00     [illegible]00     0.[illegible]     0.     [illegible]     0.[illegible]

J2  NPROF    IPLOT    PRFVS    XRPTV    XNECH    [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000   15.000
```

*PROF 3

CCHV= 0.100 CEHV= 0.300

*SECNO ****

SECNO	DEPTH	CHSEL	CRTHS	CHSELK	ED	FW	ML	ELOSS	BANK ELEV
Q	ALCH	TCH	CROB	ALOB	ACH	CHNL	WTC	ZUA	LEFTBANKT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTR	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST

3000 CRITICAL DEPTH ASSUMED

3000' D/S SHETRAN

0.00	7.07	671.37	671.37	671.00	673.98	2.61	3.02	0.00	666.07
4060.	93.	5836.	101.	50.	251.	71.	0.	0.	666.30
2.02	1.55	13.26	1.02	0.150	0.045	0.150	0.00	667.30	322.13
0.013116	0.	0.	5.	7	10	0	1.02	256.12	1220.12

FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 671.37

STA=	922.	970.	978.	1022.	1031.	1100.
PER Q=	0.7	1.1	96.2	1.8	0.2
AREA=	32.0	26.9	291.2	37.3	32.3
VEL=	0.9	2.6	13.3	2.4	0.9

*SECNO 1.000

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 675.40

1.00	11.48	675.40	0.00	0.00	675.54	0.07	1.31	0.25	666.50		
4060.	1279.	1699.	1282.	2862.	653.	2365.	76.	25.	666.50		
0.16	0.45	3.35	0.45	0.150	0.045	0.150	0.045	664.00	5.01		
0.000462	1060.	1007.	1100.	0	0		2.05	1290.37	1629.19		

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 675.40

STA=	1.	150.	500.	900.	970.	978.	1022.	1031.	1100.	1300.	1305.
PER Q=	1.0	12.4	12.9	3.7	1.0	56.9	1.1	5.3	12.9	12.9	1.0
AREA=	147.6	193.3	1100.2	270.3	55.6	669.9	62.3	276.3	1190.2	1190.2	147.6
VEL=	0.3	0.4	0.4	0.5	0.7	3.3	0.7	0.5	0.4	0.4	0.3

*SECNO 2.000

VALLEY SOUTH D/S SHEARN

2.00	11.30	676.30	0.00	3.00	676.44	0.14	0.87	0.02	667.50
4060.	1296.	1895.	868.	2910.	442.	1628.	246.	70.	667.50
0.36	0.61	4.29	0.61	0.150	0.045	0.150	0.045	665.00	317.49
0.000703	1620.	1500.	1300.	4	0	0	3.02	1169.03	1482.5

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 676.30

STA=	317.	420.	600.	970.	978.	1022.	1031.	1100.	1420.	1483.	
PER Q=	1.3	20.	5.6	1.	46.7	1.2	3.0	20.	1.4		
AREA=	136.2	1520.2	601.6	50.4	642.2	68.7	248.0	990.2	136.2		
VEL=	0.4	2.6	2.6	0.3	4.1	0.8	0.5	0.4	0.4		

CCHV= 0.300 CEHV= 0.300

*SECNO 3.000

D/S FACE SHERNAI

3.00	11.46	676.66	0.00	0.00	676.08	0.32	0.40	[illegible]	667.70	
4060.	758.	3536.	263.	1460.	897.	490.	305.	91.	667.20	
0.40	0.57	4.56	0.41	0.150	0.044	0.150	0.046	665.20	313.53	
0.000033	20.	20.	20.	2	1	0	0.00	1074.39	1350.00	

FLOW DISTRIBUTION FOR SECNO= 3.00 CHSEL= 676.66

STA=	314.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1390.
PER C=	0.2	1.3	3.7	5.9	2.4	1.4	4.2	76.1	1.5	2.4	2.6	1.1	
AREA=	93.5	251.2	271.2	472.4	191.2	110.3	70.5	696.7	80.6	256.8	234.3	27.3	
VEL=	0.3	0.5	0.6	0.5	0.4	0.3	0.3	4.4	0.8	0.4	0.4	0.2	

*SECNO 3.100

SECNO	DEPTH	CHSEL	CRA S	WSELK	TG	IV		PLOTS	BANK ELEV
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	LEFT/RIGHT
TIME	VLOD	VCH	VROS	XVL	XRCH	XMR	STN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOSS	ITRIAL	IT2	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRB= 90 WIN ELTRD= [illegible] MAX BLLC= [illegible]

3.10	11.46	676.64	0.00	0.00	676.97	0.26	0.00	0.02	667.70
4061.	742.	3331.	187.	1314.	675.	430.	283.	91.	667.20
0.40	0.56	4.67	0.41	0.150	[illegible]	[illegible]	0.045	[illegible]	313.32
0.001125	1.	1.	1.	2	1		[illegible]	[illegible]	1350.00

FLOW DISTRIBUTION FOR SECNO= 3.10 CHSEL= 676.64

STA=	314.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1390.
PER C=	0.0	3.9	4.3	6.9	2.4	1.3	0.1	77.1	0.1	1.4	3.5	0.2	
AREA=	91.5	245.2	266.2	460.4	189.2	45.2	1.0	670.2	0.	105.	231.3	26.5	
VEL=	0.3	0.6	0.6	0.6	0.5	0.3	0.1	4.7	0.2	0.4	0.4	0.3	

*SECNO 3.900

3370 NORMAL BRIDGE,NRB= 90 WIN ELTRD= 673.80 MAX BLLC= 670.10

3.90	11.47	676.67	0.00	0.00	676.93	0.26	0.02	0.00	667.70
4060.	749.	3120.	190.	1326.	670.	464.	206.	91.	667.20
0.40	0.57	4.66	0.41	0.150	0.030	0.150	0.043	665.20	313.60
0.001118	18.	18.	18.	2	0	0	-350.93	1074.39	1350.00

FLOW DISTRIBUTION FOR SECNO= 3.90 CHSEL= 676.67

STA=	314.	400.	500.	600.	800.	900.	951.	965.	1036.	1050.	1200.	1350.	1390.
PER C=	0.0	0.8	0.3	6.3	2.4	0.4	0.0	76.9	0.0	1.9	2.3	0.2	
AREA=	93.5	251.2	271.0	472.0	191.1	45.4	1.1	670.2	0.2	106.5	234.1	27.3	
VEL=	0.3	0.6	0.6	0.5	0.5	0.3	0.1	4.7	0.2	0.4	0.4	0.3	

*SECNO 4.000

D/S FACE SHERNAI

4.00	11.50	675.73	0.00	0.00	674.55	0.21	0.00	0.51	667.70
4060.	775.	3008.	277.	1511.	702.	645.	286.	91.	667.20
0.40	0.51	4.29	0.65	0.150	0.045	0.150	0.045	665.20	310.87
0.000758	11.	11.	11.	3	0	0	0.00	0[illegible].14	62.[illegible]

FLOW DISTRIBUTION FOR SECNO= 4.00 C.SEL= 676.75

STA=	311.	500.	550.	605.	900.	960.	991.	995.	1036.	1050.	1200.	1350.	1395.
PER I=	0.7	2.7	3.6	6.1	2.2	1.3	1.1	70.1	1.4	2.7	2.5	1.2	
AREA=	95.3	359.1	477.8	805.6	197.2	113.6	73.1	701.2	1.6	366.2	344.2	37.0	
VEL=	0.3	0.3	0.6	0.3	0.4	0.5	0.9	4.3	0.3	0.4	0.4	0.2	

*SECNO 7.000

1201 U/S S.T. AP

7.00	11.62	676.92	0.05	0.00	677.02	0.23	0.06	0.00	667.70	
4060.	651.	2968.	291.	1574.	708.	657.	293.	96.	667.20	
0.61	0.51	4.19	0.44	0.150	0.043	0.152	0.045	664.20	307.03	
0.000755	153.	107.	100.	0	3		0.00	1173.30	1174.02	

FLOW DISTRIBUTION FOR SECNO= 7.00 C.SEL= 676.92

STA=	307.	420.	503.	600.	800.	900.	991.	995.	1036.	1050.	1200.	1350.	1395.
PER I=	0.7	3.9	3.9	6.3	2..	1.8	1.2	73.7	1.0	2.2	2.3	1.2	
AREA=	1[illegible]	287.5	287.7	804.9	257.4	115.5	83.3	700..	1.0	261.1	256.6	11.1	
VEL=	0.3	0.5	0.5	0.3	0.5	0.5	0.4	4.2	0.3	0.4	0.4	0.2	

CONV= 0.100 SERV= 0.300

*SECNO 8.000

5001. DOUBLE-STRUCTURE SEC.

8.00	13.04	677.84	0.00	0.00	678.00	0.23	1.04	0.01	667.80
4060.	1913.	2103.	45.	5004.	393.	69.	389.	128.	667.70
0.52	0.64	5.35	0.65	0.150	0.045	0.150	0.244	664.90	0.45
0.000822	1400.	1130.	1000.	2		0	0.00	1173.46	1173.91

FLOW DISTRIBUTION FOR SECNO= 8.00 CWSEL= 677.84

STA=	0.	500.	900.	1010.	1040.	1062.	1083.	1117.	1127.	1174.
PER I=	9.7	15.0	4.8	1.6	1.4	3.9	57.3	1.0	0.1	
AREA=	1[illegible]5.4	1057.0	310.0	94.0.	77.9	142.5	583..	53.9	15.1	
VEL=	0.6	0.9	2.6	0.7	0.7	1.1	3..	2.0	2.1	

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**********************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR - [4
  SPECIFICATION = 30.01.37
**********************************************************
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NOTE= ASTERISK (*) AT LEFT OF CROSS-SECTION NO. IS INDICATED MESSAGE IN SUMMARY OF ERRORS LIST

SALINE R. MILAN T.P.

SUMMARY PRINTOUT TABLE 150

SECNO	Q(3)	L.OB	E.OB	E.GR	Y	SWIF	SLOPE	EG	IOPT	VEL	AREA	Q/A
0.000	0.00	0.00	0.00	665.50	4060.00	675.40	0.00	675.45	3.32	2.90	7035.81	2229.02
0.000	0.00	0.00	0.00	663.30	4060.00	676.89	0.00	674.96	4.96	3.43	6022.30	1422.25
0.000	0.00	0.00	0.00	663.30	4060.00	671.37	671.33	673.93	131.14	11.27	415.50	334.51
1.000	500.00	0.00	0.00	665.20	4060.00	675.78	0.00	675.89	3.71	3.05	6[illegible]	[illegible]
1.000	1000.00	0.00	0.00	664.00	4060.00	675.39	0.00	675.46	4.98	3.44	5995.00	[illegible]
1.000	1010.00	0.00	0.00	664.00	4060.00	675.41	0.00	675.56	4.62	3.33	6177.19	[illegible]
2.000	500.00	0.00	0.00	665.00	4060.00	676.74	0.00	676.96	7.11	4.12	[illegible]	[illegible]
2.000	1000.00	0.00	0.00	665.00	4060.00	676.40	0.00	676.47	8.05	4.37	[illegible]	[illegible]
2.000	1010.00	0.00	0.00	665.00	4060.00	676.30	0.00	676.45	7.85	4.29	[illegible]	[illegible]
3.000	500.00	0.00	0.00	665.20	4060.00	676.77	0.00	676.98	7.76	4.24	2892.58	1455.61
3.000	500.00	0.00	0.00	665.20	4060.00	676.63	0.00	676.86	8.49	4.39	2730.56	1393.36
3.000	500.00	0.00	0.00	665.20	4060.00	676.64	0.00	676.89	8.33	4.36	2703.89	1406.66
3.100	1.00	673.80	676.30	665.20	4060.00	676.75	0.00	677.02	10.73	4.56	2562.60	1332.10
3.100	1.00	673.80	676.30	665.20	4060.00	676.61	0.00	676.88	11.39	4.70	2411.53	1203.16
3.100	1.00	673.80	676.30	665.20	4060.00	676.64	0.00	676.90	11.25	4.67	2442.20	1210.33
3.900	10.00	673.50	676.30	665.20	4060.00	676.77	0.00	677.02	10.71	4.56	2569.44	1270.45
3.900	11.00	673.60	676.30	665.20	4060.00	676.55	0.00	676.90	11.31	4.68	2428.97	1207.21
3.900	10.00	673.60	676.30	665.20	4060.00	676.57	0.00	676.92	11.19	4.66	2459.04	1216.47
4.000	1.00	0.00	0.00	665.20	4060.00	676.83	0.00	677.03	7.49	4.10	2949.15	1403.32
4.000	1.00	0.00	0.00	665.20	4060.00	676.70	0.00	676.91	8.14	4.32	2803.89	1423.27
4.000	1.00	0.00	0.00	665.20	4060.00	676.73	0.00	676.94	7.99	4.29	2836.55	1436.15
7.000	100.00	0.00	0.00	665.20	4060.00	676.96	0.00	677.11	7.06	4.03	3533.01	1526.85
7.000	100.00	0.00	0.00	665.20	4060.00	676.79	0.00	677.00	7.67	4.22	2938.27	1466.27
7.000	100.00	0.00	0.00	665.20	4060.00	676.82	0.00	677.02	7.53	4.19	2939.50	1479.32
8.000	1100.00	0.00	0.00	664.30	4060.00	677.09	0.00	678.11	9.08	5.27	3519.26	1691.75
8.000	1100.00	0.00	0.00	664.30	4060.00	677.83	0.00	678.05	10.32	5.37	3447.54	1663.99
8.000	1100.00	0.00	0.00	664.30	4060.00	677.84	0.00	678.08	10.22	5.35	3465.29	1670.06

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNO	Q	ELBEL	DIFUSE	DIFUSX	DIFUSS	TOPWIN	XLOP
0.000	4060.00	675.40	0.00	0.00	0.00	2000.00	0.00
0.000	4060.00	675.89	0.00	0.00	-0.1[illegible]	1992.53	0.00
0.000	4060.00	675.37	0.00	0.00	0.27	154.12	0.00
1.000	4060.00	675.75	0.00	0.05	0.00	2001.00	1000.00
1.000	4060.00	675.39	0.00	0.50	0.00	1992.29	1000.00
1.000	4060.00	675.48	0.00	4.11	0.00	1998.37	1000.00
2.000	4060.00	676.44	0.00	0.[illegible]	0.00	1172.[illegible]	1000.00
2.000	4060.00	676.26	0.00	0.07	0.00	16[illegible].[illegible]	1000.00
2.000	4060.00	676.3[illegible]	0.00	0.02	0.00	1165.0[illegible]	500.00
3.000	4060.00	676.77	0.00	0.33	0.00	1084.16	500.00
3.000	4060.00	676.63	0.00	0.37	0.00	1074.38	500.00
3.000	4060.00	676.66	0.00	0.3[illegible]	0.00	1075.[illegible]	500.00
3.100	4060.00	676.75	0.00	-0.0[illegible]	0.00	1083.[illegible]	[illegible].00
3.100	4060.00	676.61	0.00	-0.02	0.00	1073.00	1.00
3.100	4060.00	676.64	0.00	-0.02	0.00	1075.1[illegible]	[illegible].00
3.900	4060.00	676.77	0.00	0.07	0.00	1084.0[illegible]	1[illegible].00
3.900	4060.00	676.63	0.00	0.07	0.00	1074.[illegible]	1[illegible].00
3.900	4060.00	676.67	0.00	0.07	0.00	1076.39	1[illegible].00
4.000	4060.00	676.83	0.00	0.06	0.00	1088.41	1.00
4.000	4060.00	676.70	0.00	0.06	0.00	1079.11	1.00
4.000	4060.00	676.73	0.00	0.06	0.00	1081.[illegible]	1.00
7.000	4060.00	676.92	0.00	0.08	0.00	1094.70	100.00
7.000	4060.00	676.79	0.00	0.10	0.00	1085.80	100.00
7.000	4060.00	676.82	0.00	0.09	0.00	1087.80	100.00
8.000	4060.00	677.89	0.00	0.97	0.00	1176.94	1100.00
8.000	4060.00	677.83	0.00	1.04	0.00	1172.4[illegible]	1100.00
8.000	4060.00	677.84	0.00	1.02	0.00	1173.4[illegible]	1100.00

SUMMARY OF ERRORS

CAUTION SECNO= 0.000 PROFILE= 3 CRITICAL DEPTH ASSUMED

```
*****************************************************************
  PSC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CODE -  01
  MODIFICATION -  50,51,52
*****************************************************************
```

```
*****************************************************************
*                                                               *
*                    E R R O R   S U M M A R Y                  *
*                                                               *
*                                                               *
*       0  ERROR(S) DETECTED BY THE USER PROGRAM                *
*       0  ERROR(S) DETECTED BY THE MATHEMATICAL PACKAGE        *
*       0  ERROR(S) DETECTED FOR INPUT/OUPUT STATEMENTS         *
*                                                               *
*****************************************************************
```

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100yr Encroached

00BREAK00

12:10:57 X53 DAS HEC2 BTTLT.07 FEB 1[illegible], 1981

Salmon River

100-[illegible]

R430 12#3 S[illegible]:12E3 LN:12#3 PU:EG-041 22A00561 R101 PR/M112/P2/G1/A/M132

```
JOBID=HEC2                  USER=DAN                  PROJECT=BTTLTW07          BILLING=BTTLTW07          RUN=X0053

11:46:19                                   JOB INTRODUCED FROM                                          FEB 18, 1981
                                                  HEC2 ENG

11:46:24  START OF TRANSLATION

**        PARAMETER VALUES        **

&1        = DD-SALINE
&PAPER    = 3PART

          &JOB HEC2,USER=DAN      ;
WARNING   36  THIS STATEMENT HAS BEEN GENERATED
          VALUE FILENAM,NHOLD,WK=MEG200,CPU=30,PAPER=1PART,SIZE=200,STEP=HEC2,
                SUB=SUBNAME,COPIES=1,WKDVC=452;
          JUMP &PAPER&&X;
          2PARTX:
          OUTVAL &2,MD=I2PRT,DVC=PR;
          JUMP CONTX;
          3PARTX:
          OUTVAL &2,MD=I13PRT,DVC=PR;
          JUMP CONTX;
          PRTX:
          OUTVAL  &2;
          CONTX:
          INVOKE HEC2,ENGJCLLIB,VALUES=(&1,&2,WK=&WK,CPU=&CPU,PAPER=&PAPER,SIZE=&SIZE,
                STEP=&STEP,SUB=&SUB,COPIES=&COPIES,WKDVC=&WKDVC);

          RECORD COUNT :     16

11:46:42  END OF TRANSLATION
```

```
JOBID=HEC2                USER=DAN                PROJECT=BTTLT.07              BILLING=BTTLTWC7              PON=XU053
```

```
12:02:46                                          JOB EXECUTION LISTING                                    FEB 11, 1981

          JUMP DONE TO 3PARTX
          JUMP DONE TO CONTX
          JUMP DONE TO HEC2
          START OF HEC#2 EXECUTION
          STEP 4
          LOAD MODULE = HEC#2 (79/2 /22 23:56) PREINITIALIZED
          LIBRARY = WTAENGLP
12:02:49  STEP STARTED XPRTY=9
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=B
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=C
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=D
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=A
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=E
          FP04.    2 CYLINDER(S) ALLOCATED ON VOLUME: MEG200 FOR EFN: ;000053.FILE=F
          TASK MAIN J=01 P=20 COMPLETED
          DUF01.IFN=FILE=B       REMEMBER REUSE=        0
          DUF01.IFN=FILE=C       REMEMBER REUSE=        0
          DUF01.IFN=FILE=A       REMEMBER REUSE=        0
          DUF01.IFN=FILE=D       REMEMBER REUSE=        0
          DUF01.IFN=FILE=E       REMEMBER REUSE=        0
          DUF01.IFN=FILE=F       REMEMBER REUSE=        0    UNLOCK BUFFER=        0    CREATE BUFFER=        26
          TEMPORARY  FILES USED=    221 TRACKS
          FILE=B     ON  MEG200 :  NB  OF  IO  CONNECTS=        133
          FILE=C     ON  MEG200 :  NB  OF  IO  CONNECTS=         74
          H=PR       ON  MEG200 :  NB  OF  IO  CONNECTS=         33
          FILE=A     ON  MEG200 :  NB  OF  IO  CONNECTS=        142
          H=PD       ON  WTAPAR :  NB  OF  IO  CONNECTS=          6
          FILE=D     ON  MEG200 :  NB  OF  IO  CONNECTS=         71
          FILE=E     ON  MEG200 :  NB  OF  IO  CONNECTS=        235
          FILE=F     ON  MEG200 :  NB  OF  IO  CONNECTS=         30
          CPU          1.894                          PROG MISSING SEGTS      127   STACKOV      78
          ELAPSED      3.756                          SYS  MISSING SEGTS      295
          LINES        1148   LIMIT     NOLIM         BACKING STORE        273504
          CARDS           0   LIMIT     NOLIM         BUFFER SIZE           15920   CPSIZE     2272
12:06:34  STEP COMPLETED

          JUMP DONE TO FINISH
          JUMP DONE TO 3PART
          ************************************
          *  READY 3PART  GREEN BAR PAPER  *
          ************************************

          START     12:02:46   LINES      1148
          STOP      12:06:37   CARDS         0
          CPU          1.894
          ELAPSE       3.862
12:06:38  RESULT:  JOB COMPLETED
```

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

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  [illegible]
  MODIFICATION -  50,51,52
**************************************************

C
T1SALINE RIVER MILAN  TWP. FIS NO 2028-07
T2100 YR STORM
T3       SALINE R. MILAN TWP.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         BSEL      FQ
       0.        4.        0.        0.  0.001032      0.00      0.0       0.   677.830     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    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
    150.000   110.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

ET      0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000     0.000
NC      0.150     0.150     0.045     0.100     0.200     0.000     0.000     0.000     0.000     0.000
QT      5.000  2560.000  3490.000  4060.000  4060.000  5190.000  1120.000     0.000     0.000     0.000

A       VALLEY #9 AT CORP. BOUNDARY

X1      0.000    13.000  1083.000  1117.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    680.000     0.000   675.200     1.000   675.200   500.000   675.200   900.000   674.900  1011.000
GR    674.300  1040.000   674.300  1062.000   667.800  1003.000   664.800  1100.000   667.700  1117.000
GR    677.200  1127.000   678.200  1200.000   679.400  1400.000     0.000     0.000     0.000     0.000

B       VALLEY #8

X1    610.000    12.000   744.000   776.000   500.000   700.000   610.000     0.000     0.000     0.000
GR    680.000     0.000   675.000    40.000   675.000   500.000   675.000   733.000   666.900   744.000
GR    664.300   760.000   668.100   776.000   675.900   786.000   675.900  1000.000   677.000  1200.000
GR    677.000  1500.000   680.000  1750.000     0.000     0.000     0.000     0.000     0.000     0.000

C       VALLEY #7

X1   2260.000    11.000   327.000   353.000  1300.000   700.000  1650.000     0.000     0.000     0.000
GR    680.000     0.000   675.000    20.000   674.900   288.000   668.500   327.000   666.200   340.000
GR    669.800   353.000   677.900   366.000   678.000   600.000   678.000  1000.000   678.000  1400.000
GR    680.000  1500.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

D       VALLEY #6

X1   3660.000    11.000  1458.000  1502.000  1200.000  1200.000  1400.000     0.000     0.000     0.000
X4      1.000   681.000  1030.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    683.000     0.000   678.000  1030.000   677.800  1445.000   668.800  1458.000   666.000  1480.000
GR    670.000  1502.000   676.400  1509.000   678.000  1800.000   678.000  2200.000   681.000  2400.000
GR    683.000  2600.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

VALLEY #5

X1	4785.000	11.000	1980.000	2020.000	900.000	1230.000	1125.000	0.000	0.000	0.000
X4	1.000	691.000	950.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	695.000	470.000	679.000	1500.000	679.000	1967.000	670.000	1980.000	667.200	2020.000
GR	672.700	2020.000	675.600	2023.000	900.300	2172.000	671.500	2230.700	682.300	3000.200
GR	683.000	3200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY #4

X1	6336.000	12.000	1967.000	2013.000	1200.000	1230.000	1545.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1750.000	0.000	2250.000	0.000	0.000	0.000	0.000
GR	685.000	950.000	681.000	1200.000	681.000	1600.000	680.900	1935.000	678.000	1951.000
GR	677.300	1973.000	671.000	1937.000	667.100	2000.000	670.700	2013.000	680.200	2026.000
GR	690.200	2500.000	685.000	2501.000	0.000	0.000	0.000	0.000	0.000	0.000
BC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY #3 100 FT D/S OF US-23

X1	7030.000	0.000	64.000	700.000	750.000	750.000	750.000	0.000	0.000	0.000
GT	695.100	0.000	685.000	56.000	672.200	64.000	569.800	42.000	570.000	100.000
GT	690.100	112.000	680.100	93.000	685.000	104.000	0.000	0.000	0.000	0.000
CC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF N. BOUND US-23

X1	7180.000	13.000	0.000	715.000	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
GR	689.000	0.000	684.200	1.000	672.200	31.000	672.200	31.100	672.200	34.900
GR	672.200	35.000	670.400	58.000	672.100	81.000	672.100	81.100	672.100	84.900
ER	672.100	85.000	682.200	115.000	669.000	116.000	0.000	0.000	0.000	0.000

X1	7181.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
BT	13.000	0.000	689.000	0.000	1.000	689.000	685.000	31.000	689.000	685.000
ET	31.100	689.000	0.000	32.900	689.000	0.000	85.000	689.000	685.000	58.000
BT	689.000	685.000	61.000	689.000	685.000	81.100	689.000	0.000	84.900	689.000
DT	0.000	35.000	689.000	685.000	115.000	689.000	685.000	116.000	689.000	0.000

X1	7227.000	0.000	0.000	0.000	46.000	46.000	46.000	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	689.000	689.000	0.000

U/S FACE OF N. BOUND US-23

X1	7228.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

D/S FACE OF S. BOUND US-23

X1	7276.000	0.000	0.000	0.000	43.000	43.000	43.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

X1	7277.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

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BT	13.000	0.000	689.000	0.000	1.000	689.000	685.000	31.000	689.000	685.000
BT	31.100	689.000	0.000	34.900	689.000	0.000	35.000	689.000	695.000	58.000
BT	689.000	685.000	81.000	689.000	685.000	81.100	689.000	0.000	84.900	689.000
BT	0.000	85.000	689.000	685.000	115.000	689.000	685.000	116.000	689.000	0.000
X1	7323.300	0.000	0.000	0.000	46.000	46.500	46.500	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000

U/S FACE OF S. BOUND US-23

X1	7324.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	689.000	689.000	0.000
MC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

50 FT U/S US-23 CORP. BOUNDARY

X1	7374.000	12.000	84.000	116.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	685.000	0.000	684.000	1.000	683.400	53.000	680.200	72.000	670.600	84.000
GR	685.300	130.000	672.000	196.300	674.200	121.000	673.300	191.000	674.900	194.000
GR	687.000	199.000	685.000	230.300	0.000	1.000	0.000	0.000	0.000	0.000
NH	6.000	0.070	1302.000	0.100	1338.000	0.060	1354.100	0.065	1405.400	0.060
NH	1500.000	0.070	2039.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

550 FT U/S US-23 (WILLIAMS - WORKS CROSS SECTION BB)

X1	7974.000	10.000	1354.100	1400.400	550.000	550.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	1000.000	0.000	0.000	0.000	0.000
GR	688.000	250.000	684.800	251.000	684.800	600.000	684.700	1080.000	684.000	1170.000
GR	684.000	1300.000	680.800	1338.000	671.500	1354.100	670.400	1358.100	669.800	1363.000
GR	670.100	1368.100	669.800	1373.100	671.400	1378.100	671.500	1408.400	680.400	1426.200
GR	690.000	1500.000	692.400	1700.000	692.500	2031.000	688.000	2032.000	0.000	0.000
NH	7.000	0.060	50.000	0.100	1420.000	0.060	1429.000	0.065	1448.000	0.060
NH	1456.000	0.100	1508.000	0.060	2325.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION DD)

X1	9084.000	14.000	1429.000	1450.000	1100.000	1100.000	1100.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	640.000	0.000	2215.000	0.000	0.000	0.000	0.000
GR	688.000	50.000	684.000	80.000	684.000	1620.000	672.100	1429.000	671.100	1430.000
GR	670.600	1433.000	670.700	1438.000	670.600	1443.000	670.000	1448.000	672.100	1450.000
GR	679.800	1456.000	681.600	1508.000	682.000	2215.000	686.000	2325.000	0.000	0.000
NH	5.000	0.100	2479.000	0.070	2530.000	0.065	2550.000	0.070	2556.000	0.060
NH	2145.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

X1	10054.000	20.000	2529.000	2550.000	1030.000	1030.000	1030.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1190.000	0.000	2685.000	0.000	0.000	0.000	0.000
GR	688.000	520.000	684.700	820.000	684.900	1320.000	688.000	1790.000	688.400	1835.000
GR	688.000	2005.000	684.000	2050.000	683.300	2250.000	680.300	2479.000	672.100	2529.000
GR	671.100	2530.000	670.600	2533.000	670.700	2538.000	670.600	2543.000	670.000	2548.000
GR	672.100	2550.000	678.800	2556.000	683.000	2606.000	686.000	2785.000	688.000	2845.000
EA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO ****

SECNO	DEPTH	CWSEL	CRIWS	SELK	EG	HV	HL	CLOSS	PAVE ELEV
Q	ELCR	ACH	CROB	ALC	ACH	AROB	VQ-	TOP	LEFT/RIGHT
TIME	VLCB	VCH	VROB	XNL	XLCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLCBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAE	TOPWID	ENDST

VALLEY NO 4T CORP. BOUNDARY

0.00	13.03	677.83	0.00	677.83	678.07	0.24	0.00	0.00	667.80
4060.	1907.	2130.	45.	2980.	393.	68.	0.	0.	667.70
0.00	5.64	5.37	0.65	0.150	0.045	0.150	0.000	664.85	0.45
0.001034	0.	0.	0.	0	0	0	0.00	1172.55	1173.00

FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 677.83

STA=	0.	580.	905.	1071.	1040.	1082.	1305.	1117.	1127.	1173.
PER Q=	19.6	15.7	4.0	1.6	1.4	3.0	31.9	1.5	0.1	
AREA=	1513.2	1052.1	308.6	98.7	77.7	142.4	392.9	53.5	16.5	
VEL=	0.6	0.6	0.6	0.7	0.7	1.1	5.4	0.8	0.1	

*SECNO 610.000

VALLEY #1

610.00	14.10	678.40	0.00	0.00	678.57	0.17	0.49	0.01	666.90
4060.	1520.	1903.	637.	2483.	400.	1490.	49.	18.	668.10
0.06	0.61	4.76	0.43	0.150	0.045	0.150	0.048	664.30	12.81
0.000735	560.	610.	700.	2	0	0	0.00	1003.75	1616.56

FLOW DISTRIBUTION FOR SECNO= 610.00 CWSEL= 678.40

STA=	13.	40.	500.	733.	744.	776.	786.	1000.	1200.	1500.	1617.
PER Q=	0.4	23.4	11.8	1.8	46.9	1.2	6.5	4.0	3.3	0.6	
AREA=	46.2	1543.4	791.9	31.9	420.0	64.0	554.7	389.7	419.6	71.5	
VEL=	0.4	0.6	0.6	0.9	4.8	0.8	0.5	0.4	0.3	0.2	

*SECNO 2260.000

VALLEY #7

2260.00	13.36	679.56	0.00	0.00	679.77	0.21	1.19	0.01	668.50
4060.	1534.	1721.	805.	1584.	309.	1763.	150.	51.	669.80
0.20	0.97	5.57	0.46	0.150	0.045	0.150	0.053	666.20	1.75
0.301086	1300.	1650.	700.	2	0	0	0.00	1476.38	1478.13

FLOW DISTRIBUTION FOR SECNO= 2260.00 CWSEL= 679.56

STA=	2.	20.	288.	327.	353.	366.	600.	1000.	1400.	1470.	
PER Q=	0.6	27.5	9.7	42.4	1.7	4.2	6.8	6.8	0.4		
AREA=	41.6	236.2	306.6	309.1	74.3	377.3	625.0	625.0	61.0		
VEL=	0.6	0.9	1.3	5.6	0.9	0.4	0.4	2.4	0.3		

*SECNO 3660.000

VALLEY #8

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100YR Encroachment

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

T1SALINE RIVER MILAN T.P. FIS HUD 2028-07
T2ENCROACHMENT RUN
T3       SALINE RIVER MILAN T.P.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         USEL      FQ

       0.        5.        0.        0.  0.000000     0.00       0.0        0.   677.830     0.000

J2  XPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IDM       CHNIM     ITRACE

     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 2

CCHV=   0.100 CEHV=   0.300
*SECNO ****
 2600 NAT Q1=    1256.43  WSEL=     677.03  ENC Q1=    1264.43  WSEL=     677.93  RATIO=  0.0300
 VAT Q1=    1316.  RATIOS LOB,CH,ROB=  0.4804  0.5304  0.0114  WSEL=     677.03
    SECNO      DEPTH      CWSEL      CRITS      WSELR      ES         HV         HL         ULOSS    BANK ELEV
      Q        XLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TLA    LEFT/RIGHT
      TIME     VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
      SLOPE    KLOBL      KLCH       KLOBR      ITRIAL     IAP        ICONT      CONVR      TOPWID     EPGST

3470 ENCROACHMENT STATIONS=      57.8     1117.0  TYPE=      4  TARGET=       0.035

            VALLEY #5 AT CORP. BOUNDARY                                    A

       0.00     13.19    677.63      0.00    677.83    678.03      0.20       0.00       0.00     667.30
       4060.     2053.     2007.        0.     2837.      395.        0.         0.         0.     667.70
        0.00      0.72      5.11      0.00      0.150     0.045     0.150      0.000    864.80      57.82
   0.001321         0.        0.        0.          0         0         0       0.00   1059.19    1117.00


*SECNO 610.000
 2800 NAT Q1=    1497.37  WSEL=     678.40  ENC Q1=    1497.37  WSEL=     678.50  RATIO=  0.0000
 VAT Q1=    1556.  RATIOS LOB,CH,ROB=  0.3784  0.6577  0.1639  WSEL=     678.50

3470 ENCROACHMENT STATIONS=      64.2     1395.1  TYPE=      4  TARGET=       0.036

            VALLEY #3                                                      B

      610.00     14.12    678.42      0.00    678.40    678.60      0.18       0.56       0.00     666.90
       4060.     1505.     1958.      597.     2374.      401.     1279.        46.        15.     668.10
        0.06      0.69      4.89      0.47      0.150     0.045     0.150      0.048    864.30      64.15
   0.000773       500.      610.      700.          1         1         0       0.00   1330.98    1395.13


*SECNO 2260.000
 2800 NAT Q1=    1232.22  WSEL=     679.56  ENC Q1=    1232.22  WSEL=     679.66  RATIO=  0.0000
 VAT Q1=    1280.  RATIOS LOB,CH,ROB=  0.3756  0.6139  0.2106  WSEL=     679.56

3470 ENCROACHMENT STATIONS=      29.6     1323.6  TYPE=      4  TARGET=       0.037

            VALLEY #7                                                      C

      2260.00     13.44    679.64      0.00    679.56    679.06      0.22       1.26       0.01     666.50
       4060.     1507.     1756.      797.     1521.      391.     1655.        141.        44.     669.10
        0.19      0.99      5.64      0.48      0.150     0.345     0.150      0.053    866.20      29.60
   0.001106       500.      650.      700.          2         0         0       0.00   1294.16    1323.76


*SECNO 3960.000
 2800 NAT Q1=    1727.25  WSEL=     680.59  ENC Q1=    1727.25  WSEL=     680.69  RATIO=  0.3000
 VAT Q1=    1782.  RATIOS LOB,CH,ROB=  0.1479  0.5308  0.2713  WSEL=     680.69

3470 ENCROACHMENT STATIONS=    1072.1     2204.0  TYPE=      4  TARGET=       0.031

            VALLEY #6                                                      D

      3660.00     14.68    680.68      0.00    680.59    680.86      0.17       0.59       0.00     668.80
       4060.      554.     2455.      104.     1135.      371.     2145.        256.        27.     670.00
        9.32      0.49      4.82      0.15      0.150     0.045     0.150      0.047    866.00      78.12
   0.004958       200.      450.      100.          1         0         0       0.00   1314.93    2204.05
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*SECNO 4785.000
 2800 NAT Q1=    1198.33  WSEL=     681.26  ENC Q1=    1198.33  WSEL=     681.36  RATIO=  0.0000
 NAT Q1=    1237.  RATIOS LOB,CH,ROB=  0.2537  0.7215  0.0249  WSEL=     681.36
   SECNO     DEPTH     CHGEL     CRIME     WSELE     EG        PV        FL        BLOKS     BANK ELEV
   Q         SLOP      ECH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XRL       XNCH      XNR       XTH       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IN2       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=     1268.5     2026.0  TYPE=     5  TARGET=      0.031

          VALLEY #5                                                E

  4785.00     14.16    681.36      0.00    681.26    681.77      0.42      0.05      0.07    670.00
    4060.      995.     3019.       47.     1689.      303.       47.      317.      100.    670.70
     0.39      0.63      6.00      0.09     0.150     0.045     0.150     0.050    667.20   1241.49
 0.001146      900.     1125.     1200.         2         0         0      0.00    777.53   2326.02

*SECNO 6330.000

3470 ENCROACHMENT STATIONS=     1750.0     2250.0  TYPE=     1  TARGET=     500.000

          VALLEY #4                                                F

  6330.00     16.06    683.16      0.00    683.07    683.73      0.57      1.91      0.05    671.00
    4060.      674.     2727.      659.      720.      369.      763.      377.      117.    670.70
     0.46      0.96      7.39      0.86     0.150     0.045     0.150     0.049    667.10   1750.00
 0.001540      1200.     1545.     1200.         2         0         0      0.00    500.00   2250.00

CCHV=    0.300 CENV=    0.500
*SECNO 7080.000
 2800 NAT Q1=    1090.24  WSEL=     684.15  ENC Q1=    1090.24  WSEL=     684.25  RATIO=  0.0000
 NAT Q1=    1114.  RATIOS LOB,CH,ROB=  0.0529  0.8642  0.0828  WSEL=     684.25

3470 ENCROACHMENT STATIONS=       47.6      158.5  TYPE=     4  TARGET=      0.014

          VALLEY #3 100 FT D/S OF US-23                            G

  7080.00     14.39    684.19      0.00    684.15    684.88      0.69      1.09      0.06    670.70
    4060.      195.     3555.      310.      153.      501.      295.      401.      123.    670.80
     0.49      1.28      7.10      1.05     0.150     0.045     0.150     0.049    669.80     47.60
 0.001382      750.      753.      750.         2         0         0      0.00    110.92    158.52

*SECNO 7180.000
 2800 NAT Q1=    1745.56  WSEL=     684.85  ENC Q1=    1773.69  WSEL=     684.95  RATIO= -0.0161
 NAT Q1=    1774.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     684.95

3470 ENCROACHMENT STATIONS=        1.0      115.0  TYPE=     4  TARGET=      0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      689.00 ELREA=      689.00

          D/S FACE OF N. BOUND US-23

  7180.00     [illegible].32    684.92      0.00    684.65    685.11      0.19      0.03      0.15    684.20
    [illegible]      [illegible]     4060.       0.        0.      1165.       0.      403.      123.    682.20
     [illegible]      [illegible]      3.49      0.00     0.150     0.045     0.150     0.049    670.40      0.00
 [illegible]      [illegible]      103.      100         2         0         0      0.00    114.00    115.00
```

```
*SECNO 7181.000
 2800 NAT Q1=   1498.64  USEL=    684.83  ENC Q1=   1523.62  USEL=    684.93  RATIO= -0.0167
 NAT Q1=   1524.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    684.93

3372 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX  LLC=  685.00

3470 ENCROACHMENT STATIONS=        1.0      115.0  TYPE=     4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00
```

essentially pressure

```
  7181.00     14.57    684.90      0.00    684.83    685.13      0.23      0.00      0.02    684.20
    4060.        0.     4060.        0.        0.     1064.        0.      403.      123.    682.20
     0.50      0.00      3.81      0.00     0.150     0.045     0.150     0.049    670.40      1.00
 0.000740        1.        1.        1.         1         0         0    -99.56    114.00    115.00

*SECNO 7227.000
 2800 NAT Q1=   1505.98  USEL=    684.86  ENC Q1=   1532.40  USEL=    684.96  RATIO= -0.0175
 NAT Q1=   1532.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    684.96
```

SECNO	DEPTH	CHSEL	CHIN	[illegible]	EC	[illegible]	[illegible]	BLOFS	BANK ELEV
Q	QLOB	QCH	QPOB	[illegible]	ACH	APOB	VOL	[illegible]	LEFT/RIGHT
TIME	VLOB	VCH	VPOB	XML	XLCH	XMR	STH	[illegible]	SSTA
SLOPE	XLOBL	XLCH	XLOBR	XTRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

```
337  NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX ELLC=  685.00

3470 ENCROACHMENT STATIONS=        1.0      115.0  TYPE=     4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00

  7227.00     14.54    684.96      0.00    684.86    685.16      0.22      0.03      0.00    684.20
    4060.        0.     4060.        0.        0.     1067.        0.      404.      123.    682.20
     0.51      0.00      3.81      0.00     0.150     0.045     0.150     0.049    670.40      1.00
 0.000734       46.       46.       46.         0         0         0    -99.74    114.00    115.00

*SECNO 7228.000
 2800 NAT Q1=   1764.67  WSEL=    684.92  ENC Q1=   1793.27  WSEL=    685.02  RATIO= -0.0162
 NAT Q1=   1793.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    685.02
```

685.28
684.83
.45

685.28
684.88
.40

685.18

```
3470 ENCROACHMENT STATIONS=        1.0      115.0  TYPE=     4  TARGET=        0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00

          U/S FACE OF N. BOUND US-23

  7228.00     14.59    684.99      0.00    684.92    685.20      0.19      0.03      0.01    684.20
    4060.        0.     4060.        0.        0.     1173.        0.      404.      123.    682.20
     0.51      0.00      3.46      0.00     0.150     0.045     0.150     0.049    670.40      1.00
 0.000536        1.        1.        1.         1         0         0      1.00    114.00    115.00

*SECNO 7278.000
 2800 NAT Q1=   1773.28  [illegible]  Q1=  [illegible]  RATIO= -0.0136
 NAT Q1=   1801.  RATIOS [illegible]

3470 ENCROACHMENT STATIONS=        1.0      115.0  TYPE=     4  TARGET=        0.000
```

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7276.00	14.62	685.32	0.00	684.94	685.20	0.19	0.03	0.00	684.20
4060.	0.	4060.	0.	0.	1175.	0.	406.	123.	682.20
0.51	0.00	3.45	0.00	0.150	0.045	0.150	0.049	670.43	1.00
0.000532	48.	48.	48.	0	0	0	0.00	114.00	115.00

*SECNO 7277.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7277.00	14.60	685.00	0.00	684.93	685.22	0.22	0.01	0.02	684.20
4060.	0.	4060.	0.	0.	1073.	0.	406.	123.	682.20
0.51	0.00	3.79	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000695	1.	1.	1.	1	1	1	-100.79	112.00	115.00

*SECNO 7323.300

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7323.00	14.65	685.05	0.00	684.96	685.27	0.22	0.05	0.00	684.20
4060.	0.	4060.	0.	0.	1074.	0.	407.	123.	682.20
0.51	0.00	3.78	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.001626	46.	46.	46.	2	0	0	-104.90	114.00	115.00

*SECNO 7324.000

2800 NAT Q1= 1791.24 USEL= 685.01 ENC Q1= 1820.00 USEL= 685.11 RATIO= -0.0161

NAT Q1= 1820. RATIOS LOB,CH,ROB= 0.0500 1.0000 0.0000 WSEL= 685.11

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 1.0 115.0 TYPE= 4 TARGET= 0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7324.00	14.70	685.10	0.00	685.01	685.28	0.18	0.00	0.01	684.20
4060.	0.	4060.	0.	0.	1185.	0.	407.	123.	682.20
0.51	0.00	3.43	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000519	1.	1.	1.	2	0	0	0.00	114.00	115.00

*SECNO 7374.000

2800 NAT Q1= 1203.72 USEL= 684.82 ENC Q1= 1203.72 USEL= 684.98 RATIO= 0.0000

NAT Q1= 1822. RATIOS LOB,CH,ROB= 0.0536 0.7494 0.1979 WSEL= 684.98

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3470 ENCROACHMENT STATIONS= 54.3 196.1 TYPE= 4 TARGET= 0.015

50 FT U/S US-23 CORP. BOUNDARY

7374.00	15.67	684.97	0.00	684.36	685.49	0.52	3.04	5.17	673.67
4060.	427.	3068.	735.	173.	456.	595.	401.	134.	672.30
0.52	1.00	6.65	1.32	0.150	0.045	0.150	0.049	669.50	54.33
0.001163	50.	50.	50.	2	0	0	0.00	141.80	196.14

1490 NH CARD USED
*SECNO 7924.000

3470 ENCROACHMENT STATIONS= 500.0 1800.0 TYPE= 1 TARGET= 1300.000

55 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION BB)

7924.00	16.02	685.83	0.00	685.74	685.87	0.03	0.26	0.13	671.80
4060.	658.	1624.	1779.	1271.	809.	1860.	441.	133.	671.50
0.63	0.52	2.01	0.96	0.069	0.065	0.066	0.043	669.80	500.00
0.000213	550.	550.	550.	2	0	0	0.00	1300.00	1800.00

1490 NH CARD USED
*SECNO 9024.000

3470 ENCROACHMENT STATIONS= 640.0 2215.0 TYPE= 1 TARGET= 1575.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION DD)

9024.00	16.08	686.08	0.00	686.00	686.09	0.02	0.22	0.01	672.10
4060.	610.	564.	2886.	1691.	323.	3316.	550.	169.	672.10
0.97	0.36	1.74	0.87	0.095	0.060	0.063	0.068	670.00	640.00
0.000191	1100.	1100.	1100.	2	0	0	0.00	1575.00	2215.00

1490 NH CARD USED.
*SECNO 10054.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 1190.0 2685.0 TYPE= 1 TARGET= 1495.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

10054.00	16.32	686.32	0.00	686.25	686.35	0.03	0.25	0.03	672.10
4060.	2061.	797.	1203.	2485.	326.	840.	664.	199.	672.10
1.18	0.85	2.43	1.45	0.087	0.065	0.061	0.048	670.00	1190.00
0.000313	1030.	1030.	1030.	2	0	0	0.00	1005.73	2685.00

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****

LECP RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORT - 01
MODIFICATION - 50,51,52

****

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

SALINE R. YILAN TWP.

SUMMARY PRINTOUT TABLE 110

SECNO	CUSEL	DEPWS	EG	TOPWID	ALOB	HCH	VPOW	PERENC	STENCL	STCHL	STCHR	STENCR
0.000	677.83	0.00	678.07	1172.55	1907.11	2108.35	44.54	0.00	0.00	1083.00	1117.00	0.00
0.000	677.33	0.00	678.03	1059.19	2052.80	2007.20	0.00	0.03	57.82	1083.00	1117.00	1117.00
810.000	678.40	0.00	678.37	1603.75	1520.63	1902.98	636.62	0.20	0.00	744.00	776.00	0.00
810.000	678.42	0.02	678.60	1330.98	1504.39	1958.39	598.72	0.37	64.15	744.00	776.00	1395.13
2260.000	679.56	0.00	679.77	1476.38	1533.51	1721.37	805.12	0.00	0.00	327.00	353.00	0.00
2260.000	679.64	0.07	679.86	1294.16	1507.25	1755.51	797.24	0.06	29.60	327.00	353.00	1323.76
3360.000	680.59	0.00	680.76	1368.67	565.33	2401.27	1073.41	0.00	0.00	1450.00	1502.00	0.00
3360.000	680.60	0.00	680.86	1131.91	553.64	2438.61	1067.55	0.03	1072.12	1450.00	1502.00	2204.03
4785.000	681.26	0.00	681.67	1291.59	978.28	2984.14	97.58	0.00	0.00	1980.00	2020.00	0.00
4785.000	681.36	0.09	681.77	777.53	994.52	3018.98	46.51	0.03	1248.49	1980.00	2020.00	2026.02
6330.000	683.07	0.00	683.67	500.00	661.54	2753.31	665.15	500.00	1750.00	1967.00	2013.00	2250.00
6330.000	683.16	0.08	683.73	500.00	673.75	2727.31	656.93	500.00	1750.00	1967.00	2013.00	2250.00
7080.000	684.15	0.00	684.81	126.15	213.73	3515.97	330.30	0.00	0.00	64.00	100.00	0.00
7080.000	684.19	0.05	684.88	110.92	195.38	3554.95	309.66	0.01	47.60	64.00	100.00	158.52
7180.000	684.85	0.00	685.04	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7180.000	684.92	0.07	685.11	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7181.000	684.83	0.00	685.06	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7181.000	684.90	0.07	685.13	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7227.000	684.86	0.00	685.09	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7227.000	684.96	0.00	685.16	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7228.000	684.92	0.00	685.11	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7228.000	684.99	0.07	685.18	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7276.000	684.94	0.00	685.13	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7276.000	685.02	0.07	685.20	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7277.000	684.93	0.00	685.15	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7277.000	685.00	0.07	685.22	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00

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SECNO	CUSEL	DIFKUS	EG	TOPWID	GLOB	OCH	OROL	PERENC	STENCL	STCHL	STCHR	STENCR
7323.000	604.96	0.00	685.18	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7323.000	605.05	0.09	685.27	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7324.000	605.01	0.00	685.20	114.00	0.00	4060.00	0.00	0.00	0.00	1.00	115.00	0.00
7324.000	605.10	0.09	685.28	114.00	0.00	4060.00	0.00	0.00	1.00	1.00	115.00	115.00
7376.000	684.88	0.00	685.40	199.86	200.62	3052.69	798.68	0.00	0.00	84.00	116.00	0.00
7376.000	684.97	0.08	685.49	201.80	196.86	3002.26	765.05	0.00	54.33	84.00	116.00	196.14
7924.000	685.74	0.00	685.78	1300.00	627.33	1655.28	1777.18	1300.00	500.00	1354.10	1408.40	1800.00
7924.000	685.83	0.09	685.87	1300.00	657.56	1623.78	1778.66	1300.00	500.00	1354.10	1408.40	1800.00
9024.000	606.00	0.00	686.02	1575.00	594.29	576.09	2888.83	1575.00	660.00	1629.00	1450.00	2215.00
9024.000	614.08	0.08	686.09	1575.00	610.07	584.16	2305.77	1575.00	660.00	1629.00	1450.00	2215.00
10054.000	666.25	0.00	686.29	995.39	2050.85	805.69	1203.53	1495.00	1190.00	2529.00	2550.00	2685.00
10054.000	666.32	0.06	686.35	1005.73	2061.05	796.79	1202.16	1495.00	1190.00	2529.00	2550.00	2685.00

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SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

QGOND	XLOI	ELTRD	ELLC	ELMIN	Q	QUSEL	QPIAS	EG	TOPWS	VCH	AREA	.01C
0.000	0.00	0.00	0.00	664.00	4060.00	677.63	0.00	678.07	10.31	5.37	3468.68	1264.43
0.000	0.00	0.00	0.00	664.60	4060.00	677.83	0.00	678.03	13.21	5.11	3230.26	1117.13
510.000	610.00	0.00	0.00	664.30	4060.00	676.40	0.00	676.57	7.35	4.76	4372.97	1697.37
510.000	610.00	0.00	0.00	664.30	4060.00	676.42	0.00	676.60	7.73	4.79	4053.86	1460.44
2265.000	1650.00	0.00	0.00	666.20	4060.00	679.56	0.00	679.77	10.86	5.57	3656.15	1232.22
2265.000	1650.00	0.00	0.00	666.20	4060.00	679.64	0.00	679.86	11.06	5.64	3486.91	1220.90
3660.000	1407.00	0.00	0.00	666.00	4060.00	680.59	0.00	680.76	5.53	4.23	4111.44	1727.25
3660.000	1400.00	0.00	0.00	666.00	4060.00	680.68	0.00	680.86	5.54	4.27	3851.22	1719.44
4785.000	1125.00	0.00	0.00	667.20	4060.00	681.26	0.00	681.47	11.48	5.97	2507.85	1198.33
4785.000	1125.00	0.00	0.00	667.20	4060.00	681.36	0.00	681.77	11.46	6.00	2219.16	1199.52
6330.000	1545.00	0.00	0.00	667.10	4060.00	683.07	0.00	683.67	16.05	7.51	1611.86	1015.16
6330.000	1545.00	0.00	0.00	667.10	4060.00	683.17	0.00	683.73	15.40	7.39	1552.27	1034.62
7080.000	750.00	0.00	0.00	669.60	4060.00	684.15	0.00	684.61	13.67	7.04	988.63	1098.24
7080.000	750.00	0.00	0.00	669.80	4060.00	684.19	0.00	684.88	13.82	7.10	948.84	1092.29
7160.000	120.00	0.00	0.00	670.40	4060.00	684.65	0.00	685.04	5.41	3.51	1156.62	1745.56
7160.000	200.00	0.00	0.00	670.40	4060.00	684.92	0.00	685.11	5.48	3.49	1164.97	1735.13
7169.000	1.00	689.00	685.00	670.40	4060.00	684.83	0.00	685.06	7.34	3.85	1055.27	1498.64
7169.000	1.00	689.00	685.00	670.40	4060.00	684.90	0.00	685.13	7.40	3.81	1064.30	1492.64
7227.000	46.00	689.00	685.00	670.40	4060.00	684.86	0.00	685.09	7.27	3.84	1058.41	1505.95
7227.000	46.00	689.00	685.00	670.40	4060.00	684.94	0.00	685.16	7.34	3.80	1066.79	1498.07
7228.000	1.00	0.00	0.00	670.40	4060.00	684.92	0.00	685.11	5.29	3.49	1164.11	1764.67
7228.000	1.00	0.00	0.00	670.40	4060.00	684.99	0.00	685.18	5.36	3.46	1172.63	1752.88
7276.000	48.00	0.00	0.00	670.40	4060.00	684.94	0.00	685.13	5.24	3.48	1167.56	1773.28
7276.000	48.00	0.00	0.00	670.40	4060.00	685.02	0.00	685.20	5.32	3.45	1175.47	1759.66
7277.000	1.00	689.00	685.00	670.40	4060.00	684.93	0.00	685.15	7.09	3.81	1066.50	1524.96
7277.000	1.00	689.00	685.00	670.40	4060.00	685.00	0.00	685.22	6.95	3.78	1072.85	1539.92
7323.000	46.00	689.00	685.00	670.40	4060.00	684.96	0.00	685.18	7.04	3.80	1068.50	1529.65
7323.000	46.00	689.00	685.00	670.40	4060.00	685.05	0.00	685.27	96.26	3.78	1074.13	1006.83
7324.000	1.00	0.00	0.00	670.40	4060.00	685.01	0.00	685.20	5.14	3.46	1174.74	1791.24
7324.000	1.00	0.00	0.00	670.40	4060.00	685.10	0.00	685.28	5.19	3.43	1184.99	1781.66
7374.000	50.00	0.00	0.00	669.50	4060.00	684.68	0.00	685.40	11.38	6.59	1302.87	1203.72
7374.000	50.00	0.00	0.00	669.50	4060.00	684.97	0.00	685.49	11.43	6.63	1234.05	1201.06
7924.000	550.00	0.00	0.00	669.80	4060.00	685.74	0.00	685.78	2.25	2.06	3822.23	2704.12
7924.000	550.00	0.00	0.00	669.80	4060.00	685.83	0.00	685.87	2.13	2.01	3940.62	2784.90
9024.000	1100.00	0.00	0.00	670.30	4060.00	686.00	0.00	686.02	2.03	1.79	5210.52	2852.44
9024.000	1100.00	0.00	0.00	670.00	4060.00	686.08	0.00	686.09	1.91	1.74	5330.49	2940.86

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SECNO	XLCH	FLTRD	ELLC	ELMIN	Q	CUSEL	CRINS	EG	TDK*S	VCP	AREA	.01K
10054.000	1030.00	0.00	0.00	670.00	4060.00	686.25	0.00	686.29	3.25	2.46	3589.67	2253.16
10056.000	1030.00	0.00	0.00	670.00	4060.00	678.32	0.00	663.35	3.13	2.43	3653.18	2293.64

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FORM 1411.0g PRINTED BY ROTARY MANIFOLD FORMS.

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SLCNO	R	C.SEL	DIFMSP	DIFMSN	DIFKMS	TCPMID	XLCH
0.000	4060.00	677.33	0.00	0.00	0.00	1972.55	0.00
0.000	4060.00	677.83	0.00	0.00	0.00	1059.19	0.00
610.000	4060.00	678.40	0.00	0.57	0.00	1603.75	610.00
610.000	4060.00	678.42	0.00	0.59	0.02	1330.93	610.00
2260.000	4060.00	679.56	0.00	1.16	0.00	1476.38	1650.00
2260.000	4060.00	679.64	0.00	1.22	0.07	1294.16	1650.00
3660.000	4060.00	680.59	0.00	1.03	0.00	1368.67	1400.00
3660.000	4060.00	680.69	0.00	1.05	0.00	1131.91	1400.00
4785.000	4060.00	681.26	0.00	0.67	0.00	1291.39	1125.00
4785.000	4060.00	681.36	0.00	0.67	0.09	777.53	1125.00
6330.000	4060.00	683.07	0.00	1.01	0.00	900.00	1545.00
6330.000	4060.00	683.17	0.00	1.00	0.08	900.00	1545.00
7080.000	4060.00	684.15	0.00	1.07	0.00	126.15	750.00
7080.000	4060.00	684.19	0.00	1.04	0.05	110.92	750.00
7180.000	4060.00	684.85	0.00	0.75	0.00	114.00	100.00
7180.000	4060.00	684.92	0.00	0.73	0.07	114.00	100.00
7181.000	4060.00	684.83	0.00	-0.02	0.00	114.00	1.00
7181.000	4060.00	684.90	0.00	-0.02	0.07	114.00	1.00
7227.000	4060.00	684.86	0.00	0.04	0.00	114.00	46.00
7227.000	4060.00	684.94	0.00	0.04	0.00	114.00	46.00
7228.000	4060.00	684.92	0.00	0.05	0.00	114.00	1.00
7228.000	4060.00	684.99	0.00	0.05	0.07	114.00	1.00
7276.000	4060.00	684.94	0.00	0.03	0.00	114.00	48.00
7276.000	4060.00	685.02	0.00	0.03	0.07	114.00	48.00
7277.000	4060.00	684.93	0.00	-0.02	0.00	114.00	1.00
7277.000	4060.00	685.00	0.00	-0.02	0.07	114.00	1.00
7323.000	4060.00	684.96	0.00	0.03	0.00	114.00	46.00
7323.000	4060.00	685.05	0.00	0.05	0.09	114.00	46.00
7324.000	4060.00	685.01	0.00	0.05	0.00	114.00	1.00
7324.000	4060.00	685.10	0.00	0.05	0.09	114.00	1.00
7374.000	4060.00	684.68	0.00	-0.13	0.00	199.86	50.00
7374.000	4060.00	684.97	0.00	-0.13	0.09	141.80	50.00
7924.000	4060.00	685.74	0.00	0.86	0.00	1300.00	550.00
7924.000	4060.00	685.83	0.00	0.87	0.09	1300.00	550.00
9024.000	4060.00	686.03	0.00	0.26	0.00	1575.00	1100.00
9024.000	4060.00	686.08	0.00	0.24	0.08	1575.00	1100.00

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SECNO	Q	CHSEL	DIFNSP	DIFNSX	DIFKNS	TOPWID	XLCH
10054.000	4060.00	686.25	0.00	0.25	0.00	995.39	1030.00
10034.000	4060.00	686.32	0.00	0.24	0.00	1033.75	1030.00

SUMMARY OF ERRORS

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FLOODWAY DATA, SALINE R. MILAN TWP.
PROFILE NO. 2

STATION	WIDTH (FT)	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
0.000	1059.	3930.	1.3	677.8	677.8	0.0
660.000	1331.	4254.	1.0	679.4	678.4	0.0
2250.000	1264.	3407.	1.2	679.7	679.6	0.1
3660.000	1132.	3851.	1.1	680.7	680.6	0.1
4705.000	778.	2219.	1.8	681.4	681.3	0.1
6330.000	500.	1852.	2.2	683.2	683.1	0.1
7060.000	111.	949.	4.3	684.1	684.[illegible]	0.[illegible]
7162.000	114.	1165.	3.5	684.9	684.8	0.1
7191.000	114.	1064.	3.8	684.9	684.7	0.1
7227.000	114.	1067.	3.8	685.0	684.9	0.1
7228.000	114.	1173.	3.5	685.0	684.9	0.1
7276.000	114.	1175.	3.5	685.0	684.9	0.1
7277.000	114.	1179.	3.3	685.0	684.9	0.1
7323.000	114.	1174.	3.5	685.1	685.0	0.1
7324.000	114.	1185.	3.4	685.1	685.0	0.1
7374.000	142.	1234.	3.3	685.0	684.9	0.1
7924.000	1300.	3941.	1.0	685.8	685.7	0.1
9024.000	1575.	5330.	0.8	686.1	686.0	0.1
10054.000	1076.	3653.	1.1	686.4	686.3	0.1

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 REC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 CHRON CORR -  01
 MODIFICATION -  50,51,52
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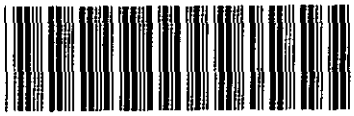

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: 100yr Natural



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 3660.00    14.59   680.59     0.00     0.00   680.76     0.17     0.98     0.00   668.80
   4060.     585.    2401.    1073.    1245.     567.    2299.     259.      90.   670.00
    0.33     0.47     4.23     0.47    0.150    0.045    0.150    0.051   666.00  1004.09
0.000533    1200.    1400.    1200.        2        0        0     0.00  1368.67  2372.75

FLOW DISTRIBUTION FOR SECNO=   3660.00          CWSEL=    680.59

STA=    1004.    1030.    1445.    1450.    1502.    1509.    1800.    2200.    2373.
  PER Q=      0.2     12.4      1.3     59.1      0.9     12.0     11.2      1.5
   AREA=     33.6   1116.9     94.3    587.2     51.7    986.9   1036.5    223.8
    VEL=      0.3      0.5      0.9      4.2      0.7      0.5      0.4      0.3

*SECNO 4785.000
   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      LTW      FLTIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IHZ      ICONT    CORAR    TOPWID     ENDST

          VALLEY #5

 4785.00    14.06   681.26     0.00     0.00   681.67     0.61     0.86     0.07   670.00
   4060.     970.    2984.      98.    1850.     500.     158.     338.     121.   670.70
    0.40     0.53     5.97     0.62    0.150    0.045    0.150    0.050   667.20   877.36
0.001148     900.    1125.    1200.        2        0        0     0.00  1291.59  2168.95

FLOW DISTRIBUTION FOR SECNO=   4785.00          CWSEL=    681.26

STA=     877.     950.    1500.    1967.    1980.    2020.    2025.    2042.    2169.
  PER Q=      0.0      6.7     15.1      2.3     73.5      1.1      1.0      0.3
   AREA=      9.6    695.3   1057.4     87.9    499.6     40.6     56.3     61.2
    VEL=      0.1      0.4      0.5      1.1      6.0      1.1      0.7      0.2

*SECNO 6330.000

3470 ENCROACHMENT STATIONS=    1750.0    2250.0  TYPE=     1  TARGET=     500.000

          VALLEY #6

 6330.00    15.97   683.07     0.00     0.00   683.67     0.60     1.94     0.06   671.00
   4060.     662.    2753.     645.     701.     567.     744.     401.     146.   670.70
    0.47     0.94     7.51     0.87    0.150    0.045    0.150    0.049   667.10  1750.00
0.001630    1200.    1545.    1200.        2        0        0     0.00   500.00  2250.00

FLOW DISTRIBUTION FOR SECNO=   6330.00          CWSEL=    683.07

STA=    1750.    1935.    1951.    1973.    1987.    2013.    2026.    2250.
  PER Q=      6.4      1.3      3.6      4.9     67.8      3.3     12.6
   AREA=    398.2     58.1    119.5    125.0    366.7     99.2    645.1
    VEL=      0.7      0.9      1.2      1.6      7.5      1.3      0.8

CCHV=   0.300 CEHV=   0.500
*SECNO 7080.000

          VALLEY #3 100 FT D/S OF US-23

 7080.00    14.34   684.15     0.00     0.00   684.81     0.67     1.11     0.04   670.70
   4060.     214.    3516.     330.     177.     499.     312.     425.     152.   670.80
    0.80     1.21     7.04     1.06    0.150    0.045    0.150    0.049   669.80    37.67
```

0.001367	750.	750.	750.	2	0	0	0.00	126.15	163.83

FLOW DISTRIBUTION FOR SECNO= 7080.00 - CHSEL= 684.15

STA=	38.	64.	100.	112.	161.	164.
PER Q=	5.3	86.6	3.6	4.7	0.0	
AREA=	177.0	499.3	104.3	206.3	1.7	
VEL=	1.2	7.0	1.3	0.9	0.2	

*SECNO 7180.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF N. BOUND US-23

7180.00	14.45	684.35	0.00	0.00	685.04	0.19	0.06	0.14	686.20
4060.	0.	4060.	0.	0.	1156.	0.	428.	152.	682.20
0.51	0.00	3.51	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000541	100.	100.	100.	2	0	0	0.00	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7180.00 CHSEL= 684.85

STA= 1. 115.

PER Q=	100.0
AREA=	1156.4
VEL=	3.5

*SECNO 7181.000

3570 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7181.00	14.43	684.03	0.00	0.00	685.06	0.23	0.00	0.02	684.20
4060.	0.	4060.	0.	0.	1055.	0.	428.	152.	682.20
0.51	0.00	3.85	0.00	0.150	0.049	0.150	0.049	670.40	1.00
0.000734	1.	1.	1.	2		0	-98.90	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7181.00 CHSEL= 684.83

STA= 1. 115.

PER Q=	100.0
AREA=	1055.3
VEL=	3.8

*SECNO 7227.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
M	QLOT	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WPN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IHP	ICONT	CORAR	TOPWID	ENDST

3570 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 689.00 MAX ELLC= 685.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7227.00	14.48	684.68	0.00	0.00	685.39	0.23	0.03	0.00	684.20

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4060.	0.	4060.	0.	0.	1558.	0.	429.	152.	682.20
0.52	0.00	3.84	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000727	46.	46.	46.	0	0	0	-99.13	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7227.00 CWSEL= 684.66

STA= 1. 115.
PER Q= 100.0
AREA= 1056.4
VEL= 3.8

*SECNO 7228.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7228.00	14.52	684.92	0.00	0.00	685.11	0.19	0.00	0.01	684.20
4060.	0.	4060.	0.	0.	1164.	0.	429.	152.	682.20
0.52	0.00	3.49	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000529	1.	1.	1.	2	0	0	0.00	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7228.00 CWSEL= 684.92

STA= 1. 115.
PER Q= 100.0
AREA= 1164.1
VEL= 3.5

*SECNO 7276.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7276.00	14.54	684.94	0.00	0.00	685.13	0.19	0.03	0.00	684.20
4060.	0.	4060.	0.	0.	1168.	0.	430.	152.	682.20
0.52	0.00	3.48	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000524	48.	48.	48.	0	0	0	0.00	114.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7276.00 CWSEL= 684.94

STA= 1. 115.
PER Q= 100.0
AREA= 1167.6
VEL= 3.5

*SECNO 7277.000

3370 NORMAL BRIDGE,NRD= 93 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7277.00	14.53	684.93	0.00	0.00	685.15	0.23	0.00	0.02	684.20
4060.	0.	4060.	0.	0.	1167.	0.	430.	152.	682.20
0.52	0.00	3.48	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000709	1.	1.	1.	1	0	0	-99.72	114.00	115.00

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FLOW DISTRIBUTION FOR SECNO= 7277.00 CWSEL= 684.93

STA= 1. 115.
PER Q= 100.0
AREA= 1056.5
VEL= 3.3

*SECNO 7323.000

3393 NORMAL BRIDGE,XSD= 13 MIN ELTRD= 689.00 MAX ELLO= 665.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7323.00	14.56	684.96	0.00	0.00	685.18	0.22	0.03	0.00	684.20	
4060.	0.	4060.	0.	0.	1068.	0.	431.	152.	682.23	
0.52	0.00	3.60	0.00	0.150	0.045	0.150	0.049	670.40	1.00	
0.000704	46.	46.	46.	0	0	0	-99.00	116.00	115.00	

FLOW DISTRIBUTION FOR SECNO= 7323.00 CWSEL= 684.96

STA= 1. 115.
PER Q= 100.0
AREA= 1068.5
VEL= 3.8

*SECNO 7324.000

SECNO	DEPTH	CWSEL	CRIWS	WSELR	EG	FV	HL	OLOSS	TOPWIDTH ELEV LEFT/RIGHT
Q	0.00	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	PTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

J/S FACE OF S. BOUND US-23

7324.00	14.61	685.09	0.00	0.00	685.20	0.19	0.00	0.01	684.20
4060.	0.	4060.	0.	0.	1175.	0.	431.	152.	682.28
0.52	0.00	3.46	0.00	0.150	0.045	0.150	0.049	670.40	1.00
0.000514	1.	1.	1.	2	0	0	0.00	116.00	115.00

FLOW DISTRIBUTION FOR SECNO= 7324.00 CWSEL= 685.09

STA= 1. 115.
PER Q= 100.0
AREA= 1174.7
VEL= 3.5

*SECNO 7574.000

50 FT U/S US-23 CORP. BOUNDARY

7574.00	15.38	686.00	0.00	0.00	685.40	0.51	0.04	0.16	670.64
4060.	209.	3053.	799.	234.	465.	605.	433.	152.	672.00
0.52	0.09	6.39	1.32	0.150	0.045	0.150	0.049	669.50	0.12
0.001138	50.	50.	50.	2	0	0	0.00	199.86	199.98

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FLOW DISTRIBUTION FOR SECNO=   7374.00          CWSEL=    684.88

STA=        0.      53.      72.      84.     116.     121.     138.     154.     199.     200.
  PER Q=      0.6      1.0      3.6     75.2      2.4      7.8      4.2      5.3      0.0
   AREA=     61.9     58.6    113.6    463.5     58.9    189.3    132.5    222.0      2.4
    VEL=      0.4      0.7      1.3      6.6      1.5      1.7      1.3      1.0      0.2

1490 NH CARD USED
*SECNO 7924.000

3470 ENCROACHMENT STATIONS=     300.0    1800.0  TYPE=     1  TARGET=    1300.000

          550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION BB)

  7924.00    15.94   685.74     0.00     0.00   685.78     0.03     0.24     0.14   671.50
    4060.     628.    1655.    1777.    1194.     804.    1824.     465.     162.   671.50
     0.64     0.53     2.06     1.97    0.069    0.065    0.066    0.048   669.80   500.00
 0.000225     550.     550.     550.        2        0        0     0.00  1300.00  1600.00

FLOW DISTRIBUTION FOR SECNO=   7924.00          CWSEL=    685.74

STA=      500.    1040.    1300.    1354.    1400.    1426.    1500.    1700.    1800.
  PER Q=      4.3      3.8      7.4     40.0      6.8     11.7     19.6      1.7
   AREA=    560.5    351.3    281.4    804.1    174.3    409.0    908.4    322.7
    VEL=      0.3      0.4      1.1      2.1      1.6      1.2      0.9      0.7

1490 NH CARD USED
*SECNO 9024.000

3470 ENCROACHMENT STATIONS=     640.0    2215.0  TYPE=     1  TARGET=    1575.000

          VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION B)

  9024.00    16.00   686.00     0.00     0.00   686.02     0.02     0.23     0.01   672.10
    4060.     594.     577.    2809.    1631.     322.    3258.     579.     198.   672.10
     0.97     0.36     1.79     0.89    0.095    0.060    0.063    0.048   670.00   640.00
 0.000203    1100.    1100.    1100.        2        0        0     0.00  1575.00  2215.00

FLOW DISTRIBUTION FOR SECNO=   9024.00          CWSEL=    686.00

STA=      640.    1420.    1429.    1450.    1456.    1508.    2215.
  PER Q=     12.9      1.8     14.2      2.0      4.9     64.2
   AREA=   1559.4     71.5    321.7     63.3    296.4   2898.2
    VEL=      0.3      1.0      1.8      1.3      0.7      0.9

1490 NH CARD USED
*SECNO 10054.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=    1190.0    2685.0  TYPE=     1  TARGET=    1495.000

          VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

 10054.00    16.25   686.25     0.00     0.00   686.29     0.03     0.26     0.01   672.10
    4060.    2051.     806.    1204.    2431.     327.     832.     683.     229.   672.10
     1.18     0.84     2.46     1.45    0.087    0.065    0.061    0.048   670.00  1190.00
 0.000325    1030.    1030.    1030.        2        0        0     0.00   995.39  2685.00

FLOW DISTRIBUTION FOR SECNO=  10054.00          CWSEL=    686.25
```

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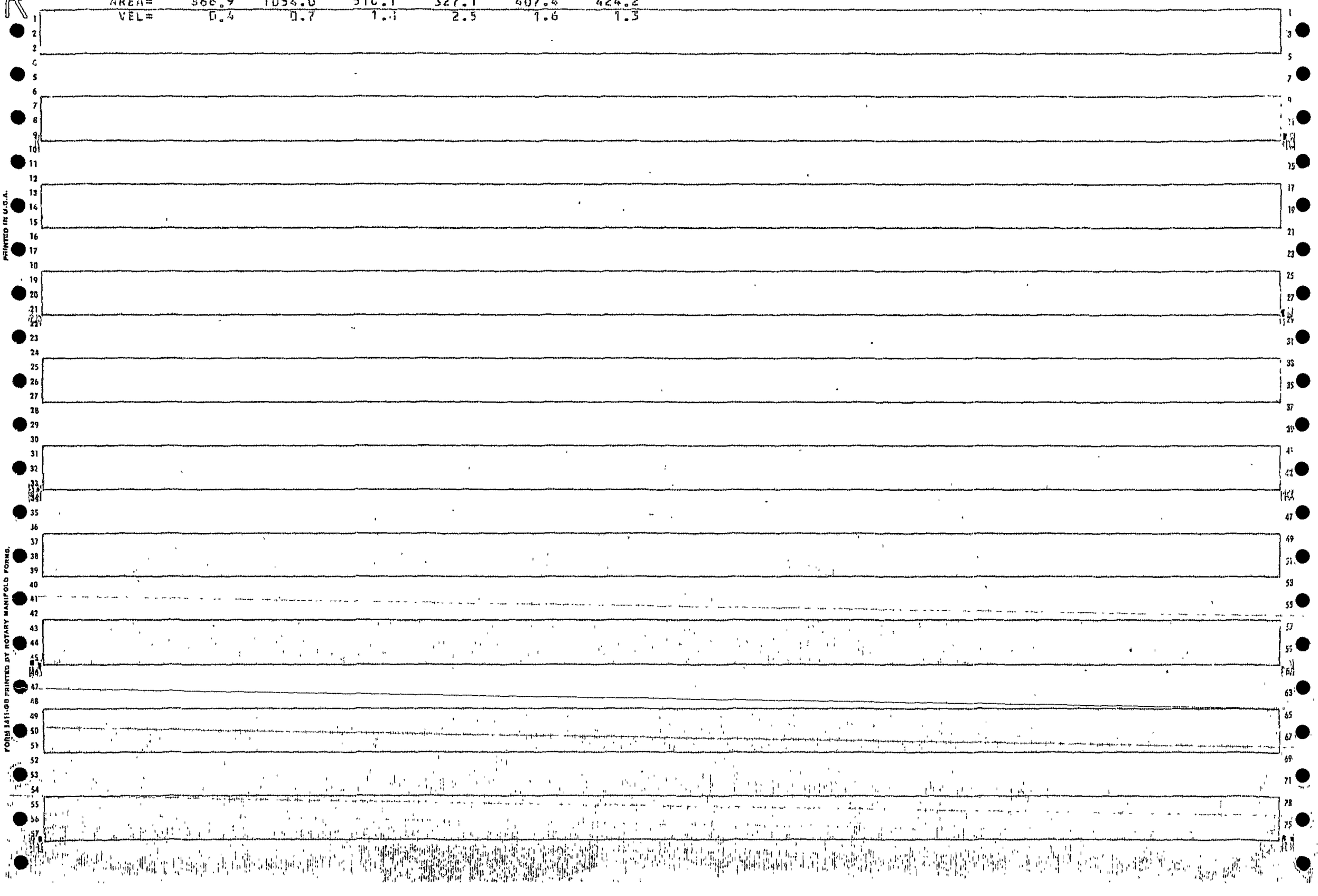
FORM 1411-GD PRINTED BY ROTARY MANIFOLD FORMS.

STA= 1190. 2250. 2479. 2529. 2550. 2606. 2605.
PER Q= 0.9 19.2 22.4 19.8 15.9 13.0
AREA= 366.9 1054.0 510.1 327.1 407.4 424.2
VEL= 0.4 0.7 1.1 2.5 1.6 1.3



PRINTED IN U.S.A.
FORM 3411-GB PRINTED BY ROTARY MANIFOLD FORMS.

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp

3) WATERCOURSE: Saline Twp.

4) DOCUMENT TYPE: 1979 Flood

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**********************************************************
     FEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
     ERROR CORR -  01
     MODIFICATION -  50,51,52
**********************************************************

C
T1 SALINE RIVER MILAN TWP HUD 2020 07
T2SALINE RIVER HIGH WATER MARK, 674.2 AT SHERMAN ROAD BRIDGE
T3       SALINE R. MILAN TWP.

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     MVINS      Q          HSEL       FQ
          0.         2.         0.         0.  0.020500       0.00       0.0        0.    672.500      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

NC       0.150      0.150      0.045      0.100      0.300      0.000      0.000      0.000      0.000      0.000
GT       3.000   1180.000   1180.000   1130.000      0.000      0.000      0.000      0.000      0.000      0.000


          3000' D/S SHERMAN

X1       0.000     10.000    978.000   1022.000      0.000      2.000      0.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    215.000      0.000   1785.000      0.000      0.000      0.000      0.000
GR     675.000      0.000    672.000    700.000    672.000    500.000    672.000    900.000    670.000    970.000
GR     668.000    978.000    663.500   1000.000    666.000   1022.000    670.000   1031.000    672.000   1100.000
GR     672.000   1500.000    672.000   1900.000    675.000   2000.000      0.000      0.000      0.000      0.000


X1       1.000      0.000      0.000      0.000   1000.000   1000.000   1000.000      0.000      0.500      0.000
X3       0.000      0.000      0.000    465.000      0.000   1535.000      0.000      0.000      0.000      0.000


          VALLEY 500' D/S SHERMAN

X1       2.000     11.000    978.000   1022.000   1600.000   1300.000   1530.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    640.000      0.000   1160.000      0.000      0.000      0.000      0.000
GR     677.000    300.000    673.000    400.000    673.000    800.000    672.500    970.000    667.500    978.000
GR     665.000   1000.000    667.500   1022.000    672.500   1031.000    673.000   1100.000    673.000   1600.000
GR     677.000   1500.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
NC       0.000      0.000      0.000      0.300      0.300      0.000      0.000      0.300      0.000      0.000


          D/S FACE SHERMAN

X1       3.000     13.000    964.500   1035.500    500.000    500.000    500.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    365.000      0.000   1250.000      0.000      0.000      0.000      0.000
X3      10.000      0.000      0.000      0.000      0.000      0.000      0.000    674.500    674.900      0.000
GR     677.000    300.000    674.500    400.000    675.800    500.000    674.100    600.000    674.500    800.000
GR     675.000    900.000    674.000    951.000    667.700    964.500    667.700    964.600    667.700    981.000
GR     665.200   1000.000    667.200   1019.000    667.200   1035.400    667.200   1035.500    675.000   1050.000
GR     674.900   1200.000    675.300    550.000    677.000   1400.000      0.000      0.000      0.000      0.000
NC       0.000      0.000      0.030      0.030      0.000      0.030      0.000      0.000      0.000      0.000


X1       3.100      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    674.500    674.900      0.000
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ST	18.000	300.000	677.000	0.300	400.000	674.500	0.000	500.300	673.800	0.000
ST	600.000	674.100	0.000	800.000	674.500	0.000	900.000	675.000	0.300	951.000
ST	676.300	0.000	964.500	677.800	0.000	964.600	677.800	676.300	981.000	677.800
ST	676.300	1000.000	677.800	676.300	1019.000	677.300	676.300	1035.400	677.800	676.300
ST	1035.500	677.000	0.000	1050.300	675.600	0.000	1270.500	674.900	0.300	1350.000
ST	675.300	0.000	1400.000	677.300	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.900	0.000	0.000	0.300	18.000	16.000	18.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.300	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.300	0.000	0.000	0.300	674.500	674.500	0.000
NC	0.000	0.000	0.045	0.300	0.000	0.000	0.300	0.300	0.000	0.000

U/S FACE SHERMAN

X1	6.200	0.000	0.000	0.300	1.000	1.000	1.000	0.300	0.300	0.000
X3	10.000	0.000	0.000	0.300	0.000	0.000	0.300	674.300	674.500	0.000

100' U/S SHERMAN

X1	7.530	0.700	0.000	0.300	100.000	100.000	130.300	0.300	0.300	0.000
X3	0.300	0.000	0.000	865.000	0.000	1135.000	0.300	0.000	0.000	0.000
NC	0.150	0.150	0.045	0.300	0.300	0.000	0.300	0.000	0.000	0.000

CORP. BOUND.-STARTING SEC.

X1	8.000	13.000	1053.050	1117.000	1400.000	1000.000	1100.000	0.000	0.000	0.000
GR	630.300	0.000	675.200	1.000	675.200	900.000	675.200	900.000	674.900	1011.000
GR	674.300	1040.000	674.300	1062.000	667.800	1083.000	666.800	1100.000	667.700	1117.000
GR	677.200	1127.000	678.200	1200.000	679.400	1400.000	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

FORM 1411-GC PRINTED BY ECTARY MANIFOLD FORMS.

*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO ****

SECNO	DEPTH	CHSEL	CRIWS	HSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TRA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 215.0 1785.0 TYPE= 1 TARGET= 1570.000

3000' D/S SHERMAN

0.30	9.00	672.50	0.00	672.50	672.51	0.1[illegible]	[illegible].00	[illegible].00	666.00
1100.	98.	981.	101.	404.	341.	466.	0.	0.	656.30
0.10	0.20	2.80	0.21	0.150	0.045	0.150	0.000	663.50	215.00
0.000499	0.	0.	0.	0	0	0	0.00	1570.00	1785.00

*SECNO 1.000

3470 ENCROACHMENT STATIONS= 665.0 1535.0 TYPE= 1 TARGET= 1070.000

1.00	9.01	673.01	0.00	0.00	673.12	0.12	0.51	0.00	666.50
1100.	83.	1011.	86.	358.	341.	361.	27.	30.	666.50
0.11	0.23	2.97	0.24	0.150	0.045	0.150	0.045	664.00	665.00
0.000530	1000.	1000.	1000.	3	0	0	0.00	1070.00	1535.00

*SECNO 2.000

3470 ENCROACHMENT STATIONS= 860.0 1160.0 TYPE= 1 TARGET= 320.000

VALLEY 500' D/S SHERMAN

2.00	8.85	673.85	0.00	0.00	674.00	0.14	0.86	0.01	667.50
1180.	58.	1071.	51.	182.	335.	162.	57.	53.	667.50
0.25	0.32	3.20	0.32	0.150	0.045	0.150	0.045	665.00	840.00
0.000634	1600.	1500.	1300.	2	1	0	0.00	320.00	1160.00

CCHV= 0.300 CEHV= 0.500

*SECNO 3.000

3470 ENCROACHMENT STATIONS= 365.0 1250.0 TYPE= 1 TARGET= 865.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 674.50 ELREA= 674.90

D/S FACE SHERMAN

3.00	8.98	674.16	0.00	0.00	674.26	0.08	0.24	0.02	667.70
1180.	0.	1180.	0.	0.	520.	0.	53.	56.	667.20
0.31	0.00	2.27	0.00	0.150	0.045	0.150	0.045	665.20	964.50
0.000373	500.	500.	500.	2	0	0	0.00	71.00	1035.50

*SECNO 3.100

SECNO	DEPTH	CHSEL	CRIWS	HSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TRA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ENDST

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3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  673.80 MAX ELLC=  676.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       674.50 ELREA=       674.90

     3.10      8.93    674.18      0.00      0.00    674.26      0.08      0.00      0.00    667.70
    1180.        0.     1180.        0.        0.      520.        0.       63.       56.    667.20
     0.31      0.00      2.27      0.00     0.150     0.030     0.150     0.045    665.20    964.50
 0.000166        1.        1.        1.         0         0         0    -45.53     71.00   1035.50

*SECNO 3.900

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  673.80 MAX ELLC=  676.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       674.50 ELREA=       674.50

     3.90      8.98    674.18      0.00      0.00    674.26      0.08      0.00      0.00    667.70
    1180.        0.     1180.        0.        0.      520.        0.       64.       56.    667.20
     0.31      0.00      2.27      0.00     0.150     0.030     0.150     0.045    665.20    964.50
 0.000166       18.       18.       18.         0         0         0    -45.64     71.00   1035.50

*SECNO 4.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       674.50 ELREA=       674.50

        U/S FACE SHERMAN

     4.00      8.90    674.18      0.00      0.00    674.26      0.08      0.00      0.00    667.70
    1180.        0.     1180.        0.        0.      521.        0.       64.       56.    667.20
     0.31      0.00      2.27      0.00     0.150     0.045     0.150     0.045    665.20    964.50
 0.000373        1.        1.        1.         0         0         0      0.00     71.00   1035.50

*SECNO 7.000

3470 ENCROACHMENT STATIONS=      865.0    1135.0  TYPE=      1  TARGET=      270.000

        100' U/S SHERMAN

     7.00      9.02    674.22      0.00      0.00    674.29      0.07      0.03      0.00    667.70
    1180.       17.     1146.       17.       47.      523.       46.       65.       56.    667.20
     0.33      0.36      2.19      0.37     0.150     0.045     0.150     0.045    665.20    940.08
 0.000309       100.      100.      100.         1         0         0      0.00    108.46   1048.54

CCHV=   0.100 CEFV=   0.300
*SECNO 8.000

        CORP. BOUND.-STARTING SEC.

     8.00      9.85    674.65      0.00      0.00    674.87      0.23      0.53      0.05    667.80
    1180.       31.     1116.       14.       86.      285.       25.       78.       59.    667.70
     0.41      0.59      3.92      0.53     0.150     0.045     0.150     0.045    664.80   1023.24
 0.000845     1400.     1100.     1000.         2         0         0      0.00    101.07   1124.31
```

NECC RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CODE - 01
MODIFICATION - 53,51,52

SALINE R. MILAN THR.

SUMMARY PRINTOUT TABLE 150

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

SECNO	XLCH	ELTRD	ELLC	E	ELTIN	CHSEL	CHNG	ZG	QRATE	VCH	AREA	QTOT
0.000	0.00	0.00	0.00	0.00	663.50	1182.00	672.53	0.00	672.61	4.99	2.80	1311.00	528.25
1.000	700.00	0.00	0.00	0.00	666.63	1182.00	673.11	0.00	673.12	5.30	2.97	1059.95	512.79
2.000	1500.00	0.00	0.00	0.00	665.00	1180.00	673.85	0.00	674.00	5.34	3.20	670.27	668.76
3.000	500.00	0.00	0.00	0.00	665.20	1180.00	674.18	0.00	674.26	3.73	2.27	520.27	610.64
3.100	1.00	673.63	676.30	685.20	1180.00	674.18	0.00	674.26	3.66	2.27	519.95	715.02
3.902	10.00	673.63	676.30	665.20	1180.00	674.10	0.00	674.25	3.65	2.27	520.26	915.55
4.000	1.00	0.00	0.00	665.20	1180.00	674.10	0.00	674.26	3.73	2.27	520.51	611.12
7.000	100.00	0.00	0.00	665.20	1180.00	674.29	0.00	674.52	3.09	2.19	615.32	671.34
8.000	1100.00	0.00	0.00	664.80	1180.00	674.65	0.00	674.67	3.43	2.92	396.10	405.90

FORM 1311-CC PRINTED BY BOTANY BANKFOLD FORMS
PRINTED IN U.S.A.

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNC	C	CNSEL	DIFUSP	DIFUSX	DIFKUS	TOPNID	XLCH
0.000	1180.00	672.50	0.00	0.00	0.00	1570.00	0.00
1.000	1180.00	673.01	0.00	0.51	0.00	1370.00	1000.00
2.000	1180.00	673.85	0.00	0.85	0.00	320.00	1500.00
3.000	1180.00	674.18	0.00	0.32	0.00	71.00	500.00
3.100	1180.00	674.18	0.00	0.00	0.00	71.00	1.00
3.900	1180.00	674.18	0.00	0.00	0.00	71.00	19.00
4.000	1180.00	674.18	0.00	0.00	0.00	71.00	1.00
7.000	1180.00	674.22	0.00	0.04	0.00	108.46	100.00
8.000	1180.00	674.65	0.00	0.42	0.00	101.07	1100.00

SUMMARY OF ERRORS

FORM 1411-OD-PRINTED BY ROTARY MANIFOLD FORMS

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*****************************************************
  REC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

T1SALINE RIVER MILAN TWP. FIS HUD 2023-07
T21979 FLOOD HIGH WATER MARK , 679.54 NORTH BOUND US-23 BRIDGE
T3       SALINE RIVER MILAN TWP.

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   NVINS    Q        USEL     FQ

       0.       7.       0.       0.  0.000000    0.00      0.0       0.   674.650   0.000

J2  NPROF    DPLOT    PRFVS    XSECV    XSECH    FN       ALLOC    IL       CHNL     ITRACE

     15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
```

*PROF 2

CCHV= 0.100 CEHV= 0.300

*SECNO ****

SECNO	DEPTH	CHSEL	CRIMS	HSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	XLOB	SCH	CROB	ALOB	ACH	AROB	VOL	TOP	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	HTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST

VALLEY 49 AT CORP. BOUNDARY

0.00	9.85	674.65	0.00	674.65	674.86	0.23	0.00	0.00	667.80
1180.	51.	1116.	14.	86.	285.	25.	0.	0.	667.70
0.05	0.39	3.92	0.53	0.150	0.045	0.150	0.000	664.80	1023.09
0.000844	0.	0.	0.	0	0	0	0.00	104.23	1134.32

*SECNO 610.000

VALLEY #3

610.00	10.03	675.13	0.00	0.00	675.35	0.22	0.47	0.00	666.90
1180.	33.	1130.	17.	155.	295.	32.	6.	5.	668.10
0.05	0.25	3.83	0.52	0.150	0.045	0.150	0.045	666.30	38.98
0.000713	500.	610.	700.	2	0	0	0.00	746.03	755.01

*SECNO 2260.000

VALLEY #7

2260.00	10.10	676.36	0.00	0.00	676.55	0.19	1.20	0.20	663.30
1180.	279.	681.	19.	569.	226.	35.	27.	21.	669.30
0.19	0.49	3.90	0.56	0.150	0.045	0.150	0.048	666.20	14.49
0.000805	1300.	1650.	700.	2	0	0	0.00	349.06	363.56

*SECNO 3660.000

VALLEY #6

3660.00	11.15	677.15	0.00	0.00	677.26	0.11	0.70	0.01	668.80
1180.	21.	1143.	15.	50.	616.	78.	47.	29.	670.00
0.33	0.42	2.75	0.20	0.150	0.045	0.150	0.048	666.00	1465.94
0.000353	1200.	1400.	1200.	2	0	0	0.00	198.97	1664.91

*SECNO 4785.000

SECNO	DEPTH	CHSEL	CRIMS	HSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	XLOB	SCH	CROB	ALOB	ACH	AROB	VOL	TOP	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	HTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST

VALLEY #5

4785.00	10.40	677.60	0.00	0.00	677.76	0.16	0.40	0.00	670.00
1180.	21.	1147.	13.	58.	355.	29.	59.	33.	670.20
0.43	0.49	3.25	0.43	0.150	0.045	0.150	0.048	667.20	1969.02
0.000540	900.	1125.	1200.	2	0	0	0.00	63.20	2033.23

PRINTED IN U.S.A.

FORM 1615 OFFPRINTED BY ROTARY MANIFOLD FORMS.

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*SECNO 6330.000

3470 ENCROACHMENT STATIONS=     1750.0     2250.0  TYPE=      1  TARGET=      500.000

            VALLEY #4

  6330.00     11.47    678.57      0.00      0.00    678.85      0.28      1.06      0.04    671.00
    1180.       53.     1099.       28.       83.      250.       42.       73.       35.    670.70
      0.53      0.64      4.41      0.65     0.150     0.045     0.150     0.046    667.10   1947.84
 0.000921     1200.     1545.     1200.         2         0         0      0.00     75.93   2023.77

CCHV=    0.300 CEHV=    0.500
*SECNO 7080.000

            VALLEY #3 100 FT D/S OF US-23

  7080.00      9.45    679.25      0.00      0.00    679.43      0.17      0.54      0.03    670.70
    1180.       42.     1113.       25.       72.      323.       46.       80.       36.    670.80
      0.60      0.58      3.44      0.54     0.150     0.045     0.150     0.046    669.80     47.25
 0.000584      750.      750.      750.         2         0         0      0.00     63.65    110.91

*SECNO 7180.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00

            D/S FACE OF N. BOUND US-23

  7180.00      9.04    679.44      0.00      0.00    679.51      0.06      0.04      0.03    684.20
    1180.        0.     1180.        0.        0.      580.        0.       81.       36.    682.20
      0.61      0.00      2.04      0.00     0.150     0.045     0.150     0.046    670.40     12.90
 0.000349      100.      100.      100.         2         0         0      0.00     93.91    106.81

*SECNO 7181.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX ELLC=  685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00

  7181.00      9.03    679.43      0.00      0.00    679.51      0.08      0.00      0.01    684.20
    1180.        0.     1180.        0.        0.      523.        0.       81.       36.    682.20
      0.61      0.00      2.26      0.00     0.150     0.045     0.150     0.046    670.40     12.90
 0.000492        1.        1.        1.         0         0         0    -56.88     93.91    106.81

*SECNO 7227.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELX     EG        NV        HL        CLOSS     BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     CORAR     TOPWID    ENDST

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  689.00 MAX ELLC=  685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       689.00 ELREA=       689.00
```

7227.00	9.06	679.46	0.00	0.00	679.54	0.08	0.02	0.00	684.20
1180.	0.	1180.	0.	0.	524.	0.	82.	36.	682.20
0.62	0.00	2.25	0.00	0.150	0.045	0.150	0.046	670.40	12.87
0.000489	46.	46.	46.	0	0	0	-56.97	93.98	106.84

*SECNO 7228.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

U/S FACE OF N. BOUND US-23

7228.00	9.08	679.48	0.00	0.00	679.54	0.06	0.00	0.00	684.20
1180.	0.	1180.	0.	0.	582.	0.	82.	36.	682.20
0.62	0.00	2.03	0.00	0.150	0.045	0.150	0.046	670.40	12.83
0.000365	1.	1.	1.	1	0	1	-57.00	94.05	106.88

*SECNO 7276.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

D/S FACE OF S. BOUND US-23

7276.00	9.09	679.49	0.00	0.00	679.56	0.06	0.02	0.00	684.20
1180.	0.	1180.	0.	0.	585.	0.	82.	36.	682.20
0.62	0.00	2.02	0.00	0.150	0.045	0.150	0.046	670.40	12.76
0.000340	46.	46.	46.	0	0	0	-57.00	94.22	106.97

*SECNO 7277.000

3570 NORMAL BRIDGE,NRD= 5 MIN ELTRD= 689.00 MAX ELLC= 685.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7277.00	9.09	679.49	0.00	0.00	679.57	0.08	0.00	0.01	684.20
1180.	0.	1180.	0.	0.	527.	0.	82.	36.	682.20
0.62	0.00	2.24	0.00	0.150	0.045	0.150	0.046	670.40	12.76
0.000360	1.	1.	1.	0	0	0	-57.29	94.20	106.97

*SECNO 7323.000

3570 NORMAL BRIDGE,NRD= 15 MIN ELTRD= 689.00 MAX ELLC= 685.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

7323.00	9.11	679.51	0.00	0.00	679.59	0.08	0.02	0.00	684.20
1180.	0.	1180.	0.	0.	528.	0.	83.	36.	682.20
0.63	0.00	2.23	0.00	0.150	0.045	0.150	0.046	670.40	12.73
0.000477	46.	46.	46.	0	0	0	-57.38	94.27	107.00

*SECNO 7324.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	KV	HL	OLOSS	BANK ELSV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XLE	XNCH	XNR	WTN	ELTRN	STA
SLOPE	KLOBL	XLCH	XLOBR	ITRIAL	CHZ	ICONT	COMAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 689.00 ELREA= 689.00

U/S FACE OF S. BOUND US-23

7324.00	9.13	679.53	0.00	0.00	679.59	0.06	0.00	0.00	684.20
1180.	0.	1160.	0.	0.	587.	0.	83.	36.	682.20
0.63	0.00	2.01	0.00	0.150	0.045	0.150	0.046	670.40	12.70
0.000336	1.	1.	1.	1	0	0	0.00	94.34	107.04

*SECNO 7374.000

50 FT U/S US-23 CORP. BOUNDARY

7374.00	10.00	679.50	0.00	0.00	679.67	0.17	0.02	0.05	670.60
1180.	20.	1028.	125.	49.	291.	976.	93.	37.	672.00
0.63	0.56	3.53	0.71	0.150	0.045	0.150	0.046	669.50	72.88
0.000607	50.	50.	50.	2	0	0	0.00	80.15	153.03

1490 NH CARD USED
*SECNO 7924.000

3470 ENCROACHMENT STATIONS= 500.0 1800.0 TYPE= 1 TARGET= 1300.000

550 FT U/S US-23 (WILLIAMS & WORKS CROSS SECTION BB)

7924.00	10.32	679.92	0.00	0.00	679.99	0.06	0.28	0.03	671.50
1180.	76.	1014.	90.	61.	488.	71.	91.	38.	671.50
0.71	1.24	2.08	1.27	0.060	0.065	0.060	0.046	669.80	1339.52
0.000446	550.	550.	550.	2	0	0	0.00	85.73	1425.25

1490 NH CARD USED
*SECNO 9024.000

3470 ENCROACHMENT STATIONS= 640.0 2215.0 TYPE= 1 TARGET= 1575.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION D)

9024.00	10.77	680.77	0.00	0.00	681.07	0.30	0.96	0.12	672.10
1180.	66.	999.	115.	28.	212.	65.	102.	40.	672.10
0.78	2.32	4.72	1.76	0.060	0.060	0.066	0.045	670.00	1422.45
0.002435	1100.	1100.	1100.	2	0	0	0.00	67.63	1490.10

1490 NH CARD USED
*SECNO 10054.000

3470 ENCROACHMENT STATIONS= 1190.0 2685.0 TYPE= 1 TARGET= 1495.000

VALLEY SECTION (WILLIAMS & WORKS CROSS SECTION CC)

10054.00	11.95	681.95	0.00	0.00	681.99	0.04	0.84	0.08	672.10
1180.	447.	526.	207.	426.	237.	250.	117.	44.	672.10
0.97	1.05	2.22	0.83	0.075	0.065	0.062	0.045	670.00	2343.94
0.000407	1030.	1030.	1030.	2	0	0	0.00	641.06	2685.00

****

HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52

****

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

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIMS	IG	10K*S	VCH	AREA	.01K
0.000	0.00	0.00	0.00	664.80	4060.00	677.03	0.00	678.07	10.31	5.37	3448.68	1264.43
0.000	0.00	0.00	0.00	664.80	1180.00	674.65	0.00	674.86	8.44	3.92	396.42	406.18
610.000	610.00	0.00	0.00	664.30	4060.00	678.40	0.00	678.37	7.35	4.76	4372.97	1497.37
610.000	610.00	0.00	0.00	664.30	1180.00	675.13	0.00	675.35	7.13	3.83	461.63	441.92
2260.000	1650.00	0.00	0.00	666.20	4060.00	679.56	0.00	679.77	10.06	5.57	3656.15	1232.22
2260.000	1650.00	0.00	0.00	666.20	1180.00	676.38	0.00	676.55	8.05	3.90	829.51	415.82
3660.000	1400.00	0.00	0.00	666.00	4060.00	680.59	0.00	680.76	5.53	4.23	4111.44	1727.25
3660.000	1400.00	0.00	0.00	666.00	1180.00	677.15	0.00	677.26	3.53	2.73	544.41	628.03
4785.000	1125.00	0.00	0.00	667.20	4060.00	681.26	0.00	681.67	11.48	5.97	2507.85	1198.33
4785.000	1125.00	0.00	0.00	667.20	1180.00	677.60	0.00	677.76	5.40	3.25	424.18	508.00
6330.000	1545.00	0.00	0.00	667.10	4060.00	683.07	0.00	683.67	16.00	7.51	1811.86	1015.14
6330.000	1545.00	0.00	0.00	667.10	1180.00	678.57	0.00	678.83	9.21	4.41	375.02	388.90
7080.000	750.00	0.00	0.00	669.80	4060.00	684.15	0.00	684.81	13.67	7.04	988.63	1098.24
7080.000	750.00	0.00	0.00	669.80	1180.00	679.25	0.00	679.43	5.84	3.44	441.01	488.29
7180.000	100.00	0.00	0.00	670.40	4060.00	684.85	0.00	685.04	5.41	3.31	1156.42	1765.56
7180.000	100.00	0.00	0.00	670.40	1180.00	679.44	0.00	679.51	3.49	2.04	579.56	631.77
7181.000	1.00	689.00	685.00	670.40	4060.00	684.83	0.00	685.06	7.34	3.85	1055.27	1498.64
7181.000	1.00	689.00	685.00	670.40	1180.00	679.43	0.00	679.51	4.92	2.26	522.75	531.95
7227.000	46.00	689.00	685.00	670.40	4060.00	684.86	0.00	685.09	7.27	3.84	1056.41	1505.98
7227.000	46.00	689.00	685.00	670.40	1180.00	679.46	0.00	679.54	4.89	2.25	523.78	533.44
7228.000	1.00	0.00	0.00	670.40	4060.00	684.92	0.00	685.11	5.29	3.49	1164.11	1764.67
7228.000	1.00	0.00	0.00	670.40	1180.00	679.48	0.00	679.54	3.45	2.03	582.06	635.64
7276.000	48.00	0.00	0.00	670.40	4060.00	684.94	0.00	685.13	5.24	3.48	1167.56	1773.28
7276.000	48.00	0.00	0.00	670.40	1180.00	679.49	0.00	679.56	3.40	2.02	584.86	639.98
7277.000	1.00	689.00	685.00	670.40	4060.00	684.93	0.00	685.15	7.09	3.81	1066.50	1524.96
7277.000	1.00	689.00	685.00	670.40	1180.00	679.49	0.00	679.57	4.80	2.24	527.32	538.58

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	CRING	EG	10K*S	VCH	AREA	.01K
7323.000	46.00	689.00	685.00	670.40	4060.00	684.96	0.00	685.18	7.04	3.80	1068.50	1529.65
7323.000	46.00	689.00	685.00	670.40	1180.00	679.51	0.00	679.59	4.77	2.23	528.33	540.05
7324.000	1.00	0.00	0.00	670.40	4060.00	685.01	0.00	685.20	5.14	3.46	1174.74	1791.24
7324.000	1.00	0.00	0.00	670.40	1180.00	679.53	0.00	679.59	3.36	2.01	586.98	643.27
7374.000	50.00	0.00	0.00	669.50	4060.00	684.88	0.00	685.40	11.38	6.59	1302.07	1203.72
7374.000	50.00	0.00	0.00	669.50	1180.00	679.50	0.00	679.67	6.07	3.53	516.93	470.94
7924.000	550.00	0.00	0.00	669.80	4060.00	685.74	0.00	685.78	2.25	2.06	3822.23	2704.12
7924.000	550.00	0.00	0.00	669.80	1180.00	679.92	0.00	679.99	4.46	2.08	620.55	558.49
9024.000	1100.00	0.00	0.00	670.00	4060.00	686.00	0.00	686.02	2.03	1.79	5210.52	2852.44
9024.000	1100.00	0.00	0.00	670.00	1180.00	680.77	0.00	681.07	24.33	4.72	305.72	239.11
10054.000	1030.00	0.00	0.00	670.00	4060.00	686.25	0.00	686.29	3.25	2.46	3569.67	2253.16
10054.000	1030.00	0.00	0.00	670.00	1180.00	681.95	0.00	681.99	4.07	2.22	913.18	585.03

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

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

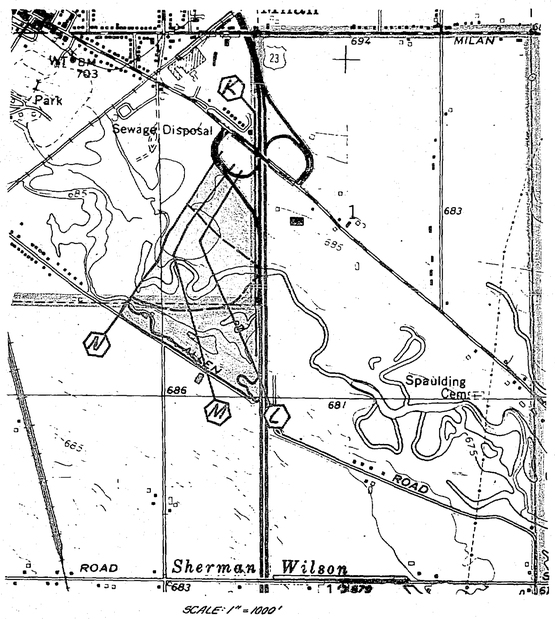
SECNO	Q	CUBEL	DIFUSP	DIFUSA	DIFUSB	TOPWID	WLCH
0.000	4060.00	677.83	0.00	0.00	0.00	1172.55	0.00
0.000	1180.00	674.65	0.00	0.00	0.00	101.23	0.00
610.000	4060.00	679.40	0.00	0.57	0.00	1603.75	610.00
610.000	1180.00	675.13	0.00	0.46	0.00	746.03	610.00
2260.000	4060.00	679.56	0.00	1.16	0.00	1476.38	1650.00
2260.000	1180.00	676.38	0.00	1.25	0.00	349.06	1650.00
3660.000	4060.00	680.59	0.00	1.03	0.00	1368.67	1400.00
3660.000	1180.00	677.15	0.00	0.77	0.00	198.97	1400.00
4705.000	4060.00	681.26	0.00	3.67	0.00	1291.59	1125.00
4705.000	1180.00	677.60	0.00	0.45	0.00	63.21	1125.00
6330.000	4060.00	683.07	0.00	1.60	0.00	500.00	1545.00
6330.000	1180.00	678.57	0.00	0.97	0.00	75.53	1545.00
7080.000	4060.00	684.15	0.00	1.07	0.00	126.13	750.00
7080.000	1180.00	679.25	0.00	0.63	0.00	63.66	750.00
7160.000	4060.00	684.85	0.00	0.70	0.00	114.00	100.00
7160.000	1180.00	679.44	0.00	0.19	0.00	93.91	100.00
7181.000	4060.00	684.83	0.00	-0.02	0.00	114.00	1.00
7181.000	1180.00	679.43	0.00	-0.01	0.00	93.91	1.00
7227.000	4060.00	684.86	0.00	0.04	0.00	114.00	46.00
7227.000	1180.00	679.46	0.00	0.02	0.00	93.98	46.00
7228.000	4060.00	684.92	0.00	0.05	0.00	114.00	1.00
7228.000	1180.00	679.48	0.00	0.02	0.00	94.05	1.00
7276.000	4060.00	684.94	0.00	0.03	0.00	114.01	48.00
7276.000	1180.00	679.49	0.00	0.02	0.00	94.22	48.00
7277.000	4060.00	684.93	0.00	-0.02	0.00	114.00	1.00
7277.000	1180.00	679.49	0.00	-0.01	0.00	94.20	1.00
7323.000	4060.00	684.96	0.00	0.03	0.00	114.00	46.00
7323.000	1180.00	679.51	0.00	0.02	0.00	94.27	46.00
7324.000	4060.00	685.01	0.00	0.05	0.00	114.00	1.00
7324.000	1180.00	679.53	0.00	0.02	0.00	94.34	1.00
7374.000	4060.00	684.88	0.00	-0.13	0.00	199.06	50.00
7374.000	1180.00	679.50	0.00	-0.03	0.00	80.15	50.00
7924.000	4060.00	685.74	0.00	0.86	0.00	1300.00	550.00
7924.000	1180.00	679.92	0.00	0.43	0.00	85.73	550.00
9024.000	4060.00	686.00	0.00	0.26	0.00	1575.00	1100.00
9024.000	1180.00	680.77	0.00	0.84	0.00	67.65	1100.00

FORM 1411-OS PRINTED BY POTENT MANIFOLD FORMS

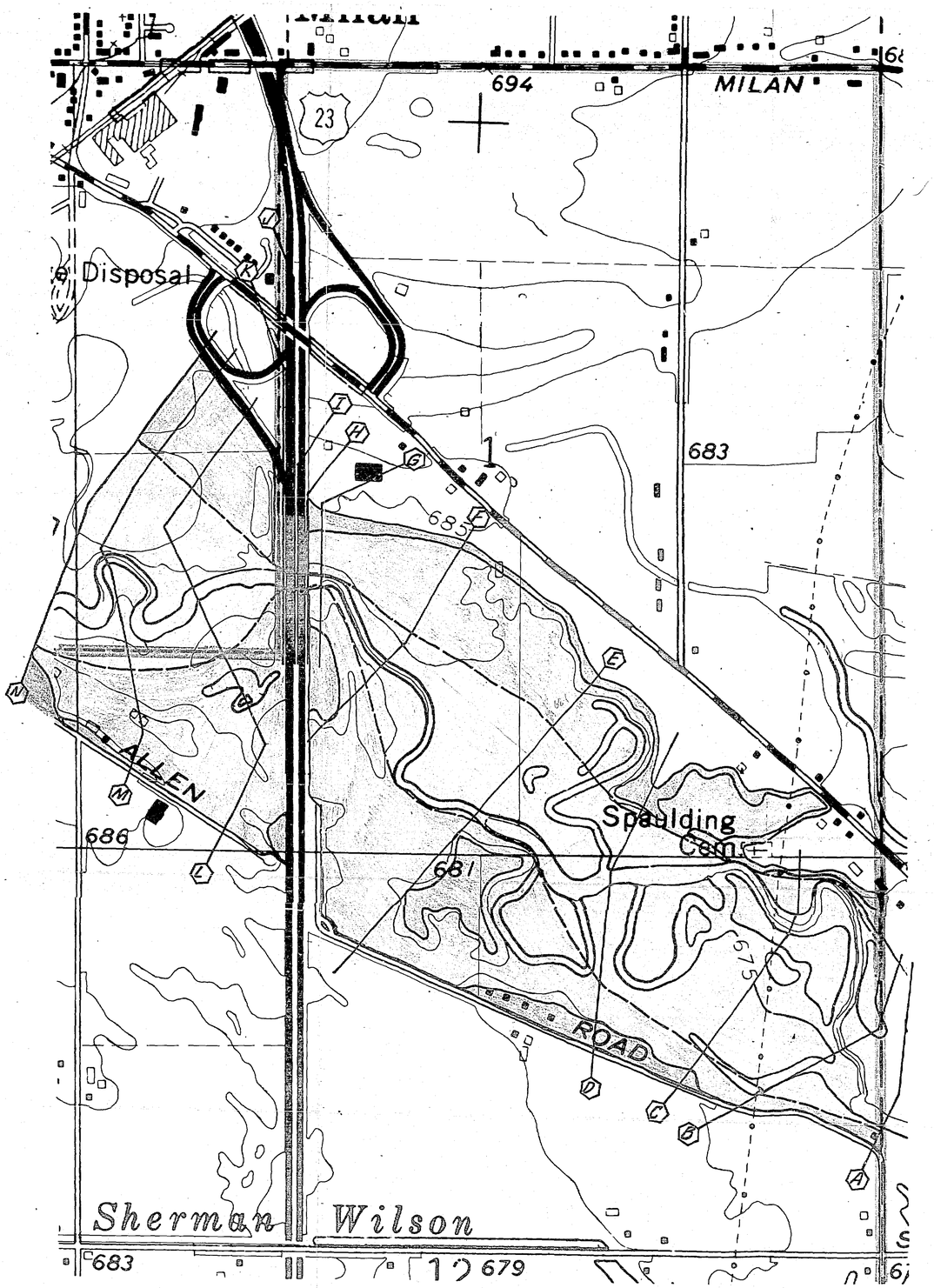
SECNO	Q	CHSEL	DIFUSP	DIFUSX	DIFKUS	TOPUID	XLCH
10054.000	4060.00	685.25	0.00	0.25	0.00	995.39	1030.00
10054.000	4162.00	687.95	0.00	1.18	0.00	991.06	1030.00

SUMMARY OF ERRORS

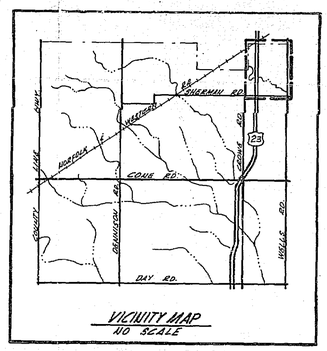
FORTRAN IV G PRINTED BY BOYLEY-MANIFOLD FORMS.



SCALE: 1" = 1000'



FLOOD MAP



VICINITY MAP
NO SCALE

LEGEND

FLOODWAY — 100 YR. BOUNDARY — 500 YR. BOUNDARY

A — A CROSS SECTION

CORPORATE LIMITS

COUNTY BOUNDARY

N

MILAN TOWNSHIP
MONROE COUNTY, MICHIGAN
SCALE: 1" = 400'

3-81
SHEET 1 of 1
HUD 2028-10

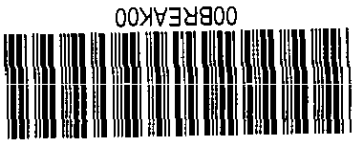


1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: Report



Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors • Community Planners
Taylor, Michigan

June 16, 1981

RECEIVED
JUN 19 1981
FLOOD MANAGEMENT

Ms. Suzanne Elms
Michigan Department of Natural Resources
Flood Insurance & Flood Plain Delineation Unit
Water Management Division
Stevens T. Mason Building
Lansing, Michigan 48909

Re: Engineering Contract H-4802
Saline River Hydraulic Analysis

Dear Ms. Elms:

This is in reference to your May 18, 1981 letter and our May 29, 1981 telephone conversation regarding the Milan Township, Michigan - Flood Insurance Administration Study performed by this office.

As we discussed, the floodway delineation at Cross Section E will not be changed. However, the flooodway width at Cross Section F has been reduced by about 90 feet based upon topographic information provided by your office. This minor revision will have no impact upon the hydraulic model; therefore, computer runs were not performed.

Enclosed is a revised flood hazard/flood boundary map which delineates the revision mentioned above. In addition, the 100 and 500-year flood hazard limits have been revised based upon your topographic map.

With these revisions, the hydraulic analysis for the Saline River is finalized and we will proceed with the development of the Flood Insurance Study. If you have any questions regarding this project, call me at (313)291-5400.

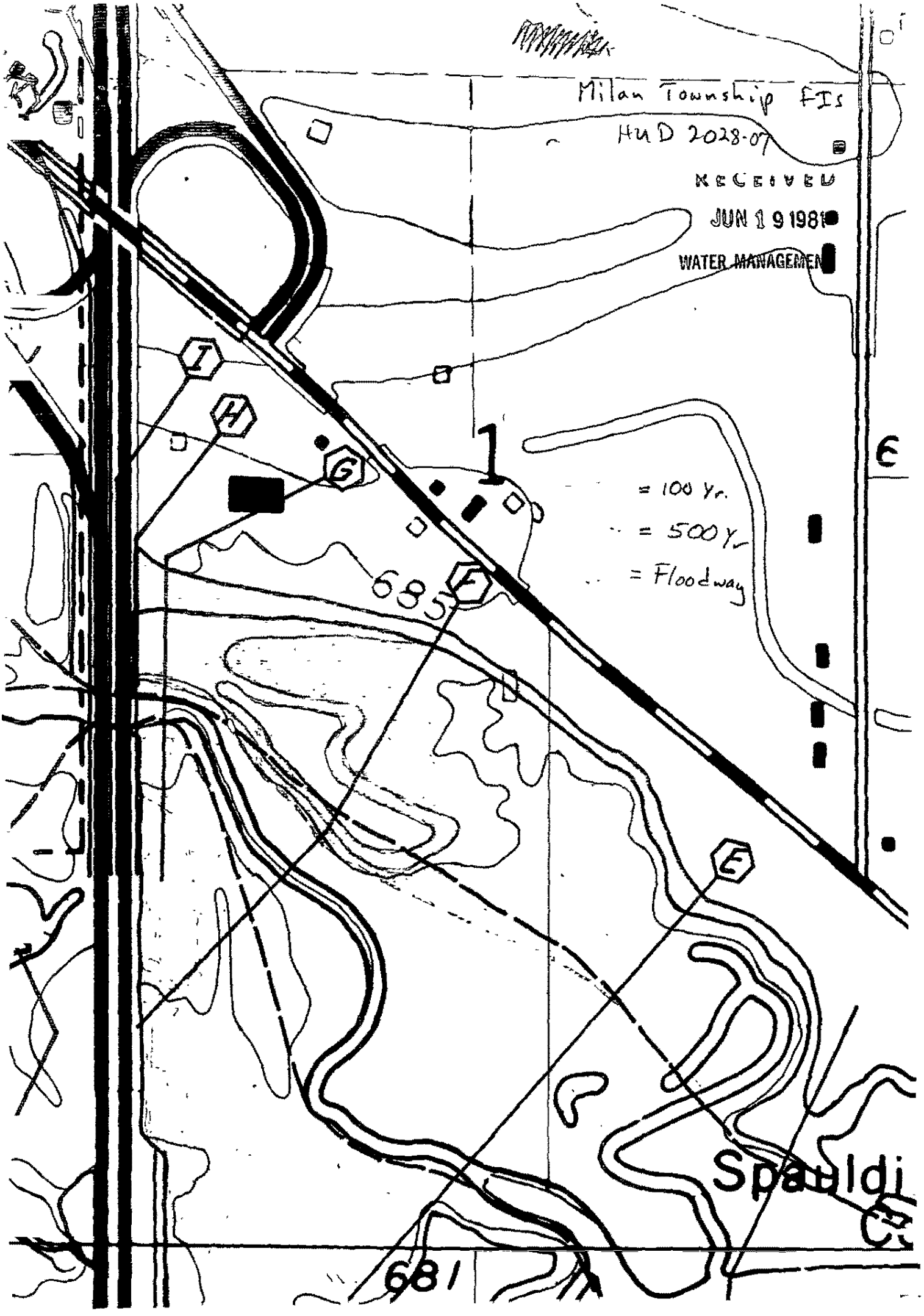
Very truly yours,

WADE, TRIM & ASSOCIATES, INC.

William J. Weaver

William J. Weaver, P.E.

WJW:td
HUD 2028-07
Enclosure
cc: Mr. Martin Gunn, Federal Emergency Management Agency
Mr. Norb Schwartz, Federal Emergency Management Agency


Milan Township FIS
HUD 2028-07
RECEIVED
JUN 19 1981
WATER MANAGEMEN
I
H
G
1
E
= 100 yr.
= 500 yr.
= Floodway
685
E
Spaulding
681

SALINE RIVER BASIN
HYDRAULIC ANALYSIS
FOR
MILAN TOWNSHIP
FLOOD INSURANCE STUDIES

Prepared By:

Wade, Trim & Associates, Inc.
25185 Goddard Road
Taylor, Michigan 48180

HUD 2028-07
March, 1981

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2	Flood Elevations at Selected Locations	II-3
3	1979 Flood High Water Marks	II-5

LIST OF EXHIBITS

EXHIBIT NO.	DESCRIPTION
1	Field Cross Section Locations and 100-Year Flood Plain - Floodway Map, Milan Township, 1 Sheet
2	Computer Printouts, HEC-2 Backwater Analysis with Cross Section Plots (In Separate Folder) Milan Township
3	Stream Profiles, Milan Township, 2 Sheets
4	Bridge Notes and Sketches, Milan Township, 4 Sheets
5	1979 Flood High Water Marks, Milan Township, 2 Sheets

I INTRODUCTION

This hydraulic study investigates the existence and severity of flood hazards along the Saline River in Milan Township, Monroe County, Michigan. Milan Township covers an area of approximately 35 square miles. The flood plain of the Saline River, located within the study reach, is basically undeveloped at present with the exception of a few residential structures in the flood fringe areas.

II DETAILED STUDY OF THE SALINE RIVER

A detailed hydraulic study was performed for approximately 1.4 miles of the Saline River in Milan Township. The study began at the Milan/London Townships corporate boundary and ended approximately 2,730 feet upstream of the US-23 Bridge within the City of Milan.

fill permitted 3/80 7901 314

A total of one bridge and eight stream cross sections were field surveyed by Wade, Trim & Associates, Inc., in February, 1980. These cross sections were supplemented by field inspection and U.S.G.S. Quad Maps which consist of 5-foot contour intervals (Reference 1). Three valley cross sections, located within the City of Milan, were provided by Williams and Works (Reference 2).

Cross section locations are shown on Exhibit 1. Table 1 cross references section designations by showing the computer section number which corresponds to each cross section letter shown in Exhibit 1. Table 2 lists discharges which have been approved by the Michigan Department of Natural Resources (M.D.N.R.) for this stream.

A. METHOD OF ANALYSIS

The HEC-2 backwater computer program was used in developing water surface profiles (Reference 3). Table 2 presents water surface elevations at selected locations for the four storms (10, 50, 100 and 500-year) analyzed in this report. HEC-2 printouts including computer cross section plots are presented as Exhibit 2. (Exhibit 2 is contained in the 11" x 15" folder enclosed with this report.) Water surface profiles resulting from the backwater analyses are presented as Exhibit 3.

TABLE 1

MILAN TOWNSHIP

SALINE RIVER

CROSS REFERENCE INDEX

X-SECT.	COMPUTER NO.	WTA SURVEY SECTION	DESCRIPTION
A	0.	9.	Valley Section - Corporate Boundary
B	610.	8.	Valley Section
C	2260.	7.	Valley Section
D	3660.	6.	Valley Section
E	4785.	5.	Valley Section
F	6330.	4.	Valley Section
G	7080.	3.	Valley Section
H	7180.	2.	D/S Face Northbound US-23 Bridge
I	7228.	2.	U/S Face Northbound US-23 Bridge
J	7276.	2.	D/S Face Southbound US-23 Bridge
K	7324.	2.	U/S Face Southbound US-23 Bridge
L	7924.		Valley Section*
M	9024.		Valley Section*
N	10054.		Valley Section*

*Williams & Works Surveyed Cross Sections

TABLE 2

MILAN TOWNSHIP

SALINE RIVER
FLOOD ELEVATIONS AT SELECTED LOCATIONS*

LOCATION	Frequency 10-YEAR	50-YEAR	100-YEAR	500 YEAR
	Q= 2,060 cfs	Q= 3,490 cfs	Q= 4,060 cfs	Q= 5,190 cfs
Milan/London Township Corporate Boundary	676.10	677.40	677.83	678.54
U/S Face Southbound US-23 Bridge	682.14	684.32	685.01	686.47

*All elevations are based upon National Geodetic Vertical Datum

B. VARIABLES AND COEFFICIENTS

Roughness coefficients (Mannings "n") were estimated from field inspections, quad maps, and photographs. Typical roughness values for the main channel and overbank areas of the Saline River range from .045 to .065 and .07 to .15, respectively, for all floods. These values are indicative of summer month conditions and are consistent with values recommended and used in engineering practice (Reference 4). Contraction and expansion coefficients were selected as 0.3 and 0.5, respectively, at bridge sections and 0.1 and 0.3, respectively, for gradual channel transitions.

C. HIGH WATER MARKS

High water marks were obtained for the March, 1979 flood at the following locations: 1) US-23 Bridge (679.5) and 2) Sherman Road Bridge (674.2). These high water marks, obtained from the Michigan Department of Natural Resources, corresponded to a discharge of 1,180 cfs (Reference 5). The HEC-2 computer model for the Saline River was calibrated to match the 1979 flood elevations as presented in Table 3. Exhibit 5 presents the backup data for this analysis. HEC-2 printouts for the 1979 flood are presented as part of Exhibit 2.

TABLE 3

MILAN TOWNSHIP

SALINE RIVER

1979 FLOOD HIGH WATER MARK*

CALIBRATION MODEL

LOCATION	CROSS SECTION	HIGH WATER MARK	HEC-2 ELEVATION
Sherman Road	4.	674.2	674.18
US-23	7228.	679.54	679.48

*All elevations are based upon National Geodetic Vertical Datum

D. STARTING CONDITIONS

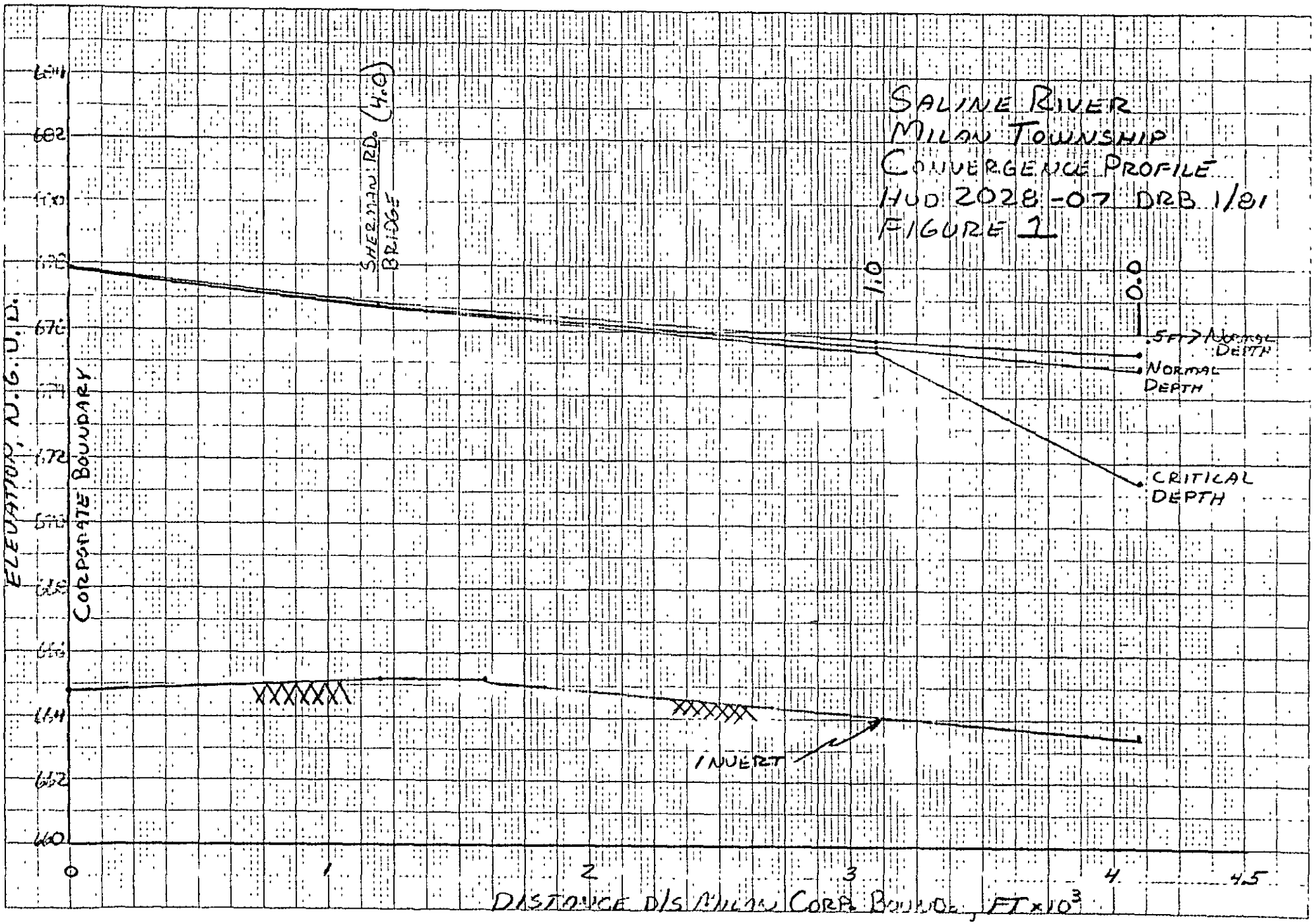
Starting water surface elevations at the downstream limit of detailed study for the 10, 50, 100 and 500-year storms were obtained by performance of a convergence analysis. This analysis was begun at a cross section located approximately 5,200 feet downstream from the Milan Township corporate boundary. Cross sectional data and bridge data for Sherman Road were obtained from a field survey conducted by Wade, Trim & Associates, Inc. in February, 1980.

Three conditions were applied to the start of the computer model for this analysis: critical depth, normal depth and .5 feet above normal depth. Flows corresponding to the 100-year storm were utilized for this analysis. Results of this analysis (Figure 1) indicated that convergence was achieved at the downstream limit of detailed study. The friction slope resulting from this analysis, located at the Milan Township corporate boundary, was utilized for the starting condition for all floods analyzed as part of this Flood Insurance Study. Computer printouts resulting from this analysis are presented in Exhibit 2.

E. SPECIAL PROBLEMS

No special problems were encountered in the analysis of the Saline River within Milan Township.

K+E KEUFFEL & ESSER CO MADE IN U.S.A.



F. GENERAL

Computed water surface elevations were developed to an accuracy of 0.5 feet for floods of the selected recurrence intervals.

All elevations are referenced to the U.S. Geological Survey (U.S.G.S.) Datum. This datum is equivalent to the National Geodetic Vertical Datum (N.G.V.D.).

The hydraulic analyses for this study were based only upon the effects of flow unobstructed by ice or debris. The flood elevations are considered valid only if hydraulic structures, in general, remain unobstructed and do not fail.

REFERENCES

1. U.S. Geological Survey Topographic Maps - Milan Quadrangle, Washtenaw/Monroe County, 7.5 Minute Series - Photo Revised, 1973.

2. Williams and Works, Saline River Cross Sectional Data, City of Milan.

3. U.S. Department of the Army Corps of Engineers, HEC-2 Water Surface Profiles - Users Manual - Davis, California, August, 1979.

4. Chow, Ven Te, Open Channel Hydraulics, McGraw Hill, Inc., 1959.

5. U.S. Geological Survey Water - Data Report, Water Resources Data for Michigan, MI-79-1, 1980, Page 463.

SALINE RIVER

MILAN TOWNSHIP

EXHIBIT 1

Field Cross Section Location and
100-Year Flood Plain - Floodway Map

SALINE RIVER

MILAN TOWNSHIP

EXHIBIT 2

Computer Printouts
HEC-2 Backwater Analysis With
Cross Section Plots (See Separate Folder)

SALINE RIVER

MILAN TOWNSHIP

EXHIBIT 3

STREAM PROFILE

SALINE RIVER

REACH 1 ZONE A-4

ELEVATION IN FEET (N.G.V.D.)

688
684
680
676
672
668
664
660

A B C D

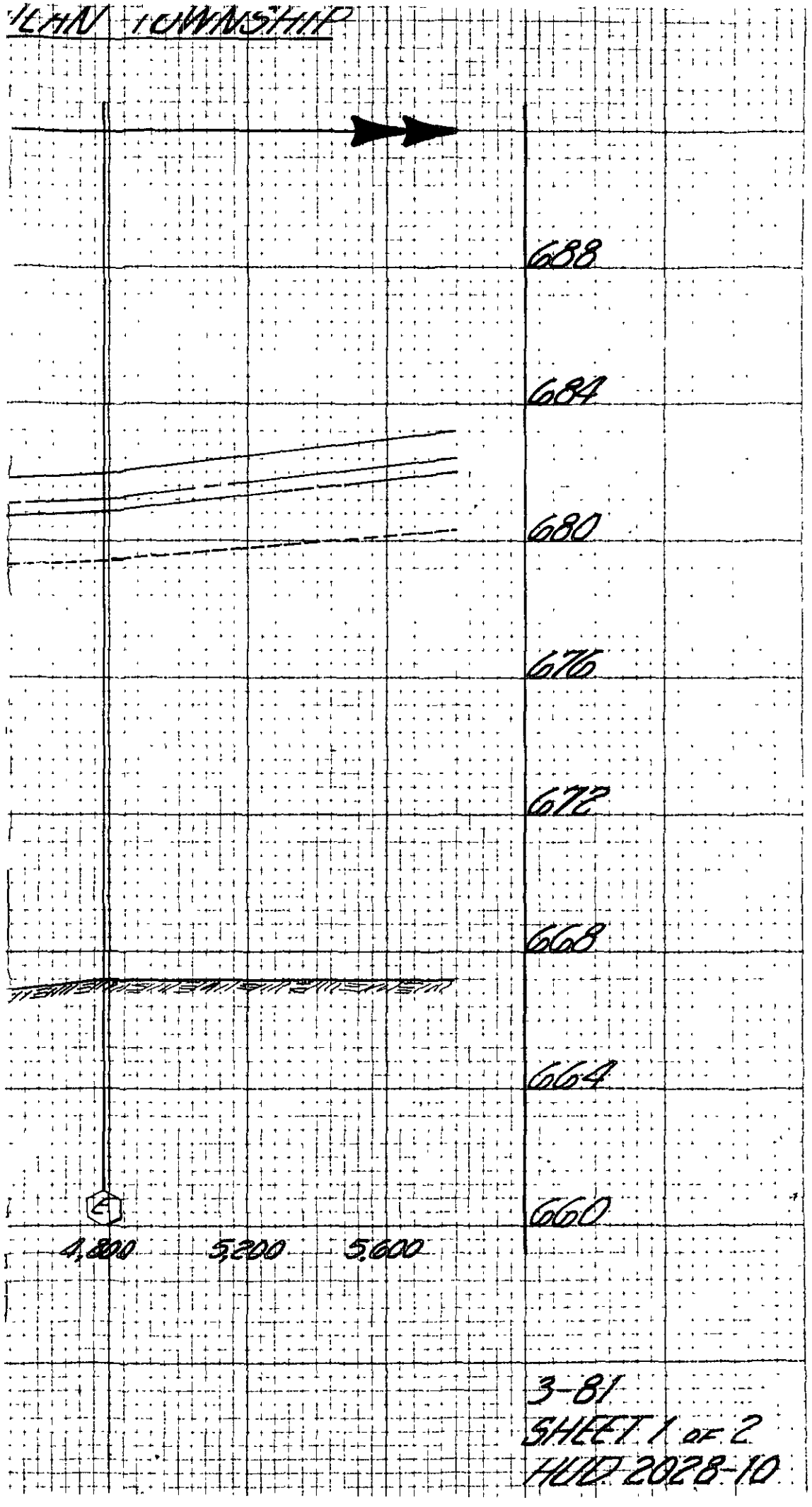
0 400 800 1,200 1,600 2,000 2,400 2,800 3,200 3,600 4,000 4,400

DISTANCE IN FEET

SCALE
HORIZ. 1"=400'
VERT. 1"=4'

LEGEND

500 YEAR WATER SURFACE
100 YEAR WATER SURFACE
50 YEAR WATER SURFACE
10 YEAR WATER SURFACE
CHANNEL BOTTOM



3-81
SHEET 1 OF 2
HUD 2028-10

SALINE RIVER

REACH 1 ZONE A-4

(NORTH BOUND US-23)

SOUTH BOUND US-23

ELEVATION IN FEET (NGVD)

692

688

684

680

676

672

668

664

F G H I J K M N

6,000 6,400 6,800 7,200 7,600 8,000 8,400 8,800 9,200 9,600 10,000 10,40

DISTANCE IN FEET

SCALE
HORIZ 1"=400'
VERT 1"=4'

LEGEND

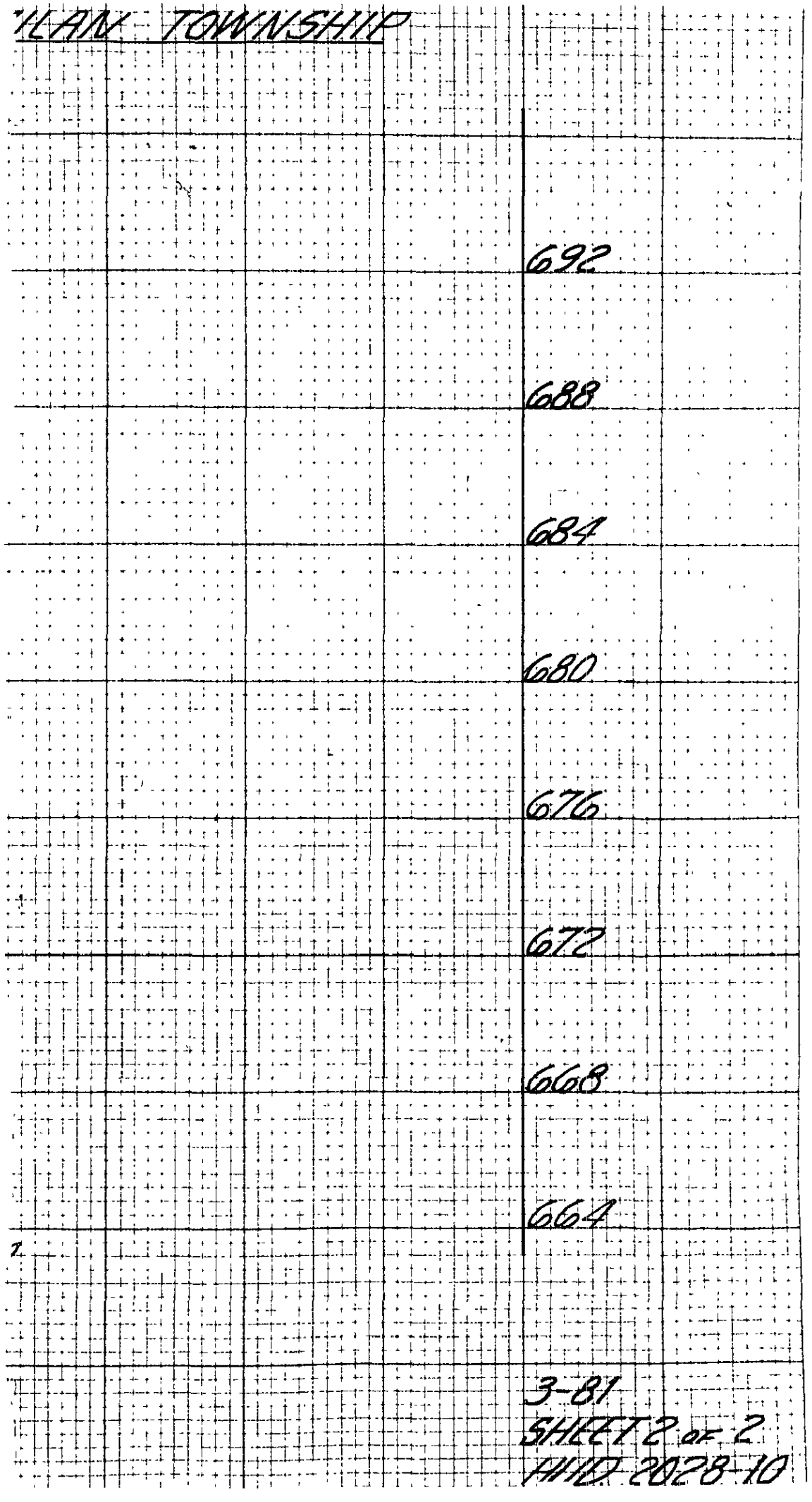
500 YEAR WATER SURFACE

100 YEAR WATER SURFACE

50 YEAR WATER SURFACE

10 YEAR WATER SURFACE

CHANNEL BOTTOM



ILAN TOWNSHIP
692
688
684
680
676
672
668
664
3-81
SHEET 2 of 2
HHD 2028-10

SALINE RIVER
MILAN TOWNSHIP

EXHIBIT 3

STREAM PROFILE

SALINE RIVER

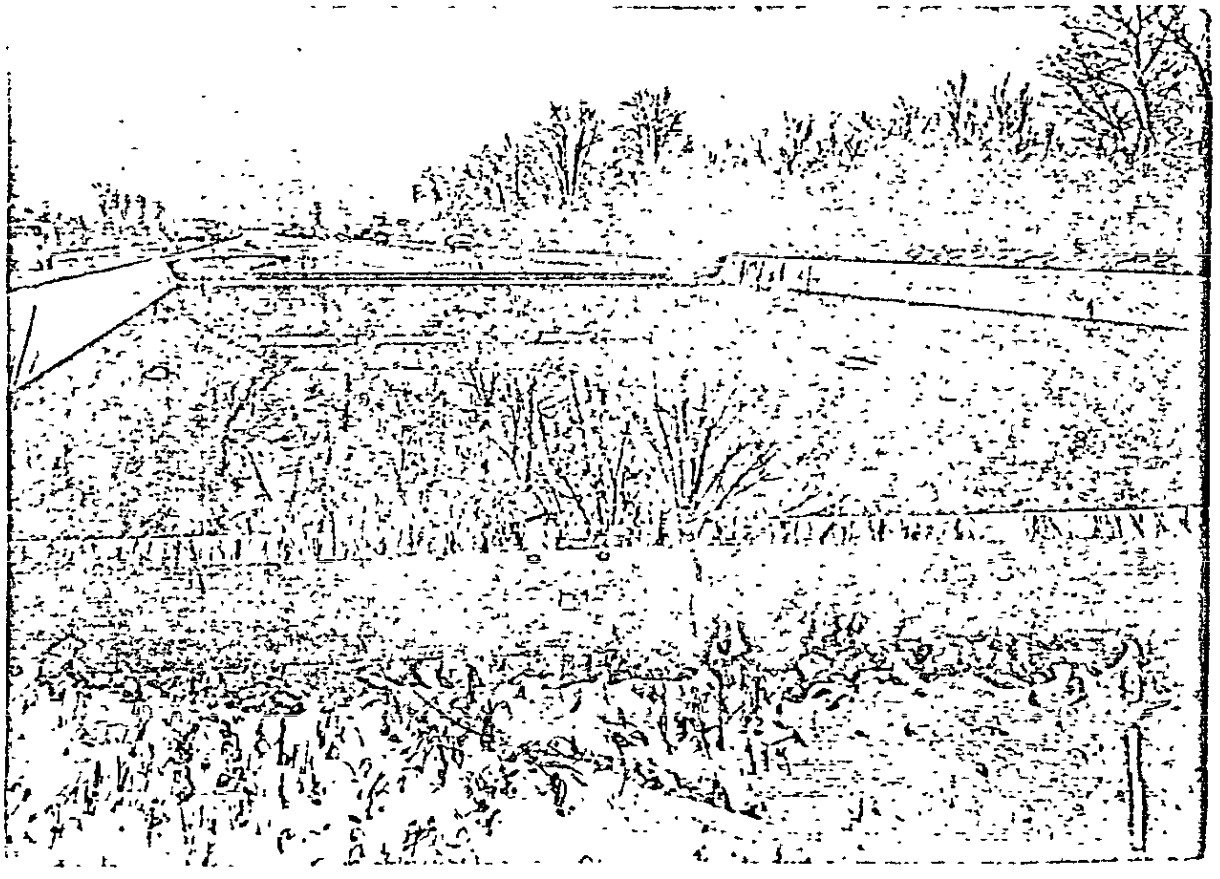
MILAN TOWNSHIP

EXHIBIT 4

Bridge Notes and Sketches



US-23 BRIDGE CROSSING



US-23 BRIDGE CROSSING

HUD 2028-07
SHEET 1 OF

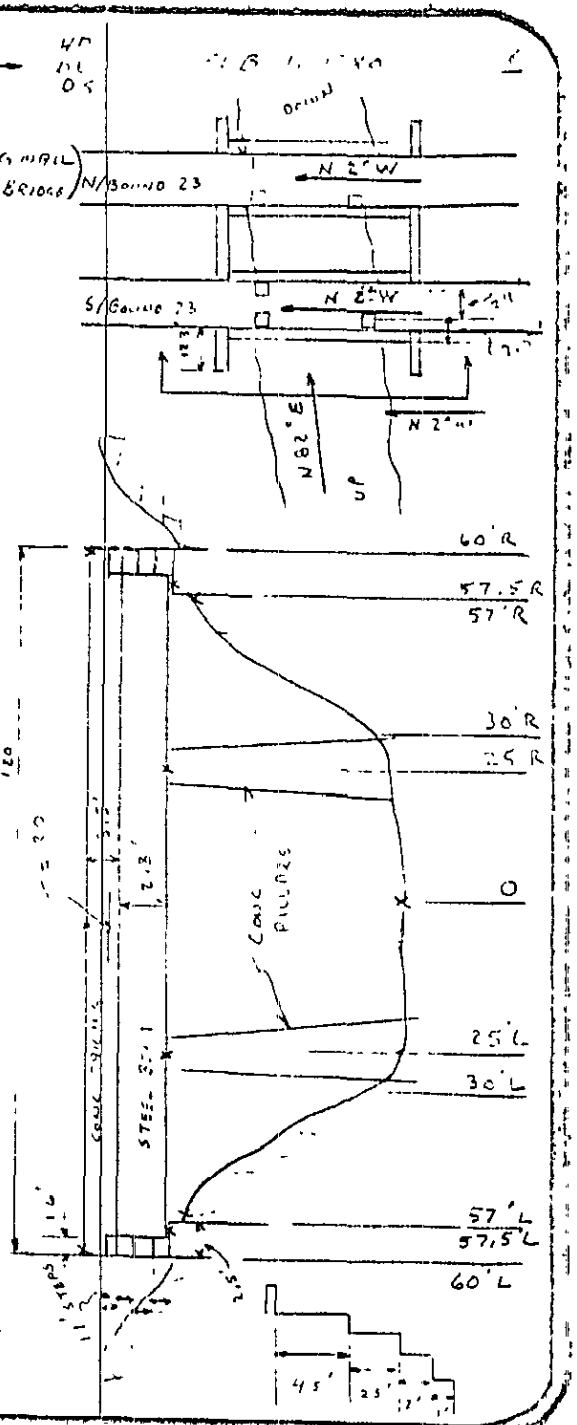
HUD 2028-07
SHEET 2 OF 4
DRB 2/81

[illegible]	SALINE	RIVER	[illegible]	US 23	
	STRUCTURE DETAIL #2				
STA	+	HI	−	ELEV	
BM	8.77	693.87		685.10	(CHISELED OF S/BOUND
500'R			6.[illegible]	687.54	
400'R			6.20	687.67	
300'R			5.98	687.89	
200'R			5.65	688.22	
100'R			5.13	688.74	
0 (#2)			4.79	689.08	
100'L			4.47	689.40	
200'L			4.42	689.45	
300'L			4.05	689.82	
400'L			3.72	690.15	
500'L			3.34	690.53	
60'R			2.54	691.33	
57.5'R			9.13	684.74	
57'R			11.11	682.17	
30'R			[illegible]	672.12	
			[illegible]	684.82	
0 (#2)			23.51	670.37	
0			[illegible]	691.52	
25'L			8.88	684.99	
30'L			21.65	672.22	
57'L			9.72	684.17	
57.5'L			8.77	685.10	
60'L			2.12	691.75	

CONT. ON PG. 9

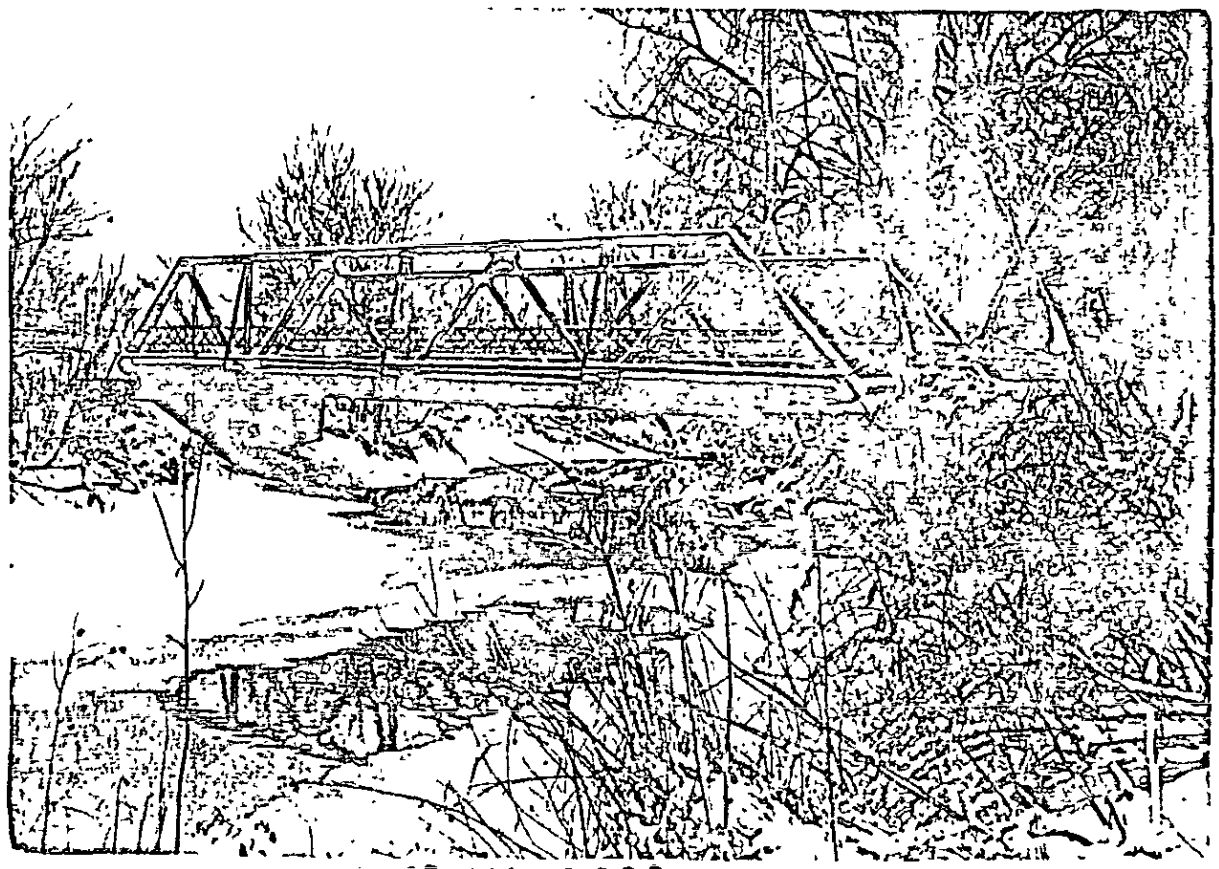
FB 1001 MAG BRGS.
USGS DATUM

DESC.	
SQUARE SW COR NW WING WALL US 23 & SALINE RIVER BRIDGE	
W. EDGE S/BOUND US 23	
" "	
" "	
" "	
" "	
" "	
" "	
" "	
" "	
" "	
" "	
T/CONC RAIL TO BRIDGE	
T/[illegible] ABUTMENT	
T/BANK	
TOE / BANK	
T/CONC PILLAR SUPPORT	
& SALINE RIVER	
T/CONC RAIL TO BRIDGE	
T/CONC PILLAR SUPPORT	
TOE / BANK	
T/BANK	
T/NORTH ABUTMENT	
T/CONC RAIL TO BRIDGE	





FACING UPSTREAM
SHERMAN ROAD BRIDGE



SHERMAN ROAD
CONVERGENCE RUN

HUD 202807
SHEET 3 OF 4
DRB 2/81

HUD 2028-05 (SHERMAN RD & SALINE RIVER) STRUCTURE DETAIL #10

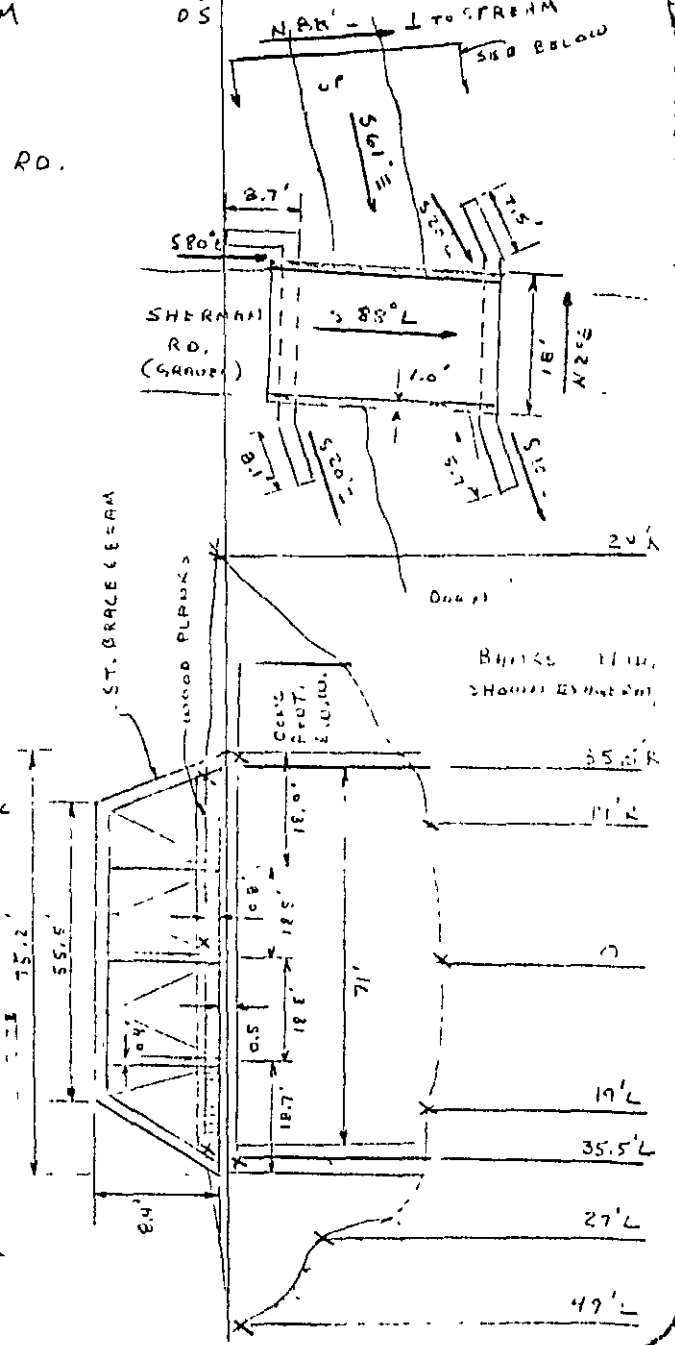
FB 1001 MAG. BRGS → HP OR DS

USGS DATUM

FEB. 14, 1980 14

STA	+	HI	−	ELEV		DESC.
BM	6.95	682.48		675.53		
500'L			8.68	673.80		℄ SHERMAN RD.
400'L			8.41	674.07		"
300'L			8.08	674.40		"
200'L			7.95	674.53		"
100'L			7.36	675.12		"
0 (#10)			4.63	677.85		"
100'R			6.71	675.77		"
200'R			7.58	674.90		"
300'R			7.31	675.17		"
400'R			7.00	675.48		"
500'R			6.13	676.35		"
35.5'R			4.69	677.79		T/WOOD PLANK
35.5'R			6.22	676.26		T/CONC WING WALL
28'R			9.4	673.08		T/BANK
19'R			15.3	667.18		TOE/BANK
0 (#10)			17.3	665.18		℄ SALINE RIVER
0			4.63	677.85		T/WOOD PLANK
19'L			14.75	667.70		TOE/BANK
27'L			9.9	672.58		GR. BRK IN BANK
35.5'L			6.24	676.24		T/CONC W.W.
35.5'L			4.89	677.57		T/WOOD PLANK
49'L			7.8	674.68		T/OVERBANK
BM CK			6.17	675.51	675.55	

SHERMAN ROAD



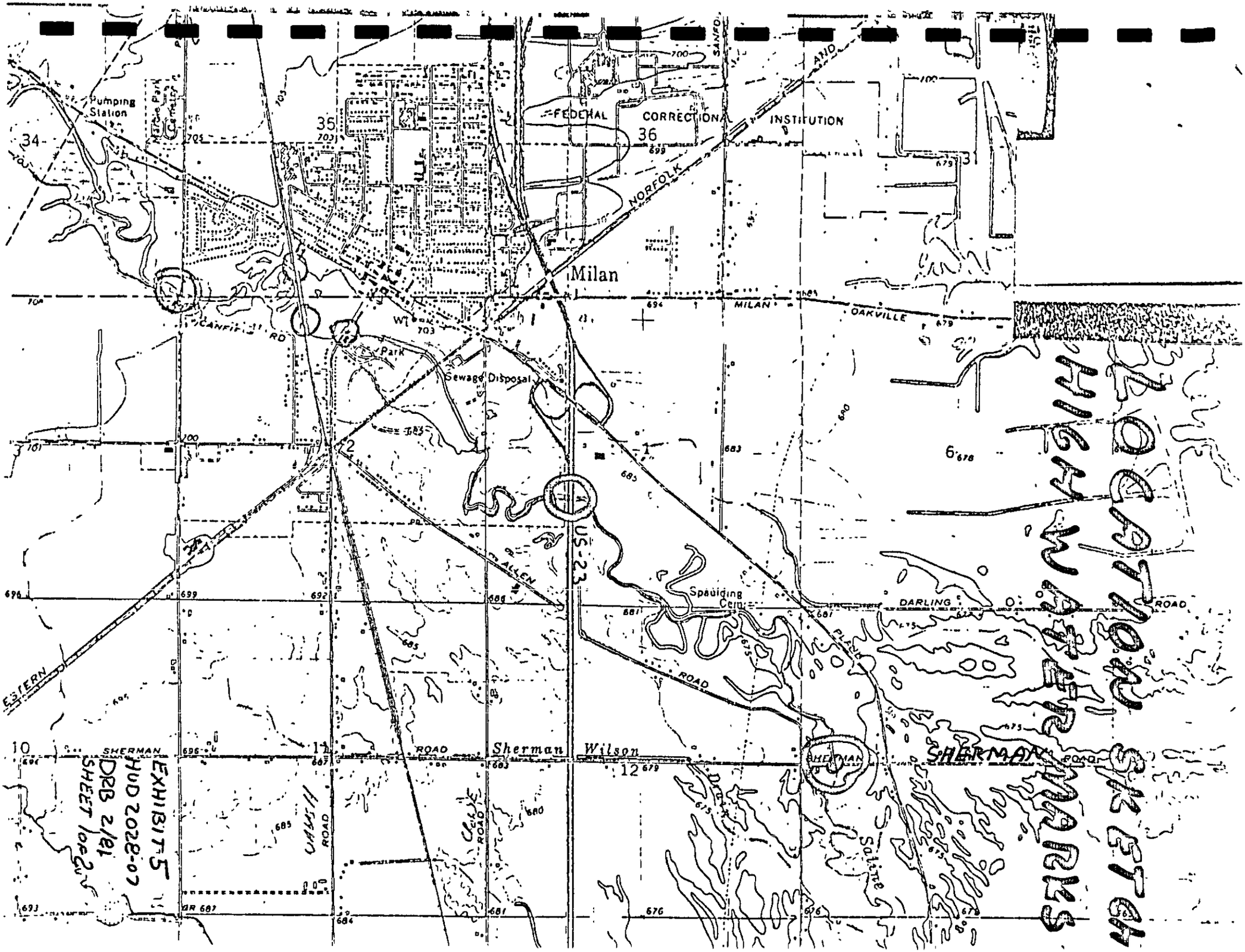
HUD 2028-07
SHEET 4 OF 4
DRB 2/81

SALINE RIVER

MILAN TOWNSHIP

EXHIBIT 5

1979 Flood High Water Marks



Pumping Station
FEDERAL CORRECTIONAL INSTITUTION
NORFOLK AND SANFORD
Milan
MILAN OAKVILLE
CANFIELD RD
Park
Sewage Disposal
US-23
ALLEN ROAD
Spaulding Cem
DARLING ROAD
PLAIN ROAD
SHERMAN ROAD
Sherman Wilson
SHERMAN
Saline
EXHIBIT 5
HUD 2028-07
DRB 2/81
SHEET 1 OF 2
LOCATION SKETCH
HIGH WATER MARKS

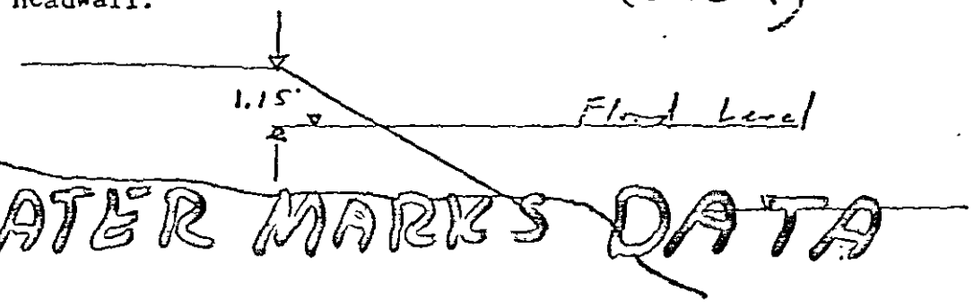
Ann Arbor to [illegible]

70 feet clear span plat girder.

High water upstream of bridge 1. 65 feet above low steel based upon debris 50 feet upstream and in right overbank.

Downstream high water is at top of the 36" culvert under railroad in mill pond area, 800 feet south of bridge.

Mill Pond mill race headwall.



HIGH WATER MARKS DATA

Wabash Road crossing Saline River below dam

Downstream 80 to 100 feet below bridge, bank erosion shows stages of 8.2 feet below the low steel. See photo.

US-23 crossing Saline River South Bound

Downstream left bank 4.5 feet below low steel, 10 feet from abutment.

North Bound

Downstream debris 30 feet from bridge opening is 5.45 feet below the low steel highway plans note bridge seat to be elevation 684.69 with cap on pier to be elevation 684.52.

Assuming a .3 plate, the 1979 high water would be elevation 679.54 (684.69 + 0.3 - 5.45)

Normal stage is elevation 672.

Sherman Road crossing Sline River, Section 7, London Township

Upstream high water mark is 1.8 feet below the low cord, at the left bank. This corresponds to elevation 674.2.

River dropped 4.8 feet between peak and inspection stage.

Milan FIS and Highwater.

100 year flow at Saline is 4500 cfs.

Platt Road crossing Saline River between Sections 34 & 35, York Township, City of Milan near west city limits. Structure is twin - 50 feet clear span flow through abutments.

Upstream stage was 1.48 feet below top of headwall for the storm sewer outfall. right bank

EXHIBIT 5
HUD 2028-07
DRB 2/81
SHEET 2 of 2

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: Summary

00BREAK00

****

FEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52

****

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

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CLSP	CRIMS	TS	TOPWS	VCH	AREA	.01K
0.000	0.00	0.00	0.00	664.80	2060.00	676.10	0.00	676.39	10.46	4.85	1486.23	636.94
0.000	0.00	0.00	0.00	664.80	3490.00	677.40	0.00	677.65	10.46	5.27	2951.05	1079.31
0.000	0.00	0.00	0.00	664.80	4060.00	677.95	0.00	678.07	10.31	5.37	3663.28	1264.43
0.000	0.00	0.00	0.00	664.80	5190.00	678.56	0.00	678.77	10.30	5.60	4504.55	1611.19
610.000	610.00	0.00	0.00	664.30	2060.00	676.70	0.00	676.91	7.29	4.30	1072.68	763.15
610.000	610.00	0.00	0.00	664.30	3490.00	677.98	0.00	678.16	7.49	4.69	3709.11	1275.51
610.000	610.00	0.00	0.00	664.30	4060.00	678.40	0.00	678.57	7.35	4.76	4372.97	1497.37
610.000	610.00	0.00	0.00	664.30	5190.00	679.11	0.00	679.24	7.24	4.90	5544.39	1928.62
1650.000	1650.00	0.00	0.00	666.20	2060.00	677.35	0.00	679.16	9.45	4.71	1384.69	670.25
1650.000	1650.00	0.00	0.00	666.20	3490.00	679.19	0.00	679.41	10.73	5.42	3107.72	1065.52
1650.000	1650.00	0.00	0.00	666.20	4060.00	679.56	0.00	679.77	10.86	5.57	3656.15	1232.22
1650.000	1650.00	0.00	0.00	666.20	5190.00	680.21	0.00	680.41	10.95	5.80	4629.49	1568.08
1400.000	1400.00	0.00	0.00	666.00	2060.00	678.86	0.00	679.01	4.51	3.47	1834.17	970.45
1400.000	1400.00	0.00	0.00	666.00	3490.00	680.20	0.00	680.36	5.24	4.04	3532.33	1525.13
1400.000	1400.00	0.00	0.00	666.00	4060.00	680.59	0.00	680.76	5.53	4.23	4111.44	1727.25
1400.000	1400.00	0.00	0.00	666.00	5190.00	681.26	0.00	681.44	6.00	4.56	5068.34	2119.18
1125.000	1125.00	0.00	0.00	667.20	2060.00	679.42	0.00	679.73	6.29	4.57	766.66	715.26
1125.000	1125.00	0.00	0.00	667.20	3490.00	681.64	0.00	681.24	11.06	5.73	1995.07	1049.58
1125.000	1125.00	0.00	0.00	667.20	4060.00	681.28	0.00	681.67	11.48	5.97	2507.85	1196.33
1125.000	1125.00	0.00	0.00	667.20	5190.00	681.99	0.00	682.39	11.73	6.27	3455.73	1515.36
1545.000	1545.00	0.00	0.00	667.10	2060.00	680.62	0.00	681.28	12.13	5.82	701.75	591.60
1545.000	1545.00	0.00	0.00	667.10	3490.00	682.59	0.00	683.15	14.89	7.08	1570.90	904.44
1545.000	1545.00	0.00	0.00	667.10	4060.00	683.07	0.00	683.67	16.00	7.51	1811.06	1015.16
1545.000	1545.00	0.00	0.00	667.10	5190.00	683.85	0.00	684.52	16.33	8.33	2199.07	1212.15
750.000	750.00	0.00	0.00	669.80	2060.00	681.73	0.00	682.02	7.37	4.55	690.33	758.73
750.000	750.00	0.00	0.00	669.80	3490.00	683.59	0.00	684.15	11.83	6.38	919.29	1014.69
750.000	750.00	0.00	0.00	669.80	4060.00	684.15	0.00	684.81	13.67	7.06	988.63	1098.24
750.000	750.00	0.00	0.00	669.80	5190.00	685.07	0.00	685.98	17.37	8.29	1100.26	1245.42
100.000	100.00	0.00	0.00	670.40	2060.00	682.06	0.00	682.14	5.71	2.45	842.40	1069.25
100.000	100.00	0.00	0.00	670.40	3490.00	684.10	0.00	684.34	5.01	3.23	1079.89	1559.99
100.000	100.00	0.00	0.00	670.40	4060.00	684.85	0.00	685.04	5.41	3.51	1156.42	1745.56
100.000	100.00	0.00	0.00	670.40	5190.00	686.02	0.00	686.22	6.17	4.02	1290.32	2049.69

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CUSEL	CRIWS	EC	10K*S	VCH	AREA	.01K
7181.000	1.00	689.20	685.00	670.40	2060.00	682.05	0.00	682.15	5.12	2.69	764.77	910.26
7181.000	1.00	689.00	685.00	670.40	3490.00	684.16	0.00	684.36	6.75	3.54	985.27	1339.05
7181.000	1.00	689.00	685.00	670.40	4060.00	684.93	0.00	685.06	7.34	3.85	1055.27	1490.64
7181.000	1.00	689.00	685.00	670.40	5190.00	685.97	0.00	686.33	25.52	4.77	1067.99	1027.44
7227.000	46.00	689.00	685.00	670.40	2060.00	682.06	0.00	682.17	5.09	2.69	766.29	912.80
7227.000	46.00	689.00	685.00	670.40	3490.00	684.19	0.00	684.39	6.75	3.54	987.24	1343.14
7227.000	46.00	689.00	685.00	670.40	4060.00	684.96	0.00	685.09	7.27	3.86	1058.47	1505.98
7227.000	46.00	689.00	685.00	670.40	5190.00	686.00	0.00	686.46	25.39	4.76	1069.78	1030.09
7228.000	1.00	0.00	0.00	670.40	2060.00	682.08	0.00	682.18	3.66	2.43	846.82	1077.00
7228.000	1.00	0.00	0.00	670.40	3490.00	684.24	0.00	684.40	4.90	3.21	1026.02	1576.04
7228.000	1.00	0.00	0.00	670.40	4060.00	684.92	0.00	685.11	5.29	3.49	1164.11	1764.67
7228.000	1.00	0.00	0.00	670.40	5190.00	686.23	0.00	686.40	5.07	3.95	1314.40	2154.00
7276.000	43.00	0.00	0.00	670.40	2060.00	682.10	0.00	682.19	3.63	2.43	849.15	1081.21
7276.000	43.00	0.00	0.00	670.40	3490.00	684.26	0.00	684.42	4.86	3.20	1040.02	1583.69
7276.000	43.00	0.00	0.00	670.40	4060.00	684.94	0.00	685.13	5.24	3.48	1167.56	1773.28
7276.000	43.00	0.00	0.00	670.40	5190.00	686.25	0.00	686.50	5.76	3.94	1317.68	2162.63
7277.000	1.00	689.00	685.00	670.40	2060.00	682.07	0.00	682.20	5.00	2.67	771.25	921.05
7277.000	1.00	689.00	685.00	670.40	3490.00	684.25	0.00	684.44	5.60	3.51	994.37	1358.95
7277.000	1.00	689.00	685.00	670.40	4060.00	684.93	0.00	685.15	7.09	3.01	1066.50	1524.96
7277.000	1.00	689.00	685.00	670.40	5190.00	686.21	0.00	686.56	25.25	4.75	1091.57	1032.76
7323.000	44.00	689.00	685.00	670.40	2060.00	682.12	0.00	682.23	5.08	2.67	772.95	922.79
7323.000	46.00	689.00	685.00	670.40	3490.00	684.28	0.00	684.47	6.55	3.50	995.91	1363.35
7323.000	46.00	689.00	685.00	670.40	4060.00	684.96	0.00	685.18	7.04	3.80	1068.50	1529.65
7323.000	46.00	689.00	685.00	670.40	5190.00	686.33	0.00	686.68	25.13	4.75	1093.33	1035.39
7324.000	1.00	0.00	0.00	670.40	2060.00	682.14	0.00	682.23	3.58	2.41	853.18	1088.38
7324.000	1.00	0.00	0.00	670.40	3490.00	684.32	0.00	684.48	4.76	3.18	1096.42	1599.03
7324.000	1.00	0.00	0.00	670.40	4060.00	685.01	0.00	685.20	5.16	3.46	1174.74	1791.24
7324.000	1.00	0.00	0.00	670.40	5190.00	686.40	0.00	686.77	5.42	3.87	1342.51	2230.01
7374.000	50.00	0.00	0.00	669.50	2060.00	682.38	0.00	682.34	7.07	4.50	835.27	774.68
7374.000	50.00	0.00	0.00	669.50	3490.00	684.21	0.00	684.66	10.28	6.07	1169.16	1088.47
7374.000	50.00	0.00	0.00	669.50	4060.00	684.90	0.00	685.60	11.38	6.59	1302.67	1203.72
7374.000	50.00	0.00	0.00	669.50	5190.00	686.34	0.00	686.94	12.81	7.30	1593.20	1478.95
7924.000	550.00	0.00	0.00	669.80	2060.00	682.62	0.00	682.67	3.66	2.23	1358.26	1079.99
7924.000	550.00	0.00	0.00	669.80	3490.00	684.99	0.00	685.04	2.70	2.17	2851.04	2125.77
7924.000	550.00	0.00	0.00	669.80	4060.00	685.74	0.00	685.78	2.25	2.06	3822.23	2704.12
7924.000	550.00	0.00	0.00	669.80	5190.00	687.27	0.00	687.29	1.45	1.77	5864.29	4303.85
9024.000	1100.00	0.00	0.00	670.00	2060.00	683.21	0.00	683.30	4.59	3.40	1429.57	668.39
9024.000	1100.00	0.00	0.00	670.00	3490.00	685.32	0.00	685.34	2.71	2.01	4138.09	2121.85
9024.000	1100.00	0.00	0.00	670.00	4060.00	686.00	0.00	686.02	2.03	1.79	5210.52	2852.44
9024.000	1100.00	0.00	0.00	670.00	5190.00	687.43	0.00	687.64	1.21	1.47	7458.05	4720.56
10054.000	1030.00	0.00	0.00	670.00	2060.00	683.64	0.00	683.86	3.58	2.31	1717.22	1089.01
10054.000	1030.00	0.00	0.00	670.00	3490.00	685.63	0.00	685.66	3.44	2.47	2997.17	1881.70
10054.000	1030.00	0.00	0.00	670.00	4060.00	686.25	0.00	686.29	3.25	2.46	3589.67	2253.16
10054.000	1030.00	0.00	0.00	670.00	5190.00	687.59	0.00	687.62	2.59	2.32	5071.30	3226.85

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CUSEL	DIFMSP	DIFMOX	DIFMUS	TCFUID	XLOF
0.000	2060.00	676.10	0.00	0.00	0.00	1125.03	0.00
0.000	3490.00	677.40	0.00	0.00	0.00	1141.06	0.00
0.000	4060.00	677.83	0.00	0.00	0.00	1172.55	0.00
0.000	5190.00	678.54	0.00	0.00	0.04	1256.54	0.00
610.000	2060.00	676.70	0.00	0.60	0.00	1118.68	610.00
610.000	3490.00	677.98	0.00	0.58	0.00	1565.48	610.00
610.000	4060.00	678.40	0.00	0.57	0.00	1603.75	610.00
610.000	5190.00	679.11	0.00	0.57	0.00	1668.59	610.00
2260.000	2060.00	677.95	0.00	1.25	0.00	465.65	1650.00
2260.000	3490.00	679.19	0.00	1.21	0.00	1456.18	1650.00
2260.000	4060.00	679.56	0.00	1.16	0.00	1476.38	1650.00
2260.000	5190.00	680.21	0.00	1.11	0.00	1500.00	1650.00
3660.000	2060.00	678.84	0.00	0.91	0.00	1235.77	1400.00
3660.000	3490.00	680.22	0.00	1.01	0.00	1333.70	1400.00
3660.000	4060.00	680.59	0.00	1.03	0.00	1368.67	1400.00
3660.000	5190.00	681.26	0.00	1.05	0.00	1558.64	1400.00
4785.000	2060.00	679.43	0.00	0.53	0.00	684.66	1125.00
4785.000	3490.00	680.84	0.00	0.64	0.00	1110.85	1125.00
4785.000	4060.00	681.26	0.00	0.67	0.00	1291.59	1125.00
4785.000	5190.00	681.99	0.00	0.73	2.57	1300.00	1125.00
6330.000	2060.00	680.82	0.00	1.40	0.00	314.56	1545.00
6330.000	3490.00	682.59	0.00	1.75	0.00	500.00	1545.00
6330.000	4060.00	683.07	0.00	1.81	0.00	500.00	1545.00
6330.000	5190.00	683.85	0.00	1.85	3.03	500.00	1545.00
7080.000	2060.00	681.73	0.00	0.91	0.00	120.93	750.00
7080.000	3490.00	683.59	0.00	1.00	0.00	124.96	750.00
7080.000	4060.00	684.15	0.00	1.07	0.00	126.15	750.00
7080.000	5190.00	685.07	0.00	1.22	3.34	164.00	750.00
7180.000	2060.00	682.04	0.00	0.31	0.00	108.14	100.00
7180.000	3490.00	684.18	0.00	0.58	0.00	113.94	100.00
7180.000	4060.00	684.85	0.00	0.70	0.00	114.00	100.00
7180.000	5190.00	686.02	0.00	0.95	3.98	114.00	100.00
7181.000	2060.00	682.03	0.00	-0.01	0.00	108.12	1.00
7181.000	3490.00	684.16	0.00	-0.02	0.00	113.92	1.00
7181.000	4060.00	684.83	0.00	-0.02	0.00	114.00	1.00
7181.000	5190.00	685.97	0.00	-0.05	3.94	114.00	1.00
7227.000	2060.00	682.06	0.00	0.02	0.00	108.20	46.00
7227.000	3490.00	684.19	0.00	0.03	0.00	113.97	46.00
7227.000	4060.00	684.86	0.00	0.04	0.00	114.00	46.00
7227.000	5190.00	686.09	0.00	0.12	4.03	114.00	46.00
7228.000	2060.00	682.08	0.00	0.03	0.00	108.36	1.00
7228.000	3490.00	684.24	0.00	0.04	0.00	114.00	1.00
7228.000	4060.00	684.92	0.00	0.05	0.00	114.00	1.00
7228.000	5190.00	686.23	0.00	0.14	4.15	114.00	1.00

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SECNO	C	CUSEL	DIFWSP	DIFWSX	DIFXWS	TOPWID	XLCH
7276.000	2060.00	682.12	0.00	0.02	0.00	108.48	48.00
7276.000	3490.00	634.25	0.00	0.02	0.00	114.00	48.00
7276.000	4060.00	684.94	0.00	0.03	0.00	114.00	48.00
7276.000	5190.00	685.36	0.00	0.14	4.14	114.00	48.00
7277.000	2060.00	682.09	0.00	-0.01	0.00	108.47	1.00
7277.000	3490.00	634.25	0.00	-0.02	0.00	114.00	1.00
7277.000	4060.00	684.93	0.00	-0.02	0.00	114.00	1.00
7277.000	5190.00	686.21	0.00	-0.05	4.12	114.00	1.00
7323.000	2060.00	682.12	0.00	0.02	0.00	108.52	46.00
7323.000	3490.00	684.28	0.00	0.03	0.00	114.00	46.00
7323.000	4060.00	684.96	0.00	0.03	0.00	114.00	46.00
7323.000	5190.00	686.53	0.00	0.12	4.21	114.00	46.00
7324.000	2060.00	682.12	0.00	0.02	0.00	108.52	1.00
7324.000	3490.00	684.32	0.00	0.04	0.00	114.00	1.00
7324.000	4060.00	685.01	0.00	0.05	0.00	114.00	1.00
7324.000	5190.00	686.68	0.00	0.15	4.34	114.00	1.00
7374.000	2060.00	682.08	0.00	-0.06	0.00	108.60	50.00
7374.000	3490.00	684.21	0.00	-0.11	0.00	108.09	50.00
7374.000	4060.00	684.68	0.00	-0.13	0.00	199.66	50.00
7374.000	5190.00	686.34	0.00	-0.15	4.25	200.00	50.00
7924.000	2060.00	682.62	0.00	0.53	0.00	483.53	550.00
7924.000	3490.00	684.89	0.00	0.73	0.00	1300.00	550.00
7924.000	4060.00	685.74	0.00	0.84	0.00	1300.00	550.00
7924.000	5190.00	687.27	0.00	0.93	4.65	1300.00	550.00
9024.000	2060.00	683.21	0.00	0.60	0.00	794.40	1100.00
9024.000	3490.00	685.32	0.00	0.32	0.00	1575.00	1100.00
9024.000	4060.00	686.00	0.00	0.20	0.00	1575.00	1100.00
9024.000	5190.00	687.43	0.00	0.16	4.22	1575.00	1100.00
10054.000	2060.00	683.84	0.00	0.63	0.00	590.35	1050.00
10054.000	3490.00	685.63	0.00	0.31	0.00	893.21	1050.00
10054.000	4060.00	686.25	0.00	0.25	0.00	983.29	1050.00
10054.000	5190.00	687.59	0.00	0.17	3.75	1213.84	1050.00

SUMMARY OF ERRORS

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

FLOOD INSURANCE ZONE DATA FOR SALINE R. MILAN TWP.

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND: 100	2C	0.2C
0.000	0.	-1.7	-0.4	0.7
610.000	610.	-1.7	-0.4	0.7
2260.000	2260.	-1.6	-0.4	0.7
3660.000	3660.	-1.7	-0.4	0.7
4785.000	4785.	-1.8	-0.4	0.7
6330.000	6330.	-2.3	-0.5	0.6
7030.000	7030.	-2.4	-0.6	0.9
7180.000	7180.	-2.8	-0.7	1.2
7181.000	7181.	-2.8	-0.7	1.1
7227.000	7227.	-2.8	-0.7	1.2
7228.000	7228.	-2.8	-0.7	1.3
7276.000	7276.	-2.8	-0.7	1.4
7277.000	7277.	-2.8	-0.7	1.4
7323.000	7323.	-2.8	-0.7	1.4
7324.000	7324.	-2.9	-0.7	1.5
7374.000	7374.	-2.8	-0.7	1.5
7924.000	7924.	-3.1	-0.7	1.5
8974.000	8974.	-2.8	-0.7	1.4
10054.000	10054.	-2.4	-0.5	1.3
WEIGHTED AVG FOR REACH		-2.1	-0.5	0.9

REF FOR THE REACH = U2U WITH TOE.OF THE REACH WITHIN 1.C FEET
ZONE FOR THE REACH = A &

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

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Milan Twp.

3) WATERCOURSE: Saline River

4) DOCUMENT TYPE: Summary

00BREAK00

****

HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 30,31,32

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

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*HC	VCH	AREA	WSC
0.000	0.00	0.00	0.00	664.80	4060.00	677.83	0.00	678.07	10.31	5.37	3448.68	1264.43
510.000	610.00	0.00	0.00	664.80	4060.00	678.40	0.00	678.57	7.30	4.76	4372.97	1497.3
2260.000	1650.00	0.00	0.00	666.20	4060.00	679.56	0.00	679.77	10.86	5.47	3656.15	1232.22
3660.000	1400.00	0.00	0.00	666.00	4060.00	680.59	0.00	680.76	5.53	4.23	4111.44	1727.25
4785.000	1125.00	0.00	0.00	667.20	4060.00	681.26	0.00	681.67	11.48	5.97	2507.85	1198.3
6330.000	1545.00	0.00	0.00	667.20	4060.00	683.07	0.00	683.67	16.50	7.51	1811.86	1015.1
7030.000	750.00	0.00	0.00	669.80	4060.00	684.15	0.00	684.81	13.67	7.04	988.63	1098.24
7130.000	100.00	0.00	0.00	670.40	4060.00	684.65	0.00	685.04	5.41	3.57	1156.42	1745.5
7181.000	1.00	689.00	685.00	670.40	4060.00	684.83	0.00	685.06	7.84	3.85	1055.77	1498.54
7227.000	46.00	689.00	685.00	670.40	4060.00	684.86	0.00	685.09	7.27	3.84	1058.41	1505.98
7228.000	1.00	0.00	0.00	670.40	4060.00	684.92	0.00	685.11	5.29	3.49	1164.11	1764.4
7275.000	48.00	0.00	0.00	670.40	4060.00	684.94	0.00	685.13	5.24	3.48	1167.56	1773.2
7277.000	1.00	689.00	685.00	670.40	4060.00	684.93	0.00	685.15	7.09	3.81	1066.50	1524.96
7323.000	46.00	689.00	685.00	670.40	4060.00	684.96	0.00	685.18	7.04	3.80	1068.50	1529.6
7324.000	1.00	0.00	0.00	670.40	4060.00	685.01	0.00	685.21	5.14	3.46	1174.74	1791.24
7374.000	50.00	0.00	0.00	669.50	4060.00	684.88	0.00	685.40	11.38	6.59	1302.87	1203.72
7924.000	550.00	0.00	0.00	669.00	4060.00	685.74	0.00	685.78	2.25	2.06	3822.23	2704.1
9024.000	1100.00	0.00	0.00	670.00	4060.00	686.00	0.00	686.02	2.03	1.79	5210.52	2852.4
10054.000	1030.00	0.00	0.00	670.00	4060.00	686.25	0.00	686.29	3.25	2.46	3589.67	2253.16

PRINTED IN U.S.A.
FORM 1411-08-PRINTED BY ROTARY MANIFOLD FORMS.

SALINE R. MILAN TWP.

SUMMARY PRINTOUT TABLE 150

SECND	Q	CWSEL	DIFUSP	DIFUSX	DIFKLS	TOPWID	XLCH
0.000	4060.00	677.83	0.00	0.00	0.00	1172.55	0.00
610.000	4060.00	678.40	0.00	0.57	0.00	1603.75	610.00
2260.000	4060.00	679.56	0.00	1.15	0.00	1475.39	1650.00
3660.000	4060.00	680.59	0.00	1.03	0.00	1368.67	1400.00
4735.000	4060.00	681.26	0.00	0.67	0.00	1291.59	1325.00
6330.000	4060.00	683.37	0.00	1.81	0.00	500.00	1565.00
7080.000	4060.00	684.15	0.00	1.07	0.00	126.15	750.00
7150.000	4060.00	684.05	0.00	0.70	0.00	114.00	100.00
7181.000	4060.00	684.03	0.00	-0.02	0.00	114.00	1.00
7227.000	4060.00	684.86	0.00	0.04	0.00	114.00	46.00
7228.000	4060.00	684.90	0.00	0.05	0.00	114.00	1.00
7276.000	4060.00	684.94	0.00	0.03	0.00	114.00	48.00
7277.000	4060.00	684.93	0.00	-0.02	0.00	114.00	1.00
7323.000	4060.00	684.96	0.00	0.03	0.00	114.00	46.00
7324.000	4060.00	685.01	0.00	0.05	0.00	114.00	1.00
7374.000	4060.00	684.08	0.00	-0.13	0.00	199.86	50.00
7924.000	4060.00	685.74	0.00	0.85	0.00	1300.00	550.00
9024.000	4060.00	686.00	0.00	0.26	0.00	1575.00	1100.00
10054.000	4060.00	686.25	0.00	0.25	0.00	995.39	1030.00

SUMMARY OF ERRORS

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

9-213-F
(March 1949)
Cross-Section—Double

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

(69) File _____

Plum Creek

Section	Distance	10-yr	50-yr	100-yr	500-yr	100-10	100-50	50-100							
R (P)	69+10														
T Q	70+80	583.40	585.16	585.46	585.86	2.36	30	40	BH	AZ	284+70	611.27	611.97	612.23	612.74
U R	77+10	583.61	585.35	585.68	586.20	2.07	30	52	BE	BA	290+70	612.02	612.86	613.19	613.74
V S	87+00	585.61	587.17	587.69	588.76	2.08	52	107							
W T	94+00	587.69	589.07	589.62	590.76	1.93	55	114							
X U	98+00	588.42	589.86	590.34	591.48	1.92	48	114							
Z V	100+10	588.75	590.41	591.29	592.56	3.53	87	127				96	26	51	
AA W	106+60	589.16	590.82	591.43	592.69	2.27	81	121				117	33	55	
AB X	113+10	589.85	591.03	591.74	592.87	1.89	71	110							
AC Y	118+10	590.42	591.46	592.07	593.09	1.65	61	102							
AD Z	123+30	591.38	592.46	592.98	593.81	1.60	52	83							
AE AA	124+50	591.47	592.52	593.03	593.85	1.56	51	82							
AF AB	133+60	592.43	593.27	593.48	594.43	1.05	51	75							
AG AC	137+30	593.39	594.34	594.65	595.27	1.01	31	62							
AI AD	142+10	593.26	594.86	595.31	596.36	1.45	45	105							
AJ AE	148+60	594.29	595.28	596.73	596.72	1.44	45	99							
AK AF	154+60	595.00	595.98	596.38	597.27	1.38	40	89							
AM AG	156+10	595.48	597.11	597.76	598.06	2.28	65	130							
AN AH	160+30	596.06	597.44	598.03	598.45	1.97	39	92							
AO AI	167+20	596.94	597.97	598.54	599.04	1.57	52	53							
AQ AJ	168+90	597.40	598.00	598.52	599.05	1.42	52	53							
AR AK	179+30	598.35	599.30	599.70	600.30	1.35	40	60							
AS AL	182+70	598.62	599.55	599.95	600.58	1.32	40	63							
AT AM	191+10	599.24	600.11	600.49	601.17	1.25	38	68							
AU AN	195+90	599.55	600.30	600.66	601.31	1.11	34	65							
AV AO	198+10	599.74	600.41	600.74	601.37	1.00	37	62							
AW AP	207+10	601.05	601.47	601.62	602.02	.62	18	45							
AX AQ	214+10	601.89	602.28	602.44	602.84	.68	17	43							
AZ AR	215+70	603.52	603.87	603.97	604.18	.45	10	21							
BA AS	225+80	604.02	604.57	604.74	605.16	.72	17	42							
BB AT	241+20	606.11	606.68	606.86	607.28	.75	18	42							
BC AU	252+10	607.27	607.88	608.07	608.53	.80	19	46							
BD AV	263+40	608.27	608.97	609.19	609.74	.92	22	55							
BE AW	271+20	608.99	609.72	609.94	610.52	.95	22	58							
BF AX	280+20	610.46	611.09	611.31	611.90	.85	22	49							
BG AY	284+20	611.11	611.77	612.02	612.49	.91	25	47							

Sheet No. _____ of _____ Sheets. Prepared by _____ Date _____ Checked by _____ Date _____

U. S. GOVERNMENT PRINTING OFFICE : 1954 O - 297758

Plum Creek

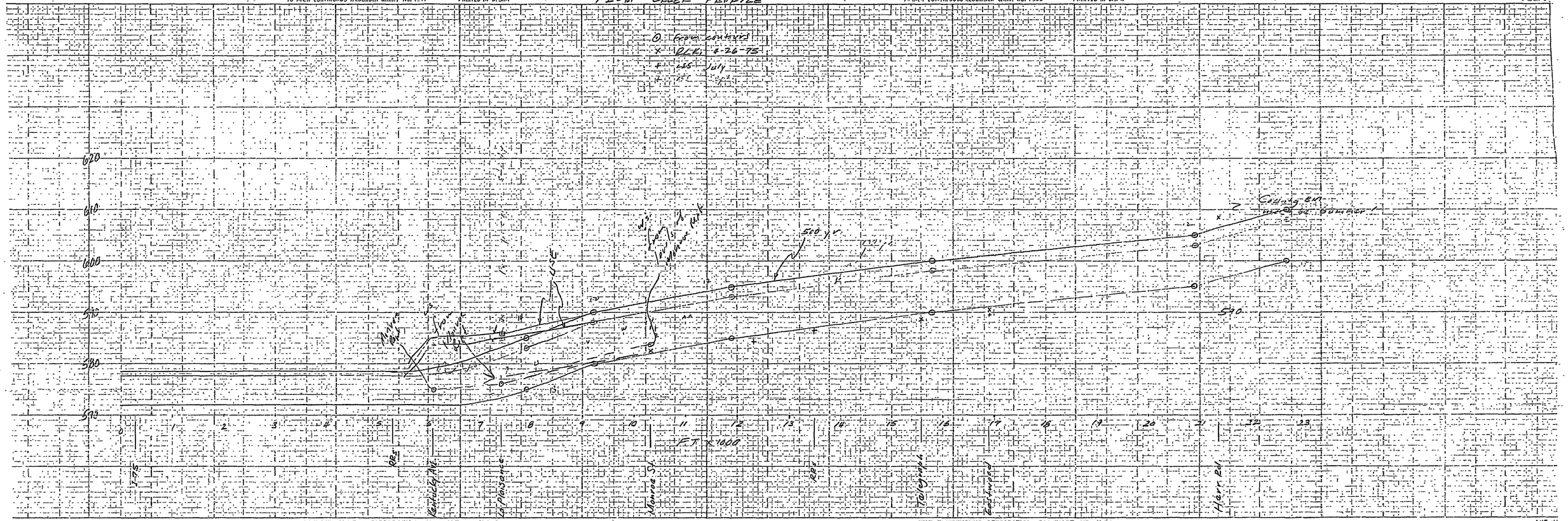
66.

10 INCH CONTINUOUS RECORDER CHART NO. 1000 PRINTED IN U.S.A.

PLUM CREEK PROFILE

10 INCH CONTINUOUS RECORDER CHART NO. 1000 PRINTED IN U.S.A.

10 INCH CO

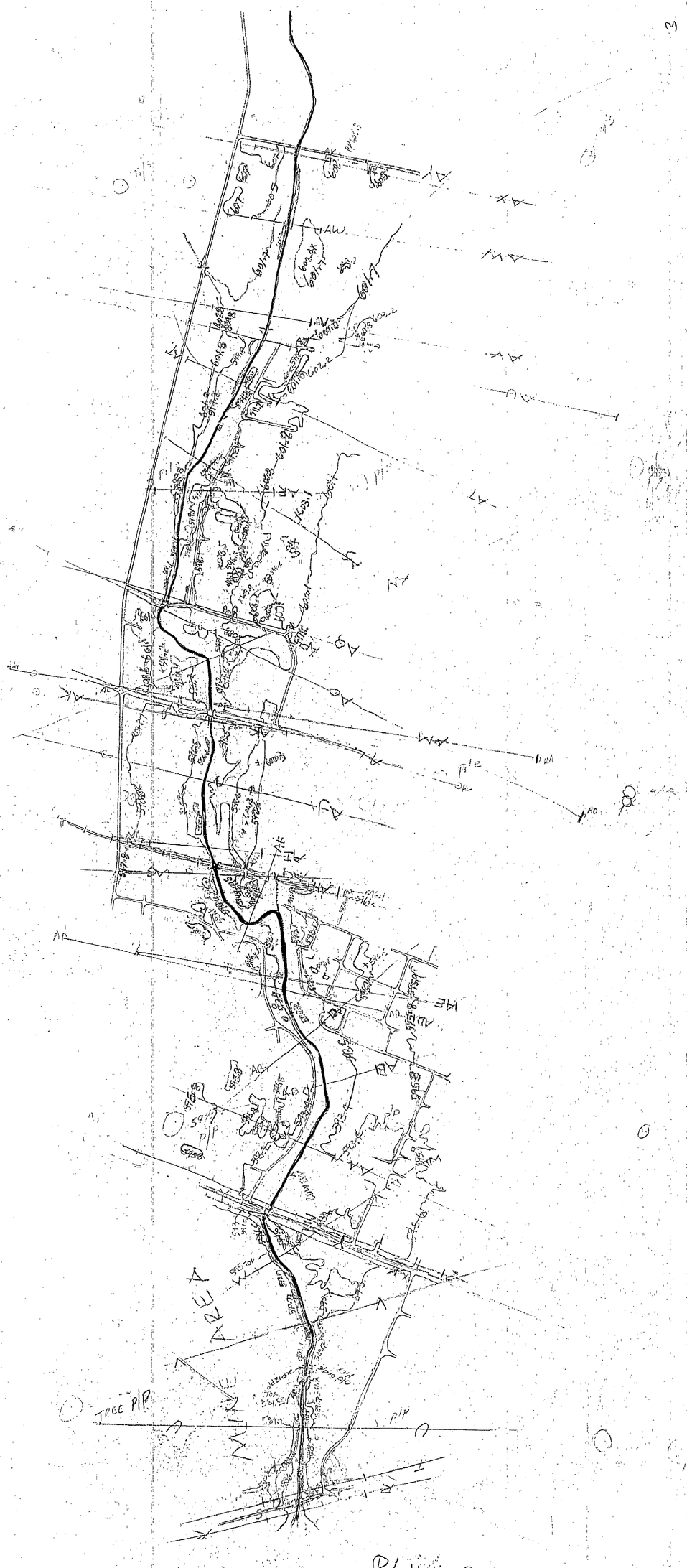


THE INSTRUMENTS CORPORATION, BALTIMORE, MD., U.S.A.

15.

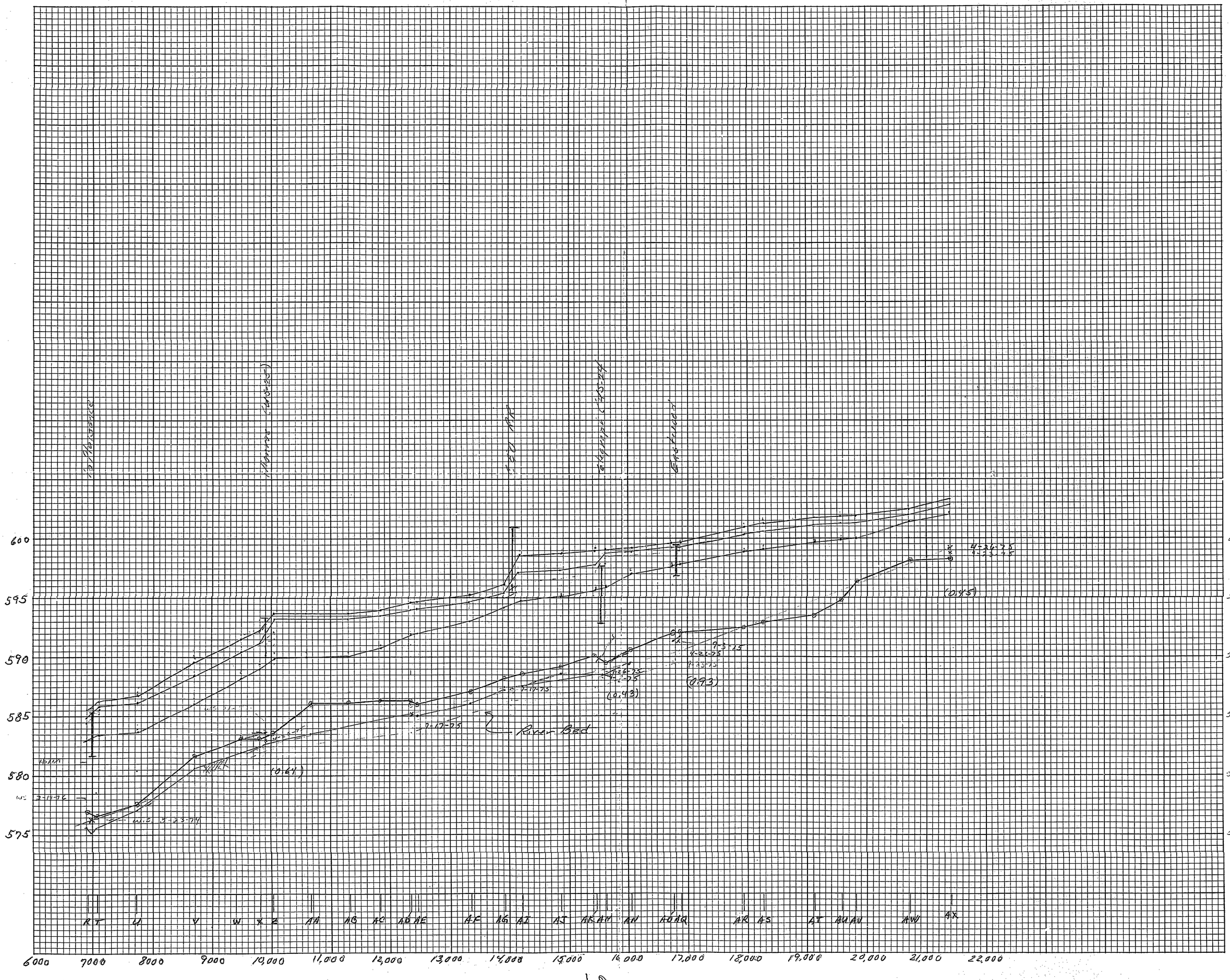
THE INSTRUMENTS CORPORATION, BALTIMORE, MD., U.S.A.

THE IN



PLUM CREEK

MONROE, MI



600
595
590
585
580
575
River Bed
(0.64)
(0.43)
(0.93)
(0.45)
R T U V W X Z AA AB AC AD AE AF AG AI AJ AK AM AN AO AQ AR AS AT AU AV AW AX
6000 7000 8000 9000 10,000 11,000 12,000 13,000 14,000 15,000 16,000 17,000 18,000 19,000 20,000 21,000 22,000
BEE 10 X 10

18

69



1) COUNTY: Monroe

2) STUDY NAME: Monroe Twp

3) WATERCOURSE: Plum Creek

4) DOCUMENT TYPE: 100yr Encroached



USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/11/74

*** INPUT CARD PRINTOUT ***

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1    20 PLUM CR FWY                                KNUTILLA  5  5  2 99 12
2    21  57823  57823  57823  57823  57823
3    22   J-K 1  14  3  575    4090  1  3
4    23   1980   1980   1980   1980   1980
5   162       0  1  5850  100  1  5850  200  1  5750  450  2  5750  450  2  5724
5   163     480  2  5724  480  3  5750  700  3  5750  710  3  5800  900  3  5800
5   164     950  3  5750 1100  3  5750 1200  3  5800 1300  3  5850
6   165  1  2 150 150  1  2 034 034  1  2 150 150
3   166     K 0  42  3  575    4480  1  3
5   167    -225  1  5850   34  1  5800   56  1  5809   84  1  5797  102  1  5756
5   168     130  1  5757  147  1  5757  150  2  5748  150  2  5728  198  2  5728
5   169     198  2  5748  200  2  5745  222  3  5780  248  3  5792  285  3  5802
5   170     324  3  5804  361  3  5804  411  3  5803  458  3  5787  499  3  5768
5   171     548  3  5759  600  3  5761  656  3  5761  729  3  5762  765  3  5762
5   172     839  3  5769  879  3  5768  922  3  5768  968  3  5767  984  3  5770
5   173    1020  3  5770 1057  3  5772 1095  3  5775 1138  3  5779 1183  3  5785
5   174    1222  3  5783 1243  3  5783 1253  3  5768 1382  3  5768 1400  3  5776
5   175    1448  3  5800 1600  3  5850
6   178  3  4 200 100  1  2 035 035  1  2 150 150
3   180 RR K  2  24  1  575    4480        0        2 0
                                                M                                    **ERROR(S)**
5   183       0  1  5789    0  1  5731    6  1  5729   12  1  5736   12  1  5789
5   184       0 -9  5789   15  1  5789   15  1  5734   22  1  5728   29  1  5730
5   185      29  1  5789   15 -9  5789   31  1  5789   31  1  5727   38  1  5727
5   186      45  1  5733   45  1  5789   31 -9  5789   48  1  5789   48  1  5742
5   187      54  1  5735   60  1  5730   60  1  5789   48 -9  5789
6   190  1  2 030 030
3   195    K1 4  25  2   37          1  2          2 2                1
5   197       0  1  5839   46  1  5839   91  1  5839  123  1  5839  169  1  5839
5   198     214  1  5841  248  1  5843  289  1  5843  325  1  5845  370  1  5847
5   199     408  1  5848  446  1  5850  479  1  5850  509  2  5850  547  2  5850
5   200     593  2  5846  639  2  5845  680  2  5843  728  2  5843  766  2  5843
5   201     816  2  5843  872  2  5843  907  2  5843  954  2  5843 1000  2  5843
3   205     L 5  25  5  576    4670  2  4
5   207    -999  1  5850    0  1  5800   16  1  5793   29  1  5762   38  1  5786
5   208      60  1  5763   88  1  5748  133  2  5748  133  2  5713  138  3  5713
5   209     175  4  5713  183  4  5713  183  4  5739  186  5  5762  277  5  5768
5   210     329  5  5769  380  5  5767  414  5  5763  453  5  5760  508  5  5750
5   211     841  5  5750  844  5  5770  865  5  5767  891  5  5800  950  5  5850
6   215  1  2 100 100  1  2 030 030  1  2 030 030  1  2 030 030  1  2 100 100
```

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
J-K AT 4090 /	0 /	1980. /	2397. /	67583. /	7.11 /	168. /	1165.	
578.23 /	0.08 /		/ 578.31 /	0.83 /	0.06/			*IS*
K AT 4480 /	390 /	1980. /	2075. /	62324. /	9.00 /	89. /	1419.	
578.57 /	0.13 /	0.36 /	0.03 / 578.69 /	0.95 /	0.30 /	0.000		*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
RR K AT 4480 /	/	1980. /	284. /	29313. /	1.00 /	0. /	60.	
578.57 /	0.76 /		/	6.98 /	0.53 /			*BO*
NO ROAD OVERFLOW								*RG*
L AT 4670 /	190 /	1980. /	2762. /	139715. /	6.22 /	18. /	881.	
578.73 /	0.05 /	0.09 /	0.0 / 578.78 /	0.72 /	0.04 /	-0.000		*AS*
M = 0.70 / E = 0.85 / K* = 2.06 /			4173. /	237127. /	5.38 /	-65. /	895.	
580.33 /	0.02 /		/ 580.35 /	0.47 /	0.03 /			*AS*
========== END BRIDGE ANALYSIS ==========								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
J-K AT 4090 / 578.33	0 / 0.08	1980. /	2251. / 578.41	67584. / 0.88	6.62 / 0.06	213. /	1095.	*IS*
K AT 4480 / 578.67	390 / 0.14	1980. / 0.36	1914. / 0.03	62243. / 578.80	8.17 / 1.03	137. / 0.30	1326. / 0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT 4480 / 578.67	/ 0.73	1980. /	289. /	30032. / 6.86	1.00 / 0.51	0. /	60.	*BO*
NO ROAD OVERFLOW								*RG*
L AT 4670 / 578.84	190 / 0.05	1980. / 0.08	2855. / 0.0	145765. / 578.88	6.12 / 0.69	18. / 0.04	882. / -0.000	*AS*
M = 0.70 / E = 0.85 / K* = 2.07 / 580.38	4224. / 0.02		240501. / 580.40	5.38 / 0.47	-76. / 0.03	895. /		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/10/74

*** INPUT CARD PRINTOUT ***

```
1    20 PLUM CR FWY                                KNUTILLA  6  5  2 99 12
2    21  57550  57550  57550  57550  57550
3   150     J 1  26  3  574    3700  1  3
4    23   1980   1980   1980   1980   1980
                                                                                  SEQUENCE ERROR
5   152       0  1  5800   20  1  5774   44  1  5758   81  1  5763  120  1  5772
5   153     175  1  5750  184  2  5748  184  2  5720  238  2  5720  238  3  5748
5   154     244  3  5753  274  3  5748  319  3  5741  335  3  5741  362  3  5748
5   155     395  3  5748  445  3  5748  494  3  5748  544  3  5748  602  3  5748
5   156     650  3  5748  710  3  5745  729  3  5745  790  3  5762  821  3  5758
5   157     847  3  5800
6   160  2  3 200 100  1  2 032 032  1  2 200 200
3   161   J-K 0  14  3  575    4090  1  3
5   162       0  1  5850  100  1  5850  200  1  5750  450  2  5750  450  2  5724
5   163     480  2  5724  480  3  5750  700  3  5750  710  3  5800  900  3  5800
5   164     950  3  5750 1100  3  5750 1200  3  5800 1300  3  5850
6   165  1  2 150 150  1  2 034 034  1  2 150 150
3   166     K 0  42  3  575    4480  1  3
5   167    -225  1  5850   34  1  5800   56  1  5809   84  1  5797  102  1  5756
5   168     130  1  5757  147  1  5757  150  2  5748  150  2  5728  198  2  5728
5   169     198  2  5748  200  2  5745  222  3  5780  248  3  5792  285  3  5802
5   170     324  3  5804  361  3  5804  411  3  5803  458  3  5787  499  3  5768
5   171     548  3  5759  600  3  5761  656  3  5761  729  3  5762  765  3  5762
5   172     839  3  5769  879  3  5768  922  3  5768  968  3  5767  984  3  5770
5   173    1020  3  5770 1057  3  5772 1095  3  5775 1138  3  5779 1183  3  5785
5   174    1222  3  5783 1243  3  5783 1253  3  5768 1382  3  5768 1400  3  5776
5   175    1448  3  5800 1600  3  5850
6   178  3  4 200 100  1  2 035 035  1  2 150 150
3   180 RR K  2  24  1  575    4480        0        2 0
                                                M                                 **ERROR(S)**
5   183       0  1  5789    0  1  5731    6  1  5729   12  1  5736   12  1  5789
5   184       0 -9  5789   15  1  5789   15  1  5734   22  1  5728   29  1  5730
5   185      29  1  5789   15 -9  5789   31  1  5789   31  1  5727   38  1  5727
5   186      45  1  5733   45  1  5789   31 -9  5789   48  1  5789   48  1  5742
5   187      54  1  5735   60  1  5730   60  1  5789   48 -9  5789
6   190  1  2 030 030
3   195    K1 4  25  2   37          1  2          2 2                1
5   197       0  1  5839   46  1  5839   91  1  5839  123  1  5839  169  1  5839
5   198     214  1  5841  248  1  5843  289  1  5843  325  1  5845  370  1  5847
5   199     408  1  5848  446  1  5850  479  1  5850  509  2  5850  547  2  5850
5   200     593  2  5846  639  2  5845  680  2  5843  728  2  5843  766  2  5843
5   201     816  2  5843  872  2  5843  907  2  5843  954  2  5843 1000  2  5843
3   205     L 5  25  5  576    4670  2  4
5   207    -999  1  5850    0  1  5800   16  1  5793   29  1  5762   38  1  5786
5   208      60  1  5763   88  1  5748  133  2  5748  133  2  5713  138  3  5713
5   209     175  4  5713  183  4  5713  183  4  5739  186  5  5762  277  5  5768
5   210     329  5  5769  380  5  5767  414  5  5763  453  5  5760  508  5  5750
5   211     841  5  5750  844  5  5770  865  5  5767  891  5  5800  950  5  5850
6   215  1  2 100 100  1  2 030 030  1  2 030 030  1  2 030 030  1  2 100 100
```

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
J AT	3700 /	0 /	1980. /	601. /	21549. /	6.94 /	162. /	765.	
575.50 /	1.17 /		/	576.67 /	3.29 /	0.87/		*IS*	
J-K AT	4090 /	390 /	1980. /	2088. /	56012. /	7.61 /	172. /	1157.	
577.83 /	0.11 /	1.27 /	0.0 /	577.94 /	0.95 /	0.07 /	0.002	*XS*	
K AT	4480 /	390 /	1980. /	1797. /	54038. /	8.71 /	90. /	1414.	
578.31 /	0.16 /	0.51 /	0.03 /	578.47 /	1.10 /	0.34 /	0.000	*XS*	
========== BEGIN BRIDGE ANALYSIS ==========									
RR K AT	4480 /	/	1980. /	270. /	27437. /	1.00 /	0. /	60.	
578.31 /	0.84 /			/	7.33 /	0.57 /		*BO*	
NO ROAD OVERFLOW								*RG*	
L AT	4670 /	190 /	1980. /	2583. /	128361. /	6.41 /	19. /	879.	
578.52 /	0.06 /	0.11 /	0.0 /	578.58 /	0.77 /	0.05 /	-0.000	*AS*	
M = 0.70 / E = 0.85 / K* = 2.06 /				4130. /	234291. /	5.38 /	-56. /	894.	
580.28 /	0.02 /			/ 580.30 /	0.48 /	0.03 /		*AS*	
========== END BRIDGE ANALYSIS ==========									

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
J AT 3700	0	1980.	457.	21539.	4.24	184.	532.	
575.60	1.24			576.84	4.34	0.87		*IS*
J-K AT 4090	390	1980.	1988.	57184.	7.03	217.	1091.	
577.98	0.11	1.24	0.0	578.08	1.00	0.07	0.002	*XS*
K AT 4480	390	1980.	1690.	54721.	8.06	135.	1322.	
578.43	0.17	0.49	0.03	578.61	1.17	0.34	-0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT 4480		1980.	277.	28335.	1.00	0.	60.	
578.43	0.80			7.16	0.55			*BO*
NO ROAD OVERFLOW								*RG*
L AT 4670	190	1980.	2695.	135395.	6.29	19.	880.	
578.65	0.05	0.10	0.0	578.71	0.73	0.05	-0.000	*AS*
M = 0.70 / E = 0.85 / K* = 2.07			4180.	237530.	5.38	-67.	895.	
580.33	0.02			580.35	0.47	0.03		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/10/74

*** INPUT CARD PRINTOUT ***

```
1   200 PLUM CREEK                                  KNUTILLA  8  5  2 99 12
2   202  58033  58033  58033  58033  58033
3   204     L 1  25  3  576    4670  1  3
4   206   1980   1980   1980   1980   1980
5   207    -999  1  5850    0  1  5800   16  1  5793   29  1  5762   38  1  5786
5   208      60  1  5763   88  1  5748  133  2  5748  133  2  5713  138  2  5713
5   209     175  2  5713  183  2  5713  183  2  5739  186  3  5762  277  3  5768
5   210     329  3  5769  380  3  5767  414  3  5763  453  3  5760  508  3  5750
5   211     841  3  5750  844  3  5770  865  3  5767  891  3  5800  950  3  5850
6   215  1  2 100 100  1  2 030 030  1  2 100 100
3   230 RR L  2  18  1  576    4670        0       2 0
                                                M                                    **ERROR(S)**
5   232       0  1  5793    0  1  5744    5  1  5738   10  1  5733   15  1  5732
5   233      22  1  5732   28  1  5736   28  1  5793    0 -9  5793   31  1  5793
5   234      31  1  5749   36  1  5752   41  1  5756   46  1  5758   52  1  5759
5   235      59  1  5766   59  1  5793   31 -9  5793
6   238  1  2 030 030
3   240    L1 4  21  2   28          1  2          2 2                1
5   242       0  1  5845   46  1  5845   88  1  5845  133  1  5848  179  1  5850
5   243     231  1  5850  273  1  5850  320  1  5850  371  1  5850  423  1  5849
5   244     475  1  5849  521  2  5849  572  2  5849  646  2  5849  717  2  5849
5   245     765  2  5849  804  2  5849  845  2  5849  910  2  5849  963  2  5849
5   246    1000  2  5849
3   250     M 5  64  5  576    4910  2  4
5   255    -999  1  5860    0  1  5800   64  1  5793  108  1  5787  155  1  5784
5   256     197  1  5779  230  1  5785  261  1  5785  296  1  5775  318  1  5776
5   257     348  1  5775  387  1  5779  437  1  5777  478  1  5773  517  1  5770
5   258     556  1  5768  597  1  5769  640  1  5771  672  1  5770  700  1  5770
5   259     761  1  5772  781  1  5772  803  1  5780  851  1  5779  900  1  5773
5   260     937  1  5770  984  1  5770 1034  1  5775 1073  1  5781 1108  2  5783
5   261    1115  2  5741 1115  2  5725 1123  3  5725 1151  4  5725 1152  5  5754
5   262    1197  5  5754 1235  5  5752 1269  5  5754 1316  5  5754 1372  5  5757
5   263    1414  5  5776 1436  5  5787 1455  5  5781 1510  5  5782 1563  5  5782
5   264    1601  5  5782 1655  5  5780 1717  5  5778 1767  5  5777 1830  5  5780
5   265    1883  5  5774 1923  5  5780 1944  5  5781 1980  5  5785 2036  5  5787
5   266    2113  5  5793 2171  5  5793 2221  5  5793 2267  5  5793 2321  5  5795
5   267    2375  5  5802 2408  5  5802 2445  5  5800 3500  5  5860
6   270  1  2 050 050  1  2 040 040  1  2 040 040  1  2 040 040  1  2 065 065
3   275     N 0  22  3  576    5470  1  3
5   278     -50  1  5870    0  1  5820   71  1  5797  116  1  5797  159  1  5807
5   279     194  1  5808  238  1  5808  280  1  5808  307  1  5815  320  2  5752
5   280     325  2  5746  325  2  5725  360  2  5725  360  2  5746  364  3  5752
5   281     380  3  5780  391  3  5794  425  3  5791  458  3  5806  471  3  5806
5   282     507  3  5807 1500  3  5870
6   285  1  2 050 050  1  2 040 040  1  2 070 070
3   290 RR N  2  19  1  576    5470        0       3 0
                                                M                                    **ERROR(S)**
5   292       0  1  5792    0  1  5761    6  1  5753   12  1  5751   19  1  5747
5   293      19  1  5792    0 -9  5792   24  1  5792   24  1  5743   36  1  5730
```

```
==========================================================================
WATER-SURFACE PROFILE FOR: PLUM CREEK                          KNUTILLA
PAGE  1 OF  1
==========================================================================
SECID AT DISTANCE/ LENGTH/DISCHARGE/  AREA  /CONVEYANCE/ ALPHA/  LEW  /  REW
  WS ELEV /    HV  /    HF  /    HE  /     EG  /     V  /    FN  /   ACC   *ID*
==========================================================================
    L AT    4670 /     0 /  1980. /  4176. / 235225. / 4.97 /  -66. /  895.
  580.33 /   0.02 /                / 580.35 /   0.47 /  0.03/          *IS*
========================== BEGIN BRIDGE ANALYSIS ==========================
RR L  AT    4670 /       /  1980. /   264. /  21031. / 1.00 /    0. /   59.
  580.33 /   0.88 /                /   7.50 /   0.04 /          *BO*
--------------------------------------------------------------------------
 NO ROAD OVERFLOW
                                                                    *RG*
--------------------------------------------------------------------------
    M AT    4910 /   240 /  1980. /  6297. / 324115. / 1.75 /  -59. / 2508.
  580.36 /   0.00 /  0.01 /   0.0  / 580.36 /   0.31 /  0.04 / -0.000  *AS*
--------------------------------------------------------------------------
   M = 0.95 / E = 0.19 / K* = 3.34 / 15282. / 1089289. / 1.31 / -547. / 3023.
  583.29 /   0.00 /                / 583.29 /   0.13 /  0.01 /          *AS*
========================== END BRIDGE ANALYSIS ============================
    N AT    5470 /   560 /  1980. /  2417. / 162041. / 3.12 /  -13. /  914.
  583.29 /   0.03 /  0.01 /   0.02 / 583.32 /   0.82 /  0.11 /  0.004  *XS*
========================== BEGIN BRIDGE ANALYSIS ==========================
RR N  AT    5470 /       /  1574. /   256. /  14930. / 1.00 /    0. /   67.
  583.29 /   0.59 /                /   6.15 /   0.16 /          *BO*
--------------------------------------------------------------------------
 ROAD OVERFLOW (CFS) / LEFT     363. / RIGHT      32. /
                                                                    *RG*
--------------------------------------------------------------------------
    0 AT    5580 /   110 /  1980. /  1670. /  97962. / 3.67 /  -259. /  649.
  583.29 /   0.08 /  0.03 /   0.04 / 583.38 /   1.19 /  0.16 / -0.011  *AS*
--------------------------------------------------------------------------
   M = 0.19 / E = 0.26 / K* = 0.32 /  1848. /  106067. / 3.78 / -296. /  692.
  583.48 /   0.07 /                / 583.55 /   1.07 /  0.15 /          *AS*
========================== END BRIDGE ANALYSIS ============================

                          END OF THIS PROFILE
```

```
================================================================================
WATER-SURFACE PROFILE FOR: PLUM CREEK                                KNUTILLA
PAGE  1 OF  1
*** FLOODWAY ANALYSIS *** 010 VSA FW
================================================================================
SECID AT DISTANCE/ LENGTH/DISCHARGE/  AREA  /CONVEYANCE/ ALPHA/  LEW  /  REW
  WS ELEV /    HV  /    HF  /    HE  /     EG  /     V  /    FN  /   ACC   *ID*
================================================================================
    L AT    4670 /     0 /   1980. /  3857. /  235301. / 4.41 /   85. /  843.
  580.43 /   0.02 /                 /  580.45 /   0.51 /  0.03/         *IS*
============================ BEGIN BRIDGE ANALYSIS ============================
RR L  AT    4670 /       /   1980. /   264. /   21031. / 1.00 /    0. /   59.
  580.43 /   0.88 /                             /   7.50 /  0.04 /         *BO*
--------------------------------------------------------------------------------
 NO ROAD OVERFLOW
                                                                        *RG*
--------------------------------------------------------------------------------
    M AT    4910 /   240 /   1980. /  6555. /  342399. / 1.72 /  -76. / 2525.
  580.46 /   0.00 /   0.01 /   0.0  /  580.46 /   0.30 /  0.04 / -0.000  *AS*
--------------------------------------------------------------------------------
   M = 0.95 / E = 0.19 / K* = 3.35 / 15651. / 1125386. / 1.30 / -564. / 3041.
  583.39 /   0.00 /                 /  583.39 /   0.13 /  0.01 /         *AS*
============================ END BRIDGE ANALYSIS ==============================
    N AT    5470 /   560 /   1980. /  2009. /  162183. / 2.27 /   41. /  571.
  583.39 /   0.03 /   0.01 /   0.02 /  583.42 /   0.99 /  0.11 /  0.005  *XS*
============================ BEGIN BRIDGE ANALYSIS ============================
RR N  AT    5470 /       /   1507. /   256. /   14930. / 1.00 /    0. /   67.
  583.39 /   0.54 /                             /   5.88 /  0.16 /         *BO*
--------------------------------------------------------------------------------
 ROAD OVERFLOW (CFS) / LEFT      407. / RIGHT       64. /
                                                                        *RG*
--------------------------------------------------------------------------------
    0 AT    5580 /   110 /   1980. /  1766. /  102328. / 3.73 / -279. /  673.
  583.40 /   0.07 /   0.03 /   0.03 /  583.47 /   1.12 /  0.16 / -0.011  *AS*
--------------------------------------------------------------------------------
   M = 0.16 / E = 0.36 / K* = 0.25 /  1900. /  108476. / 3.80 / -307. /  704.
  583.53 /   0.06 /                 /  583.60 /   1.04 /  0.15 /         *AS*
============================ END BRIDGE ANALYSIS ==============================

                          END OF THIS PROFILE
```

*** INPUT CARD PRINTOUT ***

```
1    20 PLUM CR FWY                                  KNUTILLA  2  5  2 99 12
2    21  58329  58329  58329  58329  58329
3   250     M 1  64  5  576    4910  2  4
4   251   1980   1980   1980   1980   1980
5   255    -999  1  5860     0  1  5800   64  1  5793  108  1  5787  155  1  5784
5   256     197  1  5779   230  1  5785  261  1  5785  296  1  5775  318  1  5776
5   257     348  1  5775   387  1  5779  437  1  5777  478  1  5773  517  1  5770
5   258     556  1  5768   597  1  5769  640  1  5771  672  1  5770  700  1  5770
5   259     761  1  5772   781  1  5772  803  1  5780  851  1  5779  900  1  5773
5   260     937  1  5770   984  1  5770 1034  1  5775 1073  1  5781 1108  2  5783
5   261    1115  2  5741  1115  2  5725 1123  3  5725 1151  4  5725 1152  5  5754
5   262    1197  5  5754  1235  5  5752 1269  5  5754 1316  5  5754 1372  5  5757
5   263    1414  5  5776  1436  5  5787 1455  5  5781 1510  5  5782 1563  5  5782
5   264    1601  5  5782  1655  5  5780 1717  5  5778 1767  5  5777 1830  5  5780
5   265    1883  5  5774  1923  5  5780 1944  5  5781 1980  5  5785 2036  5  5787
5   266    2113  5  5793  2171  5  5793 2221  5  5793 2267  5  5793 2321  5  5795
5   267    2375  5  5802  2408  5  5802 2445  5  5800 3500  5  5860
6   270  1  2 050 050  1  2 040 040  1  2 040 040  1  2 040 040  1  2 065 065
3   275     N 0  22  3  576    5470  1  3
5   278     -50  1  5870     0  1  5820   71  1  5797  116  1  5797  159  1  5807
5   279     194  1  5808   238  1  5808  280  1  5808  307  1  5815  320  2  5752
5   280     325  2  5746   325  2  5725  360  2  5725  360  2  5746  364  3  5752
5   281     380  3  5780   391  3  5794  425  3  5791  458  3  5806  471  3  5806
5   282     507  3  5807  1500  3  5870
6   285  1  2 050 050  1  2 040 040  1  2 070 070
```

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
M AT 4910 / 583.29	0 / 0.00	1980. /	15298. / 583.29	1090901. / 0.13	1.31 / 0.01	-548. /	3023.	*IS*
N AT 5470 / 583.29	560 / 0.03	1980. / 0.01	2421. / 0.02	162351. / 583.32	3.12 / 0.82	-13. / 0.11	915. / 0.003	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID AT WS	DISTANCE / ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
M AT	4910	0	1980.	12502.	1090848.	1.19	129.	2261.	
	583.39	0.00		583.39	0.16	0.01			*IS*
N AT	5470	560	1980.	2014.	162412.	2.27	41.	573.	
	583.39	0.03	0.01	0.02	583.42	0.98	0.11	0.004	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/10/74

*** INPUT CARD PRINTOUT ***

```
1   308 PLUM CREEK AT MONROE, MI FWY              KNUTILLA  7  5  2 99 12
2   309  58348  58348  58348  58348  58348
3   310     0 1  18  3  577    5580  1  3
4   311   1980   1980   1980   1980   1980
5   312    -999  1  5850    0  1  5820   80  1  5816  109  1  5811  144  1  5796
5   313     172  1  5786  180  2  5786  190  2  5757  190  2  5735  224  2  5735
5   314     231  3  5764  247  3  5779  251  3  5783  276  3  5795  303  3  5803
5   315     326  3  5812  352  3  5820 1500  3  5850
6   317  1  2 050 050  1  2 045 045  1  2 100 100
3   320 BR  0 2  12  1  577    5580        0       3 0
                                                M                                    **ERROR(S)**
5   323       0  1  5794    0  1  5735    5  1  5734   10  1  5732   15  1  5729
5   324      20  1  5738   27  1  5752   33  1  5761   37  1  5754   41  1  5757
5   325      41  1  5794    0 -9  5794
6   328  1  2 035 035
3   331    01 4  28  3   22          1  3          1 1 1              1
5   334    -900  1  5880 -430  1  5850    0  1  5810   59  1  5807  107  1  5804
5   335     156  1  5803  218  1  5801  270  1  5800  327  1  5800  388  1  5800
5   336     445  1  5807  484  1  5814  500  2  5818  507  2  5820  538  2  5820
5   337     550  3  5817  573  3  5814  617  3  5807  661  3  5808  702  3  5814
5   338     754  3  5815  786  3  5811  836  3  5811  880  3  5811  934  3  5811
5   339    1000  3  5810 2100  3  5850 3050  3  5900
3   341     P 5  27  4  580    5680  3  4
5   344    -306  1  5900   64  1  5850 1000  1  5820 1043  1  5808 1069  1  5808
5   345    1093  1  5808 1106  1  5811 1130  1  5812 1165  1  5803 1213  1  5797
5   346    1243  1  5794 1264  2  5788 1267  3  5772 1269  3  5761 1269  3  5736
5   347    1308  3  5736 1308  4  5772 1341  4  5780 1385  4  5791 1422  4  5799
5   348    1462  4  5808 1499  4  5809 1534  4  5813 1563  4  5813 1580  4  5820
5   349    2708  4  5850 4058  4  5900
6   352  1  2 040 040  1  2 045 045  1  2 045 045  1  2 040 040
3   355     Q 0  16  3  580    5970  1  3
5   358    -369  1  5900  -69  1  5850 1000  1  5820 1047  1  5799 1091  1  5802
5   359    1113  1  5800 1131  2  5790 1135  2  5765 1135  2  5740 1165  2  5740
5   360    1165  2  5765 1169  2  5775 1185  2  5801 1193  3  5820 2193  3  5850
5   361    3493  3  5900
6   364  1  2 040 040  1  2 045 045  1  2 040 040
3   367     R 0  16  3  582    6530  1  3
5   370     -54  1  5900  446  1  5850 1000  1  5830 1031  1  5828 1083  1  5827
5   371    1111  1  5826 1131  1  5826 1146  2  5825 1157  2  5778 1157  2  5758
5   372    1190  2  5758 1190  2  5778 1194  2  5782 1201  3  5830 2101  3  5850
5   373    3401  3  5900
6   376  1  2 045 045  1  2 045 045  1  2 040 040
3   379     S 0  13  3  584    6910  1  3
5   382    -540  1  5900    0  1  5850   21  1  5843   40  2  5841   60  2  5824
5   383      74  2  5781   74  2  5776  104  2  5776  104  2  5781  107  2  5792
5   384     117  2  5818  130  3  5850 2230  3  5900
6   387  1  2 045 045  1  2 055 055  1  2 040 040
```

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI FWY KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
0 AT 5580 /	0 /	1980. /	2159. /	107500. /	4.73 /	-493. /	918.	
583.48 /	0.06 /		/ 583.54 /	0.92 /	0.15/			*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 /	/	0. /	209. /	15385. /	1.00 /	0. /	41.	
583.48 /	0.0 /			/ 0.0 /	0.07 /			*BO*
ROAD OVERFLOW (CFS) / LEFT 5811. / RIGHT 5698. /								*RG*
P AT 5680 /	100 /	1980. /	3023. /	191176. /	1.86 /	517. /	2162.	
583.55 /	0.01 /	0.02 /	0.0 /	583.56 /	0.65 /	0.07 /	-0.000	*AS*
M = **** / E = **** / K* = **** /			3023. /	191176. /	1.86 /	517. /	2162.	
583.55 /	0.01 /		/ 583.56 /	0.65 /	0.07 /			*AS*
END BRIDGE ANALYSIS								
Q AT 5970 /	290 /	1980. /	1739. /	101337. /	2.11 /	433. /	1724.	
583.59 /	0.04 /	0.06 /	0.02 /	583.63 /	1.14 /	0.15 /	-0.000	*XS*
R AT 6530 /	560 /	1980. /	853. /	50722. /	2.49 /	741. /	1622.	
583.94 /	0.21 /	0.43 /	0.08 /	584.14 /	2.32 /	0.29 /	-0.001	*XS*
S AT 6910 /	380 /	1980. /	415. /	28844. /	1.05 /	4. /	129.	
584.87 /	0.37 /	1.02 /	0.08 /	585.25 /	4.77 /	0.41 /	0.001	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 9/21/76

*** INPUT CARD PRINTOUT ***

```
1    20 PLUM CREEK                                  KNUTILLA  6  2  2  5 12
2    21  58330  58340
3   250     M 1  64  5  576    4910  2  4
4   251   1980   1980
5   255    -999  1  5860    0  1  5800   64  1  5793  108  1  5787  155  1  5784
5   256     197  1  5779  230  1  5785  261  1  5785  296  1  5775  318  1  5776
5   257     348  1  5775  387  1  5779  437  1  5777  478  1  5773  517  1  5770
5   258     556  1  5768  597  1  5769  640  1  5771  672  1  5770  700  1  5770
5   259     761  1  5772  781  1  5772  803  1  5780  851  1  5779  900  1  5773
5   260     937  1  5770  984  1  5770 1034  1  5775 1073  1  5781 1108  2  5783
5   261    1115  2  5741 1115  2  5725 1123  3  5725 1151  4  5725 1152  5  5754
5   262    1197  5  5754 1235  5  5752 1269  5  5754 1316  5  5754 1372  5  5757
5   263    1414  5  5776 1436  5  5787 1455  5  5781 1510  5  5782 1563  5  5782
5   264    1601  5  5782 1655  5  5780 1717  5  5778 1767  5  5777 1830  5  5780
5   265    1883  5  5774 1923  5  5780 1944  5  5781 1980  5  5785 2036  5  5787
5   266    2113  5  5793 2171  5  5793 2221  5  5793 2267  5  5793 2321  5  5795
5   267    2375  5  5802 2408  5  5802 2445  5  5800 3500  5  5860
6   270  1  2 050 050  1  2 040 040  1  2 040 040  1  2 040 040  1  2 065 065
3   275     N 0  22  3  576    5470  1  3
5   278     -50  1  5870    0  1  5820   71  1  5797  116  1  5797  159  1  5807
5   279     194  1  5808  238  1  5808  280  1  5808  307  1  5815  320  2  5752
5   280     325  2  5746  325  2  5725  360  2  5725  360  2  5746  364  3  5752
5   281     380  3  5780  391  3  5794  425  3  5791  458  3  5806  471  3  5806
5   282     507  3  5807 1500  3  5870
6   285  1  2 050 050  1  2 040 040  1  2 070 070
3   290 RR N  2  19  1  576    5470        0       3 0
                                                M                                    **ERROR(S)**
5   292       0  1  5792    0  1  5761    6  1  5753   12  1  5751   19  1  5747
5   293      19  1  5792    0 -9  5792   24  1  5792   24  1  5743   36  1  5730
5   294      43  1  5732   43  1  5792   24 -9  5792   48  1  5792   48  1  5730
5   295      60  1  5763   67  1  5772   67  1  5792   48 -9  5792
6   297  1  2 038 038
3   300    N1 4  24  2   31          1  2          2 2                1
5   302       0  1  5838   57  1  5838  114  1  5832  162  1  5827  198  1  5828
5   303     225  1  5828  265  1  5828  317  1  5828  372  1  5835  418  1  5835
5   304     458  1  5835  500  2  5835  555  2  5833  595  2  5833  623  2  5833
5   305     650  2  5835  702  2  5835  745  2  5835  798  2  5835  857  2  5835
5   306     905  2  5835  936  2  5835  967  2  5834 1001  2  5834
3   310     0 5  19  5  577    5580  1  5
5   312    -999  1  5870    0  1  5820   80  1  5816  109  1  5811  144  1  5796
5   313     172  1  5786  180  2  5786  190  3  5757  190  3  5735  224  3  5735
5   314     224  3  5735  231  4  5764  247  5  5779  251  5  5783  276  5  5795
5   315     303  5  5803  326  5  5812  352  5  5820 1500  5  5870
6   317  1  2 050 050  1  2 050 050  1  2 045 045  1  2 100 100  1  2 100 100
3   311     0 0  19  5  577    5590  1  5
                                                                          SEQUENCE ERROR
5   312    -999  1  5870    0  1  5820   80  1  5816  109  1  5811  144  1  5796
5   313     172  1  5786  180  2  5786  190  3  5757  190  3  5735  224  3  5735
5   314     224  3  5735  231  4  5764  247  5  5779  251  5  5783  276  5  5795
5   315     303  5  5803  326  5  5812  352  5  5820 1500  5  5870
```

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
M AT	4910 /	0 /	1980. /	15334. /	1094382. /	1.31 /	-549. /	3025.
583.30 /	0.00 /			583.30 /	0.13 /	0.01 /		*IS*
N AT	5470 /	560 /	1980. /	2430. /	163020. /	3.11 /	-13. /	917.
583.30 /	0.03 /	0.01 /	0.02 /	583.33 /	0.81 /	0.11 /	0.003	*XS*
BEGIN BRIDGE ANALYSIS								
RR N AT	5470 /	/	1575. /	256. /	14930. /	1.00 /	0. /	67.
583.30 /	0.59 /				6.15 /	0.16 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		372. / RIGHT		35. /				*RG*
0 AT	5580 /	110 /	1980. /	1684. /	98568. /	3.68 /	-262. /	653.
583.31 /	0.08 /	0.03 /	0.04 /	583.39 /	1.18 /	0.16 /	-0.011	*AS*
M = 0.18 / E = 0.29 / K* = 0.31 /				1857. /	106512. /	3.78 /	-298. /	694.
583.49 /	0.07 /			583.56 /	1.07 /	0.15 /		*AS*
END BRIDGE ANALYSIS								
0 AT	5590 /	10 /	1980. /	1857. /	106512. /	3.78 /	-298. /	694.
583.49 /	0.07 /	0.00 /	0.0 /	583.56 /	1.07 /	0.15 /	-0.004	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	
M AT 4910 / 583.40	0 / 0.01	1980. /	3016. / 583.41	305530. / 0.66	1.32 / 0.04	1008. /	1408.	*IS*
N AT 5470 / 583.40	560 / 0.16	1980. / 0.08	749. / 0.07	94970. / 583.56	1.45 / 2.64	307. / 0.19	407. / -0.002	*XS*
BEGIN BRIDGE ANALYSIS								
RR N AT 5470 / 583.40	/ 0.46	1394. /	256. /	14930. / 5.44	1.00 / 0.15	0. /	67.	*BO*
ROAD OVERFLOW (CFS) / LEFT 470. / RIGHT 110. /								*RG*
0 AT 5580 / 583.53	110 / 0.06	1980. / 0.04	1900. / 0.0	108487. / 583.60	3.80 / 1.04	-307. / 0.15	704. / -0.000	*AS*
M = 0.10 / E = 0.57 / K* = 0.14 / 583.60	1966. / 0.06		/ 583.66	111536. / 1.01	3.83 / 0.15	-319. /	719.	*AS*
END BRIDGE ANALYSIS								
0 AT 5590 / 583.55	10 / 0.18	1980. / 0.00	729. / 0.06	77082. / 583.72	1.53 / 2.72	172. / 0.21	272. / 0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI FWY KNUTILLA
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
0 AT 5580	/ 0	/ 1980.	/ 1316.	/ 107521.	/ 1.92	/ -20.	/ 300.	
583.58	/ 0.07	/	/ 583.65	/ 1.50	/ 0.15/			*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580	/	/ 0.	/ 209.	/ 15385.	/ 1.00	/ 0.	/ 41.	
583.58	/ 0.0	/	/ 0.0	/ 0.07	/			*BO*
ROAD OVERFLOW (CFS) / LEFT 6252. / RIGHT 6252. /								*RG*
P AT 5680	/ 100	/ 1980.	/ 3202.	/ 203080.	/ 1.83	/ 484.	/ 2202.	
583.65	/ 0.01	/ 0.02	/ 0.0	/ 583.67	/ 0.62	/ 0.07	/ =0.000	*AS*
M = **** / E = **** / K* = ****			/ 3202.	/ 203080.	/ 1.83	/ 484.	/ 2202.	
583.65	/ 0.01	/	/ 583.67	/ 0.62	/ 0.07	/		*AS*
END BRIDGE ANALYSIS								
Q AT 5970	/ 290	/ 1980.	/ 1194.	/ 101122.	/ 1.28	/ 969.	/ 1377.	
583.69	/ 0.05	/ 0.06	/ 0.02	/ 583.74	/ 1.66	/ 0.15	/ -0.000	*XS*
R AT 6530	/ 560	/ 1980.	/ 667.	/ 50628.	/ 1.62	/ 998.	/ 1324.	
584.03	/ 0.22	/ 0.43	/ 0.08	/ 584.26	/ 2.97	/ 0.29	/ -0.000	*XS*
S AT 6910	/ 380	/ 1980.	/ 405.	/ 29224.	/ 1.00	/ 40.	/ 130.	
584.97	/ 0.37	/ 1.01	/ 0.07	/ 585.34	/ 4.88	/ 0.41	/ 0.000	*XS*

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
1    20 PLUM CR FWY                                KNUTILLA  4  5  2 99 12
2    21  58355  58355  58355  58355  58355
3   341     P 1  27  4  580    5680  2  4
4   343   1980   1980   1980   1980   1980
5   344    -306  1  5900   64  1  5850 1000  1  5820 1043  1  5808 1069  1  5808
5   345    1093  1  5808 1106  1  5811 1130  1  5812 1165  1  5803 1213  1  5797
5   346    1243  1  5794 1264  2  5788 1267  3  5772 1269  3  5761 1269  3  5736
5   347    1308  3  5736 1308  4  5772 1341  4  5780 1385  4  5791 1422  4  5799
5   348    1462  4  5808 1499  4  5809 1534  4  5813 1563  4  5813 1580  4  5820
5   349    2708  4  5850 4058  4  5900
6   352  1  2 040 040  1  2 045 045  1  2 045 045  1  2 040 040
3   355     Q 0  16  3  580    5970  1  3
5   358    -369  1  5900  -69  1  5850 1000  1  5820 1047  1  5799 1091  1  5802
5   359    1113  1  5800 1131  2  5790 1135  2  5765 1135  2  5740 1165  2  5740
5   360    1165  2  5765 1169  2  5775 1185  2  5801 1193  3  5820 2193  3  5850
5   361    3493  3  5900
6   364  1  2 040 040  1  2 045 045  1  2 040 040
3   367     R 0  16  3  582    6530  1  3
5   370     -54  1  5900  446  1  5850 1000  1  5830 1031  1  5828 1083  1  5827
5   371    1111  1  5826 1131  1  5826 1146  2  5825 1157  2  5778 1157  2  5758
5   372    1190  2  5758 1190  2  5778 1194  2  5782 1201  3  5830 2101  3  5850
5   373    3401  3  5900
6   376  1  2 045 045  1  2 045 045  1  2 040 040
3   379     S 0  13  3  584    6910  1  3
5   382    -540  1  5900    0  1  5850   21  1  5843   40  2  5841   60  2  5824
5   383      74  2  5781   74  2  5776  104  2  5776  104  2  5781  107  2  5792
5   384     117  2  5818  130  3  5850 2230  3  5900
6   387  1  2 045 045  1  2 055 055  1  2 040 040
```

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

SECID AT WS	DISTANCE / ELEV	LENGTH/DISCHARGE/ HV	HF	HE	AREA / EG	CONVEYANCE/ V	ALPHA/ FN	LEW / ACC	REW / *ID*
P AT	5680 /	0 /	1980. /	3025. /	191309. /	1.86 /	516. /	2163.	
583.55 /	0.01 /			/ 583.56 /	0.65 /	0.07/		*IS*	
Q AT	5970 /	290 /	1980. /	1741. /	101425. /	2.11 /	432. /	1724.	
583.59 /	0.04 /	0.06 /	0.02 /	583.64 /	1.14 /	0.15 /	-0.000	*XS*	
R AT	6530 /	560 /	1980. /	853. /	50749. /	2.49 /	741. /	1622.	
583.94 /	0.21 /	0.43 /	0.08 /	584.14 /	2.32 /	0.29 /	-0.001	*XS*	
S AT	6910 /	380 /	1980. /	415. /	28847. /	1.05 /	4. /	129.	
584.87 /	0.37 /	1.02 /	0.08 /	585.25 /	4.77 /	0.41 /	0.001	*XS*	

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CR FWY KNUTILLA

*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*								
P AT	5680 /	0 /	1980. /	1884. /	191299. /	1.14 /	1050. /	1476.
583.65 /	0.02 /			/ 583.67 /	1.05 /	0.09 /		*IS*
Q AT	5970 /	290 /	1980. /	1197. /	101302. /	1.28 /	968. /	1377.
583.69 /	0.05 /	0.06 /	0.02 /	583.75 /	1.65 /	0.15 /	-0.000	*XS*
R AT	6530 /	560 /	1980. /	668. /	50715. /	1.63 /	998. /	1326.
584.03 /	0.22 /	0.43 /	0.08 /	584.26 /	2.96 /	0.29 /	-0.000	*XS*
S AT	6910 /	380 /	1980. /	405. /	29222. /	1.00 /	40. /	130.
584.97 /	0.37 /	1.01 /	0.07 /	585.34 /	4.89 /	0.41 /	0.000	*XS*

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
1   308 PLUM CREEK AT MONROE, MI                KNUTILLA  7  5  2 99 12
2   309  57935  58055  58192  58348  58527
3   310     0 1  18  3  577    5580  1  3
4   311   1000   1350   1670   1980   2700
5   312   -999  1  5850    0  1  5820   80  1  5816  109  1  5811  144  1  5796
5   313    172  1  5786  180  2  5786  190  2  5757  190  2  5735  224  2  5735
5   314    231  3  5764  247  3  5779  251  3  5783  276  3  5795  303  3  5803
5   315    326  3  5812  352  3  5820 1500  3  5850
6   317  1  2 050 050  1  2 045 045  1  2 100 100
3   320 BR  0 2  12  1  577    5580        0       3 0
                                            M                          **ERROR(S)**
5   323      0  1  5794    0  1  5735    5  1  5734   10  1  5732   15  1  5729
5   324     20  1  5738   27  1  5752   33  1  5761   37  1  5754   41  1  5757
5   325     41  1  5794    0 -9  5794
6   328  1  2 035 035
3   331    01 4  28  3   22          1  3          1 1 1              1
5   334   -900  1  5880 -430  1  5850    0  1  5810   59  1  5807  107  1  5804
5   335    156  1  5803  218  1  5801  270  1  5800  327  1  5800  388  1  5800
5   336    445  1  5807  484  1  5814  500  2  5818  507  2  5820  538  2  5820
5   337    550  3  5817  573  3  5814  617  3  5807  661  3  5808  702  3  5814
5   338    754  3  5815  786  3  5811  836  3  5811  880  3  5811  934  3  5811
5   339   1000  3  5810 2100  3  5850 3050  3  5900
3   341     P 5  28  4  580    5680  3  4
5   344   -306  1  5900 -260  1  5853  140  1  5836 1000  1  5820 1043  1  5808
5   345   1069  1  5808 1093  1  5808 1106  1  5811 1130  1  5812 1165  1  5803
5   346   1213  1  5797 1243  1  5794 1264  2  5788 1267  3  5772 1269  3  5761
5   347   1269  3  5736 1308  3  5736 1308  4  5772 1341  4  5780 1385  4  5791
5   348   1422  4  5799 1462  4  5808 1499  4  5809 1534  4  5813 1563  4  5813
5   349   1580  4  5820 2708  4  5850 4058  4  5900
6   352  1  2 040 040  1  2 045 045  1  2 045 045  1  2 040 040
3   355     Q 0  20  3  580    5970  1  3
5   358   -369  1  5900  -69  1  5850  620  1  5853  850  1  5836 1000  1  5820
5   359   1047  1  5799 1091  1  5802 1113  1  5800 1131  2  5790 1135  2  5765
5   360   1135  2  5740 1165  2  5740 1165  2  5765 1169  2  5775 1185  2  5801
5   361   1193  3  5820 1230  3  5836 2120  3  5836 2480  3  5853 3493  3  5900
6   364  1  2 040 040  1  2 045 045  1  2 040 040
3   367     R 0  17  3  582    6530  1  3
5   370     -54  1  5900  900  1  5854 1000  1  5830 1031  1  5828 1083  1  5827
5   371    1111  1  5826 1131  1  5826 1146  2  5825 1157  2  5778 1157  2  5758
5   372    1190  2  5758 1190  2  5778 1194  2  5782 1201  3  5830 1230  3  5854
5   373    2101  3  5850 3401  3  5900
6   376  1  2 045 045  1  2 045 045  1  2 040 040
3   379     S 0  13  3  584    6910  1  3
5   382   -540  1  5900    0  1  5850   21  1  5843   40  2  5841   60  2  5824
5   383     74  2  5781   74  2  5776  104  2  5776  104  2  5781  107  2  5792
5   384    117  2  5818  130  3  5850 2230  3  5900
6   387  1  2 045 045  1  2 055 055  1  2 040 040
```

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT / WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW / *ID*
0 AT	5580 /	0 /	1000. /	317. /	24337. /	1.38 /	151. /	273.
579.35 /	0.21 /		/	579.56 /	3.15 /	0.30/		*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT	5580 /	/	894. /	207. /	22461. /	1.00 /	0. /	41.
579.35 /	0.29 /			/	4.32 /	0.34 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		103. / RIGHT		0. /				*RG*
P AT	5680 /	100 /	1000. /	366. /	28100. /	1.37 /	1228. /	1406.
579.55 /	0.16 /	0.15 /	0.0 /	579.71 /	2.73 /	0.25 /	-0.000	*AS*
M = 0.78 / E = 0.61 / K* = 2.57 /				536. /	40016. /	1.51 /	1165. /	1440.
580.29 /	0.08 /			/ 580.38 /	1.87 /	0.18 /		*AS*
END BRIDGE ANALYSIS								
Q AT	5970 /	290 /	1000. /	305. /	22374. /	1.24 /	1033. /	1187.
580.54 /	0.21 /	0.32 /	0.06 /	580.75 /	3.28 /	0.31 /	-0.012	*XS*
R AT	6530 /	560 /	1000. /	238. /	20395. /	1.00 /	1148. /	1199.
581.74 /	0.27 /	1.23 /	0.03 /	582.01 /	4.20 /	0.34 /	0.000	*XS*
S AT	6910 /	380 /	1000. /	243. /	14956. /	1.00 /	53. /	122.
583.00 /	0.26 /	1.25 /	0.0 /	583.26 /	4.11 /	0.39 /	0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE/ WS ELEV	LENGTH/DISCHARGE/ HV	HF	HE	AREA /CONVEYANCE/ EG	V	ALPHA/ FN	LEW / ACC	REW / *ID*
0 AT 5580 / 580.55	0 / 0.20	1350.	503.	38021. / 580.75	1.76 / 2.68	122. / 0.27	309.	*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 / 580.55	/ 0.11	565.	209.	15385. / 580.70	1.00 / 2.70	0. / 0.20	41.	*BO*
ROAD OVERFLOW (CFS) / LEFT 772. / RIGHT 14. /								*RG*
P AT 5680 / 580.75	100 / 0.10	1350. / 0.10	668. / 0.0	50083. / 580.84	1.52 / 2.02	1148. / 0.20	1460. / -0.000	*AS*
M = 0.48 / E = 1.00 / K* = 1.41 / 580.91	726. / 0.09		51617. / 581.00	1.72 / 1.86	1039. / 0.19	1500.		*AS*
END BRIDGE ANALYSIS								
Q AT 5970 / 581.18	290 / 0.21	1350. / 0.34	409. / 0.06	30389. / 581.40	1.26 / 3.30	1018. / 0.32	1190. / -0.000	*XS*
R AT 6530 / 582.44	560 / 0.37	1350. / 1.34	275. / 0.08	25077. / 582.82	1.00 / 4.90	1146. / 0.38	1200. / 0.000	*XS*
S AT 6910 / 583.90	380 / 0.29	1350. / 1.38	312. / 0.0	20039. / 584.19	1.00 / 4.32	42. / 0.39	126. / 0.000	*XS*

END OF THIS PROFILE

25-4r.

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH/DISCHARGE / HV	HF	HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW / *ID*
0 AT 5580 /	0 /	1670. /	827. /	59165. /	2.32 /	16. /	349.	
581.92 /	0.15 /		/ 582.07 /	2.02 /	0.22/		*IS*	
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 /	/	0. /	209. /	15385. /	1.00 /	0. /	41.	
581.92 /	0.0 /		/	0.0 /	0.13 /		*BO*	
ROAD OVERFLOW (CFS) / LEFT 3315. / RIGHT 1678. /								*RG*
P AT 5680 /	100 /	1670. /	1347. /	95421. /	1.67 /	959. /	1609.	
582.08 /	0.04 /	0.05 /	0.0 /	582.12 /	1.24 /	0.13 /	-0.000	*AS*
M = **** / E = **** / K* = **** /			1347. /	95421. /	1.67 /	959. /	1609.	
582.08 /	0.04 /		/ 582.12 /	1.24 /	0.13 /		*AS*	
END BRIDGE ANALYSIS								
Q AT 5970 /	290 /	1670. /	599. /	47290. /	1.24 /	981. /	1198.	
582.20 /	0.15 /	0.18 /	0.05 / 582.35 /	2.79 /	0.26 /	-0.000	*XS*	
R AT 6530 /	560 /	1670. /	371. /	31601. /	1.28 /	995. /	1202.	
583.12 /	0.40 /	1.05 /	0.13 / 583.52 /	4.50 /	0.38 /	0.000	*XS*	
S AT 6910 /	380 /	1670. /	374. /	25298. /	1.03 /	14. /	128.	
584.53 /	0.32 /	1.33 /	0.0 / 584.85 /	4.47 /	0.39 /	0.001	*XS*	

END OF THIS PROFILE

50-1

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
0 AT 5580 / 583.48	0 / 0.06	1980. /	2159. / 583.54	107500. / 0.92	4.73 / 0.15	-493. /	918.	*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 / 583.48	/ 0.0	0. /	209. /	15385. / 0.0	1.00 / 0.07	0. /	41.	*BO*
ROAD OVERFLOW (CFS) / LEFT 5811. / RIGHT 5698. /								*RG*
P AT 5680 / 583.55	100 / 0.01	1980. / 0.02	3295. / 0.0	196794. / 583.56	2.00 / 0.60	167. / 0.07	2163. / -0.000	*AS*
M = **** / E = **** / K* = **** / 583.55			3295. / 0.01	196794. / 583.56	2.00 / 0.60	167. / 0.07	2163.	*AS*
END BRIDGE ANALYSIS								
Q AT 5970 / 583.58	290 / 0.08	1980. / 0.07	1010. / 0.04	82145. / 583.67	1.37 / 1.96	851. / 0.18	1230. / 0.000	*XS*
R AT 6530 / 584.05	560 / 0.27	1980. / 0.56	588. / 0.09	47467. / 584.32	1.53 / 3.37	956. / 0.31	1214. / 0.000	*XS*
S AT 6910 / 585.04	380 / 0.34	1980. / 1.02	437. / 0.04	30726. / 585.38	1.07 / 4.53	-4. / 0.39	147. / 0.000	*XS*

END OF THIS PROFILE

180-4

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
0 AT 5580 / 585.27	0 / 0.01	2700. /	5805. / 585.28	280288. / 0.47	3.76 / 0.06	-999. /	1500.	*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 / 585.27	/ 0.0	0. /	209. /	15385. / 0.0	1.00 / 0.04	0. /	41.	*BO*
ROAD OVERFLOW (CFS) / LEFT 8149. / RIGHT 9137. /								*RG*
P AT 5680 / 585.28	100 / 0.00	2700. / 0.00	7685. / 0.01	555388. / 585.28	1.34 / 0.35	-255. / 0.04	2783. / -0.011	*AS*
M = **** / E = **** / K* = **** / 585.28	7685. / 0.00			555388. / 585.28	1.34 / 0.35	-255. / 0.04	2783.	*AS*
END BRIDGE ANALYSIS								
Q AT 5970 / 585.28	290 / 0.02	2700. / 0.02	3731. / 0.01	214039. / 585.30	2.15 / 0.72	-86. / 0.09	2476. / -0.011	*XS*
R AT 6530 / 585.43	560 / 0.16	2700. / 0.22	1219. / 0.07	85682. / 585.59	2.11 / 2.22	894. / 0.24	2213. / 0.000	*XS*
S AT 6910 / 586.02	380 / 0.26	2700. / 0.64	839. / 0.05	50352. / 586.28	1.63 / 3.22	-110. / 0.33	559. / -0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT / WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW / *ID*
P AT	5680	0	1980.	3296.	196854.	1.99	167.	2163.
583.55	0.01			583.56	0.60	0.07		*IS*
Q AT	5970	290	1980.	1011.	82161.	1.37	851.	1230.
583.59	0.08	0.07	0.04	583.67	1.96	0.18	0.000	*XS*
R AT	6530	560	1980.	588.	47477.	1.53	956.	1214.
584.05	0.27	0.56	0.09	584.32	3.37	0.31	0.000	*XS*
S AT	6910	380	1980.	437.	30726.	1.07	-4.	147.
585.04	0.34	1.02	0.04	585.38	4.53	0.39	0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

*** FLOODWAY ANALYSIS *** 010 VSA FW

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
		HV	HF	HE	EG	V	FN	ACC	*ID*
P	AT	5680	0	1980.	1966.	196824.	1.15	1011.	1470.
583.65		0.02			583.67	1.01	0.08		*IS*
Q	AT	5970	290	1980.	809.	82570.	1.05	1031.	1193.
583.68		0.10	0.07	0.04	583.78	2.45	0.18	0.000	*XS*
R	AT	6530	560	1980.	547.	47459.	1.34	1025.	1201.
584.15		0.27	0.56	0.09	584.43	3.62	0.31	0.000	*XS*
S	AT	6910	380	1980.	420.	30947.	1.00	40.	130.
585.13		0.35	1.01	0.04	585.48	4.71	0.38	0.001	*XS*

END OF THIS PROFILE

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Monroe Twp

3) WATERCOURSE: Plum Creek

4) DOCUMENT TYPE: Input

00BREAK00

*** INPUT CARD PRINTOUT ***

```
1     1 RIVER RAISIN                                                    10  6  2  5 12
2     2  59825  59885  59917  60000  59917  59917
3  1851 BL AV 1  21  3  596   27330  1  3
4  1852  10200  14400  16500  22000  16500  16500
5  1854       0  1  6020   24  1  6001   50  1  5992   67  1  5996   82  1  5996
5  1855     114  1  5982  157  1  5974  203  1  5969  241  1  5975  283  1  5980
5  1856     313  1  5972  354  1  5981  386  1  5989  420  1  5979  435  2  5979
5  1857     442  2  5946  442  2  5905  772  2  5905  772  2  5946  773  3  5969
5  1858     784  3  6020
6  1861  1  2 040 040  1  2 032 032  1  2 050 050
3  1864 BM AW 0  21  3  596   27640  1  3
5  1867       0  1  6020    4  1  6015   34  1  6009   71  1  5988   95  1  5990
5  1868     119  1  5990  163  1  5978  214  1  5978  242  1  5975  283  1  5975
5  1869     323  1  5968  375  1  5967  402  1  5973  429  2  5975  432  2  5949
5  1870     432  2  5909  779  2  5909  779  2  5949  787  3  5969  804  3  5978
5  1871     815  3  6020
6  1874  1  2 045 045  1  2 032 032  1  2 040 040
3  1877 BN AX 0  30  3  596   28180  1  3
5  1880       0  1  6020   34  1  6001   83  1  5986  140  1  5981  220  1  5991
5  1881     296  1  5988  347  1  5981  393  1  5984  436  1  5989  473  1  5996
5  1882     488  1  5997  516  1  5997  558  1  6000  576  1  6000  597  1  5993
5  1883     633  1  5992  650  2  5992  660  2  5981  673  2  5951  673  2  5908
5  1884    1019  2  5908 1019  2  5951 1023  3  5963 1085  3  5974 1126  3  5972
5  1885    1170  3  5967 1236  3  5966 1288  3  5969 1312  3  6001 1338  3  6020
6  1888  1  2 040 040  1  2 032 032  1  2 200 100
3  1891 BO AY 0  26  3  596   28700  1  3
5  1894       0  1  6020   38  1  6008   75  1  6004  112  1  5993  130  1  6001
5  1895     158  1  6000  168  2  6010  188  2  5984  197  2  5960  197  2  5920
5  1896     543  2  5920  543  2  5960  551  2  5978  580  3  5988  622  3  5988
5  1897     678  3  5985  779  3  5985  840  3  5981  884  3  5981  914  3  5974
5  1898     927  3  5979  947  3  5979  992  3  5986 1042  3  5994 1077  3  6000
5  1899    1102  3  6020
6  1902  1  2 045 045  1  2 034 034  1  2 040 040
3  1905 BP AZ 0  28  3  596   29200  1  3
5  1908       0  1  6020   14  1  6001   30  1  6017   54  1  6007   85  1  6004
5  1909      99  2  6000  107  2  5970  107  2  5937  418  2  5937  418  2  5970
5  1910     421  2  5979  445  3  6002  499  3  6008  550  3  6008  587  3  6011
5  1911     625  3  6002  663  3  5980  691  3  5975  739  3  5982  780  3  5979
5  1912     829  3  5987  872  3  5987  928  3  5986  972  3  5981 1020  3  5979
5  1913    1071  3  5981 1101  3  6002 1134  3  6020
6  1916  1  2 045 045  1  2 035 035  1  2 080 080
3  1919 BQ BA 0  27  3  599   29730  1  3
5  1922       0  1  6050   18  1  6041   40  1  6023   72  1  6025   87  1  6020
5  1923      90  2  5971   90  2  5940  385  2  5940  385  2  5971  387  2  5980
5  1924     422  3  6001  477  3  6018  526  3  6010  577  3  6005  637  3  6000
5  1925     689  3  6001  742  3  6001  790  3  5999  836  3  5994  934  3  5994
5  1926     988  3  5982 1045  3  5980 1105  3  5981 1152  3  6000 1191  3  6017
5  1927    1233  3  6035 1268  3  6050
6  1930  1  2 030 030  1  2 040 040  1  2 080 080
```

Input

H

I

J

*** INPUT CARD PRINTOUT ***

```
3 2000 WRC 0 0  22  3  600   30510  1  3
5 2005       0  1  6051   75  1  6043  140  2  6005  158  2  5957  176  2  5935
5 2006     214  2  5941  228  2  5930  271  2  5936  321  2  5933  365  2  5935
5 2007     393  2  5934  417  2  5938  428  2  5946  428  3  5972  439  3  5979
5 2008     515  3  5985  582  3  5983  660  3  5999 1009  3  5999 1063  3  6010
5 2009    1083  3  6028 1430  3  6050
6 2012  1  2 080 080  1  2 032 032  1  2 080 080
3  900 1     0  48  3  598   32020  1  3                                  SEQUENCE ERROR
5 1000       0  1  6070 3200  1  6068 3230  1  6068 3294  1  6012 3370  1  6000
5 1001    3405  1  6008 3455  1  5998 3505  2  5998 3515  2  5954 3535  2  5943
5 1002    3545  2  5940 3555  2  5939 3560  2  5943 3560  2  5965 3570  2  5972
5 1003    3580  2  5976 3585  2  5954 3595  2  5942 3605  2  5938 3635  2  5949
5 1004    3645  2  5942 3655  2  5943 3665  2  5941 3685  2  5945 3695  2  5943
5 1005    3705  2  5936 3735  2  5935 3745  2  5937 3755  2  5948 3765  2  5941
5 1006    3775  2  5944 3785  2  5940 3795  2  5940 3815  2  5945 3825  2  5938
5 1007    3835  2  5938 3845  2  5937 3855  2  5939 3865  2  5939 3875  2  5934
5 1008    3885  3  5946 3895  3  5975 3955  3  5991 4005  3  5991 4055  3  6000
5 1009    4120  3  6006 4170  3  6050 4340  3  6055
6 1010  1  2 080 080  1  2 032 032  1  2 080 080
3 1090 2     0  44  3  600   37050  1  3
5 1100       0  1  6125  800  1  6150 1390  1  6100 1400  1  6050 1420  1  6100
5 1101    2560  1  6100 2730  1  6050 2840  1  6050 3300  1  6054 3350  1  6054
5 1102    3450  1  6061 3500  1  6050 3550  1  6042 3600  2  6039 3620  2  5993
5 1103    3630  2  5983 3650  2  5983 3660  2  5982 3680  2  5986 3700  2  5987
5 1104    3710  2  5990 3720  2  5997 3730  2  6000 3740  2  6000 3750  2  6001
5 1105    3770  2  5999 3780  2  5996 3790  2  5988 3800  2  5985 3820  2  5998
5 1106    3840  2  6001 3850  2  5997 3860  2  6000 3870  2  5992 3880  2  5996
5 1107    3890  2  5995 3900  2  5990 3910  2  5992 3920  2  5990 3930  2  6004
5 1108    3938  3  6047 3950  3  6064 4020  3  6107 4220  3  6138
6 1110  1  2 080 080  1  2 032 032  1  2 080 080
3 1190 3     0  54  3  602   40670  1  3
5 1200       0  1  6130 1650  1  6150 1750  1  6150 2180  1  6150 2540  1  6100
5 1201    2650  1  6050 2680  1  6000 2700  1  6050 3000  1  6048 3035  1  6053
5 1202    3050  1  6100 3078  1  6109 3150  1  6092 3200  1  6085 3250  1  6087
5 1203    3300  2  6070 3330  2  6034 3350  2  6026 3360  2  6032 3380  2  6018
5 1204    3440  2  6018 3450  2  6017 3460  2  6019 3470  2  6019 3480  2  6016
5 1205    3490  2  6018 3500  2  6018 3510  2  6016 3520  2  6020 3530  2  6031
5 1206    3540  2  6032 3550  2  6029 3560  2  6018 3570  2  6014 3580  2  6015
5 1207    3600  2  6030 3620  2  6028 3630  2  6020 3640  2  6031 3650  2  6026
5 1208    3660  2  6024 3670  2  6024 3680  2  6019 3690  2  6017 3700  2  6022
5 1209    3710  2  6034 3712  3  6057 3732  3  6070 3743  3  6098 3750  3  6103
5 1210    3800  3  6119 3850  3  6118 3900  3  6119 4100  3  6119
6 1211  1  2 080 080  1  2 032 032  1  2 080 080
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WATER-SURFACE PROFILE FOR: RIVER RAISIN
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
BL AV AT 27330 / 598.25	0 / 0.24	10200. /	2759. /	459836. / 598.49	1.11 / 3.70	113. / 0.25	776.	*IS*
BM AW AT 27640 / 598.42	310 / 0.22	10200. / 0.15	2956. / 0.0	467662. / 598.64	1.17 / 3.45	140. / 0.25	806. / -0.000	*XS*
BN AX AT 28180 / 598.67	540 / 0.20	10200. / 0.24	3318. / 0.0	494781. / 598.87	1.36 / 3.07	81. / 0.23	1301. / -0.010	*XS*
BO AY AT 28700 / 598.94	520 / 0.25	10200. / 0.30	2705. / 0.03	364018. / 599.20	1.15 / 3.77	184. / 0.29	1013. / -0.000	*XS*
BP AZ AT 29200 / 599.44	500 / 0.43	10200. / 0.58	2347. / 0.09	244751. / 599.87	1.46 / 4.35	100. / 0.41	1090. / 0.003	*XS*
BQ BA AT 29730 / 600.42	530 / 0.36	10200. / 0.92	2586. / 0.0	245794. / 600.79	1.51 / 3.94	88. / 0.36	1162. / -0.000	*XS*
WRC D AT 30510 / 601.32	780 / 0.27	10200. / 0.80	3338. / 0.0	411070. / 601.59	1.88 / 3.06	126. / 0.28	1067. / -0.000	*XS*
1 AT 32020 / 602.11	1510 / 0.16	10200. / 0.68	4012. / 0.0	563700. / 602.27	1.54 / 2.54	3284. / 0.21	4137. / 0.000	*XS*
2 AT 37050 / 605.20	5030 / 0.43	10200. / 3.22	2070. / 0.14	288217. / 605.63	1.13 / 4.93	1400. / 0.39	3942. / 0.001	*XS*
3 AT 40670 / 608.42	3620 / 0.17	10200. / 2.95	4144. / 0.0	442447. / 608.58	1.75 / 2.46	2575. / 0.25	3738. / 0.001	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: RIVER RAISIN
PAGE 1 OF 1

SECID AT WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW / *ID*
BL AV AT	27330	0	14400.	3145.	530394.	1.18	99.	777.
598.85	0.39			599.23	4.58	0.31		*IS*
BM AW AT	27640	310	14400.	3426.	552298.	1.25	66.	807.
599.10	0.34	0.22	0.0	599.44	4.20	0.30	-0.012	*XS*
BN AX AT	28180	540	14400.	4143.	603162.	1.56	54.	1307.
599.49	0.29	0.34	0.0	599.78	3.48	0.27	-0.000	*XS*
BO AY AT	28700	520	14400.	3487.	474548.	1.27	94.	1068.
599.84	0.34	0.38	0.02	600.18	4.13	0.32	-0.000	*XS*
BP AZ AT	29200	500	14400.	3128.	331271.	1.64	12.	1105.
600.40	0.54	0.66	0.10	600.94	4.60	0.44	-0.000	*XS*
BQ BA AT	29730	530	14400.	3631.	343526.	1.78	87.	1186.
601.47	0.44	0.97	0.0	601.90	3.97	0.37	-0.000	*XS*
WRC D AT	30510	780	14400.	4388.	547371.	2.09	107.	1079.
602.42	0.35	0.86	0.0	602.76	3.28	0.31	-0.000	*XS*
1 AT	32020	1510	14400.	5062.	743614.	1.66	3270.	4151.
603.32	0.21	0.77	0.0	603.53	2.84	0.23	0.000	*XS*
2 AT	37050	5030	14400.	3557.	427357.	1.88	1397.	3951.
606.48	0.48	3.28	0.13	606.95	4.05	0.38	0.002	*XS*
3 AT	40670	3620	14400.	5394.	612932.	1.93	2549.	3742.
609.61	0.21	2.87	0.0	609.82	2.67	0.27	0.002	*XS*

END OF THIS PROFILE

5030'

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 18,DATE= 3/26/76

WATER-SURFACE PROFILE FOR: RIVER RAISIN
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW										
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*		
BL AV AT 27330 /	0 /	16500. /	3364. /	571760. /	1.21 /	92. /	778.			
599.17 /	0.45 /		/ 599.62 /	4.91 /	0.33/		*IS*		BB	
BM AW AT 27640 /	310 /	16500. /	3704. /	604413. /	1.28 /	59. /	808.			
599.47 /	0.39 /	0.24 /	0.0 /	599.87 /	4.45 /	0.31 /	-0.001	*XS*	BC	
BN AX AT 28180 /	540 /	16500. /	4634. /	668202. /	1.67 /	40. /	1311.			
599.90 /	0.33 /	0.36 /	0.0 /	600.23 /	3.56 /	0.29 /	-0.000	*XS*	BD	
BO AY AT 28700 /	520 /	16500. /	3909. /	537742. /	1.30 /	79. /	1081.			
600.28 /	0.36 /	0.39 /	0.02 /	600.64 /	4.22 /	0.33 /	-0.000	*XS*	BE	
BP AZ AT 29200 /	500 /	16500. /	3537. /	375275. /	1.77 /	9. /	1113.			
600.84 /	0.60 /	0.67 /	0.12 /	601.44 /	4.66 /	0.45 /	0.001	*XS*	BF	
BQ BA AT 29730 /	530 /	16500. /	4156. /	396201. /	1.87 /	87. /	1197.			
601.95 /	0.46 /	0.97 /	0.0 /	602.41 /	3.97 /	0.38 /	0.000	*XS*	BG	
WRC D AT 30510 /	780 /	16500. /	4857. /	612284. /	2.16 /	99. /	1098.			
602.89 /	0.39 /	0.88 /	0.0 /	603.28 /	3.40 /	0.32 /	0.000	*XS*		
1 AT 32020 /	1510 /	16500. /	5533. /	829901. /	1.70 /	3264. /	4157.			
603.86 /	0.24 /	0.81 /	0.0 /	604.09 /	2.98 /	0.24 /	-0.000	*XS*		
2 AT 37050 /	5030 /	16500. /	4264. /	501648. /	2.09 /	1396. /	3960.			
607.02 /	0.49 /	3.29 /	0.13 /	607.51 /	3.87 /	0.38 /	0.002	*XS*		
3 AT 40670 /	3620 /	16500. /	5954. /	694132. /	1.98 /	2533. /	3747.			
610.10 /	0.24 /	2.83 /	0.0 /	610.34 /	2.77 /	0.27 /	0.001	*XS*		

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: RIVER RAISIN

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
BL AV AT	27330 /	0 /	22000. /	3965. /	687768. /	1.28 /	27. /	780.	
600.00 /	0.61 /		/	600.61 /	5.55 /	0.37/		*IS*	
BM AW AT	27640 /	310 /	22000. /	4401. /	744862. /	1.32 /	43. /	811.	
600.39 /	0.51 /	0.29 /	0.0 /	600.91 /	5.00 /	0.35 /	-0.001	*XS*	
BN AX AT	28180 /	540 /	22000. /	5952. /	859814. /	1.82 /	19. /	1323.	
600.93 /	0.39 /	0.41 /	0.0 /	601.31 /	3.70 /	0.30 /	-0.000	*XS*	
BO AY AT	28700 /	520 /	22000. /	4996. /	715466. /	1.34 /	21. /	1094.	
601.33 /	0.40 /	0.41 /	0.01 /	601.73 /	4.40 /	0.33 /	-0.000	*XS*	
BP AZ AT	29200 /	500 /	22000. /	4665. /	505429. /	1.95 /	1. /	1131.	
601.86 /	0.67 /	0.67 /	0.14 /	602.54 /	4.72 /	0.45 /	-0.000	*XS*	
BQ BA AT	29730 /	530 /	22000. /	5350. /	528137. /	1.95 /	32. /	1221.	
602.98 /	0.51 /	0.96 /	0.0 /	603.50 /	4.11 /	0.39 /	-0.001	*XS*	
WRC D AT	30510 /	780 /	22000. /	5994. /	757499. /	2.41 /	81. /	1262.	
603.94 /	0.51 /	0.94 /	0.0 /	604.44 /	3.67 /	0.35 /	0.002	*XS*	
1 AT	32020 /	1510 /	22000. /	6631. /	1039157. /	1.79 /	3250. /	4192.	
605.06 /	0.31 /	0.93 /	0.0 /	605.37 /	3.32 /	0.26 /	-0.000	*XS*	
2 AT	37050 /	5030 /	22000. /	5982. /	703747. /	2.39 /	1393. /	3981.	
608.30 /	0.50 /	3.33 /	0.10 /	608.80 /	3.68 /	0.37 /	0.000	*XS*	
3 AT	40670 /	3620 /	22000. /	7412. /	901287. /	2.15 /	2449. /	3780.	
611.27 /	0.29 /	2.76 /	0.0 /	611.56 /	2.97 /	0.29 /	0.000	*XS*	

END OF THIS PROFILE

6f.

6f.

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 32,DATE= 3/26/76

WATER-SURFACE PROFILE FOR: RIVER RAISIN
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** 0.1 VSA FW

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*								
BL AV AT	27330 /	0 /	16500. /	3298. /	576432. /	1.16 /	183. /	773.
599.27 /	0.45 /			599.72 /	5.00 /	0.33/		*IS*
BM AW AT	27640 /	310 /	16500. /	3627. /	615019. /	1.21 /	176. /	787.
599.57 /	0.39 /	0.24 /	0.0 /	599.96 /	4.55 /	0.31 /	-0.000	*XS*
BN AX AT	28180 /	540 /	16500. /	4430. /	671586. /	1.54 /	119. /	1232.
599.98 /	0.33 /	0.36 /	0.0 /	600.32 /	3.72 /	0.28 /	-0.000	*XS*
BO AY AT	28700 /	520 /	16500. /	3833. /	545179. /	1.23 /	173. /	981.
600.36 /	0.36 /	0.39 /	0.01 /	600.71 /	4.31 /	0.32 /	0.000	*XS*
BP AZ AT	29200 /	500 /	16500. /	3424. /	376273. /	1.68 /	99. /	1039.
600.90 /	0.61 /	0.66 /	0.13 /	601.50 /	4.82 /	0.44 /	-0.000	*XS*
BQ BA AT	29730 /	530 /	16500. /	4088. /	396687. /	1.80 /	90. /	1120.
602.01 /	0.46 /	0.97 /	0.0 /	602.47 /	4.04 /	0.37 /	-0.000	*XS*
WRC D AT	30510 /	780 /	16500. /	4978. /	596627. /	2.06 /	97. /	1117.
603.01 /	0.35 /	0.90 /	0.0 /	603.37 /	3.31 /	0.32 /	-0.001	*XS*
1 AT	32020 /	1510 /	16500. /	5222. /	834004. /	1.54 /	3323. /	4063.
.09 603.95 /	0.24 /	0.83 /	0.0 /	604.19 /	3.16 /	0.23 /	-0.000	*XS*
2 AT	37050 /	5030 /	16500. /	4135. /	504217. /	1.96 /	2782. /	3938.
.07 607.09 /	0.49 /	3.26 /	0.12 /	607.57 /	3.99 /	0.37 /	0.002	*XS*
3 AT	40670 /	3620 /	16500. /	5636. /	691443. /	1.83 /	2648. /	3712.
.06 610.16 /	0.24 /	2.83 /	0.0 /	610.40 /	2.93 /	0.27 /	0.001	*XS*

780

1156

1064

100 yr encroached

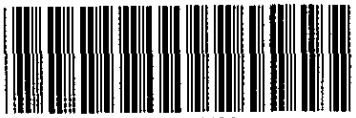
END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 19,DATE= 3/26/76

PAGE 1 OF PROFILE NOTES FOR: RIVER RAISIN
INITIAL VALUES ARE: Q = 22000. H = 600.00

SECID,ERROR OR WARNING MESSAGE,INTERMEDIATE RESULTS(IF ANY),ACTION TAKEN

BP AZ,WS NOT FOUND BETWEEN
,LO = 601.08 HI = 602.00
,TRY SMALLER DELTA H



1) COUNTY: Monroe

2) STUDY NAME: Monroe Twp

3) WATERCOURSE: Plum Creek

4) DOCUMENT TYPE: Input and Summary



*** INPUT CARD PRINTOUT ***

```
1    20 PLUM CREEK                                    KNUTILLA 14  5  2  5 12
2    21  57320  57375  57450  57525  57800
3    22     C 1  12  4  572     230  2  4
4    23   1000   1350   1670   1980   2700
5    60      0  1  5800   41  1  5791   74  1  5778  105  2  5761  109  2  5748
5    61    109  2  5687  130  3  5687  170  4  5687  189  4  5687  189  4  5748
5    62    208  4  5785  226  4  5800
6    65  1  2 070 070  1  2 030 030  1  2 030 030  1  2 030 030
3    66  FX D 0  15  2  572     330  1  2
5    67      0  1  5800    9  1  5748   70  1  5703  120  1  5709  330  1  5712
5    68    500  1  5718 1200  1  5718 1250  1  5725 1470  1  5724 1529  1  5748
5    69   1535  2  5748 1544  2  5770 1560  2  5780 1586  2  5784 1611  2  5788
6    70  1  2 030 030  1  2 070 070
3    71     D 0  17  2  572     530  1  2
5    75      0  1  5800    9  1  5748   70  1  5703  120  1  5709  330  1  5712
5    76    500  1  5718 1200  1  5718 1250  1  5725 1470  1  5724 1529  1  5748
5    77   1535  2  5748 1544  2  5770 1560  2  5780 1586  2  5784 1611  2  5788
5    78   1638  2  5788 1655  2  5800
6    80  1  2 030 030  1  2 070 070
3    85     F 0  11  2  572     860  1  2
5    90      0  1  5800    9  1  5748  110  1  5731  440  1  5719 1630  1  5718
5    91   1750  1  5704 1860  1  5711 1975  2  5748 2001  2  5748 2027  2  5750
5    92   2042  2  5753
6    95  1  2 028 028  1  2 100 100
3   100     F 0  10  2  572    1560  1  2
5   102      0  1  5800   14  1  5748  100  1  5730  340  1  5718 1250  1  5717
5   103   1340  1  5703 1420  1  5710 1507  2  5748 2067  2  5748 2103  2  5750
6   105  1  2 028 028  1  2 100 100
3   110     G 0  19  2  572    2180  1  2
5   112      0  1  5800   44  1  5768   65  1  5753  104  1  5748  200  1  5708
5   113    300  1  5723 1120  1  5722 1310  1  5726 1400  1  5733 1490  1  5736
5   114   1606  1  5748 1745  1  5748 1795  2  5762 1872  2  5756 1973  2  5751
5   115   2055  2  5748 2219  2  5748 2264  2  5751 2290  2  5772
6   120  1  2 028 028  1  2 100 100
3   125     H 0  20  2  572    2650  1  2
5   127      0  1  5800   18  1  5784   27  1  5748  110  1  5708  200  1  5723
5   128   1050  1  5722 1140  1  5726 1230  1  5733 1310  1  5736 1469  1  5748
5   129   1798  1  5748 1852  2  5754 1892  2  5756 1950  2  5756 2004  2  5761
5   130   2192  2  5761 2260  2  5768 2318  2  5775 2352  2  5781 2391  2  5800
6   132  1  2 028 028  1  2 200 200
3   135     I 0  27  3  572    3100  1  3
5   137      0  1  5800   10  2  5748   80  2  5738  150  2  5736  220  2  5708
5   138    290  2  5723  360  2  5738  430  2  5738  500  2  5728  850  2  5728
5   139    920  2  5733  990  2  5733 1060  2  5738 1700  2  5738 1744  3  5750
5   140   1775  3  5750 1810  3  5751 1907  3  5751 2055  3  5751 2107  3  5757
5   141   2182  3  5757 2245  3  5757 2253  3  5769 2320  3  5769 2361  3  5769
5   142   2401  3  5781 2425  3  5800
6   145  1  2 070 070  1  3 030 040  1  2 200 200
3   150     J 0  26  3  574    3700  1  3
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USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 2,DATE= 9/23/74

*** INPUT CARD PRINTOUT ***

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5   152       0  1  5800   20  1  5774   44  1  5758   81  1  5763  120  1  5772
5   153     175  1  5750  184  2  5748  184  2  5720  238  2  5720  238  3  5748
5   154     244  3  5753  274  3  5748  319  3  5741  335  3  5741  362  3  5748
5   155     395  3  5748  445  3  5748  494  3  5748  544  3  5748  602  3  5748
5   156     650  3  5748  710  3  5745  729  3  5745  790  3  5762  821  3  5758
5   157     847  3  5800
6   160  2  3 200 100  1  2 032 032  1  2 200 200
3   161   J-K 0  14  3  575    4090  1  3
5   162       0  1  5850  100  1  5850  200  1  5750  450  2  5750  450  2  5724
5   163     480  2  5724  480  3  5750  700  3  5750  710  3  5800  900  3  5800
5   164     950  3  5750 1100  3  5750 1200  3  5800 1300  3  5850
6   165  1  2 150 150  1  2 034 034  1  2 150 150
3   166     K 0  42  3  575    4480  1  3
5   167    -225  1  5850   34  1  5800   56  1  5809   84  1  5797  102  1  5756
5   168     130  1  5757  147  1  5757  150  2  5748  150  2  5728  198  2  5728
5   169     198  2  5748  200  2  5745  222  3  5780  248  3  5792  285  3  5802
5   170     324  3  5804  361  3  5804  411  3  5803  458  3  5787  499  3  5768
5   171     548  3  5759  600  3  5761  656  3  5761  729  3  5762  765  3  5762
5   172     839  3  5769  879  3  5768  922  3  5768  968  3  5767  984  3  5770
5   173    1020  3  5770 1057  3  5772 1095  3  5775 1138  3  5779 1183  3  5785
5   174    1222  3  5783 1243  3  5783 1253  3  5768 1382  3  5768 1400  3  5776
5   175    1448  3  5800 1600  3  5850
6   178  3  4 200 100  1  2 035 035  1  2 150 150
3   180 RR K  2  24  1  575    4480        0        2 0
                                                M                                  **ERROR(S)**
5   183       0  1  5789    0  1  5731    6  1  5729   12  1  5736   12  1  5789
5   184       0 -9  5789   15  1  5789   15  1  5734   22  1  5728   29  1  5730
5   185      29  1  5789   15 -9  5789   31  1  5789   31  1  5727   38  1  5727
5   186      45  1  5733   45  1  5789   31 -9  5789   48  1  5789   48  1  5742
5   187      54  1  5735   60  1  5730   60  1  5789   48 -9  5789
6   190  1  2 030 030
3   195    K1 4  25  2   37          1  2          2 2                1
5   197       0  1  5839   46  1  5839   91  1  5839  123  1  5839  169  1  5839
5   198     214  1  5841  248  1  5843  289  1  5843  325  1  5845  370  1  5847
5   199     408  1  5848  446  1  5850  479  1  5850  509  2  5850  547  2  5850
5   200     593  2  5846  639  2  5845  680  2  5843  728  2  5843  766  2  5843
5   201     816  2  5843  872  2  5843  907  2  5843  954  2  5843 1000  2  5843
3   205     L 5  25  5  576    4670  2  4
5   207    -999  1  5850    0  1  5800   16  1  5793   29  1  5762   38  1  5786
5   208      60  1  5763   88  1  5748  133  2  5748  133  2  5713  138  3  5713
5   209     175  4  5713  183  4  5713  183  4  5739  186  5  5762  277  5  5768
5   210     329  5  5769  380  5  5767  414  5  5763  453  5  5760  508  5  5750
5   211     841  5  5750  844  5  5770  865  5  5767  891  5  5800  950  5  5850
6   215  1  2 100 100  1  2 030 030  1  2 030 030  1  2 030 030  1  2 100 100
```

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA
PAGE 1 OF 1

SECTD AT / WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LFW / ACC	REW / *ID*
C AT	230	0	1000.	360.	45653.	1.01	109.	189.
573.20	0.12			573.32	2.78	0.25		*TS*
EX D AT	330	100	1000.	2327.	157414.	1.00	29.	1493.
573.33	0.00	0.01	0.0	573.34	0.43	0.06	-0.000	*XS*
D AT	530	200	1000.	2327.	157414.	1.00	29.	1493.
573.33	0.00	0.01	0.0	573.34	0.43	0.06	-0.008	*XS*
E AT	860	330	1000.	2671.	182638.	1.00	96.	1929.
573.33	0.00	0.01	0.0	573.33	0.37	0.05	-0.012	*XS*
F AT	1560	700	1000.	2188.	157420.	1.00	83.	1474.
573.36	0.00	0.02	0.00	573.36	0.46	0.06	0.000	*XS*
G AT	2180	620	1000.	1445.	82822.	1.00	138.	1431.
573.40	0.01	0.05	0.00	573.41	0.69	0.12	0.000	*XS*
H AT	2650	470	1000.	1432.	84781.	1.00	55.	1276.
573.47	0.01	0.07	0.00	573.48	0.70	0.11	0.001	*XS*
I AT	3100	450	1000.	682.	30115.	1.00	136.	1038.
573.64	0.03	0.18	0.01	573.67	1.47	0.28	0.006	*XS*
J AT	3700	600	1000.	214.	13368.	1.93	183.	740.
574.82	0.65	1.49	0.31	575.47	4.67	0.68	-0.002	*XS*
J-K AT	4090	390	1000.	1109.	24970.	10.24	185.	1130.
576.51	0.13	1.17	0.0	576.64	0.90	0.35	0.001	*XS*
K AT	4480	390	1000.	691.	25224.	5.81	95.	1389.
577.10	0.19	0.62	0.03	577.29	1.45	0.35	0.001	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT	4480		1000.	207.	19011.	1.00	0.	60.
577.10	0.36				4.82	0.43		*BO*
NO ROAD OVERFLOW								*RG*
L AT	4670	190	1000.	1595.	74036.	7.30	24.	870.
577.35	0.04	0.10	0.0	577.40	0.63	0.16	0.003	*AS*
M = 0.56 / E = 0.78 / K* = 1.45				2047.	97191.	6.95	22.	874.
577.89	0.03			577.92	0.49	0.12		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

10-yr.

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT / WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	PEW *ID*
C AT	230	0	1350.	404.	54948.	1.02	109.	189.
573.75	0.18			573.93	3.34	0.28		*IS*
EX D AT	330	100	1350.	3218.	267379.	1.00	21.	1508.
573.94	0.00	0.01	0.0	573.94	0.42	0.05	0.000	*XS*
D AT	530	200	1350.	3218.	267379.	1.00	21.	1508.
573.94	0.00	0.01	0.0	573.94	0.42	0.05	-0.005	*XS*
E AT	860	330	1350.	3794.	321521.	1.00	60.	1948.
573.94	0.00	0.01	0.0	573.94	0.36	0.04	-0.008	*XS*
F AT	1560	700	1350.	3006.	262191.	1.00	55.	1487.
573.94	0.00	0.02	0.00	573.94	0.45	0.05	-0.015	*XS*
G AT	2180	620	1350.	2206.	158901.	1.00	124.	1525.
573.96	0.01	0.03	0.00	573.97	0.61	0.09	-0.000	*XS*
H AT	2650	470	1350.	2105.	152929.	1.00	44.	1363.
574.00	0.01	0.04	0.00	574.00	0.64	0.09	0.000	*XS*
I AT	3100	450	1350.	1301.	55089.	1.00	59.	1711.
574.09	0.02	0.10	0.01	574.11	1.04	0.21	0.004	*XS*
J AT	3700	600	1350.	280.	14598.	2.89	178.	745.
574.94	1.04	1.36	0.51	575.98	4.81	0.85	0.002	*XS*
J-K AT	4090	390	1350.	1574.	38539.	8.76	178.	1143.
577.15	0.10	1.26	0.0	577.25	0.86	0.32	0.004	*XS*
K AT	4480	390	1350.	1146.	35821.	7.85	93.	1401.
577.63	0.17	0.51	0.03	577.80	1.18	0.34	-0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT	4480		1350.	235.	22632.	1.00	0.	60.
577.63	0.51				5.75	0.48		*BO*
NO ROAD OVERFLOW								*RG*
L AT	4670	190	1350.	2014.	95391.	6.98	22.	874.
577.85	0.05	0.10	0.0	577.90	0.67	0.17	-0.000	*AS*
M = 0.63 / E = 0.81 / K* = 1.76				2807.	142663.	6.17	18.	881.
578.78	0.02			578.81	0.48	0.03		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

25-11

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
C AT	230 /	0 /	1670. /	464. /	68589. /	1.02 /	109. /	189.
574.50 /	0.21 /		/	574.71 /	3.60 /	0.29 /		*TS*
EX D AT	330 /	100 /	1670. /	4384. /	441731. /	1.00 /	10. /	1527.
574.71 /	0.00 /	0.01 /	0.0 /	574.71 /	0.38 /	0.04 /	-0.000	*XS*
D AT	530 /	200 /	1670. /	4384. /	441731. /	1.00 /	10. /	1527.
574.71 /	0.00 /	0.00 /	0.0 /	574.71 /	0.38 /	0.04 /	-0.003	*XS*
E AT	860 /	330 /	1670. /	5287. /	545435. /	1.00 /	14. /	1972.
574.71 /	0.00 /	0.00 /	0.0 /	574.71 /	0.32 /	0.03 /	-0.005	*XS*
F AT	1560 /	700 /	1670. /	4138. /	435719. /	1.00 /	18. /	1505.
574.71 /	0.00 /	0.01 /	0.00 /	574.72 /	0.40 /	0.04 /	-0.008	*XS*
G AT	2180 /	620 /	1670. /	3291. /	296836. /	1.00 /	106. /	1598.
574.71 /	0.00 /	0.01 /	0.00 /	574.72 /	0.51 /	0.06 /	-0.013	*XS*
H AT	2650 /	470 /	1670. /	3087. /	274524. /	1.00 /	29. /	1457.
574.71 /	0.00 /	0.02 /	0.00 /	574.72 /	0.54 /	0.06 /	-0.016	*XS*
I AT	3100 /	450 /	1670. /	2396. /	139306. /	1.00 /	14. /	1735.
574.74 /	0.01 /	0.03 /	0.00 /	574.75 /	0.70 /	0.10 /	-0.000	*XS*
J AT	3700 /	600 /	1670. /	192. /	12815. /	1.62 /	184. /	738.
574.74 /	1.91 /	0.94 /	0.95 /	576.66 /	8.72 /	1.19 /	0.015	*XS*
J-K AT	4090 /	390 /	1670. /	2217. /	60766. /	7.39 /	170. /	1160.
578.00 /	0.07 /	1.40 /	0.0 /	578.07 /	0.75 /	0.06 /	0.011	*XS*
K AT	4480 /	390 /	1670. /	1794. /	53937. /	8.71 /	90. /	1414.
578.31 /	0.12 /	0.33 /	0.03 /	578.42 /	0.93 /	0.29 /	-0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT	4480 /		1670. /	270. /	27413. /	1.00 /	0. /	60.
578.31 /	0.60 /			/	6.19 /	0.48 /		*BO*
NO ROAD OVERFLOW								*BG*
L AT	4670 /	190 /	1670. /	2527. /	124957. /	6.46 /	20. /	879.
578.46 /	0.04 /	0.08 /	0.0 /	578.50 /	0.66 /	0.04 /	-0.000	*AS*
M = 0.68 / E = 0.82 / K* = 1.96 /				3559. /	194826. /	5.51 /	8. /	888.
579.65 /	0.02 /			/ 579.67 /	0.47 /	0.03 /		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

50-1

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 21,DATE= 9/23/74

PAGE 1 OF PROFILE NOTES FOR: PLUM CREEK KNUTILLA
INITIAL VALUES ARE: Q = 1980. H = 575.25

SECID,ERROR OR WARNING MESSAGE,INTERMEDIATE RESULTS(IF ANY),ACTION TAKEN

J,WS NOT FOUND BETWEEN
,LO = 575.25 HI = 580.00
,TRY SMALLER DELTA H

J,WS NOT FOUND BETWEEN
,LO = 575.25 HI = 580.00
,TRY LOWER ELEVATION

J,FRDN FAILURE
,WS = 573.88 FN = 2.52
,TRY HIGHER ELEVATION

J,FRDN FAILURE
,WS = 573.89 FN = 2.49
,TRY HIGHER ELEVATION

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT WS ELEV	DISTANCE / HV	LENGTH / HF	DISCHARGE / HE	AREA / EG	CONVEYANCE / V	ALPHA / FN	LEW / ACC	REW *ID*
C AT	230 /	0 /	1980. /	525. /	82161. /	1.04 /	108. /	191.
575.25 /	0.23 /		/	575.48 /	3.77 /	0.29/		*IS*
EX D AT	330 /	100 /	1980. /	5586. /	658299. /	1.00 /	8. /	1538.
575.50 /	0.00 /	0.01 /	0.0 /	575.50 /	0.35 /	0.03 /	0.015	*XS*
D AT	530 /	200 /	1980. /	5586. /	658299. /	1.00 /	8. /	1538.
575.50 /	0.00 /	0.00 /	0.0 /	575.50 /	0.35 /	0.03 /	-0.002	*XS*
E AT	860 /	330 /	1980. /	6874. /	834610. /	1.01 /	8. /	2042.
575.50 /	0.00 /	0.00 /	0.0 /	575.50 /	0.29 /	0.03 /	-0.003	*XS*
F AT	1560 /	700 /	1980. /	5728. /	663465. /	1.14 /	12. /	2103.
575.50 /	0.00 /	0.00 /	0.00 /	575.50 /	0.35 /	0.03 /	-0.005	*XS*
G AT	2180 /	620 /	1980. /	4799. /	475367. /	1.08 /	62. /	2269.
575.50 /	0.00 /	0.01 /	0.00 /	575.50 /	0.41 /	0.05 /	-0.008	*XS*
H AT	2650 /	470 /	1980. /	4475. /	432579. /	1.00 /	25. /	1872.
575.50 /	0.00 /	0.01 /	0.00 /	575.50 /	0.44 /	0.05 /	-0.009	*XS*
I AT	3100 /	450 /	1980. /	3842. /	257255. /	1.07 /	9. /	2090.
575.50 /	0.00 /	0.02 /	0.00 /	575.50 /	0.52 /	0.06 /	-0.015	*XS*
J AT	3700 /	600 /	1980. /	381. /	16607. /	4.33 /	172. /	751.
575.13 /	1.82 /	0.55 /	0.91 /	576.94 /	5.20 /	1.11 /	-0.019	*XS*
J-K AT	4090 /	390 /	1980. /	2397. /	67606. /	7.11 /	168. /	1165.
578.23 /	0.08 /	1.36 /	0.0 /	578.31 /	0.83 /	0.06 /	0.001	*XS*
K AT	4480 /	390 /	1980. /	2076. /	62341. /	9.00 /	89. /	1419.
578.57 /	0.13 /	0.36 /	0.03 /	578.70 /	0.95 /	0.30 /	0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT	4480 /	/	1980. /	284. /	29317. /	1.00 /	0. /	60.
578.57 /	0.76 /			/	6.98 /	0.53 /		*BO*
NO ROAD OVERFLOW								*RG*
L AT	4670 /	190 /	1980. /	2762. /	139729. /	6.22 /	18. /	881.
578.73 /	0.05 /	0.09 /	0.0 /	578.78 /	0.72 /	0.04 /	-0.000	*AS*
M = 0.70 / E = 0.85 / K* = 2.06 /				4174. /	237143. /	5.38 /	-65. /	895.
580.33 /	0.02 /			/ 580.35 /	0.47 /	0.03 /		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

100-4

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTTLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
C AT	230	0	2700.	814.	147048.	1.17	69.	205.
578.00	0.20			578.20	3.32	0.23		*IS*
EX D AT	330	100	2700.	9751.	1653847.	1.01	3.	1573.
578.20	0.00	0.00	0.0	578.20	0.28	0.02	-0.000	*XS*
D AT	530	200	2700.	9751.	1653847.	1.01	3.	1573.
578.20	0.00	0.00	0.0	578.20	0.28	0.02	-0.001	*XS*
E AT	860	330	2700.	12377.	2181312.	1.03	3.	2042.
578.20	0.00	0.00	0.0	578.20	0.22	0.02	-0.001	*XS*
F AT	1560	700	2700.	11388.	1754992.	1.32	5.	2103.
578.20	0.00	0.00	0.00	578.20	0.24	0.02	-0.001	*XS*
G AT	2180	620	2700.	10811.	1547446.	1.23	25.	2290.
578.20	0.00	0.00	0.00	578.20	0.25	0.02	-0.002	*XS*
H AT	2650	470	2700.	10395.	1503292.	1.19	18.	2354.
578.20	0.00	0.00	0.00	578.20	0.26	0.02	-0.002	*XS*
I AT	3100	450	2700.	10047.	917105.	1.33	3.	2402.
578.20	0.00	0.00	0.00	578.20	0.27	0.03	-0.002	*XS*
J AT	3700	600	2700.	2595.	84139.	11.92	14.	836.
578.16	0.20	0.06	0.00	578.36	1.04	0.33	-0.000	*XS*
J-K AT	4090	390	2700.	2738.	81184.	6.68	163.	1173.
578.66	0.10	0.42	0.0	578.76	0.99	0.07	-0.016	*XS*
K AT	4480	390	2700.	2635.	81797.	8.75	87.	1429.
579.07	0.14	0.43	0.02	579.21	1.02	0.31	0.001	*XS*
BEGIN BRIDGE ANALYSIS								
RR K AT	4480		2700.	301.	23858.	1.00	0.	60.
579.07	1.25				8.98	0.05		*RO*
NO ROAD OVERFLOW								*RG*
L AT	4670	190	2700.	3208.	169884.	5.77	16.	885.
579.25	0.06	0.10	0.0	579.31	0.84	0.05	-0.000	*AS*
M = 0.75 / E = 0.84 / K* = 2.30				6319.	385501.	5.20	-436.	917.
582.18	0.01			582.20	0.43	0.02		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/ 8/74

*** INPUT CARD PRINTOUT ***

```
1   200 PLUM CREEK                                  KNUTILLA  8  5  2  5 12
2   202  57789  57878  57965  58033  58218
3   204     L 1  25  3  576    4670  1  3
4   206   1000   1350   1670   1980   2700
5   207    -999  1  5850    0  1  5800   16  1  5793   29  1  5762   38  1  5786
5   208      60  1  5763   88  1  5748  133  2  5748  133  2  5713  138  2  5713
5   209     175  2  5713  183  2  5713  183  2  5739  186  3  5762  277  3  5768
5   210     329  3  5769  380  3  5767  414  3  5763  453  3  5760  508  3  5750
5   211     841  3  5750  844  3  5770  865  3  5767  891  3  5800  950  3  5850
6   215  1  2 100 100  1  2 030 030  1  2 100 100
3   230 RR L  2  18  1  576    4670        0       2 0
                                                M                                    **ERROR(S)**
5   232       0  1  5793    0  1  5744    5  1  5738   10  1  5733   15  1  5732
5   233      22  1  5732   28  1  5736   28  1  5793    0 -9  5793   31  1  5793
5   234      31  1  5749   36  1  5752   41  1  5756   46  1  5758   52  1  5759
5   235      59  1  5766   59  1  5793   31 -9  5793
6   238  1  2 030 030
3   240    L1 4  21  2   28          1  2          2 2                1
5   242       0  1  5845   46  1  5845   88  1  5845  133  1  5848  179  1  5850
5   243     231  1  5850  273  1  5850  320  1  5850  371  1  5850  423  1  5849
5   244     475  1  5849  521  2  5849  572  2  5849  646  2  5849  717  2  5849
5   245     765  2  5849  804  2  5849  845  2  5849  910  2  5849  963  2  5849
5   246    1000  2  5849
3   250     M 5  64  5  576    4910  2  4
5   255    -999  1  5860    0  1  5800   64  1  5793  108  1  5787  155  1  5784
5   256     197  1  5779  230  1  5785  261  1  5785  296  1  5775  318  1  5776
5   257     348  1  5775  387  1  5779  437  1  5777  478  1  5773  517  1  5770
5   258     556  1  5768  597  1  5769  640  1  5771  672  1  5770  700  1  5770
5   259     761  1  5772  781  1  5772  803  1  5780  851  1  5779  900  1  5773
5   260     937  1  5770  984  1  5770 1034  1  5775 1073  1  5781 1108  2  5783
5   261    1115  2  5741 1115  2  5725 1123  3  5725 1151  4  5725 1152  5  5754
5   262    1197  5  5754 1235  5  5752 1269  5  5754 1316  5  5754 1372  5  5757
5   263    1414  5  5776 1436  5  5787 1455  5  5781 1510  5  5782 1563  5  5782
5   264    1601  5  5782 1655  5  5780 1717  5  5778 1767  5  5777 1830  5  5780
5   265    1883  5  5774 1923  5  5780 1944  5  5781 1980  5  5785 2036  5  5787
5   266    2113  5  5793 2171  5  5793 2221  5  5793 2267  5  5793 2321  5  5795
5   267    2375  5  5802 2408  5  5802 2445  5  5800 3500  5  5860
6   270  1  2 050 050  1  2 040 040  1  2 040 040  1  2 040 040  1  2 065 065
3   275     N 0  22  3  576    5470  1  3
5   278     -50  1  5870    0  1  5820   71  1  5797  116  1  5797  159  1  5807
5   279     194  1  5808  238  1  5808  280  1  5808  307  1  5815  320  2  5752
5   280     325  2  5746  325  2  5725  360  2  5725  360  2  5746  364  3  5752
5   281     380  3  5780  391  3  5794  425  3  5791  458  3  5806  471  3  5806
5   282     507  3  5807 1500  3  5870
6   285  1  2 050 050  1  2 040 040  1  2 070 070
3   290 RR N  2  19  1  576    5470        0       3 0
                                                M                                    **ERROR(S)**
5   292       0  1  5792    0  1  5761    6  1  5753   12  1  5751   19  1  5747
5   293      19  1  5792    0 -9  5792   24  1  5792   24  1  5743   36  1  5730
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WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
L AT	4670 /	0 /	1000. /	2044. /	95661. /	6.42 /	22. /	874.	
577.89 /	0.02 /		/	577.91 /	0.49 /	0.11/		*IS*	
BEGIN BRIDGE ANALYSIS									
RR L AT	4670 /	/	1000. /	185. /	17862. /	1.00 /	0. /	59.	
577.89 /	0.45 /			/	5.41 /	0.52 /		*BO*	
NO ROAD OVERFLOW									
								RG	
M AT	4910 /	240 /	1000. /	1334. /	50509. /	3.89 /	194. /	1919.	
577.93 /	0.03 /	0.05 /	0.01 /	577.97 /	0.75 /	0.08 /	0.000	*AS*	
M = 0.84 / E = 0.25 / K* = 2.81 /			3690. /	161560. /	2.27 /	68. /	2106.		
579.24 /	0.00 /		/	579.24 /	0.27 /	0.04 /		*AS*	
END BRIDGE ANALYSIS									
N AT	5470 /	560 /	1000. /	342. /	34558. /	1.31 /	312. /	428.	
579.24 /	0.17 /	0.10 /	0.09 /	579.42 /	2.93 /	0.24 /	-0.015	*XS*	
BEGIN BRIDGE ANALYSIS									
RR N AT	5470 /	/	1000. /	256. /	14930. /	1.00 /	0. /	67.	
579.24 /	0.24 /			/	3.90 /	0.29 /		*BO*	
NO ROAD OVERFLOW									
								RG	
0 AT	5580 /	110 /	1000. /	317. /	25310. /	1.43 /	151. /	273.	
579.34 /	0.22 /	0.13 /	0.02 /	579.57 /	3.16 /	0.29 /	-0.001	*AS*	
M = 0.02 / E = 0.28 / K* = 0.02 /			317. /	25359. /	1.44 /	151. /	273.		
579.35 /	0.22 /		/	579.57 /	3.15 /	0.29 /		*AS*	
END BRIDGE ANALYSIS									

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
L AT 4670 / 578.78 /	0 / 0.02 /	1350. /	2804. / 578.80 /	140834. / 0.48 /	5.70 / 0.11/	18. /	881.	*IS*
BEGIN BRIDGE ANALYSIS								
RR L AT 4670 / 578.78 /	/ 0.51 /	1350. /	235. /	25698. / 5.75 /	1.00 / 0.49 /	0. /	59.	*BO*
NO ROAD OVERFLOW								*RG*
M AT 4910 / 578.82 /	240 / 0.01 /	1350. / 0.03 /	2843. / 0.0 /	112470. / 578.83 /	2.88 / 0.47 /	99. / 0.07 /	2051. -0.000	*AS*
M = 0.90 / E = 0.29 / K* = 3.12 / 580.43 /		6489. / 0.00 /		337712. / 580.43 /	1.73 / 0.21 /	-72. / 0.02 /	2521.	*AS*
END BRIDGE ANALYSIS								
N AT 5470 / 580.40 /	560 / 0.18 /	1350. / 0.06 /	541. / 0.09 /	49122. / 580.59 /	1.91 / 2.49 /	49. / 0.24 /	454. -0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR N AT 5470 / 580.40 /	/ 0.43 /	1350. /	256. /	14930. / 5.27 /	1.00 / 0.27 /	0. /	67.	*BO*
NO ROAD OVERFLOW								*RG*
0 AT 5580 / 580.50 /	110 / 0.21 /	1350. / 0.11 /	493. / 0.01 /	38352. / 580.70 /	1.79 / 2.74 /	123. / 0.27 /	308. -0.000	*AS*
M = 0.08 / E = 0.49 / K* = 0.11 / 580.55 /		503. / 0.20 /		39063. / 580.75 /	1.80 / 2.68 /	122. / 0.27 /	309.	*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
L AT	4670 /	0 /	1670. /	3561. /	193081. /	5.09 /	8. /	888.	
579.65 /	0.02 /			/ 579.67 /	0.47 /	0.03/		*IS*	
BEGIN BRIDGE ANALYSIS									
RR L AT	4670 /	/	1670. /	264. /	21031. /	1.00 /	0. /	59.	
579.65 /	0.62 /				/ 6.33 /	0.05 /		*BO*	
NO ROAD OVERFLOW									
								RG	
M AT	4910 /	240 /	1670. /	4666. /	216354. /	2.04 /	29. /	2335.	
579.68 /	0.00 /	0.02 /	0.0 /	579.68 /	0.36 /	0.05 /	-0.000	*AS*	
M = 0.93 / E = 0.23 / K* = 3.26 /			10086. /	617269. /	1.45 /	-285. /	2746.		
581.71 /	0.00 /			/ 581.71 /	0.17 /	0.02 /		*AS*	
END BRIDGE ANALYSIS									
N AT	5470 /	560 /	1670. /	1151. /	79453. /	3.34 /	10. /	663.	
581.69 /	0.11 /	0.03 /	0.05 /	581.80 /	1.45 /	0.19 /	-0.000	*XS*	
BEGIN BRIDGE ANALYSIS									
RR N AT	5470 /	/	1670. /	256. /	14930. /	1.00 /	0. /	67.	
581.69 /	0.66 /				/ 6.52 /	0.23 /		*BO*	
NO ROAD OVERFLOW									
								RG	
0 AT	5580 /	110 /	1670. /	768. /	57074. /	2.22 /	54. /	343.	
581.73 /	0.16 /	0.07 /	0.03 /	581.89 /	2.18 /	0.23 /	0.000	*AS*	
M = 0.17 / E = 0.36 / K* = 0.27 /			828. /	60325. /	2.36 /	15. /	350.		
581.92 /	0.15 /			/ 582.07 /	2.02 /	0.22 /		*AS*	
END BRIDGE ANALYSIS									

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	
L AT 4670 /	0 /	1980. /	4176. /	235225. /	4.97 /	-66. /	895.	
580.33 /	0.02 /		/ 580.35 /	0.47 /	0.03/			*IS*
========== BEGIN BRIDGE ANALYSIS ==========								
RR L AT 4670 /	/	1980. /	264. /	21031. /	1.00 /	0. /	59.	
580.33 /	0.88 /			/ 7.50 /	0.04 /			*BO*
NO ROAD OVERFLOW								*RG*
M AT 4910 /	240 /	1980. /	6297. /	324115. /	1.75 /	-59. /	2508.	
580.36 /	0.00 /	0.01 /	0.0 /	580.36 /	0.31 /	0.04 /	-0.000	*AS*
M = 0.95 / E = 0.19 / K* = 3.34 /			15282. /	1089289. /	1.31 /	-547. /	3023.	
583.29 /	0.00 /		/ 583.29 /	0.13 /	0.01 /			*AS*
========== END BRIDGE ANALYSIS ==========								
N AT 5470 /	560 /	1980. /	2417. /	162041. /	3.12 /	-13. /	914.	
583.29 /	0.03 /	0.01 /	0.02 /	583.32 /	0.82 /	0.11 /	0.004	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
RR N AT 5470 /	/	1574. /	256. /	14930. /	1.00 /	0. /	67.	
583.29 /	0.59 /			/ 6.15 /	0.16 /			*BO*
ROAD OVERFLOW (CFS) / LEFT 363. / RIGHT 32. /								*RG*
0 AT 5580 /	110 /	1980. /	1670. /	97962. /	3.67 /	-259. /	649.	
583.29 /	0.08 /	0.03 /	0.04 /	583.38 /	1.19 /	0.16 /	-0.011	*AS*
M = 0.19 / E = 0.26 / K* = 0.32 /			1848. /	106067. /	3.78 /	-296. /	692.	
583.48 /	0.07 /		/ 583.55 /	1.07 /	0.15 /			*AS*
========== END BRIDGE ANALYSIS ==========								

END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: PLUM CREEK KNUTILLA
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
L AT 4670	0	2700.	6316.	382569.	4.82	-436.	917.	
582.18	0.01			582.19	0.43	0.03		*IS*
BEGIN BRIDGE ANALYSIS								
RR L AT 4670		2029.	264.	21031.	1.00	0.	59.	
582.18	0.92			7.69	0.02			*BO*
ROAD OVERFLOW (CFS) / LEFT 392. / RIGHT 274. /								*RG*
M AT 4910	240	2700.	11577.	745376.	1.40	-365.	2830.	
582.19	0.00	0.01	0.00	582.19	0.23	0.02	-0.011	*AS*
M = 0.95 / E = 0.13 / K* = 3.34		23006.	1900909.	1.23	-876.	3370.		
585.26	0.00			585.26	0.12	0.01		*AS*
END BRIDGE ANALYSIS								
N AT 5470	560	2700.	4577.	333072.	2.56	-33.	1226.	
585.26	0.01	0.01	0.01	585.28	0.59	0.05	-0.000	*XS*
BEGIN BRIDGE ANALYSIS								
RR N AT 5470		0.	256.	14930.	1.00	0.	67.	
585.26	0.0			0.0	0.07			*BO*
ROAD OVERFLOW (CFS) / LEFT 1364. / RIGHT 1182. /								*RG*
0 AT 5580	110	2700.	4304.	230724.	3.66	-654.	1103.	
585.27	0.02	0.01	0.02	585.29	0.63	0.07	-0.011	*AS*
M = 0.0 / E = 0.0 / K* = 0.01		4304.	230724.	3.66	-654.	1103.		
585.27	0.02			585.29	0.63	0.07		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE=10/ 9/74

*** INPUT CARD PRINTOUT ***

```
1   308 PLUM CREEK AT MONROE, MI                    KNUTILLA  7  5  2  5 12
2   309  57935  58055  58192  58348  58527
3   310     0 1  18  3  577    5580  1  3
4   311   1000   1350   1670   1980   2700
5   312    -999  1  5850    0  1  5820   80  1  5816  109  1  5811  144  1  5796
5   313     172  1  5786  180  2  5786  190  2  5757  190  2  5735  224  2  5735
5   314     231  3  5764  247  3  5779  251  3  5783  276  3  5795  303  3  5803
5   315     326  3  5812  352  3  5820 1500  3  5850
6   317  1  2 050 050  1  2 045 045  1  2 100 100
3   320 BR  0 2  12  1  577    5580        0       3 0
                                                M                                    **ERROR(S)**
5   323       0  1  5794    0  1  5735    5  1  5734   10  1  5732   15  1  5729
5   324      20  1  5738   27  1  5752   33  1  5761   37  1  5754   41  1  5757
5   325      41  1  5794    0 -9  5794
6   328  1  2 035 035
3   331    01 4  28  3   22          1  3          1 1 1                1
5   334    -900  1  5880 -430  1  5850    0  1  5810   59  1  5807  107  1  5804
5   335     156  1  5803  218  1  5801  270  1  5800  327  1  5800  388  1  5800
5   336     445  1  5807  484  1  5814  500  2  5818  507  2  5820  538  2  5820
5   337     550  3  5817  573  3  5814  617  3  5807  661  3  5808  702  3  5814
5   338     754  3  5815  786  3  5811  836  3  5811  880  3  5811  934  3  5811
5   339    1000  3  5810 2100  3  5850 3050  3  5900
3   341     P 5  27  4  580    5680  3  4
5   344    -306  1  5900   64  1  5850 1000  1  5820 1043  1  5808 1069  1  5808
5   345    1093  1  5808 1106  1  5811 1130  1  5812 1165  1  5803 1213  1  5797
5   346    1243  1  5794 1264  2  5788 1267  3  5772 1269  3  5761 1269  3  5736
5   347    1308  3  5736 1308  4  5772 1341  4  5780 1385  4  5791 1422  4  5799
5   348    1462  4  5808 1499  4  5809 1534  4  5813 1563  4  5813 1580  4  5820
5   349    2708  4  5850 4058  4  5900
6   352  1  2 040 040  1  2 045 045  1  2 045 045  1  2 040 040
3   355     Q 0  16  3  580    5970  1  3
5   358    -369  1  5900  -69  1  5850 1000  1  5820 1047  1  5799 1091  1  5802
5   359    1113  1  5800 1131  2  5790 1135  2  5765 1135  2  5740 1165  2  5740
5   360    1165  2  5765 1169  2  5775 1185  2  5801 1193  3  5820 2193  3  5850
5   361    3493  3  5900
6   364  1  2 040 040  1  2 045 045  1  2 040 040
3   367     R 0  16  3  582    6530  1  3
5   370     -54  1  5900  446  1  5850 1000  1  5830 1031  1  5828 1083  1  5827
5   371    1111  1  5826 1131  1  5826 1146  2  5825 1157  2  5778 1157  2  5758
5   372    1190  2  5758 1190  2  5778 1194  2  5782 1201  3  5830 2101  3  5850
5   373    3401  3  5900
6   376  1  2 045 045  1  2 045 045  1  2 040 040
3   379     S 0  13  3  584    6910  1  3
5   382    -540  1  5900    0  1  5850   21  1  5843   40  2  5841   60  2  5824
5   383      74  2  5781   74  2  5776  104  2  5776  104  2  5781  107  2  5792
5   384     117  2  5818  130  3  5850 2230  3  5900
6   387  1  2 045 045  1  2 055 055  1  2 040 040
```

PAGE 1 OF PROFILE NOTES FOR: PLUM CREEK AT MONROE, MI KNUTILLA
INITIAL VALUES ARE: Q = 1000. H = 579.35

SECID,ERROR OR WARNING MESSAGE,INTERMEDIATE RESULTS(IF ANY),ACTION TAKEN

P,WS NOT FOUND BETWEEN
,LO = 580.00 HI = 590.00
,TRY SMALLER DELTA H

P,WS NOT FOUND BETWEEN
,LO = 580.00 HI = 590.00
,TRY LOWER ELEVATION

P,FRDN FAILURE
,WS = 574.26 FN = 8.37
,TRY HIGHER ELEVATION

R,WS NOT FOUND BETWEEN
,LO = 582.00 HI = 590.00
,TRY SMALLER DELTA H

R,WS NOT FOUND BETWEEN
,LO = 582.00 HI = 590.00
,TRY LOWER ELEVATION

S,WS NOT FOUND BETWEEN
,LO = 584.00 HI = 590.00
,TRY SMALLER DELTA H

S,WS NOT FOUND BETWEEN
,LO = 584.00 HI = 590.00
,TRY LOWER ELEVATION

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
0 AT 5580 / 579.35	/ 0.21	0 /	1000. /	317. / 579.56	24337. / 3.15	1.38 / 0.30	151. /	273. / *IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 / 579.35	/ 0.29	/	894. /	207. /	22461. / 4.32	1.00 / 0.34	0. /	41. / *BO*
ROAD OVERFLOW (CFS) / LEFT 103. / RIGHT 0. /								*RG*
P AT 5680 / 579.55	/ 0.16	100 / 0.15	1000. / 0.0	366. / 579.71	28100. / 2.73	1.37 / 0.25	1228. / -0.000	1406. / *AS*
M = 0.78 / E = 0.61 / K* = 2.57 / 580.29	/ 0.08			536. / 580.38	40016. / 1.87	1.51 / 0.18	1165. /	1440. / *AS*
END BRIDGE ANALYSIS								
Q AT 5970 / 580.54	/ 0.21	290 / 0.32	1000. / 0.06	305. / 580.75	22374. / 3.28	1.24 / 0.31	1033. / -0.012	1187. / *XS*
R AT 6530 / 581.74	/ 0.27	560 / 1.23	1000. / 0.03	238. / 582.01	20395. / 4.20	1.00 / 0.34	1148. / 0.000	1199. / *XS*
S AT 6910 / 583.00	/ 0.26	380 / 1.25	1000. / 0.0	243. / 583.26	14956. / 4.11	1.00 / 0.39	53. / 0.000	122. / *XS*

END OF THIS PROFILE

10

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV	HV	HF	HE	EG	V	FN	ACC	*ID*
0 AT 5580	/ 0	/ 1350.	/ 503.	/ 38021.	/ 1.76	/ 122.	/ 309.	
580.55	/ 0.20	/	/ 580.75	/ 2.68	/ 0.27	/		*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580	/	/ 565.	/ 209.	/ 15385.	/ 1.00	/ 0.	/ 41.	
580.55	/ 0.11	/		/ 2.70	/ 0.20	/		*BO*
ROAD OVERFLOW (CFS) / LEFT 772. / RIGHT 14. /								*RG*
P AT 5680	/ 100	/ 1350.	/ 668.	/ 50083.	/ 1.52	/ 1148.	/ 1460.	
580.75	/ 0.10	/ 0.10	/ 0.0	/ 580.84	/ 2.02	/ 0.20	/ -0.000	*AS*
M = 0.48 / E = 1.00 / K* = 1.41	/ 726.	/ 51617.	/ 1.72	/ 1039.	/ 1500.			
580.91	/ 0.09	/	/ 581.00	/ 1.86	/ 0.19	/		*AS*
END BRIDGE ANALYSIS								
Q AT 5970	/ 290	/ 1350.	/ 409.	/ 30389.	/ 1.26	/ 1018.	/ 1190.	
581.18	/ 0.21	/ 0.34	/ 0.06	/ 581.40	/ 3.30	/ 0.32	/ -0.000	*XS*
R AT 6530	/ 560	/ 1350.	/ 275.	/ 25077.	/ 1.00	/ 1146.	/ 1200.	
582.44	/ 0.37	/ 1.34	/ 0.08	/ 582.82	/ 4.90	/ 0.38	/ 0.000	*XS*
S AT 6910	/ 380	/ 1350.	/ 312.	/ 20039.	/ 1.00	/ 42.	/ 126.	
583.90	/ 0.29	/ 1.38	/ 0.0	/ 584.19	/ 4.32	/ 0.39	/ 0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
0 AT 5580	/ 0	/ 1670.	/ 827.	/ 59165.	/ 2.32	/ 16.	/ 349.	
581.92	/ 0.15	/	/ 582.07	/ 2.02	/ 0.22	/		*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580	/	/ 0.	/ 209.	/ 15385.	/ 1.00	/ 0.	/ 41.	
581.92	/ 0.0	/	/	/ 0.0	/ 0.13	/		*BO*
ROAD OVERFLOW (CFS) / LEFT 3314. / RIGHT 1678. /								*RG*
P AT 5680	/ 100	/ 1670.	/ 1347.	/ 96127.	/ 1.64	/ 976.	/ 1609.	
582.08	/ 0.04	/ 0.05	/ 0.0	/ 582.12	/ 1.24	/ 0.13	/ -0.000	*AS*
M = **** / E = **** / K* = ****			/ 1347.	/ 96127.	/ 1.64	/ 976.	/ 1609.	
582.08	/ 0.04	/	/ 582.12	/ 1.24	/ 0.13	/		*AS*
END BRIDGE ANALYSIS								
Q AT 5970	/ 290	/ 1670.	/ 610.	/ 45330.	/ 1.40	/ 928.	/ 1260.	
582.20	/ 0.16	/ 0.19	/ 0.06	/ 582.36	/ 2.74	/ 0.27	/ -0.000	*XS*
R AT 6530	/ 560	/ 1670.	/ 388.	/ 32083.	/ 1.36	/ 956.	/ 1273.	
583.16	/ 0.39	/ 1.07	/ 0.12	/ 583.55	/ 4.31	/ 0.38	/ -0.001	*XS*
S AT 6910	/ 380	/ 1670.	/ 374.	/ 25368.	/ 1.03	/ 14.	/ 128.	
584.54	/ 0.32	/ 1.30	/ 0.0	/ 584.86	/ 4.46	/ 0.39	/ 0.001	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW									
WS ELEV / HV / HF / HE / EG / V / FN / ACC									*ID*
0 AT	5580 /	0 /	1980. /	2159. /	107500. /	4.73 /	-493. /	918.	
583.48 /	0.06 /			583.54 /	0.92 /	0.15/			*IS*
BEGIN BRIDGE ANALYSIS									
BR 0 AT	5580 /	/	0. /	209. /	15385. /	1.00 /	0. /	41.	
583.48 /	0.0 /				0.0 /	0.07 /			*BO*
ROAD OVERFLOW (CFS) / LEFT 5811. / RIGHT 5698. /									*RG*
P AT	5680 /	100 /	1980. /	3023. /	191176. /	1.86 /	517. /	2162.	
583.55 /	0.01 /	0.02 /	0.0 /	583.56 /	0.65 /	0.07 /	-0.000		*AS*
M = **** / E = **** / K* = **** /				3023. /	191176. /	1.86 /	517. /	2162.	
583.55 /	0.01 /			583.56 /	0.65 /	0.07 /			*AS*
END BRIDGE ANALYSIS									
Q AT	5970 /	290 /	1980. /	1739. /	101337. /	2.11 /	433. /	1724.	
583.59 /	0.04 /	0.06 /	0.02 /	583.63 /	1.14 /	0.15 /	-0.000		*XS*
R AT	6530 /	560 /	1980. /	853. /	50722. /	2.49 /	741. /	1622.	
583.94 /	0.21 /	0.43 /	0.08 /	584.14 /	2.32 /	0.29 /	-0.001		*XS*
S AT	6910 /	380 /	1980. /	415. /	28844. /	1.05 /	4. /	129.	
584.87 /	0.37 /	1.02 /	0.08 /	585.25 /	4.77 /	0.41 /	0.001		*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK AT MONROE, MI KNUTILLA

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	VELOCITY / FN	ALPHA / LEW	REW / ACC	
0 AT 5580 / 585.27	0 / 0.01	2700. /	5805. / 585.28	280288. / 0.47	3.76 / 0.06	-999. /	1500.	*IS*
BEGIN BRIDGE ANALYSIS								
BR 0 AT 5580 / 585.27	/ 0.0	0. /	209. /	15385. / 0.0	1.00 / 0.04	0. /	41.	*BO*
ROAD OVERFLOW (CFS) / LEFT 8161. / RIGHT 9155. /								*RG*
P AT 5680 / 585.28	100 / 0.00	2700. / 0.01	6889. / 0.01	498640. / 585.28	1.38 / 0.39	43. / 0.04	2783. / -0.011	*AS*
M = **** / E = **** / K* = **** / 585.28	6889. / 0.00		/ 585.28	498640. / 0.39	1.38 / 0.04	43. /	2783.	*AS*
END BRIDGE ANALYSIS								
Q AT 5970 / 585.28	290 / 0.01	2700. / 0.01	4885. / 0.00	320756. / 585.29	1.49 / 0.55	-86. / 0.06	2266. / -0.012	*XS*
R AT 6530 / 585.35	560 / 0.03	2700. / 0.08	2804. / 0.01	156501. / 585.38	2.03 / 0.96	411. / 0.13	2192. / -0.000	*XS*
S AT 6910 / 585.60	380 / 0.43	2700. / 0.45	604. / 0.20	39453. / 586.03	1.37 / 4.47	-65. / 0.42	382. / -0.001	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 7/27/76

*** INPUT CARD PRINTOUT ***

```
1   350 PLUM CREEK MONROE TWSP                                  12  5  2 05 12
2     2  58354  58507  58541  58614  58541
                                                                                  SEQUENCE ERROR
3   379      R 1  24  3  584    6910  1  3
4   380     900   1400   1650   2200   1650
5   382    -400  1  5996 -270  1  5888 -240  1  5888 -160  1  5874  -70  1  5883
5   383       0  1  5876   94  1  5872  131  1  5872  151  1  5872  171  1  5861
5   384     222  2  5840  233  2  5770  233  2  5756  263  2  5756  263  2  5770
5   385     283  3  5847  326  3  5850  379  3  5861  439  3  5867  467  3  5855
5   386     493  3  5864  538  3  5868  550  3  5869  625  3  5891
6   390  1  2 045 045  1  2 040 040  1  2 040 040
3   400 BR  R 2  11  1  576    6910       15       3 1
                                                  M                                  **ERROR(S)**
5   410      -0  1  5822    0  1  5763    5  1  5761   10  1  5761   15  1  5760
5   411      20  1  5758   25  1  5758   30  1  5757   33  1  5757   33  1  5822
5   412      -0 -9  5822
6   415  1  2 028 028
3   500 RD  S 4   7  2   42          1  2          1 1                1
5   510    -500  1  5880    0  1  5865  159  1  5855  247  2  5855  378  2  5853
5   511     460  2  5859 1000  2  5880
3   600     T 5  22  5  586    7080  2  4
5   610      64  1  5900   64  1  5881   68  1  5852   72  1  5860   78  1  5872
5   611      82  1  5863  104  1  5865  166  1  5872  241  1  5865  307  2  5855
5   612     323  3  5766  323  3  5756  352  3  5756  352  3  5766  356  4  5770
5   613     363  5  5797  414  5  5789  468  5  5821  506  5  5848  510  5  5848
5   614     539  5  5866  567  5  5873
6   615  1  2 100 100  1  2 040 040  1  2 040 040  1  2 040 040  1  2 080 080
3   601     T 0  22  5  586    7090  2  4
                                                                                  SEQUENCE ERROR
5   610      64  1  5900   64  1  5881   68  1  5852   72  1  5860   78  1  5872
5   611      82  1  5863  104  1  5865  166  1  5872  241  1  5865  307  2  5855
5   612     323  3  5766  323  3  5756  352  3  5756  352  3  5766  356  4  5770
5   613     363  5  5797  414  5  5789  466  5  5821  506  5  5848  510  5  5848
5   614     539  5  5866  567  5  5873
6   615  1  2 100 100  1  2 040 040  1  2 040 040  1  2 040 040  1  2 080 080
3   700     U 0  14  3  578    7710  1  3
5   710       0  1  5949   14  1  5941  160  1  5927  202  1  5915  277  1  5898
5   711     392  2  5874  411  2  5863  428  2  5776  428  2  5771  452  2  5771
5   712     452  2  5776  484  3  5921  509  3  5954  519  3  5954
6   715  1  2 070 070  1  2 040 040  1  2 080 080
3   800     V 0  19  3  582    8700  1  3
5   810     -20  1  5980  -20  1  5940    0  1  5928   41  1  5921   88  1  5930
5   811     157  1  5925  252  1  5920  316  1  5909  352  1  5898  369  1  5893
5   812     423  1  5885  449  2  5866  460  2  5817  460  2  5807  481  2  5807
5   813     481  2  5817  502  3  5908  532  3  5911  550  3  5980
6   820  1  2 040 040  1  2 040 040  1  2 080 080
3   900     W 0  22  3  585    9400  1  3
5   910    -370  1  6000 -370  1  5963 -140  1  5921  110  1  5910  150  1  5910
5   911     300  1  5911  420  1  5922  470  1  5922  715  1  5922  765  1  5930
5   912    1000  1  5920 1069  1  5920 1120  1  5898 1162  1  5874 1197  2  5859
5   913    1202  2  5832 1202  2  5820 1227  2  5820 1227  2  5832 1246  3  5931
```

*** INPUT CARD PRINTOUT ***

```
5   914     1264  3  5944 1270  3  6000
6   920  1  2 045 045  1  2 040 040  1  2 080 080
3  1000      X 0  22  3  585    9800  1  3
5  1010      -80  1  6000  -80  1  5952  -65  1  5932  160  1  5921  160  1  5900
5  1011      465  1  5913  670  1  5917  890  1  5930 1000  1  5934 1067  1  5933
5  1012     1246  2  5921 1261  2  5833 1261  2  5825 1288  2  5825 1288  2  5833
5  1013     1288  2  5886 1320  3  5904 1416  3  5913 1520  3  5924 1860  3  5902
5  1014     2265  3  5932 2265  3  6000
6  1020  1  2 035 035  1  2 040 040  1  2 060 060
3  1200 BR  X 2  11  1  585    9800        0       3 0
                                                  M                                    **ERROR(S)**
5  1210        0  1  5907    0  1  5845    5  1  5845   10  1  5845   15  1  5832
5  1211       20  1  5829   25  1  5830   30  1  5833   36  1  5842   36  1  5907
5  1212        0 -9  5907
6  1215  1  2 030 030
3  1300 RD  Y 4   7  2   68          1  2          1 1                1
5  1310     -900  1  5950    0  1  5932  114  1  5932  218  2  5931  326  2  5929
5  1311      471  2  5935 1500  2  5950
3  1400      Z 5  25  5  585   10010  2  4
7 20000                                  0 0 0 0 1
                                                                          EXPECTED 5
                                                                                OR 6 CARD
7 20000                                  0 0 0 0 1
                                                                                  **NO EDIT**
8 20001                                  0 0 0 0 0
                                                                                  **NO EDIT**
9 20012   379 HOR      201  307
                                                                                  **NO EDIT**
9 20018   601 HOR      307  457
                                                                                  **NO EDIT**
9 20019   700 HOR      411  471
                                                                                  **NO EDIT**
9 20020   800 HOR      424  497
                                                                                  **NO EDIT**
9 20021   900 HOR     1161 1241
                                                                                  **NO EDIT**
9 20022  1000 HOR     1246 1416
                                                                                  **NO EDIT**
```

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
R AT	6910 /	0 /	1400. /	442. /	53215. /	1.09 /	196. /	329.
585.07 /	0.17 /			585.24 /	3.17 /	0.22 /		*IS*
BEGIN BRIDGE ANALYSIS								
BR R AT	6910 /	/	1211../	199. /	20957. /	1.00 /	0. /	33.
585.07 /	0.57 /				6.07 /	0.14 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		57. / RIGHT		136. /				*RG*
T AT	7080 /	170 /	1400. /	1064. /	93153. /	2.14 /	68. /	518.
585.27 /	0.06 /	0.07 /	0.0 /	585.32 /	1.32 /	0.14 /	0.017	*AS*
M = 0.39 / E = 0.91 / K* = 0.92 /				1182. /	105581. /	2.16 /	67. /	526.
585.79 /	0.05 /			585.84 /	1.18 /	0.12 /		*AS*
END BRIDGE ANALYSIS								
T AT	7090 /	10 /	1400. /	1182. /	105635. /	2.16 /	67. /	526.
585.80 /	0.05 /	0.00 /	0.0 /	585.84 /	1.18 /	0.12 /	0.000	*XS*
U AT	7710 /	620 /	1400. /	359. /	42335. /	1.00 /	412. /	470.
585.97 /	0.24 /	0.27 /	0.09 /	586.21 /	3.90 /	0.28 /	-0.000	*XS*
V AT	8700 /	990 /	1400. /	238. /	23757. /	1.05 /	433. /	495.
587.74 /	0.56 /	1.93 /	0.16 /	588.30 /	5.87 /	0.48 /	0.000	*XS*
W AT	9400 /	700 /	1400. /	402. /	37074. /	1.30 /	1123. /	1239.
589.62 /	0.25 /	1.56 /	0.0 /	589.86 /	3.48 /	0.31 /	0.001	*XS*
X AT	9800 /	400 /	1400. /	309. /	25067. /	1.14 /	160. /	1887.
590.40 /	0.36 /	0.84 /	0.06 /	590.76 /	4.53 /	0.43 /	-0.004	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE/ WS ELEV	LENGTH/DISCHARGE/ HV	HF	AREA /CONVEYANCE/ HE	EG	ALPHA/ V	LEW / FN	REW / ACC	*ID*
R AT 6910 / 565.41	0 / 0.21	1650. /	492. / 585.62	58464. / 1.17 / 3.36	188. / 0.24/	346.		*IS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR R AT 6910 / 565.41	/ 0.56	1202. /	199. /	20957. / 1.00 / 6.03	0. / 0.15 /	33.		*BO*
ROAD OVERFLOW (CFS) / LEFT 154. / RIGHT 293. /								*RG*
T AT 7080 / 565.62	170 / 0.07	1650. / 0.08	1142. / 0.0 / 585.69	101430. / 2.15 / 1.45	67. / 0.15	523. / -0.000		*AS*
M = 0.29 / E = 1.00 / K* = 0.72 / 586.03	1241. / 0.06	/	586.09	111509. / 2.19 / 1.33	67. / 0.14	530. /		*AS*
========== END BRIDGE ANALYSIS ==========								
T AT 7090 / 586.03	10 / 0.06	1650. / 0.00	1242. / 0.0 / 586.09	111572. / 2.19 / 1.33	67. / 0.14	530. / 0.000		*XS*
U AT 7710 / 586.25	620 / 0.30	1650. / 0.34	375. / 0.12 / 586.55	44999. / 1.00 / 4.40	411. / 0.31	471. / -0.000		*XS*
V AT 8700 / 588.25	990 / 0.62	1650. / 2.15	272. / 0.16 / 588.87	27854. / 1.08 / 6.07	426. / 0.48	496. / 0.009		*XS*
W AT 9400 / 590.16	700 / 0.25	1650. / 1.55	469. / 0.0 / 590.42	44196. / 1.32 / 3.52	1112. / 0.31	1240. / 0.001		*XS*
X AT 9800 / 590.89	400 / 0.31	1650. / 0.75	492. / 0.03 / 591.19	32970. / 1.75 / 3.35	160. / 0.39	1952. / -0.000		*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
R AT	6910 /	0 /	1650. /	492. /	58464. /	1.17 /	188. /	346.	
585.41 /	0.21 /		/	585.62 /	3.36 /	0.24/		*IS*	
BEGIN BRIDGE ANALYSIS									
BR R AT	6910 /	/	1202. /	199. /	20957. /	1.00 /	0. /	33.	
585.41 /	0.56 /			/	6.03 /	0.15 /		*BO*	
ROAD OVERFLOW (CFS) / LEFT		154. / RIGHT		293. /				*RG*	
T AT	7080 /	170 /	1650. /	1142. /	101430. /	2.15 /	67. /	523.	
585.62 /	0.07 /	0.08 /	0.0 /	585.69 /	1.45 /	0.15 /	-0.000	*AS*	
M = 0.29 / E = 1.00 / K* = 0.72 /			1241. /	111509. /	2.19 /	67. /	530.		
586.03 /	0.06 /		/	586.09 /	1.33 /	0.14 /		*AS*	
END BRIDGE ANALYSIS									
T AT	7090 /	10 /	1650. /	1242. /	111572. /	2.19 /	67. /	530.	
586.03 /	0.06 /	0.00 /	0.0 /	586.09 /	1.33 /	0.14 /	0.000	*XS*	
U AT	7710 /	620 /	1650. /	375. /	44999. /	1.00 /	411. /	471.	
586.25 /	0.30 /	0.34 /	0.12 /	586.55 /	4.40 /	0.31 /	-0.000	*XS*	
V AT	8700 /	990 /	1650. /	272. /	27854. /	1.08 /	426. /	496.	
588.25 /	0.62 /	2.15 /	0.16 /	588.87 /	6.07 /	0.48 /	0.009	*XS*	
W AT	9400 /	700 /	1650. /	469. /	44196. /	1.32 /	1112. /	1240.	
590.16 /	0.25 /	1.55 /	0.0 /	590.42 /	3.52 /	0.31 /	0.001	*XS*	
X AT	9800 /	400 /	1650. /	492. /	32970. /	1.75 /	160. /	1952.	
590.89 /	0.31 /	0.75 /	0.03 /	591.19 /	3.35 /	0.39 /	-0.000	*XS*	

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
R AT	6910 /	0 /	2200. /	637. /	72080. /	1.41 /	170. /	485.
586.14 /	0.26 /		/	586.40 /	3.45 /	0.27/		*IS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR R AT	6910 /		1082. /	199. /	20957. /	1.00 /	0. /	33.
586.14 /	0.46 /			/	5.43 /	0.17 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		409. / RIGHT		693. /				*RG*
T AT	7080 /	170 /	2200. /	1346. /	121322. /	2.25 /	66. /	536.
586.40 /	0.09 /	0.09 /	0.0 /	586.50 /	1.63 /	0.17 /	0.000	*AS*
M = 0.0 /	E = 1.00 /	K* = 0.01 /	1347. /	121401. /	2.25 /	66. /	536.	
586.41 /	0.09 /		/	586.50 /	1.63 /	0.17 /		*AS*
========== END BRIDGE ANALYSIS ==========								
T AT	7090 /	10 /	2200. /	1347. /	121401. /	2.25 /	66. /	536.
586.41 /	0.09 /	0.00 /	0.0 /	586.50 /	1.63 /	0.17 /	-0.004	*XS*
U AT	7710 /	620 /	2200. /	407. /	47270. /	1.00 /	403. /	472.
586.75 /	0.45 /	0.52 /	0.18 /	587.20 /	5.40 /	0.39 /	-0.000	*XS*
V AT	8700 /	990 /	2200. /	371. /	37985. /	1.25 /	369. /	499.
589.30 /	0.68 /	2.67 /	0.11 /	589.98 /	5.93 /	0.48 /	-0.001	*XS*
W AT	9400 /	700 /	2200. /	694. /	54242. /	2.21 /	42. /	1243.
591.30 /	0.35 /	1.64 /	0.0 /	591.65 /	3.17 /	0.35 /	0.017	*XS*
X AT	9800 /	400 /	2200. /	1550. /	78753. /	2.61 /	160. /	2105.
592.02 /	0.08 /	0.45 /	0.0 /	592.10 /	1.42 /	0.22 /	-0.000	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AI DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
R AI	6910 /	0 /	1650. /	492. /	58464. /	1.17 /	188. /	346.	
585.41 /	0.21 /		/	585.62 /	3.36 /	0.24/		*IS*	
BEGIN BRIDGE ANALYSIS									
BR R AI	6910 /	/	120c. /	199. /	20957. /	1.00 /	0. /	33.	
585.41 /	0.56 /			/	6.03 /	0.15 /		*BO*	
ROAD OVERFLOW (CFS) / LEFT		154. / RIGHT		293. /					
								RG	
T AI	7080 /	170 /	1650. /	1142. /	101430. /	2.15 /	67. /	523.	
585.62 /	0.07 /	0.08 /	0.0 /	585.69 /	1.45 /	0.15 /	-0.000	*AS*	
M = 0.29 / E = 1.00 / K* = 0.72 /				1241. /	111509. /	2.19 /	67. /	530.	
586.03 /	0.06 /			/	586.09 /	1.33 /	0.14 /	*AS*	
END BRIDGE ANALYSIS									
T AI	7090 /	10 /	1650. /	1242. /	111572. /	2.19 /	67. /	530.	
586.03 /	0.06 /	0.00 /	0.0 /	586.09 /	1.33 /	0.14 /	0.000	*XS*	
U AI	7710 /	620 /	1650. /	375. /	44999. /	1.00 /	411. /	471.	
586.25 /	0.30 /	0.34 /	0.12 /	586.55 /	4.40 /	0.31 /	-0.000	*XS*	
V AI	8700 /	990 /	1650. /	272. /	27854. /	1.08 /	426. /	496.	
588.25 /	0.62 /	2.15 /	0.16 /	588.87 /	6.07 /	0.48 /	0.009	*XS*	
W AI	9400 /	700 /	1650. /	469. /	44196. /	1.32 /	1112. /	1240.	
590.16 /	0.25 /	1.55 /	0.0 /	590.42 /	3.52 /	0.31 /	0.001	*XS*	
X AI	9800 /	400 /	1650. /	492. /	32970. /	1.75 /	160. /	1952.	
590.89 /	0.31 /	0.75 /	0.03 /	591.19 /	3.35 /	0.39 /	-0.000	*XS*	

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT= 1,DATE= 7/28/76

*** INPUT CARD PRINTOUT ***

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1    350 PLUM CREEK MONROE TWSP                                    8  5  2 05 12
2      2  58394  58570  58600  58640  58600
                                                                                  SEQUENCE ERROR
3    601      T 1  22  5  586    7090  2  4
4    380     900   1400   1650   2200   1650
                                                                                  SEQUENCE ERROR
5    610       64  1  5900   64  1  5881   68  1  5852   72  1  5860   78  1  5872
5    611       82  1  5863  104  1  5865  166  1  5872  241  1  5865  307  2  5855
5    612      323  3  5766  323  3  5756  352  3  5756  352  3  5766  356  4  5770
5    613      363  5  5797  414  5  5789  466  5  5821  506  5  5848  510  5  5846
5    614      539  5  5866  567  5  5873
6    615  1  2 100 100  1  2 040 040  1  2 040 040  1  2 040 040  1  2 080 080
3    700      U 0  14  3  578    7710  1  3
5    710        0  1  5949   14  1  5941  160  1  5927  202  1  5915  277  1  5898
5    711      392  2  5874  411  2  5863  428  2  5775  428  2  5771  452  2  5771
5    712      452  2  5776  484  3  5921  509  3  5954  519  3  5954
6    715  1  2 070 070  1  2 040 040  1  2 080 080
3    800      V 0  19  3  582    8700  1  3
5    810      -20  1  5980  -20  1  5940    0  1  5928   41  1  5921   38  1  5930
5    811      157  1  5925  252  1  5920  316  1  5909  352  1  5898  369  1  5893
5    812      423  1  5885  449  2  5866  460  2  5817  460  2  5807  481  2  5807
5    813      481  2  5817  502  3  5908  532  3  5911  550  3  5980
6    820  1  2 040 040  1  2 040 040  1  2 080 080
3    900      W 0  22  3  585    9400  1  3
5    910     -370  1  6000 -370  1  5963 -140  1  5921  110  1  5910  150  1  5910
5    911      300  1  5911  420  1  5922  470  1  5922  715  1  5922  765  1  5930
5    912     1000  1  5920 1069  1  5920 1120  1  5898 1162  1  5874 1197  2  5859
5    913     1202  2  5832 1202  2  5820 1227  2  5820 1227  2  5832 1246  3  5931
5    914     1264  3  5944 1270  3  6000
6    920  1  2 045 045  1  2 040 040  1  2 080 080
3   1000      X 0  22  3  585    9600  1  3
5   1010      -80  1  6000  -80  1  5952  -65  1  5932  160  1  5921  160  1  5900
5   1011      465  1  5913  670  1  5917  890  1  5930 1000  1  5934 1067  1  5933
5   1012     1246  2  5921 1261  2  5833 1261  2  5825 1288  2  5825 1288  2  5833
5   1013     1288  2  5886 1320  3  5904 1416  3  5913 1520  3  5924 1860  3  5902
5   1014     2265  3  5932 2265  3  6000
6   1020  1  2 035 035  1  2 040 040  1  2 060 060
3   1200 BR  X 2  11  1  565    9800      0        3 0
                                                  M                                  **ERROR(S)**
5   1210        0  1  5912    0  1  5850    5  1  5850   10  1  5850   15  1  5837
5   1211       20  1  5834   25  1  5835   30  1  5838   36  1  5847   36  1  5912
5   1212        0 -9  5912
6   1215  1  2 030 030
3   1300 RD  Y 4   7  2   68          1  2          1 1                1%
5   1310     -900  1  5950   0  1  5932  114  1  5932  218  2  5931  326  2  5929
5   1311      471  2  5935 1500  2  5950
3   1400      Z 5  25  5  585   10010  2  4
5   1410     -220  1  5956  150  1  5926  180  1  5926  420  1  5932  740  1  5932
5   1411     1000  1  5911 1093  1  5909 1136  1  5911 1155  1  5911 1188  1  5897
5   1412     1214  2  5880 1233  3  5873 1245  3  5836 1245  3  5826 1259  3  5826
5   1413     1269  4  5836 1277  4  5953 1282  4  5865 1355  5  5870 1429  5  5885
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WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
T AT 7090 /	0 /	900. /	804. /	66471. /	2.09 /	310. /	494.		
583.94 /	0.04 /		/ 583.98 /	1.12 /	0.12/		*IS*		
U AT 7710 /	620 /	900. /	258. /	26907. /	1.00 /	415. /	466.		
584.15 /	0.19 /	0.28 /	0.07 /	584.34 /	3.48 /	0.27 /	-0.000	*XS*	
V AT 8700 /	990 /	900. /	159. /	13774. /	1.00 /	450. /	491.		
586.15 /	0.50 /	2.16 /	0.15 /	586.64 /	5.65 /	0.51 /	-0.011	*XS*	
W AT 9400 /	700 /	900. /	260. /	22568. /	1.25 /	1147. /	1237.		
588.23 /	0.23 /	1.62 /	0.0 /	588.47 /	3.46 /	0.32 /	0.001	*XS*	
X AT 9800 /	400 /	900. /	203. /	18850. /	1.00 /	1251. /	1294.		
588.96 /	0.31 /	0.76 /	0.04 /	589.27 /	4.44 /	0.36 /	-0.001	*XS*	
========== BEGIN BRIDGE ANALYSIS ==========									
BR X AT 9800 /	/	900. /	172. /	21060. /	1.00 /	0. /	36.		
588.96 /	0.43 /			/ 5.23 /	0.42 /		*BO*		
NO ROAD OVERFLOW									*RG*
Z AT 10010 /	210 /	900. /	613. /	48911. /	1.50 /	1193. /	1462.		
589.40 /	0.05 /	0.18 /	0.0 /	589.45 /	1.47 /	0.16 /	0.000	*AS*	
M = 0.54 / E = 0.86 / K* = 1.49 /			806. /	66111. /	1.54 /	1180. /	1523.		
590.05 /	0.03 /		/ 590.08 /	1.12 /	0.12 /		*AS*		
========== END BRIDGE ANALYSIS ==========									

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
T AT	7090 /	0 /	1400. /	1159. /	103272. /	2.16 /	67. /	525.
585.70 /	0.05 /			/ 585.75 /	1.21 /	0.13 /		*IS*
U AT	7710 /	620 /	1400. /	354. /	41507. /	1.00 /	412. /	470.
585.69 /	0.24 /	0.28 /	0.10 /	586.13 /	3.96 /	0.28 /	-0.000	*XS*
V AT	8700 /	990 /	1400. /	237. /	23533. /	1.05 /	434. /	495.
587.71 /	0.57 /	1.99 /	0.16 /	588.28 /	5.92 /	0.48 /	0.001	*XS*
W AT	9400 /	700 /	1400. /	401. /	37011. /	1.30 /	1123. /	1239.
589.61 /	0.25 /	1.58 /	0.0 /	589.86 /	3.49 /	0.31 /	0.001	*XS*
X AT	9800 /	400 /	1400. /	309. /	25042. /	1.13 /	160. /	1886.
590.40 /	0.36 /	0.85 /	0.06 /	590.76 /	4.54 /	0.43 /	-0.004	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR X AT	9800 /	/	1400. /	224. /	31295. /	1.00 /	0. /	36.
590.40 /	0.61 /			/	6.26 /	0.44 /		*BO*
NO ROAD OVERFLOW								*RG*
Z AT	10010 /	210 /	1400. /	1137. /	96250. /	1.58 /	1160. /	1615.
590.90 /	0.04 /	0.17 /	0.0 /	590.93 /	1.23 /	0.13 /	0.003	*AS*
M = 0.72 / E = 0.72 / K* = 2.30 /				2185. /	181954. /	1.73 /	850. /	1769.
592.32 /	0.01 /			/ 592.33 /	0.64 /	0.06 /		*AS*
========== END BRIDGE ANALYSIS ==========								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE/ WS ELEV	LENGTH/ HV	DISCHARGE/ HF	AREA/ HE	CONVEYANCE/ EG	V	ALPHA/ FN	LEW / ACC	REW / *ID*
T AT 7090 / 566.00	0 / 0.06	1650. /	1233. / 586.06	110742. / 1.34	2.18 / 0.14	67. /	529. /	*IS*
U AT 7710 / 586.22	620 / 0.30	1650. / 0.34	373. / 0.12	44715. / 586.52	1.00 / 4.42	411. / 0.31	471. / -0.000	*XS*
V AT 8700 / 588.23	990 / 0.62	1650. / 2.17	271. / 0.16	27729. / 588.86	1.08 / 6.10	427. / 0.49	496. / 0.000	*XS*
W AT 9400 / 590.16	700 / 0.25	1650. / 1.56	469. / 0.0	44162. / 590.42	1.32 / 3.52	1112. / 0.31	1240. / 0.001	*XS*
X AT 9800 / 590.88	400 / 0.31	1650. / 0.75	491. / 0.03	32939. / 591.19	1.75 / 3.36	160. / 0.39	1952. / -0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR X AT 9800 / 590.88	/ 0.72	1641. /	241. /	35017. / 6.80	1.00 / 0.46	0. /	36. /	*BO*
ROAD OVERFLOW (CFS) / LEFT 0. / RIGHT 15. /								*RG*
Z AT 10010 / 591.30	210 / 0.04	1650. / 0.15	1380. / 0.0	113948. / 591.34	1.72 / 1.20	975. / 0.13	1659. / 0.000	*AS*
M = 0.77 / E = 0.67 / K* = 2.49 / 593.10	3052. / 0.01		249416. / 593.11		1.85 / 0.54	89. / 0.05	1854. /	*AS*
END BRIDGE ANALYSIS								

591.84

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV	HV	HF	HE	EG	V	FN	ACC	*ID*
T AT 7090	0	2200.	1345.	121256.	2.25	66.	536.	
586.40	0.09			586.49	1.64	0.17		*IS*
U AT 7710	620	2200.	407.	47247.	1.00	403.	472.	
586.74	0.45	0.52	0.18	587.20	5.41	0.39	-0.000	*XS*
V AT 8700	990	2200.	371.	37964.	1.25	369.	499.	
589.30	0.68	2.67	0.11	589.98	5.93	0.48	-0.000	*XS*
W AT 9400	700	2200.	693.	54204.	2.21	42.	1243.	
591.30	0.35	1.65	0.0	591.65	3.17	0.35	0.015	*XS*
X AT 9800	400	2200.	1549.	78704.	2.61	160.	2105.	
592.02	0.08	0.45	0.0	592.10	1.42	0.22	0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR X AT 9800		1626.	253.	25959.	1.00	0.	36.	
592.02	0.64				6.43	0.10		*BO*
ROAD OVERFLOW (CFS) / LEFT 272. / RIGHT 291. /								*RG*
Z AT 10010	210	2200.	2032.	168409.	1.74	871.	1750.	
592.14	0.03	0.08	0.0	592.18	1.08	0.10	-0.000	*AS*
M = 0.73 / E = 0.72 / K* = 2.31			4005.	311699.	2.00	23.	1971.	
593.63	0.01			593.64	0.55	0.05		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK MONROE TWSP
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW									
WS ELEV	HV	HF	HE	EG	V	FN	ACC	*ID*	
T AT	7090	0	1650.	1063.	108716.	1.75	307.	457.	
586.00	0.07			586.07	1.55	0.14		*IS*	
U AT	7710	620	1650.	374.	44806.	1.00	411.	471.	
586.23	0.30	0.35	0.12	586.53	4.41	0.31	-0.000	*XS*	
V AT	8700	990	1650.	270.	27677.	1.08	427.	496.	
588.23	0.63	2.11	0.16	588.85	6.11	0.49	-0.012	*XS*	
W AT	9400	700	1650.	405.	42739.	1.12	1161.	1240.	
590.18	0.29	1.61	0.0	590.47	4.07	0.32	0.001	*XS*	
X AT	9800	400	1650.	341.	30683.	1.09	1248.	1379.	
590.95	0.39	0.83	0.05	591.35	4.84	0.42	0.000	*XS*	
BEGIN BRIDGE ANALYSIS									
BR X AT	9800		1609.	244.	35566.	1.00	0.	36.	
590.95	0.68				6.60	0.45		*BO*	
ROAD OVERFLOW (CFS) / LEFT 0. / RIGHT 26. /								*RG*	
Z AT	10010	210	1650.	1434.	122260.	1.73	956.	1675.	
591.45	0.03	0.15	0.0	591.49	1.11	0.13	-0.014	*AS*	
M = 0.77 / E = 0.66 / K* = 2.50				3117.	254310.	1.86	83.	1859.	
593.14	0.01			593.15	0.53	0.05		*AS*	
END BRIDGE ANALYSIS									

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

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1      1 PLUM CREEK                                          11  5  2 05 12
2      2  58930  59095  59183  59310  59191
3   1400     Z 1  25  5  585   10010  2  4
4    380    900   1400   1650   2200   1650
                                                                        SEQUENCE ERROR
5   1410    -220  1  5956  150  1  5926  180  1  5926  420  1  5932  740  1  5932
5   1411    1000  1  5911 1093  1  5909 1138  1  5911 1155  1  5911 1188  1  5897
5   1412    1214  2  5880 1233  3  5873 1245  3  5836 1245  3  5826 1269  3  5826
5   1413    1269  4  5836 1277  4  5953 1282  4  5865 1355  5  5870 1429  5  5885
5   1414    1448  5  5884 1463  5  5895 1865  5  5932 2110  5  5942 2160  5  6000
6   1420  1  2 040 040  1  2 038 038  1  2 038 038  1  2 040 040  1  2 040 040
3   1500    AA 0  19  3  586   10660  1  3
5   1510      0  1  6000    0  1  5929   29  1  5919  110  1  5920  184  1  5912
5   1511    242  1  5884  268  2  5878  274  2  5858  274  2  5835  296  2  5835
5   1512    296  2  5858  307  3  5879  362  3  5886  379  3  5893  393  3  5897
5   1513    430  3  5907  455  3  5922  491  3  5922  500  3  6000
6   1520  1  2 040 040  1  2 038 038  1  2 040 040
3   1600    AB 0  23  3  588   11310  1  3
5   1610      0  1  6000  100  1  5943  183  1  5934  259  1  5926  320  1  5912
5   1611    353  1  5901  382  1  5889  429  1  5883  460  1  5883  477  1  5897
5   1612    491  2  5893  502  2  5871  502  2  5842  526  2  5842  526  2  5873
5   1613    535  3  5877  558  3  5879  576  3  5898  600  3  5934  617  3  5936
5   1614    638  3  5940  670  3  5954  700  3  6000
6   1620  1  2 050 050  1  2 035 035  1  2 040 040
3   1700    AC 0  30  3  586   11810  1  3
5   1710      0  1  6000   81  1  5945  108  1  5932  114  1  5893  125  1  5908
5   1711    138  1  5909  150  1  5902  166  1  5922  206  1  5927  259  1  5917
5   1712    287  2  5904  303  2  5858  303  2  5847  321  2  5847  321  2  5858
5   1713    330  3  5928  358  3  5946  377  3  5946  420  3  5950  463  3  5953
5   1714    495  3  5954  520  3  5955  584  3  5952  622  3  5945  644  3  5949
5   1715    685  3  5947  691  3  5947  692  3  5957  700  3  5958  700  3  6000
6   1720  1  2 060 060  1  2 040 040  1  2 035 035
3   1800    AD 0  26  3  587   12330  1  3
5   1810    -75  1  6000  -75  1  5987  -40  1  5958  410  1  5946  430  1  5960
5   1811    752  1  5951  840  1  5951 1000  1  5914 1046  1  5904 1093  1  5906
5   1812   1154  1  5907 1183  2  5898 1188  2  5860 1188  2  5850 1213  2  5850
5   1813   1213  2  5860 1220  3  5903 1251  3  5891 1279  3  5902 1293  3  5946
5   1814   1320  3  5945 1360  3  5954 1390  3  5950 1420  3  5949 1655  3  5967
5   1815   1700  3  6000
6   1820  1  2 050 050  1  2 040 040  1  2 050 050
3   1900    AE 1  42  3  587   12450  1  3
4   1905    850   1350   1600   2100   1600
5   1910    -40  1  6000  -40  1  5985    0  1  5959  460  1  5961  520  1  5961
5   1911   1000  1  5936 1050  1  5926 1057  1  5904 1071  1  5917 1089  1  5917
5   1912   1100  1  5905 1131  1  5896 1171  1  5895 1197  2  5900 1216  2  5888
5   1913   1221  2  5860 1221  2  5850 1244  2  5850 1244  2  5860 1251  2  5893
5   1914   1292  2  5902 1319  2  5912 1320  2  5933 1331  3  5954 1344  3  5954
5   1915   1379  3  5958 1420  3  5952 1427  3  5955 1443  3  5955 1462  3  5971
5   1916   1480  3  5971 1790  3  5955 1985  3  5957 2170  3  5962 2310  3  5951
5   1917   2400  3  5945 2560  3  5941 2700  3  5958 3000  3  5961 3100  3  5983
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*** INPUT CARD PRINTOUT ***

```
5  1918     3260  3  5992 3300  3  6000
6  1920  1  2 050 050  1  2 040 040  1  2 050 050
3  2000     AF 0  23  3  588    13360  1  3
5  2010     -175  1  6011 -160  1  5995 -150  1  5900  -50  1  5936    0  1  5929
5  2011        2  1  5928   55  1  5927   85  1  5912  160  2  5912  161  2  5871
5  2012      161  2  5861  170  2  5861  170  2  5871  170  2  5943  188  2  5954
5  2013      198  3  5964  217  3  5964  233  3  5951  251  3  5951  288  3  5956
5  2014      346  3  5960  500  3  5960  600  3  6020
6  2020  1  2 050 050  1  2 040 040  1  2 050 050
3  2100     AG 1  16  3  589    13930  1  3
4  2105     850   1350   1600   2100   1600
5  2110     -240  1  6011 -100  1  5944    0  1  5986   24  1  5962   68  1  5951
5  2111      157  1  5924  250  2  5912  253  2  5882  253  2  5873  271  2  5873
5  2112      271  2  5882  282  2  5935  324  3  5967  367  3  5969  435  3  5981
5  2113      450  3  6020
6  2120  1  2 060 060  1  2 045 045  1  2 050 050
3  2200 BR AG 2  13  1  588    13930       30       2 0                    **ERROR(S)**
                                                    M
5  2210        0  1  5966    0  1  5901    4  1  5901    6  1  5891   10  1  5879
5  2211       14  1  5874   20  1  5873   26  1  5873   32  1  5873   35  1  5874
5  2212       37  1  5877   37  1  5966    0 -9  5966
6  2220  1  2 035 035
3  2300 RR AH 4  10  2   30          1  2          2 2                  1
5  2310        0  1  6017  286  1  6013  554  1  6013  617  1  6014  954  2  6001
5  2311     1182  2  6013 1228  2  6013 1405  2  6020 1566  2  6017 1702  2  6017
3  2400     AI 5  20  5  589    14210  1  4
5  2410       50  1  6020   50  1  5985  201  1  5984  268  1  5955  343  1  5914
5  2411      424  1  5923  468  2  5912  476  3  5886  476  3  5876  497  3  5876
5  2412      497  3  5886  505  4  5909  509  4  5920  515  4  5931  532  5  5967
5  2413      555  5  5961  655  5  5955  759  5  5955  842  5  5971  850  5  6020
6  2420  1  2 070 070  1  2 045 045  1  2 045 045  1  2 045 045  1  2 080 080
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WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH	HV	HF	HE	DISCHARGE / EG	AREA / V	CONVEYANCE / FN	ALPHA	LEW / ACC	REW	
Z AT 10010	/	0	/ 900.	/ 587.	/ 46313.	/ 1.51	/ 1194.	/ 1460.			
589.30	/ 0.06	/		/ 589.35	/ 1.53	/ 0.17	/			*IS*	
AA AT 10660	/ 650	/ 900.	/ 339.	/ 25051.	/ 1.51	/ 215.	/ 393.				
589.70	/ 0.17	/ 0.45	/ 0.06	/ 589.86	/ 2.65	/ 0.30	/ 0.001	*XS*			
AB AT 11310	/ 650	/ 900.	/ 500.	/ 34452.	/ 1.65	/ 344.	/ 580.				
590.39	/ 0.08	/ 0.61	/ 0.0	/ 590.48	/ 1.80	/ 0.23	/ 0.001	*XS*			
AC AT 11810	/ 500	/ 900.	/ 199.	/ 16459.	/ 1.22	/ 111.	/ 328.				
590.96	/ 0.39	/ 0.71	/ 0.15	/ 591.34	/ 4.51	/ 0.43	/ 0.000	*XS*			
AD AT 12330	/ 520	/ 900.	/ 601.	/ 39738.	/ 1.97	/ 978.	/ 1284.				
591.92	/ 0.07	/ 0.64	/ 0.0	/ 591.99	/ 1.50	/ 0.19	/ 0.001	*XS*			
AE AT 12450	/ 120	/ 850.	/ 643.	/ 41859.	/ 1.21	/ 1052.	/ 1319.				
592.01	/ 0.03	/ 0.06	/ 0.0	/ 592.04	/ 1.32	/ 0.16	/ -0.000	*XS*			
AF AT 13360	/ 910	/ 850.	/ 369.	/ 15446.	/ 1.65	/ -153.	/ 170.				
592.97	/ 0.14	/ 1.02	/ 0.05	/ 593.11	/ 2.30	/ 0.30	/ -0.001	*XS*			
AG AT 13930	/ 570	/ 850.	/ 441.	/ 24072.	/ 1.54	/ 100.	/ 290.				
594.13	/ 0.09	/ 1.11	/ 0.0	/ 594.22	/ 1.93	/ 0.25	/ 0.000	*XS*			
BEGIN BRIDGE ANALYSIS											
BR AG AT 13930	/	/ 850.	/ 199.	/ 27796.	/ 1.00	/ 0.	/ 37.				
594.13	/ 0.28	/		/	4.27	/ 0.30	/	*BO*			
NO ROAD OVERFLOW											
								RG			
AI AT 14210	/ 280	/ 850.	/ 643.	/ 37950.	/ 1.96	/ 289.	/ 521.				
594.38	/ 0.05	/ 0.22	/ 0.0	/ 594.43	/ 1.32	/ 0.17	/ -0.008	*AS*			
M = 0.45 / E = 0.91 / K* = 1.09	/	721.	/	43822.	/ 1.91	/ 283.	/ 523.				
594.71	/ 0.04	/		/ 594.75	/ 1.18	/ 0.15	/	*AS*			
END BRIDGE ANALYSIS											

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE/ WS ELEV	LENGTH/ HV	DISCHARGE/ HF	AREA/ HE	CONVEYANCE/ EG	ALPHA/ V	LEW/ FN	REW/ ACC	
Z AT 10010	0	1400.	1162.	97706.	1.61	1070.	1621.	
590.95	0.04		590.99	1.20	0.13			*IS*
AA AT 10660	650	1400.	659.	53738.	1.46	185.	438.	
591.16	0.10	0.24	0.03	591.26	2.13	0.22	0.000	*XS*
AB AT 11310	650	1400.	804.	62189.	1.58	304.	588.	
591.57	0.07	0.38	0.0	591.64	1.74	0.21	0.000	*XS*
AC AT 11810	500	1400.	320.	25223.	1.57	110.	329.	
592.00	0.47	0.62	0.20	592.47	4.38	0.45	0.000	*XS*
AD AT 12330	520	1400.	960.	68755.	1.77	931.	1288.	
593.00	0.06	0.59	0.0	593.06	1.46	0.17	0.003	*XS*
AE AT 12450	120	1350.	933.	71687.	1.21	1027.	1320.	
593.06	0.04	0.05	0.0	593.10	1.45	0.15	-0.000	*XS*
AF AT 13360	910	1350.	622.	29761.	1.28	-154.	170.	
593.81	0.09	0.78	0.03	593.91	2.17	0.26	-0.000	*XS*
AG AT 13930	570	1350.	602.	32454.	1.44	-110.	300.	
594.88	0.11	1.08	0.01	594.99	2.24	0.29	0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR AG AT 13930		1350.	223.	32949.	1.00	0.	37.	
594.88	0.57			6.05	0.40			*BO*
NO ROAD OVERFLOW								*RG*
AI AT 14210	280	1350.	845.	53751.	1.85	273.	525.	
595.21	0.07	0.29	0.0	595.29	1.60	0.11	-0.000	*AS*
M = 0.54 / E = 0.88 / K* = 1.31			1125.	71675.	1.99	257.	784.	
595.99	0.04		596.03	1.20	0.09			*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
Z AT 10010 / 591.83	0 / 0.02	1650. /	1768. / 591.85	145743. / 0.93	1.75 / 0.11	910. /	1716.	*IS*
AA AT 10660 / 591.97	650 / 0.09	1650. / 0.17	897. / 0.03 / 592.05	72703. / 1.84	1.63 / 0.20	27. /	451. / -0.001	*XS*
AB AT 11310 / 592.28	650 / 0.06	1650. / 0.29	1018. / 0.0 / 592.34	83303. / 1.62	1.57 / 0.19	273. /	593. / 0.000	*XS*
AC AT 11810 / 592.61	500 / 0.44	1650. / 0.52	423. / 0.19 / 593.05	31575. / 3.90	1.88 / 0.42	109. /	330. / 0.000	*XS*
AD AT 12330 / 593.52	520 / 0.05	1650. / 0.52	1152. / 0.0 / 593.57	86248. / 1.43	1.69 / 0.16	908. /	1290. / 0.000	*XS*
AE AT 12450 / 593.57	120 / 0.04	1600. / 0.04	1089. / 0.0 / 593.61	87709. / 1.47	1.24 / 0.15	1001. /	1321. / -0.000	*XS*
AF AT 13360 / 594.22	910 / 0.08	1600. / 0.66	753. / 0.02 / 594.30	40068. / 2.12	1.15 / 0.24	-154. /	170. / 0.004	*XS*
AG AT 13930 / 595.19	570 / 0.12	1600. / 0.99	683. / 0.02 / 595.31	36758. / 2.34	1.42 / 0.22	-117. /	304. / -0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR AG AT 13930 / 595.19	/ 0.73	1600. /	233. /	35142. / 6.87	1.00 / 0.45	0. /	37.	*BO*
NO ROAD OVERFLOW								*RG*
AI AT 14210 / 595.55	280 / 0.08	1600. / 0.32	937. / 0.0 / 595.63	60952. / 1.71	1.83 / 0.12	267. /	762. / -0.000	*AS*
M = 0.58 / E = 0.80 / K* = 1.42 / 596.63		1469. / 0.04	/ 596.67	91120. / 1.09	2.17 / 0.08	242. /	818.	*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW	WS ELEV / HV / HF / HE / EG / V / FN / ACC	*ID*
Z AT 10010 / 0 / 2200. / 3056. / 249697. / 1.85 / 88. / 1854.	593.10 / 0.01 / / 593.11 / 0.72 / 0.07 /	*IS*
AA AT 10660 / 650 / 2200. / 1472. / 128739. / 1.48 / 0. / 492.	593.18 / 0.05 / 0.10 / 0.02 / 593.23 / 1.49 / 0.15 / -0.000	*XS*
AB AT 11310 / 650 / 2200. / 1415. / 120790. / 1.66 / 185. / 600.	593.38 / 0.06 / 0.20 / 0.01 / 593.44 / 1.56 / 0.18 / 0.001	*XS*
AC AT 11810 / 500 / 2200. / 656. / 49313. / 1.98 / 99. / 343.	593.63 / 0.35 / 0.41 / 0.14 / 593.97 / 3.35 / 0.37 / -0.015	*XS*
AD AT 12330 / 520 / 2200. / 1484. / 119050. / 1.58 / 872. / 1292.	594.35 / 0.05 / 0.43 / 0.0 / 594.40 / 1.48 / 0.12 / 0.000	*XS*
AE AT 12450 / 120 / 2100. / 1436. / 111877. / 1.51 / 848. / 2584.	594.39 / 0.05 / 0.04 / 0.0 / 594.44 / 1.46 / 0.16 / -0.000	*XS*
AF AT 13360 / 910 / 2100. / 1001. / 61316. / 1.01 / -155. / 181.	594.97 / 0.07 / 0.59 / 0.01 / 595.04 / 2.10 / 0.21 / 0.001	*XS*
AG AT 13930 / 570 / 2100. / 872. / 47392. / 1.37 / -129. / 312.	595.81 / 0.12 / 0.87 / 0.03 / 595.93 / 2.41 / 0.22 / 0.001	*XS*
BEGIN BRIDGE ANALYSIS		
BR AG AT 13930 / / 2100. / 253. / 39617. / 1.00 / 0. / 37.	595.81 / 1.07 / / 8.31 / 0.52 /	*BO*
NO ROAD OVERFLOW		*RG*
AI AT 14210 / 280 / 2100. / 1220. / 76890. / 2.06 / 252. / 794.	596.18 / 0.09 / 0.34 / 0.0 / 596.27 / 1.72 / 0.13 / 0.000	*AS*
M = 0.67 / E = 0.57 / K* = 1.70 / 2351. / 152323. / 2.12 / 209. / 844.	598.07 / 0.03 / / 598.10 / 0.89 / 0.07 /	*AS*
END BRIDGE ANALYSIS		

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV	HV	HF	HE	EG	V	FN	ACC	*ID*
Z AT 10010	/ 0	/ 1650.	/ 1341.	/ 143426.	/ 1.21	/ 1175.	/ 1475.	
591.91	/ 0.03	/	/ 591.94	/ 1.23	/ 0.11	/		*IS*
AA AT 10660	/ 650	/ 1650.	/ 878.	/ 81619.	/ 1.28	/ 190.	/ 440.	
592.04	/ 0.07	/ 0.15	/ 0.02	/ 592.11	/ 1.88	/ 0.18	/ -0.000	*XS*
AB AT 11310	/ 650	/ 1650.	/ 966.	/ 86093.	/ 1.37	/ 340.	/ 590.	
592.29	/ 0.06	/ 0.25	/ 0.0	/ 592.35	/ 1.71	/ 0.18	/ -0.010	*XS*
AC AT 11810	/ 500	/ 1650.	/ 376.	/ 30000.	/ 1.73	/ 129.	/ 329.	
592.59	/ 0.52	/ 0.53	/ 0.23	/ 593.11	/ 4.39	/ 0.45	/ 0.000	*XS*
AD AT 12330	/ 520	/ 1650.	/ 979.	/ 83129.	/ 1.45	/ 1039.	/ 1289.	
593.61	/ 0.06	/ 0.57	/ 0.0	/ 593.68	/ 1.68	/ 0.17	/ -0.000	*XS*
AE AT 12450	/ 120	/ 1600.	/ 1041.	/ 92086.	/ 1.11	/ 1071.	/ 1321.	
593.68	/ 0.04	/ 0.04	/ 0.0	/ 593.72	/ 1.54	/ 0.14	/ -0.000	*XS*
AF AT 13360	/ 910	/ 1600.	/ 700.	/ 37308.	/ 1.17	/ -130.	/ 170.	
594.33	/ 0.10	/ 0.68	/ 0.03	/ 594.43	/ 2.29	/ 0.25	/ 0.003	*XS*
AG AT 13930	/ 570	/ 1600.	/ 696.	/ 40052.	/ 1.31	/ 60.	/ 304.	
595.30	/ 0.11	/ 0.98	/ 0.01	/ 595.41	/ 2.30	/ 0.20	/ 0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR AG AT 13930	/	/ 1600.	/ 237.	/ 35931.	/ 1.00	/ 0.	/ 37.	
595.30	/ 0.71	/		/ 6.76	/ 0.44	/		*BO*
NO ROAD OVERFLOW								*RG*
AI AT 14210	/ 280	/ 1600.	/ 962.	/ 62475.	/ 1.85	/ 265.	/ 765.	
595.62	/ 0.08	/ 0.29	/ 0.0	/ 595.70	/ 1.66	/ 0.12	/ 0.000	*AS*
M = 0.58	/ E = 0.80	/ K* = 1.43	/ 1492.	/ 92458.	/ 2.18	/ 241.	/ 820.	
596.67	/ 0.04	/	/ 596.71	/ 1.07	/ 0.08	/		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

```
1     1 PLUM CREEK                                          5  5  2 05 12
2     2  59440  59540  59585  59690  59589
3  2400    A1 1  20  5  589   14210  1  4
4  2510    850   1300   1550   2100   1550
5  2410     50  1  6020   50  1  5985  201  1  5984  268  1  5955  343  1  5914
                                                                          SEQUENCE ERROR
5  2411    424  1  5923  468  2  5912  476  3  5886  476  3  5876  497  3  5876
5  2412    497  3  5886  505  4  5909  509  4  5920  515  4  5931  532  5  5967
5  2413    555  5  5961  655  5  5955  759  5  5955  842  5  5971  850  5  6020
6  2420  1  2 070 070  1  2 045 045  1  2 045 045  1  2 045 045  1  2 080 080
3  2500    AJ 0  38  3  590   14860  1  3
5  2510      0  1  6050    0  1  6016   70  1  6006   91  1  6006  160  1  5971
5  2511    241  1  5967  331  1  5963  343  1  6015  353  1  5988  357  1  5955
5  2512    375  1  5931  441  2  5916  445  2  5892  445  2  5886  463  2  5886
5  2513    463  2  5892  482  3  5935  506  3  5939  560  3  5967  637  3  5979
5  2514    714  3  5972  771  3  5976  955  3  5958  967  3  5943 1008  3  5956
5  2515   1089  3  5949 1147  3  5957 1173  3  5963 1222  3  5987 1255  3  5997
5  2516   1261  3  5982 1276  3  6004 1298  3  6004 1307  3  5982 1315  3  5996
5  2517   1331  3  6000 1382  3  6016 1400  3  6050
6  2520  1  2  80 080  1  2 040 040  1  2 080 080
3  2600    AK 0  33  3  591   15460  1  3
5  2611      0  1  6050    0  1  5984  108  1  5963  189  1  5963  218  1  5970
5  2612    312  1  5973  408  1  5975  475  1  5991  533  1  5976  607  1  5968
5  2613    632  1  5950  686  1  5940  714  2  5931  719  2  5901  719  2  5885
5  2614    738  2  5885  738  2  5901  744  2  5927  770  3  5959  812  3  5977
5  2615    884  3  5986 1042  3  5986 1145  3  5972 1162  3  6004 1283  3  5992
5  2616   1346  3  5997 1354  3  5991 1369  3  5999 1399  3  6004 1531  3  6006
5  2617   1556  3  6003 1561  3  6011 1570  3  6050
6  2620  1  2 040 040  1  2 040 040  1  2 050 050
3  2700 BR AK 2  13  1  589   15460       15       3 1
                                                                          **ERROR(S)**
5  2710      0  1  5940    0  1  5899    4  1  5894    8  1  5893   12  1  5889
5  2711     16  1  5885   20  1  5886   24  1  5889   28  1  5891   29  1  5894
5  2712     32  1  5896   32  1  5939    0 -9  5940
6  2720  1  2 035 035
3  2800 RD AL 4  18  2   54          1  2          1 1                1
5  2810      0  1  6002  263  1  5990  495  1  5994  767  1  5994 1095  1  5985
5  2811   1407  2  5983 1611  2  5981 1823  2  5988 1997  2  5988 2182  2  5985
5  2812   2346  2  5987 2464  2  5988 2632  2  5990 2816  2  5991 2999  2  5992
5  2813   3160  2  5999 3302  2  6003 3355  2  6005
3  2900    A4 5  31  4  590   15610  1  3
5  2910   2000  1  6050 2038  1  5993 2077  1  5993 2089  1  5993 2172  1  5976
5  2911   2239  1  5939 2292  1  5924 2334  2  5925 2339  2  5895 2339  2  5883
5  2912   2348  2  5883 2348  2  5895 2353  2  5923 2366  3  5930 2405  3  5918
5  2913   2425  4  5954 2474  4  5955 2486  4  5978 2504  4  5978 2527  4  5983
5  2914   2600  4  5962 2651  4  5992 2688  4  5973 2690  4  5973 2800  4  5991
5  2915   2699  4  5984 2990  4  5986 3025  4  5949 3040  4  5945 3063  4  6006
5  2916   3100  4  6050
6  2920  1  2 060 050  1  2 040 040  1  2 045 045  1  2 045 045
```

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AI DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
AI AT 14210 / 0 / 850. / 648. / 38328. / 1.96 / 288. / 521. 594.40 / 0.05 / / 594.45 / 1.31 / 0.17/ *IS*
AJ AT 14860 / 650 / 850. / 414. / 26092. / 2.05 / 362. / 984. 594.63 / 0.13 / 0.47 / 0.04 / 594.96 / 2.05 / 0.27 / 0.000 *XS*
AK AT 15460 / 600 / 850. / 325. / 23599. / 1.24 / 625. / 767. 595.54 / 0.13 / 0.70 / 0.0 / 595.67 / 2.62 / 0.28 / 0.002 *XS*
========== BEGIN BRIDGE ANALYSIS ==========
BR AK AI 15460 / / 850. / 151. / 11095. / 1.00 / 0. / 32. 595.54 / 0.49 / / 5.63 / 0.16 / *BO*
NO ROAD OVERFLOW *RG*
AM AI 15610 / 150 / 850. / 668. / 40646. / 1.44 / 2206. / 3045. 595.75 / 0.04 / 0.11 / 0.0 / 595.78 / 1.27 / 0.16 / 0.000 *AS*
M = 0.70 / E = 0.04 / K* = 2.05 / 994. / 68051. / 1.41 / 2187. / 3049. 596.78 / 0.02 / / 596.79 / 0.86 / 0.07 / *AS*
========== END BRIDGE ANALYSIS ==========

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AI DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*								
AI AI	14210 /	0 /	1300. /	893. /	57712. /	1.83 /	270. /	526.
595.40 /	0.06 /		/	595.46 /	1.46 /	0.10 /		*IS*
AJ AI	14860 /	650 /	1300. /	705. /	40791. /	2.79 /	357. /	1152.
595.82 /	0.15 /	0.47 /	0.04 /	595.97 /	1.84 /	0.27 /	0.000	*XS*
AK AI	15460 /	600 /	1300. /	497. /	35566. /	1.52 /	97. /	784.
596.52 /	0.16 /	0.70 /	0.01 /	596.68 /	2.61 /	0.29 /	0.001	*XS*
BEGIN BRIDGE ANALYSIS								
BR AK AI	15460 /	/	1118. /	151. /	11095. /	1.00 /	0. /	32.
596.52 /	0.85 /			/	7.41 /	0.10 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		37. / RIGHT		146. /				*RG*
AM AI	15610 /	150 /	1300. /	983. /	67076. /	1.41 /	2187. /	3048.
596.75 /	0.04 /	0.11 /	0.0 /	596.78 /	1.32 /	0.10 /	-0.000	*AS*
M = 0.71 / E = 0.10 / K* = 2.07 /				1752. /	124752. /	1.73 /	2127. /	3055.
598.51 /	0.01 /			/ 598.53 /	0.74 /	0.06 /		*AS*
END BRIDGE ANALYSIS								

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
AI AT	14210 /	0 /	1550. /	1050. /	68077. /	1.94 /	260. /	777.	
595.85 /	0.06 /		/	595.91 /	1.46 /	0.10/		*IS*	
AJ AT	14860 /	650 /	1550. /	896. /	50100. /	3.08 /	356. /	1172.	
596.27 /	0.14 /	0.46 /	0.04 /	596.42 /	1.73 /	0.27 /	0.004	*XS*	
AK AT	15460 /	600 /	1550. /	619. /	44216. /	1.59 /	76. /	794.	
596.92 /	0.16 /	0.65 /	0.01 /	597.07 /	2.50 /	0.29 /	0.002	*XS*	
========== BEGIN BRIDGE ANALYSIS ==========									
BR AK AI	15460 /	/	1101. /	151. /	11095. /	1.00 /	0. /	32.	
596.92 /	0.83 /			/	7.29 /	0.10 /		*BO*	
ROAD OVERFLOW (CFS) / LEFT		140. / RIGHT		304. /					
								RG	
AM AI	15610 /	150 /	1550. /	1116. /	79507. /	1.39 /	2180. /	3050.	
597.14 /	0.04 /	0.10 /	0.0 /	597.18 /	1.39 /	0.10 /	-0.000	*AS*	
M = 0.65 / E = 0.17 / K* = 1.86 /				1875. /	131960. /	1.80 /	2120. /	3056.	
598.07 /	0.02 /			/	598.69 /	0.83 /	0.06 /	*AS*	

========== END BRIDGE ANALYSIS ==========

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AI DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC	*ID*
AI AI 14210 / 0 / 2100. / 1625. / 100659. / 2.21 / 236. / 832. 596.90 / 0.06 / / 596.96 / 1.29 / 0.10/	*IS*
AJ AI 14860 / 650 / 2100. / 1528. / 70933. / 4.78 / 157. / 1193. 597.26 / 0.14 / 0.40 / 0.04 / 597.40 / 1.37 / 0.26 / 0.000	*XS*
AK AI 15460 / 600 / 2100. / 1107. / 71038. / 2.03 / 30. / 1148. 597.81 / 0.11 / 0.53 / 0.0 / 597.93 / 1.90 / 0.25 / 0.000	*XS*
BEGIN BRIDGE ANALYSIS	
BR AK AI 15460 / / 1020. / 151. / 11095. / 1.00 / 0. / 32. 597.81 / 0.71 / / 6.76 / 0.11 /	*BO*
ROAD OVERFLOW (CFS) / LEFT 370. / RIGHT 712. /	*RG*
AM AI 15610 / 150 / 2100. / 1442. / 105928. / 1.51 / 2154. / 3053. 597.96 / 0.05 / 0.09 / 0.0 / 598.01 / 1.46 / 0.11 / -0.000	*AS*
M = 0.51 / E = 0.46 / K* = 1.30 / 2059. / 144188. / 1.84 / 2109. / 3057. 598.89 / 0.03 / / 598.92 / 1.02 / 0.08 /	*AS*
END BRIDGE ANALYSIS	

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AI DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW									
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*	
AI AT 14210 /	0 /	1550. /	1014. /	70001. /	1.70 /	276. /	526.		
595.89 /	0.06 /		/ 595.95 /	1.53 /	0.10/		*IS*		
AJ AT 14860 /	650 /	1550. /	676. /	47249. /	2.12 /	356. /	553.		
596.31 /	0.17 /	0.47 /	0.06 /	596.46 /	2.29 /	0.28 /	-0.000	*XS*	
AK AT 15460 /	600 /	1550. /	564. /	46885. /	1.25 /	590. /	795.		
596.98 /	0.15 /	0.65 /	0.0 /	597.13 /	2.75 /	0.27 /	-0.001	*XS*	
========== BEGIN BRIDGE ANALYSIS ==========									
BR AK AT 15460 /	/	1093. /	151. /	11095. /	1.00 /	0. /	32.		
596.96 /	0.81 /			/ 7.24 /	0.10 /		*BO*		
ROAD OVERFLOW (CFS) / LEFT 148. / RIGHT 316. /									
								RG	
AM AT 15610 /	150 /	1550. /	1133. /	81155. /	1.39 /	2180. /	3050.		
597.16 /	0.04 /	0.09 /	0.0 /	597.23 /	1.37 /	0.10 /	0.000	*AS*	
M = 0.65 / E = 0.18 / K* = 1.83 /			1882. /	132431. /	1.80 /	2119. /	3056.		
598.66 /	0.02 /		/ 598.70 /	0.82 /	0.06 /		*AS*		
========== END BRIDGE ANALYSIS ==========									

END OF THIS PROFILE

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                    USGS STEP-BACKWATER PROGRAM - VERSION 72.339 *** PAGE COUNT=    1,DATE= 8/27/76

                                          *** INPUT CARD PRINTOUT ***

1      1 PLUM CREEK                                          14  5  2 05 12
2      2  59602  59765  59830  59860  59830
3   2900    AM 1  21  3  590   15610  1  3
4   2510    850   1300   1550   2100   1550
                                                                                  SEQUENCE ERROR
5   2910    2990  1  6000 2990  1  5986 3025  1  5949 3040  1  5945 3063  1  6006
5   2911    3071  1  5942 3144  2  5943 3153  2  5902 3153  2  5890 3170  2  5890
5   2912    3170  2  5902 3185  3  5960 3209  3  5963 3232  3  5962 3311  3  5971
5   2913    3344  3  5987 3423  3  5984 3443  3  5976 3459  3  5976 3492  3  5986
5   2914    3500  3  6000
6   2920  1  2 060 060  1  2 040 040  1  2 045 045
3   3000    AN 0  15  3  591   16030  1  3
5   3010     597  1  6100  597  1  6023  698  1  6006  724  1  5999  776  1  5965
5   3011     806  1  5947  855  2  5946  863  2  5906  863  2  5896  881  2  5896
5   3012     881  2  5906  897  3  5962  959  3  5981  990  3  5987 1023  3  6000
6   3020  1  2 060 060  1  2 050 050  1  2 060 060
3   3100    AO 0  26  3  592   16770  1  3
5   3110    3400  1  6050 3458  1  6001 3590  1  6004 3703  1  6007 3799  1  5996
5   3111    3850  1  5968 3925  1  5959 4026  1  5967 4141  1  5973 4215  1  5971
5   3112    4222  1  5952 4288  1  5960 4386  1  5961 4438  1  5957 4459  2  5965
5   3113    4465  2  5920 4465  2  5917 4489  2  5917 4489  2  5920 4507  3  6000
5   3114    4593  3  6022 4705  3  6022 4815  3  6009 4831  3  6015 4861  3  6026
5   3115    4900  3  6050
6   3120  1  2 060 060  1  2 050 050  1  2 060 060
3   3200 BR AO 2  15  1  590   16770      15       3 1
                                                M                                 **ERROR(S)**
5   3210       0  1  5979    0  1  5901    3  1  5901    6  1  5901    9  1  5899
5   3211      12  1  5901   15  1  5903   18  1  5908   21  1  5917   24  1  5923
5   3212      27  1  5931   30  1  5937   33  1  5935   33  1  5979    0 -9  5979
6   3220  1  2 030 030
3   3300 RD AP 4  14  2   48          1  2          1 1                1
5   3310       0  1  6050    0  1  6022   65  1  5973  260  1  5978  338  1  5979
5   3311     432  1  5988  506  2  5995  595  2  6006  686  2  6007  785  2  6009
5   3312     874  2  6009  973  2  6016 1078  2  6023 1100  2  6050
3   3400    AQ 5  24  4  593   16890  1  3
5   3410       0  1  6050    0  1  6029   65  1  6002  143  1  5998  159  1  5990
5   3411     236  1  5982  319  1  5991  394  1  5978  420  1  5986  443  1  5986
5   3412     454  1  5963  490  1  5986  519  1  5959  591  1  5962  613  2  5975
5   3413     615  2  5960  620  2  5921  620  2  5917  648  2  5917  648  3  5921
5   3414     662  4  6000  701  4  6029  735  4  6029  750  4  6050
6   3420  1  2 080 080  1  2 050 050  1  2 050 050  1  2 060 060
3   3400    AQ 0  24  4  593   16895  1  3
                                                                                  SEQUENCE ERROR
5   3410       0  1  6050    0  1  6029   65  1  6002  143  1  5998  159  1  5990
5   3411     236  1  5982  319  1  5991  394  1  5978  420  1  5986  443  1  5986
5   3412     454  1  5963  490  1  5986  519  1  5959  591  1  5962  613  2  5975
5   3413     615  2  5960  620  2  5921  620  2  5917  648  2  5917  648  3  5921
5   3414     662  4  6000  701  4  6029  735  4  6029  750  4  6050
6   3420  1  2 080 080  1  2 050 050  1  2 050 050  1  2 060 060
3   3500    AR 1  28  3  593   17930  1  3
4   3505    830   1300   1550   2100   1550
```

*** INPUT CARD PRINTOUT ***

```
5  3510    -600  1  6050 -600  1  6025 -500  1  6008 -455  1  6012 -315  1  6011
5  3511    -160  1  6005    0  1  5980   23  1  5980   33  1  5961   41  1  5981
5  3512      88  1  5989  118  1  5989  162  1  5981  218  2  5970  241  2  5949
5  3513     244  2  5925  244  2  5912  261  2  5912  261  2  5925  273  3  5982
5  3514     304  3  5998  337  3  6024  350  3  6030  364  3  6030  407  3  6030
5  3515     425  3  6030  453  3  6049  481  3  6057
6  3520  1  2 065 065  1  2 040 040  1  2 070 070
3  3600    AS 0  25  3  593   18270  1  3
5  3610    -600  1  6100 -530  1  6031 -470  1  6008 -260  1  6011  -70  1  6001
5  3611       0  1  5992   17  1  5992   30  1  5984   57  1  5993  100  1  5990
5  3612     156  1  5984  205  2  5968  210  2  5929  210  2  5920  232  2  5920
5  3613     232  2  5929  250  3  5972  285  3  5978  297  3  5994  307  3  5995
5  3614     341  3  6028  421  3  6040  509  3  6047  620  3  6049  700  3  6100
6  3620  1  2 065 065  1  2 045 045  1  2 070 070
3  3700    AT 0  26  3  594   19110  1  3
5  3710    -100  1  6100    0  1  6100   85  1  6100  146  1  6004  180  1  5995
5  3711     206  1  5995  241  1  5974  259  1  5974  289  1  5989  332  1  5993
5  3712     376  2  5992  383  2  5935  383  2  5927  401  2  5927  401  2  5935
5  3713     416  3  5989  471  3  5984  524  3  5967  579  3  5983  609  3  5997
5  3714     623  3  5988  746  3  6035  808  3  6046  883  3  6050  959  3  6061
5  3715    1000  3  6100
6  3720  1  2 045 045  1  2 045 045  1  2 060 060
3  3800    AU 0  26  3  595   19590  1  3
```

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5  3810    -999  1  6100 -999  1  6100 -642  1  6100 -385  1  6000    0  1  5995
5  3811     100  1  5991  102  1  5985  125  1  5985  179  1  5992  250  2  5990
5  3812     256  2  5948  256  2  5941  276  2  5941  276  2  5948  290  3  5993
5  3813     393  3  5987  490  3  5987  603  3  6004  664  3  6015  744  3  6036
5  3814     791  3  6042  965  3  6031  985  3  6031 1200  3  6046 1300  3  6051
5  3815    1300  3  6100
6  3820  1  2 045 045  1  2 050 050  1  2 070 070
3  3900    AV 1  28  3  597   19810  1  3
4  3905    800   1300   1500   2050   1500
5  3910    -300  1  6017 -200  1  6008    0  1  5989  113  1  5987  171  1  5989
5  3911     218  1  5986  252  1  6002  295  1  5995  344  1  5997  372  2  5996
5  3912     381  2  5964  381  2  5953  399  2  5953  399  2  5964  402  3  5980
5  3913     413  3  6013  418  3  5991  488  3  6003  559  3  6005  662  3  6009
5  3914     741  3  6010  775  3  6003  782  3  5972  788  3  5972  798  3  6005
5  3915     885  3  6021  950  3  6038 1000  3  6100
6  3920  1  2 060 060  1  2 045 045  1  2 060 060
3  4000    AW 0  27  3  599   20710  1  3
5  4010    -650  1  6022 -500  1  6010    0  1  6004   70  1  6010  132  1  6020
5  4011     181  1  6007  238  1  6011  264  1  6007  286  1  6032  293  2  6011
5  4012     303  2  6003  309  2  5982  309  2  5977  328  2  5977  328  2  5982
5  4013     340  3  6038  351  3  6015  386  3  6005  459  3  6020  529  3  6034
5  4014     595  3  6048  662  3  6045  727  3  6061  807  3  6063  845  3  6077
5  4015     901  3  6077  950  3  6100
6  4020  1  2 070 070  1  2 050 050  1  2 060 060
3  4100    AX 0  20  3  599   21410  1  3
5  4110    -400  1  6050    0  1  6009  121  1  5996  218  1  5989  251  1  5996
5  4111     263  1  6015  293  1  6036  306  2  6031  319  2  5986  319  2  5986
```

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV /	HV /	HF /	HE /	EG /	V /	FN /	ACC	*ID*
AM AT 15610 /	0 /	850. /	358. /	24795. /	1.67 /	3014. /	3187.	
596.02 /	0.15 /		/ 596.17 /	2.37 /	0.27/			*IS*
AN AT 16030 /	420 /	850. /	338. /	21369. /	1.40 /	774. /	910.	
596.60 /	0.14 /	0.57 /	0.0 /	596.74 /	2.52 /	0.26 /	0.001	*XS*
AO AT 16770 /	740 /	850. /	863. /	32453. /	2.22 /	3838. /	4501.	
597.48 /	0.03 /	0.77 /	0.0 /	597.52 /	0.98 /	0.12 /	0.007	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR AO AT 16770 /	/	808. /	198. /	28126. /	1.00 /	0. /	33.	
597.48 /	0.26 /			/	4.08 /	0.29 /		*BO*
ROAD OVERFLOW (CFS) / LEFT 37. / RIGHT 0. /								*RG*
AQ AT 16890 /	120 /	850. /	363. /	20130. /	1.93 /	448. /	658.	
597.55 /	0.16 /	0.13 /	0.07 /	597.72 /	2.34 /	0.28 /	-0.000	*AS*
M = 0.20 / E = 0.43 / K* = 0.33 /		379. /	20985. /	1.96 /	448. /	658.		
597.64 /	0.15 /		/ 597.79 /	2.24 /	0.27 /			*AS*
========== END BRIDGE ANALYSIS ==========								
AQ AT 16895 /	5 /	850. /	379. /	20985. /	1.96 /	448. /	658.	
597.64 /	0.15 /	0.01 /	0.0 /	597.79 /	2.24 /	0.27 /	-0.008	*XS*
AR AT 17930 /	1035 /	830. /	449. /	28850. /	2.05 /	-57. /	286.	
598.89 /	0.11 /	1.21 /	0.0 /	599.00 /	1.85 /	0.23 /	-0.000	*XS*
AS AT 18270 /	340 /	830. /	437. /	29161. /	1.94 /	18. /	295.	
599.17 /	0.11 /	0.28 /	0.0 /	599.28 /	1.90 /	0.21 /	0.001	*XS*
AT AT 19110 /	840 /	830. /	754. /	36639. /	2.04 /	169. /	649.	
599.78 /	0.04 /	0.54 /	0.0 /	599.82 /	1.10 /	0.16 /	0.002	*XS*
AU AT 19590 /	480 /	830. /	877. /	30007. /	2.62 /	-387. /	582.	
600.09 /	0.04 /	0.30 /	0.0 /	600.12 /	0.95 /	0.18 /	0.004	*XS*
AV AT 19810 /	220 /	800. /	740. /	24726. /	2.39 /	-146. /	797.	
600.28 /	0.04 /	0.20 /	0.00 /	600.33 /	1.08 /	0.14 /	0.002	*XS*
AW AT 20710 /	900 /	800. /	779. /	17855. /	2.28 /	-574. /	439.	
601.59 /	0.04 /	1.30 /	0.0 /	601.63 /	1.03 /	0.16 /	0.001	*XS*
AX AT 21410 /	700 /	800. /	991. /	34662. /	1.28 /	-141. /	448.	
602.34 /	0.01 /	0.72 /	0.0 /	602.36 /	0.81 /	0.10 /	0.002	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
AM AT	15610	0	1300.	769.	53692.	1.93	2999.	3461.
597.65	0.09			597.74	1.69	0.20		*IS*
AN AT	16030	420	1300.	570.	38308.	1.52	753.	955.
597.98	0.12	0.35	0.02	598.10	2.28	0.23	0.000	*XS*
AO AT	16770	740	1300.	1566.	74143.	1.44	3819.	4504.
598.53	0.02	0.44	0.0	598.54	0.83	0.09	0.001	*XS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR AO AT	16770		469.	212.	21534.	1.00	0.	33.
598.53	0.08				2.22	0.29		*BO*
ROAD OVERFLOW (CFS) / LEFT 756. / RIGHT 0. /								*RG*
AQ AT	16890	120	1300.	594.	29924.	2.66	204.	659.
598.54	0.20	0.09	0.11	598.73	2.19	0.29	-0.011	*AS*
M = 0.0 / E = 1.00 / K* = 0.01				594.	29930.	2.66	204.	659.
598.54	0.20			598.73	2.19	0.29		*AS*
========== END BRIDGE ANALYSIS ==========								
AQ AT	16895	5	1300.	594.	29930.	2.66	204.	659.
598.54	0.20	0.01	0.0	598.73	2.19	0.29	-0.010	*XS*
AR AT	17930	1035	1300.	813.	48661.	2.50	-118.	304.
599.84	0.10	1.20	0.0	599.94	1.60	0.22	0.002	*XS*
AS AT	18270	340	1300.	747.	44997.	2.47	-69.	313.
600.09	0.12	0.26	0.01	600.20	1.74	0.22	-0.004	*XS*
AT AT	19110	840	1300.	1194.	66456.	1.63	144.	671.
600.65	0.03	0.47	0.0	600.68	1.09	0.14	0.001	*XS*
AU AT	19590	480	1300.	1633.	69197.	1.63	-407.	627.
600.84	0.02	0.18	0.0	600.86	0.80	0.11	0.001	*XS*
AV AT	19810	220	1300.	1281.	46024.	2.07	-217.	822.
600.95	0.03	0.12	0.01	600.98	1.01	0.13	0.000	*XS*
AW AT	20710	900	1300.	1197.	31454.	1.77	-627.	460.
602.01	0.03	1.05	0.0	602.04	1.09	0.16	0.011	*XS*
AX AT	21410	700	1300.	1266.	47459.	1.24	-187.	457.
602.82	0.02	0.79	0.0	602.84	1.03	0.12	0.002	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
AM AT 15610	0	1550.	1002.	71371.	1.93	2993.	3482.	
598.30	0.07			598.37	1.55	0.18		*IS*
AN AT 16030	420	1550.	700.	47956.	1.57	744.	983.	
598.57	0.12	0.29	0.02	598.69	2.21	0.22	-0.000	*XS*
AO AT 16770	740	1550.	1925.	100867.	1.30	3809.	4505.	
599.05	0.01	0.37	0.0	599.06	0.81	0.08	0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR AO AT 16770		0.	212.	21534.	1.00	0.	33.	
599.05	0.0				0.0	0.28		*BO*
ROAD OVERFLOW (CFS) / LEFT 1344. / RIGHT 0. /								*RG*
AQ AT 16890	120	1550.	818.	37882.	3.20	158.	660.	
599.06	0.18	0.08	0.11	599.23	1.89	0.28	-0.011	*AS*
M = 0.0 / E = 1.00 / K* = 0.01			818.	37882.	3.20	158.	660.	
599.06	0.18			599.23	1.89	0.28		*AS*
END BRIDGE ANALYSIS								
AQ AT 16895	5	1550.	818.	37882.	3.20	158.	660.	
599.06	0.18	0.01	0.0	599.23	1.89	0.28	-0.009	*XS*
AR AT 17930	1035	1550.	989.	59654.	2.51	-143.	310.	
600.24	0.10	1.10	0.0	600.34	1.57	0.22	0.001	*XS*
AS AT 18270	340	1550.	917.	53563.	2.66	-144.	317.	
600.49	0.12	0.26	0.01	600.61	1.69	0.22	0.005	*XS*
AT AT 19110	840	1550.	1399.	83072.	1.51	142.	681.	
601.03	0.03	0.45	0.0	601.06	1.11	0.10	0.001	*XS*
AU AT 19590	480	1550.	2007.	93589.	1.46	-416.	647.	
601.20	0.01	0.15	0.0	601.21	0.77	0.11	0.001	*XS*
AV AT 19810	220	1500.	1633.	61913.	1.87	-254.	841.	
601.28	0.02	0.09	0.01	601.31	0.92	0.12	0.000	*XS*
AW AT 20710	900	1500.	1357.	37511.	1.64	-645.	467.	
602.16	0.03	0.87	0.00	602.19	1.11	0.15	0.011	*XS*
AX AT 21410	700	1500.	1364.	52239.	1.23	-203.	461.	
602.98	0.02	0.80	0.0	603.00	1.10	0.12	0.002	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
AM AT 15610	0	2100.	1127.	79587.	2.01	3025.		3492.
598.60	0.11			598.71	1.86	0.23		*IS*
AN AT 16030	420	2100.	804.	55922.	1.58	738.		997.
598.99	0.17	0.42	0.03	599.15	2.61	0.26	0.000	*XS*
AO AT 16770	740	2100.	2301.	132316.	1.21	3799.		4506.
599.58	0.02	0.44	0.0	599.60	0.91	0.08	0.002	*XS*
BEGIN BRIDGE ANALYSIS								
BR AO AT 16770		0.	212.	21534.	1.00	0.		33.
599.58	0.0				0.0	0.29		*BO*
ROAD OVERFLOW (CFS) / LEFT 1967. / RIGHT 0. /								*RG*
AQ AT 16890	120	2100.	1091.	51129.	2.99	147.		661.
599.59	0.17	0.08	0.10	599.76	1.92	0.29	-0.011	*AS*
M = 0.0 / E = 1.00 / K* = 0.01			1091.	51129.	2.99	147.		661.
599.59	0.17			599.76	1.92	0.29		*AS*
END BRIDGE ANALYSIS								
AQ AT 16895	5	2100.	1091.	51129.	2.99	147.		661.
599.59	0.17	0.01	0.0	599.76	1.92	0.29	-0.009	*XS*
AR AT 17930	1035	2100.	1287.	76154.	2.74	-502.		317.
600.84	0.11	1.17	0.0	600.96	1.63	0.23	0.019	*XS*
AS AT 18270	340	2100.	1285.	67366.	3.42	-478.		324.
601.12	0.14	0.29	0.01	601.26	1.63	0.24	0.000	*XS*
AT AT 19110	840	2100.	1769.	116514.	1.37	138.		699.
601.71	0.03	0.47	0.0	601.74	1.19	0.09	0.001	*XS*
AU AT 19590	480	2100.	2714.	147105.	1.30	-432.		677.
601.85	0.01	0.12	0.0	601.86	0.77	0.10	0.000	*XS*
AV AT 19810	220	2050.	2349.	101681.	1.54	-300.		875.
601.91	0.02	0.06	0.00	601.93	0.87	0.10	-0.000	*XS*
AW AT 20710	900	2050.	1798.	57240.	1.40	-650.		487.
602.56	0.03	0.65	0.01	602.59	1.14	0.15	0.006	*XS*
AX AT 21410	700	2050.	1615.	64741.	1.23	-239.		468.
603.35	0.03	0.79	0.00	603.38	1.27	0.14	0.001	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	V	ALPHA / FN	LEW / ACC	REW / *ID*
AM AT 15610	0	1550.	831.	67390.	1.61	3066.		3316.
598.30	0.09		598.39	1.86	0.20			*IS*
AN AT 16030	420	1550.	705.	48372.	1.57	744.		985.
598.59	0.12	0.31	0.02	598.71	2.20	0.22	-0.000	*XS*
AO AT 16770	740	1550.	1494.	83160.	1.30	4005.		4505.
599.13	0.02	0.44	0.0	599.15	1.04	0.10	0.000	*XS*
BEGIN BRIDGE ANALYSIS								
BR AO AT 16770		0.	212.	21534.	1.00	0.		33.
599.13	0.0			0.0	0.27			*BO*
ROAD OVERFLOW (CFS) / LEFT 1398. / RIGHT 0. /								*RG*
AQ AT 16890	120	1550.	862.	39760.	3.20	156.		660.
599.14	0.16	0.09	0.07	599.30	1.80	0.27	-0.011	*AS*
M = 0.0 / E = 1.00 / K* = 0.01			862.	39760.	3.20	156.		660.
599.14	0.16			599.30	1.80	0.27		*AS*
END BRIDGE ANALYSIS								
AQ AT 16895	5	1550.	710.	40156.	2.16	410.		660.
599.14	0.16	0.01	0.0	599.30	2.18	0.27	-0.009	*XS*
AR AT 17930	1035	1550.	818.	56646.	2.06	10.		310.
600.28	0.11	1.09	0.0	600.40	1.89	0.23	0.001	*XS*
AS AT 18270	340	1550.	834.	54872.	2.12	17.		317.
600.53	0.11	0.26	0.0	600.65	1.86	0.22	-0.014	*XS*
AT AT 19110	840	1550.	1382.	84527.	1.45	170.		670.
601.05	0.03	0.44	0.0	601.08	1.12	0.09	0.000	*XS*
AU AT 19590	480	1550.	1596.	81019.	1.42	-100.		600.
601.23	0.02	0.17	0.0	601.25	0.97	0.13	0.000	*XS*
AV AT 19810	220	1500.	1445.	62112.	1.64	-100.		700.
601.33	0.03	0.10	0.00	601.36	1.04	0.12	0.000	*XS*
AW AT 20710	900	1500.	1149.	35638.	1.52	-350.		450.
602.25	0.04	0.91	0.01	602.29	1.31	0.17	0.010	*XS*
AX AT 21410	700	1500.	1419.	55357.	1.22	-212.		450.
603.07	0.02	0.80	0.0	603.09	1.06	0.12	0.002	*XS*

END OF THIS PROFILE

*** INPUT CARD PRINTOUT ***

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1  4090 PLUM CREEK• MONROE TWP                                  14  5  2 05 12
2  4091  60180  60228  60244  60281  60253
3  4100    AX 1  20  3  599   21410  1  3
4  4101    800   1300   1500   2050   1500
5  4110    -400  1  6050    0  1  6009  121  1  5996  218  1  5989  251  1  5996
5  4111     263  1  6010  293  1  6031  306  2  6026  319  2  5981  319  2  5981
5  4112     320  2  5981  343  2  5981  343  2  5981  357  3  6027  362  3  6028
5  4113     363  3  6010  425  3  6007  481  3  6035  583  3  6056  600  3  6095
6  4120  1  2 070 070  1  2 050 050  1  2 070 070
3  4200 BR AY 2  10  1  599   21410        0  6037 3 0
5  4210       0  1  6037    0  1  5991    5  1  5982   10  1  5981   15  1  5982
5  4211      20  1  5979   25  1  5978   30  1  5986   30  1  6037   -9  1  6037
6  4220  1  2 025 025
3  4300 RD AY 4  12  2   39          1  2          2 2                  1
5  4310    -500  1  6050    0  1  6036  158  1  6032  323  1  6034  491  1  6036
5  4311     725  1  6049  731  1  6058  746  2  6058  761  2  6058  812  2  6056
5  4312     978  2  6059 1146  2  6064
3  4400    AZ 5  18  5  599   21573  2  4
5  4410    -100  1  6100   12  1  6042   89  1  6024   96  1  6020  126  1  6008
5  4411     144  1  6015  167  1  6018  242  2  5992  300  2  6000  342  2  6005
5  4412     391  3  6009  397  3  5986  407  3  5975  417  3  5987  421  4  6010
5  4413     422  5  6015  504  5  6017  622  5  6063
6  4420  1  2 080 080  1  2 060 060  1  2 035 035  1  2 035 035  1  2 060 060
3  4400    AZ 1  18  5  599   21580  2  4                                SEQUENCE ERROR
4  4405    800   1300   1500   2050   1500
5  4410    -100  1  6100   12  1  6042   89  1  6024   96  1  6020  126  1  6008
5  4411     144  1  6015  167  1  6018  242  2  5992  300  2  6000  342  2  6005
5  4412     391  3  6009  397  3  5986  407  3  5975  417  3  5987  421  4  6010
5  4413     422  5  6015  504  5  6017  622  5  6063
6  4420  1  2 080 080  1  2 060 060  1  2 035 035  1  2 035 035  1  2 060 060
3  4500    BA 0  15  4  601   22580 99 99
5  4510    -500  1  6100    0  1  6050   74  1  6045  192  1  6034  282  2  6032
5  4511     436  2  6017  456  2  6036  470  2  6026  480  3  6020  482  3  6002
5  4512     490  3  5997  499  4  6010  510  4  6026  638  4  6049  764  4  6093
6  4520  1  2 060 060  1  2 080 080  1  2 035 035  1  2 060 060
3  4600    BB 0  15  5  602   24120 99 99
5  4610    -500  1  6100    0  1  6082  135  1  6048  221  2  6046  248  2  6057
5  4611     272  3  6038  275  3  6015  282  3  6004  295  3  6014  298  4  6043
5  4612     367  4  6047  470  5  6064  620  5  6054  748  5  6084 1000  5  6100
6  4620  1  2 060 060  1  2 080 080  1  2 030 030  1  2 080 080  1  2 035 035
3  4700    BC 0  16  4  603   25210 99 99
5  4710    -200  1  6100    0  1  6088   20  1  6085  112  1  6087  200  1  6063
5  4711     280  1  6060  376  2  6060  382  2  6080  396  3  6060  406  3  6024
5  4712     414  3  6017  424  3  6025  436  4  6065  516  4  6073  550  4  6091
5  4713     750  4  6100
6  4720  1  2 060 060  1  2 080 080  1  2 035 035  1  2 035 035
3  4800    BD 0  17  3  603   26340 99 99
5  4810    -200  1  6120    0  1  6105   26  1  6097  120  1  6083  140  1  6080
5  4811     197  1  6070  267  1  6058  307  1  6088  311  2  6076  326  2  6036
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*** INPUT CARD PRINTOUT ***

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5  4812      338  2  6023  350  2  6036  359  3  6075  368  3  6083  392  3  6064
5  4813      540  3  6095  705  3  6122
6  4820  1  2 060 060  1  2 030 030  1  2 060 060
3  4900     BE 0  17  3  604   27120 99 99
5  4910     -200  1  6140    0  1  6128  109  1  6114  272  1  6108  325  1  6098
5  4911      408  1  6065  492  1  6085  499  2  6082  506  2  6044  517  2  6029
5  4912      528  2  6045  537  3  6079  669  3  6087  765  3  6087  883  3  6126
5  4913     1027  3  6127 1200  3  6140
6  4920  1  2 060 060  1  2 045 045  1  2 060 060
3  5000     BF 1  14  3  605   28020 99 99
4  5001     580    920   1100   1500   1100
5  5010     -200  1  6150    0  1  6137   17  1  6130   85  1  6099  155  1  6111
5  5011      161  2  6097  171  2  6045  175  2  6037  183  2  6041  193  3  6107
5  5012      381  3  6097  451  3  6119  506  3  6130  700  3  6150
6  5020  1  2 060 060  1  2 045 045  1  2 060 060
3  5100 RR BG 0  13  2  606   28420 99 99
5  5110        0  1  6200  380  1  6160  406  1  6049  414  1  6044  419  1  6049
5  5111      421  1  6066  439  2  6117  452  2  6092  511  2  6087  721  2  6130
5  5112      829  2  6156  862  2  6160 1000  2  6200
6  5120  1  2 050 050  1  2 060 060
3  5200     BH 0  24  5  606   28670  2  4
5  5210     -200  1  6200    0  1  6168  166  1  6137  299  1  6133  470  1  6143
5  5211      637  2  6148  722  2  6118  820  2  6088  835  3  6083  840  3  6054
5  5212      848  3  6046  856  3  6054  862  4  6080  868  4  6088  894  4  6096
5  5213      935  4  6099  968  4  6106  984  4  6119 1017  4  6120 1049  4  6122
5  5214     1095  4  6143 1129  5  6156 1228  5  6168 1500  5  6200
6  5220  1  2 035 035  1  2 080 080  1  2 045 045  1  2 080 080  1  2 060 060
3  5300     BI 0  20  3  607   29670 99 99
5  5310     -200  1  6200    0  1  6162  240  1  6150  476  1  6148  648  1  6121
5  5311      708  1  6132  774  1  6136  820  1  6136  860  1  6133 1034  1  6108
5  5312     1053  2  6110 1061  2  6085 1069  2  6058 1078  2  6052 1084  2  6052
5  5313     1087  2  6081 1091  3  6108 1100  3  6113 1132  3  6163 1300  3  6200
6  5320  1  2 035 035  1  2 045 045  1  2 080 080
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WATER-SURFACE PROFILE FOR: PLUM CREEK. MONROE TWP
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
AX AT	21410 /	0 /	800. /	782. /	25853. /	1.44 /	-88. /	447.
601.80 /	0.02 /			601.82 /	1.02 /	0.13/		*IS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR AY AT	21410 /	/	732. /	109. /	13530. /	1.00 /	0. /	30.
601.80 /	0.70 /				6.73 /	0.62 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		65. / RIGHT		0. /				*RG*
AZ AT	21573 /	163 /	800. /	546. /	22194. /	2.51 /	97. /	510.
601.95 /	0.08 /	0.18 /	0.03 /	602.04 /	1.47 /	0.17 /	0.000	*AS*
M = 0.71 / E = 0.81 / K* = 2.22 /				1262. /	64635. /	2.09 /	41. /	551.
603.52 /	0.01 /			603.53 /	0.63 /	0.07 /		*AS*
========== END BRIDGE ANALYSIS ==========								
AZ AT	21580 /	7 /	800. /	1262. /	64635. /	2.09 /	41. /	551.
603.52 /	0.01 /	0.00 /	0.0 /	603.53 /	0.63 /	0.07 /	-0.001	*XS*
BA AT	22580 /	1000 /	800. /	535. /	17716. /	3.99 /	126. /	589.
604.02 /	0.14 /	0.56 /	0.06 /	604.16 /	1.49 /	0.16 /	0.003	*XS*
BB AT	24120 /	1540 /	800. /	560. /	26512. /	5.10 /	83. /	651.
606.11 /	0.16 /	2.10 /	0.01 /	606.28 /	1.43 /	0.33 /	0.010	*XS*
BC AT	25210 /	1090 /	800. /	425. /	23177. /	2.63 /	164. /	513.
607.27 /	0.14 /	1.14 /	0.0 /	607.42 /	1.88 /	0.32 /	0.007	*XS*
BD AT	26340 /	1130 /	800. /	521. /	32363. /	2.91 /	122. /	481.
608.27 /	0.11 /	0.96 /	0.0 /	608.38 /	1.53 /	0.27 /	-0.003	*XS*
BE AT	27120 /	780 /	800. /	490. /	21788. /	2.37 /	345. /	774.
608.99 /	0.10 /	0.71 /	0.0 /	609.09 /	1.63 /	0.26 /	0.003	*XS*
BF AT	28020 /	900 /	580. /	219. /	12961. /	1.88 /	73. /	405.
610.46 /	0.21 /	1.52 /	0.05 /	610.66 /	2.65 /	0.31 /	-0.001	*XS*
RR BG AT	23420 /	400 /	580. /	454. /	21476. /	1.50 /	391. /	629.
611.11 /	0.04 /	0.48 /	0.0 /	611.15 /	1.28 /	0.17 /	0.001	*XS*
BH AT	28670 /	250 /	580. /	460. /	22503. /	2.88 /	739. /	976.
611.27 /	0.07 /	0.17 /	0.02 /	611.34 /	1.26 /	0.19 /	0.000	*XS*
BI AT	29670 /	1000 /	580. /	266. /	19081. /	1.39 /	949. /	1105.
612.02 /	0.10 /	0.78 /	0.02 /	612.12 /	2.18 /	0.22 /	-0.018	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK, MONROE TWP

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
AX AT	21410 /	0 /	1300. /	1034. /	36833. /	1.37 /	-135. /	457.
602.28 /	0.03 /			/ 602.31 /	1.26 /	0.15 /		*IS*
========== BEGIN BRIDGE ANALYSIS ==========								
BR AY AT	21410 /	/	865. /	123. /	16357. /	1.00 /	0. /	30.
602.28 /	0.77 /				/ 7.02 /	0.61 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		430. / RIGHT		0. /				*RG*
AZ AT	21573 /	163 /	1300. /	764. /	33697. /	2.32 /	86. /	524.
602.47 /	0.10 /	0.22 /	0.04 /	602.57 /	1.70 /	0.19 /	0.000	*AS*
M = 0.62 / E = 0.60 / K* = 1.83 /				1446. /	77387. /	2.04 /	26. /	560.
603.87 /	0.03 /			/ 603.90 /	0.90 /	0.09 /		*AS*
========== END BRIDGE ANALYSIS ==========								
AZ AT	21580 /	7 /	1300. /	1446. /	77387. /	2.04 /	26. /	560.
603.87 /	0.03 /	0.00 /	0.0 /	603.90 /	0.90 /	0.09 /	-0.002	*XS*
BA AT	22580 /	1000 /	1300. /	815. /	29212. /	3.30 /	64. /	619.
604.57 /	0.13 /	0.75 /	0.05 /	604.70 /	1.60 /	0.16 /	0.003	*XS*
BB AT	24120 /	1540 /	1300. /	887. /	42197. /	4.57 /	60. /	675.
606.68 /	0.15 /	2.11 /	0.01 /	606.83 /	1.47 /	0.34 /	0.014	*XS*
BC AT	25210 /	1090 /	1300. /	646. /	36518. /	2.49 /	142. /	527.
607.88 /	0.16 /	1.20 /	0.00 /	608.04 /	2.01 /	0.34 /	0.005	*XS*
BD AT	26340 /	1130 /	1300. /	798. /	49189. /	3.19 /	75. /	515.
608.97 /	0.13 /	1.06 /	0.0 /	609.10 /	1.63 /	0.29 /	0.002	*XS*
BE AT	27120 /	780 /	1300. /	817. /	38353. /	2.11 /	327. /	796.
609.72 /	0.08 /	0.70 /	0.0 /	609.80 /	1.59 /	0.25 /	0.002	*XS*
BF AT	28020 /	900 /	920. /	421. /	20335. /	2.67 /	59. /	425.
611.09 /	0.20 /	1.42 /	0.06 /	611.29 /	2.18 /	0.32 /	0.003	*XS*
RR BG AT	28420 /	400 /	920. /	622. /	31157. /	1.40 /	390. /	661.
611.77 /	0.05 /	0.53 /	0.0 /	611.82 /	1.48 /	0.14 /	0.000	*XS*
BH AT	28670 /	250 /	920. /	637. /	31164. /	3.03 /	717. /	1007.
611.97 /	0.10 /	0.22 /	0.03 /	612.07 /	1.44 /	0.23 /	0.000	*XS*
BI AT	29670 /	1000 /	920. /	458. /	30517. /	1.69 /	600. /	1110.
612.86 /	0.11 /	0.89 /	0.00 /	612.96 /	2.01 /	0.22 /	0.003	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK, MONROE TWP

 100-Yr

SECID AT DISTANCE / LENGTH / DISCHARGE / AREA / CONVEYANCE / ALPHA / LEW / REW								
WS ELEV / HV / HF / HE / EG / V / FN / ACC								*ID*
AX AT	21410 /	0 /	1500. /	1125. /	41050. /	1.35 /	-150. /	460.
602.44 /	0.04 /			/ 602.48 /	1.33 /	0.15 /		*IS*
BEGIN BRIDGE ANALYSIS								
BR AY AT	21410 /	/	914. /	128. /	17334. /	1.00 /	0. /	30.
602.44 /	0.79 /			/	7.15 /	0.61 /		*BO*
ROAD OVERFLOW (CFS) / LEFT		596. / RIGHT		0. /				*RG*
AZ AT	21573 /	163 /	1500. /	840. /	38010. /	2.27 /	79. /	528.
602.64 /	0.11 /	0.24 /	0.04 /	602.75 /	1.79 /	0.20 /	0.000	*AS*
M = 0.59 / E = 0.47 / K* = 1.68 /				1499. /	81212. /	2.03 /	22. /	562.
603.97 /	0.03 /			/ 604.00 /	1.00 /	0.10 /		*AS*
END BRIDGE ANALYSIS								
AZ AT	21580 /	7 /	1500. /	1499. /	81212. /	2.03 /	22. /	562.
603.97 /	0.03 /	0.00 /	0.0 /	604.00 /	1.00 /	0.10 /	-0.003	*XS*
BA AT	22580 /	1000 /	1500. /	916. /	33665. /	3.14 /	38. /	629.
604.74 /	0.13 /	0.82 /	0.05 /	604.88 /	1.64 /	0.17 /	0.001	*XS*
BB AT	24120 /	1540 /	1500. /	999. /	48700. /	4.24 /	53. /	682.
606.86 /	0.15 /	2.11 /	0.01 /	607.01 /	1.50 /	0.34 /	0.014	*XS*
BC AT	25210 /	1090 /	1500. /	720. /	41535. /	2.41 /	135. /	531.
608.07 /	0.16 /	1.21 /	0.01 /	608.23 /	2.08 /	0.34 /	0.002	*XS*
BD AT	26340 /	1130 /	1500. /	899. /	55763. /	3.21 /	60. /	525.
609.19 /	0.14 /	1.10 /	0.0 /	609.33 /	1.67 /	0.30 /	0.002	*XS*
BE AT	27120 /	780 /	1500. /	923. /	44417. /	2.03 /	317. /	803.
609.94 /	0.08 /	0.71 /	0.0 /	610.03 /	1.62 /	0.25 /	-0.015	*XS*
BF AT	28020 /	900 /	1100. /	504. /	24146. /	2.64 /	54. /	432.
611.31 /	0.20 /	1.42 /	0.06 /	611.51 /	2.18 /	0.33 /	0.006	*XS*
RR BG AT	28420 /	400 /	1100. /	690. /	35537. /	1.38 /	389. /	673.
612.02 /	0.05 /	0.56 /	0.0 /	612.07 /	1.59 /	0.15 /	0.000	*XS*
BH AT	28670 /	250 /	1100. /	722. /	34471. /	3.26 /	710. /	1050.
612.23 /	0.12 /	0.25 /	0.03 /	612.35 /	1.52 /	0.25 /	-0.000	*XS*
BI AT	29670 /	1000 /	1100. /	570. /	37641. /	1.71 /	579. /	1112.
613.19 /	0.10 /	0.93 /	0.0 /	613.29 /	1.93 /	0.22 /	0.003	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK, MONROE TWP
PAGE 1 OF 1

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC	*ID*
AX AT 21410 / 0 / 2050. / 1351. / 51675. / 1.33 / -186. / 467.	
602.81 / 0.05 / / 602.86 / 1.52 / 0.17/	*IS*
BEGIN BRIDGE ANALYSIS	
BR AY AT 21410 / / 1025. / 139. / 19653. / 1.00 / 0. / 30.	
602.81 / 0.85 / / 7.37 / 0.60 /	*BO*
ROAD OVERFLOW (CFS) / LEFT 1042. / RIGHT 0. /	*RG*
AZ AT 21573 / 163 / 2050. / 1024. / 49145. / 2.18 / 62. / 538.	
603.04 / 0.14 / 0.27 / 0.04 / 603.17 / 2.00 / 0.22 / -0.000	*AS*
M = 0.51 / E = 0.07 / K* = 1.36 / 1616. / 89723. / 2.00 / 13. / 568.	
604.18 / 0.05 / / 604.23 / 1.27 / 0.13 /	*AS*
END BRIDGE ANALYSIS	
AZ AT 21580 / 7 / 2050. / 1616. / 89723. / 2.00 / 13. / 568.	
604.18 / 0.05 / 0.00 / 0.0 / 604.23 / 1.27 / 0.13 / -0.004	*XS*
BA AT 22580 / 1000 / 2050. / 1177. / 46170. / 2.77 / -16. / 645.	
605.16 / 0.13 / 1.01 / 0.04 / 605.29 / 1.74 / 0.17 / 0.001	*XS*
BB AT 24120 / 1540 / 2050. / 1271. / 66113. / 3.58 / 36. / 700.	
607.28 / 0.14 / 2.12 / 0.01 / 607.43 / 1.61 / 0.35 / 0.011	*XS*
BC AT 25210 / 1090 / 2050. / 909. / 54556. / 2.33 / 18. / 539.	
608.53 / 0.18 / 1.27 / 0.02 / 608.72 / 2.25 / 0.36 / -0.000	*XS*
BD AT 26340 / 1130 / 2050. / 1170. / 74114. / 3.22 / 25. / 555.	
609.74 / 0.15 / 1.17 / 0.0 / 609.89 / 1.75 / 0.31 / 0.001	*XS*
BE AT 27120 / 780 / 2050. / 1217. / 62362. / 1.86 / 287. / 820.	
610.52 / 0.08 / 0.71 / 0.0 / 610.60 / 1.68 / 0.25 / 0.001	*XS*
BF AT 28020 / 900 / 1500. / 697. / 34266. / 2.41 / 43. / 448.	
611.80 / 0.17 / 1.33 / 0.05 / 611.98 / 2.15 / 0.32 / 0.002	*XS*
RR BG AT 28420 / 400 / 1500. / 830. / 45084. / 1.34 / 388. / 696.	
612.49 / 0.07 / 0.58 / 0.0 / 612.56 / 1.81 / 0.17 / 0.000	*XS*
BH AT 28670 / 250 / 1500. / 902. / 44074. / 3.11 / 695. / 1061.	
612.74 / 0.13 / 0.28 / 0.03 / 612.88 / 1.66 / 0.27 / -0.001	*XS*
BI AT 29670 / 1000 / 1500. / 833. / 52614. / 1.82 / 543. / 1116.	
613.74 / 0.09 / 0.97 / 0.0 / 613.84 / 1.80 / 0.22 / -0.013	*XS*

END OF THIS PROFILE

WATER-SURFACE PROFILE FOR: PLUM CREEK, MONROE TWP
PAGE 1 OF 1
*** FLOODWAY ANALYSIS *** HOR FW

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
AX AT 21410 / 0 / 1500. / 1049. / 44276. / 1.21 / 0. / 462. 602.53 / 0.04 / / 602.57 / 1.43 / 0.15/ *IS*
========== BEGIN BRIDGE ANALYSIS ==========
BR AY AT 21410 / / 908. / 131. / 17890. / 1.00 / 0. / 30. 602.53 / 0.75 / / 6.95 / 0.59 / *BO*
ROAD OVERFLOW (CFS) / LEFT 594. / RIGHT 0. / *RG*
AZ AT 21573 / 163 / 1500. / 871. / 39807. / 2.26 / 76. / 530. 602.71 / 0.10 / 0.21 / 0.03 / 602.81 / 1.72 / 0.19 / 0.000 *AS*
M = 0.59 / E = 0.47 / K* = 1.68 / 1498. / 81164. / 2.03 / 22. / 562. 603.97 / 0.03 / / 604.00 / 1.00 / 0.10 / *AS*
========== END BRIDGE ANALYSIS ==========
AZ AT 21580 / 7 / 1500. / 1498. / 81165. / 2.03 / 22. / 562. 603.97 / 0.03 / 0.00 / 0.0 / 604.00 / 1.00 / 0.10 / -0.003 *XS*
BA AT 22580 / 1000 / 1500. / 904. / 34005. / 2.98 / 50. / 600. 604.74 / 0.13 / 0.82 / 0.05 / 604.86 / 1.66 / 0.17 / 0.001 *XS*
BB AT 24120 / 1540 / 1500. / 875. / 45755. / 4.06 / 100. / 550. 606.94 / 0.19 / 2.23 / 0.03 / 607.13 / 1.71 / 0.36 / 0.005 *XS*
BC AT 25210 / 1090 / 1500. / 734. / 45213. / 2.15 / 180. / 530. 608.19 / 0.14 / 1.19 / 0.0 / 608.33 / 2.04 / 0.32 / 0.018 *XS*
BD AT 26340 / 1130 / 1500. / 830. / 56558. / 2.66 / 150. / 500. 609.19 / 0.13 / 0.99 / 0.0 / 609.32 / 1.81 / 0.30 / 0.001 *XS*
BE AT 27120 / 780 / 1500. / 801. / 42617. / 1.77 / 350. / 700. 609.94 / 0.10 / 0.73 / 0.0 / 610.04 / 1.87 / 0.26 / -0.017 *XS*
BF AT 28020 / 900 / 1100. / 503. / 24707. / 2.51 / 54. / 404. 611.34 / 0.19 / 1.44 / 0.05 / 611.53 / 2.19 / 0.32 / 0.005 *XS*
RR BG AT 28420 / 400 / 1100. / 692. / 35702. / 1.38 / 389. / 674. 612.03 / 0.05 / 0.55 / 0.0 / 612.08 / 1.59 / 0.15 / 0.001 *XS*
BH AT 28670 / 250 / 1100. / 717. / 35562. / 2.97 / 710. / 1010. 612.24 / 0.11 / 0.24 / 0.03 / 612.35 / 1.53 / 0.24 / -0.000 *XS*
BI AT 29670 / 1000 / 1100. / 497. / 36435. / 1.46 / 869. / 1112. 613.17 / 0.11 / 0.93 / 0.00 / 613.29 / 2.21 / 0.23 / 0.003 *XS*

END OF THIS PROFILE



1) COUNTY: Monroe

2) STUDY NAME: Monroe Twp

3) WATERCOURSE: Plum Creek

4) DOCUMENT TYPE: Report



La Plaisance Road — all elevations 0.54' high

$Q_{10} = 900$, $h_3 = 583.00 + .54 = 583.54$

$Q_{50} = 1,400$, $h_3 = 584.53 = 585.07$

$Q_{100} = 1,650$, $h_3 = 584.87 = 585.41$

$Q_{500} = 2,200$, $h_3 = 585.60 = 586.14$

Q_{10}

Low steel 582.20

$b_n = 33$

$A_3 = 207$ $Z = 6.27$ $582.20 - 6.27 = 575.93$

$Q = 0.80\, b_n\, Z\, (2g\, \Delta h)^{1/2}$

$\Delta h = 0.46$

$\bar{Y} = 7.78$ NWS $= 583.77 - 575.93 = 7.78 = \bar{Y}$

$\Delta h / \bar{Y} = .0591$

$Y_u / \bar{Y} = 1.03$

$Y_u = 8.01$

$= 583.94$ computer 583.97

Q_{50}

$\Delta h = 1.11$

$\bar{Y} = 9.34$ NWS $= 582.27 - 575.93 = 9.34 = \bar{Y}$

$\Delta h / \bar{Y} = 0.120$

$Y_u / \bar{Y} = 1.06$

$Y_u = 9.92$

$= 585.83$ over flow occurs at 585.3

overflow $57 + 136 = 193$

$\Delta h = 0.83$

$\Delta h / \bar{Y} = 009$ NWS $= 585.27$

$Y_u / \bar{Y} = 1.04$ $Y_u = 9.71$

$= 585.64$ computer 585.79

use 585.70

$Q_{100} = 1,650$

overflow = 104 + 293 = 397

$\Delta h = 0.82$

$\Delta h/Y = 0.085$ NWS = 585.62 − 575.93 = 9.69

$Y_4/Y = 1.035$

$Y_4 = 10.03$ = 585.97 computer 586.03

use 586.00

$Q_{500} = 2,200$ overflow = 1102

$\Delta h = 0.68$

$\Delta h/Y = 0.065$ NWS = 586.40 − 575.93 = 10.47

$Y_4/Y = 1.03$

$Y_4 = 10.78$ = 586.71 computer 586.41

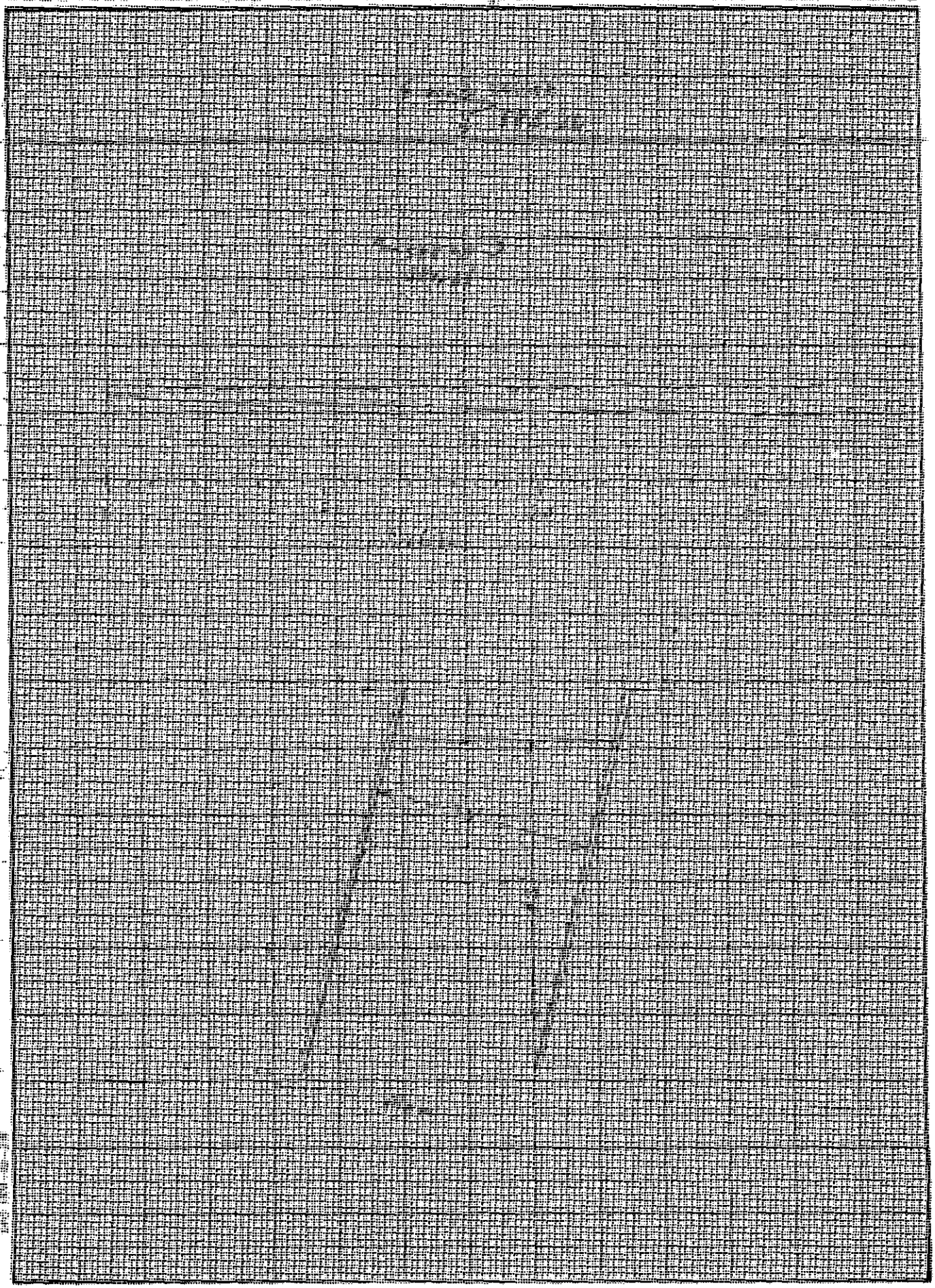
use 582.4

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....

Plum Creek at La Plaisance Rd bridge



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Monroe Street 45-20

(all elevations are ft high)

$Q_{10} = 900$ Low Steel = 591.24

$b_N = 36$ $h_3 = 588.96$

~~$A_3 = 203$~~ $L = 68$

~~$L = 9.03$~~ $4/6 = 1.89$

$A_3 = 192$

try $\Delta h = 0.54$ $H_1 = 589.50$

$A_1 = 639$, $K_1 = 51,567$, $\alpha_1 = 1.48$

$A_3 = 192$, $K_3 = 21,060$

$L_w = 137$ $L = 68$

$m = 1 - K_3/K_1 = 1 - 20,370/51,567 = 0.60$

$C' = 0.89 \times K_c (0.98) = 087$

$F = Q/A_3\sqrt{g y_3} = 900/172\sqrt{32.2 \times 4.78} = 0.42$

$= .0812$

$= .00325$

$= 83.11$

$Q = 1095$

$\Delta h = 0.35$

$Q = 880$

use $h_1 = 589.35$

$Q_{50} = 1,400$

$h_3 = 590.40$

try $h_1 = 590.00$ $\Delta h = 0.8$

$A_1 = 1,188$ $K_1 = 99,500$ $d_1 = 1.64$

$A_3 = 224$ $K_3 = 31,300$

$m = 1 - 29,460/99,500 = 0.71$

$F = 1400 / 224\sqrt{32.2 \times 62.2} = 0.44$

$C = 0.88 + K_f(0.98) = 0.86$

$= .0431$

$= .00244$

$= 79.64$

$Q = 1,370$

~~try $\Delta h = 0.5$ $h_3 = 590.90$~~

~~$Q = 1,368$~~

~~$\Delta h = 0.6$~~

~~$Q = 1,440$~~

~~$h_1 = 590.95$~~

use $h_1 = 591.05$

~~$t/93+\Delta h = 0.2/7028+0.5$~~

~~$= 0.0366$~~

~~$K_t = 1.0$~~

$Q_{100} = 1,650$

$h_3 = 590.88$

$b_N = 36$

$\bar{y} = 7.028$

$\Delta h = 1.032$

$\Delta h/\bar{y} = 1.032/7.03$

$= 0.155$

$y_4/\bar{y} = 1.07$

$y_4 = 8.16 + 583.67 = 591.83 = h_1$

253/36 = 7.028

590.70 - 7.028 = 583.67

NWS = 591.30 - 583.67 = 7.63

$Q_{500} = 2,200$

$h_3 = 592.02$

$\Delta h = 1.834$

$\Delta h/\bar{y} = 0.22$

$y_4/\bar{y} = 1.12$

$y_4 = 9.49 \quad = 593.16$

NWS = 592.14 - 583.67 = 8.47 = $\bar{y}$

OVI-Flow @ 592.9

use $h_1 = 593.10$

[redacted] A
cted-opening
ficients.
November 1954

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

Computation of coefficients for US-25

_____ for flood of _____

APPROACH SECTION PROPERTIES

Subsection	n	$\frac{1.486}{n}$	a	w.p	r	$r^{2/3}$	$K = \frac{1.486}{n} a r^{2/3}$
589	0.038	39.11	181	46	3.93		17,640
589.5			199	47		2.62	20,370
590			217	48		2.84	23,200
590.5			235	49			26,130
591			253	50			29,160
591.5			271	51			32,220
592			289	52			35,460
593			325	54			42,051
594 Total			361	56			48,800

CHARACTERISTICS OF CONSTRICTION

Embankment and abutment slope _____ Type of abutment _____

589.92
588.96
.98

ITEMS AND RATIOS

Items		Ratios	
Δh	0.98	$m = 1-(K_q/K_{total})$	$1-(22750/62460) = 0.64$
b	36	L/b	1.89
L	68	r/b	
r		W/b	
W		x/b	
x		$(y_a+y_b)/2b$	
y_a		$t/(y_3+\Delta h)$	
y_b		$F = V_3/\sqrt{gy_3}$	$900/225\sqrt{32.2 \times 6.25}$ 0.28
t		j = A_1/A_3	
y_3	225/36 6.25	e = K_a/K_b	
A_1		ϕ	
A_3		θ	
K_a			
K_b			

	C′		k_f		k		k		k		k	
C =	0.89	×	0.95	×	_____	×	_____	×	_____	×	_____	= 0.86
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=

Sheet No. _____ of _____ Sheets. Prepared by _____ Date _____ Checked by _____ Date _____

GPO 68 4466

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
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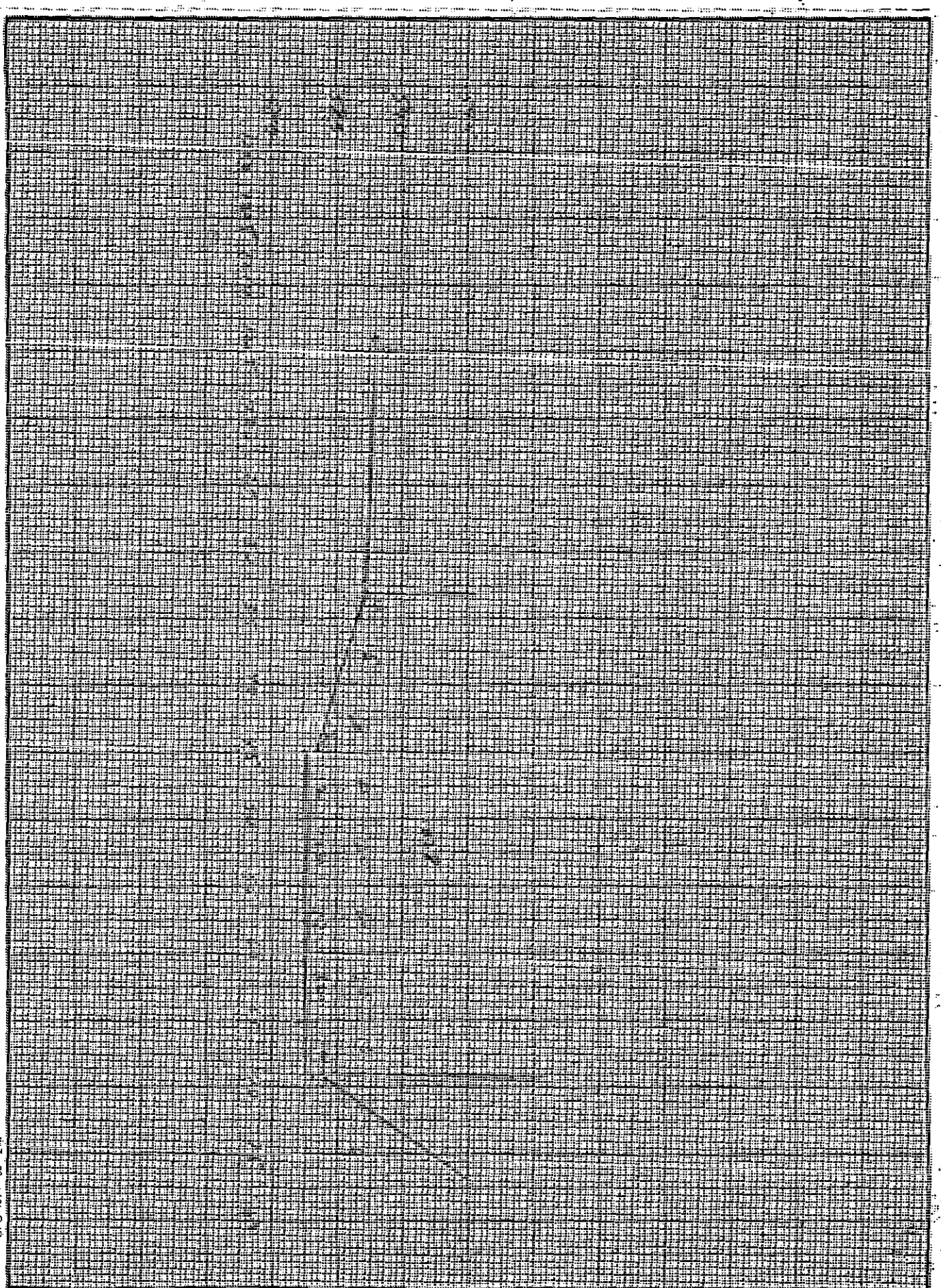
WATER RESOURCES DIVISION

File .....



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GPO 1974—83—218

$Q_{100} = 1,650$

$h_3 = 590.88$

try $h_1 = 592.00$

$A_3 = 241 \quad K_3 = 35,000$

$A_1 = 1,908 \quad K_1 = 152,700 \quad \alpha_1 = 1.75$

$n = 1 - 35,460/152,700 = 0.78$

$F = 1650/241\sqrt{32.2 \times 6.69} = 0.47$

$T/43 \Delta h = 0.76/6.69 + 1.12 = 0.097$

$C = 0.86 \times 0.99(K_T) \times 1.00(K_T) = 0.85 \quad .85^2 = 0.7225$

$= .1020$

$= .00221$

$= 76.21$

$Q = 1,840$

$\Delta h = 0.9$

$Q = 1,710$

use $h_1 = 591.75$

$Q_{500} = 2,200$

$h_3 = 592.02$

$b_w = 36$ $\quad 253/36 = 7.028$

$z = 7.028$ $\quad 591.24 - 7.028 = 584.21$

$\Delta h = 1.834$

$\Delta h/y = 0.23$ $\quad NWS = 592.14 - 584.21 = 7.93$

$y_4/\bar{y} = 1.13$

$y_4 = 8.96$ $\quad = 593.17$ $\quad$ overflow @ 592.9

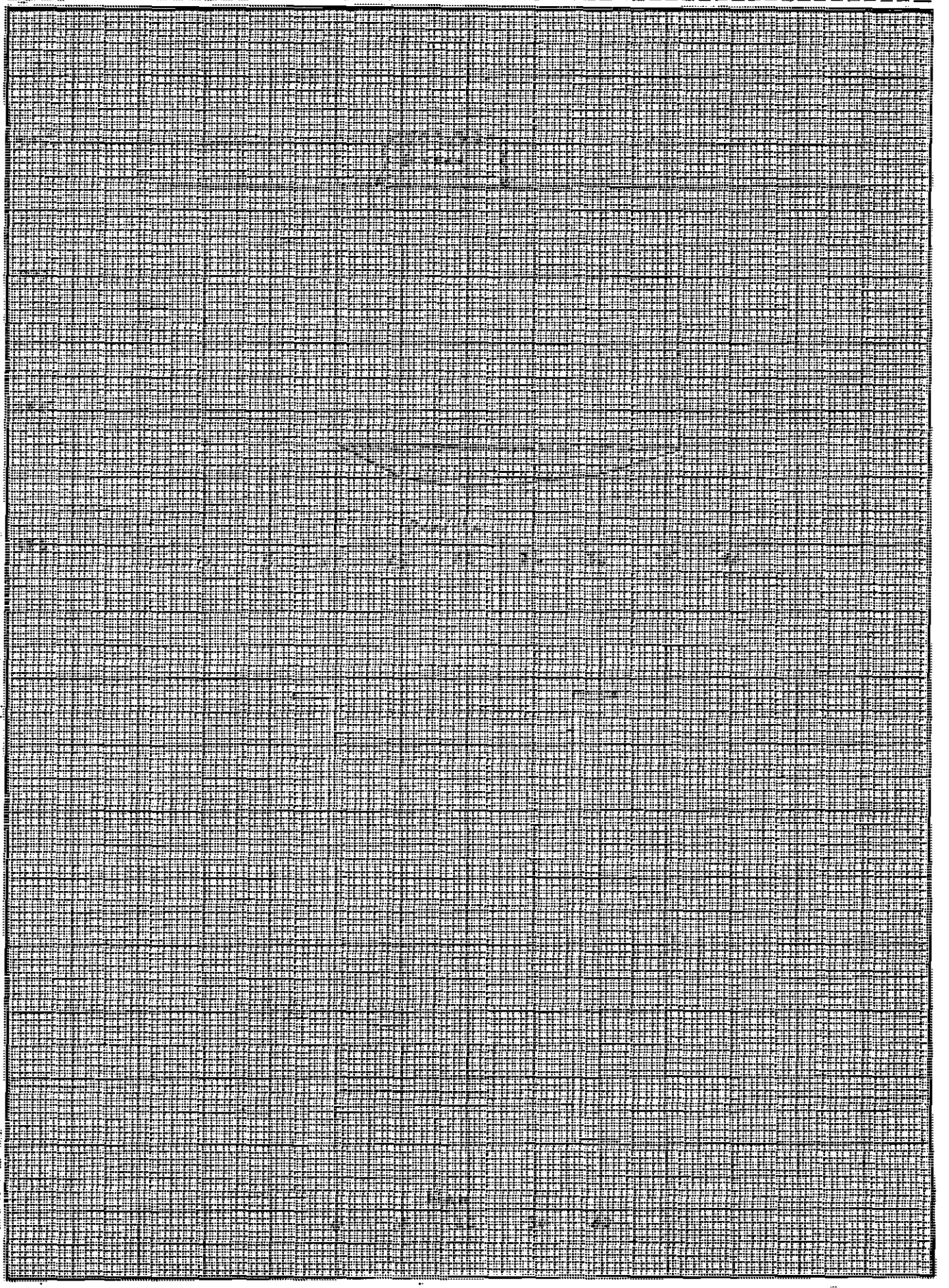
use $h_1 = 593.10$

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....

Plum Creek at US 25



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CSO RR

(all elevations 0.5 ft high)

$Q_{10} = 850$ $h_3 = 594.13$

Low steel = 596.60

$b_N = 36$

$L = 47$ $L_w = 93$

$L/b = 1.27$

$w/b = 9/37 = 0.24$

try $\Delta h = 0.37$ $h_1 = 594.50$

$n = 1 - k_s/k_t = 1 - 20,900/40,100 = 0.48$

$F = 850/199\sqrt{32.2 \times 5.53} = 0.32$

$C' = 0.91 \times k_t(0.96) \times K_w(1.015) = 0.87$

$A_1 = 672$ $K_1 = 40,100$ $d_1 = 1.84$

$A_3 = 199$ $K_3 = 27,900$

$= .1288$

$= .00250$

$= 111.47$

$Q = 1.097$

$\Delta h = 0.2$

$= 806$

use $h_1 = 594.4$'

$Q_{50} = 1,350$

$h_3 = 594.99$

$A_3 = 224$

try $\Delta h = 0.59$ $h_1 = 595.00$

$m = 1 - 23,400/49,450 = 0.53$

$F = 1,350/224\sqrt{38.2 \times 6.22} = 0.92$

$C = 0.89 \times K_c\,(.998) \cdot K_\omega\,(1.015) = 0.88$

$A_1 = 792$ $K_1 = 49,450$ $K_1 = 1.87$

$A_3 = 223$ $K_3 = 32,900$

$= .1158$

$= .00228$

$= 109.25$

$Q = 1,520$

$\Delta h = 0.49$

$= 1,390$

use $h_1 = \underline{595.40}$

$Q_{100} = 1,600$

$h_3 = 595.78$

$A_3 = 233 \quad K_3 = 35,060$

$A_1 = 1,004 \quad K_1 = 64,700 \quad \alpha_1 = 1.89$

try $\Delta h = 0.52 \quad h_1 = 595.70$

$m = 1 - 26,980/64,700 = 0.58$

$F = 1,600/234\sqrt{322.25} = 0.47$

$e = 0.88 \times k_F(0.99) \times k_m(1.015) = 0.88 \quad \alpha\delta^2 = 0.782$

$= 0796$

$= .00222$

$= 97.395$

$Q = 1,410$

$\Delta h = 0.65$

$Q = 1,580$

use $h_1 = 595.85$

$Q_{800} = 2,100$

$h_3 = 595.79$

try $\Delta h = 0.71$ $h_1 = 596.50$

$m = 1 - 31,300/86,740 = 0.64$

$F = 2,100/252\sqrt{32.2 \times ?} = .56$

$C = 0.86 \times K_E(1.016) \times k_w(1.015) = 0.88$ $sf^2 = 0.785$

$A_1 = 1,394$ $K_1 = 86,740$ $q_1 = 2.15$

$A_3 = 252$ $K_3 = 39,470$

$= .005155$ $\Delta h = 1.01$ $Q = 2,050$

$= .00206$

$= 89.32$

$Q = 1,720$

try $\Delta h = 1.01$ $h_1 = 596.80$

$m_1 = 1 - 32,920/93,320 = 0.66$

$F = 2,100/252\sqrt{32.2 \times ?} = 0.56$

$C = 0.85 \times 1.015 \times 1.015 = 0.876$ $sf^2 = 0.767$

$A_1 = 1,569$ $k_1 = 93,370$ $d_1 = 2.19$

$=$

$= .04333$

$= .00201$

$= 84.70$

$Q = 2,010$

$\Delta h = 1.1$

$Q = 2,094$

use 596.90

9-193 A
Contracted-opening coefficients.
November 1954

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

Computation of coefficients for _____

_____ for flood of _____

APPROACH SECTION PROPERTIES

Subsection	n	$\frac{1.486}{n}$	a	w.p	r	$r^{2/3}$	$K = \frac{1.486}{n} a r^{2/3}$
594	0.045	33.02	221.5	55			18,500
594.5			240	56			20,900
595			258.5	57			23,900
595.5			277	58			25,900
596			295	59			28,600
596.5			314	60			31,300
597			332.5	61			34,000
597.5			351	62			36,800
Total 598			369.5	63			39,700
598.5			388	64			42,600

CHARACTERISTICS OF CONSTRICTION

Embankment and abutment slope _____ Type of abutment _____

ITEMS AND RATIOS

Items	Ratios
Δh	$m = 1-(K_a/K_{total})$
b	L/b
L	r/b
r	W/b
W	x/b
x	$(y_a+y_b)/2b$
y_a	$t/(y_3+\Delta h)$
y_b	$F = V_3/\sqrt{gy_3}$
t	$j = A_1/A_3$
y_3	$e = K_a/K_b$
A_1	ϕ
A_3	θ
K_a	
K_b	

	C′		k		k		k		k		k	
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=

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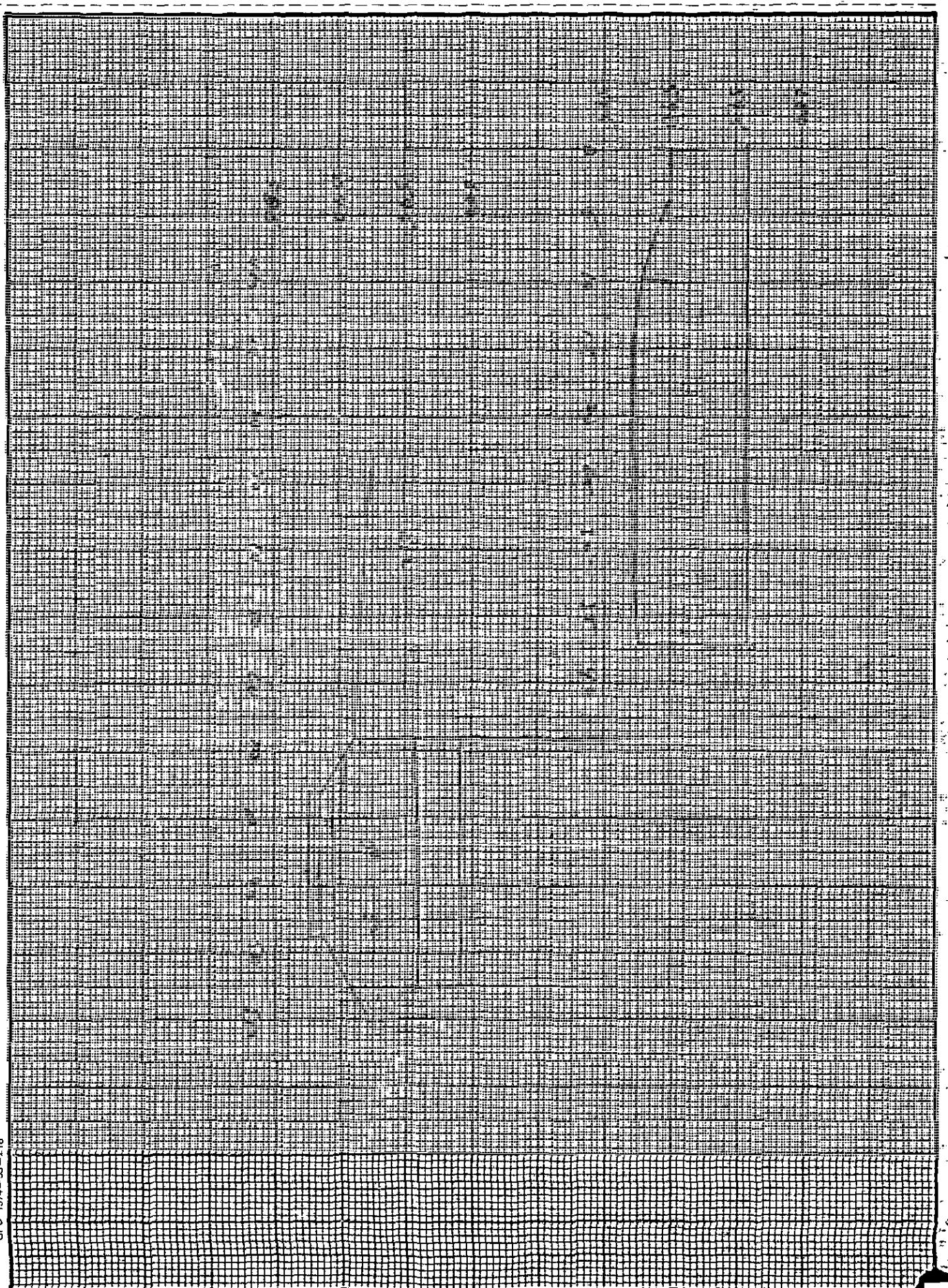
GPO 88 4466

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....



GPO 1974—53—218

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9-213-E
(March 1949)
Cross-Section

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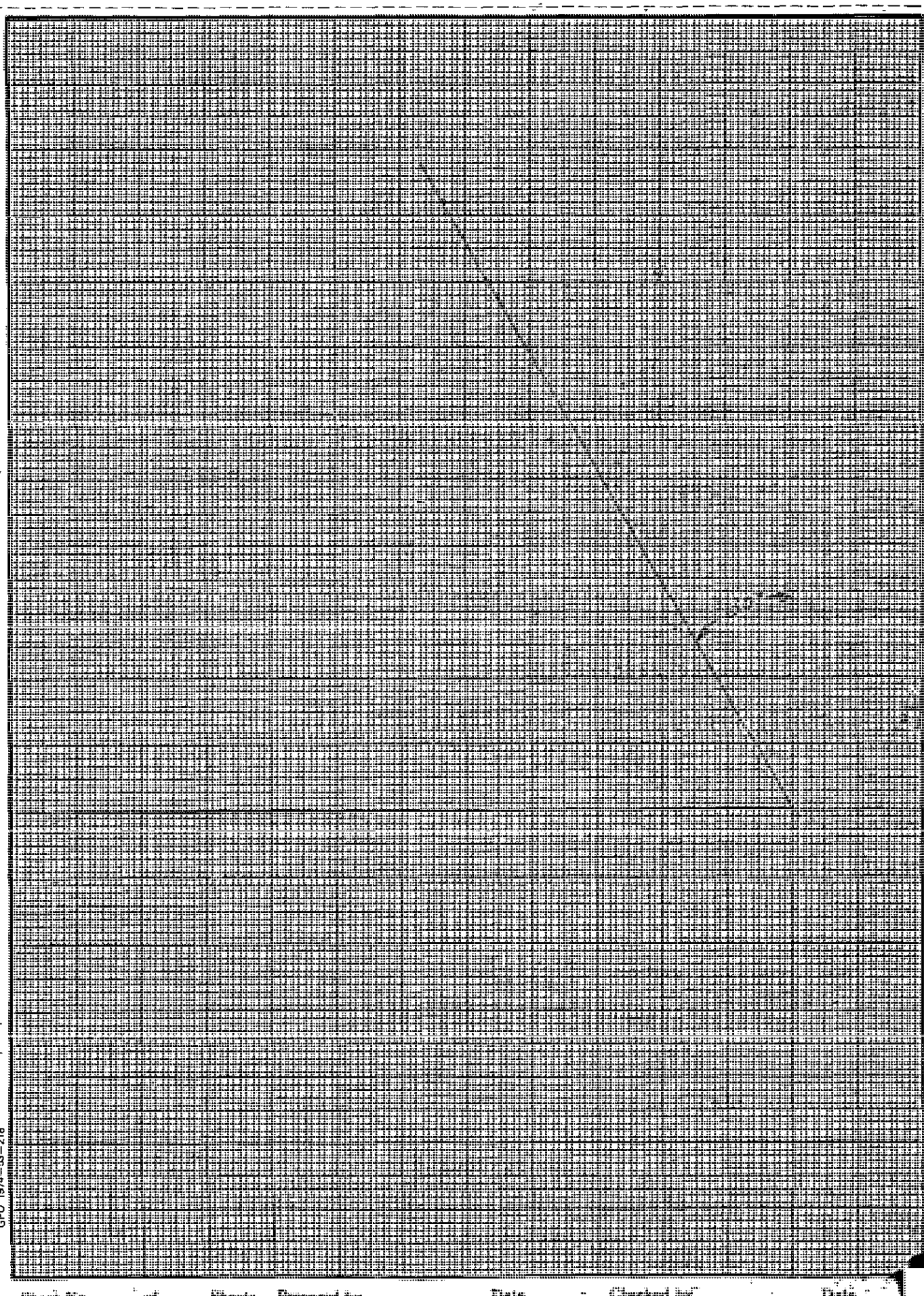
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....



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GPO 1974—53—218

Telegraph Road (US-24)

(All elev. 0.54 high)

$Q_{10} = 850$

Low steel = 594.0 Road Crown 598.1 overflow starts

$h_3 = 595.54$

$b_N = 32$

$E = 1056/32 = 4.875 = 589.12$

$\Delta h = 0.72$

$\Delta h/\bar{y} = 0.109$ NWS = 595.75 - 589.12 = 6.63 = $\bar{y}$

$y_4/\bar{y} = 1.04$

$y_4 = 6.90 = 596.02$

$Q_{50} = 1,300$

$h_3 = 596.52$

$\Delta h = 1.68$

$\Delta h/\bar{y} = 0.22$ NWS = 596.75 - 589.12 = 7.63 = $\bar{y}$

$y_4/\bar{y} = 1.12$

$y_4 = 8.55 = 597.65$

$Q_{100} = 1,550$

$h_3 = 596.92$

$\Delta h = 2.40$

$\Delta h/\bar{Y} = 0.30$ NWS = 597.14 − 589.12 = 8.02 = $\bar{Y}$

$Y_4/\bar{Y} = 1.18$

$Y_4 = 9.46$ = 598.58

$Q = CbH^{3/2}$ L = 54 h = 598.5 − 598.1 = 0.4 h/L = .007

$= 3.05 \times 350 \times 0.4^{3/2}$ C = 3.05

$= 270$

$Q_{100} = 1,550 - 270$

$\Delta h = 1.63$

$\Delta h/\bar{Y} = 0.20$

$Y_4/\bar{Y} = 1.10$ $Y_4 = 8.82$ = 597.94 vs 598.5

try $h_3 = 598.3$

$Q = 3.05 \times 250 \times 0.2^{3/2}$ (598.3 − 598.1)

$= 70$

$\Delta h = 2.18$

$\Delta h/\bar{Y} = 0.27$

$Y_4/\bar{Y} = 1.15$

$Y_4 = 9.22$ = 598.34 OK

$Q_{500} = 2100$

$h_3 = 597.81$

try $h_1 = 598.71$

$Q = 3.05 \times 7.00 \times .060^{3/2}$ $\quad h = 598.71 - 598.1 = 0.61$

$= 8.90$ overflow $\quad h/L = .61/54 = .011$

$\Delta h = 1.23$

$\Delta h/y = 0.14$ $\quad NWS = 597.96 - 589.12 = 8.84 = \bar{y}$

$y_4/\bar{y} = 1.02$

$y_4 = 9.46 = 598.58$ OK

use 598.60

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

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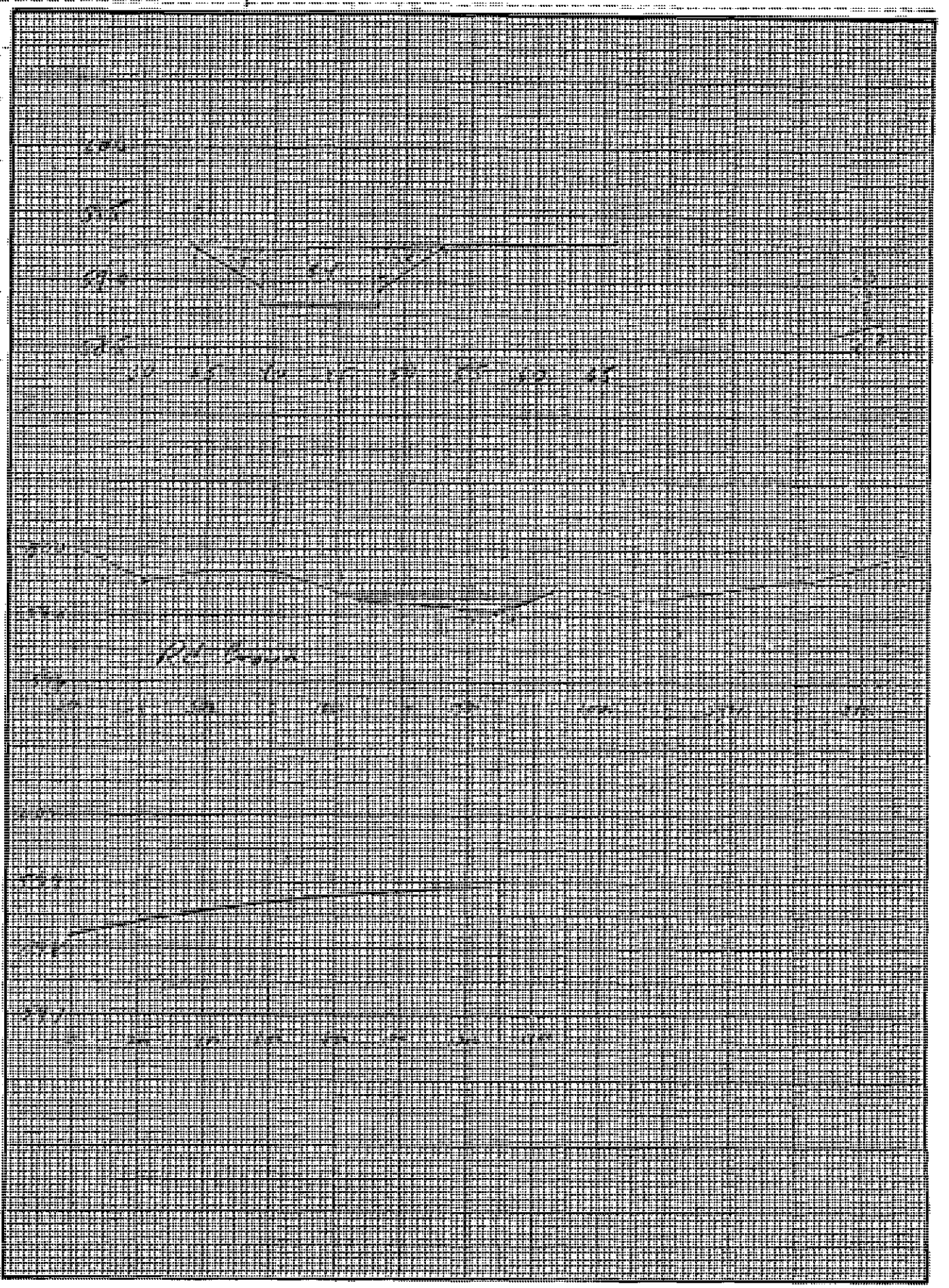

GPO 1974—53—218

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9-193 A
Contracted-opening coefficients.
November 1954

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

Computation of coefficients for _____

_____ for flood of _____

APPROACH SECTION PROPERTIES

Subsection	n	$\frac{1.486}{n}$	a	w.p.	r	$r^{2/3}$	$K = \frac{1.486}{n} a r^{2/3}$
595.5	0.040	37.15	150	52			11,290
596.0			166	53			13,200
596.5			182	54			15,200
597			198	55			17,280
597.5			214	56			19,430
598			230	57			21,660
598.5			246	58			23,950
599			262	59			26,300
Total							

CHARACTERISTICS OF CONSTRICTION

Embankment and abutment slope _____ Type of abutment _____

ITEMS AND RATIOS

Items	Ratios
Δh	$m = 1-(K_q/K_{total})$
b	L/b
L	r/b
r	W/b
W	x/b
x	$(y_a+y_b)/2b$
y_a	$t/(y_3+\Delta h)$
y_b	$F = V_3/\sqrt{gy_3}$
t	$j = A_1/A_3$
y_3	$e = K_a/K_b$
A_1	ϕ
A_3	θ
K_a	
K_b	

	C′		k		k		k		k		k	
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=

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GPO 88 4466

Eastwood Road

(All elev. 0.54 high)

$Q_{10} = 850$ Low steel 597.9

$h_3 = 597.40$ Road overflow begins 597.3

computer $h_1 = 597.58$ OK

$Q_{50} = 1,300$

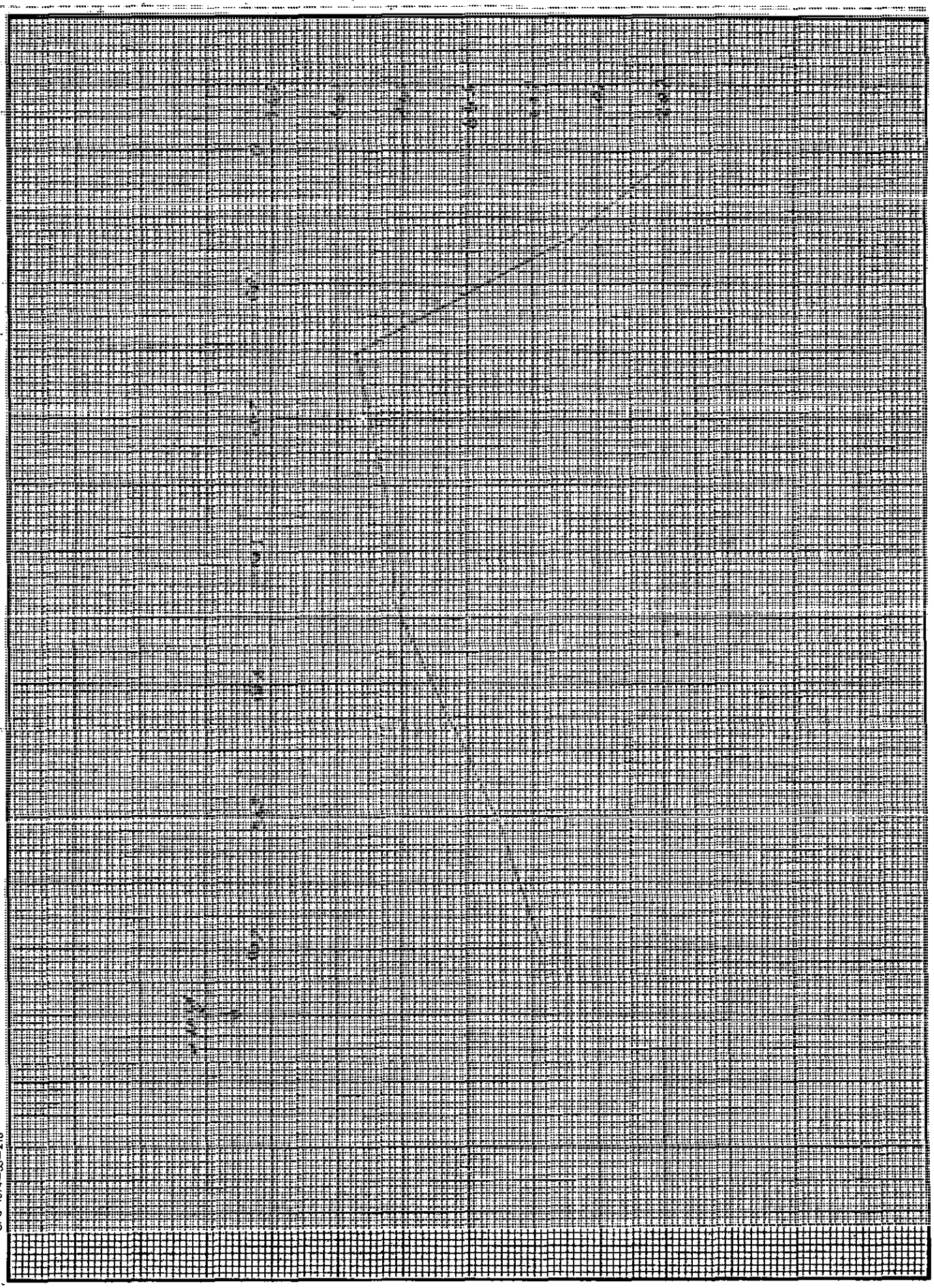
$h_3 = 598.36$

No loss at bridge, too much road overflow

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....



GPO 1974—53—218

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Weir Load

Low steel 603.7

Road Crown 605.8

overflow begins at 603.2

$Q_{10} = 800$

$H_3 = 602.34$

Flow = Type I

$L = 39$ $b = 30$ $L/b = 1.30$

$A_3 = 119$ $K_3 = 15,457$

$k_f \Delta h = 0.67$ $h_1 = 603.0$

$m = 1 - k_f/k_1 = 1 - 13,750/48,080 = 0.714$

$(F) = Q/A_3\sqrt{g\,y_3} = 800/119\sqrt{32.2 \times} = 0.595$ $y_3 = 119/30$ 3.97

$C = 0.84 \times k_F(1.02) = 0.86$

$A_1 = 1,253$ $K_1 = 64,039$ $d_1 = 2.09$

$L_w = 42.5$

$= .01394$

$= .00028$

$= 49.26$

$q = 832$

$\Delta h = 0.8$

$Q = 798$

use $h_1 = 602.95$

$Q_{50} = 1,300$

$h_3 = 602.64$

$A_3 = 134 \quad K_3 = 18,578$

$A_1 = 1,253 \quad K_1 = 64,039 \quad d_1 = 209$

try $\Delta h = 0.86 \quad h_1 = 603.5$ overflow = 50 cfs

$m = 1 - K_3/K_1 = 1 - 16,130/64,039 = 0.748$

$F = Q/A_3\sqrt{g\,y_3} = 1250/134\sqrt{32.2x} = 0.78 \qquad y_3 = 134/30 = 4.467$

$C = 0.83 \times K_L(1.09) = 0.90$

$= .01936$

$= .0027$

$= 51.33$

$Q = 978$

$\Delta h = 0.96 \quad h_1 = 603.6$ over-flow = 130

$Q = 1,030 + 130 = 1,160$

$\Delta h = 1.00 \quad h_1 = 603.64$ overflow = 170

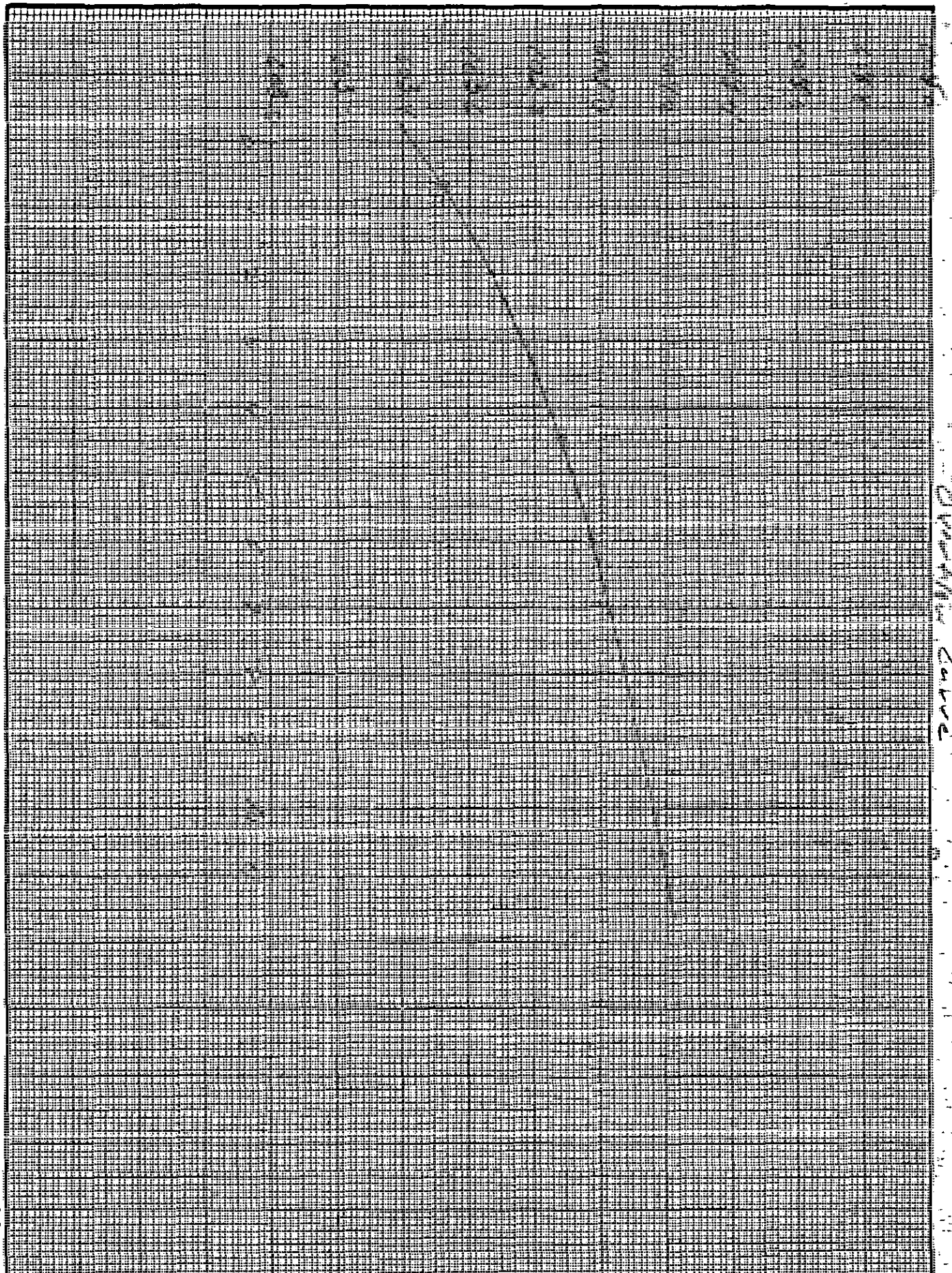
$Q = 1,065 + 170 = 1,225$

$\therefore h_1 = 603.70$ computer = 603.88 use

9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....



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GPO 1974—53—218

9-193 A
Contracted-opening coefficients.
November 1954

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

Computation of coefficients for Hess Rd

_____ for flood of _____

APPROACH SECTION PROPERTIES

Subsection	n	$\frac{1.486}{n}$	a	w.p.	r	$r^{2/3}$	$K = \frac{1.486}{n} a r^{2/3}$
599	.035	42.46	19	22	.86	.907	731
601		"	72	31			5360
602			103	33			9340
602.5			118	34			11,480
603			133	35			13,750
603.5			148	36			16,120
604			163	37			18,600
Total							

CHARACTERISTICS OF CONSTRICTION

Embankment and abutment slope _____ Type of abutment _____

ITEMS AND RATIOS

Items	Ratios
Δh	$m = 1-(K_q/K_{total})$
b	L/b
L	r/b
r	W/b
W	x/b
x	$(y_a+y_b)/2b$
y_a	$t/(y_3+\Delta h)$
y_b	$F = V_3/\sqrt{gy_3}$
t	$j = A_1/A_3$
y_3	$e = K_a/K_b$
A_1	ϕ
A_3	θ
K_a	
K_b	

	C′		k		k		k		k		k	
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=
C =	_____	×	_____	×	_____	×	_____	×	_____	×	_____	=

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GPO 88 4466

Plum Creek discharges

	Frequency			
	10-yr	50-yr	100-yr	500-yr
at mouth	1,000	1,670	1,980	2,700
at LaPlaisance Road	950	1,600	1,900	2,600
above French Creek	900	1,500	1,750	2,400
above Anweiler Drain	850	1,400	1,650	2,250

Discharge meas. 2-19-76 Q = 149

HWM 3 ft higher

w = 35 d = 2.3 v = 1.8

35 x (2.3+3) x 2.5 = 460

Plum Creek - flood frequency from WSP 1677

DA = 34.2 sq mi.

Flood frequency region = F } (plate 1)

Hydrologic area = 11

Mean annual flood = 1000 cfs (Figure 3)

Annual flood (figure 6)

$P_2 = 1000 \times .90 = 900$ cfs

$P_5 = 1000 \times 1.4 = 1400$ cfs

$P_{10} = 1000 \times 1.8 = 1800$ cfs

$P_{25} = 1000 \times 2.4 = 2400$ cfs

$P_{50} = 1000 \times 3.1 = 3100$ cfs

$P_{100} = 1000 \times 3.7 = 3700$ cfs

VH 3-15-72

9-213G

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

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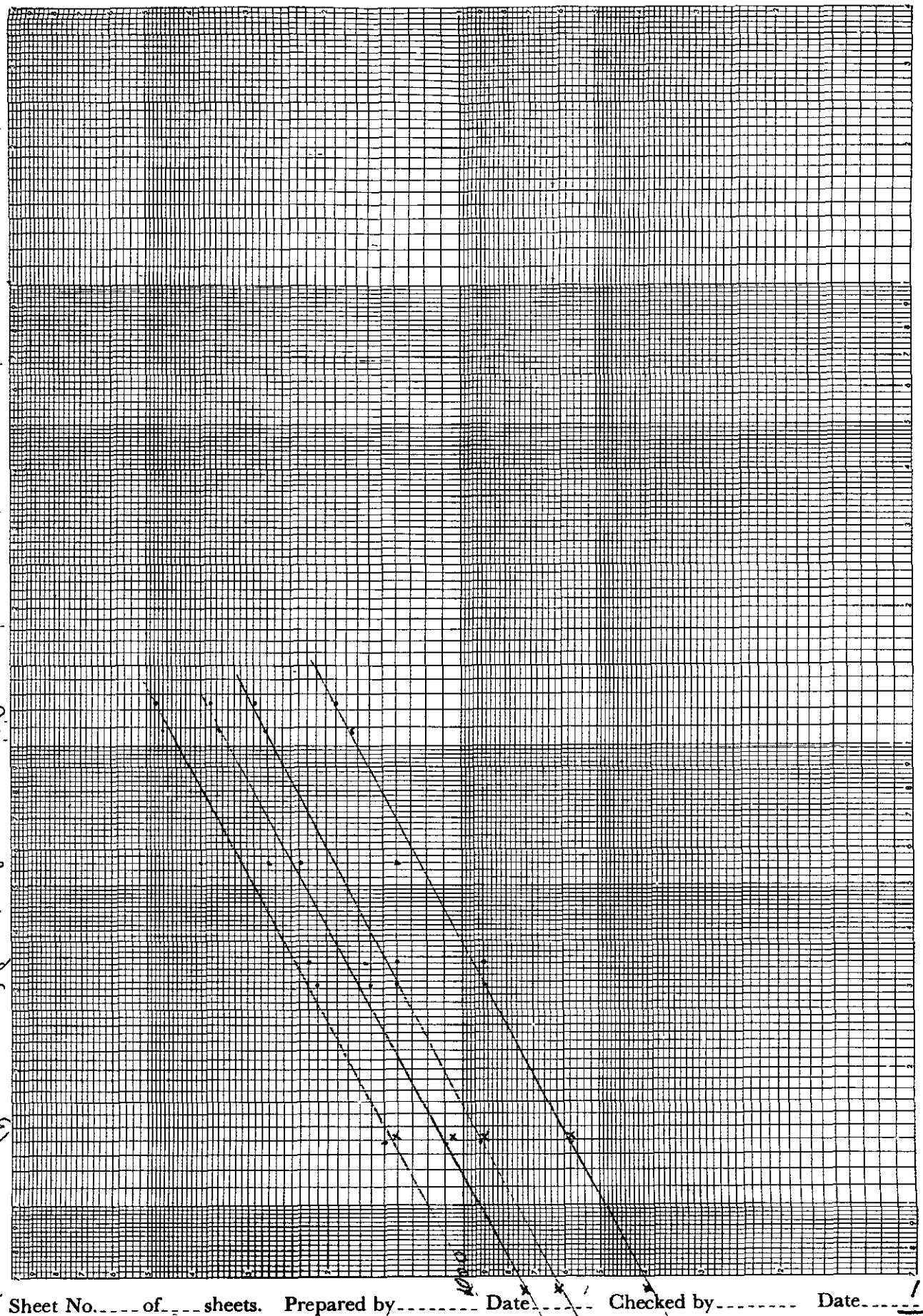

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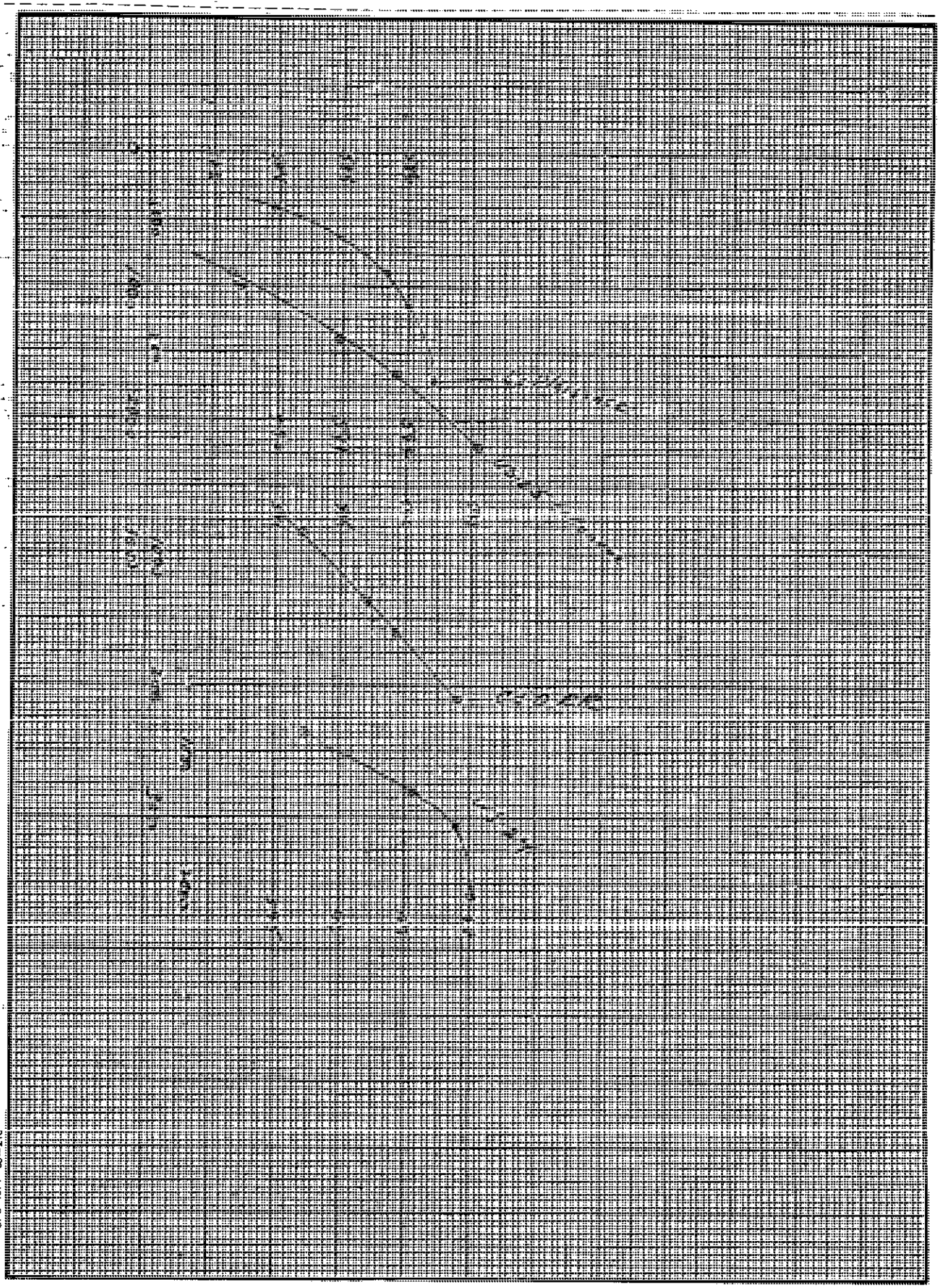
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File (6)



GPO 1974—53—218

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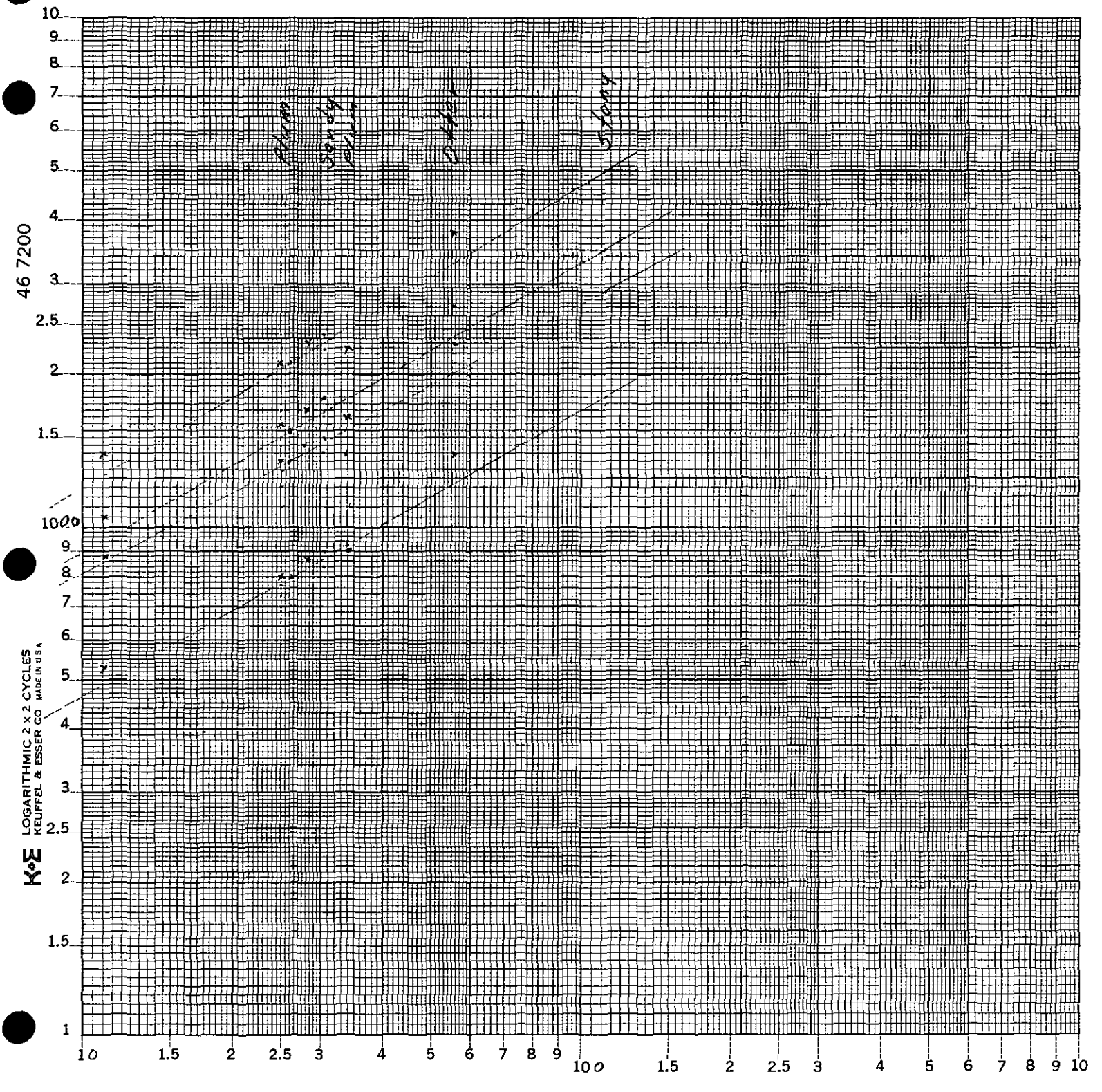
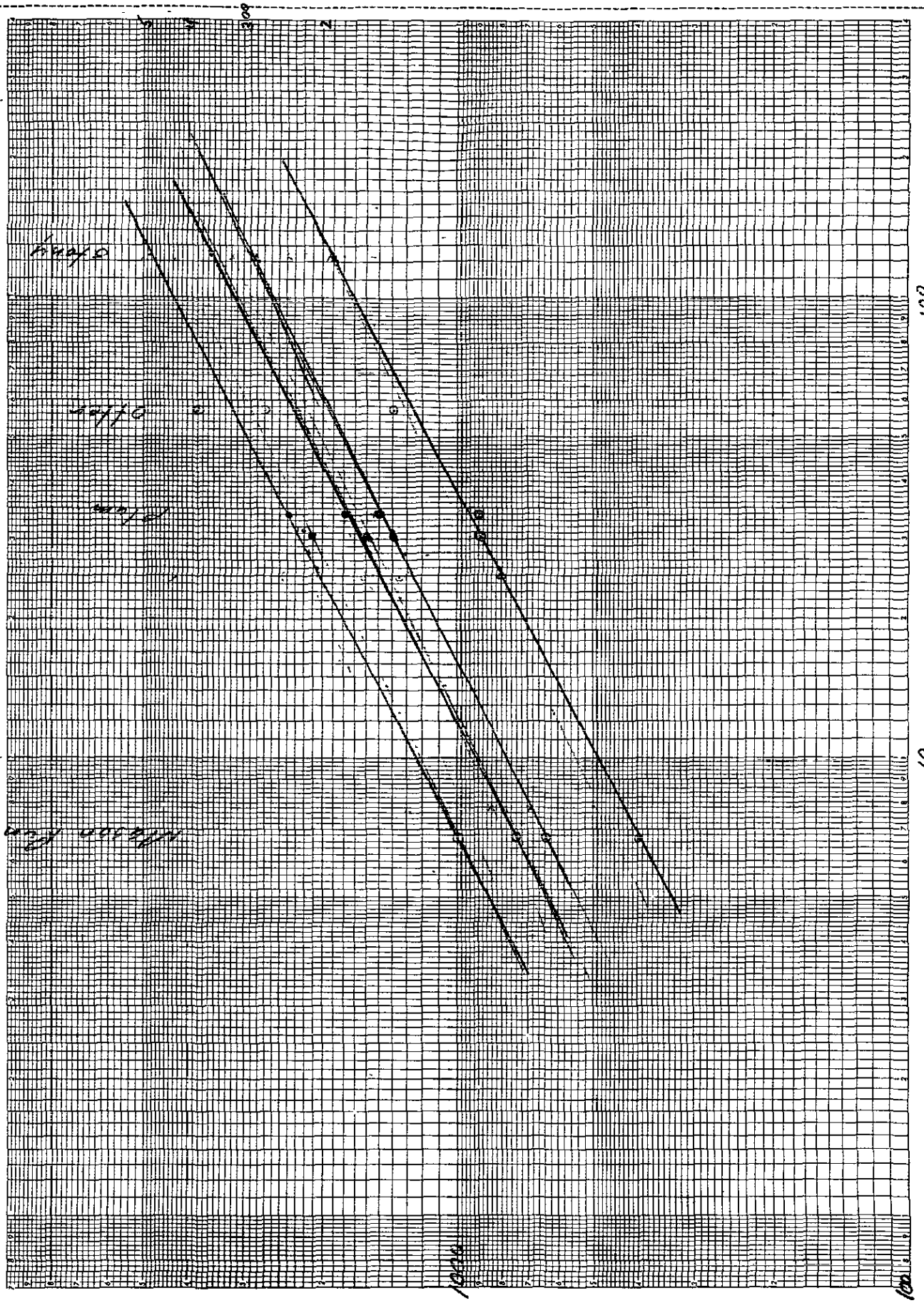

46 7200
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO MADE IN U.S.A.
10 9 8 7 6 5 4 3 2.5 2 1.5 1000 9 8 7 6 5 4 3 2.5 2 1.5 1
10 1.5 2 2.5 3 4 5 6 7 8 9 100 1.5 2 2.5 3 4 5 6 7 8 9 10

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

6a.

File_____



13.

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GPO 1958 OF—476256

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

Plum Creek FF 11

	QUAD		CON-TOUR	MILE	DA	D	W S ELEV.	REMARKS				
				0	34	9		577.6	Lake	Erie		Mean 572
300				.05	33	8		I 75				
5280				1.0	33	1		RRs				
6100				1.15	33	1		Kentucky	Ave			
7400				1.4	32	1		La Plaisance				
7900			575	1.5	1	1	583					
9200			580	1.75	1	1	588					
10,300				1.95	32	1		Monroe St.				
11,900			585	2.25	31	1	593					
13,500				2.55	31	1		12 RRs				
15,600				2.95	30	1		Telegraph				
15,800			590	3.0	29	1	598					
16,900				3.2	28	1		Eastwood				
20,900			595	3.95	26	1	603					
21,400				4.05	26	8		Haw				
22,700			600	4.3			608					

6f

Hydraulic Final Input and Output Summary Listings
(Identify Program)

Actual

(6)

Elsom Creek

Section		10-year	50-year	100-year	500-year
T	Q	583.40	585.60	585.90	586.30
U	R	583.60	585.73	586.07	586.61
V	S	585.85	587.62	588.22	589.32
W	T	587.78	589.38	590.02	591.10
X	U	588.51	590.14	590.71	591.77
Z	V	588.91	591.05	591.75	592.75
AB	W	588.95	591.07	591.78	592.77
AB	X	588.97	591.07	591.78	592.77
AC	Y	590.34	591.56	592.18	593.12
AD	Z	591.40	592.67	593.22	594.00
AE	AA	591.50	593.73	593.28	594.05
AF	AB	592.50	593.48	593.95	594.69
AH	AC	593.68	594.53	594.90	595.56
AI	AD	593.85	594.95	595.45	596.45
AJ	AE	594.31	595.43	595.95	596.87
AK	AF	595.06	596.18	596.66	597.48
	AG				

GAGE HEIGHT IN FEET

DISCHARGE IN CUBIC FEET PER SECOND

19-279
(Rev. 6-63)

UNITED STATES DEPARTMENT OF THE INTERIOR—GEOLOGICAL SURVEY (WATER RESOURCES DIVISION)

RATING CURVE FOR ----------

Sta. No. 69

La Plaisance Road

Monroe Street (US-23)

Telegraph Road (US-24)

Year,												
Meas. Nos.,												
Max. G. H.,												
Min. G. H.,												
Plotted by												

Curve approved by:

..... *Office Engineer.*

..... *District Engineer.*

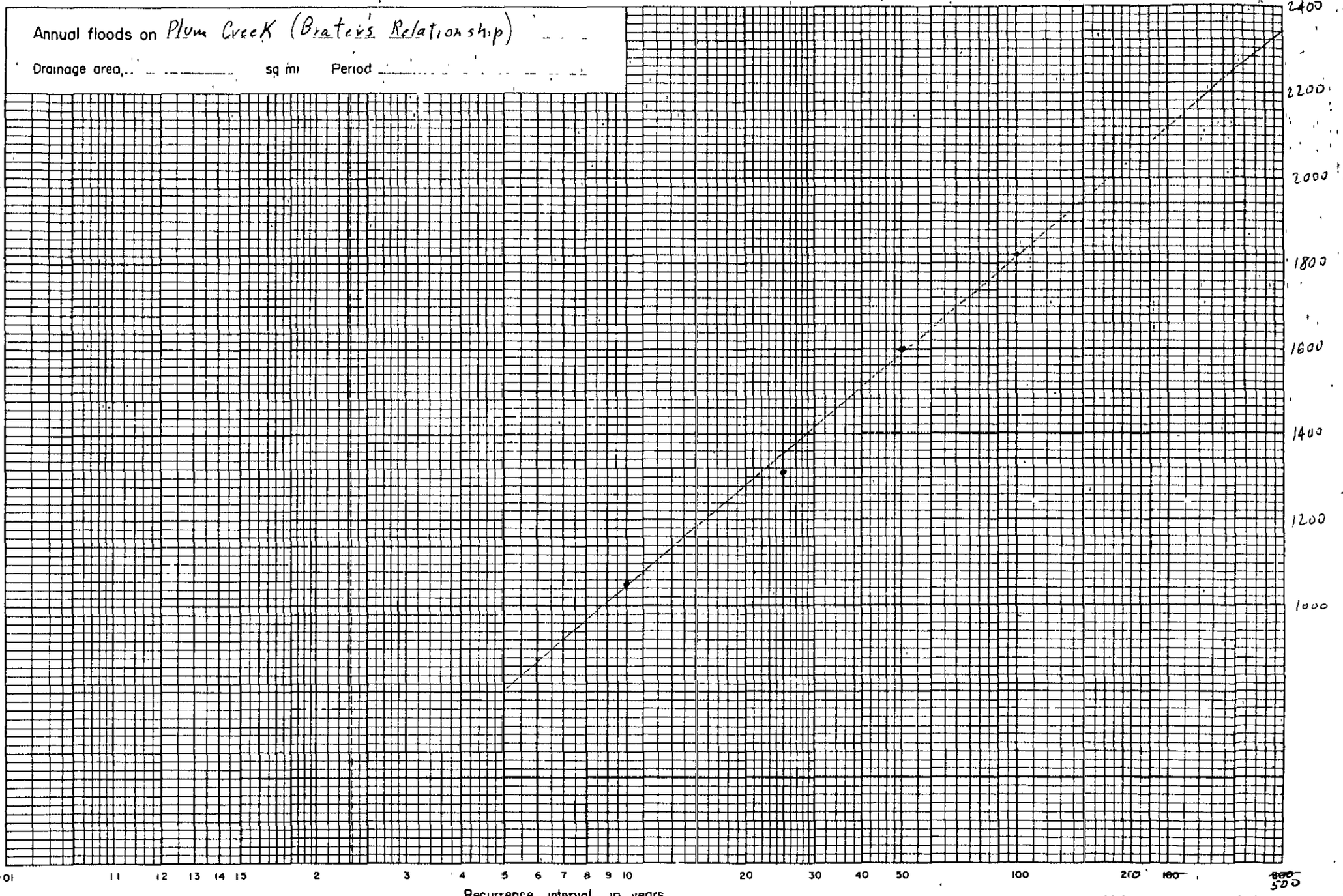
Date

9-179a
Flood data
(March 19

UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – WATER RESOURCES DIVISION

File Number

File Number



GPO 90600 2

GPO 90600 2

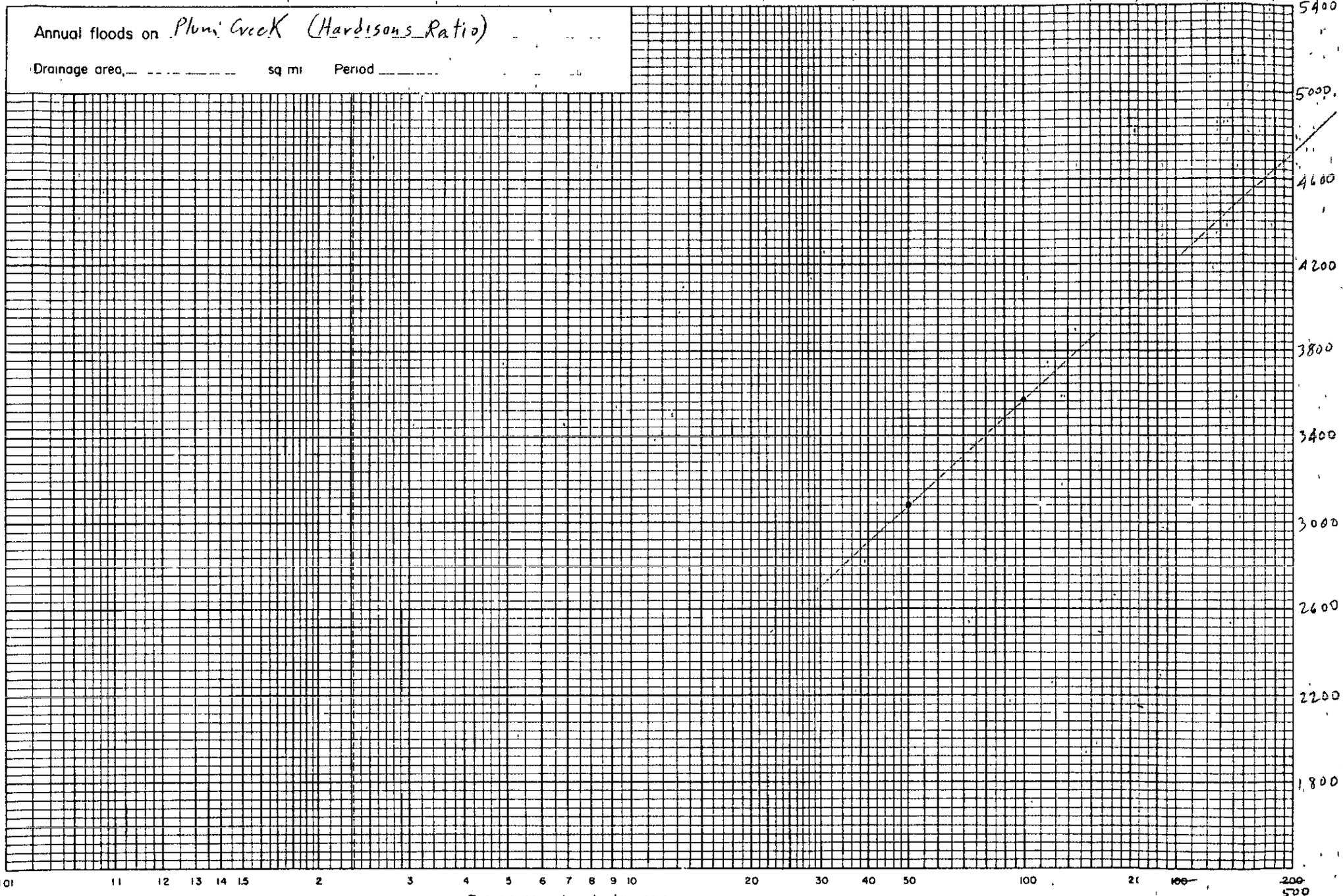
1.8

UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number _____ File Number _____

Annual floods on Plum Creek (Hardisons Ratio)

Drainage area, _____ sq mi Period _____



GPO 906002

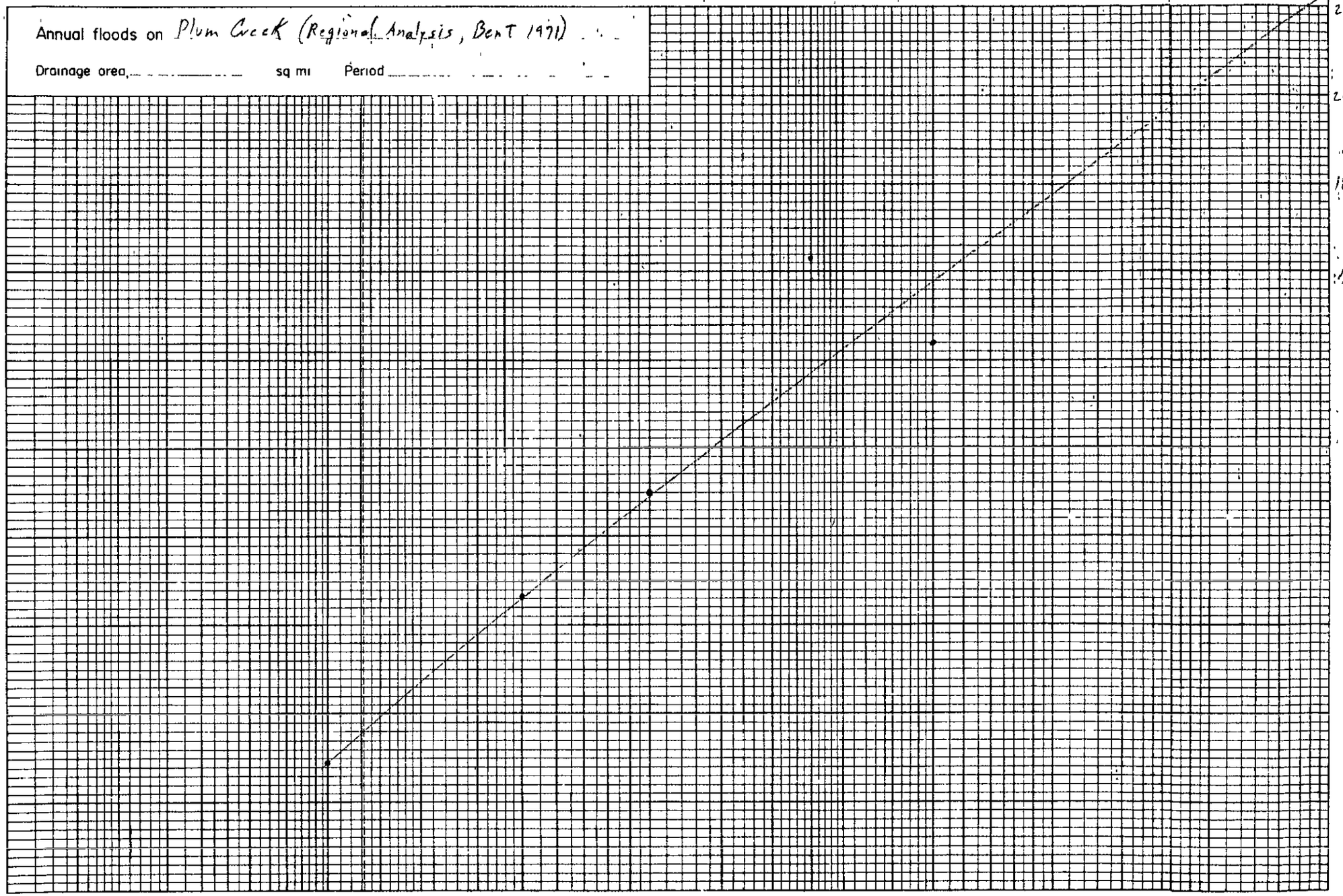
GPO 906002

UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number _____ File Number _____

Annual floods on Plum Creek (Regional Analysis, Bent 1971)

Drainage area, _____ sq mi Period _____



GPO 906002 GPO 906002

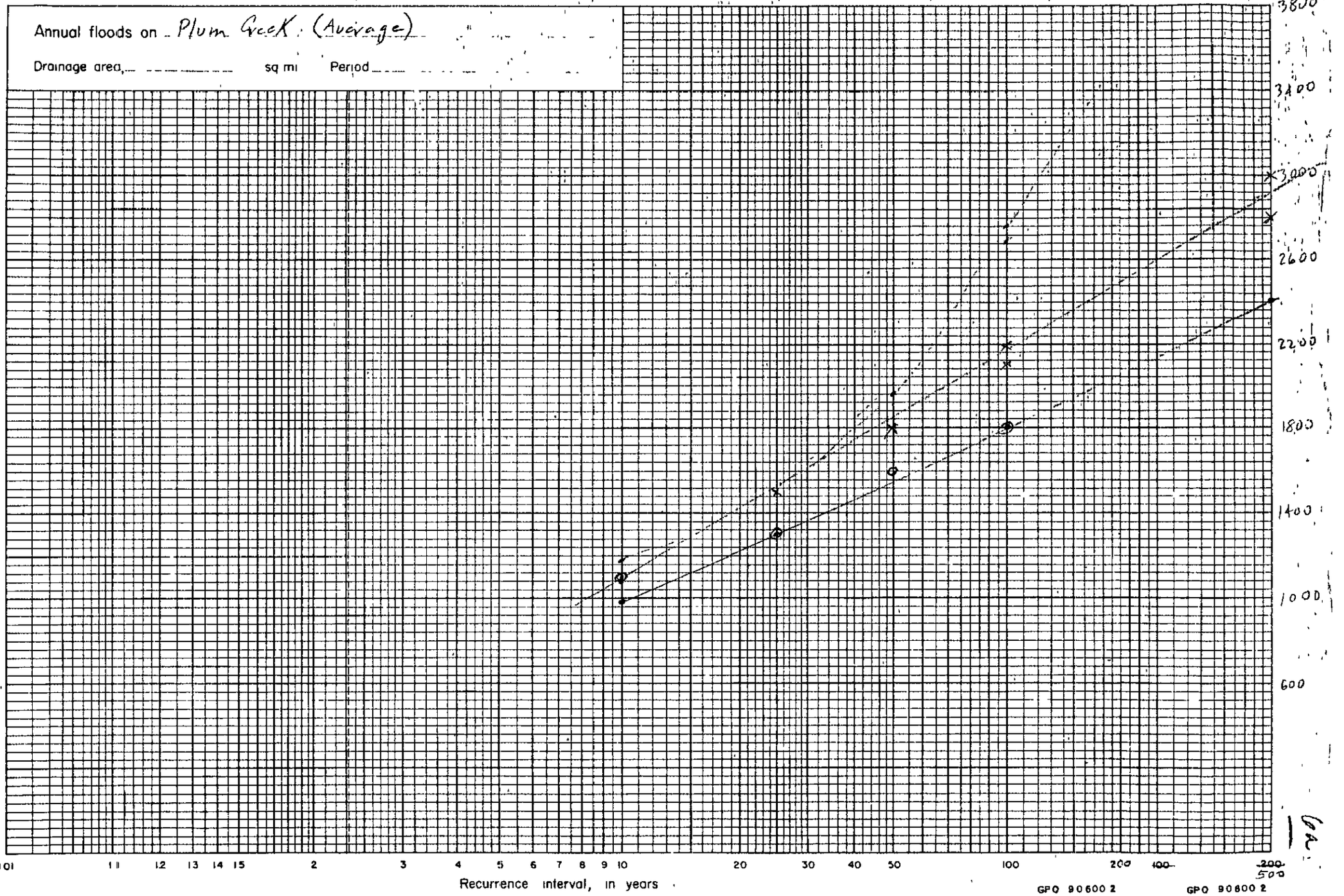
9-179a
Flood data plot
(March 1949)

UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number _____ File Number _____

Annual floods on Plum Creek (Average)

Drainage area _____ sq mi Period _____



GPO 906002 GPO 906002

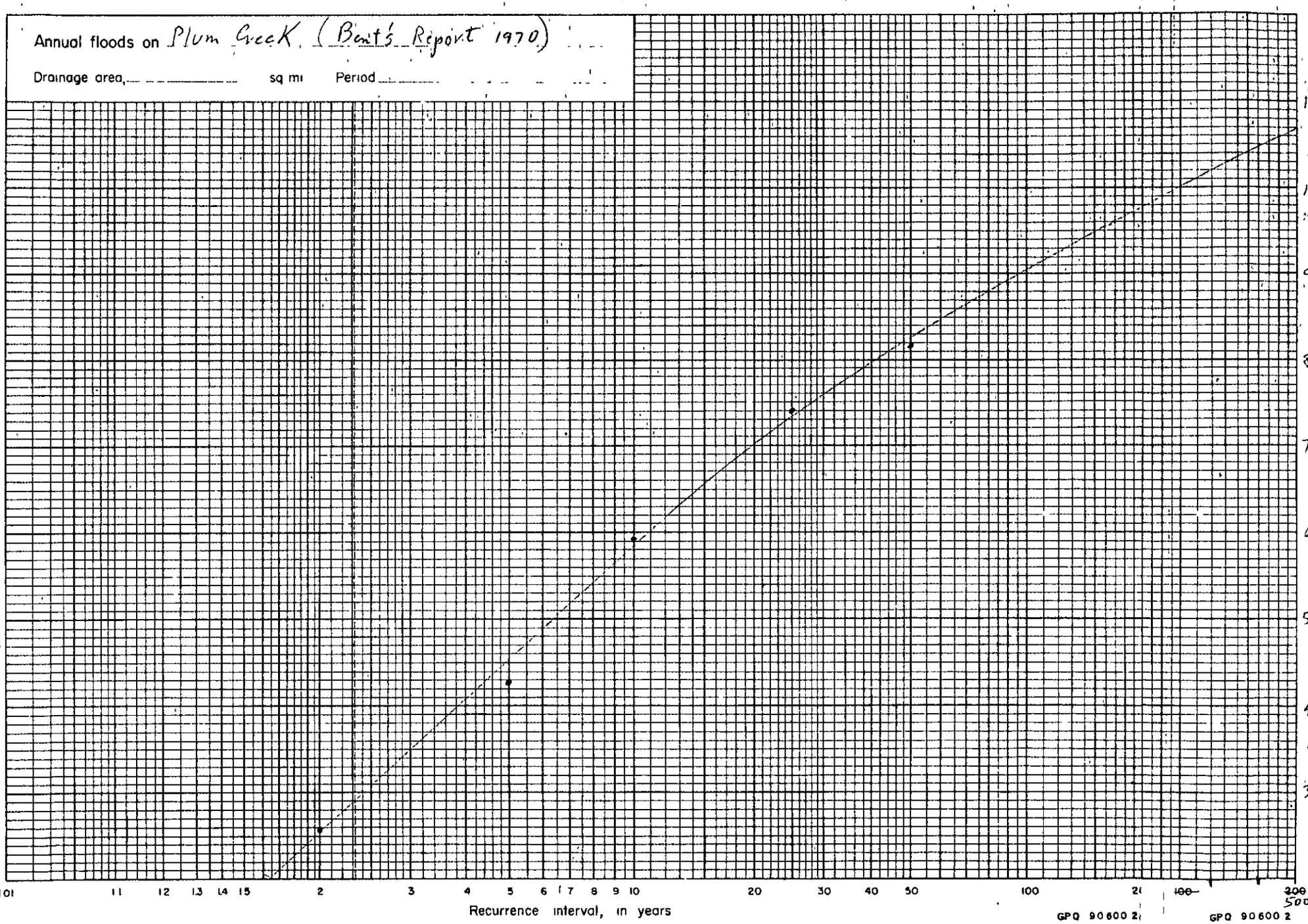
9-179a
Flood data plot
(March 1949)

UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number _____ File Number _____

Annual floods on Plum Creek (Bent's Report 1970)

Drainage area, _____ sq mi Period _____



GPO 90600 2

GPO 90600 2

15

6a

9-179a
Flood data plot
(March 1949)

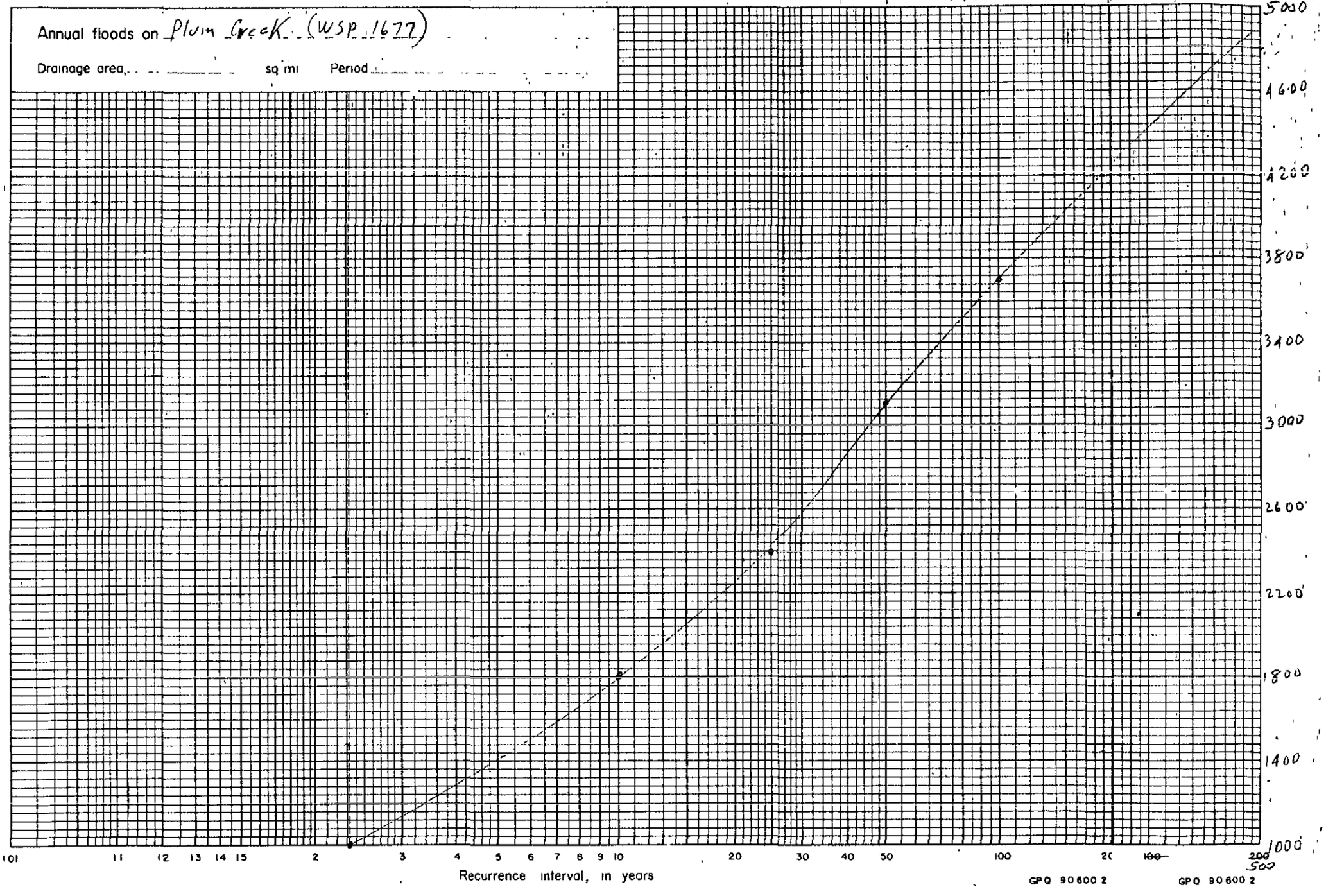
UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number

File Number

Annual floods on Plum Creek (WSP 1677)

Drainage area, _____ sq mi Period _____



GPO 906002

GPO 906002

9-179a
Flood data plot
(March 1949)

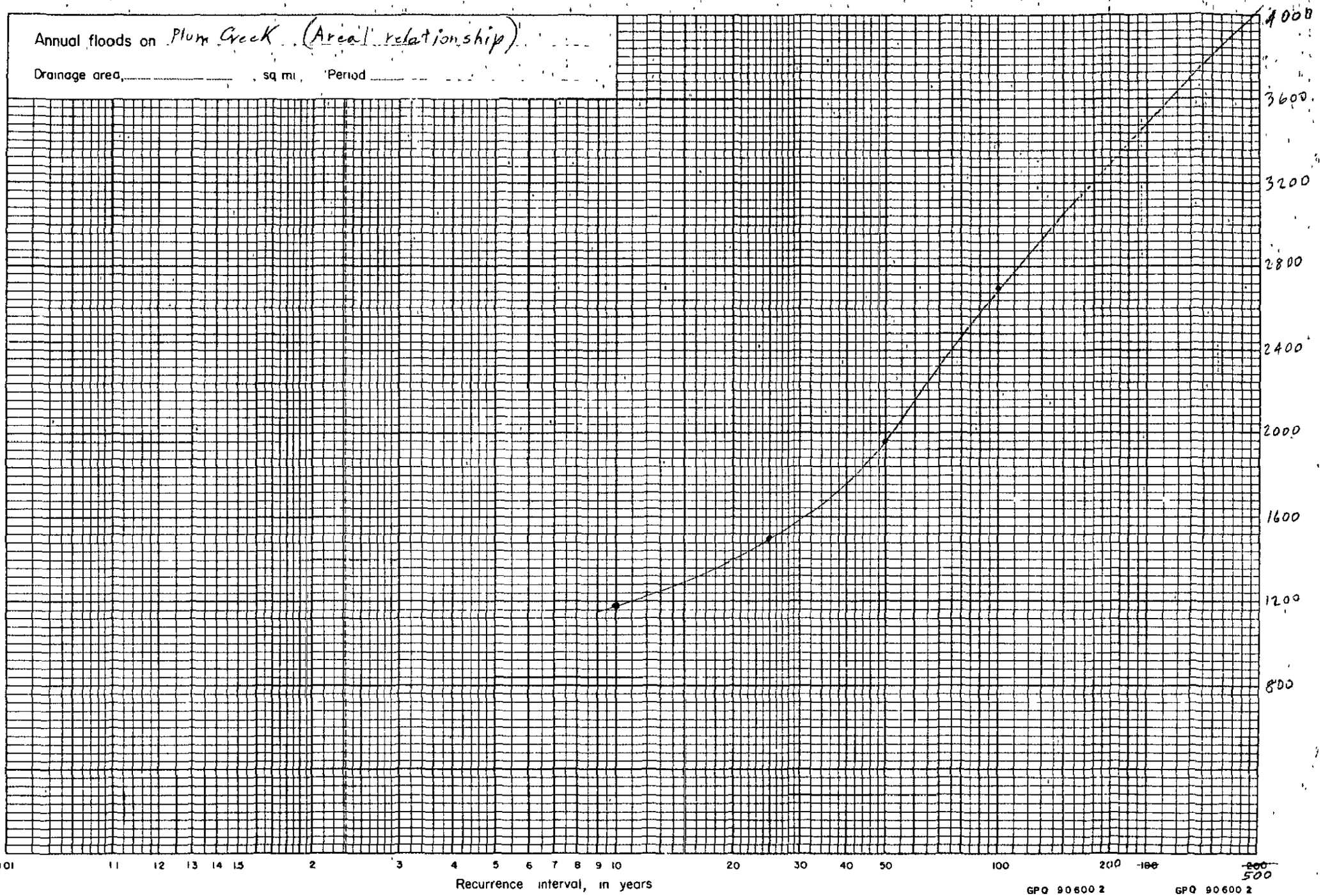
UNITED STATES DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

File Number

File Number

Annual floods on Plum Creek (Area/ relationship)

Drainage area, _____ sq mi, Period _____



GPO 906002

GPO 906002

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Part of Monroe

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 100yr Encroached

00BREAK00

100yr

Encroached Floodway

```
1*************************************************
 *  WATER SURFACE PROFILES                       *
 *  VERSION OF NOVEMBER 1976                     *
 *  UPDATED MAY 1984                             *
 *  IBM-PC-XT VERSION                            *
 *  RUN DATE  10/26/88  TIME  14:38:14           *
 *************************************************
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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          XYYYY    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
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1
 10/26/88    14:38:15                                                    PAGE    1
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THIS RUN EXECUTED 10/26/88 14:38:15

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION APRIL 1985
**************************************************
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C
T1      PORT OF MONROE, 14.8 ACRE PARCEL ON TURNING BASIN, JOB NO. 12810-00
T2      100 YEAR FLOW    (ENCROACHED TO RIVER BANKS)
T3      RIVER RAISIN

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       0.        0.        0.        0.   .000000       .00       .0    18300.   573.100      .000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     -1.000     1.000      .000      .000      .000      .000      .000      .000      .000      .000

NC       .100      .100      .035      .300      .500      .000      .000      .000      .000      .000
          SECTION A   MOUTH OF RIVER RAISIN
                      STARTING WSEL IS LAKE ERIE MEAN ELEV.
X1       .000     9.000    45.000   630.000      .000      .000      .000      .000      .000      .000
```

X3	.000	.000	.000	80.000	.000	530.000	.000	.000	.000	.000
GR	579.100	.000	572.600	45.000	562.200	180.000	549.700	230.000	545.200	330.000
GR	545.200	430.000	549.400	480.000	551.500	530.000	572.800	630.000	.000	.000

SECTION B AT D.E. CO. WATER INTAKE

X1	2000.000	11.000	25.000	465.000	2000.000	2000.000	2000.000	.000	.000	.000
X3	.000	.000	.000	25.000	.000	465.000	.000	.000	.000	.000
GR	575.000	.000	572.800	25.000	560.000	110.000	549.000	160.000	547.100	260.000
GR	548.100	360.000	557.700	410.000	560.600	460.300	572.800	485.000	578.000	490.000
GR	580.000	540.000	.000	.000	.000	.000	.000	.000	.200	.000

SECTION C AT D.E. CO. SUBSTATION

X1	2600.000	13.000	85.000	525.000	600.000	600.000	600.000	.000	.000	.000
X3	.000	.000	.000	85.000	.000	525.000	.000	.000	.000	.000
GR	576.000	.000	575.500	60.000	574.000	75.000	572.800	85.000	567.600	120.000
GR	564.200	170.000	551.000	220.000	546.600	320.000	547.300	420.000	556.700	470.000
GR	570.000	520.000	572.800	525.000	580.000	558.000	.000	.000	.000	.000

SECTION D AT D/S LIMIT OF PORT OF MONROE PROPERTY AND
AT U/S LIMIT OF DUNDEE CEMENT PROPERTY

X1	4300.000	13.000	28.000	475.000	1700.000	1700.000	1700.000	.000	.000	.000
X3	.000	.000	.000	28.000	.000	475.000	.000	.000	.000	.000
GR	576.000	.000	574.000	10.000	572.800	28.000	564.600	45.000	562.300	95.000
GR	557.600	145.000	546.400	245.000	549.100	345.000	563.600	395.000	567.600	445.000
GR	572.800	475.000	575.300	490.000	576.000	635.000	.000	.000	.000	.000

1

SECTION E INTERIOR OF REISS COAL CO. DOCI OPERATION

X1	5000.000	13.000	130.000	565.000	700.000	700.000	700.000	.000	.000	.000
X3	.000	.000	.000	130.000	.000	565.000	.000	.000	.000	.000
GR	576.000	.000	574.000	115.000	572.600	130.000	566.600	140.000	555.500	190.000
GR	548.800	240.000	546.700	340.000	548.700	440.000	561.400	490.000	571.000	540.000
GR	572.800	565.000	575.400	573.000	576.000	625.000	.000	.000	.000	.000

SECTION F U/S LIMIT OF PORT OF MONROE PROPERTY

X1	5750.000	11.000	40.000	490.000	750.000	750.000	750.000	.000	.000	.000
X3	.000	.000	.000	40.000	.000	490.000	.000	.000	.000	.000
GR	578.000	.000	572.800	40.000	563.600	70.000	554.900	120.000	549.500	170.000
GR	547.900	270.000	549.500	370.000	561.100	420.000	566.600	470.000	572.800	490.000
GR	578.000	510.000	.000	.000	.000	.000	.000	.000	.000	.000

SECTION G MONROE ENVIRONMENTAL PROPERTY AND CHANNEL TURNING POINT

X1	6000.000	10.000	30.000	490.000	250.000	250.000	250.000	.000	.000	.000
X3	.000	.000	.000	30.000	.000	490.000	.000	.000	.000	.000
GR	578.000	.000	572.800	30.000	556.600	55.000	549.300	110.000	548.200	215.000
GR	551.700	400.000	566.500	450.000	572.800	490.000	574.000	500.000	576.000	518.000

SECTION H TURNING BASIN

X1	7400.000	17.000	170.000	1370.000	1400.000	1400.000	1400.000	.000	.000	.000
X3	.000	.000	.000	170.000	.000	930.000	.000	.000	.000	.000
GR	576.000	.000	574.000	150.000	572.800	170.000	560.600	220.000	549.900	270.000

```
GR     548.100     370.000     548.400     470.000     550.200     570.000     550.000     670.000     549.500     770.000
GR     549.600     870.000     549.600     970.000     550.600    1070.000     550.800    1170.000     558.600    1270.000
GR     560.600    1370.000     576.000    1370.000        .000        .000        .000        .000        .000        .000

          SECTION I   U/S LIMIT OF TURNING BASIN AND P.O.B. OF
                      RIVER FRONTAGE OF STUDY PARCEL
X1    7980.000      12.000     620.000    1020.000     580.000     580.000     580.000        .000        .000        .000
X3       .000        .000        .000     620.000        .000    1020.000        .000        .000        .000        .000
GR     577.100        .000     576.000      80.000     576.000     230.000     574.000     550.000     572.800     620.000
GR     557.400     690.000     556.100     790.000     557.500     900.000     560.600     950.000     572.800    1020.000
GR     574.000    1115.000     576.000    1140.000        .000        .000        .000        .000        .000        .000

          SECTION J   INTERIOR OF STUDY PARCEL
X1    8400.000      14.000     550.000     910.000     420.000     420.000     420.000        .000        .000        .000
X3       .000        .000        .000     550.000        .000     910.000        .000        .000        .000        .000
GR     577.300        .000     576.000      60.000     576.000     160.000     574.000     530.000     572.800     550.000
GR     569.800     600.000     560.600     650.000     560.600     810.000     569.800     860.000     572.800     910.000
GR     574.000     995.000     576.000    1030.000     578.000    1070.000     578.000    1160.000        .000        .000

          SECTION K.  D/S OF MONROE WWTF AND APPROX 400 FT U/S OF STUDY PARCEL
X1    9100.000      24.000     390.000     710.000     700.000     700.000     700.000        .000        .000        .000
X3       .000        .000        .000     390.000        .000     710.000        .000        .000        .000        .000
GR     577.000        .000     576.000      35.000     574.000      55.000     572.000      70.000     567.500     100.000
GR     567.500     290.000     572.800     320.000     573.500     360.000     572.800     390.000     567.600     440.000
GR     560.600     490.000     560.600     630.000     570.000     670.000     572.800     710.000     578.200     718.000
GR     579.000     750.000     580.600     800.000     580.800     850.000     580.700     900.000     580.200     950.000
GR     579.000    1000.000     577.600    1050.000     576.200    1100.000     575.600    1150.000        .000        .000
EJ       .000        .000        .000        .000        .000        .000        .000        .000        .000        .000
1
 10/26/88    14:38:15                                                                                          PAGE    3

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   D         DLOB      QCH       VROB      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=    .300 CEHV=    .500
*SECNO  .000
3280 CROSS SECTION       .00 EXTENDED       .30 FEET


3470 ENCROACHMENT STATIONS=      80.0     530.0  TYPE=     1  TARGET=     450.000
          SECTION A   MOUTH OF RIVER RAISIN
                      STARTING WSEL IS LAKE ERIE MEAN ELEV.
      .00     27.90   573.10      .00   573.10   573.16      .06      .00      .00100000.00
   18700.       0.   18300.       0.       0.    9332.       0.       0.    100000.00
      .00      .00     1.96      .00     .100     .035     .100     .000   545.20    80.00
  .000040       0.       0.       0.        0        0        0      .00   450.00   530.00
0
 *SECNO 2400.000
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 3470 ENCROACHMENT STATIONS=      25.0      465.0  TYPE=      1  TARGET=      440.000
           SECTION B   AT D.E. CO. WATER INTAKE
    2000.00     26.09    573.19       .00       .00    573.26       .07       .09       .01    572.80
     18300.        0.     18300.        0.        0.     8330.        0.      405.      20. 100000.00
       .25       .00      2.20       .00      .100      .035      .100      .000    547.10     25.00
   .000055     2000.      2000.     2000.         0         0         0       .00    440.00    465.00
0
 *SECNO 2600.000

 3470 ENCROACHMENT STATIONS=      85.0      525.0  TYPE=      1  TARGET=      440.000
           SECTION C   AT D.E. CO. SUBSTATION
    2600.00     26.62    573.22       .00       .00    573.30       .08       .04       .00    572.80
     18300.        0.     18300.        0.        0.     7883.        0.      517.      26. 100000.00
       .32       .00      2.32       .00      .100      .035      .100      .000    546.60     85.00
   .000065      600.       600.      600.         0         0         0       .00    440.00    525.00
0
 *SECNO 4300.000

 3470 ENCROACHMENT STATIONS=      28.0      475.0  TYPE=      1  TARGET=      447.000
           SECTION D   AT D/S LIMIT OF PORT OF MONROE PROPERTY AND
                       AT U/S LIMIT OF DUNDEE CEMENT PROPERTY
    4300.00     26.94    573.34       .00       .00    573.44       .10       .13       .01    572.80
     18300.        0.     18300.        0.        0.     7261.        0.      813.      44. 100000.00
       .51       .00      2.52       .00      .100      .035      .100      .000    546.40     28.00
   .000087     1700.      1700.     1700.         1         0         0       .00    447.00    475.00
0
1
  10/26/88    14:38:15                                                                    PAGE     4


    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      YLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


 *SECNO 5000.000

 3470 ENCROACHMENT STATIONS=     130.0      565.0  TYPE=      1  TARGET=      435.000
           SECTION E   INTERIOR OF REISS COAL CO. DOCK OPERATION
    5000.00     26.71    573.41       .00       .00    573.49       .08       .05       .01    572.80
     18300.        0.     18300.        0.        0.     8173.        0.      937.      51. 100000.00
       .60       .00      2.24       .00      .100      .035      .100      .000    546.70    130.00
   .000057      700.       700.      700.         2         0         0       .00    435.00    565.00
0
 *SECNO 5750.000

 3470 ENCROACHMENT STATIONS=      40.0      490.0  TYPE=      1  TARGET=      450.000
           SECTION F   U/S LIMIT OF PORT OF MONROE PROPERTY
    5750.00     25.56    573.46       .00       .00    573.53       .07       .04       .00    572.80
     18300.        0.     18300.        0.        0.     8350.        0.     1079.      59. 100000.00
       .69       .00      2.19       .00      .100      .035      .100      .000    547.90     40.00
   .000055      750.       750.      750.         0         0         0       .00    450.00    490.00
```

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0
 *SECND 6000.000

 3470 ENCROACHMENT STATIONS=      30.0      490.0  TYPE=      1  TARGET=      460.000
            SECTION G   MONROE ENVIRONMENTAL PROPERTY AND CHANNEL TURNING POINT
    6000.00     25.29    573.49       .00       .00    573.55       .06       .01       .00    572.80
     18300.        0.    18300.        0.        0.     9171.        0.     1129.       61.  100000.00
       .73       .00      2.00       .00      .100      .035      .100      .000    548.20     30.00
   .000042      250.      250.      250.         1         0         0       .00    460.00    490.00
0
 *SECND 7400.000

 3470 ENCROACHMENT STATIONS=     170.0      930.0  TYPE=      1  TARGET=      760.000
            SECTION H   TURNING BASIN
    7400.00     25.47    573.57       .00       .00    573.59       .02       .03       .01    572.80
     18300.        0.    18300.        0.        0.    17240.        0.     1554.       81.  100000.00
      1.10       .00      1.06       .00      .100      .035      .100      .000    548.10    170.00
   .000010     1400.     1400.     1400.         1         0         0       .00    760.00    930.00
0
 *SECND 7980.000

 3470 ENCROACHMENT STATIONS=     620.0     1020.0  TYPE=      1  TARGET=      400.000
1
  10/26/88    14:38:15                                                                    PAGE     5


            SECTION I   U/S LIMIT OF TURNING BASIN AND P.O.B. OF
                        RIVER FRONTAGE OF STUDY PARCEL
    7980.00     17.40    573.50       .00       .00    573.69       .19       .02       .08    572.80
     18300.        0.    18300.        0.        0.     5300.        0.     1704.       68.  100000.00
      1.14       .00      3.45       .00      .100      .035      .100      .000    556.10    620.00
   .000214      580.      580.      580.         2         0         0       .00    400.00   1020.00
0
 *SECND 8400.000

 3470 ENCROACHMENT STATIONS=     550.0      910.0  TYPE=      1  TARGET=      360.000
            SECTION J   INTERIOR OF STUDY PARCEL
    8400.00     12.90    573.50       .00       .00    574.04       .54       .17       .18    572.80
     18300.        0.    18300.        0.        0.     3114.        0.     1744.       92.  100000.00
      1.16       .00      5.88       .00      .100      .035      .100      .000    560.60    550.00
   .001092      420.      420.      420.         2         0         0       .00    360.00    910.00
0
 *SECND 9100.000

 3470 ENCROACHMENT STATIONS=     390.0      710.0  TYPE=      1  TARGET=      320.000
            SECTION K   D/S OF MONROE WWTP AND APPROX 400 FT U/S OF STUDY PARCEL
    9100.00     13.62    574.22       .00       .00    574.76       .55       .72       .01    572.80
     18300.        0.    18300.        0.        0.     7082.        0.     1794.       98.  100000.00
      1.19       .00      5.94       .00      .100      .035      .100      .000    560.60    390.00
   .000973      700.      700.      700.         2         0         0       .00    320.00    710.00
0
1
 CROSS SECTION       .00
 STREAM  RIVER RAISIN
```

IBM-PC-XT VERSION APRIL 1985
****

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

RIVER RAISIN

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10* *S	VCH	AREA	.01K
.000	.00	.00	.00	545.20	18300.00	573.10	.00	573.16	.40	1.96	9332.37	28779.32
2000.000	2000.00	.00	.00	547.10	18300.00	573.19	.00	573.26	.55	2.20	8319.57	24671.43
2600.000	600.00	.00	.00	546.60	18300.00	573.22	.00	573.30	.65	2.32	7882.98	22695.40
4300.000	1700.00	.00	.00	546.40	18300.00	573.34	.00	573.44	.87	2.52	7261.44	19586.48
5000.000	700.00	.00	.00	546.70	18300.00	573.41	.00	573.49	.57	2.24	8172.77	24056.10
5750.000	750.00	.00	.00	547.90	18300.00	573.46	.00	573.53	.55	2.19	8350.25	24620.33
6000.000	250.00	.00	.00	548.20	18300.00	573.49	.00	573.55	.42	2.00	9170.87	28251.73
7400.000	1400.00	.00	.00	548.10	18300.00	573.57	.00	573.59	.10	1.06	17239.91	57293.42
7980.000	580.00	.00	.00	556.10	18300.00	573.50	.00	573.69	2.14	3.45	5299.86	12512.10
8400.000	420.00	.00	.00	560.60	18300.00	573.50	.00	574.04	10.92	5.88	3114.25	5538.93
9100.000	700.00	.00	.00	560.60	18300.00	574.22	.00	574.76	9.73	5.94	3082.07	5665.85

1
10/26/88 14:38:15 PAGE 7

RIVER RAISIN

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFWS	TOPWID	XLCH
.000	18300.00	573.10	.00	.00	.00	450.00	.00
2000.000	18300.00	573.19	.00	.09	.00	440.00	2000.00
2600.000	18300.00	573.22	.00	.03	.00	440.00	600.00
4300.000	18300.00	573.34	.00	.12	.00	447.00	1700.00

5000.000	18300.00	573.41	.00	.08	.00	435.00	700.00
5750.000	18300.00	573.46	.00	.05	.00	450.00	750.00
6000.000	18300.00	573.49	.00	.03	.00	460.00	250.00
7400.000	18300.00	577.57	.00	.08	.00	760.00	1400.00
7980.000	18300.00	573.50	.00	-.07	.00	400.00	580.00
8400.000	18300.00	573.50	.00	.00	.00	360.00	420.00
9100.000	18300.00	574.22	.00	.72	.00	320.00	700.00

SUMMARY OF ERRORS AND SPECIAL NOTES

THIS RUN EXECUTED 10/26/88 14:40:27

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION APRIL 1985
**************************************************
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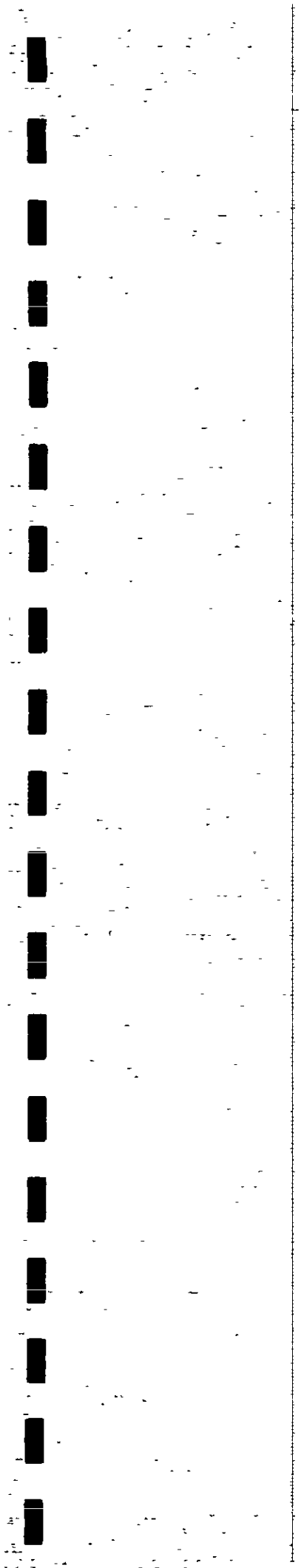

Natural Floodway

```
1*************************************************
*  WATER SURFACE PROFILES                       *
*  VERSION OF NOVEMBER 1976                     *
*  UPDATED MAY 1984                             *
*  IBM-PC-XT VERSION                            *
*  RUN DATE  10/26/88  TIME  13:57:38           *
*************************************************
```

```
**************************************
*  U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D        *
*  DAVIS, CALIFORNIA 95616           *
*  (916) 440-2105 (FTS) 448-2105     *
**************************************
```

```
X      X  XXXXXXX   XXXXX              XXXXX
X      X  X        X     X            X     X
X      X  X        X                  X     X
XXXXXXX   XXXX     X           XXXXX  XXXXX
X      X  X        X                  X
X      X  X        X     X            X
X      X  XXXXXXX   XXXXX              XXXXXXX
```



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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01.02.03.04.05.06
  MODIFICATION -  50.51.52.53.54.55.56
  IBM-PC-XT VERSION APRIL 1985
**************************************************
```

THIS RUN EXECUTED 10/26/88 13:53:39

```
C
T1      PORT OF MONROE, 14.8 ACRE PARCEL ON TURNING BASIN, JOB NO. 12810-00
T2      100 YEAR FLOW - NATURAL FLOODWAY
T3      RIVER RAISIN

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       0.        0.        0.   .000000       .00       .0   18300.   573.100      .000

J2  NROF       IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     -1.000     1.000      .000      .000      .000      .000      .000      .000      .000      .000

NC       .100      .100      .035      .300      .500      .000      .000      .000      .000      .000
          SECTION A   MOUTH OF RIVER RAISIN
                      STARTING WSEL IS LAKE ERIE MEAN ELEV.
X1       .000     9.000    45.000   630.000      .000      .000      .000      .000      .000      .000
```

X3	.000	.000	.000	80.000	.000	530.000	.000	.000	.000	.000
GR	579.100	.000	572.800	45.000	562.200	180.000	549.700	230.000	545.200	330.000
GR	545.200	430.000	549.400	480.000	551.500	530.000	572.800	630.000	.000	.000

SECTION B AT D.E. CO. WATER INTAKE

X1	2000.000	11.000	25.000	465.000	2000.000	2000.000	2000.000	.000	.000	.000
GR	575.000	.000	572.600	25.000	560.000	110.000	549.000	160.000	547.100	260.000
GR	548.100	360.000	557.700	410.000	560.600	460.000	572.800	465.000	578.000	490.000
GR	530.000	540.000	.000	.000	.000	.000	.000	.000	.000	.000

SECTION C AT D.E. CO. SUBSTATION

X1	2600.000	13.000	85.000	525.000	600.000	600.000	600.000	.000	.000	.000
GR	576.000	.000	575.500	60.000	574.000	75.000	572.800	85.000	567.600	120.000
GR	564.200	170.000	551.000	220.000	546.600	320.000	547.300	420.000	556.700	470.000
GR	570.000	520.000	572.800	525.000	500.000	558.000	.000	.000	.000	.000

SECTION D AT D/S LIMIT OF PORT OF MONROE PROPERTY AND
AT U/S LIMIT OF DUNDEE CEMENT PROPERTY

X1	4300.000	13.000	28.000	475.000	1700.000	1700.000	1700.000	.000	.000	.000
GR	576.000	.000	574.000	10.000	572.800	28.000	564.600	45.000	562.300	95.000
GR	557.600	145.000	546.400	245.000	549.100	345.000	563.600	395.000	567.600	445.000
GR	572.600	475.000	575.800	490.000	576.000	635.000	.000	.000	.000	.000

1
10/26/88 13:53:39 PAGE 2

SECTION E INTERIOR OF REISS COAL CO. DOCK OPERATION

X1	5000.000	13.000	130.000	565.000	700.000	700.000	700.000	.000	.000	.000
GR	576.000	.000	574.000	115.000	572.800	130.000	566.600	140.000	555.500	190.000
GR	548.800	240.000	546.700	340.000	548.700	440.000	561.400	490.000	571.000	540.000
GR	572.800	565.000	575.400	573.000	576.000	625.000	.000	.000	.000	.000

SECTION F U/S LIMIT OF PORT OF MONROE PROPERTY

X1	5750.000	11.000	40.000	490.000	750.000	750.000	750.000	.000	.000	.000
GR	578.000	.000	572.800	40.000	563.600	70.000	554.900	120.000	549.500	170.000
GR	547.900	270.000	549.500	370.000	561.100	420.000	566.600	470.000	572.800	490.000
GR	578.000	510.000	.000	.000	.000	.000	.000	.000	.000	.000

SECTION G MONROE ENVIRONMENTAL PROPERTY AND CHANNEL TURNING POINT

X1	6000.000	10.000	30.000	490.000	250.000	250.000	250.000	.000	.000	.000
GR	578.000	.000	572.800	30.000	556.600	55.000	549.300	110.000	548.200	215.000
GR	551.700	400.000	566.500	450.000	572.800	490.000	574.000	500.000	576.000	518.000

SECTION H TURNING BASIN

X1	7400.000	17.000	170.000	1370.000	1400.000	1400.000	1400.000	.000	.000	.000
X3	.000	.000	.000	.000	.000	960.000	.000	.000	.000	.000
GR	576.000	.000	574.000	150.000	572.800	170.000	560.600	220.000	549.900	270.000
GR	548.100	370.000	548.400	470.000	550.200	570.000	550.000	670.000	549.500	770.000
GR	549.600	870.000	545.500	970.000	550.600	1070.000	550.800	1170.000	556.600	1270.000
GR	560.600	1370.000	572.000	1370.000	.000	.000	.000	.000	.000	.000

SECTION I U/S LIMIT OF TURNING BASIN AND P.O.B. OF
RIVER FRONTAGE OF STUDY PARCEL

```
X1   7980.000     12.000    620.000   1020.000    580.000    580.000    580.000       .000       .000       .000
GR    577.100       .000    576.000     80.000    576.000    230.000    574.000    550.000    572.800    620.000
GR    557.400    690.000    556.100    790.000    557.500    900.000    560.600    950.000    571.800   1020.000
GR    574.000   1115.000    576.000   1140.000       .000       .000       .000       .000       .000       .000

          SECTION J   INTERIOR OF STUDY PARCEL
X1   8400.000     14.000    550.000    910.000    420.000    420.000    420.000       .000       .000       .000
GR    577.300       .000    576.000     60.000    576.000    160.000    574.300    570.000    572.300    550.000
GR    569.800    600.000    560.600    650.000    560.600    810.000    569.800    860.000    572.600    910.000
GR    574.000    995.000    576.000   1030.000    578.000   1070.000    578.000   1160.000       .000       .000

          SECTION K   D/S OF MONROE WWTP AND APPROX 400 FT U/S OF STUDY PARCEL
X1   9100.000     24.000    390.000    710.000    700.000    700.000    700.000       .000       .000       .000
X3       .000       .000       .000    390.000       .000       .000       .000       .000       .000       .000
GR    577.000       .000    576.000     35.000    574.000     55.000    572.800     70.000    567.500    100.000
GR    567.500    290.000    572.800    320.000    573.500    360.000    572.800    390.000    567.600    440.000
GR    560.600    490.000    560.600    630.000    570.000    670.000    572.800    710.000    578.200    718.000
GR    579.000    750.000    580.600    800.000    580.800    850.000    580.700    900.000    580.200    950.000
GR    579.300   1000.000    577.600   1050.000    576.200   1100.000    575.600   1150.000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 10/26/88    13:53:39                                                                                  PAGE    3

   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=     .300 CEHV=     .500
 *SECNO  .000
 3280 CROSS SECTION        .00 EXTENDED        .30 FEET


 3470 ENCROACHMENT STATIONS=       80.0      530.0  TYPE=      1  TARGET=      450.000
          SECTION A   MOUTH OF RIVER RAISIN
                      STARTING WSEL IS LAKE ERIE MEAN ELEV.
       .00     27.90    573.10       .00    573.10    573.16       .06       .00       .00100000.00
    18300.        0.    18300.        0.        0.    9332.        0.        0.        0. 100000.00
       .00       .00      1.96       .00      .100      .035      .100      .000    545.10     80.00
   .000040        0.        0.        0.         0         0         0       .00    450.00    530.00
0
 *SECNO 2000.000
          SECTION B   AT D.E. CO. WATER INTAKE
   2000.00     26.09    573.19       .00       .00    573.26       .07       .09       .01    572.80
    18300.        0.    18300.        0.         1.    8330.        0.      405.       21.    572.80
       .25       .04      2.20       .04      .100      .035      .100      .000    547.10     20.67
   .000055     2000.     2000.     2000.         0         0         0       .00    446.16    466.83
0
 *SECNO 2600.000
          SECTION C   AT D.E. CO. SUBSTATION
```

```
  2600.00    26.62   573.22      .00      .00   573.30      .08      .04      .00   572.80
   18300.       0.   18300.       0.       1.    7883.       0.     517.      27.    572.80
      .32      .04     2.32      .04     .100     .035     .100     .000   546.60    81.54
  .000065     600.     600.     600.        0        0        0      .00   445.36   526.90
0
 *SECNO 4300.000
          SECTION D   AT D/S LIMIT OF PORT OF MONROE PROPERTY AND
                      AT U/S LIMIT OF DUNDEE CEMENT PROPERTY
  4300.00    26.94   573.34      .00      .00   573.44      .10      .13      .01   572.80
   18300.       0.   18300.       0.       2.    7261.       1.     813.      44.    572.80
      .51      .06     2.52      .06     .100     .035     .100     .000   546.40    20.08
  .000097    1700.    1700.    1700.        1        0        0      .00   457.56   477.64
0
 *SECNO 5000.000
          SECTION E   INTERIOR OF REISS COAL CO. DOCK OPERATION
1
 10/26/88    13:53:39                                                                  PAGE    4

   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    IDC       ICONT     CORAR     TOPWID     ENDST

  5000.00    26.71   573.41      .00      .00   573.49      .08      .05      .01   572.80
   18300.       0.   18300.       0.       2.    8173.       1.     937.      52.    572.80
      .60      .05     2.24      .05     .100     .035     .100     .000   546.70   122.34
  .000057     700.     700.     700.        2        0        0      .00   444.54   566.89
0
 *SECNO 5750.000
          SECTION F   U/S LIMIT OF PORT OF MONROE PROPERTY
  5750.00    25.56   573.46      .00      .00   573.53      .07      .04      .00   572.80
   18300.       0.   18300.       0.       2.    8350.       1.    1079.      59.    572.80
      .69      .05     2.19      .05     .100     .035     .100     .000   547.90    34.87
  .000055     750.     750.     750.        0        0        0      .00   457.69   492.56
0
 *SECNO 6000.000
          SECTION G   MONROE ENVIRONMENTAL PROPERTY AND CHANNEL TURNING POINT
  6000.00    25.29   573.49      .00      .00   573.55      .06      .01      .00   572.80
   18300.       0.   18300.       0.       1.    9171.       2.    1129.      62.    572.80
      .73      .05     2.00      .05     .100     .035     .100     .000   548.20    26.08
  .000042     250.     250.     250.        1        0        0      .00   469.59   495.67
0
 *SECNO 7400.000

 3470 ENCROACHMENT STATIONS=        .0      960.0  TYPE=      1  TARGET=      959.999
          SECTION H   TURNING BASIN
  7400.00    25.47   573.57      .00      .00   573.59      .02      .02      .01   572.80
   18300.       0.   18300.       0.       5.   17958.       0.    1565.      82. 100000.00
     1.11      .02     1.02      .00     .100     .035     .100     .000   548.10   157.26
  .000009    1400.    1400.    1400.        1        0        0      .00   802.72   960.00
0
 *SECNO 7980.000
```

```
   2600.00     26.62    573.22       .00       .00    573.30       .08       .04       .00    572.80
    18300.        0.    18300.        0.        1.     7883.        0.      517.       27.    572.80
       .32       .04      2.32       .04      .100      .035      .100      .000    546.60     81.54
   .000065      600.      600.      600.         0         0         0       .00    445.36    526.90
0
 *SECNO 4300.000
           SECTION D   AT D/S LIMIT OF PORT OF MONROE PROPERTY AND
                       AT U/S LIMIT OF DUNDEE CEMENT PROPERTY
   4300.00     26.94    573.34       .00       .00    573.44       .10       .13       .01    572.80
    18300.        0.    18300.        0.        2.     7261.        1.      813.       44.    572.80
       .51       .06      2.52       .06      .100      .035      .100      .000    546.40     20.08
   .000087      1700.     1700.     1700.         1         0         0       .00    457.56    477.64
0
 *SECNO 5000.000
           SECTION E   INTERIOR OF REISS COAL CO. DOCK OPERATION
1
  10/26/88    13:53:39                                                                  PAGE     4

    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     CURAR     TOPWID      ENDST

   5000.00     26.71    573.41       .00       .00    573.49       .08       .05       .01    572.80
    18300.        0.    18300.        0.        2.     8173.        1.      937.       52.    572.80
       .60       .05      2.24       .05      .100      .035      .100      .000    546.70    122.34
   .000057      700.      700.      700.         2         0         0       .00    444.54    566.89
0
 *SECNO 5750.000
           SECTION F   U/S LIMIT OF PORT OF MONROE PROPERTY
   5750.00     25.56    573.46       .00       .00    573.53       .07       .04       .00    572.80
    18300.        0.    18300.        0.        2.     8350.        1.     1079.       59.    572.80
       .69       .05      2.19       .05      .100      .035      .100      .000    547.90     34.87
   .000055      750.      750.      750.         0         0         0       .00    457.69    492.56
0
 *SECNO 6000.000
           SECTION G   MONROE ENVIRONMENTAL PROPERTY AND CHANNEL TURNING POINT
   6000.00     25.29    573.49       .00       .00    573.55       .06       .01       .00    572.80
    18300.        0.    18300.        0.        1.     9171.        2.     1129.       62.    572.80
       .73       .05      2.00       .05      .100      .035      .100      .000    548.20     26.08
   .000042      250.      250.      250.         1         0         0       .00    469.59    495.67
0
 *SECNO 7400.000

 3470 ENCROACHMENT STATIONS=         .0      960.0  TYPE=      1  TARGET=      959.999
           SECTION H   TURNING BASIN
   7400.00     25.47    573.57       .00       .00    573.59       .02       .02       .01    572.80
    18300.        0.    18300.        0.        5.    17958.        0.     1565.       82.  100000.00
      1.11       .02      1.02       .00      .100      .035      .100      .000    548.10    157.28
   .000609     1400.     1400.     1400.         1         0         0       .00    802.72    960.00
0
 *SECNO 7980.000
```

	8800.	C	.	.	.I	.	.	L WE. M	.	.	.	.		
	8900.	C	.	.	.I	.	.	L WE. M	.	.	.	.		
	9000.	C	.	.	.I	.	.	L WE. M	.	.	.	.		
9100.00	9100.	C	.	.	.I	.	.	L W EM	.	.	.	.		

1

THIS RUN EXECUTED 10/26/88 13:55:30

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION APRIL 1985
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

RIVER RAISIN

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10**3	VCH	AREA	.01K
.000	.00	.00	.00	545.20	18300.00	573.10	.00	573.16	.40	1.96	9332.37	29779.32
2000.000	2000.00	.00	.00	547.10	18300.00	573.19	.00	573.26	.55	2.20	8330.75	24699.26
2600.000	600.00	.00	.00	546.60	18300.00	573.22	.00	573.30	.65	2.32	7884.06	22723.46
4300.000	1700.00	.00	.00	546.40	18300.00	573.34	.00	573.44	.87	2.52	7264.07	19616.39
5000.000	700.00	.00	.00	546.70	18300.00	573.41	.00	573.49	.57	2.24	8175.43	24299.90
5750.000	750.00	.00	.00	547.90	18300.00	573.46	.00	573.53	.55	2.19	8352.48	24666.99
6000.000	250.00	.00	.00	548.20	18300.00	573.49	.00	573.55	.42	2.00	9173.80	28304.59
7400.000	1400.00	.00	.00	548.10	18300.00	573.57	.00	573.59	.09	1.02	17963.09	59854.92
7980.000	580.00	.00	.00	556.10	18300.00	573.50	.00	573.69	2.13	3.45	5332.80	12540.25
8400.000	420.00	.00	.00	560.60	18300.00	573.50	.00	574.03	10.87	5.68	3134.39	5551.39
9100.000	700.00	.00	.00	560.60	18300.00	574.21	.00	574.76	9.70	5.94	3081.45	5876.54

1

RIVER RAISIN

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFWS	TOPWID	XLCH
.000	18300.00	573.10	.00	.00	.00	450.00	.00
2000.000	18300.00	573.19	.00	.09	.00	446.16	2000.00
2600.000	18300.00	573.22	.00	.03	.00	445.36	600.00
4300.000	18300.00	573.34	.00	.12	.00	457.56	1700.00
5000.000	18300.00	573.41	.00	.08	.00	444.54	700.00
5750.000	18300.00	573.46	.00	.05	.00	457.69	750.00
6000.000	18300.00	573.49	.00	.03	.00	469.59	250.00
7400.000	18300.00	573.57	.00	.08	.00	802.72	1400.00
7980.000	18300.00	573.50	.02	-.07	.00	496.42	580.00
8400.000	18300.00	573.50	.00	.00	.00	421.03	420.00
9100.000	18300.00	574.21	.00	.71	.00	322.09	700.00

1
10/26/88 13:53:39 PAGE 8

SUMMARY OF ERRORS AND SPECIAL NOTES

1
10/26/88 13:55:32 PAGE 1

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IBM-PC-XT VERSION APRIL 1985
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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Port of Monroe

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Report

00BREAK00

PORT OF MONROE

RIVER RAISIN HYDRAULIC ANALYSIS

NOVEMBER 1988

PREPARED FOR:

PORT OF MONROE
2929 EAST FRONT STREET
MONROE, MICHIGAN 48161

PREPARED BY:

JOHNSON & ANDERSON, INC.
4479 DIXIE HIGHWAY
DRAYTON PLAINS, MICHIGAN 48020

Report

J&A FILE #12810-00

PORT OF MONROE

RIVER RAISIN HYDRAULIC ANALYSIS

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Appendix D - HEC-2 Computer Output
Appendix E - MDNR Letter

HYDRAULIC ANALYSIS

Introduction

This hydraulic analysis is for a portion of the River Raisin in the City of Monroe in Monroe County. The study reach begins at the mouth of the River Raisin at Lake Erie and terminates upstream near the Monroe County wastewater treatment plant (downstream of the Interstate 75 highway bridge), a distance of approximately 9100 feet.

This analysis is provided in conjunction with a permit application regarding development of a 14.8 acre parcel of the Port of Monroe property. The study parcel, presently vacant, is located on the River Raisin west of the turning basin as shown on the attached map. This hydraulic analysis was performed to determine the existing River Raisin floodway conditions as well as the potential effect on floodway conditions as a result of development of the parcel. Development will include installation of a sheet piling at the edge of the River Raisin and filling portions of the parcel to prevent inundation by the river.

Conclusions

Comparison of the River Raisin water surface profile for the encroached floodway with the natural floodway shows a maximum increase of 0.01 feet in the water surface elevation at the upstream end of the study reach. For the encroached profile, the floodway was encroached to the river banks. This was done even though development of the parcel would only cause encroachment to within 5 feet of the river bank on the landward side. Thus, the result obtained is conservative.

Method of Analysis

For the purposes of this analysis, we have superimposed the property boundary of the study parcel on a 1976 aerial topographic survey of the area (Appendix A). As can be seen from this overlay, the property line falls for the most part on the land side of the 1976 shoreline. Approximately 450 feet of the river frontage property line lies 20 feet on the land side of the shoreline; approximately 250 feet of the river frontage property line lies on, or just landward, of the shoreline. The shore protection measures of this proposed development therefore, lie a minimum of five feet landward of the waters edge of the 1976 photography.

Rather than attempt to precisely define the location of the proposed shoreline for this analysis, we evaluated the impact of this development as if the shore protection system rose vertically at the 1976 shoreline. Because the development will actually lie landward of the shoreline, the conclusions of this hydraulic analyses are conservative.

A water surface profile for the River Raisin, from its mouth at Lake Erie to a point approximately 9100 feet upstream, was developed through use of the U.S. Army Corps of Engineers' HEC-2 Step-backwater Computer Program (Appendix D). A profile was determined for the 100-year flood only. Work performed for this study is on the basis of an IGLD datum for all elevations. Direct comparisons of elevations to the Flood Insurance Study may not be possible due to differences in the datums used.

A total of 11 cross sections were developed for the portion of the River Raisin studied. These sections are listed and described in Table 1 (Appendix C). The cross sections developed are typical of the reach where they are located. Cross section locations are shown on the map provided in Appendix A.

Roughness coefficients (Manning's "n") for this analysis were estimated by field inspection. The values used were 0.035 for the river channel and 0.10 for the overbank areas. Contraction and expansion coefficients are 0.3 and 0.5, respectively.

Discussion of Proposed Development

The site of the proposed development lies on the River Raisin with frontage on the turning basin of the Federal Navigation Channel, and frontage on the river immediately upstream of the turning basin. The river upstream of the turning basin is also within Federal Projects limits with a 100 foot channel width and 9 foot depth (below LWD), but this area has not been maintained. The Federal Project depth in the turning basin is 18 feet (below LWD).

The proposed development concept includes: (1) construction of a dock on the turning basin side of the parcel with dredging to deepen the area adjacent to the dock to the project depth of the turning basin; (2) providing shore protection along the River Raisin side of the parcel to protect against water and ice erosion, as well as high water; (3) filling the site to approximately 580.00 (IGLD), constructing a warehouse for covered storage of cargo, and constructing hardstand areas for outside storage of cargo.

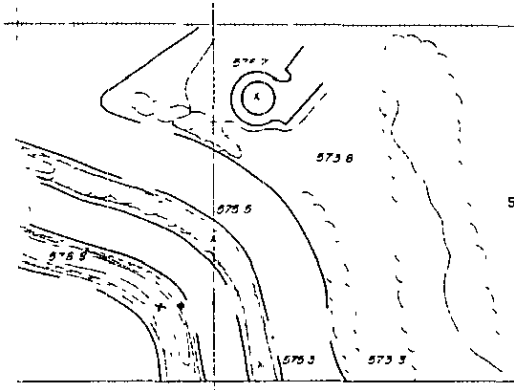
The shore protection measures of the proposed development would provide for a sheet pile dock on the turning basin constructed so that all dock appurtenances would be just inside the harbor/right-of-way/property line. From our analysis, this area lies outside of the floodway and has no potential for impacting upstream water surface elevation. The shore protection measures of the proposed development would also provide for a combination steel sheet pile and rip rap shore protection on the river shoreline upstream of the turning basin. This shore protection system would start a minimum of five feet inside the property line.

Method of Analysis (Continued)

The starting water surface elevation used is the Lake Erie mean elevation, 573.1 (IGLD). The 100-year discharge for the portion of the River Raisin studied was determined by the Michigan Department of Natural Resources (MDNR) to be 18,300 cubic feet per second (cfs) as stated in a letter dated August 24, 1988 (Appendix E).

In order to determine the effect development of the study parcel would have on floodway conditions, a water surface profile with the floodway encroached to the river banks was computed as well as a profile for a natural floodway. HEC-2 input and output for both profiles are provided in Appendix D.

Appendix A



N 148,000

SOURCE OF OVERBANK CROSS SECTION DATA

E 591,000

N 147,000

E 588,000

E 590,000

ELEVATIONS BASED ON IGLD 1955

GRID SYSTEM BASED ON TRANSVERSE MERCATOR PROJECTION EAST ZONE 1927 NORTH AMERICAN DATUM

NOTE

WATER SURFACE AT DATE OF PHOTOGRAPHY 572.81 FEET
LWD FOR LAKE ERIE 568.6 FEET
SHORELINE ELEVATION 572.81 FEET
PROJECT LIMITS EXTEND LAKEWARD TO THE AUTHORIZED CONTOUR

SEE SHEET NUMBER 1 FOR CHANNEL LINE COORDINATES AND HORIZONTAL GROUND CONTROL COORDINATES

DATE OF PHOTOGRAPHY
27 JUNE 1976 11:48 A.M.

NO	DATE	REVISION	BY

U. S. ARMY ENGINEER DISTRICT, DETROIT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

STATE OF MICHIGAN
CLYDE McDANIEL
LAND SURVEYOR
No 15405
REGISTERED LAND SURVEYOR

Clyde E. McDaniel

MONROE HARBOR
MICHIGAN

APPROVED BY:

COL., C. E., DISTRICT ENGINEER DATE

ABRAMS
AERIAL SURVEY CORPORATION
LANSING, MICHIGAN

SCALE AS SHOWN

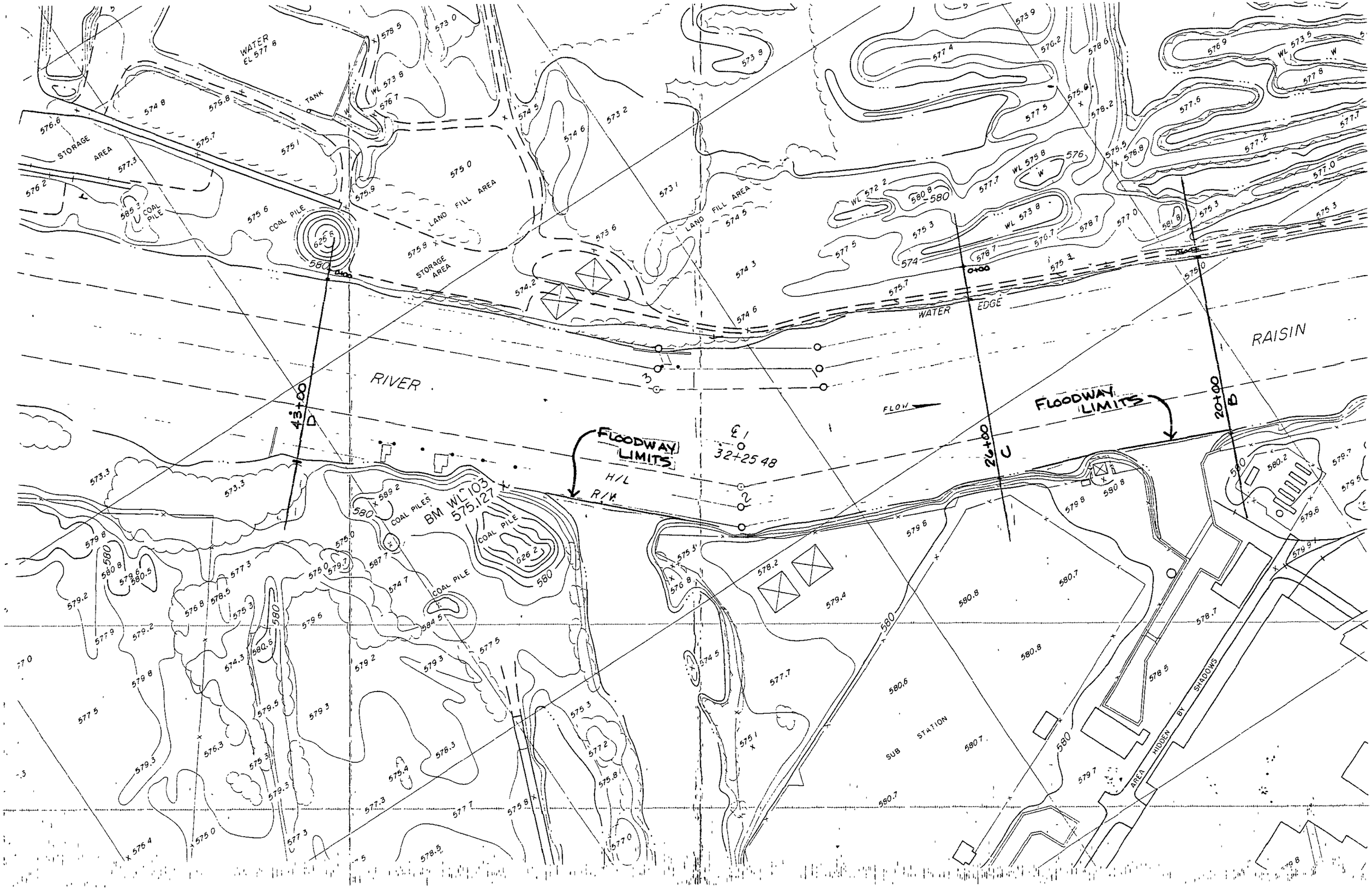
DRAWING NUMBER

SHEET 5 OF 5

THIS PLAN ACCOMPANIES CONTRACT NO
DACW- MODIFICATION NO

CONTRACT NO. 35-76-A-0183

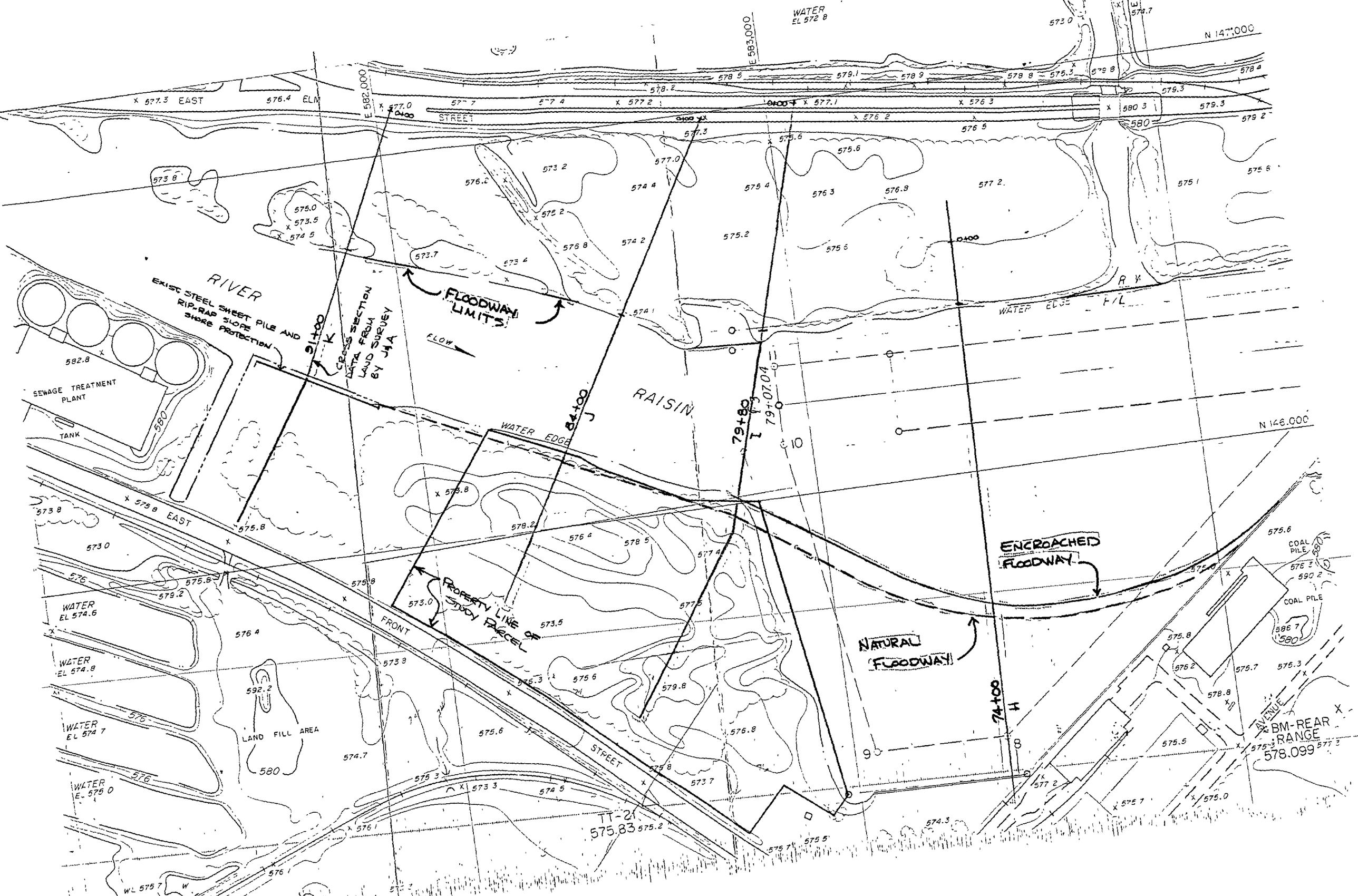
A.A.S.C. 14698



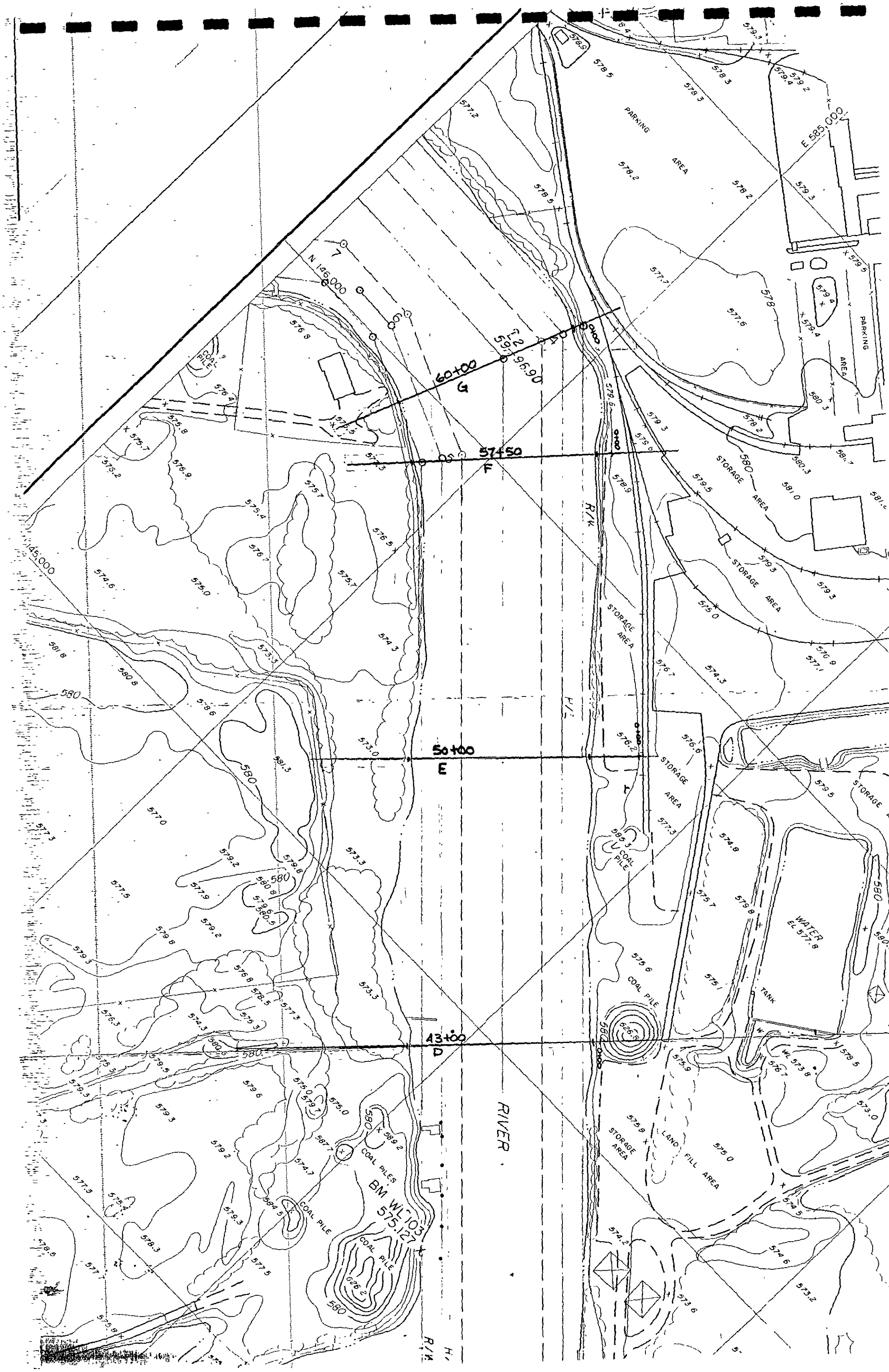
WATER EL 577.8
TANK
STORAGE AREA
COAL PILE
LAND FILL AREA
STORAGE AREA
LAND FILL AREA
WATER EDGE
RAISIN
RIVER
FLOW
FLOODWAY LIMITS
FLOODWAY LIMITS
43+00 D
26+00 C
20+00 B
32+25.48
H/L
R/W
BM WL 103 575.127
COAL PILES
COAL PILE
COAL PILE
SUB STATION
AREA HIDDEN BY SHADOWS



RAISIN
R/W
H/L
FLOODWAY LIMITS
WATER EDGE R/W
H/L
WATER EL 578 2
COAL PILES
COAL PILES
STACK
PILE
20+00 B
0+00 A
1"=200'
AZ=297-14-38
502.45'
3244.81'
N 142,000
590,000
ON IGLD 1955
U. S. ARMY
NO
DATE
STATE OF MICHIGAN
CLYDE McDANIEL
LAND SURVEYOR
No 15405
REGISTERED LAND SURVEYOR



WATER EL 572.8
N 147,000
E 583,000
E 582,000
EAST ELM STREET
RIVER
RAISIN
EXIST STEEL SHEET PILE AND RIP-RAP SLOPE SHORE PROTECTION
CROSS SECTION DATA FROM LAND SURVEY BY J&A
FLOODWAY LIMITS
FLOW
91+00 K
84+00 J
79+80 I
79+07.04
74+00 H
WATER EDGE
SEWAGE TREATMENT PLANT
TANK
N 146,000
EAST FRONT STREET
PROPERTY LINE OF STUDY PARCEL
ENCROACHED FLOODWAY
NATURAL FLOODWAY
COAL PILE
LAND FILL AREA
BM-REAR RANGE 578.099
TT-21 575.83
WATER EL 574.6
WATER EL 574.8
WATER EL 574.7
WATER EL 575.0


E 585,000
N 146,000
N 145,000
60+00
G
57+50
F
50+00
E
43+00
D
PARKING AREA
STORAGE AREA
COAL PILE
TANK
WATER EL 577.8
LAND FILL AREA
BM WL 103
575.127
RIVER

Appendix B

Source of Underwater Cross Section Data

STATION NUMBER	COORDINATES NORTH	EAST
1	144,284 22	587 094 63
2	144 189 79	586 789 10
3	144 506 76	586 746 71
4	146 288 38	584,880 7
5	145 951 29	584 944.19
6	146 095 06	584 597 38
7	146,100 67	584 362 46
8	145 323 44	583 398 77
9	145 331 53	583 058 89
10	146 134 81	582 927 84
11	146,334 74	582 932 60
12	143 184 85	589,880 84
13	142 998 82	589 807 44
14	143,047 85	590 364 26
15	142 788 81	590 234 15
16	142 864 33	590 829 38
17	142 585 29	590, 719 25

	NORTH	EAST
TT-19	140 568 77	583 092 62
TT-20	143 850 57	584 522 72
TT-21	145 298 27	582 437 47
TT-22	146, 778 59	580 492 63
TT-23	147 650 98	580 486 84
TT-24	149 329 96	579 279 04
TT-25	149 253 6	578 384 69
TT-26	148 681 76	578 099 92

AUTOMATED EQUIPMENT USED

POSITIONING:	DEL NORTE
DATA PROCESSOR.	MINI RANGER MOTOROLA
PLOTTER:	HOUSTON INSTRUMENT
SONIC SOUNDER:	INNERSPACE
RHO THETA:	AZIMUTH TRACKER, TRANSIT

GRID SYSTEM BASED ON TRANSVERSE MERCATOR PROJECTION EAST ZONE 1927 NORTH AMERICAN DATUM

NOTE

WATER SURFACE AT DATE OF PHOTOGRAPHY = 572 81 FEET
LWD FOR LAKE ERIE = 568 6 FEET
SHORELINE ELEVATION = 572 81 FEET
PROJECT LIMITS EXTEND LAKEWARD TO THE AUTHORIZED CONTOUR

100 0 100 200
Scale Feet

E 585,000

LEGEND

The information depicted on this map represents results of surveys made on the dates indicated and can only be considered as indicating the general condition at the time.

GRID COORDINATES

Grids shown are based on National Geodetic Survey Projection Tables, Transverse Mercator East Zone, State of Michigan, 1927 North American Datum.

LOW WATER DATUM

All depths are referred to Low Water Datum 568.6 feet above Mean Water Level at Father Point, Quebec, I.G.L.D. 1955.

DIRECTIONS

All directions are grid azimuths referred to north zero.

PROJECT DEPTHS

Project depths for this area are as indicated above 21.0 FT. The automated electronic survey was conducted APRIL 1988 ,by M. Aurelio Party Chief aboard the survey launch Ottawa.

AIDS TO NAVIGATION

Buoys reflect positions surveyed on APRIL 1988.

For additional information consult current coast guard light list.

E 585,000

E 586,000

40+00

BM-WL 103
575.127

PRELIMINARY

NO	DATE	REVISION	BY

U. S ARMY ENGINEER DISTRICT, DETROIT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

DRAWN BY
TRACED BY
CHECKED BY
REVIEWED

MONROE HARBOR MICHIGAN

CONDITION OF CHANNEL APRIL 21 -

DETROIT AREA OFFICE

RECEIVED 1988
AUG 16 1988

SUBMITTED
- CHIEF, PROJ OPNS SEC.

APPROVAL RECOMMENDED
CHIEF, OPER & MAINT BR.

JOHNSON & ANDERSON, INC.
DATE- Consulting Engineers

APPROVED
CHIEF, CONT-OPNS DIVISION

SCALE 1" = 100'

SHEET 1 of 5

DRAWING NUMBER
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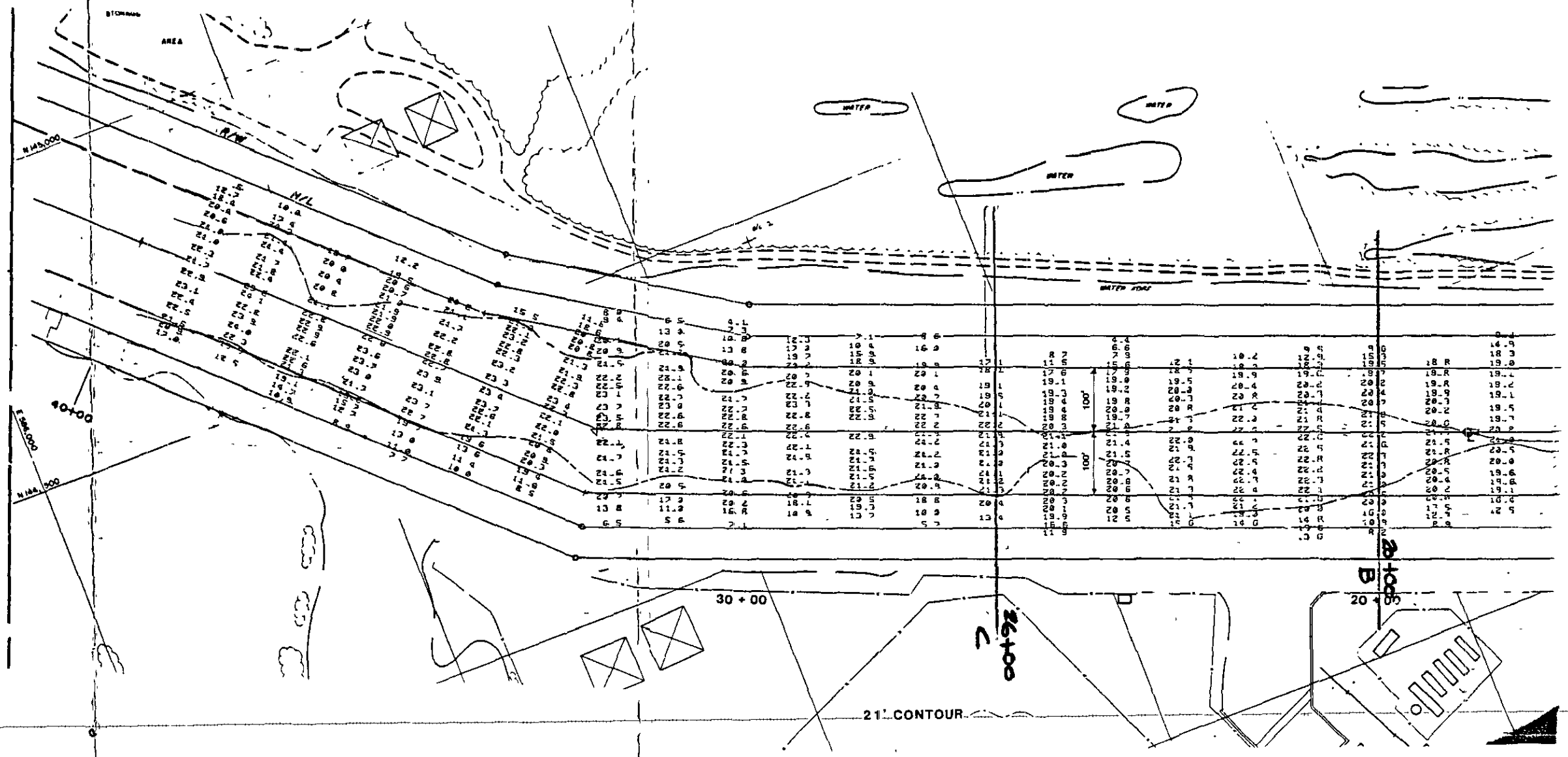
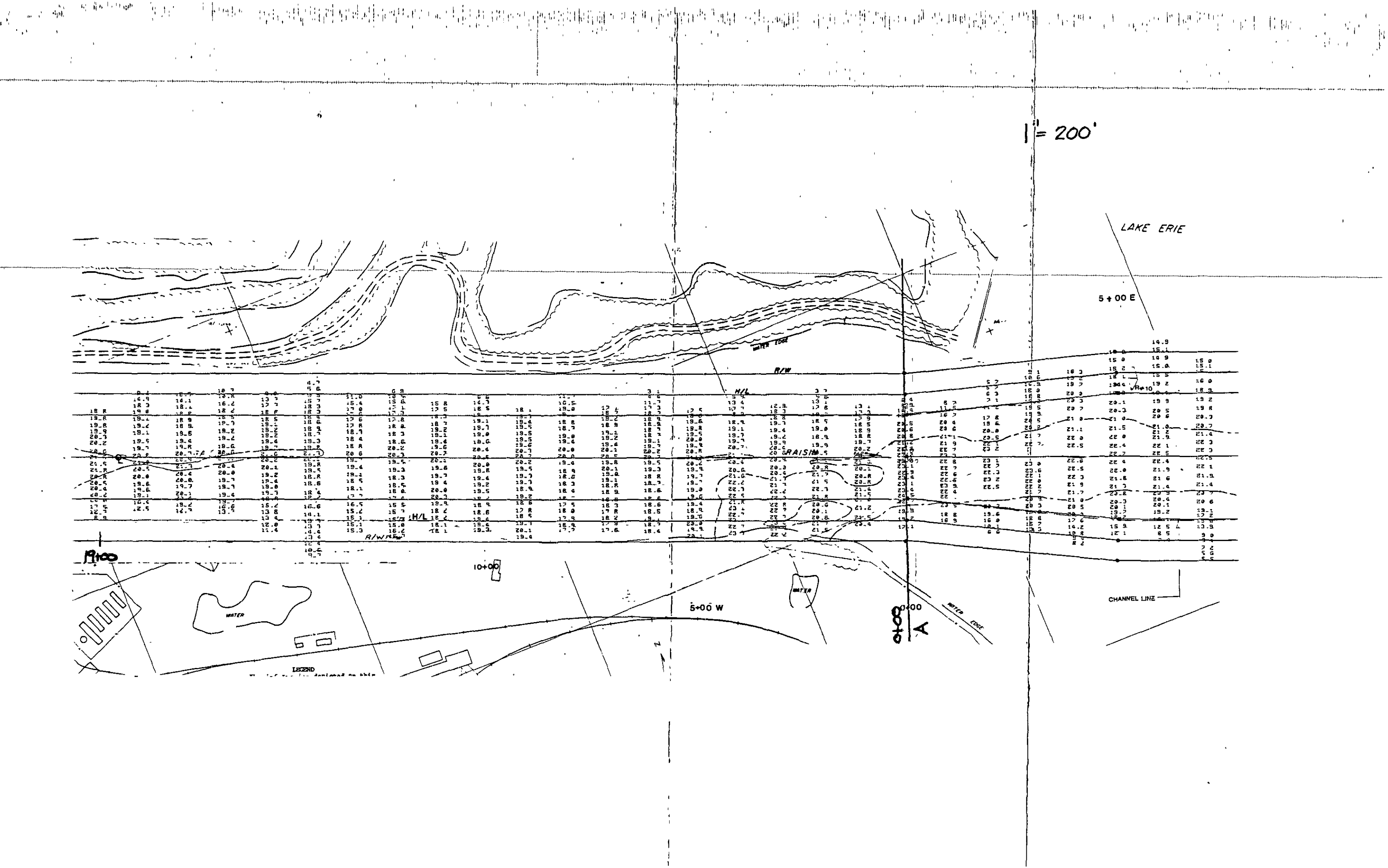
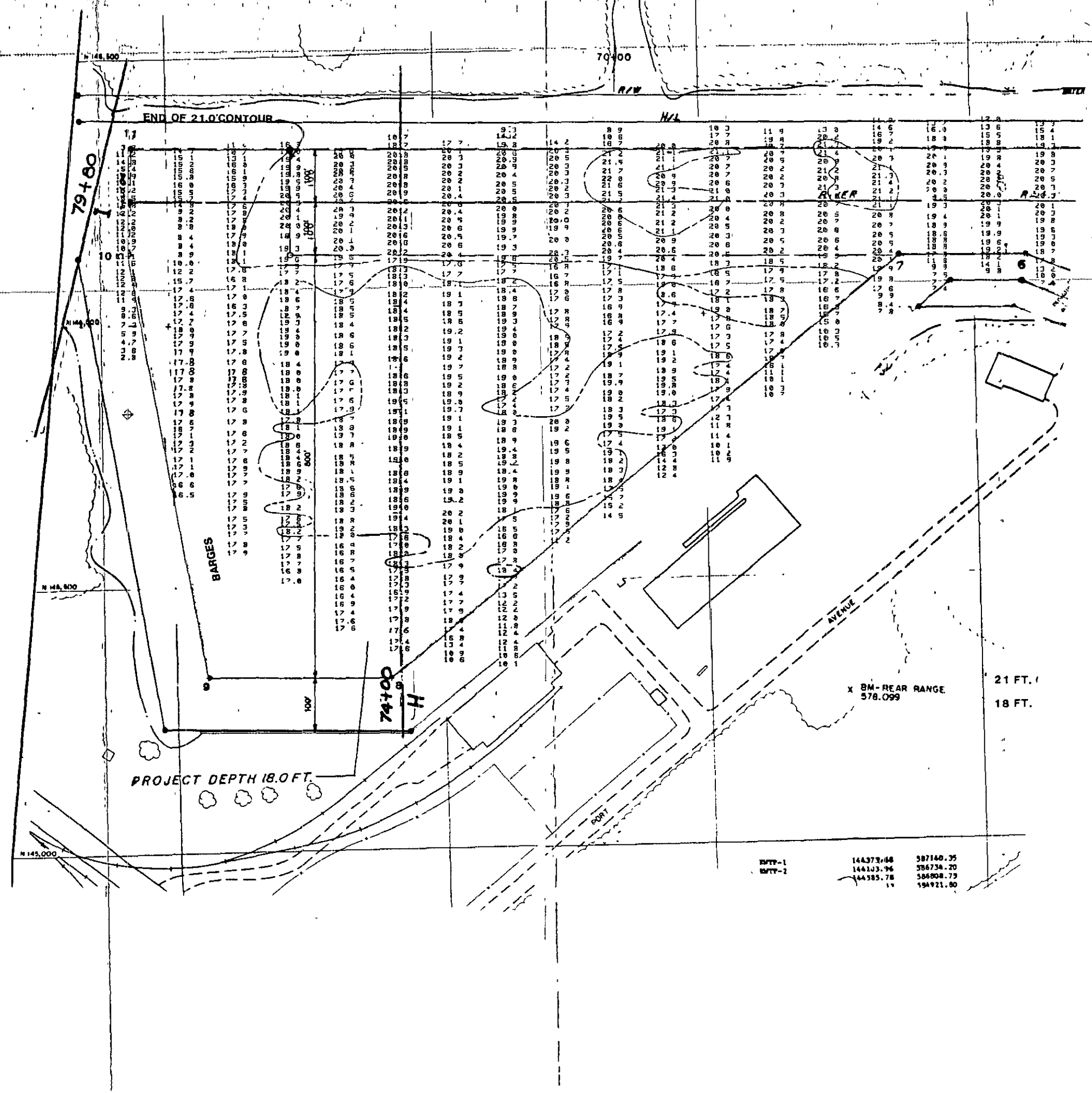
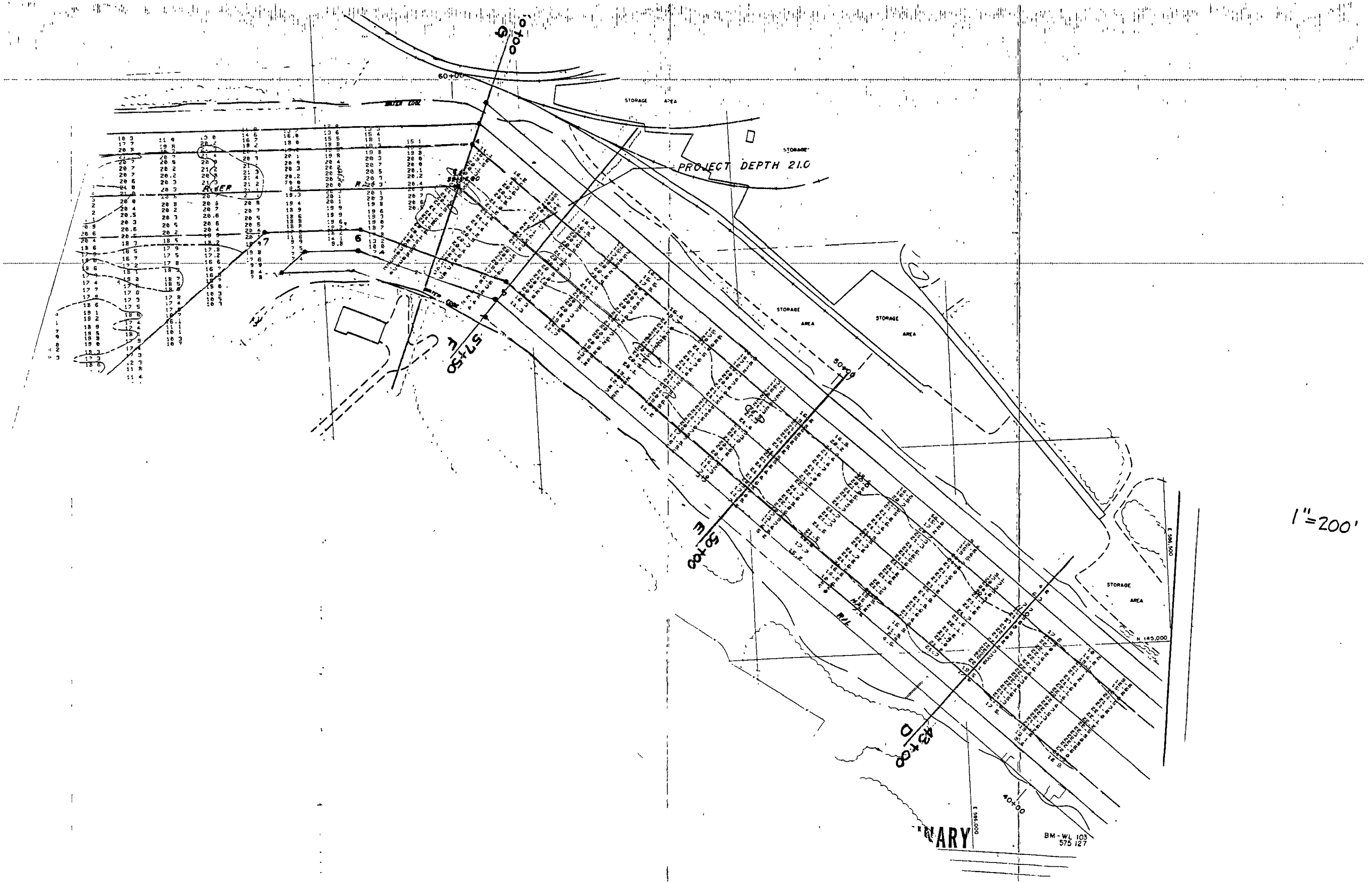

STORAGE AREA
R/W
N/L
N145,000
E586,000
N144,500
40+00
30 + 00
20 + 00
WATER
WATER
WATER
WATER STAT
B
C
21' CONTOUR



1" = 200'
LAKE ERIE
5+00 E
WATER EDGE
R/W
H/L
RAISIN
19+00
10+00
5+00 W
0+00
A
WATER
CHANNEL LINE
LEGEND



70+00
R/W
H/L
END OF 21.0'CONTOUR
79+80
74+00
BARGES
PROJECT DEPTH 18.0 FT.
AVENUE
PORT
BM-REAR RANGE
578.099
21 FT.
18 FT.
N 146,500
N 146,000
N 145,500
N 145,000



PROJECT DEPTH 21.0
STORAGE AREA
STORAGE
STORAGE AREA
STORAGE AREA
STORAGE AREA
60+00
50+00
40+00
57+50
50+00
43+00
E 586,500
N 145,000
E 586,000
BM-WL 103
575 127
1"=200'

9-21 LE
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

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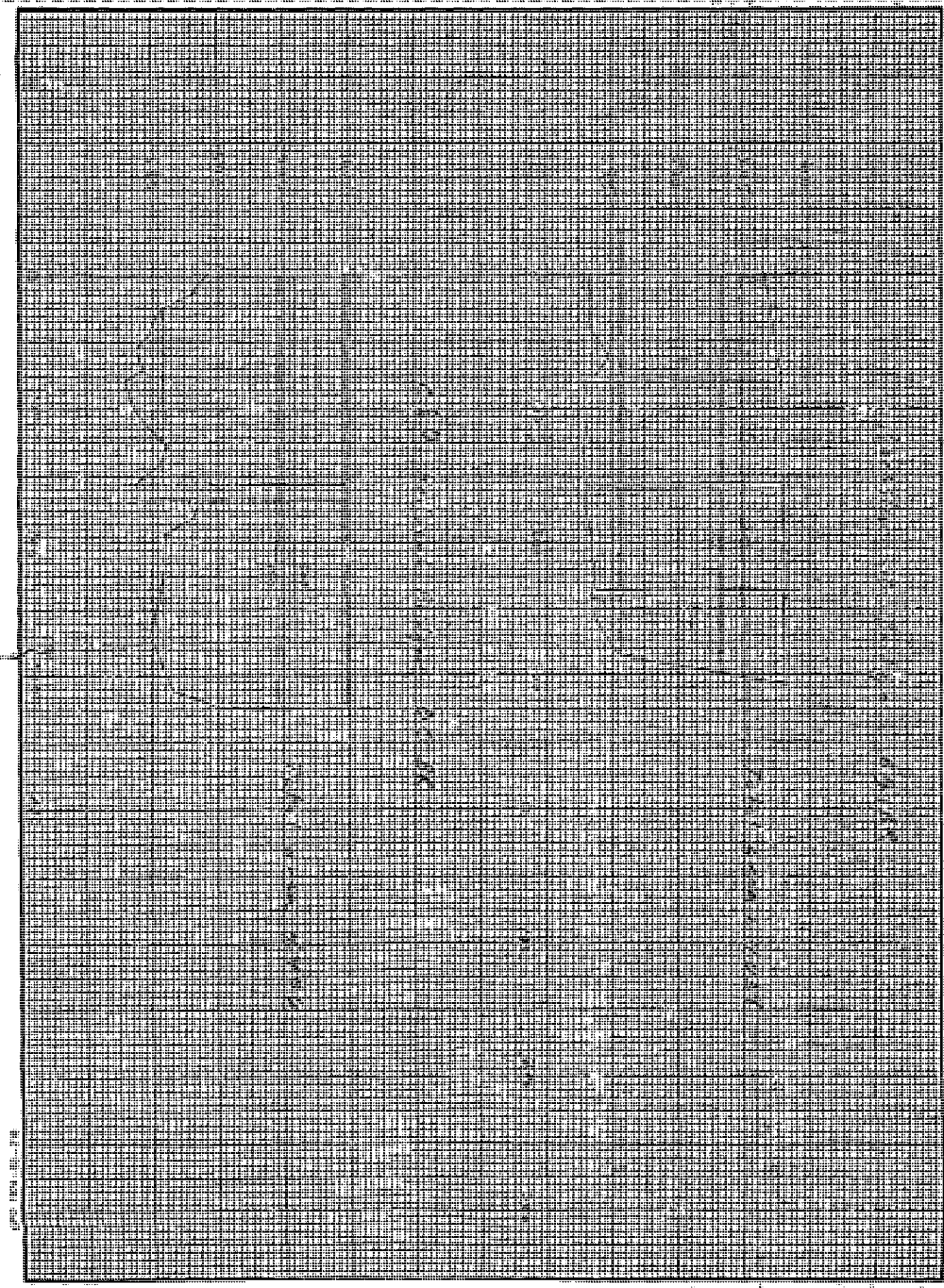

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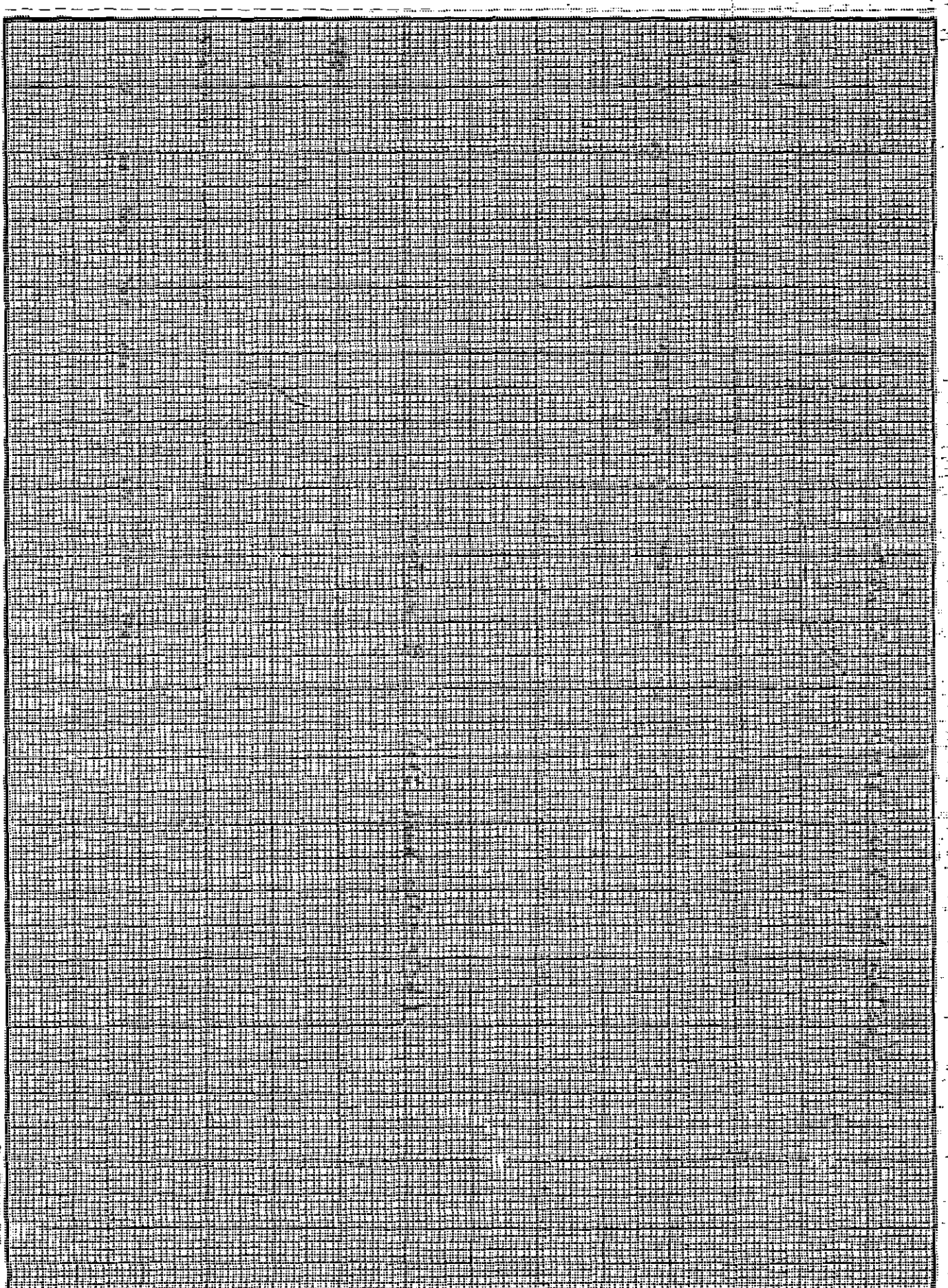

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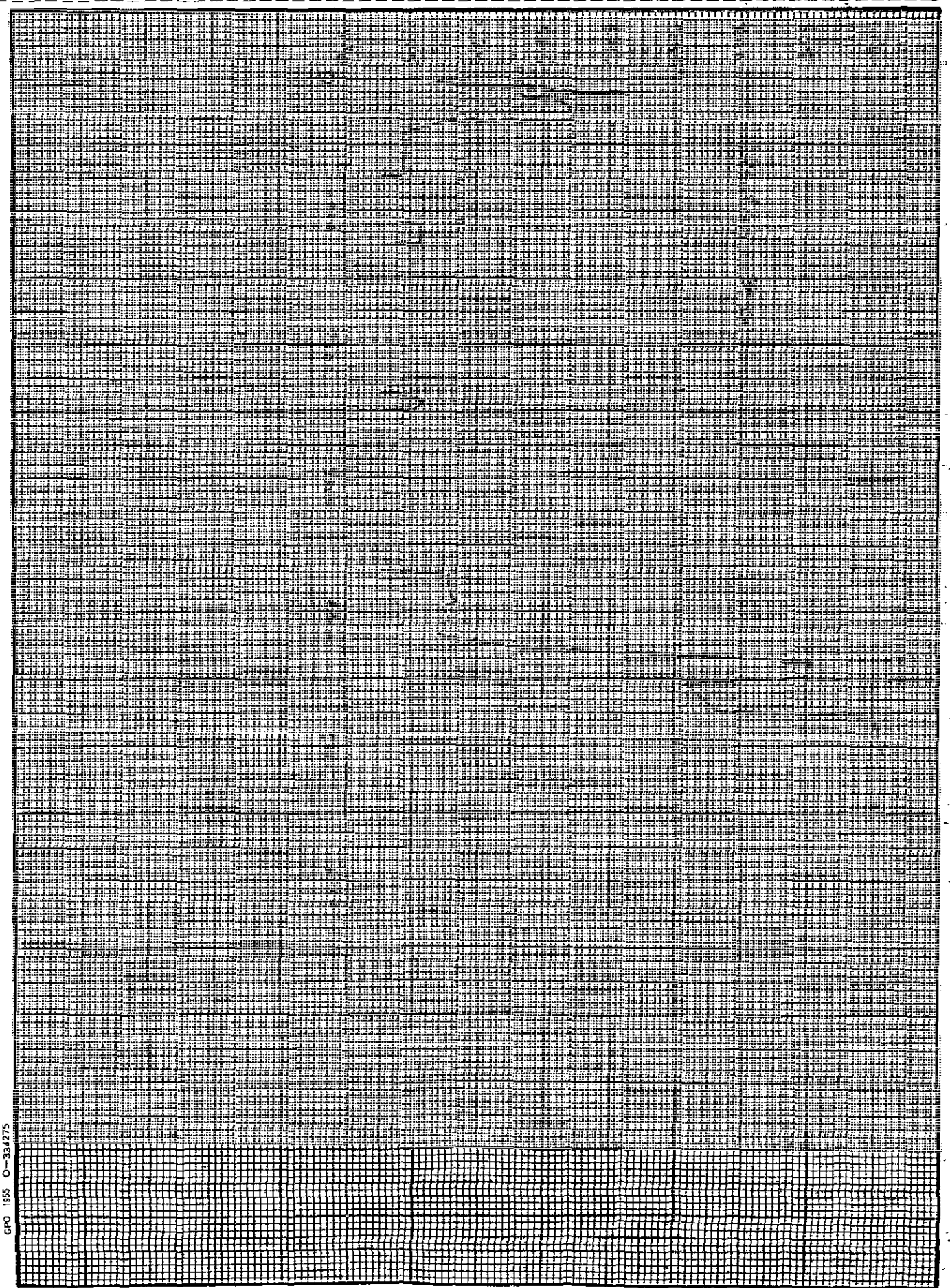
River Raisin



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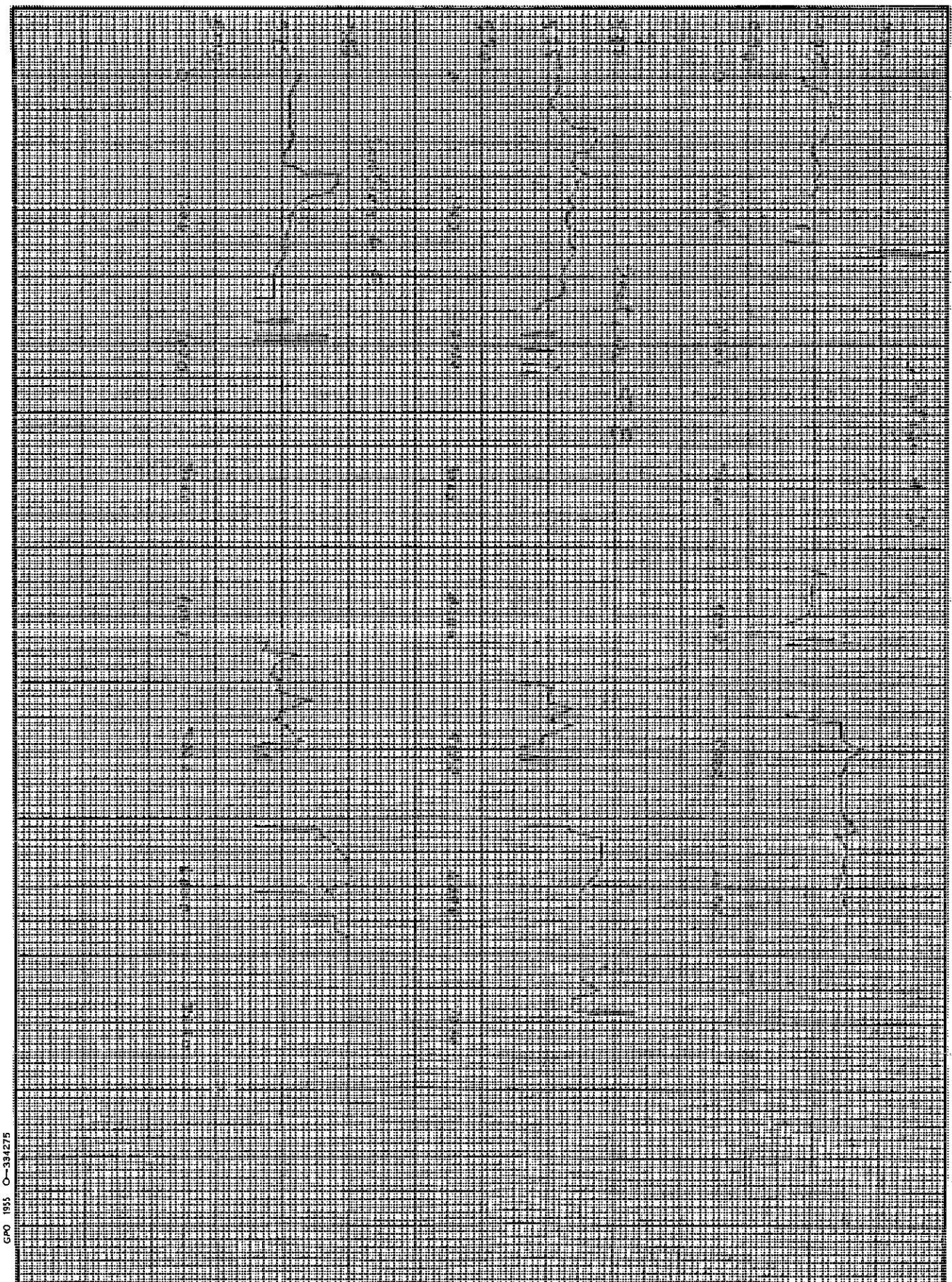

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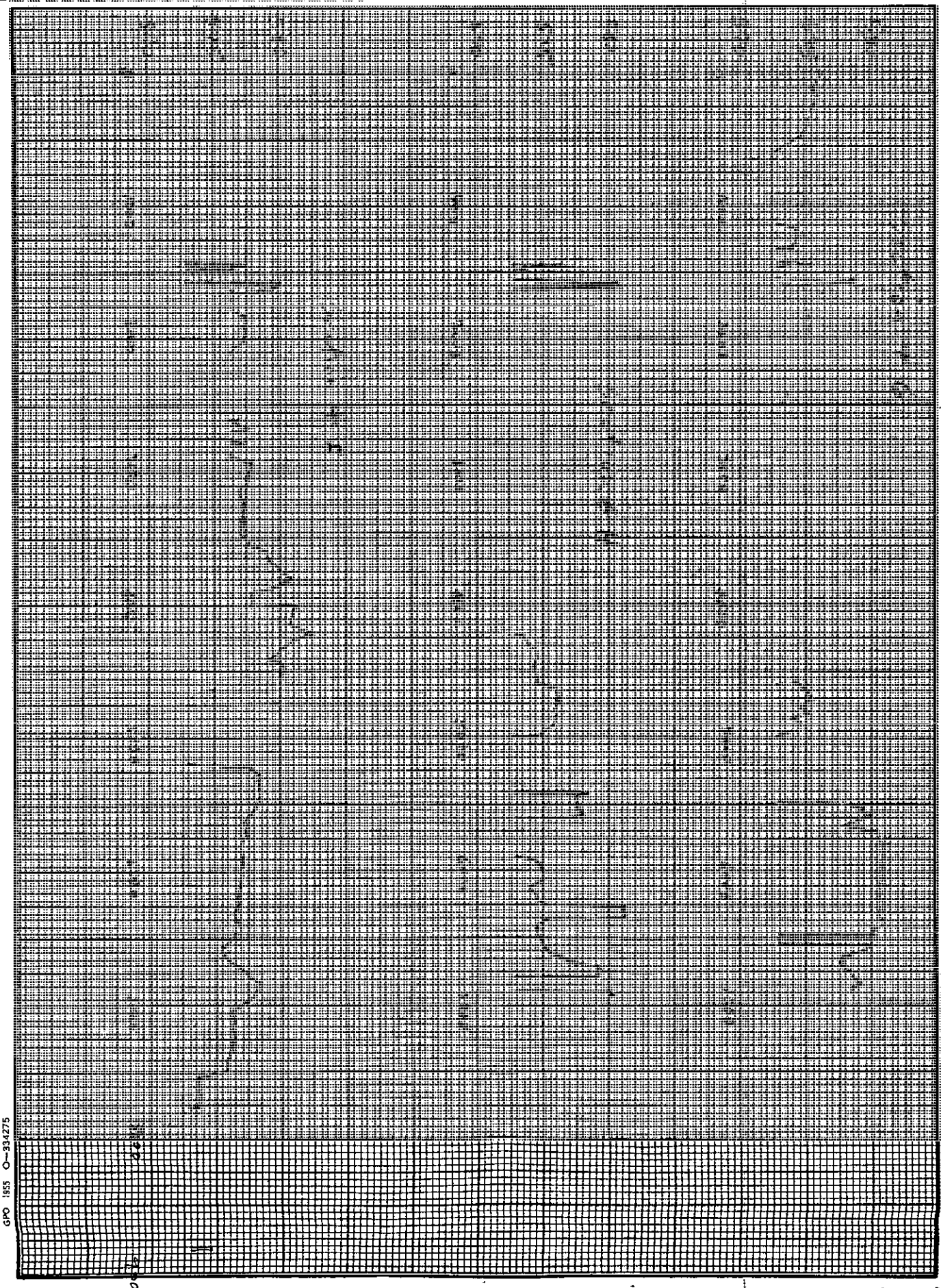

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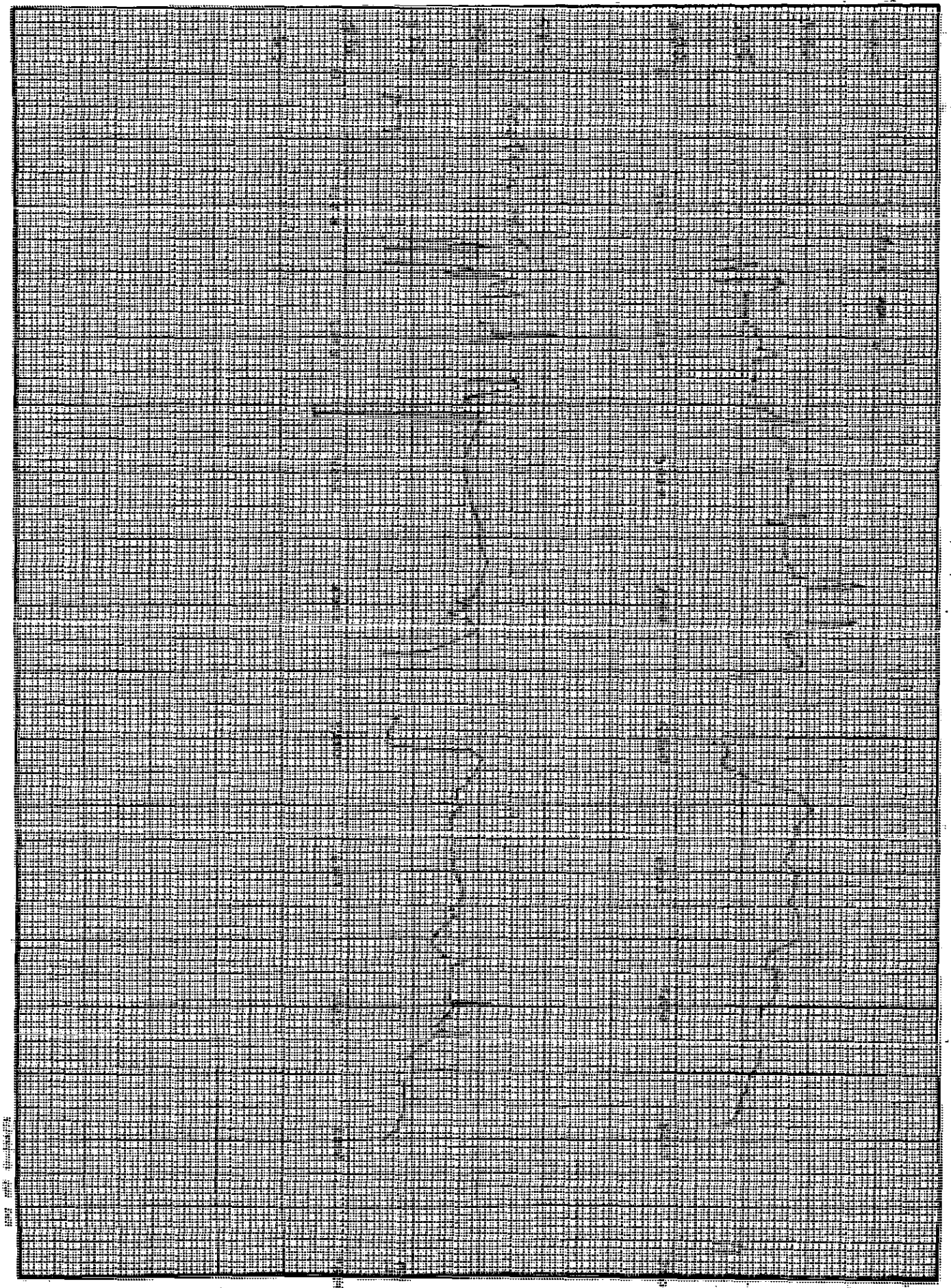

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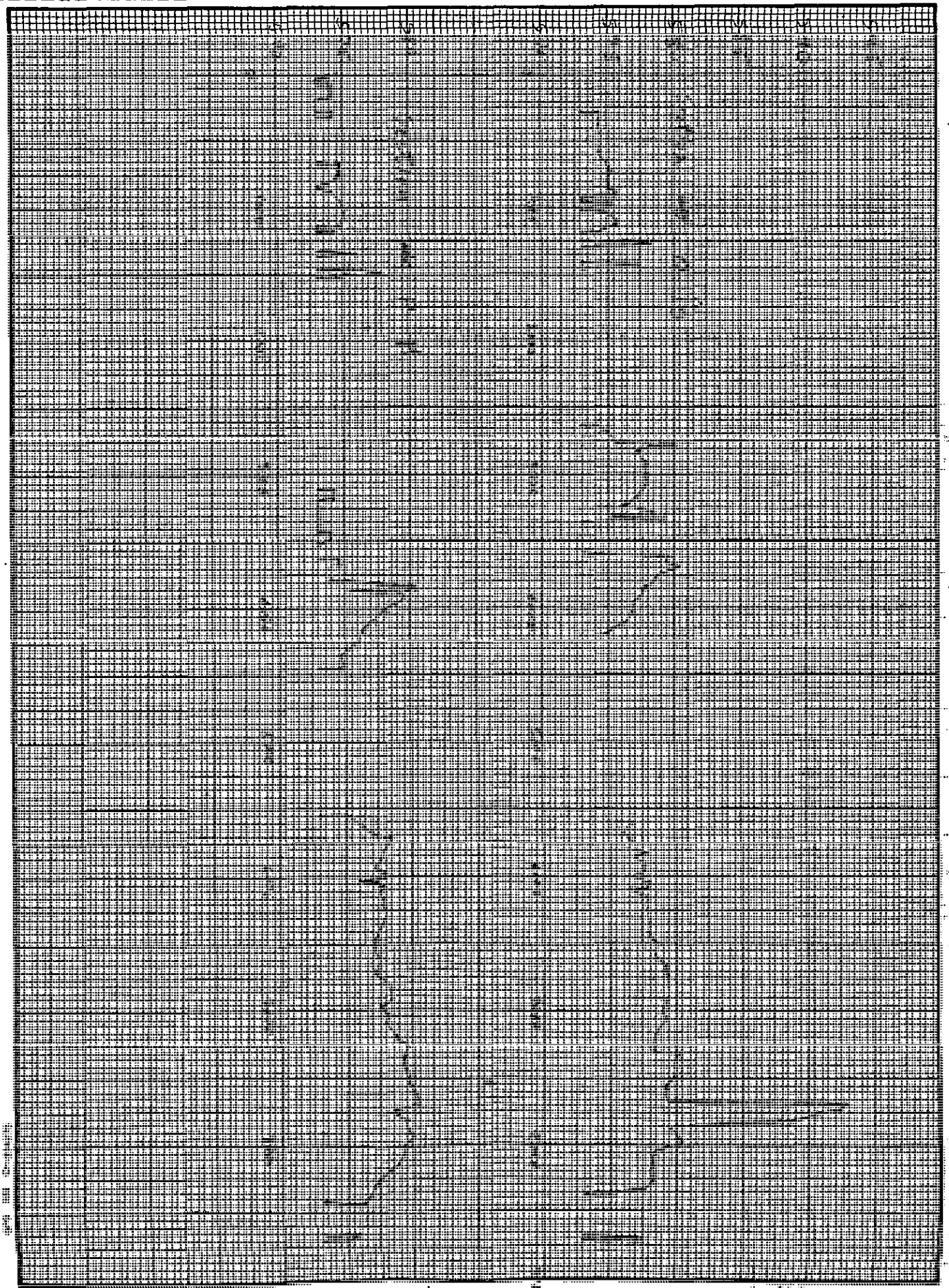

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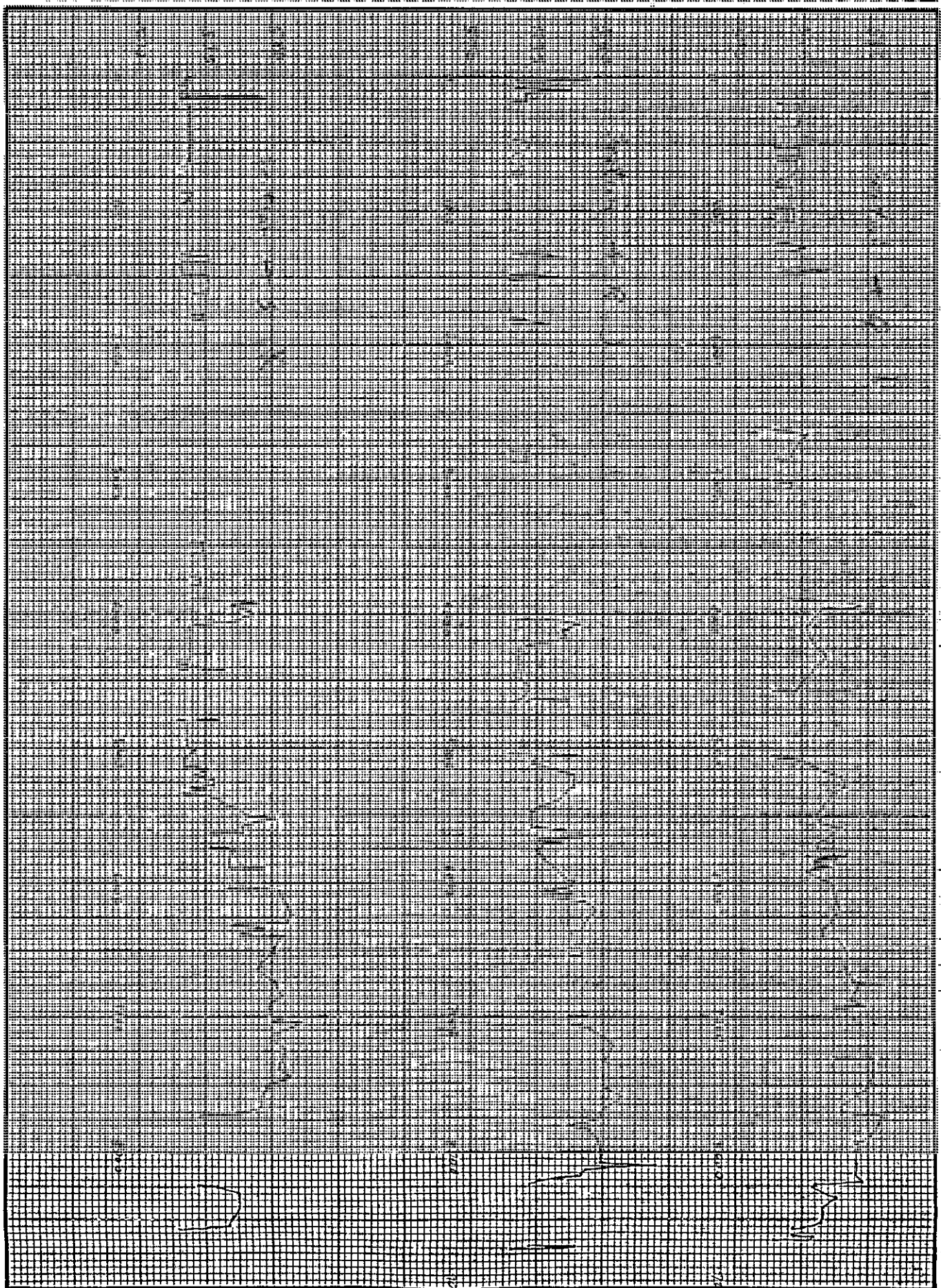

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(March 1949)
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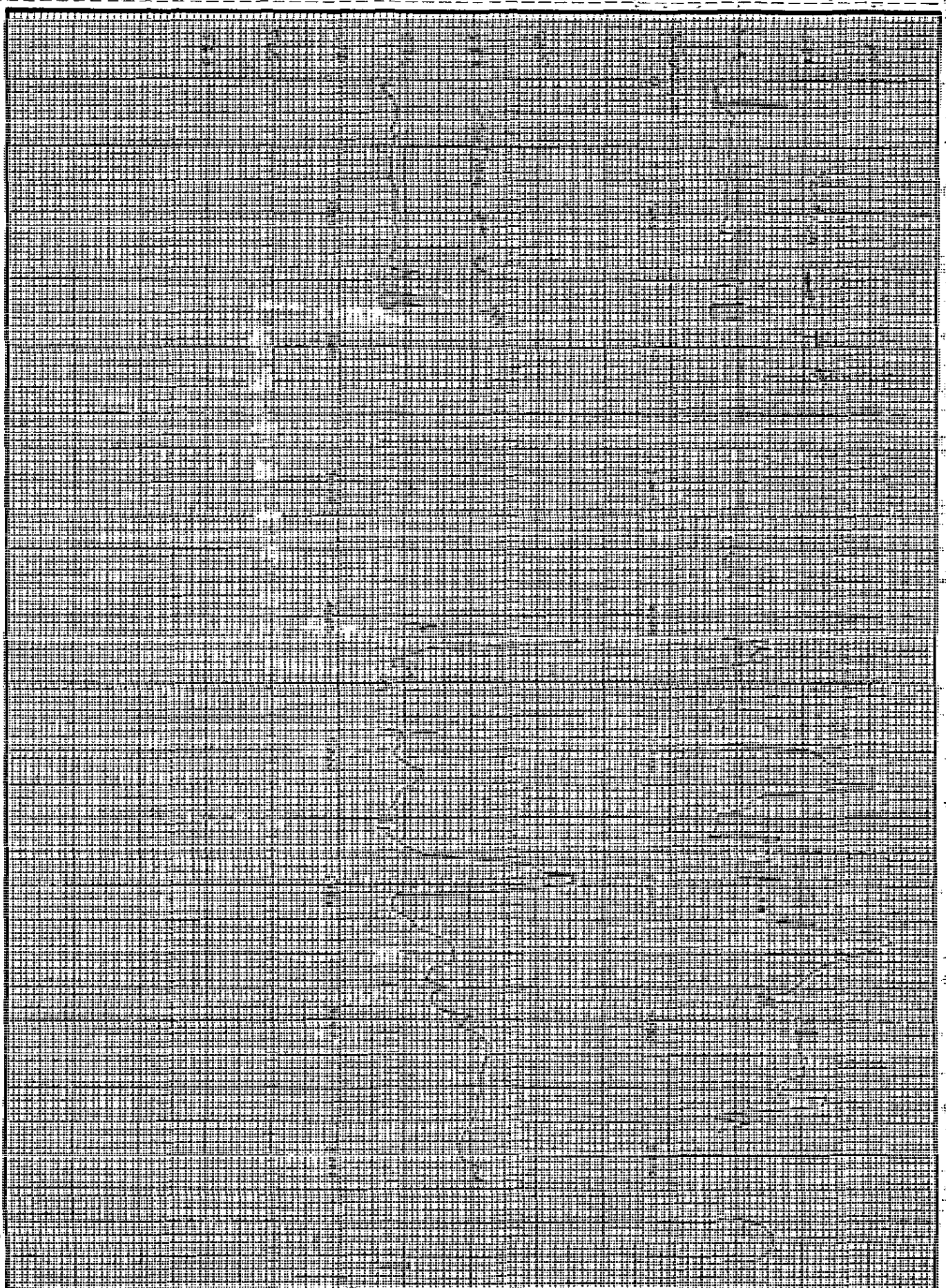
WATER RESOURCES DIVISION

File

River Raisin



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(March 1949)
Cross-Section

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WATER RESOURCES DIVISION

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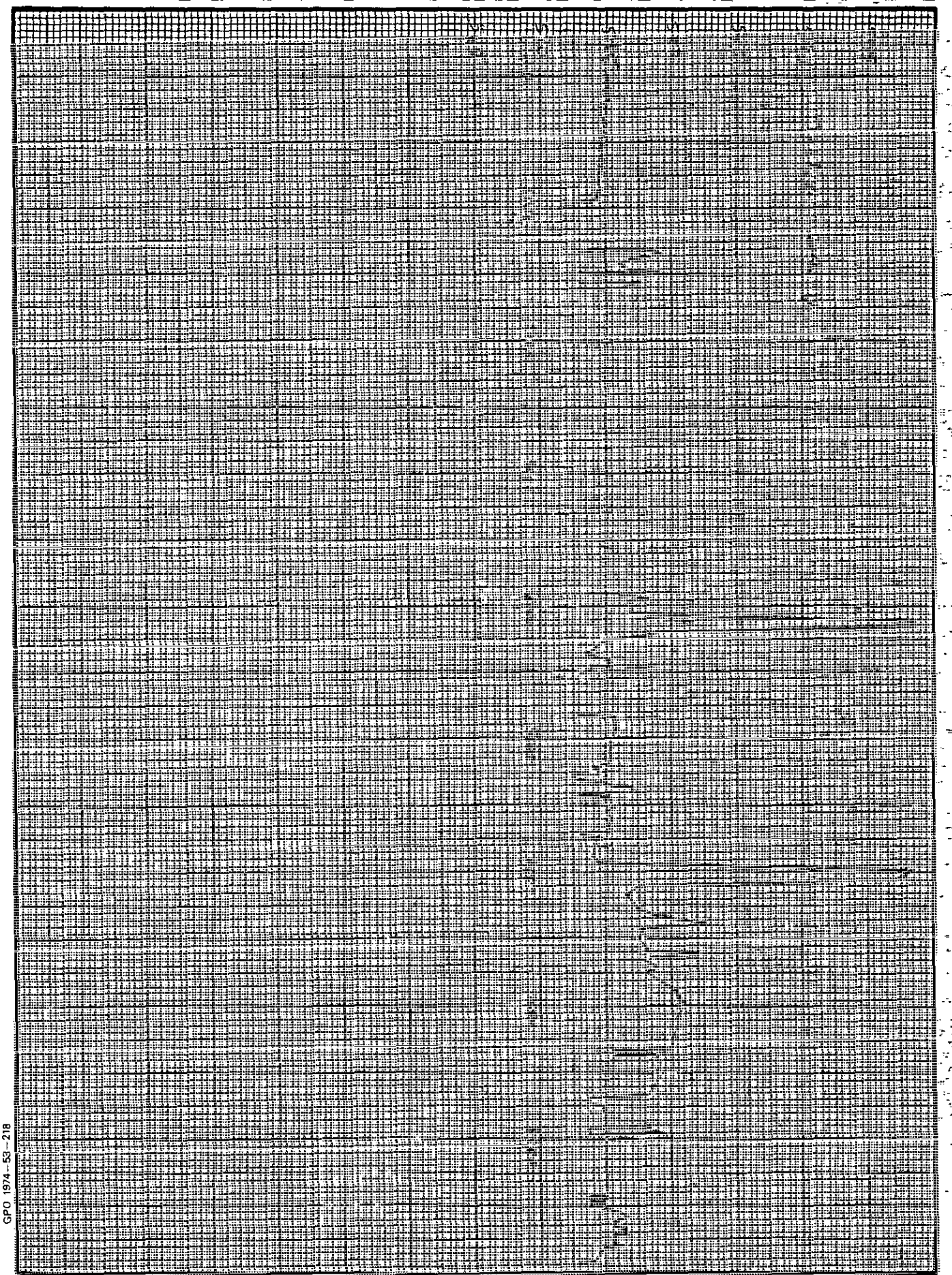
River Raisin



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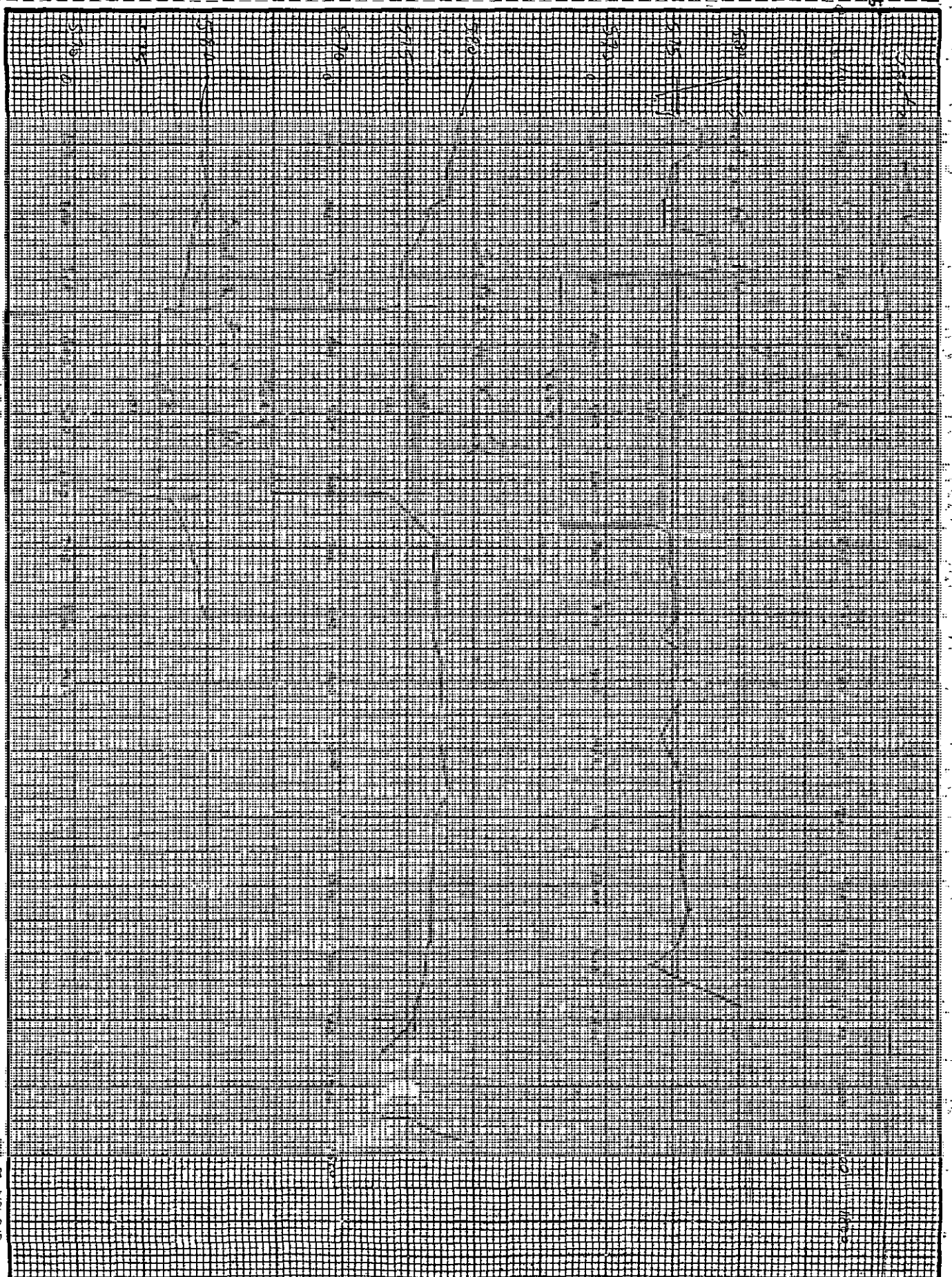
WATER RESOURCES DIVISION

File

River Raisin



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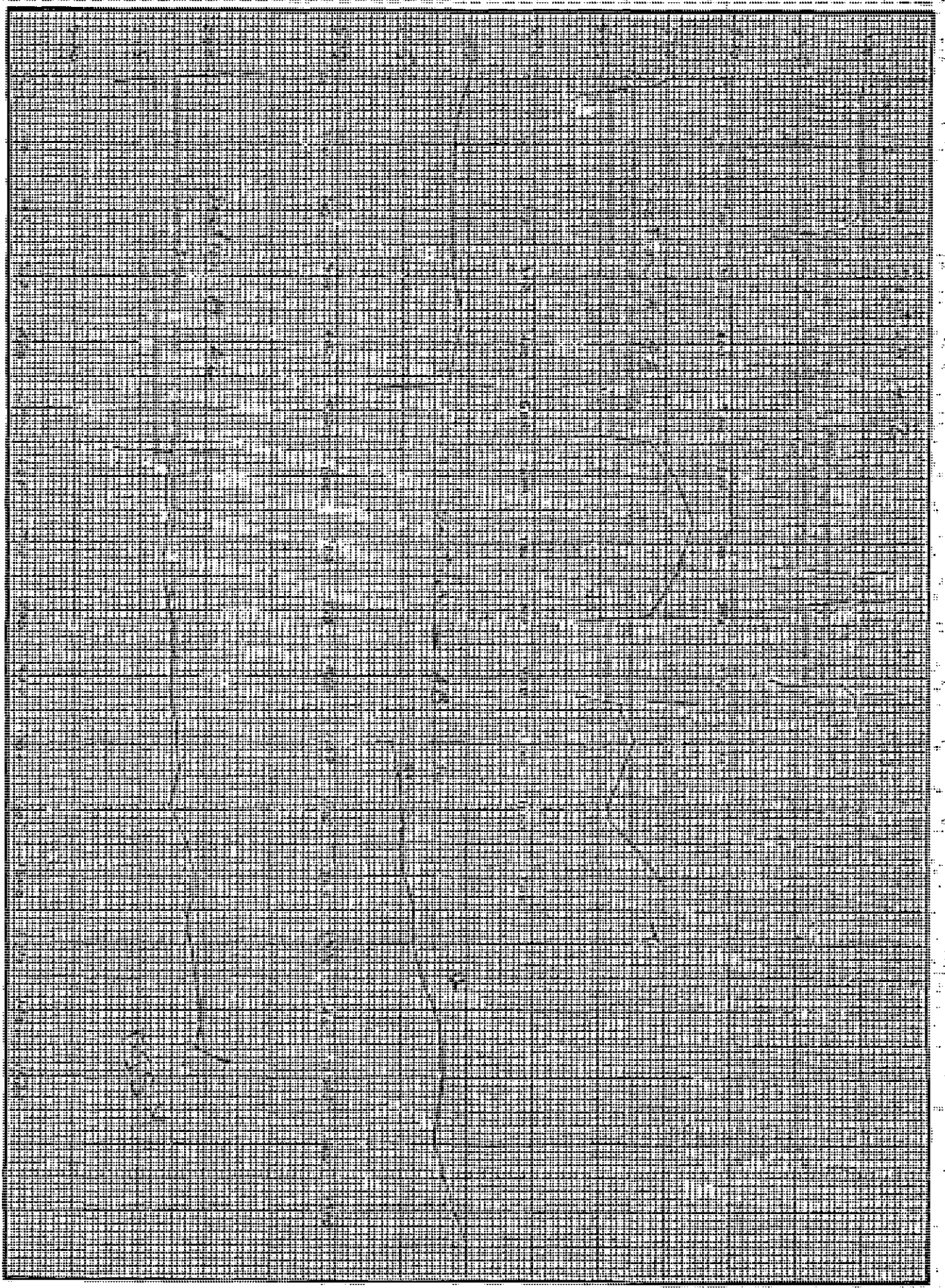
File .....

River Raisin



GPO 1974 – 53 – 218

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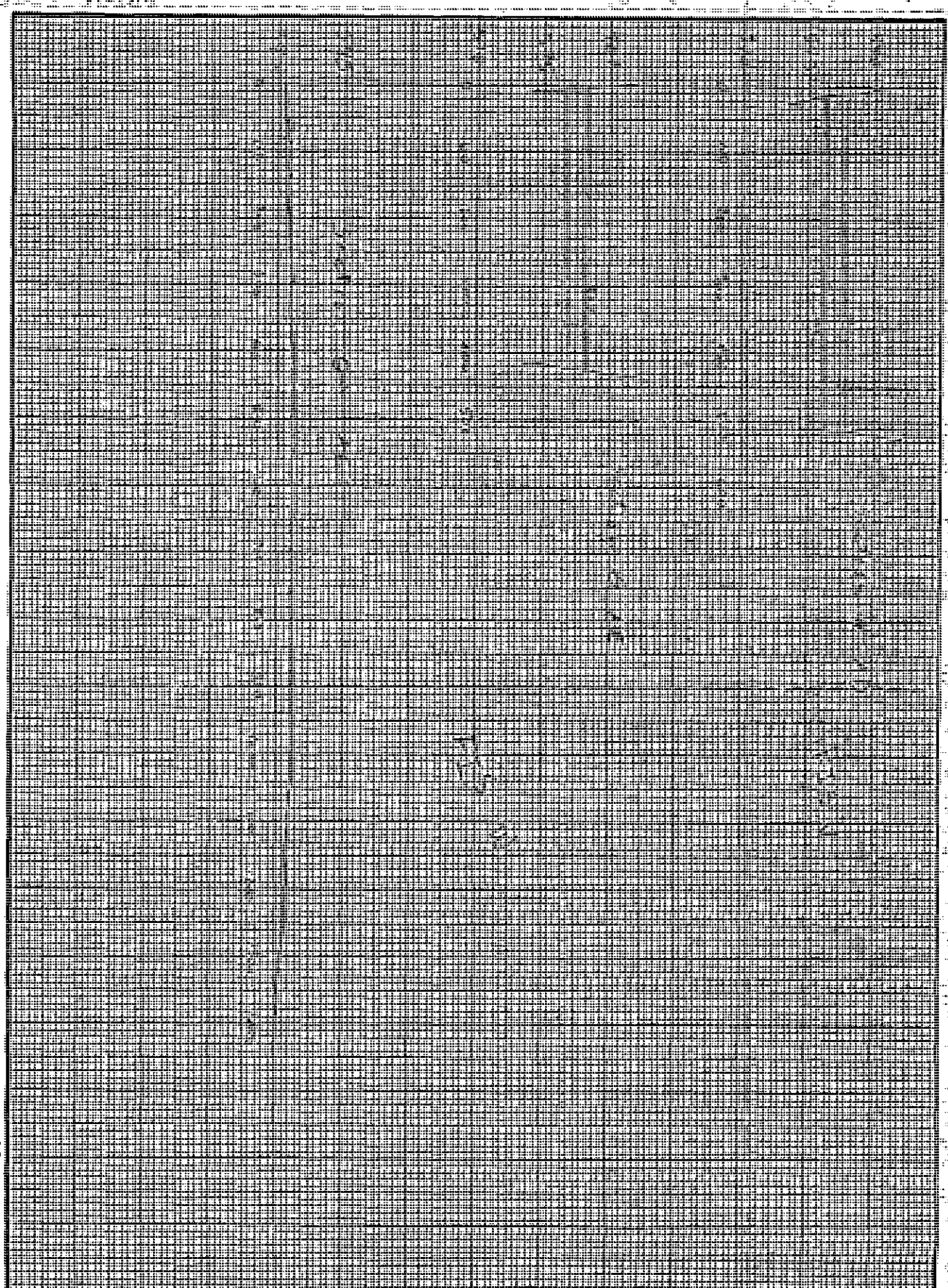
9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

WATER RESOURCES DIVISION



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GPO 1974-53-218

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(March 1949)
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UNITED STATES DEPARTMENT OF THE INTERIOR
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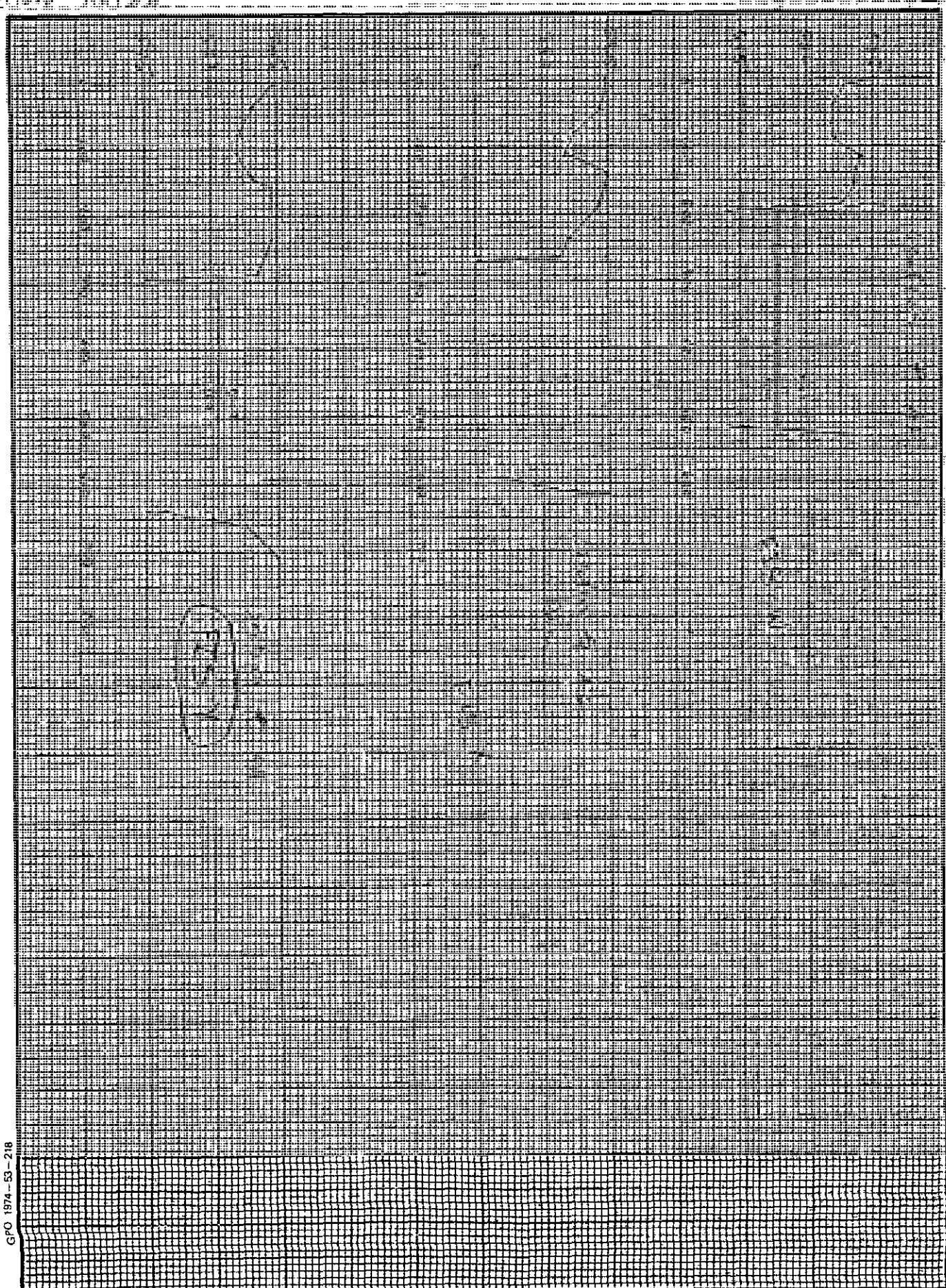
WATER RESOURCES DIVISION

File



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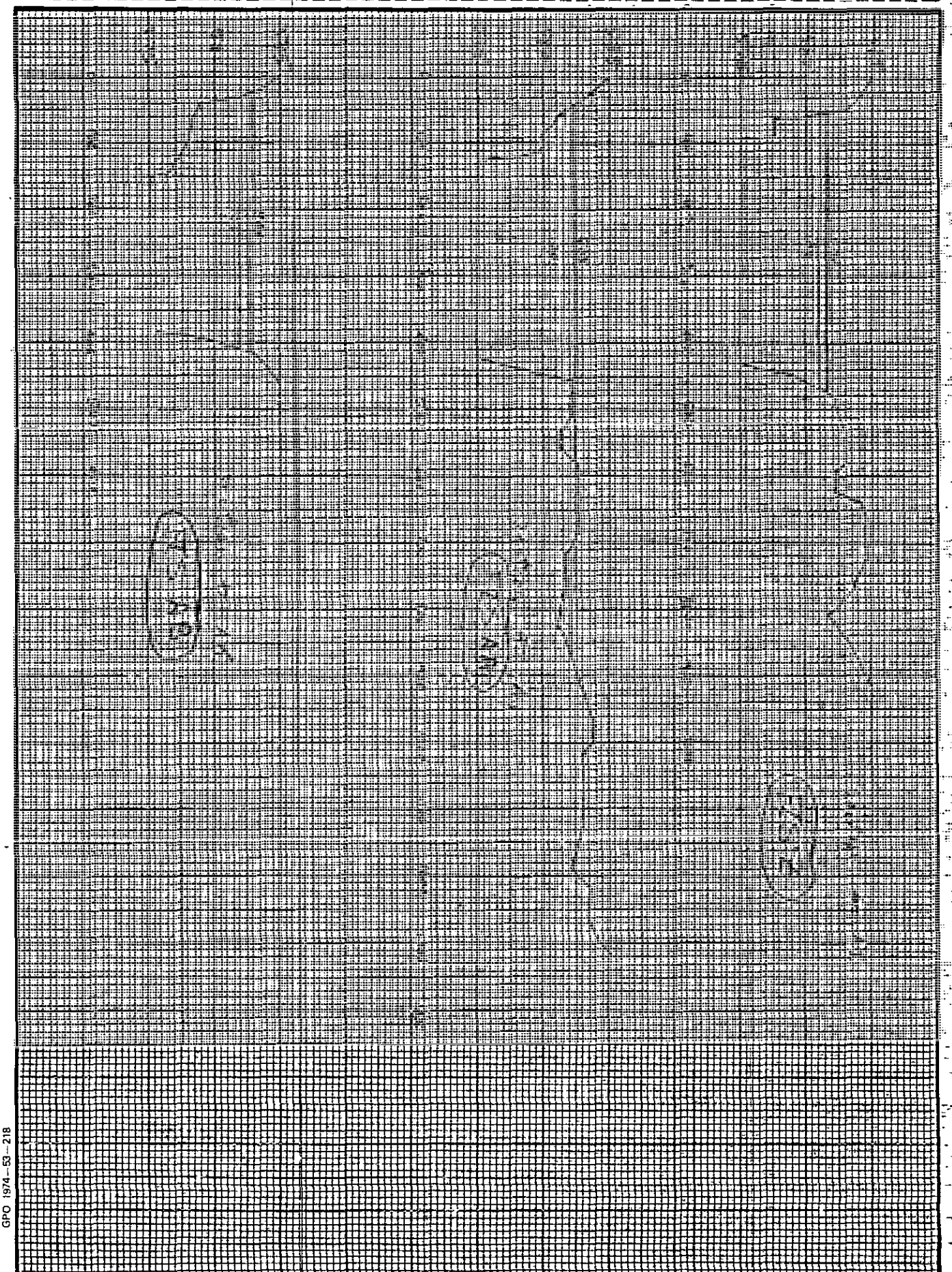
9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File

River Raisin



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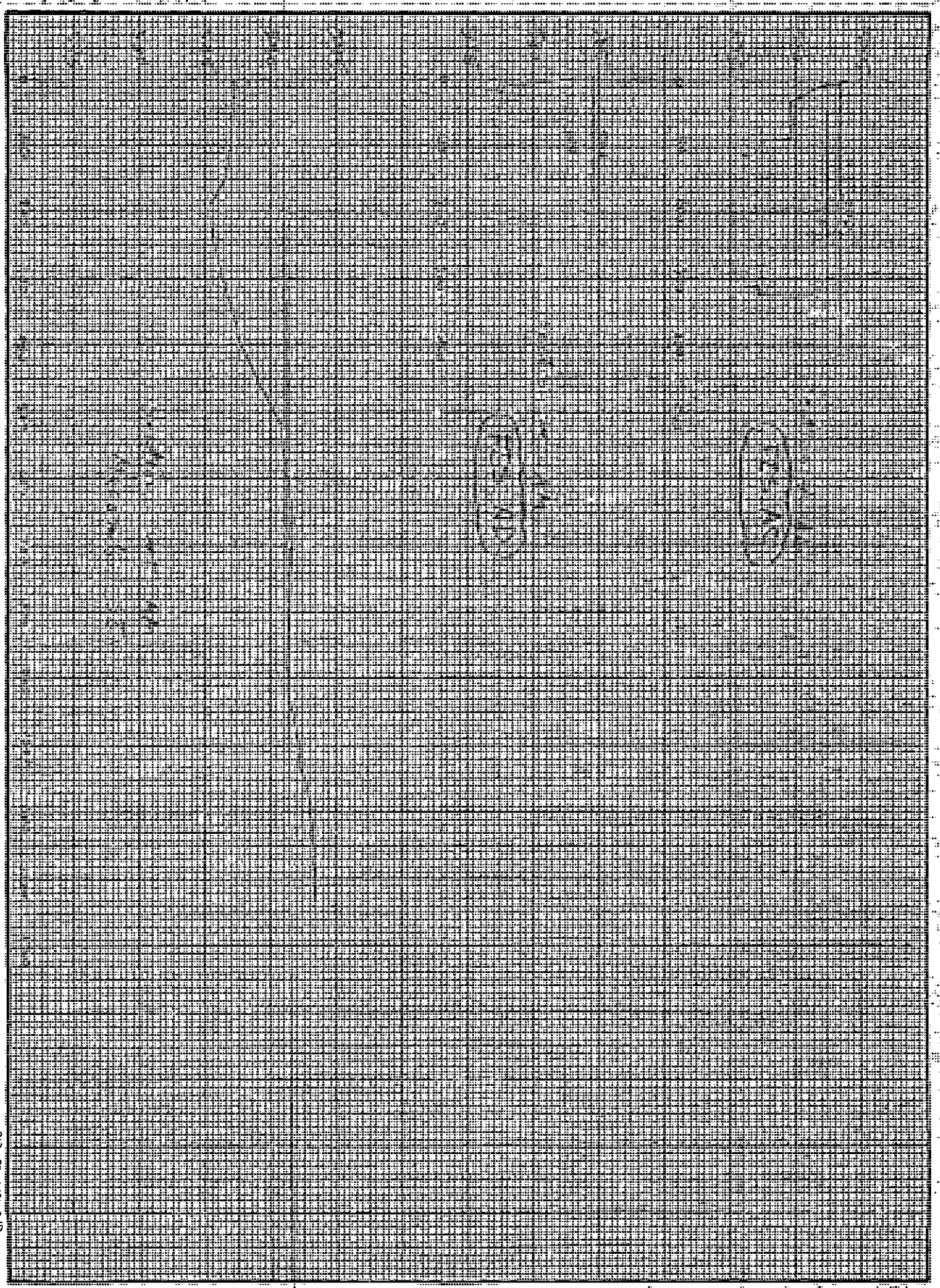
(March 1948
Cross-Sect...

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File

Rio Puerco



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(March 1949)
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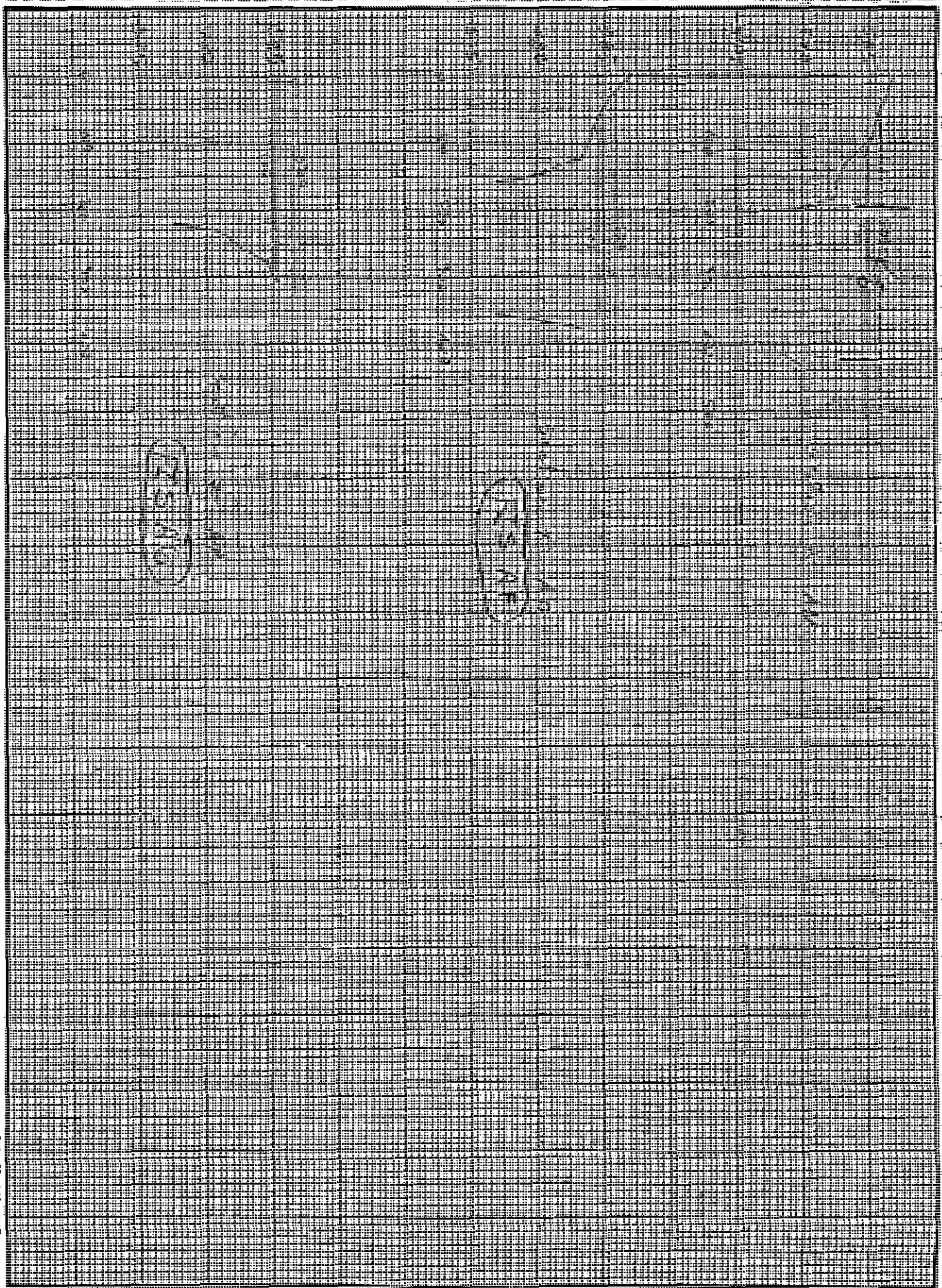
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

River Raisin



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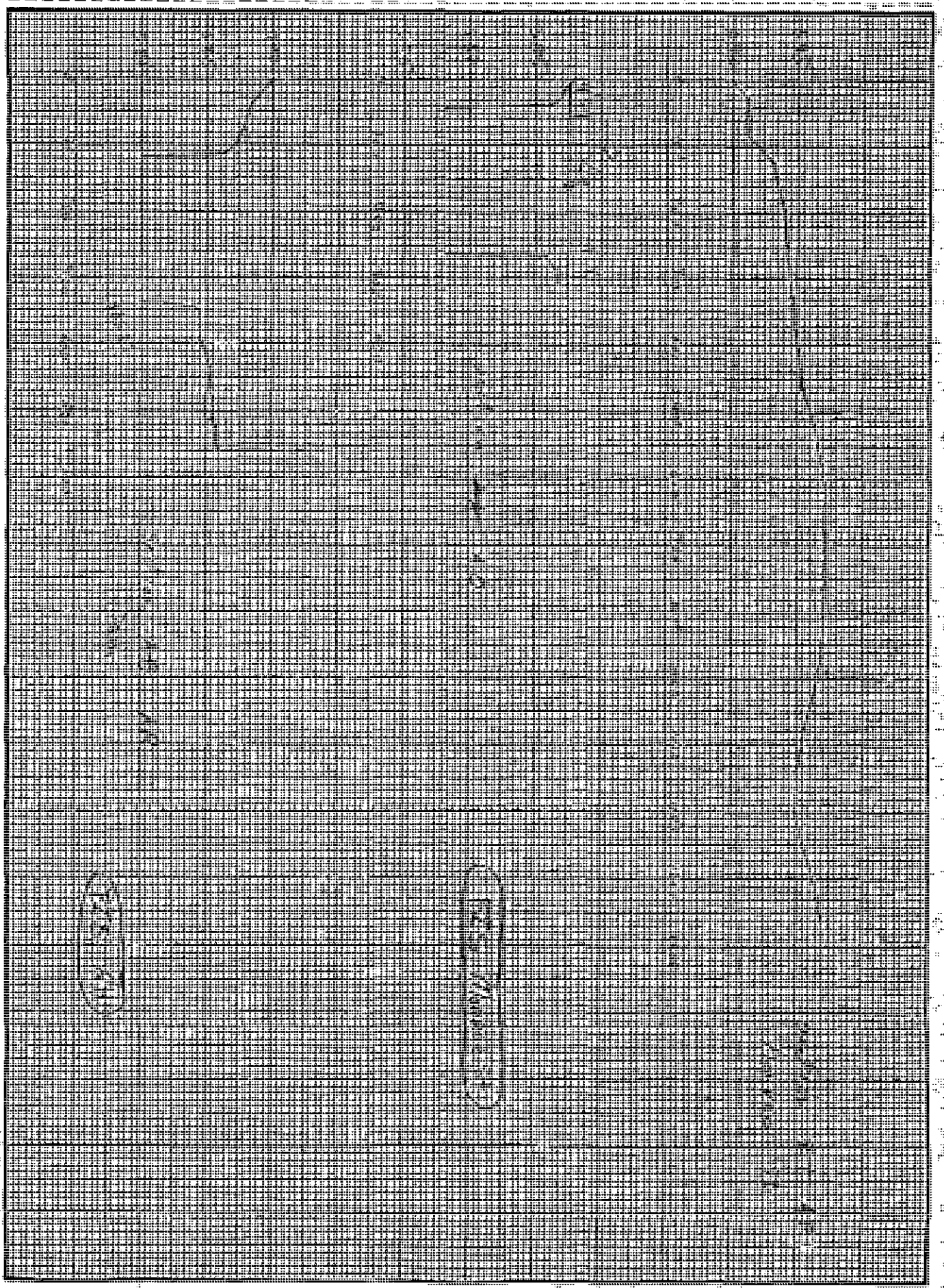
9-213-E
(March 1949)
Cross-Section

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File

River Basin



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(March 1949)
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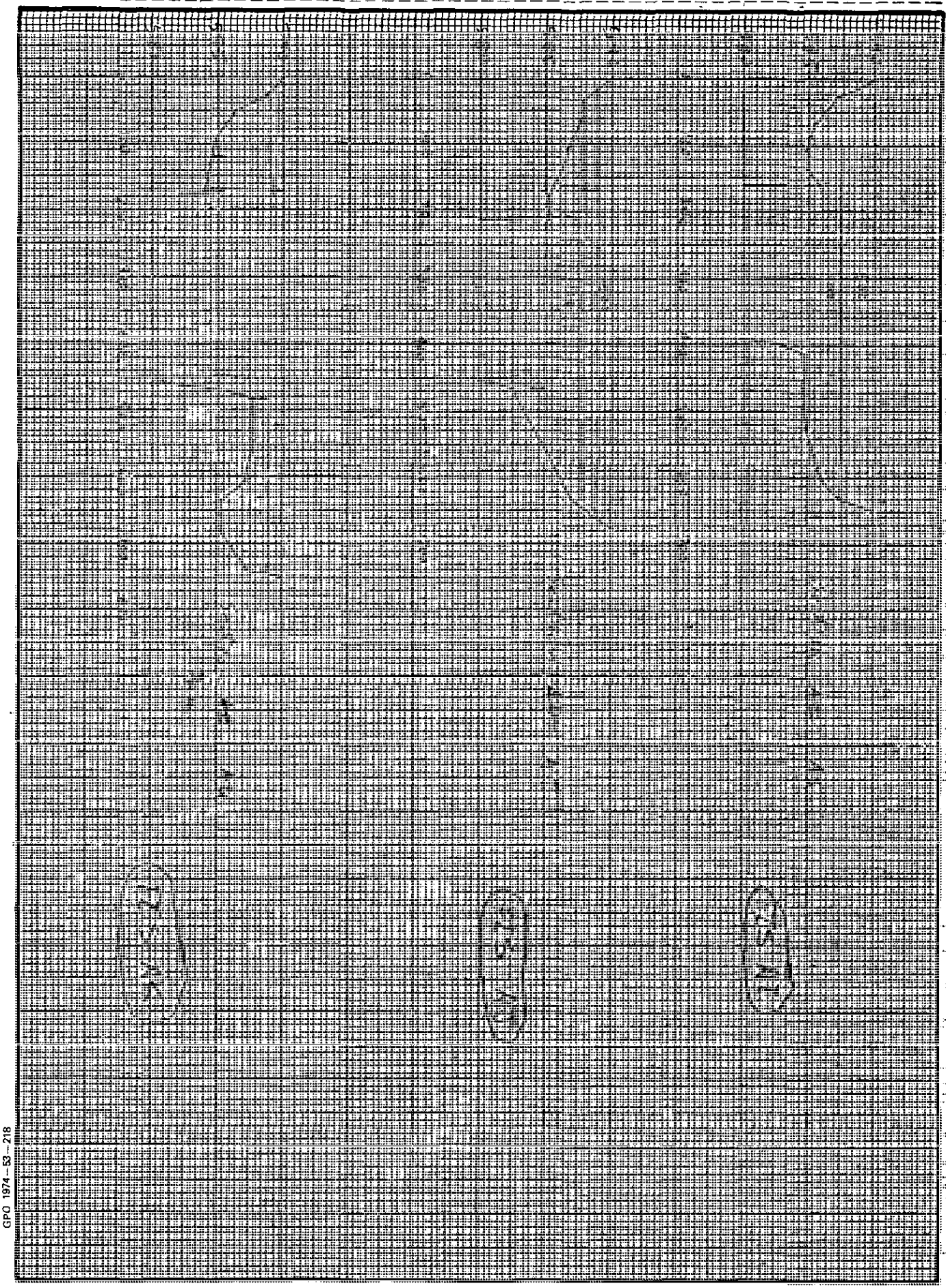
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....

River Raisin



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(March 1949)
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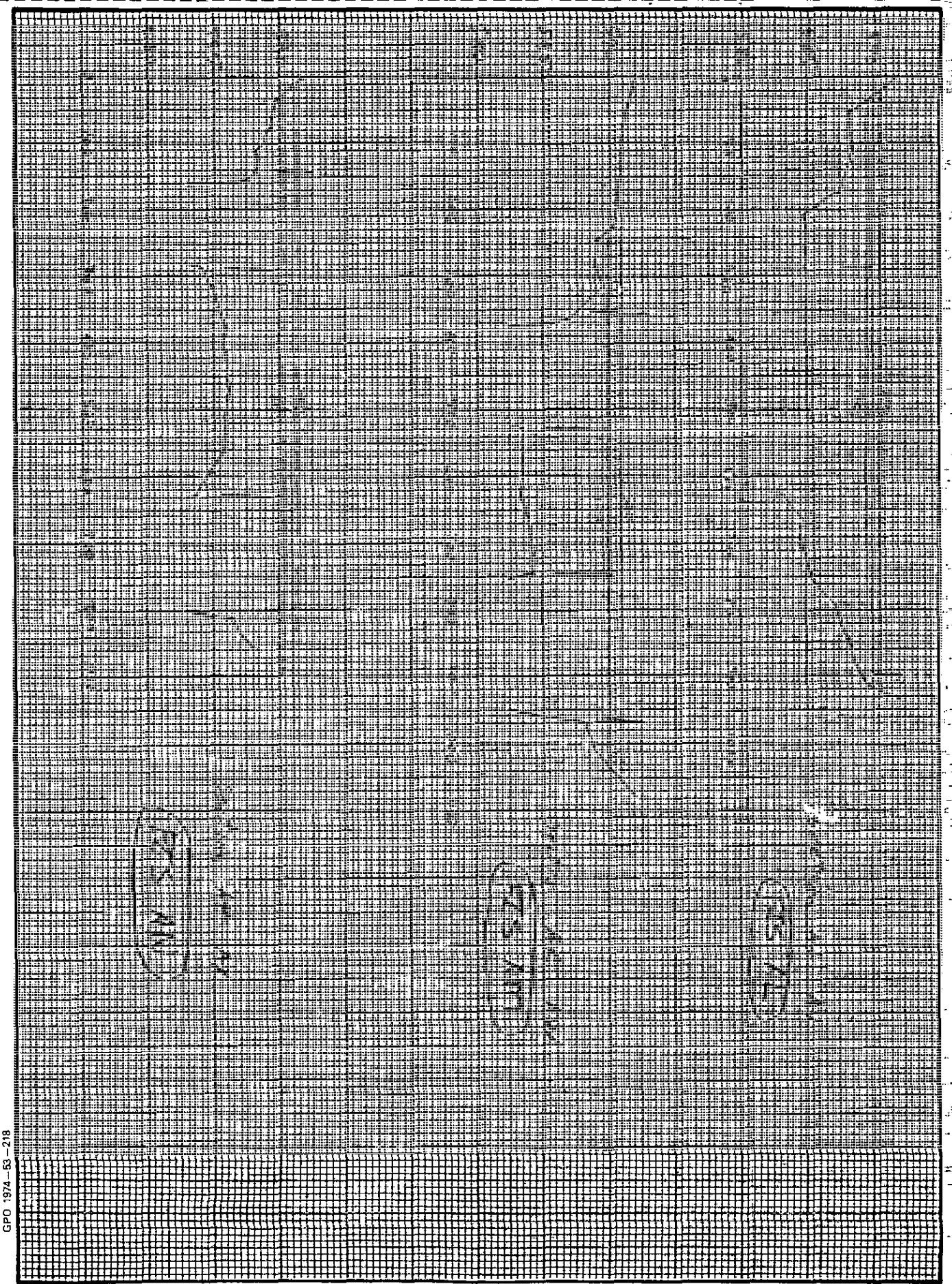
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File .....

River Raisin



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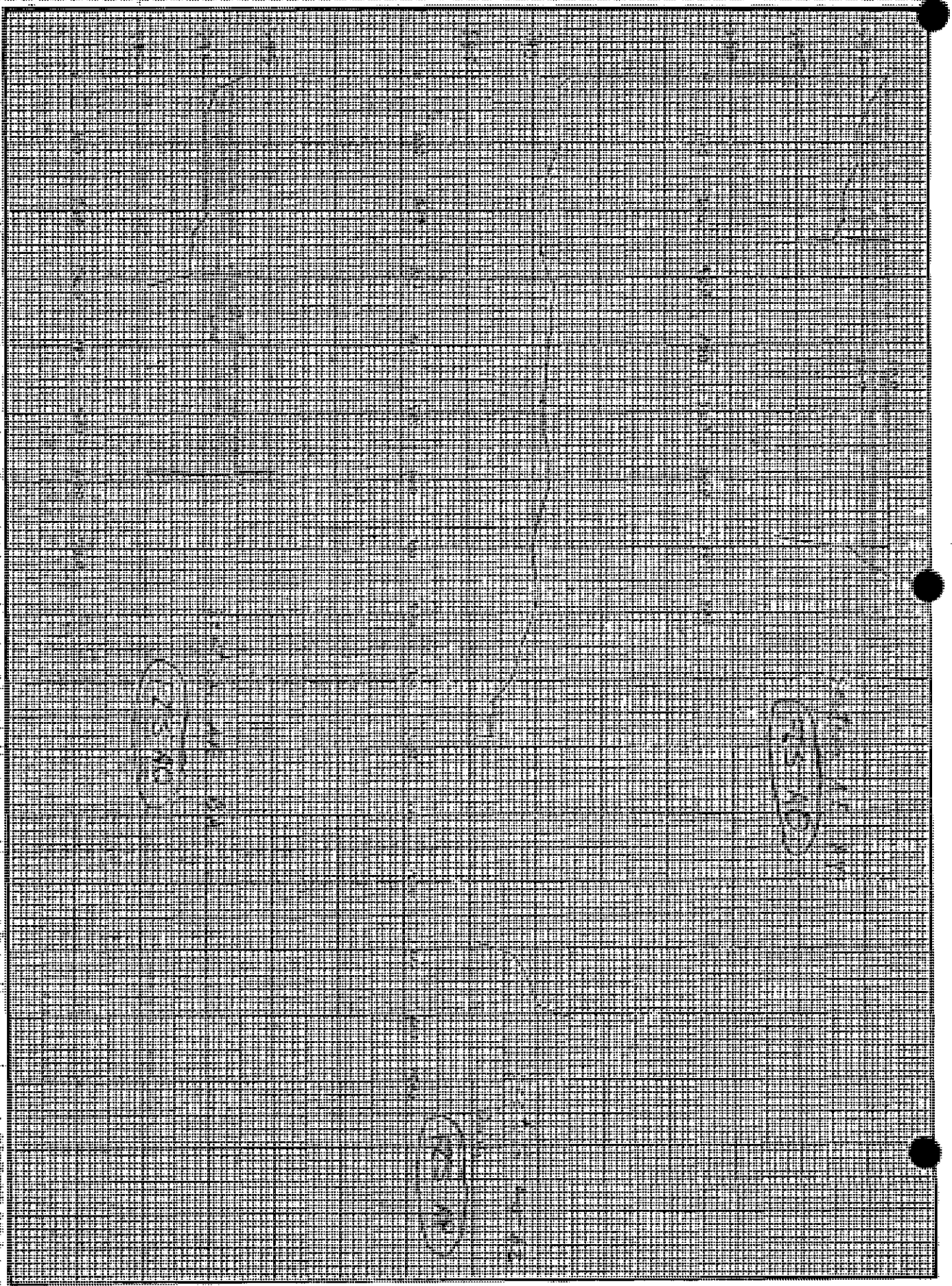
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File _____

Pine Point



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Appendix C

RIVER RAISIN

CROSS SECTIONS

IDENTIFICATION	HEC-2 SECND	DESCRIPTION	SOURCE
Section A	0	Mouth of River Raisin	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section B	2000	At Detroit Edison Co. Water Intake	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section C	2600	At Detroit Edison Co. Sub-station	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
SECTION D	4300	At D/S Limit of Port of Monroe Property and at U/S Limit of Dundee Cement Property	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section E	5000	Interior of Reiss Coal Co. Dock Operation	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section F	5750	U/S Limit of Port of Monroe Property	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section G	6000	Monroe Environmental Property and Channel Turning Point	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section H	7400	Turning Basin	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section I	7980	U/S Limit of Turning Basin and P.O.B. of River Frontage of Study Parcel	Channel: USA COE Channel Survey, April 1988 Overbanks: USA COE Topographic Map, 1976
Section J	8400	Interior of Study Parcel	Channel: Flood Insurance Study, 1974 Overbanks: USA COE Topographic Map, 1976
Section K	9100	D/S of Monroe Waste Water Treat-ment Plant and Approximately 400 Ft. U/S of Study Parcel	Channel: Flood Insurance Study, 1974 Overbanks: Left - USA COE Topographic Map, 1976 Right- J&A Field Survey, Sept. 1988

Appendix D

Appendix E

NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON
MARLENE J FLUHARTY
KERRY KAMMER
O STEWART MYERS
DAVID D OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING
BOX 30028
LANSING, MI 48909

David F. Hales, Director

August 24, 1988

Mr. John Emig
Johnson & Anderson Associates
4479 Dixie Highway
Drayton Plains, Michigan 48020

Re: DNR File No. 88-14-417
Port of Monroe
Raisin River
P.C. 349, T7S, R9E
City of Monroe
Monroe County

Dear Mr. Emig:

The 100-year discharge for the Raisin River at this location has been estimated by our Hydrologic Studies Unit be 18,300 cubic feet per second (cfs). This value should be utilized in your backwater calculations.

Sincerely,

Mary Ann Dolehanty

Mary Ann Dolehanty
Floodplain Control Unit
Land and Water Management Division
517-335-3190

MAD/cjr

RECEIVED
AUG 26 1988
JOHNSON & ANDERSON, INC.
Consulting Engineers

9-213-E
(March 1949)
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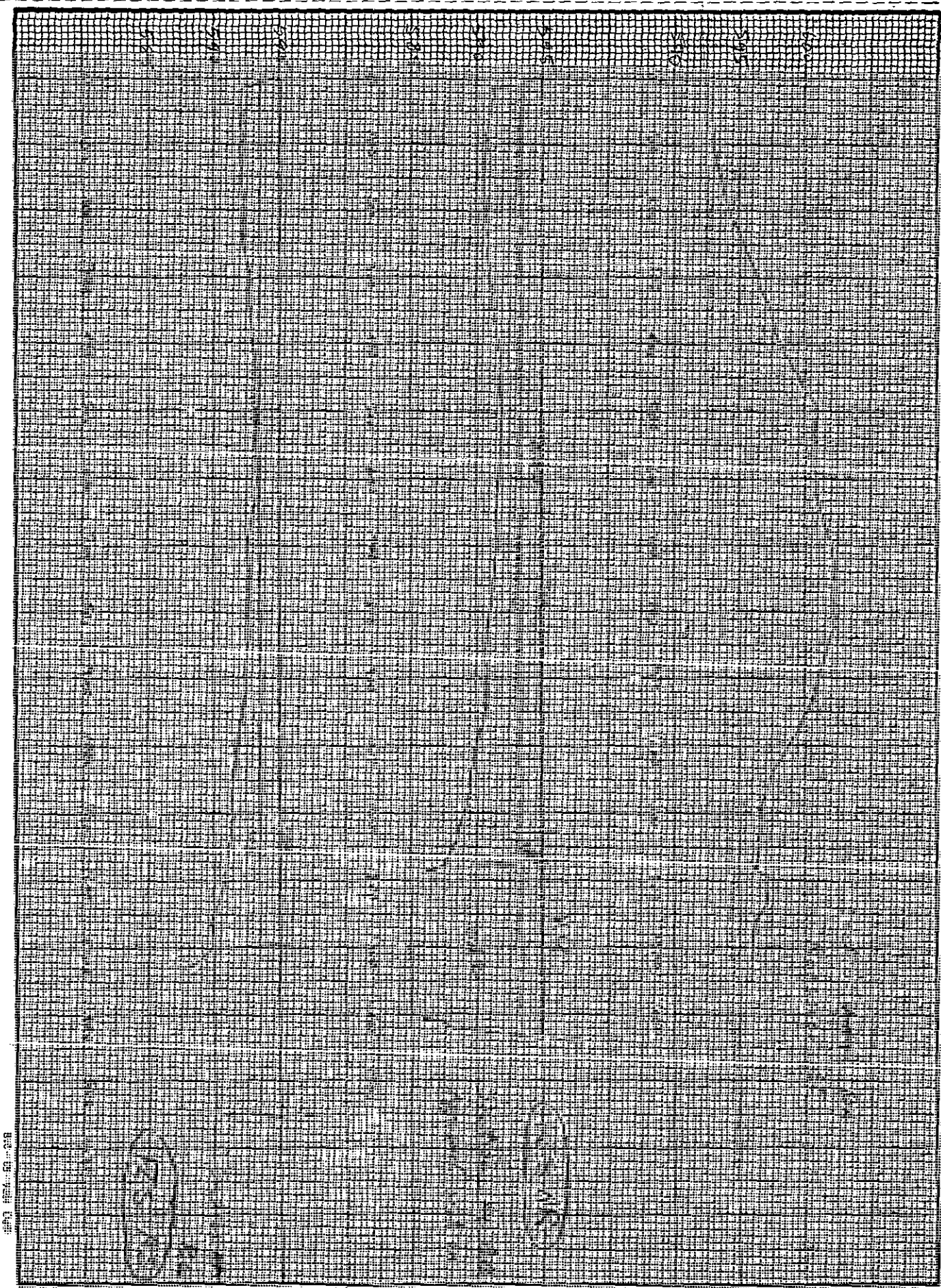
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File

River Basin



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9-213-E
(March 1949)
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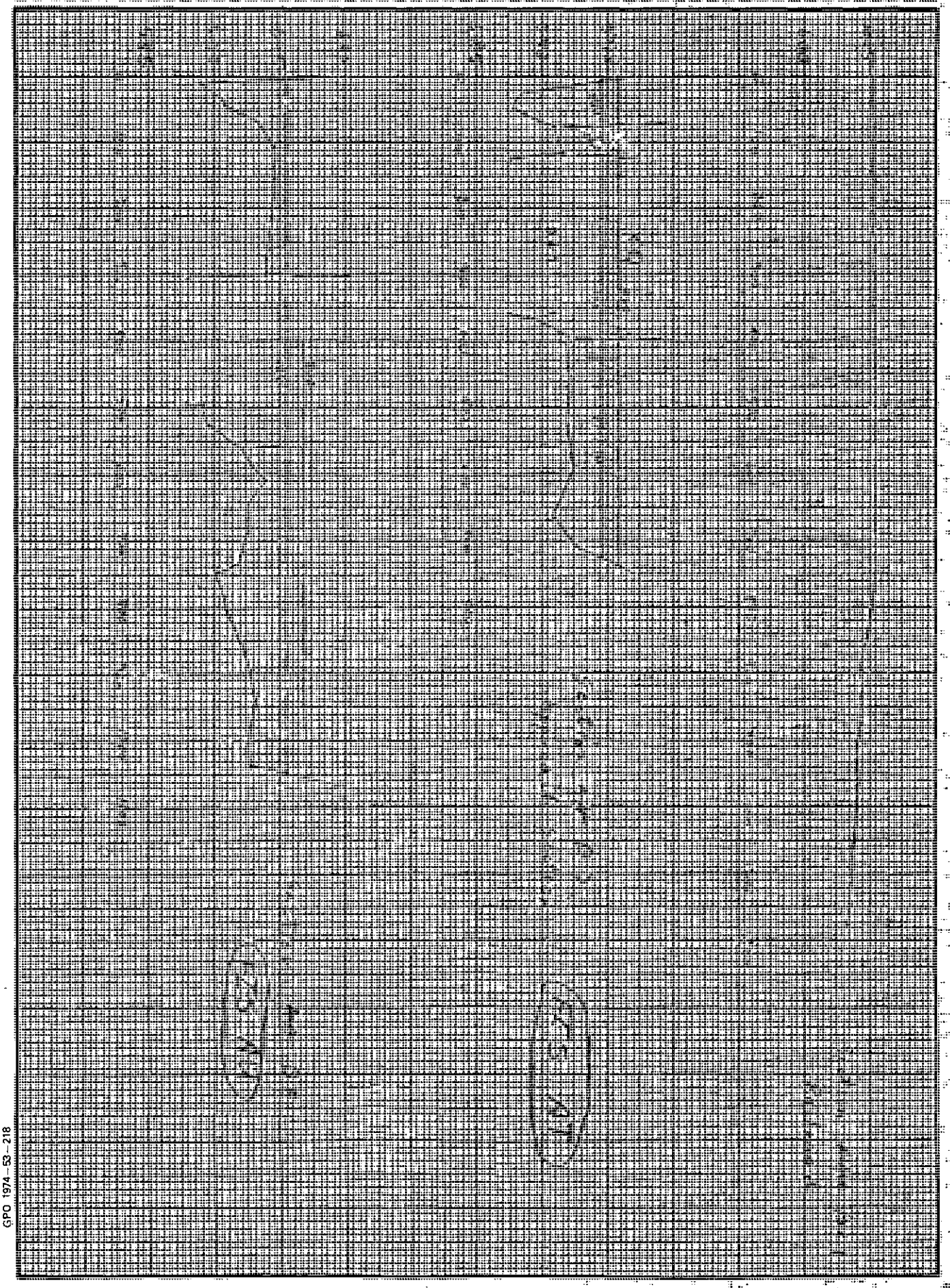
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File

River Raisin



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(March 1949)
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UNITED STATES DEPARTMENT OF THE INTERIOR
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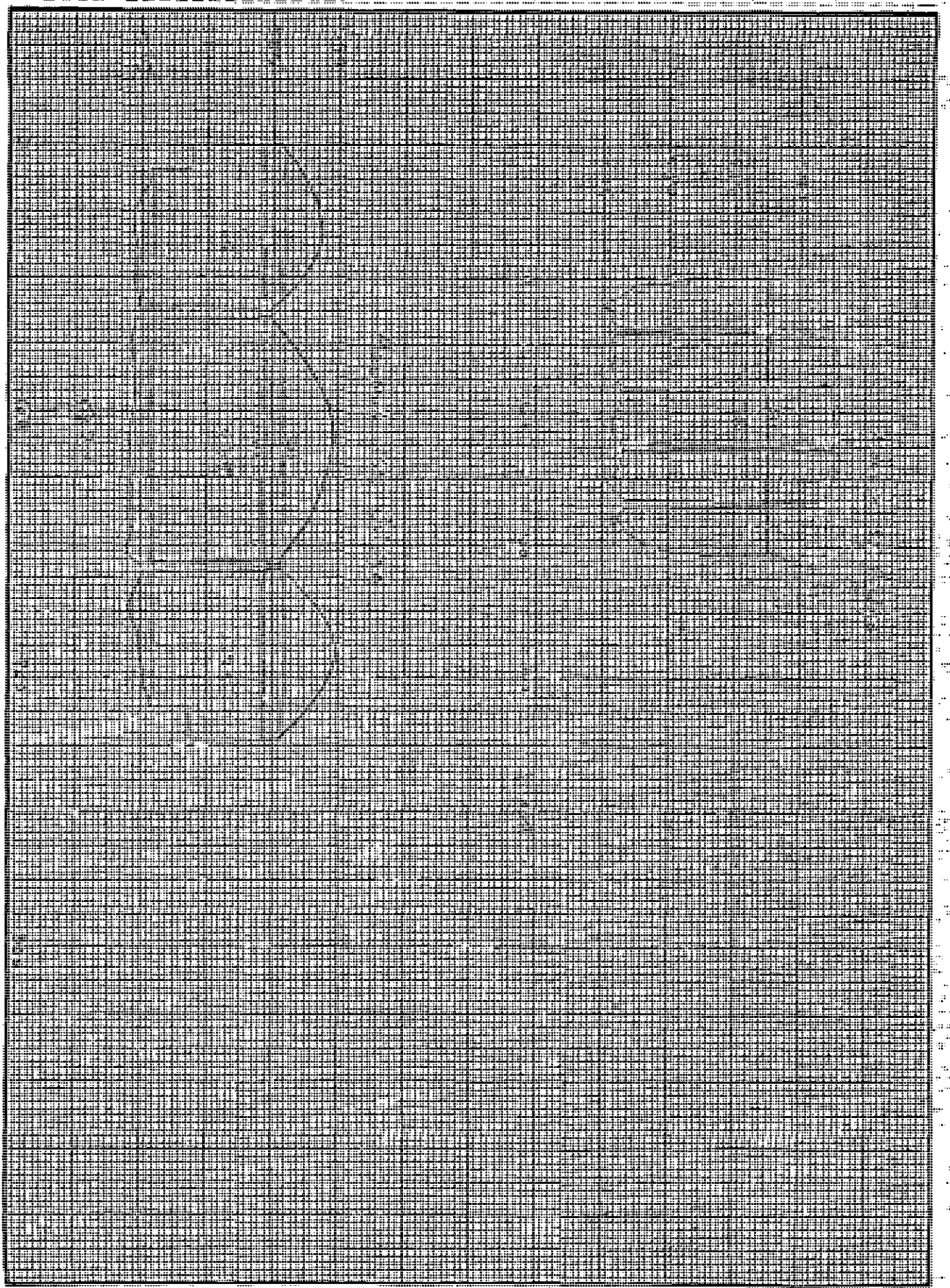
WATER RESOURCES DIVISION

File _____



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(March 1949)
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GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

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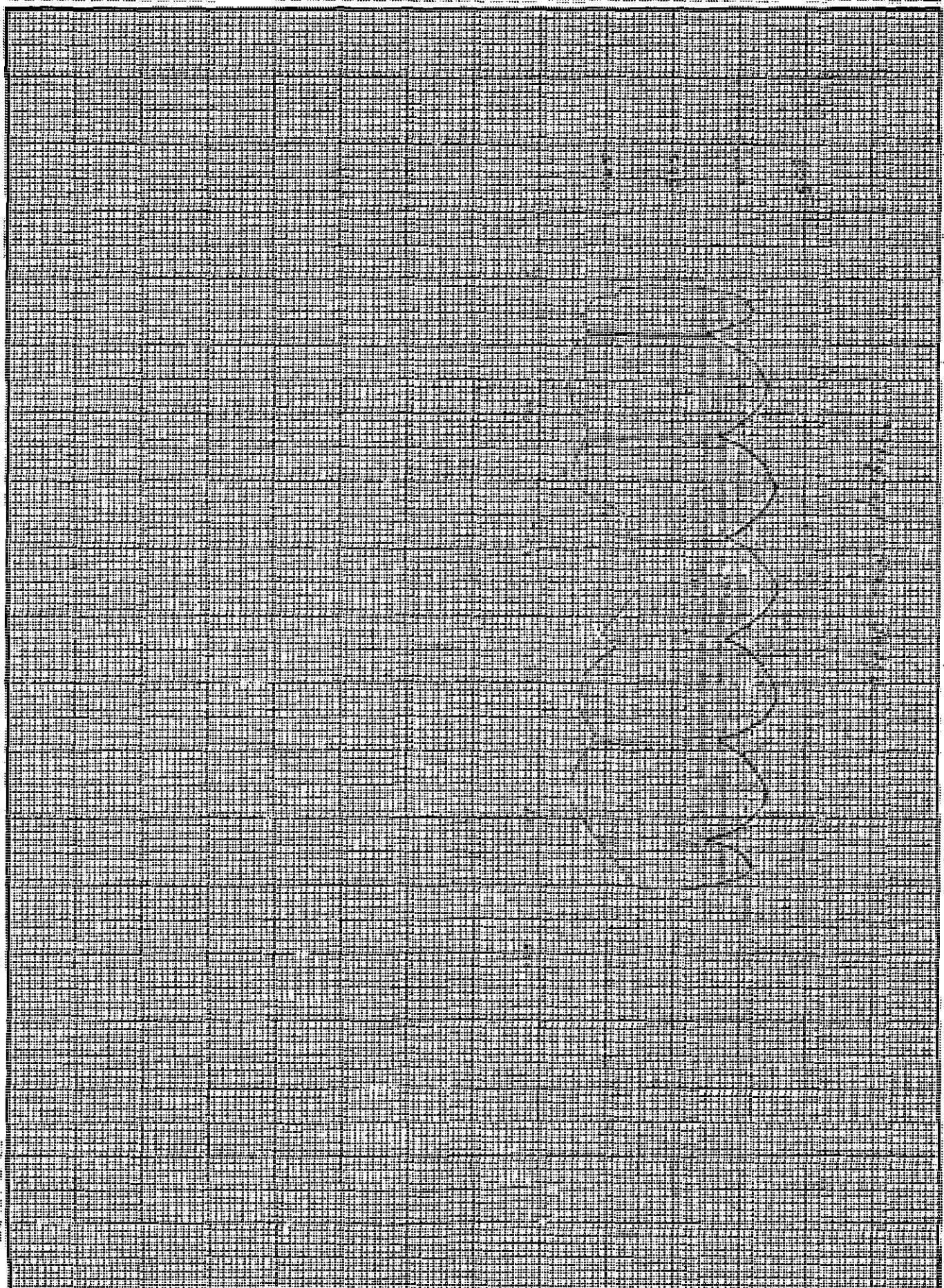

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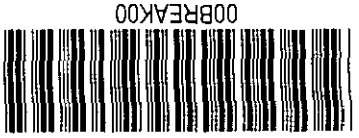
1) COUNTY: Monroe

2) STUDY NAME: Raisinville Twp

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 50/R.



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**********************************************************
  HEC2 RELEASE DATED-NOV-76 UPDATED-JULY 1979
  ERROR CORP -  01,02,03
  MODIFICATION -  50,51,52,53
**********************************************************

T1      SPECIAL FLOOD HAZARD INFORMATION REPORT  CORPS OF ENGINEERS
T2      50 YEAR FREQUENCY FLOOD
T3      RAISIN RIVER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.      5.        0.        0.    .000000       .00     -1.0        0.   602.800      .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    4.000       .000   -1.000       .000      .000      .000     1.000      .000      .000      .000
```

MOORE BUSINESS FORMS, INC. 20

```
*PROF 4

CCHV=     .100 CEHV=     .300
*SECNO 1514.000
   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

  1514.00      9.40    602.80       .00    602.80    603.05       .25       .00       .00    599.80
   14400.      313.    13471.      616.      541.     3255.      839.        0.        0.    597.50
      .00       .58      4.14       .73      .080      .025      .080      .000    593.40   3275.71
  .000291        0.        0.        0.         0         0         0       .00    872.29   4148.00

*SECNO .000

          CROSS SECTION 1

      .00      9.83    603.23       .00       .00    603.45       .22       .40       .00    599.80
   14400.      375.    13344.      682.      643.     3426.      951.      168.       30.    597.50
      .11       .58      3.89       .72      .080      .025      .080      .025    593.40   3270.68
  .000240     1514.     1514.     1514.         0         0         0       .00    881.72   4152.40

*SECNO 5030.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

          CROSS SECTION 2

  5030.00      7.07    605.27       .00       .00    606.09       .82      2.46       .18    603.90
   14400.       80.    14320.        0.      135.     1961.        0.      579.      118.    610.70
      .31       .59      7.30       .00      .080      .025      .080      .025    598.20    188.96
  .001482     5030.     5030.     5030.         2         0         0       .00    634.63   1042.07

*SECNO 8650.000

          CROSS SECTION 3

        DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

  8650.00      7.58    609.08       .00       .00    609.50       .43      3.37       .04    607.00
   14400.       42.    14305.       53.       97.     2722.       63.      786.      169.    605.80
      .50       .44      5.26       .84      .080      .025      .080      .025    601.50    258.70
  .000639     3620.     3620.     3620.         2         0         0       .00    585.74    844.45

CCHV=     .300 CEHV=     .500
*SECNO 8700.000
   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
8700.00	8.07	609.17	.00	.00	609.55	.38	.03	.01	615.40
14400.	0.	14400.	0.	0.	2911.	0.	-789.	169.	615.70
.50	.00	4.95	.00	.080	.025	.080	.025	601.10	400.00
.000515	50.	50.	50.	2	0	0	.00	400.00	800.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	465.00	390.00	12.00	3553.00	.00	602.22	602.22

*SECNO 8747.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 609.13 BRIDGE VELOCITY= 5.51 CALCULATED CHANNEL AREA= 2614.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	609.56	.02	0.	14400.	3553.	3572.	611.67	610.20

CROSS SECTION 4

8747.00	8.08	609.18	.00	.00	609.56	.38	.02	.00	615.40
14400.	0.	14400.	0.	0.	2919.	0.	792.	170.	615.70
.51	.00	4.93	.00	.080	.025	.080	.025	601.10	400.00
.000511	47.	47.	47.	0	0	0	.00	400.00	800.00

CCHV= .100 CEHV= .300
*SECNO 8797.000

UPSTREAM OF RAISINVILLE ROAD BRIDGE

8797.00	7.69	609.19	.00	.00	609.60	.41	.03	.01	607.00
14400.	50.	14294.	56.	113.	2768.	67.	795.	170.	605.80
.51	.44	5.16	.83	.080	.025	.080	.025	601.50	250.82
.000604	50.	50.	50.	2	0	0	.00	594.12	844.95

*SECNO 10014.000

CROSS SECTION 5

10014.00	7.90	609.90	.00	.00	610.47	.57	.82	.05	607.20
14400.	597.	13802.	1.	729.	2238.	4.	878.	188.	608.80
.56	.82	6.17	.34	.080	.025	.080	.025	602.00	804.23
.000763	1217.	1217.	1217.	2	0	0	.00	708.19	1512.42

*SECNO 16014.000

CROSS SECTION 6

16014.00	9.68	613.28	.00	.00	613.68	.85	3.14	.02	611.80
14400.	76.	14218.	107.	186.	2981.	159.	1313.	280.	609.00
.92	.41	4.77	.60	.080	.025	.080	.025	603.60	234.77

LAWDEL BUSINESS FORMS, INC. 22

.000380	6000.	6000.	6000.	2	0	0	.00	615.23	850.00

*SECNO 19124.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	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

CROSS SECTION 7

19124.00	14.09	614.49	.00	.00	614.87	.38	1.23	.01	612.80
14400.	160.	12434.	1806.	361.	2340.	2834.	1630.	372.	615.00
.1.10	.44	5.31	.64	.080	.025	.080	.025	603.40	801.92
.000414	3110.	3110.	3110.	3	0	0	.00	1968.63	2779.62

*SECNO 22852.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 8

22852.00	9.00	616.60	.00	.00	617.67	1.07	2.59	.21	615.00
14400.	736.	13566.	98.	687.	1589.	124.	1970.	487.	614.20
1.23	1.07	8.54	.79	.080	.025	.080	.025	607.60	208.14
.001406	3728.	3728.	3728.	2	0	0	.00	725.85	933.99

*SECNO 32090.000

3290 CROSS SECTION 32090.00 EXTENDED 1116 FEET

CROSS SECTION 9

32090.00	10.16	626.16	.00	.00	626.78	.62	9.07	.04	634.80
14400.	0.	13269.	1131.	0.	2017.	1925.	2622.	743.	622.60
1.65	.00	6.58	.59	.080	.025	.080	.025	616.00	578.23
.000731	8000.	9238.	8800.	4	0	0	.00	1821.77	2400.00

*SECNO 38074.000

3265 DIVIDED FLOW

CROSS SECTION 10

DOWNSTREAM OF IDA-MAYBEE ROAD BRIDGE

38074.00	8.79	631.49	.00	.00	632.36	.86	5.50	.07	629.00
14400.	631.	13509.	0.	562.	1757.	0.	3052.	904.	631.70
1.88	1.59	2.69	.00	.080	.025	.080	.025	622.70	363.78
.001192	5984.	5984.	5984.	2	0	0	.00	524.77	939.46

MOORE BUSINESS FORMS, INC. 23

CCHV= .300 CEHV= .500
*SECNO 38174.000

38174.00	8.27	631.57	.00	.00	632.53	.96	.13	.05	636.80
14400.	0.	14400.	0.	0.	1827.	0.	3057.	905.	636.00
1.88	.00	7.88	.00	.080	.025	.080	.025	623.30	798.33
.001335	100.	100.	100.	2	0	0	.00	252.87	1051.19

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	.00	253.00	6.00	2130.00	.00	624.54	624.54

*SECNO 38210.000

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	IGONT	CORAR	TOPWID	ENDST	

CLASS A LOW FLOW

3420 BRIDGE W.S.= 631.50 BRIDGE VELOCITY= 8.38 CALCULATED CHANNEL AREA= 1719.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	632.59	.07	0.	14400.	2130.	2129.	633.16	636.32

CROSS SECTION 11

38210.00	8.34	631.64	.00	.00	632.59	.95	.05	.00	636.80
14400.	0.	14400.	0.	0.	1845.	0.	3058.	905.	636.00
1.88	.00	7.81	.00	.080	.025	.080	.025	623.30	798.31
.001294	36.	36.	36.	0	0	0	.00	252.90	1051.21

CCHV= .100 CEHV= .300
*SECNO 38310.000

3265 DIVIDED FLOW

UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

38310.00	9.27	631.97	.00	.00	632.72	.74	.11	.02	629.00
14400.	995.	13405.	0.	713.	1872.	1.	3063.	906.	631.70
1.88	1.40	7.16	.15	.080	.025	.080	.025	622.90	355.02
.000953	100	100	100	2	0	0	.00	576.20	944.98

*SECNO 39092.000

3265 DIVIDED FLOW

CROSS SECTION 12

MOORE BUSINESS FORMS, INC. 23

DAM

39092.00	8.46	632.96	.00	.00	633.25	.29	.49	.05	629.90
14400.	587.	11862.	1950.	530.	2511.	2425.	3136.	924.	629.00
1.94	1.11	4.72	.80	.080	.025	.080	.025	624.50	307.62
.000444	782.	782.	782.	2	0	0	.00	1402.02	1710.28

*SECNO 44092.000

CROSS SECTION 13

44092.00	13.12	634.82	.00	.00	635.22	.40	1.93	.03	643.80
14400.	0.	14149.	251.	0.	2773.	522.	3638.	1052.	631.60
2.22	.00	5.10	.48	.080	.025	.080	.025	621.70	524.72
.000339	5000.	5000.	5000.	3	0	0	.00	826.95	1351.66

*SECNO 50025.000

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

50025.00	15.42	636.62	.00	.00	637.01	.39	1.80	.00	633.00
14400.	88.	13950.	362.	247.	2729.	647.	4110.	1177.	634.60
2.55	.36	5.11	.56	.080	.025	.080	.025	621.20	885.58
.000272	5933.	5933.	5933.	2	0	0	.00	1013.21	1898.79

CCHV= .300 CEHV= .500

*SECNO 50075.000

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

CROSS SECTION 15

50075.00	16.02	636.62	.00	.00	637.04	.42	.02	.01	657.00
14400.	0.	14400.	0.	0.	2766.	0.	4113.	1178.	656.70
2.55	.00	5.21	.00	.080	.025	.080	.025	620.60	115.68
.000380	50.	50.	50.	1	0	0	.00	284.32	400.00

SPECIAL BRIDGE

SB	XK	XKOB	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
1.25	1.56	2.80	.00	300.00	25.00	6876.00	.00	626.80	626.80	

*SECNO 50109.000

CLASS A LOW FLOW

3420 BRIDGE W.S.=	636.54	BRIDGE VELOCITY=	5.37	CALCULATED CHANNEL AREA=	2680.				
EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	

TECHNE BUSINESS FORMS, INC. 24

.00	637.13	.10	0.	14400.	6876.	6985.	652.20	656.60	
50109.00	16.12	636.72	.00	.00	637.13	.41	.09	.00	657.00
14400.	0.	14400.	0.	0.	2791.	0.	4115.	1178.	656.70
2.55	.00	5.16	.00	.080	.025	.080	.025	620.60	112.72
.000374	34.	34.	34.	0	0	0	.00	287.28	400.00

CCHV= .100 CEHV= .300
*SECNO 50159.000

UPSTREAM OF DT&I R.R. BRIDGE

50159.00	15.57	636.77	.00	.00	637.15	.38	.02	.00	633.00
14400.	110.	13901.	389.	328.	2762.	688.	4119.	1179.	634.60
2.55	.34	5.03	.57	.080	.025	.080	.025	621.20	848.35
.000260	50.	50.	50.	2	0	0	.00	1052.72	1901.07

*SECNO 51892.000

CROSS SECTION 16

51892.00	12.66	637.26	.00	.00	637.71	.45	.54	.02	636.80
14400.	606.	13794.	0.	891.	2505.	0.	4265.	1213.	639.60
2.65	.68	5.51	.00	.080	.025	.080	.025	624.60	1019.11
.000362	1773.	1773.	1773.	2	0	0	.00	608.13	1627.25

MOORE BUSINESS FORMS, INC. 23

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  u1,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

T1      SPECIAL FLOOD HAZARD INFORMATION REPORT CORPS OF ENGINEERS
T2      10-YR. FLOOD
T3      RAISIN RIVER - RAISINVILLE TWP.
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J1	ICHECK	INQ.	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	6.	0.	0.	.000000	.00	1.0	0.	602.000	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW.	CHNIM	ITRACE
	15.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

MOORE BUSINESS FORMS, INC. 20

*PROF/5

CCHV= .100 CEHV= .300

*SECNO 1514.000

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
1514.00	8.60	602.00	.00	602.00	602.16	.16	.00	.00	599.80
10200.	140.	9715.	344.	361.	2942.	639.	0.	0.	597.50
.00	.39	3.30	.54	.080	.025	.080	.000	593.40	3284.86
.000212	0.	0.	0.	0	0	0	.00	855.14	4140.00

*SECNO .000

CROSS SECTION 1

.00	8.91	602.31	.00	.00	602.46	.15	.30	.00	599.80
10200.	173.	9644.	383.	432.	3067.	719.	142.	30.	597.50
.14	.40	3.14	.53	.080	.025	.080	.025	593.40	3281.20
.000182	1514.	1514.	1514.	0	0	0	.00	862.01	4143.20

*SECNO 5030.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 2

5030.00	5.80	604.00	.00	.00	604.69	.69	2.07	.16	603.90
10200.	0.	10200.	0.	1.	1530.	0.	474.	100.	610.70
.35	.11	6.67	.00	.080	.025	.080	.025	598.20	682.92
.001683	5030.	5030.	5030.	3	0	0	.00	853.79	1036.70

*SECNO 8650.000

CROSS SECTION 3

DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

8650.00	6.40	607.90	.00	.00	608.22	.32	3.49	.04	607.00
10200.	3.	10178.	19.	12.	2234.	32.	632.	134.	605.60
.57	.27	4.56	.59	.080	.025	.080	.025	601.50	373.45
.000625	3620.	3620.	3620.	3	0	0	.00	465.65	839.10

CCHV= .300 CEHV= .500

*SECNO 8700.000

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
8700.00	5.90	608.00	.00	.00	608.27	.27	.03	.02	615.40

MOORE BUSINESS FORMS, INC.

10200.	0.	10200.	0.	0.	2443.	0.	635.	135.	615.70
.57	.00	4.17	.00	.080	.025	.080	.025	601.10	400.00
.000460	50.	50.	50.	2	0	0	.00	400.00	800.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	465.00	390.00	12.00	3553.00	.00	602.22	602.22

*SECNO 8747.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 607.97 BRIDGE VELOCITY= 4.69 CALCULATED CHANNEL AREA= 2175.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	608.28	.01	0.	10200.	3553.	3572.	611.67	610.20

CROSS SECTION 4

8747.00	6.91	608.01	.00	.00	608.28	.27	.01	.00	615.40
10200.	0.	10200.	0.	0.	2448.	0.	637.	135.	615.70
.58	.00	4.17	.00	.080	.025	.080	.025	601.10	400.00
.000457	47.	47.	47.	0	0	0	.00	400.00	800.00

CCHV= .100 CEHV= .300
*SECNO 8797.000

UPSTREAM OF RAISINVILLE ROAD BRIDGE

8797.00	6.51	608.01	.00	.00	608.31	.31	.03	.01	607.00
10200.	4.	10175.	20.	15.	2277.	34.	640.	136.	605.80
.58	.28	4.47	.59	.080	.025	.080	.025	601.50	370.44
.000587	50.	50.	50.	2	0	0	.00	469.13	839.57

*SECNO 10014.000

CROSS SECTION 5

10014.00	6.71	608.71	.00	.00	609.15	.44	.79	.04	607.20
10200.	153.	10047.	0.	287.	1873.	0.	703.	151.	608.80
.64	.53	5.36	.00	.080	.025	.080	.025	602.00	856.17
.000730	1217.	1217.	1217.	2	0	0	.00	648.73	1504.90

*SECNO 16014.000

CROSS SECTION 6

16014.00	8.27	611.87	.00	.00	612.13	.26	2.97	.02	611.80
10200.	0.	10174.	26.	1.	2485.	58.	1027.	224.	609.00
1.05	.04	4.09	.45	.080	.025	.080	.025	603.60	381.37
.000357	6000.	6000.	6000.	3	0	0	.00	414.05	795.42

*SECNO 19129.000

BOOKS, BUSINESS FORMS, INC. 23

3265 DIVIDED FLOW

SECNO	DEPTH	QWSEL	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

CROSS SECTION 7

19124.00	9.64	613.04	.00	.00	613.41	.37	1.24	.03	612.80
10200.	8.	9870.	322.	36.	1979.	965.	1224.	296.	615.00
1.23	.21	4.99	.33	.080	.025	.080	.025	603.40	1104.49
.000450	3110.	3110.	3110.	2	0	0	.00	1592.76	2721.49

+SECNO 22852.000

3265 DIVIDED FLOW

CROSS SECTION 8

22852.00	7.80	615.40	.00	.00	616.26	.86	2.71	.15	615.00
10200.	165.	10023.	12.	241.	1337.	23.	1420.	389.	614.20
1.37	.68	7.49	.52	.080	.025	.080	.025	607.60	239.23
.001362	3728.	3728.	3728.	2	0	0	.00	574.19	854.27

+SECNO 32090.000

CROSS SECTION 9

32090.00	8.82	624.82	.00	.00	625.37	.55	9.08	.03	634.80
10200.	0.	10155.	45.	0.	1696.	74.	1774.	477.	622.60
1.80	.00	5.99	.60	.080	.025	.080	.025	616.00	582.61
.000744	8000.	9238.	8800.	3	0	0	.00	310.25	892.86

*SECNO 38074.000

3265 DIVIDED FLOW

CROSS SECTION 10

DOWNSTREAM OF IDA-MAYBEE ROAD BRIDGE

38074.00	7.50	630.20	.00	.00	630.86	.66	5.46	.03	629.00
10200.	507.	9693.	0.	293.	1449.	0.	2015.	525.	631.70
2.06	1.73	6.69	.00	.080	.025	.080	.025	622.70	387.28
.004142	5984.	5984.	5984.	2	0	0	.00	388.96	936.10

CCHV= 300 CEHV= 500

*SECNO 38174.000

38174.00	6.99	630.29	.00	.00	631.01	.71	.12	.03	636.80
10200.	0.	10200.	0.	0.	1505.	0.	2049.	526.	636.00
2.06	.00	6.78	.00	.080	.025	.080	.025	623.30	298.65

ADDONE FIGURESS FORMS, INC. 22

.001263	100.	100.	100.	0	0	0	.00	252.31	1050.96	

SPECIAL BRIDGE

SB	XK	XKOR	COFD	RDLEN	BWC	BMP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	.00	253.00	6.00	2130.00	.00	624.54	624.54

*SECNO 38210.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
	0								

CLASS A LOW FLOW

3420 BRIDGE W.S.= 630.24 BRIDGE VELOCITY= 7.24 CALCULATED CHANNEL AREA= 1408.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	631.04	.05	0.	10200.	2130.	2129.	633.16	636.32

CROSS SECTION 11

38210.00	7.04	630.34	.00	.00	631.04	.70	.04	.00	636.80	
10200.	0.	10200.	0.	0.	1517.	0.	2020.	526.	636.00	
2.06	.00	6.73	.00	.080	.025	.080	.025	623.30	798.64	
.001231	36.	36.	36.	0	0	0	.00	252.33	1050.97	

CCHV= .100 CEHV= .300

*SECNO 38310.000

3265 DIVIDED FLOW

UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

38310.00	7.88	630.58	.00	.00	631.16	.58	.11	.01	629.00
10200.	534.	9666.	0.	357.	1539.	0.	2024.	527.	631.70
2.07	1.50	6.28	.00	.080	.025	.080	.025	622.70	380.39
.000935	100.	100.	100.	2	0	0	.00	420.02	937.09

*SECNO 39092.000

3265 DIVIDED FLOW

CROSS-SECTION 12

DAM

39092.00	6.96	631.46	.00	.00	631.75	.29	.56	.03	629.90	
10200.0	390.	9088.	722.	300.	1999.	194.	2072.	542.	629.40	
2.12	1.30	4.55	.60	.080	.025	.080	.025	624.50	341.86	

MOORE BUSINESS FORMS, INC.

.000558	782.	782.	782.	2	0	0	.00	1201.61	1605.43

*SECNO 44092.000

CROSS SECTION 13

44092.00	11.69	633.39	.00	.00	633.67	.28	1.93	.00	643.80
10200.	0.	10152.	48.	0.	2388.	131.	2417.	634.	631.60
2.45	.00	4.25	.37	.080	.025	.080	.025	621.70	528.64
.000282	5000.	5000.	5000.	3	0	0	.00	400.63	929.27

*SECNO 50025.000

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

50025.00	13.72	634.92	.00	.00	635.21	.29	1.53	.00	633.00
10200.	11.	10131.	58.	40.	2344.	201.	2765.	696.	634.60
2.83	.28	4.32	.29	.080	.025	.080	.025	621.20	1358.43
.000238	5933.	5933.	5933.	2	0	0	.00	514.48	1872.91

CCHV= .300 CEHV= .500

*SECNO 50075.000

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

CROSS SECTION 15

50075.00	14.33	634.93	.00	.00	635.23	.30	.01	.01	657.00
10200.	0.	10200.	0.	0.	2320.	0.	2768.	696.	656.70
2.84	.00	4.40	.00	.080	.025	.080	.025	620.60	136.89
.000255	50.	50.	50.	0	0	0	.00	222.78	364.67

SPECIAL BRIDGE

SB	SK	SKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.56	2.80	.00	300.00	25.00	6876.00	.00	626.80	626.80

*SECNO 50109.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 634.87 BRIDGE VELOCITY= 4.60 CALCULATED CHANNEL AREA= 2219.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLO	ELTRD
.00	635.29	.06	0.	10200.	6876.	6985.	652.20	656.60

50109.00	14.39	634.99	.00	.00	635.29	.30	.06	.00	657.00
10200.	0.	10200.	0.	0.	2333.	0.	2769.	697.	656.70
2.84	.00	4.37	.00	.080	.025	.080	.025	620.60	136.70

MOORE BUSINESS FORMS, INC 93

.000252	34.	34.	34.	0	0	0	.00	229.12	365.82

CCHV= .100 CEHV= .300
*SECNO 50159.000

UPSTREAM OF DT&I R.R. BRIDGE

50159.00	13.82	635.02	.00	.00	635.30	.28	.01	.00	633.00
10200.	12.	10120.	67.	44.	2367.	226.	2772.	697.	634.60
2.84	.28	4.28	.30	.080	.025	.080	.025	621.20	1356.28
.000230	50.	50.	50.	1	0	0	.00	518.14	1874.41

*SECNO 51892.000

3265 DIVIDED FLOW

CROSS SECTION 16

51892.00	10.86	635.46	.00	.00	635.81	.35	.49	.02	636.80
10200.	122.	10078.	0.	288.	2098.	0.	2874.	718.	639.60
2.95	.42	4.80	.00	.080	.025	.080	.025	624.60	1097.68
.000338	1773.	1773.	1773.	1	0	0	.00	503.99	1625.12

MOORE BUSINESS FORMS, INC. 23

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Raisinville Twp.

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 100yr. Encroachment

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

T1      SPECIAL FLOOD HAZARD INFORMATION REPORT  CORPS OF ENGINEERS
T2      100 YR FLOOD W/ ENCROACHMENTS
T3      RIVER RAISIN, MICHIGAN
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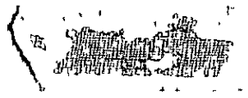
J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	.000000	.00	-1.0	0.	603.400	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

MOORE BUSINESS FORMS, INC. 25



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 +PROF 2
 CCHV=     .100 CEHV=     .300
 +SECNO 1514.000
  2800 NAT Q1=    9602.49  WSEL=     603.40  ENC Q1=    9602.49  WSEL=     603.50  RATIO=    .0000
  NAT Q1=    9802.  RATIOS LOB,CH,ROB=     .0285    .9216    .0499  WSEL=     603.50
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
      Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
      TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
      SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 3470 ENCROACHMENT STATIONS=    3375.5    4065.2  TYPE=      4  TARGET=         .020
    1514.00     10.00    603.40      .00    603.40    603.69      .29       .00       .00    599.80
     16500.       299.    15546.      655.      422.     3488.      748.       0.        0.     597.50
        .00       .71      4.46      .88      .080      .025      .080      .000    593.40   3375.53
    .000307        0.        0.       0.         0         0         0       .00    689.67   4065.20

 *SECNO .000
  2800 NAT Q1=   10510.71  WSEL=     603.84  ENC Q1=   10510.71  WSEL=     603.94  RATIO=   -.0000
  NAT Q1=   10710.  RATIOS LOB,CH,ROB=     .0325    .9134    .0541  WSEL=     603.94

 3470 ENCROACHMENT STATIONS=    3360.5    4079.8  TYPE=      4  TARGET=         .019

          CROSS SECTION 1

        .00     10.46    603.86       .00    603.84    604.12       .25       .42       .00    599.80
     16500.       379.    15379.      742.      538.     3669.      883.      169.       24.     597.50
        11        .70      4.19       .84      .080      .025      .080      .025    593.40   3360.54
    .000254      1514.     1514.     1514.         2         0         0       .00    719.23   4079.77

 *SECNO 5030.000
  2800 NAT Q1=    4428.60  WSEL=     605.87  ENC Q1=    4459.14  WSEL=     605.97  RATIO=   -.0069
  NAT Q1=    4542.  RATIOS LOB,CH,ROB=     .0182    .9818    .0000  WSEL=     605.97

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=     700.0     1120.0  TYPE=      4  TARGET=         .018

          CROSS SECTION 2

    5030.00      7.74    605.94       .00    605.87    606.82       .88      2.51       .19    603.90
     16500.         0.    16500.        0.        0.      2189.        0.       590.       86.     610.70
       .29        .00      7.54       .00      .080      .025      .080      .025    598.20    700.00
    .001399      5030.     5030.     5030.         2         0         0       .00    346.74   1046.74

 *SECNO 8650.000
  2800 NAT Q1=    6484.75  WSEL=     609.60  ENC Q1=    6574.87  WSEL=     609.70  RATIO=   -.0139
  NAT Q1=    6650.  RATIOS LOB,CH,ROB=     .0066    .9887    .0046  WSEL=     609.70

 3470 ENCROACHMENT STATIONS=     400.0     815.0  TYPE=      4  TARGET=         .011

          CROSS SECTION 3
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BROOKS-PUSINESS FORTRAN, INC '79

DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

8650.00	8.19	609.69	.00	609.60	610.17	.48	3.31	.04	607.00	
16500.	0.	16500.	0.	0.	2977.	0.	804.	118.	605.80	
.47	.00	5.54	.00	.080	.025	.080	.025	601.50	400.00	
.000694	3620.	3620.	3620.	2	0	0	.00	415.00	815.00	

CCHV= .300 CEHV= .500

*SECNO 8700.000

2800 NAT Q1= 7093.65 WSEL= 609.68 ENC Q1= 7243.70 WSEL= 609.78 RATIO= -.0212

NAT Q1= 7244; RATIOS LOB,CH,ROB= .0000 1.0000 .0000 WSEL= 609.78

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	XTL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 400.0 800.0 TYPE= 4 TARGET= .000

8700.00	8.69	609.79	.00	609.68	610.22	.42	.03	.02	615.40	
16500.	0.	16500.	0.	0.	3162.	0.	808.	118.	615.70	
.48	.00	5.22	.00	.080	.025	.080	.025	601.10	400.00	
.000516	50.	50.	50.	2	0	0	.00	400.00	800.00	

SPECIAL BRIDGE

SB	SK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	465.00	390.00	12.00	3553.00	.00	602.22	602.22

*SECNO 8747.000

6840.FLOW IS BY WEIR AND LOW FLOW

2800 NAT Q1= 7125.51 WSEL= 609.70 ENC Q1= 7275.84 WSEL= 609.80 RATIO= -.0211

NAT Q1= 7276; RATIOS LOB,CH,ROB= .0000 1.0000 .0000 WSEL= 609.80

WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS= 400.0 800.0 TYPE= 4 TARGET= .000

CROSS SECTION 4

8747.00	8.71	609.81	.00	609.70	610.23	.42	.02	.00	615.40	
16500.	0.	16500.	0.	0.	3171.	0.	811.	119.	615.70	
.48	.00	5.20	.00	.080	.025	.080	.025	601.10	400.00	
.000511	47.	47.	47.	0	0	3	.00	400.00	800.00	

CCHV= .100 CEHV= .300

*SECNO 8797.000

2800 NAT Q1= 6685.86 WSEL= 609.73 ENC Q1= 6750.50 WSEL= 609.81 RATIO= .0097

NAT Q1= 6834; RATIOS LOB,CH,ROB= .0074 .9878 .0048 WSEL= 609.81

3470 ENCROACHMENT STATIONS= 400.0 815.0 TYPE= 4 TARGET= .012

UPSTREAM OF RAISINVILLE ROAD BRIDGE

8797.00	8.31	609.81	.00	609.71	610.27	.46	.03	.01	607.00	
16500.	0.	16500.	0.	0.	3027.	0.	815.	119.	605.80	
.48	.00	5.45	.00	.080	.025	.080	.025	601.50	400.00	
.000610	50.	50.	50.	2	0	0	.00	415.00	815.00	

MOORE BUSINESS FORMS, INC. 23

*SECNO 14014.000
2800 NAT Q1= 5931.40 WSEL= 610.43 ENC Q1= 5931.40 WSEL= 610.53 RATIO= .0000
NAT Q1= 6074. RATIOS LOB,CH,ROB= .0567 .9431 .0003 WSEL= 610.53

3470 ENCROACHMENT STATIONS= 1015.2 1505.0 TYPE= 4 TARGET= .023

CROSS-SECTION-5

10014.00	8.52	610.52	.00	610.43	611.17	.65	.84	.06	607.20
16500.	567.	15933.	0.	530.	2426.	0.	898.	132.	608.80
.53	1.07	6.57	.00	.080	.025	.080	.025	602.00	1015.25
.000782	1217.	1217.	1217.	2	0	0	.00	489.76	1505.00

*SECNO 16014.000
2800 NAT Q1= 8353.15 WSEL= 613.89 ENC Q1= 8354.43 WSEL= 613.99 RATIO= -.0002
NAT Q1= 8530. RATIOS LOB,CH,ROB= .0101 .9794 .0105 WSEL= 613.99

3470 ENCROACHMENT STATIONS= 400.0 755.0 TYPE= 4 TARGET= .021

CROSS SECTION 6

16014.00	10.43	614.03	.00	613.89	614.43	.40	3.24	.02	611.80
16500.	0.	16500.	0.	0.	3250.	0.	1326.	190.	609.00
.86	.00	5.08	.00	.080	.025	.080	.025	603.60	400.00
.000394	6000.	6000.	6000.	2	0	0	.00	355.00	755.00

*SECNO 19124.000
2800 NAT Q1= 8335.79 WSEL= 615.12 ENC Q1= 8335.79 WSEL= 615.22 RATIO= .0000
NAT Q1= 8552. RATIOS LOB,CH,ROB= .0228 .8088 .1684 WSEL= 615.22

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	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 1100.4 2629.9 TYPE= 4 TARGET= .025

CROSS SECTION 7

19124.00	11.87	615.27	.00	615.12	615.64	.37	4.21	.00	612.80
16540.	175.	13650.	2674.	258.	2534.	3528.	1668.	257.	615.00
1.05	.68	5.39	.76	.080	.025	.080	.025	603.40	1100.42
.000384	3110.	3110.	3110.	2	0	0	.00	1529.44	2629.86

*SECNO 22852.000
2800 NAT Q1= 4348.90 WSEL= 617.09 ENC Q1= 4348.90 WSEL= 617.19 RATIO= .0000
NAT Q1= 4451. RATIOS LOB,CH,ROB= .0691 .9197 .0112 WSEL= 617.19

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 284.7 810.0 TYPE= 4 TARGET= .023

CROSS-SECTION-8

MOORE BUSINESS FORMS, INC. 22

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 22852.00     9.59   617.19      .00   617.09   618.40     1.20     2.50      .25   615.00
   16500.     976.   15524.       0.     757.     1711.      0.     2044.     345.   614.20
     1.17     1.29     9.07      .00     .080     .025     .080     .025   607.60   284.69
  .001465    3728.    3728.    3728.       3        0        0      .00   525.31   810.00

 +SECNO 32090.000
  2800 NAT Q1=    6179.34  WSEL=     626.70  ENC Q1=    6179.34  WSEL=     626.80  RATIO=    .0000
  NAT Q1=    5346.  RATIOS LOB,CH,ROB=    .0000   .8693   .1307  WSEL=     626.80
 3280 CROSS SECTION  32090.00 EXTENDED       1.83 FEET


 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=      550.0    2063.3  TYPE=      4  TARGET=         .026

           CROSS SECTION 9

 32090.00    10.83   626.83      .00   626.70   627.46      .63     9.00      .06   634.80
   16500.       0.    14698.    1802.       0.    2178.    2359.    2764.     548.    622.60
     1.59      .00     6.75      .76      .080     .025     .080     .025   616.00   576.06
  .000703    8000.    9238.    8800.       3        0        0      .00  1487.26  2063.32

 +SECNO 38074.000
  2800 NAT Q1=    4670.50  WSEL=     631.99  ENC Q1=    4670.50  WSEL=     632.09  RATIO=    .0000
  NAT Q1=    4787.  RATIOS LOB,CH,ROB=    .0709   .9291   .0000  WSEL=     632.09

 3265 DIVIDED FLOW

 3470 ENCROACHMENT STATIONS=      538.4     940.0  TYPE=      4  TARGET=         .024

           CROSS SECTION 10


      DOWNSTREAM OF IDA-MAYBEE ROAD BRIDGE

 38074.00     9.37   632.07      .00   631.99   633.09     1.02     5.51      .12   629.00
   16500.     785.   15715.       0.     403.    1895.       0.    3233.     677.   631.70
     1.80     1.95     8.29      .00     .080     .025     .080     .025   622.70   538.41
  .001261    5984.    5984.    5984.       2        0        0      .00   390.85   940.00


 CCHV=     .300 CEHV=     .500
 +SECNO 38174.000
  2800 NAT Q1=    4374.88  WSEL=     632.05  ENC Q1=    4467.69  WSEL=     632.15  RATIO=   -.0212
  NAT Q1=    4468.  RATIOS LOB,CH,ROB=    .0000  1.0000   .0000  WSEL=     632.15

 3470 ENCROACHMENT STATIONS=      797.0    1052.0  TYPE=      4  TARGET=         .000
 38174.00     8.87   632.17      .00   632.05   633.25     1.08      .13      .03   636.80
   16500.       0.    16500.       0.       0.    1979.       0.    3238.     677.   636.00
     1.80      .00     8.34      .00     .080     .025     .080     .025   623.30   798.18
  .001353     100.     100.     100.       2        0        0      .00   253.13  1051.30


 SPECIAL BRIDGE
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MOORE BUSINESS FORMS, INC. 75

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SB  XK          XKOR        COFQ        RDLEN       BWC         BWP         BAREA       SS          ELCHU       ELCHD
    .90         1.56        2.80        .00         253.00      6.00        2130.00     .00         624.54      624.54

*SECNO 38210.000
 2800 NAT Q1=   4811.36  WSEL=    632.51  ENC Q1=   4907.01  WSEL=    632.61  RATIO=   -.0199
 NAT Q1=   4907.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=    632.61
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE
  SECNO       DEPTH       CWSEL       CRIWS       WSELK       EG          HV          HL          OLOSS       BANK ELEV
  Q           QLOB        QCH         QROB        ALOB        ACH         AROB        VOL         TWA     LEFT/RIGHT
  TIME        VLOB        VCH         VROB        XNL         XNCH        XNR         WTN         ELMIN       SSTA
  SLOPE       XLOBL       XLCH        XLOBR       ITRIAL      IDC         ICONT       CORAR       TOPWID      ENDST


3470 ENCROACHMENT STATIONS=     797.0    1052.0  TYPE=     4  TARGET=        .000

        CROSS SECTION 11

 38210.00     9.33   632.63      .00   632.51   633.59      .96      .04      .04   636.80
  16500.        0.   16500.        0.      0.    2096.        0.    3240.    678.   636.00
   1.80        .00     7.87      .00     .080     .025     .080     .025   623.30   798.06
 .001122      36.      36.       36.       0        0        0      .00   253.33  1051.39

CCHV=    .100 CEHV=    .300
*SECNO 38310.000
 2800 NAT Q1=   5709.30  WSEL=    632.88  ENC Q1=   5709.30  WSEL=    632.98  RATIO=   .0000
 NAT Q1=   5829.  RATIOS LOB,CH,ROB=   .0870   .9127   .0004  WSEL=    632.98

3470 ENCROACHMENT STATIONS=     472.1     940.0  TYPE=     4  TARGET=        .021

       UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

 38310.00    10.23   632.93      .00   632.88   633.71      .78      .10      .02   629.00
  16500.      1119.   15381.        0.    723.    2103.        0.    3245.    679.   631.70
   1.81        1.55     7.31      .00     .080     .025     .080     .025   622.70   472.09
 .000857      100.     100.      100.       2        0        0      .00   467.91   940.00

*SECNO 39092.000
 2800 NAT Q1=   8552.99  WSEL=    633.82  ENC Q1=   8552.99  WSEL=    633.92  RATIO=   -.0000
 NAT Q1=   8767.  RATIOS LOB,CH,ROB=   .0450   .7868   .1682  WSEL=    633.92

3470 ENCROACHMENT STATIONS=     409.0    1534.1  TYPE=     4  TARGET=        .024

        CROSS SECTION 12


              DAM

 39092.00     9.41   633.91      .00   633.82   634.16      .28      .42      .05   629.90
  16500.      585.   13287.    2628.     471.    2831.    28564.    3826.    693.   620.00
   1.86       1.24     4.69      .92     .080     .025     .080     .025   624.50   409.03
 .000374      782.     782.      782.       2        0        0      .00  1125.07  1534.10

*SECNO 44092.000
 2800 NAT Q1=   8801.68  WSEL=    635.51  ENC Q1=   8801.68  WSEL=    635.61  RATIO=   .0000
 NAT Q1=   8966.  RATIOS LOB,CH,ROB=   .0000   .9662   .0338  WSEL=    635.61

3470 ENCROACHMENT STATIONS=     500.0     888.8  TYPE=     4  TARGET=        .018

        CROSS SECTION 13
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MOORE BUSINESS FORMS, INC. 23

44092.00	13.90	635.60	.00	635.51	636.05	.45	1.81	.05	643.80	
16500.	0.	16240.	260.	0.	2986.	324.	3870.	778.	631.60	
2.12	.00	5.44	.80	.080	.025	.080	.025	621.70	522.57	
.000353	5000.	5000.	5000.	2	0	0	.00	366.26	888.83	

SECNO 50025.000

2800 NAT Q1= 9854.40 WSEL= 637.38 ENC Q1= 9854.40 WSEL= 637.48 RATIO= -.0000
NAT Q1= 10015. RATIOS LOB,CH,ROB= .0183 .9458 .0359 WSEL= 637.48

3470 ENCROACHMENT STATIONS= 1236.8 1830.3 TYPE= 4 TARGET= .016

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

50025.00	16.27	637.47	.00	637.38	637.91	.44	1.86	.00	633.00	
16500.	172.	15861.	467.	315.	2920.	680.	4362.	844.	634.60	
2.43	.55	5.43	.69	.080	.025	.080	.025	621.20	1236.77	
.000281	5933.	5933.	5933.	2	0	0	.00	593.56	1830.32	

CCHV= .300 CEHV= .500

SECNO 50075.000

2800 NAT Q1= 8076.99 WSEL= 637.37 ENC Q1= 8209.15 WSEL= 637.47 RATIO= -.0164
NAT Q1= 8209. RATIOS LOB,CH,ROB= .0000 1.0000 .0000 WSEL= 637.47

SECNO	DEPTH	CWSEL	CRIWS	WSELR	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 100.0 400.0 TYPE= 4 TARGET= .000

CROSS SECTION 15

50075.00	16.88	637.48	.00	637.37	637.94	.46	.02	.01	657.00	
16500.	0.	16500.	0.	0.	3019.	0.	4366.	844.	656.70	
2.44	.00	5.47	.00	.080	.025	.080	.025	620.60	100.00	
.000403	50.	50.	50.	1	0	0	.00	300.00	400.00	

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.56	2.80	.00	300.00	25.00	6876.00	.00	626.80	626.80

SECNO 50109.000

CLASS A LOW FLOW

3420 BRIDGE W.S.= 637.39 BRIDGE VELOCITY= 5.67 CALCULATED CHANNEL AREA= 2912.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	638.04	11	0	16500	6876	6985.	652.20	656.60

50109.00	16.98	637.58	.00	637.48	638.04	.45	.01	.00	657.00	

MOORE BUSINESS FORMS, INC 20

16500.	0.	16500.	0.	0.	3048.	0.	4368.	845.	656.70
2.44	.00	5.41	.00	.080	.025	.080	.025	620.60	100.00
.000390	34.	34.	34.	0	0	0	.00	300.00	400.00

CCHV= .100 CEHV= .300
*SECNO 50159.000
2800 NAT Q1= 10142.40 WSEL= 637.56 ENC Q1= 10142.40 WSEL= 637.66 RATIO= .0000
NAT Q1= 10307. RATIOS LOB,CH,ROB= .0218 .9402 .0381 WSEL= 637.66

3470 ENCROACHMENT STATIONS= 1144.6 1833.2 TYPE= 4 TARGET= .016

UPSTREAM OF DT&I R.R. BRIDGE

50159.00	16.43	637.63	.00	637.56	638.06	.42	.02	.00	633.00
16500.	228.	15771.	501.	455.	2957.	725.	4372.	845.	634.60
2.44	.50	5.33	.69	.080	.025	.080	.025	621.20	1144.56
.000266	50.	50.	50.	2	0	0	.00	688.65	1833.21

*SECNO 51892.000
2800 NAT Q1= 8603.07 WSEL= 638.05 ENC Q1= 8603.07 WSEL= 638.15 RATIO= .0000
NAT Q1= 8740. RATIOS LOB,CH,ROB= .0595 .9405 .0000 WSEL= 638.15

3470 ENCROACHMENT STATIONS= 1188.6 1630.0 TYPE= 4 TARGET= .016

CROSS SECTION 16

51892.00	13.53	638.13	.00	638.05	638.63	.51	.55	.02	636.80
16500.	731.	15769.	0.	823.	2703.	0.	4528.	868.	639.60
2.53	.89	5.83	.00	.080	.025	.080	.025	624.60	1188.63
.000370	1773.	1773.	1773.	2	0	0	.00	439.64	1628.27

MOORE BUSINESS FORMS, INC. 23

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1      SPECIAL FLOOD HAZARD INFORMATION REPORT - CORPS OF ENGINEERS
T2      500 YEAR FREQUENCY FLOOD
T3      RIVER RAISIN, MICHIGAN
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J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	.000000	.00	-1.0	0.	604.800	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

MOORE BUSINESS FORMS, INC. 23

*PROF*3

CCHV= .100 CEHV= .300

*SECNO 1514.000

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
1514.00	11.40	604.80	.00	604.80	605.14	.34	.00	.00	599.80
22000.	877.	19773.	1350.	1022.	4035.	1365.	0.	0.	597.50
.00	.86	4.90	.99	.080	.025	.080	.000	593.40	3252.86
.000306	0.	0.	0.	0	0	0	.00	915.14	4168.00

*SECNO .000

CROSS SECTION 1

.00	11.87	605.27	.00	.00	605.57	.30	.43	.00	599.80
22000.	958.	19609.	1433.	1140.	4215.	1504.	231.	33.	597.50
.10	.84	4.65	.95	.080	.025	.080	.025	593.40	3247.56
.000260	1514.	1514.	1514.	0	0	0	.00	1012.02	4259.59

*SECNO 5030.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 2

5030.00	9.10	607.30	.00	.00	608.18	.88	2.44	.17	603.90
22000.	1270.	20730.	0.	1185.	2674.	0.	850.	147.	610.70
.29	1.07	7.75	.00	.080	.025	.080	.025	598.20	107.71
.001203	5030.	5030.	5030.	2	0	0	.00	957.06	1064.77

*SECNO 8650.000

CROSS SECTION 3

DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

8650.00	9.29	610.79	.00	.00	611.39	.60	3.18	.03	607.00
22000.	326.	21535.	139.	404.	3429.	123.	1174.	215.	605.80
.45	.81	6.28	1.12	.080	.025	.080	.025	601.50	184.82
.000671	3620.	3620.	3620.	2	0	0	.00	680.27	865.09

CCHV= .300 CEHV= .500

*SECNO 8700.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

NADORE BUSINESS FORMS, INC. 23

8700.00	9.74	610.84	.00	.00	611.43	.59	.03	.00	615.40
22000.	12.	21988.	0.	40.	3580.	0.	1179.	216.	615.70
.45	.29	6.14	.00	.090	.025	.080	.025	601.10	186.33
.000610	50.	50.	50.	0	0	0	.00	486.10	800.00.

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	465.00	390.00	12.00	3553.00	.00	602.22	602.22

*SECNO 8747.000

6840.FLOW IS BY WEIR AND LOW FLOW

3265 DIVIDED FLOW

3420 BRIDGE W.S.= 610.87 BRIDGE VELOCITY= 6.19 CALCULATED CHANNEL AREA= 3268.

EGPPS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
611.67	611.46	.02	1787.	20224.	3553.	3572.	611.67	610.20

CROSS SECTION 4

8747.00	9.78	610.88	.00	.00	611.46	.58	.03	.00	615.40
22000.	13.	21987.	0.	44.	3599.	0.	1183.	216.	615.70
.46	.30	6.11	.00	.080	.025	.080	.025	601.10	185.32
.000599	47.	47.	47.	2	0	4	.00	489.05	800.00

CCHV= .100 CEHV= .300

*SECNO 8797.000

UPSTREAM OF RAISINVILLE ROAD BRIDGE

8797.00	9.41	610.91	.00	.00	611.49	.58	.03	.00	607.00
22000.	350.	21507.	143.	434.	3483.	130.	1187.	217.	605.80
.46	.81	6.17	1.10	.080	.025	.080	.025	601.50	39.88
.000635	50.	50.	50.	0	0	0	.00	829.24	869.12

*SECNO 10014.000

CROSS SECTION 5

10014.00	9.66	611.66	.00	.00	612.40	.75	.86	.05	607.20
22000.	1884.	20098.	18.	1654.	2775.	28.	1306.	243.	608.80
.51	1.14	7.24	.66	.080	.025	.080	.025	602.00	533.81
.000790	1217.	1217.	1217.	0	0	0	.00	990.46	1524.27

*SECNO 16014.000

CROSS SECTION 6

16014.00	11.68	615.28	.00	.00	615.77	.49	3.35	.03	611.80
22000.	441.	21213.	346.	587.	3692.	369.	1933.	363.	609.00
.61	.75	5.75	.94	.080	.025	.080	.025	603.60	98.47

.000415	6000.	6000.	6000.	2	0	0	.00	751.53	850.00

*SECNO 19124.000

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

CROSS SECTION 7

19124.00	13.21	616.61	.00	.00	616.93	.32	1.14	.02	612.80
22000.	1402.	15529.	5069.	2351.	2870.	5782.	2492.	488.	615.00
1.02	.60	5.41	.88	.080	.025	.080	.025	603.40	94.23
.000328	3110.	3110.	3110.	2	0	0	.00	2771.88	2866.11

*SECNO 22852.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 8

22852.00	10.54	618.14	.00	.00	619.56	1.42	2.30	.33	615.00
22000.	2122.	19432.	446.	1318.	1910.	392.	3117.	644.	614.20
1.13	1.61	10.17	1.14	.080	.025	.080	.025	607.60	168.32
.001560	3728.	3728.	3728.	2	0	0	.00	867.77	1036.09

*SECNO 32090.000

3280 CROSS SECTION 32090.00 EXTENDED 2.94 FEET

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 9

32090.00	11.94	627.94	.00	.00	628.55	.61	8.90	.08	634.80
22000.	0.	17265.	4735.	0.	2452.	4734.	4219.	915.	622.60
1.58	.00	7.04	4.00	.080	.025	.080	.025	616.00	572.42
.000667	8000.	9238.	8800.	4	0	0	.00	1827.58	2400.00

*SECNO 38074.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 10

DOWNSTREAM OF IDA-MAYBEE ROAD BRIDGE

38074.00	10.35	633.05	.00	.00	634.31	1.26	5.57	.20	629.00
22000.	1939.	20052.	9.	1094.	2130.	7.	4935.	1083.	634.70
1.77	.78	9.41	.53	.080	.025	.080	.025	622.70	335.49

MOORE BUSINESS FORMS, INC. 22

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 .001386    5984.    5984.    5984.        3        0        0      .00   629.02   964.51

CCHV=     .300 CEHV=     .500
*SECNO 38174.000
 38174.00     9.76   633.06      .00      .00   634.60     1.55      .15      .14   636.80
   22000.       0.   22000.       0.       0.    2204.       0.    4941.    1084.    636.00
     1.77      .00     9.98      .00     .080     .025     .080     .025   623.30   797.95
 .001695     100.     100.     100.        2        0        0      .00   253.51  1051.46

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .90      1.56      2.80       .00    253.00      6.00   2130.00      .00    624.54    624.54

*SECNO 38210.000

3265-DIVIDED-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

PRESSURE FLOW

 EGPRS      EGLWC       H3       QWEIP      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 APEA
  635.64    634.70      .14        0.    22000.     2130.     2129.     633.16    636.32

        CROSS SECTION 11

 38210.00    11.21   634.51      .00      .00   635.64     1.13     1.04      .00   636.80
   22000.      52.   21948.       0.     129.    2574.       0.    4943.    1085.    636.00
     1.77      .41     8.53      .00     .080     .025     .080     .025   623.30   369.38
 .001020      36.      36.      36.        3        0        0      .00   500.49  1051.73

CCHV=     .100 CEHV=     .300
*SECNO 38310.000

        UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

 38310.00    12.31   635.01      .00      .00   635.76      .75      .08      .04   629.00
   22000.    2689.   19244.      67.     1843.    2602.     100.    4951.    1086.    631.70
     1.77     1.46     7.40      .67     .080     .025     .080     .025   622.70   299.11
 .000655     100.     100.     100.        2        0        0      .00   701.39  1000.50

*SECNO 39092.000

3301-HV CHANGED MORE THAN HVINS

        CROSS SECTION 12
```

DAM

39092.00	11.38	635.88	.00	.00	636.12	.24	.31	.05	629.90
22000.	1214.	15952.	4834.	1262.	3503.	5262.	5082.	1108.	629.00
1.83	.96	4.55	.92	.080	.025	.080	.025	624.50	184.35
.000265	782.	782.	782.	2	0	0	.00	1729.06	1913.41

*SECNO 44092.000

CROSS SECTION 13

44092.00	15.52	637.22	.00	.00	637.72	.50	1.52	.08	643.80
22000.	0.	20266.	1734.	0.	3434.	2357.	5990.	1276.	631.60
2.09	.00	5.90	.74	.080	.025	.080	.025	621.70	518.11
.000353	5000.	5000.	5000.	2	0	0	.00	1192.58	1710.69

*SECNO 50025.000

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

50025.00	17.91	639.11	.00	.00	639.60	.49	1.88	.00	633.00
22000.	1285.	19515.	1200.	2297.	3289.	1376.	6858.	1470.	634.60
2.40	.56	5.93	.87	.080	.025	.080	.025	621.20	269.55
.000286	5933.	5933.	5933.	2	0	0	.00	1667.00	1936.54

CCHV= .300 CEHV= .500

*SECNO 50075.000

SECNO	DEPTH	QWSEL	QCRTWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	HLOB	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

CROSS SECTION 15

50075.00	18.46	639.06	.00	.00	639.68	.62	.02	.07	657.00
22000.	0.	22000.	0.	0.	3493.	0.	6864.	1471.	656.70
2.40	.00	6.30	.00	.080	.025	.080	.025	620.60	100.00
.000446	50.	50.	50.	2	0	0	.00	300.00	400.00

SPECIAL BRIDGE

SB	XR	SKOR	COEQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
1	.25	1.56	2.80	.00	300.00	25.00	6876.00	.00	626.80	626.80

*SECNO 50109.000

CLASS A LOW FLOW

3420 BRIDGE W.S.= 638.94 BRIDGE VELOCITY= 6.59 CALCULATED CHANNEL AREA= 3339.

EGPRS	EGLWC	M3	QWEIR	QPR	BAREA	TRAPEZOID OPEN	ELLC	ELTRD

MOORE BUSINESS FORMS, INC. 23

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     .00    639.81      .15        0.    22000.     6876.     6985.     652.20    656.60

 50109.00    18.61   639.21      .00       .00   639.81      .60       .13       .00   657.00
   22000.       0.    22000.       0.        0.    3538.       0.     6867.     1472.    656.70
     2.40      .00     6.22      .00      .080     .025     .080      .025    620.60   100.00
  .000428      34.      34.      34.         0        0        0       .00    300.00   400.00

CCHV=     .100 CEHV=     .300
*SECNO 50159.000

        UPSTREAM OF DT&I R.R. BRIDGE

 50159.00    18.20   639.40      .00       .00   639.85      .45       .02       .02   633.00
   22000.     1471.    19266.    1263.     2628.    3353.    1465.     6873.     1473.    634.60
     2.40      .56     5.75      .86      .080     .025     .080      .025    621.20   199.35
  .000261      50.      50.      50.         2        0        0       .00   1741.50  1940.85

*SECNO 51892.000

          CROSS SECTION 16

 51892.00    15.25   639.85      .00       .00   640.44      .59       .55       .04   636.80
   22000.     2041.    19958.       0.     2025.    3099.       3.     7129.     1524.    639.60
     2.49      1.01     6.44      .09      .080     .025     .080      .025    624.60   906.31
  .000381     1773.     1773.    1773.         2        0        0       .00    749.19  1655.49
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COOR, BUSINESS FORMS, INC. 93

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Raisinville twp

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 100yr. Natural

00BREAK00

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**********************************************************
  HEC2 RELEASE DATED NOV-76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**********************************************************

C
T1      SPECIAL FLOOD HAZARD INFORMATION REPORT, CORPS OF ENGINEERS
T2      100 YEAR FREQUENCY FLOOD
T3      RIVER RAISIN, MICHIGAN

J1  ICHECK     INQ      NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       2.        0.        0.   .000000       .00     -1.0        0.   603.400     .000

J2  NPROF      IPLOT    PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     .000       .000   -1.000      .000      .000      .000      .000      .000      .000      .000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    39.000   -43.000     1.000     3.000     5.000    -4.000    42.000    10.000    27.000

    28.000    31.000    32.000     9.000    34.000    25.000      .000      .000      .000      .000

NC    .080      .080      .025      .100      .300      .000      .000      .000      .000      .000
QT   5.000  16500.000 16500.000 22000.000 14400.000 10200.000      .000      .000      .000      .000
ET    .000      .000     1.400      .000      .000      .000      .000      .000      .000      .000

X1  1514.000    48.000  3505.000  3895.000      .000      .000      .000      .000      .000      .000
GR   607.000      .000   606.800  3200.000   606.800  3230.000   601.200  3294.000   600.000  3370.000
GR  -600.800 -3405.000  -599.800 -3455.000  -599.800 -3505.000  -595.400 -3515.000  -594.300 -3535.000
GR   594.000  3545.000   593.900  3555.000   594.300  3560.000   596.500  3560.000   597.200  3570.000
GR   597.600  3580.000   595.400  3585.000   594.200  3595.000   593.800  3605.000   594.900  3635.000
GR   594.200  3645.000   594.300  3655.000   594.400  3665.000   594.500  3685.000   594.300  3695.000
GR   593.600  3705.000   593.500  3735.000   593.700  3745.000   594.800  3755.000   594.100  3765.000
GR   594.400  3775.000   594.000  3785.000   594.000  3795.000   594.500  3815.000   593.800  3825.000
GR   593.800 -3835.000  -593.700  3845.000   593.900 -3855.000  -593.900  3865.000  -593.400 -3875.000
GR   594.600  3885.000   592.500  3895.000   599.100  3955.000   599.100  4005.000   600.000  4055.000
GR   600.000  4120.000   605.000  4170.000   605.500  4340.000      .000      .000      .000      .000

          CROSS SECTION 1

X1       .000      .000      .000      .000  1514.000  1514.000  1514.000      .000      .000      .000

          CROSS SECTION 2

X1  5054.000   39.000   700.000  4120.000  5030.000  5030.000  5030.000      .000      .000      .000
GR   610.000      .000   605.000   200.000   605.000   300.000   605.400   400.000   605.400   450.000
GR   606.100  -550.000  -605.000   600.000   604.200   650.000   603.900   700.000   599.300   720.000
GR  -598.300  -730.000  -598.300  -750.000  -598.200  -760.000  -598.600  -780.000  -598.700  -800.000
GR   599.000   810.000   599.700   820.000   600.000   830.000   600.000   840.000   600.100   850.000
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MOORE BUSINESS FORMS, INC. 27

GR	599.900	870.000	599.600	880.000	598.800	890.000	598.500	900.000	599.800	920.000
GR	600.100	940.000	599.700	950.000	600.000	960.000	599.200	970.000	599.600	980.000
GR	599.500	990.000	599.000	1000.000	599.200	1010.000	599.000	1020.000	600.400	1030.000
GR	604.700	1038.000	606.400	1050.000	610.700	1120.000	613.800	1320.000	.000	.000

CROSS SECTION 3

DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

XI	8650.000	32.000	400.000	815.000	3620.000	3620.000	3620.000	.000	.000	.000
GR	615.000	.000	610.900	40.000	610.900	180.000	609.200	250.000	608.500	300.000
GR	608.700	350.000	607.000	400.000	603.400	430.000	602.600	450.000	603.200	460.000
GR	601.800	480.000	601.800	610.000	602.000	620.000	603.200	630.000	603.200	650.000
GR	601.900	660.000	601.500	670.000	601.600	680.000	603.000	700.000	602.800	720.000
GR	602.000	730.000	603.200	740.000	602.400	770.000	601.700	790.000	602.200	800.000
GR	603.400	810.000	605.800	815.000	607.000	835.000	610.300	850.000	611.900	900.000
GR	612.000	1250.000	615.000	1300.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.025	.300	.500	.000	.000	.000	.000	.000

XI	8700.000	26.000	400.000	800.000	50.000	50.000	50.000	.000	.000	.000
GP	615.000	.000	610.900	185.000	610.200	200.000	610.300	250.000	611.500	300.000
GR	613.300	350.000	615.400	400.000	601.600	400.000	601.600	410.000	601.500	420.000
GR	602.000	430.000	601.600	450.000	602.200	460.000	602.300	470.000	601.600	480.000
GR	601.100	530.000	602.000	540.000	602.600	555.000	602.000	560.000	602.000	800.000
GP	615.700	800.000	615.000	850.000	614.300	950.000	614.400	1000.000	614.200	1050.000
GR	615.000	1300.000	.000	.000	.000	.000	.000	.000	.000	.000
SB	.900	1.560	2.800	465.000	390.000	12.000	3553.000	.000	602.220	602.220

CROSS SECTION 4

X1	8747.000	.000	.000	.000	47.000	47.000	47.000	.000	.000	.000
X2	.000	.000	1.000	611.670	610.200	.000	.000	.000	.000	.000
NC	.000	.000	.025	.100	.300	.000	.000	.000	.000	.000

UPSTREAM OF RAISINVILLE ROAD BRIDGE

X1	8797.000	32.000	400.000	815.000	50.000	50.000	50.000	.000	.000	.000
GR	615.000	.000	610.900	40.000	610.900	180.000	609.200	250.000	608.500	300.000
GR	608.700	350.000	607.000	400.000	603.400	430.000	602.600	450.000	603.200	460.000
GR	601.800	480.000	601.800	610.000	602.000	620.000	603.200	630.000	603.200	650.000
GR	601.900	660.000	601.500	670.000	601.600	680.000	603.000	700.000	602.800	720.000
GR	602.000	730.000	603.200	740.000	602.400	770.000	601.700	790.000	602.200	800.000
GP	603.400	810.000	605.800	815.000	607.000	835.000	610.300	850.000	611.900	900.000
GR	612.000	1250.000	615.000	1300.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 5

X1	10014.000	17.000	1200.000	1505.000	1217.000	1217.000	1217.000	.000	.000	.000
GR	615.000	.000	610.000	800.000	607.700	900.000	608.200	950.000	608.300	1100.000
GR	606.500	1150.000	607.200	1200.000	604.400	1210.000	602.800	1220.000	602.500	1230.000
GR	602.000	1470.000	602.800	1480.000	602.900	1490.000	604.400	1500.000	608.800	1505.000
GP	614.000	1540.000	620.000	2000.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 6

MOORE BUSINESS FORMS, INC. 23

X1	16014.000	34.000	400.000	755.000	6000.000	6000.000	6000.000	.000	.000	.000
GR	620.000	.000	617.600	50.000	615.200	100.000	614.800	200.000	612.600	250.000
GR	612.000	300.000	612.000	350.000	611.800	400.000	607.000	410.000	604.000	420.000
GR	605.000	430.000	605.300	440.000	605.000	460.000	605.000	530.000	605.400	540.000
GR	604.800	560.000	604.500	590.000	604.600	600.000	604.000	630.000	604.500	650.000
GR	603.600	660.000	603.600	670.000	604.200	680.000	604.300	700.000	604.000	710.000
GR	604.500	730.000	605.400	740.000	607.000	750.000	609.000	755.000	612.200	800.000
GR	612.000	850.000	616.000	850.000	616.600	2000.000	620.000	2150.000	.000	.000

CROSS SECTION 7

X1	13124.000	33.000	1200.000	1450.000	3110.000	3110.000	3110.000	.000	.000	.000
GR	625.000	.000	620.000	40.000	615.000	120.000	615.000	700.000	614.000	900.000
GR	614.000	1000.000	613.300	1050.000	613.100	1100.000	612.400	1150.000	612.800	1200.000
GR	607.300	1210.000	604.300	1220.000	604.500	1230.000	606.000	1240.000	605.900	1250.000
GR	604.300	1270.000	603.400	1290.000	604.000	1310.000	604.600	1350.000	604.000	1390.000
GR	604.600	1400.000	605.000	1420.000	606.000	1430.000	607.200	1440.000	615.000	1450.000
GR	614.900	1455.000	613.100	1470.000	612.000	1500.000	612.500	2700.000	615.000	2800.000
GR	615.000	2850.000	620.000	2900.000	625.000	2950.000	.000	.000	.000	.000

CROSS SECTION 8

X1	22852.000	22.000	600.000	810.000	3723.000	3728.000	3728.000	.000	.000	.000
GR	625.000	.000	620.000	120.000	615.000	250.000	613.000	300.000	615.000	350.000
GR	615.600	400.000	614.500	550.000	615.000	600.000	610.000	610.000	608.000	620.000
GR	607.600	650.000	608.000	660.000	607.700	700.000	608.200	710.000	607.900	740.000
GR	608.200	750.000	608.200	760.000	610.000	770.000	614.200	810.000	615.200	840.000
GR	620.000	1160.000	625.000	1200.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 9

X1	32090.000	17.000	550.000	820.000	8000.000	8800.000	9238.000	.000	.000	.000
GR	634.600	.000	634.600	500.000	634.800	510.000	634.800	550.000	619.500	600.000
GR	617.700	620.000	616.200	660.000	616.000	680.000	647.100	740.000	617.700	790.000
GR	618.000	800.000	619.500	810.000	622.600	820.000	624.000	860.000	625.000	900.000
GR	625.000	2300.000	625.000	2400.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 10

DOWNSTREAM OF IDA-MAYBEE ROAD BRIDGE

X1	38074.000	31.000	700.000	940.000	5984.000	5984.000	5984.000	.000	.000	.000
GR	640.000	.000	635.000	300.000	629.500	400.000	629.900	450.000	631.800	500.000
GR	629.100	530.000	625.500	533.000	624.000	540.000	623.000	560.000	625.500	563.000
GR	628.400	575.000	631.600	600.000	631.200	650.000	629.000	700.000	625.600	708.000
GR	624.000	710.000	624.200	720.000	623.700	740.000	624.500	750.000	623.800	810.000
GR	627.000	820.000	623.200	840.000	623.200	860.000	622.700	880.000	623.700	890.000
GR	624.000	920.000	631.700	940.000	635.000	1000.000	636.500	1050.000	636.600	900.000
GR	640.000	2150.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.025	.300	.500	.000	.000	.000	.000	.000

X1	28174.000	39.000	797.000	1052.000	400.000	100.000	100.000	.000	.000	.000
GR	640.000	.000	635.000	300.000	633.600	500.000	633.800	550.000	634.200	600.000
GR	635.200	650.000	635.300	700.000	635.500	750.000	636.800	797.000	625.000	800.000

MOORE BUSINESS FORMS, INC 23

GR	624.300	810.000	624.600	820.000	623.900	830.000	624.200	850.000	625.100	858.000
GR	625.100	860.000	624.000	870.000	624.000	880.000	624.400	890.000	624.300	900.000
GR	625.100	910.000	624.500	920.000	625.100	925.000	625.100	927.000	623.300	930.000
GR	624.100	940.000	624.100	970.000	623.700	980.000	625.000	991.000	625.000	1000.000
GR	623.900	1010.000	623.700	1020.000	623.800	1030.000	625.000	1050.000	636.000	1052.000
GR	636.100	1100.000	635.800	1150.000	636.100	1200.000	640.000	2100.000	.000	.000
SB	.900	1.560	2.800	.000	253.000	6.000	2130.000	.000	624.540	624.540

CROSS SECTION 11

X1	38210.000	.000	.000	.000	36.000	36.000	36.000	.000	.000	.000
X2	.000	.000	1.000	633.160	636.320	.000	.000	.000	.000	.000
NC	.000	.000	.025	.100	.300	.000	.000	.000	.000	.000

UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

X1	38310.000	31.000	700.000	940.000	100.000	100.000	100.000	.000	.000	.000
GR	640.000	.000	635.000	300.000	629.500	400.000	629.900	450.000	631.800	500.000
GR	629.100	530.000	625.500	533.000	624.000	540.000	623.000	560.000	625.500	568.000
GR	632.400	575.000	631.600	600.000	631.200	650.000	629.000	700.000	625.600	708.000
GR	624.000	710.000	624.200	720.000	623.700	740.000	624.500	750.000	623.800	810.000
GR	623.000	820.000	623.200	840.000	623.200	860.000	622.700	880.000	623.700	890.000
GR	624.000	920.000	631.700	940.000	635.000	1000.000	636.500	1050.000	636.600	1900.000
GR	640.000	2150.000	.000	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 12

DAM

X1	39092.000	25.000	500.000	840.000	782.000	782.000	782.000	.000	.000	.000
GR	640.000	.000	633.300	300.000	631.100	350.000	632.200	400.000	627.500	405.000
GR	625.900	410.000	625.300	420.000	625.700	450.000	630.800	455.000	633.000	480.000
GR	629.900	500.000	627.500	500.000	626.400	510.000	626.800	530.000	625.600	580.000
GR	626.300	600.000	625.400	610.000	624.500	700.000	625.500	750.000	625.000	820.000
GR	627.500	830.000	629.000	840.000	629.800	890.000	629.800	1490.000	640.000	2200.000

CROSS SECTION 13

X1	44092.000	24.000	500.000	797.000	5000.000	5000.000	5000.000	.000	.000	.000
GR	646.600	.000	646.700	400.000	646.100	445.000	643.800	500.000	632.900	530.000
GR	630.800	560.000	626.400	580.000	623.600	600.000	623.000	610.000	622.700	630.000
GR	622.500	660.000	622.000	680.000	621.900	700.000	622.200	730.000	621.700	740.000
GR	622.000	760.000	623.800	770.000	623.300	780.000	631.600	797.000	632.000	850.000
GR	633.100	900.000	634.100	1000.000	635.000	1440.000	640.000	2050.000	.000	.000

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

X1	50025.000	27.000	1400.000	1625.000	5933.000	5933.000	5933.000	.000	.000	.000
GR	640.000	.000	640.000	50.000	636.400	940.000	636.400	1300.000	635.300	1350.000
GR	633.000	1400.000	631.000	1410.000	627.200	1430.000	623.700	1460.000	621.600	1470.000
GR	621.300	1480.000	623.600	1490.000	623.300	1500.000	621.700	1520.000	623.700	1560.000
GR	621.200	1570.000	621.200	1580.000	622.000	1590.000	626.400	1610.000	634.000	1620.000
GR	634.600	1625.000	634.900	1650.000	634.200	1700.000	634.200	1750.000	633.500	1800.000

GR	633.400	1850.000	640.000	1950.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.025	.300	.500	.000	.000	.000	.000	.000

CROSS SECTION 15

X1	50075.000	52.000	100.000	400.000	50.000	50.000	50.000	.000	.000	.000
GR	657.200	.000	657.000	100.000	637.000	100.000	636.800	110.000	636.500	120.000
GR	636.000	130.000	635.500	135.000	634.000	140.000	629.300	145.500	629.400	146.000
GR	628.400	151.000	628.300	151.500	626.600	160.000	625.900	170.000	625.900	180.000
GR	623.500	190.000	623.700	195.500	623.800	196.000	622.900	201.000	622.900	201.500
GR	622.100	210.000	621.000	220.000	621.200	230.000	621.900	240.000	621.300	244.500
GR	621.200	245.000	620.600	251.000	620.700	251.500	621.500	255.000	622.400	260.000
GR	622.000	270.000	622.300	280.000	622.400	290.000	621.500	294.500	621.400	295.000
GR	621.000	301.000	621.100	301.500	621.900	310.000	625.000	320.000	626.800	330.000
GP	628.400	340.000	629.400	345.000	629.500	345.500	631.000	350.500	631.000	351.000
GR	634.700	360.000	635.200	370.000	635.300	380.000	635.300	390.000	635.300	400.000
GR	656.700	400.000	656.700	500.000	.000	.000	.000	.000	.000	.000
SB	1.250	1.560	2.800	.000	300.000	25.000	6876.000	.000	626.800	626.800

X1	50109.000	.000	.000	.000	34.000	34.000	34.000	.000	.000	.000
X2	.000	.000	11.000	652.200	656.600	.000	.000	.000	.000	.000
BT	48.000	.000	657.200	657.200	100.000	656.800	650.000	110.000	656.800	651.800
BT	120.000	656.800	652.000	130.000	656.700	652.000	140.000	656.700	651.400	145.500
BT	656.700	650.800	146.000	656.700	650.000	151.000	656.600	650.000	151.500	656.600
BT	650.800	160.000	656.600	651.500	170.000	656.600	652.000	180.000	656.600	651.900
BT	190.000	656.600	651.400	195.500	656.600	651.000	196.000	656.600	650.000	201.000
BT	656.600	650.000	201.500	656.600	651.000	210.000	656.600	651.300	220.000	656.600
BT	651.800	230.000	656.600	651.800	240.000	656.600	651.100	244.500	656.600	651.000
BT	245.000	656.600	650.000	251.000	656.600	650.000	251.500	656.600	651.000	260.000
BT	656.600	651.400	270.000	656.600	651.800	280.000	656.600	651.800	290.000	656.600
BT	651.000	294.500	656.600	651.000	295.000	656.600	650.000	301.000	656.600	650.000
BT	301.500	656.600	650.500	310.000	656.600	651.300	320.000	656.600	651.500	330.000
BT	656.600	651.800	340.000	656.600	651.000	345.000	656.600	650.500	345.500	656.600
BT	650.000	350.500	656.600	650.000	351.000	656.600	650.300	360.000	656.600	651.200
BT	370.000	656.600	651.600	380.000	656.600	651.800	390.000	656.600	651.400	400.000
BT	656.600	650.000	500.000	656.600	656.600	.000	.000	.000	.000	.000
NC	.000	.000	.025	.100	.300	.000	.000	.000	.000	.000

UPSTREAM OF DT&I R.R. BRIDGE

X1	50159.000	27.000	1400.000	1625.000	50.000	50.000	50.000	.000	.000	.000
GR	640.000	.000	640.000	50.000	636.400	940.000	636.400	1300.000	635.300	1350.000
GR	633.000	1400.000	631.000	1410.000	627.200	1430.000	623.700	1460.000	621.600	1470.000
GR	621.300	1480.000	623.600	1490.000	623.300	1500.000	621.700	1520.000	623.700	1560.000
GR	621.200	1570.000	621.200	1580.000	622.000	1590.000	626.400	1610.000	631.000	1620.000
GR	634.600	1625.000	634.900	1650.000	634.200	1700.000	634.200	1750.000	633.500	1800.000
GR	633.400	1850.000	640.000	1950.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 16

X1	51892.000	18.000	1400.000	1630.000	1773.000	1773.000	1773.000	.000	.000	.000
GR	645.000	.000	645.000	850.000	640.000	900.000	635.400	1100.000	635.400	1150.000
GR	633.900	1250.000	633.600	1300.000	633.600	1350.000	636.800	1400.000	635.600	1420.000
GR	624.600	1430.000	625.700	1500.000	628.000	1610.000	631.100	1620.000	639.500	1630.000
GP	640.100	1680.000	641.400	1730.000	650.000	2000.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

MOORE BUSINESS FORMS, INC. 23

*PROF 1

CCHV= .100 CEHV= .300

*SECNO 1514.000

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
1514.00	10.00	603.40	.00	603.40	603.67	.27	.00	.00	599.80
16500.	454.	15238.	807.	680.	3488.	992.	0.	0.	597.50
.00	.67	4.37	.81	.080	.025	.080	.000	593.40	3268.86
.000295	0.	0.	0.	0	0	0	.00	885.14	4154.00

*SECNO .000

CROSS SECTION 1

.00	10.44	603.84	.00	.00	604.09	.24	.41	.00	599.80
16500.	522.	15100.	877.	787.	3663.	1109.	186.	31.	597.50
.11	.66	4.12	.79	.080	.025	.080	.025	593.40	3263.75
.000246	1514.	1514.	1514.	0	0	0	.00	894.72	4158.47

*SECNO 5030.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 2

5030.00	7.67	605.87	.00	.00	606.72	.86	2.45	.18	603.90
16500.	265.	16235.	0.	382.	2167.	0.	654.	131.	610.70
.30	.69	7.49	.00	.080	.025	.080	.025	598.20	165.02
.001388	5030.	5030.	5030.	2	0	0	.00	838.83	1046.29

*SECNO 8650.000

CROSS SECTION 3

DOWNSTREAM OF RAISINVILLE ROAD BRIDGE

8650.00	8.10	609.60	.00	.00	610.07	.48	3.31	.04	607.00
16500.	98.	16328.	74.	177.	2936.	79.	893.	191.	605.80
.48	.55	5.56	.93	.080	.025	.080	.025	601.50	233.82
.000647	3620.	3620.	3620.	2	0	0	.00	612.97	846.79

CCHV= .300 CEHV= .500

*SECNO 8700.000

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

MOORE BUSINESS FORMS, INC. 212

SLOPE	XLOBL	XLCH	XLOBR	AL	IDC	ICONT	CORAR	TOPWID	ENDST
8700.00	8.58	609.68	.00	.00	610.11	.44	.03	.01	615.40
16500.	0.	16500.	0.	0.	3116.	0.	897.	192.	615.70
.48	.00	5.29	.00	.080	.025	.080	.025	601.10	400.00
.000541	50.	50.	50.	2	0	0	.00	400.00	800.00

SPECIAL BRIDGE

SB	XK	XKOR	COEQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.56	2.80	465.00	390.00	12.00	3553.00	.00	602.22	602.22

*SECNO 8747.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 609.64 BRIDGE VELOCITY= 5.88 CALCULATED CHANNEL AREA= 2806.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	610.13	.02	0.	16500.	3553.	3572.	611.67	610.20

CROSS SECTION 4

8747.00	8.60	609.70	.00	.00	610.13	.43	.02	.00	615.40
16500.	0.	16500.	0.	0.	3125.	0.	900.	192.	615.70
.49	.00	5.28	.00	.080	.025	.080	.025	601.10	400.00
.000536	47.	47.	47.	0	0	0	.00	400.00	800.00

CCHV= .100 CEHV= .300
*SECNO 8797.000

UPSTREAM OF RAISINVILLE ROAD BRIDGE

8797.00	8.21	609.71	.00	.00	610.17	.46	.03	.01	607.00
16500.	112.	16311.	77.	198.	2988.	83.	904.	193.	605.80
.49	.56	5.46	.92	.080	.025	.080	.025	601.50	228.62
.000609	50.	50.	50.	1	0	0	.00	618.74	847.36

*SECNO 10014.000

CROSS SECTION 5

10014.00	8.43	610.43	.00	.00	611.05	.62	.83	.05	607.20
16500.	894.	15602.	4.	954.	2398.	9.	996.	213.	608.80
.54	.94	6.51	.45	.080	.025	.080	.025	602.00	731.45
.000774	1217.	1217.	1217.	2	0	0	.00	784.51	1515.96

*SECNO 16014.000

CROSS SECTION 6

16014.00	10.29	613.89	.00	.00	614.28	.39	3.20	.02	611.80
16500.	454.	16180.	166.	290.	3197.	236.	1484.	310.	609.00
.88	1.53	5.06	.70	.080	.025	.080	.025	603.60	220.94

MOORE BUSINESS FORMS, INC. 33

.000390	6000.	6000	6000.	2	0	0	.00	629.06	850.00

*SECNO 19124.000

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	XLOBE	XLCH	XLOBR	ITRIPL	TDC	ICONT	CORAR	TOPWID	ENDST

CROSS SECTION 7

19124.00	11.72	615.12	.00	.00	615.49	.37	1.22	.00	612.80
16500.	339.	13470.	2690.	727.	2499.	3691.	1864.	430.	615.00
1.07	.47	5.39	.73	.080	.025	.080	.025	603.40	117.98
.000392	3110.	3110.	3110.	2	0	0	.00	2733.29	2851.26

*SECNO 22852.000

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 8

22852.00	9.49	617.09	.00	.00	618.26	1.17	2.52	.24	615.00
16500.	1094.	15234.	172.	881.	1691.	192.	2278.	580.	614.20
1.19	1.24	9.01	.90	.080	.025	.080	.025	607.60	195.47
.001439	3728.	3728.	3728.	2	0	0	.00	771.01	966.48

*SECNO 32090.000

3280 CROSS SECTION 32090.00 EXTENDED 1.70 FEET

3301 HV CHANGED MORE THAN HVINS

CROSS SECTION 9

32090.00	10.70	626.70	.00	.00	627.32	.62	9.01	.05	634.30
16500.	0.	14474.	2026.	0.	2147.	2773.	3066.	841.	622.60
1.62	.00	6.74	.73	.080	.025	.080	.025	616.00	576.47
.000713	8000.	9238.	8800.	4	0	0	.00	1823.53	2400.00

*SECNO 38074.000

3265 DIVIDED FLOW

CROSS SECTION 10

DOWNSTREAM OF IDA MAYBEE ROAD BRIDGE

38074.00	9.29	631.99	.00	.00	632.96	.97	5.54	.11	629.00
16500.	1141.	15359.	0.	14.	873.	3581.	0.	.005	631.70
1.83	1.50	8.20	.8	.080	.025	.080	.025	622.70	354.94

ELCORE BUSINESS FORMS, INC.

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 .001248    5984.    5984.    5984.        2        0        0      .00   576.50   945.06

CCHV=    .300 CEHV=    .500
*SECNO 38174.000
 38174.00     8.75   632.05      .00      .00   633.16     1.11      .13      .07   636.80
   16500.       0.   16500.       0.       0.    1948.       0.    3587.    1006.    636.00
     1.83      .00     8.47      .00     .080     .025     .080     .025   623.30   798.21
  .001422     100.     100.     100.        2        0        0      .00   253.07  1051.28

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .90       1.56      2.80       .00    253.00      6.00   2130.00      .00     624.54    624.54

+SECNO 38210.000
   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

PRESSURE FLOW

 EGPRS      EGLWC      H3        QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                AREA
   633.50    633.22      .08        0.    16500.     2130.     2129.      633.16    636.32

        CROSS SECTION 11

 38210.00     9.21   632.51      .00      .00   633.50      .99      .34      .00   636.80
   16500.       0.   16500.       0.       0.    2066.       0.    3588.    1007.    636.00
     1.84      .00     7.99      .00     .080     .025     .080     .025   623.30   798.09
  .001176      36.      36.      36.        3        0        0      .00   253.28  1051.37

CCHV=    .100 CEHV=    .300
*SECNO 38310.000

        UPSTREAM OF IDA-MAYBEE ROAD BRIDGE

 38310.00    10.18   632.88      .00      .00   633.63      .74      .10      .02   629.00
   16500.     1405.   15090.       5.     1032.    2091.      13.    3594.    1008.    631.70
     1.84      1.36     7.22      .38     .080     .025     .080     .025   622.70   338.46
  .000835      100.     100.     100.        2        0        0      .00   623.08   961.54

*SECNO 39092.000

        CROSS SECTION 12

                    DAM

 39092.00     9.32   633.82      .00      .00   634.09      .27      .42      .05   629.90
   16500.      735.   13041.    2723.     707.    2803.    3198.    3683.    1027.    629.00
```

1.90	1.04	4.65	.85	.080	.025	.080	.025	624.50	276.57
.000372	782.	782.	782.	2	0	0	.00	1493.48	1770.05

*SECNO 44092.000

CROSS SECTION 13

44092.00	13.81	635.51	.00	.00	635.95	.44	1.81	.05	643.80
16500.	0.	15985.	515.	0.	2960.	969.	4293.	1168.	631.60
2.16	.00	5.40	.53	.080	.025	.080	.025	621.70	522.83
.000351	5000.	5000.	5000.	2	0	0	.00	978.62	1501.45

*SECNO 50025.000

CROSS SECTION 14

DOWNSTREAM OF DT&I R.R. BRIDGE

50025.00	16.18	637.38	.00	.00	637.81	.43	1.86	.00	633.00
16500.	272.	15657.	572.	708.	2899.	859.	4865.	1318.	634.60
2.48	.38	5.40	.67	.080	.025	.080	.025	621.20	698.35
.000280	5933.	5933.	5933.	2	0	0	.00	1211.91	1910.26

CCHV= .300 CEHV= .500

*SECNO 50075.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CROSS SECTION 15

50075.00	16.77	637.37	.00	.00	637.65	.47	.02	.02	657.00
16500.	0.	16500.	0.	0.	2986.	0.	4869.	1318.	656.70
2.48	.00	5.53	.00	.080	.025	.080	.025	620.60	100.00
.000417	50.	50.	50.	2	0	0	.00	300.00	400.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.56	2.80	.00	300.00	25.00	6876.00	.00	626.80	626.80

*SECNO 50109.000

CLASS A LOW FLOW

3420 BRIDGE W.S.= 637.28 BRIDGE VELOCITY= 5.72 CALCULATED CHANNEL AREA= 2883.

ECPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	637.95	.11	0.	16500.	6876.	6985.	652.20	656.60

50109.00	16.88	637.48	.00	.00	637.95	.46	.10	.00	657.00
16500.	0.	16500.	0.	0.	3018.	0.	4871.	1318.	656.70
2.48	.00	5.47	.00	.080	.025	.080	.025	620.60	100.00

MOORE BUSINESS FORMS, INC.

.000403	34.	34.	34.	0	0	0	.00	300.00	400.00

CCHV= .100 CEHV= .300
*SECNO 50159.000

UPSTREAM OF DT&I R.R. BRIDGE

50159.00	16.36	637.56	.00	.00	637.97	.41	.02	.01	633.00
16500.	326.	15586.	608.	837.	2939.	910.	4876.	1320.	634.60
2.49	.39	5.30	.67	.080	.025	.080	.025	621.20	654.16
.000265	50.	50.	50.	2	0	0	.00	1258.81	1912.97

*SECNO 51892.000

CROSS SECTION 16

51892.00	13.45	638.05	.00	.00	638.54	.49	.55	.02	636.80
16500.	948.	15552.	0.	1205.	2685.	0.	5050.	1358.	639.60
2.58	.79	5.79	.00	.080	.025	.080	.025	624.60	984.81
.000368	1773.	1773.	1773.	2	0	0	.00	643.37	1628.18

AUGUST HANSEN FORMS, INC. 23

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Raisinville twp.

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Report

00BREAK00

HYDRAULIC ANALYSIS OF RAISIN RIVER - RAISINVILLE TOWNSHIP, MONROE COUNTY

A. Introduction

The hydraulic analysis presented for the Raisin River through Raisinville Township was obtained from a previous Special Flood Hazard Information Report prepared by the Corps of Engineers, Detroit District in 1976. Initial discussions and correspondence with the Water Management Division authorized using the hydrology and hydraulics of the previous report for use in a "direct conversion" to FIS report guidelines and format. Therefore, Williams & Works obtained the original input and output, with the computer cards from the Corps of Engineers, and re-ran the input to generate the final computations approved by the DNR in 1976. In addition, Williams & Works conducted a field investigation to determine if any major changes in the floodplain had taken place since the 1976 report. No apparent changes had taken place since 1976. The 10-year flood profile and 100-year flood with an encroachment option were also developed for FIS purposes.

Note my July 26, 77 concerns with the Corp's model

B. Hydraulic Computations:

The hydraulic computations were made utilizing the November, 1976 (updated July, 1979) version of the Corps of Engineers HEC-2 water surface profile computer program.

The flood discharges used in the analysis were selected from the frequency curve developed by the Corps of Engineers from the Monroe gage for the Special Flood Hazard Information Report as approved by the DNR. The discharges are as follows:

10 year - 10,200 cfs

50 year - 14,400 cfs

100 year - 16,500 cfs

500 year - 22,000 cfs

The starting water surface utilized for the computations by the Corps of Engineers were checked to insure approximate compliance with the City of Monroe FIS upstream elevations on the Raisin River.

Manning's roughness coefficients, expansion and contraction coefficients, artificial encroachment stations, and bridge hydraulics were not reviewed by Williams & Works nor deviated from the original submittal by the Corps of Engineers.

The determination of the floodway area was made utilizing Method 5 of the HEC-2 program. A maximum allowable flood stage increase of 0.10 feet above the computed natural 100-year flood stage was specified.

C. Results

The computed water surface for the 100, 50 and 500 year flood discharges matched the previous submittals by the Corps of Engineers. The 10-year flood stages were also computed utilizing this same model to determine insurance rates for the FIS.

The plotted cross sections are available through DNR files. The 100-year flood plain with the 100-year floodway are shown on the enclosed maps obtained from the 1976 Corps report. The profiles for the 500, 100, 50 and 10-year floods are also enclosed.

WILLIAMS & WORKS
ENGINEERS / SURVEYORS / PLANNERS / GEOLOGISTS
GRAND RAPIDS, MICHIGAN

Calculation Sheet

Computed by RCK
Checked by
Subject
Client
Sheet 1 of 1
Job No 85376
Date 3/14/80

CROSS REFERENCE TABLE

RAISIN RIVER - RAISINVILLE TWP.

Cross Section Work Map	HEC-2 Computer Run
1	0.0
2	5030
3	8650
4	8747
5	10014
6	16014
7	19124
8	22852
9	32090
10	38074
11	38210
12	39092
13	44092
14	50025
15	50075
16	51892

WILLIAMS & WORKS
ENGINEERS / SURVEYORS / PLANNERS / GEOLOGISTS
GRAND RAPIDS MICHIGAN

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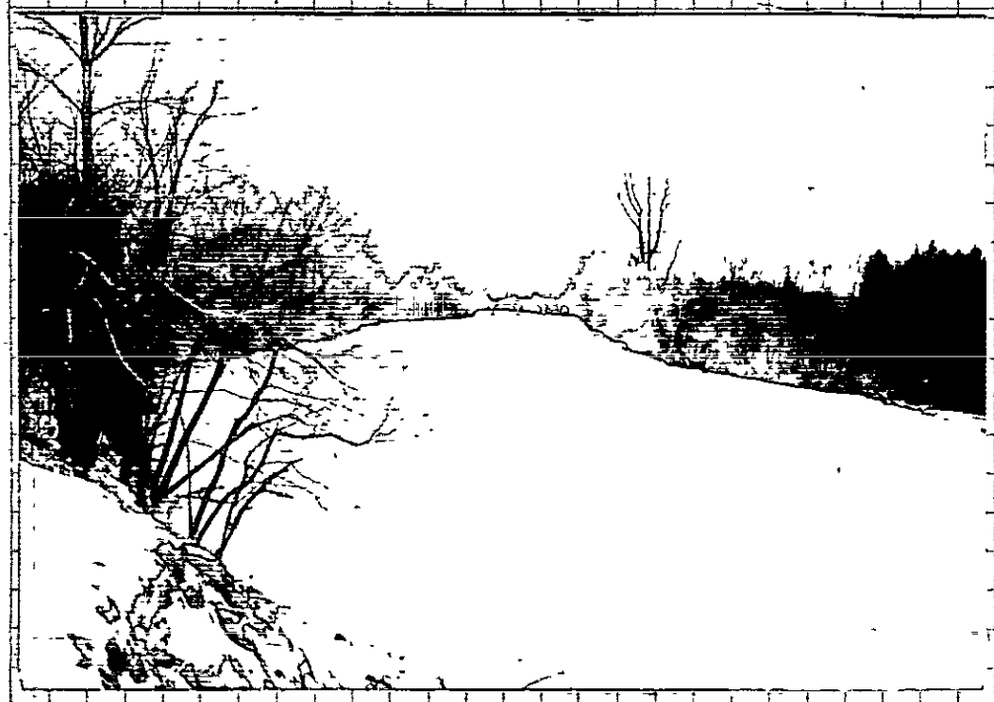
Subject
Client
Sheet 1 of 7
Job No. 85376
Date 3/11/80

Raisinville Twp - Raisin River

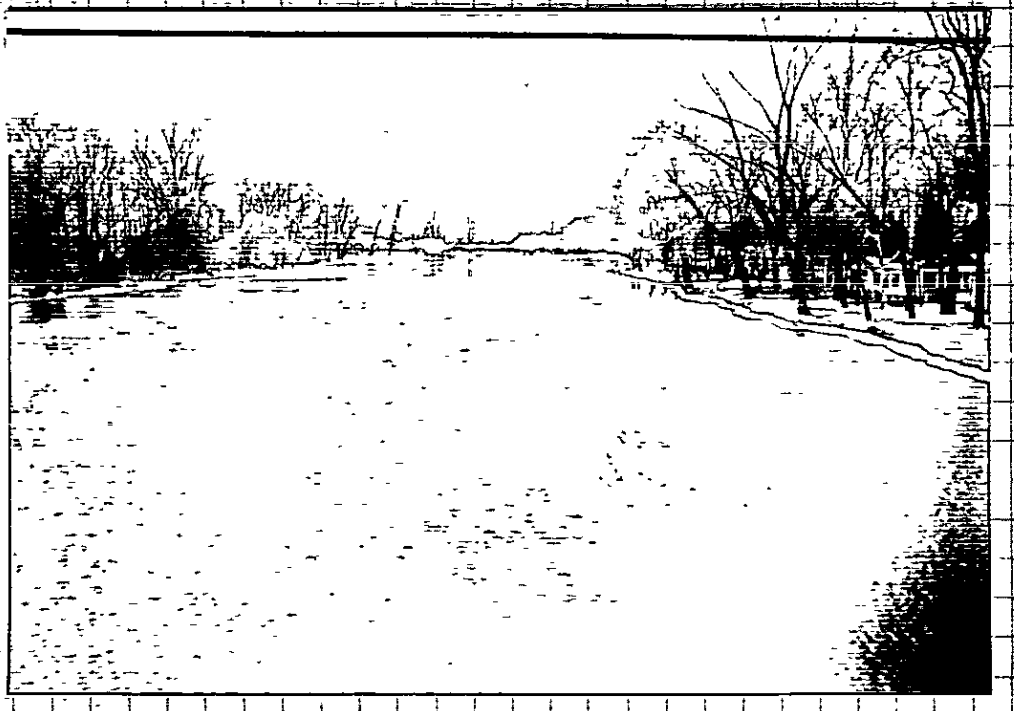


Date of photos - 1/29/80

@ D.T. & I RR Bridge - Looking Upstream



Looking Downstream @ Dixon Rd. - Downstream of D.T & I RR bridge (@ M+15)



Looking Upstream from Ida-Maybee Road Bridge



Ida-Maybee Rd. Bridge - Looking Downstream

WILLIAMS & WORKS
ENGINEERS / SURVEYORS / PLANNERS / GEOLOGISTS
GRAND RAPIDS, MICHIGAN

Calculation Sheet

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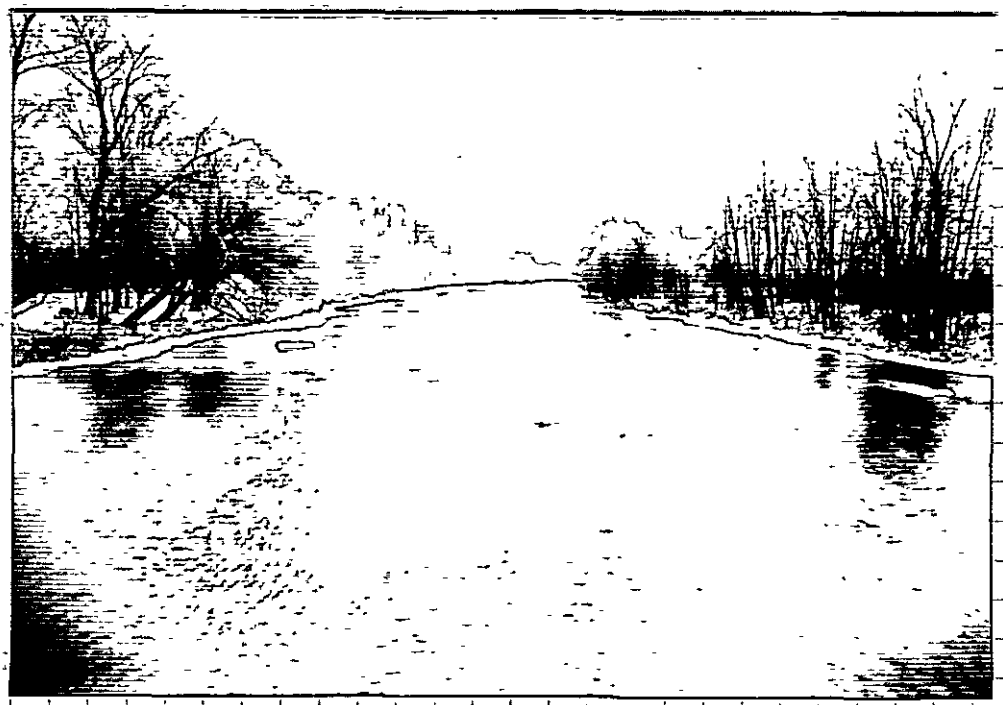
Client
Sheet 3 of 7
Job No. 85376
Date 3/11/80



Looking Downstream from Ida-Maybee Road Bridge



Looking Downstream from USGS Gage Station

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GRAND RAPIDS MICHIGAN

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Looking Upstream from USGS gage Station



Dam Upstream of Ida-Maybee Road bridge

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GRAND RAPIDS MICHIGAN

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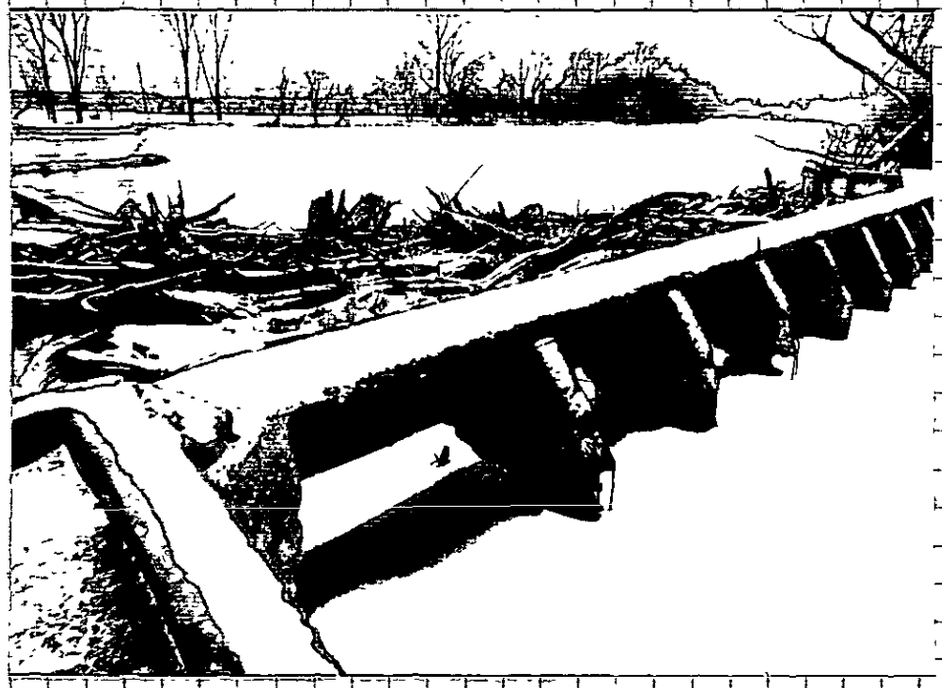
Looking Downstream from Raceway Structure - Left Bank of Raisin R. @ Dam



Raceway Structure @ Dam Looking Upstream

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GRAND RAPIDS MICHIGAN

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Job No. 85376
Date 3/11/80



Looking Downstream from Dam -



Raisinville Rd. Bridge - Looking Downstream

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GRAND RAPIDS, MICHIGAN

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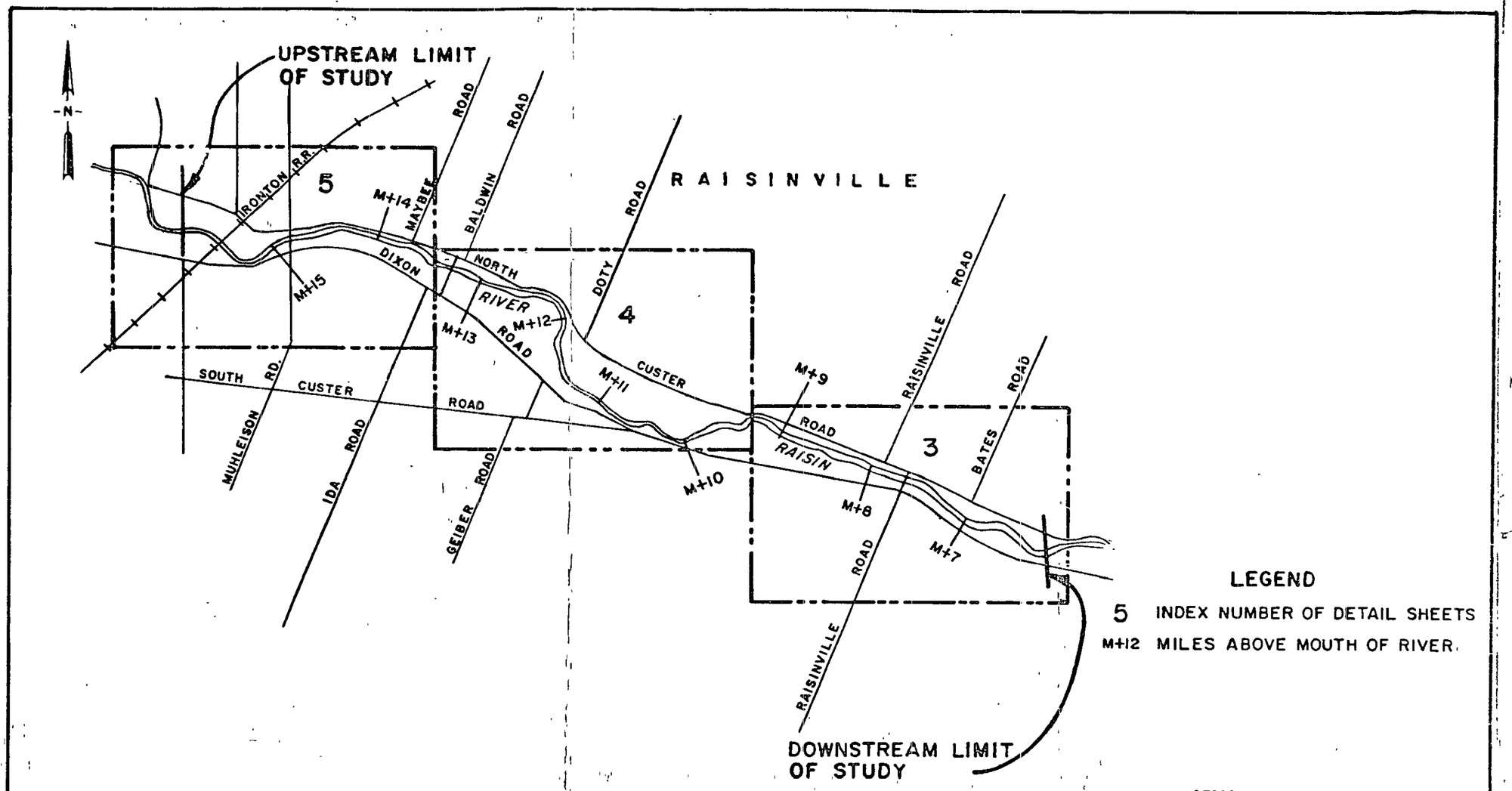
Job No 85376
Date 3/11/80



Raisin R. @
Raisinville Rd
Bridge - Looking
Upstream



LEGEND

5 INDEX NUMBER OF DETAIL SHEETS

M+12 MILES ABOVE MOUTH OF RIVER.

DEPARTMENT OF THE ARMY
DETROIT DISTRICT CORPS OF ENGINEERS
DETROIT, MICHIGAN

SPECIAL FLOOD HAZARD INFORMATION STUDY

RECEIVED
APR 03 1980
WATER MANAGEMENT

RAISIN RIVER
RAISINVILLE TOWNSHIP, MICHIGAN
INDEX MAP

SCALE IN MILES

1976

PLATE 2

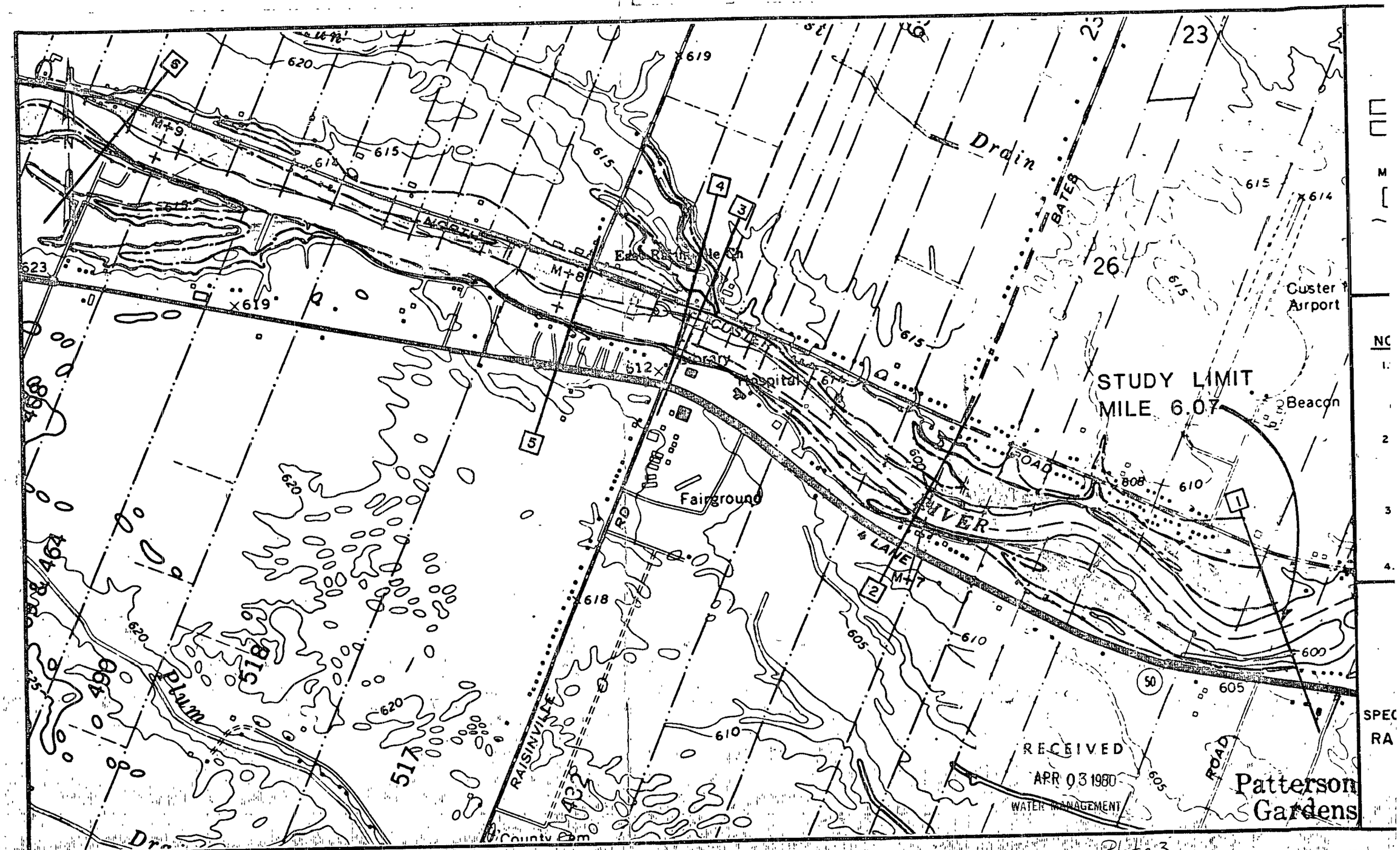
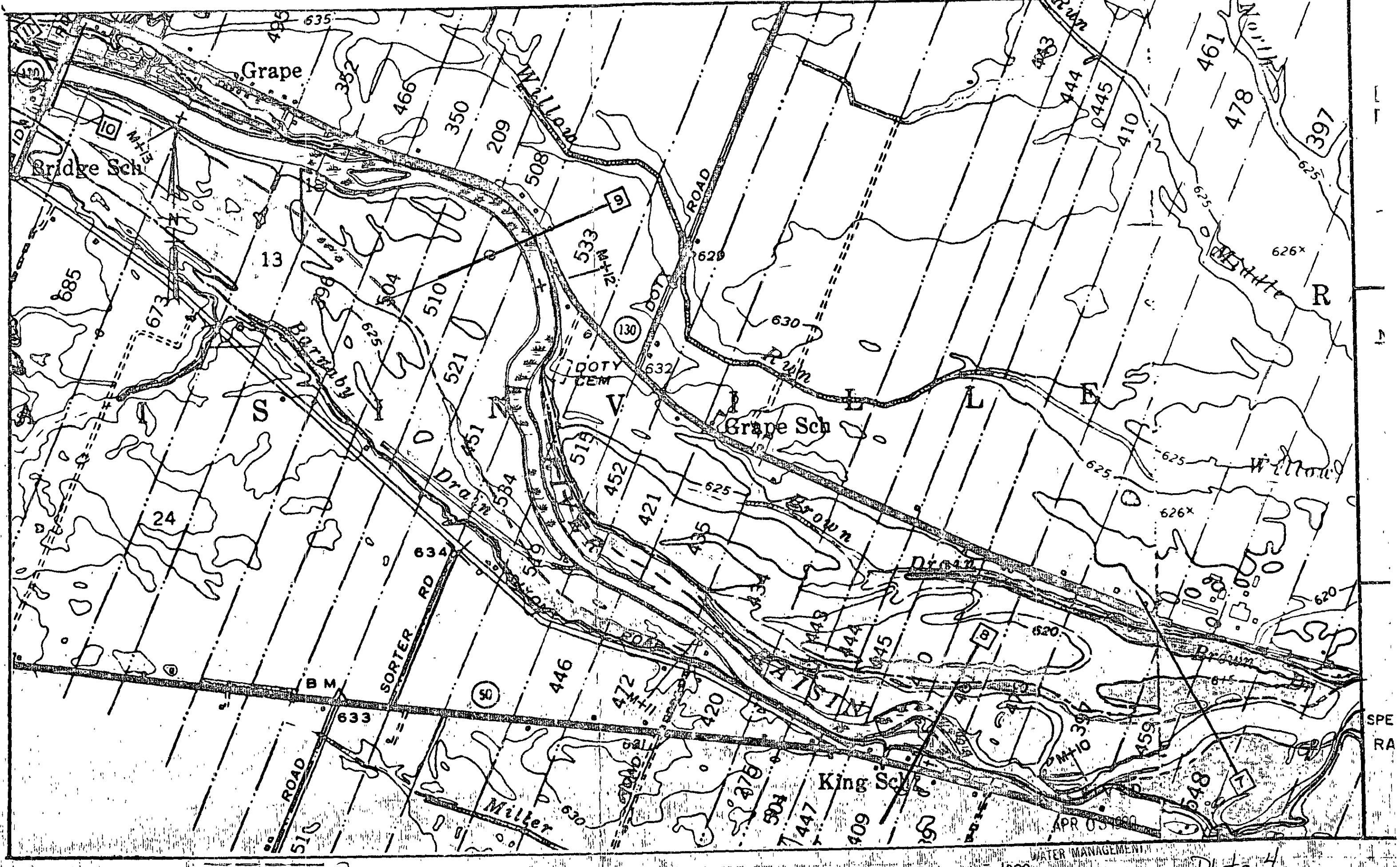


Plate 3

Scale 1" = 1000'

Limits of 100-yr floodplain as presented in 1976 report

Source: Special Flood Hazard Study, Corps of Engineers - 1976



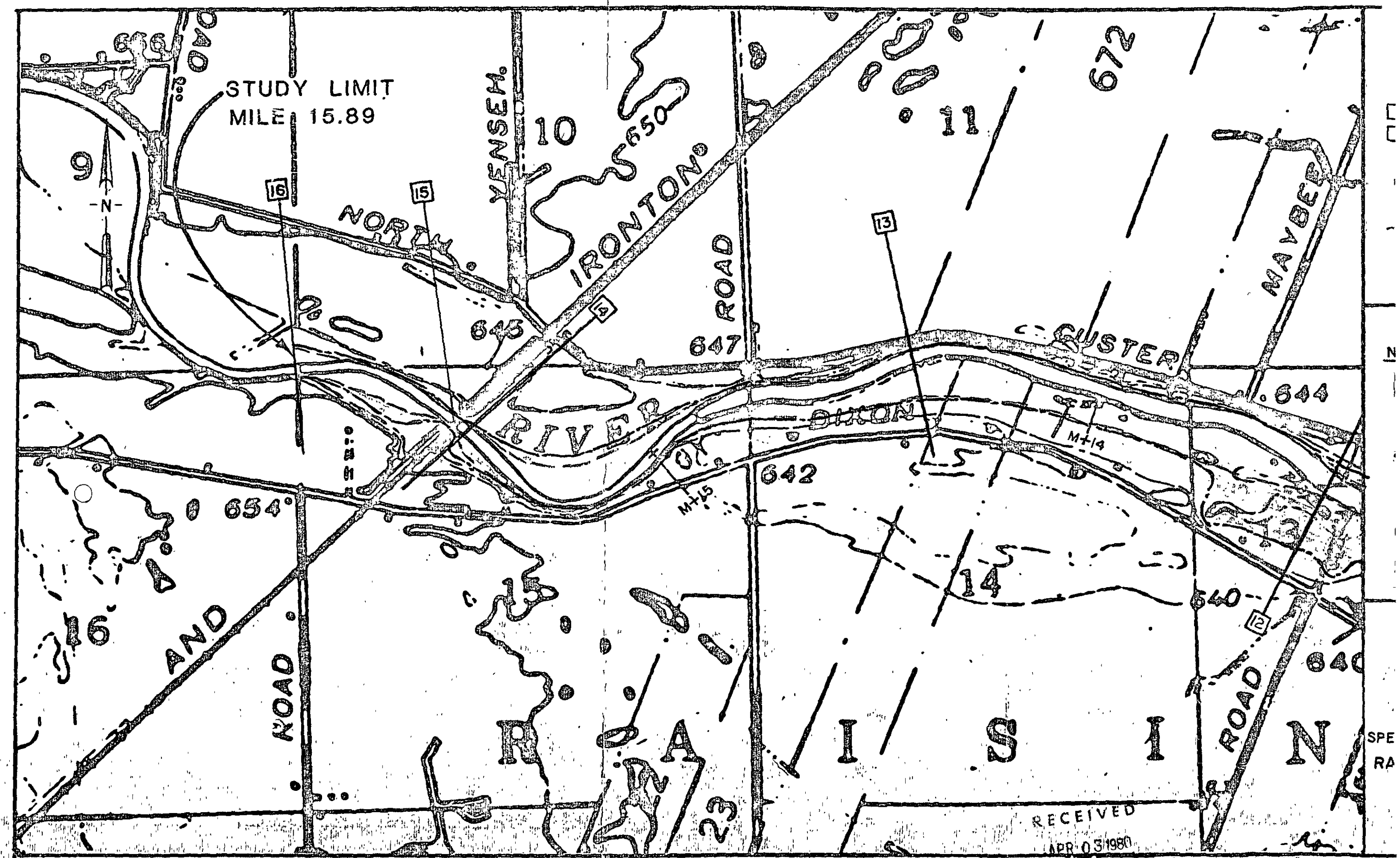
Scale 1" = 1000

Plate 4

Floodway } Approximate 100-yr floodplain

Limits of 100-yr floodplain as presented in 1976 report

Source: Special Flood Hazard Study



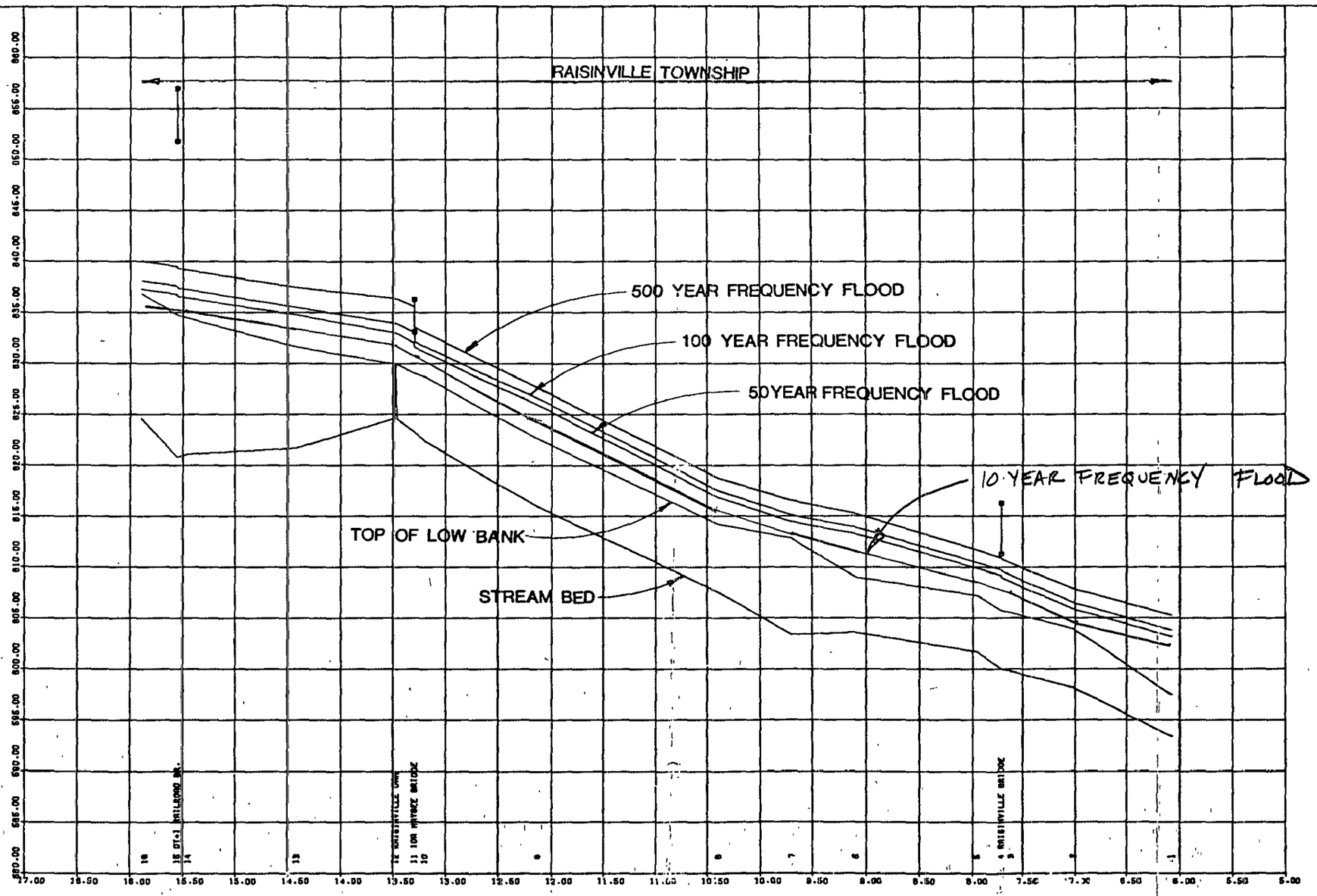
Flood way } Approximate 100-yr. floodplain

Scale 1" = 1000'

Limits of 100-yr. floodplain as presented in 1976 report

Plate 5

Source: Special Flood Hazard Study Corps of Engineers - 1976



NOTES
1. PROFILES REPRESENT 1977 STATE OF URBANIZATION AND CHANNEL CONDITIONS
2. FLOODWAY ENCROACHMENT CAN RAISE PROFILES

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
DETROIT, MICHIGAN
SPECIAL FLOOD HAZARD
RIVER RAISIN
RAISINVILLE TWP., MICH
HIGH WATER PROFILES
1977

RECEIVED
APR 03 1980
WATER MANAGEMENT

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Raisinville Twp

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Summary 10, 50, 100, 500

00BREAK00

ANOCRE BUSINESS FORMS, INC. 20

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**********************************************
  HEC2 RELEASE DATED NOV-76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

 RIVER RAISIN, MICHIGAN

 SUMMARY PRINTOUT
```

	SECNO	XLCH	Q	CWSEL	EG	10K*S	TOPWID	ELMIN	HV	STENCL	STENCR	ELENCL	ELENCR
	1514.000	.00	16500.00	603.40	603.67	2.95	885.14	593.40	.27	.00	.00	.00	.00
	1514.000	.00	16500.00	603.40	603.69	3.07	689.67	593.40	.29	3375.53	4065.20	100000.00	100000.00
	1514.000	.00	22000.00	604.80	605.14	3.06	915.14	593.40	.34	.00	.00	.00	.00
	1514.000	.00	14400.00	602.80	603.05	2.91	872.29	593.40	.25	.00	.00	.00	.00
	1514.000	.00	10200.00	602.00	602.16	2.12	855.14	593.40	.16	.00	.00	.00	.00
	.000	1514.00	16500.00	603.84	604.09	2.46	894.72	593.40	.24	.00	.00	.00	.00
	.000	1514.00	16500.00	603.86	604.12	2.54	719.23	593.40	.25	3360.54	4079.77	100000.00	100000.00
	.000	1514.00	22000.00	605.27	605.57	2.60	1012.02	593.40	.30	.00	.00	.00	.00
	.000	1514.00	14400.00	603.23	603.45	2.40	881.72	593.40	.22	.00	.00	.00	.00
	.000	1514.00	10200.00	602.31	602.46	1.82	862.01	593.40	.15	.00	.00	.00	.00
	5030.000	5030.00	16500.00	605.87	606.72	13.88	838.83	598.20	.86	.00	.00	.00	.00
	5030.000	5030.00	16500.00	605.94	606.82	13.99	346.74	598.20	.88	700.00	1120.00	100000.00	100000.00
	5030.000	5030.00	22000.00	607.30	608.18	12.03	957.06	598.20	.88	.00	.00	.00	.00
	5030.000	5030.00	14400.00	605.27	606.09	14.82	634.63	598.20	.82	.00	.00	.00	.00
	5030.000	5030.00	10200.00	604.00	604.69	15.83	353.79	598.20	.69	.00	.00	.00	.00
	8650.000	3620.00	16500.00	609.60	610.07	6.47	612.97	601.50	.48	.00	.00	.00	.00
	8650.000	3620.00	16500.00	609.69	610.17	6.44	415.00	601.50	.48	400.00	815.00	100000.00	100000.00
	8650.000	3620.00	22000.00	610.79	611.39	6.71	680.27	601.50	.60	.00	.00	.00	.00
	8650.000	3620.00	14400.00	609.08	609.50	6.39	585.74	601.50	.43	.00	.00	.00	.00
	8650.000	3620.00	10200.00	607.90	608.22	6.25	465.65	601.50	.32	.00	.00	.00	.00
	8700.000	50.00	16500.00	609.68	610.11	5.41	400.00	601.10	.44	.00	.00	.00	.00
	8700.000	50.00	16500.00	609.79	610.22	5.16	400.00	601.10	.42	400.00	800.00	100000.00	100000.00
	8700.000	50.00	22000.00	610.84	611.43	6.10	486.10	601.10	.59	.00	.00	.00	.00
	8700.000	50.00	14400.00	609.17	609.55	5.15	400.00	601.10	.38	.00	.00	.00	.00
	8700.000	50.00	10200.00	608.00	608.27	4.60	400.00	601.10	.27	.00	.00	.00	.00
	8747.000	47.00	16500.00	609.70	610.13	5.36	400.00	601.10	.43	.00	.00	.00	.00
	8747.000	47.00	16500.00	609.81	610.23	5.11	400.00	601.10	.42	400.00	800.00	100000.00	100000.00
	8747.000	47.00	22000.00	610.88	611.46	5.99	489.05	601.10	.58	.00	.00	.00	.00
	8747.000	47.00	14400.00	609.18	609.56	5.11	400.00	601.10	.38	.00	.00	.00	.00
	8747.000	47.00	10200.00	608.01	608.28	4.57	400.00	601.10	.27	.00	.00	.00	.00

SECNO	XLOW	Q	CWSEL	EG	10K*S	TOPWID	ELMIN	HV	STENCL	STENCR	ELENCL	ELENCR
8797.000	50.00	16500.00	609.71	610.17	6.09	613.74	601.50	.46	.00	.00	.00	.00
8797.000	50.00	16500.00	609.81	610.27	6.10	415.00	601.50	.46	400.00	815.00	100000.00	100000.00
8797.000	50.00	22000.00	610.91	611.49	6.35	829.24	601.50	.58	.00	.00	.00	00
8797.000	50.00	14400.00	609.19	609.60	6.04	594.12	601.50	.41	.00	.00	.00	.00
8797.000	50.00	10200.00	608.01	608.31	5.87	469.13	601.50	.31	.00	.00	.00	.00
10014.000	1217.00	16500.00	610.43	611.05	7.74	784.51	602.00	.62	.00	.00	.00	.00
10014.000	1217.00	16500.00	610.52	611.17	7.82	489.76	602.00	.65	1015.25	1505.00	100000.00	100000.00
10014.000	1217.00	22000.00	611.66	612.40	7.90	990.46	602.00	.75	.00	.00	.00	.00
10014.000	1217.00	14400.00	609.90	610.47	7.63	708.19	602.00	.57	.00	.00	.00	.00
10014.000	1217.00	10200.00	608.71	609.15	7.30	648.73	602.00	.44	.00	.00	.00	.00
16014.000	6000.00	16500.00	613.89	614.28	3.90	629.06	603.60	.39	.00	.00	.00	.00
16014.000	6000.00	16500.00	614.03	614.43	3.94	355.00	603.60	.40	400.00	755.00	100000.00	100000.00
16014.000	6000.00	22000.00	615.28	615.77	4.15	751.53	603.60	.49	.00	.00	.00	.00
16014.000	6000.00	14400.00	613.28	613.63	3.80	615.23	603.60	.35	.00	.00	.00	.00
16014.000	6000.00	10200.00	611.87	612.13	3.57	414.05	603.60	.26	.00	.00	.00	.00
19124.000	3110.00	16500.00	615.12	615.49	3.92	2733.29	603.40	.37	.00	.00	.00	.00
19124.000	3110.00	16500.00	615.27	615.64	3.84	1529.44	603.40	.37	1100.42	2629.86	100000.00	100000.00
19124.000	3110.00	22000.00	616.61	616.93	3.28	2771.88	603.40	.32	.00	.00	.00	.00
19124.000	3110.00	14400.00	614.49	614.87	4.14	1968.63	603.40	.38	.00	.00	.00	.00
19124.000	3110.00	10200.00	613.04	613.41	4.50	1592.76	603.40	.37	.00	.00	.00	.00
22852.000	3728.00	16500.00	617.09	618.26	14.39	771.01	607.60	1.17	.00	.00	.00	.00
22852.000	3728.00	16500.00	617.19	618.40	14.65	525.31	607.60	1.20	284.69	810.00	100000.00	100000.00
22852.000	3728.00	22000.00	618.14	619.56	15.60	867.77	607.60	1.42	.00	.00	.00	.00
22852.000	3728.00	14400.00	616.60	617.67	14.06	725.85	607.60	1.07	.00	.00	.00	.00
22852.000	3728.00	10200.00	615.40	616.26	13.62	574.19	607.60	.86	.00	.00	.00	.00
32090.000	9238.00	16500.00	626.70	627.32	7.13	1823.53	616.00	.62	.00	.00	.00	.00
32090.000	9238.00	16500.00	626.83	627.46	7.03	1487.26	616.00	.63	550.00	2063.32	100000.00	100000.00
32090.000	9238.00	22000.00	627.94	628.55	6.67	1827.58	616.00	.61	.00	.00	.00	.00
32090.000	9238.00	14400.00	626.16	626.78	7.31	1821.77	616.00	.62	.00	.00	.00	.00
32090.000	9238.00	10200.00	624.82	625.37	7.44	310.25	616.00	.55	.00	.00	.00	.00
38074.000	5984.00	16500.00	631.99	632.96	12.48	576.50	622.70	.97	.00	.00	.00	.00
38074.000	5984.00	16500.00	632.07	633.09	12.61	390.85	622.70	1.02	538.41	940.00	100000.00	100000.00
38074.000	5984.00	22000.00	633.05	634.31	13.86	629.02	622.70	1.26	.00	.00	.00	.00
38074.000	5984.00	14400.00	631.49	632.36	11.92	524.77	622.70	.86	.00	.00	.00	.00
38074.000	5984.00	10200.00	630.20	630.86	11.42	388.96	622.70	.66	.00	.00	.00	.00
38174.000	100.00	16500.00	632.05	633.16	14.22	253.07	623.30	1.11	.00	.00	.00	.00
38174.000	100.00	16500.00	632.17	633.25	13.53	253.13	623.30	1.08	797.00	1052.00	100000.00	100000.00
38174.000	100.00	22000.00	633.06	634.60	16.95	253.51	623.30	1.55	.00	.00	.00	.00
38174.000	100.00	14400.00	631.57	632.53	13.35	252.87	623.30	.96	.00	.00	.00	.00
38174.000	100.00	10200.00	630.29	631.01	12.63	252.31	623.30	.71	.00	.00	.00	.00
38210.000	36.00	16500.00	632.51	633.50	11.76	253.28	623.30	.99	.00	.00	.00	.00
38210.000	36.00	16500.00	632.63	633.59	11.22	253.33	623.30	.96	797.00	1052.00	100000.00	100000.00
38210.000	36.00	22000.00	634.51	635.64	10.20	500.49	623.30	1.13	.00	.00	.00	.00
38210.000	36.00	14400.00	631.64	632.59	12.94	252.90	623.30	.95	.00	.00	.00	.00
38210.000	36.00	10200.00	630.34	631.04	12.31	252.33	623.30	.70	.00	.00	.00	.00

ECOPY, BUSINESS FORMS, INC. 23

SECNO	XLCH	Q	CWSEL	EG	10K*S	TOPWID	ELMIN	HV	STENCL	STENCR	ELENCL	ELENCR
38310.000	100.00	16500.00	632.88	633.63	8.35	623.08	622.70	.74	.00	.00	.00	.00
38310.000	100.00	16500.00	632.93	633.71	8.57	467.91	622.70	.78	472.09	940.00	100000.00	100000.00
38310.000	100.00	22000.00	635.01	635.76	6.55	701.39	622.70	.75	.00	.00	.00	.00
38310.000	100.00	14400.00	631.97	632.72	9.53	576.20	622.70	.74	.00	.00	.00	.00
38310.000	100.00	10200.00	630.58	631.16	9.35	420.02	622.70	.58	.00	.00	.00	.00
39092.000	782.00	16500.00	633.82	634.09	3.72	1493.48	624.50	.27	.00	.00	.00	.00
39092.000	782.00	16500.00	633.91	634.18	3.74	1125.07	624.50	.28	409.03	1534.10	100000.00	100000.00
39092.000	782.00	22000.00	635.88	636.12	2.65	1729.06	624.50	.24	.00	.00	.00	.00
39092.000	782.00	14400.00	632.96	633.25	4.44	1402.02	624.50	.29	.00	.00	.00	.00
39092.000	782.00	10200.00	631.46	631.75	5.58	1201.61	624.50	.29	.00	.00	.00	.00
44092.000	5000.00	16500.00	635.51	635.95	3.51	978.62	621.70	.44	.00	.00	.00	.00
44092.000	5000.00	16500.00	635.60	636.05	3.53	366.26	621.70	.45	500.00	888.83	100000.00	100000.00
44092.000	5000.00	22000.00	637.22	637.72	3.53	1192.58	621.70	.50	.00	.00	.00	.00
44092.000	5000.00	14400.00	634.82	635.22	3.39	826.95	621.70	.40	.00	.00	.00	.00
44092.000	5000.00	10200.00	633.39	633.67	2.92	400.63	621.70	.28	.00	.00	.00	.00
50025.000	5933.00	16500.00	637.38	637.81	2.80	1211.91	621.20	.43	.00	.00	.00	.00
50025.000	5933.00	16500.00	637.47	637.91	2.81	593.56	621.20	.44	1236.77	1830.33	100000.00	100000.00
50025.000	5933.00	22000.00	639.11	639.60	2.86	1667.00	621.20	.49	.00	.00	.00	.00
50025.000	5933.00	14400.00	636.62	637.01	2.72	1013.21	621.20	.39	.00	.00	.00	.00
50025.000	5933.00	10200.00	634.92	635.24	2.38	514.48	621.20	.29	.00	.00	.00	.00
50075.000	50.00	16500.00	637.37	637.85	4.17	300.00	620.60	.47	.00	.00	.00	.00
50075.000	50.00	16500.00	637.48	637.94	4.03	300.00	620.60	.46	100.00	400.00	100000.00	100000.00
50075.000	50.00	22000.00	639.06	639.68	4.46	300.00	620.60	.62	.00	.00	.00	.00
50075.000	50.00	14400.00	636.62	637.04	3.80	284.32	620.60	.42	.00	.00	.00	.00
50075.000	50.00	10200.00	634.93	635.23	2.55	227.78	620.60	.30	.00	.00	.00	.00
50109.000	34.00	16500.00	637.48	637.95	4.03	300.00	620.60	.46	.00	.00	.00	.00
50109.000	34.00	16500.00	637.58	638.04	3.90	300.00	620.60	.45	.00	.00	.00	.00
50109.000	34.00	22000.00	639.21	639.81	4.28	300.00	620.60	.60	.00	.00	.00	.00
50109.000	34.00	14400.00	636.72	637.13	3.74	287.28	620.60	.41	.00	.00	.00	.00
50109.000	34.00	10200.00	634.99	635.29	2.52	229.12	620.60	.30	.00	.00	.00	.00
50159.000	50.00	16500.00	637.56	637.97	2.65	1258.81	621.20	.41	.00	.00	.00	.00
50159.000	50.00	16500.00	637.63	638.06	2.66	688.65	621.20	.42	1144.56	1833.24	100000.00	100000.00
50159.000	50.00	22000.00	639.40	639.85	2.61	1741.50	621.20	.45	.00	.00	.00	.00
50159.000	50.00	14400.00	636.77	637.15	2.60	1052.72	621.20	.38	.00	.00	.00	.00
50159.000	50.00	10200.00	635.02	635.30	2.30	518.14	621.20	.28	.00	.00	.00	.00
51892.000	1773.00	16500.00	638.05	638.54	3.68	643.37	624.60	.49	.00	.00	.00	.00
51892.000	1773.00	16500.00	638.13	638.63	3.70	439.64	624.60	.51	1188.63	1630.00	100000.00	100000.00
51892.000	1773.00	22000.00	639.85	640.44	3.81	749.19	624.60	.59	.00	.00	.00	.00
51892.000	1773.00	14400.00	637.26	637.71	3.62	608.13	624.60	.45	.00	.00	.00	.00
51892.000	1773.00	10200.00	635.46	635.81	3.38	503.99	624.60	.35	.00	.00	.00	.00

BOOCH BUSINESS FORMS, INC. 23

RIVER RAISIN, MICHIGAN

SUMMARY PRINTOUT

WSELK	.01K	AREA
603.400	9602.49	5161.26
603.400	9412.64	4658.24
604.800	12573.20	6421.46
602.800	8444.10	4634.03
602.000	7010.99	3943.06
.000	10510.71	5559.03
603.843	10348.06	5089.96
.000	13639.14	6859.37
.000	9287.21	5020.13
.000	7569.42	4218.16
.000	4428.60	2549.46
605.866	4410.95	2189.21
.000	6342.58	3859.40
.000	3740.30	2096.50
.000	2486.14	1530.77
.000	6484.75	3191.87
609.597	6501.71	2977.36
.000	8495.05	3956.74
.000	5695.63	2882.57
.000	4079.74	2277.99
.000	7093.65	3116.42
609.679	7265.41	3162.17
.000	8910.89	3820.06
.000	6343.70	2911.47
.000	4754.33	2443.31
.000	7125.51	3124.94
609.700	7297.47	3170.67
.000	8988.07	3842.90
.000	6369.22	2918.59
.000	4769.09	2447.91
.000	6685.86	3269.65
609.711	6681.20	3027.09
.000	8728.56	4046.74
.000	5860.42	2947.64
.000	4211.13	2325.92
.000	5931.40	3360.64
610.428	5900.04	2956.48
.000	7829.51	4456.90
.000	5214.20	2970.74
.000	3774.19	2160.51
.000	8353.15	3723.69
613.886	8308.34	3250.29
.000	10799.69	4648.09
.000	7382.98	3345.05

MOORE BUSINESS FORMS, INC. 23

.000 5398.18 2544.25

MOORE BUSINESS FORMS, INC. 23

WSELK	.01K	AREA
.000	8335.79	6916.52
615.124	8420.72	6321.11
.000	12143.30	11002.85
.000	7079.51	5535.42
.000	4807.84	2980.60
.000	4348.90	2763.99
617.090	4310.71	2467.59
.000	5570.36	3619.63
.000	3840.94	2399.28
.000	2764.14	1601.36
.000	6179.34	4920.51
626.697	6224.53	4536.47
.000	8519.60	7186.02
.000	5326.32	3941.85
.000	3738.59	1769.88
.000	4670.50	2588.29
631.985	4646.93	2297.98
.000	5908.55	3237.55
.000	4170.48	2318.24
.000	3017.76	1742.67
.000	4374.88	1948.42
632.049	4486.53	1978.84
.000	5343.79	2203.73
.000	3941.26	1827.44
.000	2869.66	1504.64
.000	4811.36	2065.78
632.512	4926.51	2096.07
.000	6886.92	2702.39
.000	4002.57	1844.83
.000	2906.78	1516.51
.000	5709.30	3135.41
632.883	5635.11	2825.61
.000	8594.96	4545.14
.000	4665.70	2585.73
.000	3334.89	1896.00
.000	8552.99	6708.13
633.823	8536.87	6158.24
.000	13520.27	10026.70
.000	6831.80	5466.60
.000	4318.86	3492.64
.000	8801.68	3929.65
635.512	8784.73	3310.68
.000	11717.21	5791.54
.000	7821.47	3295.08
.000	6077.83	2518.37

MOORE BUSINESS FORMS, INC 33

WSELK	,01K	AREA
,000	9854,40	4465,18
637,378	9847,44	3915,75
,000	13011,48	6961,91
,000	8725,53	3622,61
,000	6608,00	2585,27
,000	8076,99	2985,61
637,372	8224,20	3019,01
,000	10416,99	3493,24
,000	7382,48	2765,96
,000	6386,73	2319,71
,000	8221,73	3018,45
637,482	8354,76	3048,45
,000	10633,46	3537,97
,000	7443,69	2791,32
,000	6422,31	2332,86
,000	10142,40	4686,02
637,556	10109,02	4137,07
,000	13608,86	7445,84
,000	8938,18	3778,16
,000	6720,04	2636,47
,000	8603,07	3889,67
638,049	8576,51	3525,77
,000	11273,85	5127,32
,000	7567,99	3395,96
,000	5547,89	2385,72

SUMMARY OF ERRORS

MOORE BUSINESS FORMS, INC. 93

15:13:52 X64 TOM HU203107 ROCKWD07 DEC 12, 1980

TR-20

LAUDENSCHLAGER + CHAPMAN

DRAINS UP TO R.R. CORRIDORS

(TO TAKE INTO ACCOUNT FOR

STORAGE U/S THE R.R. CORRIDORS)

10, 50, 100 + 500 yr

R400 12*3 SM:1223 LM:12*3 FW:E6-011 Z2A00561 PR01 PR/H112/FI/SI/A/H132

LISTING OF DATA IN CORE

10 LAUDENSCHLAGER DRAIN

1 CTABLE VELOCITY INCREMENT 0.2000

8	0.0000	0.0800	0.1800	0.2500	0.3200
8	0.3700	0.4100	0.4500	0.4900	0.5100
8	0.5400	0.5700	0.5900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

2 XSECTN XSECTN NO. 1 DRAINAGE AREA 1.0000

	ELEVATION	DISCHARGE	END AREA
8	579.8000	0.0000	0.0000
8	583.0000	55.0000	50.0000
8	583.5000	112.0000	330.0000
8	584.0000	412.0000	1155.0000
8	585.0000	810.0000	2250.0000

9 ENDTBL

3 STRUCT STRUCT NO. 1

	ELEVATION	DISCHARGE	STORAGE
8	579.8000	0.0000	0.0000
8	583.0000	65.0000	5.0000
8	585.0000	105.0000	70.0000
8	586.0000	130.0000	210.0000
8	587.0000	160.0000	350.0000
8	587.0000	190.0000	490.0000

9 ENDTBL

4 DIMHYD TIME INCREMENT

8	0.0000	0.0300	0.1000	0.1900	0.3100

```
  8              0.4700      0.6600      0.8200      0.9300      0.9900
  8              1.0000      0.9900      0.9300      0.8600      0.7800
  8              0.6800      0.5600      0.4600      0.3900      0.3300
  8              0.2800      0.2410      0.2070      0.1740      0.1470
  8              0.1260      0.1070      0.0910      0.0770      0.0660
  8              0.0550      0.0470      0.0400      0.0340      0.0290
  8              0.0250      0.0210      0.0180      0.0150      0.0130
  8              0.0110      0.0090      0.0080      0.0070      0.0060
  8              0.0050      0.0040      0.0030      0.0020      0.0010
  8              0.0000      0.0000      0.0000      0.0000      0.0000
  9 ENDTBL

  COMPUTED PEAK K FACTOR =  484.00



                        TIME INCREMENT
  5 RAINFL 1                0.5000

  8              0.0000      0.0080      0.0170      0.0260      0.0350
  8              0.0450      0.0550      0.0650      0.0760      0.0870
  8              0.0990      0.1120      0.1250      0.1400      0.1560
  8              0.1740      0.1940      0.2190      0.2540      0.3030
  8              0.3150      0.3830      0.6240      0.6540      0.6820
  8              0.7050      0.7270      0.7480      0.7670      0.7840
  8              0.8000      0.8160      0.8300      0.8440      0.8570
  8              0.8700      0.8820      0.8930      0.9050      0.9160
  8              0.9260      0.9360      0.9460      0.9550      0.9650
  8              0.9740      0.9830      0.9920      1.0000      1.0000
  9 ENDTBL
```

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6 RUNOFF 1   1       5      1.4100     77.0000      5.30001 1 0 1 0 0
6 RUNOFF 1   1       6      0.7600     76.5000     11.00001 1 0 1 0 0
6 ADDHYD 4   1   5 6 7                                   1 1 0 1 0 0
6 REACH  3   1   7   5   1000.0000      0.0000      0.00000 0 0 0 0 0
6 RUNOFF 1   1       6      0.1300     77.0000      5.20001 1 0 1 0 0
6 ADDHYD 4   1   5 6 7                                   1 1 0 1 0 0
6 RUNOFF 1   1       5      0.2200     66.0000      7.20001 1 0 1 0 0
6 ADDHYD 4   1   7 5 6                                   1 1 0 1 0 0
6 RESVOR 2     1 6   5    579.8000                        1 1 0 1 0 0
  ENDATA

END OF LISTING
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EXECUTIVE CONTROL CARD OPERATION LIST

LISTING OF DATA IN CORE

10 LAUDENSCHLAGER DRAIN

VELOCITY INCREMENT

1 CTABLE 0.2000

8	0.0000	0.0800	0.1800	0.2500	0.3200
8	0.3700	0.4100	0.4500	0.4900	0.5100
8	0.5400	0.5700	0.5900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

XSECTN NO. DRAINAGE AREA

2 XSECTN 1 1.0000

	ELEVATION	DISCHARGE	END AREA
8	577.6001	0.0000	0.0000
8	579.0000	6.0000	7.0000
8	580.0000	27.0000	20.0000
8	581.0000	70.0000	38.0000
8	582.3000	160.0000	70.0000
8	583.0000	231.0000	158.0000
8	583.5000	283.0000	330.0000

9 ENDTBL

XSECTN NO. DRAINAGE AREA

2 XSECTN 2 1.0000

	ELEVATION	DISCHARGE	END AREA
8	578.6001	0.0000	0.0000
8	580.3000	6.5000	18.0000
8	581.0000	18.0000	70.0000
8	582.0000	82.0000	230.0000

9 ENDTBL

TIME INCREMENT

4 DIMHYD

8	0.0000	0.0300	0.1000	0.1900	0.3100

PRINTED IN U.S.A.
FORM 1411-98 PRINTED BY ROTARY MANIFOLD FORMS

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8                 0.4700      0.6600      0.8200      0.9300      0.9900
8                 1.0000      0.9900      0.9300      0.8600      0.7800
8                 0.6800      0.5600      0.4600      0.3900      0.3300
8                 0.2800      0.2410      0.2070      0.1740      0.1470
8                 0.1260      0.1070      0.0910      0.0770      0.0660
8                 0.0550      0.0470      0.0400      0.0340      0.0290
8                 0.0250      0.0210      0.0180      0.0150      0.0130
8                 0.0110      0.0090      0.0080      0.0070      0.0060
8                 0.0050      0.0040      0.0030      0.0020      0.0010
8                 0.0000      0.0000      0.0000      0.0000      0.0000
9 ENDTBL

  COMPUTED PEAK K FACTOR =  484.00


                     TIME INCREMENT
5 RAINFL 1                  0.5000
8                 0.0000      0.0080      0.0170      0.0260      0.0350
8                 0.0450      0.0550      0.0650      0.0760      0.0870
8                 0.0990      0.1120      0.1250      0.1400      0.1560
8                 0.1740      0.1940      0.2190      0.2540      0.3030
8                 0.5150      0.5830      0.6240      0.6540      0.6820
8                 0.7050      0.7270      0.7480      0.7670      0.7840
8                 0.8000      0.8160      0.8300      0.8440      0.8570
8                 0.8700      0.8820      0.8930      0.9050      0.9160
8                 0.9260      0.9360      0.9460      0.9550      0.9650
8                 0.9740      0.9830      0.9920      1.0000      1.0000
9 ENDTBL
```

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  6 REACH   3   1   6   5    4000.0000       0.0000       0.00001 1 0 1 0 0
  6 RUNOFF  1   1       6       0.2800      77.0000       3.40001 1 0 1 0 0
  6 ADDHYD  4   1   5 6 7                                       1 1 0 1 0 0
  6 SAVMOV  5   1   7   2
  6 REACH   3   2   4   5    3250.0000       0.0000       0.00001 1 0 1 0 0
  6 RUNOFF  1   2       6       0.1400      77.0000       4.40001 1 0 1 0 0
  6 ADDHYD  4   2   5 6 7                                       1 1 0 1 0 0
  6 SAVMOV  5   2   2   6
  6 ADDHYD  4   2   7 6 3                                       1 1 0 1 0 0
  ENDATA


 END OF LISTING
  EXECUTIVE CONTROL CARD          OPERATION  INCREM,     MAIN TIME INCREMENT=  0.20
  EXECUTIVE CONTROL CARD          OPERATION  COMPUT,     FROM XSECTN/STRUCT  1/  0     TO XSECTN/STRUCT  2/  0
        STARTING TIME=  0.00     RAIN DEPTH=  4.60     RAIN DURATION=  1.00     RAIN TABLE NO.= 1     SOIL CONDITION= 2
        ALTERNATE NO.= 2         STORM NO.= 1


 SUBROUTINE REACH     CROSS SECTION  1
           LENGTH=  4000.00     INPUT COEFFICIENT=  0.0000     INPUT ROUTINGS=  0.00

           AVERAGE WATER VELOCITY=  1.778     AVERAGE ROUTING COEFF= 0.5112     NUMBER OF ROUTINGS=  1.60

           PEAK TIMES          PEAK DISCHARGES          PEAK ELEVATIONS
              29.10                70.002                   581.00

   TIME                        HYDROGRAPH, TZERO=   9.00     DELTA T= 0.20     DRAINAGE AREA=   2.52
   9.00   DISCHG     1.50      1.50      1.72      2.45      3.57      4.93      6.43      8.01      9.62     11.25
  11.00   DISCHG    12.89     14.53     16.28     18.26     20.42     22.69     25.02     27.39     29.77     32.16
  13.00   DISCHG    34.56     36.95     39.21     41.12     42.77     44.26     45.66     47.01     48.34     49.65
  15.00   DISCHG    50.96     52.26     53.52     54.69     55.79     56.84     57.87     58.88     59.89     60.89
  17.00   DISCHG    61.90     62.90     63.80     64.49     65.02     65.44     65.80     66.14     66.45     66.76
  19.00   DISCHG    67.07     67.37     67.64     67.85     68.02     68.15     68.27     68.38     68.49     68.59
  21.00   DISCHG    68.69     68.79     68.89     68.99     69.09     69.19     69.29     69.39     69.49     69.59
  23.00   DISCHG    69.69     69.79     69.88     69.93     69.96     69.98     69.99     70.00     70.00     70.00
  25.00   DISCHG    70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00
  27.00   DISCHG    70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00     70.00
  29.00   DISCHG    70.00     70.00     69.99     69.94     69.87     69.79     69.70     69.61     69.51     69.41
  31.00   DISCHG    69.31     69.21     69.12     69.07     69.04     69.02     69.01     69.00     69.00     69.00
  33.00   DISCHG    69.00     69.00     68.97     68.89     68.75     68.58     68.40     68.21     68.02     67.82
  35.00   DISCHG    67.62     67.42     67.22     67.02     66.82     66.62     66.42     66.22     66.02     65.82
  37.00   DISCHG    65.62     65.42     65.15     64.73     64.19     63.58     62.93     62.25     61.56     60.87
  39.00   DISCHG    60.17     59.47     58.79     58.13     57.50     56.88     56.27     55.67     55.07     54.46
  41.00   DISCHG    53.86     53.26     52.68     52.12     51.59     51.07     50.56     50.06     49.55     49.05
  43.00   DISCHG    48.55     48.05     47.57     47.11     46.68     46.26     45.85     45.45     45.04     44.64
  45.00   DISCHG    44.24     43.84     43.30     42.41     41.26     39.96     38.56     37.11     35.63     34.15
  47.00   DISCHG    32.65     31.16     29.56     27.76     25.78     23.70     21.57     19.40     17.22     15.02
  49.00   DISCHG    12.83     10.63      8.66      7.21      6.16      5.37      4.71      4.13      3.59      3.07
  51.00   DISCHG     2.56      2.06      1.61      1.30      1.09      0.95      0.84      0.75      0.67      0.59
  53.00   DISCHG     0.52      0.45      0.39      0.34      0.31      0.29      0.28      0.26      0.25      0.24
  55.00   DISCHG     0.23      0.22      0.21      0.20      0.19      0.18      0.17      0.16      0.15      0.14
  57.00   DISCHG     0.13      0.12      0.10      0.06      0.04      0.02      0.01      0.00


           TOTAL WATER, IN INCHES ON DRAINAGE AREA=  1.3574     CFS-HRS=  2207.57     ACRE-FT=  182.43


 SUBROUTINE RUNOFF    CROSS SECTION  1
           AREA=  0.28     INPUT RUNOFF CURVE=  77.0     TIME OF CONCENTRATION=  3.40
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PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
12.26	53.887	(RUNOFF)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.28

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.03	0.05	0.11	0.17	0.24	0.39
8.00	DISCHG	0.54	0.73	1.04	1.36	1.75	2.35	2.94	4.04	5.99	7.93
10.00	DISCHG	10.87	14.97	19.08	24.02	29.68	35.33	40.11	44.37	48.62	50.88
12.00	DISCHG	52.34	53.80	53.46	52.66	51.87	49.90	47.77	45.65	43.60	41.55
14.00	DISCHG	39.53	37.98	36.42	34.91	33.64	32.37	31.14	30.08	29.01	28.00
16.00	DISCHG	27.12	26.23	25.41	24.68	23.94	23.28	22.68	22.07	21.53	21.03
18.00	DISCHG	20.53	20.08	19.66	19.23	18.85	18.48	18.11	17.78	17.46	17.14
20.00	DISCHG	16.86	16.58	16.30	16.04	15.77	15.51	15.28	15.05	14.82	14.63
22.00	DISCHG	14.43	14.24	14.07	13.89	13.73	13.60	13.46	13.33	13.21	13.08
24.00	DISCHG	12.92	12.71	12.50	12.16	11.74	11.33	10.72	10.02	9.33	8.56
26.00	DISCHG	7.77	6.97	6.24	5.52	4.80	4.23	3.67	3.12	2.76	2.39
28.00	DISCHG	2.04	1.80	1.57	1.34	1.18	1.02	0.88	0.77	0.66	0.57
30.00	DISCHG	0.50	0.43	0.37	0.32	0.28	0.24	0.21	0.18	0.15	0.13
32.00	DISCHG	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.03	0.03	0.02
34.00	DISCHG	0.02	0.01	0.01	0.00						

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 2.2879 CFS-HRS= 413.43 ACRE-FT= 34.17

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
13.62	82.808	581.19
17.99	85.552	581.22

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.80

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.03	0.05	0.11	0.17	0.24	0.39
8.00	DISCHG	0.54	0.73	1.04	1.36	1.75	2.35	4.44	5.54	7.71	10.38
10.00	DISCHG	14.44	19.90	25.51	32.03	39.30	46.58	53.00	58.90	64.91	69.14
12.00	DISCHG	72.76	76.49	78.48	80.05	81.64	82.06	82.33	82.60	82.81	82.87
14.00	DISCHG	82.31	82.24	82.08	81.92	81.93	82.02	82.10	82.34	82.54	82.69
16.00	DISCHG	82.91	83.07	83.27	83.56	83.83	84.17	84.57	84.97	85.33	85.53
18.00	DISCHG	85.55	85.52	85.46	85.37	85.30	85.24	85.17	85.15	85.10	85.00
20.00	DISCHG	84.88	84.73	84.57	84.42	84.26	84.10	83.97	83.84	83.71	83.62
22.00	DISCHG	83.52	83.43	83.36	83.28	83.22	83.19	83.15	83.12	83.08	83.02
24.00	DISCHG	82.88	82.69	82.49	82.16	81.74	81.32	80.72	80.02	79.33	78.56
26.00	DISCHG	77.77	76.97	76.24	75.52	74.80	74.23	73.67	73.12	72.76	72.39
28.00	DISCHG	72.04	71.80	71.57	71.34	71.18	71.02	70.88	70.77	70.65	70.51
30.00	DISCHG	70.37	70.22	70.07	69.93	69.78	69.65	69.52	69.39	69.28	69.20
32.00	DISCHG	69.15	69.11	69.09	69.07	69.06	69.05	69.04	69.03	69.00	68.90
34.00	DISCHG	68.76	68.59	68.41	68.21	68.02	67.82	67.62	67.42	67.22	67.02
36.00	DISCHG	66.82	66.62	66.42	66.22	66.02	65.82	65.62	65.42	65.15	64.73
38.00	DISCHG	64.19	63.58	62.93	62.25	61.56	60.87	60.17	59.47	58.79	58.13
40.00	DISCHG	57.50	56.88	56.27	55.67	55.07	54.46	53.86	53.26	52.68	52.12
42.00	DISCHG	51.59	51.07	50.56	50.06	49.55	49.05	48.55	48.05	47.57	47.11
44.00	DISCHG	46.68	46.26	45.85	45.45	45.04	44.64	44.24	43.84	43.30	42.41
46.00	DISCHG	41.26	39.96	38.56	37.11	35.63	34.15	32.65	31.16	29.56	27.76
48.00	DISCHG	25.78	23.70	21.57	19.40	17.22	15.02	12.83	10.63	8.66	7.21
50.00	DISCHG	6.16	5.37	4.71	4.13	3.59	3.07	2.56	2.06	1.61	1.30
52.00	DISCHG	1.09	0.95	0.84	0.75	0.67	0.59	0.52	0.45	0.39	0.34
54.00	DISCHG	0.31	0.29	0.28	0.26	0.25	0.24	0.23	0.22	0.21	0.20
56.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.10	0.08
58.00	DISCHG	0.04	0.02	0.01	0.00						

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TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.4505 CFS-HRS= 2621.11 ACRE-FT= 216.61

SUBROUTINE SAVMOV CROSS SECTION 1
INPUT HYDROGRAPH= 7 OUTPUT HYDROGRAPH= 2

SUBROUTINE REACH CROSS SECTION 2
LENGTH= 3250.00 INPUT COEFFICIENT= 0.0000 INPUT ROUTINGS= 0.00

AVERAGE WATER VELOCITY= 0.316 AVERAGE ROUTING COEFF= 0.1566 NUMBER OF ROUTINGS= 2.24

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
29.53	44.363	581.41

TIME		HYDROGRAPH, TZERO= 9.00				DELTA T= 0.20			DRAINAGE AREA= 2.52		
9.00	DISCHG	0.00	0.00	0.00	0.01	0.04	0.10	0.20	0.35	0.56	0.82
11.00	DISCHG	1.15	1.43	1.97	2.47	3.04	3.68	4.40	5.19	6.07	7.03
13.00	DISCHG	8.06	9.17	10.35	11.58	12.85	14.14	15.43	16.71	17.97	19.21
15.00	DISCHG	20.41	21.57	22.70	23.80	24.85	25.86	26.84	27.77	28.66	29.52
17.00	DISCHG	30.34	31.13	31.89	32.61	33.31	33.96	34.58	35.16	35.71	36.21
19.00	DISCHG	36.68	37.11	37.50	37.87	38.21	38.52	38.81	39.08	39.33	39.56
21.00	DISCHG	39.77	39.97	40.16	40.34	40.51	40.67	40.82	40.96	41.10	41.24
23.00	DISCHG	41.37	41.49	41.62	41.73	41.85	41.97	42.08	42.19	42.30	42.41
25.00	DISCHG	42.51	42.62	42.73	42.83	42.93	43.04	43.14	43.24	43.34	43.45
27.00	DISCHG	43.55	43.65	43.75	43.85	43.94	44.03	44.11	44.18	44.24	44.29
29.00	DISCHG	44.33	44.35	44.36	44.36	44.35	44.34	44.31	44.27	44.23	44.18
31.00	DISCHG	44.13	44.07	44.00	43.93	43.86	43.78	43.69	43.59	43.48	43.37
33.00	DISCHG	43.25	43.12	42.99	42.85	42.70	42.55	42.41	42.26	42.11	41.97
35.00	DISCHG	41.83	41.69	41.55	41.42	41.29	41.16	41.03	40.91	40.79	40.67
37.00	DISCHG	40.56	40.44	40.33	40.22	40.11	39.99	39.87	39.75	39.63	39.49
39.00	DISCHG	39.36	39.21	39.07	38.91	38.75	38.59	38.41	38.23	38.03	37.83
41.00	DISCHG	37.62	37.40	37.17	36.94	36.70	36.45	36.20	35.94	35.67	35.41
43.00	DISCHG	35.13	34.86	34.58	34.30	34.02	33.73	33.45	33.16	32.87	32.57
45.00	DISCHG	32.28	31.99	31.69	31.40	31.09	30.76	30.41	30.04	29.64	29.20
47.00	DISCHG	28.74	28.23	27.74	27.18	26.58	25.93	25.21	24.42	23.56	22.62
49.00	DISCHG	21.61	20.52	19.37	18.17	16.94	15.70	14.48	13.30	12.16	11.07
51.00	DISCHG	10.05	9.09	8.19	7.36	6.58	5.88	5.23	4.64	4.11	3.63
53.00	DISCHG	3.20	2.82	2.47	2.17	1.90	1.66	1.45	1.27	1.10	0.96
55.00	DISCHG	0.84	0.73	0.63	0.55	0.47	0.41	0.36	0.31	0.27	0.23
57.00	DISCHG	0.20	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05
59.00	DISCHG	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01
61.00	DISCHG	0.01	0.01	0.00							

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.8449 CFS-HRS= 1374.01 ACRE-FT= 113.55

SUBROUTINE RUNOFF CROSS SECTION 2
AREA= 0.14 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 4.40

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
12.96	22.835	(RUNOFF)

TIME		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20			DRAINAGE AREA= 0.14		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.05	0.08	0.13
8.00	DISCHG	0.18	0.23	0.32	0.45	0.58	0.71	1.10	1.58	2.06	2.54
10.00	DISCHG	3.70	4.89	6.08	7.39	9.20	11.02	12.83	14.57	16.22	17.86
12.00	DISCHG	19.51	20.56	21.31	22.06	22.80	22.83	22.77	22.71	22.58	22.00
14.00	DISCHG	21.41	20.82	20.20	19.50	18.80	18.10	17.49	16.94	16.39	15.84
16.00	DISCHG	15.37	14.92	14.47	14.02	13.64	13.26	12.89	12.53	12.21	11.90

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18.00	DISCHG	11.58	11.29	11.04	10.78	10.52	10.29	10.08	9.87	9.66	9.48
20.00	DISCHG	9.30	9.12	8.94	8.79	8.64	8.48	8.34	8.21	8.07	7.94
22.00	DISCHG	7.82	7.71	7.59	7.48	7.38	7.29	7.19	7.10	7.00	6.91
24.00	DISCHG	6.82	6.71	6.58	6.45	6.32	6.14	5.93	5.71	5.49	5.21
26.00	DISCHG	4.91	4.60	4.30	3.99	3.67	3.36	3.06	2.79	2.52	2.25
28.00	DISCHG	2.02	1.83	1.63	1.44	1.29	1.17	1.05	0.92	0.84	0.76
30.00	DISCHG	0.68	0.60	0.54	0.49	0.43	0.39	0.35	0.31	0.28	0.25
32.00	DISCHG	0.22	0.20	0.17	0.16	0.14	0.13	0.11	0.10	0.09	0.08
34.00	DISCHG	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02
36.00	DISCHG	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00		

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 2.2872 CFS-HRS= 206.66 ACRE-FT= 17.08

SUBROUTINE ADDHYD CROSS SECTION 2
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

DUE TO STORAGE OVERFLOW, THE SUM OF HYDROGRAPHS 6 AND 5 WAS TRUNCATED HERE TO 300 VALUES.

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
24.17	48.679	581.48

TIME		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20		DRAINAGE AREA= 2.66			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.05	0.08	0.13
8.00	DISCHG	0.18	0.23	0.32	0.45	0.58	0.71	1.10	1.58	2.06	2.54
10.00	DISCHG	3.74	4.98	6.27	7.74	9.78	11.84	15.98	16.10	18.19	20.34
12.00	DISCHG	22.35	24.24	25.71	27.25	28.88	29.86	30.83	31.88	32.93	33.58
14.00	DISCHG	34.26	34.96	35.63	36.21	36.77	37.31	37.89	38.51	39.10	39.64
16.00	DISCHG	40.22	40.78	41.31	41.79	42.30	42.78	43.23	43.65	44.10	44.51
18.00	DISCHG	44.89	45.26	45.62	45.94	46.22	46.50	46.76	46.98	47.16	47.35
20.00	DISCHG	47.51	47.64	47.76	47.87	47.96	48.04	48.11	48.18	48.24	48.28
22.00	DISCHG	48.33	48.37	48.41	48.45	48.49	48.52	48.56	48.59	48.62	48.64
24.00	DISCHG	48.67	48.68	48.66	48.64	48.62	48.53	48.44	48.33	48.22	48.04
26.00	DISCHG	47.84	47.64	47.44	47.23	47.02	46.80	46.60	46.44	46.27	46.10
28.00	DISCHG	45.97	45.86	45.75	45.62	45.53	45.46	45.37	45.27	45.20	45.12
30.00	DISCHG	45.03	44.93	44.85	44.76	44.67	44.57	44.48	44.38	44.28	44.18
32.00	DISCHG	44.08	43.97	43.86	43.75	43.63	43.50	43.36	43.22	43.08	42.93
34.00	DISCHG	42.77	42.62	42.46	42.31	42.15	42.01	41.86	41.71	41.57	41.44
36.00	DISCHG	41.30	41.17	41.05	40.92	40.80	40.68	40.56	40.44	40.33	40.22
38.00	DISCHG	40.11	39.99	39.87	39.75	39.63	39.49	39.36	39.21	39.07	38.91
40.00	DISCHG	38.75	38.59	38.41	38.23	38.03	37.83	37.62	37.40	37.17	36.94
42.00	DISCHG	36.70	36.45	36.20	35.94	35.67	35.41	35.13	34.86	34.58	34.30
44.00	DISCHG	34.02	33.73	33.45	33.16	32.87	32.57	32.28	31.99	31.69	31.40
46.00	DISCHG	31.09	30.76	30.41	30.04	29.64	29.20	28.74	28.25	27.74	27.18
48.00	DISCHG	26.58	25.93	25.21	24.42	23.56	22.62	21.61	20.52	19.37	18.17
50.00	DISCHG	16.94	15.70	14.48	13.30	12.16	11.07	10.05	9.09	8.19	7.36
52.00	DISCHG	6.58	5.88	5.23	4.64	4.11	3.63	3.20	2.82	2.47	2.17
54.00	DISCHG	1.90	1.66	1.45	1.27	1.10	0.96	0.84	0.73	0.63	0.55
56.00	DISCHG	0.47	0.41	0.36	0.31	0.27	0.23	0.20	0.17	0.15	0.13
58.00	DISCHG	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.9208 CFS-HRS= 1580.64 ACRE-FT= 130.62

SUBROUTINE SAVMOV CROSS SECTION 2
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 6

SUBROUTINE ADDHYD CROSS SECTION 2
INPUT HYDROGRAPHS= 7,6 OUTPUT HYDROGRAPH= 5

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

	PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
	20.06	132.389	582.79
	23.28	131.710	582.78

TIME		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20			DRAINAGE AREA= 5.46		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.04	0.07	0.15	0.22	0.32	0.52
8.00	DISCHG	0.72	0.96	1.36	1.81	2.33	3.06	5.54	7.12	9.76	12.93
10.00	DISCHG	18.17	24.89	31.78	39.77	49.06	58.42	66.98	73.01	83.10	89.48
12.00	DISCHG	95.31	100.73	104.19	107.30	110.52	111.92	113.16	114.48	115.74	116.25
14.00	DISCHG	116.56	117.20	117.71	118.13	118.75	119.33	120.00	120.85	121.63	122.34
16.00	DISCHG	123.13	123.86	124.58	125.35	126.14	126.95	127.80	128.62	129.43	130.04
18.00	DISCHG	130.44	130.78	131.08	131.31	131.52	131.74	131.93	132.12	132.27	132.35
20.00	DISCHG	132.39	132.38	132.33	132.29	132.22	132.14	132.08	132.02	131.95	131.90
22.00	DISCHG	131.85	131.80	131.77	131.73	131.71	131.71	131.71	131.71	131.70	131.66
24.00	DISCHG	131.55	131.37	131.15	130.80	130.36	129.87	129.16	128.36	127.55	126.60
26.00	DISCHG	125.61	124.62	123.68	122.75	121.82	121.04	120.28	119.56	119.03	118.50
28.00	DISCHG	118.01	117.66	117.31	116.96	116.72	116.48	116.25	116.04	115.85	115.63
30.00	DISCHG	115.40	115.16	114.92	114.69	114.45	114.22	113.99	113.77	113.55	113.38
32.00	DISCHG	113.23	113.09	112.95	112.82	112.68	112.55	112.40	112.25	112.08	111.83
34.00	DISCHG	111.54	111.21	110.87	110.52	110.17	109.82	109.48	109.14	108.80	108.46
36.00	DISCHG	108.13	107.80	107.47	107.14	106.82	106.50	106.18	105.86	105.49	104.95
38.00	DISCHG	104.50	103.57	102.80	102.00	101.19	100.36	99.53	98.69	97.85	97.05
40.00	DISCHG	96.25	95.47	94.68	93.90	93.10	92.30	91.48	90.66	89.85	89.06
42.00	DISCHG	88.29	87.52	86.76	86.00	85.23	84.46	83.69	82.91	82.15	81.41
44.00	DISCHG	80.70	79.99	79.30	78.60	77.91	77.22	76.52	75.83	74.99	73.81
46.00	DISCHG	72.35	70.71	68.97	67.14	65.27	63.35	61.40	59.41	57.30	54.94
48.00	DISCHG	52.36	49.63	46.78	43.82	40.77	37.64	34.44	31.15	28.03	25.38
50.00	DISCHG	23.10	21.07	19.19	17.43	15.75	14.15	12.61	11.15	9.80	8.66
52.00	DISCHG	7.68	6.82	6.07	5.39	4.78	4.22	3.72	3.26	2.86	2.51
54.00	DISCHG	2.21	1.95	1.73	1.53	1.36	1.20	1.07	0.95	0.84	0.75
56.00	DISCHG	0.67	0.59	0.53	0.47	0.42	0.37	0.33	0.29	0.25	0.19
58.00	DISCHG	0.15	0.11	0.09	0.07	0.06	0.05	0.04	0.04	0.03	0.03

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.1924 CFS-HRS= 4201.75 ACRE-FT= 347.23

ENDCMP

ENDJOB CARD ENCOUNTERED. END OF JOB.

FORM 141-S4 PRINTED BY ROTARY SHEETFED FORMS.
PRINTED IN U.S.A.

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**************************************************
    HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
    ERROR CORR -  01
    MODIFICATION -  50,51,52
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C
T1      SO. ROCKWOOD VILLAGE    HUD203107       3/81    W.J.W.
T2      100YEAR NATURAL RUN
T3      LAUDENSCHLAGER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     G         WSEL      FQ
          0.        4.        0.        0.  0.000000      0.00      0.0       0.   580.340     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    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
    150.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      5.000    55.000    75.000    85.000    85.000   120.000     0.000     0.000     0.000     0.000
NC      0.030     0.080     0.035     0.300     0.500     0.000     0.000     0.000     0.000     0.000

        100 FT D/S HAGGERMAN RD.

X1      0.000    14.000   996.000  1004.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    560.000   640.000   582.300   641.000   582.000   900.000   581.200   981.000   577.000   996.000
GR    577.000   996.100   576.700  1000.000   576.900  1003.900   576.900  1004.000   578.800  1009.000
GR    581.000  1010.000   582.100  1080.000   582.200  1500.000   590.000  1501.000     0.000     0.000

        D/S FACE HAGGERMAN RD.

X1      0.900     0.000     0.000     0.000   100.000   100.000   100.000     0.000     0.000     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   581.200   581.200     0.000
SB      0.000     1.660     3.000     0.000     8.000     0.000    20.000     0.000   576.700   576.700

        U/S FACE HAGGERMAN RD.

X1      1.000     0.000     0.000     0.000    16.000    16.000    16.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   580.300   582.000     0.000     0.000     0.000     0.000     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   582.000   582.000     0.000
BT     14.000   640.000   890.000     0.000   641.000   582.300     0.000   900.000   582.300     0.000
BT    981.000   582.000     0.000   996.000   582.000     0.000   996.100   582.000   580.300  1000.000
BT    582.000   580.300  1003.900   582.000   580.400  1004.000   582.000     0.000  1009.000   582.000
BT      0.000  1010.000   582.000     0.000  1080.000   582.100     0.000  1500.000   582.200     0.000
BT   1501.000   590.000     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     9.100     0.000     0.000   950.000  1050.000

        50 FT U/S HAGGERMAN RD.

X1      1.200     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   931.000     0.000  1060.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     9.100     0.000     0.000     0.000   136.000   162.000
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PRINTED IN U.S.A.
FORM 1417-GA PRINTED BY ROTARY MANIFOLD FORMS.

100 FT D/S D'WAY CULVERT #2A

X1	1.700	9.000	146.000	154.000	550.000	550.000	570.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	25.000	580.800	136.000	577.100	146.000	576.500	150.000
GR	577.200	154.000	580.600	162.000	582.500	270.000	590.000	300.000	0.000	0.000

D/S FACE D'WAY CULVERT #2A

X1	1.800	19.000	148.200	151.700	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	579.600	579.600	0.000
GR	590.000	0.000	582.500	25.000	581.100	114.000	577.900	149.200	577.000	149.500
GR	576.500	148.800	576.500	149.500	576.500	150.000	576.500	150.500	576.500	151.100
GR	577.000	151.500	577.900	151.700	580.000	162.000	581.100	196.000	582.500	229.000
BR	0.000	1.820	3.000	0.000	2.800	0.000	8.600	0.000	576.500	576.500

U/S FACE D'WAY CULVERT #2A

X1	2.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	579.600	580.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.400	580.400	0.000
BT	15.000	0.000	590.000	0.000	114.000	581.100	0.000	136.000	580.800	0.000
BT	148.200	580.400	577.900	148.500	580.400	578.700	148.800	580.400	579.100	149.500
BT	580.400	579.500	150.000	580.400	579.600	150.500	580.400	579.500	151.100	580.400
BT	579.100	151.500	580.400	578.700	151.700	580.400	577.900	162.000	580.600	0.000
BT	196.000	581.100	0.000	299.000	582.500	0.000	0.000	0.000	0.000	0.000

50 FT U/S D'WAY CULVERT #2A

X1	2.200	9.000	146.000	154.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	25.000	580.800	136.000	577.100	146.000	576.500	150.000
GR	577.200	154.000	580.600	162.000	582.500	270.000	590.000	300.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	1.000	300.000

100 FT D/S D'WAY CULVERT #3

X1	2.700	11.000	152.000	163.000	450.000	400.000	420.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	1.000	582.200	90.000	582.200	130.000	582.200	145.000
GR	577.000	157.000	577.000	160.000	577.400	163.000	582.200	174.000	583.500	299.000
GR	590.000	300.000	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	9.100	0.000	0.000	0.000	145.000	174.000

D/S FACE D'WAY CULVERT #3

X1	2.800	22.000	155.000	165.000	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.200	582.100	0.000
GR	590.000	0.000	583.800	1.000	582.200	90.000	582.200	130.000	582.200	145.000
GR	579.000	155.000	578.000	155.300	577.200	156.000	577.000	157.000	577.200	158.000
GR	578.000	158.700	579.000	159.000	579.000	161.000	578.000	161.300	577.200	162.000
GR	577.000	163.000	577.200	164.000	578.000	164.700	579.000	165.000	582.200	174.000
GR	583.500	319.000	590.000	320.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.400	3.000	0.000	6.250	0.000	25.000	0.000	577.000	577.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	145.000	174.000

U/S FACE D'WAY CULVERT #3

X1	3.000	0.000	0.000	0.000	106.000	106.000	106.000	0.000	0.000	0.000

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FORM 1411 GR PRINTED BY ROTARY MANIFOLD FORMS

X2	0.000	0.000	1.000	581.000	582.200	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	582.500	582.500	0.000
BT	22.000	0.000	590.000	0.000	1.000	583.500	0.000	90.000	582.200	0.000
BT	147.000	582.200	0.000	158.000	582.200	580.700	157.000	582.200	581.000	158.000
BT	582.200	580.000	156.000	582.200	580.700	157.000	582.200	581.000	158.000	582.200
BT	580.700	158.700	582.200	580.000	159.000	582.200	579.000	161.000	582.100	579.000
BT	161.300	582.100	580.000	162.000	582.100	580.700	163.000	582.100	581.000	164.000
BT	582.100	580.700	164.700	582.100	580.000	165.000	582.100	579.000	174.000	582.200
BT	0.000	310.000	583.500	0.000	320.000	590.000	0.000	0.000	0.000	0.000
	35 FT U/S #3, 35 FT D/S #38									
X1	3.200	9.000	157.000	163.000	35.000	35.000	35.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	160.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000
	D/S FACE D'WAY CULVERT #39									
X1	3.800	13.000	147.500	152.500	35.000	35.000	35.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.400	581.400	0.000
GR	590.000	0.000	583.500	1.000	582.300	138.000	578.300	147.500	577.300	147.700
GR	576.300	148.500	576.300	150.000	576.300	151.500	577.300	152.300	578.300	152.500
GR	582.300	164.000	583.500	319.000	590.000	320.000	0.000	0.000	0.000	0.000
SP	0.000	1.710	3.000	0.000	4.100	0.000	18.600	0.000	576.300	576.300
	U/S FACE D'WAY CULVERT #38									
X1	4.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	580.800	581.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.400	581.400	0.000
BT	13.000	0.000	590.000	0.000	1.000	583.500	0.000	138.000	582.300	0.000
BT	147.500	581.400	578.300	147.700	581.400	579.300	148.500	581.400	580.300	150.000
BT	581.400	580.800	151.500	581.400	580.300	152.300	581.400	579.300	152.500	581.400
BT	578.300	164.000	582.300	0.000	319.000	583.500	0.000	320.000	590.000	0.000
	50 FT U/S D'WAY CULVERT #38									
X1	4.200	9.000	157.000	163.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	160.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	325.000	380.000
	100 FT D/S D'WAY CULVERT #36									
X1	4.700	9.000	345.000	355.000	960.000	960.000	960.000	0.000	0.000	0.000
GR	590.000	200.000	584.000	201.000	582.300	335.000	578.700	345.000	578.000	350.000
GR	578.700	355.000	582.500	362.000	584.000	499.000	590.000	500.000	0.000	0.000
	D/S FACE D'WAY CULVERT #36									
X1	4.800	13.000	347.500	352.500	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
GR	590.000	200.000	584.000	201.000	582.900	335.000	579.200	347.500	578.000	347.800
GR	578.000	349.000	578.000	350.000	578.000	351.000	578.000	352.200	579.200	352.500
GR	582.900	362.000	584.000	499.000	590.000	500.000	0.000	0.000	0.000	0.000
SB	0.000	1.660	3.000	0.000	4.200	0.000	15.500	0.000	578.000	578.000

FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS
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U/S FACE D'WAY CULVERT #3C

X1	5.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	581.700	590.900	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
BT	13.000	200.000	590.000	0.000	201.000	564.000	0.000	335.000	582.900	0.000
BT	347.500	582.900	579.200	347.800	582.900	590.400	349.000	582.900	581.500	350.000
BT	582.900	581.700	351.000	582.900	581.500	352.200	582.900	580.400	352.500	582.900
BT	579.200	362.000	582.900	0.000	499.000	584.000	0.000	500.000	590.000	0.000
ET	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000	0.000

50 FT U/S D'WAY CULVERT #3C

X1	5.200	9.000	345.000	355.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	300.000	582.500	301.000	582.300	335.000	578.700	345.000	578.000	350.000
GR	578.700	355.000	582.300	362.000	582.600	395.000	590.000	400.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	451.000	1500.000
X1	5.800	15.000	997.500	1002.500	250.000	250.000	250.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	975.000	0.000	1025.000	0.000	0.000	0.000	0.000
GR	600.000	450.000	585.000	451.000	585.000	987.000	579.300	994.000	579.300	997.500
GR	579.300	996.000	579.300	999.000	579.300	1000.000	579.300	1001.000	579.300	1002.000
GR	579.300	1002.500	579.300	1006.000	585.000	1015.000	585.000	1500.000	600.000	1501.000

D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X1	5.900	0.000	0.000	0.000	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.500	588.500	0.000
SS	0.000	2.000	3.000	0.000	2.620	0.000	12.300	0.000	577.600	577.600

U/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X1	6.000	0.000	0.000	0.000	47.000	47.000	47.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.300	588.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.500	588.500	0.000
BT	15.000	450.000	600.000	0.000	451.000	588.500	0.000	987.000	588.500	0.000
BT	994.000	588.500	0.000	997.500	588.500	579.300	998.000	588.500	581.300	999.000
BT	588.500	582.100	1000.000	588.500	582.300	1001.000	588.500	582.100	1002.000	588.500
BT	581.300	1002.500	588.500	579.300	1006.000	588.500	0.000	1015.000	588.500	0.000
BT	1500.000	588.500	0.000	1501.000	600.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PENN CENTRAL R.R.

X1	6.900	14.000	997.500	1002.500	200.000	200.000	200.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	590.000	590.000	0.000
GR	600.000	450.000	584.000	451.000	583.500	987.000	580.000	997.500	578.900	998.000
GR	578.900	999.000	578.900	1000.000	578.900	1001.000	578.900	1002.000	580.000	1002.500
GR	581.600	1011.000	585.400	1050.000	584.000	1500.000	600.000	1501.000	0.000	0.000
SS	0.000	2.050	3.000	0.000	4.200	0.000	15.000	0.000	578.900	578.900

U/S FACE PENN CENTRAL R.R.

X1	7.000	0.000	0.000	0.000	49.000	49.000	49.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.500	590.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	590.000	590.000	0.000
BT	14.000	450.000	600.000	0.000	451.000	590.000	0.000	987.000	590.000	0.000
BT	997.500	590.000	580.000	998.000	590.000	581.500	999.000	590.000	582.300	1000.000
BT	590.000	582.500	1001.000	590.000	582.300	1002.000	590.000	581.500	1002.500	590.000

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BT	580.000	1011.000	590.000	0.000	1050.000	590.000	0.000	1500.000	590.000	0.000
BT	1501.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	7.100	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	950.000	0.000	1050.000	0.000	0.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*PROF 1

CONV= 0.300 CONV= 0.500

*SECNO ****

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	WOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST
	100 FT D/S HAGGERMAN RD.								
0.00	3.64	580.34	0.00	580.34	580.40	0.06	0.00	0.00	577.00
85.	12.	64.	10.	20.	28.	13.	0.	0.	576.90
0.00	0.59	2.27	0.73	0.080	0.035	0.080	0.000	576.70	984.07
0.000536	0.	0.	0.	0	0	0	0.00	25.63	1009.70

FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 580.34

STA=	984.	996.	1004.	1009.	1010.
PER Q=	13.8	75.0	11.1	0.1	
AREA=	19.9	28.1	12.5	0.5	
VEL=	0.6	2.3	0.8	0.2	

*SECNO ****

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.20 ELREA= 581.20

D/S FACE HAGGERMAN RD.

0.90	3.68	580.38	0.00	0.00	580.52	0.14	0.00	0.04	577.00
85.	0.	85.	0.	0.	29.	0.	0.	0.	576.90
0.01	0.00	2.99	0.00	0.080	0.035	0.080	0.035	576.70	996.00
0.001435	100.	100.	100.	0	0	0	0.00	8.00	1004.00

FLOW DISTRIBUTION FOR SECNO= 0.90 CWSEL= 580.38

STA=	996.	1004.
PER Q=	100.0	
AREA=	28.5	
VEL=	3.0	

SPECIAL BRIDGE

SB	XK	XKOR	COEQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.66	3.00	0.00	8.00	0.00	29.00	0.00	576.70	576.70

*SECNO 1.000

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
580.61	580.52	0.00	0.	85.	29.	29.	580.30	582.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.00 ELREA= 582.00

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U/S FACE HAGGERMAN RD.

1.00	3.77	580.47	0.00	0.00	580.61	0.13	0.02	0.00	577.00	
RS.	0.	85.	0.	0.	29.	0.	0.	0.	576.90	
0.01	0.00	2.91	0.00	0.080	0.035	0.080	0.034	576.70	996.00	
0.001545	16.	16.	16.	2	0	0	0.00	3.00	1004.00	

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 580.47

STA= 996. 1004.

PER Q= 100.0

AREA= 29.2

VEL= 2.9

*SECNO 1.200

3470 ENCROACHMENT STATIONS= 931.0 1060.0 TYPE= 1 TARGET= 129.000

50 FT U/S HAGGERMAN RD.

1.20	3.91	580.61	0.00	0.00	580.66	0.05	0.03	0.02	577.00	
85.	13.	61.	10.	23.	30.	15.	0.	0.	576.90	
0.02	0.54	2.07	0.68	0.080	0.035	0.080	0.034	576.70	983.09	
0.000402	50.	50.	50.	2	0	0	0.00	26.73	1009.83	

FLOW DISTRIBUTION FOR SECNO= 1.20 CWSEL= 580.61

STA= 983. 996. 1004. 1009. 1010.

PER Q= 14.8 73.6 11.4 0.2

AREA= 23.3 30.3 13.8 0.7

VEL= 0.5 2.1 0.7 1.2

*SECNO 1.700

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CONAR	TOPWID	ENDST

100 FT D/S D'WAY CULVERT #2A

1.20	4.34	580.84	0.00	0.00	580.89	0.05	0.22	0.00	577.10	
85.	10.	67.	8.	19.	32.	17.	1.	1.	577.20	
0.11	0.53	2.08	0.49	0.080	0.035	0.080	0.035	576.50	133.80	
0.000382	550.	570.	600.	2	0	0	0.00	41.48	175.23	

FLOW DISTRIBUTION FOR SECNO= 1.70 CWSEL= 580.84

STA= 134. 146. 154. 162. 175.

PER Q= 11.8 78.4 9.7 0.2

AREA= 18.9 32.1 15.5 1.6

VEL= 0.5 2.1 0.5 0.1

*SECNO 1.800

D/S FACE D'WAY CULVERT #2A

1.30	4.41	580.91	0.00	0.00	580.95	0.03	0.05	0.01	577.90	

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85.	32.	33.	20.	48.	15.	33.	1.	1.	577.90
0.13	0.66	2.26	0.59	0.040	0.035	0.080	0.035	576.50	116.01
0.000737	100.	100.	100.	2	0	0	0.00	74.17	190.13

FLOW DISTRIBUTION FOR SECNO= 1.80 CWSEL= 580.91

STA=	116.	148.	152.	162.	190.
PER Q=	57.7	32.3	10.5	4.5	
AREA=	48.5	14.2	20.2	12.0	
VEL=	0.7	2.3	0.8	0.3	

SPECIAL BRIDGE

SB XK	XKOR	CDFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	1.82	3.00	0.00	2.80	0.00	8.60	0.00	576.50	576.50

*SECNO 2.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	KS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
583.67	580.95	0.00	60.	25.	9.	9.	579.60	580.40

U/S FACE D'WAY CULVERT #2A

2.00	4.63	581.13	0.00	0.00	581.16	0.02	0.21	0.00	577.90
85.	33.	31.	22.	56.	16.	42.	1.	1.	577.90
0.14	0.59	1.97	0.51	0.080	0.035	0.080	0.035	576.50	112.03
0.000523	12.	12.	12.	2	0	6	0.00	84.70	196.73

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 581.13

STA=	112.	148.	152.	162.	196.
PER Q=	38.5	36.0	18.6	6.9	
AREA=	55.8	15.6	22.9	10.8	
VEL=	0.6	2.0	0.7	0.3	

*SECNO 2.200

50 FT U/S D'WAY CULVERT #2A

2.20	4.64	581.14	0.00	0.00	581.18	0.04	0.02	0.01	577.10
85.	11.	64.	10.	26.	35.	26.	1.	1.	577.20
0.14	0.44	1.85	0.38	0.080	0.035	0.080	0.035	576.50	113.71
0.000274	50.	50.	50.	2	0	0	0.00	79.05	192.77

FLOW DISTRIBUTION FOR SECNO= 2.20 CWSEL= 581.14

STA=	114.	136.	146.	154.	162.	193.
PER Q=	0.4	12.8	75.0	10.5	1.3	
AREA=	3.8	21.9	34.5	17.9	8.3	
VEL=	0.1	0.5	1.8	0.5	0.1	

*SECNO 2.700

100 FT D/S D'WAY CULVERT #3

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      2.70      4.28    581.28      0.00      0.00    581.35      0.07      0.15      0.01    577.00
      85.        14.       61.       10.       21.       25.       17.        2.        1.    577.40
      0.21      0.64      2.43      0.60     0.080     0.035     0.040     0.035    577.00    147.12
  0.000490      460.      420.      400.         2         0         0      0.00     24.77    171.80

 FLOW DISTRIBUTION FOR SECNO=       2.70          CWSEL=     581.28

 STA=      147.      157.      165.      172.
  PER Q=     16.0      71.7      12.2
    AREA=    21.1      25.1      17.2
     VEL=     0.6       2.4       0.6

 *SECNO 2.800
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XRL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IM2       ICONT     CORAR     TOPWID      ENDST


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      582.20 ELREA=      582.10

          D/S FACE D'WAY CULVERT #3

      2.80      4.34    581.34      0.00      0.00    581.43      0.09      0.07      0.01    579.00
        85.        0.       85.        0.        0.       36.        0.        2.        1.    579.00
      0.22      0.00      2.39      0.00     0.080     0.035     0.080     0.035    577.00    155.00
  0.001171      100.      100.      100.         2         0         0      0.00     10.00    165.00

 FLOW DISTRIBUTION FOR SECNO=       2.80          CWSEL=     581.34

 STA=      155.      165.
  PER Q=    100.0
    AREA=    55.5
     VEL=     2.4

 * SPECIAL BRIDGE

  SK    KK        KKOR      COFQ      ROUGH     BWC       BSLP      BAREA     SS        ELCHU     ELCHD
      0.00      2.80      3.00      0.00      6.25      0.00     25.00      0.00    577.00    577.00

 *SECNO 3.000
 PRESSURE FLOW

  EGPRS     EGLWC     H3        QWEIR     QPR       AAREA     TRAPEZOID AREA     ELLC      ELTRD
  581.84    581.43      0.00        0.        85.       25.       25.       581.00    582.20


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      582.50 ELREA=      582.50

          U/S FACE D'WAY CULVERT #3

      3.00      4.77    581.77      0.00      0.00    581.84      0.07      0.41      0.00    579.00
        85.        0.       85.        0.        0.       40.        0.        2.        1.    579.00
      0.23      0.00      2.13      0.00     0.080     0.035     0.080     0.035    577.00    155.00
  0.000826      106.      106.      106.         2         0         0      0.00     10.00    165.00
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FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 581.77

STA=	155.	165.
PER Q=	100.0	
AREA=	39.9	
VEL=	2.1	

*SECAD 3.200

35 FT U/S #3, 35 FT D/S #3B

3.20	4.19	581.79	0.00	0.00	581.87	0.08	0.02	0.00	577.90	
85.	9.	63.	13.	14.	25.	20.	2.	1.	577.70	
0.24	0.63	2.56	0.67	0.080	0.035	0.080	0.035	577.60	149.91	
0.000554	35.	35.	35.	1	0	0	0.00	22.90	172.81	

FLOW DISTRIBUTION FOR SECNO= 3.20 CWSEL= 581.79

STA=	150.	157.	163.	173.
PER Q=	10.2	74.0	15.8	
AREA=	13.8	24.6	20.1	
VEL=	0.6	2.6	0.7	

*SECNO 3.800

D/S FACE D'WAY CULVERT #3B

3.80	5.52	581.82	0.00	0.00	581.89	0.07	0.02	0.00	578.30
85.	9.	64.	12.	15.	26.	18.	2.	1.	578.30
0.24	0.65	2.44	0.66	0.080	0.035	0.080	0.035	576.30	139.15
0.000634	35.	35.	35.	0	0	0	0.00	23.47	162.61

FLOW DISTRIBUTION FOR SECNO= 3.80 CWSEL= 581.82

STA=	139.	148.	153.	163.
PER Q=	11.2	75.1	13.7	
AREA=	14.7	26.2	17.8	
VEL=	0.6	2.4	0.7	

SPECIAL BRIDGE

SB	XK	XKOR	CDFO	RGLEN	BWC	BWP	OAREA	SS	ELCHU	ELCHD
	0.00	1.71	3.00	0.00	4.10	0.00	14.60	0.00	576.30	576.30

*SECND 4.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	WS	QWEIR	QPR	OAREA	TRAPEZOID AREA	ELLC	ELTRD
582.38	581.89	0.00	21.	64.	19.	18.	580.80	581.40

U/S FACE D'WAY CULVERT #3B

4.00	5.78	582.08	0.00	0.00	582.14	0.06	0.25	0.00	578.30
85.	10.	62.	13.	17.	27.	21.	2.	1.	578.30
0.24	0.61	2.26	0.62	0.080	0.035	0.080	0.035	576.30	138.52

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 0.000509      20.      20.      20.       2        0        4     0.00    24.84   163.37

 FLOW DISTRIBUTION FOR SECNO=      4.00          CWSEL=    582.08

 STA=     139.     148.     153.     163.
   PER Q=    12.1     73.0     14.9
    AREA=    17.0     27.5     20.5
     VEL=     0.6      2.3      0.6

*SECNO 4.200
   SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL       OLOSS    BANK ELEV
     Q       QLOB      QCH       QROB      ALOB       ACH       AROB      VOL      TWA    LEFT/RIGHT
    TIME     VLOB      VCH       VROB      XNL        XNCH      XNR       WTN      FLMIN      SSTA
    SLOPE    XLOBL     XLCH      XLOBR     ITRIAL     IM2       ICONT     CORAR    TOPWID     ENDST

          50 FT U/S D'WAY CULVERT #38

      4.20      4.50   582.10      0.00      0.00   582.16      0.06      0.02      0.00   577.90
        85.         9.       62.       14.       16.       26.       23.        3.        1.   577.70
      0.25      0.57      2.33      0.61     0.080     0.035     0.080     0.035   577.60   149.35
  0.000418        50.       50.       50.         0         0         0      0.00    24.19   173.54

 FLOW DISTRIBUTION FOR SECNO=      4.20          CWSEL=    582.10

 STA=     149.     157.     163.     174.
   PER Q=    10.8     72.5     16.7
    AREA=    16.1     26.4     23.2
     VEL=     0.6      2.3      0.6

*SECNO 4.700

          100 FT D/S D'WAY CULVERT #38

      4.70      4.44   582.44      0.00      0.00   582.48      0.04      0.31      0.01   578.70
        85.         9.       71.        5.       20.       41.       13.        4.        2.   578.70
      0.43      0.43      1.73      0.42     0.080     0.035     0.080     0.035   578.00   323.80
  0.000258       960.      960.      960.         2         0         0      0.00    38.09   361.89

 FLOW DISTRIBUTION FOR SECNO=      4.70          CWSEL=    582.44

 STA=     324.     335.     345.     355.     362.
   PER Q=     0.0     10.2     83.5      6.3
    AREA=     0.8     19.4     40.9     12.9
     VEL=     0.1      0.4      1.7      0.4

*SECNO 4.800

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      584.00 ELREA=      584.00

          D/S FACE D'WAY CULVERT #38

      4.80      4.40   582.40      0.00      0.00   582.64      0.24      0.06      0.10   579.20
        85.         0.       85.        0.        0.       22.        0.        4.        2.   579.20
      0.43      0.00      3.92      0.00     0.080     0.035     0.080     0.035   578.00   347.50
  0.003070       100.      100.      100.         2         0         0      0.00     5.00   352.50

 FLOW DISTRIBUTION FOR SECNO=      4.80          CWSEL=    582.40
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STA=      348.      353.
  PER Q=     100.0
   AREA=      21.7
    VEL=       3.9

SPECIAL BRIDGE

SB  XK        XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       1.66       3.00       0.00       4.20       0.00       19.50      0.00      578.00     578.00

*SECNO 5.000
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC       H3        QWEIR       QPR        BAREA    TRAPEZOID      ELLC      ELTRD
                                                                      AREA
   583.18     582.64      0.00        7.        78.        16.        16.       581.70     582.90


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       584.00 ELREA=       584.00

        U/S FACE D'WAY CULVERT #3C

     5.00      4.86    582.86      0.00      0.00    583.05      0.20      0.41      0.00    579.20
      85.        0.       85.        0.        0.       24.        0.        4.        2.    579.20
     0.43      0.00      3.55      0.00     0.080     0.035     0.080     0.035    578.00    347.50
 0.002335       10.       10.       10.         2         0         4      0.00      5.00    352.50


FLOW DISTRIBUTION FOR SECNO=       5.00          CWSEL=     582.86

STA=      348.      353.
  PER Q=     100.0
   AREA=      23.9
    VEL=       3.6

*SECNO 5.200

        50 FT U/S D'WAY CULVERT #3C

     5.20      5.10    583.10      0.00      0.00    583.12      0.02      0.02      0.05    578.70
      85.       14.       63.        9.       50.       48.       36.        4.        2.    578.70
     0.45      0.27      1.32      0.24     0.080     0.035     0.080     0.035    578.00    300.92
 0.000123       50.       50.       50.         2         0         0      0.00     94.42    395.34


FLOW DISTRIBUTION FOR SECNO=       5.20          CWSEL=     583.10

STA=      301.      335.      345.      355.      362.      395.      395.
  PER Q=       4.6      11.4      73.9       7.2       3.0       0.0
   AREA=      23.9      26.0      47.5      17.5      18.2       0.1
    VEL=       0.2       0.4       1.3       0.3       0.1       0.0

*SECNO 5.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        CLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     CORAR     TOPWID     ENDST
```

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3470 ENCROACHMENT STATIONS=      975.0     1025.0  TYPE=      1  TARGET=      50.000
     5.80      3.84    583.14      0.00      0.00    583.19      0.05      0.06      0.02    579.30
      85.       19.       45.       21.       23.       19.       23.        5.        3.    579.30
     0.49      0.84      2.36      0.82     0.080     0.035     0.080     0.035    579.30    989.28
 0.000516      250.      250.      250.         2         0         0      0.00     22.78   1012.07

FLOW DISTRIBUTION FOR SECNO=       5.80          CWSEL=     583.14

STA=      989.      994.      998.     1003.     1006.     1012.
  PER Q=       5.9      16.4      53.4      16.4       8.0
   AREA=       9.1      13.4      19.2      13.4      11.6
    VEL=       0.6       1.0       2.4       1.0       0.6

*SECNO 5.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      588.50 ELREA=      588.50

        D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     5.90      3.82    583.12      0.00      0.00    583.43      0.31      0.11      0.13    579.30
      85.        0.       85.        0.        0.       19.        0.        5.        3.    579.30
     0.50      0.00      4.45      0.00     0.080     0.035     0.080     0.035    579.30    997.50
 0.003641      100.      100.      100.         2         0         0      0.00      5.00   1002.50

FLOW DISTRIBUTION FOR SECNO=       5.90          CWSEL=     583.12

STA=      998.     1003.
  PER Q=     100.0
   AREA=      19.1
    VEL=       4.4

SPECIAL BRIDGE

SB  XK        XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00       2.00       3.00       0.00       2.62       0.00      12.30      0.00     577.60     577.60

*SECNO 6.000
PRESSURE FLOW

EGPRS       EGLWC       H3        QWEIR       QPR        BAREA    TRAPEZOID       ELLC       ELTRD
                                                                     AREA
   584.61     582.42      0.00         0.        85.        12.        12.       582.30     588.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      588.50 ELREA=      588.50

        U/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     6.00      5.14    584.44      0.00      0.00    584.61      0.17      1.18      0.00    579.30
      85.        0.       85.        0.        0.       26.        0.        5.        3.    579.30
     0.50      0.00      3.31      0.00     0.080     0.035     0.080     0.035    579.30    997.50
 0.001651       47.       47.       47.         2         0         0      0.00      5.00   1002.50

FLOW DISTRIBUTION FOR SECNO=       6.00          CWSEL=     584.44
```

STA= 998. 1003.
PER Q= 100.0
AREA= 25.7
VEL= 2.3

*SECNO 6.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 590.00 ELREA= 590.00

D/S FACE PENN CENTRAL R.R.

6.90	5.38	584.78	0.00	0.00	584.91	0.13	0.30	0.01	580.00	
85.	0.	85.	0.	0.	29.	0.	5.	3.	580.00	
0.52	0.00	2.95	0.00	0.080	0.035	0.080	0.035	578.90	997.50	
0.001349	200.	200.	200.	2	0	0	0.00	5.00	1002.50	

FLOW DISTRIBUTION FOR SECNO= 6.90 CWSEL= 584.78

STA= 998. 1003.
PER Q= 100.0
AREA= 28.8
VEL= 2.9

SPECIAL BRIDGE

SG	XK	*	XKOR	COPG	ROLEN	BWC	BWP	BAREA	SS	ELCHO	ELCHO
0.00			2.05	3.00	0.00	4.20	0.00	19.00	0.00	578.90	578.90

*SECNO 7.000
PRESSURE FLOW

EGPRS	EGLWC	WS	QWEIR	QBR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
585.80	584.91	0.00	0.	85.	15.	15.	582.50	590.00

3470 ENCROACHMENT STATIONS= 975.0 1025.0 TYPE= 1 TARGET= 50.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 590.00 ELREA= 590.00

U/S FACE PENN CENTRAL R.R.

7.00	6.80	585.70	0.00	0.00	585.80	0.10	0.20	0.00	580.00	
85.	0.	85.	0.	0.	33.	0.	5.	3.	580.00	
0.52	0.00	2.54	0.00	0.080	0.035	0.080	0.035	578.90	997.50	
0.000915	49.	49.	49.	2	0	0	0.00	5.00	1002.50	

FLOW DISTRIBUTION FOR SECNO= 7.00 CWSEL= 585.70

STA= 998. 1003.
PER Q= 100.0
AREA= 33.5
VEL= 2.5

*SECNO 7.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

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TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORA**	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=			950.0	1050.0	TYPE=	1	TARGET=	100.000	
7.10	6.93	585.83	0.00	0.00	985.83	0.00	0.00	0.03	580.00
35.	24.	23.	38.	129.	34.	179.	5.	3.	580.00
0.57	0.19	0.67	0.22	0.040	0.035	0.090	0.055	578.80	950.00
0.000026	50.	50.	30.	2	0	0	0.00	100.00	1050.00

FLOW DISTRIBUTION FOR SECNO= 7.10 CWSEL= 585.83

STA=	950.	987.	998.	1003.	1011.	1050.
PER Q=	16.2	11.9	26.7	14.0	31.3	
AREA=	85.6	42.9	34.1	42.8	129.9	
VEL=	0.2	0.2	0.7	0.3	0.2	

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**************************************************
    HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
    ERROR CORR -  01
    MODIFICATION -  50,51,52
**************************************************

  T1
  T2      ENCROACHMENT RUN
  T3

  J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     MVINS      Q          WSEL       FQ
            0.        5.         0.         0.  0.000000       0.00       0.0         0.   580.340      0.000

  J2  NPROF      IPLOT      PRFVS      XSECV      XSECH         FN      ALLDC       IBW       CHNIM      ITRACE
      15.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
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*PROF 2

CCHV= 0.300 CLAV= 0.500

*SECNO ****

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	WLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOEL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ENDST
	100 FT D/S HAGGERMAN RD.								
0.00	3.64	580.34	0.00	580.34	580.40	0.06	0.00	0.00	577.00
85.	12.	64.	10.	20.	28.	13.	0.	0.	576.90
0.00	0.59	2.27	0.75	0.080	0.035	0.080	0.000	576.70	984.07
0.000536	0.	0.	0.	0	0	0	0.00	25.63	1009.70

*SECNO ****

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.20 ELREA= 581.20

D/S FACE HAGGERMAN RD.

0.90	3.68	580.38	0.00	0.00	580.52	0.14	0.08	0.04	577.00
85.	0.	85.	0.	0.	29.	0.	0.	0.	576.90
0.01	0.00	2.98	0.00	0.080	0.035	0.080	0.035	576.70	996.00
0.001435	100.	100.	100.	0	0	0	0.00	8.00	1004.00

SPECIAL BRIDGE

SB XK	YKOR	COFB	ROLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	1.66	3.00	0.00	8.00	0.00	29.00	0.00	576.70	576.70

*SECNO 1.000

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
580.61	580.52	0.00	0.	85.	29.	29.	580.30	582.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.00 ELREA= 582.00

U/S FACE HAGGERMAN RD.

1.00	3.77	580.47	0.00	0.00	580.61	0.13	0.03	0.00	577.00
85.	0.	85.	0.	0.	29.	0.	0.	0.	576.90
0.01	0.00	2.91	0.00	0.080	0.035	0.080	0.034	576.70	996.00
0.001345	16.	16.	16.	2	0	0	0.00	8.00	1004.00

*SECNO 1.200

3470 ENCROACHMENT STATIONS= 931.0 1060.0 TYPE= 1 TARGET= 129.000

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50 FT U/S HAGGERMAN RD.

1.20	3.91	580.61	0.00	0.00	580.66	0.05	0.03	0.02	577.00	
85.	13.	41.	10.	23.	30.	15.	0.	0.	576.70	
0.02	0.54	2.07	0.68	0.080	0.035	0.080	0.034	576.70	933.00	
0.000402	50.	50.	50.	2	0	0	0.00	26.73	1009.83	

*SECNO 1.700

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	FLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 136.0 162.0 TYPE= 1 TARGET= 26.000

100 FT D/S D'WAY CULVERT #2A

1.70	4.34	580.84	0.00	580.84	580.89	0.05	0.22	0.00	577.10
85.	10.	67.	8.	19.	32.	15.	1.	0.	577.20
0.11	0.53	2.08	0.53	0.080	0.035	0.080	0.035	576.50	136.00
0.000385	550.	570.	600.	2	0	0	0.00	26.00	162.00

*SECNO 1.800

DAS FACE D'WAY CULVERT #2A

1.80	4.41	580.91	0.00	580.91	580.95	0.03	0.05	0.01	577.90
85.	32.	33.	20.	49.	15.	33.	1.	1.	577.90
0.13	0.66	2.26	0.59	0.080	0.035	0.080	0.035	576.50	116.00
0.000735	100.	100.	100.	2	0	0	0.00	74.22	190.22

SPECIAL BRIDGE

SR	XK	XKOR	COFQ	RDLEN	BWC	BWP	RAREA	SS	ELCHU	ELCHD
0.00	1.82	3.00	0.00	2.80	0.00	3.60	0.00	576.50	576.50	

*SECNO 2.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	APR	QAREA	TRAPEZOID AREA	ELLC	ELTRD
583.67	580.95	0.00	60.	25.	9.	9.	579.60	580.40

U/S FACE D'WAY CULVERT #2A

2.00	4.63	581.13	0.00	581.13	581.16	0.02	0.21	0.00	577.90
85.	33.	31.	22.	56.	16.	42.	1.	1.	577.90
0.13	0.59	1.97	0.51	0.080	0.035	0.080	0.035	576.50	112.00
0.000522	12.	12.	12.	2	0	6	0.00	84.74	196.74

*SECNO 2.200

50 FT U/S D'WAY CULVERT #2A

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     2.20      4.64    581.14      0.00    581.14    581.18      0.04      0.02      0.01    577.10
      85.       11.       64.       10.       26.       35.       26.        1.        1.    577.20
     0.14      0.44      1.85      0.38     0.080     0.035     0.080     0.035    576.50    113.65
 0.000273       50.       50.       50.         2         0         0      0.00     79.17    192.82

*SECNO 2.700

3470 ENCROACHMENT STATIONS=        1.0      300.0  TYPE=      1  TARGET=      299.000

        100 FT D/S D'WAY CULVERT #3

     2.70      4.28    581.28      0.00    581.28    581.35      0.07      0.15      0.01    577.00
      85.       14.       61.       10.       21.       25.       17.        2.        1.    577.40
     0.20      0.64      2.43      0.60     0.080     0.035     0.080     0.035    577.00    147.12
 0.000490      450.      420.      400.         2         0         0      0.00     24.77    171.89

*SECNO 2.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      145.0      174.0  TYPE=      1  TARGET=       29.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       582.20 ELREA=       582.10

        D/S FACE D'WAY CULVERT #3

     2.80      4.34    581.34      0.00    581.34    581.43      0.09      0.07      0.01    579.00
      85.        0.       85.        0.        0.       36.        0.        2.        1.    579.00
     0.22      0.00      2.39      0.00     0.080     0.035     0.080     0.035    577.00    155.00
 0.001171      100.      100.      100.         2         0         0      0.00     10.00    165.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.80      3.00      0.00      6.25      0.00     25.00      0.00    577.00    577.00

*SECNO 3.000
PRESSURE FLOW

 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                                AREA
   581.84    581.43      0.00        0.       85.       25.       25.       581.00    582.20

3470 ENCROACHMENT STATIONS=      145.0      174.0  TYPE=      1  TARGET=       29.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       582.50 ELREA=       582.50

        U/S FACE D'WAY CULVERT #3

     3.00      4.77    581.77      0.00    581.77    581.84      0.07      0.41      0.00    579.00
      85.        0.       85.        0.        0.       40.        0.        2.        1.    579.00
```

0.23	0.00	2.13	0.00	0.080	0.035	0.080	0.035	577.00	155.00
0.000826	106.	106.	106.	2	0	0	0.00	10.00	165.00

*SECNO 3.200

35 FT U/S #3, 35 FT D/S #3B

3.20	4.19	581.29	0.00	581.79	581.87	0.08	0.02	0.00	577.90
85.	9.	63.	13.	14.	25.	20.	2.	1.	577.70
0.24	0.63	2.56	0.67	0.080	0.035	0.080	0.035	577.60	149.91
0.000554	35.	35.	35.	1	0	0	0.00	22.90	172.81

*SECNO 3.800

D/S FACE D'WAY CULVERT #3B

3.80	5.52	581.82	0.00	581.82	581.89	0.07	0.02	0.00	578.30
85.	9.	64.	12.	15.	26.	18.	2.	1.	578.30
0.24	0.65	2.44	0.66	0.080	0.035	0.080	0.035	576.30	139.15
0.000634	35.	35.	35.	0	0	0	0.00	23.47	162.61

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	ANC	ANP	BAREA	SS	ELCHU	ELCHD
	0.00	1.71	3.00	0.00	4.10	0.00	18.60	0.00	576.30	576.30

*SECNO 4.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	OAREA	TRAPEZOID AREA	ELLC	ELTRD
582.36	581.89	0.00	21.	64.	19.	19.	580.80	581.40

U/S FACE D'WAY CULVERT #3B

4.00	5.79	582.08	0.00	582.08	582.14	0.06	0.25	0.00	578.30
85.	10.	62.	13.	17.	27.	21.	2.	1.	578.30
0.24	0.61	2.26	0.62	0.080	0.035	0.080	0.035	576.30	138.52
0.000509	20.	20.	20.	2	0	4	0.00	24.84	163.37

*SECNO 4.200

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CONAR	TOPWID	ENDSTA

50 FT U/S D'WAY CULVERT #3B

4.20	4.50	582.10	0.00	582.10	582.16	0.06	0.02	0.00	577.90
85.	9.	62.	14.	16.	26.	23.	3.	1.	577.70
0.25	0.57	2.33	0.61	0.080	0.035	0.080	0.035	577.60	149.35
0.000418	50.	50.	50.	0	0	0	0.00	24.19	173.54

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*SECNO 4.700

100 FT D/S D'WAY CULVERT #3C

4.70	4.44	582.44	0.00	582.44	582.48	0.04	0.31	0.01	579.70	
85.	9.	71.	5.	20.	41.	13.	4.	2.	579.70	
0.43	0.43	1.73	0.42	0.080	0.035	0.080	0.035	575.00	323.80	
0.000258	960.	960.	960.	2	0	0	0.00	38.09	361.89	

*SECNO 4.800

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 584.00 ELREA= 584.00

D/S FACE D'WAY CULVERT #3C

4.80	4.40	582.40	0.00	582.40	582.64	0.24	0.06	0.10	579.20
85.	0.	85.	0.	0.	22.	0.	4.	2.	579.20
0.43	0.00	3.92	0.00	0.080	0.035	0.080	0.035	578.00	347.50
0.003069	100.	100.	100.	2	0	0	0.00	5.00	352.50

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.66	3.00	0.00	4.20	0.00	15.50	0.00	578.00	578.00

*SECNO 5.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
583.18	582.64	0.00	7.	78.	16.	16.	581.70	582.90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 584.00 ELREA= 584.00

U/S FACE D'WAY CULVERT #3C

5.00	4.86	582.86	0.00	582.86	583.05	0.20	0.41	0.00	579.20
85.	0.	85.	0.	0.	24.	0.	4.	2.	579.20
0.43	0.00	3.55	0.00	0.080	0.035	0.080	0.035	578.00	347.50
0.002335	10.	10.	10.	2	0	4	0.00	5.00	352.50

*SECNO 5.200
2800 NAT Q1= 76.71 WSEL= 583.10 ENC Q1= 76.71 WSEL= 583.20 RATIO= 0.0000
NAT Q1= 81. RATIOS LOB,CH,ROB= 0.1480 0.7219 0.1093 WSEL= 583.20

3470 ENCROACHMENT STATIONS= 319.9 369.6 TYPE= 4 TARGET= 0.050

50 FT U/S D'WAY CULVERT #3C

5.20	5.10	583.10	0.00	583.10	583.12	0.02	0.02	0.05	578.70
85.	12.	66.	7.	37.	47.	22.	4.	2.	578.70
0.45	0.33	1.39	0.32	0.080	0.035	0.080	0.035	578.00	319.91
0.000135	50.	50.	50.	2	0	0	0.00	49.72	369.63

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FORM 1411-GB PRINTED BY KOTARY MANIFOLD FORMS

*SECND 5.300

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	XTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		975.0	1025.0	TYPE=	1	TARGET=	50.000		
5.80	3.84	583.14	0.00	583.14	583.20	0.06	4.06	0.01	579.30
85.	19.	45.	21.	23.	10.	29.	5.	2.	579.30
0.49	0.84	2.36	0.82	0.080	0.035	0.080	0.035	579.30	989.28
0.000514	250.	250.	250.	2	0	0	0.00	22.79	1012.07

*SECND 5.400

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 588.50 ELREA= 588.50

D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

5.90	3.82	583.12	0.00	583.12	583.43	0.31	0.11	0.13	579.30
85.	0.	85.	0.	0.	19.	0.	5.	2.	579.30
0.49	0.00	4.44	0.00	0.080	0.035	0.080	0.035	579.30	997.50
0.003634	100.	100.	100.	2	0	0	0.00	5.00	1002.50

SPECIAL BRIDGE

SB	XK	XKOP	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.00	3.00	0.00	2.62	0.00	12.30	0.00	577.60	577.60

*SECND 5.900
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
584.61	582.42	0.00	0.	85.	12.	12%	587.30	588.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 588.50 ELREA= 588.50

D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

6.00	5.14	584.44	0.00	584.44	584.61	0.17	1.18	0.00	579.30.
85.	0.	85.	0.	0.	26.	0.	5.	2.	579.30
0.50	0.00	3.31	0.00	0.080	0.035	0.080	0.035	579.30	997.50
0.001648	47.	47.	47.	2	0	0	0.00	5.00	1002.50

*SECND 6.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 590.00 ELREA= 590.00

D/S FACE PENN CENTRAL R.R.

6.90	5.88	584.78	0.00	584.78	584.92	0.13	0.30	0.01	580.00
85.	0.	85.	0.	0.	29.	0.	5.	2.	580.00

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FORM 151-09 PRINTED BY ROTARY MANIFOLD FORMS

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     0.52      0.00      2.95      0.00     0.080     0.035     0.080     0.035    578.90    997.50
 0.001348      200.      200.      200.         2         0         0      0.00      5.00   1002.50

SPECIAL BRIDGE
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.05      3.00      0.00      4.20      0.00     15.00      0.00    578.90    578.90

*SECNO 7.000
PRESSURE FLOW

 EGPRS      EGLWC       H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 AREA
   585.80    584.92      0.00        0.       85.       15.       15.      582.50    590.00

3470 ENCROACHMENT STATIONS=      975.0     1025.0  TYPE=      1  TARGET=      50.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      590.00 ELREA=      590.00

        U/S FACE PENN CENTRAL R.R.

     7.00      6.80    585.70      0.00    585.70    585.80      0.10      0.89      0.00    580.00
      85.        0.       85.        0.        0.       33.        0.        5.        2.    580.00
     0.52      0.00      2.54      0.00     0.080     0.035     0.080     0.035    578.90    997.50
 0.000915       49.       49.       49.         2         0         0      0.00      5.00   1002.50

*SECNO 7.100
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     FQ        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    IH2       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      950.0     1050.0  TYPE=      1  TARGET=      100.000
     7.10      6.93    585.83      0.00    585.83    585.84      0.00      0.00      0.03    580.00
      85.       24.       23.       38.      129.       34.      173.        5.        2.    580.00
     0.56      0.19      0.66      0.22     0.080     0.035     0.080     0.035    578.90    950.00
 0.000026       50.       50.       50.         2         0         0      0.00    100.00   1050.00
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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	TOKNS	VCH	AREA	.01K
0.000	0.00	0.00	0.00	576.70	55.00	579.67	0.00	579.72	5.00	1.90	44.79	24.59
0.000	0.00	0.00	0.00	576.70	75.00	580.18	0.00	580.23	5.00	2.12	56.89	33.54
0.000	0.00	0.00	0.00	576.70	85.00	580.41	0.00	580.46	5.00	2.22	62.69	38.02
0.000	0.00	0.00	0.00	576.70	120.00	581.11	0.00	581.13	5.00	2.50	82.38	53.69
0.900	100.00	0.00	0.00	576.70	55.00	579.72	0.00	579.81	11.10	2.38	23.15	16.51
0.900	100.00	0.00	0.00	576.70	75.00	580.22	0.00	580.34	12.84	2.76	27.20	20.93
0.900	100.00	0.00	0.00	576.70	85.00	580.45	0.00	580.58	13.65	2.93	29.02	23.00
0.900	100.00	0.00	0.00	576.70	120.00	581.14	0.00	581.33	16.56	3.48	34.47	29.48
1.000	16.00	582.00	580.30	576.70	55.00	579.74	0.00	579.83	11.22	2.38	23.09	16.42
1.000	16.00	582.00	580.30	576.70	75.00	580.28	0.00	580.39	12.29	2.72	27.61	21.40
1.000	16.00	582.00	580.30	576.70	85.00	580.54	0.00	580.67	12.77	2.86	29.69	23.79
1.000	16.00	582.00	580.30	576.70	120.00	581.41	0.00	581.58	13.88	3.27	36.67	32.21
1.200	50.00	0.00	0.00	576.70	55.00	579.84	0.00	579.87	4.05	1.78	48.59	27.34
1.200	50.00	0.00	0.00	576.70	75.00	580.40	0.00	580.45	3.91	1.96	62.57	37.93
1.200	50.00	0.00	0.00	576.70	85.00	580.67	0.00	580.72	3.79	2.03	69.80	43.67
1.200	50.00	0.00	0.00	576.70	120.00	581.59	0.00	581.64	3.12	2.12	115.03	67.93
1.700	570.00	0.00	0.00	576.50	55.00	580.06	0.00	580.10	3.70	1.77	47.19	20.60
1.700	570.00	0.00	0.00	576.50	75.00	580.62	0.00	580.67	3.74	1.98	60.71	38.78
1.700	570.00	0.00	0.00	576.50	85.00	580.88	0.00	580.94	3.63	2.04	70.11	44.60
1.700	570.00	0.00	0.00	576.50	120.00	581.77	0.00	581.81	2.56	1.96	159.96	74.95
1.800	100.00	0.00	0.00	576.50	55.00	580.11	0.00	580.16	11.61	2.46	49.89	16.14
1.800	100.00	0.00	0.00	576.50	75.00	580.68	0.00	580.72	6.22	2.30	80.49	26.16
1.800	100.00	0.00	0.00	576.50	85.00	580.96	0.00	580.99	6.86	2.19	99.75	32.49
1.800	100.00	0.00	0.00	576.50	120.00	581.83	0.00	581.84	3.34	1.73	193.71	65.61
2.000	12.00	580.40	579.60	576.50	55.00	580.78	0.00	580.80	3.71	1.57	87.85	28.55
2.000	12.00	580.40	579.60	576.50	75.00	581.04	0.00	581.06	4.69	1.84	106.41	34.65
2.000	12.00	580.40	579.60	576.50	85.00	581.14	0.00	581.17	5.19	1.95	114.63	37.57
2.000	12.00	580.40	579.60	576.50	120.00	581.85	0.00	581.87	3.18	1.70	198.55	67.31
2.200	50.00	0.00	0.00	576.50	55.00	580.79	0.00	580.82	1.67	1.36	66.39	42.55
2.200	50.00	0.00	0.00	576.50	75.00	581.05	0.00	581.09	2.35	1.69	79.96	48.90
2.200	50.00	0.00	0.00	576.50	85.00	581.15	0.00	581.19	2.70	1.84	87.44	51.71
2.200	50.00	0.00	0.00	576.50	120.00	581.86	0.00	581.89	2.27	1.86	175.36	79.72

SECNO	XLCN	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
2.700	420.00	0.00	0.00	577.00	55.00	580.88	0.00	580.92	3.04	1.79	53.92	31.55
2.700	420.00	0.00	0.00	577.00	75.00	581.17	0.00	581.23	4.25	2.22	60.42	36.49
2.700	420.00	0.00	0.00	577.00	85.00	581.29	0.00	581.36	4.85	2.42	63.70	38.58
2.700	420.00	0.00	0.00	577.00	120.00	581.97	0.00	582.06	5.32	2.81	81.70	52.05
2.800	100.00	0.00	0.00	577.00	55.00	580.92	0.00	580.97	7.28	1.76	31.23	20.38
2.800	100.00	0.00	0.00	577.00	75.00	581.23	0.00	581.30	10.09	2.18	34.37	23.61
2.800	100.00	0.00	0.00	577.00	85.00	581.39	0.00	581.44	11.62	2.38	35.82	24.94
2.800	100.00	0.00	0.00	577.00	120.00	582.03	0.00	582.16	13.87	2.83	42.44	32.52
3.000	106.00	582.20	581.00	577.00	55.00	581.04	0.00	581.12	28.78	2.27	24.20	10.36
3.000	106.00	582.20	581.00	577.00	75.00	581.36	0.00	581.42	7.63	1.99	37.67	27.16
3.000	106.00	582.20	581.00	577.00	85.00	581.78	0.00	581.85	8.20	2.13	39.95	29.68
3.000	106.00	582.20	581.00	577.00	120.00	582.35	0.00	582.46	10.94	2.63	45.66	36.24
3.200	35.00	0.00	0.00	577.60	55.00	581.11	0.00	581.18	4.77	2.09	43.35	23.19
3.200	35.00	0.00	0.00	577.60	75.00	581.57	0.00	581.64	5.35	2.42	55.59	32.44
3.200	35.00	0.00	0.00	577.60	85.00	581.80	0.00	581.88	5.49	2.55	58.78	36.26
3.200	35.00	0.00	0.00	577.60	120.00	582.39	0.00	582.49	6.44	3.02	74.07	47.28
3.800	35.00	0.00	0.00	576.30	55.00	581.11	0.00	581.20	11.36	2.43	22.86	16.18
3.800	35.00	0.00	0.00	576.30	75.00	581.60	0.00	581.66	5.98	2.30	33.60	30.67
3.800	35.00	0.00	0.00	576.30	85.00	581.83	0.00	581.90	6.29	2.43	58.89	33.90
3.800	35.00	0.00	0.00	576.30	120.00	582.43	0.00	582.52	7.62	2.87	75.42	43.49
4.000	20.00	581.40	580.80	576.30	55.00	581.26	0.00	581.34	10.03	2.33	23.39	16.98
4.000	20.00	581.40	580.80	576.30	75.00	581.82	0.00	581.92	4.73	2.12	59.85	34.48
4.000	20.00	581.40	580.80	576.30	85.00	582.09	0.01	582.14	5.06	2.23	65.15	37.78
4.000	20.00	581.40	580.80	576.30	120.00	582.54	0.00	582.62	6.73	2.75	83.89	48.08
4.200	50.00	0.00	0.00	577.60	55.00	581.34	0.00	581.39	3.87	1.92	48.47	28.21
4.200	50.00	0.00	0.00	577.60	75.00	581.89	0.00	581.94	3.96	2.19	60.69	37.71
4.200	50.00	0.00	0.00	577.60	85.00	582.11	0.00	582.17	4.16	2.33	65.92	41.67
4.200	50.00	0.00	0.00	577.60	120.00	582.87	0.00	582.66	5.34	2.83	86.74	51.67
4.700	960.00	0.00	0.00	578.00	55.00	581.65	0.00	581.67	2.43	1.46	52.94	35.29
4.700	960.00	0.00	0.00	578.00	75.00	582.21	0.00	582.25	2.31	1.84	67.10	47.36
4.700	960.00	0.00	0.00	578.00	85.00	582.43	0.00	582.49	2.59	1.73	74.24	53.03
4.700	960.00	0.00	0.00	578.00	120.00	582.99	0.00	583.04	3.00	2.03	101.58	69.32
4.800	100.00	0.00	0.00	578.00	55.00	581.64	0.00	581.79	22.07	3.08	17.84	11.71
4.800	100.00	0.00	0.00	578.00	75.00	582.19	0.00	582.39	27.57	3.65	20.57	14.28
4.800	100.00	0.00	0.00	578.00	85.00	582.43	0.00	582.65	30.60	3.92	21.68	15.37
4.800	100.00	0.00	0.00	578.00	120.00	582.90	0.00	583.29	49.35	4.92	24.16	17.82
5.000	10.00	582.90	581.70	578.00	55.00	581.83	0.00	581.97	19.04	2.92	18.81	12.60
5.000	10.00	582.90	581.70	578.00	75.00	582.02	0.00	582.79	20.89	3.30	22.74	16.41
5.000	10.00	582.90	581.70	578.00	85.00	582.86	0.00	583.05	23.33	3.55	23.94	17.60
5.000	10.00	582.90	581.70	578.00	120.00	582.97	0.00	583.34	43.71	4.90	24.49	18.19
5.200	50.00	0.00	0.00	578.00	55.00	582.00	0.00	582.02	1.67	1.29	61.55	42.57
5.200	50.00	0.00	0.00	578.00	75.00	582.82	0.00	582.85	1.31	1.31	107.53	65.46
5.200	50.00	0.00	0.00	578.00	85.00	583.18	0.00	583.12	1.23	1.32	133.39	76.79
5.200	50.00	0.00	0.00	578.00	120.00	583.44	0.00	583.47	1.67	1.61	165.81	92.80

SECNO	XLCH	FLTRO	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
5.800	250.00	0.00	0.00	579.30	55.00	582.06	0.00	582.11	7.04	2.22	43.80	20.73
5.800	250.00	0.00	0.00	579.30	75.00	582.67	0.00	582.92	5.20	2.68	60.82	32.54
5.800	250.00	0.00	0.00	579.30	85.00	583.14	0.00	583.19	5.14	2.56	66.46	37.47
5.800	250.00	0.00	0.00	579.30	120.00	583.69	0.00	583.57	7.57	3.02	74.87	43.77
5.900	100.00	0.00	0.00	579.30	55.00	582.10	0.00	582.34	36.11	3.92	14.01	9.15
5.900	100.00	0.00	0.00	579.30	75.00	582.87	0.00	583.14	34.21	4.20	17.84	12.82
5.900	100.00	0.00	0.00	579.30	85.00	583.12	0.00	583.43	34.35	4.45	19.12	14.10
5.900	100.00	0.00	0.00	579.30	120.00	583.43	0.00	583.95	58.73	5.81	20.65	15.65
6.000	47.00	588.50	582.30	579.30	55.00	582.34	0.00	582.64	106.51	4.45	12.36	5.35
6.000	47.00	588.50	582.30	579.30	75.00	583.05	0.00	583.61	203.64	5.98	12.34	5.26
6.000	47.00	588.50	582.30	579.30	85.00	584.44	0.00	584.61	16.49	3.31	25.69	20.93
6.000	47.00	588.50	582.30	579.30	120.00	586.20	0.00	586.39	15.36	3.48	34.49	30.61
6.900	200.00	0.00	0.00	578.90	55.00	583.19	0.00	583.29	13.57	2.64	20.84	14.92
6.900	200.00	0.00	0.00	578.90	75.00	584.29	0.00	584.41	15.52	2.84	26.38	20.55
6.900	200.00	0.00	0.00	578.90	85.00	584.78	0.00	584.92	13.48	2.95	28.85	23.15
6.900	200.00	0.00	0.00	578.90	120.00	586.32	0.00	586.68	13.53	3.19	37.58	32.63
7.000	49.00	590.00	582.50	578.90	55.00	583.52	0.00	583.61	10.94	2.44	28.36	18.63
7.000	49.00	590.00	582.50	578.90	75.00	584.98	0.00	585.09	9.58	2.51	29.97	24.23
7.000	49.00	590.00	582.50	578.90	85.00	585.70	0.00	585.80	9.15	2.84	33.46	28.10
7.000	49.00	590.00	582.50	578.90	120.00	588.48	0.00	588.56	7.59	2.54	47.26	43.55
7.100	50.00	0.00	0.00	578.90	55.00	583.64	0.00	583.65	1.39	1.18	116.30	46.58
7.100	50.00	0.00	0.00	578.90	75.00	583.91	0.00	583.92	0.40	0.78	243.42	119.12
7.100	50.00	0.00	0.00	578.90	85.00	583.93	0.00	583.94	0.26	0.66	333.46	165.33
7.100	50.00	0.00	0.00	578.90	120.00	588.59	0.00	588.59	0.09	0.48	617.39	401.93

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SECNO	θ	CWSEL	DIFWSP	DIFWST	DIFWWS	TOPWID	XLCH
0.000	55.00	579.67	0.00	0.00	-0.08	22.94	0.00
0.000	75.00	580.18	0.00	0.00	0.18	24.97	0.00
0.000	85.00	580.41	0.00	0.00	0.27	25.89	0.00
0.000	120.00	581.11	0.00	0.00	0.11	35.80	0.00
0.900	55.00	579.72	0.00	0.05	0.00	8.00	100.00
0.900	75.00	580.22	0.00	0.04	0.00	8.00	100.00
0.900	85.00	580.45	0.00	0.04	0.00	8.00	100.00
0.900	120.00	581.14	0.00	0.02	0.00	8.00	100.00
1.000	55.00	579.74	0.00	0.02	0.00	8.00	16.00
1.000	75.00	580.28	0.00	0.06	0.00	8.00	16.00
1.000	85.00	580.54	0.00	0.09	0.00	8.00	16.00
1.000	120.00	581.41	0.00	0.28	0.00	8.00	16.00
1.200	55.00	579.84	0.00	0.10	0.00	23.80	50.00
1.200	75.00	580.40	0.00	0.12	0.00	23.87	50.00
1.200	85.00	580.67	0.00	0.13	0.00	26.98	50.00
1.200	120.00	581.59	0.00	0.18	1.70	106.68	50.00
1.700	55.00	580.04	0.00	0.22	0.00	22.70	570.00
1.700	75.00	580.62	0.00	0.22	0.00	26.27	570.00
1.700	85.00	580.88	0.00	0.21	0.00	47.39	570.00
1.700	120.00	581.77	0.00	0.17	1.71	155.54	570.00
1.800	55.00	580.11	0.00	0.05	0.00	40.48	100.00
1.800	75.00	580.68	0.00	0.07	0.00	44.69	100.00
1.800	85.00	580.96	0.00	0.07	0.00	26.07	100.00
1.800	120.00	581.85	0.00	0.04	1.72	145.38	100.00
2.000	55.00	580.78	0.00	0.68	0.00	69.26	12.00
2.000	75.00	581.04	0.00	0.36	0.00	79.62	12.00
2.000	85.00	581.14	0.00	0.19	0.00	85.74	12.00
2.000	120.00	581.85	0.00	0.03	1.07	148.26	12.00
2.200	55.00	580.79	0.00	0.01	0.00	36.97	50.00
2.200	75.00	581.05	0.00	0.01	0.00	68.20	50.00
2.200	85.00	581.15	0.00	0.01	0.00	80.49	50.00
2.200	120.00	581.86	0.00	0.00	1.06	167.20	50.00
2.700	55.00	580.88	0.00	0.09	0.00	22.93	420.00
2.700	75.00	581.17	0.00	0.12	0.00	24.27	420.00
2.700	85.00	581.29	0.00	0.14	0.00	24.81	420.00
2.700	120.00	581.97	0.00	0.11	1.09	27.95	420.00
2.800	55.00	580.92	0.00	0.04	0.00	10.00	100.00
2.800	75.00	581.23	0.00	0.05	0.00	10.00	100.00
2.800	85.00	581.35	0.00	0.06	0.00	10.00	100.00
2.800	120.00	582.03	0.00	0.06	1.11	10.00	100.00
3.000	55.00	581.04	0.00	0.12	0.00	10.00	106.00
3.000	75.00	581.56	0.00	0.13	0.00	10.00	106.00
3.000	85.00	581.78	0.00	0.13	0.00	10.00	106.00
3.000	120.00	582.35	0.00	0.32	1.32	10.00	106.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
3.200	55.00	581.11	0.00	0.07	0.00	19.95	35.00
3.200	75.00	581.57	0.00	0.02	0.00	21.92	35.00
3.200	85.00	581.80	0.00	0.02	0.00	22.94	35.00
3.200	120.00	582.59	0.00	0.03	1.28	48.67	35.00
3.800	55.00	581.11	0.00	0.01	0.00	5.00	35.00
3.800	75.00	581.60	0.00	0.03	0.00	22.30	35.00
3.800	85.00	581.83	0.00	0.03	0.00	23.92	35.00
3.800	120.00	582.43	0.00	0.04	1.31	54.99	35.00
4.000	55.00	581.26	0.00	0.15	0.00	5.00	20.00
4.000	75.00	581.87	0.00	0.27	0.00	23.73	20.00
4.000	85.00	582.09	0.00	0.29	0.00	24.87	20.00
4.000	120.00	582.54	0.00	0.11	1.28	84.58	20.00
4.200	55.00	581.34	0.00	0.03	0.00	20.96	50.00
4.200	75.00	581.89	0.00	0.02	0.00	23.29	50.00
4.200	85.00	582.11	0.00	0.02	0.00	24.22	50.00
4.200	120.00	582.57	0.00	0.03	1.23	92.48	50.00
4.700	55.00	581.65	0.00	0.30	0.03	23.60	960.00
4.700	75.00	582.21	0.00	0.32	0.00	24.22	960.00
4.700	85.00	582.45	0.00	0.34	0.00	38.45	960.00
4.700	120.00	582.99	0.00	0.43	1.35	55.00	960.00
4.800	55.00	581.64	0.00	-0.00	0.00	5.00	100.00
4.800	75.00	582.19	0.00	-0.03	0.00	5.00	100.00
4.800	85.00	582.41	0.00	-0.04	0.00	5.00	100.00
4.800	120.00	582.90	0.00	-0.09	1.26	5.00	100.00
5.000	55.00	581.83	0.00	0.19	0.00	5.00	10.00
5.000	75.00	582.62	0.00	0.43	0.00	5.00	10.00
5.000	85.00	582.86	0.00	0.45	0.00	5.00	10.00
5.000	120.00	583.47	0.00	0.66	1.13	5.00	10.00
5.200	55.00	582.00	0.00	0.16	0.00	25.23	50.00
5.200	75.00	582.83	0.00	0.21	0.00	94.20	50.00
5.200	85.00	583.10	0.00	0.24	0.00	94.42	50.00
5.200	120.00	583.44	0.00	0.47	1.44	94.69	50.00
5.800	55.00	582.06	0.00	0.06	0.00	19.75	250.00
5.800	75.00	582.87	0.00	0.04	0.00	22.03	250.00
5.800	85.00	583.16	0.00	0.04	0.00	22.79	250.00
5.800	120.00	583.49	0.00	0.05	1.43	23.76	250.00
5.900	55.00	582.10	0.00	0.04	0.00	5.00	100.00
5.900	75.00	582.87	0.00	-0.01	0.00	5.00	100.00
5.900	85.00	583.12	0.00	-0.02	0.00	5.00	100.00
5.900	120.00	583.43	0.00	-0.06	1.33	5.00	100.00
6.000	55.00	582.34	0.00	0.24	0.00	5.00	47.00
6.000	75.00	583.05	0.00	0.18	0.00	5.00	47.00
6.000	85.00	584.44	0.00	1.31	0.00	5.00	47.00
6.000	120.00	586.20	0.00	2.77	3.86	5.00	47.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
6.900	55.00	583.19	0.00	0.85	0.00	5.00	200.00
6.900	75.00	584.29	0.00	1.24	0.00	5.00	200.00
6.900	85.00	584.78	0.00	0.34	0.00	5.00	200.00
6.900	120.00	586.52	0.00	0.33	3.34	5.00	200.00
7.000	55.00	583.52	0.00	0.34	0.00	5.00	49.00
7.000	75.00	584.98	0.00	0.70	0.00	5.00	49.00
7.000	85.00	585.70	0.00	0.92	0.00	5.00	49.00
7.000	120.00	588.46	0.00	1.94	4.94	5.00	49.00
7.100	55.00	583.64	0.00	0.12	0.00	100.00	50.00
7.100	75.00	585.11	0.00	0.13	0.00	100.00	50.00
7.100	85.00	585.83	0.00	0.13	0.00	100.00	50.00
7.100	120.00	588.59	0.00	0.13	4.95	100.00	50.00

SUMMARY OF ERRORS

FLOOD INSURANCE ZONE DATA FOR LAUDENSCHLAGER

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10%	2%	0.2%
0.000	0.	-0.7	-0.2	0.7
0.900	100.	-0.7	-0.2	0.7
1.000	116.	-0.8	-0.3	0.9
1.200	166.	-0.8	-0.3	0.9
1.700	736.	-0.8	-0.3	0.9
1.800	836.	-0.8	-0.3	0.9
2.000	848.	-0.4	-0.1	0.7
2.200	898.	-0.4	-0.1	0.7
2.700	1318.	-0.4	-0.1	0.7
2.800	1418.	-0.4	-0.1	0.7
3.000	1524.	-0.7	-0.2	0.6
3.200	1539.	-0.7	-0.2	0.6
3.800	1596.	-0.7	-0.2	0.6
4.000	1614.	-0.8	-0.3	0.8
4.200	1664.	-0.8	-0.2	0.5
4.700	2624.	-0.8	-0.2	0.6
4.800	2724.	-0.8	-0.2	0.5
5.000	2734.	-1.0	-0.2	0.1
5.200	2784.	-1.1	-0.3	0.3
5.800	3034.	-1.1	-0.3	0.3
5.900	3134.	-1.0	-0.3	0.3
6.000	3181.	-2.1	-1.4	1.8
6.900	3381.	-1.6	-0.5	1.7
7.000	3430.	-2.2	-0.7	2.3
7.100	3480.	-2.2	-0.7	2.3
WEIGHTED AVG FOR REACH		-0.9	-0.3	0.7

FHF FOR THE REACH = 010 WITH 88.6% OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 2

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 10yr.

00BREAK00

Dundee F.I.S.
Flood Zone Data (Revised Model)

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*****************************************
*  WATER SURFACE PROFILES               *
*  VERSION OF NOVEMBER 1976             *
*  UPDATED APRIL 1980                   *
*                                       *
*  RUN DATE TUE, FEB 17, 1981,  4:15 PM *
*****************************************
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MDNR Copy

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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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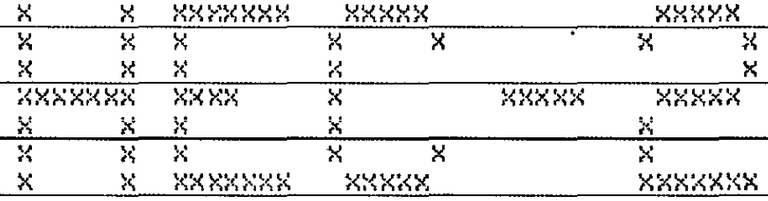

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
  ERROR CORR -  01,02,03,04
  MODIFICATION -  50,51,52,53,54
**********************************************

C
T1 HUD-FIA FLOOD INSURANCE STUDIES  H-3970  WILLIAMS & WORKS  PRS   AUG,1980
T2 VILLAGE OF DUNDEE    RIVER RAISIN
T3      RIVER RAISIN     -DUNDEE:  10-YEAR FLOOD + EXISTING CONDITIONS

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        2.        0.        0.   ,000000       ,00       ,0        0.   646,200      ,000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1,000      ,000    -1,000      ,000      ,000     1,300      ,000      ,000      ,000      ,000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150,000   203,000    18,000    52,000    81,000      ,000      ,000      ,000      ,000      ,000

NC      ,085      ,085      ,035      ,100      ,300      ,000      ,000      ,000      ,000      ,000
QT     5,000  6700,000  9200,000 10100,000 12500,000 10100,000      ,000      ,000      ,000      ,000
NH     5,000      ,100   176,000      ,065   788,000      ,100  1091,000      ,035  1202,500      ,110
NH  1268,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000
ET     ,000      ,000      ,000      ,000      ,000     9,100      ,000      ,000   530,000  1257,000

          CROSS SECTION  A

X1  115,970    52,000  1091,000  1202,500  1040,000  1040,000  1030,000      ,000      ,000      ,000
GR  654,900      ,000   651,500    18,000   648,800    48,000   647,400    82,000   647,100   130,000
GR  646,700   176,000   646,000   192,000   646,600   202,000   646,200   238,000   646,400   272,000
GR  645,400   308,000   645,800   350,000   645,600   388,000   645,000   450,000   644,800   506,000
GR  644,500   556,000   644,000   584,000   642,800   610,000   642,600   642,000   642,800   684,000
GR  643,200   716,000   644,200   746,000   644,200   788,000   643,400   820,000   643,300   860,000
GR  643,200   896,000   644,600   934,000   645,400   970,000   646,000  1004,000   645,600  1036,000
GR  645,800  1058,000   645,500  1072,000   634,900  1091,000   634,400  1092,000   632,600  1097,000
GR  632,700  1102,000   632,400  1112,000   632,600  1122,000   632,600  1132,000   632,900  1142,000
GR  632,400  1152,000   632,400  1162,000   632,500  1172,000   632,500  1182,000   633,400  1192,000
GR  633,900  1197,000   634,800  1202,000   634,900  1202,500   643,800  1225,000   643,800  1240,000
GR  645,800  1254,000   654,900  1268,000      ,000      ,000      ,000      ,000      ,000      ,000
NH     5,000      ,110    68,000      ,065   732,000      ,100   964,000      ,035  1068,000      ,100
NH  1280,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000      ,000
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CROSS SECTION B

X1	116.650	57.000	964.000	1068.000	690.000	690.000	680.000	.000	.000	.000
X3	.000	.000	.000	675.000	.000	.000	.000	.000	.000	.000
GR	655.000	.000	652.700	24.000	650.200	50.000	649.300	68.000	648.800	110.000
GR	648.200	160.000	649.000	194.000	648.900	226.000	648.400	262.000	648.100	304.000
GR	648.200	346.000	648.100	374.000	647.800	414.000	647.800	454.000	648.000	484.000
GR	647.600	532.000	647.900	578.000	647.600	616.000	646.600	660.000	645.800	698.000
GR	645.200	732.000	644.000	766.000	643.800	800.000	642.900	842.900	641.600	876.000
GR	641.600	904.000	641.800	922.000	639.400	934.000	639.200	952.000	635.000	964.000
GR	634.000	967.000	633.900	972.000	633.500	977.000	633.500	982.000	633.700	987.000
GR	633.900	992.000	633.500	997.000	633.700	1002.000	633.900	1007.000	633.700	1012.000
GR	633.900	1017.000	634.000	1022.000	633.600	1032.000	632.900	1042.000	632.800	1047.000
GR	632.900	1052.000	632.900	1057.000	632.600	1062.000	633.200	1067.000	635.000	1068.000
GR	642.300	1080.000	642.400	1116.000	643.400	1164.000	644.000	1210.000	644.600	1240.000
GR	645.400	1260.000	655.000	1280.000	.000	.000	.000	.000	.000	.000
NH	4.000	.065	970.000	.100	1113.500	.035	1192.500	.100	1231.500	.000

CROSS SECTION C

X1	117.360	41.000	1113.500	1192.500	720.000	720.000	710.000	.000	.000	.000
X3	.000	.000	.000	905.000	.000	.000	.000	.000	.000	.000
GR	655.500	.000	650.200	12.000	650.600	48.000	651.200	102.000	651.000	162.000
GR	650.800	214.000	650.600	260.000	650.300	318.000	649.400	384.000	648.600	440.000
GR	648.900	496.000	649.100	538.000	648.300	582.000	646.000	618.000	644.000	658.000
GR	642.600	708.000	643.000	748.000	643.200	806.000	643.000	846.000	642.400	876.000
GR	643.000	924.000	643.200	970.000	643.800	1006.000	644.800	1042.000	645.200	1076.000
GR	643.200	1088.000	641.800	1100.000	635.500	1113.500	634.500	1115.000	633.700	1120.000
GR	633.500	1125.000	633.300	1130.000	633.100	1140.000	633.100	1150.000	633.000	1160.000
GR	632.700	1170.000	632.700	1180.000	633.200	1185.000	634.400	1190.000	635.500	1192.500
GR	662.400	1231.500	.000	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

X1	117.600	.000	.000	.000	300.000	300.000	290.000	.000	.000	.000
X3	.000	.000	.000	1005.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM EMBANKMENT

X1	117.700	.000	.000	.000	50.000	50.000	50.000	.000	-.300	.000
X3	.000	.000	.000	1020.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.730	50.000	1074.000	1318.000	40.000	40.000	30.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
GR	664.100	.000	663.800	112.000	663.400	272.000	663.200	412.000	662.800	520.000
GR	663.000	614.000	663.000	724.000	663.400	830.000	663.200	932.000	663.600	998.000
GR	662.700	1069.000	657.900	1074.000	644.700	1075.000	644.600	1079.000	643.500	1089.000
GR	642.200	1099.000	641.300	1109.000	641.400	1119.000	641.900	1129.000	641.600	1139.000
GR	642.300	1149.000	641.900	1159.000	641.100	1169.000	641.300	1179.000	640.800	1189.000
GR	640.500	1199.000	637.300	1209.000	635.700	1214.000	634.300	1219.000	634.900	1224.000
GR	634.100	1229.000	633.400	1234.000	632.300	1239.000	632.600	1244.000	632.400	1249.000
GR	632.700	1254.000	632.700	1259.000	633.000	1269.000	633.700	1274.000	633.900	1279.000
GR	634.400	1289.000	635.700	1294.000	646.400	1309.000	651.000	1317.000	658.200	1318.000
GR	662.700	1322.800	664.400	1404.000	665.000	1508.000	665.400	1584.000	665.800	1658.000

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.740	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
NH	3.000	.105	1073.000	.035	1157.500	.110	1163.000	.000	.000	.000

CROSS SECTION AT UPSTREAM EMBANKMENT

X1	117.770	43.000	1073.000	1157.500	40.000	40.000	30.000	.000	.000	.000
X3	.000	.000	.000	965.000	.000	.000	.000	.000	.000	.000
GR	655.700	.000	653.800	30.000	653.800	64.000	654.400	108.000	654.000	146.000
GR	654.400	196.000	653.400	232.000	653.200	260.000	652.400	274.000	651.600	314.000
GR	650.800	338.000	650.600	384.000	649.600	430.000	649.000	472.000	648.100	500.000
GR	646.600	536.000	645.600	576.000	642.500	612.000	638.300	622.000	639.000	650.000
GR	641.000	690.000	642.200	730.000	643.000	782.000	642.800	834.000	641.800	896.000
GR	641.200	944.000	642.000	982.000	643.400	1010.000	642.700	1040.000	635.700	1073.000
GR	635.400	1075.000	634.300	1080.000	633.000	1085.000	632.700	1090.000	632.300	1100.000
GR	632.400	1110.000	632.500	1120.000	632.800	1130.000	633.100	1140.000	633.400	1150.000
GR	635.700	1157.500	641.700	1163.000	655.000	1200.000	.000	.000	.000	.000

CROSS SECTION D

X1	117.840	.000	.000	.000	80.000	80.000	70.000	.000	.000	.000
X3	.000	.000	.000	900.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	4.000	.105	413.000	.035	545.000	.105	732.000	.060	806.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	52.000	650.000

CROSS SECTION E

X1	118.700	41.000	413.000	545.000	870.000	870.000	860.000	.000	.000	.000
GR	655.900	.000	655.500	32.000	649.000	56.000	644.200	90.000	641.800	122.000
GR	640.600	154.000	639.000	176.000	639.600	204.000	644.600	220.000	644.600	266.000
GR	645.200	326.000	645.000	402.000	635.900	413.000	635.800	414.000	635.600	417.000
GR	635.300	422.000	635.200	427.000	635.100	432.000	635.100	437.000	634.800	442.000
GR	634.900	447.000	635.000	452.000	634.200	457.000	633.900	462.000	634.000	472.000
GR	633.900	482.000	633.800	492.000	633.800	502.000	633.900	512.000	634.000	522.000
GR	634.400	532.000	634.700	542.000	635.900	545.000	643.700	555.000	645.200	572.000
GR	645.400	606.000	644.900	644.000	643.400	702.000	654.200	732.000	655.500	780.000
GR	655.800	806.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.105	392.000	.035	491.500	.105	513.000	.120	1060.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	32.000	515.000

CROSS SECTION F

X1	119.440	36.000	392.000	491.500	750.000	750.000	740.000	.000	.000	.000
GR	655.900	.000	650.500	32.000	641.800	62.000	640.200	126.000	640.000	180.000
GR	641.000	238.000	641.800	272.000	644.400	302.000	642.900	354.000	644.600	384.000
GR	635.900	392.000	634.700	394.000	633.600	399.000	633.300	404.000	633.800	409.000
GR	634.100	414.000	635.500	424.000	633.300	434.000	633.200	444.000	633.200	454.000
GR	634.100	464.000	633.900	474.000	634.700	484.000	635.900	491.500	648.600	513.000
GR	648.200	526.000	649.600	562.000	650.600	620.000	649.800	684.000	650.600	728.000
GR	652.000	736.000	652.000	782.000	653.000	844.000	654.200	926.000	655.400	984.000
GR	655.900	1060.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	6.000	.120	142.000	.105	286.000	.035	375.000	.105	394.000	.065
NH	540.000	.150	1128.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	540.000

CROSS SECTION G

X1	120.160	32.000	286.000	375.000	730.000	730.000	720.000	.000	.000	.000
GR	656.200	.000	649.000	30.000	645.000	76.000	644.100	142.000	644.200	212.000
GR	641.200	238.000	639.400	276.000	636.200	286.000	635.300	291.000	635.100	296.000
GR	634.900	306.000	634.700	316.000	634.900	326.000	634.900	336.000	635.000	346.000
GR	635.200	356.000	635.200	366.000	636.200	375.000	646.300	394.000	644.400	430.000
GR	643.900	492.000	648.000	540.000	649.200	600.000	650.400	640.000	652.300	692.000
GR	651.200	738.000	651.800	790.000	652.000	864.000	652.600	956.000	653.800	1028.000
GR	655.400	1100.000	656.200	1128.000	.000	.000	.000	.000	.000	.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	350.000

CROSS SECTION H

X1	120.600	34.000	189.000	289.000	450.000	450.000	440.000	.000	.000	.000
GR	656.700	.000	650.700	14.000	646.300	50.000	644.800	100.000	644.400	150.000
GR	643.600	178.000	639.700	184.000	636.700	189.000	636.200	190.000	635.700	194.000
GR	635.600	204.000	635.500	214.000	635.500	244.000	635.400	254.000	635.400	264.000
GR	635.500	274.000	635.800	284.000	636.700	289.000	644.800	302.000	648.800	350.000
GR	649.400	406.000	649.400	462.000	650.200	526.000	650.500	594.000	650.800	630.000
GR	650.800	676.000	651.200	728.000	651.200	804.000	651.800	888.000	653.000	960.000
GR	654.600	1044.000	655.200	1092.000	656.300	1114.000	656.700	1176.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	350.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

X1	121.080	.000	.000	.000	520.000	460.000	490.000	.000	.200	.000
NC	.085	.085	.040	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

X1	121.130	45.000	246.000	426.500	60.000	60.000	50.000	.000	.000	.000
X4	18.000	652.300	490.000	652.000	550.000	651.700	570.000	651.400	625.000	651.300
X4	655.000	651.200	690.000	651.100	710.000	651.000	760.000	651.100	785.000	651.200
X4	860.000	651.200	870.000	651.400	940.000	652.000	1040.000	653.700	1130.000	654.500
X4	1230.000	654.800	1280.000	655.400	1340.000	657.100	1420.000	.000	.000	.000
GR	664.000	.000	662.200	48.000	660.000	110.000	658.400	178.000	656.600	246.000
GR	637.600	248.500	637.400	251.000	637.200	256.000	637.100	261.000	637.000	266.000
GR	636.700	271.000	636.700	276.000	636.700	286.000	636.500	296.000	636.600	306.000
GR	636.500	316.000	636.300	326.000	636.400	336.000	636.500	346.000	636.500	356.000
GR	637.100	366.000	636.800	376.000	636.500	386.000	636.600	396.000	636.700	406.000
GR	637.300	416.000	636.900	426.000	653.600	426.500	653.800	430.000	652.400	472.000
GR	652.200	530.000	651.400	602.000	651.400	670.000	651.000	740.000	651.200	810.000
GR	651.200	890.000	651.800	974.000	652.200	1060.000	653.700	1106.000	653.700	1118.000
GR	654.200	1178.000	654.600	1266.000	655.500	1358.000	657.200	1402.000	657.700	1758.000
SB	.900	1.500	2.500	.000	72.000	5.000	936.000	.000	636.800	636.800

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

X1	121.190	.000	.000	.000	60.000	60.000	60.000	.000	.000	.000
X2	.000	.000	1.000	650.700	651.000	.000	.000	.000	.000	.000
BT	77.000	246.000	656.600	656.600	246.000	656.600	652.100	248.500	656.600	652.100
BT	251.000	656.500	652.000	256.000	656.400	651.900	261.000	656.400	651.900	266.000
BT	656.300	651.800	271.000	656.200	651.700	276.000	656.100	651.600	286.000	655.900
BT	651.400	296.000	655.800	651.300	306.000	655.600	651.100	316.000	655.400	650.900
BT	326.000	655.300	550.800	336.000	655.100	650.600	346.000	654.900	650.400	356.000
BT	654.800	650.300	366.000	654.600	650.100	376.000	654.400	649.900	386.000	654.300
BT	649.800	396.000	654.100	649.600	406.000	653.900	649.400	416.000	653.800	649.300
BT	426.000	653.600	649.100	426.500	653.600	649.100	426.500	653.600	653.600	430.000

BT	653.800	653.800	472.000	652.400	652.400	490.000	652.300	652.300	490.000	660.000
BT	660.000	530.000	660.000	660.000	550.000	660.000	660.000	550.000	652.000	652.000
BT	570.000	651.700	651.700	570.000	660.000	660.000	602.000	660.000	660.000	625.000
BT	660.000	660.000	625.000	651.400	651.400	655.000	651.300	651.300	655.000	660.000
BT	660.000	670.000	660.000	660.000	690.000	660.000	660.000	690.000	651.200	651.200
BT	710.000	651.000	651.000	710.000	660.000	660.000	740.000	660.000	660.000	760.000
BT	660.000	660.000	760.000	651.000	651.000	785.000	651.100	651.100	810.000	660.000
BT	660.000	860.000	660.000	660.000	860.000	651.200	651.200	870.000	651.200	651.200
BT	890.000	660.000	660.000	940.000	660.000	660.000	940.000	651.400	651.400	974.000
BT	651.800	651.800	1040.000	652.000	652.000	1040.000	660.000	660.000	1060.000	660.000
BT	660.000	1106.000	660.000	660.000	1118.000	660.000	660.000	1130.000	660.000	660.000
BT	1130.000	653.700	653.700	1178.000	654.200	654.200	1230.000	654.500	654.500	1230.000
BT	660.000	660.000	1266.000	660.000	660.000	1280.000	660.000	660.000	1280.000	654.800
BT	654.800	1340.000	655.400	655.400	1340.000	660.000	660.000	1358.000	660.000	660.000
BT	1402.000	660.000	660.000	1420.000	660.000	660.000	1420.000	657.100	657.100	1758.000
BT	657.700	657.700	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	442.000

CROSS SECTION I

X1	121.240	47.000	239.000	409.000	60.000	60.000	60.000	.000	.000	.000
GR	657.700	.000	656.400	38.000	656.000	88.000	655.800	152.000	654.400	190.000
GR	637.700	239.000	637.500	250.000	637.100	260.000	636.900	270.000	636.700	280.000
GR	636.900	290.000	636.700	300.000	636.500	310.000	636.600	320.000	636.500	330.000
GR	636.200	340.000	636.200	350.000	636.200	360.000	636.500	370.000	636.700	380.000
GR	636.800	390.000	636.900	400.000	637.700	409.000	651.500	443.000	650.900	498.000
GR	650.000	586.000	649.200	610.000	649.200	656.000	649.000	694.000	649.600	726.000
GR	650.000	784.000	650.200	844.000	651.200	872.000	651.200	890.000	651.800	974.000
GR	652.200	1060.000	653.700	1106.000	653.700	1118.000	654.200	1178.000	654.600	1266.000
GR	655.500	1358.000	657.200	1402.000	657.200	1416.000	657.200	1514.000	657.200	1640.000
GR	657.200	1718.000	657.700	1758.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	442.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000

CROSS SECTION DOWNSTREAM OF DAM

X1	121.400	.000	.000	.000	200.000	200.000	150.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	580.000
NH	4.000	.085	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION AT DAM

X1	121.440	33.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
X4	1.000	644.400	268.000	.000	.000	.000	.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.400	548.000	650.600	580.000
GR	651.000	678.000	651.500	700.000	651.000	752.000	651.200	822.000	652.600	870.000
GR	652.600	910.000	652.200	924.000	652.400	934.000	652.400	960.000	652.700	1000.000
GR	654.000	1046.000	654.700	1084.000	656.200	1130.000	657.400	1168.000	657.000	1192.000

GR	658.500	1242.000	660.200	1268.000	660.200	1286.000	660.600	1316.000	663.200	1320.000
GR	663.600	1346.000	664.000	1374.000	664.500	1398.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	580.000
NH	4.000	.095	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION UPSTREAM OF DAM

X1	121.500	60.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.500	268.000	638.600	283.000
GR	638.700	293.000	641.200	303.000	641.000	313.000	640.600	323.000	640.000	333.000
GR	639.500	343.000	640.000	353.000	640.500	363.000	640.400	373.000	640.100	383.000
GR	639.800	393.000	639.500	403.000	639.600	413.000	638.500	423.000	638.700	433.000
GR	638.800	443.000	638.800	453.000	639.200	463.000	638.800	473.000	638.500	483.000
GR	639.200	493.000	639.500	503.000	641.100	513.000	642.600	523.000	643.800	533.000
GR	644.500	548.000	650.600	580.000	651.000	678.000	651.500	700.000	651.000	752.000
GR	651.200	822.000	652.600	870.000	652.600	910.000	652.200	924.000	652.400	934.000
GR	652.400	960.000	652.700	1000.000	654.000	1046.000	654.700	1084.000	656.200	1130.000
GR	657.400	1168.000	657.000	1192.000	658.500	1242.000	660.200	1268.000	660.200	1286.000
GR	660.600	1316.000	663.200	1320.000	663.600	1346.000	664.000	1374.000	664.500	1398.000
NH	4.000	.110	115.000	.035	275.000	.065	416.000	.200	1032.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	79.000	420.000

CROSS SECTION J

X1	122.240	54.000	115.000	275.000	760.000	760.000	750.000	.000	.000	.000
GR	664.500	.000	662.700	24.000	661.000	48.000	653.500	78.000	649.400	94.000
GR	648.100	110.000	644.500	115.000	643.500	116.000	642.500	121.000	640.500	126.000
GR	638.800	131.000	637.800	136.000	637.500	141.000	637.300	151.000	637.500	156.000
GR	637.200	166.000	637.500	171.000	637.300	176.000	637.100	181.000	637.500	191.000
GR	637.100	196.000	636.900	201.000	636.800	206.000	637.000	211.000	636.800	216.000
GR	636.800	221.000	637.100	226.000	637.100	231.000	637.300	236.000	636.800	241.000
GR	637.500	246.000	638.100	251.000	638.800	256.000	641.200	261.000	642.800	266.000
GR	643.900	271.000	644.000	273.000	644.500	275.000	647.800	281.000	648.000	350.000
GR	648.400	416.000	649.600	468.000	651.100	498.000	651.400	540.000	652.000	598.000
GR	652.400	620.000	652.000	686.000	653.400	772.000	654.600	814.000	655.800	864.000
GR	656.300	918.000	659.200	942.000	661.600	990.000	664.500	1032.000	.000	.000
NH	3.000	.105	365.000	.035	535.500	.110	736.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	540.000

CROSS SECTION K

X1	122.870	49.000	365.000	535.500	640.000	640.000	630.000	.000	.000	.000
GR	664.500	.000	663.000	20.000	654.900	54.000	649.500	94.000	646.600	148.000
GR	644.800	180.000	645.000	194.000	645.900	230.000	644.800	264.000	645.400	302.000
GR	647.000	354.000	644.500	365.000	644.200	367.000	643.800	372.000	643.200	377.000
GR	642.300	382.000	642.000	387.000	641.300	392.000	639.100	397.000	637.700	402.000
GR	637.700	412.000	637.300	417.000	637.500	422.000	637.600	427.000	637.300	432.000
GR	637.500	437.000	637.500	442.000	637.400	447.000	637.400	452.000	637.500	457.000
GR	637.400	462.000	637.400	477.000	637.500	482.000	637.500	487.000	637.700	497.000
GR	637.900	507.000	638.000	512.000	638.300	517.000	639.200	522.000	640.300	527.000

GR	641.500	532.000	644.500	535.500	649.100	547.000	650.400	558.000	652.200	582.000
GR	658.000	606.000	662.700	634.000	664.200	668.000	664.600	736.000	.000	.000
NH	3.000	.105	643.000	.035	785.000	.075	1000.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	250.000	910.000

CROSS SECTION L

X1	123.390	53.000	643.000	785.000	530.000	530.000	520.000	.000	.000	.000
GR	664.500	.000	664.100	36.000	663.800	92.000	663.400	132.000	661.500	154.000
GR	653.500	184.000	650.400	224.000	648.600	262.000	647.200	306.000	646.400	356.000
GR	645.000	416.000	644.800	478.000	645.600	534.000	647.300	590.000	648.500	624.000
GR	644.500	643.000	642.200	644.000	640.900	649.000	640.000	654.000	639.700	659.000
GR	639.500	664.000	638.900	669.000	638.500	674.000	638.200	679.000	637.600	684.000
GR	637.500	689.000	637.200	694.000	636.900	699.000	636.600	704.000	636.500	709.000
GR	636.500	714.000	636.300	719.000	636.700	724.000	636.000	729.000	636.600	734.000
GR	636.300	739.000	637.000	744.000	637.100	749.000	637.100	754.000	639.000	759.000
GR	639.700	764.000	641.200	769.000	642.600	774.000	643.900	779.000	644.400	784.000
GR	644.500	785.000	647.500	819.000	645.500	840.000	647.100	874.000	648.400	908.000
GR	655.000	944.000	661.000	976.000	664.600	1000.000	.000	.000	.000	.000
NH	5.000	.065	768.000	.105	954.000	.035	1085.000	.105	1328.000	.065
NH	1518.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	375.000	1310.000

CROSS SECTION M

X1	124.070	55.000	954.000	1085.000	690.000	690.000	680.000	.000	.000	.000
GR	664.600	.000	658.600	22.000	655.400	88.000	654.700	196.000	652.400	290.000
GR	651.400	400.000	650.600	460.000	650.100	542.000	648.400	624.000	647.800	706.000
GR	647.100	768.000	646.800	826.000	646.800	878.000	648.900	924.000	644.600	954.000
GR	642.900	959.000	640.300	964.000	639.500	969.000	639.000	974.000	638.100	979.000
GR	637.000	984.000	636.200	989.000	635.700	994.000	635.600	999.000	635.600	1004.000
GR	635.600	1009.000	636.000	1014.000	636.600	1019.000	636.900	1024.000	637.400	1029.000
GR	637.800	1034.000	638.300	1039.000	638.800	1044.000	639.000	1049.000	639.500	1054.000
GR	640.300	1059.000	642.700	1064.000	641.100	1069.000	641.500	1074.000	642.800	1079.000
GR	644.300	1084.000	644.600	1085.000	647.600	1089.000	645.800	1124.000	646.200	1194.000
GR	648.000	1254.000	647.500	1294.000	649.000	1328.000	656.400	1356.000	660.700	1368.000
GR	663.800	1394.000	664.200	1430.000	664.400	1496.000	663.400	1508.000	664.600	1518.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	APOB	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= .100 CEHV= .300
1490 NH CARD USED
*SECNO 115.970

3265 DIVIDED FLOW

CROSS SECTION A

115.97	13.80	646.20	.00	646.20	646.39	.19	.00	.00	634.90
6700.	860.	5706.	134.	1501.	1495.	210.	0.	0.	634.90
.00	.57	3.82	.64	.099	.045	.143	.000	632.40	187.43
.000432	1040.	1030.	1040.	0	0	0	.00	983.32	1254.62

1490 NH CARD USED
*SECNO 116.650

3470 ENCROACHMENT STATIONS= 675.0 1280.0 TYPE= 1 TARGET= -675.000

CROSS SECTION B

116.65	13.91	646.51	.00	.00	646.73	.22	.32	.01	635.00
6700.	743.	5554.	403.	1012.	1352.	643.	49.	12.	635.00
.05	.73	4.11	.63	.129	.045	.130	.045	632.60	675.00
.000527	690.	680.	690.	1	0	0	.00	587.30	1262.30

1490 NH CARD USED
*SECNO 117.360

3470 ENCROACHMENT STATIONS= 905.0 1231.5 TYPE= 1 TARGET= -905.000

CROSS SECTION C

117.36	14.15	646.85	.00	.00	647.26	.42	.48	.06	635.50
6700.	700.	5911.	89.	718.	1073.	93.	89.	20.	635.50
.09	.97	5.51	.95	.110	.045	.130	.045	632.70	905.00
.000889	720.	710.	720.	0	0	0	.00	303.96	1208.96

*SECNO 117.600

3470 ENCROACHMENT STATIONS= 1005.0 1231.5 TYPE= 1 TARGET= -1005.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
			CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT						
117.60	14.37	647.07	.00	.00	647.55	.48	.27	.02	635.50
6700.	342.	6262.	96.	376.	1090.	97.	101.	21.	635.50
.11	.91	5.75	1.00	.130	.045	.130	.045	632.30	1005.00
.000948	300.	290.	300.	1	0	0	.00	204.26	1209.26

CCHV= .300 CEHV= .500
*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000

CROSS SECTION AT DOWNSTREAM EMBANKMENT

117.70	14.77	647.17	.00	.00	647.61	.44	.04	.01	635.20
6700.	394.	6189.	117.	367.	1122.	104.	102.	22.	635.20
.11	1.07	5.52	1.13	.110	.045	.110	.045	632.40	1020.00
.000840	50.	50.	50.	2	0	0	.00	189.85	1209.85

*SECNO 117.730

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	15.22	647.52	.00	.00	647.71	.19	.03	.07	657.90
6700.	0.	6700.	0.	0.	1920.	0.	104.	22.	658.20
.11	.00	3.49	.00	.110	.045	.110	.045	632.30	1074.79
.001072	40.	30.	40.	2	0	0	.00	224.75	1310.95

*SECNO 117.740

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.74	15.23	647.53	.00	.00	647.72	.19	.01	.00	657.90
6700.	0.	6700.	0.	0.	1922.	0.	104.	22.	658.20
.11	.00	3.49	.00	.110	.045	.110	.045	632.30	1074.79
.001523	10.	10.	10.	0	0	0	.00	224.78	1310.97

1490 NH CARD USED
*SECNO 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	15.16	647.46	.00	.00	647.84	.38	.02	.09	635.70
6700.	459.	6208.	33.	634.	1212.	48.	106.	22.	635.70
.12	.72	5.12	.69	.136	.079	.143	.045	632.30	965.00
.000410	40.	30.	40.	2	0	0	.00	214.03	1179.03

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	15.25	647.55	.00	.00	647.88	.33	.03	.01	635.70
6700.	718.	5950.	32.	1039.	1219.	49.	109.	23.	635.70
.12	.69	4.88	.66	.136	.079	.143	.045	632.30	900.00
.000370	80.	70.	80.	1	0	0	.00	279.26	1179.26

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700
CROSS SECTION E

118.70	14.25	648.05	.00	.00	648.17	.12	.27	.02	635.90
6700.	889.	5550.	261.	1611.	1801.	604.	172.	32.	635.90
.21	.55	3.08	.43	.136	.045	.136	.045	633.80	62.71
.000274	870.	860.	870.	2	0	0	.00	652.21	714.92

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 119,440

3265 DIVIDED FLOW

CROSS SECTION F

119.44	15.06	648.26	.00	.00	648.41	.15	.23	.01	635.90
6700.	1617.	5003.	80.	2259.	1415.	129.	239.	41.	635.90
.28	.72	3.54	.62	.136	.045	.137	.045	633.20	39.72
.000345	750.	740.	750.	2	0	0	.00	476.35	527.60

1490 NH CARD USED
*SECNO 120,160

CROSS SECTION G

120.16	13.82	648.52	.00	.00	648.74	.22	.31	.02	636.20
6700.	951.	5135.	614.	1210.	1195.	653.	296.	50.	636.20
.34	.79	4.30	.94	.140	.045	.095	.045	634.70	35.54
.000544	730.	720.	730.	2	0	0	.00	530.37	565.91

1490 NH CARD USED
*SECNO 120,600

CROSS SECTION H

120.60	13.32	648.72	.00	.00	649.03	.31	.26	.03	636.70
6700.	454.	6102.	143.	615.	1314.	196.	323.	54.	636.70
.37	.74	4.65	.73	.137	.045	.136	.045	635.40	30.23
.000655	450.	440.	450.	0	0	0	.00	318.77	349.00

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECND 121,080

121.08	13.45	649.05	.00	.00	649.35	.30	.32	.00	636.90
6700.	468.	6084.	147.	636.	1327.	204.	347.	58.	636.90
.40	.74	4.59	.72	.137	.045	.137	.045	635.60	29.14
.000629	520.	490.	460.	2	0	0	.00	325.49	354.63

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 121.130

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

121.13	12.98	649.28	.00	.00	649.42	.14	.03	.05	656.60
6700.	0.	6700.	0.	0.	2242.	0.	350.	58.	653.60
.41	.00	2.99	.00	.110	.052	.110	.045	636.30	246.96
.000441	60.	50.	60.	2	0	0	.00	179.41	426.37

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190

CLASS A LOW FLOW

3420 BRIDGE W.S.= 649.12 BRIDGE VELOCITY=, 8.12 CALCULATED CHANNEL AREA=, 825.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	649.43	.01	0.	6700.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

121.19	12.99	649.29	.00	.00	649.43	.14	.01	.00	656.60
6700.	0.	6700.	0.	0.	2243.	0.	353.	59.	653.60
.41	.00	2.99	.00	.110	.052	.110	.045	636.30	246.96
.000440	60.	60.	60.	0	0	0	.00	179.41	426.37

1490 NH CARD USED

*SECNO 121.240

3265 DIVIDED FLOW

CROSS SECTION I

121.24	13.11	649.31	.00	.00	649.45	.14	.02	.00	637.70
6700.	127.	6455.	118.	198.	2137.	183.	356.	59.	637.70
.42	.64	3.02	.65	.124	.045	.111	.045	636.20	204.92
.000293	60.	60.	60.	0	0	0	.00	337.00	710.83

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .100 CEHV= .300
1490 NH CARD USED
*SECNO 121.400

3265 DIVIDED FLOW

CROSS SECTION DOWNSTREAM OF DAM

121.40	13.16	649.36	.00	.00	649.49	.14	.04	.00	637.70
6700.	127.	6454.	119.	199.	2145.	188.	365.	60.	637.70
.43	.64	3.01	.63	.123	.045	.111	.046	636.20	204.79
.000289	200.	150.	200.	2	0	0	.00	340.78	713.10

1490 NH CARD USED
*SECNO 121.440
CROSS SECTION AT DAM

121.44	4.84	649.24	.00	.00	649.59	.35	.03	.06	644.40
6700.	112.	6514.	74.	68.	1356.	60.	367.	61.	644.40
.44	1.65	4.81	1.23	.110	.045	.110	.046	644.40	248.91
.002643	50.	50.	50.	2	0	0	.00	324.08	572.99

1490 NH CARD USED
*SECNO 121.500
CROSS SECTION UPSTREAM OF DAM

121.50	11.05	649.55	.00	.00	649.65	.10	.03	.03	644.50
6700.	38.	6633.	29.	73.	2631.	67.	370.	61.	644.50
.44	.52	2.52	.43	.124	.045	.110	.046	638.50	248.59
.000303	50.	50.	50.	2	0	0	.00	325.91	574.50

1490 NH CARD USED
*SECNO 122.240
CROSS SECTION J

122.24	12.97	649.77	.00	.00	649.96	.19	.28	.03	644.50
6700.	12.	6538.	150.	34.	1830.	294.	412.	67.	644.50
.50	.34	3.57	.51	.143	.045	.089	.046	636.00	92.57
.000474	760.	750.	760.	2	0	0	.00	378.76	471.33

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 122.870									
CROSS SECTION K									
122.87	12.79	650.09	.00	.00	650.23	.14	.27	.01	644.50
6700.	607.	6076.	17.	1092.	1921.	42.	450.	73.	644.50
.56	.56	3.16	.40	.136	.045	.143	.047	637.30	89.64
.000378	640.	630.	640.	2	0	0	.00	465.73	555.37
1490 NH CARD USED									
*SECNO 123.390									
CROSS SECTION L									
123.39	14.29	650.29	.00	.00	650.43	.14	.20	.00	644.50
6700.	873.	5498.	329.	1560.	1667.	457.	491.	80.	644.50
.61	.56	3.30	.72	.137	.045	.097	.047	636.00	226.28
.000393	530.	520.	530.	2	0	0	.00	692.04	918.32
1490 NH CARD USED									
*SECNO 124.070									
CROSS SECTION M									
124.07	14.97	650.57	.00	.00	650.73	.17	.29	.01	644.60
6700.	695.	5513.	492.	1162.	1535.	875.	548.	93.	644.60
.67	.60	3.59	.56	.111	.045	.136	.048	635.60	467.06
.000467	690.	680.	690.	0	0	0	.00	866.83	1333.89

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 25 yr. flood

00BREAK00

Dundee F.I.S.
Calibration Test (Revised Model)
MDNR Copy

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**********************************************
*  WATER SURFACE PROFILES                    *
*  VERSION OF NOVEMBER 1976                  *
*  UPDATED APRIL 1980                        *
*                                            *
*  RUN DATE MON, FEB 16, 1981,  3:50 PM      *
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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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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
  ERROR CORR -  01,02,03,04
  MODIFICATION -  50,51,52,53,54
**********************************************

C
T1 HUD-FIA FLOOD INSURANCE STUDIES  H-3970  WILLIAMS & WORKS  PRS   AUG,1980
T2 VILLAGE OF DUNDEE'   RIVER RAISIN        CALIBRATION TEST RUN
T3      RIVER RAISIN     -DUNDEE:  25-YEAR FLOOD + EXISTING CONDITIONS

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       0.        0.        0.  .000000       .00       .0     8250.   646.600      .000
J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    -1.000       .000   -1.000       .000      .000    1.300      .000      .000      .000      .000
J3  VARIABLE CODES FOR SUMMARY PRINTOUT
   150.000       .000      .000      .000      .000      .000      .000      .000      .000      .000

NC      .085      .085      .035      .100      .300      .000      .000      .000      .000      .000
QT     5.000  6700.000  9200.000 10100.000 12500.000 10100.000      .000      .000      .000      .000
NH     5.000      .100   176.000      .065   788.000      .100  1091.000      .035  1202.500      .110
NH  1268.000      .000      .000      .000      .000      .000      .000      .000      .000      .000
ET      .000      .000      .000      .000      .000     9.100      .000      .000   530.000  1257.000

          CROSS SECTION  A

X1   115.970    52.000  1091.000  1202.500  1040.000  1040.000  1030.000      .000      .000      .000
GR   654.900      .000   651.500    18.000   648.800    48.000   647.400    82.000   647.100   130.000
GR   646.700   176.000   646.000   192.000   646.600   202.000   646.200   238.000   646.400   272.000
GR   645.400   308.000   645.800   350.000   645.600   388.000   645.000   450.000   644.800   506.000
GR   644.500   556.000   644.000   584.000   642.800   610.000   642.600   642.000   642.800   684.000
GR   643.200   716.000   644.200   746.000   644.200   788.000   643.400   820.000   643.300   860.000
GR   643.200   896.000   644.600   934.000   645.400   970.000   646.000  1004.000   645.600  1036.000
GR   645.800  1058.000   645.500  1072.000   634.900  1091.000   634.400  1092.000   632.600  1097.000
GR   632.700  1102.000   632.400  1112.000   632.600  1122.000   632.600  1132.000   632.900  1142.000
GP   632.400  1152.000   632.400  1162.000   632.500  1172.000   632.500  1182.000   633.400  1192.000
GR   633.900  1197.000   634.800  1202.000   634.900  1202.500   643.800  1225.000   643.800  1240.000
GR   645.800  1254.000   654.900  1268.000      .000      .000      .000      .000      .000      .000
NH     5.000      .110    68.000      .065   732.000      .100   964.000      .035  1068.000      .100
NH  1280.000      .000      .000      .000      .000      .000      .000      .000      .000      .000
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CROSS SECTION B

X1	116.650	57.000	964.000	1068.000	690.000	690.000	680.000	.000	.000	.000
X3	.000	.000	.000	675.000	.000	.000	.000	.000	.000	.000
GR	655.000	.000	652.700	24.000	650.200	50.000	649.300	68.000	648.800	110.000
GR	648.200	160.000	649.000	194.000	648.900	226.000	648.400	262.000	648.100	304.000
GR	648.200	346.000	648.100	374.000	647.800	414.000	647.800	454.000	648.000	484.000
GR	647.600	532.000	647.900	578.000	647.600	616.000	646.600	660.000	645.800	698.000
GR	645.200	732.000	644.000	766.000	643.800	800.000	642.900	842.000	641.600	876.000
GR	641.600	904.000	641.800	922.000	639.400	934.000	639.200	952.000	635.000	964.000
GR	634.000	967.000	633.900	972.000	633.500	977.000	633.500	982.000	633.700	987.000
GR	633.900	992.000	633.500	997.000	633.700	1002.000	633.900	1007.000	633.700	1012.000
GR	633.900	1017.000	634.000	1022.000	633.600	1032.000	632.800	1042.000	632.800	1047.000
GR	632.900	1052.000	632.900	1057.000	632.600	1062.000	633.200	1067.000	635.000	1068.000
GR	642.300	1080.000	642.400	1116.000	643.400	1164.000	644.000	1210.000	644.600	1240.000
GP	645.400	1260.000	655.000	1280.000	.000	.000	.000	.000	.000	.000
NH	4.000	.065	970.000	.100	1113.500	.035	1192.500	.100	1231.500	.000

CROSS SECTION C

X1	117.360	41.000	1113.500	1192.500	720.000	720.000	710.000	.000	.000	.000
X3	.000	.000	.000	905.000	.000	.000	.000	.000	.000	.000
GR	655.500	.000	650.200	12.000	650.600	48.000	651.200	102.000	651.000	162.000
GR	650.800	214.000	650.600	260.000	650.300	318.000	649.400	384.000	648.600	440.000
GR	648.900	496.000	649.100	538.000	648.300	582.000	646.000	618.000	644.000	658.000
GR	642.600	708.000	643.000	748.000	643.200	806.000	643.000	846.000	642.400	876.000
GR	643.000	924.000	643.200	970.000	643.800	1006.000	644.800	1042.000	645.200	1076.000
GR	643.200	1088.000	641.800	1100.000	635.500	1113.500	634.500	1115.000	633.700	1120.000
GR	633.500	1125.000	633.300	1130.000	633.100	1140.000	633.100	1150.000	633.000	1160.000
GR	632.700	1170.000	632.700	1180.000	633.200	1185.000	634.400	1190.000	635.500	1192.500
GR	662.400	1231.500	.000	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

X1	117.600	.000	.000	.000	300.000	300.000	290.000	.000	.000	.000
X3	.000	.000	.000	1005.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM EMBANKMENT

X1	117.700	.000	.000	.000	50.000	50.000	50.000	.000	-.300	.000
X3	.000	.000	.000	1020.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.730	50.000	1074.000	1318.000	40.000	40.000	30.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
GR	664.100	.000	663.800	112.000	663.400	272.000	663.200	412.000	662.800	520.000
GR	663.000	614.000	663.000	724.000	663.400	830.000	663.200	932.000	663.600	998.000
GR	662.700	1069.000	657.900	1074.000	644.700	1075.000	644.600	1079.000	643.500	1089.000
GR	642.200	1099.000	641.300	1109.000	641.400	1119.000	641.900	1129.000	641.600	1139.000
GR	642.300	1149.000	641.900	1159.000	641.100	1169.000	641.300	1179.000	640.800	1189.000
GR	640.500	1199.000	637.300	1209.000	635.700	1214.000	634.300	1219.000	634.900	1224.000
GR	634.100	1229.000	633.400	1234.000	632.300	1239.000	632.600	1244.000	632.400	1249.000
GR	632.700	1254.000	632.700	1259.000	633.000	1269.000	633.700	1274.000	633.900	1279.000
GR	634.400	1289.000	635.700	1294.000	646.400	1309.000	651.000	1317.000	658.200	1318.000
GR	662.700	1322.800	664.400	1404.000	665.000	1508.000	665.400	1584.000	665.800	1658.000

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.740	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
NH	3.000	.105	1073.000	.035	1157.500	.110	1163.000	.000	.000	.000

CROSS SECTION AT UPSTREAM EMBANKMENT

X1	117.770	43.000	1073.000	1157.500	40.000	40.000	30.000	.000	.000	.000
X3	.000	.000	.000	965.000	.000	.000	.000	.000	.000	.000
GR	655.700	.000	653.800	30.000	653.800	64.000	654.400	108.000	654.000	146.000
GR	654.400	196.000	653.400	232.000	653.200	260.000	652.400	274.000	651.600	314.000
GR	650.800	338.000	650.600	384.000	649.600	430.000	649.000	472.000	648.100	500.000
GR	646.600	536.000	645.600	576.000	642.500	612.000	638.300	622.000	639.000	650.000
GR	641.000	690.000	642.200	730.000	643.000	782.000	642.800	834.000	641.800	896.000
GR	641.200	944.000	642.000	982.000	643.400	1010.000	642.700	1040.000	635.700	1073.000
GR	635.400	1075.000	634.300	1080.000	633.000	1085.000	632.700	1090.000	632.300	1100.000
GR	632.400	1110.000	632.500	1120.000	632.800	1130.000	633.100	1140.000	633.400	1150.000
GR	635.700	1157.500	641.700	1163.000	655.000	1200.000	.000	.000	.000	.000

CROSS SECTION D

X1	117.840	.000	.000	.000	80.000	80.000	70.000	.000	.000	.000
X3	.000	.000	.000	900.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	4.000	.105	413.000	.035	545.000	.105	732.000	.060	806.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	52.000	650.000

CROSS SECTION E

X1	118.700	41.000	413.000	545.000	870.000	870.000	860.000	.000	.000	.000
GR	655.900	.000	655.500	32.000	649.000	56.000	644.200	90.000	641.800	122.000
GR	640.600	154.000	639.000	176.000	639.600	204.000	644.600	220.000	644.600	266.000
GR	645.200	326.000	645.000	402.000	635.900	413.000	635.800	414.000	635.600	417.000
GR	635.300	422.000	635.200	427.000	635.100	432.000	635.100	437.000	634.800	442.000
GR	634.900	447.000	635.000	452.000	634.200	457.000	633.900	462.000	634.000	472.000
GR	633.900	482.000	633.800	492.000	633.800	502.000	633.900	512.000	634.000	522.000
GR	634.400	532.000	634.700	542.000	635.900	545.000	643.700	555.000	645.200	572.000
GR	645.400	606.000	644.900	644.000	643.400	702.000	654.200	732.000	655.500	780.000
GR	655.800	806.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.105	392.000	.035	491.500	.105	513.000	.120	1060.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	32.000	515.000

CROSS SECTION F

X1	119.440	36.000	392.000	491.500	750.000	750.000	740.000	.000	.000	.000
GR	655.900	.000	650.500	32.000	641.800	62.000	640.200	126.000	640.000	180.000
GR	641.000	238.000	641.800	272.000	644.400	302.000	642.800	354.000	644.600	384.000
GR	635.900	392.000	634.700	394.000	633.600	399.000	633.300	404.000	633.800	409.000
GR	634.100	414.000	635.500	424.000	633.300	434.000	633.200	444.000	633.200	454.000
GR	634.100	464.000	633.900	474.000	634.700	484.000	635.900	491.500	648.600	513.000
GR	648.200	526.000	649.600	562.000	650.600	620.000	649.800	684.000	650.600	728.000
GR	652.000	736.000	652.000	782.000	653.000	844.000	654.200	926.000	655.400	984.000
GP	655.900	1060.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	6.000	.120	142.000	.105	286.000	.035	375.000	.105	394.000	.065
NH	540.000	.150	1128.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	540.000

CROSS SECTION G

X1	120.160	32.000	286.000	375.000	730.000	730.000	720.000	.000	.000	.000
GR	656.200	.000	649.000	30.000	645.000	76.000	644.100	142.000	644.200	212.000
GR	641.200	238.000	639.400	276.000	636.200	286.000	635.300	291.000	635.100	296.000
GR	634.900	306.000	634.700	316.000	634.900	326.000	634.900	336.000	635.000	346.000
GR	635.200	356.000	635.200	366.000	636.200	375.000	646.300	394.000	644.400	430.000
GR	643.900	492.000	648.000	540.000	649.200	600.000	650.400	640.000	652.300	692.000
GR	651.200	738.000	651.800	790.000	652.000	864.000	652.600	956.000	653.800	1028.000
GR	655.400	1100.000	656.200	1128.000	.000	.000	.000	.000	.000	.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	350.000

CROSS SECTION H

X1	120.600	34.000	189.000	289.000	450.000	450.000	440.000	.000	.000	.000
GR	656.700	.000	650.700	14.000	646.300	50.000	644.800	100.000	644.400	150.000
GR	643.600	178.000	639.700	184.000	636.700	189.000	636.200	190.000	635.700	194.000
GR	635.600	204.000	635.500	214.000	635.500	244.000	635.400	254.000	635.400	264.000
GR	635.500	274.000	635.800	284.000	636.700	289.000	644.800	302.000	648.800	350.000
GR	649.400	406.000	649.400	462.000	650.200	526.000	650.500	594.000	650.800	630.000
GR	650.800	676.000	651.200	728.000	651.200	804.000	651.800	888.000	653.000	960.000
GR	654.600	1044.000	655.200	1092.000	656.300	1114.000	656.700	1176.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	350.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	121.080	.000	.000	.000	520.000	460.000	490.000	.000	.200	.000
NC	.085	.085	.040	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

X1	121.130	45.000	246.000	426.500	60.000	60.000	50.000	.000	.000	.000
X4	18.000	652.300	490.000	652.000	550.000	651.700	570.000	651.400	625.000	651.300
X4	655.000	651.200	690.000	651.100	710.000	651.000	760.000	651.100	785.000	651.200
X4	860.000	651.200	870.000	651.400	940.000	652.000	1040.000	653.700	1130.000	654.500
X4	1230.000	654.800	1280.000	655.400	1340.000	657.100	1420.000	.000	.000	.000
GR	664.000	.000	662.200	48.000	660.000	110.000	658.400	178.000	656.600	246.000
GR	637.600	248.500	637.400	251.000	637.200	256.000	637.100	261.000	637.000	266.000
GR	636.700	271.000	636.700	276.000	636.700	286.000	636.500	296.000	636.600	306.000
GR	636.500	316.000	636.300	326.000	636.400	336.000	636.500	346.000	636.500	356.000
GR	637.100	366.000	636.800	376.000	636.500	386.000	636.600	396.000	636.700	406.000
GR	637.300	416.000	636.900	426.000	653.600	426.500	653.800	430.000	652.400	472.000
GR	652.200	530.000	651.400	602.000	651.400	670.000	651.000	740.000	651.200	810.000
GR	651.200	890.000	651.800	974.000	652.200	1060.000	653.700	1106.000	653.700	1118.000
GR	654.200	1178.000	654.600	1266.000	655.500	1358.000	657.200	1402.000	657.700	1758.000
SB	.900	1.500	2.500	.000	72.000	5.000	936.000	.000	636.800	636.800

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

X1	121.190	.000	.000	.000	60.000	60.000	60.000	.000	.000	.000
X2	.000	.000	1.000	650.700	651.000	.000	.000	.000	.000	.000
BT	77.000	246.000	656.600	656.600	246.000	656.600	652.100	248.500	656.600	652.100
BT	251.000	656.500	652.000	256.000	656.400	651.900	261.000	656.400	651.900	266.000
BT	656.300	651.800	271.000	656.200	651.700	276.000	656.100	651.600	286.000	655.900
BT	651.400	296.000	655.800	651.300	306.000	655.600	651.100	316.000	655.400	650.900
BT	326.000	655.300	550.800	336.000	655.100	650.600	346.000	654.900	650.400	356.000
BT	654.800	650.300	366.000	654.600	650.100	376.000	654.400	649.900	386.000	654.300
BT	649.800	396.000	654.100	649.600	406.000	653.900	649.400	416.000	653.800	649.300
BT	426.000	653.600	649.100	426.500	653.600	649.100	426.500	653.600	653.600	430.000

BT	653.800	653.800	472.000	652.400	652.400	490.000	652.300	652.300	490.000	660.000
BT	660.000	530.000	660.000	660.000	550.000	660.000	660.000	550.000	652.000	652.000
BT	570.000	651.700	651.700	570.000	660.000	660.000	602.000	660.000	660.000	625.000
BT	660.000	660.000	625.000	651.400	651.400	655.000	651.300	651.300	655.000	660.000
BT	660.000	670.000	660.000	660.000	690.000	660.000	660.000	690.000	651.200	651.200
BT	710.000	651.000	651.000	710.000	660.000	660.000	740.000	660.000	660.000	760.000
BT	660.000	660.000	760.000	651.000	651.000	785.000	651.100	651.100	810.000	660.000
BT	660.000	860.000	660.000	660.000	860.000	651.200	651.200	870.000	651.200	651.200
BT	890.000	660.000	660.000	940.000	660.000	660.000	940.000	651.400	651.400	974.000
BT	651.800	651.800	1040.000	652.000	652.000	1040.000	660.000	660.000	1060.000	660.000
BT	660.000	1106.000	660.000	660.000	1118.000	660.000	660.000	1130.000	660.000	660.000
BT	1130.000	653.700	653.700	1178.000	654.200	654.200	1230.000	654.500	654.500	1230.000
BT	660.000	660.000	1266.000	660.000	660.000	1280.000	660.000	660.000	1280.000	654.800
BT	654.800	1340.000	655.400	655.400	1340.000	660.000	660.000	1358.000	660.000	660.000
BT	1402.000	660.000	660.000	1420.000	660.000	660.000	1420.000	657.100	657.100	1758.000
BT	657.700	657.700	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	442.000

CROSS SECTION I

X1	121.240	47.000	239.000	409.000	60.000	60.000	60.000	.000	.000	.000
GR	657.700	.000	656.400	38.000	656.000	88.000	655.800	152.000	654.400	190.000
GR	637.700	239.000	637.500	250.000	637.100	260.000	636.900	270.000	636.700	280.000
GR	636.900	290.000	636.700	300.000	636.500	310.000	636.600	320.000	636.500	330.000
GR	636.200	340.000	636.200	350.000	636.200	360.000	636.500	370.000	636.700	380.000
GR	636.800	390.000	636.900	400.000	637.700	409.000	651.500	443.000	650.900	498.000
GR	650.000	586.000	649.200	610.000	649.200	656.000	649.000	694.000	649.600	726.000
GR	650.000	784.000	650.200	844.000	651.200	872.000	651.200	890.000	651.800	974.000
GR	652.200	1060.000	653.700	1106.000	653.700	1118.000	654.200	1178.000	654.600	1266.000
GR	655.500	1358.000	657.200	1402.000	657.200	1416.000	657.200	1514.000	657.200	1640.000
GR	657.200	1718.000	657.700	1758.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	442.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000

CROSS SECTION DOWNSTREAM OF DAM

X1	121.400	.000	.000	.000	200.000	200.000	150.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	580.000
NH	4.000	.085	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION AT DAM

X1	121.440	33.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
X4	1.000	644.400	268.000	.000	.000	.000	.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.400	548.000	650.600	580.000
GR	651.000	678.000	651.500	700.000	651.000	752.000	651.200	822.000	652.600	870.000
GR	652.600	910.000	652.200	924.000	652.400	934.000	652.400	960.000	652.700	1000.000
GR	654.000	1046.000	654.700	1084.000	656.200	1130.000	657.400	1168.000	657.000	1192.000

GR	658.500	1242.000	660.200	1268.000	660.200	1286.000	660.600	1316.000	663.200	1320.000
GR	663.600	1346.000	664.000	1374.000	664.500	1398.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	580.000
NH	4.000	.095	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION UPSTREAM OF DAM

X1	121.500	60.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.500	268.000	638.600	283.000
GR	638.700	293.000	641.200	303.000	641.000	313.000	640.600	323.000	640.000	333.000
GR	639.500	343.000	640.000	353.000	640.500	363.000	640.400	373.000	640.100	383.000
GR	639.800	393.000	639.500	403.000	639.600	413.000	638.500	423.000	638.700	433.000
GR	638.800	443.000	638.800	453.000	639.200	463.000	638.800	473.000	638.500	483.000
GR	639.200	493.000	639.500	503.000	641.100	513.000	642.600	523.000	643.800	533.000
GR	644.500	548.000	650.600	580.000	651.000	678.000	651.500	700.000	651.000	752.000
GP	651.200	822.000	652.600	870.000	652.600	910.000	652.200	924.000	652.400	934.000
GR	652.400	960.000	652.700	1000.000	654.000	1046.000	654.700	1084.000	656.200	1130.000
GR	657.400	1168.000	657.000	1192.000	658.500	1242.000	660.200	1268.000	660.200	1286.000
GR	660.600	1316.000	663.200	1320.000	663.600	1346.000	664.000	1374.000	664.500	1398.000
NH	4.000	.110	115.000	.035	275.000	.065	416.000	.200	1032.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	79.000	420.000

CROSS SECTION J

X1	122.240	54.000	115.000	275.000	760.000	760.000	750.000	.000	.000	.000
GR	664.500	.000	662.700	24.000	661.000	48.000	653.500	78.000	649.400	94.000
GP	648.100	110.000	644.500	115.000	643.500	116.000	642.500	121.000	640.500	126.000
GR	638.800	131.000	637.800	136.000	637.500	141.000	637.300	151.000	637.500	156.000
GR	637.200	166.000	637.500	171.000	637.300	176.000	637.100	181.000	637.500	191.000
GR	637.100	196.000	636.900	201.000	636.800	206.000	637.000	211.000	636.800	216.000
GR	636.800	221.000	637.100	226.000	637.100	231.000	637.300	236.000	636.800	241.000
GR	637.500	246.000	638.100	251.000	638.800	256.000	641.200	261.000	642.800	266.000
GR	643.900	271.000	644.000	273.000	644.500	275.000	647.800	281.000	648.000	350.000
GR	648.400	416.000	649.600	468.000	651.100	498.000	651.400	540.000	652.000	598.000
GR	652.400	620.000	652.000	686.000	653.400	772.000	654.600	814.000	655.800	864.000
GR	656.300	918.000	659.200	942.000	661.600	990.000	664.500	1032.000	.000	.000
NH	3.000	.105	365.000	.035	535.500	.110	736.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	540.000

CROSS SECTION K

X1	122.870	49.000	365.000	535.500	640.000	640.000	630.000	.000	.000	.000
GR	664.500	.000	663.000	20.000	654.900	54.000	649.500	94.000	646.600	148.000
GR	644.800	180.000	645.000	194.000	645.900	230.000	644.800	264.000	645.400	302.000
GR	647.000	354.000	644.500	365.000	644.200	367.000	643.800	372.000	643.200	377.000
GR	642.300	382.000	642.000	387.000	641.300	392.000	639.100	397.000	637.700	402.000
GR	637.700	412.000	637.300	417.000	637.500	422.000	637.600	427.000	637.300	432.000
GR	637.500	437.000	637.500	442.000	637.400	447.000	637.400	452.000	637.500	457.000
GR	637.400	462.000	637.400	477.000	637.500	482.000	637.500	487.000	637.700	497.000
GR	637.900	507.000	638.000	512.000	638.300	517.000	639.200	522.000	640.300	527.000

GR	641.500	532.000	644.500	535.500	649.100	547.000	650.400	558.000	652.200	582.000
GR	658.000	606.000	662.700	634.000	664.200	668.000	664.600	736.000	.000	.000
NH	3.000	.105	643.000	.035	785.000	.075	1000.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	250.000	910.000

CROSS SECTION L

X1	123.390	53.000	643.000	785.000	530.000	530.000	520.000	.000	.000	.000
GR	664.500	.000	664.100	36.000	663.800	92.000	663.400	132.000	661.500	154.000
GR	653.500	184.000	650.400	224.000	648.600	262.000	647.200	306.000	646.400	356.000
GR	645.000	416.000	644.800	478.000	645.600	534.000	647.300	590.000	648.500	634.000
GR	644.500	643.000	642.200	644.000	640.900	649.000	640.000	654.000	639.700	659.000
GR	639.500	664.000	638.900	669.000	638.500	674.000	638.200	679.000	637.600	684.000
GR	637.500	689.000	637.200	694.000	636.900	699.000	636.600	704.000	636.500	709.000
GR	636.500	714.000	636.300	719.000	636.700	724.000	636.000	729.000	636.600	734.000
GR	636.300	739.000	637.000	744.000	637.100	749.000	637.100	754.000	639.000	759.000
GR	639.700	764.000	641.200	769.000	642.600	774.000	643.900	779.000	644.400	784.000
GR	644.500	785.000	647.500	819.000	645.500	840.000	647.100	874.000	648.400	908.000
GR	655.000	944.000	661.000	976.000	664.600	1000.000	.000	.000	.000	.000
NH	5.000	.065	768.000	.105	954.000	.035	1085.000	.105	1328.000	.065
NH	1518.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	375.000	1310.000

CROSS SECTION M

X1	124.070	55.000	954.000	1085.000	690.000	690.000	680.000	.000	.000	.000
GR	664.600	.000	658.600	22.000	655.400	88.000	654.700	196.000	652.400	290.000
GR	651.400	400.000	650.600	460.000	650.100	542.000	648.400	624.000	647.800	706.000
GR	647.100	768.000	646.800	826.000	646.800	878.000	648.900	924.000	644.600	954.000
GR	642.900	959.000	640.300	964.000	639.500	969.000	639.000	974.000	638.100	979.000
GR	637.000	984.000	636.200	989.000	635.700	994.000	635.600	999.000	635.600	1004.000
GR	635.600	1009.000	636.000	1014.000	636.600	1019.000	636.900	1024.000	637.400	1029.000
GR	637.800	1034.000	638.300	1039.000	638.800	1044.000	639.000	1049.000	639.500	1054.000
GR	640.300	1059.000	642.700	1064.000	641.100	1069.000	641.500	1074.000	642.800	1079.000
GR	644.300	1084.000	644.600	1085.000	647.600	1089.000	645.800	1124.000	646.200	1194.000
GR	648.000	1254.000	647.500	1294.000	649.000	1328.000	656.400	1356.000	660.700	1368.000
GR	663.800	1394.000	664.200	1430.000	664.400	1496.000	663.400	1508.000	664.600	1518.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .100 CEHV= .300
1490 NH CARD USED
*SECNO 115.970
CROSS SECTION A

115.97	14.20	646.60	.00	646.60	646.85	.25	.00	.00	634.90
8250.	1280.	6798.	172.	1851.	1540.	231.	0.	0.	634.90
.00	.69	4.42	.75	.099	.045	.143	.000	632.40	178.29
.000556	1040.	1030.	1040.	0	0	0	.00	1076.95	1255.23

1490 NH CARD USED
*SECNO 116.650

3470 ENCROACHMENT STATIONS= 675.0 1280.0 TYPE= 1 TARGET= -675.000
CROSS SECTION B

116.65	14.39	646.99	.00	.00	647.28	.29	.42	.01	635.00
8250.	1007.	6682.	561.	1150.	1401.	736.	54.	13.	635.00
.05	.88	4.77	.76	.128	.045	.130	.045	632.60	675.00
.000676	690.	680.	690.	0	0	0	.00	588.29	1263.29

1490 NH CARD USED
*SECNO 117.360

3470 ENCROACHMENT STATIONS= 905.0 1231.5 TYPE= 1 TARGET= -905.000
CROSS SECTION C

117.36	14.72	647.42	.00	.00	647.97	.55	.61	.08	635.50
8250.	992.	7139.	114.	838.	1119.	103.	98.	21.	635.50
.08	1.19	6.38	1.11	.110	.045	.130	.045	632.70	905.00
.001129	720.	710.	720.	1	0	0	.00	304.79	1209.79

*SECNO 117.600

3470 ENCROACHMENT STATIONS= 1005.0 1231.5 TYPE= 1 TARGET= -1005.000
CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

117.60	14.99	647.69	.00	.00	648.34	.65	.34	.03	635.50
8250.	491.	7634.	126.	443.	1139.	108.	111.	22.	635.50
.09	1.11	6.70	1.17	.130	.045	.130	.045	632.70	1005.00
.001215	300.	290.	300.	0	0	0	.00	205.17	1210.17

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .300 CEHV= .500
*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000
CROSS SECTION AT DOWNSTREAM EMBANKMENT

117.70	15.43	647.83	.00	.00	648.41	.59	.06	.02	635.20
8250.	556.	7542.	153.	429.	1174.	116.	113.	22.	635.20
.10	1.30	6.42	1.32	.110	.045	.110	.045	632.40	1020.00
.001073	50.	50.	50.	2	0	0	.00	190.80	1210.80

*SECNO 117.730

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	16.01	648.31	.00	.00	648.55	.24	.04	.10	657.90
8250.	0.	8250.	0.	0.	2099.	0.	114.	23.	658.20
.10	.00	3.93	.00	.110	.045	.110	.045	632.30	1074.73
.001267	40.	30.	40.	2	0	0.	.00	227.02	1312.33

*SECNO 117.740

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.74	16.03	648.33	.00	.00	648.57	.24	.02	.00	657.90
8250.	0.	8250.	0.	0.	2102.	0.	115.	23.	658.20
.10	.00	3.93	.00	.110	.045	.110	.045	632.30	1074.73
.001832	10.	10.	10.	0	0	0	.00	227.05	1312.35

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	15.92	648.22	.00	.00	648.73	.50	.03	.13	635.70
8250.	623.	7584.	43.	717.	1276.	52.	116.	23.	635.70
.10	.87	5.94	.82	.136	.079	.143	.045	632.30	965.00
.000516	40.	30.	40.	2	0	0	.00	216.15	1181.15

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	16.05	648.35	.00	.00	648.79	.43	.03	.02	635.70
8250.	977.	7232.	41.	1179.	1287.	53.	120.	23.	635.70
.11	.83	5.62	.77	.136	.079	.143	.045	632.30	900.00
.000456	80.	70.	80.	2	0	0	.00	281.51	1181.51

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700
CROSS SECTION E

118.70	15.19	648.99	.00	.00	649.13	.15	.32	.03	635.90
8250.	1245.	6603.	402.	1942.	1925.	764.	191.	33.	635.90
.19	.64	3.43	.53	.136	.045	.136	.045	633.80	56.09
.000311	870.	860.	870.	2	0	0	.00	661.43	717.52

1490 NH CARD USED
*SECNO 119.440
CROSS SECTION F

119.44	16.02	649.22	.00	.00	649.40	.18	.26	.01	635.90
8250.	2165.	5975.	111.	2600.	1511.	174.	268.	43.	635.90
.26	.83	3.95	.64	.136	.045	.137	.045	633.20	36.40
.000395	750.	740.	750.	2	0	0	.00	515.95	552.35

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 120.160									
CROSS SECTION G									
120.16	14.82	649.52	.00	.00	649.77	.25	.34	.02	636.20
8250.	1301.	6013.	936.	1465.	1284.	868.	333.	52.	636.20
.31	.89	4.68	1.08	.141	.045	.094	.045	634.70	27.84
.000587	730.	720.	730.	2	0	0	.00	582.75	610.59
1490 NH CARD USED									
*SECNO 120.600									
CROSS SECTION H									
120.60	14.32	649.72	.00	.00	650.10	.37	.29	.04	636.70
8250.	686.	7338.	226.	780.	1415.	316.	365.	57.	636.70
.34	.88	5.19	.72	.137	.045	.138	.045	635.40	21.93
.000739	450.	440.	450.	1	0	0	.00	466.50	488.43
CCHV= .300 CEHV= .500									
1490 NH CARD USED									
*SECNO 121.080									
121.08	14.50	650.10	.00	.00	650.45	.36	.35	.00	636.90
8250.	705.	7307.	238.	808.	1432.	350.	394.	63.	636.90
.37	.87	5.10	.68	.137	.045	.139	.045	635.60	20.58
.000705	520.	490.	460.	2	0	0	.00	481.05	501.63
*SECNO 121.130									
CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE									
ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)									
121.13	14.06	650.36	.00	.00	650.54	.18	.03	.05	656.60
8250.	0.	8250.	0.	0.	2436.	0.	397.	63.	653.60
.37	.00	3.39	.00	.110	.052	.110	.045	636.30	246.82
.000515	60.	50.	60.	2	0	0	.00	179.58	426.40

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	QCH	QROB	ALOB	HACH	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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190
CLASS A LOW FLOW

3420 BRIDGE W.S.= 650.15 BRIDGE VELOCITY= 9.23 CALCULATED CHANNEL AREA= 894.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	650.55	.01	0.	8250.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

121.19	14.07	650.37	.00	.00	650.55	.18	.01	.00	656.60	
8250.	0.	8250.	0.	0.	2437.	0.	400.	63.	653.60	
.37	.00	3.38	.00	.110	.052	.110	.045	636.30	246.82	
.000513	60.	60.	60.	0	0	0	.00	179.58	426.40	

1490 NH CARD USED
*SECNO 121.240

3265 DIVIDED FLOW

CROSS SECTION I

121.24	14.20	650.40	.00	.00	650.58	.17	.02	.00	637.70
8250.	172.	7898.	181.	237.	2322.	419.	404.	64.	637.70
.38	.73	3.40	.43	.123	.045	.129	.045	636.20	201.73
.000332	60.	60.	60.	0	0	0	.00	541.51	849.65

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 121.400

3265 DIVIDED FLOW

CROSS SECTION DOWNSTREAM OF DAM

SECNO / Q / TIME / SLOPE	DEPTH / QLOB / VLOB / XLOBL	CWSEL / QCH / VCH / XLCH	CRIWS / QROB / VROB / XLOBR	WSELK / ALOB / XNL / ITRIAL	EG / HACH / XNCH / IDC	HV / AROB / XNR / ICONT	HL / VOL / WTN / CORAR	OLOSS / TWA / ELMIN / TOPWID	BANK ELEV LEFT/RIGHT / SSTA / ENDST
121.40	14.25	650.45	.00	.00	650.63	.17	.05	.00	637.70
8250.	172.	7894.	184.	239.	2331.	437.	415.	66.	637.70
.39	.72	3.39	.42	.123	.045	.130	.046	636.20	201.58
.000328	200.	150.	200.	2	0	0	.00	548.46	851.14
1490 NH CARD USED									
*SECNO 121.440									
CROSS SECTION AT DAM									
121.44	5.97	650.37	.00	.00	650.71	.34	.03	.05	644.40
8250.	149.	7988.	113.	90.	1671.	92.	418.	67.	644.40
.40	1.66	4.78	1.23	.110	.046	.110	.046	644.40	247.76
.001981	50.	50.	50.	2	0	0	.00	331.03	578.79
1490 NH CARD USED									
*SECNO 121.500									
CROSS SECTION UPSTREAM OF DAM									
121.50	12.15	650.65	.00	.00	650.77	.12	.03	.02	644.50
8250.	58.	8142.	50.	95.	2938.	99.	421.	67.	644.50
.40	.61	2.77	.50	.124	.045	.111	.046	638.50	247.48
.000316	50.	50.	50.	2	0	0	.00	344.33	591.81
1490 NH CARD USED									
*SECNO 122.240									
CROSS SECTION J									
122.24	14.07	650.87	.00	.00	651.10	.23	.30	.03	644.50
8250.	27.	7873.	350.	61.	2007.	522.	470.	74.	644.50
.46	.44	3.92	.67	.143	.045	.095	.046	636.80	88.27
.000506	760.	750.	760.	2	0	0	.00	405.07	493.34
1490 NH CARD USED									
*SECNO 122.870									
CROSS SECTION K									
122.87	13.92	651.22	.00	.00	651.38	.16	.28	.01	644.50
8250.	926.	7292.	32.	1408.	2113.	71.	515.	80.	644.50
.51	.66	3.45	.44	.136	.045	.143	.047	637.30	81.27
.000396	640.	630.	640.	2	0	0	.00	487.65	568.92

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 123.390									
CROSS SECTION L									
123.39	15.44	651.44	.00	.00	651.59	.15	.21	.00	644.50
8250.	1322.	6407.	520.	2051.	1831.	615.	564.	87.	644.50
.56	.64	3.50	.85	.136	.045	.097	.047	636.00	210.47
.000390	530.	520.	530.	1	0	0	.00	714.15	924.63
1490 NH CARD USED									
*SECNO 124.070									
CROSS SECTION M									
124.07	16.11	651.71	.00	.00	651.88	.16	.28	.00	644.60
8250.	1254.	6242.	754.	1779.	1686.	1164.	636.	101.	644.60
.63	.70	3.70	.65	.107	.045	.136	.048	635.60	365.88
.000438	690.	680.	690.	0	0	0	.00	972.37	1338.25



1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 50 yr.



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HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
ERROR CORR - 01,02,03,04
MODIFICATION - 50,51,52,53,54
****

T1 HUD-FIA FLOOD INSURANCE STUDIES H-3970 WILLIAMS & WORKS PRS AUG,1980
T2 VILLAGE OF DUNDEE RIVER RAISIN
T3 RIVER RAISIN -DUNDEE: 50-YEAR FLOOD + EXISTING CONDITIONS

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	.000000	.00	.0	0.	647.300	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2.000	.000	-1.000	.000	.000	1.300	.000	.000	.000	.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNF	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 2

CCHV= .100 CEHV= .300

1490 NH CARD USED

*SECNO 115,970

CROSS SECTION A

115,97	14,90	647,30	,00	647,30	647,53	,23	,00	,00	634,90
9200,	1875,	7121,	204,	2513,	1618,	268,	0,	0,	634,90
,00	,75	4,40	,76	,098	,045	,143	,000	632,40	98,00
,000517	1040,	1030,	1040,	0	0	0	,00	1158,31	1256,31

1490 NH CARD USED

*SECNO 116,650

3470 ENCROACHMENT STATIONS= 675,0 1280,0 TYPE= 1 TARGET= -675,000

CROSS SECTION B

116,65	15,06	647,66	,00	,00	647,95	,30	,40	,02	635,00
9200,	1262,	7217,	721,	1345,	1472,	868,	64,	14,	635,00
,05	,94	4,90	,83	,127	,045	,130	,045	632,60	675,00
,000670	690,	680,	690,	0	0	0	,00	589,70	1264,70

1490 NH CARD USED

*SECNO 117,360

3470 ENCROACHMENT STATIONS= 905,0 1231,5 TYPE= 1 TARGET= -905,000

CROSS SECTION C

117,36	15,37	648,07	,00	,00	648,66	,59	,62	,09	635,50
9200,	1273,	7793,	133,	974,	1170,	115,	112,	21,	635,50
,08	1,31	6,66	1,16	,110	,045	,130	,045	632,70	905,00
,001159	720,	710,	720,	1	0	0	,00	305,73	1210,73

*SECNO 117,600

3470 ENCROACHMENT STATIONS= 1005,0 1231,5 TYPE= 1 TARGET= -1005,000

CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

117,60	15,63	648,33	,00	,00	649,05	,71	,35	,04	635,50
9200,	628,	8424,	148,	514,	1191,	120,	126,	23,	635,50
,09	1,22	7,07	1,24	,130	,045	,130	,045	632,70	1005,00
,001277	300,	290,	300,	0	0	0	,00	206,12	1211,12

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .300 CEHV= .500
*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000
CROSS SECTION AT DOWNSTREAM EMBANKMENT

117.70	16.07	648.47	.00	.00	649.13	.65	.06	.02	635.20
9200.	695.	8326.	179.	489.	1225.	128.	128.	23.	635.20
.10	1.42	6.80	1.41	.110	.045	.110	.045	632.40	1020.00
.001134	50.	50.	50.	2	0	0	.00	191.75	1211.75

*SECNO 117.730

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	16.73	649.03	.00	.00	649.28	.26	.04	.12	657.90
9200.	0.	9200.	0.	0.	2261.	0.	130.	23.	658.20
.10	.00	4.07	.00	.110	.045	.110	.045	632.30	1074.67
.001282	40.	30.	40.	2	0	0	.00	229.06	1313.57

*SECNO 117.740

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.74	16.74	649.04	.00	.00	649.30	.26	.02	.00	657.90
9200.	0.	9200.	0.	0.	2264.	0.	130.	23.	658.20
.10	.00	4.06	.00	.110	.045	.110	.045	632.30	1074.67
.001881	10.	10.	10.	0	0	0	.00	229.09	1313.59

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	16.62	648.92	.00	.00	649.48	.56	.03	.15	635.70
9200.	750.	8401.	49.	791.	1335.	56.	132.	24.	635.70
.10	.95	6.29	.88	.136	.079	.143	.045	632.30	965.00
.000545	40.	30.	40.	2	0	0	.00	218.07	1183.07

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	16.77	649.07	.00	.00	649.54	.47	.04	.03	635.70
9200.	1172.	7980.	47.	1302.	1348.	57.	136.	24.	635.70
.10	.90	5.92	.83	.136	.079	.143	.045	632.30	900.00
.000476	80.	70.	80.	2	0	0	.00	283.50	1183.50

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700
CROSS SECTION E

118.70	15.95	649.75	.00	.00	649.90	.15	.33	.03	635.90
9200.	1515.	7169.	516.	2214.	2025.	896.	214.	33.	635.90
.19	.68	3.54	.58	.137	.045	.137	.045	633.80	53.24
.000309	870.	860.	870.	2	0	0	.00	666.39	719.63

1490 NH CARD USED
*SECNO 119.440

3265 DIVIDED FLOW

CROSS SECTION F

119.44	16.78	649.98	.00	.00	650.17	.19	.26	.01	635.90
9200.	2547.	6511.	141.	2870.	1586.	232.	298.	44.	635.90
.25	.89	4.10	.61	.136	.045	.138	.045	633.20	33.78
.000399	750.	740.	750.	2	0	0	.00	575.02	694.03

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 120.160
CROSS SECTION G

120.16	15.58	650.28	.00	.00	650.53	.25	.34	.02	636.20
9200.	1549.	6462.	1189.	1662.	1351.	1057.	371.	54.	636.20
.31	.93	4.78	1.12	.141	.045	.095	.045	634.70	24.67
.000571	730.	720.	730.	2	0	0	.00	611.29	635.96

1490 NH CARD USED
*SECNO 120.600
CROSS SECTION H

120.60	15.07	650.47	.00	.00	650.86	.39	.29	.04	636.70
9200.	859.	8023.	317.	906.	1489.	490.	407.	60.	636.70
.33	.95	5.39	.65	.137	.045	.144	.045	635.40	15.90
.000746	450.	440.	450.	2	0	0	.00	570.79	586.69

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 121.080

121.08	15.24	650.84	.00	.00	651.22	.38	.36	.00	636.90
9200.	881.	7983.	337.	936.	1506.	545.	440.	67.	636.90
.36	.94	5.30	.62	.137	.045	.145	.045	635.60	14.45
.000710	520.	490.	460.	2	0	0	.00	596.95	611.40

*SECNO 121.130

3265 DIVIDED FLOW

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

121.13	14.81	651.11	.00	.00	651.31	.20	.03	.05	656.60
9200.	0.	9200.	0.	0.	2570.	6.	444.	67.	653.60
.36	.00	3.58	.06	.110	.052	.110	.045	636.30	246.72
.000540	60.	50.	60.	2	0	0	.00	259.84	787.86

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190

3265 DIVIDED FLOW

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
653.36	651.32	.01	912.	8311.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

121.19	16.50	652.80	.00	.00	652.95	.15	1.64	.00	656.60
9200.	0.	8959.	241.	0.	2874.	763.	448.	68.	653.60
.37	.00	3.12	.32	.110	.052	.110	.045	636.30	246.50
.000361	60.	60.	60.	2	0	2	.00	798.42	1078.42

1490 NH CARD USED
*SECNO 121.240
CROSS SECTION I

121.24	16.63	652.83	.00	.00	652.97	.14	.02	.00	637.70
9200.	225.	8526.	449.	336.	2734.	1694.	454.	69.	637.70
.38	.67	3.12	.26	.123	.045	.182	.045	636.20	194.61
.000225	60.	60.	60.	0	0	0	.00	884.64	1079.25

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 121.400
CROSS SECTION DOWNSTREAM OF DAM

121.40	16.66	652.86	.00	.00	653.00	.14	.03	.00	637.70
9200.	225.	8520.	455.	338.	2742.	1723.	472.	73.	637.70
.39	.67	3.11	.26	.123	.045	.188	.046	636.20	194.49
.000222	200.	150.	200.	1	0	0	.00	886.09	1080.58

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
121.44	8.44	652.84	.00	.00	653.04	.20	.02	.02	644.40
9200.	185.	8714.	301.	145.	2362.	699.	477.	74.	644.40
.39	1.27	3.69	.43	.110	.045	.166	.046	644.40	238.98
.000742	50.	50.	50.	2	0	0	.00	765.88	1004.86

1490 NH CARD USED
*SECNO 121.440
CROSS SECTION AT DAM

1490 NH CARD USED
*SECNO 121.500
CROSS SECTION UPSTREAM OF DAM

121.50	14.47	652.97	.00	.00	653.07	.09	.02	.01	644.50
9200.	87.	8947.	166.	149.	3589.	759.	482.	75.	644.50
.40	.59	2.49	.22	.123	.045	.170	.046	638.50	237.70
.000196	50.	50.	50.	2	0	0	.00	771.92	1009.62

1490 NH CARD USED
*SECNO 122.240
CROSS SECTION J

122.24	16.30	653.10	.00	.00	653.28	.18	.19	.02	644.50
9200.	62.	8345.	792.	130.	2364.	1296.	553.	87.	644.50
.46	.48	3.53	.61	.143	.045	.108	.046	636.80	79.55
.000329	760.	750.	760.	2	0	0	.00	674.13	753.69

1490 NH CARD USED
*SECNO 122.870
CROSS SECTION K

122.87	16.04	653.34	.00	.00	653.47	.13	.19	.00	644.50
9200.	1345.	7783.	72.	2026.	2475.	166.	615.	96.	644.50
.53	.66	3.15	.43	.136	.045	.143	.047	637.30	65.57
.000267	640.	630.	640.	2	0	0	.00	521.14	586.71

1490 NH CARD USED
*SECNO 123.390

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
	CROSS SECTION L								
123.39	17.50	653.50	.00	.00	653.61	.11	.14	.00	644.50
9200.	1870.	6563.	767.	2963.	2122.	912.	679.	104.	644.50
.59	.63	3.09	.84	.136	.045	.097	.047	636.00	184.07
.000251	530.	520.	530.	0	0	0	.00	751.72	935.79
1490 NH CARD USED									
*SECNO 124.070									
	CROSS SECTION M								
124.07	18.08	653.68	.00	.00	653.78	.10	.17	.00	644.60
9200.	2136.	6034.	1030.	3091.	1944.	1669.	779.	118.	644.60
.67	.69	3.10	.62	.103	.045	.135	.048	635.60	237.87
.000255	690.	680.	690.	0	0	0	.00	1107.82	1345.69

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 100yr.

00BREAK00

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  HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
  ERROR CORR -  01,02,03,04
  MODIFICATION -  50,51,52,53,54
**********************************************

T1 HUD-FIA FLOOD INSURANCE STUDIES  H-3970  WILLIAMS & WORKS  PRS   AUG,1980
T2 VILLAGE OF DUNDEE    RIVER RAISIN
T3      RIVER RAISIN     -DUNDEE: 100-YEAR FLOOD + EXISTING CONDITIONS

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       4.        0.        0.   .000000       .00       .0        0.   647.600      .000
J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    3.000         .000   -1.000      .000      .000    1.300      .000      .000      .000      .000
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SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .100 CEHV= .300

1490 NH CARD USED

*SECNO 115.970

CROSS SECTION A

115.97	15.20	647.60	.00	647.60	647.85	.25	.00	.00	634.90
10100.	2267.	7604.	229.	2815.	1651.	284.	0.	0.	634.90
.00	.81	4.61	.81	.098	.045	.143	.000	632.40	77.14
.000551	1040.	1030.	1040.	0	0	0	.00	1179.63	1256.77

1490 NH CARD USED

*SECNO 116.650

3470 ENCROACHMENT STATIONS= 675.0 1280.0 TYPE= 1 TARGET= -675.000

CROSS SECTION B

116.65	15.38	647.98	.00	.00	648.30	.33	.43	.02	635.00
10100.	1455.	7806.	839.	1438.	1505.	932.	68.	14.	635.00
.04	1.01	5.19	.90	.127	.045	.130	.045	632.60	675.00
.000727	690.	680.	690.	0	0	0	.00	590.37	1265.37

1490 NH CARD USED

*SECNO 117.360

3470 ENCROACHMENT STATIONS= 905.0 1231.5 TYPE= 1 TARGET= -905.000

CROSS SECTION C

117.36	15.72	648.42	.00	.00	649.07	.65	.67	.10	635.50
10100.	1489.	8461.	150.	1046.	1198.	121.	119.	21.	635.50
.08	1.42	7.07	1.24	.110	.045	.130	.045	632.70	905.00
.001264	720.	710.	720.	1	0	0	.00	306.24	1211.24

*SECNO 117.600

3470 ENCROACHMENT STATIONS= 1005.0 1231.5 TYPE= 1 TARGET= -1005.000

CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

117.60	16.00	648.70	.00	.00	649.50	.81	.39	.05	635.50
10100.	737.	9195.	167.	554.	1220.	126.	134.	23.	635.50
.09	1.33	7.54	1.32	.130	.045	.130	.045	632.70	1005.00
.001404	300.	290.	300.	1	0	0	.00	206.65	1211.65

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .300 CEHV= .500
*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000
CROSS SECTION AT DOWNSTREAM EMBANKMENT

117.70	16.46	648.86	.00	.00	649.59	.74	.07	.02	635.20
10100.	809.	9088.	203.	525.	1255.	135.	136.	23.	635.20
.09	1.54	7.24	1.50	.110	.045	.110	.045	632.40	1020.00
.001246	50.	50.	50.	2	0	0	.00	192.30	1212.30

*SECNO 117.730

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	17.18	649.48	.00	.00	649.77	.28	.04	.14	657.90
10100.	0.	10100.	0.	0.	2367.	0.	137.	24.	658.20
.09	.00	4.27	.00	.110	.045	.110	.045	632.30	1074.64
.001362	40.	30.	40.	2	0	0	.00	230.38	1314.37

*SECNO 117.740

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.74	17.20	649.50	.00	.00	649.78	.28	.02	.00	657.90
10100.	0.	10100.	0.	0.	2370.	0.	138.	24.	658.20
.09	.00	4.26	.00	.110	.045	.110	.045	632.30	1074.64
.002017	10.	10.	10.	0	0	0	.00	230.41	1314.39

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	17.06	649.36	.00	.00	649.99	.63	.03	.18	635.70
10100.	859.	9185.	55.	839.	1372.	59.	140.	24.	635.70
.09	1.02	6.69	.94	.137	.079	.143	.045	632.30	965.00
.000594	40.	30.	40.	2	0	0	.00	219.30	1184.30

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	17.23	649.53	.00	.00	650.06	.53	.04	.03	635.70
10100.	1343.	8704.	53.	1383.	1387.	60.	144.	24.	635.70
.10	.97	6.28	.89	.136	.079	.143	.045	632.30	900.00
.000515	80.	70.	80.	2	0	0	.00	284.79	1184.79

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700
CROSS SECTION E

118.70	16.48	650.28	.00	.00	650.44	.16	.35	.04	635.90
10100.	1754.	7731.	616.	2406.	2095.	989.	227.	34.	635.90
.18	.73	3.69	.62	.136	.045	.137	.045	633.80	51.27
.000321	870.	860.	870.	2	0	0	.00	669.84	721.11

1490 NH CARD USED
*SECNO 119.440

3265 DIVIDED FLOW

CROSS SECTION F

119.44	17.32	650.52	.00	.00	650.73	.20	.27	.01	635.90
10100.	2890.	7033.	177.	3064.	1640.	324.	317.	45.	635.90
.24	.94	4.29	.55	.136	.045	.140	.045	633.20	31.87
.000416	750.	740.	750.	2	0	0	.00	681.21	723.75

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1490 NH CARD USED
*SECNO 120.160
CROSS SECTION G

120.16	16.13	650.83	.00	.00	651.10	.26	.35	.02	636.20
10100.	1770.	6914.	1416.	1808.	1401.	1206.	396.	56.	636.20
.30	.98	4.94	1.17	.141	.045	.096	.045	634.70	22.36
.000581	730.	720.	730.	2	0	0	.00	629.47	651.84

1490 NH CARD USED
*SECNO 120.600
CROSS SECTION H

120.60	15.62	651.02	.00	.00	651.44	.42	.29	.05	636.70
10100.	1016.	8664.	420.	1002.	1544.	683.	435.	63.	636.70
.32	1.01	5.61	.61	.137	.045	.149	.045	635.40	13.26
.000771	450.	440.	450.	2	0	0	.00	690.96	704.22

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 121.080

121.08	15.81	651.41	.00	.00	651.81	.40	.37	.01	636.90
10100.	1040.	8610.	450.	1035.	1563.	766.	472.	71.	636.90
.35	1.00	5.51	.59	.137	.045	.151	.045	635.60	12.81
.000730	520.	490.	460.	2	0	0	.00	792.46	805.28

*SECNO 121.130

3265 DIVIDED FLOW

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

121.13	15.38	651.68	.00	.00	651.90	.22	.03	.06	656.60
10100.	0.	10067.	33.	0.	2673.	166.	476.	72.	653.60
.35	.00	3.77	.20	.110	.052	.110	.045	636.30	246.65
.000572	60.	50.	60.	2	0	0	.00	571.64	963.88

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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

SPECIAL BRIDGE

SB	WK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190

3265 DIVIDED FLOW

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
654.39	651.91	.01	1646.	8465.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

121.19	17.13	653.43	.00	.00	653.59	.15	1.69	.00	656.60
10100.	0.	9633.	467.	0.	2988.	1165.	481.	73.	653.60
.36	.00	3.22	.40	.110	.052	.110	.045	636.30	246.42
.000369	60.	60.	60.	2	0	2	.00	836.82	1097.78

1490 NH CARD USED
*SECNO 121.240
CROSS SECTION I

121.24	17.25	653.45	.00	.00	653.60	.15	.02	.00	637.70
10100.	255.	9252.	592.	364.	2842.	2124.	487.	74.	637.70
.36	.70	3.26	.28	.123	.046	.197	.045	636.20	192.76
.000233	60.	60.	60.	0	0	0	.00	905.89	1098.65

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 121.400
CROSS SECTION DOWNSTREAM OF DAM

121.40	17.29	653.49	.00	.00	653.64	.15	.04	.00	637.70
10100.	256.	9246.	599.	366.	2849.	2151.	508.	78.	637.70
.38	.70	3.25	.28	.123	.045	.197	.046	636.20	192.64
.000230	200.	150.	200.	1	0	0	.00	907.21	1099.85

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 121.440
CROSS SECTION AT DAM

121.44	9.07	653.47	.00	.00	653.67	.20	.02	.02	644.40
10100.	208.	9475.	416.	166.	2540.	995.	514.	79.	644.40
.38	1.26	3.73	.42	.110	.045	.181	.046	644.40	232.94
.000690	50.	50.	50.	2	0	0	.00	794.35	1027.29

1490 NH CARD USED
*SECNO 121.500
CROSS SECTION UPSTREAM OF DAM

121.50	15.10	653.60	.00	.00	653.70	.10	.02	.01	644.50
10100.	102.	9760.	238.	169.	3765.	1056.	519.	80.	644.50
.39	.60	2.59	.22	.123	.046	.184	.046	638.50	231.71
.000199	50.	50.	50.	2	0	0	.00	800.17	1031.89

1490 NH CARD USED
*SECNO 122.240
CROSS SECTION J

122.24	16.93	653.73	.00	.00	653.92	.19	.19	.03	644.50
10100.	79.	9019.	1002.	153.	2465.	1608.	598.	93.	644.50
.45	.52	3.66	.62	.143	.045	.113	.046	636.80	77.07
.000334	760.	750.	760.	2	0	0	.00	706.53	783.60

1490 NH CARD USED
*SECNO 122.870
CROSS SECTION K

122.87	16.67	653.97	.00	.00	654.11	.14	.19	.00	644.50
10100.	1564.	8443.	93.	2217.	2583.	200.	666.	102.	644.50
.51	.71	3.27	.47	.136	.045	.143	.047	637.30	60.87
.000272	640.	630.	640.	2	0	0	.00	528.46	589.33

1490 NH CARD USED
*SECNO 123.390

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
	CROSS SECTION L								
123.39	18.14	654.14	.00	.00	654.25	.11	.14	.00	644.50
10100.	2167.	7038.	895.	3256.	2212.	1010.	735.	110.	644.50
.57	.67	3.18	.89	.136	.045	.097	.047	636.00	181.63
.000251	530.	520.	530.	0	0	0	.00	757.64	939.27

1490 NH CARD USED
*SECNO 124.070

	CROSS SECTION M								
124.07	18.72	654.32	.00	.00	654.42	.10	.17	.00	644.60
10100.	2585.	6338.	1178.	3560.	2028.	1838.	844.	125.	644.60
.66	.73	3.12	.64	.102	.045	.135	.048	635.60	211.58
.000244	690.	680.	690.	0	0	0	.00	1136.55	1348.13

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 100 yr. Encroached

00BREAK00

Dundee F.I.S.
Floodway - Dundee (Revised Model)
MDNR Copy

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*******************************************************************
*  WATER SURFACE PROFILES                                         *
*  VERSION OF NOVEMBER 1976                                       *
*  UPDATED APRIL 1980                                             *
*                                                                 *
*  RUN DATE WED, FEB 18, 1981,  3:45 PM                           *
*******************************************************************

*****************************************
*  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  XXXXXXX  XXXXX              XXXXXXX
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Use for FIS - 100yr Encroached

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
  ERROR CORR -  01,02,03,04
  MODIFICATION -  50,51,52,53,54
**********************************************
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T1 HUD-FIA FLOOD INSURANCE STUDIES  H-3970  WILLIAMS & WORKS  PRS   AUG,1980
T2 VILLAGE OF DUNDEE     RIVER RAISIN
T3       RIVER RAISIN      -DUNDEE: 100-YEAR FLOOD + FLOODWAY CONDITIONS
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	6.	0.	0.	.000000	.00	.0	0.	647.600	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1.000	.000	-1.000	.000	.000	1.300	.000	.000	.000	.000

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	150.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

NC	.085	.085	.035	.100	.300	.000	.000	.000	.000	.000
NT	5.000	6700.000	9200.000	10100.000	12500.000	10100.000	.000	.000	.000	.000
NH	5.000	.100	176.000	.065	788.000	.100	1091.000	.035	1202.500	.110
NH	1268.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	530.000	1257.000

CROSS SECTION A

X1	115.970	52.000	1091.000	1202.500	1040.000	1040.000	1030.000	.000	.000	.000
GR	654.900	.000	651.500	18.000	648.800	48.000	647.400	82.000	647.100	130.000
GR	646.700	176.000	646.000	192.000	646.600	202.000	646.200	238.000	646.400	272.000
GR	645.400	308.000	645.800	350.000	645.600	388.000	645.000	450.000	644.800	506.000
GR	644.500	556.000	644.000	584.000	642.800	610.000	642.600	642.000	642.800	684.000
GR	643.200	716.000	644.200	746.000	644.200	788.000	643.400	820.000	643.300	860.000
GR	643.200	896.000	644.600	934.000	645.400	970.000	646.000	1004.000	645.600	1036.000
GR	645.800	1058.000	645.500	1072.000	634.900	1091.000	634.400	1092.000	632.600	1097.000
GR	632.700	1102.000	632.400	1112.000	632.600	1122.000	632.600	1132.000	632.900	1142.000
GR	632.400	1152.000	632.400	1162.000	632.500	1172.000	632.500	1182.000	633.400	1192.000
GR	633.900	1197.000	634.800	1202.000	634.900	1202.500	643.800	1225.000	643.800	1240.000
GR	645.800	1254.000	654.900	1268.000	.000	.000	.000	.000	.000	.000
NH	5.000	.110	68.000	.065	732.000	.100	964.000	.035	1068.000	.100
NH	1280.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION B

X1	116.650	57.000	964.000	1068.000	690.000	690.000	680.000	.000	.000	.000
X3	.000	.000	.000	675.000	.000	.000	.000	.000	.000	.000
GR	655.000	.000	652.700	24.000	650.200	50.000	649.300	68.000	648.800	110.000
GP	648.200	160.000	649.000	194.000	648.900	226.000	648.400	262.000	648.100	304.000
GR	648.200	346.000	648.100	374.000	647.800	414.000	647.800	454.000	648.000	484.000
GP	647.600	532.000	647.900	578.000	647.600	616.000	646.600	660.000	645.800	698.000
GR	645.200	732.000	644.000	766.000	643.800	800.000	642.900	842.000	641.600	876.000
GR	641.600	904.000	641.800	922.000	639.400	934.000	639.200	952.000	635.000	964.000
GR	634.000	967.000	633.900	972.000	633.500	977.000	633.500	982.000	633.700	987.000
GR	633.900	992.000	633.500	997.000	633.700	1002.000	633.900	1007.000	633.700	1012.000
GR	633.900	1017.000	634.000	1022.000	633.600	1032.000	632.800	1042.000	632.800	1047.000
GP	632.900	1052.000	632.900	1057.000	632.600	1062.000	633.200	1067.000	635.000	1068.000
GR	642.300	1080.000	642.400	1116.000	643.400	1164.000	644.000	1210.000	644.600	1240.000
GR	645.400	1260.000	655.000	1280.000	.000	.000	.000	.000	.000	.000
NH	4.000	.065	970.000	.100	1113.500	.035	1192.500	.100	1231.500	.000

CROSS SECTION C

X1	117.360	41.000	1113.500	1192.500	720.000	720.000	710.000	.000	.000	.000
X3	.000	.000	.000	905.000	.000	.000	.000	.000	.000	.000
GP	655.500	.000	650.200	12.000	650.600	48.000	651.200	102.000	651.000	162.000
GR	650.800	214.000	650.600	260.000	650.300	318.000	649.400	384.000	648.600	440.000
GP	648.900	496.000	649.100	538.000	648.300	582.000	646.000	618.000	644.000	658.000
GR	642.600	708.000	643.000	748.000	643.200	806.000	643.000	846.000	642.400	876.000
GR	643.000	924.000	643.200	970.000	643.800	1006.000	644.800	1042.000	645.200	1076.000
GP	643.200	1088.000	641.800	1100.000	635.500	1113.500	634.500	1115.000	633.700	1120.000
GR	633.500	1125.000	633.300	1130.000	633.100	1140.000	633.100	1150.000	633.000	1160.000
GR	632.700	1170.000	632.700	1180.000	633.200	1185.000	634.400	1190.000	635.500	1192.500
GR	662.400	1231.500	.000	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

X1	117.600	.000	.000	.000	300.000	300.000	290.000	.000	.000	.000
X3	.000	.000	.000	1005.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM EMBANKMENT

X1	117.700	.000	.000	.000	50.000	50.000	50.000	.000	-.300	.000
X3	.000	.000	.000	1020.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.730	50.000	1074.000	1318.000	40.000	40.000	30.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
GR	664.100	.000	663.800	112.000	663.400	272.000	663.200	412.000	662.800	520.000
GR	663.000	614.000	663.000	724.000	663.400	830.000	663.200	932.000	663.600	998.000
GR	662.700	1069.000	657.900	1074.000	644.700	1075.000	644.600	1079.000	643.500	1089.000
GR	642.200	1099.000	641.300	1109.000	641.400	1119.000	641.900	1129.000	641.600	1139.000
GR	642.300	1149.000	641.900	1159.000	641.100	1169.000	641.300	1179.000	640.800	1189.000
GR	640.500	1199.000	637.300	1209.000	635.700	1214.000	634.300	1219.000	634.900	1224.000
GR	634.100	1229.000	633.400	1234.000	632.300	1239.000	632.600	1244.000	632.400	1249.000
GR	632.700	1254.000	632.700	1259.000	633.000	1269.000	633.700	1274.000	633.900	1279.000
GR	634.400	1289.000	635.700	1294.000	646.400	1309.000	651.000	1317.000	658.200	1318.000
GR	662.700	1322.800	664.400	1404.000	665.000	1508.000	665.400	1584.000	665.800	1658.000

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

X1	117.740	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
X2	.000	.000	.000	657.000	664.000	.000	.000	.000	.000	.000
X4	12.000	641.500	1118.000	658.200	1118.000	658.300	1124.000	641.700	1124.000	641.400
X4	1166.000	658.400	1166.000	658.400	1173.000	641.200	1173.000	634.300	1286.000	658.500
X4	1286.000	658.500	1293.000	635.500	1293.000	.000	.000	.000	.000	.000
NH	3.000	.105	1073.000	.035	1157.500	.110	1163.000	.000	.000	.000

CROSS SECTION AT UPSTREAM EMBANKMENT

X1	117.770	43.000	1073.000	1157.500	40.000	40.000	30.000	.000	.000	.000
X3	.000	.000	.000	965.000	.000	.000	.000	.000	.000	.000
GR	655.700	.000	653.800	30.000	653.800	64.000	654.400	108.000	654.000	146.000
GR	654.400	196.000	653.400	232.000	653.200	260.000	652.400	274.000	651.600	314.000
GR	650.800	338.000	650.600	384.000	649.600	430.000	649.000	472.000	648.100	500.000
GR	646.600	536.000	645.600	576.000	642.500	612.000	638.300	622.000	639.000	650.000
GR	641.000	690.000	642.200	730.000	643.000	782.000	642.800	834.000	641.800	896.000
GR	641.200	944.000	642.000	982.000	643.400	1010.000	642.700	1040.000	635.700	1073.000
GR	635.400	1075.000	634.300	1080.000	633.000	1085.000	632.700	1090.000	632.300	1100.000
GR	632.400	1110.000	632.500	1120.000	632.800	1130.000	633.100	1140.000	633.400	1150.000
GR	635.700	1157.500	641.700	1163.000	655.000	1200.000	.000	.000	.000	.000

CROSS SECTION D

X1	117.840	.000	.000	.000	80.000	80.000	70.000	.000	.000	.000
X3	.000	.000	.000	900.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	4.000	.105	413.000	.035	545.000	.105	732.000	.060	806.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	52.000	650.000

CROSS SECTION E

X1	118.700	41.000	413.000	545.000	870.000	870.000	860.000	.000	.000	.000
GR	655.900	.000	655.500	32.000	649.000	56.000	644.200	90.000	641.800	122.000
GR	640.600	154.000	639.000	176.000	639.600	204.000	644.600	220.000	644.600	266.000
GR	645.200	326.000	645.000	402.000	635.900	413.000	635.800	414.000	635.600	417.000
GR	635.300	422.000	635.200	427.000	635.100	432.000	635.100	437.000	634.800	442.000
GR	634.900	447.000	635.000	452.000	634.200	457.000	633.900	462.000	634.000	472.000
GR	633.900	482.000	633.800	492.000	633.800	502.000	633.900	512.000	634.000	522.000
GR	634.400	532.000	634.700	542.000	635.900	545.000	643.700	555.000	645.200	572.000
GR	645.400	606.000	644.900	644.000	643.400	702.000	654.200	732.000	655.500	780.000
GR	655.800	806.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.105	392.000	.035	491.500	.105	513.000	.120	1060.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	32.000	515.000

CROSS SECTION F

X1	119.440	36.000	392.000	491.500	750.000	750.000	740.000	.000	.000	.000
GR	655.900	.000	650.500	32.000	641.800	62.000	640.200	126.000	640.000	180.000
GR	641.000	238.000	641.800	272.000	644.400	302.000	642.800	354.000	644.600	384.000
GR	635.900	392.000	634.700	394.000	633.600	399.000	633.300	404.000	633.800	409.000
GR	634.100	414.000	635.500	424.000	633.300	434.000	633.200	444.000	633.200	454.000
GR	634.100	464.000	633.900	474.000	634.700	484.000	635.900	491.500	648.600	513.000
GR	648.200	526.000	649.600	562.000	650.600	620.000	649.800	684.000	650.600	728.000
GR	652.000	736.000	652.000	782.000	653.000	844.000	654.200	926.000	655.400	984.000
GR	655.900	1060.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	6.000	.120	142.000	.105	286.000	.035	375.000	.105	394.000	.065
NH	540.000	.150	1128.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	540.000

CROSS SECTION G

X1	120.160	32.000	286.000	375.000	730.000	730.000	720.000	.000	.000	.000
GR	656.200	.000	649.000	30.000	645.000	76.000	644.100	142.000	644.200	212.000
GR	641.200	238.000	639.400	276.000	636.200	286.000	635.300	291.000	635.100	296.000
GR	634.900	306.000	634.700	316.000	634.900	326.000	634.900	336.000	635.000	346.000
GR	635.200	356.000	635.200	366.000	636.200	375.000	646.300	394.000	644.400	430.000
GR	643.900	492.000	648.000	540.000	649.200	600.000	650.400	640.000	652.300	692.000
GR	651.200	738.000	651.800	790.000	652.000	864.000	652.600	956.000	653.800	1028.000
GR	655.400	1100.000	656.200	1128.000	.000	.000	.000	.000	.000	.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	50.000	.000

CROSS SECTION H

X1	120.600	34.000	189.000	289.000	450.000	450.000	440.000	.000	.000	.000
GR	656.700	.000	650.700	14.000	646.300	50.000	644.800	100.000	644.400	150.000
GR	643.600	178.000	639.700	184.000	636.700	189.000	636.200	190.000	635.700	194.000
GR	635.600	204.000	635.500	214.000	635.500	244.000	635.400	254.000	635.400	264.000
GR	635.500	274.000	635.800	284.000	636.700	289.000	644.800	302.000	648.800	350.000
GR	649.400	406.000	649.400	462.000	650.200	526.000	650.500	594.000	650.800	630.000
GR	650.800	676.000	651.200	728.000	651.200	804.000	651.800	838.000	653.000	960.000
GR	654.600	1044.000	655.200	1092.000	656.300	1114.000	656.700	1176.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	.000
NH	5.000	.120	50.000	.105	189.000	.035	289.000	.105	350.000	.150
NH	1176.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	121.080	.000	.000	.000	520.000	460.000	490.000	.000	.200	.000
NC	.085	.085	.040	.000	.000	.000	.000	.000	.000	.000

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

X1	121.130	45.000	246.000	426.500	60.000	60.000	50.000	.000	.000	.000
X4	18.000	652.300	490.000	652.000	550.000	651.700	570.000	651.400	625.000	651.300
X4	655.000	651.200	690.000	651.100	710.000	651.000	760.000	651.100	785.000	651.200
X4	860.000	651.200	870.000	651.400	940.000	652.000	1040.000	653.700	1130.000	654.500
X4	1230.000	654.800	1280.000	655.400	1340.000	657.100	1420.000	.000	.000	.000
GR	664.000	.000	662.200	48.000	660.000	110.000	658.400	178.000	656.600	246.000
GR	637.600	248.500	637.400	251.000	637.200	256.000	637.100	261.000	637.000	266.000
GR	636.700	271.000	636.700	276.000	636.700	286.000	636.500	296.000	636.600	306.000
GR	636.500	316.000	636.300	326.000	636.400	336.000	636.500	346.000	636.500	356.000
GR	637.100	366.000	636.800	376.000	636.500	386.000	636.600	396.000	636.700	406.000
GR	637.300	416.000	636.900	426.000	653.600	426.500	653.800	430.000	652.400	472.000
GR	652.200	530.000	651.400	602.000	651.400	670.000	651.000	740.000	651.200	810.000
GR	651.200	890.000	651.800	974.000	652.200	1060.000	653.700	1106.000	653.200	1118.000
GR	654.200	1178.000	654.600	1266.000	655.500	1358.000	657.200	1402.000	657.700	1758.000
SB	.900	1.500	2.500	.000	22.000	5.000	936.000	.000	636.800	636.800

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

X1	121.190	.000	.000	.000	60.000	60.000	60.000	.000	.000	.000
X2	.000	.000	1.000	650.200	651.000	.000	.000	.000	.000	.000
BT	77.000	246.000	656.600	656.600	246.000	656.600	652.100	248.500	656.600	652.100
BT	251.000	656.500	652.000	256.000	656.400	651.900	261.000	656.400	651.900	266.000
BT	656.300	651.800	271.000	656.200	651.700	276.000	656.100	651.600	286.000	655.900
BT	651.400	296.000	655.800	651.300	306.000	655.600	651.100	316.000	655.400	650.900
BT	326.000	655.300	550.800	336.000	655.100	650.600	346.000	654.900	650.400	356.000
BT	654.800	650.300	366.000	654.600	650.100	326.000	654.400	649.900	386.000	654.300
BT	649.800	396.000	654.100	649.600	406.000	653.900	649.400	416.000	653.800	649.300
BT	426.000	653.600	649.100	426.500	653.600	649.100	426.500	653.600	653.600	430.000

BT	653.800	653.800	472.000	652.400	652.400	490.000	652.300	652.300	490.000	660.000
BT	660.000	530.000	660.000	660.000	550.000	660.000	660.000	550.000	652.000	652.000
BT	570.000	651.700	651.700	570.000	660.000	660.000	602.000	660.000	660.000	625.000
BT	660.000	660.000	625.000	651.400	651.400	655.000	651.300	651.300	655.000	660.000
BT	660.000	670.000	660.000	660.000	690.000	660.000	660.000	690.000	651.200	651.200
BT	710.000	651.000	651.000	710.000	660.000	660.000	740.000	660.000	660.000	760.000
BT	660.000	660.000	760.000	651.000	651.000	785.000	651.100	651.100	810.000	660.000
BT	660.000	860.000	660.000	660.000	860.000	651.200	651.200	870.000	651.200	651.200
BT	890.000	660.000	660.000	940.000	660.000	660.000	940.000	651.400	651.400	974.000
BT	651.800	651.800	1040.000	652.000	652.000	1040.000	660.000	660.000	1060.000	660.000
BT	660.000	1106.000	660.000	660.000	1118.000	660.000	660.000	1130.000	660.000	660.000
BT	1130.000	660.000	660.000	1178.000	660.000	660.000	1230.000	660.000	660.000	1230.000
BT	660.000	660.000	1266.000	660.000	660.000	1280.000	660.000	660.000	1280.000	660.000
BT	660.000	1340.000	660.000	660.000	1340.000	660.000	660.000	1358.000	660.000	660.000
BT	1402.000	660.000	660.000	1420.000	660.000	660.000	1420.000	660.000	660.000	1758.000
BT	660.000	660.000	.000	.000	.000	.000	.000	.000	.000	.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	850.000

CROSS SECTION I

X1	121.240	47.000	239.000	409.000	60.000	60.000	60.000	.000	.000	.000
GR	657.700	.000	656.400	38.000	656.000	88.000	655.800	152.000	654.400	190.000
GR	637.700	239.000	637.500	250.000	637.100	260.000	636.900	270.000	636.700	280.000
GR	636.900	290.000	636.700	300.000	636.500	310.000	636.600	320.000	636.500	330.000
GR	636.200	340.000	636.200	350.000	636.200	360.000	636.500	370.000	636.700	380.000
GR	636.800	390.000	636.900	400.000	637.700	409.000	651.500	443.000	650.900	498.000
GR	650.000	586.000	649.200	610.000	649.200	656.000	649.000	694.000	649.600	726.000
GR	650.000	784.000	650.200	844.000	651.200	872.000	651.200	890.000	651.800	974.000
GR	652.200	1060.000	653.700	1106.000	653.700	1118.000	654.200	1178.000	654.600	1266.000
GR	655.500	1358.000	657.200	1402.000	657.200	1416.000	657.200	1514.000	657.200	1640.000
GR	657.200	1718.000	657.700	1758.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	195.000	720.000
NH	4.000	.095	239.000	.035	409.000	.085	443.000	.200	1758.000	.000

CROSS-SECTION DOWNSTREAM OF DAM

X1	121.400	.000	.000	.000	200.000	200.000	150.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	780.000
NH	4.000	.085	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION AT DAM

X1	121.440	33.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
X4	1.000	644.400	268.000	.000	.000	.000	.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.900	548.000	650.600	580.000
GR	651.000	678.000	651.500	700.000	654.000	752.000	651.200	822.000	652.600	870.000
GR	652.600	910.000	652.200	924.000	652.400	934.000	652.400	960.000	652.700	1000.000
GR	654.000	1046.000	654.700	1084.000	656.200	1130.000	657.400	1168.000	657.000	1192.000

GR	658.500	1242.000	660.200	1268.000	660.200	1286.000	660.600	1316.000	663.200	1320.000
GR	663.600	1346.000	664.000	1374.000	664.500	1398.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	240.000	780.000
NH	4.000	.095	268.000	.035	548.000	.085	580.000	.200	1398.000	.000

CROSS SECTION UPSTREAM OF DAM

X1	121.500	60.000	268.000	548.000	50.000	50.000	50.000	.000	.000	.000
GR	664.500	.000	658.200	88.000	656.400	116.000	656.300	160.000	655.800	210.000
GR	654.200	226.000	652.100	246.000	646.200	252.000	644.500	268.000	638.600	283.000
GR	638.700	293.000	641.200	303.000	641.000	313.000	640.600	323.000	640.000	333.000
GR	639.500	343.000	640.000	353.000	640.500	363.000	640.400	373.000	640.100	383.000
GR	639.800	393.000	639.500	403.000	639.600	413.000	638.500	423.000	638.700	433.000
GP	638.800	443.000	638.800	453.000	639.200	463.000	638.800	473.000	638.500	483.000
GR	639.200	493.000	639.500	503.000	641.100	513.000	642.600	523.000	643.800	533.000
GR	644.500	548.000	650.600	580.000	651.000	678.000	651.500	700.000	651.000	752.000
GR	651.200	822.000	652.600	870.000	652.600	910.000	652.200	924.000	652.400	934.000
GR	652.400	960.000	652.700	1000.000	654.000	1046.000	654.700	1084.000	656.200	1130.000
GR	657.400	1168.000	657.000	1192.000	658.500	1242.000	660.200	1268.000	660.200	1286.000
GR	660.600	1316.000	663.200	1320.000	663.600	1346.000	664.000	1374.000	664.500	1398.000
NH	4.000	.110	115.000	.035	275.000	.065	416.000	.200	1032.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	79.000	420.000

CROSS SECTION J

X1	122.240	54.000	115.000	275.000	760.000	760.000	750.000	.000	.000	.000
GR	664.500	.000	662.700	24.000	661.000	48.000	653.500	78.000	649.400	94.000
GR	648.100	110.000	644.500	115.000	643.500	116.000	642.500	121.000	640.500	126.000
GP	638.800	131.000	637.800	136.000	637.500	141.000	637.300	151.000	637.500	156.000
GR	637.200	166.000	637.500	171.000	637.300	176.000	637.100	181.000	637.500	191.000
GR	637.100	196.000	636.900	201.000	636.800	206.000	637.000	211.000	636.800	216.000
GR	636.800	221.000	637.100	226.000	637.100	231.000	637.300	236.000	636.800	241.000
GP	637.500	246.000	638.100	251.000	638.800	256.000	641.200	261.000	642.800	266.000
GR	643.900	271.000	644.000	273.000	644.500	275.000	647.800	281.000	648.000	350.000
GR	648.400	416.000	649.600	468.000	651.100	498.000	651.400	540.000	652.000	598.000
GR	652.400	620.000	652.000	686.000	653.400	772.000	654.600	814.000	655.800	864.000
GR	656.300	918.000	659.200	942.000	661.600	990.000	664.500	1032.000	.000	.000
NH	3.000	.105	365.000	.035	535.500	.110	736.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	110.000	540.000

CROSS SECTION K

X1	122.870	49.000	365.000	535.500	640.000	640.000	630.000	.000	.000	.000
GR	664.500	.000	663.000	20.000	654.900	54.000	649.500	94.000	646.600	148.000
GR	644.800	180.000	645.000	194.000	645.900	230.000	644.800	264.000	645.400	302.000
GR	647.000	354.000	644.500	365.000	644.200	367.000	643.800	372.000	643.200	377.000
GR	642.300	382.000	642.000	387.000	641.300	392.000	639.100	397.000	637.700	402.000
GR	637.700	412.000	637.300	417.000	637.500	422.000	637.600	427.000	637.300	432.000
GR	637.500	437.000	637.500	442.000	637.400	447.000	637.400	452.000	637.500	457.000
GP	637.400	462.000	637.400	477.000	637.500	482.000	637.500	487.000	637.700	497.000
GR	637.900	507.000	638.000	512.000	638.300	517.000	639.200	522.000	640.300	527.000

GR	641.500	532.000	644.500	535.500	649.100	547.000	650.400	558.000	652.200	582.000
GR	658.000	606.000	662.700	634.000	664.200	668.000	664.600	736.000	.000	.000
NH	3.000	.105	643.000	.035	785.000	.075	1000.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	250.000	910.000

CROSS SECTION L

MI	123.390	53.000	643.000	785.000	530.000	530.000	520.000	.000	.000	.000
GR	664.500	.000	664.100	36.000	663.900	92.000	663.400	132.000	661.500	154.000
GR	653.500	184.000	650.400	224.000	648.600	262.000	647.200	306.000	646.400	356.000
GR	645.000	416.000	644.800	478.000	645.600	534.000	647.300	590.000	648.500	634.000
GR	644.500	643.000	642.200	644.000	640.900	649.000	640.000	654.000	639.700	659.000
GR	639.500	664.000	638.900	669.000	638.500	674.000	638.200	679.000	637.600	684.000
GR	637.500	689.000	637.200	694.000	636.900	699.000	636.600	704.000	636.500	709.000
GR	636.500	714.000	636.300	719.000	636.200	724.000	636.000	729.000	636.600	734.000
GR	636.300	739.000	637.000	744.000	637.100	749.000	637.100	754.000	639.000	759.000
GR	639.700	764.000	641.200	769.000	642.600	774.000	643.900	779.000	644.400	784.000
GR	644.900	785.000	647.500	819.000	645.500	840.000	647.100	874.000	648.400	908.000
GR	655.000	944.000	661.000	976.000	664.600	1000.000	.000	.000	.000	.000
NH	5.000	.065	768.000	.105	954.000	.035	1085.000	.105	1328.000	.065
NH	1518.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	9.100	.000	.000	375.000	1310.000

CROSS SECTION M

MI	124.070	55.000	954.000	1085.000	690.000	690.000	680.000	.000	.000	.000
GR	664.600	.000	658.600	22.000	655.400	88.000	654.700	196.000	652.400	290.000
GR	651.400	400.000	650.600	460.000	650.100	542.000	648.400	624.000	647.800	706.000
GR	647.100	768.000	646.800	826.000	646.800	878.000	648.900	924.000	644.600	954.000
GR	642.900	959.000	640.300	964.000	639.500	969.000	639.000	974.000	638.100	979.000
GR	637.000	984.000	636.200	989.000	635.700	994.000	635.600	999.000	635.600	1004.000
GR	635.600	1009.000	636.000	1014.000	636.600	1019.000	636.900	1024.000	637.400	1029.000
GR	637.800	1034.000	638.300	1039.000	638.800	1044.000	639.000	1049.000	639.500	1054.000
GR	640.300	1059.000	642.700	1064.000	641.100	1069.000	641.500	1074.000	642.800	1079.000
GP	644.300	1084.000	644.600	1085.000	647.600	1089.000	645.800	1124.000	646.200	1194.000
GR	648.000	1254.000	647.500	1294.000	649.000	1328.000	656.400	1356.000	660.700	1368.000
GR	663.800	1394.000	664.200	1430.000	664.400	1496.000	663.400	1508.000	664.600	1518.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .100 CEHV= .300
1490 NH CARD USED
+SECNO 115.970

3470 ENCROACHMENT STATIONS= 530.0 1257.0 TYPE= 1 TARGET= 727.000
CROSS SECTION A

115.97	15.20	647.60	.00	.00	647.89	.29	.00	.00	634.90
10100.	1868.	7991.	241.	2065.	1651.	284.	0.	0.	634.90
.00	.90	4.84	.65	.101	.045	.143	.000	632.40	530.00
.000608	1040.	1030.	1040.	0	0	0	.00	726.77	1256.77

1490 NH CARD USED
*SECNO 116.650

3470 ENCROACHMENT STATIONS= 675.0 1280.0 TYPE= 1 TARGET= -675.000
CROSS SECTION B

116.65	15.43	648.03	.00	.00	648.35	.32	.45	.01	635.00
10100.	1464.	7792.	844.	1450.	1509.	940.	62.	10.	635.00
.05	1.01	5.16	.90	.122	.045	.130	.045	632.60	675.00
.000718	690.	680.	690.	0	0	0	.00	590.45	1265.45

1490 NH CARD USED
*SECNO 117.360

3470 ENCROACHMENT STATIONS= 905.0 1231.5 TYPE= 1 TARGET= -905.000
CROSS SECTION C

117.36	15.76	648.46	.00	.00	649.11	.65	.66	.10	635.50
10100.	1498.	8452.	150.	1054.	1200.	122.	114.	18.	635.50
.08	1.42	7.04	1.23	.110	.045	.130	.045	632.70	905.00
.001251	720.	710.	720.	2	0	0	.00	306.29	1211.29

*SECNO 117.600

3470 ENCROACHMENT STATIONS= 1005.0 1231.5 TYPE= 1 TARGET= -1005.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
	CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT								
117.60	16.04	648.74	.00	.00	649.54	.80	.38	.05	635.50
10100.	743.	9190.	168.	558.	1223.	127.	128.	20.	635.50
.09	1.33	7.51	1.32	.130	.045	.130	.045	632.70	1005.00
.001390	300.	290.	300.	1	0	0	.00	206.70	1211.70

CCHV= .300 CEHV= .500

*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000

CROSS SECTION AT DOWNSTREAM EMBANKMENT

649.82
649.52
.30

117.70	16.49	648.89	.00	.00	649.63	.73	.07	.02	635.20
10100.	814.	9082.	203.	529.	1258.	136.	130.	20.	635.20
.09	1.54	7.32	1.50	.110	.045	.110	.045	632.40	1020.00
.001235	50.	50.	50.	2	0	0	.00	192.35	1212.35

*SECNO 117.730

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	17.22	649.52	.00	.00	649.80	.28	.04	.14	657.90
10100.	0.	10100.	0.	0.	2375.	0.	132.	20.	658.20
.09	.00	4.25	.00	.110	.045	.110	.045	632.30	1074.63
.001350	40.	30.	40.	2	0	0	.00	230.48	1314.43

*SECNO 117.740

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	HACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE.NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00

CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE

NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.74	17.24	649.54	.00	.00	649.82	.28	.02	.00	657.90
10100.	0.	10100.	0.	0.	2378.	0.	133.	20.	658.20
.09	.00	4.25	.00	.110	.045	.110	.045	632.30	1074.63
.002000	10.	10.	10.	0	0	0	.00	230.51	1314.45

1490 NH CARD USED
+SECNO 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	17.09	649.39	.00	.00	650.02	.63	.03	.18	635.70
10100.	862.	9183.	55.	843.	1375.	59.	134.	20.	635.70
.10	1.02	6.68	.94	.136	.079	.143	.045	632.30	965.00
.000590	40.	30.	40.	2	0	0	.00	219.40	1184.40

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	17.27	649.57	.00	.00	650.09	.53	.04	.03	635.70
10100.	1347.	8700.	53.	1389.	1390.	60.	139.	21.	635.70
.10	.97	6.26	.89	.136	.079	.143	.045	632.30	900.00
.000511	80.	70.	80.	2	0	0	.00	284.88	1184.88

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700

3470 ENCROACHMENT STATIONS= 52.0 650.0 TYPE= 1 TARGET= 598.000
CROSS SECTION E

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	aLOB	HaCH	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
118.70	16.51	650.31	.00	.00	650.48	.18	.35	.04	635.90
10100.	1802.	7919.	379.	2415.	2099.	604.	218.	29.	635.90
.18	.75	3.77	.63	.137	.045	.136	.045	633.80	52.00
.000335	820.	860.	820.	2	0	0	.00	598.00	650.00

1490 NH CARD USED
*SECNO 119.440

3470 ENCROACHMENT STATIONS= 32.0 515.0 TYPE= 1 TARGET= 483.000
CROSS SECTION E

119.44	17.36	650.56	.00	.00	650.76	.20	.28	.01	635.90
10100.	2905.	7047.	148.	3078.	1644.	183.	304.	39.	635.90
.24	.94	4.29	.81	.136	.045	.137	.045	633.20	32.00
.000415	750.	740.	750.	2	0	0	.00	483.00	515.00

1490 NH CARD USED
*SECNO 120.160

3470 ENCROACHMENT STATIONS= 50.0 540.0 TYPE= 1 TARGET= 490.000
CROSS SECTION G

120.16	16.17	650.87	.00	.00	651.14	.27	.35	.02	636.20
10100.	1762.	6965.	1373.	1755.	1404.	1034.	379.	47.	636.20
.29	1.00	4.96	1.33	.141	.046	.092	.045	634.70	50.00
.000585	730.	720.	730.	2	0	0	.00	490.00	540.00

1490 NH CARD USED
*SECNO 120.600

3470 ENCROACHMENT STATIONS= 50.0 1176.0 TYPE= 1 TARGET= -50.000
CROSS SECTION H

120.60	15.66	651.06	.00	.00	651.48	.43	.30	.05	636.70
10100.	966.	8706.	428.	916.	1548.	699.	417.	53.	636.70
.32	1.05	5.63	.61	.136	.045	.149	.045	635.40	50.00
.000772	450.	440.	450.	2	0	0	.00	659.16	709.16

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .300 CEHV= .500
1490 NH CARD USED
*SECNO 121.080

3470 ENCROACHMENT STATIONS=		110.0	1176.0	TYPE=	1	TARGET=	-110.000		
121.08	15.82	651.42	.00	.00	651.88	.45	.38	.01	636.90
10100.	662.	8967.	471.	591.	1564.	774.	451.	60.	636.90
.34	1.12	5.73	.61	.136	.045	.151	.045	635.60	110.00
.000790	520.	490.	460.	2	0	0	.00	697.35	807.35

*SECNO 121.130

3265 DIVIDED FLOW

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

121.13	15.47	651.77	.00	.00	651.98	.22	.03	.07	656.60
10100.	0.	10057.	43.	0.	2688.	200.	455.	61.	653.60
.35	.00	3.74	.21	.110	.052	.110	.045	636.30	246.64
.000561	60.	50.	60.	2	0	0	.00	585.41	971.16

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190

3265 DIVIDED FLOW

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
654.48	652.00	.01	1716.	8396.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
121.19	17.19	653.49	.00	.00	653.64	.15	1.66	.00	656.60
10100.	0.	9613.	487.	0.	2998.	1203.	460.	62.	653.60
.35	.00	3.21	.40	.110	.052	.110	.045	636.30	246.41
.000364	60.	60.	60.	2	0	2	.00	840.28	1099.53

1490 NH CARD USED
+SECNO 121.240

3470 ENCROACHMENT STATIONS= 195.0 850.0 TYPE= 1 TARGET= 655.000
CROSS SECTION I

121.24	17.31	653.51	.00	.00	653.66	.15	.02	.00	637.70
10100.	262.	9291.	546.	366.	2851.	1733.	466.	63.	637.70
.36	.72	3.26	.32	.123	.045	.191	.045	636.20	195.00
.000232	60.	60.	60.	1	0	0	.00	655.00	850.00

CCHV= .100 CEHV= .300
1490 NH CARD USED
+SECNO 121.400

3470 ENCROACHMENT STATIONS= 195.0 720.0 TYPE= 1 TARGET= 525.000
CROSS SECTION DOWNSTREAM OF DAM

121.40	17.34	653.54	.00	.00	653.70	.16	.04	.00	637.70
10100.	265.	9377.	458.	367.	2855.	1279.	484.	65.	637.70
.37	.72	3.28	.36	.123	.045	.176	.046	636.20	195.00
.000235	200.	150.	200.	2	0	0	.00	525.00	720.00

1490 NH CARD USED
+SECNO 121.440

3470 ENCROACHMENT STATIONS= 240.0 780.0 TYPE= 1 TARGET= 540.000
CROSS SECTION AT DAM

121.44	9.12	653.52	.00	.00	653.73	.20	.02	.01	644.40
10100.	210.	9529.	361.	164.	2555.	698.	489.	66.	644.40
.38	1.28	3.73	.52	.110	.045	.168	.046	644.40	240.00
.000684	50.	50.	50.	2	0	0	.00	540.00	780.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	TOC	ICONT	CORAR	TOPWID	ENDST

1490 NH CARD USED
*SECNO 121.500

3470 ENCROACHMENT STATIONS= 240.0 780.0 TYPE= 1 TARGET= 540.000
CROSS SECTION UPSTREAM OF DAM

121.50	15.15	653.65	.00	.00	653.76	.10	.02	.01	644.50
10100.	103.	9794.	203.	167.	3780.	726.	494.	67.	644.50
.38	.62	2.59	.28	.123	.045	.170	.046	638.50	240.00
.000198	50.	50.	50.	2	0	0	.00	540.00	780.00

1490 NH CARD USED
*SECNO 122.240

3470 ENCROACHMENT STATIONS= 79.0 420.0 TYPE= 1 TARGET= 341.000
CROSS SECTION J

122.24	16.98	653.78	.00	.00	653.97	.19	.19	.03	644.50
10100.	81.	9156.	862.	155.	2473.	841.	564.	74.	644.50
.44	.53	3.70	1.02	.143	.045	.085	.046	636.80	79.00
.000341	760.	750.	760.	2	0	0	.00	341.00	420.00

1490 NH CARD USED
*SECNO 122.870

3470 ENCROACHMENT STATIONS= 110.0 540.0 TYPE= 1 TARGET= 430.000
CROSS SECTION K

122.87	16.73	654.03	.00	.00	654.17	.15	.19	.00	644.50
10100.	1520.	8566.	14.	2079.	2592.	39.	623.	80.	644.50
.50	.73	3.30	.37	.136	.045	.143	.047	637.30	110.00
.000277	640.	630.	640.	2	0	0	.00	430.00	540.00

1490 NH CARD USED
*SECNO 123.390

3470 ENCROACHMENT STATIONS= 250.0 910.0 TYPE= 1 TARGET= 660.000
CROSS SECTION I

123.39	18.20	654.20	.00	.00	654.31	.11	.14	.00	644.50
10100.	2118.	7112.	870.	3078.	2221.	938.	690.	87.	644.50
.56	.69	3.20	.93	.136	.045	.097	.047	636.00	250.00
.000253	530.	520.	530.	0	0	0	.00	660.00	910.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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

1490 NH CARD USED
+SECNO 124.070

3470 ENCROACHMENT STATIONS= 375.0 1310.0 TYPE= 1 TARGET= 935.000
CROSS SECTION M

124.07	18.78	654.38	.00	.00	654.49	.10	.17	.00	644.60
10100.	2541.	6450.	1109.	3325.	2036.	1695.	794.	99.	644.60
.64	.76	3.17	.65	.102	.045	.137	.048	635.60	375.00
.000249	690.	680.	690.	0	0	0	.00	935.00	1310.00

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: 500 yr.

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
  ERROR CORR -  01,02,03,04
  MODIFICATION -  50,51,52,53,54
**************************************************

T1 HUD-FIA FLOOD INSURANCE STUDIES  H-3970  WILLIAMS & WORKS  PRS   AUG,1980
T2 VILLAGE OF DUNDEE    RIVER RAISIN
T3      RIVER RAISIN     -DUNDEE: 500-YEAR FLOOD + EXISTING CONDITIONS

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.       5.        0.        0.   ,000000       ,00       ,0        0.   648.500      ,000
J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
   15,000       ,000    -1,000       ,000      ,000     1,300      ,000      ,000      ,000      ,000
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 4

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 115.970
CROSS SECTION A

115.97	16.10	648.50	.00	648.50	648.77	.27	.00	.00	634.90
12500.	3536.	8665.	299.	3738.	1751.	334.	0.	0.	634.90
.00	.95	4.95	.89	.098	.045	.143	.000	632.40	55.29
.000588	1040.	1030.	1040.	0	0	0	.00	1202.87	1258.15

1490 NH CARD USED
*SECNO 116.650

3470 ENCROACHMENT STATIONS= 675.0 1280.0 TYPE= 1 TARGET= -675.000
CROSS SECTION B

116.65	16.29	648.89	.00	.00	649.28	.39	.48	.04	635.00
12500.	2031.	9277.	1192.	1703.	1601.	1114.	81.	14.	635.00
.04	1.19	5.80	1.07	.126	.045	.130	.045	632.60	675.00
.000837	690.	680.	690.	1	0	0	.00	592.28	1267.28

1490 NH CARD USED
*SECNO 117.360

3470 ENCROACHMENT STATIONS= 905.0 1231.5 TYPE= 1 TARGET= -905.000
CROSS SECTION C

117.36	16.67	649.37	.00	.00	650.19	.82	.78	.13	635.50
12500.	2127.	10176.	197.	1243.	1272.	139.	139.	22.	635.50
.07	1.71	8.00	1.41	.111	.045	.130	.045	632.70	905.00
.001494	720.	710.	720.	2	0	0	.00	307.61	1212.61

*SECNO 117.600

3470 ENCROACHMENT STATIONS= 1005.0 1231.5 TYPE= 1 TARGET= -1005.000
CROSS SECTION 50 FEET DOWNSTREAM OF EMBARKMENT

117.60	16.97	649.67	.00	.00	650.72	1.05	.46	.07	635.50
12500.	1064.	11213.	223.	659.	1296.	146.	155.	23.	635.50
.08	1.61	8.65	1.53	.130	.045	.130	.045	632.70	1005.00
.001705	300.	290.	300.	2	0	0	.00	208.05	1213.05

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .300 CEHV= .500
*SECNO 117.700

3470 ENCROACHMENT STATIONS= 1020.0 1231.5 TYPE= 1 TARGET= -1020.000
CROSS SECTION AT DOWNSTREAM EMBANKMENT

117.70	17.49	649.88	.00	.00	650.83	.95	.08	.03	635.20
12500.	1148.	11082.	270.	620.	1336.	156.	157.	24.	635.20
.08	1.85	8.30	1.73	.110	.045	.110	.045	632.40	1020.00
.001506	50.	50.	50.	2	0	0	.00	193.78	1213.78

*SECNO 117.730

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT DOWNSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE
NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

117.73	18.41	650.71	.00	.00	651.06	.34	.05	.18	657.90
12500.	0.	12500.	0.	0.	2653.	0.	159.	24.	658.20
.08	.00	4.71	.00	.110	.045	.110	.045	632.30	1074.54
.001528	40.	30.	40.	2	0	0	.00	233.91	1316.51

*SECNO 117.740

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 0 MIN ELTRD= 664.00 MAX ELLC= 657.00
CROSS SECTION AT UPSTREAM FACE OF ANN ARBOR RAILROAD BRIDGE
NOTE:DIVIDED FLOW DUE TO PIERS (PIERS CODED ON X4 CARDS)

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
117.74	18.43	650.73	.00	.00	651.08	.34	.02	.00	657.90
12500.	0.	12500.	0.	0.	2655.	0.	160.	24.	658.20
.08	.00	4.71	.00	.110	.045	.110	.045	632.30	1074.54
.002312	10.	10.	10.	0	0	0	.00	233.94	1316.53

1490 NH CARD USED
*SECNO 117.770

3470 ENCROACHMENT STATIONS= 965.0 1200.0 TYPE= 1 TARGET= -965.000
CROSS SECTION AT UPSTREAM EMBANKMENT

117.77	18.23	650.53	.00	.00	651.35	.82	.04	.24	635.70
12500.	1174.	11255.	72.	966.	1471.	65.	162.	24.	635.70
.09	1.22	7.65	1.10	.136	.079	.143	.045	632.30	965.00
.000707	40.	30.	40.	2	0	0	.00	222.57	1187.57

*SECNO 117.840

3470 ENCROACHMENT STATIONS= 900.0 1200.0 TYPE= 1 TARGET= -900.000
CROSS SECTION D

117.84	18.47	650.77	.00	.00	651.44	.67	.05	.05	635.70
12500.	1829.	10602.	68.	1598.	1492.	66.	166.	24.	635.70
.09	1.15	7.11	1.03	.136	.079	.143	.045	632.30	900.00
.000599	80.	70.	80.	2	0	0	.00	288.25	1188.25

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 118.700
CROSS SECTION E

118.70	17.89	651.69	.00	.00	651.87	.19	.38	.05	635.90
12500.	2434.	9160.	907.	2919.	2281.	1240.	262.	34.	635.90
.16	.83	4.02	.73	.136	.045	.136	.045	633.80	46.08
.000340	870.	860.	870.	2	0	0	.00	678.93	725.02

1490 NH CARD USED
*SECNO 119.440

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
	CROSS SECTION F								
119.44	18.74	651.94	.00	.00	652.17	.23	.29	.01	635.90
12500.	3827.	8322.	351.	3581.	1781.	664.	369.	46.	635.90
.22	1.07	4.67	.53	.136	.045	.145	.045	633.20	23.46
.000443	750.	740.	750.	2	0	0	.00	712.20	735.66

1490 NH CARD USED
*SECNO 120.160

3265 DIVIDED FLOW

	CROSS SECTION G								
120.16	17.57	652.27	.00	.00	652.55	.28	.37	.02	636.20
12500.	2379.	8029.	2092.	2191.	1529.	1730.	464.	59.	636.20
.28	1.09	5.25	1.21	.142	.046	.099	.045	634.70	16.37
.000585	730.	720.	730.	2	0	0	.00	887.30	905.64

1490 NH CARD USED
*SECNO 120.600

	CROSS SECTION H								
120.60	17.04	652.44	.00	.00	652.91	.46	.30	.05	636.70
12500.	1454.	10177.	868.	1255.	1686.	1494.	515.	69.	636.70
.30	1.16	6.03	.58	.138	.045	.163	.045	635.40	9.93
.000792	450.	440.	450.	2	0	0	.00	916.75	926.68

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 121.080

121.08	17.25	652.85	.00	.00	653.29	.44	.38	.01	636.90
12500.	1478.	10093.	929.	1292.	1707.	1627.	566.	79.	636.90
.33	1.14	5.91	.57	.138	.046	.164	.045	635.60	9.45
.000748	520.	490.	460.	2	0	0	.00	929.64	939.09

*SECNO 121.130

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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
121.13	16.83	653.13	.00	.00	653.38	.25	.03	.06	656.60
12500.	0.	12046.	454.	0.	2934.	970.	571.	80.	653.60
.33	.00	4.11	.47	.110	.052	.110	.045	636.30	246.46
.000612	60.	50.	60.	2	0	0	.00	818.52	1088.56

3265 DIVIDED FLOW

CROSS SECTION AT DOWNSTREAM FACE OF M-50 BRIDGE

ROAD PROFILE MODIFIED TO REDUCE CONVEYANCE OVER ROAD (DUE TO BUILDINGS)

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.90	1.50	2.50	.00	72.00	5.00	936.00	.00	636.80	636.80

*SECNO 121.190
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
657.29	653.40	.01	4172.	8395.	936.	931.	650.70	651.00

CROSS SECTION AT UPSTREAM FACE OF M-50 BRIDGE

121.19	18.54	654.84	.00	.00	655.00	.17	1.62	.00	656.60
12500.	0.	11252.	1248.	0.	3241.	2222.	578.	81.	653.60
.34	.00	3.47	.56	.110	.052	.110	.045	636.30	246.23
.000388	60.	60.	60.	2	0	2	.00	1037.33	1283.57

1490 NH CARD USED
*SECNO 121.240
CROSS SECTION I

121.24	18.65	654.85	.00	.00	655.03	.18	.02	.01	637.70
12500.	343.	11134.	1023.	434.	3079.	3209.	586.	83.	637.70
.34	.79	3.62	.32	.123	.045	.211	.045	636.20	177.60
.000258	60.	60.	60.	1	0	0	.00	1114.67	1292.27

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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= .100 CEHV= .300
1490 NH CARD USED
*SECNO 121.400
CROSS SECTION DOWNSTREAM OF DAM

121.40	18.69	654.89	.00	.00	655.07	.18	.04	.00	637.70
12500.	344.	11124.	1032.	437.	3086.	3246.	614.	88.	637.70
.36	.79	3.60	.32	.123	.045	.211	.046	636.20	176.46
.000255	200.	150.	200.	1	0	0	.00	1120.07	1296.53

1490 NH CARD USED
*SECNO 121.440
CROSS SECTION AT DAM

121.44	10.48	654.88	.00	.00	655.10	.22	.02	.01	644.40
12500.	278.	11461.	761.	225.	2935.	1714.	620.	89.	644.40
.36	1.24	3.90	.44	.110	.045	.202	.046	644.40	219.18
.000623	50.	50.	50.	2	0	0	.00	870.40	1089.58

1490 NH CARD USED
*SECNO 121.500
CROSS SECTION UPSTREAM OF DAM

121.50	16.51	655.01	.00	.00	655.13	.12	.02	.01	644.50
12500.	148.	11887.	465.	230.	4158.	1779.	627.	90.	644.50
.37	.64	2.86	.26	.123	.045	.203	.046	638.50	217.94
.000212	50.	50.	50.	2	0	0	.00	875.43	1093.37

1490 NH CARD USED
*SECNO 122.240
CROSS SECTION J

122.24	18.34	655.14	.00	.00	655.36	.22	.20	.03	644.50
12500.	129.	10770.	1601.	211.	2691.	2361.	725.	104.	644.50
.42	.61	4.00	.68	.143	.045	.124	.046	636.80	71.43
.000356	760.	750.	760.	2	0	0	.00	765.16	836.59

1490 NH CARD USED

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	HACH	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 122.870									
CROSS SECTION K									
122.87	18.10	655.40	.00	.00	655.57	.17	.20	.00	644.50
12500.	2157.	10188.	155.	2659.	2826.	281.	806.	114.	644.50
.48	.81	3.60	.55	.136	.045	.143	.047	637.30	51.90
.000294	640.	630.	640.	2	0	0	.00	543.34	595.24
1490 NH CARD USED									
*SECNO 123.390									
CROSS SECTION L									
123.39	19.59	655.59	.00	.00	655.71	.12	.14	.00	644.50
12500.	2960.	8295.	1245.	3928.	2418.	1239.	886.	122.	644.50
.54	.75	3.43	1.01	.137	.045	.097	.047	636.00	176.20
.000259	530.	520.	530.	1.	0	0	.00	770.89	947.09
1490 NH CARD USED									
*SECNO 124.070									
CROSS SECTION N									
124.07	20.19	655.79	.00	.00	655.88	.10	.17	.00	644.60
12500.	3812.	7133.	1555.	4744.	2219.	2226.	1019.	138.	644.60
.63	.80	3.21	.70	.100	.045	.135	.048	635.60	80.18
.000229	690.	680.	690.	0	0	0	.00	1273.47	1353.65

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Summary

00BREAK00

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HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
ERROR CORR - 01,02,03,04
MODIFICATION - 50,51,52,53,54
****

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

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
115.970	1030.00	.00	.00	632.40	8250.00	646.60	.00	646.85	5.56	4.42	3621.51	3499.58
116.650	680.00	.00	.00	632.60	8250.00	646.99	.00	647.28	6.76	4.77	3288.06	3172.56
117.360	710.00	.00	.00	632.70	8250.00	647.42	.00	647.97	11.29	6.38	2059.57	2454.81
117.600	290.00	.00	.00	632.70	8250.00	647.69	.00	648.34	12.15	6.70	1690.08	2366.71
117.700	50.00	.00	.00	632.40	8250.00	647.83	.00	648.41	10.73	6.42	1718.04	2518.27
117.730	30.00	664.00	657.00	632.30	8250.00	648.31	.00	648.55	12.67	3.93	2099.20	2317.66
117.740	10.00	664.00	657.00	632.30	8250.00	648.33	.00	648.57	18.32	3.93	2101.59	1927.43
117.770	30.00	.00	.00	632.30	8250.00	648.22	.00	648.73	5.16	5.94	2045.31	3633.48
117.840	70.00	.00	.00	632.30	8250.00	648.35	.00	648.79	4.56	5.62	2519.45	3865.33
118.700	860.00	.00	.00	633.80	8250.00	648.99	.00	649.13	3.11	3.43	4630.77	4679.78
119.440	740.00	.00	.00	633.20	8250.00	649.22	.00	649.40	3.95	3.95	4285.09	4151.21
120.160	720.00	.00	.00	634.70	8250.00	649.52	.00	649.77	5.87	4.68	3616.13	3404.35
120.600	440.00	.00	.00	635.40	8250.00	649.72	.00	650.10	7.39	5.19	2510.88	3035.32
121.080	490.00	.00	.00	635.60	8250.00	650.10	.00	650.45	7.05	5.10	2589.04	3107.62
121.130	50.00	.00	.00	636.30	8250.00	650.36	.00	650.54	5.15	3.39	2435.59	3637.04
121.190	60.00	651.00	650.70	636.30	8250.00	650.37	.00	650.55	5.13	3.38	2437.31	3641.09
121.240	60.00	.00	.00	636.20	8250.00	650.40	.00	650.58	3.32	3.40	2978.21	4525.88

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRTWS	EG	10K*S	VCH	AREA	.01K
121.400	150.00	.00	.00	636.20	8250.00	650.45	.00	650.63	3.28	3.39	3007.10	4557.18
121.440	50.00	.00	.00	644.40	8250.00	650.37	.00	650.71	19.81	4.78	1852.27	1853.65
121.500	50.00	.00	.00	638.50	8250.00	650.65	.00	650.77	3.16	2.77	3132.26	4638.61
122.240	750.00	.00	.00	636.80	8250.00	650.87	.00	651.10	5.06	3.92	2589.69	3668.92
122.870	630.00	.00	.00	637.30	8250.00	651.22	.00	651.38	3.96	3.45	3592.73	4144.40
123.390	520.00	.00	.00	636.00	8250.00	651.44	.00	651.59	3.90	3.50	4497.59	4175.76
124.070	680.00	.00	.00	635.60	8250.00	651.71	.00	651.88	4.38	3.70	4629.53	3942.75

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
115.970	8250.00	646.60	.00	.00	.00	1076.95	1030.00
116.650	8250.00	646.99	.00	.39	.00	588.29	680.00
117.360	8250.00	647.42	.00	.43	.00	304.79	710.00
117.600	8250.00	647.69	.00	.27	.00	205.17	290.00
117.700	8250.00	647.83	.00	.13	.00	190.80	50.00
117.730	8250.00	648.31	.00	.49	.00	227.02	30.00
117.740	8250.00	648.33	.00	.02	.00	227.05	10.00
117.770	8250.00	648.22	.00	-.11	.00	216.15	30.00
117.840	8250.00	648.35	.00	.13	.00	281.51	70.00
118.700	8250.00	648.99	.00	.63	.00	661.43	860.00
119.440	8250.00	649.22	.00	.24	.00	515.95	740.00
120.160	8250.00	649.52	.00	.29	.00	582.75	720.00
120.600	8250.00	649.72	.00	.21	.00	466.50	440.00
121.080	8250.00	650.10	.00	.37	.00	481.05	490.00
121.130	8250.00	650.36	.00	.27	.00	179.58	50.00
121.190	8250.00	650.37	.00	.01	.00	179.58	60.00
121.240	8250.00	650.40	.00	.03	.00	541.51	60.00
121.400	8250.00	650.45	.00	.05	.00	548.46	150.00
121.440	8250.00	650.37	.00	-.09	.00	331.03	50.00
121.500	8250.00	650.65	.00	.28	.00	344.33	50.00
122.240	8250.00	650.87	.00	.22	.00	405.07	750.00
122.870	8250.00	651.22	.00	.35	.00	487.65	630.00
123.390	8250.00	651.44	.00	.22	.00	714.15	520.00
124.070	8250.00	651.71	.00	.27	.00	972.37	680.00

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Summary

00BREAK00

****
HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
ERROR CORR - 01,02,03,04
MODIFICATION - 50,51,52,53,54
****

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

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
115.970	1030.00	.00	.00	632.40	10100.00	647.60	.00	647.89	6.08	4.84	4000.86	4095.10
116.650	680.00	.00	.00	632.60	10100.00	648.03	.00	648.35	7.18	5.16	3898.70	3768.66
117.360	710.00	.00	.00	632.70	10100.00	648.46	.00	649.11	12.51	7.04	2375.89	2855.30
117.600	290.00	.00	.00	632.70	10100.00	648.74	.00	649.54	13.90	7.51	1908.25	2708.71
117.700	50.00	.00	.00	632.40	10100.00	648.89	.00	649.63	12.35	7.22	1922.84	2874.18
117.730	30.00	664.00	657.00	632.30	10100.00	649.52	.00	649.80	13.50	4.25	2375.14	2749.29
117.740	10.00	664.00	657.00	632.30	10100.00	649.54	.00	649.82	20.00	4.25	2377.68	2258.66
117.770	30.00	.00	.00	632.30	10100.00	649.39	.00	650.02	5.90	6.68	2276.50	4159.36
117.840	70.00	.00	.00	632.30	10100.00	649.57	.00	650.09	5.11	6.26	2838.29	4468.97
118.700	860.00	.00	.00	633.80	10100.00	650.31	.00	650.48	3.35	3.77	5117.76	5518.08
119.440	740.00	.00	.00	633.20	10100.00	650.56	.00	650.76	4.15	4.29	4905.19	4959.53
120.160	720.00	.00	.00	634.70	10100.00	650.87	.00	651.14	5.85	4.96	4192.83	4176.72
120.600	440.00	.00	.00	635.40	10100.00	651.06	.00	651.48	7.72	5.63	3162.98	3635.91
121.080	490.00	.00	.00	635.60	10100.00	651.42	.00	651.88	7.90	5.73	2929.59	3594.37
121.130	50.00	.00	.00	636.30	10100.00	651.77	.00	651.98	5.61	3.74	2888.55	4265.91
121.190	60.00	651.00	650.70	636.30	10100.00	653.49	.00	653.64	3.64	3.21	4200.62	5294.16
121.240	60.00	.00	.00	636.20	10100.00	653.51	.00	653.66	2.32	3.26	4949.76	6629.05

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
121.400	150.00	.00	.00	636.20	10100.00	653.54	.00	653.70	2.35	3.28	4501.48	6586.74
121.440	50.00	.00	.00	644.40	10100.00	653.52	.00	653.73	6.84	3.73	3416.79	3961.73
121.500	50.00	.00	.00	638.50	10100.00	653.65	.00	653.76	1.98	2.59	4623.30	7184.85
122.240	750.00	.00	.00	636.80	10100.00	653.78	.00	653.97	3.41	3.70	3468.66	5470.50
122.870	630.00	.00	.00	637.30	10100.00	654.03	.00	654.17	2.77	3.30	4710.20	6070.98
123.390	520.00	.00	.00	636.00	10100.00	654.20	.00	654.31	2.53	3.20	6237.69	6351.39
124.070	680.00	.00	.00	635.60	10100.00	654.38	.00	654.49	2.49	3.17	7056.79	6396.45

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
115.970	10100.00	647.60	.00	.00	.00	726.77	1030.00
116.650	10100.00	648.03	.00	.43	.00	590.45	680.00
117.360	10100.00	648.46	.00	.43	.00	306.29	710.00
117.600	10100.00	648.74	.00	.28	.00	206.70	290.00
117.700	10100.00	648.89	.00	.16	.00	192.35	50.00
117.730	10100.00	649.52	.00	.62	.00	230.48	30.00
117.740	10100.00	649.54	.00	.02	.00	230.51	10.00
117.770	10100.00	649.39	.00	-.15	.00	219.40	30.00
117.840	10100.00	649.57	.00	.18	.00	284.88	70.00
118.700	10100.00	650.31	.00	.74	.00	598.00	860.00
119.440	10100.00	650.56	.00	.26	.00	483.00	740.00
120.160	10100.00	650.87	.00	.31	.00	490.00	720.00
120.600	10100.00	651.06	.00	.19	.00	659.16	440.00
121.080	10100.00	651.42	.00	.37	.00	697.35	490.00
121.130	10100.00	651.77	.00	.34	.00	585.41	50.00
121.190	10100.00	653.49	.00	1.72	.00	840.28	60.00
121.240	10100.00	653.51	.00	.02	.00	655.00	60.00
121.400	10100.00	653.54	.00	.03	.00	525.00	150.00
121.440	10100.00	653.52	.00	-.02	.00	540.00	50.00
121.500	10100.00	653.65	.00	.13	.00	540.00	50.00
122.240	10100.00	653.78	.00	.13	.00	341.00	750.00
122.870	10100.00	654.03	.00	.25	.00	430.00	630.00
123.390	10100.00	654.20	.00	.17	.00	660.00	520.00
124.070	10100.00	654.38	.00	.19	.00	935.00	680.00

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of Dundee

3) WATERCOURSE: River Raisin

4) DOCUMENT TYPE: Summary

00BREAK00

****
HEC2 RELEASE DATED NOV 76 UPDATED APRIL 1980
ERROR CORR - 01,02,03,04
MODIFICATION - 50,51,52,53,54
****

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

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
115.970	1030.00	.00	.00	632.40	6700.00	646.20	.00	646.39	4.32	3.82	3205.33	3223.92
115.970	1030.00	.00	.00	632.40	9200.00	647.30	.00	647.53	5.17	4.40	4398.83	4045.74
115.970	1030.00	.00	.00	632.40	10100.00	647.60	.00	647.85	5.51	4.61	4750.88	4303.57
115.970	1030.00	.00	.00	632.40	12500.00	648.50	.00	648.77	5.88	4.95	5823.00	5157.03
116.650	680.00	.00	.00	632.60	6700.00	646.51	.00	646.73	5.27	4.11	3005.98	2918.03
116.650	680.00	.00	.00	632.60	9200.00	647.66	.00	647.95	6.70	4.90	3684.73	3553.05
116.650	680.00	.00	.00	632.60	10100.00	647.98	.00	648.30	7.27	5.19	3875.38	3744 83
116.650	680.00	.00	.00	632.60	12500.00	648.89	.00	649.28	8.37	5.80	4417.89	4320.37
117.360	710.00	.00	.00	632.70	6700.00	646.85	.00	647.26	8.89	5.51	1884.44	2246.72
117.360	710.00	.00	.00	632.70	9200.00	648.07	.00	648.66	11.59	6.66	2258.04	2702.50
117.360	710.00	.00	.00	632.70	10100.00	648.42	.00	649.07	12.64	7.07	2365.13	2841.17
117.360	710.00	.00	.00	632.70	12500.00	649.37	.00	650.19	14.94	8.00	2655.08	3233.52
117.600	290.00	.00	.00	632.70	6700.00	647.07	.00	647.55	9.48	5.75	1562.36	2176.56
117.600	290.00	.00	.00	632.70	9200.00	648.33	.00	649.05	12.77	7.07	1824.42	2574.81
117.600	290.00	.00	.00	632.70	10100.00	648.70	.00	649.50	14.04	7.54	1899.79	2695.07
117.600	290.00	.00	.00	632.70	12500.00	649.67	.00	650.72	17.05	8.65	2100.77	3027.48
117.700	50.00	.00	.00	632.40	6700.00	647.17	.00	647.61	8.40	5.52	1593.11	2311.43
117.700	50.00	.00	.00	632.40	9200.00	648.47	.00	649.13	11.34	6.80	1842.27	2731.74
117.700	50.00	.00	.00	632.40	10100.00	648.86	.00	649.59	12.46	7.24	1915.34	2860.80
117.700	50.00	.00	.00	632.40	12500.00	649.88	.00	650.83	15.06	8.30	2112.35	3221.03
117.730	30.00	664.00	657.00	632.30	6700.00	647.52	.00	647.71	10.72	3.49	1920.01	2046.12
117.730	30.00	664.00	657.00	632.30	9200.00	649.03	.00	649.28	12.82	4.07	2261.47	2569.62
117.730	30.00	664.00	657.00	632.30	10100.00	649.48	.00	649.77	13.62	4.27	2367.14	2736.56
117.730	30.00	664.00	657.00	632.30	12500.00	650.71	.00	651.06	15.28	4.71	2652.78	3198.17
117.740	10.00	664.00	657.00	632.30	6700.00	647.53	.00	647.72	15.23	3.49	1922.04	1716.54
117.740	10.00	664.00	657.00	632.30	9200.00	649.04	.00	649.30	18.81	4.06	2263.91	2121.21
117.740	10.00	664.00	657.00	632.30	10100.00	649.50	.00	649.78	20.17	4.26	2369.69	2248.96
117.740	10.00	664.00	657.00	632.30	12500.00	650.73	.00	651.08	23.12	4.71	2655.47	2599.41

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
117.770	30.00	.00	.00	632.30	6700.00	647.46	.00	647.84	4.10	5.12	1894.37	3306.91
117.770	30.00	.00	.00	632.30	9200.00	648.92	.00	649.48	5.45	6.29	2182.43	3941.70
117.770	30.00	.00	.00	632.30	10100.00	649.36	.00	649.99	5.94	6.69	2269.55	4143.11
117.770	30.00	.00	.00	632.30	12500.00	650.53	.00	651.35	7.07	7.65	2502.11	4701.55
117.840	70.00	.00	.00	632.30	6700.00	647.55	.00	647.88	3.70	4.88	2306.23	3483.43
117.840	70.00	.00	.00	632.30	9200.00	649.07	.00	649.54	4.76	5.92	2707.11	4215.99
117.840	70.00	.00	.00	632.30	10100.00	649.53	.00	650.06	5.15	6.28	2829.27	4451.37
117.840	70.00	.00	.00	632.30	12500.00	650.77	.00	651.44	5.99	7.11	3156.03	5107.91
118.700	860.00	.00	.00	633.80	6700.00	648.05	.00	648.17	2.74	3.08	4016.49	4048.72
118.700	860.00	.00	.00	633.80	9200.00	649.75	.00	649.90	3.09	3.54	5135.55	5231.71
118.700	860.00	.00	.00	633.80	10100.00	650.28	.00	650.44	3.21	3.69	5491.16	5637.44
118.700	860.00	.00	.00	633.80	12500.00	651.69	.00	651.87	3.40	4.02	6439.35	6783.38
119.440	740.00	.00	.00	633.20	6700.00	648.26	.00	648.41	3.45	3.54	3804.14	3609.71
119.440	740.00	.00	.00	633.20	9200.00	649.98	.00	650.17	3.99	4.10	4689.11	4606.92
119.440	740.00	.00	.00	633.20	10100.00	650.52	.00	650.73	4.16	4.29	5028.44	4949.72
119.440	740.00	.00	.00	633.20	12500.00	651.94	.00	652.17	4.43	4.67	6026.39	5941.08
120.160	720.00	.00	.00	634.70	6700.00	648.52	.00	648.74	5.44	4.30	3057.16	2872.05
120.160	720.00	.00	.00	634.70	9200.00	650.28	.00	650.53	5.71	4.78	4070.54	3848.43
120.160	720.00	.00	.00	634.70	10100.00	650.83	.00	651.10	5.81	4.94	4414.19	4191.92
120.160	720.00	.00	.00	634.70	12500.00	652.27	.00	652.55	5.85	5.25	5449.95	5168.52
120.600	440.00	.00	.00	635.40	6700.00	648.72	.00	649.03	6.55	4.65	2124.40	2618.70
120.600	440.00	.00	.00	635.40	9200.00	650.47	.00	650.86	7.46	5.39	2884.09	3369.05
120.600	440.00	.00	.00	635.40	10100.00	651.02	.00	651.44	7.71	5.61	3228.73	3638.29
120.600	440.00	.00	.00	635.40	12500.00	652.44	.00	652.91	7.92	6.03	4435.66	4442.32
121.080	490.00	.00	.00	635.60	6700.00	649.05	.00	649.35	6.29	4.59	2167.03	2670.84
121.080	490.00	.00	.00	635.60	9200.00	650.84	.00	651.22	7.10	5.30	2987.80	3453.69
121.080	490.00	.00	.00	635.60	10100.00	651.41	.00	651.81	7.30	5.51	3364.56	3737.23
121.080	490.00	.00	.00	635.60	12500.00	652.85	.00	653.29	7.48	5.91	4626.64	4571.48
121.130	50.00	.00	.00	636.30	6700.00	649.28	.00	649.42	4.41	2.99	2241.85	3190.41
121.130	50.00	.00	.00	636.30	9200.00	651.11	.00	651.31	5.40	3.58	2575.95	3959.16
121.130	50.00	.00	.00	636.30	10100.00	651.68	.00	651.90	5.72	3.77	2838.96	4223.31
121.130	50.00	.00	.00	636.30	12500.00	653.13	.00	653.38	6.12	4.11	3903.89	5054.46
121.190	60.00	651.00	650.70	636.30	6700.00	649.29	.00	649.43	4.40	2.99	2243.12	3193.28
121.190	60.00	651.00	650.70	636.30	9200.00	652.80	.00	652.95	3.61	3.12	3636.70	4844.55
121.190	60.00	651.00	650.70	636.30	10100.00	653.43	.00	653.59	3.69	3.22	4152.94	5255.22
121.190	60.00	651.00	650.70	636.30	12500.00	654.84	.00	655.00	3.88	3.47	5462.77	6343.61
121.240	60.00	.00	.00	636.20	6700.00	649.31	.00	649.45	2.93	3.02	2517.88	3916.73
121.240	60.00	.00	.00	636.20	9200.00	652.83	.00	652.97	2.25	3.12	4764.40	6138.89
121.240	60.00	.00	.00	636.20	10100.00	653.45	.00	653.60	2.33	3.26	5330.74	6623.12
121.240	60.00	.00	.00	636.20	12500.00	654.85	.00	655.03	2.58	3.62	6722.69	7786.42

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
121.400	150.00	.00	.00	636.20	6700.00	649.36	.00	649.49	2.89	3.01	2532.30	3939.56
121.400	150.00	.00	.00	636.20	9200.00	652.86	.00	653.00	2.22	3.11	4802.77	6171.28
121.400	150.00	.00	.00	636.20	10100.00	653.49	.00	653.64	2.30	3.25	5366.25	6653.91
121.400	150.00	.00	.00	636.20	12500.00	654.89	.00	655.07	2.55	3.60	6769.27	7823.47
121.440	50.00	.00	.00	644.40	6700.00	649.24	.00	649.59	26.43	4.81	1483.86	1303.34
121.440	50.00	.00	.00	644.40	9200.00	652.84	.00	653.04	7.42	3.69	3206.45	3376.41
121.440	50.00	.00	.00	644.40	10100.00	653.47	.00	653.67	6.90	3.73	3701.05	3846.24
121.440	50.00	.00	.00	644.40	12500.00	654.88	.00	655.10	6.23	3.90	4873.44	5007.75
121.500	50.00	.00	.00	638.50	6700.00	649.55	.00	649.65	3.03	2.52	2770.95	3847.29
121.500	50.00	.00	.00	638.50	9200.00	652.97	.00	653.07	1.96	2.49	4496.01	6570.61
121.500	50.00	.00	.00	638.50	10100.00	653.60	.00	653.70	1.99	2.59	4990.42	7161.97
121.500	50.00	.00	.00	638.50	12500.00	655.01	.00	655.13	2.12	2.86	6167.44	8588.63
122.240	750.00	.00	.00	636.80	6700.00	649.77	.00	649.96	4.74	3.57	2158.29	3078.54
122.240	750.00	.00	.00	636.80	9200.00	653.10	.00	653.28	3.29	3.53	3790.27	5073.04
122.240	750.00	.00	.00	636.80	10100.00	653.73	.00	653.92	3.34	3.66	4226.21	5524.78
122.240	750.00	.00	.00	636.80	12500.00	655.14	.00	655.36	3.56	4.00	5262.79	6626.24
122.870	630.00	.00	.00	637.30	6700.00	650.09	.00	650.23	3.78	3.16	3054.92	3444.63
122.870	630.00	.00	.00	637.30	9200.00	653.34	.00	653.47	2.67	3.15	4666.75	5632.82
122.870	630.00	.00	.00	637.30	10100.00	653.97	.00	654.11	2.72	3.27	4999.71	6122.12
122.870	630.00	.00	.00	637.30	12500.00	655.40	.00	655.57	2.94	3.60	5765.49	7295.77
123.390	520.00	.00	.00	636.00	6700.00	650.29	.00	650.43	3.93	3.30	3684.30	3379.44
123.390	520.00	.00	.00	636.00	9200.00	653.50	.00	653.61	2.51	3.09	5997.54	5810.62
123.390	520.00	.00	.00	636.00	10100.00	654.14	.00	654.25	2.51	3.18	6478.49	6377.87
123.390	520.00	.00	.00	636.00	12500.00	655.59	.00	655.71	2.59	3.43	7585.25	7766.48
124.070	680.00	.00	.00	635.60	6700.00	650.57	.00	650.73	4.67	3.59	3571.46	3100.50
124.070	680.00	.00	.00	635.60	9200.00	653.68	.00	653.78	2.55	3.10	6704.16	5764.21
124.070	680.00	.00	.00	635.60	10100.00	654.32	.00	654.42	2.44	3.12	7426.07	6466.20
124.070	680.00	.00	.00	635.60	12500.00	655.79	.00	655.88	2.29	3.21	9189.63	8263.11

RIVER RAISIN -DUNDEE

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
115.970	6700.00	646.20	.00	.00	.00	983.32	1030.00
115.970	9200.00	647.30	1.10	.00	.00	1158.31	1030.00
115.970	10100.00	647.60	.30	.00	.00	1179.63	1030.00
115.970	12500.00	648.50	.90	.00	.00	1202.87	1030.00
116.650	6700.00	646.51	.00	.31	.00	587.30	680.00
116.650	9200.00	647.66	1.15	.36	.00	589.70	680.00
116.650	10100.00	647.98	.32	.38	.00	590.37	680.00
116.650	12500.00	648.89	.91	.39	.00	592.28	680.00
117.360	6700.00	646.85	.00	.34	.00	303.96	710.00
117.360	9200.00	648.07	1.22	.41	.00	305.73	710.00
117.360	10100.00	648.42	.35	.44	.00	306.24	710.00
117.360	12500.00	649.37	.95	.48	.00	307.61	710.00
117.600	6700.00	647.07	.00	.22	.00	204.26	290.00
117.600	9200.00	648.33	1.26	.27	.00	206.12	290.00
117.600	10100.00	648.70	.36	.28	.00	206.65	290.00
117.600	12500.00	649.67	.98	.30	.00	208.05	290.00
117.700	6700.00	647.17	.00	.10	.00	189.85	50.00
117.700	9200.00	648.47	1.31	.14	.00	191.75	50.00
117.700	10100.00	648.86	.38	.16	.00	192.30	50.00
117.700	12500.00	649.88	1.02	.20	.00	193.78	50.00
117.730	6700.00	647.52	.00	.35	.00	224.75	30.00
117.730	9200.00	649.03	1.50	.55	.00	229.06	30.00
117.730	10100.00	649.48	.46	.63	.00	230.38	30.00
117.730	12500.00	650.71	1.23	.84	.00	233.91	30.00
117.740	6700.00	647.53	.00	.01	.00	224.78	10.00
117.740	9200.00	649.04	1.51	.02	.00	229.09	10.00
117.740	10100.00	649.50	.46	.02	.00	230.41	10.00
117.740	12500.00	650.73	1.23	.02	.00	233.94	10.00
117.770	6700.00	647.46	.00	-.07	.00	214.03	30.00
117.770	9200.00	648.92	1.45	-.13	.00	218.07	30.00
117.770	10100.00	649.36	.44	-.15	.00	219.30	30.00
117.770	12500.00	650.53	1.17	-.20	.00	222.57	30.00
117.840	6700.00	647.55	.00	.09	.00	279.26	70.00
117.840	9200.00	649.07	1.52	.15	.00	283.50	70.00
117.840	10100.00	649.53	.46	.18	.00	284.79	70.00
117.840	12500.00	650.77	1.24	.24	.00	288.25	70.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
118.700	6700.00	648.05	.00	.50	.00	652.21	860.00
118.700	9200.00	649.75	1.70	.68	.00	666.39	860.00
118.700	10100.00	650.28	.53	.75	.00	669.84	860.00
118.700	12500.00	651.69	1.41	.91	.00	678.93	860.00
119.440	6700.00	648.26	.00	.21	.00	476.35	740.00
119.440	9200.00	649.98	1.72	.23	.00	575.02	740.00
119.440	10100.00	650.52	.54	.24	.00	681.21	740.00
119.440	12500.00	651.94	1.42	.26	.00	712.20	740.00
120.160	6700.00	648.52	.00	.26	.00	530.37	720.00
120.160	9200.00	650.28	1.76	.30	.00	611.29	720.00
120.160	10100.00	650.83	.55	.31	.00	629.47	720.00
120.160	12500.00	652.27	1.44	.33	.00	887.30	720.00
120.600	6700.00	648.72	.00	.20	.00	318.77	440.00
120.600	9200.00	650.47	1.74	.19	.00	570.79	440.00
120.600	10100.00	651.02	.55	.18	.00	690.96	440.00
120.600	12500.00	652.44	1.43	.17	.00	916.75	440.00
121.080	6700.00	649.05	.00	.33	.00	325.49	490.00
121.080	9200.00	650.84	1.80	.38	.00	596.95	490.00
121.080	10100.00	651.41	.56	.39	.00	792.46	490.00
121.080	12500.00	652.85	1.44	.41	.00	929.64	490.00
121.130	6700.00	649.28	.00	.23	.00	179.41	50.00
121.130	9200.00	651.11	1.83	.27	.00	259.84	50.00
121.130	10100.00	651.68	.57	.27	.00	571.64	50.00
121.130	12500.00	653.13	1.45	.28	.00	818.52	50.00
121.190	6700.00	649.29	.00	.01	.00	179.41	60.00
121.190	9200.00	652.80	3.51	1.69	.00	798.42	60.00
121.190	10100.00	653.43	.63	1.75	.00	836.82	60.00
121.190	12500.00	654.84	1.40	1.70	.00	1037.33	60.00
121.240	6700.00	649.31	.00	.02	.00	337.00	60.00
121.240	9200.00	652.83	3.51	.03	.00	884.64	60.00
121.240	10100.00	653.45	.63	.02	.00	905.89	60.00
121.240	12500.00	654.85	1.39	.01	.00	1114.67	60.00
121.400	6700.00	649.36	.00	.05	.00	340.78	150.00
121.400	9200.00	652.86	3.50	.04	.00	886.09	150.00
121.400	10100.00	653.49	.63	.04	.00	907.21	150.00
121.400	12500.00	654.89	1.40	.04	.00	1120.07	150.00
121.440	6700.00	649.24	.00	-.12	.00	324.08	50.00
121.440	9200.00	652.84	3.60	-.02	.00	765.88	50.00
121.440	10100.00	653.47	.63	-.02	.00	794.35	50.00
121.440	12500.00	654.88	1.41	-.01	.00	870.40	50.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
121.500	6700.00	649.55	.00	.31	.00	325.91	50.00
121.500	9200.00	652.97	3.42	.13	.00	771.92	50.00
121.500	10100.00	653.60	.63	.13	.00	800.17	50.00
121.500	12500.00	655.01	1.40	.12	.00	875.43	50.00
122.240	6700.00	649.77	.00	.21	.00	378.76	750.00
122.240	9200.00	653.10	3.34	.13	.00	674.13	750.00
122.240	10100.00	653.73	.63	.13	.00	706.53	750.00
122.240	12500.00	655.14	1.41	.14	.00	765.16	750.00
122.870	6700.00	650.09	.00	.32	.00	465.73	630.00
122.870	9200.00	653.34	3.25	.24	.00	521.14	630.00
122.870	10100.00	653.97	.63	.24	.00	528.46	630.00
122.870	12500.00	655.40	1.43	.26	.00	543.34	630.00
123.390	6700.00	650.29	.00	.20	.00	692.04	520.00
123.390	9200.00	653.50	3.21	.16	.00	751.72	520.00
123.390	10100.00	654.14	.64	.17	.00	757.64	520.00
123.390	12500.00	655.59	1.45	.19	.00	770.89	520.00
124.070	6700.00	650.57	.00	.27	.00	866.83	680.00
124.070	9200.00	653.68	3.11	.18	.00	1107.82	680.00
124.070	10100.00	654.32	.64	.18	.00	1136.55	680.00
124.070	12500.00	655.79	1.46	.20	.00	1273.47	680.00

FLOOD INSURANCE ZONE DATA FOR RIVER RAISIN -DUNDEE

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
115.970	0.	-1.40	-.30	.90
116.650	680.	-1.47	-.32	.91
117.360	1390.	-1.57	-.35	.95
117.600	1680.	-1.63	-.36	.98
117.700	1730.	-1.69	-.38	1.02
117.730	1760.	-1.96	-.46	1.23
117.740	1770.	-1.97	-.46	1.23
117.770	1800.	-1.89	-.44	1.17
117.840	1870.	-1.98	-.46	1.24
118.700	2730.	-2.23	-.53	1.41
119.440	3470.	-2.26	-.54	1.42
120.160	4190.	-2.31	-.55	1.44
120.600	4630.	-2.29	-.55	1.43
121.080	5120.	-2.36	-.56	1.44
121.130	5170.	-2.40	-.57	1.45
121.190	5230.	-4.14	-.63	1.40
121.240	5290.	-4.14	-.63	1.39
121.400	5440.	-4.13	-.63	1.40
121.440	5490.	-4.23	-.63	1.41
121.500	5540.	-4.05	-.63	1.40
122.240	6290.	-3.97	-.63	1.41
122.870	6920.	-3.88	-.63	1.43
123.390	7440.	-3.85	-.64	1.45
124.070	8120.	-3.76	-.64	1.46
WEIGHTED AVG FOR REACH		-2.69	-.53	1.31

FHF FOR THE REACH = 025 WITH 43.1 PERCENT OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 5

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

INC NO.	TOTAL LENGTH	AVG ELEVATION DATA 10	1	DIFF.	WTD. AVG.	FHF	PERCENT WITHIN
	0.				SEC.	115.970	
1	100.	646.22	647.63	-1.41	-1.41	015	100.
2	200.	646.27	647.68	-1.41	-1.41	015	100.
3	300.	646.31	647.74	-1.43	-1.42	015	100.

4	400.	646.36	647.79	-1.43	-1.42	015	100.
5	500.	646.40	647.85	-1.45	-1.43	015	100.
6	600.	646.45	647.90	-1.45	-1.43	015	100.
	680.				SEC.	116.650	
7	700.	646.49	647.96	-1.47	-1.44	015	100.
8	800.	646.54	648.02	-1.48	-1.44	015	100.
9	900.	646.59	648.08	-1.49	-1.45	015	100.
10	1000.	646.64	648.14	-1.50	-1.45	015	100.
11	1100.	646.68	648.21	-1.53	-1.46	015	100.
12	1200.	646.73	648.27	-1.54	-1.47	015	100.
13	1300.	646.78	648.33	-1.55	-1.47	015	100.
	1390.				SEC.	117.360	
14	1400.	646.83	648.39	-1.56	-1.48	015	100.
15	1500.	646.89	648.48	-1.59	-1.49	015	100.
16	1600.	646.97	648.57	-1.60	-1.49	015	100.
	1680.				SEC.	117.600	
17	1700.	647.06	648.69	-1.63	-1.50	015	100.
	1730.				SEC.	117.700	
	1760.				SEC.	117.730	
	1770.				SEC.	117.740	
18	1800.	647.29	649.06	-1.77	-1.52	015	100.
	1800.				SEC.	117.770	
	1870.				SEC.	117.840	

ELEVATION DIFFERENCE
BETWEEN BASE FLOOD AND

	10	2	0.2
WEIGHTED AVG FOR REACH	-1.52	-.33	.94

FHF FOR REACH 1 = 015 WITH 100. PERCENT OF THE REACH WITHIN .5 FEET
ZONE FOR THE REACH = A 3

19	1900.	647.52	649.46	-1.94	-1.94	020	100.
20	2000.	647.60	649.60	-2.00	-1.97	020	100.
21	2100.	647.66	649.69	-2.03	-1.99	020	100.
22	2200.	647.72	649.78	-2.06	-2.01	020	100.
23	2300.	647.77	649.86	-2.09	-2.02	020	100.
24	2400.	647.83	649.95	-2.12	-2.04	020	100.
25	2500.	647.89	650.04	-2.15	-2.06	020	100.
26	2600.	647.95	650.12	-2.17	-2.07	020	100.
27	2700.	648.01	650.21	-2.20	-2.08	020	100.
	2730.				SEC.	118.700	
28	2800.	648.05	650.28	-2.23	-2.10	020	100.
29	2900.	648.09	650.32	-2.23	-2.11	020	100.
30	3000.	648.11	650.35	-2.24	-2.12	020	100.
31	3100.	648.14	650.38	-2.24	-2.13	020	100.
32	3200.	648.17	650.42	-2.25	-2.14	020	100.
33	3300.	648.20	650.45	-2.25	-2.15	020	100.
34	3400.	648.23	650.48	-2.25	-2.15	020	100.
	3470.				SEC.	119.440	
35	3500.	648.26	650.52	-2.26	-2.16	020	100.
36	3600.	648.29	650.56	-2.27	-2.17	020	100.
37	3700.	648.33	650.60	-2.27	-2.17	020	100.

38	3800.	648.36	650.64	-2.28	-2.18	020	100.
39	3900.	648.40	650.69	-2.29	-2.18	020	100.
40	4000.	648.43	650.73	-2.30	-2.19	020	100.
41	4100.	648.47	650.77	-2.30	-2.19	020	100.
	4190.				SEC.	120.160	
42	4200.	648.50	650.82	-2.32	-2.20	020	100.
43	4300.	648.55	650.86	-2.31	-2.20	020	100.
44	4400.	648.59	650.90	-2.31	-2.21	020	100.
45	4500.	648.64	650.94	-2.30	-2.21	020	100.
46	4600.	648.69	650.98	-2.29	-2.21	020	100.
	4630.				SEC.	120.600	
47	4700.	648.74	651.04	-2.30	-2.22	020	100.
48	4800.	648.80	651.11	-2.31	-2.22	020	100.
49	4900.	648.87	651.19	-2.32	-2.22	020	100.
50	5000.	648.94	651.27	-2.33	-2.23	020	100.
51	5100.	649.00	651.35	-2.35	-2.23	020	100.
	5120.				SEC.	121.080	
	5170.				SEC.	121.130	
52	5200.	649.16	651.97	-2.81	-2.25	025	100.
	5230.				SEC.	121.190	
	5290.				SEC.	121.240	

	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND
	10 2 0.2
WEIGHTED AVG FOR REACH	-2.25 -.53 1.40

FHF FOR REACH 2 = 025 WITH 100. PERCENT OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 5

53	5300.	649.30	653.01	-3.71	-3.71	035	100.
54	5400.	649.33	653.47	-4.14	-3.92	040	100.
	5440.				SEC.	121.400	
	5490.				SEC.	121.440	
55	5500.	649.32	653.49	-4.17	-4.01	040	100.
	5540.				SEC.	121.500	
56	5600.	649.44	653.55	-4.11	-4.03	040	100.
57	5700.	649.58	653.62	-4.04	-4.03	040	100.
58	5800.	649.61	653.64	-4.03	-4.03	040	100.
59	5900.	649.64	653.65	-4.01	-4.03	040	100.
60	6000.	649.67	653.67	-4.00	-4.03	040	100.
61	6100.	649.70	653.69	-3.99	-4.02	040	100.
62	6200.	649.73	653.71	-3.98	-4.02	040	100.
	6290.				SEC.	122.240	
63	6300.	649.76	653.73	-3.97	-4.01	040	100.
64	6400.	649.80	653.75	-3.95	-4.01	040	100.
65	6500.	649.85	653.79	-3.94	-4.00	040	100.
66	6600.	649.90	653.83	-3.93	-4.00	040	100.
67	6700.	649.95	653.87	-3.92	-3.99	040	100.
68	6800.	650.00	653.91	-3.91	-3.99	040	100.
69	6900.	650.05	653.95	-3.90	-3.98	040	100.
	6920.				SEC.	122.870	
70	7000.	650.10	653.98	-3.88	-3.98	040	100.

71	7100.	650.14	654.01	-3.87	-3.97	040	100.
72	7200.	650.18	654.05	-3.87	-3.97	040	100.
73	7300.	650.22	654.08	-3.86	-3.96	040	100.
74	7400.	650.26	654.11	-3.85	-3.96	040	100.
	7440.				SEC.	123.390	
75	7500.	650.30	654.14	-3.84	-3.95	040	100.
76	7600.	650.34	654.17	-3.83	-3.95	040	100.
77	7700.	650.38	654.20	-3.82	-3.94	040	100.
78	7800.	650.42	654.22	-3.80	-3.94	040	100.
79	7900.	650.46	654.25	-3.79	-3.93	040	100.
80	8000.	650.50	654.28	-3.78	-3.92	040	100.
81	8100.	650.54	654.30	-3.76	-3.92	040	100.
	8120.				SEC.	124.070	

	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND		
	10	2	0.2
WEIGHTED AVG FOR REACH	-3.92	-.63	1.43

FHF FOR REACH 3 = 040 WITH 100. PERCENT OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 8

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains (Notes)

4) DOCUMENT TYPE: 10, 50, 100 and 500 yr

00BREAK00

15:13:52 X64 TOM HU203107 ROCKWD07 DEC 12, 1980

[illegible]

LANDENSCHLAGER & CHAPMAN

[illegible] UP TO R.R. CORRIDOR

(TO TAKE INTO ACCOUNT FOR

STORAGE U/S THE R.R. CORRIDORS)

[illegible]

R40? 12*5 SH:1223 [illegible]:12*5 [illegible]:E5-071 [illegible] PR01 [illegible]

FORM 1411-30 PRINTED BY ROTARY MANIFOLD FORMS.

PRINTED IN U.S.A.

EXECUTIVE CONTROL CARD OPERATION LIST

LISTING OF DATA IN CORE

10 LAUDENSCHLAGER DRAIN

VELOCITY INCREMENT

1 CTABLE 0.2000

8	0.0000	0.0800	0.1800	0.2500	0.3200
8	0.3700	0.4100	0.4500	0.4900	0.5100
8	0.5400	0.5700	0.5900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

XSECTN NO. DRAINAGE AREA

2 XSECTN 1 1.0000

	ELEVATION	DISCHARGE	END AREA
8	579.8000	0.0000	0.0000
8	583.0000	53.0000	30.0000
8	583.5000	112.0000	330.0000
8	584.0000	612.0000	1155.0000
8	585.0000	810.0000	2250.0000

9 ENDTBL

STRUCT NO.

3 STRUCT 1

	ELEVATION	DISCHARGE	STORAGE
8	579.8000	0.0000	0.0000
8	583.0000	65.0000	5.0000
8	585.0000	105.0000	70.0000
8	586.0000	130.0000	210.0000
8	587.0000	160.0000	350.0000
8	587.0000	190.0000	490.0000

9 ENDTBL

TIME INCREMENT

4 DIMHYD

8 [illegible]

```
8          0.4700    [illegible]    0.8200    0.9300    0.9900
0          1.0000    0.9900    0.9300    0.8600    0.7800
0          0.6800    0.5600    0.4600    0.3900    0.3300
0          0.2800    0.2610    0.2070    0.1740    0.1470
0          0.1260    0.1070    0.0910    0.0770    0.0600
0          0.0550    0.0470    0.0400    0.0340    0.0250
0          0.0250    0.0210    0.0100    0.0130    0.0100
0          0.0110    0.0090    0.0080    0.0070    0.0050
0          0.0050    0.0040    0.0030    0.0020    0.0010
0          0.0000    0.0000    0.0000    0.0000    0.0000
9 ENDTBL

  COMPUTED PEAK K FACTOR =  406.00


                TIME INCREMENT
5 RAINFL 1                0.5000

0          0.0300    0.0080    0.0170    0.0260    0.0350
0          0.0450    0.0550    0.0650    0.0760    0.0870
0          0.0990    0.1120    0.1250    0.1430    0.1565
0          0.1740    0.1940    0.2[illegible]    0.2540    0.3000
0          0.5150    0.5000    0.5270    0.6540    0.6820
0          0.7050    0.7270    0.7400    0.7170    0.7840
8          0.8000    0.8160    0.8300    0.8460    0.8570
8          0.8700    0.8820    0.8930    0.9030    0.9160
8          0.9260    0.9360    0.9460    0.9530    0.9690
0          0.9740    0.9830    0.9920    [illegible]    1.0000
9 ENDTBL
```

STANDARD CONTROL INSTRUCTIONS

```
6 RUNOFF 1   1       5      1.4100     77.0000     3.30001 1 0 1 0 0
6 RUNOFF 1   1       6      0.7600     76.0000    11.00001 1 0 1 0 0
6 ADDHYD 4   1   5 6 7                                   1 1 0 1 0 0
6 REACH  3   1   7   5   1020.0000      0.0000     0.00000 0 0 0 0 0
6 RUNOFF 1   1       6      0.1300     77.0000     5.20001 1 0 1 0 0
6 ADDHYD 4   1   5 6 7                                   1 1 0 1 0 0
6 RUNOFF 1   1       5      0.2200     66.0000     7.20001 1 0 1 0 0
6 ADDHYD 4   1   7 3 5                                   1 1 0 1 0 0
6 RESVOR 2     1 4   5    579.0000                       1 1 0 1 0 0
  ENDATA

END OF LISTING
```

Pt 230

EXECUTIVE CONTROL CARD OPERATION TYCDE= MAIN TIME INCREMENT= 0.20
EXECUTIVE CONTROL CARD OPERATION COMPUT FROM XSECTN/STRUCT 1/ 0 TO XSECTN/STRUCT 0/ 1
STARTING TIME= 0.00 RAIN DEPTH= 3.00 RAIN DURATIO= 24.00 RAIN TABLE NO.= 1 SOIL CONDITION= 2
ALTERNATE NO.= 2 STORM NO.= 1

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 1.41 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 5.30

Moore Drain

PEAK TIMES 14.35 PEAK DISCHARGES 57.019 PEAK ELEVATIONS (RUNOFF)

TIME				HYDROGRAPH, IZERO= 0.00		DELTA T= 0.20			DRAINAGE AREA= 1.41		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.01	0.01	0.05	0.15	0.31	0.28	1.13	2.56	3.89	5.43
10.00	DISCHG	6.93	10.05	14.77	18.69	22.61	27.50	33.66	39.75	45.83	51.92
12.00	DISCHG	57.03	62.09	67.14	72.20	76.24	76.76	81.29	85.81	86.34	88.90
14.00	DISCHG	87.19	87.31	87.62	87.34	85.94	86.35	83.13	81.72	80.16	78.55
16.00	DISCHG	76.54	73.33	73.77	72.55	71.04	69.51	68.11	66.70	65.30	64.21
18.00	DISCHG	62.42	61.05	60.52	59.35	58.20	57.13	56.29	55.12	54.15	53.18
20.00	DISCHG	52.22	51.65	50.53	48.38	46.04	46.11	47.47	46.77	46.06	45.70
22.00	DISCHG	45.74	44.13	43.52	42.91	42.34	41.03	41.31	40.80	40.20	39.74
24.00	DISCHG	39.20	38.65	38.19	37.47	36.66	35.06	35.75	34.24	33.08	31.83
26.00	DISCHG	30.59	29.34	28.03	26.53	25.03	23.53	22.33	20.40	19.19	17.78
28.00	DISCHG	16.38	15.52	15.02	13.97	11.66	10.52	9.14	8.03	8.11	7.37
30.00	DISCHG	6.90	6.19	5.67	5.13	4.62	4.23	3.90	3.57	3.24	2.91
32.00	DISCHG	2.69	2.47	2.25	2.05	1.85	1.72	1.50	1.41	1.24	1.14
34.00	DISCHG	1.07	0.97	0.88	0.79	0.73	0.66	0.60	0.54	0.49	0.45
36.00	DISCHG	0.41	0.33	0.33	0.30	0.27	0.24	0.21	0.19	0.17	0.15
38.00	DISCHG	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.03
40.00	DISCHG	0.03	0.02	0.02	0.01	0.01	0.01	0.00			

TOTAL LATERAL IN INCHES OF DRAINAGE AREA= 1.0691 CFS-HRS= 372.83 ACRE-FT= 00.96

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.76 INPUT RUNOFF CURVE= 78.5 TIME OF CONCENTRATION= 11.00

Landenschlager Drain

PEAK TIMES 19.03 PEAK DISCHARGES 32.089 PEAK ELEVATIONS (RUNOFF)

TIME				HYDROGRAPH, IZERO= 0.00		DELTA T= 0.20			DRAINAGE AREA= 0.76		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
8.00	DISCHG	0.04	0.06	0.07	0.09	0.11	0.12	0.14	0.16	0.43	0.74
10.00	DISCHG	1.06	1.38	1.69	2.01	2.32	2.64	2.95	3.47	4.25	5.04
12.00	DISCHG	5.82	6.60	7.30	8.17	8.95	9.73	10.51	11.64	12.77	13.91
14.00	DISCHG	15.04	16.17	17.30	18.43	19.56	20.69	21.64	22.45	23.27	24.08
16.00	DISCHG	24.89	25.70	26.52	27.33	28.14	28.89	29.24	29.58	29.93	30.28
18.00	DISCHG	30.63	30.97	31.32	31.67	32.02	32.09	32.05	32.01	31.97	31.94
20.00	DISCHG	31.90	31.86	31.82	31.79	31.67	31.36	31.05	30.74	30.44	30.13
22.00	DISCHG	29.82	29.51	29.20	28.89	28.59	28.29	28.00	27.70	27.40	27.10
24.00	DISCHG	26.81	26.51	26.22	25.93	25.64	25.36	24.93	24.51	24.29	23.96
26.00	DISCHG	23.34	22.99	22.65	22.30	21.96	21.62	21.28	20.96	20.63	20.16
28.00	DISCHG	19.73	19.33	18.80	18.42	17.95	17.48	17.01	16.54	16.07	15.60
30.00	DISCHG	15.13	14.67	14.22	13.77	13.33	12.88	12.43	11.99	11.54	11.09
32.00	DISCHG	10.63	10.26	9.90	9.54	9.18	8.81	8.45	8.09	7.73	7.37
34.00	DISCHG	7.00	6.78	6.56	6.34	6.12	5.90	5.68	5.46	5.25	5.03

FORM 1411-G3-PRINTED BY POTENT MANIFOLD FORMS

36.00	DISCHG	4.33	4.37	4.20	4.04	3.87	3.70	3.54	3.37	3.21	3.07
38.00	DISCHG	2.96	2.85	2.74	2.63	2.52	2.41	2.30	2.19	2.08	2.01
40.00	DISCHG	1.93	1.86	1.79	1.71	1.64	1.56	1.49	1.42	1.36	1.31
42.00	DISCHG	1.26	1.21	1.16	1.11	1.06	1.01	0.96	0.92	0.88	0.85
44.00	DISCHG	0.81	0.78	0.75	0.71	0.68	0.64	0.61	0.58	0.56	0.53
46.00	DISCHG	0.51	0.49	0.46	0.43	0.41	0.38	0.36	0.35	0.33	0.32
48.00	DISCHG	0.30	0.29	0.27	0.26	0.24	0.23	0.22	0.21	0.20	0.19
50.00	DISCHG	0.18	0.17	0.16	0.15	0.14	0.14	0.13	0.12	0.12	0.11
52.00	DISCHG	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.06
54.00	DISCHG	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03
56.00	DISCHG	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
58.00	DISCHG	0.01	0.01	0.01	0.01	0.00					

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.0409 CFS-HRS= 510.53 ACRE-FT= 42.19

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPH= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
14.65	105.000	363.65

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
8.00	DISCHG	0.04	0.06	0.10	0.23	0.32	0.60	1.27	2.72	4.62	6.17
10.00	DISCHG	7.09	18.23	16.72	20.71	24.93	30.22	36.12	43.32	50.05	56.55
12.00	DISCHG	62.65	68.69	74.52	80.24	85.19	90.79	97.83	94.46	99.11	100.11
14.00	DISCHG	102.14	103.55	104.92	105.27	103.50	105.22	104.27	103.16	102.42	102.43
16.00	DISCHG	101.83	101.03	100.28	99.68	99.08	98.41	97.35	96.37	95.43	94.49
18.00	DISCHG	93.54	92.63	91.84	91.06	90.28	89.22	88.14	87.14	86.13	85.12
20.00	DISCHG	84.12	83.26	82.40	81.55	80.61	79.56	78.53	77.51	76.50	75.48
22.00	DISCHG	74.50	73.64	72.78	71.00	70.94	70.12	69.21	68.50	67.49	66.55
24.00	DISCHG	66.00	65.16	64.32	63.57	62.24	61.11	59.98	58.85	57.37	55.50
26.00	DISCHG	54.22	52.65	51.02	49.11	47.21	45.30	43.59	41.55	39.76	39.95
28.00	DISCHG	36.11	34.35	32.70	31.19	29.60	28.01	26.64	25.41	24.18	22.94
30.00	DISCHG	21.73	20.77	19.83	18.90	17.96	17.11	16.33	15.56	14.78	14.01
32.00	DISCHG	13.34	12.73	12.15	11.57	11.02	10.51	10.01	9.50	8.99	8.53
34.00	DISCHG	8.10	7.75	7.39	7.05	6.73	6.41	6.09	5.76	5.46	5.19
36.00	DISCHG	4.94	4.73	4.53	4.33	4.14	3.95	3.75	3.57	3.38	3.22
38.00	DISCHG	3.09	2.97	2.84	2.72	2.60	2.48	2.36	2.24	2.12	2.06
40.00	DISCHG	1.96	1.88	1.80	1.72	1.65	1.57	1.49	1.42	1.36	1.31
42.00	DISCHG	1.26	1.21	1.16	1.11	1.06	1.01	0.96	0.92	0.88	0.85
44.00	DISCHG	0.81	0.78	0.75	0.71	0.68	0.64	0.61	0.58	0.56	0.53
46.00	DISCHG	0.51	0.49	0.46	0.43	0.41	0.38	0.36	0.35	0.33	0.32
48.00	DISCHG	0.30	0.29	0.27	0.26	0.24	0.23	0.22	0.21	0.20	0.19
50.00	DISCHG	0.18	0.17	0.16	0.15	0.14	0.14	0.13	0.12	0.12	0.11
52.00	DISCHG	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.06
54.00	DISCHG	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03
56.00	DISCHG	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
58.00	DISCHG	0.01	0.01	0.01	0.01	0.00					

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.0592 CFS-HRS= 1403.36 ACRE-FT= 122.58

SUBROUTINE REACH CROSS SECTION 1
LENGTH= 1000.00 INPUT COEFFICIENT= 0.000 OUTPUT ROUTING= 0.00
AVERAGE WATER VELOCITY= 0.502 AVERAGE ROUTING COEFF= 0.2278 NUMBER OF ROUTINGS= 0.65

to u/s of Penn Central RR

SUBROUTINE RU CROSS SECTION

AREA= 0.13 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 0.20

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
14.25	0.23	(RUNOFF)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.13

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	DISCHG	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02
12.00	DISCHG	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10
14.00	DISCHG	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14
16.00	DISCHG	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.09	0.08
18.00	DISCHG	0.10	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.04
20.00	DISCHG	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02
22.00	DISCHG	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01
24.00	DISCHG	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
26.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.01	0.01			

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.00YR CFS-HRS= 89.69 ACRE-FT= 7.41

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
15.34	111.711	303.50

Intervening area to P.C.11

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.30

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.01	0.02	0.05	0.10	0.16	0.26	0.40	1.01	2.06	3.00
10.00	DISCHG	4.56	6.56	9.33	12.63	16.42	20.70	25.37	31.08	37.11	43.56
12.00	DISCHG	50.23	56.62	63.35	69.70	75.81	81.47	86.51	91.13	95.34	99.19
14.00	DISCHG	102.37	105.04	107.21	109.01	110.37	111.21	111.64	111.70	111.49	111.06
16.00	DISCHG	110.47	109.79	109.03	108.25	107.48	106.71	105.90	104.98	104.02	103.02
18.00	DISCHG	102.01	100.99	99.96	99.01	98.04	97.13	96.10	95.05	93.98	92.92
20.00	DISCHG	91.85	90.79	89.76	88.77	87.79	86.79	85.76	84.71	83.65	82.60
22.00	DISCHG	81.54	80.51	79.50	78.50	77.52	76.54	75.46	74.73	73.85	72.96
24.00	DISCHG	72.08	71.19	70.29	69.38	68.62	67.39	66.27	65.13	63.92	62.59
26.00	DISCHG	61.13	59.58	57.90	56.30	54.51	52.64	50.71	48.76	46.80	44.85
28.00	DISCHG	42.92	40.99	39.09	37.27	35.50	33.74	32.07	30.46	28.96	27.53
30.00	DISCHG	26.15	24.83	23.61	22.47	21.38	20.34	19.35	18.43	17.54	16.68
32.00	DISCHG	15.85	15.07	14.35	13.66	13.00	12.38	11.79	11.22	10.67	10.14
34.00	DISCHG	9.62	9.14	8.70	8.28	7.89	7.52	7.16	6.81	6.47	6.14
36.00	DISCHG	5.83	5.54	5.28	5.04	4.81	4.59	4.38	4.17	3.97	3.78
38.00	DISCHG	3.60	3.43	3.28	3.14	3.00	2.87	2.73	2.61	2.48	2.36
40.00	DISCHG	2.26	2.16	2.07	1.98	1.89	1.81	1.73	1.65	1.57	1.50
42.00	DISCHG	1.44	1.38	1.32	1.27	1.22	1.16	1.11	1.06	1.02	0.97
44.00	DISCHG	0.93	0.89	0.85	0.82	0.78	0.74	0.71	0.68	0.65	0.62
46.00	DISCHG	0.59	0.56	0.54	0.51	0.48	0.46	0.43	0.41	0.39	0.37
48.00	DISCHG	0.35	0.34	0.32	0.30	0.29	0.27	0.26	0.25	0.23	0.22
50.00	DISCHG	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.14	0.13
52.00	DISCHG	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.08	0.08	0.07

FORM 211-6B PRINTED BY DOTATY MANIFOLD 10 MAG.

36.00	DISCHG	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04
38.00	DISCHG	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
40.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.00				

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.0397 CFS-HRS= 1879.01 ACRE-FT= 120.95

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.22 INPUT RUNOFF CURVE= 66.0 TIME OF CONCENTRATION= 7.20

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
17.34	5.369	(UNITS)

Chapman Dr. inflow to P.C.RR

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.22

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.04	0.04	0.04
10.00	DISCHG	0.12	0.20	0.27	0.35	0.43	0.50	0.58	0.80	0.98	1.15
12.00	DISCHG	1.33	1.51	1.70	1.95	2.19	2.44	2.68	2.93	3.17	3.37
14.00	DISCHG	3.57	3.77	3.97	4.17	4.37	4.50	4.62	4.74	4.84	4.94
16.00	DISCHG	5.10	5.16	5.20	5.26	5.30	5.32	5.33	5.30	5.35	5.32
18.00	DISCHG	5.31	5.25	5.27	5.24	5.21	5.15	5.13	5.14	5.10	5.06
20.00	DISCHG	5.01	4.97	4.94	4.92	4.88	4.83	4.78	4.75	4.72	4.67
22.00	DISCHG	4.63	4.59	4.56	4.52	4.48	4.44	4.41	4.37	4.33	4.29
24.00	DISCHG	4.24	4.20	4.16	4.11	4.06	3.99	3.93	3.87	3.80	3.74
26.00	DISCHG	3.66	3.56	3.46	3.37	3.27	3.17	3.07	2.95	2.83	2.73
28.00	DISCHG	2.59	2.48	2.38	2.25	2.13	2.02	1.91	1.80	1.69	1.58
30.00	DISCHG	1.51	1.42	1.32	1.24	1.15	1.08	1.01	0.95	0.89	0.83
32.00	DISCHG	0.77	0.72	0.68	0.64	0.60	0.56	0.53	0.50	0.47	0.43
34.00	DISCHG	0.40	0.37	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.21
36.00	DISCHG	0.20	0.19	0.18	0.16	0.15	0.14	0.13	0.12	0.12	0.11
38.00	DISCHG	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05
40.00	DISCHG	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02
42.00	DISCHG	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
44.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.01	0.00			

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.5438 CFS-HRS= 77.20 ACRE-FT= 6.38

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 7,5 OUTPUT HYDROGRAPH= 6

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
15.43	116.644	563.51

total inflow to P.C.RR

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.92

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.01	0.02	0.03	0.10	0.16	0.23	0.33	1.05	1.92	3.07
10.00	DISCHG	4.68	6.76	9.63	12.99	16.84	21.20	26.19	31.80	38.09	44.74
12.00	DISCHG	51.56	58.32	65.05	72.64	79.00	85.55	89.19	94.06	98.51	102.56
14.00	DISCHG	105.94	108.81	111.18	113.18	114.74	115.79	116.26	116.64	116.35	116.05
16.00	DISCHG	115.57	114.94	114.23	113.49	112.76	112.03	111.26	110.35	109.36	108.34
18.00	DISCHG	107.31	106.28	105.25	104.25	103.27	102.29	101.25	100.17	99.07	97.97
20.00	DISCHG	96.85	95.76	94.70	93.66	92.66	91.68	90.74	89.58	88.37	87.27
22.00	DISCHG	86.11	85.02	84.00	82.92	82.00	81.01	80.04	78.90	77.74	76.55
24.00	DISCHG	75.32	74.39	73.45	72.48	71.58	70.65	70.20	69.49	67.72	66.32
26.00	DISCHG	64.79	63.15	61.45	59.67	57.78	55.81	53.73	51.70	49.65	47.57
28.00	DISCHG	45.51	43.46	41.45	39.51	37.64	35.79	33.98	32.26	30.65	29.13
30.00	DISCHG	27.69	26.34	25.11	23.96	22.93	21.91	20.94	19.99	19.03	18.11

FORM 7411-6B PRINTED BY ROTARY MANIFOLD FORMS

32.00	DISCHG	16.61	15.79	15.02	14.30	13.60	12.94	12.31	11.72	11.16	10.56
34.00	DISCHG	10.02	9.52	9.06	8.60	8.19	7.80	7.42	7.06	6.70	6.33
36.00	DISCHG	6.03	5.73	5.45	5.20	4.96	4.73	4.5	4.29	4.09	3.89
38.00	DISCHG	3.70	3.53	3.37	3.22	3.07	2.96	2.81	2.67	2.54	2.42
40.00	DISCHG	2.31	2.20	2.1	2.02	1.93	1.84	1.75	1.68	1.60	1.53
42.00	DISCHG	1.46	1.40	1.34	1.29	1.25	1.20	1.15	1.10	1.05	1.00
44.00	DISCHG	0.96	0.90	0.86	0.82	0.79	0.75	0.72	0.69	0.66	0.62
46.00	DISCHG	0.59	0.56	0.53	0.51	0.48	0.46	0.43	0.41	0.39	0.37
48.00	DISCHG	0.35	0.34	0.32	0.30	0.29	0.27	0.26	0.25	0.23	0.22
50.00	DISCHG	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.14	0.13
52.00	DISCHG	0.12	0.12	0.11	0.11	0.10	0.09	0.09	0.08	0.08	0.07
54.00	DISCHG	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04
56.00	DISCHG	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
58.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.00				

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.2147 CFS-HRS= 1650.21 ACRE-FT= 136.37

SUBROUTINE RESVOR STRUCTURE 1
SURFACE ELEVATION= 579.60

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
22.71	79.03	579.71

P.C. RR overflow

INITIAL WATER= 0.00 DELTA= 0.20 DRAINAGE AREA= 2.57

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.01	0.02	0.04	0.08	0.14	0.27	0.53	0.99
10.00	DISCHG	1.67	2.29	3.04	3.96	5.19	9.24	12.05	15.34	19.11	23.47
12.00	DISCHG	28.26	33.44	38.92	44.63	50.49	56.40	62.25	65.15	65.47	65.82
14.00	DISCHG	66.21	66.63	67.07	67.52	67.99	68.47	68.95	69.43	69.91	70.38
16.00	DISCHG	70.84	71.29	71.72	72.15	72.57	72.97	73.36	73.74	74.10	74.46
18.00	DISCHG	74.79	75.12	75.43	75.72	76.01	76.28	76.54	76.78	77.01	77.23
20.00	DISCHG	77.43	77.63	77.80	77.97	78.12	78.27	78.39	78.51	78.62	78.71
22.00	DISCHG	78.79	78.86	78.92	78.97	79.00	79.02	79.04	79.05	79.04	79.03
24.00	DISCHG	79.01	78.98	78.93	78.88	78.82	78.75	78.67	78.56	78.48	78.36
26.00	DISCHG	78.23	78.09	77.93	77.75	77.56	77.35	77.12	76.88	76.61	76.33
28.00	DISCHG	76.03	75.71	75.37	75.02	74.65	74.26	73.87	73.45	73.03	72.59
30.00	DISCHG	72.14	71.69	71.22	70.75	70.26	69.77	69.26	68.76	68.28	67.77
32.00	DISCHG	67.25	66.74	66.22	65.69	65.17	58.21	49.37	42.12	36.16	31.25
34.00	DISCHG	27.18	23.80	20.98	18.62	16.64	14.96	13.54	12.31	11.26	10.34
36.00	DISCHG	9.53	8.82	8.20	7.64	7.14	6.70	6.29	5.93	5.59	5.28
38.00	DISCHG	4.99	4.72	4.47	4.24	4.03	3.83	3.65	3.47	3.30	3.14
40.00	DISCHG	2.99	2.85	2.71	2.59	2.47	2.36	2.25	2.14	2.05	1.95
42.00	DISCHG	1.86	1.78	1.70	1.63	1.56	1.49	1.42	1.36	1.30	1.24
44.00	DISCHG	1.19	1.14	1.09	1.04	0.99	0.95	0.91	0.87	0.83	0.79
46.00	DISCHG	0.75	0.72	0.68	0.65	0.62	0.59	0.56	0.54	0.51	0.48
48.00	DISCHG	0.46	0.44	0.42	0.40	0.38	0.36	0.34	0.32	0.31	0.29
50.00	DISCHG	0.28	0.26	0.25	0.24	0.23	0.21	0.20	0.19	0.18	0.17
52.00	DISCHG	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11	0.11	0.10
54.00	DISCHG	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05
56.00	DISCHG	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03
58.00	DISCHG	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.0146 CFS-HRS= 1650.15 ACRE-FT= 136.57

ENDCMP

FORM 1211-6D-PRINTED BY ROTARY MANIFOLD FORMS
PRINTED IN U.S.A.

EXECUTIVE CONTROL CARD OPERATION COMPUT FROM RSECTN/STRUCT 1/ 2 TO RSECTN/STRUCT 0/ 1
STARTING TIME= 0.00 RAIN DEPTH= 4.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 1 SOIL CONDITION= 2
ALTERNATE NO.= 2 STORM NO.= 1

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 1.40 INPUT RUNOFF CURVE= 77.3 TIME OF CONCENTRATION= 5.30

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
13.69	158.257	(CUBIC FEET)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 1.40

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL RATE IN EXCESS ON DRAINAGE AREA= 1.0097 CFS-HRS= 1045.84 ACRE-FT= 135.27

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.76 INPUT RUNOFF CURVE= 70.5 TIME OF CONCENTRATION= 11.00

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
19.88	56.343	(RUNOFF)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.76

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.11
8.00	DISCHG	0.16	0.24	0.31	0.38	0.45	0.52	0.59	0.66	1.23	1.88
10.00	DISCHG	2.54	3.19	3.85	4.50	5.16	5.81	6.46	7.48	8.97	10.46
12.00	DISCHG	11.96	13.45	14.94	16.44	17.93	19.42	20.91	22.92	24.93	26.93
14.00	DISCHG	28.94	30.95	32.95	34.96	36.97	38.97	40.98	41.91	43.32	44.74
16.00	DISCHG	45.86	47.10	48.49	49.91	51.13	52.32	52.76	53.20	53.64	54.08
18.00	DISCHG	54.32	54.96	55.39	55.83	56.27	56.23	55.99	55.75	55.51	55.27
20.00	DISCHG	55.02	54.78	54.54	54.30	53.96	53.20	52.61	51.95	51.20	50.62
22.00	DISCHG	49.96	49.29	48.63	47.96	47.37	46.70	46.20	45.61	45.03	44.44
24.00	DISCHG	43.86	43.20	42.69	42.11	41.52	40.94	40.35	39.77	39.18	38.60
26.00	DISCHG	38.01	37.43	36.84	36.26	35.67	35.09	34.50	33.91	33.33	32.74
28.00	DISCHG	32.16	31.57	30.99	30.40	29.82	29.23	28.65	28.06	27.48	26.89
30.00	DISCHG	26.31	25.72	25.14	24.55	23.97	23.38	22.80	22.21	21.63	21.04
32.00	DISCHG	20.46	19.87	19.29	18.70	18.12	17.53	16.95	16.36	15.78	15.19
34.00	DISCHG	14.61	14.02	13.44	12.85	12.27	11.68	11.10	10.51	9.93	9.34
36.00	DISCHG	8.76	8.17	7.59	7.00	6.42	5.83	5.25	4.66	4.08	3.49
38.00	DISCHG	2.91	2.32	1.74	1.15	0.57	0.00	0.00	0.00	0.00	0.00
40.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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38.00	DISCHG	4.65	4.48	4.30	4.13	3.96	3.79	3.61	3.44	3.27	3.15
40.00	DISCHG	3.04	2.92	2.81	2.69	2.58	2.46	2.34	2.23	2.13	2.06
42.00	DISCHG	1.90	1.90	1.82	1.75	1.67	1.59	1.52	1.44	1.39	1.33
44.00	DISCHG	1.28	1.22	1.17	1.11	1.06	1.00	0.95	0.90	0.86	0.82
46.00	DISCHG	0.79	0.75	0.71	0.67	0.63	0.59	0.55	0.53	0.51	0.49
48.00	DISCHG	0.46	0.44	0.42	0.40	0.37	0.35	0.34	0.32	0.31	0.29
50.00	DISCHG	0.28	0.26	0.25	0.23	0.22	0.21	0.20	0.19	0.18	0.17
52.00	DISCHG	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.11	0.10	0.09
54.00	DISCHG	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.05
56.00	DISCHG	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
58.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00		

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.7711 CFS-HRS= 369.02 ACRE-FT= 71.62

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPH NO 3,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK FLOW IDS
14.55	169.124	565.63

TIME HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.17

0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.12	0.23	0.40
8.00	DISCHG	0.56	0.77	1.31	1.04	2.36	2.92	3.53	8.67	12.36	16.33
10.00	DISCHG	20.44	20.94	37.44	65.95	54.45	64.59	76.46	86.70	101.41	116.13
12.00	DISCHG	124.24	34.19	144.15	154.11	162.05	169.02	171.71	77.38	183.73	184.69
14.00	DISCHG	186.00	187.30	188.01	185.00	187.66	186.23	184.46	182.37	181.37	178.23
16.00	DISCHG	175.17	174.10	173.16	171.66	169.10	167.53	165.13	165.00	162.97	159.84
18.00	DISCHG	156.91	154.93	153.27	151.61	149.95	147.80	145.66	143.66	141.66	139.66
20.00	DISCHG	137.68	135.99	134.29	132.60	130.78	128.78	126.89	124.99	123.10	121.21
22.00	DISCHG	119.49	117.78	116.07	114.36	112.79	111.33	109.87	108.41	106.95	105.48
24.00	DISCHG	103.99	102.51	101.03	99.62	97.56	95.09	93.83	91.97	89.52	87.08
26.00	DISCHG	84.56	82.05	79.45	76.87	73.56	70.50	67.52	64.65	61.83	59.01
28.00	DISCHG	56.18	53.43	51.00	48.54	46.00	43.63	41.52	39.39	37.67	35.75
30.00	DISCHG	33.87	32.37	30.91	29.66	28.00	26.68	25.48	24.27	23.06	21.85
32.00	DISCHG	20.31	19.87	18.97	18.07	17.22	16.63	15.64	14.85	14.06	13.34
34.00	DISCHG	12.67	12.12	11.57	11.03	10.53	10.03	9.53	9.03	8.55	8.08
36.00	DISCHG	7.76	7.41	7.80	6.79	6.49	6.19	5.89	5.59	5.31	5.05
38.00	DISCHG	4.85	4.66	4.46	4.27	4.08	3.89	3.73	3.52	3.33	3.21
40.00	DISCHG	3.08	2.96	2.83	2.71	2.59	2.47	2.35	2.23	2.13	2.06
42.00	DISCHG	1.90	1.90	1.82	1.75	1.67	1.59	1.52	1.44	1.39	1.33
44.00	DISCHG	1.28	1.22	1.17	1.11	1.06	1.00	0.95	0.90	0.86	0.82
46.00	DISCHG	0.79	0.75	0.71	0.67	0.63	0.59	0.55	0.53	0.51	0.49
48.00	DISCHG	0.46	0.44	0.42	0.40	0.37	0.35	0.34	0.32	0.31	0.29
50.00	DISCHG	0.28	0.26	0.25	0.23	0.22	0.21	0.20	0.19	0.18	0.17
52.00	DISCHG	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.11	0.10	0.09
54.00	DISCHG	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.05
56.00	DISCHG	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
58.00	DISCHG	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00		

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.7957 CFS-HRS= 2514.04 ACRE-FT= 207.63

SUBROUTINE REACH CROSS SECTION 1

LENGTH= 1000.00 INPUT COEFFICIENT= 0.0000 INPUT ROUTINGS= 0.00

AVERAGE WATER VELOCITY= 0.348 AVERAGE ROUTING COEF= 0.1696 NUMBER OF ROUTINGS= 1.00

SUBROUTINE RUNOFF CROSS SECTION 1

FA= 1.16 INPUT RUNOFF VOLUME= 22.0 TIME CONSTANT= 5.00

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FORM 141100 PRINTED BY ROTARY MANIFOLD FORMS

PEAK TIMES
16.13

PEAK DISCHARGES
16.847

PEAK ELEVATIONS
(RUNOFF)

TIME				HYDROGRAPH, TZERO= 1.00		DELTA T= 0.20		DRAINAGE AREA= 0.15			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
8.00	DISCHG	0.03	0.06	0.00	0.13	0.16	0.27	0.49	0.70	0.92	1.13
10.00	DISCHG	1.75	2.37	2.96	3.57	4.18	5.37	6.56	7.38	8.38	9.37
12.00	DISCHG	10.35	11.32	12.10	12.33	13.31	13.80	14.22	14.50	14.75	14.77
14.00	DISCHG	14.10	14.23	14.16	14.39	14.13	13.85	13.59	13.19	12.83	12.47
16.00	DISCHG	12.10	11.80	11.50	11.21	10.91	10.63	10.39	10.14	9.89	9.65
18.00	DISCHG	9.43	9.22	9.01	8.80	8.60	8.42	8.25	8.07	7.90	7.75
20.00	DISCHG	7.60	7.46	7.31	7.18	7.05	6.93	6.81	6.69	6.58	6.48
22.00	DISCHG	6.37	6.27	6.19	6.09	6.00	5.91	5.83	5.75	5.66	5.60
24.00	DISCHG	5.53	5.44	5.35	5.26	5.17	5.08	4.92	4.77	4.62	4.48
26.00	DISCHG	4.29	4.20	4.07	3.96	3.81	3.72	3.64	3.50	3.36	3.26
28.00	DISCHG	2.21	2.03	1.85	1.68	1.55	1.41	1.27	1.16	1.05	0.96
30.00	DISCHG	0.88	0.79	0.72	0.66	0.61	0.55	0.50	0.46	0.42	0.38
32.00	DISCHG	0.34	0.31	0.29	0.26	0.24	0.21	0.20	0.18	0.16	0.15
34.00	DISCHG	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05
36.00	DISCHG	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.01
38.00	DISCHG	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.3065 CFS-HRS= 51.73 ACRE-FT= 12.54

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES
15.30

PEAK DISCHARGES
195.809

PEAK ELEVATIONS
583.64

TIME				HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20		DRAINAGE AREA= 2.30			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.07	0.13
8.00	DISCHG	0.21	0.34	0.52	0.70	1.11	1.57	2.29	3.45	5.40	7.83
10.00	DISCHG	10.90	14.26	19.15	24.97	31.71	39.30	47.79	57.25	67.56	78.57
12.00	DISCHG	89.98	101.30	112.53	123.41	133.91	143.74	152.62	160.72	167.94	174.53
14.00	DISCHG	180.07	184.70	188.41	191.40	193.65	195.05	195.73	195.72	195.18	194.23
16.00	DISCHG	192.95	191.48	189.84	188.10	186.36	184.59	182.78	180.81	178.75	176.65
18.00	DISCHG	174.54	172.41	170.28	168.22	166.21	164.22	162.19	160.05	157.93	155.82
20.00	DISCHG	153.71	151.61	149.57	147.59	145.64	143.40	141.70	139.70	137.72	135.74
22.00	DISCHG	133.77	131.82	129.92	128.09	126.20	124.40	122.65	120.97	119.31	117.66
24.00	DISCHG	116.07	114.46	112.89	111.28	109.59	107.86	106.04	104.18	102.25	100.18
26.00	DISCHG	97.96	95.58	93.14	90.59	87.90	85.09	82.20	79.25	76.27	73.31
28.00	DISCHG	70.36	67.37	64.43	61.58	58.80	56.07	53.39	50.81	48.40	46.07
30.00	DISCHG	43.82	41.66	39.64	37.74	35.93	34.19	32.54	30.99	29.51	28.07
32.00	DISCHG	26.69	25.39	24.17	23.02	21.91	20.86	19.87	18.92	18.00	17.11
34.00	DISCHG	16.27	15.46	14.71	14.01	13.34	12.73	12.10	11.51	10.95	10.40
36.00	DISCHG	9.88	9.40	8.95	8.53	8.14	7.76	7.40	7.05	6.72	6.40
38.00	DISCHG	6.09	5.81	5.55	5.30	5.06	4.84	4.62	4.41	4.20	4.00
40.00	DISCHG	3.82	3.65	3.49	3.34	3.19	3.05	2.92	2.79	2.66	2.54
42.00	DISCHG	2.43	2.33	2.23	2.14	2.05	1.96	1.87	1.79	1.71	1.64
44.00	DISCHG	1.57	1.50	1.44	1.37	1.31	1.25	1.19	1.14	1.08	1.03
46.00	DISCHG	0.99	0.94	0.89	0.85	0.81	0.77	0.73	0.69	0.65	0.62
48.00	DISCHG	0.59	0.56	0.53	0.51	0.48	0.46	0.43	0.41	0.39	0.37
50.00	DISCHG	0.35	0.33	0.32	0.30	0.29	0.27	0.26	0.24	0.23	0.22
52.00	DISCHG	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12
54.00	DISCHG	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.07	0.07	0.07

55.00	DISCHG	0.04	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03
58.00	DISCHG	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.7964 CFS-HRS= 2666.90 ACRE-FT= 220.36

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.22 INPUT RUNOFF CURVE= 66.0 TIME OF CONCENTRATION= 7.20

PEAK TIMES 16.10 PEAK DISCHARGES 11.303 PEAK ELEVATIONS (CUMECS)

TIME				HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20		DRAINAGE AREA= 0.22			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.00	0.00	0.05	0.10	0.16	0.21	0.27	1.32
10.00	DISCHG	0.55	0.76	0.98	1.22	1.46	1.70	2.06	2.61	2.91	3.45
12.00	DISCHG	3.92	4.39	4.88	5.62	5.96	6.50	7.03	7.59	8.11	8.62
14.00	DISCHG	9.05	9.23	9.60	9.97	10.34	10.51	10.66	10.82	10.98	11.13
16.00	DISCHG	11.29	11.31	11.28	11.26	11.25	11.21	11.10	11.00	10.90	10.86
18.00	DISCHG	10.74	10.62	10.50	10.37	10.26	10.15	10.03	9.91	9.79	9.67
20.00	DISCHG	9.58	9.45	9.34	9.22	9.11	9.00	8.90	8.79	8.68	8.57
22.00	DISCHG	8.46	8.35	8.25	8.15	8.10	8.01	7.92	7.83	7.73	7.63
24.00	DISCHG	7.54	7.44	7.35	7.26	7.14	7.02	6.89	6.77	6.65	6.52
26.00	DISCHG	6.38	6.20	6.02	5.84	5.67	5.49	5.30	5.10	4.89	4.68
28.00	DISCHG	4.48	4.27	4.07	3.87	3.68	3.48	3.29	3.10	2.90	2.75
30.00	DISCHG	2.55	2.44	2.24	2.13	1.97	1.85	1.76	1.67	1.57	1.49
32.00	DISCHG	1.32	1.25	1.16	1.09	1.02	0.95	0.88	0.82	0.76	0.71
34.00	DISCHG	0.69	0.64	0.59	0.54	0.51	0.48	0.45	0.42	0.39	0.36
36.00	DISCHG	0.34	0.32	0.30	0.28	0.26	0.24	0.22	0.21	0.20	0.18
38.00	DISCHG	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09
40.00	DISCHG	0.08	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04
42.00	DISCHG	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
44.00	DISCHG	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.0839 CFS-HRS= 153.89 ACRE-FT= 12.72

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 7,5 OUTPUT HYDROGRAPH= 5

PEAK TIMES 15.36 PEAK DISCHARGES 206.551 PEAK ELEVATIONS 583.66

TIME				HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20		DRAINAGE AREA= 2.52			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.07	0.13
8.00	DISCHG	0.21	0.34	0.52	0.78	1.16	1.67	2.45	3.67	5.45	7.76
10.00	DISCHG	11.00	14.90	20.13	26.19	33.17	41.00	49.83	59.76	70.54	82.02
12.00	DISCHG	93.90	105.69	117.41	128.83	139.97	150.25	159.66	168.30	176.05	183.02
14.00	DISCHG	188.95	193.93	198.00	201.36	203.99	205.55	206.19	206.54	206.15	205.36
16.00	DISCHG	204.24	202.79	201.12	199.36	197.38	195.80	193.96	191.91	189.74	187.51
18.00	DISCHG	185.28	183.03	180.79	178.60	176.47	174.36	172.18	169.96	167.72	165.50
20.00	DISCHG	163.27	161.26	158.91	156.81	154.75	152.68	150.59	148.50	146.41	144.33
22.00	DISCHG	142.26	140.20	138.24	136.24	134.30	132.40	130.57	128.79	127.06	125.32
24.00	DISCHG	123.61	121.90	120.20	118.49	116.78	115.08	113.04	110.55	107.70	104.70
26.00	DISCHG	101.32	97.73	94.18	90.45	90.56	90.32	87.52	84.55	81.46	78.49
28.00	DISCHG	76.82	74.64	68.49	65.45	62.48	59.35	56.68	53.91	51.30	48.82
30.00	DISCHG	46.41	44.10	41.92	39.87	37.90	36.04	34.28	32.63	31.04	29.50
32.00	DISCHG	28.04	26.64	25.34	24.10	22.94	21.82	20.74	19.75	18.78	17.85

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34.00	DISCHG	16.95	16.1[illegible]	15.3[illegible]	14.55	1[illegible].05	13.19	12.55	11.94	11.34	10.76
36.00	DISCHG	10.22	9.72	9.25	8.81	8.39	8.00	7.62	7.26	6.92	6.59
38.00	DISCHG	6.26	5.97	5.69	5.44	5.19	4.96	4.73	4.51	4.29	4.09
40.00	DISCHG	3.90	3.73	3.56	3.41	3.25	3.11	2.97	2.84	2.70	2.58
42.00	DISCHG	2.47	2.36	2.26	2.17	2.07	[illegible].00	1.90	1.[illegible]	[illegible].73	1.65
44.00	DISCHG	[illegible].51	[illegible].51	1.[illegible]	1.38	1.32	[illegible].26	1.20	1.14	[illegible].09	1.03
46.00	DISCHG	1.04	0.9[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].01	1.17	0.73	[illegible].[illegible]	[illegible].[illegible]	0.62
48.00	DISCHG	0.59	0.56	0.53	0.51	0.48	0.46	0.43	0.41	0.39	0.37
50.00	DISCHG	0.35	0.33	0.32	0.30	0.29	0.27	0.26	0.24	0.23	0.22
52.00	DISCHG	0.23	0.22	0.19	0.16	0.17	0.16	0.15	0.14	0.13	0.12
54.00	DISCHG	0.12	0.1[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	0.09	0.08	[illegible].07	[illegible].[illegible]	[illegible].07
56.00	DISCHG	[illegible].06	[illegible].06	[illegible].05	[illegible].05	[illegible].04	[illegible].04	0.04	[illegible].03	[illegible].[illegible]	[illegible].03
58.00	DISCHG	[illegible].03	[illegible].02	[illegible].02	[illegible].02	[illegible].02	0.01	0.01	[illegible].01	0.01	[illegible].01

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.7342 CFS-HRS= 2023.39 ACRE-FT= 233.08

SUBROUTINE RESVOR STRUCTURE
SURFACE ELEVATION= 579.30

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
29.78	136.937	585.08

TIME [illegible] HYDROGRAPH TIME= [illegible].00 DELTA T= 0.20 DRAINAGE AREA= [illegible].[illegible]

0.00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	0.00	0.00	[illegible].[illegible]	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.04
[illegible].00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
[illegible].00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
[illegible].00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
12.00	DISCHG	52.95	53.[illegible]	55.[illegible]	61.93	[illegible].[illegible]	57.42	56.30	[illegible].27	70.31	71.12
14.00	DISCHG	72.58	73.78	75.02	76.28	77.56	78.85	80.13	81.41	82.67	83.92
16.00	DISCHG	85.14	86.34	87.51	88.65	89.76	90.85	91.90	92.92	93.91	94.87
18.00	DISCHG	95.80	96.69	97.55	98.38	99.19	99.96	100.70	101.41	102.09	102.75
20.00	DISCHG	[illegible].37	[illegible].97	104.53	105.02	[illegible].17	[illegible].31	[illegible].[illegible]	[illegible].58	[illegible].70	105.82
22.00	DISCHG	[illegible].93	[illegible].03	[illegible].13	[illegible].22	[illegible].31	[illegible].39	[illegible].46	[illegible].53	[illegible].60	[illegible].65
24.00	DISCHG	[illegible].71	[illegible].75	[illegible].79	[illegible].83	[illegible].86	[illegible].89	[illegible].91	[illegible].93	[illegible].[illegible]	[illegible].94
26.00	DISCHG	106.93	106.92	106.90	106.88	106.84	106.80	106.74	106.68	106.61	106.53
28.00	DISCHG	106.44	106.35	106.24	106.12	106.00	105.87	105.73	105.58	105.42	105.26
30.00	DISCHG	105.09	104.70	104.07	103.43	102.78	102.11	101.44	100.75	100.05	99.34
32.00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
34.00	DISCHG	[illegible].21	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
36.00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
38.00	DISCHG	76.36	75.65	74.94	74.24	73.54	72.85	72.16	71.48	70.80	70.13
40.00	DISCHG	69.46	68.79	68.13	67.40	66.83	66.19	65.55	63.32	51.57	42.08
42.00	DISCHG	34.40	28.20	23.17	19.11	15.81	13.14	10.96	9.20	7.76	6.58
44.00	DISCHG	[illegible].62	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	3.20	2.[illegible]	2.52	[illegible].[illegible]	2.04	[illegible].[illegible]
46.00	DISCHG	1.60	1.56	1.42	1.32	1.22	1.[illegible]	1.06	[illegible].[illegible]	0.93	[illegible].[illegible]
48.00	DISCHG	0.82	0.77	0.[illegible]	0.[illegible]	0.[illegible]	0.[illegible]	0.[illegible]	0.[illegible]	0.[illegible]	[illegible].[illegible]
50.00	DISCHG	0.47	0.44	0.42	0.40	0.38	0.36	0.34	0.32	0.31	0.29
52.00	DISCHG	0.28	0.26	0.25	0.23	0.22	0.21	0.20	0.19	0.18	0.17
54.00	DISCHG	0.16	0.15	0.14	0.13	0.13	0.12	0.11	0.10	0.10	0.09
56.00	DISCHG	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
58.00	DISCHG	[illegible].04	[illegible].04	[illegible].04	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.7343 CFS-HRS= 2820.60 ACRE-FT= 233.09

END OF

EXECUTIVE CONTROL CARD OPERATION COMPUT. FROM XSECTN/STRUCT 1/ 3 TO XSECTN/STRUCT 0/ 1
STARTING TIME= 0.00 RAIN DEPTH= 4.60 RAIN DURATION= 1.00 RAIN TABLE NO.= 1 SOIL CONDITION= 2
ALTERNATE NO.= 2 STORM NO.= 1

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 1.41 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 5.30

PEAK TIMES 15.67 | PEAK DISCHARGES 205.204 | PEAK ELEVATIONS (RUNOFF)

TIME		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20			DRAINAGE AREA= 1.41		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.09	0.22	0.37	0.52	0.68	0.83	0.99	0.69	1.37
8.00	DISCHG	1.25	1.57	2.46	3.36	4.26	5.15	6.22	12.30	17.29	22.27
10.00	DISCHG	27.12	37.57	41.12	38.47	61.92	81.34	101.11	110.33	124.83	139.33
12.00	DISCHG	150.07	160.59	171.11	181.63	189.40	193.35	197.21	201.07	204.93	204.24
14.00	DISCHG	202.30	201.35	199.91	197.40	192.60	187.79	182.99	178.18	173.54	168.95
16.00	DISCHG	164.36	159.78	155.33	151.61	147.85	144.01	140.52	136.91	133.65	130.40
18.00	DISCHG	127.14	123.98	121.23	118.49	115.76	113.03	110.57	108.30	106.03	103.75
20.00	DISCHG	101.50	99.64	97.78	95.92	94.05	92.34	90.78	89.22	87.66	86.09
22.00	DISCHG	84.76	83.44	82.11	80.79	79.50	78.42	77.34	76.26	75.15	74.03
24.00	DISCHG	72.91	71.80	70.68	69.41	67.84	66.27	64.79	63.45	60.95	58.60
26.00	DISCHG	56.26	53.92	51.46	48.68	45.90	43.12	40.34	37.71	35.12	32.54
28.00	DISCHG	29.96	27.47	25.41	23.36	21.31	19.26	17.61	16.21	14.82	13.42
30.00	DISCHG	12.09	11.13	10.24	9.36	8.48	7.72	7.12	6.65	6.18	5.72
32.00	DISCHG	4.91	4.57	4.11	3.71	3.37	3.13	2.86	2.59	2.31	2.12
34.00	DISCHG	1.95	1.77	1.60	1.46	1.33	1.21	1.10	0.91	0.82	0.72
36.00	DISCHG	0.74	0.65	0.59	0.54	0.49	0.44	0.39	0.35	0.31	0.28
38.00	DISCHG	0.25	0.22	0.19	0.17	0.15	0.13	0.11	0.09	0.08	0.06
40.00	DISCHG	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.00		

TOTAL RATE, IN INCHES OF DRAINAGE AREA= 2.2079 CFS-HRS= 3501.93 ACRE-FT= 172.09

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.76 INPUT RUNOFF CURVE= 76.5 TIME OF CONCENTRATION= 11.00

PEAK TIMES 10.85 | PEAK DISCHARGES 72.112 | PEAK ELEVATIONS (RUNOFF)

TIME		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20			DRAINAGE AREA= 0.76		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
6.00	DISCHG	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.12	0.24
8.00	DISCHG	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.99	2.89
10.00	DISCHG	3.79	4.69	5.59	6.49	7.39	8.29	9.19	10.56	12.51	14.48
12.00	DISCHG	16.45	18.42	20.39	22.36	24.33	26.30	28.27	30.84	33.41	35.97
14.00	DISCHG	38.54	41.11	43.68	46.25	48.82	51.38	53.41	55.03	56.66	58.28
16.00	DISCHG	59.90	61.53	63.15	64.77	66.39	67.65	68.32	68.79	69.27	69.74
18.00	DISCHG	70.21	70.68	71.15	71.62	72.09	71.94	71.55	71.16	70.76	70.37
20.00	DISCHG	69.97	69.58	69.19	68.79	68.25	67.34	66.44	65.53	64.62	63.71
22.00	DISCHG	62.81	61.90	60.99	60.08	59.29	58.51	57.73	56.96	56.18	55.40
24.00	DISCHG	54.63	53.85	53.07	52.31	51.55	50.79	50.04	49.28	48.53	47.77
26.00	DISCHG	47.02	46.26	45.50	44.65	43.81	42.91	42.05	41.18	40.32	39.45
28.00	DISCHG	38.59	37.72	36.86	35.97	35.07	34.17	33.27	32.37	31.47	30.57
30.00	DISCHG	29.67	28.77	27.87	26.98	26.08	25.18	24.28	23.38	22.48	21.58
32.00	DISCHG	20.68	19.78	19.06	18.37	17.67	16.97	16.27	15.58	14.88	14.18
34.00	DISCHG	13.54	13.05	12.55	12.05	11.56	11.06	10.56	10.07	9.57	9.08
36.00	DISCHG	8.59	8.11	7.62	7.13	6.64	6.15	5.66	5.18	4.69	4.21

38.00	DISCHG	5.70	5.49	5.27	5.06	4.85	4.64	4.43	4.22	4.01	3.87
40.00	DISCHG	3.72	3.58	3.44	3.30	3.16	3.01	2.87	2.73	2.62	2.52
42.00	DISCHG	2.43	2.33	2.24	2.14	2.05	1.95	1.86	1.76	1.70	1.63
44.00	DISCHG	1.56	1.49	1.43	1.36	1.29	1.22	1.16	1.10	1.05	1.01
46.00	DISCHG	0.96	0.91	0.86	0.81	0.76	0.71	0.67	0.64	0.62	0.59
48.00	DISCHG	0.56	0.53	0.51	0.48	0.45	0.42	0.41	0.39	0.37	0.35
50.00	DISCHG	0.34	0.32	0.30	0.28	0.27	0.25	0.24	0.23	0.22	0.21
52.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
54.00	DISCHG	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06
56.00	DISCHG	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02
58.00	DISCHG	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	

TOTAL WATER IN INCHES ON DRAINAGE AREA= 2.2417 CFS-HRS= 1121.24 ACRE-FT= 91.06

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPH= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
14.51	245.906	503.72

TIME HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.17

0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	1.58	2.26	3.06	4.00	5.09	6.41	9.29	14.10	19.57	25.16
10.00	DISCHG	30.91	42.26	53.41	66.96	79.31	89.62	105.02	120.83	137.35	153.31
12.00	DISCHG	156.41	179.21	191.80	203.99	215.50	219.55	223.49	231.91	246.36	263.21
14.00	DISCHG	241.35	242.46	243.31	245.55	241.10	239.17	236.60	233.71	230.10	227.23
16.00	DISCHG	224.27	221.30	218.53	216.34	214.24	211.04	208.64	205.53	202.72	200.11
18.00	DISCHG	197.35	194.66	192.37	190.11	187.85	184.97	182.12	179.45	176.79	174.12
20.00	DISCHG	171.48	169.22	166.97	164.71	162.30	159.69	157.22	154.75	152.28	149.81
22.00	DISCHG	147.57	145.34	143.10	140.87	138.65	136.97	135.09	133.21	131.33	129.44
24.00	DISCHG	127.54	125.65	123.75	121.77	119.59	117.36	114.74	112.42	109.47	106.33
26.00	DISCHG	103.28	100.18	96.97	93.32	89.60	86.03	82.59	79.69	76.44	71.99
28.00	DISCHG	68.55	65.19	62.23	59.24	56.24	53.29	50.67	48.22	45.70	43.65
30.00	DISCHG	41.55	39.52	37.75	35.90	34.20	32.59	31.12	29.65	28.17	26.70
32.00	DISCHG	25.42	24.27	23.18	22.08	21.04	20.08	19.11	18.15	17.13	16.30
34.00	DISCHG	15.69	14.82	14.15	13.50	12.88	12.27	11.66	11.05	10.47	9.89
36.00	DISCHG	9.47	9.01	8.59	8.32	7.95	7.58	7.31	6.98	6.56	6.19
38.00	DISCHG	5.94	5.70	5.47	5.23	5.00	4.77	4.56	4.31	4.08	3.93
40.00	DISCHG	3.77	3.62	3.47	3.32	3.17	3.02	2.88	2.73	2.62	2.52
42.00	DISCHG	2.43	2.33	2.24	2.14	2.05	1.95	1.86	1.76	1.70	1.63
44.00	DISCHG	1.56	1.49	1.43	1.36	1.29	1.22	1.16	1.10	1.05	1.01
46.00	DISCHG	0.96	0.91	0.86	0.81	0.76	0.71	0.67	0.64	0.62	0.59
48.00	DISCHG	0.56	0.53	0.51	0.48	0.45	0.42	0.41	0.39	0.37	0.35
50.00	DISCHG	0.34	0.32	0.30	0.28	0.27	0.25	0.24	0.23	0.22	0.21
52.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
54.00	DISCHG	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06
56.00	DISCHG	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02
58.00	DISCHG	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	

TOTAL WATER IN INCHES ON DRAINAGE AREA= 2.2739 CFS-HRS= 3165.80 ACRE-FT= 263.92

SUBROUTINE REACH CROSS SECTION 1

LENGTH= 1000.00 INPUT COEFFICIENT= 0.0000 INPUT ROUTINGS= 0.00

AVERAGE WATER VELOCITY= 0.340 AVERAGE ROUTING COEFF= 0.1700 NUMBER OF ROUTINGS= 1.03

SUBROUTINE RUNOFF CROSS SECTION 1

[illegible] INPUT [illegible] TIME OF CONCENTRATION= [illegible]

PEAK TIMES 13.50 | PEAK DISCHARGES 19.172 | PEAK ELEVATIONS (RUNOFF)

TIME		HYDROGRAPH, TZERO= 0.20				DELTA T= 0.20		DRAINAGE AREA= 0.13			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.04	0.06	0.08
8.00	DISCHG	0.10	0.17	0.24	0.31	0.38	0.55	0.87	1.20	1.30	1.81
10.00	DISCHG	2.52	3.15	6.27	5.10	6.16	7.45	8.74	10.05	11.32	12.51
12.00	DISCHG	13.71	14.91	16.10	16.32	17.49	18.06	18.63	19.12	19.11	19.10
14.00	DISCHG	18.08	18.07	18.20	18.11	18.22	17.82	17.22	16.72	16.23	15.73
16.00	DISCHG	15.25	14.84	14.44	14.05	13.66	13.29	12.96	12.64	12.31	11.99
18.00	DISCHG	11.70	11.43	11.15	10.88	10.62	10.39	10.17	9.96	9.71	9.52
20.00	DISCHG	9.33	9.15	8.96	8.79	8.63	8.47	8.32	8.16	8.03	7.90
22.00	DISCHG	7.77	7.65	7.51	7.50	7.29	7.18	7.07	6.96	6.89	6.80
24.00	DISCHG	6.70	6.60	6.48	6.37	6.25	6.12	5.96	5.77	5.59	5.41
26.00	DISCHG	5.16	4.93	4.81	4.72	4.19	3.91	3.64	3.38	3.12	2.89
28.00	DISCHG	2.67	2.45	2.23	2.03	1.86	1.70	1.54	1.37	1.27	1.16
30.00	DISCHG	1.06	0.96	0.87	0.80	0.73	0.67	0.60	0.55	0.51	0.46
32.00	DISCHG	0.41	0.36	0.35	0.32	0.29	0.26	0.24	0.22	0.20	0.18
34.00	DISCHG	0.16	0.15	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.07
36.00	DISCHG	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02
38.00	DISCHG	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00

TOTAL WATER IN INCHES ON DRAINAGE AREA= 2.2077 CFS-HRS= 191.94 ACRE-FT= 15.06

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPHS 6&4 OUTPUT HYDROGRAPHS 7

PEAK TIMES 15.18 | PEAK DISCHARGES 252.719 | PEAK ELEVATIONS 503.73

TIME		HYDROGRAPH, TZERO= 0.20				DELTA T= 0.20		DRAINAGE AREA= 2.30			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.01	0.03	0.06	0.09	0.14	0.21	0.33	0.49
8.00	DISCHG	0.71	1.02	1.42	1.97	2.66	3.50	4.72	6.96	9.95	12.45
10.00	DISCHG	16.32	22.07	28.85	36.77	45.87	56.05	67.34	79.06	93.50	107.75
12.00	DISCHG	122.50	137.19	151.59	165.47	178.78	191.10	202.26	212.31	221.17	229.19
14.00	DISCHG	235.80	241.22	245.45	248.74	251.09	252.36	252.72	252.20	251.00	249.31
16.00	DISCHG	247.23	244.93	242.43	239.83	237.25	234.68	232.07	229.26	226.37	223.42
18.00	DISCHG	220.49	217.53	214.61	211.76	209.01	206.29	203.66	200.63	197.73	194.95
20.00	DISCHG	192.12	189.31	186.59	183.94	181.34	178.74	176.11	173.48	170.83	168.20
22.00	DISCHG	165.69	163.15	160.66	158.21	155.79	153.45	151.19	148.00	146.86	144.76
24.00	DISCHG	142.68	140.60	138.54	136.47	134.37	132.18	129.89	127.54	125.17	122.56
26.00	DISCHG	119.75	116.83	113.80	110.65	107.33	103.88	100.34	96.72	93.07	89.45
28.00	DISCHG	85.82	82.19	78.59	75.11	71.73	68.39	65.12	61.99	59.04	56.21
30.00	DISCHG	53.47	50.83	48.37	46.06	43.85	41.73	39.72	37.83	36.02	34.27
32.00	DISCHG	32.59	31.00	29.52	28.10	26.76	25.48	24.27	23.11	21.99	20.91
34.00	DISCHG	19.87	18.89	17.98	17.12	16.30	15.53	14.79	14.00	13.39	12.72
36.00	DISCHG	12.08	11.50	10.95	10.44	9.95	9.50	9.05	8.63	8.22	7.83
38.00	DISCHG	7.46	7.11	6.79	6.49	6.20	5.92	5.66	5.40	5.15	4.90
40.00	DISCHG	4.68	4.47	4.28	4.09	3.91	3.74	3.57	3.41	3.26	3.11
42.00	DISCHG	2.98	2.85	2.73	2.62	2.51	2.40	2.29	2.19	2.09	2.00
44.00	DISCHG	1.92	1.84	1.76	1.68	1.61	1.53	1.46	1.39	1.32	1.26
46.00	DISCHG	1.20	1.15	1.09	1.04	0.99	0.94	0.89	0.84	0.79	0.75
48.00	DISCHG	0.71	0.68	0.65	0.62	0.58	0.55	0.52	0.50	0.47	0.45
50.00	DISCHG	0.43	0.41	0.39	0.37	0.35	0.33	0.31	0.29	0.28	0.26
52.00	DISCHG	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.15	0.15
54.00	DISCHG	0.14	0.13	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08

FORM 1411-62-PRINTED BY ROTARY MANIFOLD FORMS

56.00	DISCHG	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03
56.00	DISCHG	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01

TOTAL WATER IN INCHES ON DRAINAGE AREA= 2.2742 CFS-HRS= 3375.73 ACRE-FT= 276.97

SUBROUTINE RUNOFF CROSS SECTION
AREA= 0.22 INPUT RUNOFF CURVE= 66.0 TIME OF CONCENTRATION= 7.20

PEAK TIMES 16.07 PEAK DISCHARGES 15.73 PEAK ELEVATIONS (CUMCFS)

TIME				HYDROGRAPH, IZERO= 0.00		DELTA T= 0.20		DRAINAGE AREA= 0.22			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.00	0.00	0.06	0.17	0.27	0.37	0.47	0.58
10.00	DISCHG	0.68	1.31	1.98	1.93	2.38	2.89	4.01	5.51	6.60	8.39
12.00	DISCHG	9.99	6.49	7.40	8.13	8.90	9.65	10.40	11.16	11.87	12.35
14.00	DISCHG	12.82	13.30	13.70	14.25	14.73	14.91	15.07	15.23	15.39	15.56
16.00	DISCHG	15.72	15.69	15.60	15.51	15.42	15.33	15.24	15.20	14.86	14.53
18.00	DISCHG	14.46	14.20	13.96	13.82	13.70	13.51	13.37	13.24	12.96	12.75
20.00	DISCHG	12.51	12.64	12.47	12.10	11.94	11.72	11.62	11.47	11.31	11.11
22.00	DISCHG	11.31	10.96	10.73	10.50	10.40	10.35	10.25	10.27	9.94	9.71
24.00	DISCHG	9.60	9.55	9.41	9.28	9.13	8.97	8.80	8.64	8.47	8.31
26.00	DISCHG	8.12	7.99	7.86	7.43	7.20	6.97	6.74	6.47	6.21	5.95
28.00	DISCHG	5.68	5.42	5.16	4.91	4.66	4.42	4.17	3.93	3.66	3.42
30.00	DISCHG	3.20	3.09	2.99	2.89	2.80	2.75	2.69	2.70	1.94	1.92
32.00	DISCHG	1.87	1.86	1.87	1.84	1.79	1.71	1.72	1.56	0.91	1.92
34.00	DISCHG	0.86	0.80	0.74	0.69	0.65	0.61	0.57	0.53	0.49	0.45
36.00	DISCHG	0.43	0.40	0.38	0.35	0.33	0.30	0.28	0.26	0.25	0.23
38.00	DISCHG	0.21	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11
40.00	DISCHG	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05
42.00	DISCHG	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02
44.00	DISCHG	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
46.00	DISCHG	0.01	0.00								

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.6584 CFS-HRS= 207.06 ACRE-FT= 17.11

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 7,5 OUTPUT HYDROGRAPH= 6

PEAK TIMES 15.22 PEAK DISCHARGES 267.788 PEAK ELEVATIONS 563.76

TIME				HYDROGRAPH, IZERO= 0.00		DELTA T= 0.20		DRAINAGE AREA= 2.32			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.01	0.01	0.03	0.06	0.09	0.14	0.21	0.33	0.49
8.00	DISCHG	0.71	1.02	1.42	1.97	2.71	3.67	5.00	6.93	9.62	13.01
10.00	DISCHG	17.65	23.23	30.41	38.72	48.19	58.74	70.55	83.75	97.39	113.05
12.00	DISCHG	128.57	143.87	158.99	173.62	187.68	200.83	212.66	223.46	233.04	241.53
14.00	DISCHG	248.62	254.52	259.22	262.99	265.82	267.26	267.78	267.43	266.40	264.87
16.00	DISCHG	262.95	260.62	258.03	255.34	252.67	250.01	247.31	244.34	241.25	238.10
18.00	DISCHG	234.97	231.81	228.68	225.64	222.73	219.82	216.81	213.76	210.74	207.73
20.00	DISCHG	204.73	201.75	198.86	196.06	193.38	190.61	187.73	184.95	182.19	179.44
22.00	DISCHG	176.72	174.01	171.38	168.80	166.26	163.78	161.38	159.07	156.88	154.83
24.00	DISCHG	152.55	150.15	147.85	145.76	143.51	141.13	138.69	136.18	133.66	131.03
26.00	DISCHG	127.87	124.72	121.46	118.06	114.54	110.96	107.37	103.79	99.28	95.39
28.00	DISCHG	91.50	87.60	83.75	80.02	76.39	72.81	69.30	65.91	62.72	59.69
30.00	DISCHG	56.80	54.09	51.54	49.15	46.92	44.87	42.98	41.26	39.68	38.22

32.00	DISCHG	34.26	32.56	30.96	29.46	28.05	26.69	25.39	24.15	22.97	21.83
34.00	DISCHG	20.71	19.70	18.72	17.80	16.95	16.14	15.36	14.61	13.89	13.17
36.00	DISCHG	12.51	11.90	11.32	10.79	10.28	9.83	9.34	8.90	8.47	8.06
38.00	DISCHG	7.67	7.30	6.97	6.66	6.36	6.07	5.80	5.55	5.27	5.01
40.00	DISCHG	4.78	4.57	4.37	4.17	3.99	3.82	3.64	3.47	3.32	3.16
42.00	DISCHG	3.02	2.89	2.77	2.65	2.54	2.43	2.32	2.22	2.12	2.03
44.00	DISCHG	1.94	1.85	1.77	1.69	1.62	1.54	1.47	1.41	1.34	1.27
46.00	DISCHG	1.21	1.15	1.09	1.04	0.99	0.93	0.88	0.83	0.79	0.75
48.00	DISCHG	0.71	0.68	0.65	0.61	0.58	0.55	0.52	0.50	0.47	0.45
50.00	DISCHG	0.42	0.40	0.39	0.37	0.35	0.33	0.31	0.29	0.28	0.26
52.00	DISCHG	0.25	0.24	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15
54.00	DISCHG	0.14	0.13	0.13	0.12	0.11	0.10	0.10	0.09	0.09	0.08
56.00	DISCHG	0.07	0.07	0.06	0.06	0.06	0.05	0.04	0.04	0.04	0.03
58.00	DISCHG	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 2.2030 CFS-HRS= 3562.78 ACRE-FT= 296.00

SUBROUTINE RESVOR STRUCTURE 1
SURFACE ELEVATION= 579.30

PEAK TIMES PEAK DISCHARGES PEAK ELEVATIONS
[illegible] 1[illegible] [illegible]

TYPE HYDROGRAPH, TREIG= 3.07 AREA I= 0.20 DRAINAGE AREA= 1.52

0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
8.00	DISCHG	0.84	1.37	0.53	1.79	1.17	1.43	2.03	2.[illegible]	[illegible]	5.11
[illegible]	DISCHG	7.26	9.82	13.12	16.21	22.06	28.40	35.45	43.52	52.7[illegible]	62.[illegible]
12.00	DISCHG	65.48	66.19	67.06	68.06	69.20	70.47	71.85	73.33	74.89	76.54
14.00	DISCHG	78.24	80.00	81.79	83.60	85.43	87.26	89.09	90.90	92.68	94.43
16.00	DISCHG	96.14	97.82	99.45	101.04	102.59	104.10	105.16	105.58	105.98	106.36
18.00	DISCHG	106.73	107.13	107.53	107.95	108.19	108.52	108.82	109.16	109.47	109.76
20.00	DISCHG	110.04	110.32	110.59	110.84	111.09	111.33	111.56	111.77	111.94	112.19
22.00	DISCHG	112.38	112.57	112.75	112.92	113.08	113.23	113.37	113.51	113.64	113.77
24.00	DISCHG	113.88	113.99	114.10	114.19	114.28	114.37	114.46	114.51	114.57	114.62
26.00	DISCHG	114.67	114.70	114.72	114.74	114.74	114.74	114.72	114.69	114.65	114.60
28.00	DISCHG	114.56	114.47	114.38	114.29	114.18	114.06	113.94	113.80	113.65	113.50
30.00	DISCHG	113.34	113.17	112.99	112.80	112.61	112.41	112.21	112.00	111.75	111.56
32.00	DISCHG	111.35	111.10	110.87	110.63	110.39	110.15	109.90	109.65	109.39	109.14
34.00	DISCHG	108.88	108.62	108.35	108.09	107.82	107.55	107.28	107.01	106.74	106.46
36.00	DISCHG	106.19	105.91	105.63	105.35	105.07	104.29	103.33	102.38	101.43	100.49
38.00	DISCHG	99.55	98.62	97.69	96.77	95.86	94.95	94.05	93.16	92.27	91.39
40.00	DISCHG	90.51	89.64	88.78	87.92	87.08	86.23	85.40	84.57	83.75	82.93
42.00	DISCHG	82.13	81.33	80.53	79.74	78.96	78.19	77.42	76.66	75.91	75.16
44.00	DISCHG	74.42	73.69	72.96	72.24	71.52	70.82	70.11	69.42	68.73	68.05
46.00	DISCHG	67.37	66.70	66.04	65.38	64.80	46.99	39.17	31.79	25.76	20.89
48.00	DISCHG	16.98	13.82	11.27	9.20	7.53	6.18	5.09	4.20	3.48	2.89
50.00	DISCHG	2.42	2.03	1.71	1.45	1.24	1.06	0.92	0.80	0.70	0.62
52.00	DISCHG	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.27	0.25	0.23
54.00	DISCHG	0.22	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.12	0.12
56.00	DISCHG	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.06	0.06	0.05
58.00	DISCHG	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02	0.02

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 2.2030 CFS-HRS= 3582.85 ACRE-FT= 296.09

ENDCMP

FORM 101.03 PRINTED BY ROTARY MANIFOLD FORM

EXECUTIVE CONTROL CARD OPERATION COMPUT. FROM XSECT/STRUCT 1/ 0 TO XSECTN/STRUCT 0/ 1
STARTING TIME= 0.00 RAIN DEPTH= 5.90 RAIN DURATION= 1.00 RAIN TABLE NO.= 1 SOIL CONDITION= 2
ALTERNATE NO.= 2 STORM NO.= 1

SUBROUTINE RUNOFF CROSS SECTION 2
AREA= 1.41 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 5.33

PEAK TIMES 13.63 PEAK DISCHARGES 312.557 PEAK ELEVATIONS (RUNOFF)

TIME				HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20			DRAINAGE AREA= 1.41		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.09	0.18
6.00	DISCHG	0.26	0.35	0.49	0.71	1.00	1.36	1.79	2.30	3.01	4.04
8.00	DISCHG	5.31	6.39	8.09	10.73	14.39	19.05	24.42	30.35	36.27	44.20
10.00	DISCHG	52.36	60.75	75.09	101.51	143.00	198.92	261.71	130.57	202.35	224.21
12.00	DISCHG	239.56	254.31	269.46	286.41	295.20	299.70	304.32	308.30	313.64	319.19
14.00	DISCHG	307.31	306.63	301.05	296.16	288.00	279.05	271.69	263.53	255.94	248.51
16.00	DISCHG	261.09	253.66	226.38	220.41	214.65	208.69	202.72	197.30	192.31	187.24
18.00	DISCHG	182.10	177.24	172.02	166.96	161.99	156.70	151.74	146.30	141.06	136.12
20.00	DISCHG	133.02	130.23	127.44	124.65	121.30	127.00	124.31	122.36	120.07	117.07
22.00	DISCHG	114.09	110.14	114.19	112.24	110.14	101.02	107.21	105.30	103.35	101.33
24.00	DISCHG	100.77	99.16	97.35	95.73	93.53	91.32	89.12	86.91	85.07	83.62
26.00	DISCHG	77.37	74.12	70.72	66.30	63.04	59.21	55.37	51.74	48.19	44.66
28.00	DISCHG	41.10	37.67	34.86	32.04	29.22	26.41	24.16	22.24	20.32	18.60
30.00	DISCHG	16.24	15.30	14.07	12.35	11.40	10.47	9.74	8.94	8.11	7.29
32.00	DISCHG	6.77	6.19	5.62	5.04	4.82	4.25	3.69	3.52	3.16	2.93
34.00	DISCHG	2.67	2.45	2.19	1.98	1.82	1.64	1.50	1.34	1.23	1.12
36.00	DISCHG	1.01	0.91	0.81	0.74	0.67	0.60	0.53	0.48	0.43	0.38
38.00	DISCHG	0.34	0.29	0.26	0.23	0.20	0.17	0.15	0.13	0.11	0.09
40.00	DISCHG	0.07	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.00	

TOTAL WATER IN INCHES ON DRAINAGE AREA= 3.3357 CFS-HRS= 3000.97 ACRE-FT= 254.61

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.76 INPUT RUNOFF CURVE= 76.5 TIME OF CONCENTRATION= 11.00

PEAK TIMES 16.31 PEAK DISCHARGES 106.309 PEAK ELEVATIONS (RUNOFF)

TIME				HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20			DRAINAGE AREA= 0.76		
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.07	0.21	0.44
6.00	DISCHG	0.08	0.12	0.16	0.23	0.34	0.50	0.72	0.96	0.46	0.74
8.00	DISCHG	1.02	1.29	1.57	1.85	2.12	2.40	2.68	2.95	4.29	5.80
10.00	DISCHG	7.32	8.83	10.34	11.85	13.37	16.88	16.39	18.58	21.66	24.74
12.00	DISCHG	27.83	30.91	53.99	37.07	40.15	43.24	46.32	50.15	53.98	57.82
14.00	DISCHG	61.65	65.48	69.31	73.15	76.98	80.81	83.76	86.03	88.30	90.50
16.00	DISCHG	93.85	95.13	97.60	99.68	101.95	103.97	104.46	104.95	105.44	105.93
18.00	DISCHG	106.42	106.92	107.41	107.90	108.39	107.97	107.19	106.40	105.62	104.84
20.00	DISCHG	104.05	103.27	102.49	101.70	100.72	99.23	97.75	96.26	94.78	93.29
22.00	DISCHG	91.81	90.32	88.84	87.35	86.09	84.86	83.64	82.41	81.19	79.96
24.00	DISCHG	78.73	77.51	76.28	75.09	73.94	72.79	71.65	70.49	69.34	68.19
26.00	DISCHG	67.04	65.88	64.74	63.60	62.46	61.96	59.82	58.71	57.14	55.97
28.00	DISCHG	54.61	53.24	52.03	50.69	49.46	48.23	47.00	45.80	44.56	43.33
30.00	DISCHG	41.27	39.94	38.70	37.47	36.24	35.01	33.77	32.54	31.32	30.06
32.00	DISCHG	28.83	27.78	26.79	25.84	24.83	23.85	22.87	21.89	20.91	19.93
34.00	DISCHG	19.03	18.33	17.64	16.94	16.24	15.55	14.85	14.15	13.46	12.76
36.00	DISCHG	12.28	11.88	11.50	10.93	10.55	10.05	9.58	9.1	8.69	8.3

FORM 1411-05 PRINTED BY ROXBY MANIFOLD FORMS

36.00	DISCHG	8.01	7.71	7.42	7.12	6.82	6.52	6.23	5.93	5.63	5.43
40.00	DISCHG	5.23	5.04	4.84	4.64	4.44	4.24	4.14	3.84	3.64	3.54
42.00	DISCHG	3.41	3.27	3.14	3.01	2.87	2.74	2.60	2.47	2.38	2.28
44.00	DISCHG	2.19	2.09	2.00	1.90	1.80	1.71	1.61	1.54	1.47	1.40
46.00	DISCHG	1.34	1.28	1.19	1.13	1.06	0.99	0.93	0.89	0.85	0.81
48.00	DISCHG	0.78	0.74	0.70	0.66	0.62	0.59	0.56	0.54	0.51	0.49
50.00	DISCHG	0.46	0.44	0.41	0.39	0.37	0.34	0.33	0.31	0.30	0.28
52.00	DISCHG	0.27	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16
54.00	DISCHG	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08
56.00	DISCHG	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03
58.00	DISCHG	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 3.3330 CFS-HRS= 4679.56 AC.FT-FT= 385.25

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES PEAK DISCHARGES PEAK ELEVATIONS
14.36 370.39 563.93

TIME HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.17

0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.34	0.67	0.65	1.04	1.44	1.84	2.23	3.02	4.08	5.30
8.00	DISCHG	6.33	7.09	10.26	12.64	15.02	17.39	20.10	31.30	40.56	50.00
10.00	DISCHG	59.60	77.57	95.47	113.37	131.26	150.83	175.16	199.19	224.53	248.96
12.00	DISCHG	307.30	285.41	302.04	321.49	341.04	343.03	360.54	335.05	367.43	349.01
14.00	DISCHG	309.46	309.91	372.56	369.81	314.95	360.23	353.46	349.56	344.24	339.09
16.00	DISCHG	333.96	328.75	323.06	322.29	314.63	312.43	307.9	305.33	297.79	293.10
18.00	DISCHG	288.60	284.15	280.45	276.76	273.06	268.45	263.93	259.71	255.48	251.26
20.00	DISCHG	247.07	243.50	239.93	236.35	232.58	228.55	224.75	220.94	217.14	213.36
22.00	DISCHG	209.89	206.46	203.03	199.59	196.53	193.69	190.85	188.01	185.17	182.36
24.00	DISCHG	179.60	176.86	173.63	170.82	167.47	164.19	160.76	157.60	155.21	148.01
26.00	DISCHG	144.61	142.01	139.46	136.56	133.25	129.15	118.39	111.15	103.83	100.52
28.00	DISCHG	95.70	91.01	86.69	82.78	78.56	74.47	70.80	67.54	64.27	61.01
30.00	DISCHG	57.80	55.24	52.77	50.30	47.83	45.59	43.53	41.47	39.41	37.35
32.00	DISCHG	35.57	33.96	32.43	30.90	29.45	28.11	26.76	25.61	24.07	22.84
34.00	DISCHG	21.70	20.76	19.82	18.92	18.06	17.29	16.35	15.69	14.68	13.08
36.00	DISCHG	13.29	12.73	12.19	11.67	11.15	10.63	10.12	9.61	9.13	8.69
38.00	DISCHG	8.35	8.01	7.68	7.35	7.02	6.72	6.37	6.06	5.74	5.52
40.00	DISCHG	5.30	5.09	4.88	4.67	4.46	4.25	4.05	3.85	3.68	3.56
42.00	DISCHG	3.41	3.27	3.14	3.01	2.87	2.74	2.60	2.47	2.38	2.28
44.00	DISCHG	2.19	2.09	2.00	1.90	1.80	1.71	1.61	1.54	1.47	1.40
46.00	DISCHG	1.33	1.26	1.19	1.13	1.06	0.99	0.93	0.89	0.85	0.81
48.00	DISCHG	0.78	0.74	0.70	0.66	0.62	0.59	0.56	0.54	0.51	0.49
50.00	DISCHG	0.46	0.44	0.41	0.39	0.37	0.34	0.33	0.31	0.30	0.28
52.00	DISCHG	0.27	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16
54.00	DISCHG	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08
56.00	DISCHG	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03
58.00	DISCHG	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 3.3665 CFS-HRS= 4717.48 AC.FT-FT= 389.85

SUBROUTINE REACH CROSS SECTION 1
LENGTH= 1000.00 INPUT COEFFICIENT= 0.0000 INPUT ROUTING= 0.00

AVERAGE WATER VELOCITY= 0.355 TRAVEL ROUTING COEFF= 0.1720 CARRY OVER ROUTING= 0.68

SUBROUTINE RUNOFF CROSS SECTION 2
AREA= 0.76 INPUT RUNOFF= 0.70 PCT. OF IMPERVIOUS= 0.0

FORM 1-311-60 PRINTED BY ROTARY MANIFOLD PRINTS

PEAK TIMES
13.66

PEAK DISCHARGES
29.343

PEAK ELEVATIONS
(RUNOFF)

TIME											
		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20		DRAINAGE AREA= 2.13			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
6.00	DISCHG	0.02	0.03	0.05	0.08	0.11	0.14	0.19	0.24	0.34	0.42
8.00	DISCHG	0.50	0.66	0.83	1.01	1.18	1.52	2.06	2.64	3.19	3.75
10.00	DISCHG	5.04	6.36	7.67	8.90	10.03	12.59	14.05	16.51	19.43	20.[illegible]
12.00	DISCHG	21.90	23.62	25.35	26.45	27.03	27.96	27.70	28.31	29.12	29.[illegible]
14.00	DISCHG	28.91	28.77	28.26	27.55	26.73	26.21	25.50	24.71	23.91	23.[illegible]
16.00	DISCHG	22.33	21.67	21.05	20.42	19.80	19.22	18.71	18.20	17.69	17.19
18.00	DISCHG	16.75	16.33	15.91	15.48	15.09	14.75	14.40	14.06	13.71	13.43
20.00	DISCHG	13.14	12.86	12.58	12.32	12.09	11.86	11.63	11.40	11.20	11.01
22.00	DISCHG	10.81	10.62	10.44	10.23	10.12	9.96	9.80	9.66	9.53	9.[illegible]
24.00	DISCHG	8.26	8.11	7.94	7.79	7.67	7.53	7.39	7.84	7.59	7.46
26.00	DISCHG	7.12	6.97	6.82	6.67	6.52	6.36	6.00	6.66	6.26	3.97
28.00	DISCHG	3.66	3.36	3.06	2.78	2.56	2.33	2.11	1.80	1.76	1.59
30.00	DISCHG	1.45	1.31	1.19	1.10	1.01	0.91	0.82	0.76	0.69	0.63
32.00	DISCHG	0.57	0.52	0.47	0.43	0.39	0.35	0.32	0.30	0.27	0.24
34.00	DISCHG	0.22	0.20	0.18	0.16	0.15	0.14	0.12	0.11	0.10	0.09
36.00	DISCHG	0.08	0.07	0.07	0.06	0.06	0.05	0.04	0.04	0.03	0.03
38.00	DISCHG	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
40.00	DISCHG	0.00									

TOTAL WATER IN INCHES ON DRAINAGE AREA= 3.3855 CFS-HRS= 204.04 ACRE-FT= 23.47

SUBROUTINE ADD(XD CROSS SECTION 1

INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIMES
15.00

PEAK DISCHARGES
385.125

PEAK ELEVATIONS
363.94

TIME											
		HYDROGRAPH, TZERO= 0.00				DELTA T= 0.20		DRAINAGE AREA= 2.30			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.06
6.00	DISCHG	0.12	0.19	0.29	0.43	0.63	0.90	1.21	1.55	2.14	2.[illegible]
8.00	DISCHG	3.62	4.63	5.83	7.34	9.07	11.15	13.02	17.47	22.32	28.28
10.00	DISCHG	35.87	44.02	56.03	69.00	83.63	99.96	117.77	137.29	150.28	280.35
12.00	DISCHG	202.95	224.99	246.53	267.08	286.64	304.66	320.55	334.72	347.00	357.91
14.00	DISCHG	366.66	373.55	378.61	382.26	384.49	385.13	384.43	382.45	379.47	375.82
16.00	DISCHG	371.66	367.24	362.58	357.82	353.17	348.60	344.02	339.17	334.23	329.25
18.00	DISCHG	324.33	319.41	314.55	309.05	303.39	300.56	295.30	291.69	287.09	282.56
20.00	DISCHG	278.04	272.57	268.84	265.04	260.09	258.83	252.71	248.61	244.56	240.52
22.00	DISCHG	236.51	232.59	228.75	224.97	221.27	217.60	214.22	210.65	207.66	204.45
24.00	DISCHG	201.31	198.19	195.09	191.99	188.86	185.62	182.25	178.83	175.31	171.57
26.00	DISCHG	167.56	163.37	159.04	154.54	149.84	144.96	139.95	134.85	129.73	124.64
28.00	DISCHG	119.55	114.46	109.44	104.57	99.84	95.20	90.65	86.28	82.18	78.24
30.00	DISCHG	74.43	70.76	67.33	64.11	61.04	58.10	55.30	52.68	50.16	47.74
32.00	DISCHG	45.40	43.19	41.12	39.16	37.29	35.51	33.83	32.22	30.66	29.15
34.00	DISCHG	27.71	26.35	25.08	23.88	22.74	21.67	20.66	19.69	18.69	17.76
36.00	DISCHG	16.87	16.05	15.29	14.58	13.91	13.27	12.66	12.07	11.49	10.[illegible]
38.00	DISCHG	10.43	9.95	9.50	9.07	8.67	8.29	7.91	7.55	7.20	6.86
40.00	DISCHG	6.55	6.26	5.98	5.73	5.46	5.24	5.01	4.76	4.56	4.36
42.00	DISCHG	4.17	3.99	3.82	3.66	3.51	3.34	3.21	3.07	2.94	2.[illegible]
44.00	DISCHG	2.69	2.57	2.46	2.35	2.25	2.14	2.05	1.96	1.87	1.79
46.00	DISCHG	1.67	1.60	1.51	1.44	1.38	1.31	1.25	1.19	1.08	1.08
48.00	DISCHG	0.99	0.94	0.89	0.85	0.80	0.76	0.72	0.68	0.65	0.62
50.00	DISCHG	0.59	0.56	0.53	0.50	0.48	0.45	0.43	0.40	0.38	0.36
52.00	DISCHG	0.34	0.32	0.31	0.29	0.27	0.26	0.24	0.23	0.22	0.21

FORM 1011 GD-PRINTED BY ROTARY MANIFOLD FORMS

54.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11
56.00	DISCHG	0.10	0.09	0.09	0.08	0.07	0.07	0.06	0.06	0.05	0.05
58.00	DISCHG	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 3.269% CFS-HRS= 5201.35 ACRE-FT= 413.31

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.22 INPUT RUNOFF CURVE= 66.0 TIME OF CONCENTRATION= 7.20

PEAK TIMES 15.99 | PEAK DISCHARGES 26.53 | PEAK ELEVATIONS (RUNOFF)

TIME		HYDROGRAPH, ZERO= 0.00				DELTA T= 0.20		DRAINAGE AREA= 3.22			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02
8.00	DISCHG	0.03	0.04	0.05	0.06	0.24	0.61	0.49	0.91	1.13	1.36
10.00	DISCHG	1.90	2.64	3.37	4.11	4.84	5.58	6.56	7.62	9.09	10.35
12.00	DISCHG	11.61	12.68	14.13	15.38	16.62	17.87	19.11	20.35	21.53	22.23
14.00	DISCHG	22.92	23.62	24.31	25.01	25.71	25.87	26.01	26.15	26.27	26.42
16.00	DISCHG	25.56	25.57	25.10	23.64	23.55	23.25	24.91	24.42	24.2	25.00
18.00	DISCHG	22.31	22.57	22.55	22.15	21.01	21.45	21.10	22.15	20.39	20.05
20.00	DISCHG	19.34	19.41	19.11	21.53	21.39	17.9	17.66	17.63	17.20	17.11
22.00	DISCHG	16.84	16.57	16.34	16.11	15.80	15.66	15.41	15.20	14.90	14.76
24.00	DISCHG	14.55	14.33	14.19	13.90	13.65	13.39	13.14	12.93	12.62	12.36
26.00	DISCHG	12.56	11.72	11.37	11.22	10.60	10.33	9.97	9.53	9.10	8.79
28.00	DISCHG	8.40	8.20	7.91	7.80	6.79	6.52	6.19	5.79	5.53	5.11
30.00	DISCHG	4.74	4.53	4.26	3.97	3.59	3.46	3.25	3.16	3.06	3.02
32.00	DISCHG	2.66	2.30	2.17	2.14	1.20	1.27	1.14	1.23	1.21	1.25
34.00	DISCHG	1.26	1.18	1.09	1.01	0.95	0.89	0.83	0.78	0.72	0.66
36.00	DISCHG	0.63	0.59	0.55	0.51	0.48	0.44	0.41	0.39	0.36	0.34
38.00	DISCHG	0.31	0.29	0.27	0.25	0.24	0.22	0.20	0.19	0.17	0.16
40.00	DISCHG	0.13	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08
42.00	DISCHG	0.07	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03
44.00	DISCHG	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
46.00	DISCHG	0.01	0.01	0.01	0.00						

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 2.3619 CFS-HRS= 355.35 ACRE-FT= 27.71

SUBROUTINE ADDHYD CROSS SECTION 1
INPUT HYDROGRAPHS= 7,5 OUTPUT HYDROGRAPH= 6

PEAK TIMES 15.02 | PEAK DISCHARGES 417.001 | PEAK ELEVATIONS 586.00

TIME		HYDROGRAPH, ZERO= 0.00				DELTA T= 0.20		DRAINAGE AREA= 2.52			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.06
6.00	DISCHG	0.12	0.19	0.29	0.44	0.65	0.92	1.21	1.61	2.19	2.82
8.00	DISCHG	3.64	4.69	5.88	7.39	9.31	11.61	14.51	18.38	23.45	29.63
10.00	DISCHG	37.78	47.66	59.40	73.11	88.53	105.52	126.32	145.11	167.37	190.69
12.00	DISCHG	214.57	237.87	260.66	282.46	303.26	322.52	339.56	355.07	368.54	380.14
14.00	DISCHG	389.58	397.16	402.92	407.27	410.19	411.00	410.44	408.59	405.75	402.24
16.00	DISCHG	398.22	393.61	388.67	383.64	378.71	373.87	369.00	363.79	358.44	353.05
18.00	DISCHG	347.71	342.37	337.10	332.08	327.12	322.31	317.80	313.45	309.10	304.91
20.00	DISCHG	299.76	295.00	290.36	285.85	281.43	276.98	272.20	268.20	264.04	259.57
22.00	DISCHG	253.35	248.16	243.09	238.09	233.33	229.65	226.09	222.62	219.22	
24.00	DISCHG	215.86	212.52	209.20	205.89	202.51	199.02	195.39	191.71	187.93	183.98
26.00	DISCHG	179.62	175.08	170.41	165.57	160.51	155.28	149.92	144.43	138.91	133.43
28.00	DISCHG	127.98	122.68	117.58	112.82	108.75	105.48	103.05	101.32	100.07	98.98

FORM 1611-GS-PRINTED BY ROTARY MANIFOLD FORM.

30.00	DISCHG	79.27	75.31	71.60	68.09	64.73	61.56	58.56	55.74	53.02	50.40
32.00	DISCHG	47.96	45.49	43.20	41.19	39.19	37.28	35.47	33.75	32.10	30.50
34.00	DISCHG	28.97	27.52	26.16	24.88	23.69	22.56	21.48	20.43	19.41	18.42
36.00	DISCHG	17.50	16.64	15.84	15.09	14.38	13.71	13.07	12.45	11.86	11.28
38.00	DISCHG	10.74	10.23	9.77	9.33	8.91	8.52	8.12	7.74	7.38	7.03
40.00	DISCHG	6.70	6.43	6.18	5.95	5.73	5.54	5.30	4.87	4.65	4.43
42.00	DISCHG	4.21	4.06	3.89	3.72	3.56	3.42	3.25	3.11	2.97	2.83
44.00	DISCHG	2.71	2.59	2.48	2.37	2.26	2.15	2.05	1.95	1.85	1.77
46.00	DISCHG	1.68	1.60	1.52	1.44	1.37	1.29	1.22	1.15	1.09	1.04
48.00	DISCHG	0.99	0.94	0.89	0.85	0.80	0.76	0.72	0.68	0.65	0.62
50.00	DISCHG	0.59	0.56	0.53	0.50	0.48	0.45	0.43	0.41	0.39	0.36
52.00	DISCHG	0.34	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.22	0.21
54.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11
56.00	DISCHG	0.10	0.09	0.09	0.08	0.07	0.07	0.06	0.06	0.05	0.05
58.00	DISCHG	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02

TOTAL WATER IN INCHES ON DRAINAGE AREA= 3.2761 CFS-HRS= 5328.77 ACRE-FT= 441.29

SUBROUTINE RESVOR STRUCTURE 1
SURFACE ELEVATION= 579.00

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
27.75	134.015	585.10

HYDROGRAPH TIERS= 0.00 DELTA T= 0.20 DRAINAGE ARE= 2.52

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.03	0.03	0.09	0.14	0.22	0.32	0.47	0.65	0.85	1.07
8.00	DISCHG	1.33	2.00	2.71	3.47	4.42	5.56	7.13	9.06	12.21	16.51
10.00	DISCHG	17.97	22.75	28.70	35.99	44.69	54.84	65.08	65.78	66.70	67.84
12.00	DISCHG	69.20	70.79	72.59	74.61	76.82	79.21	81.76	84.44	87.25	90.16
14.00	DISCHG	93.14	96.18	99.25	102.35	105.13	106.03	106.93	107.82	108.70	109.57
16.00	DISCHG	110.43	111.27	112.10	112.90	113.66	114.47	115.23	115.99	116.69	117.39
18.00	DISCHG	118.08	118.75	119.40	120.03	120.65	121.25	121.84	122.41	122.96	123.50
20.00	DISCHG	124.02	124.52	125.01	125.49	125.95	126.39	126.82	127.24	127.65	128.04
22.00	DISCHG	128.41	128.77	129.12	129.46	129.78	130.11	130.47	130.81	131.14	131.46
24.00	DISCHG	131.76	132.06	132.33	132.60	132.85	133.09	133.32	133.53	133.73	133.92
26.00	DISCHG	134.09	134.24	134.38	134.49	134.60	134.68	134.74	134.78	134.81	134.81
28.00	DISCHG	134.80	134.77	134.71	134.64	134.55	134.44	134.32	134.20	134.02	133.85
30.00	DISCHG	133.66	133.47	133.25	133.03	132.79	132.55	132.29	132.02	131.75	131.47
32.00	DISCHG	131.18	130.88	130.57	130.26	129.95	129.66	129.41	129.13	128.84	128.56
34.00	DISCHG	128.26	127.97	127.67	127.37	127.07	126.76	126.45	126.14	125.83	125.51
36.00	DISCHG	125.20	124.88	124.56	124.23	123.91	123.59	123.26	122.94	122.61	122.28
38.00	DISCHG	121.96	121.63	121.30	120.97	120.64	120.31	119.98	119.65	119.32	118.99
40.00	DISCHG	118.66	118.33	118.00	117.67	117.34	117.01	116.68	116.35	116.02	115.69
42.00	DISCHG	115.36	115.04	114.71	114.38	114.05	113.73	113.40	113.23	112.73	112.43
44.00	DISCHG	112.11	111.78	111.46	111.14	110.82	110.50	110.18	109.86	109.54	109.23
46.00	DISCHG	108.91	108.59	108.28	107.96	107.65	107.34	107.02	106.71	106.40	106.09
48.00	DISCHG	105.78	105.47	105.16	104.90	103.45	102.42	101.39	100.37	99.36	98.36
50.00	DISCHG	97.37	96.39	95.42	94.46	93.51	92.57	91.64	90.71	89.80	88.89
52.00	DISCHG	88.00	87.11	86.23	85.36	84.50	83.65	82.80	81.97	81.14	80.32
54.00	DISCHG	79.51	78.71	77.91	77.13	76.35	75.58	74.81	74.06	73.31	72.57
56.00	DISCHG	71.84	71.11	70.39	69.68	68.97	68.28	67.59	66.90	66.23	65.56
58.00	DISCHG	62.98	50.76	40.92	32.99	26.59	21.44	17.28	13.93	11.23	9.06

TOTAL WATER IN INCHES ON DRAINAGE AREA= 3.2761 CFS-HRS= 5328.06 ACRE-FT= 440.31

ENDCMP

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S Rockwood

3) WATERCOURSE: Bancroft Noles and Laudenschlager drains

4) DOCUMENT TYPE: 10 yr Summery

00BREAK00

LASER

SUMMARY PRINTOUT TYPE 15?

3.000	0.00	0.00	0.00	576.70	60.00	579.67	0.00	579.72	3.30	1.92	44.79	24.59
3.000	0.00	0.00	0.00	576.70	75.00	580.16	0.00	580.21	5.50	2.12	57.59	33.54
0.000	900.00	0.00	0.00	576.70	60.00	579.72	0.00	579.81	11.10	2.43	25.75	16.51
0.000	900.00	0.00	0.00	576.70	75.00	580.22	0.00	580.36	12.36	2.75	27.27	20.03
0.000	900.00	0.00	0.00	576.70	60.00	579.72	0.00	579.80	10.65	2.53	30.02	23.00
1.000	10.00	560.00	560.30	576.70	75.00	580.28	0.00	580.39	12.29	2.72	27.61	21.40
1.000	10.00	562.00	580.30	576.70	85.00	580.54	0.00	580.67	12.77	2.86	29.69	23.79
1.000	10.00	582.00	600.30	576.70	120.00	581.41	0.00	581.50	13.30	3.27	30.67	32.21
1.000	30.00	0.00	0.00	576.70	60.00	579.74	0.00	579.87	3.79	1.92	44.79	24.59
1.000	30.00	0.00	0.00	576.70	75.00	580.25	0.00	580.43	4.91	2.12	57.59	33.54
1.000	30.00	0.00	0.00	576.70	85.00	580.62	0.00	580.72	5.79	2.05	49.80	23.67
1.000	30.00	0.00	0.00	576.70	120.00	581.39	0.00	581.64	8.12	2.12	115.02	67.93
1.000	590.30	0.00	0.00	576.50	60.00	579.75	0.00	579.90	3.70	1.92	44.79	24.59
1.000	590.30	0.00	0.00	576.50	75.00	580.42	0.00	580.67	4.91	2.12	57.59	33.54
1.000	570.30	0.00	0.00	576.50	85.00	580.80	0.00	581.06	5.79	2.05	49.80	23.67
1.000	570.30	0.00	0.00	576.50	120.00	581.77	0.00	581.89	8.56	1.96	159.96	74.95
1.000	100.00	0.00	0.00	576.50	60.00	580.11	0.00	580.15	11.61	2.46	49.89	26.14
1.000	100.00	0.00	0.00	576.50	75.00	580.58	0.00	580.72	13.21	2.80	58.49	28.10
1.000	100.00	0.00	0.00	576.50	85.00	580.96	0.00	581.06	14.19	2.75	55.75	26.43
1.000	100.00	0.00	0.00	576.50	120.00	581.93	0.00	581.99	17.12	2.71	55.01	35.04
2.000	12.00	580.40	579.60	576.50	60.00	580.78	0.00	580.80	3.71	1.57	87.85	28.55
2.000	12.00	580.40	579.60	576.50	75.00	581.04	0.00	581.06	4.69	1.94	106.41	34.65
2.000	12.00	580.40	579.60	576.50	85.00	581.16	0.00	581.17	5.12	1.95	114.08	37.27
2.000	12.00	580.40	579.60	576.50	120.00	581.83	0.00	581.87	8.19	2.20	158.55	67.31
2.200	50.00	0.00	0.00	576.50	60.00	580.78	0.00	580.82	1.67	1.36	66.39	42.55
2.200	50.00	0.00	0.00	576.50	75.00	581.05	0.00	581.09	2.35	1.59	79.96	48.90
2.200	50.00	0.00	0.00	576.50	85.00	581.15	0.00	581.19	2.70	1.84	87.44	51.71
2.200	50.00	0.00	0.00	576.50	120.00	581.45	0.00	581.49	3.85	2.15	110.38	69.92

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FORM 1411-SS PRINTED BY ROTARY MANIFOLD FORMS

SECND	XLCH	ELTRD	E_LC	ELMIN	Q	CMSEL	CFIWS	BG	TOK*S	VCH	A*SA	.01K
2.700	420.00	0.00	0.00	577.00	55.00	582.69	0.00	580.92	8.04	1.79	33.92	31.55
[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.900	100.00	0.00	0.00	577.00	55.00	580.57	0.00	580.97	7.23	1.76	31.23	30.36
2.300	100.00	0.00	0.00	577.00	75.00	581.21	0.00	581.30	10.09	2.18	34.37	23.61
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.000	100.00	582.20	581.00	577.00	55.00	581.14	0.00	581.12	29.76	2.27	26.20	30.56
3.000	100.00	582.20	581.00	577.00	75.00	581.56	0.00	581.62	7.43	1.99	37.67	27.16
3.000	100.00	582.20	581.00	577.00	85.00	581.71	0.00	581.85	3.20	2.13	39.95	29.18
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.200	35.00	5.00	1.00	577.60	70.00	581.57	0.00	581.64	5.25	1.62	55.55	32.44
3.200	35.00	5.00	1.00	577.60	90.00	581.81	0.00	581.85	5.47	2.25	51.76	36.26
3.221	35.00	5.00	0.00	577.67	120.00	582.29	0.00	582.45	6.45	3.02	70.37	47.21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.430	35.00	5.00	1.00	579.33	45.00	581.39	0.00	581.45	6.20	2.73	58.99	33.60
3.630	35.00	5.00	1.00	579.73	120.00	582.46	0.00	582.52	7.52	2.07	75.42	43.49
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.000	20.00	581.40	580.60	576.30	120.00	582.34	0.00	582.42	6.78	2.75	53.47	46.04
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.200	50.00	0.00	0.00	577.40	55.30	581.34	0.00	581.39	3.37	1.92	48.47	28.71
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.700	980.00	0.00	0.00	578.00	55.00	581.64	0.00	581.67	2.43	1.46	52.94	35.29
4.700	960.00	0.00	0.00	578.00	75.00	582.20	0.00	582.25	2.59	1.66	67.10	47.36
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.800	100.00	0.00	0.00	578.00	55.00	581.64	0.00	581.79	22.07	3.08	17.86	11.71
4.800	100.00	0.00	0.00	578.00	75.00	582.19	0.00	582.39	27.57	3.65	20.57	14.28
4.800	100.00	0.00	0.00	578.00	85.00	582.41	0.00	582.65	30.60	3.92	21.60	15.37
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.000	10.00	582.90	581.70	578.00	75.00	582.62	0.00	582.79	20.89	3.30	22.74	16.41
5.000	10.00	582.90	581.70	578.00	85.00	582.86	0.00	583.05	23.33	3.55	23.94	17.60
5.100	10.00	582.90	581.70	578.00	120.00	582.97	0.00	583.34	43.71	4.90	24.49	10.95
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.200	50.00	0.00	0.00	578.00	85.00	583.10	0.00	583.12	1.23	1.32	133.39	76.75
5.200	50.00	0.00	0.00	578.00	120.00	583.44	0.00	583.47	1.67	1.61	165.01	92.60
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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FORM 6170 PRINTED BY ROTARY MANIFOLD FORMS

SECNO	XLCH	ELYTD	ELLC	ELMIN	R	CUSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
5.000	250.00	0.00	0.00	579.00	55.00	582.05	0.00	582.11	7.24	2.22	43.00	20.73
5.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.900	100.00	0.00	0.00	579.00	55.00	582.00	0.00	582.34	36.91	3.92	14.01	9.15
5.900	100.00	0.00	0.00	579.00	75.00	582.37	0.00	583.14	34.21	4.20	17.64	12.92
5.900	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.900	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.000	47.00	580.50	582.30	579.30	55.00	582.34	0.00	582.64	106.31	4.75	[illegible]	3.30
6.000	47.00	580.50	582.30	579.30	75.00	583.05	0.00	583.61	203.64	5.95	12.34	3.26
6.000	47.00	580.50	582.30	579.30	85.00	584.46	0.00	584.61	16.49	3.51	25.69	20.93
6.000	[illegible]	[illegible]	[illegible]	[illegible]	120.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.900	230.00	0.00	0.00	570.90	75.00	584.29	0.00	584.41	13.32	2.66	26.38	20.55
6.900	230.00	0.00	0.00	570.90	85.00	584.78	0.00	584.92	13.48	2.55	27.35	23.15
6.900	230.00	0.00	0.00	570.90	120.00	586.32	0.00	586.60	13.53	3.19	37.55	32.63
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.000	49.00	590.00	582.30	578.90	55.00	585.75	0.00	585.40	9.15	2.54	33.46	20.10
7.000	49.00	590.00	582.50	578.90	120.00	586.45	0.00	580.56	7.55	2.56	47.26	43.55
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.100	50.00	0.00	0.00	578.90	120.00	588.59	0.00	588.39	3.09	0.48	611.37	401.93

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FORM 1411-00 PRINTED BY ROTARY MANIFOLD FORMS.

LAUDENSCHLAGER

SUMMARY PRINTOUT TAL.. 15?

0.500	55.00	579.63	0.00	1.02	-1.01	32.53	0.00
0.500	75.00	580.15	0.00	0.53	0.13	36.32	0.00
0.500	95.00	580.44	0.00	0.24	0.42	38.46	0.00
0.500	120.00	580.67	0.00	0.01	0.65	40.31	0.00
0.500	55.00	579.72	0.00	0.96	0.20	8.00	400.00
0.500	75.00	580.23	0.00	0.44	0.50	8.00	400.00
0.500	95.00	580.46	0.00	0.24	0.30	8.00	400.00
0.500	120.00	580.67	0.00	0.01	0.50	8.00	400.00
1.000	55.00	580.10	0.00	0.58	0.30	6.00	15.00
1.000	75.00	580.22	0.01	0.06	0.50	6.00	15.00
1.000	95.00	580.34	0.00	0.00	0.70	6.00	15.00
1.000	120.00	580.44	0.00	0.28	0.90	6.00	15.00
1.200	55.00	580.07	0.00	0.21	0.00	24.00	20.00
1.200	75.00	580.17	0.00	0.11	0.20	24.00	20.00
1.200	95.00	580.27	0.00	0.01	0.40	24.00	20.00
1.200	120.00	580.39	0.00	0.13	0.60	24.00	20.00
1.400	55.00	580.04	0.00	0.04	0.00	28.00	14.00
1.400	75.00	580.13	0.00	0.05	0.20	28.00	14.00
1.400	95.00	580.23	0.00	0.15	0.40	28.00	14.00
1.400	120.00	580.34	0.00	0.26	0.60	28.00	14.00
1.600	55.00	580.02	0.00	0.02	0.00	32.00	12.50
1.600	75.00	580.11	0.00	0.07	0.20	32.00	12.50
1.600	95.00	580.20	0.00	0.16	0.40	32.00	12.50
1.600	120.00	580.31	0.00	0.27	0.60	32.00	12.50
1.700	120.00	580.77	0.00	0.17	1.73	155.54	570.00
1.800	55.00	580.11	0.00	0.05	0.00	60.48	170.00
1.800	75.00	580.21	0.00	0.05	0.20	60.48	170.00
1.800	95.00	580.30	0.00	0.14	0.40	60.48	170.00
1.800	120.00	580.41	0.00	0.25	0.60	60.48	170.00
2.000	55.00	580.10	0.00	0.06	0.00	68.26	12.00
2.000	75.00	580.21	0.00	0.06	0.00	79.82	12.00
2.000	95.00	580.31	0.00	0.16	0.00	91.38	12.00
2.000	120.00	580.43	0.00	0.28	0.00	105.80	12.00
2.200	55.00	580.09	0.00	0.07	0.00	36.97	50.00
2.200	75.00	580.20	0.00	0.07	0.00	68.20	50.00
2.200	95.00	580.30	0.00	0.17	0.00	80.49	50.00
2.200	120.00	580.42	0.00	0.29	0.00	107.20	50.00
2.400	55.00	580.08	0.00	0.08	0.00	28.95	420.00
2.400	75.00	580.17	0.00	0.12	0.00	24.27	420.00
2.400	95.00	580.29	0.00	0.14	0.00	26.84	420.00
2.400	120.00	580.37	0.00	0.11	1.09	27.95	420.00
2.600	55.00	580.12	0.00	0.12	0.00	10.30	300.00
2.600	75.00	580.21	0.00	0.13	0.20	10.20	100.00
2.600	95.00	580.31	0.00	0.06	0.00	10.00	100.00
2.600	120.00	580.43	0.00	0.06	1.11	10.00	100.00
2.800	55.00	580.11	0.00	0.11	0.00	10.00	100.00
2.800	75.00	580.20	0.00	0.11	0.20	10.00	100.00
2.800	95.00	580.30	0.00	0.21	0.00	10.00	100.00
2.800	120.00	580.42	0.00	0.32	1.32	10.00	100.00

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

SECNO	D	C.SEL	DIFWSP	DIFWSN	DIFXWS	TOPWID	XLCH
3.200	55.00	581.11	0.00	0.07	0.00	19.95	35.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.800	55.00	581.11	0.00	[illegible]	0.00	5.00	35.00
3.800	75.00	581.60	0.00	0.03	0.00	22.30	35.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.000	55.00	581.20	0.00	0.13	0.00	5.00	20.00
4.000	75.00	581.87	0.00	0.27	0.00	23.73	20.00
4.000	85.00	582.08	0.00	0.23	0.00	24.87	20.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.200	75.00	581.59	0.00	0.02	0.00	23.24	50.00
4.200	85.00	582.14	0.00	0.02	0.00	24.22	50.00
4.200	120.00	582.57	0.00	0.03	1.23	92.45	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.700	85.00	582.43	0.00	0.04	0.00	35.45	900.00
4.700	120.00	582.99	0.00	0.43	1.35	53.00	900.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.800	120.00	582.90	0.00	-0.09	1.26	5.00	100.00
5.000	55.00	581.03	0.00	0.19	0.00	5.00	10.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.200	55.00	582.00	0.00	0.16	0.00	25.23	50.00
5.200	75.00	582.33	0.00	0.21	0.00	96.20	30.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.800	55.00	582.06	0.00	0.06	0.00	19.75	250.00
5.800	75.00	582.57	0.00	0.04	0.00	22.03	250.00
5.800	85.00	583.16	0.00	0.04	0.00	22.75	250.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.900	75.00	582.67	0.00	-0.01	0.00	5.00	100.00
5.900	85.00	583.12	0.00	-0.02	0.00	5.00	100.00
5.900	120.00	583.43	0.00	-0.06	1.33	5.00	100.00
6.000	55.00	[illegible]	0.00	[illegible]	0.00	5.00	47.00
6.000	75.00	[illegible]	0.00	0.18	0.00	5.00	47.00
6.000	85.00	584.44	0.00	1.31	0.00	5.00	47.00
6.000	120.00	586.20	0.00	2.77	3.86	5.00	47.00

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SECNO	Q	CUSEL	DIFWSP	DIFWSX	DIFWS	TOPWID	XLCH
6.500	55.00	303.19	0.00	2.85	3.00	5.00	230.30
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.300	55.00	502.57	2.00	1.34	0.00	5.10	49.00
7.200	75.00	514.98	2.00	0.79	3.00	5.50	45.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.100	95.00	503.64	0.50	0.12	0.50	100.30	50.00
7.100	75.00	555.11	0.00	0.15	0.20	100.30	50.00
7.100	55.00	515.62	0.50	0.13	0.40	100.30	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	100.30	[illegible]

SUMMARY OF ERRORS

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

FLOOD INSURANCE ZONE DATA FOR LAUDENSCHLAGER

FLOOD HAZARD FACTOR FOR [illegible] USING [illegible]

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND: 100	27	0.27
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.300	115.	[illegible]	[illegible]	0.9
1.200	166.	[illegible]	-0.3	0.9
1.700	736.	[illegible]	[illegible]	[illegible]
1.300	[illegible]	[illegible]	[illegible]	[illegible]
2.000	[illegible]	[illegible]	[illegible]	[illegible]
2.200	[illegible]	[illegible]	[illegible]	[illegible]
2.700	1313.	-0.4	-0.1	0.7
2.300	1411.	-0.4	-0.1	0.7
3.000	1524.	-0.7	[illegible]	0.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.200	1624.	-0.5	-0.2	0.5
4.700	2626.	-0.3	-0.2	0.5
4.800	2724.	[illegible]	-0.2	0.5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.900	3134.	-1.0	-0.3	0.3
6.000	3181.	-2.1	-1.4	1.3
6.900	3381.	-1.6	-0.5	1.7
7.000	3430.	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HEIGHTED AVG FOR REACH		-0.9	-0.2	0.7

[illegible] = [illegible] 0.5 [illegible]
[illegible] FOR THE REACH = [illegible]

FORM 1411-GD PRINTED BY ROTARY MANIFOLD FORMS.

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft (Noles) and Laudenschlager drains

4) DOCUMENT TYPE: 10yR

00BREAK00

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**************************************************
  USGS RELEASE DATED NOV 71 UPDATED FOR 1977
  PAPER CODE -  01
  MODIFICATION -  71.1.02
**************************************************

C
C  ROUTE ROCK,000 VILLAGE FIL HDR2051-02 BASECRFT ,OLES CRAIG
T1  1.  MA
T3      S.ROCKWOOD BANC. NOLES

J1  NCHECK    INQ       NWAV      IDIF      STRT      METRIC    AVISS     Q         JSEL      EQ
          3.        2.        0.        3.  0.700000    0.00      1.0       7.    572,350     5.000

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     3.000     0.000

J3  VARIABLE LOADS FOR SUB-DIVISION
     150.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J4  LPRJT     XU,SEC                    ********REQUESTED SECTION NUMBERS********
    -1.000    -10.000     3.000     0.000     3.000     3.000     1.000     0.100     0.000
ST      .300    125.000   220.300   295.000   330.300   445.000     0.300     1.000     1.300     0.000
NC      0.030     0.080     0.340     3.300     0.500     0.000     0.000     0.000     0.000     0.000

                UPSTREAM FACE OF SADDLETOWN-ROCKWOOD ROAD
X1      5030.000    13.000   114.000   126.000    70.000    75.000    70.300     0.000     0.000     0.000
X3        10.000     0.000     0.000     0.000     0.000     0.000     0.000   536.000   585.000     0.000
GR       590.000    45.000   581.000    50.000   580.100   109.000   576.400   114.000   576.400   114.100
GR       576.400   125.900   576.400   126.300   580.200   131.000   586.000   190.300   536.000   500.000
GR       583.000   501.000   582.100   501.300   560.000   502.000     0.000     0.300     0.000     0.000
ET         3.000     9.100     3.000     0.300     3.000     7.000     0.000     0.700    45.000   217.000
ST         5.000   110.000   205.000   270.300   270.000   420.000     0.000     0.200     0.000     0.000


X1      4030.000    14.000   147.500   152.500   420.000   150.000   420.000     0.200    -5.100     0.000
GR       590.000     0.000   586.000     1.000   585.000   190.000   582.200   147.500   581.700   143.000
GR       582.620   149.000   582.000   130.300   582.670   151.000   582.900   152.300   582.400   152.500
GR       586.010   160.000   586.100   186.000   586.300   220.000   592.000   270.300     0.000     0.000
NC         0.000     0.000     0.020     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET         0.000     9.100     7.100     0.000     0.000     0.000   139.000   161.000    83.000   217.000

                FOOTBRIDGE S4-3
X1      4531.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
BT        14.000     0.000   590.000     0.000     1.000   592.900     1.000   138.000   582.900     0.000
ST       147.500   582.900   579.800   148.000   582.900   581.300   149.000   582.900   582.100   150.000
ST       338.900   582.900   591.900   582.900   588.100   152.000   582.900   581.300   582.900   582.900
ST       579.800   160.000   582.900     0.000   154.000   582.920     0.000   220.000   583.200     0.000
ST       250.000   590.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET         0.000     9.100     7.100     0.000     0.000     0.000   139.000   161.000    83.000   217.000
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X1	4044.000	0.000	0.000	0.000	23.000	23.000	23.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	1.000	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	7.100	0.000	0.000	0.000	139.000	161.000	83.000	217.000

X1	4045.000	0.100	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	1.000	0.000	583.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	0.000	0.000	0.000	139.000	161.000	83.000	217.000

X1	4095.000	0.100	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
ET	0.000	9.100	7.100	0.100	7.100	0.100	91.000	253.000	105.000	166.000

X1	4295.000	10.000	145.000	154.000	200.000	200.000	200.000	0.000	-2.200	0.000
GR	590.000	0.000	583.000	1.000	583.500	151.000	581.300	145.000	560.400	150.000
GR	580.900	154.000	584.100	161.000	586.100	184.000	586.100	220.000	590.000	230.000
ET	0.000	9.100	9.100	1.000	9.100	0.100	0.100	0.000	70.000	230.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4365.000	14.000	147.500	152.500	50.000	50.000	50.000	0.000	-2.200	0.000
GR	590.000	70.000	590.000	71.000	583.500	148.000	583.500	166.000	560.400	150.000
GR	580.100	174.000	584.400	185.000	586.600	199.000	590.000	200.000	590.000	230.000
ET	0.000	9.100	9.100	9.100	9.100	0.100	0.100	0.000	70.000	230.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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X1	4640.300	11.000	167.500	172.500	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
GR	590.000	140.000	584.500	141.000	584.500	154.000	581.200	167.500	579.300	168.400
GT	579.300	170.000	579.300	171.600	581.200	172.500	534.500	185.000	584.500	199.000
[illegible]	590.100	265.000	0.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000
BH	0.000	0.650	3.000	0.000	0.200	0.000	11.300	0.000	579.300	579.300

X1	4691.000	0.000	0.000	0.000	51.000	51.000	51.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	583.700	585.100	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	585.100	585.100	0.000
BT	11.000	140.000	590.000	0.000	141.000	585.100	0.000	584.000	585.100	0.000
[illegible]	62.500	584.000	581.200	154.000	583.100	583.100	181.000	585.100	583.700	171.400
BT	585.100	583.100	172.500	585.100	584.200	135.000	585.100	0.000	199.000	585.100
BT	0.000	200.000	590.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000	0.000

X1	4761.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
YC	0.000	0.000	0.040	0.100	0.300	0.000	0.000	0.000	0.000	0.000

WESTBOUND SECTION 36

X1	5511.000	10.000	143.000	155.000	530.000	530.000	530.000	0.000	0.000	0.000
GR	590.000	0.000	584.000	1.000	584.000	138.000	581.000	145.000	580.400	150.000
GT	580.900	154.000	586.600	160.000	586.100	154.000	589.000	316.000	590.000	319.000
BT	0.000	9.100	9.100	7.100	7.100	7.100	155.000	245.000	174.000	226.000

FIELD BOOK SECTION # 37-A

X1	6061.000	10.000	194.000	206.000	830.000	830.000	830.000	0.000	-2.100	0.000
GR	600.000	31.000	586.600	32.000	586.600	188.000	584.300	194.000	583.700	200.000
GT	584.100	206.000	587.300	215.000	591.000	259.000	591.600	592.000	600.000	593.000

X1	6091.000	14.000	188.000	215.000	50.000	50.000	50.000	0.000	-2.100	0.000
X3	10.000	0.000	0.000	167.000	0.000	232.000	0.000	586.300	586.500	0.000
GR	600.000	31.000	586.600	167.000	586.600	188.000	584.300	197.500	584.700	198.000
GT	587.000	199.000	587.700	230.000	593.500	230.000	594.700	206.000	586.200	202.500
BT	587.300	213.000	588.500	230.000	593.000	393.000	600.000	593.000	0.000	0.000
S#	0.000	1.220	3.000	0.000	4.100	0.000	19.600	0.000	581.600	581.600

X1	6116.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	0.000	0.000
X2	1.000	0.000	1.000	586.400	587.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	167.000	0.000	230.000	0.000	587.800	587.800	0.000
BT	14.000	197.000	587.800	0.000	147.000	587.600	0.000	586.000	587.800	0.000
BT	197.500	587.800	584.100	198.000	587.800	585.600	199.000	587.800	586.400	200.000
BT	587.800	586.600	201.000	587.800	586.400	202.000	587.800	585.600	202.500	587.800
BT	584.100	215.000	587.800	0.000	230.000	588.500	0.000	230.000	589.500	0.000
BT	595.000	597.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	9.100	9.100	7.100	7.100	7.100	167.000	250.000	196.000	204.000

FIELD BOOK SECTION # 37-B

X1	6191.000	10.000	197.000	203.000	43.000	45.000	45.000	0.000	-2.100	0.000
GR	600.000	31.000	586.600	32.000	586.600	188.000	584.300	197.500	584.700	198.000
GT	584.100	206.000	587.300	215.000	591.000	259.000	591.600	592.000	600.000	593.000

X1	6206.000	14.000	197.500	00.500	43.000	45.000	45.000	0.000	-1.900	0.000

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X3	10.000	0.000	0.000	167.000	0.000	230.000	0.000	587.700	587.700	0.000
GR	600.000	31.000	586.600	32.000	586.600	180.000	584.300	197.500	584.700	198.000
GR	583.900	199.000	583.700	200.000	583.900	201.000	584.700	202.000	586.200	202.500
GL	582.000	215.000	590.000	239.000	591.600	392.000	600.000	393.000	0.000	0.000
[illegible]	0.000	1.020	0.000	0.000	5.000	0.000	26.000	0.000	[illegible]	[illegible]

X1	6222.000	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	587.000	587.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	167.000	0.000	230.000	0.000	587.700	587.700	0.000
[illegible]	4.000	167.000	[illegible]	0.000	167.700	167.700	0.000	[illegible]	587.700	0.000
[illegible]	197.500	587.700	[illegible]	198.000	587.700	587.000	199.000	587.700	587.000	200.000
[illegible]	587.700	587.000	[illegible]	587.700	587.700	[illegible]	587.700	587.000	202.500	587.700
BT	584.300	215.000	587.700	0.000	230.000	587.900	0.000	230.000	589.700	0.000
BT	393.300	398.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

FIELD 300: SECTION [illegible]

X1	6237.000	10.000	194.000	206.000	65.000	65.000	65.000	0.000	-1.900	0.000
X3	0.000	0.000	0.000	167.000	0.000	230.000	0.000	0.000	0.000	0.000
GR	600.000	31.000	586.600	32.000	586.600	180.000	584.300	194.000	583.700	200.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	390.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains
↑Noles

4) DOCUMENT TYPE: 10 ye.

00BREAK00

FORM 1411-G3-PRINTED BY ROTARY MANIFOLD FORMS.

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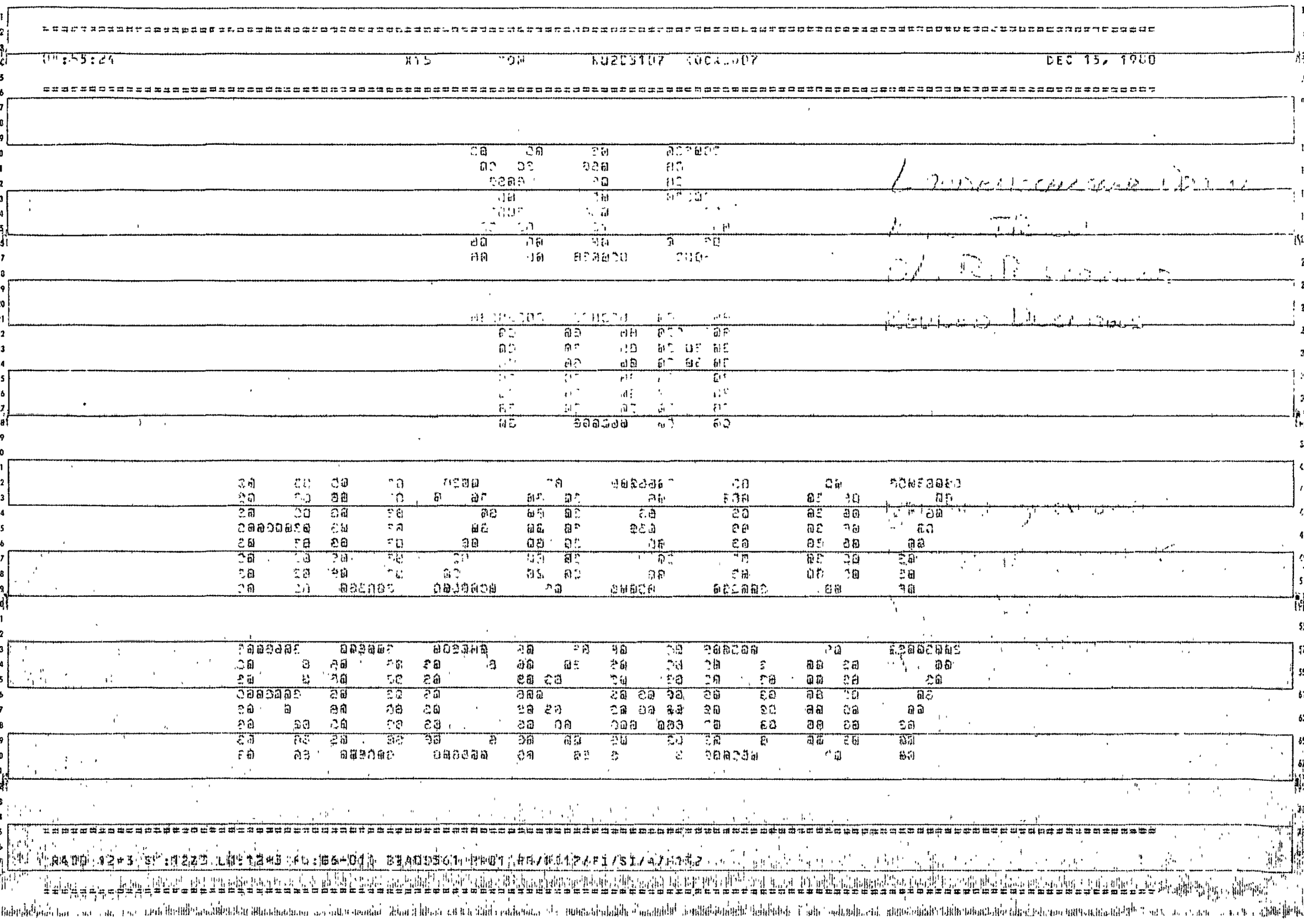

DISCHARGE HYDROGRAPH, HYDROGRAPH LOCATION 6

STARTING TIME= 5.00 TIME INCREMENT= 4.10 DRAINAGE AREA= 2.32 BASE FLOW= 1.00

0	0.0000	9.0000	35.0000	40.0000	43.0000
8	45.0000	46.0000	47.0000	46.0000	45.0000
8	45.0000	42.0000	35.0000	13.0000	7.0000
0	4.0000	3.5000	1.3000	1.0000	1.0000

9 ENDT.

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EXECUTIVE CONTROL CARD OPERATION LIST

```
LISTING OF DATA IN CASE

TC  LOUD INSCRIBGET BRAIN

                VELOCITY INCREMENT
1 CTABLE                0.2000

8                0.3007          0.3053          0.3100          0.3150          0.3200
8                0.3250          0.3300          0.3350          0.3400          0.3450
8                0.3500          0.3550          0.3600          0.3650          0.3700
8                0.6950          0.6600          0.6700          0.6800          0.6900
8                0.7000          0.7100          0.7200          0.7300          0.7400
8                0.7500          0.7600          0.7700          0.7800          0.7900
8                0.8000          0.8100          0.8200          0.8300          0.8400
8                0.8500          0.8600          0.8700          0.8800          0.8900
8                0.9000          0.9100          0.9200          0.9300          0.9400
8                0.9500
```

COMPUTED PEAK K FACTOR = 484.00

TIME INCREMENT

5 PROBE 1 0.0000

0	0.0000	0.0030	0.0170	0.0260	0.0350
0	0.0450	0.0550	0.0650	0.0760	0.0870
0	0.0990	0.1120	0.1250	0.1400	0.1550
0	0.1770	0.1940	0.2190	0.2540	0.2830
0	0.5[illegible]0	0.5530	0.6240	0.6540	0.6820
0	0.7050	0.7270	0.7480	0.7670	0.7840
0	0.8000	0.8160	0.8300	0.8440	0.8570
0	0.8700	0.8820	0.8930	0.9050	0.9160
0	0.9260	0.9360	0.9460	0.9550	0.9650
0	0.9740	0.9830	0.9920	1.0000	1.0000

9 [illegible]

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STANDARD CONTROL INSTRUCTIONS

```
6 REACH  3  4  6  5   4000.0000    0.5000    3.0E-001 1 2 1 0 0
6 RUNOFF 1  1     6      2.2500   77.0000    3.0E-001 1 2 1 0 0
6 ADDHYD 4  2  5  7                          1 1 2 1 0 0
ENDATA
```

END OF LISTING
EXECUTIVE CONTROL CARD OPERATION 1 APPLIED MAIN TONE INCREMENT= 2.20
EXECUTIVE CONTROL CARD OPERATION 6 APPLIED FLOW ASSUMED/STREET 1/ 1 TO ASSESS/CONDUCT 0/ 0
STARTING TIME= 0.00 RAIN DEPTH= 3.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 1 SOIL CONDITION= 2
ALTERNATE NO.= 2 STORM NO.= 1

SUBROUTINE REACH CROSS SECTION
LENGTH= 4000.00 INPUT COEFFICIENT= 0.5000 INPUT ROUTINGS= 3.00

AVERAGE WATER VELOCITY= 1.595 AVERAGE ROUTING COEFF= 0.4841 NUMBER OF ROUTINGS= 1.69

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
21.00	46.162	340.16

HYDROGRAPH, TZERO= 9.00 DELTA T= 0.20 DRAINAGE AREA= 2.52

TIME											
9.00	DISCHG	3.00	0.00	0.08	0.41	0.95	1.63	2.41	3.25	4.11	4.99
11.00	DISCHG	5.88	6.77	7.63	9.24	11.04	13.09	15.29	17.53	19.92	22.28
13.00	DISCHG	25.27	27.04	28.73	30.05	32.45	33.55	34.69	35.73	35.83	36.82
15.00	DISCHG	37.54	38.23	39.02	39.41	40.44	41.24	42.04	42.82	43.54	44.25
17.00	DISCHG	44.95	45.25	45.55	45.41	46.03	46.27	46.69	46.72	46.90	47.10
19.00	DISCHG	44.30	44.90	44.69	44.86	45.00	45.12	45.24	45.34	45.45	45.55
21.00	DISCHG	45.65	45.75	45.85	45.95	46.05	46.15	46.25	46.35	46.45	46.55
23.00	DISCHG	46.65	46.75	46.83	46.86	46.84	46.79	46.72	46.63	46.54	46.44
25.00	DISCHG	46.35	46.25	46.16	46.09	46.05	46.03	46.02	46.01	46.00	46.00
27.00	DISCHG	46.00	46.00	45.99	45.96	45.90	45.82	45.75	45.64	45.54	45.45
29.00	DISCHG	45.35	45.25	45.15	44.96	44.74	44.49	44.21	43.95	43.64	43.34
31.00	DISCHG	43.04	42.74	42.41	41.96	41.42	40.82	40.17	39.50	38.82	38.13
33.00	DISCHG	37.43	36.73	35.92	34.75	33.27	31.58	29.75	27.85	25.90	23.93
35.00	DISCHG	21.95	19.96	18.06	16.50	15.22	14.14	13.18	12.29	11.44	10.62
37.00	DISCHG	9.80	8.99	8.23	7.61	7.11	6.69	6.33	5.99	5.67	5.36
39.00	DISCHG	5.05	4.76	4.46	4.21	4.00	3.82	3.65	3.49	3.33	3.19
41.00	DISCHG	3.02	2.87	2.73	2.60	2.48	2.36	2.26	2.15	2.05	1.95
43.00	DISCHG	1.85	1.75	1.65	1.57	1.50	1.44	1.38	1.33	1.28	1.23
45.00	DISCHG	1.17	1.12	1.08	1.03	0.98	0.94	0.90	0.86	0.82	0.78
47.00	DISCHG	0.74	0.70	0.61	0.42	0.26	0.15	0.09	0.05	0.03	0.01
49.00	DISCHG	0.00									

TOTAL WATER IN INCHES ON DRAINAGE AREA= 0.6231 CFS-HRS= 1016.67 ACRE-FT= 84.02

SUBROUTINE RUNOFF CROSS SECTION 1
AREA= 0.28 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 3.40

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
12.42	22.492	(RUNOFF)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.28

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.00	DISCHG	0.00	0.00	0.01	0.03	0.05	0.13	0.20	0.46	1.08	1.68
10.00	DISCHG	2.23	4.31	8.0	0.83	10.75	12.96	14.96	16.92	18.84	20.4

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12.00	DISCHG	21.33	22.30	22.48	22.66	22.44	21.[illegible]	21.19	20.53	19.79	19.06
14.00	DISCHG	16.33	17.75	17.17	16.60	16.11	15.62	15.15	14.72	14.29	13.88
16.00	DISCHG	13.51	13.14	12.79	12.40	12.17	11.88	11.61	11.35	11.11	10.89
18.00	DISCHG	10.67	10.46	10.27	10.08	9.90	9.73	9.56	9.41	9.26	9.11
20.00	DISCHG	8.99	8.84	8.71	8.55	8.46	8.34	8.22	8.11	8.00	7.90
22.00	DISCHG	7.50	7.72	7.63	7.54	7.45	7.40	7.33	7.26	7.20	7.14
24.00	DISCHG	7.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.00	DISCHG	6.27	3.93	3.43	3.03	2.64	2.33	2.02	1.72	1.52	1.31
28.00	DISCHG	1.12	0.99	0.86	0.74	0.65	0.56	0.48	0.42	0.37	0.31
30.00	DISCHG	0.26	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.08	0.07
32.00	DISCHG	[illegible]	0.05	0.04	0.04	0.03	[illegible]	0.02	[illegible]	0.01	0.01
34.00	DISCHG	[illegible]	[illegible]	[illegible]							

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.0691 CFS-HRS= 193.99 ACRE-FT= 15.97

SUBROUTINE STORAGE CROSS SECTION 1
INPUT HYDROGRAPH= 3,2 OUTPUT HYDROGRAPH= 7

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
19.99	53.975	580.63
25.50	36.339	580.63

TIME [illegible] HYDROGRAPH, FACTOR= 0.70 SPLIT= 0.20 ADDITIONAL AREA= 2.30

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.00	DISCHG	[illegible]	[illegible]	[illegible]	[illegible]	44.46	37.76	28.64	23.30	28.39	29.61
12.00	DISCHG	32.36	35.89	37.77	40.14	[illegible]	[illegible]	[illegible]	[illegible]	49.10	50.14
14.00	DISCHG	50.79	51.31	51.66	51.92	52.20	52.45	52.69	52.97	53.21	53.36
16.00	DISCHG	53.45	53.68	53.48	53.50	53.50	53.52	53.56	53.60	53.66	53.70
18.00	DISCHG	53.72	53.74	53.76	53.77	53.00	53.03	53.86	53.91	53.95	53.97
20.00	DISCHG	53.98	53.97	53.95	53.93	53.91	53.00	53.87	53.80	53.85	53.95
22.00	DISCHG	53.85	53.06	51.86	53.09	53.91	53.95	53.98	54.02	54.04	54.01
24.00	DISCHG	53.90	53.74	53.56	53.29	52.96	52.65	52.23	51.75	51.23	50.70
26.00	DISCHG	50.32	49.86	49.45	49.04	48.64	48.33	48.02	47.72	47.51	47.27
28.00	DISCHG	47.02	46.81	46.59	46.38	46.19	46.01	45.83	45.67	45.50	45.27
30.00	DISCHG	45.01	46.72	44.42	44.10	43.79	43.47	43.16	42.84	42.49	42.04
32.00	DISCHG	41.48	40.97	40.22	39.34	[illegible]	38.15	37.65	36.75	35.94	34.70
34.00	DISCHG	33.28	31.58	29.75	27.85	26.00	23.93	21.95	19.96	18.06	16.50
36.00	DISCHG	15.22	14.14	13.18	12.29	11.44	10.62	9.80	8.99	8.23	7.61
38.00	DISCHG	7.11	6.69	6.33	5.99	5.67	5.36	5.05	4.75	4.46	4.21
40.00	DISCHG	4.00	3.82	3.65	3.49	3.33	3.18	3.02	2.87	2.73	2.60
42.00	DISCHG	2.48	2.36	2.20	2.15	2.05	1.95	1.85	1.75	1.65	1.57
44.00	DISCHG	1.50	1.64	1.36	1.33	1.28	1.23	1.17	1.12	1.08	1.03
46.00	DISCHG	0.98	0.94	0.90	0.86	0.82	0.78	0.74	0.70	0.61	0.42
48.00	DISCHG	0.26	0.15	0.09	0.05	0.03	0.01	0.00			

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.6695 CFS-HRS= 1209.86 ACRE-FT= 99.93

ENDCOP

[illegible] ENDJOB CARD ENCOUNTERED. END OF JOB.

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FORM 1411-08-PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains
Noles

4) DOCUMENT TYPE: 10yr

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 70 UPDATED FEB 1977
  ERROR CORR -  31
  MODIFICATION -  50,51,52
*****************************************************

C
T1 SOUTH ROCKWOOD VILLAGE FIS HUD2031-07 BANCROFT NOLES
T2 10 YR
T3       S.ROCKWOOD BANC. NOLES

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.000000      0.00       0.0       0.   577.650     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

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********

    -10.000   -10.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      0.080     0.000     0.035     0.100     0.000     0.000     0.000     0.000     0.000     0.000
QT      5.000   125.000   220.000   290.000   290.000   445.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000     0.000

X1    100.000     9.000   228.000   272.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    584.600     0.000   577.000    25.000   577.000   226.000   573.000   223.000   573.500   250.000
GR    572.400   272.000   576.300   273.000   577.000   499.000   580.000   500.000     0.000     0.000

        VALLEY R24

X1    970.000    10.000   195.000   243.000   870.000   870.000   870.000     0.000     0.000     0.000
GR    585.200   125.000   577.100   126.000   574.600   195.000   572.300   215.000   572.500   229.000
GR    574.500   243.000   574.600   248.000   574.900   275.000   584.000   300.000   585.000   450.000

X1   1120.000     0.000     0.000     0.000   150.000   150.000   150.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   170.000     0.000   250.000     0.000     0.000     0.000     0.000

X1   1270.000    10.000   215.000   229.000   150.000   150.000   150.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   204.000     0.000   234.000     0.000     0.000     0.000     0.000
GR    585.200   125.000   577.100   126.000   574.600   195.000   572.300   215.000   572.500   229.000
GR    574.500   243.000   574.600   248.000   574.900   275.000   584.000   300.000   585.000   450.000

X1   1320.000     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   207.000     0.000   231.000     0.000     0.000     0.000     0.000

X1   1370.000     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   209.000     0.000   229.000     0.000     0.000     0.000     0.000
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50' D/S SOUTH HURON RIVER DR.

X1	1420.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	27[illegible].000	0.000	227.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER DR.

X1	1470.000	6.000	1.000	13.000	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	530.700	530.700	0.000
GR	584.500	0.000	573.400	1.000	573.400	0.100	573.000	7.000	573.000	12.900
GR	564.500	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1471.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.700	580.700	0.000
BT	5.000	0.000	584.500	0.000	1.000	584.500	0.000	1.000	584.500	579.300
BT	12.900	584.500	579.300	13.000	584.500	0.000	0.000	0.000	0.000	0.000
X1	1539.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER DR.

X1	1510.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000

100' U/S SOUTH HURON RIVER DR.

X1	1510.000	7.000	111.000	129.000	200.000	190.000	105.000	0.000	0.000	0.000
GR	580.000	0.000	579.000	30.000	575.600	105.000	573.600	111.000	573.400	120.000
GR	573.400	129.000	582.300	147.000	0.000	0.000	0.000	0.000	0.000	0.000

190' D/S DIXIE HWY.

X1	1910.000	9.000	113.000	127.000	200.000	370.000	300.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	85.000	578.400	101.000	574.100	113.000	573.000	120.000
GR	574.000	127.000	578.900	133.000	585.000	160.000	585.000	310.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.100	0.000	0.000	0.000	1.000	13.000

D/S FACE DIXIE HWY.

X1	2020.000	6.000	1.000	13.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.500	580.300	0.000
GR	582.400	0.000	574.100	1.000	574.100	1.100	573.000	7.000	574.000	12.900
GR	582.400	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2021.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.500	580.500	0.000
BT	5.000	0.000	582.400	0.000	1.000	582.400	0.000	1.000	582.400	579.500
BT	12.900	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000

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X1	2061.300	0.000	0.000	0.000	40.300	40.000	40.300	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.300	0.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.300	0.000	0.000	581.000	581.400	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE DIXIE HWY.

X1	2062.000	0.000	0.300	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.300	0.000	0.000	0.000	0.000	581.000	581.400	0.000

D/S FACE PENN CENTRAL R.R.

X1	2112.000	6.000	6.400	15.600	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	586.000	586.000	0.000
GR	587.900	6.200	574.200	6.400	574.200	6.500	573.200	1[illegible].000	574.000	15.[illegible]00
GR	587.900	[illegible].300	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000
NC	0.000	0.300	0.025	0.000	0.000	0.300	0.000	0.000	0.000	0.000

X1	2113.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.000	586.000	0.000
BT	5.000	6.300	587.900	0.000	5.600	587.900	0.000	0.000	587.900	586.900
ET	11.000	587.900	588.900	0.000	587.900	588.900	0.000	587.900	0.000	0.000

X1	2134.000	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PENN CENTRAL R.R.

X1	2135.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000

VALLEY BETWEEN P.C. R.R.& I-75 N. BOUND OFF RAMP

X1	2205.000	9.000	94.000	106.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	77.500	0.000	122.500	0.000	0.000	0.000	0.000
GR	590.000	0.000	580.000	0.000	577.000	81.000	573.900	94.000	573.400	100.000
GR	574.100	106.000	577.500	118.000	580.000	330.000	590.000	330.000	0.000	0.000

D/S FACE I-75 N. BOUND. OFF RAMP

X1	2275.000	12.000	95.000	105.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.900	587.700	0.000
GR	588.900	0.000	577.200	73.000	576.100	85.000	575.300	95.000	573.600	95.600
GR	573.600	98.200	573.600	100.000	573.800	101.800	573.600	104.400	575.300	105.000
GR	579.200	125.000	587.700	200.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.950	3.000	0.000	8.610	0.000	42.200	0.000	573.600	573.600

U/S FACE I-75 N. BOUND. OFF RAMP

X1	2297.000	0.000	0.000	0.000	22.000	122.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	577.500	587.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.900	587.700	0.000
D1	2.000	0.000	588.900	0.000	73.000	588.300	0.000	85.000	588.200	0.000
B	95.000	588.200	575.30[illegible]	95.600	5[illegible].200	577.020	98.200	[illegible].200	578.300	110.000

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BT	588.200	578.500	104.600	588.200	578.300	104.400	588.200	577.000	105.000	588.200
BT	575.300	125.000	588.000	0.000	200.000	587.700	0.000	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

VALLEY BETWEEN N.B. OFF RAMP & I-75

X1	2572.000	0.000	30.000	70.000	175.000	175.000	175.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	15.000	0.000	115.000	0.000	0.000	0.000	0.000
GR	600.000	0.000	579.600	35.000	577.600	50.000	574.200	60.000	574.000	65.000
GR	574.200	70.000	579.000	65.000	569.500	250.000	0.000	0.000	0.000	0.000

D/S FACE I-75

X1	2757.000	0.000	56.000	64.000	185.000	200.000	185.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.500	582.000	0.000
GR	583.000	0.000	584.300	23.000	579.400	46.000	574.500	54.000	574.550	58.100
GR	574.100	50.000	574.300	63.000	574.400	64.000	470.500	74.000	569.000	150.000
SB	0.000	2.380	3.000	0.000	3.000	0.000	35.400	0.000	574.400	574.100

U/S FACE I-75

X1	2925.000	0.000	0.000	0.000	166.000	166.000	166.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	579.000	584.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.600	585.100	0.000
BT	6.000	0.000	588.000	0.000	56.000	584.700	574.800	56.100	584.700	579.300
BT	55.900	584.700	579.000	64.000	584.700	574.700	450.000	300.000	0.000	0.000

50' U/S I-75

X1	2973.000	9.000	56.000	64.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	6.000	0.000	114.000	0.000	0.000	0.000	0.000
GR	630.000	0.000	582.500	20.000	579.700	46.000	574.600	36.000	574.400	60.200
GR	576.700	64.000	579.000	76.000	590.000	620.000	535.000	600.000	0.000	0.000

50' D/S I-75 S. BOUND RAMPS

X1	3273.000	7.000	123.500	136.500	300.000	300.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	112.500	0.000	147.500	0.000	0.000	0.000	0.000
GR	591.100	0.000	584.300	95.000	575.900	123.500	575.400	130.000	575.600	136.500
GR	583.200	157.000	585.000	590.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 S. BOUND RAMPS

X1	3323.000	11.000	125.000	135.000	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	586.500	586.500	0.000
GR	591.200	0.000	584.300	95.000	578.000	125.000	576.500	125.400	575.400	126.800
GR	575.600	130.000	575.400	133.200	576.500	134.600	578.000	135.000	583.200	147.000
GR	591.000	230.000	0.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.030	3.000	0.000	3.530	0.000	49.500	0.000	575.400	575.400

U/S FACE I-75 S. BOUND RAMPS

X1	3488.000	0.000	0.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	58.200	591.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.000	0.000
BT	9.000	0.000	591.200	0.000	125.000	591.200	578.000	125.400	591.200	579.500
BT	126.800	591.200	580.000	140.000	591.200	591.200	125.200	56.200	580.000	135.600

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BT	591.200	579.500	135.000	591.200	578.000	230.000	591.000	0.000	0.000	0.000

D/S FACE CARLETON-ROCKWOOD

X1	3558.000	13.000	114.000	126.300	70.000	70.300	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.300	0.000	0.000	0.000	585.300	532.000	0.000
BR	590.000	95.000	581.000	96.300	580.100	109.000	576.400	114.000	576.400	114.100
BR	576.400	125.900	576.400	126.300	580.200	131.000	590.000	190.000	590.000	500.000
BR	580.000	501.000	580.000	561.000	590.000	562.000	0.000	0.000	0.000	0.000
BR	0.000	1.700	0.000	0.300	0.400	0.000	45.700	0.000	576.400	576.400

U/S FACE CARLETON-ROCKWOOD

X1	3610.000	0.000	0.000	0.000	51.500	51.300	51.500	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	536.000	532.000	0.000
BT	13.000	95.000	580.000	0.000	96.300	367.700	0.000	109.000	532.000	0.000
BT	114.000	586.100	0.000	114.100	586.100	581.100	125.900	586.100	581.000	126.000
BT	586.100	0.000	131.000	586.100	0.000	190.000	590.000	0.000	500.000	590.000
BT	0.000	301.000	583.000	0.000	561.000	563.000	0.000	562.000	590.000	0.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Ladensclplager drains

4) DOCUMENT TYPE: 10yr



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*****************************************************************
     DESP  E.CESS DATA  BY YO  PRO  AP  1977
     PERIOD CODE =  04
     CENTER OF =  30X,Y,Z
*****************************************************************

*
T1  AP. EXCAVATION TO NEW SUBGRADE OF ST. FROM 200 TO 10+00
T2
T3       LAUDERDALE_ACED

J1  ESTACK     IEO        NEW        PRIT       STRT       DETAIL     OVEOUS     0          PSEL       F0
                .          .          .  0.300 00  0.0'    .0         0.  577.75   3.'00

J2  NPROJ      JPOINT     PREVB      ACCEV      XISCO      "N         ALLOC      IFS        "KMI       ITRACE
        1.000      3.000     -1.000      1.000      0.000      3.000      0.000      0.300      0.301      3.000

J3  "...  ...  ...  ...  ...  ...  ...  ...  ...  ...  ...  ...
      153.000   251.200     0.300      0.000      0.300      0.700      0.000      0.100      0.010      0.000

J5  JPOINT     JCLASS                    *********ROUTE-STYLE SECTION JO (PR)*********
                .  .10  .0.  .0.  0.  .0.  0.  .0.  
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X1	1.200	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	931.000	0.000	1060.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	136.000	162.000

100 FT D/S D'WAY CULVERT #2

X1	1.700	9.000	146.000	154.000	550.000	500.000	570.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	25.000	580.000	156.000	577.100	146.000	576.500	150.000
GR	577.200	156.000	580.600	162.000	582.500	270.000	590.000	300.000	0.000	0.000

D/S FACE D'WAY CULVERT #2

X1	1.000	15.000	142.200	131.700	150.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	579.600	579.600	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]
SB	0.000	1.020	0.000	0.000	2.800	0.000	0.000	0.000	376.500	376.500

[illegible]

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	0.000	0.000	0.000	379.600	580.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.400	580.400	0.000
BT	15.000	0.000	580.000	0.000	814.000	521.100	0.000	136.000	580.000	0.000
BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	196.000	561.100	0.000	295.000	582.500	0.000	0.000	0.000	0.000	0.000

50 FT D/S D'WAY CULVERT #2

X1	2.200	0.000	146.000	154.000	50.000	50.000	0.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	25.000	580.000	136.000	577.100	146.000	576.500	150.000
GR	577.200	156.000	580.600	162.000	582.500	270.000	590.000	300.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	1.000	300.000

100 FT D/S D'WAY CULVERT #3

X1	2.700	11.000	157.000	163.000	450.000	600.000	620.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.200	90.000	582.200	130.000	582.200	145.000
GR	577.000	157.000	577.000	160.000	577.400	160.000	582.200	136.000	582.200	290.000
GR	590.000	130.000	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	9.100	0.000	0.000	0.000	145.000	174.000

D/S FACE D'WAY CULVERT #3

X1	2.000	22.000	155.000	165.000	150.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.200	582.200	0.000
GR	590.000	0.000	583.500	1.000	582.200	90.000	582.200	130.000	582.200	145.000
GR	579.000	155.000	578.000	155.300	577.200	156.000	577.000	157.000	577.200	158.000
GR	578.000	158.700	579.000	159.000	579.000	161.000	578.000	161.300	577.200	162.000
GR	577.000	163.000	577.200	164.000	578.000	164.700	579.000	165.000	582.200	174.000
GR	583.500	319.000	590.000	300.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.000	3.300	0.000	5.200	0.000	25.000	0.000	577.200	577.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	145.000	174.000

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U/S FACE D'WAY CULVERT #3

X1	3.000	0.000	0.000	0.000	106.000	106.000	106.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	581.000	582.200	0.000	0.000	0.000	0.000	0.000
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DT	582.200	580.000	155.000	582.200	580.700	157.000	582.200	581.000	158.000	582.200
DT	580.700	158.700	582.200	580.000	159.000	582.200	57[illegible].000	161.000	582.100	579.000
DT	161.300	582.100	580.000	162.000	582.100	580.700	163.000	582.100	581.000	164.000
DT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DT	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

35 FT U/S #3, 35 FT D/S #3B

X1	3.200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D/S FACE D'WAY CULVERT #3B

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	590.000	0.000	583.500	[illegible]	582.300	138.000	578.300	147.500	577.300	147.700
GR	576.300	162.500	576.300	163.000	576.300	131.500	577.300	152.300	578.300	152.500
GR	582.300	164.000	583.300	319.000	590.000	320.000	0.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

U/S FACE D'WAY CULVERT #3D

X1	4.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	[illegible]	581.400	0.000	0.000	0.000	[illegible]	0.000
X3	10.000	0.000	0.000	[illegible]	0.000	0.000	0.000	[illegible]	[illegible]	0.000
[illegible]	13.000	0.000	590.000	0.000	1.000	[illegible]	[illegible]	[illegible]	[illegible]	0.000
DT	147.500	581.400	578.300	147.700	581.400	579.300	148.500	581.400	580.300	150.000
DT	581.400	580.000	151.500	581.400	580.300	152.300	581.400	579.300	152.500	581.400
DT	578.300	166.000	582.300	0.000	319.000	553.500	0.000	320.000	590.000	0.000

50 FT U/S D'WAY CULVERT #3D

X1	4.200	9.000	157.000	163.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	168.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000
[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	305.000	305.000

100 FT D/S D'WAY CULVERT #3C

X1	[illegible]	[illegible]	345.000	359.000	960.000	960.000	960.000	0.000	0.000	0.000
GR	590.000	200.000	584.000	201.000	582.300	335.000	578.900	345.000	578.000	350.000
GR	578.700	352.000	582.900	352.000	584.000	499.000	590.000	500.000	0.000	0.000

D/S FACE D'WAY CULVERT #3C

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
GR	590.000	200.000	584.000	201.000	582.900	335.000	579.200	347.500	578.000	347.800
GR	578.000	349.000	578.000	350.000	578.000	351.000	578.000	352.200	579.200	352.500
GR	582.900	360.000	584.000	499.000	590.000	500.000	0.000	0.000	0.000	0.000

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SB	0.000	1.660	3.000	0.200	4.250	7.000	15.500	0.000	576.000	576.000

U/S FACE D'MAY CULVERT #3C

X1	5.000	0.000	0.000	0.000	17.000	17.000	10.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	568.500	568.500	0.000
GT	13.000	330.300	592.000	0.300	299.000	594.000	0.000	335.000	502.900	0.000
GT	367.500	552.300	576.200	357.300	302.900	302.200	349.000	502.900	501.500	330.000
T	573.700	561.200	591.000	577.000	577.500	577.500	577.000	575.000	575.000	572.000
GT	579.200	582.000	583.500	0.700	601.500	581.500	0.000	585.000	581.000	0.000
ET	0.000	0.700	0.000	1.000	0.500	0.500	0.000	0.000	1.000	0.000

50 FT U/S D'MAY CULVERT #3C

X1	3.500	0.000	562.000	577.000	0.000	0.000	0.000	1.000	0.000	0.000
BT	577.000	577.500	0.000	582.000	577.500	0.000	577.500	0.000	579.000	579.000
GR	573.700	585.000	582.500	582.000	582.000	583.000	582.000	401.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	1302.000

X1	3.500	0.000	997.500	1002.500	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	600.000	450.000	585.000	581.000	583.500	997.500	579.500	994.000	579.500	997.500
GR	579.300	990.000	579.300	999.000	579.300	1020.500	585.500	1001.000	579.300	1002.000
GR	579.300	1302.500	579.300	1002.000	585.500	1015.500	585.000	1505.000	602.000	1503.000

U/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X1	6.000	0.000	0.000	0.000	47.000	47.000	47.000	0.000	0.000	0.000
BT	577.000	0.000	1.000	582.000	577.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	1.000	0.000	1.000	568.500	568.500	0.000
BT	18.000	650.500	600.000	0.000	584.000	582.500	0.000	587.000	581.500	0.000
BT	994.000	589.500	0.000	997.500	588.500	579.300	998.000	588.500	581.500	999.000
BT	588.500	582.100	1300.000	580.500	582.300	1001.000	588.500	582.900	1002.000	588.500
BT	581.300	1002.500	588.500	579.300	1006.000	588.500	0.000	1015.000	588.500	0.000
BT	1500.000	581.500	0.000	1500.000	500.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PENN CENTRAL R.R.

X1	6.900	14.000	997.500	1002.500	220.500	220.000	200.000	0.000	0.000	0.000
X3	10.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	650.000	550.000	564.000	451.000	583.500	997.500	585.000	997.500	579.500	997.500
GR	579.300	999.000	579.300	1000.000	579.300	1005.500	579.500	1002.000	580.000	1002.500
GR	581.600	1011.000	583.400	1050.000	584.000	1500.000	600.000	1501.000	0.000	0.000
SB	0.000	2.350	3.000	0.000	4.200	0.000	17.000	0.000	576.900	576.500

X1	7.000	0.000	0.000	0.000	49.000	49.000	49.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.500	590.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	590.000	590.000	0.000

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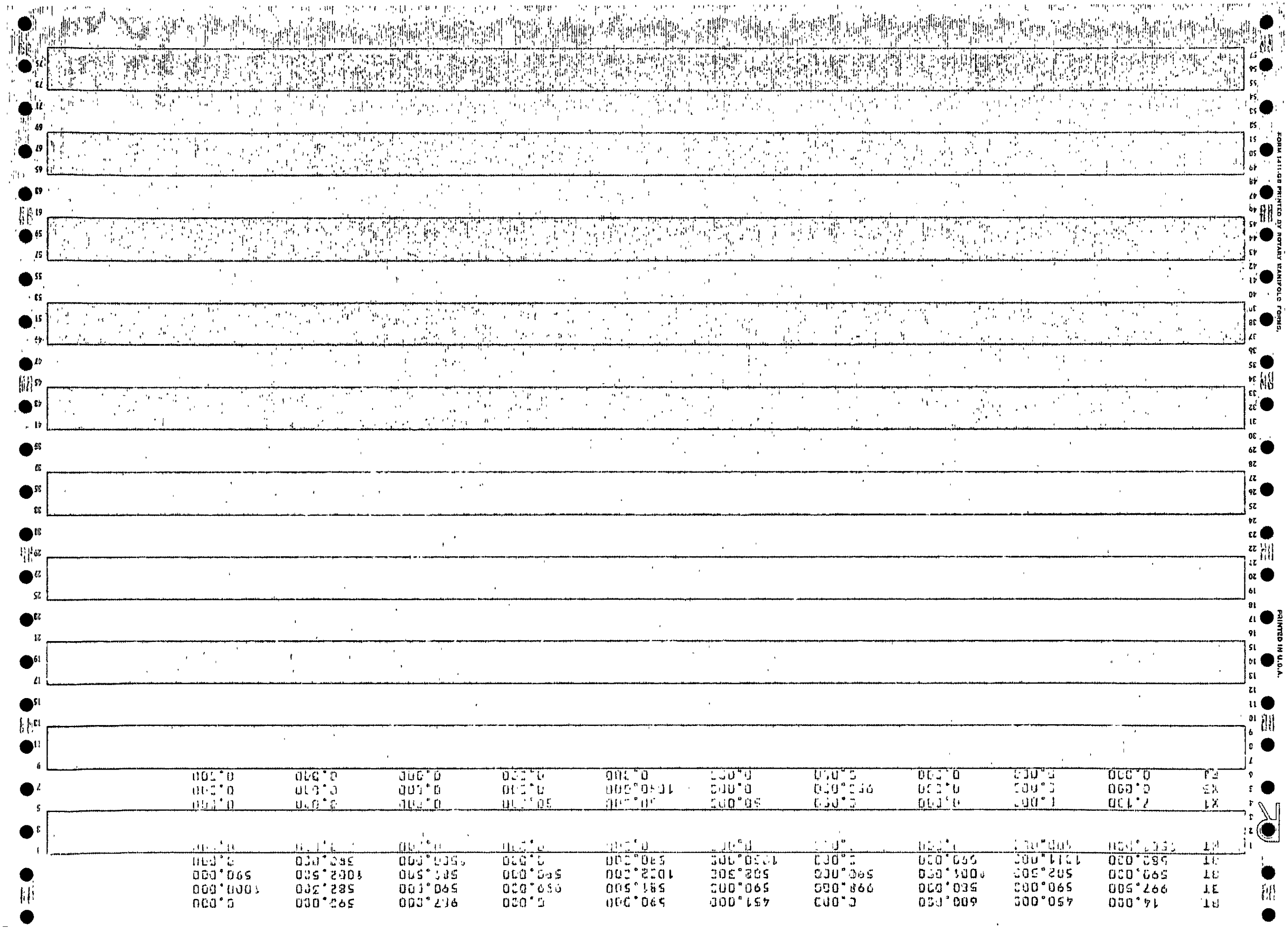

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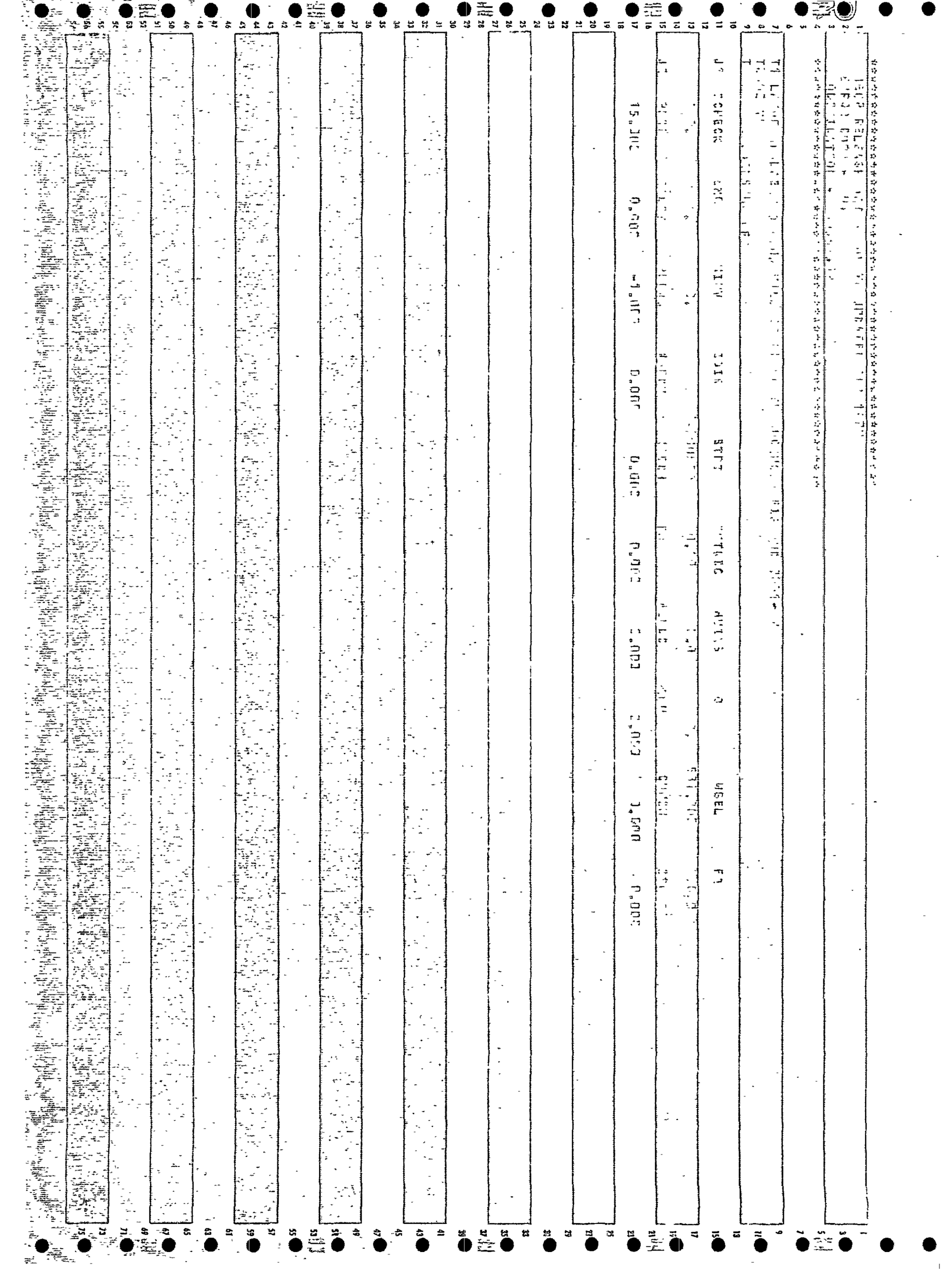


00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

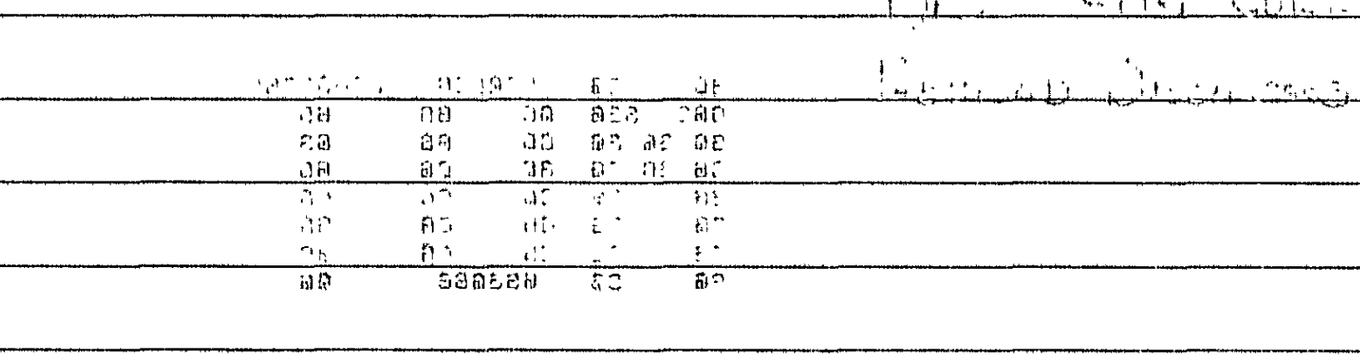
3) WATERCOURSE: Bancroft and Laudenschlager (Nbes)

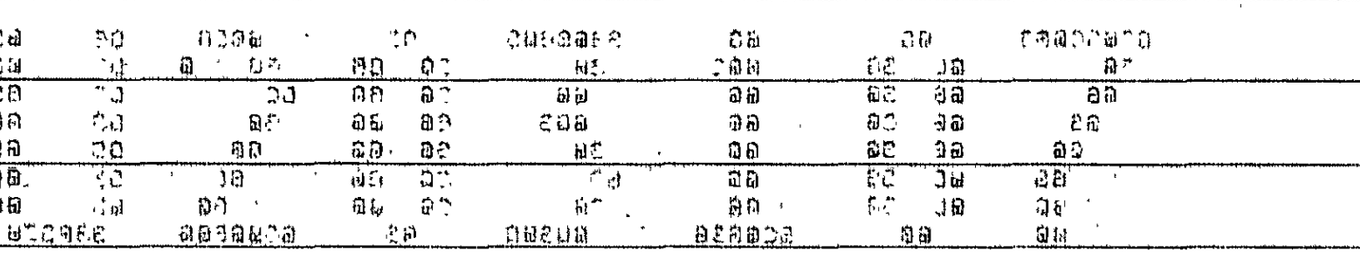
4) DOCUMENT TYPE: 50 yr

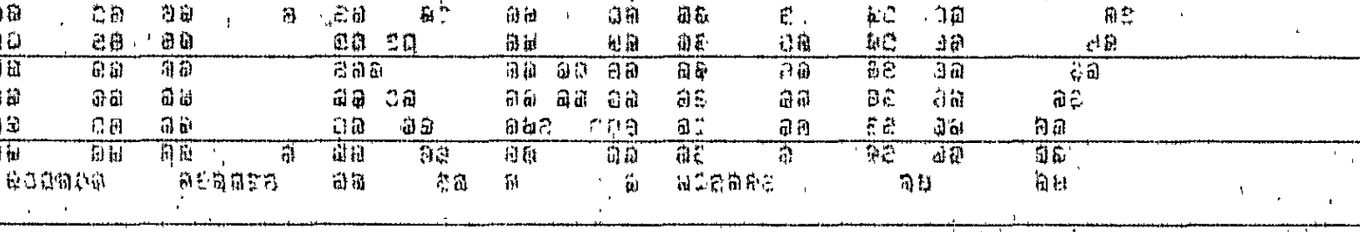
00BREAK00

09:00:09 X16 TOM HU253107 ROCKWDL7 DEC 15, 1980

Landeuschlager Utah







[illegible]

D/S [illegible] Corridor

[illegible]

R400 12*3 SN:1223 LN:12*3 PW:C6-041 22A00561 P001 PR/M112/FI/SI/A/M132

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EXECUTIVE CONTROL CARD OPERATION LIST

```
LISTING OF DATA IN CORE

 1D LAUDERDALE DRAIN

                    VELOCITY INCREMENT
 1 CTABLE                0.2000

 8                 1.0700    1.0170    0.1650    0.7500    0.3100
 8                 0.2700    1.4100    0.4500    0.4900    0.5400
 8                 0.5400    1.5700    1.6500    0.5100    1.0300
 8                 0.6500    0.6600    0.6700    0.6900    0.7000
 8                 0.7100    0.7200    0.7300    0.7400    0.7500
 8                 0.7600    0.7700    0.7700    0.7000    0.7900
 8                 0.7900    0.8000    0.8000    0.8100    0.8200
 8                 0.8200    0.8300    0.8400    0.8400    0.8500
 8                 0.8500    0.8500    0.8600    0.8600    0.8700
 8                 0.8700    0.8700    0.8800    0.8800    0.8800
 8                 0.8800    0.8900    0.8900    0.8900    0.8900
 8                 0.8900    0.8900    0.8900    0.8900    0.8900
 8                 0.8900    0.8900    0.8900    0.8900    0.8900
 8                 0.8900
```

COMPUTED PEAK K FACTOR = 404.00

		TIME INCREMENT			
5 RAINFL 1		0.0000			
8	0.0000	0.0030	0.0170	0.0260	0.0350
8	0.0450	0.0550	0.0650	0.0760	0.0870
8	0.0990	0.1120	0.1250	0.1400	0.1550
8	0.1740	0.1940	0.2190	0.2540	0.3000
8	0.5150	0.5530	0.6240	0.6540	0.6820
8	0.7050	0.7270	0.7480	0.7670	0.7840
8	0.8000	0.8160	0.8300	0.8440	0.8570
8	0.8700	0.8820	0.8930	0.9050	0.9160
8	0.9260	0.9360	0.9460	0.9550	0.9640
8	0.9740	0.9830	0.9920	1.0000	1.0000
9 ENDTOL					

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STANDARD CONTROL INSTRUCTIONS

```
6 REACH  3   1   6   5    4000.0003        0.0300      1.0010 1 2 1 0 *
6 RUNOFF 1   1       5       0.2807       77.0000      3.4000 1 0 1 0 *
6 ROUTE  4   1   3 = 7                                      * 1 0 1 0 *
  ENDATA
```

```
END OF LISTING
EXECUTIVE CONTROL CARD          OPERATION = STEP          MAIN TIME INCREMENT= 0.20
EXECUTIVE CONTROL CARD          OPERATION = COMPUTE       FROM CROSS/STRUCT = 27  0     TO CROSS/STRUCT = 27  1
        STARTING TIME= 0.00     RAIN DEPTH= 4.00     RAIN DURATION= 1.00     RAIN TABLE NO.= 1     SOIL CONDITION= 2
        ALTERNATE NO.= 2        STORM NO.= 1
```

```
SUBROUTINE REACH     CROSS SECTION   1
        LENGTH= 4000.00     INPUT COEFFICIENT= 0.0030     INLET ROUTINGS= 0.00

        AVERAGE WATER VELOCITY= 1.739     AVERAGE ROUTING COEFF= 0.5057     NUMBER OF ROUTINGS= 1.62

                PEAK TIMES              PEAK DISCHARGES              PEAK ELEVATIONS
                  37.00                    59.07                        5.52
```

TIME			HYDROGRAPH, TZERO= 5.00		DELTA T= 0.20			DRAINAGE AREA= 2.52			
9.00	DISCHG	0.00	0.00	0.15	0.66	1.45	2.43	3.51	4.65	5.82	7.11
11.00	DISCHG	8.20	9.39	10.79	12.47	14.93	17.43	20.07	22.79	25.55	28.33
13.00	DISCHG	31.16	33.91	36.72	39.47	42.05	44.28	46.34	48.34	44.29	45.22
15.00	DISCHG	45.13	47.04	47.90	48.48	49.05	50.03	50.66	51.2-	51.99	52.49
17.00	DISCHG	53.00	53.66	54.29	54.89	55.41	56.03	56.69	57.2?	57.39	58.49
19.00	DISCHG	59.09	59.69	60.27	60.78	61.25	61.69	62.11	62.52	62.92	63.33
21.00	DISCHG	63.73	64.13	64.49	64.76	64.97	65.12	65.25	65.37	65.47	65.58
23.00	DISCHG	65.68	65.78	65.88	65.98	66.03	66.18	66.28	66.38	66.48	66.58
25.00	DISCHG	66.64	66.74	66.87	66.93	66.96	66.98	66.99	66.99	67.00	67.00
27.00	DISCHG	67.00	67.00	66.99	66.95	66.88	66.82	66.71	66.61	66.51	66.42
29.00	DISCHG	66.32	66.22	66.08	65.91	65.63	65.41	65.13	64.84	64.55	64.25
31.00	DISCHG	63.95	63.65	63.32	62.89	62.39	61.85	61.27	60.69	60.10	59.50
33.00	DISCHG	58.90	58.31	57.74	57.27	56.87	56.54	56.18	55.87	55.56	55.26
35.00	DISCHG	54.96	54.65	54.33	53.94	53.51	53.05	52.57	52.08	51.58	51.09
37.00	DISCHG	50.59	50.09	49.60	49.16	48.79	48.29	47.80	47.48	47.07	46.67
39.00	DISCHG	46.27	45.87	45.45	44.96	44.43	43.87	43.29	42.70	42.10	41.50
41.00	DISCHG	40.51	40.31	39.62	37.85	35.72	33.35	30.57	27.79	24.95	22.08
43.00	DISCHG	19.20	16.31	13.68	11.72	10.28	9.17	8.25	7.44	6.68	5.95
45.00	DISCHG	5.24	4.53	3.89	3.40	3.03	2.74	2.49	2.26	2.05	1.86
47.00	DISCHG	1.64	1.44	1.14	0.72	0.49	0.23	0.12	0.06	0.03	0.02
49.00	DISCHG	0.00									

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.0681 CFS-HRS= 1737.12 ACRE-FT= 143.56

SUBROUTINE RUNOFF CROSS SECTION 1

AREA= 0.28 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 3.40

PEAK TIMES 12.28 | PEAK DISCHARGES 41.433 | PEAK ELEVATIONS (RUNOFF)

TIME			HYDROGRAPH, TZERO= 0.00		DELTA T= 0.20			DRAINAGE AREA= 0.28			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.10
8.00	DISCHG	0.15	0.23	0.39	0.55	0.77	1.14	1.51	2.27	3.68	5.10
10.00	DISCHG	7.28	11.41	14.64	20.35	31.04	45.14	58.95	66.80	66.80	38.71

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12.00	DISCHG	40.01	41.31	41.20	40.74	42.28	38.87	37.34	35.82	34.30	32.78
14.00	DISCHG	31.26	30.11	28.95	27.81	26.85	25.89	24.97	24.15	23.34	22.57
16.00	DISCHG	21.09	21.20	20.57	20.00	19.43	18.92	18.45	17.98	17.55	17.16
18.00	DISCHG	16.77	16.42	16.08	15.75	15.44	15.15	14.86	14.60	14.35	14.09
20.00	DISCHG	13.87	13.65	13.42	13.21	13.00	12.79	12.61	12.42	12.24	12.08
22.00	DISCHG	11.92	11.77	11.63	11.49	11.35	11.25	11.14	11.04	10.94	10.84
24.00	DISCHG	10.75	10.65	10.56	10.09	9.78	9.69	9.09	8.32	7.74	7.10
26.00	DISCHG	6.45	5.79	5.13	4.51	3.98	3.51	3.05	2.69	2.29	1.99
28.00	DISCHG	1.68	1.50	1.32	1.19	0.98	0.85	0.73	0.66	0.55	0.47
30.00	DISCHG	0.42	0.36	0.31	0.27	0.23	0.20	0.17	0.15	0.13	0.11
32.00	DISCHG	0.09	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.02	0.02
34.00	DISCHG	0.01	0.01	0.01	0.00						

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.8307 CFS-HRS= 326.03 ACRE-FT= 27.01

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPH= 1 OUTPUT HYDROGRAPH= 2

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
14.21	71.347	501.32
15.99	71.243	501.32
17.17	70.912	501.31
22.70	70.596	501.30

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.30

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.01	0.02	0.04	0.08	0.11	0.13	0.06	0.10
8.00	DISCHG	0.15	0.23	0.34	0.53	0.77	1.14	1.51	2.27	3.03	5.76
10.00	DISCHG	8.75	12.95	17.35	22.01	27.56	33.17	38.15	42.77	47.59	51.38
12.00	DISCHG	54.94	58.76	61.27	63.53	65.83	67.20	68.46	69.73	70.77	71.24
14.00	DISCHG	71.28	71.37	71.29	71.15	71.14	71.11	71.10	71.19	71.24	71.24
16.00	DISCHG	71.26	71.24	71.23	71.20	71.32	71.41	71.54	71.67	71.85	72.06
18.00	DISCHG	72.27	72.51	72.78	73.06	73.36	73.64	73.95	74.29	74.62	74.88
20.00	DISCHG	75.12	75.36	75.53	75.75	75.93	76.12	76.33	76.55	76.73	76.85
22.00	DISCHG	76.89	76.89	76.82	76.86	76.34	76.83	76.82	76.82	76.82	76.82
24.00	DISCHG	76.79	76.72	76.64	76.47	76.22	75.98	75.57	75.10	76.61	74.03
26.00	DISCHG	73.41	72.77	72.17	71.58	70.98	70.31	70.05	69.59	69.28	68.93
28.00	DISCHG	68.57	68.29	68.01	67.73	67.50	67.27	67.05	66.86	66.62	66.38
30.00	DISCHG	66.09	65.77	65.44	65.11	64.78	64.45	64.12	63.80	63.44	63.00
32.00	DISCHG	62.48	61.92	61.34	60.75	60.15	59.52	58.94	58.33	57.76	57.29
34.00	DISCHG	56.98	56.52	56.19	55.87	55.56	55.26	54.96	54.65	54.33	53.94
36.00	DISCHG	53.51	53.05	52.57	52.08	51.58	51.09	50.59	50.09	49.60	49.14
38.00	DISCHG	48.71	48.29	47.88	47.48	47.07	46.67	46.27	45.87	45.45	44.96
40.00	DISCHG	44.43	43.97	43.29	42.70	42.10	41.90	40.91	40.31	39.42	37.85
42.00	DISCHG	35.72	33.85	30.57	27.79	24.93	22.08	19.20	16.31	13.68	11.72
44.00	DISCHG	10.28	9.17	8.23	7.44	6.68	5.95	5.24	4.53	3.29	3.40
46.00	DISCHG	3.03	2.74	2.49	2.26	2.05	1.34	1.64	1.44	1.16	0.72
48.00	DISCHG	0.41	0.23	0.12	0.06	0.03	0.02	0.00			

TOTAL WATER IN INCHES ON DRAINAGE AREA= 1.1422 CFS-HRS= 2063.95 ACRE-FT= 170.56

ENDCAP

ENDJOB CARD ENCOUNTERED. END OF JOB.

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains

4) DOCUMENT TYPE: 50 yr

00BREAK00

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**************************************************
  1SC2 RELEASE 0075 JUN 76 UPDATED BY  1977
  BASIN CODE =  01
  DESCRIPTION =  50.5 63
**************************************************
C
C1  50.01 JOCKSON HILL,SB ..1.1.1.51=CY THICKNESS 00
C2  00 YEAR RATING CURVE FOR DIVERT FLOWS OF FLOW M
C       5.75X 000 SAVE, ROUT
J1  ICHECK    INQ       NSTN      ISAV1     ISAV2     START     METRIC    HYDUIN    O         MSEL      FO
            0.        0.        0.        0.        0.0 700     2.01      0.        0.0 0 0   0.        2.510
J2  LRATIO    RTIOL     AMSKK     X         TSK       STORA     DISPR     NN        MUSK      ITAPE     ITAPE
       1.200     0.000    -1.000     0.200     0.200     0.100     0.200     0.200     0.000     2.000
J3  LSTR      IDENT                                                                                    NSTPS
     -10.00    -10.00     1.000     0.100     0.200     0.200     1.000     1.200     1.000     2.000
NC       0.050     0.250     0.035     0.100     0.300     0.300     2.000     2.000     0.000     0.000
NS       5.000   100.000   140.000    10.000   220.000     0.300     2.000     2.000     0.000     0.000
KT       0.010     0.200     0.050     0.300     1.610     0.300     0.000     2.000     0.000     0.000
X1     970.000     10.000   195.000   243.000   870.000   870.000   870.000     0.000     0.000     0.000
GR     564.600      0.000   577.000    25.000   577.000   226.000   573.000   224.000   570.500   250.000
GR     572.400    272.000   576.300   270.000   577.000   495.000   580.000   300.000     0.000     0.000
C
C  VALLEY #24
X1     970.000     10.000   195.000   243.000   870.000   870.000   870.000     0.000     0.000     0.000
GR     565.200    125.000   577.100   125.000   574.600   125.000   572.300   215.000   572.500   225.000
GR     574.500    245.000   574.600   248.000   574.900   275.000   584.000   300.000   585.000   450.000
X2    1320.000      0.000     0.000     0.000   150.000   150.000   150.000     0.000     0.000     0.000
X3       0.000      0.000     0.000   170.000     0.000   210.000     0.000     0.000     0.000     0.000
X4    1370.000     10.000   195.000   213.000   130.710   150.000   150.300     0.000     10.000    0.000
X5       0.000      0.000     0.000   204.000     0.000   224.000     0.300     0.300     10.000    0.000
GR     565.200    125.000   577.100   125.000   574.600   125.000   572.300   215.000   572.500   225.000
GR     574.500    245.000   574.600   248.000   574.900   275.000   584.000   300.000   585.000   450.000
X2    1320.000      0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3       0.000      0.000     0.000   207.000     0.000   237.000     0.000     0.000     0.000     0.000
X4    1370.000      0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X5       0.000      0.000     0.000   209.000     0.000   224.000     0.000     0.000     0.000     0.000
C
C  VALLEY #25 SOUTH FORK RIVER ..
X1    1420.000      0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
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X3	0.000	0.000	0.000	211.000	0.000	227.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER BR.

X1	1480.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	584.500	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	1480.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER BR.

X1	1480.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER BR.

X1	1610.000	0.000	111.000	129.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	580.000	0.000	579.000	30.000	575.400	105.000	573.600	111.000	573.400	120.000
GR	573.400	120.000	532.500	147.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	1910.000	0.000	113.000	127.000	207.000	370.000	300.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	95.700	578.400	101.000	574.100	113.000	573.000	120.000
GR	574.000	167.000	571.300	145.000	570.100	103.000	569.000	540.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	13.000

D/S FACE EXIT BAY.

X1	2320.000	0.000	0.000	13.000	190.500	190.000	113.000	0.000	0.000	0.000
X3	15.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	583.400	0.000	579.100	1.000	574.000	0.000	573.400	0.000	574.000	13.000
GR	582.400	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	2002.000	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	581.000	582.100	0.000
ET	5.000	0.000	582.400	0.000	1.000	582.400	0.000	1.100	582.400	579.500
ET	12.000	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000

X1	2001.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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U/S FACE DIXIE HWY.

X1	2042.100	0.000	3.050	0.300	1.050	0.000	1.000	0.000	0.300	0.000
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D/S FACE PERRY CENTRAL T.R.

X1	2112.000	0.000	4.050	45.600	47.050	0.000	0.000	0.000	0.300	0.000
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MC	0.000	0.000	0.026	0.300	0.050	0.000	0.000	0.000	0.000	0.000
X1	2113.230	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MT	10.000	507.900	503.900	45.500	47.900	503.900	45.600	507.900	0.300	0.000
X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

[illegible] P.C. [illegible]

X1	[illegible]	[illegible]	0.000	[illegible]	1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	597.900	597.500	0.000

VALLEY STREET P.C. P.R.C [illegible] DIR'D OFF RAMP

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	0.000	0.000	0.000	77.300	0.000	122.530	0.000	0.000	0.000	0.000
GR	590.300	0.000	530.600	0.000	577.300	41.030	573.900	94.000	573.400	100.000
GR	574.100	106.000	577.530	115.000	580.500	330.000	595.000	336.000	0.000	0.000

D/S FACE I-75 N. BOUND, OFF RAMP

X1	2275.000	12.500	95.000	105.000	72.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	598.900	597.700	0.000
GR	566.900	[illegible]	572.300	[illegible]	576.100	[illegible]	575.700	[illegible]	573.600	95.500
GR	593.600	51.200	575.500	[illegible]	573.600	101.300	573.000	[illegible]	573.300	115.000
GR	570.200	125.000	573.200	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000
SR	0.000	1.950	3.600	0.000	8.619	0.000	42.200	0.000	573.600	573.600

D/S FACE I-75 S. BOUND. OFF RAMP

X1	2332.000	0.000	0.050	0.000	122.000	122.500	122.000	2.000	2.000	0.000
X2	0.500	0.000	0.000	570.500	597.700	0.030	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.050	0.000	0.500	0.000	0.000	598.900	597.700	0.000
MT	12.000	0.000	598.900	0.000	23.000	598.300	0.000	65.000	598.200	0.000
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MC	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY BETWEEN N.D. OFF RAMP & I-75

X1	2572.000	8.000	60.000	70.000	175.000	175.000	175.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	15.000	0.000	1[illegible].000	0.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D/S FACE I-75

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	574.100	60.000	574.400	65.900	574.400	64.200	578.500	74.000	583.000	153.000
S2	0.000	2.560	3.000	0.000	0.000	0.000	35.400	0.000	574.400	574.100

D/S FACE I-75

X1	2923.000	0.000	0.000	0.000	166.000	166.000	166.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	570.000	584.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.600	585.100	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

50' U/S I-75

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	576.700	64.000	576.300	74.000	580.000	420.000	585.000	670.000	0.000	0.000

[illegible] D/S I-75 S. [illegible]

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	0.000	0.000	0.000	112.500	0.000	147.500	0.000	0.000	0.000	0.000
GR	591.100	0.000	534.300	95.000	575.900	123.500	575.400	130.000	575.600	136.500
[illegible]	583.200	157.000	585.200	553.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 S. SOUND RAMPS

X1	3323.000	11.000	125.000	135.000	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	506.500	536.500	0.000
[illegible]	591.200	0.000	[illegible]	[illegible]	575.300	125.000	576.500	125.400	575.400	126.000
[illegible]	575.400	120.000	575.420	133.200	576.300	134.000	578.200	135.000	583.200	147.000
[illegible]	591.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S3	0.000	2.030	3.000	0.000	8.530	0.000	49.500	0.000	575.400	575.400

[illegible] FACE I-75 S. [illegible]

X1	[illegible]	0.000	0.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	591.200	591.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.000	0.000
[illegible]	0.000	0.000	591.200	0.000	125.000	591.200	578.000	125.400	591.200	579.500
[illegible]	125.000	591.200	[illegible]	[illegible]	[illegible]	591.200	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	591.200	579.500	[illegible]	591.250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D/S FACE CARLETON-ROCKWOOD

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X3	3556.300	13.000	114.000	126.000	70.000	70.000	70.300	0.000	0.000	0.000
X3	90.300	0.000	0.000	0.000	0.000	0.000	0.300	535.000	582.000	0.000
G7	590.300	95.000	521.000	96.300	582.100	109.000	576.400	114.000	576.400	114.300
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

U/S FACE CARLETON-100 MOD

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	13.000	55.000	590.300	0.000	96.300	107.300	0.000	109.000	585.100	0.000
BT	114.300	585.100	0.300	114.100	590.300	591.100	125.900	585.100	581.100	121.000
BT	590.100	0.000	121.300	581.100	0.000	110.300	0.000	0.000	590.000	591.000
BT	0.300	0.000	125.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MC	0.300	0.100	0.100	0.000	0.300	0.000	0.000	0.000	0.000	0.000

X1	3630.300	3.000	20.000	110.000	20.000	20.300	20.000	0.000	0.000	0.000
G8	590.100	0.000	130.300	20.000	580.000	130.300	580.000	131.000	580.000	305.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OVERLAPT FLOW SEC. D/S OF ELANDON RD.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OVERLAND FLOW SEC.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	590.000	0.000	370.300	553.000	1300.000	1620.300	1550.000	0.300	0.000	0.000
GR	590.000	960.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	590.000	0.000	585.000	105.000	584.000	120.000	584.000	453.000	565.000	470.000
GR	590.000	1513.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC. ALONG ROAD, 100 FT D/S OF CORD RIVER

[illegible]	8630.300	0.000	115.000	400.000	400.300	1200.000	300.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	50.000	580.300	115.000	579.000	200.000	575.000	265.000
GR	580.000	405.000	585.300	315.000	580.300	900.000	0.000	0.000	0.000	0.000
EJ	0.000	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Noles and Laudenschlager drains

4) DOCUMENT TYPE: 100yr

00BREAK00

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**********************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
   ERFC: CORR -  0.
   'OD-FICRIIO' -  30,31,32
**********************************************************


C
T1 SOUTH ROCK,OCD VILLAGE FIS HUD203 -07 DA:CROFT NOLES
T2 100 YR
T3       S.ROCKWOOD BANC. NOLES

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

          0.         4.         0.         0.  0.000000       2.00        0.3        0.     577.650      1.000

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     15.000

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

NC       0.080      0.080      0.035      0.100      0.300      0.000      0.000      0.000      0.000      0.000
QT       5.000    125.000    225.000    290.000    250.000    245.000      0.000      0.000      0.000      0.000
ET       1.000      0.000      0.000      0.000      1.410      2.000      0.000      0.000      0.000      0.000

X1     100.000      9.000    228.000    272.000      0.000      0.000      0.000      0.000      0.000      0.000
GR     584.600      0.000    577.000     25.000    577.000    226.000    573.000    228.000    570.500    250.000
GR     572.500    272.000    576.300    278.000    577.500    469.000    580.000    580.000      0.000      0.000

          VALLEY #24

X1     970.000     10.000    195.000    243.000    870.000    870.000    870.000      0.000      0.000      0.000
GR     585.200    125.000    577.100    126.000    574.300    195.000    572.300    215.000    572.500    229.000
GR     574.500    243.000    574.600    248.000    574.900    275.000    584.000    300.000    585.000    450.000

X1    1120.000      0.000      0.000      0.000    150.000    150.000    150.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    170.000      0.000    250.000      0.000      0.000      0.000      0.000

X1    1270.000     10.000    215.000    229.000    150.000    150.000    150.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    204.000      0.000    234.000      0.000      0.000      0.000      0.000
GR     585.200    125.000    577.100    126.000    574.600    195.000    572.300    215.000    572.500    229.000
GR     574.500    243.000    574.600    248.000    574.900    275.000    584.000    300.000    585.000    450.000

X1    1320.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    207.000      0.000    237.000      0.000      0.000      0.000      0.000

X1    1370.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    209.000      0.000    229.000      0.000      0.000      0.000      0.000

          50' D/S SOUTH FORK RIVER DR.
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X1	1423.000	0.000	0.000	0.000	50.300	50.000	50.000	0.000	0.000	0.000
X3	0.300	0.000	0.000	211.000	0.000	227.000	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER DR.

X1	1423.000	6.000	1.000	13.000	50.300	51.000	50.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.700	580.700	0.000
GR	584.500	0.000	573.400	1.000	573.400	1.100	573.000	7.000	573.000	12.900
GR	584.500	13.000	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
X1	1471.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.700	580.700	0.000
BT	5.000	0.000	584.500	0.000	1.000	584.500	0.000	1.100	584.500	579.300
BT	2.900	584.500	579.300	0.000	584.500	0.000	0.000	0.000	0.000	0.000
X1	1510.000	0.000	0.000	0.000	38.000	38.000	38.000	0.000	0.000	0.000
X2	0.300	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	581.000	582.100	0.000
NC	0.300	1.000	0.331	0.000	0.500	0.000	0.300	0.000	0.000	0.000

U/S FACE SOUTH HURON RIVER DR.

X1	1510.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	582.100	0.000

100' U/S SOUTH HURON RIVER DR.

X1	1510.000	7.000	111.000	129.000	160.000	100.000	100.000	0.000	0.000	0.000
SP	530.300	0.000	579.000	30.300	575.400	105.000	573.500	111.300	573.400	125.000
GR	573.400	129.000	532.500	127.000	0.300	0.000	0.300	0.000	0.000	0.000

110' D/S DIXIE HWY.

X1	1510.000	7.000	113.000	127.000	205.000	370.300	305.000	0.000	0.000	0.000
SR	530.300	0.000	585.000	85.000	573.400	101.000	574.100	113.000	573.000	121.000
GR	574.300	127.000	573.500	133.300	585.000	160.000	585.000	370.300	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	1.000	13.000

D/S FACE DIXIE HWY.

X1	2020.000	6.000	1.000	13.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.500	580.500	0.000
GR	582.400	0.000	574.100	1.000	574.100	1.100	573.000	7.000	574.000	12.900
GR	582.400	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.300	0.000	0.000	0.000	0.000	0.000
X1	2021.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.500	580.500	0.000
BT	5.000	0.000	582.400	0.000	1.000	582.400	0.000	1.100	582.400	579.500
BT	12.900	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000
X1	2161.000	0.000	0.000	0.000	40.000	40.000	40.000	0.000	0.000	0.000
X2	0.300	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	581.000	581.400	0.000

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	0.107	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE DIXIE HWY.

X1	2062.000	0.000	0.000	0.000	0.000	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	581.000	581.400	0.000

D/S FACE PENN CENTRAL R.R.

X1	2112.000	6.000	6.400	15.600	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	586.000	586.000	0.000
GR	587.900	6.000	574.200	6.400	574.200	6.500	573.200	11.000	574.000	15.500
GR	587.900	15.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.326	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2113.000	0.300	0.000	0.000	1.000	1.000	1.000	0.000	0.300	0.300
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.000	586.000	0.000
BT	6.000	6.000	587.900	0.000	6.400	587.900	0.000	6.500	587.900	583.900
BT	11.000	587.900	583.900	15.500	587.900	583.900	15.600	587.900	0.000	0.000
X1	2134.000	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
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PENN CENTRAL R.R.

X1	2135.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000

VALLEY BETWEEN P.C. R.R. & I-75 N. BOUND OFF RAMP

X1	2205.000	9.000	94.000	106.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	77.500	0.000	122.500	0.000	0.000	0.000	0.000
GR	590.000	0.000	590.000	0.000	577.000	81.000	575.900	94.300	575.400	100.000
GR	574.100	106.000	577.500	118.000	590.000	330.000	590.300	330.300	0.000	0.000

D/S FACE I-75 N. BOUND, OFF RAMP

X1	2275.000	12.000	95.000	105.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.900	587.700	0.000
GR	590.900	0.000	577.200	73.000	576.100	85.000	575.300	95.000	573.600	93.600
GR	573.600	98.200	573.600	100.000	573.600	101.800	573.600	104.600	575.300	105.000
GR	579.200	125.000	587.700	200.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.950	3.000	0.000	8.610	0.000	42.200	0.000	573.600	573.600

D/S FACE I-75 N. BOUND, OFF RAMP

X1	2397.000	0.000	0.000	0.000	122.000	122.000	122.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	578.500	587.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	583.900	587.700	0.000
BT	12.000	0.000	588.900	0.000	73.000	588.900	0.000	85.000	588.200	0.000
BT	95.000	588.200	575.300	95.600	583.200	577.300	98.200	583.200	578.300	100.000
BT	588.200	578.500	101.800	588.200	578.900	104.400	588.200	577.000	105.000	588.200
BT	575.300	125.000	588.000	0.000	200.000	587.700	0.000	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

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VALLEY BETWEEN N.B. OFF RAMP & I-75

X1	2372.000	9.000	63.000	70.000	175.000	175.000	175.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	13.000	0.000	113.300	0.000	0.000	0.000	0.000
GR	500.000	0.000	579.600	85.300	577.000	50.300	574.200	65.000	574.300	65.000
GR	574.200	70.000	579.000	85.100	586.500	350.000	0.000	0.000	0.000	0.000

D/S FACE I-75

X1	2757.000	10.000	56.300	64.300	185.000	200.000	185.000	0.000	0.000	0.000
X3	10.000	0.000	0.300	0.000	0.000	0.000	0.000	582.000	582.000	0.000
GR	583.000	0.000	534.000	28.000	579.400	46.000	574.500	56.000	574.500	56.100
GR	574.100	60.300	574.400	63.900	574.400	64.000	578.500	74.000	580.000	150.000
SB	0.000	2.500	3.000	0.000	8.300	0.000	35.400	0.300	574.400	574.700

U/S FACE I-75

X1	2923.000	0.000	0.000	0.000	166.000	166.000	166.000	0.000	0.300	0.000
X2	0.300	0.000	1.000	579.000	584.600	0.000	0.000	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.000	0.000	0.300	0.000	584.600	584.700	0.000
BT	6.300	0.000	589.000	0.300	56.000	584.700	574.000	56.100	584.700	579.000
BT	63.900	584.700	579.000	64.300	584.700	574.700	150.000	589.000	0.000	0.000

50' D/S I-75

X1	2973.000	9.000	56.000	64.000	50.000	91.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	6.000	0.000	114.000	0.000	0.000	0.000	0.000
GR	600.000	0.000	582.500	28.000	579.700	46.000	576.800	56.000	574.400	60.000
GR	574.700	64.000	573.800	74.000	580.000	420.000	585.000	600.000	0.000	0.000

50' D/S I-75 S. BOUND RAMPS

X1	3273.000	7.000	123.500	136.500	300.000	300.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	112.500	0.000	147.300	0.000	0.000	0.000	0.000
GR	591.100	0.000	534.300	95.000	575.900	129.500	575.400	130.000	575.370	136.500
GR	583.200	157.000	905.000	350.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 S. BOUND RAMPS

X1	3323.000	11.800	125.200	135.000	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	586.500	586.500	0.000
GR	591.200	0.000	584.300	95.000	578.000	125.000	576.500	125.400	575.400	125.800
GR	575.400	130.000	575.400	133.200	576.500	134.800	578.000	135.000	585.200	147.000
GR	591.000	230.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.030	3.000	0.000	8.530	0.000	49.500	0.000	575.400	575.400

U/S FACE I-75 S. BOUND RAMPS

X1	3488.000	0.000	0.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	581.200	591.300	0.000	0.000	0.000	0.000	0.000
X3	0.300	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.200	0.000
BT	9.100	0.000	591.200	0.000	125.200	591.200	570.300	125.400	591.200	579.500
BT	126.800	591.200	580.600	130.000	591.300	581.200	133.200	591.200	580.500	134.600
BT	591.200	579.500	135.000	591.200	578.300	232.000	591.300	0.000	0.000	0.000

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D/S FACE CARLETON-ROCKWOOD

| | | |

*PROF 1

CONV= 0.100 CEHV= 0.300

*SECNO 100.000

SECNO	DEPTH	CUSEL	CRIMS	*SEL*	CC	W	EL	QLOSS	BANK ELEV
	QLOB	QCH	QROB	FLOD	ALP	AROE	WSL	TIA	*EFFICIENCY
	IMP	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
	SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IP2	ICONT	CORAR	TOPWID	ENDST
	100.00	7.15	577.69	0.00	577.69	577.69	0.01	0.00	0.00	573.00
	290.	73.	245.	32.	137.	260.	24.	2.	0.	572.40
	0.00	0.09	0.92	0.13	0.080	0.035	0.080	0.000	570.50	22.86
	0.000043	0.	0.	0.	0	0	0	0.00	476.35	499.22

FLOW DISTRIBUTION FOR SECNO= 100.00 C.SEL= 577.69

STA=	23.	25.	226.	228.	272.	278.	499.
PER Q=	0.0	4.1	0.2	84.7	1.6	9.3	
AREA=	2.7	130.6	5.3	266.2	19.8	221.0	
VEL=	0.1	0.7	0.1	0.9	0.2	0.1	

*SECNO 970.000

VALLEY M24

970.00	5.41	577.70	0.00	0.00	577.72	0.01	0.00	0.00	576.60
290.	52.	224.	36.	122.	218.	106.	11.	2.	574.50
0.26	0.25	1.03	0.38	0.080	0.035	0.080	0.035	572.30	125.93
0.000079	870.	870.	870.	1	0	3	0.00	156.75	262.67

FLOW DISTRIBUTION FOR SECNO= 970.00 C SEL= 577.70

STA=	126.	195.	243.	246.	275.	283.
PER Q=	10.9	77.2	1.9	9.3	0.7	
AREA=	127.2	217.7	15.7	79.5	13.7	
VEL=	0.2	1.0	0.4	0.3	0.2	

*SECNO 1120.000

3470 ENCROACHMENT STATIONS= 170.0 250.0 TYPE= 1 TARGET= 80.000

1120.00	5.41	577.71	0.00	0.00	577.73	0.02	0.01	0.00	574.60
290.	23.	259.	8.	66.	218.	22.	12.	7.	574.50
0.32	0.38	1.19	0.35	0.080	0.035	0.080	0.035	572.30	170.30
0.000105	150.	150.	150.	0	0	2	0.00	80.20	250.00

FLOW DISTRIBUTION FOR SECNO= 1120.00 CUSEL= 577.71

STA=	170.	195.	243.	248.	250.
PER Q=	7.9	89.4	2.2	0.5	
AREA=	66.4	218.3	15.5	6.2	
VEL=	0.3	1.2	0.4	0.2	

*SECNO 1270.000

3470 ENCROACHMENT STATIONS= 204.0 234.0 TYPE= 1 TARGET= 30.000

1270.80	5.38	577.68	0.00	0.00	577.78	0.11	0.03	0.03	572.30
290.	51.	220.	19.	52.	74.	24.	13.	7.	572.50
0.34	0.98	2.97	0.80	0.080	0.035	0.080	0.035	572.30	204.00
0.000534	150.	153.	150.	2	0	0	0.01	30.00	234.00

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FLOW DISTRIBUTION FOR SECNO= 1270.00 CHSEL= 577.60

STA=	204.	215.	229.	234.
PER Q=	17.6	75.8	6.6
AREA=	32.2	73.9	24.
VEL=	1.0	3.0	0.8

*SECNO 1320.000

SECNO	DEPTH	CHSEL	CRWS	LSEL	EG	TW	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	HTJ	ELJCW	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=		207.0	231.0	TYPE=	1	TARGET=		24.000	
1320.00	5.58	577.60	0.00	0.00	577.62	0.02	0.03	0.01	572.50
290.	70.	244.	6.	39.	74.	10.	13.	7.	572.50
0.34	1.02	3.29	0.61	0.080	0.035	0.080	0.035	572.30	207.00
0.000653	50.	50.	50.	1	0	0	0.00	24.00	231.00

FLOW DISTRIBUTION FOR SECNO= 1320.00 CHSEL= 577.60

STA=	207.	215.	229.	231.
PER Q=	13.9	84.0	2.1
AREA=	39.4	74.0	10.1
VEL=	1.0	3.3	0.6

*SECNO 1370.000

3470 ENCROACHMENT STATIONS=		209.0	229.0	TYPE=	1	TARGET=		20.000	
1370.00	5.71	577.71	0.00	0.00	577.87	0.16	0.24	0.00	572.30
290.	37.	253.	0.	30.	74.	0.	13.	7.	100000.00
0.36	1.21	3.41	0.00	0.090	0.035	0.090	0.035	572.30	209.00
0.001060	50.	50.	50.	0	0	0	0.00	20.00	229.00

FLOW DISTRIBUTION FOR SECNO= 1370.00 CHSEL= 577.71

STA=	209.	215.	229.
PER Q=	12.7	87.3	
AREA=	30.4	74.3	
VEL=	1.2	3.4	

*SECNO 1420.000

3470 ENCROACHMENT STATIONS=		211.0	227.0	TYPE=	1	TARGET=		16.000	

50' O/S SOUTH HURON RIVER DR.

1420.00	5.42	577.72	0.00	0.00	577.96	0.24	0.06	0.02	572.30
290.	27.	263.	0.	21.	64.	0.	13.	7.	100000.00
0.35	1.31	4.11	0.00	0.080	0.035	0.080	0.035	572.30	211.00
0.001029	50.	50.	50.	2	0	0	0.00	16.00	227.00

FLOW DISTRIBUTION FOR SECNO= 1420.00 CHSEL= 577.72

STA=	211.	215.	229.
PER Q=	9.4	90.6	
AREA=	20.8	64.0	

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WT = 1.3 4.1

*SECNO 1470.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 580.70 ELREA= 580.70

D/S FACE SOUTH HURON RIVER DR.

1470.00	4.77	577.71	0.00	0.00	578.14	0.43	0.12	0.36	573.40
290.	0.	290.	0.	0.	55.	0.	23.	7.	584.50
0.35	0.00	5.28	0.00	0.080	0.035	0.080	0.035	573.00	1.00
0.004252	50.	50.	50.	2	0	0	0.00	11.94	12.94

FLOW DISTRIBUTION FOR SECNO= 1470.00 CWSEL= 577.71

STA= 1. 13.
PER Q= 100.0
AREA= 54.9
VEL= 5.3

*SECNO 1471.000

3370 NORMAL BRIDGE,NRD= 5 MIN ELTRD= 584.50 MAX ELLC= 579.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 580.70 ELREA= 580.70

1471.00	4.77	577.71	0.00	0.00	578.14	0.43	0.08	0.00	573.40
290.	0.	290.	0.	0.	55.	0.	13.	7.	584.50
0.35	0.00	5.28	0.00	0.080	0.020	0.080	0.035	573.00	1.00
0.001386	1.	1.	1.	0	0	0	0.00	11.94	12.94

FLOW DISTRIBUTION FOR SECNO= 1471.00 CWSEL= 577.71

STA= 1. 13.
PER Q= 100.0
AREA= 54.9
VEL= 5.3

*SECNO 1509.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IT2	ICONT	CORAR	TOP.ID	ENDST

3370 NORMAL BRIDGE,NRD= 5 MIN ELTRD= 584.50 MAX ELLC= 579.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.00 ELREA= 582.10

1509.00	4.77	577.77	0.00	0.00	578.20	0.42	0.05	0.00	573.40
290.	0.	290.	0.	0.	56.	0.	14.	7.	584.50
0.35	0.00	5.21	0.00	0.080	0.020	0.080	0.034	573.00	1.00
0.003334	38.	38.	38.	2	0	0	0.00	11.94	12.94

FLOW DISTRIBUTION FOR SECNO= 1509.00 CWSEL= 577.77

STA= 1. 13.

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PER Q= 100.3
AREA= 35.7
VEL= 5.2

*SECNO 1510.000

3465 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.00 ELTEA= 582.10

U/S FACE SOUTH HURON RIVER DR.

1510.00	4.70	577.70	0.00	0.30	578.20	0.50	0.50	0.03	573.40
290.	0.	250.	0.	0.	50.	0.	14.	7.	534.50
0.35	0.00	5.20	0.00	0.030	0.035	0.000	0.034	573.00	1.00
0.004083	1.	1.	1.	0	0	0	0.00	11.94	12.94

FLOW DISTRIBUTION FOR SECNO= 1510.00 CHSEL= 577.70

STA= 1. 13.
PER Q= 100.0
AREA= 55.7
VEL= 5.2

*SECNO 1610.000

100' U/S SOUTH HURON RIVER DR.

1610.00	4.36	578.26	0.00	0.20	578.77	0.51	0.40	0.03	573.82
290.	61.	214.	15.	108.	82.	29.	14.	7.	573.60
0.37	0.57	3.47	0.06	0.080	0.035	0.350	0.034	573.42	45.47
0.000418	100.	100.	100.	2	0	0	0.00	93.14	138.61

FLOW DISTRIBUTION FOR SECNO= 1610.00 CHSEL= 578.26

STA= 45. 105. 111. 129. 137.
PER Q= 14.1 6.9 73.8 5.1
AREA= 85.1 22.5 86.5 23.3
VEL= 0.5 0.9 2.5 0.6

*SECNO 1910.000

110' D/S DIXIE HWY.

1910.00	5.34	578.35	0.00	0.00	578.55	0.20	0.18	0.04	574.10
290.	23.	257.	10.	25.	60.	12.	15.	7.	574.00
0.39	0.93	3.89	0.83	0.080	0.035	0.080	0.035	573.00	101.15
0.001001	200.	300.	370.	2	0	0	0.00	31.17	132.32

FLOW DISTRIBUTION FOR SECNO= 1910.00 CHSEL= 578.35

STA= 101. 115. 127. 132.
PER Q= 8.1 88.6 3.3
AREA= 25.2 67.5 11.6
VEL= 0.9 3.6 0.8

*SECNO 2320.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 580.50 ELTEA= 580.50

D/S FACE DIXIE HWY.

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  2020.00      5.40    578.40      0.00      0.00    578.79      0.39      0.19      0.06    574.10
     290.        0.      290.        0.        0.       58.        0.       15.        8.    582.40
     0.40      0.00      4.99      0.00     0.080     0.035     0.080     0.035    573.00      1.00
 0.003492      110.      110.      110.         2         0         0      0.00     11.95     12.95

FLOW DISTRIBUTION FOR SECNO=    2020.00          CWSEL=     578.40

STA=        1.        13.
  PER Q=     100.0
   AREA=      58.1
    VEL=       5.0

*SECNO 2021.000
   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      XML       XNCH      XMR       WTM       ELMIN       SETA
   SLOPE     XLOBL     XLCH      XLOBR     XTRIAL    IR2       ICONT     COBAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  582.40 MAX ELLC=  579.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       580.50 ELREA=       580.50

  2021.00      5.40    578.40      0.00      0.00    578.79      0.39      0.00      0.00    574.10
     290.        0.      290.        0.        0.       58.        0.        5.        8.    582.40
     0.40      0.00      4.99      0.00     0.000     0.080     0.080     0.035    573.00      1.00
 0.001139        1.        1.        1.         0         0         0      0.00     11.95     12.95

FLOW DISTRIBUTION FOR SECNO=    2021.00          CWSEL=     578.40

STA=        1.        13.
  PER Q=     100.0
   AREA=      58.1
    VEL=       5.0

*SECNO 2061.000

3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  582.40 MAX ELLC=  579.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       581.00 ELREA=       581.40

  2061.00      5.46    578.46      0.00      0.00    578.84      0.38      0.04      0.00    574.10
     290.        0.      290.        0.        0.       59.        0.       15.        8.    582.40
     0.40      0.00      4.94      0.00     0.080     0.020     0.080     0.034    573.00      1.00
 0.001105       40.       40.       40.         2         0         0      0.00     11.95     12.95

FLOW DISTRIBUTION FOR SECNO=    2061.00          CWSEL=     578.46

STA=        1.        13.
  PER Q=     100.0
   AREA=      58.8
    VEL=       4.9

*SECNO 2062.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       581.00 ELREA=       581.40
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        U/S FACE DIXIE HWY.

   2062.00      5.46    578.46      0.00      0.00    578.84      0.38      0.00      0.00    574.90
      290.        0.      290.        0.        0.       59.        0.       15.        8.    582.40
      0.40      0.00      4.95      0.00     0.080     0.035     0.080     0.034    573.20      1.00
  0.003382        1.        1.        1.         0         0         0      0.00     11.95     12.95

FLOW DISTRIBUTION FOR SECNO=    2062.00          CWSEL=     578.46

STA=        1.        13.
  PER Q=     100.0
   AREA=      58.8
    VEL=       4.9

*SECNO 2112.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       586.00 ELREA=       586.00

        D/S FACE PENN CENTRAL R.R.

   2112.00      5.29    578.49      0.00      0.00    579.16      0.67      0.24      0.07    574.20
      290.        0.      290.        0.        0.       44.        0.       15.        8.    587.90
      0.40      0.00      6.58      0.00     0.080     0.035     0.080     0.034    573.20      6.40
  0.007252       50.       50.       50.         2         0         0      0.00      9.13     15.53

FLOW DISTRIBUTION FOR SECNO=    2112.00          CWSEL=     578.49

STA=        6.        16.
  PER Q=     100.0
   AREA=      44.1
    VEL=       6.6

*SECNO 2113.000

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  587.90 MAX ELLC=  583.90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       586.00 ELREA=       586.00

   2113.00      5.30    578.50      0.00      0.00    579.17      0.67      0.01      0.00    574.20
      290.        0.      290.        0.        0.       44.        0.       15.        8.    587.90
      0.40      0.00      6.57      0.00     0.080     0.026     0.080     0.034    573.20      6.40
  0.003991        1.        1.        1.         0         0         0      0.00      9.13     15.53

FLOW DISTRIBUTION FOR SECNO=    2113.00          CWSEL=     578.50

STA=        6.        16.
  PER Q=     100.0
   AREA=      44.1
    VEL=       6.6

*SECNO 2134.000
   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     XLCX      XLOBR     XTRIAL    IR2       ICONT     COBAR     TOPWID     ENDST
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3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  587.90 MAX ELLC=  583.90

3695 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       587.90 ELREA=       587.90

  2134.00      5.42    578.62      0.00      0.00    579.25      0.64      0.00      0.00    574.20
     290.        0.      290.        0.        0.       45.        0.       15.        8.    587.90
     0.40      0.00      6.41      0.00     0.080     0.026     0.080     0.034    573.20      6.40
 0.003744       21.       21.       21.         0         0         0      0.00      9.13     15.53

FLOW DISTRIBUTION FOR SECNO=    2135.00          CWSEL=     578.62

STA=        6.       16.
  PER Q=     100.0
   AREA=      45.2
    VEL=       6.4

*SECNO 2135.000

3695 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       587.90 ELREA=       587.90

        U/S FACE  [illegible] CENTRAL R.R.

  2135.00      5.42    578.62      0.00      0.00    579.26      0.64      0.00      0.00    574.20
     290.        0.      290.        0.        0.       45.        0.       15.        8.    587.90
     0.40      0.00      6.41      0.00     0.080     0.035     0.080     0.034    573.20      6.40
 0.006777        1.        1.        1.         0         0         0      0.00      9.13     15.53

FLOW DISTRIBUTION FOR SECNO=    2135.00          CWSEL=     578.62

STA=        6.       16.
  PER Q=     100.0
   AREA=      45.2
    VEL=       6.4

*SECNO 2205.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=       77.5      122.5  TYPE=      1  TARGET=       45.000

        VALLEY BETWEEN P.C. R.R.& I-75 N. BOUND OFF RAMP

  2205.00      5.90    579.30      0.00      0.00    579.40      0.09      0.08      0.05    573.90
     290.       53.      195.       42.       58.       67.       50.       15.        8.    574.10
     0.41      0.91      2.90      0.84     0.080     0.035     0.080     0.034    573.40     77.50
 0.000473       70.       70.       70.         2         0         0      0.00     45.00    122.50

FLOW DISTRIBUTION FOR SECNO=    2205.00          CWSEL=     579.30

STA=       78.       81.       94.      106.      118.      122.
  PER Q=       1.4      16.8      67.3      13.2       1.3
   AREA=       7.8      50.1      67.3      42.1       8.0
    VEL=       0.5       1.0       2.9       0.9       0.5

*SECNO 2273.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       588.90 ELREA=       587.70
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U/S FACE I-75 N. BOUND, OFF RAMP

2275.00	5.53	579.13	0.00	0.00	579.57	0.44	0.07	0.01	575.30
291.	0.	291.	0.	0.	54.	0.	13.	1.	575.30
0.41	0.00	5.34	0.00	0.000	0.035	0.082	0.034	573.60	95.00
0.003168	70.	73.	72.	2	0	2	2.00	70.00	105.00

FLOW DISTRIBUTION FOR SECNO= 2275.00 CWSEL= 579.13

STA= 95. 105.
PER Q= 100.0
AREA= 56.3
VEL= 5.3

SPECIAL BRIDGE

SB XK	XCOR	COFQ	RDLEN	BHC	BHP	BAREA	SS	ELCHU	ELCHD
0.00	1.95	3.00	0.00	6.61	0.00	42.20	0.00	573.60	573.60

*SECNO 2397.000
PRESSURE FLOW

EGPRS	EGLHC	K3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
330.56	579.37	0.00	0.	290.	52.	72.	578.50	587.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 588.90 ELREA= 587.70

U/S FACE I-75 N. BOUND, OFF RAMP

2397.00	6.65	580.25	0.00	0.00	580.56	0.30	0.99	0.00	575.30
290.	0.	290.	0.	0.	66.	0.	96.	8.	575.30
0.42	0.00	4.43	0.00	0.000	0.035	0.080	0.034	573.60	95.00
0.001339	77.	122.	122.	2	0	1	2.00	90.50	105.50

FLOW DISTRIBUTION FOR SECNO= 2397.00 CWSEL= 580.25

STA= 95. 105.
PER Q= 100.0
AREA= 65.5
VEL= 4.4

*SECNO 2572.000

SECNO	DEPTF	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV LEFT/RIGHT
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	WOL	TOA	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	KLOBL	KLCH	KLOBR	ITRIAL	I42	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 15.0 715.0 TYPE= 1 TARGET= 100.000

VALLEY BETWEEN N.B. OFF RAMP & I-75

2572.00	6.65	580.65	0.00	0.00	580.73	0.06	0.02	0.02	574.20
290.	65.	192.	67.	73.	65.	87.	15.	8.	574.20

0.45	0.79	2.48	0.69	0.000	0.040	0.080	0.035	574.00	33.20
0.000364	175.	175.	175.	2	0	0	0.00	61.00	115.30

FLOW DISTRIBUTION FOR SECNO= 2572.00 CHSEL= 580.35

STA=	13.	25.	30.	50.	70.	85.	115.
PER Q=	0.1	5.5	15.2	56.0	18.2	5.0	
AREA=	0.9	29.2	46.5	53.5	60.7	36.7	
VEL=	0.2	0.5	0.9	2.5	0.9	0.4	

*SECNO 2757.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.00 ELREA= 582.00

D/S FACE I-75

2757.00	6.30	580.40	0.00	0.00	580.0	0.00	0.17	0.00	574.50
290.	0.	290.	0.	0.	50.	0.	17.	0.	574.40
0.46	0.00	5.84	0.00	0.080	0.040	0.080	0.035	574.10	56.00
0.004540	185.	185.	200.	2	0	0	0.00	0.00	64.00

FLOW DISTRIBUTION FOR SECNO= 2757.00 CHSEL= 580.40

STA=	56.	64.
PER Q=	100.0	
AREA=	42.6	
VEL=	5.8	

SPECIAL BRIDGE

SB WK	AKQ9	SQF9	ROLEN	SWC	EUP	BAREA	SS	ELSND	ELCID
0.30	2.38	3.30	0.70	0.00	0.00	35.40	0.00	574.40	574.10

*SECNO 2923.000

PRESSURE FLOW

EGPTS	EGLWC	XS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTOP
582.96	581.31	0.00	0.	290.	35.	37.	579.00	584.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 584.60 ELREA= 585.10

U/S FACE I-75

2923.00	8.25	582.65	0.00	0.00	582.96	0.31	1.95	0.00	574.80
290.	0.	290.	0.	0.	65.	0.	17.	8.	574.70
0.47	0.00	4.49	0.00	0.080	0.040	0.080	0.035	574.10	55.20
0.002235	166.	166.	166.	2	0	0	0.00	8.00	64.00

FLOW DISTRIBUTION FOR SECNO= 2923.00 CHSEL= 582.65

STA=	56.	64.
PER Q=	100.0	
AREA=	64.6	
VEL=	4.5	

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*SECNO 2973.000

3470 ENCROACHMENT STATIONS= 6.0 116.0 TYPE= 1 TARGET= 108.000

50' D/S I-75

2973.00	8.59	582.99	0.00	0.00	583.07	0.02	0.02	0.03	574.60
290.	47.	117.	126.	91.	67.	227.	17.	8.	574.70
0.48	0.31	1.74	3.55	0.030	0.040	0.080	0.035	574.40	27.22
0.000129	50.	50.	50.	2	0	0	0.00	35.73	114.50

FLOW DISTRIBUTION FOR SECNO= 2973.00 CHSEL= 582.99

STA=	27.	46.	56.	64.	74.	114.
PER Q=	5.7	12.4	40.6	14.6	26.8	
AREA=	34.1	57.4	87.5	82.4	164.6	
VEL=	3.3	0.6	1.7	2.7	0.3	

*SECNO 3273.000

3470 ENCROACHMENT STATIONS= 112.5 147.5 TYPE= 1 TARGET= 15.000

50' D/S I-75 S. BOUND RAMPS

3273.00	7.61	583.01	0.00	0.00	583.07	0.05	0.05	0.01	575.90
290.	42.	206.	41.	60.	97.	59.	20.	9.	575.30
0.53	0.70	2.16	2.70	0.030	0.041	0.070	0.036	575.40	12.57
0.000223	300.	300.	300.	2	0	0	0.00	35.00	147.50

FLOW DISTRIBUTION FOR SECNO= 3273.00 CHSEL= 583.01

STA=	113.	124.	137.	147.
PER Q=	14.6	71.2	14.2	
AREA=	60.4	96.7	59.1	
VEL=	0.7	2.1	0.7	

*SECNO 3323.000

SECNO	DEPTH	CHSEL	CRIWS	WSELR	EG	HV	ML	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	WOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XML	XNCH	XNR	XTM	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.50 ELREA= 586.50

D/S FACE I-75 S. BOUND RAMPS

3323.00	7.50	582.90	0.00	0.00	583.15	0.25	0.22	0.06	578.00
290.	0.	290.	0.	0.	72.	0.	20.	9.	570.00
0.53	0.00	4.03	0.00	0.030	0.040	0.080	0.036	575.40	125.00
0.001843	50.	50.	50.	2	0	0	0.00	10.00	135.00

FLOW DISTRIBUTION FOR SECNO= 3323.00 CHSEL= 582.90

STA=	125.	135.
PER Q=	100.0	
AREA=	72.0	
VEL=	4.0	

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SPECIAL BRIDGE

SK	XKOR	COFQ	XDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	2.03	3.00	0.20	8.53	0.00	49.50	0.00	575.40	575.40

*SECNO 3488.000
PRESSURE FLOW

EGPIN	ESLOC	HO	QWEIR	QBP	BAREA	TRAPEZOID AREA	ELLOC	ELTRY
583.96	583.15	0.00	0.	293.	53.	49.	581.20	591.00

3465 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 591.20 ELREA= 591.20

U/S FACE I-75 S. BOUND RAMPS

3483.00	8.38	583.78	0.00	0.30	583.99	0.21	0.33	0.30	583.30
290.	0.	291.	0.	0.	61.	0.	20.	9.	570.00
3.55	3.00	3.39	0.00	0.330	3.067	0.065	0.356	576.40	123.30
0.001337	165.	165.	165.	2	0	0	0.00	10.30	135.30

FLOW DISTRIBUTION FOR SECNO= 3483.00 CWSEL= 583.78

STA=	114.	126.	131.	154.	501.	561.	581.
PER Q=	40.4	5.2	5.3	0.0	49.1	0.0	
AREA=	91.3	28.6	43.7	0.8	243.6	0.8	
VEL=	1.3	0.6	0.3	0.1	0.6	0.1	

*SECNO 3550.000

3265 DIVIDED FLOW

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 585.00 ELREA= 582.50

D/S FACE CARLETON-ROCKWOOD

3558.00	7.61	584.01	0.00	0.00	584.02	0.01	0.02	0.02	576.40	
290.	0.	117.	173.	0.	91.	200.	23.	9.	576.40	
0.57	0.00	1.28	0.55	0.080	0.040	0.380	0.036	575.40	114.00	
0.000153	70.	70.	70.	2	0	0	0.00	108.74	361.43	

FLOW DISTRIBUTION FOR SECNO= 3558.00 CWSEL= 584.01

STA=	114.	126.	131.	154.	501.	561.	581.
PER Q=	40.4	5.2	5.3	0.0	49.1	0.0	
AREA=	91.3	28.6	43.7	0.8	243.6	0.8	
VEL=	1.3	0.6	0.3	0.1	0.6	0.1	

SPECIAL BRIDGE

SK	XKOR	COFQ	XDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	1.70	3.00	0.00	9.17	0.00	43.10	0.00	575.40	576.40

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*SECNO 3610.000

3265 DIVIDED FLOW

PRESSURE AND WEIR FLO

EGPRS	EGLWC	43	QWEIR	CPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
585.21	584.02	0.00	176.	115.	43.	43.	581.10	583.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.00 ELREA= 583.00

U/S FACE CARLETON-ROCKWOOD

3610.00	7.79	584.19	0.00	0.00	584.20	0.01	0.17	0.00	576.40
290.	0.	114.	176.	0.	93.	331.	21.	9.	576.40
0.59	0.00	1.22	0.53	0.080	0.040	0.080	0.036	576.40	114.00
0.000136	52.	52.	52.	1	0	4	0.00	101.87	561.42

FLOW DISTRIBUTION FOR SECNO= 3610.00 CUSEL= 584.19

STA=	114.	126.	131.	155.	501.	561.	561.
PER Q=	39.4	6.2	5.6	0.0	48.8	0.0	
AREA=	93.5	29.5	48.2	0.9	231.5	0.0	
VEL=	1.2	0.6	0.3	0.1	0.6	0.0	

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  30,5 ,52
*****************************************************

T1 ENCROACHMENT PLN
T2 100 YR
T3       S.ROCKWOOD BAND, MOLES

J1  ICHECK    INO       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FC

      0.        5.        0.        0.  0.000000      0.00      0.0       0.   537.650    0.000

J2  NPROF     IPLOT     PRFWS     XSECV     XSECH     FN        ELDC      TEN       CHNIM     ITRACE

    15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 2

CCHV= 0.100 CEHV= 0.300

*SECNO 100.000

2300 MAT 01= 441.66 WSEL= 577.65 ENC 01= 441.66 WSEL= 577.75 RATIO= 0.3000

MAT 01= 461. RATIOS LOSS,CH,XOR= 0.0523 0.0275 0.1250 WSEL= 577.75

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 123.0 419.1 TYPE= 4 TARGET= 0.049

100.00	7.15	577.65	0.00	577.65	577.66	0.01	0.00	0.00	573.00
290.	7.	256.	27.	52.	206.	179.	3.	0.	572.50
0.00	0.10	0.96	0.15	0.080	0.035	0.080	0.035	570.50	122.57
0.000047	0.	0.	0.	0	5	0	0.30	256.13	419.07

*SECNO 970.000

3823 MAT 01= 328.70 WSEL= 577.75 ENC 01= 328.70 WSEL= 577.80 RATIO= 0.3000

MAT 01= 342. RATIOS LOSS,CH,XOR= 0.1137 0.7534 0. 269 SEL= 577.80

3470 ENCROACHMENT STATIONS= 156.2 272.3 TYPE= 4 TARGET= 0.046

VALLEY #24

970.00	5.43	577.70	0.00	577.70	577.73	0.03	0.05	0.00	574.60
290.	27.	234.	30.	90.	200.	88.	9.	6.	574.50
0.26	0.30	1.07	0.34	0.080	0.035	0.080	0.035	572.30	158.20
0.000385	870.	870.	870.	0	0	0	0.00	114.14	272.34

*SECNO 1120.000

3470 ENCROACHMENT STATIONS= 170.0 250.0 TYPE= 1 TARGET= 30.000

1120.00	5.41	577.71	0.00	577.71	577.73	0.02	0.01	0.00	574.60
290.	23.	259.	8.	66.	219.	22.	10.	4.	574.50
0.30	0.34	1.19	0.35	0.080	0.035	0.080	0.035	572.30	170.00
0.000104	150.	150.	150.	0	0	0	0.00	80.30	230.00

*SECNO 1270.000

3470 ENCROACHMENT STATIONS= 234.0 234.0 TYPE= 1 TARGET= 30.000

1270.00	5.38	577.68	0.00	577.68	577.79	0.11	0.03	0.03	572.30
290.	54.	230.	19.	52.	74.	24.	11.	5.	572.50
0.32	0.98	2.97	0.80	0.080	0.035	0.080	0.035	572.30	204.00
0.000533	150.	150.	150.	2	0	0	0.00	30.00	234.00

*SECNO 1320.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 207.0 231.0 TYPE= 1 TARGET= 24.000

1320.00	5.39	577.69	0.00	577.68	577.83	0.14	0.03	0.01	572.30
290.	40.	244.	6.	39.	174.	10.	11.	5.	572.50

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     0.32      1.02      3.29      0.61     0.080     0.035     0.080     0.035    572.30    227.00
 0.000651       50.       50.       50.         1         0         0      0.00     24.00    231.00

*SECNO 1370.000

3470 ENCROACHMENT STATIONS=      209.0      229.0  TYPE=      1  TARGET=      20.000
  1370.00      5.42    577.72      0.00    577.71    577.88      0.16      0.04      0.00    572.30
     290.       37.      253.        0.       30.       74.        0.       11.        5. 100000.00
     0.33      1.21      3.40      0.00     0.080     0.035     0.080     0.035    572.30    209.00
 0.001057       50.       50.       50.         0         0         0      0.00     20.00    229.00

*SECNO 1420.000

3470 ENCROACHMENT STATIONS=      211.0      227.0  TYPE=      1  TARGET=      16.000

        50.  D/S SOUTH HURON RIVER DR.

  1420.00      5.42    577.72      0.00    577.72    577.96      0.24      0.06      0.02    572.30
     290.       27.      263.        0.       21.       64.        0.       12.        5. 100000.00
     0.33      1.31      4.10      0.00     0.080     0.035     0.080     0.035    572.30    211.00
 0.001524       50.       50.       50.         0         0         0      0.00     16.00    227.00

*SECNO 1470.000
 2800 NAT Q1=      46.47  WSEL=     577.71  ENC Q1=      45.80  WSEL=     577.81  RATIO= -0.0299
 NAT Q1=      46.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     577.81

3470 ENCROACHMENT STATIONS=        1.0       13.0  TYPE=      4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       580.70 ELREA=       580.70

        D/S FACE SOUTH HURON RIVER DR.

  1470.00      4.71    577.71      0.00    577.71    578.15      0.43      0.12      0.06    573.40
     290.        0.      290.        0.        0.       55.        0.       12.        5.    584.50
     0.33      0.00      5.28      0.00     0.080     0.035     0.080     0.035    573.00      1.00
 0.004263       50.       50.       50.         2         0         0      0.00     11.94     12.94

*SECNO 1471.000
 2800 NAT Q1=      77.89  WSEL=     577.71  ENC Q1=      80.21  WSEL=     577.81  RATIO= -0.0299
 NAT Q1=      80.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     577.81

3370 NORMAL BRIDGE,NRD=  5 MIN ELTRD=  584.50 MAX ELLC=  579.30

3470 ENCROACHMENT STATIONS=        1.0       13.0  TYPE=      4  TARGET=       0.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       580.70 ELREA=       580.70

  1471.00      4.71    577.71      0.00    577.71    578.15      0.44      0.00      0.00    573.40
     290.        0.      290.        0.        0.       55.        0.       12.        5.    584.50
     0.33      0.00      5.29      0.00     0.080     0.020     0.080     0.035    573.00      1.00
 0.001408        1.        1.        1.         0         0         0     -0.22     11.94     12.94

*SECNO 1509.000
 2800 NAT Q1=      79.39  WSEL=     577.77  ENC Q1=      81.73  WSEL=     577.88  RATIO= -0.0296
 NAT Q1=      82.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     577.88
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
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TIME      VLOD      VCH       VROB      XNL       XNCH      XNR       LTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IN2       ICONT     CORAR     TOPWID    ENDST

3370 NORMAL BRIDGE,NPD=  5 MIN ELTRD=  584.50 MAX ELLC=  579.33

3470 ENCROACHMENT STATIONS=        1.0       13.0  TYPE=      4  TARGET=        0.000

3695 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       581.00 ELREA=       582.10

  1509.00     4.78    577.78      0.00    577.77    578.20      0.42      0.05      0.00    573.40
     290.       0.      290.        0.        0.       55.        0.       12.        5.    584.50
     0.33      0.00      5.23      0.00     0.080     0.020     0.080     0.034    573.00      1.00
 0.001364       36.       38.       38.         1         0         0     -0.22     11.94     12.94

*SECNO 1510.000
 2800 NAT Q1=      45.39  WSEL=     577.78  ENC Q1=      46.74  WSEL=     577.88  RATIO= -0.0298
 NAT Q1=      47.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     577.08

3470 ENCROACHMENT STATIONS=        1.0        3.0  TYPE=      4  TARGET=        0.000

3695 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       581.00 ELREA=       582.10

        U/S FACE SOUTH HURON RIVER DR.

  1510.00     4.79    577.79      0.00    577.78    578.21      0.42      0.00      0.00    573.40
     290.       0.      290.        0.        0.       56.        0.       12.        5.    584.50
     0.33      0.00      5.20      0.00     0.080     0.035     0.080     0.034    573.00      1.00
 0.004090        1.        1.        1.         0         0         0      0.00     11.94     12.94

*SECNO 1610.000
 2800 NAT Q1=     141.73  WSEL=     578.26  ENC Q1=     141.78  WSEL=     578.36  RATIO=  0.0000
 NAT Q1=     148.  RATIOS LOB,CH,ROB=  0.2175  0.7308  0.0517  WSEL=     578.36

3470 ENCROACHMENT STATIONS=       79.5      132.4  TYPE=      4  TARGET=        0.043

        100' U/S SOUTH HURON RIVER DR.

  1610.00     4.86    578.26      0.00    578.26    578.34      0.08      0.10      0.03    573.60
     290.       58.      223.        8.       80.       87.       13.       12.        5.    573.40
     0.35      0.73      2.58      0.62     0.080     0.035     0.080     0.034    573.40     79.46
 0.000455      100.      100.      100.         2         0         0      0.00     52.89    132.35

*SECNO 1910.000
 2800 NAT Q1=      91.65  WSEL=     578.35  ENC Q1=      91.65  WSEL=     578.45  RATIO=  0.0000
 NAT Q1=      95.  RATIOS LOB,CH,ROB=  0.0834  0.8826  0.0339  WSEL=     578.45

3470 ENCROACHMENT STATIONS=      107.2      128.6  TYPE=      4  TARGET=        0.037

        110' D/S DIXIE HWY.

  1910.00     5.35    578.35      0.00    578.35    578.58      0.22      0.19      0.04    574.10
     290.       19.      267.        4.       19.       68.        6.       13.        5.    574.00
     0.37      1.04      3.95      0.67     0.080     0.035     0.080     0.035    573.00    107.20
 0.001074      200.      300.      370.         2         0         0      0.00     21.35    128.57

*SECNO 2020.000
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3470 ENCROACHMENT STATIONS= 1.0 13.0 TYPE= 1 TARGET= 12.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 580.50 ELREA= 580.50

U/S FACE DIXIE HWY.

2020.00	5.44	578.44	0.00	578.40	578.82	0.38	0.19	0.03	574.10
290.	0.	290.	0.	0.	59.	0.	13.	5.	100000.00
0.37	0.00	4.96	0.00	0.080	0.035	0.080	0.034	573.00	1.00
0.003445	40.	40.	40.	0	0	0	0.00	11.95	12.95

*SECNO 2021.000

SECNO	DEPTH	CHSEL	CPIUS	USELK	EG	HV	HL	CLOSS	BANK ELEV
0	ELOB	OCH	QPCO	ALOB	ACH	AROD	VOL	TOP	LEFTBRGH
TIME	WLOS	VCH	VPOT	KVL	XTCH	PBT	VTP	ELBKT	ESTA
SLOPE	XLOB	ALCH	ALOBD	STORAL	I42	TCONT	CORAR	COP.IP	ENDS

3370 NORMAL BRIDGE,NRD= 5 MIN ELTRD= 582.40 MAX ELLC= 579.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 580.50 ELREA= 580.50

2021.00	5.44	578.44	0.00	578.40	578.82	0.38	0.00	0.00	574.10
290.	0.	290.	0.	0.	59.	0.	13.	5.	582.40
0.37	0.00	4.95	0.00	0.080	0.035	0.080	0.034	573.00	1.00
0.001116	1.	1.	1.	0	0	0	0.00	11.95	12.95

*SECNO 2061.000

3370 NORMAL BRIDGE,NRD= 5 MIN ELTRD= 582.40 MAX ELLC= 579.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.00 ELREA= 581.40

2061.00	5.49	578.49	0.00	578.46	578.87	0.37	0.04	0.00	574.15
290.	0.	290.	0.	0.	59.	0.	13.	5.	582.40
0.38	0.00	4.90	0.00	0.080	0.035	0.080	0.034	573.00	1.00
0.001084	40.	40.	40.	2	0	0	0.00	11.95	12.95

*SECNO 2062.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 581.00 ELREA= 581.40

U/S FACE DIXIE HWY.

2062.00	5.49	578.49	0.00	578.46	578.87	0.37	0.00	0.00	574.10
290.	0.	290.	0.	0.	59.	0.	13.	5.	582.40
0.38	0.00	4.90	0.00	0.080	0.035	0.080	0.034	573.00	1.00
0.003318	1.	1.	1.	0	0	0	0.00	11.95	12.95

*SECNO 2112.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.00 ELREA= 586.00

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D/S FACE PENN CENTRAL R.R.

2112.00	5.33	578.53	0.00	578.49	579.19	0.66	0.23	0.09	574.20
290.	0.	290.	0.	0.	44.	0.	13.	5.	587.90
0.38	0.00	6.53	0.00	0.080	0.035	0.080	0.034	573.20	6.40
0.007124	50.	50.	50.	2	0	0	0.00	9.13	15.53

*SECNO 2113.000

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 587.90 MAX ELLC= 583.90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.00 ELREA= 586.00

2113.00	5.33	578.53	0.00	578.50	579.19	0.66	0.01	0.00	574.20
290.	0.	290.	0.	0.	44.	0.	13.	5.	587.90
0.38	0.00	6.53	0.00	0.080	0.026	0.080	0.034	573.20	6.40
0.003920	1.	1.	1.	0	0	0	0.00	9.13	15.53

*SECNO 2134.000

SECNO	DEPTH	CLSEL	CRIMS	ISFLX	ES	HV	HL	ELOSS	BANK ELEV
Q	QLOB	QCH	QRCB	WLOB	ACH	ARCB	WOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRCB	XMH	XNCH	XMN	XTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 587.90 MAX ELLC= 583.90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 587.90 ELREA= 587.90

2134.00	5.45	578.65	0.00	578.62	579.28	0.63	0.08	0.00	574.20
290.	0.	290.	0.	0.	46.	0.	13.	5.	587.90
0.38	0.00	6.37	0.00	0.080	0.026	0.080	0.034	573.20	6.40
0.003683	21.	21.	21.	0	0	0	0.00	9.13	15.53

*SECNO 2135.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 587.90 ELREA= 587.90

U/S FACE PENN CENTRAL R.R.

2135.00	5.45	578.65	0.00	578.62	579.28	0.63	0.00	0.00	574.20
290.	0.	290.	0.	0.	46.	0.	13.	5.	587.90
0.38	0.00	6.37	0.00	0.080	0.035	0.080	0.034	573.20	6.40
0.006668	1.	1.	1.	0	0	0	0.00	9.13	15.53

*SECNO 2205.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 77.5 122.5 TYPE= 1 TARGET= 45.000

VALLEY BETWEEN P.C. R.R.& I-75 N. BOUND OFF RAMP

2205.00	5.93	579.33	0.00	579.30	579.42	0.09	0.00	0.05	573.90
290.	55.	195.	42.	58.	68.	50.	13.	5.	574.10

```
     0.39      0.91      2.89      0.04     0.030     0.035     0.080     0.034    573.60     77.50
 0.000465      70.       70.       70.         2         0         0      0.00     45.00    122.50

*SECNO 2275.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       580.90 ELREA=       587.70

        D/S FACE I-75 N. BOUND. OFF RAMP

  2275.00      5.53    579.15      0.00    579.13    579.59      1.44      0.07      0.10    575.30
     290.        0.      290.        0.        0.       55.        0.       13.        5.    575.30
     0.39      0.00      3.32      0.00     0.080     0.035     0.080     0.034    573.60     95.00
 0.003112      70.       70.       70.         2         0         0      0.00     10.00    105.00

SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     SHC       ELP       BAREA     SS        ELCHU     ELCHD
     0.00      1.95      3.00      0.00      3.61      0.00      42.20     0.00     573.60    573.60

*SECNO 2397.000
PRESSURE FLOW

 EGPRS      EGLWC      H3        QWEIR      QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                                 AREA
   580.53    579.50      0.00        0.       290.       42.       42.      573.50    587.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       580.90 ELREA=       587.70

        U/S FACE I-75 N. BOUND. OFF RAMP

  2397.00      6.68    580.28      0.00    580.25    580.58      0.30      0.99      0.00    575.30
     290.        0.      290.        0.        0.       66.        0.       14.        5.    575.30
     0.40      0.00      4.41      0.00     0.080     0.035     0.080     0.034    573.60     95.00
 0.001819     122.      122.      122.         2         0         0      0.00     10.00    105.00

*SECNO 2572.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        BLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       THA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       HTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=       15.0      115.0  TYPE=      1  TARGET=      100.000

        VALLEY BETWEEN N.B. OFF RAMP & I-75

  2572.00      6.67    580.67      0.00    580.65    580.72      0.06      0.12      0.02    574.20
     290.       60.      162.       68.       77.       66.       98.       14.        5.    574.20
     0.43      0.78      2.46      0.69     0.080     0.040     0.080     0.035    574.00     33.17
 0.000358     175.      175.      175.         2         0         0      0.00     81.83    115.00

*SECNO 2757.000
```

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.00 ELREA= 582.00

D/S FACE I-75

2757.00	5.40	580.50	0.00	580.40	581.03	0.53	0.16	0.14	574.5[illegible]
290.	0.	290.	0.	0.	50.	0.	15.	6.	574.40
0.44	1.00	5.82	0.00	0.080	0.040	0.080	0.035	574.10	56.00
0.004500	185.	185.	200.	2	0	0	0.00	8.00	64.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	ROLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.38	3.00	0.00	0.00	0.00	35.40	0.00	574.40	574.10

*SECNO 2923.000
PRESSURE FLOW

EGPRS	EGLMC	H3	QWEIR	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
582.98	581.33	0.00	0.	290.	25.	27.	579.00	584.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 584.60 ELREA= 585.10

D/S FACE I-75

2923.00	8.27	582.67	0.00	582.65	582.98	0.31	1.95	0.00	574.80
290.	0.	290.	0.	0.	65.	0.	15.	6.	574.70
0.45	0.00	4.43	0.00	0.080	0.040	0.080	0.035	574.40	56.00
0.002219	166.	166.	166.	2	0	0	0.00	8.00	64.00

*SECNO 2973.000

3470 ENCROACHMENT STATIONS= 6.0 114.0 TYPE= 1 TARGET= 100.000

50' U/S I-75

2973.00	8.61	583.01	0.00	582.99	583.03	0.02	0.02	0.03	574.80
290.	47.	117.	126.	92.	67.	226.	15.	6.	574.70
0.46	0.51	1.73	0.55	0.080	0.040	0.080	0.035	574.40	27.19
0.000127	50.	50.	50.	2	0	0	0.00	86.81	114.00

*SECNO 3273.000

3470 ENCROACHMENT STATIONS= 112.5 147.5 TYPE= 1 TARGET= 35.000

50' D/S I-75 S. BOUND RAMPS

3273.00	7.63	583.03	0.00	583.01	583.09	0.05	0.05	0.0[illegible]	575.90
290.	42.	206.	41.	61.	97.	59.	17.	6.	575.60
0.51	0.70	2.13	0.70	0.080	0.040	0.080	0.036	575.40	112.53
0.000226	300.	300.	300.	2	0	0	0.00	35.00	147.50

*SECNO 3323.000

SECNO	DEPTH	CASEL	CRIUS	HSELK	EG	HV	HL	DLOSS	BANK ELEV

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Q	CLOB	QCH	QTOB	ALCB	ACH	AROB	VOL	TAR	LEFT/RIGHT
TIME	VLOB	VCH	VTOB	XNL	XNCH	XNR	VTA	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 595.50 ELREA= 596.50

D/S FACE I-75 S. BOUND RAMPS

3323.00	7.32	592.92	0.31	592.90	593.17	0.25	0.02	0.06	576.00
290.	0.	290.	0.	0.	72.	0.	18.	6.	573.00
0.51	0.00	4.02	0.30	0.080	0.040	0.080	0.036	575.40	125.00
0.001828	50.	50.	50.	2	0	0	0.00	10.00	135.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.03	3.30	0.00	9.53	0.00	49.50	0.00	575.40	575.40

*SECNO 3480.000
PRESSURE FLOW

EGPRS	EGLOC	HB	CWEIR	QPR	BAREA	TRAPEZOID	ELLC	ELTRD
592.00	593.17	0.00	0.	295.	57.	75.	591.20	591.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 591.20 ELREA= 591.00

U/S FACE I-75 S. BOUND RAMPS

3488.00	8.40	583.80	0.00	583.78	584.00	0.20	0.03	0.00	578.00
290.	0.	290.	0.	0.	81.	0.	18.	6.	578.00
0.53	0.00	3.58	0.00	0.080	0.040	0.080	0.036	573.40	125.00
0.001327	165.	165.	165.	2	0	0	0.00	10.00	135.00

*SECNO 3556.000

3265 DIVIDED FLOW

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 585.00 ELREA= 582.00

D/S FACE CARLETON-ROCKWOOD

3556.00	7.63	584.03	0.00	584.01	584.04	0.01	0.02	0.02	576.40
290.	0.	117.	173.	0.	92.	316.	18.	5.	576.40
0.55	0.00	1.28	0.55	0.080	0.040	0.080	0.036	576.40	114.00
0.000151	70.	70.	70.	2	0	0	0.00	100.87	561.40

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD

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0.00	1.70	3.00	0.00	5.17	0.00	43.10	0.00	576.40	576.40

*SECNO 3610.000

3265 DIVIDED FLOW

PRESSURE AND MEIR FLO.

EGPRS	EGLOC	HS	QWEIR	QPR	AREA	TRAPEZOID AREA	ELLC	ELTRD
585.23	586.04	0.00	177.	115.	43.	43.	581.70	583.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.00 ELREA= 583.00

U/S FACE CARLETON-DOCK.000

3610.00	7.60	584.20	0.00	584.19	584.21	0.01	0.17	0.00	576.40
295.	0.	114.	176.	0.	94.	332.	19.	6.	576.40
0.57	0.00	1.22	0.35	0.000	0.077	0.000	0.033	576.40	584.00
0.000134	52.	52.	52.		5	5	0.20	101.97	361.42

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Noles and Laudenschlager drains

4) DOCUMENT TYPE: 100 yr Encroached

00BREAK00

10:55:43 X43 DAN H202 BTTLT007 MAR 23, 1981

Notes

100 [illegible]

R400 12*3 SM:12*3 LT:12*3 BM:E6-D41 22AC0561 PR01 [illegible]

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FORM 1311-R PRINTED BY ROTARY MANIFOLD FORMS, PRINTED IN U.S.A.

[illegible]

[illegible]

[illegible]

ET	0.000	9.100	0.000	0.000	0.000	0.000	0.000	0.000	83.000	237.000
X1	4648.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X1	4295.000	1.000	0.000	0.000	0.000	50.000	50.000	0.000	0.000	0.000
ET	0.000	9.100	0.000	0.000	0.000	0.000	0.000	0.100	153.000	166.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	599.000	0.000	565.000	1.000	503.000	131.000	571.000	145.000	570.400	150.000
GR	560.900	434.000	586.000	160.000	566.100	144.000	576.100	220.000	590.300	230.000
ET	0.000	0.000	0.000	0.000	0.100	0.000	0.000	0.000	70.000	230.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	590.300	75.000	561.700	71.000	535.700	141.000	532.900	207.500	301.900	146.000
GR	530.600	445.000	590.400	140.000	590.600	151.000	571.900	152.000	582.900	152.500
GR	536.100	150.000	526.100	136.000	536.100	232.000	592.200	250.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SECTION 34-A

X1	4446.000	1.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BR	501.700	158.000	563.900	0.000	184.000	583.900	0.000	220.000	583.900	0.000
BR	230.000	590.000	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]
X1	4556.000	0.100	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	0.000	0.000	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	0.000	0.000	0.000	143.000	157.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X1	4572.000	0.100	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X1	4429.000	10.000	165.000	154.000	50.000	50.000	50.000	0.000	-2.200	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	599.000	0.000	584.000	0.000	584.000	154.000	561.200	167.500	579.300	168.400
GR	584.000	0.000	584.000	0.000	584.000	154.000	561.200	167.500	579.300	168.400
ET	0.000	9.100	0.000	0.000	0.000	0.000	0.000	0.000	155.000	185.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X1	4595.000	0.000	66.000	171.000	370.000	150.000	150.000	0.000	0.000	0.000
GR	599.000	140.000	582.000	145.000	583.000	154.000	577.300	169.100	577.300	170.000
GR	583.100	174.000	584.000	153.000	584.000	139.000	577.000	200.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	140.000	200.000
NC	0.000	0.000	0.035	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]

STATION 3045

X1	4447.000	1.000	167.500	172.500	50.000	50.000	50.000	0.000	0.000	0.000
X3	14.000	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
GR	599.100	140.000	584.500	141.000	584.500	154.000	561.200	167.500	579.300	168.400

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GR	[illegible]	171.[illegible]	579.300	171.600	501.200	172.500	584.500	185.000	584.500	199.000
GR	590.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.660	3.700	0.000	4.200	0.000	13.300	0.000	579.300	579.300

X1	5651.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	595.100	595.100	0.000
BT	11.000	166.000	593.000	0.000	149.000	365.100	0.000	154.000	585.400	0.000
BT	157.500	381.100	593.200	166.600	565.100	337.100	170.000	585.100	583.700	171.600
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

X1	4761.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

UPSTREAM SECTION #10

X1	3911.000	90.300	145.300	156.000	300.700	300.000	30.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] SECTION # 57-E

BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	534.100	204.000	587.300	215.000	590.000	259.000	591.600	392.000	600.000	393.000

X1	6159.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	593.900	199.000	593.700	200.000	593.900	201.000	594.700	202.000	586.200	202.500
GR	587.300	219.000	588.500	250.000	590.000	392.000	600.000	593.000	0.000	0.000
SB	0.000	1.720	5.000	0.000	4.170	0.000	19.600	0.000	581.600	581.500

X1	6164.000	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	0.000	0.000	0.000	586.600	587.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	167.000	0.000	230.000	0.000	587.300	587.800	0.000
BT	14.000	167.000	587.800	0.000	167.000	287.000	0.000	188.000	587.800	0.000
BT	197.500	[illegible]	[illegible]	199.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	587.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	584.100	219.000	[illegible]	1.000	[illegible]	[illegible]	0.300	[illegible]	[illegible]	[illegible]
BT	393.000	597.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	0.000	9.100	9.100	7.100	7.100	7.100	167.000	230.000	196.000	204.000

FIELD BOOK SECTION # BT-D

X1	6161.000	10.000	197.300	203.000	45.000	45.000	45.000	0.000	-2.100	0.000
BR	600.000	31.000	586.600	32.000	586.600	188.000	584.300	197.000	583.700	200.000
GR	584.100	223.000	587.300	215.000	590.000	259.000	591.600	392.000	600.000	393.000

X1	6606.000	45.000	197.500	202.500	43.000	45.000	45.000	0.000	-1.000	0.000
X3	10.000	0.000	0.000	167.000	0.000	230.000	0.000	587.700	587.700	0.000
GR	600.000	31.000	586.600	32.000	586.600	188.000	584.300	197.500	586.700	196.000
GR	593.900	199.000	593.700	200.000	593.900	201.000	594.700	202.000	586.200	202.500

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GR	388.000	215.000	590.000	259.000	591.600	332.000	600.000	393.000	0.000	0.000
SD	0.000	1.620	3.000	0.300	5.000	0.300	24.000	0.600	581.000	581.800

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

FIELD NOTE SECTION #37-3

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[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	364.100	236.100	587.300	215.000	590.000	259.000	591.600	393.000	600.000	393.000
SD	0.000	0.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.300

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*PROF 1

SCHV= 0.500 CAV= 2.50

*SECNO 3870.00

SECNO	DEPTH	CWSEL	CRIMS	PELK	ES	HV	IL	FLOES	BANK ELEV
0	0150	5CH	CISD	0LO2	MSH	CESD	VOL	CHA	LEFT/RIGHT
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1625 OVERBANK AREA ASSUMED NON-REACT WT=ELEV= 580.00 ELEV= 583.00

[illegible] TOTAL TO BILLOT [illegible] WT VOL

3= 0.10	7.13	584.19	0.30	584.19	3[illegible]4.20	0.09	0.30	0.51	3[illegible]6.47
291.	0.	410.	150.	0.	92.	744.	0.	0.	37[illegible].50
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	70.	0			0. 0	[illegible]	[illegible]

FLOW DISTRIBUTION FOR SEC 0= 3810.00 CWSEL= 584.19

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VEL=	1.2	0.6	0.3	3.1	0.5	0.1			

*SECNO 4030.000

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0. 3	[illegible]	[illegible]	[illegible]
290.	[illegible]	11.	05.	[illegible]	[illegible]	0[illegible]	[illegible]	1.	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.[illegible]	[illegible]	[illegible]	37.50	0.66
0.000076	420.	420.	150.	2	0	0	2.00	222.19	222.85

FLOW DISTRIBUTION FOR SECNO= 4030.00 CWSEL= 580.26

STA=	1.	1.	140.	14.	153.	160.	184.	220.	223.
PER Q=	0.0	60.2	9.6	27.9	7.4	4.6	8.1	0.2	
AREA=	0.2	435.7	27.4	20.9	21.3	34.3	61.6	1.5	
VEL=	0.2	0.6	1.0	2.6	1.0	0.6	0.6	0.3	

*SECNO 4031.000

3970 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 582.90 MAX ELLC= 582.30

ROADWAY BRIDGE 3970

4031.00	4.55	586.25	0.17	7.05	586.29	1.14	[illegible]	[illegible]	579.30
270.	340.	73.	57.	199.	29.	89.	2.	0.	579.80
0.07	0.72	2.96	0.67	0.060	0.320	0.080	0.054	577.30	0.66
0.000068	1.	1.	1.	0	0	3	-32.50	222.19	222.85

FLOW DISTRIBUTION FOR SECNO= 4031.00 CWSE= 576.25

STA=	1.	1.	138.	148.	153.	160.	184.	220.	223.
PER Q=	0.0	9.7	8.1	27.2	2.6	8.2	10.0	0.2	

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AREA=	0.2	185.8	12.9	24.7	10.2	3[illegible]	41.6	1.5
VEL=	0.2	0.7	0.4	3.0	0.7	3.[illegible]	0.6	0.6

*SECNO 4044.000

[illegible]

4044.00	0.09	534.38	0.00	0.00	534.38	0.34	1.02	0.00	579.80
270.	141.	72.	57.	271.	23.	6[illegible]	3.	1.	579.80
0.09	0.20	2.[illegible]	0.[illegible]	0.000	0.320	[illegible].20	0.0[illegible]	577.30	0.66
0.000[illegible]	50.	5[illegible].	[illegible].				[illegible].[illegible]	222.[illegible]	225.07

FLOW DISTRIBUTION FOR SECNO= 4044.00 CWSEL= 534.38

STA=	1.	1.	15[illegible].	14[illegible].	15[illegible].	160.	10[illegible].	22[illegible].	227.
PER Q=	[illegible].[illegible]	[illegible].0	[illegible].[illegible]	2.[illegible]	[illegible].[illegible]	[illegible].[illegible]	31.[illegible]	[illegible].[illegible]	[illegible].[illegible]
AREA=	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
VEL=	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]

*SECNO 4045.000

SECNO	DEPTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

4[illegible].70	[illegible].29	[illegible].29	3.0[illegible]	0.00	[illegible].30	3.[illegible]	[illegible].00	0.10	579.20
[illegible].	[illegible].	[illegible].	[illegible].	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.36	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	0.[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].30	[illegible].[illegible]
[illegible].[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].[illegible]	[illegible].[illegible]

FLOW DISTRIBUTION FOR SECNO= 4045.00 CWSEL= 536.29

STA=	1.	1.	130.	[illegible].	[illegible].	15[illegible].	[illegible].	220.	225.
PER Q=	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
AREA=	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]
VEL=	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]

*SECNO 4295.000

4295.00	6.22	584.42	0.00	0.00	584.49	2.07	0.11	0.32	579.80
270.	90.	14[illegible].	25.	153.	53.	50.	4.	1.	577.70
0.18	[illegible].66	2.79	0.65	0.[illegible]	[illegible].040	0.0[illegible]	0.347	577.20	58.20
0.[illegible]526	[illegible]30.	20[illegible].	230.	2	0	0	0.00	163.32	221.72

FLOW DISTRIBUTION FOR SECNO= 4295.00 CWSEL= 58[illegible].42

3470 ENCROACHMENT STATIONS= 58.0 243.0 TYPE= 1 TARGET= 185.000

4295.00	6.22	584.42	0.00	0.00	584.49	2.07	0.11	0.32	579.80
270.	90.	14[illegible].	25.	153.	53.	50.	4.	1.	577.70
0.18	[illegible].66	2.79	0.65	0.[illegible]	[illegible].040	0.0[illegible]	0.347	577.20	58.20
0.[illegible]526	[illegible]30.	20[illegible].	230.	2	0	0	0.00	163.32	221.72

FLOW DISTRIBUTION FOR SECNO= 4295.00 CWSEL= 58[illegible].42

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STA= 58. 138. 145. 154. 160. 184. 221. 221.
PER C= 27.8 0.6 55.2 5.2 1.3 9.9 0.0
AREA= 129.3 27.7 53.6 48.2 12.5 19.4 0.3
VEL= 0.6 1.5 2.6 0.1 0.7 2.4 2.7

4345.00 6.20 534.49 0.00 0.00 534.61 0.21 5.05 0.07 582.70
270. 93. 137. 70. 79. 27. 43. 5. 3. 560.70
0.12 1.18 5.25 0.97 0.500 0.040 5.000 0.046 370.20 72.75
3.003508 70. 7. 50. 4 4 1 .1 0.03 20.000

FLOW DISTRIBUTION FOR SECNO= 4345.00 CHSEL= 534.49

STA= 71. 140. 160. 151. 158. 184. 220. 221.
PER C= 29.1 11. 1.5 1.0 1.1 1.1 0.2
AREA= 61.1 23.2 3.2 2.1 2.3 2.3 0.4
VEL= 1.0 1.2 0.3 0.2 0.2 0.2 0.2

*LEVEL 4345.000

*SEC 0 4345.000

4346.00 6.29 534.49 0.00 0.00 534.61 0.13 5.00 0.02 582.70
270. 93. 137. 70. 79. 27. 43. 5. 3. 560.70
0.12 1.18 5.25 0.97 0.500 0.040 5.000 0.046 370.20 72.75
3.003571 70. 7. 50. 4 4 1 .1 0.03 20.000

FLOW DISTRIBUTION FOR SECNO= 4346.00 CHSEL= 534.49

STA= 71. 71. 140. 140. 153. 158. 184. 220. 221.
PER C= 1.0 42.3 4.4 31.5 2.5 8.1 11.3 0.4
AREA= 2.2 93.1 9.8 69.1 5.5 17.8 24.8 0.9
VEL= 0.3 1.4 1.3 3.5 0.1 1.0 1.0 0.6

*SEC 0 4370.000

4369.00 6.50 586.70 0.00 0.00 534.73 0.09 0.13 0.02 580.70
270. 126. 85. 59. 42. 24. 56. 3. 3. 566.70
0.12 1.33 5.19 1.05 0.500 0.138 5.000 0.05 370.20 70.7
0.004503 25. 73. 23. 2 0 1 -22.47 150.00 -21.52

FLOW DISTRIBUTION FOR SECNO= 4369.00 CHSEL= 586.70

STA= 71. 71. 140. 140. 153. 158. 184. 220. 221.
PER C= 1.0 42.3 4.4 31.5 2.5 8.1 11.3 0.4
AREA= 2.2 93.1 9.8 69.1 5.5 17.8 24.8 0.9
VEL= 0.3 1.4 1.3 3.5 0.1 1.0 1.0 0.6

*SEC 0 4370.000

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 4370.00     6.49   584.69     0.00     0.00   504.80     0.11     0.00     0.02   580.70
    270.     105.     113.      52.     102.      29.      63.       5.       3.   580.70
    0.13     1.02     3.95     0.83    0.080    0.040    0.080    0.045   573.20    70.72
0.001915       1.       1.       1.        1        0        0     0.00   150.59   [illegible]

[illegible]

STA=      71.      71.     140.     140.     153.     158.     184.     220.     271.
  PER Q=     0.0     26.1     10.6     41.8      6.5      5.[illegible]      7.5      0.1
  AREA=     [illegible]     [illegible]      9.5     [illegible]     [illegible]     [illegible]     [illegible]
   VEL=     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]

*SECNO 4620.000

3470 ENCROACH ENT STATIONS=      [illegible]     220.0  TYPE=     1  TARGET=     [illegible]
 [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
0.000222      50.      50.      50.        2        0        0     0.00   140.70   220.70

[illegible]

[illegible]
  PER Q=     [illegible]     3.4     40.0     6.2     3.8     3.2
  AREA=     [illegible]     31.7     57.1     21.6     40.2     33.5
   VEL=     [illegible]     [illegible]     1.9     0.7     0.4     [illegible]

[illegible]
 [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    270.      67.     107.      36.      54.      42.      34.       6.       3.   580.10
    0.96     1.21     3.95     1.04    0.080    0.040    0.080    0.044   579.30   140.81
0.001248     170.     170.     170.        2        0        0     0.00    58.27   199.00

FLOW DISTRIBUTION [illegible]

STA=     141.     154.     166.     174.     185.     199.
  PER Q=     6.5     22.4     61.9     12.4      0.8
  AREA=     16.1     [illegible]     62.[illegible]     [illegible]     5.1
   VEL=     0.7     [illegible]     [illegible]     1.2     [illegible]

*SECNO 4640.000

        BRANDON ROAD

 4640.00     5.[illegible]     [illegible]     0.00     [illegible]     [illegible]     0.43     [illegible]     [illegible]     [illegible]
    270.      [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
    0.16     1.73     6.54     1.70    0.000    0.035    0.080    0.043   579.30   140.94
0.004487      50.      50.      50.        2        0        0     0.00    58.11   199.06

FLOW DISTRIBUTION FOR SECNO=   4640.00          CWSEL=   [illegible]

STA=     141.     154.     168.     173.     185.     199.
  PER Q=     0.8     11.6     62.5     17.2      0.9
  AREA=     3.9     26.4     23.8     24.4      4.2
   VEL=     [illegible]     1.9     6.5     1.9     0.6

SPECIAL BRIDGE

SO  XK     XKO     COFC     RDLEN     BWC     DLP     BAREA     SS     ELCHU     BLCHD
```

0.00 1.66 3.30 0.00 4.20 0.00 13.30 0.20 579.30 579.30

*SECNO 4691.000

SECNO	DEPTH	CLASS	SEL.S	SELV	ES	EM	EL	ULOSS	CROS ELEV
[illegible]									

[illegible]

[illegible]									

3470 ENCROACHMENT STATIONS= 155.0 245.0 TYPE= 1 TARGET= 90.000

FIELD BOOK SECTION # ST-4

6049.00	4.01	4.31	0.10	0.30	588.50	1.00	1.83	0.00	584.50
270.	32.	141.	0.	0.		0.	19.	0.	0.00
0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.0002709	50.	30.	20.	0	0	0	0.00	0.00	0.00

PER 0=	19.5	7.4	60.5	10.0	2.4
AREA=	66.2	19.0	56.0	26.2	14.4
VEL=	2.0	1.1	2.0	1.3	0.4

3205 DIVIDED FLOW

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.	32.	141.	0.	0.	0.	0.	0.	0.	0.
0.60	2.02	3.02	1.00	0.000	0.000	0.000	0.000	591.60	587.60
0.0003219	50.	30.	20.	0	0	0	0.00	590.00	586.00

STA=	167.	168.	215.	216.
PER 0=	32.2	63.6	4.5	
AREA=	62.2	63.6	11.1	
VEL=	2.0	3.0	1.	

SPECIAL BRIDGE

SO	AK	Y/3D	CQ2G	RDLEN	RWC	DW2	BAREA	SS	ELGHI	ELGLO
	0.30	1.72	3.03	0.20	0.20	1.00	13.60	0.20	587.60	584.51

BRIDGE 5116.000

***** MAIN PGR OBJECT LINE: 519

3205 DIVIDED FLOW

SPECIO	DE TI	SIBEL	SPSIG	NCSLR	GR	WV	H.	ELCLS	CWNR ELEV
	ELSP	ICI	WRGB	ELCC	ACR	ARLO	WOL	ENC	ELEVCL
TIME	VLOP	VCR	WRGO	XNL	XNCH	XNR	TW	ELMIN	SSTA
SLOPE	XLOOL	YLCH	XLOBR	ITRIAL	XW2	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	LOWEIR	QPR	PAREA	TRAPEZOID	ELLC	ELTRD
						AREA		
591.60	589.64	0.00	165	170.	20.	17.	586.40	587.60

3470 ENCROACHMENT STATIONS= 160.0 230.0 TYPE= 1 TARGET= 63.000

6116.00	6.90	588.50	0.00	0.00	588.5	0.04	1.83	0.00	584.50

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	270.	61.	144.	35.	84.	77.	41.	15.	7.	505.20
	0.41	1.00	1.07	0.06	0.000	0.040	0.000	0.041	581.60	167.00
	0.000673	25.	25.	25.	2	0	4	0.00	57.15	230.00

	270.	105.	39.	78.	131.	40.	102.	14.	7.	562.00
	0.41	2.79	2.22	0.78	0.000	0.040	0.000	0.041	581.60	167.10
	0.000490	25.	65.	65.	2	0	0	0.00	63.00	230.00

STA=	167.	189.	197.	207.	215.	230.
PER Q=	22.5	10.2	32.9	19.6	2.2	
AREA=	71.2	54.3	47.1	34.1	11.7	
VEL=	4.2	2.3	2.2	1.7	1.0	

*SECNO 6206.000

	270.	65.	65.	45.	0	0	0	0.00	63.00	230.00

STA=	167.	207.	215.	230.	
PER Q=	28.6	21.8	27.3	14.9	7.7
AREA=	80.6	67.5	31.1	61.9	31.6
VEL=	3.9	1.2	2.6	1.0	0.7

SS	KK	KNOR	COPE	OPLEN	OSC	UNP	AREA	SS	CLCHD	ELCHD
	0.00	1.62	3.00	0.00	5.00	0.00	24.03	0.00	501.90	501.60

*SECNO 6221.000
DETENTION AND HEAD BLO

ELMES	SQL.C	WS	Q.FIR	QPE	DARE/	"ACTERIOR "IEP	BALC	ELTPD
501.64	501.56	0.00	108.	62.	24.	24.	503.00	507.73

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6222.00	6.96	508.76	0.00	0.00	508.79	0.03	0.21	0.00	582.40
270.	135.	72.	63.	135.	32.	79.	16.	7.	584.30
0.43	1.00	2.24	0.80	0.000	0.040	0.000	0.041	581.80	157.00
0.000459	16.	16.	16.	2	0	4	0.00	63.00	270.00

FLOW DISTRIBUTION FOR SEGMO= [illegible] [illegible] [illegible]

STA= 167. [illegible] 190. 203. 215. 230.

RED [illegible]=	20.6	21.5	26.6	15.2	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*SEGMO 6287.000

BAZU ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

[illegible] [illegible] [illegible]

6287.00	6.96	508.76	0.00	0.00	588.11	0.03	0.32	0.00	582.40
270.	72.	145.	52.	117.	81.	39.	16.	7.	582.00
0.45	0.62	1.00	0.59	0.000	0.042	0.000	0.041	581.80	167.00
0.000105	[illegible]	[illegible]	63.			0	0.00	[illegible]	[illegible]

FLOW DISTRIBUTION FOR SEGMO= 6287.00 CUSEL= 588.71

STA= 167. [illegible] 194. 206. 215. 230.

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

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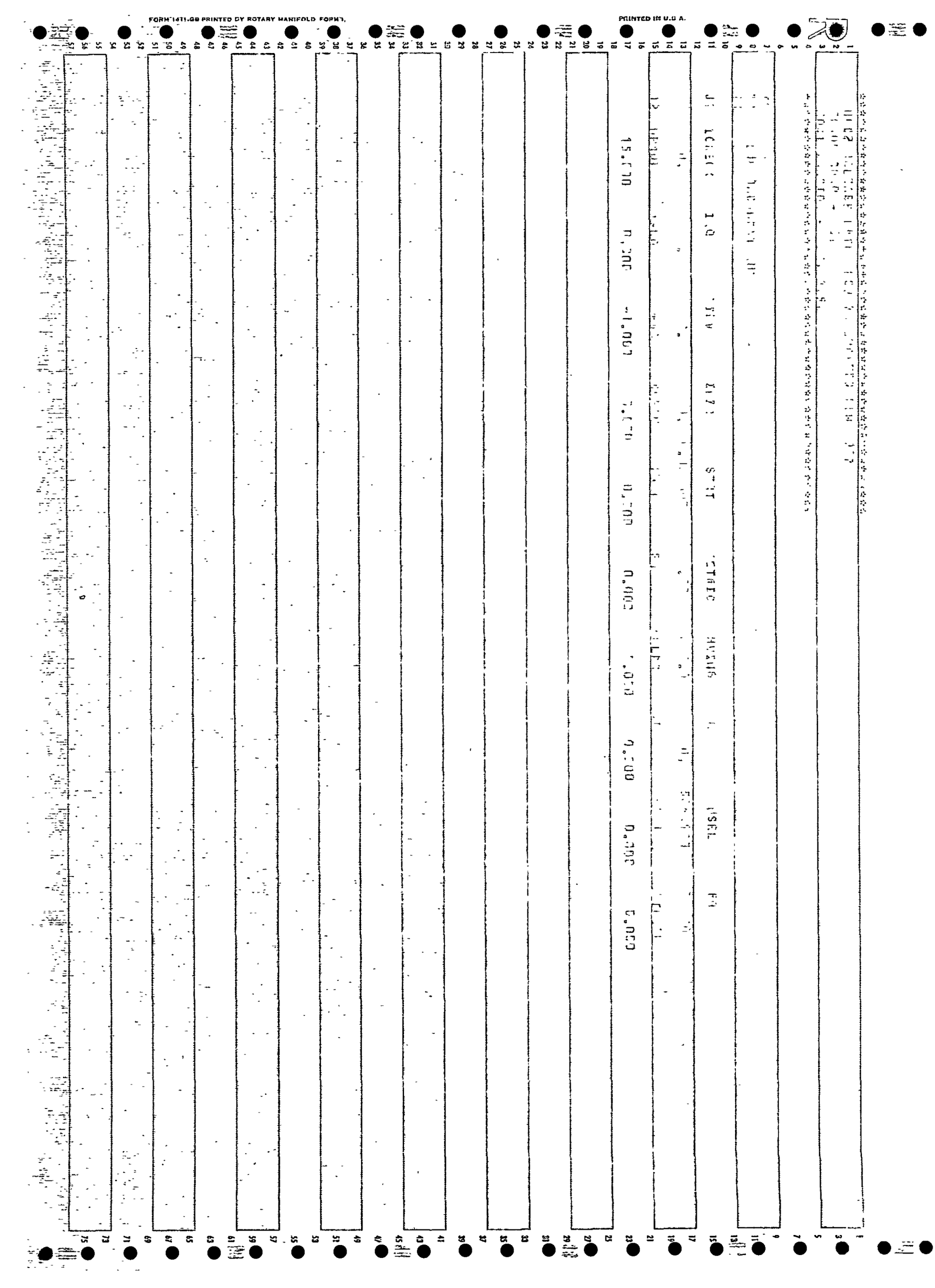

*PROF 2

[illegible]

SECNO	DEPTH	CHSEL	QTOT	VCHL	EG	HV	HL	*LOSS	BANK ELEV
[illegible]									

3492 OVERBANK AND CHANNEL NON-EFFECTIVE FLOW SUB-AREA= 302.00

3610.00	7.79	584.19	0.00	578.39	584.20	2.11	0.00	0.00	579.40
295.	0.	110.	180.		82.	366.	1.	1.	579.40
[illegible]									

*SECNO 40.0.000

4030.00	6.94	584.21	0.00	0.00	584.29	0.03	0.01	0.00	579.80
[illegible]									

*SECNO 4031.000

3492 OVERBANK AREA CHANNEL NON-EFFECTIVE FLOW SUB-AREA= 302.00 AL= 579.80

FOOTBRIDGE $A-B

4031.00	6.95	584.25	0.30	0.30	584.29	0.04	0.00	0.00	579.80
270.	144.	72.	57.	201.	25.	85.	3.	1.	579.80
0.00	0.70	2.02	1.67	0.06	0.02	0.11	0.124	577.30	0.00
0.000808	1.	1.	1.	0	0	0	-32.50	222.19	222.85

*SECNO 4044.000

3492 OVERBANK AREA CHANNEL NON-EFFECTIVE FLOW SUB-AREA= 302.00

4044.00	6.90	584.20	0.00	0.00	584.32	0.04	0.02	0.00	579.80
270.	143.	72.	57.	201.	25.	85.	3.	1.	579.80
0.00	0.70	2.02	1.66	0.06	0.02	0.10	0.052	577.30	0.00
0.000374	1.	1.	1.	0	0	0	-32.50	222.21	222.85

*SECNO 4045.000

SECNO	DEPTH	CHSEL	QTOT	WSELK	EG	HV	HL	QLOSS	BANK ELEV
[illegible]									

4045.00	6.99	584.29	0.00	0.00	584.32	0.03	0.00	0.00	579.80

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	270.	135.	74.	41.	210.	31.	90.	3.	1.	579.80
	0.00	0.62	2.36	0.62	0.050	0.040	0.060	0.052	577.30	0.69
	0.003626	1.	1.	1.	1	0	0	0.00	222.79	222.94

	270.	137.	72.	41.	205.	31.	100.	3.	1.	579.70
	0.04	0.61	2.35	0.60	0.050	0.040	0.020	0.050	577.53	0.64
	0.000527	50.	50.	50.	0	0	0	0.00	222.42	222.97

3470 LINCOLNSHIRE STATIONS= 30.0 243.0 TYPE= 1 TWIST= 105.00

	6235.00	6.22	564.62	0.00	0.00	546.69	0.17	0.11	0.12	564.30
	27.	90.	44.	22.	175.	33.	30.	5.	3.	580.70
	0.13	1.36	4.35	1.13	0.050	0.035	0.060	0.046	578.20	70.72
	0.002	50.	50.	50.	2	0	0	0.00	218.13	222.1

*SECNO 4363.330

	6363.00	6.26	564.20	0.00	564.20	564.63	0.14	0.08	0.02	580.70
	270.	93.	137.	60.	74.	27.	45.	5.	3.	581.75
	0.13	1.18	4.15	0.93	0.060	0.040	0.060	0.046	578.20	70.79
	0.003665	50.	50.	50.	1	0	0	0.00	221.03	220.02

3370 NORMAL BRIDGE,NBD= 14 MIN ELTRD= 585.50 MAX ELLC= 583.20

	4366.00	6.29	564.49	0.00	564.49	564.63	0.14	0.08	0.02	580.70
	270.	139.	104.	46.	78.	23.	41.	5.	3.	580.73
	0.13	1.50	4.35	1.13	0.050	0.035	0.060	0.046	578.20	70.72
	0.017671	1.	1.	1.	1	0	0	-22.87	150.50	221.32

*SECNO 4369.000

SECNO	DEPTH	CWSEL	CRITS	MOMTK	EG	TW	AL	CLOSS	BANK ELEV
0	SLOPE	ASH	CHOR	ALPH	AQ	APEA	VOL	TWA	LEFT/RIGHT
TYPE	VLOB	WSB	VCHB	XSID	XPCI	ATR	TIM	1.000	SK
SLOPE	ELFAC	KQ	0.001	1771.	102	0.977	SOF= 1	18523.	CHRGT

3370 NORMAL BRIDGE,NBD= 14 MIN ELTRD= 583.53 MAX ELLC= 582.20

	4369.00	6.30	564.70	0.00	564.73	564.77	0.07	0.13	0.12	580.71
	270.	136.	113.	52.	102.	29.	43.	5.	3.	580.70
	0.13	1.37	3.55	1.05	0.060	0.035	0.080	0.045	578.20	70.72
	0.034263	23.	23.	23.	2	0	0	-22.87	150.50	221.32

*SECNO 4370.000

	4370.00	6.29	564.59	0.00	564.65	564.80	0.11	0.00	0.12	580.70
	270.	105.	113.	52.	102.	29.	43.	5.	3.	580.70
	0.13	1.02	3.95	0.83	0.080	0.040	0.080	0.045	578.20	70.72
	0.021915	1.	1.	1.	1	0	0	0.00	150.59	221.31

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*SECNO 4620.000

[illegible]									
4620.00	6.	[illegible]	0.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	71.20
270.	1	10.	2	30.	5	10.	1	1	10.00
0.14	0.36	1.89	0.41	3.050	3.060	0.007	0.005	579.22	50.03
7.700222	90.	5.	50.	2	1	3	2.03	142.07	220.03

*SECNO 4661.00

4661.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
270.	27.	167.	34.	51.	42.	54.	6.	3.	590.10
0.16	1.21	3.95	[illegible]	2.080	3.040	0.005	0.004	579.35	142.11
0.301266	120.	170.	171.	2	5	3	2.03	61.27	150.03

[illegible]

3470 ENCROACHMENT STATIONS= 141.9 220.1 TYPE= 4 TARGET= 60.000

[illegible]										
4661.00	6.	[illegible]	0.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
270.	32.	169.	49.	30.	24.	20.	6.	3.	511.20	
0.16	1.72	3.94	1.70	0.730	3.02[illegible]	2.05[illegible]	0.00[illegible]	[illegible].72	140.94	
0.304467	50.	50.	50.	2	0	[illegible]	2.03	1.19	592.56	

SPECIAL BRIDGE

NO XS	SKOK	COSC	YDLEN	BHC	BKW	CDAFA	BC	TLGHD	FLGHD
0.00	.0	3.0	0.00	0.20	1.00	1[illegible].2	0.0	57[illegible].00	[illegible].51

*SECNO 4[illegible].00

SECNO	DEPTH	CJSEL	CRENS	VSELK	CS	TW	SL	OLOSS	BANK ELEV
0	SLOB	SCH	QROM	ALOB	ACH	ARCB	VOL	TUA	LEFT/RIGHT
TIMS	VLOB	WCH	WROC	YC	HLCH	NUM	ITE	ELMIN	SSTA
SLOPE	WLOB	RCCH	XLOB	TRIAL	FLP	PCENT	FORAL	TOPWID	L.OF

PRESSURE AND WEIR FLOW

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
550.44	57.50	0.30	[illegible].50.	[illegible]34.	15.	13.	[illegible]55.22	[illegible]5[illegible].50	

4691.00	6.56	585.86	0.00	585.86	586.00	0.14	0.76	0.00	581.20
270.	27.	130.	40.	58.	[illegible]	57.	6.	[illegible]	[illegible]1.20
0.16	[illegible].2[illegible]	[illegible].[illegible]2	1.28	0.730	3.035	2.030	[illegible].043	[illegible]79.[illegible]3	140.25
[illegible].[illegible]2.83	61.	51.	51.	2	0	[illegible]	2.03	[illegible]51.62	112.29

*SECNO 4741.000

ENCR UPST SW=	75.20	WSEL=	585.94	FIC ST=	75.24	QSEL=	520.00	TAIL0=	3.0200
WAT 31=	75.	TAITOB QOS[illegible]ROB=	0.2779	2.4560	0.2068	SEL=	580.06		

3470 ENCROACHMENT STATIONS=		144.9	195.1	TYPE=	4	TARGET=	0.047			
4741.00	4.62	585.92	0.00	585.94	586.07	0.15	0.07	0.00	581.20	
270.	71.	132.	7.	54.	31.	53.		3	[illegible].20	

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     0.17      1.30      4.20      1.20    0.080     0.035     0.000     0.242    579.30    164.89
 0.001625       50.       50.       50.        0         0         0      0.00     50.24    195.13

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

3470 ENCROACHMENT STATIONS=      4.5      160.1  TYPE=     4  TARGET=      0.053

[illegible]

 5511.00      5.96    506.25      0.00    506.24    506.25      0.72      1.19      2.01    5[illegible].20
    220.       161.       92.        [illegible].      322.       50.       [illegible].        4.    500.90
    0.20      0.51      [illegible]      0.60     0.[illegible]     0.340     0.020     0.042    580.40      6.50
[illegible]

*SECTO 6061.000

3470 ENCROACHMENT STATIONS=     135.0      [illegible].0  TYPE     1  TARGET=      [illegible].000

[illegible]

 [illegible]1.00      4.95    5[illegible].[illegible]      0.00    [illegible].[illegible]    5[illegible].[illegible]      0.01      0.[illegible]      0.02    [illegible].20
    270.       75.       [illegible].       [illegible].       [illegible].       [illegible].       [illegible].       [illegible].        7.    [illegible].[illegible]
    [illegible].[illegible]      [illegible].[illegible]      [illegible].[illegible]      0.73     [illegible].[illegible]     [illegible].[illegible]     0.0[illegible]      0.[illegible]    [illegible].[illegible]    [illegible].[illegible]
[illegible]

*SECTO 6091.000

3265 DIVIDED FLOW

[illegible]

 6051.00      4.97    586.57      0.00    586.53    586.74      0.17      0.00      0.03    584.50
    278.       87.       170.       13.       64.       64.       12.       35.        7.    583.22
      0.40      2.00      [illegible].[illegible]      1.[illegible]     [illegible].[illegible]     [illegible].[illegible]     0.0[illegible]      0.[illegible]    581.[illegible]    [illegible].00
[illegible]

SPECIAL BRIDGE

[illegible]

*SECTO 6[illegible]6.000
***** DOMAIN        PMS        DEJECT LINE:        519

3265 DIVIDED FLOW

 SECNO     DEPTH     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]     [illegible]
 Q         QLCP      [illegible]     [illegible]     [illegible]     ACH       [illegible]     VOL       [illegible]     LEFT/RIGHT
 TIME      VLCB      [illegible]     [illegible]     XNL       XLCH      XNR       [illegible]     ELMIN     SSTA
 SLOPE     XLCBL     XLCH      XLOBR     [illegible]     [illegible]     [illegible]     CORAR     TOPWID    ENDST

PRESSURE AND MOMENTUM FLOW

FGPRS     EGLNC     43        [illegible]     SPR       BAREA     TRAPEZOID     BLLC      BLTRD
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						AREA		
591.64	589.96	0.00	134.	169.	20.	20.	586.40	587.80

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

270.	91.	144.	33.	64.	72.	41.	5.	7.	585.20
0.40	1.03	1.06	0.05	0.030	0.040	0.055	0.041	581.60	167.00
0.000623	25.	25.	23.	2	0	4	0.00	31.15	230.00

[illegible]

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

FIELD BOOK SECTION [illegible]

270.	105.	85.	70.	131.	43.	102.	15.	7.	582.30
0.41	0.77	2.22	0.74	0.030	0.040	0.030	0.041	581.60	167.00
0.000233	45.	45.	5.	2	0	1	0.00	63.00	230.00

[illegible]

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6206.00	6.73	521.54	[illegible]	[illegible]	[illegible]	0.03	0.02	0.00	582.40
270.	[illegible]	[illegible]	61.	[illegible]	[illegible]	75.	15.	7.	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.000[illegible]	[illegible]	[illegible]	5.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SPECIAL UPLOAD

0.00	1.62	3.00	0.00	5.00	0.00	23.00	0.00	581.80	581.80

*SECNO 6222.000

PRESSURE AND WEIR FLOW

EGPRS	EGLMC	H3	QUFRD	QPR	BAQEA	TRAPEZOID AREA	ELLC	ELTRD
591.26	589.59	0.00	182.	81.	26.	26.	587.00	587.70

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6222.00	6.96	588.76	0.00	580.76	588.80	0.05	0.21	0.00	582.40
270.	135.	72.	63.	135.	32.	79.	15.	7.	504.30
0.46	1.00	2.22	0.00	[illegible]	0.040	0.000	0.041	581.20	167.00
0.000457	[illegible]	[illegible]	16.	1		[illegible]	0.00	63.00	230.00

*SECNO 6287.000

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

FIELD BOOK SECTION 837-C

6287.00	6.98	588.78	0.00	588.78	588.81	0.03	0.02	0.00	582.40
270.	72.	145.	52.	117.	81.	89.	16.	7.	582.20

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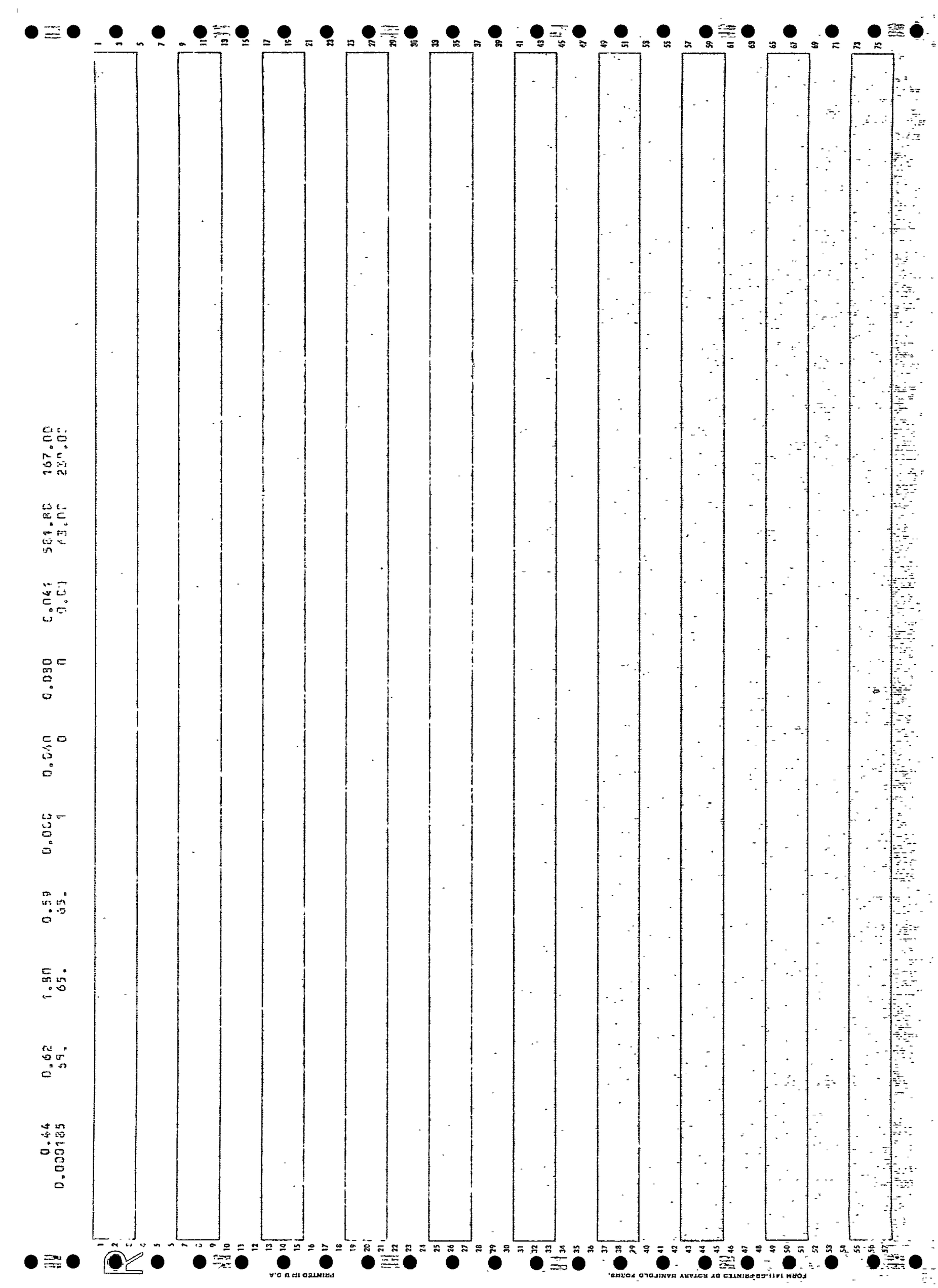
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0.000185
0.62
55.
1.80
65.
0.59
65.
0.000
1
0.000
0
0.030
0
561.80
43.00
167.00
230.00
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*****************************************************
  HCC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

C
T1 SOUTH ROCKWOOD VILLAGE FIS HUD2031-07 BANCROFT NOLES DRAIN
T2 100 YEAR FLOOD /#/#/#/#/#/#/#/#/#/#/#/#SEGMENT T3/#/#/#/#/#/#/#/#/#/#/
T3       S.ROCKWOOD BANC. NOLES

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.  0.000000      3.00       0.0        0.   586.780    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBL       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   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      5.000   110.000   205.000   270.000   270.000   420.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000     0.000
NC      0.080     0.030     0.040     0.300     0.500     0.000     0.000     0.000     0.000     0.000

          FIELD BOOK SECTION #37-C

X1   6287.000    10.000   194.000   206.000    65.000    65.000    65.000     0.000    -1.900     0.000
X3      0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR    600.000    31.000   586.600    32.000   586.600   188.000   584.300   194.000   583.700   200.000
GR    584.100   206.000   587.300   215.000   590.000   259.000   591.600   392.000   600.000   393.000

X1   6352.000    16.000   197.500   202.500    65.000    65.000    65.000     0.000    -1.900     0.000
X3      0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR    600.000    31.000   587.600    32.000   587.600   188.000   584.200   197.500   584.700   198.000
GR    583.900   199.000   583.700   200.000   583.900   201.000   584.700   202.000   586.200   202.500
GR    587.300   215.000   590.000   259.000   591.600   392.000   600.000   393.000     0.000     0.000
SB      0.000     1.520     3.000     0.000     4.000     0.000    19.600     0.000   582.200   582.200

X1   6377.000     0.000     0.000     0.000    25.000    25.000    25.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   587.200   587.900     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
BT     14.000    31.000   598.500     0.000   166.000   598.500     0.000   167.000   587.900     0.000
BT    197.500   587.900   584.700   198.000   587.900   584.200   199.000   587.900   587.000   200.000
BT    587.900   587.200   201.000   587.900   587.000   202.000   587.900   586.200   202.500   587.900
BT    584.700   215.000   587.900     0.000   230.000   588.500     0.000   231.000   598.500     0.000
BT    393.000   598.500     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   6427.000    10.000   194.000   206.000    50.000    50.000    50.000     0.000    -1.500     0.000
X3      0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR    600.000    31.000   587.600    32.000   587.600   188.000   584.300   194.000   583.700   200.000
GR    584.100   206.000   587.300   215.000   590.000   259.000   591.600   392.000   600.000   393.000
```

VALLEY

X1	6642.000	10.000	194.000	206.000	215.000	215.000	215.000	0.000	-1.200	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GR	600.000	31.000	590.400	32.000	586.600	188.000	584.300	196.500	583.700	200.000
GR	584.100	206.000	587.300	215.700	590.000	259.000	591.600	392.000	600.000	393.000

FIELD BOOK #37-D

X1	6695.000	14.000	197.500	202.500	53.000	53.000	53.000	0.000	-1.200	0.000
X3	0.000	0.000	0.500	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GR	600.000	31.000	590.400	32.000	588.100	188.000	587.100	197.500	584.700	198.000
GR	583.900	199.000	583.700	200.000	583.900	201.000	584.700	202.000	586.200	202.500
GR	587.800	215.000	590.000	259.000	591.600	392.000	600.000	393.000	0.000	0.000
SD	0.000	1.650	3.000	0.000	5.000	0.000	18.000	0.000	583.700	583.700

X1	6735.000	0.000	0.000	2.000	40.000	40.000	40.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	587.300	589.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
DT	14.000	31.000	598.800	0.000	169.000	598.800	0.000	179.000	589.000	0.000
BT	197.500	599.000	989.000	199.000	589.000	516.500	199.000	519.000	587.300	202.000
BT	589.000	587.500	201.000	589.000	587.300	202.000	589.000	536.500	202.500	589.000
BT	585.000	215.000	589.000	0.000	236.000	530.300	0.000	251.000	598.500	0.000
BT	393.000	598.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

FIELD BOOK #37E

X1	6664.000	14.000	197.500	202.500	129.000	129.000	129.000	0.000	-1.600	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GR	600.000	31.000	590.400	32.000	586.600	188.000	586.200	197.500	584.700	198.000
GR	583.900	199.000	583.700	200.000	583.900	201.000	584.700	202.000	586.200	202.500
GR	587.300	215.000	590.000	259.000	591.600	392.000	600.000	393.000	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

X1	6865.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
BT	14.000	31.000	584.400	0.000	32.000	586.200	0.000	188.000	584.900	0.000
BT	197.500	587.400	584.600	198.000	587.900	584.100	199.000	587.900	586.400	200.000
BT	587.900	587.100	201.000	587.900	586.900	202.000	587.900	586.100	202.500	587.900
BT	584.600	215.000	587.900	0.000	259.000	588.400	0.000	392.000	590.000	0.000
RT	393.000	598.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6687.000	0.000	0.000	0.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	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

X1	6888.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000

FIELD BOOK #37F

X1	7014.000	14.000	197.500	202.500	126.000	126.000	126.000	0.000	-1.600	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GR	600.000	31.000	590.400	32.000	586.600	188.000	586.200	197.500	584.700	198.000
GR	583.900	199.000	583.700	200.000	583.900	201.000	584.700	202.000	586.200	202.500
GR	587.300	215.000	587.300	259.000	591.600	392.000	600.000	393.000	0.000	0.000

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SB	0.000	1.520	3.000	0.000	4.000	0.000	19.600	0.000	583.100	583.100
X1	7038.000	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	589.100	589.500	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
BT	14.000	31.000	599.400	0.000	169.000	599.400	0.000	170.000	589.500	0.000
BT	197.500	589.500	585.600	198.000	589.500	587.100	199.000	589.500	587.900	200.000
BT	589.500	588.100	201.000	589.500	587.900	202.000	589.500	587.100	202.500	589.500
BT	585.600	215.000	589.500	0.000	230.000	589.500	0.000	231.000	599.400	0.000
BT	393.000	599.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #38

X1	7808.000	9.000	195.000	206.000	770.000	770.000	770.000	0.000	0.000	0.000
GR	600.000	15.000	592.600	16.000	587.500	189.000	585.700	195.000	585.300	200.000
GR	585.300	206.000	588.900	212.000	590.300	288.000	600.000	290.000	0.000	0.000

FIELD BOOK #38-A

X1	7900.000	12.000	198.000	202.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	600.000	15.000	592.600	16.000	588.600	189.000	584.500	198.000	583.200	198.500
GR	582.500	199.500	582.500	202.500	583.200	201.500	584.500	202.000	588.900	212.000
GR	590.300	288.000	600.000	290.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	7909.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	12.000	15.000	600.000	0.000	16.000	592.600	0.000	189.000	588.600	0.000
BT	198.000	588.600	584.500	198.500	588.600	585.800	199.500	588.600	586.500	200.500
BT	588.600	586.500	201.500	588.600	585.800	202.000	588.600	584.500	212.000	588.900
BT	0.000	288.000	590.300	0.000	290.000	600.000	0.000	0.000	0.000	0.000
X1	7943.000	0.000	0.000	0.000	34.000	34.000	34.000	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
X1	7944.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION #39

X1	8614.000	9.000	198.000	206.000	670.000	670.000	670.000	0.000	0.000	0.000
GR	600.000	125.000	589.300	126.000	589.300	189.000	586.300	195.000	585.800	200.000
GR	586.500	205.000	589.400	211.000	591.600	273.000	600.000	279.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*PROF 1

CCHV= 0.300 CEHV= 0.500

*SECNO 6377.000

SECNO	DEPTH	CWSEL	DELTS	MSELF	QC	AV	II	ELOSS	FAHR FLOW
TO	HLOC	QCI	SAQC	ALPH	QCI	AMOC	VC=	TRA	ASSUMED
TIME	VLOC	VCF	WROS	XPL	XNOM	YNR	DTR	ELSLM	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IHP	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

FIELD ROCK SECTION #37-C

6267.00	6.94	579.39	0.00	579.79	579.87	0.03	0.30	0.00	582.40
270.	92.	104.	92.	119.	91.	19.	3.	0.	582.20
0.20	0.52	1.87	0.39	0.090	0.040	0.060	0.230	582.20	167.30
0.000136	65.	65.	65.	0	0	3	0.00	63.00	230.30

*SECNO 6352.000

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6352.00	6.59	583.79	0.00	0.00	583.84	0.05	0.02	0.01	584.70
270.	95.	61.	93.	53.	30.	62.	0.	0.	584.70
0.01	1.06	2.72	0.13	0.090	0.040	0.060	0.039	582.20	167.00
0.000136	0.	65.	65.	0	0	3	0.00	63.00	230.00

SPECIAL BRIDGE

SECNO	DROP	CSFS	ROUGH	D.C	D.S	BRIDGE	SS	E.GRD	ELCHD
0.00	1.52	3.00	0.00	4.00	3.00	15.00	0.00	583.20	582.20

*SECNO 6377.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	D3	WPLIP	WPR	RATIO	YREF.ZERO FLOW	FLEX	EITER
593.27	585.84	0.00	201.	63.	20.	20.	597.20	587.90

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6377.00	6.94	579.04	0.00	0.50	580.08	0.04	0.20	0.00	584.70
270.	98.	78.	96.	96.	31.	89.	0.	0.	584.70
0.02	1.02	2.50	1.06	0.090	0.040	0.060	0.039	582.20	167.00
0.000736	25.	25.	25.	2	2	4	0.00	63.00	230.00

*SECNO 6427.000

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6427.00	6.86	580.06	0.00	0.00	580.10	0.04	0.03	0.00	582.80
270.	54.	100.	54.	90.	79.	54.	1.	0.	582.60
0.03	0.00	2.02	0.00	0.000	0.040	0.060	0.039	582.20	167.01
0.000239	50.	50.	50.	2	2	0	0.00	63.00	233.00

*SECNO 6427.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	THA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTA	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	SH2	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

VALLEY SECTION #37

6662.00	4.61	585.11	0.00	.00	585.16	0.05	0.05	0.00	583.17
270.	62.	15[illegible].	52.	92.	76.	[illegible]	2.	1.	582.90
0.07	0.68	2.04	0.66	0.080	0.040	0.080	0.040	582.50	170.00
0.000256	215.	215.	215.	2	0	0	0.00	60.00	230.00

*SECNO 6695.000

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

FIELD BOOK #37-D

6695.00	1.62	585.12	0.00	0.00	585.19	0.07	0.07	0.06	583.9[illegible]
270.	76.	[illegible]	53.	64.	10.	75.	2.	1.	5[illegible].10
0.07	1.19	3.20	1.33	0.080	0.040	0.080	0.040	582.50	170.00
0.000423	53.	53.	53.	0	0	0	0.00	60.00	230.00

SPECIAL ORIGINE

SJ	XK	XKOR	COFQ	RDLEN	BUC	PUP	BAREA	SS	ELCHU	ELCHD
	0.00	1.85	3.00	0.00	5.00	0.00	18.00	0.00	583.70	583.70

*SECNO 6715.000
PROBABLE [illegible]

EGPRS	EGLLC	N3	QWEIR	QPR	BAREA	TRAPEZCID	ELLC	ELTRD
595.39	590.39	0.00	175.	97.	15.	16.	587.40	589.00

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

6715.00	7.41	588.91	0.00	0.00	589.95	0.04	0.76	0.00	585.90
270.	64.	82.	174.	65.	34.	95.	2.	1.	585.00
0.00	0.99	2.43	1.09	0.080	0.040	0.080	0.039	582.50	170.00
0.000695	40.	40.	40.	2	0	5	0.00	60.00	230.00

*SECNO 6864.000

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

FIELD BOOK #37E

6864.00	7.89	589.99	0.00	0.00	590.01	0.02	0.02	0.01	584.00
270.	113.	64.	95.	135.	36.	113.	3.	1.	584.00
0.12	0.83	1.76	0.79	0.080	0.040	0.080	0.040	582.10	170.00
0.000230	129.	129.	129.	2	0	0	0.00	60.00	230.00

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*SECNO 6865.000

3370 NORMAL BRIDGE,NRO= 14 MIN ELTRO= 587.90 MAX ELLC= 587.10

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=		60.000	
6865.00	7.03	590.95	0.20	0.00	590.11	0.21	0.20		1.15	584.60
270.	59.	141.	72.	54.	29.	55.	3.		1.	587.30
0.12	1.09	4.92	1.30	0.050	0.020	0.060	0.039		582.10	170.30
0.002311	1.	1.	1.	2	5	0	-147.53		60.00	230.30

*SECNO 6967.000

SECNO	DEPTH	CHSEL	CRIWS	USTLY	CG	HV	TL		PLOSS	BANK ELEV
U	QLOB	QCH	QROB	ALOB	ACH	AROB	WSL		T.W	LEFT/RIGHT
TYPE	VLOB	VCH	VROB	XSL	XNCH	XUR	ERR		FLITR	SSTA
SLOPL	XLOPL	PLOT	XLOPT	ITRIAL	IT	TCONT	CSTAT		TYPHYD	SM ST

3370 NORMAL BRIDGE,NRO= 14 MIN ELTRO= 587.90 MAX ELLC= 587.10

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=		60.000	
6967.00	7.13	590.95	0.30	0.00	590.12	0.15	0.00		0.20	584.60
270.	60.	139.	71.	56.	29.	56.	3.		1.	586.60
0.12	1.08	4.78	1.20	0.050	0.020	0.060	0.039		582.10	170.30
0.002147	22.	22.	22.	2	5	0	-147.53		60.00	230.30

*SECNO 6967.000

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=		60.000	
6967.00	8.09	590.19	0.00	0.00	590.21	0.02	0.00		0.05	584.60
270.	115.	55.	95.	241.	37.	124.	3.		1.	587.30
0.12	0.80	1.69	0.70	0.001	0.040	0.030	0.039		582.10	170.30
0.000254	1.	1.	1.	2	5	0	-147.53		60.00	230.30

*SECNO 7014.000

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=		60.000	
7014.00	7.13	590.23	0.00	0.00	590.27	0.04	0.05		0.01	585.60
270.	80.	75.	111.	64.	32.	104.	3.		1.	589.60
0.14	2.95	9.44	1.07	0.010	0.040	0.080	0.039		583.60	170.30
0.010857	126.	126.	126.	2	5	0	-147.53		60.00	230.30

SPECIAL BRIDGE

SS	YK	XKOR	COFS	ZOLEN	IWC	DWB	BWBA	SE	ELCHD	ELCHD
0.00	1.52	3.00	0.20	4.00	0.00	19.60	0.00	583.10	583.10	

*SECNO 7038.000

PRESSURE AND DECK FLOW

EGPRS	EGLWC	WS	QWEIR	QOR	AREA	TRAPEZOID AREA	ELLC	ELTRD
594.71	590.27	0.00	193.	77.	20.	20.	588.10	589.50

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3470 ENCROACHMENT STATIONS=      170.0      230.0  TYPE=      1  TARGET=      60.000
  7038.00      7.44    590.34      0.00      0.00    590.39      0.03      0.29      0.00    585.60
     270.       33.       74.      117.       33.       [illegible]      117.        4.        1.    [illegible]
     0.15      0.05      2.22      0.51      0.000     0.040     0.080     0.039    582.10    [illegible]
 0.000494       24.       24.       24.         2         0         4      0.00     60.00    230.00

*SECNO 7801.000

          VALLEY SECTION [illegible]

  7808.00      5.56    590.86      0.00      0.00    590.88      0.03      0.29      0.00    585.70
     270.      107.      114.       50.      217.       59.      117.       10.        3.    585.80
     0.35      0.47      1.26      0.53      0.000     0.040     0.080     0.039    582.30     [illegible]
 0.000394      770.      770.      770.         2         0         0      0.00    212.59    288.12

*SECNO 7908.000
   SECNO     DEPTH     CUSEL     CHIUS     WSELK     CF        HV        FL        CLOSS    BANK ELEV
   [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      LEFT/RIGHT
   [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
   [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]

          FIELD [illegible]

  7908.00      8.39    590.08      0.00      0.00    590.93      0.03      0.04      0.00    583.30
     270.       96.       80.       94.      153.       32.      141.       11.        4.    584.50
     0.37      0.62      2.53      0.67     0.080     0.040     0.080     0.039    582.50     89.67
 0.000534      100.      100.      100.         0         0         0      0.00    198.45    288.12

*SECNO 7909.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  588.60 MAX ELLC=  506.50

  7909.00      8.38    590.78      0.00      0.00    590.94      0.06      0.00      0.00    584.50
     270.      101.       74.       96.      136.       21.      119.       11.        4.    584.50
     0.37      0.75      3.50      0.80     0.080     0.020     0.080     0.039    582.50     90.08
 0.001191        1.        1.        1.         1         0         0    -49.40    198.04    288.12

*SECNO 7943.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  588.60 MAX ELLC=  506.50

  7943.00      8.42    590.92      0.00      0.00    590.98      0.06      0.04      0.00    584.50
     270.      101.       72.       96.      137.       21.      122.       11.        4.    584.50
     0.37      0.74      3.41      0.79     0.080     0.020     0.080     0.039    582.50     88.78
 0.001128       34.       34.       34.         1         0         0    -49.40    199.54    288.13

*SECNO 7944.000
  7944.00      8.46    590.96      0.00      0.00    590.99      0.03      0.00      0.01    584.50
     270.       97.       78.       [illegible]      [illegible]      32.      146.       11.        4.    584.50
     0.37      0.60      2.45      0.66     0.080     0.043     0.080     0.039    582.50     87.36
 0.000498        1.        1.        1.         1         0         0      0.00    201.27    288.14

*SECNO 8614.000
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VALLEY SECTION #39

	8614.00	5.47	591.28	0.30	0.20	551.34	0.05	0.74	0.31	586.30
1	230.	102.	230.	33.	14.	52.	70.	13.	7.	92.7
2	0.20	0.70	2.51	0.82	3.500	0.043	0.150	0.739	525.20	12.31
3	0.200515	693.	870.	693.	2	2	0	0.30	13.2%	294.3%
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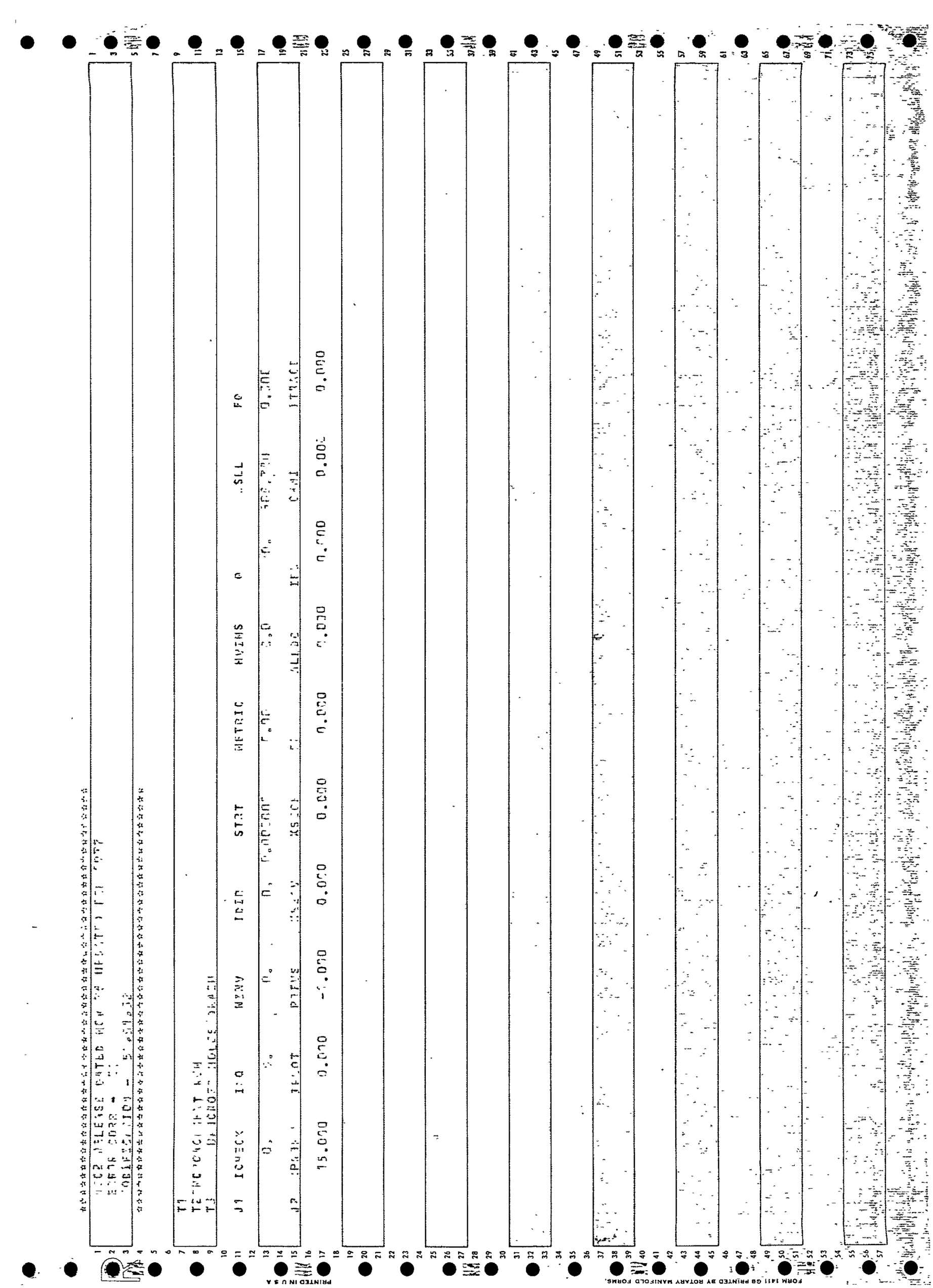

*PROF 2

CCHV= 0.300 CEHV= 0.500

*SECNO 6382.000									
SECNO	DEPTH	DISCH	CPHS	HSTLR	VA	SV	E	DLOSS	TOTAL ELEV
TW	DLOW	SSW	CTOB	SLOW	SCH	0.30*	XNL	TW	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	.FN	ELLIM	SETA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CORNR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=			167.0		230.0	TYPE=	1	TARGET=	63.000
6382.00	6.39	588.89	0.00	588.79	586.94	0.04	0.02	0.01	584.70
270.	97.	88.	93.	92.	30.	86.	0.	0.	586.70
0.01	1.06	2.63	1.17	0.080	0.040	0.080	0.039	582.20	167.00
0.000115	65.	65.	65.	0	0	0	0.00	63.00	230.00
*SECNO 6392.000									
3470 ENCROACHMENT STATIONS=			167.0		230.0	TYPE=	1	TARGET=	63.000
6392.00	6.39	588.89	0.00	588.79	586.94	0.04	0.02	0.01	584.70
270.	97.	88.	93.	92.	30.	86.	0.	0.	586.70
0.01	1.06	2.63	1.17	0.080	0.040	0.080	0.039	582.20	167.00
0.000115	65.	65.	65.	0	0	0	0.00	63.00	230.00

FIELD BOOK SECTION 457-C

6247.00	7.03	588.89	0.00	588.79	586.94	0.03	0.02	0.00	584.70
270.	93.	145.	93.	92.	82.	91.	0.	0.	586.70
0.00	0.61	1.77	0.56	0.080	0.040	0.080	0.039	582.20	167.00
0.000173	65.	65.	65.	0	0	0	0.00	63.00	230.00

*SECNO 6392.000

3470 ENCROACHMENT STATIONS= 167.0 230.0 TYPE= 1 TARGET= 63.000

6352.00	6.39	588.89	0.00	588.79	586.94	0.04	0.02	0.01	584.70
270.	97.	88.	93.	92.	30.	86.	0.	0.	586.70
0.01	1.06	2.63	1.17	0.080	0.040	0.080	0.039	582.20	167.00
0.000115	65.	65.	65.	0	0	0	0.00	63.00	230.00

SPECIAL BRIDGE

SS	XS	TOP	CDFC	RDLEV	SYC	TYP	AREA	SS	ELSND	ELCND
	0.00	1.52	3.00	0.00	4.00	0.00	12.40	0.70	582.20	582.20

*SECNO 6377.000
PRESSURE AND WEIR FLOW

ESPRS	EGLSC	IT	QIBIT	QPR	AREA	TRAPEZOID AREA	ELLC	ELTRD
593.37	589.18	0.00	206.	64.	20.	20.	587.20	587.90

3470 ENCROACHMENT STATIONS=			167.0		230.0	TYPE=	1	TARGET=	63.000
6377.00	6.94	589.12	0.00	589.06	589.16	0.56	0.21	0.00	584.70
270.	99.	77.	95.	98.	31.	91.	0.	0.	584.70
0.02	1.00	2.65	1.04	0.080	0.040	0.080	0.039	582.20	167.00
0.000676	25.	25.	25.	2	0	5	0.00	63.00	230.00

*SECNO 6427.000

3470 ENCROACHMENT STATIONS=			167.0		230.0	TYPE=	1	TARGET=	63.000
6427.00	6.92	589.12	0.00	589.06	589.16	0.04	0.02	0.00	582.00
270.	84.	59.	37.	92.	66.	86.	0.	0.	584.70
0.03	0.59	1.98	0.64	0.080	0.040	0.080	0.039	582.20	167.00
0.000227	50.	50.	50.	0	0	0	0.00	63.00	230.00

*SECNO 6662.000

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	COFAP	TOPWID	BLOST

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

VALLEY SECTION #37

6642.00	6.60	590.93	0.00	589.11	589.21	0.04	0.03	0.07	583.1[illegible]
270.	63.	155.	93.	34.	77.	11.	2.	1.	582.90
0.07	0.57	2.01	0.65	0.080	0.040	0.080	0.040	582.50	170.00
0.000246	215.	215.	215.	2	0	0	0.00	60.00	230.00

*SECNO 6695.000

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

FIELD BOOK #37-D

6695.00	6.65	590.15	0.00	589.92	589.25	0.03	0.35	0.01	585.90
270.	76.	94.	100.	65.	30.	70.	2.	1.	585.00
0.08	1.17	3.12	1.32	0.080	0.040	0.080	0.040	582.50	170.00
0.001335	53.	53.	53.	0	0	0	0.00	60.00	230.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLFN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.85	3.00	0.00	5.00	0.00	18.00	0.00	583.70	583.70

*SECNO 6735.000
PRESSURE AND WEIR BLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
593.65	590.38	0.00	176.	94.	13.	13.	587.30	589.00

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

6735.00	7.42	589.92	0.00	589.91	589.96	0.04	0.71	0.00	583.70
270.	84.	82.	104.	86.	34.	96.	2.	1.	585.00
0.08	0.99	2.42	1.39	0.080	0.040	0.080	0.039	582.50	170.00
0.000687	40.	40.	40.	2	0	5	0.00	60.00	230.00

*SECNO 6864.000

3470 ENCROACHMENT STATIONS= 170.0 230.0 TYPE= 1 TARGET= 60.000

FIELD BOOK #37E

6864.00	7.90	590.00	0.00	589.99	590.02	0.02	0.05	0.01	584.00
270.	113.	64.	93.	134.	86.	118.	3.	1.	584.60
0.12	0.83	1.76	0.79	0.080	0.040	0.080	0.040	582.10	170.00
0.000286	129.	129.	129.	2	0	0	0.00	60.00	230.00

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*SECNO 6865.000

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 587.90 MAX ELLC= 587.10

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=	60.000		
6853.20	7.84	586.91	0.30	586.30	586.12	0.20	0.00	0.09	584.60	
270.	59.	141.	70.	54.	29.	54.	3.	1.	584.60	
0.12	1.09	4.69	1.30	0.090	0.020	0.060	0.039	582.10	170.00	
0.002273	1.	1.	1.	2	0	0	-147.53	60.00	230.00	

*SECNO 6867.000

SECNO	DEPTH	CLSEL	CRILS	USELV	FS	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTR	EL IN	SSTA
SLOPE	XLOB	XLCH	XLOB	STIDAL	TAU	ICONT	CP.AR	TOPWID	ESTA

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 587.90 MAX ELLC= 587.10

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=	60.000		
6817.00	7.96	586.90	0.00	586.87	586.12	0.00	0.00	0.00	584.60	
270.	60.	138.	71.	56.	29.	56.	3.	1.	584.60	
0.12	1.07	4.75	1.23	0.080	0.020	0.060	0.039	582.10	170.00	
0.002117	22.	22.	22.	2	0	0	-147.53	60.00	230.00	

*SECNO 6868.000

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=	60.000		
6888.00	8.10	590.20	0.00	590.19	590.22	0.02	0.00	0.05	584.60	
270.	113.	55.	94.	141.	37.	124.	3.	1.	584.60	
0.12	2.56	1.66	0.75	0.080	0.040	0.060	0.039	582.10	170.00	
0.000253	1.	1.	1.	2	0	0	0.00	60.00	230.00	

*SECNO 7014.000

3470 ENCROACHMENT STATIONS=			170.0	230.0	TYPE=	1	TARGET=	60.000		
FIELD BOOK #37F										
7014.00	7.14	590.24	0.00	590.23	590.28	0.06	0.05	0.01	585.60	
270.	80.	79.	111.	84.	55.	106.	4.	1.	585.60	
0.12	0.95	2.43	1.06	0.080	0.040	0.080	0.039	583.10	170.00	
0.000633	126.	125.	126.	2	0	0	0.00	60.00	230.00	

SPECIAL BRIDGE

SPWID	AWOF	COEFO	RWLEN	SPCD	ELSPD	BAREA	SS	ELCHD	ELTRD
0.00	8.52	3.00	0.00	4.00	0.00	19.60	0.00	583.90	583.10

*SECNO 7038.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
594.72	590.70	0.00	19.	7	120.	20.	588.10	589.50

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3470 ENCROACHMENT STATIONS= 170.3 230.0 TYPE= 1 TARGET= 60.000

7953.00	5.57	591.57	3.00	595.16	590.60	0.13	0.53	0.00	S.S.E.
270.	43.	72.	12.	39.	34.	111.	5.	1.	575.50
2.15	0.85	2.21	0.95	0.000	0.140	0.000	0.079	161.13	171.57
0.002492	24.	24.	24.	2	0	4	0.00	60.00	230.00

*SECNO 7953.000
2800 DAT Q1= 157.57 WSEL= 590.46 ENC Q1= 157.57 USEL= 590.96 RATIO= 0.3003
DAT Q1= 167. RATIOS LOB,CH,ROB= 0.3799 0.4083 0.1325 WSEL= 587.53

3470 ENCROACHMENT STATIONS= 136.3 256.0 TYPE= 4 TARGET= 0.059

VALLEY SECTION #33

7900.00	5.57	591.57	0.00	591.76	591.57	0.03	0.30	0.00	535.70
270.	106.	119.	45.	162.	59.	90.	9.	3.	585.80
0.32	0.65	2.03	0.50	0.080	0.043	0.002	0.939	535.30	136.27
0.000322	770.	770.	770.	1	3	0	0.00	119.77	256.04

*SECNO 7908.000
2800 DAT Q1= 116.85 USEL= 590.89 ENC Q1= 116.85 USEL= 590.99 RATIO= 0.0000
DAT Q1= 124. RATIOS LOB,CH,ROB= 0.3593 0.2835 0.3567 WSEL= 590.99

SECNO	DEPTH	Q SEL	Q TOT	VELC	FR	DV	HL	CLOSS	BANK ELEV
7908.	6.41	84.	92.	4.16	0.84	0.04	0.04	0.00	584.50
TIME	VEL	VCH	VDP	VBL	ENGL	STA	TIME	FLOOD	SSTA
SLOPE	VEL L	S-SF	SLOUD	STIRR	TAE	ICONT	SUBAL	TOPOUT	ENDST

3470 ENCROACHMENT STATIONS= 147.2 262.3 TYPE= 4 TARGET= 0.041

FIELD BOOK #28-4

7908.00	8.41	590.91	0.00	590.89	590.95	0.04	0.04	0.00	584.50
270.	94.	84.	92.	116.	32.	120.	10.	3.	584.50
0.34	0.34	0.83	0.77	0.000	2.040	0.012	0.250	582.50	147.21
0.000553	100.	100.	100.	0	0	0	0.00	116.91	262.12

*SECNO 7909.000
2800 DAT Q1= 78.23 WSEL= 590.88 ENC Q1= 78.23 WSEL= 590.98 RATIO= 0.0000
DAT Q1= 85. RATIOS LOB,CH,ROB= 0.3791 0.2582 0.3627 WSEL= 590.54

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD= 586.60 MAX ELLC= 586.50

3470 ENCROACHMENT STATIONS= 146.4 263.3 TYPE= 4 TARGET= 2.000

7909.00	8.30	591.37	0.00	590.88	591.04	0.07	0.00	0.12	584.50
270.	99.	78.	93.	94.	21.	150.	10.	3.	584.50
0.34	1.07	1.71	0.63	0.080	0.020	0.010	2.039	582.50	146.45
0.001338	1.	1.	1.	1	0	0	-49.40	116.87	263.32

*SECNO 7963.000
2800 DAT Q1= 90.38 WSEL= 590.93 ENC Q1= 90.38 WSEL= 591.08 RATIO= 0.0000
DAT Q1= 188. RATIOS LOB,CH,ROB= 0.3917 0.2719 0.3663 WSEL= 591.08

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD= 588.60 MAX ELLC= 586.50

```
3470 ENCROACHMENT STATIONS=      146.9      262.4  TYPE=      4  TARGET=        0.090
  7943.00      8.44    590.94      0.00    590.92    591.01      0.07      0.04      0.00    584.50
     270.       99.       78.       93.       99.       21.      101.       10.        3.    584.50
     0.35      1.01      3.64      0.97     0.000     0.000     0.000     0.039    582.50    146.05
 0.000[illegible]      34.       34.       34.         0         0         0    [illegible]    [illegible]    [illegible]

*SECNO 7944.000
 2000 MAT Q1=     121.55  USEL=     590.96  ENC Q1=     121.55  USEL=     591.06  RATIO=  0.0000
 MAT Q1=     130.  RATIOS LOE,CH,ROP=  0.3[illegible]  0.2[illegible]  0.3609  USEL=     591.[illegible]

3470 ENCROACHMENT STATIONS=      [illegible]  [illegible]  TYPE=      4  TARGET=        [illegible]
  7944.00      8.48    590.98      0.00    590.96    591.02      0.04      0.00      0.01    584.50
     270.       95.       81.       94.      121.       32.      126.       10.        3.    584.50
     0.35      0.79      2.55      0.75     0.000     0.040     0.000     0.039    582.50    146.05
 0.000[illegible]       1.        [illegible]       1.         2         0         [illegible]    [illegible]    [illegible]

*SECNO 8614.000
 2800 MAT Q1=     119.01  USEL=     591.28  ENC Q1=     119.01  USEL=     591.38  RATIO=  0.0000
 MAT Q1=     125.  RATIOS LOE,CH,ROP=  0.3845  0.4699  0.1457  USEL=     591.36

3470 ENCROACHMENT STATIONS=      [illegible]  [illegible]  TYPE=      [illegible]  TARGET=        0.[illegible]

          VALLEY SECTION 439

  8614.00      5.54    591.34      0.00    591.28    591.39      0.06      0.36      0.01    586.30
     [illegible]      101.      136.       [illegible]      [illegible]       32.       [illegible]       14.        9.    [illegible]
     0.46      0.72      2.60      0.71     0.000     0.040     0.000     0.039    585.00    130.22
 0.000[illegible]      [illegible]      70.      [illegible]                   [illegible]         0      0.[illegible]    [illegible]    [illegible]
```

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains
Notes

4) DOCUMENT TYPE: 100 yr. Natural

00BREAK00

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**************************************************
  HEC1 FLEXIBLE DATED 10V 76 .MODIFIED FEB 1977
  RATIO 005 =  .21
  DISTRIBUTION =  50.51.52
**************************************************

C
T1      SC. ROCKWOOD VILLAGE     HYDROLOGY        8/81      100YR
T2      1.0YEAR NATURAL FLOW
T3      LAUDENSCHLAGER

J1  ICHECK    INQ       NMIN      IDIR      STAT      METRIC    HYDIAS    C         ISEL      FC
          0.        4.        5.        6.  7.020000      0.00      1.0       9.   500.360     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XLECH     SX        ALLDC     IBW       CHKI      ITRACE
      1.000     0.000    -1.200     0.000     0.300     0.000     0.300     0.000     0.000    15.000

J3  VARIABLE CODES FOR SUB-AREA HYDROGRAPH

    150.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

ST      5.000    55.000    75.000    85.000    65.000   120.000     0.000     0.000     0.000     0.000
MC      0.015     0.210     0.035     0.370     0.071     0.105     0.050     0.035     0.320     1.130

        300 FT D/S HAGGERMAN RD.

X1      0.000    14.000   996.000  1004.000     0.000     0.000     0.000     0.000     0.000     0.000
QP    200.000   640.700   532.300   641.000   582.000   900.300   587.400   987.200   577.000   956.000
QR    577.000   996.100   576.700  1050.000   575.900  1003.300   576.900  1004.200   573.900  1029.300
QR    581.000  1010.000   562.100  1700.300   552.300  1100.000   570.000  1031.200     0.900     0.300

        D/S FACE HAGGERMAN RD.

X1      0.900     0.300     8.000     0.000   105.000   100.200   101.000     3.000     3.000     8.000
X3     10.000     0.000     5.000     0.000     2.000     0.000     0.000   581.200   581.200     0.000
SD      0.000     1.660     3.000     0.300     3.000     0.000    29.000     0.000   576.700   576.700

        U/S FACE HAGGERMAN RD.

X1      1.000     0.000     0.300     8.000    10.000    14.700    14.000     5.000     5.000     5.000
X2      0.000     0.000     1.000   580.300   582.000     0.000     0.000     0.000     0.000     0.000
X3     10.000     0.000     0.000     0.000     0.000     0.000     0.000   582.000   582.000     0.000
ST     14.000   640.000   890.000     0.000   641.000   582.300     0.000   900.000   582.300     0.000
QT    931.300   582.000     0.000   996.300   582.000     1.000   996.100   582.000   577.300  1000.000
QT    582.000   580.300  1053.900   582.000   580.400  1004.000   582.010     0.000  1029.000   582.000
QT      0.000  1013.000   582.300     0.000  1010.000   582.107     0.300  1500.000   582.200     0.000
QT   1501.000   590.000     0.000     0.000     0.000     0.000     0.000     0.000     0.300     0.000
ET      0.000     0.000     0.000     0.000     0.000     9.100     0.000     0.000   950.000  1050.000

        SD ET U/S HAGGERMAN RD.

X1      1.200     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3      0.000     0.000     0.000  1931.000     0.000  1060.000     0.300     0.000     0.000     0.000
ET      0.000     0.300     0.000     0.000     0.100     0.000     0.000     0.000     0.000     0.000
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100 FT D/S D'WAY CULVERT #2A

X1	1.700	9.700	146.000	154.000	550.700	12.000	570.300	0.000	0.300	0.000
GR	593.020	0.300	582.500	25.300	530.300	12.000	577.100	146.300	576.500	150.000
GR	577.200	156.000	580.600	162.000	582.500	270.000	590.570	580.000	0.000	0.700
ET	1.000	0.300	0.000	0.700	9.100	0.000	0.700	0.300	1.000	300.000

D/S FACE D'WAY CULVERT #2A

X1	1.000	16.130	146.200	154.700	100.000	900.300	150.000	0.700	1.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	577.900	576.000	0.000
GR	590.000	0.000	582.500	25.200	581.100	114.000	577.900	146.200	577.000	146.500
GR	576.500	143.800	576.500	149.500	576.500	156.000	576.500	150.500	576.500	151.100
GR	577.000	151.500	577.900	151.700	580.300	162.000	581.100	196.000	582.500	229.000
ET	1.000	1.000	0.000	0.300	0.300	1.000	1.000	0.000	576.500	576.500

D/S FACE D'WAY CULVERT #2A

X1	2.300	0.000	0.000	0.000	12.000	12.300	12.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.400	580.400	0.000
XT	15.000	0.000	580.000	0.000	114.000	0.000	0.000	150.000	580.600	0.000
GT	148.200	580.400	577.900	148.500	580.400	577.700	148.800	580.600	579.100	149.500
GT	580.400	579.500	151.000	580.400	579.600	150.500	580.400	579.500	151.900	580.400
GT	579.100	151.500	580.400	578.700	151.700	580.400	577.900	162.000	580.600	0.000
XT	196.000	0.000	0.000	0.000	580.300	0.000	0.000	0.000	0.000	0.000

50 FT U/S D'WAY CULVERT #2A

X1	2.200	9.000	146.000	154.000	50.000	50.300	50.000	0.000	0.000	0.000
GR	590.000	0.300	580.500	25.000	582.600	156.000	577.100	146.500	576.500	150.000
GR	577.200	154.000	580.600	162.000	582.500	270.000	590.570	580.000	0.000	0.700
ET	1.000	0.300	0.000	0.700	9.100	0.000	0.700	0.300	1.000	300.000

100 FT D/S D'WAY CULVERT #3

X1	2.700	14.000	157.000	163.000	450.700	400.000	420.300	0.300	0.300	0.000
GT	590.000	0.000	589.500	1.000	582.200	90.000	582.200	130.000	582.800	145.000
GR	577.000	157.000	577.000	160.000	577.400	163.000	582.200	174.000	583.500	299.000
GR	590.000	300.000	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	9.100	0.000	0.000	0.000	165.000	174.000

D/S FACE D'WAY CULVERT #3

X1	2.000	22.000	155.000	165.000	100.000	100.000	100.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.200	582.100	0.000
GR	590.000	0.000	583.500	1.000	582.200	90.000	582.200	130.000	582.800	145.000
GR	578.000	155.000	578.000	158.300	577.200	166.300	577.010	197.000	577.800	159.000
GR	578.000	256.700	579.000	159.000	579.000	191.300	578.000	161.000	577.200	162.000
GT	577.000	163.000	577.200	164.000	578.000	164.700	579.000	165.000	582.200	174.000
GR	583.500	319.000	590.000	320.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.800	3.000	0.000	8.250	0.000	25.000	0.000	577.000	577.000
ET	0.000	0.000	0.000	0.000	9.100	0.000	0.000	0.000	165.000	174.000

U/S FACE D'WAY CULVERT #3

X1	3.000	0.000	0.000	0.000	156.700	104.000	164.000	0.000	0.000	0.000

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X2	0.000	0.000	1.000	591.000	582.200	1.000	2.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.500	582.500	0.000
BT	22.000	0.000	590.000	0.000	1.000	583.500	0.000	60.000	582.200	0.000
BT	[illegible]	582.200	0.000	[illegible]	582.200	0.000	155.300	[illegible]	579.000	155.300
BT	[illegible]	590.300	[illegible]	582.200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	582.200
BT	[illegible]	151.300	[illegible]	582.300	[illegible]	[illegible]	[illegible]	[illegible]	582.100	579.000
BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	582.100	580.700	164.700	582.300	583.000	165.000	582.100	579.000	174.000	582.200
BT	0.000	319.000	583.500	0.000	320.000	590.000	0.000	0.000	0.000	0.000

[illegible] FT [illegible] 30 [illegible] 0/S [illegible]

X1	3.200	9.000	157.000	163.000	35.000	35.000	35.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	160.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000

[illegible] D/S PACK DELAY CULVERT #39

X1	3.800	13.000	147.500	152.500	35.000	35.000	35.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.400	581.400	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]
SB	0.000	1.710	3.000	0.000	4.100	0.000	18.000	0.000	576.300	576.300

[illegible] D/S FACE [illegible] CULVERT [illegible]

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	0.000	0.000	1.000	590.800	581.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.400	581.400	0.000
BT	13.000	0.000	590.000	0.000	1.000	583.500	0.000	130.000	582.300	0.000
BT	[illegible]	591.400	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	[illegible]	580.800	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

50 FT U/S DIWAY CULVERT #39

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	160.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	325.000	360.000

[illegible] FT D/S D'WAY CULVERT #39

X1	4.700	9.000	345.000	355.000	960.000	960.000	960.000	0.000	0.000	0.000
GR	590.000	200.000	584.000	201.000	582.300	385.000	578.700	345.000	578.000	350.000
GR	578.730	355.000	582.500	362.000	584.000	499.000	590.000	500.000	0.000	0.000

D/S FACE D'WAY CULVERT #39

X1	4.800	13.000	347.500	352.500	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	584.000	584.000	0.000
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SB	0.000	1.660	3.000	0.000	4.200	0.000	16.500	0.000	578.000	578.000

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U/S FACE D'BAY CULVERT #3C

X1	5.000	0.000	0.300	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X2	0.000	0.000	1.300	582.700	582.900	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.500	588.500	0.000
BT	15.000	450.000	600.000	0.000	451.000	588.500	0.000	987.000	588.500	0.000
BT	347.500	592.500	979.200	347.500	592.900	540.400	589.000	592.500	592.500	352.300
BT	582.900	531.700	351.000	582.900	581.500	332.200	582.900	580.400	352.500	582.900
BT	579.200	362.500	582.900	0.000	499.000	584.000	0.000	582.000	590.000	0.000
BT	0.000	0.000	0.000	0.000	1.410	0.000	0.000	0.000	0.000	0.000

50 FT U/S D'BAY CULVERT #3C

X1	5.200	9.000	345.000	355.700	50.000	50.000	50.300	0.300	0.000	0.000
X3	590.000	300.000	582.500	301.000	582.300	335.000	573.700	345.000	570.000	350.000
BT	579.200	354.700	583.500	342.300	582.000	594.000	590.300	430.300	0.300	0.000
BT	1.000	0.300	2.000	0.000	4.100	5.000	0.300	0.700	491.500	1570.000

X1	5.600	15.000	997.500	1002.300	250.000	250.000	250.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	975.000	0.000	1025.000	0.000	0.000	0.000	0.000
BT	670.300	650.000	1.3.700	451.000	513.700	987.000	155.300	590.000	575.300	997.500
BT	579.300	958.000	579.700	0.000	579.300	1000.000	159.300	1.1.000	575.300	1002.000
BT	579.300	1002.500	579.300	1002.000	535.300	1.1.00	5.5.00	1500.000	502.000	1501.000

D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X2	5.000	1.000	0.000	0.000	100.000	100.300	101.500	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.500	588.500	0.000
SW	0.000	2.000	3.000	0.000	2.620	0.000	12.300	0.000	577.600	577.600

L/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X2	5.000	1.000	0.000	0.000	47.000	47.300	47.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.300	588.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.500	588.500	0.000
BT	15.000	450.000	600.000	0.000	451.000	538.500	0.000	987.000	588.500	0.000
BT	904.000	591.500	0.000	987.500	591.500	579.000	992.000	591.500	591.300	988.000
BT	588.500	582.100	1500.000	581.500	582.300	1041.300	581.500	582.100	1002.000	388.500
BT	561.300	1002.500	538.300	579.300	1506.000	538.500	0.000	1015.000	588.500	0.000
BT	1500.000	588.500	0.000	1501.000	600.000	0.500	0.000	0.000	0.000	0.000

D/S FACE PENN CENTRAL R.R.

X1	6.900	14.000	997.500	1002.500	200.300	200.500	200.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	590.000	590.000	0.000
BT	600.000	450.000	584.000	451.000	583.500	987.300	560.000	997.500	578.900	998.000
BT	578.900	999.000	570.900	1000.000	578.900	1031.000	578.900	1002.000	580.000	1002.500
BT	991.600	1011.000	563.400	1050.000	584.000	1500.000	600.000	1501.000	0.000	0.000
SW	0.000	2.500	3.000	0.000	4.300	0.500	15.000	0.000	578.900	578.900

L/S FACE PENN CENTRAL R.R.

X1	7.000	0.500	0.000	0.000	48.000	47.500	48.000	0.000	0.000	0.000
X2	0.000	0.500	1.000	582.500	588.000	0.500	0.000	0.000	0.000	0.000
X3	15.000	0.000	0.000	975.000	0.000	1025.000	0.000	590.000	590.000	0.000
BT	14.000	450.000	600.000	0.000	451.000	590.000	0.000	987.000	590.000	0.000
BT	997.500	590.000	580.000	998.000	590.000	581.500	999.000	590.000	582.300	1000.000
BT	590.000	582.500	1001.000	590.000	582.300	1032.000	590.000	581.500	1002.500	590.000

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*PROF 1

CCHV= 0.300 CEHV= 0.500

*SECNO ****

SECID	DEPTH	CWSEL	CRIWS	PCWSL	QG	VO	HO	OLOSS	INPS ELLW
0	ALOB	XCI	CHSL	ALOB	SCF	ANGS	XSL	T.W	LEFT/RIGHT
TIME	VLOB	VCI	VCHL	XRL	XRCH	XRP	ITH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IP2	ICONT	COPAR	TOPWID	ELDST

*D/S FACE HAGGERMAN RD.

0.00	3.64	580.34	0.00	580.34	580.40	0.06	0.00	0.00	577.00	
65.	12.	64.	10.	20.	28.	15.	0.	0.	576.90	
0.20	0.50	3.27	0.73	0.220	0.035	0.011	0.300	576.70	576.70	
0.000536	0.	0.	0.	0	0	0	0.00	25.63	1009.70	

FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 580.34

STA=	0.	106.	1004.	1004.	1004.
PER Q=	5.3	94.2	0.1	0.1	
AREA=	10.3	2.1	12.5	2.2	
VEL=	0.6	2.3	0.8	0.2	

*SECNO ****

3459 OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 576.20 ELTRD= 581.20

D/S FACE HAGGERMAN RD.

0.00	3.61	580.50	0.39	1.02	580.52	0.14	0.00	0.14	577.00	
65.	0.	55.	3.	0.	20.	3.	0.	5.	576.90	
1.00	0.00	2.90	0.00	0.065	0.055	1.000	0.03	576.73	959.00	
0.009435	100.	100.	100.	0	0	0	0.00	8.00	1004.00	

FLOW DISTRIBUTION FOR SECNO= 0.00 CWSEL= 580.36

STA=	906.	1004.
PER Q=	100.0	
AREA=	28.5	
VEL=	3.0	

SPECIAL BRIDGE

SE	XK	XKOR	COFQ	RDLEN	DKC	BHP	BAREA	SS	ELCHU	ELCHD
	0.00	1.66	3.00	0.00	0.00	0.00	29.00	0.00	576.70	576.70

RSECNO 1.300
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	DAREA	TRAPEZOID AREA	ELLC	ELTRD
580.61	96.92	0.00	0	55.	29.	29.	576.34	582.0

*POS OVERBANK AREA ASSUMED NON-EFFECTIVE ELLEA= 582.00 ELTRD= 582.00

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U/S FACE HAGGERMAN RD.

1.00	0.77	580.47	0.00	0.00	580.51	0.03	0.04	0.00	577.07
85.	0.	85.	0.	0.	29.	0.	0.	0.	576.50
0.01	0.00	2.91	0.00	0.000	0.035	0.000	0.034	576.70	998.02
0.001345	16.	16.	16.	2	0	0	0.00	8.00	1004.00

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 580.47

STA= 993. 1004.

PER Q= 100.0
AREA= 29.2
VEL= 2.9

*SECNO 1.200

3472 ENCROACHMENT STATIONS= 931.0 1060.0 TYPE= 1 TARGET= 129.000

50 FT U/S HAGGERMAN RD.

1.00	0.51	580.61	0.00	0.00	580.65	0.05	0.03	0.02	577.00
85.	10.	67.	10.	25.	30.	1.	0.	0.	576.50
0.02	0.54	2.07	0.68	0.080	0.035	0.080	0.034	576.70	983.09
0.000402	50.	50.	50.	2	0	0	0.00	26.73	1009.33

FLOW DISTRIBUTION FOR SECNO= 1.20 CWSEL= 580.61

STA= 983. 996. 1004. 1009. 1010.

PER Q= 14.8 73.6 11.4 0.2
AREA= 23.3 30.3 13.8 0.7
VEL= 0.5 2.1 0.7 0.2

*SECNO 1.700

SECNO	DEPTH	CWSEL	CPIWS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	ETN	ELMIN	SSTA
SLOPE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

100 FT D/S D'WAY CULVERT #2A

1.70	4.34	580.04	0.00	0.00	580.09	0.05	0.02	0.00	577.12
85.	10.	67.	8.	19.	32.	17.	1.	1.	577.20
0.11	0.53	2.08	0.49	0.080	0.035	0.080	0.035	576.50	1530.82
0.000382	550.	570.	600.	2	0	0	0.00	41.48	175.28

FLOW DISTRIBUTION FOR SECNO= 1.70 CWSEL= 580.04

STA= 134. 946. 156. 162. 175.

PER Q= 11.8 78.4 9.7 0.2
AREA= 18.9 32.1 15.5 1.6
VEL= 0.5 2.1 0.5 0.1

*SECNO 1.800

D/S FACE D'WAY CULVERT #2A

1.80	4.41	580.91	0.00	0.00	580.95	0.03	0.05	0.01	577.90

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85.	32.	33.	20.	48.	15.	33.	1.	1.	577.90
0.13	0.66	2.26	0.59	0.080	0.035	0.000	0.035	576.50	116.01
0.000737	100.	100.	100.	2	0	0	0.00	74.17	190.18

FLOW DISTRIBUTION FOR SECNO= 1.60 CHSEL= 580.91

STA=	110.	148.	152.	162.	190.
PER Q=	37.7	39.3	18.5	4.5	
AREA=	46.5	14.7	20.2	12.6	
VEL=	0.7	2.5	0.7	2.5	

SPECIAL BRIDGE

SB	XK	XKOR	COEC	RDLEN	ZUC	ZDP	AREA	SS	ELCHU	ELCHD
	0.30	1.62	0.80	1.60	0.15	1.60	1.19	0.00	579.50	579.57

*SECNO 2.100

PRESSURE AND WEIR FLOW

NPAIRS	ELCHU	CD	P/H	W/H	OPENING	TW/ELEV/FLO	ELLC	ELTOP
3	579.50	0.33	0.	25.	3.	0.	575.00	580.50

DAM FOR 50FT D'WAY CULVERT #2A

1.01	5.03	581.13	0.30	0.00	1.11	0.07	0.34	1.07	577.13
85.	33.	31.	22.	56.	16.	42.	1.	1.	577.90
0.14	0.59	1.97	0.51	0.060	0.035	0.090	0.035	576.50	112.03
0.000523	12.	12.	12.	2	0	6	0.00	84.70	196.73

FLOW DISTRIBUTION FOR SECNO= 2.00 CHSEL= 581.13

STA=	112.	148.	152.	162.	196.
PER Q=	36.5	36.0	18.6	6.9	
AREA=	35.0	15.4	22.5	17.3	0.
VEL=	0.6	2.5	0.7	0.3	

*SECNO 2.200

50 FT U/S D'WAY CULVERT #2A

2.20	4.64	581.14	0.00	0.20	581.18	2.04	0.00	0.53	577.30
85.	11.	64.	40.	56.	35.	26.	1.	1.	577.90
0.14	0.44	1.85	0.38	0.060	0.035	0.080	0.035	576.50	113.71
0.000274	50.	50.	50.	2	0	0	0.00	79.05	192.77

FLOW DISTRIBUTION FOR SECNO= 2.2 CHSEL= 581.14

STA=	114.	136.	146.	154.	162.	193.
PER Q=	0.4	12.8	75.0	10.5	1.3	
AREA=	3.8	21.9	34.3	17.9	8.3	
VEL=	0.1	0.8	1.8	0.5	0.1	

*SECNO 2.700

100 FT D/S D'WAY CULVERT #3

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2.70	4.28	581.20	0.00	0.00	581.35	0.07	0.15	0.01	577.00
85.	14.	61.	10.	21.	25.	17.	2.	1.	577.40
0.21	0.64	2.43	0.60	0.080	0.035	0.080	0.035	577.00	147.12
0.700492	450.	420.	600.	2	0	0	2.00	24.77	171.00

FLOW DISTRIBUTION FOR SECNO= 2.70 CWSEL= 581.20

STA=	147.	157.	163.	172.
PER Q=	16.0	71.7	12.2	
AREA=	21.1	25.1	7.3	
VEL=	0.8	2.8	0.2	

*SECNO 2.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	EL	QLOSS	BANK ELEV
Q	QLOB	QCH	ZTOP	ALOB	ACH	ATOT	WSL	TYP	LEFT/RIGHT
TIME	VLOB	VCH	KTOP	.00	ZMIN	SAT	FR	EL IP	5.70
SLOPE	ELOBL	ELCH	ZLOB T	ITRIAL	SIF	SECNO	ICONT	TOPWID	581.37

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.20 ELREA= 582.10

W/S FACE 3-BAY CULVERT #2

2.80	4.34	581.34	0.00	0.00	581.43	0.09	0.07	0.01	579.00
95.	0.	85.	0.	0.	36.	0.	2.	1.	579.00
0.26	0.00	2.33	0.00	0.000	0.035	0.080	0.035	577.00	155.00
0.000791	106.	106.	106.	2	0	0	0.00	10.00	165.00

FLOW DISTRIBUTION FOR SECNO= 2.80 CWSEL= 581.34

STA=	155.	165.
PER Q=	100.0	
AREA=	22.5	
VEL=	2.4	

* SPECIAL SPACING 0

SK	XK	XKOR	ZOFS	RADF	ZAC	ZIP	JAREA	SB	ELCHD	ELCHO
0.00	2.80	3.00	0.00	4.25	0.00	25.00	0.00	577.00	577.00	

*SECNO 3.000
PRESSURE FLOW

EGPRS	EGLWC	WS	QWEIR	QPR	DAREA	TRAPEZOID AREA	ELLC	ELTRD
581.84	581.43	0.00	0.	85.	25.	25.	581.00	582.23

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.50 ELREA= 582.50

W/S FACE 3-BAY CULVERT #3

3.00	2.77	581.77	0.00	0.00	581.64	0.07	0.13	0.01	579.00
85.	0.	85.	0.	0.	40.	0.	2.	1.	579.00
0.23	0.00	2.13	0.00	0.080	0.035	0.080	0.035	577.00	155.00
0.000826	106.	106.	106.	2	0	0	0.00	10.00	165.00

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FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 581.77

STA=	155.	165.
PER Q=	100.0	
AREA=	39.9	
VEL=	2.1	

*SECNO 3.200

3.20	4.19	581.79	0.00	0.00	581.37	0.08	0.02	0.00	577.90
85.	9.	63.	13.	14.	25.	20.	2.	1.	577.70
0.24	0.63	2.56	0.67	0.080	0.035	0.080	0.035	577.60	149.91
0.000456	35.	35.	35.	1	0	0	0.00	23.63	172.81

FLOW DISTRIBUTION FOR SECNO= 3.20 CWSEL= 581.79

STA=	150.	157.	163.	173.
PER Q=	10.2	74.0	15.8	
AREA=	13.8	20.6	23.1	
VEL=	0.6	2.6	0.7	

*SECNO 3.300

R/W FACE DRWAY CULVERT #3R

3.30	5.53	581.52	0.00	0.00	581.20	0.07	0.32	0.00	578.30
85.	9.	64.	12.	15.	26.	18.	2.	1.	578.30
0.24	0.65	2.44	0.66	0.080	0.035	0.080	0.035	576.30	139.15
0.000634	35.	35.	35.	0	0	0	0.00	23.47	162.61

FLOW DISTRIBUTION FOR SECNO= 3.3 CWSEL= 581.52

STA=	139.	148.	153.	163.
PER Q=	11.2	75.1	13.7	
AREA=	14.7	20.3	23.1	
VEL=	0.5	2.4	0.7	

SPECIAL BRIDGE

SPEC	SKCR	CORA	ROLEC	B.C	ENP	OAREA	SE	ELCHK	ELCRT
3.00	1.71	3.00	0.00	4.12	0.71	18.50	0.00	578.30	578.30

*SECNO 4.000

PRESSURE AND WEIR FLOW

EGRS	EGLNC	∆3	NUMER	OPR	AAREA	TRAPEZOID AREA	ELLC	ELTRD
582.38	581.89	0.30	21.	44.	19.	18.	580.00	581.40

R/W FACE DRWAY CULVERT #3L

4.30	5.78	582.08	0.30	0.00	582.14	0.06	0.25	0.00	578.30
85.	10.	62.	13.	17.	27.	21.	2.	1.	578.30
0.24	0.61	2.26	0.62	0.060	0.035	0.060	0.035	576.30	138.58

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0.000909 20. 20. 20. 2 0 4 0.30 24.84 163.37

FLOW DISTRIBUTION FOR SECNO= 4.00 CHSEL= 582.08

STA= 139. 149. 152. 160.
PER %= 42.4 32.0 14.2
AREA= 17.5 27.5 20.5
VEL= 0.6 2.3 0.6

*SECNO 4.200

SEC D	DEPTH	CHSEL	CRITS	SAVE	FC	HV	HL	CLOSS	BAT ELEV
	Q.DI	VCI	DTCI	HLOD	ALI	AHLB	WOL	TW LEFT	RIGHT OUT
TIME	VLOB	VCH	VROB	XML	XRCH	XMR	STN	FLMIN	SSTA
SLOPE	XLOFL	XLCH	XLOBR	STRIAL	IR2	ICONT	COPAR	TOPWID	SMDST

D/S FACE DRAINAGE CULVERT #3D

4.20	4.50	582.10	0.00	0.30	582.13	0.03	0.02	0.30	577.90
65.	9.	82.	16.	16.	26.	23.	3.	1.	577.70
0.43	0.57	1.27	2.61	0.230	0.033	0.031	0.235	577.90	149.35
0.700910	50.	50.	50.	0			0.000	27.79	173.34

FLOW DISTRIBUTION FOR SECNO= 4.20 CHSEL= 582.10

STA= 349. 137. 163. 174.
PER %= 10.3 72.5 16.7
AREA= 10.3 62.9 21.2
VEL= 0.6 2.3 0.6

*SECNO 4.700

103 FT D/S D'WAY CULVERT #3C

4.70	4.44	582.44	0.00	0.20	582.48	0.04	0.31	0.31	578.70
65.	9.	71.	5.	20.	41.	13.	4.	2.	578.70
0.43	0.43	1.73	0.42	0.080	0.035	0.080	0.035	578.00	323.80
0.000250	960.	960.	960.	2		0	0.30	334.72	342.60

FLOW DISTRIBUTION FOR SECNO= 4.70 CHSEL= 582.44

STA= 324. 335. 345. 355. 342.
PER %= 0.0 10.2 83.5 6.3
AREA= 0.0 19.4 40.9 12.9
VEL= 0.1 0.4 1.7 0.4

*SECNO 4.800

B495 OVERFLOW AREA ASSUMED NON-EFFECTIVE,FLLEV= 584.00 ELMIN= 584.00

D/S FACE D'WAY CULVERT #3C

4.80	4.47	582.40	0.00	0.20	582.64	0.24	0.06	0.10	579.20
65.	9.	71.	5.	20.	41.	13.	4.	2.	579.20
0.43	0.50	3.92	0.00	0.080	0.035	0.080	0.035	578.70	344.50
0.000170	700.	700.	700.	2		0	0.30	334.72	342.60

FLOW DISTRIBUTION FOR SECNO= 4.80 CHSEL= 582.40

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STA= 348. 355.
PER Q= 100.0
AREA= 21.7
VEL= 5.5

SPECIAL BRIDGE

SF	XX	YBOP	COFC	RDLEN	RUC	D.P	BAREA	SS	ELCIU	ELCHD
	0.50	1.66	3.00	0.50	7.20	0.00	15.51	0.77	579.00	582.07

*SECNO 5.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	FB	CFSLW	QPR	VAREA	PRESSBOP HEAD	ELLC	ELTRD
583.10	582.64	0.00	0.	94.	0.	16.	581.70	582.53

TAILWATER DEPTH ASSUMED FOR S-PRESS IF TAILW= 584.01 ELBEN= 574.01

U/S FACE D'WAY CULVERT #3C

5.00	4.86	582.86	0.00	0.00	583.05	0.23	0.41	0.00	579.20
50.	0.	98.	1.	1.	24.	0.	2.	3.	579.20
0.43	0.00	3.55	0.10	1.000	1.035	0.03	1.035	579.00	582.53
1.202356	30.	30.	30.	2	0	4	2.00	4.00	582.53

FLOW DISTRIBUTION FOR SECNO= 5.00 CWSEL= 582.86

STA= 340. 353.
PER Q= 100.1
AREA= 23.9
VEL= 3.6

*SECNO 5.200 0

50 FT U/S D'WAY CULVERT #3C

5.20	5.10	583.10	0.00	0.00	583.12	0.02	0.02	0.05	578.70
85.	14.	83.	9.	50.	148.	36.	4.	2.	578.70
0.45	0.27	1.32	0.24	0.000	0.255	0.000	0.026	579.10	580.92
0.000129	50.	50.	30.	2	0	0	2.00	44.42	582.34

FLOW DISTRIBUTION FOR SECNO= 5.20 CWSEL= 583.10

STA= 301. 355. 365. 375. 389. 395. 395.
PER Q= 4.6 11.4 73.9 7.2 5.0 0.0
AREA= 23.9 20.0 47.5 17.9 14.2 2.1
VEL= 0.2 0.4 1.3 0.3 0.1 0.0

*SECNO 5.300

SECID	DEPTH	CWSEL	CRINV	WSELK	EG	FF	AL	CLOSS	BAOR	ELO	
Q	LOB	FCH	ROB	ALOB	ACH	AROB	WPL	TRA	LEWR/REWR		
TIME	LOB	CH	ROB	XNL	XNCH	XNR	TW	ESTL	ESTR		
SLOPE	KLOBL	XLOB	XLOBR	ITRIAL	IHS	ICONT	CORAR	TOPWID	ENDST		

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3470 ENCROACHMENT STATIONS=      975.0     1025.0  TYPE=      1  TARGET=      50.000
     5.60      3.86    583.14      0.00      0.00    583.19      0.05      0.06      0.02    579.30
      85.       19.       45.       21.       23.       19.       25.        3.        3.    579.30
     3.[illegible]      0.04      2.36      0.[illegible]      0.[illegible]      [illegible]      0.[illegible]      579.30    [illegible]
 0.0[illegible]516      250.      25[illegible]      [illegible]         [illegible]         [illegible]      [illegible]      [illegible]      1[illegible]2.0[illegible]

FLOW DISTRIBUTION FOR SECNO=       5.50          CWSEL=     583.[illegible]6

STA=      969.      996.      99[illegible].      1002.      1006.      1012.
  PER Q=      [illegible]      16.4      5[illegible].4      16.4      [illegible]
   AREA=      [illegible]      [illegible]      1[illegible].[illegible]      1[illegible].[illegible]      [illegible]
    VEL=      0.6       1.0       2.4       1.0       0.6

*SECNO 5.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      5[illegible].50 ELHEA=      5[illegible].50

        D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     [illegible]      [illegible]      583.[illegible]      0.[illegible]      0.00    58[illegible].[illegible]      0.[illegible]      [illegible].11      0.13    579.3[illegible]
      [illegible].       0.       [illegible].       [illegible].       0.       1[illegible].       [illegible].       [illegible].       [illegible].    579.[illegible]
     3.5[illegible]      0.00      [illegible].[illegible]      0.[illegible]      0.[illegible]      0.[illegible]      [illegible].0[illegible]      [illegible].0[illegible]      579.30    997.[illegible]
 0.003641      100.      100.      100.        2         0         0      0.0[illegible]      5.00   1002.50

FLOW DISTRIBUTION FOR SECNO=       [illegible].[illegible]          CWSEL=     5[illegible].12

STA=      99[illegible].      1003.
  PER Q=      100.0
   AREA=      19.1
    VEL=      4.4

SPECIAL E[illegible]

SB  XK        XKOQ      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCND
     0.00      2.00      3.00      0.00      2.62      0.00      12.30     0.00      577.60    577.60

*SECNO 5.000
PRESSURE FLOW

EGPRS     EGLWC     H3        QWFIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                                AREA
  584.6[illegible]    582.42     0.30      [illegible].       65.       12.       12.       583.30    58[illegible].90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      583.50 ELHEA=      588.50

        U/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     6.00      5.14    584.44      0.00      0.00    584.61      0.17      1.16      0.00    579.30
      85.        0.       85.        0.        0.       26.        0.        5.        3.    579.30
     0.50      0.[illegible]      3.[illegible]      [illegible].00      0.0[illegible]      0.0[illegible]      0.[illegible]      [illegible].[illegible]      [illegible]      [illegible]
 0.001651       47.       47.       47.        [illegible]        [illegible]        [illegible]      0.00      [illegible].00   9002.50

FLOW DISTRIBUTION FOR SECNO=       6.00          CWSEL=     584.44
```

STA= 998. 1003.
PER Q= 100.0
AREA= 25.7
VEL= 3.3

[illegible] 7.920

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 590.00 ELREA= 590.00

[illegible] NO CENTRAL R.R.

3.93	5.18	584.73	3.00	7.00	586.21	0.10	0.30	3.00	583.03	
85.	0.	85.	0.	0.	29.	0.	5.	3.	580.00	
0.52	0.00	2.95	0.00	0.060	0.035	0.080	0.035	578.90	997.50	
0.001349	200.	200.	200.	2	0	0	0.30	5.00	1002.50	

FLOW DISTRIBUTION FOR SECNO= 6.90 CUMEL= 586.78

STA= 998. 1003.
PER Q= 100.0
AREA= 23.6
VEL= 3.9

SPECIAL BRIDGE

[illegible]	AREA	CCEN	EGLEV	TC	WP	DAREA	SL	ELCHO	ELCO	
0.00	2.33	3.00	[illegible]	4.63	0.70	11.00	0.00	594.00	590.00	

*SECNO 7.000
PRESSURE FLOW

CSPRS	EGLWC	IB	JUNCT	WSP	DAREA	TRAPEZOID AREA	FLLC	ELTRD
585.80	584.91	0.00	0.	85.	15.	15.	582.50	590.00

3470 ENCROACHMENT STATIONS= 975.0 1025.0 TYPE= 1 TARGET= 50.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 590.00 ELREA= 590.00

[illegible] FACE SENS CENTRAL R.R.

7.00	6.00	585.75	6.00	6.00	585.90	0.10	0.90	0.00	583.00	
85.	0.	85.	0.	0.	33.	0.	5.	3.	580.00	
0.52	0.00	2.54	0.00	0.030	0.035	0.080	0.035	578.90	997.50	
0.300615	49.	49.	49.	2	0	0	0.00	5.00	1002.50	

FLOW DISTRIBUTION FOR SECNO= 7.00 CUMEL= 585.70

STA= 998. 1003.
PER Q= 100.0
AREA= 23.6
VEL= 2.5

*SECNO 7.100

SECNO	DEPTH	CWSEL	CRIWS	HSELK	EG	HV	HL	CLOSS	BANK ELEV
A	ALOB	ACH	AROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XVCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAP	TOPWID	ENDST

3473 ENCROACHMENT STATIONS=			950.0	1050.0	TYPE=	1	TARGET=	100.000	
7.10	0.95	585.23	1.02	1.00	585.23	0.00	0.00	1.02	585.00
23.	24.	23.	38.	129.	34.	173.	5.	3.	530.00
0.57	0.19	0.67	0.22	0.000	0.035	0.000	0.035	573.90	950.00
0.000026	50.	50.	50.	2	0	0	0.00	100.00	1050.00

FLOW DISTRIBUTION FOR SECNO= 7.1 CUMCL= 585.00

STA=	950.	987.	990.	1003.	1011.	1030.
PER Q=	16.2	11.9	26.7	14.0	31.3	
AREA=	55.6	42.9	36.1	47.5	124.9	
VEL=	0.2	0.2	0.7	0.3	0.2	

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED [illegible] 1977
  ERROR CORR - 01
  MODIFICATION - 50,51,52
*****************************************************

T1
T2      ENCROACHMENT RUN
T3

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       5.       2.       0.  0.000000   0.10      0.0      0.   520.347   0.000

J2  HPROP    IPLOT    PRINS    XSECV    XSECH    FN      ALLDC    IBW      CHNT     ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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*PROF 2

CCHV= 0.300 CEHV= 0.500

*SECNO ****

SECID	DEPTH	CHLBL	DELTA	PSTLR	ZL	ZU	1	FLOWS	HI ST LEV
T	ULOB	ULC	3.0	0.00	ALOB	ARCH	XNL	"OB LEFT/CHAN	
TIME	VLOB	VCH	VROB	XNL	XLOB	XNB	.TH	ELMIN	SSTP
SLOPE	XLOUL	XLCH	XLOBR	ITRIAL	II2	ICONT	CORAR	TOPWID	ENDLY

10C FT D/S -AGE...00 RD.

0.00	3.64	580.34	0.00	580.34	580.40	0.06	0.00	0.00	577.00
ES.	12.	64.	60.	20.	24.	13.	0.	0.	576.90
0.00	0.69	2.17	0.00	0.000	0.001	0.000	0.000	576.70	996.00
0.000536	3.	7.	0.	0	0	2	0.00	25.03	1004.00

*SECNO ****

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,FLLEA= 582.00 CLRSA= 582.00

D/S FACE HAGGERMAN RD.

0.90	3.60	580.38	0.00	0.00	580.32	0.14	0.01	0.04	577.00
35.	0.	64.	0.	0.	29.	0.	0.	0.	576.90
0.01	0.00	2.98	0.00	0.087	0.035	0.000	0.035	576.70	995.00
0.001345	930.	930.	930.	2	0	0	0.00	3.00	1004.00

SPECIAL BRIDGE

SE	XR	KOR	COR	ROUGH	ELC	SKIP	SKEW	SS	ELMIN	ELCRD
	0.00	1.66	3.00	0.00	8.00	0.00	29.00	0.00	576.70	576.70

*SECNO 1.000

PRESSURE FLO

EGPRS	EGLOC	WS	QWEIR	QBR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
580.61	580.52	0.00	0.	85.	29.	29.	580.30	582.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,FLLEA= 582.00 CLRSA= 582.00

D/S FACE HAGGERMAN RD.

1.00	3.77	580.47	0.00	0.00	580.61	0.13	0.03	0.00	577.00
85.	0.	85.	0.	0.	29.	0.	0.	0.	576.90
0.01	0.00	2.91	0.00	0.080	0.035	0.000	0.034	576.70	995.00
0.001345	16.	16.	16.	2	0	0	0.00	3.00	1004.00

*SECNO 1.20

3470 ENCROACHMENT STATIONS= 930.0 1060.0 TYPE= 1 TARGET= 129.000

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50 FT U/S HAGGERTAN RD.

1.20	3.91	580.61	0.00	0.00	580.66	-0.05	0.03	0.02	577.00
85.	13.	53.	90.	23.	30.	15.	0.	0.	576.00
0.11	0.54	2.07	0.00	0.000	0.003	0.002	0.000	576.50	116.00
0.000472	50.	50.	50.	2	0	0	0.00	24.73	190.23

*SECNO 1.700

SECNO	DEPTH	CRSEL	CRSHS	SELV	ES	HV	HL	QLOSS	BANK ELEV
	QLOB	QCH	VEL0	QLOT	FCH	ANOT	VCH	TPW	LEFT/RIGHT
TOTAL	VLOB	VCH	VEL0	XNL	XCH	DTL	LOB		SSTA
SLOPE	XLSTL	XLCH	XLTOT	ITRIAL	I42	ICONT	CCROS	TOPWID	ENDST

JAMES BRANCH 5FT STATION= 1550.0 1702.0 TYPE= 1 TARGET= 26.000

100 FT D/S D'WAY CULVERT #2A

1.70	4.34	580.34	0.00	580.04	580.89	0.05	0.22	0.00	577.10
45.	10.	67.	8.	19.	32.	13.	1.	0.	577.20
0.11	0.53	2.08	0.33	0.013	0.035	0.011	0.035	576.50	116.00
0.000363	550.	570.	600.	2	1	0	0.00	26.70	142.30

*SECNO 1.800

D/S FACE D'WAY CULVERT #2A

1.80	4.41	580.23	0.00	580.71	580.53	0.05	0.05	0.01	577.90
85.	32.	33.	20.	49.	15.	33.	1.	1.	577.90
0.13	0.66	2.26	0.59	0.080	0.035	0.080	0.035	576.50	116.00
0.000735	100.	100.	100.	2	0	0	0.00	74.22	190.22

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BNC	BWP	BAREA	SS	ELCHO	ELCRO
0	0.65	1.62	3.00	0.00	4.70	0.70	0.00	0.000	576.50	576.50

*SECNO 2.000

PRESSURE AND WEIR FLOW

ESPRS	ESLWS	HS	LOSIE	SAR	SAREA	TRAPEZOID AREA	SLLC	BUTIP
3E-3267	580.95	0.00	60.	25.	0.	0.	579.68	580.10

D/S FACE D'WAY CULVERT #2A

2.00	4.63	581.15	0.00	581.13	581.16	0.02	0.21	0.00	577.90
85.	33.	31.	22.	56.	16.	42.	1.	1.	577.90
0.13	0.59	1.97	0.51	0.080	0.035	0.080	0.035	576.50	116.00
0.000522	12.	12.	12.	2	0	6	0.00	64.74	196.74

*SECNO 2.200

SONET D/S D'WAY CULVERT #2A

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2.20	4.64	581.14	0.00	581.14	581.18	0.04	0.02	0.01	577.10
65.	11.	64.	10.	26.	35.	26.	1.	1.	577.20
0.14	0.44	1.35	0.33	0.000	0.035	0.080	0.035	576.50	113.65
0.000273	50.	50.	50.	2	3	0	0.00	79.17	192.82

*SECNO 2.700

3470 ENCROACHMENT STATIONS= 1.0 300.0 TYPE= 1 TARGET= 299.000

D/S FACE D'WAY CULVERT #3

2.70	4.53	581.28	0.00	581.28	581.43	0.07	0.15	0.01	577.00
35.	14.	61.	10.	24.	25.	17.	2.	1.	577.40
0.20	0.64	2.43	0.60	0.080	0.035	0.060	0.035	577.00	147.12
0.000495	450.	420.	400.	2	3	0	0.00	24.77	171.89

*SECNO 2.700

SECNO	DEPTH	C.SEL	CRTWS	.SELS	EG	HV	AL	CLOSS	BANK ELEV
Q	BLOF	OCH	QROD	ALOE	ACH	AROB	VOL	TOA	LEFT/RIGHT
TIME	VLO.	VCH	VROD	XNL	KSCH	XOR	WTN	ELMIN	SSTA
SLOPI	KLO .	FLOF	ELSDP	TTESL	TW	ICONT	CONAD	WPC.TO	1 .CT

3470 ENCROACHMENT STATIONS= 145.0 174.0 TYPE= 1 TARGET= 29.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.50 ELREA= 582.50

D/S FACE D'WAY CULVERT #3

2.80	4.34	581.34	0.00	581.34	581.43	0.09	0.07	0.01	579.00
65.	0.	85.	0.	0.	38.	0.	2.	1.	579.00
0.22	0.00	2.39	0.00	0.000	0.035	0.060	0.035	577.00	155.00
0.001171	100.	100.	100.	2	0	0	0.00	10.00	165.00

SPECIAL BRIDGE

SO	XLOB	CDFO	ROUFO	BHC	BSP	BAREA	BS	ELCHO	ELCHD
0.00	2.80	3.00	0.00	6.25	0.00	25.00	0.00	577.00	577.00

*SECNO 3.000

PRESSURE FLOW

CGPRS	EGLLC	H3	QWEIR	QHP	BAREA	TRAPEZOID AREA	SLLC	ELTRD
581.84	581.43	0.00	0.	85.	25.	25.	581.00	582.30

3470 ENCROACHMENT STATIONS= 145.0 174.0 TYPE= 1 TARGET= 29.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 582.50 ELREA= 582.50

D/S FACE D'WAY CULVERT #3

3.00	4.77	581.77	0.00	581.77	581.84	0.07	0.41	0.00	579.00
65.	0.	85.	0.	0.	40.	0.	2.	1.	579.00

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0.23	0.00	2.13	0.00	0.080	0.035	0.080	0.035	577.00	155.00
0.000826	106.	106.	106.	2	0	0	0.00	10.00	165.00

*SEC O 3.200

35 FT U/S [illegible] 35 FT D/S [illegible]

3.20	4.19	581.79	0.00	581.79	581.87	0.08	0.02	0.00	577.90
85.	9.	63.	13.	14.	25.	20.	2.	1.	577.70
0.24	0.63	2.[illegible]	0.67	0.080	0.035	0.080	0.035	577.60	[illegible]
0.000534	35.	35.	35.	1	[illegible]	0	0.00	22.90	172.81

*SECNO 3.800

U/S FACE D'WAY CULVERT #3[illegible]

3.00	5.52	581.[illegible]	0.00	581.82	581.89	0.07	0.03	0.00	[illegible]
85.	9.	64.	12.	15.	26.	19.	2.	1.	578.30
0.24	0.65	2.44	0.66	0.080	0.035	0.080	0.035	576.30	139.15
0.000534	35.	35.	35.	0	0	0	0.00	23.47	162.6[illegible]

SPECIAL BRIDGE

SE	XK	XNOR	COFQ	BDLEN	[illegible]	[illegible]	BAREA	SS	ELCHU	ELCHD
	[illegible]	1.[illegible]	[illegible].00	[illegible]	[illegible]	0.[illegible]	[illegible]	0.00	[illegible]	576.30

*SECNO 4.000

PRESSURE AND WEIR FLOW

DOPRS	EGLMC	H3	[illegible]	[illegible]	BAREA	TRAPEZOID AREA	ELLC	ELTRD
582.30	581.[illegible]	0.00	21.	54.	19.	15.	580.[illegible]	581.40

U/S FACE D'WAY CULVERT #3[illegible]

4.00	5.78	582.06	0.00	582.[illegible]	582.14	0.06	0.25	0.00	578.30
85.	10.	62.	13.	17.	27.	21.	2.	1.	578.30
0.24	0.61	2.26	0.62	0.080	0.035	0.080	0.035	576.30	138.52
0.000509	20.	20.	20.	2	[illegible]	4	0.00	24.04	163.37

*SECNO 4.200

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IH2	ICONT	CONAR	TOPLIN	ELDST

50 FT U/S D'WAY CULVERT #3[illegible]

4.20	6.50	582.10	0.00	582.1[illegible]	582.1[illegible]	0.06	0.[illegible]	0.00	577.[illegible]
85.	9.	62.	1[illegible]	1[illegible]	2[illegible]	2[illegible]	[illegible]	[illegible]	577.[illegible]
0.25	0.57	2.[illegible]	0.61	0.080	0.035	0.080	0.035	577.60	149.35
0.000418	50.	50.	50.	0	0	0	0.00	24.19	173.54

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*SECNO 4.700

100 FT D/S D'WAY CULVERT #3C

4.70	4.44	572.65	0.00	572.65	572.[illegible]	[illegible]	[illegible]	0.01	57[illegible]
95.	9.	71.	5.	[illegible]	[illegible]	1.	4.	2.	57[illegible].70
0.63	0.43	1.73	[illegible]	0.[illegible]	0.035	[illegible]	[illegible]	57[illegible].00	[illegible]
0.000250	960.	960.	960.	2	0	0	0.00	38.09	361.89

*SECNO 4.800

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 586.00 ELREA= 584.00

D/S FACE D'WAY CULVERT #3C

4.[illegible]	4.40	502.60	0.[illegible]	502.60	502.64	0.[illegible]	0.[illegible]	[illegible]	579.20
85.	0.	85.	0.	0.	22.	0.	4.	2.	579.20
0.43	0.00	3.92	0.00	0.000	0.035	0.000	0.035	578.00	347.50
0.003069	100.	100.	100.	2	0	0	0.00	5.00	352.50

SPECIAL BRIDGE

SR	XK	XKOR	COFQ	ROLEN	BWC	BUF	BAREA	SS	ELCHU	ELCND
	0.30	1.66	3.00	0.10	4.20	0.00	15.50	0.00	578.00	578.00

*SECNO 4.800
PRESSURE AND WATER FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
503.16	582.66	0.00	7.	78.	16.	16.	581.70	582.90

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 584.00 ELREA= 584.00

U/S FACE D'WAY CULVERT #3C

5.00	4.86	582.86	0.00	582.86	583.05	0.20	0.41	0.00	579.20
85.	0.	85.	0.	0.	24.	0.	4.	2.	579.20
0.43	0.00	3.55	0.00	0.000	0.035	0.000	0.035	578.00	347.50
0.002335	10.	10.	10.	2	0	0	0.00	5.00	352.50

*SECNO 5.200
2800 NAT Q1= 76.71 HSEL= 583.10 ENC Q1= 76.71 HSEL= 583.20 RATIO= 0.0000
NAT Q1= 81. RATIOS LOG,CHANGES= 0.1688 0.7219 0.1093 HSEL= 583.20

3470 ENCROACHMENT STATIONS= 319.7 369.5 TYPE= 4 TARGET= 0.036

50 FT U/S D'WAY CULVERT #3C

5.80	5.10	583.70	0.00	583.10	583.[illegible]	0.03	0.03	0.05	578.70
85.	12.	66.	[illegible]	27.	47.	27.	4.	2.	578.70
0.43	0.33	1.39	0.32	0.[illegible]	0.035	0.000	0.035	578.00	319.91
0.000135	50.	50.	50.	2	0	0	0.00	49.72	369.63

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*SECNO 5.800
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        HLOSS    BANK ELEV
   Q         GLOB      GCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XN        X.CH      XNR       [illegible]      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     [illegible]     [illegible]     ICOMP     [illegible]      TOPWID     LWCRT

3470 ENCROACHMENT STATIONS=      975.0     1025.0  TYPE=      1  TARGET=      50.000
     5.80      3.84    583.14      0.00    583.14    583.20      0.15      0.06      0.02    579.30
      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      579.30
     7.49      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      579.30    [illegible]
 0.0[illegible]14     250.      270.      250.         2         0         0      0.00     22.79   [illegible]

*SECNO 5.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      583.50 ELREA=      583.50

        D/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     [illegible]      [illegible]    [illegible]      [illegible]    [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      579.30
      [illegible]      0.       85.       [illegible]      0.       [illegible]      0.       5.       2.      579.30
     0.[illegible]      0.[illegible]      [illegible]      0.[illegible]      0.035      0.[illegible]      0.[illegible]      579.30    997.30
 0.003634     100.      100.      100.         2         0         0      0.00      5.00   1002.50

SPECIAL BRIDGE

SB   XK        XKOP      COPG      XDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.00      3.00      0.00      2.62      0.00      12.30     0.00      577.60    577.60

*SECNO 6.000
PRESSURE FLOW

 EGPRS      EGLHC      H3        QWEIR      QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                                  AREA
   584.61    582.42     0.00       0.       35.       12.       [illegible]      583.30    588.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      583.50 ELREA=      583.50

        U/S FACE DETROIT & TOLEDO SHORE LINE R.R.

     6.00      5.14    584.44      0.00    584.44    584.61      0.17      1.18      0.00    579.30
      85.       0.       85.       0.       0.       26.       0.       5.       2.      579.30
     0.50      0.00      3.31      0.00     0.080     0.035     0.080     0.035    579.30    997.50
 0.001648      47.       47.       47.         2         1         0      0.00      5.00   1002.50

*SECNO 6.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      590.00 ELREA=      590.00

        D/S FACE PENN CENTRAL R.R.

     6.90      5.88    584.78      0.00    584.78    584.92      0.13      0.30      0.01    580.00
      85.       0.       85.       0.       0.       29.       0.       5.       2.      580.00
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     0.52      0.00      2.95      0.00     0.080     0.035     0.030     0.035    578.90    997.50
 0.001348     200.      200.      200.         2         0         0      0.00      5.00   1002.50

SPECIAL BRIDGE

SB   XK        XKCR      COPD      TDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.05      3.00      0.00      4.20      0.00      15.00     0.00      578.90    578.90

*SECNO 7.000
PRESSURE FLOW

 EGPRS      EGLLC      H3        QWEIR      QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                                 AREA
   585.00     [illegible]      0.00        0.        [illegible]      [illegible]      582.00    593.00

3470 ENCROACHMENT STATIONS=      975.0     1025.0  TYPE=      1  TARGET=      50.000

3475 [illegible] ASSUMED NON-EFFECTIVE, ELEA=      597.00 [illegible]=      597.00

        U/S FACE PENN CENTRAL R.R.

     7.00      6.00    585.70      0.00    585.70    585.80      0.11      0.89      0.00    580.00
      15.5        0.        [illegible]        0.        0.        38.        [illegible]        5.        2.    580.00
     0.52      0.07      [illegible]      0.00     0.000     0.035     0.030     0.035    578.90    997.50
 0.000[illegible]      [illegible]      [illegible]      [illegible]         2         0         0      0.00      5.00   1002.50

*SECNO 7.100
   SECNO     DEPTH     CWSEL     CRIMS     MSTLK     EN        MV        HL        DLOSS     FAMA FLOW
   3         QLOB      QCH       QROP      ALOB      ACH       APOB      VOL       TMA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       MTR       CLTIN     BETA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=      950.0     1050.0  TYPE=      1  TARGET=      100.000
     7.10      6.93    535.03      0.00    585.83    535.76      0.00      0.00      0.03    580.00
      85.       24.       23.       38.      129.       34.      173.        5.        2.    580.00
     0.56      0.19      0.66      0.22     0.000     0.035     0.050     0.035    578.90    950.00
 0.000026       50.       50.       50.         2         0         0      0.00    100.00   1050.00
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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

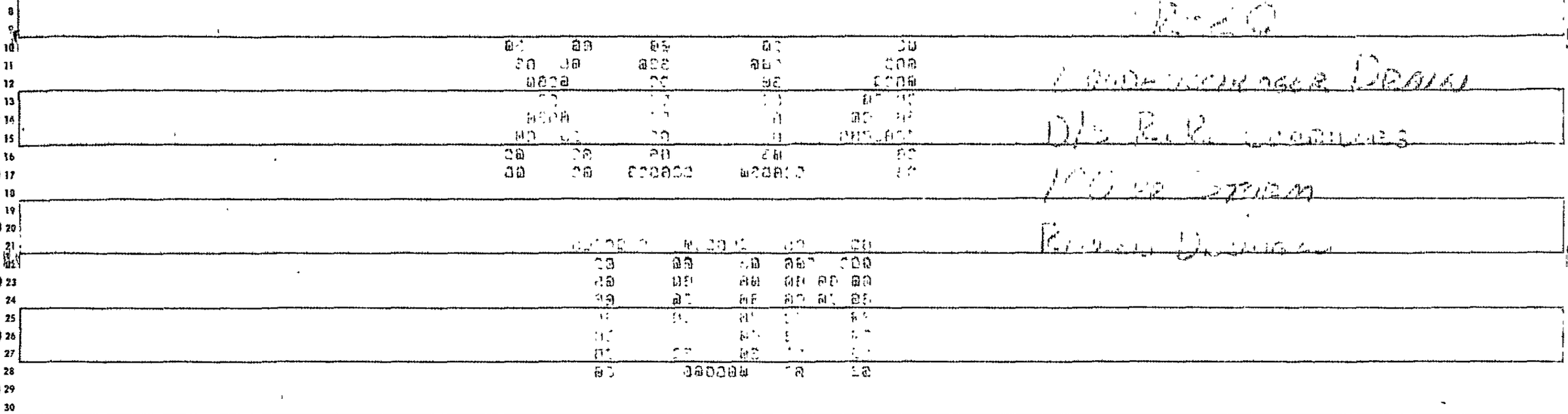
Notes

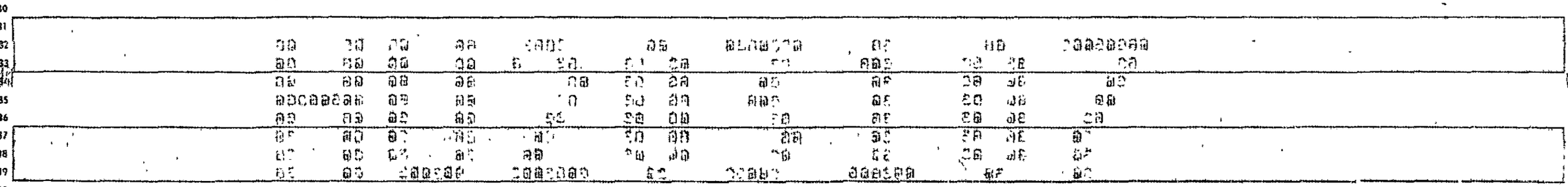
3) WATERCOURSE: Bancroft and Laudenschlager drains

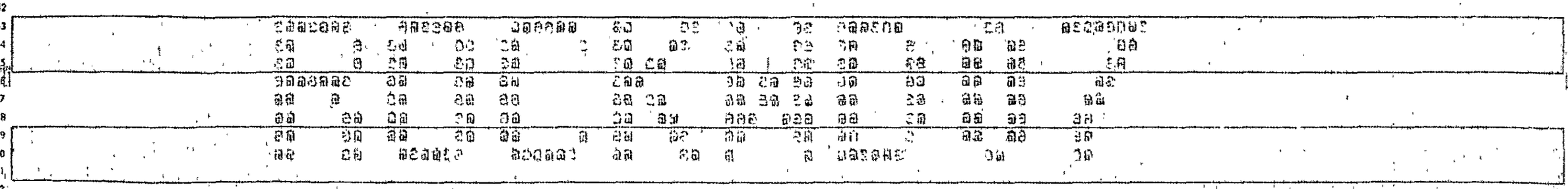
4) DOCUMENT TYPE: 100yr Storm

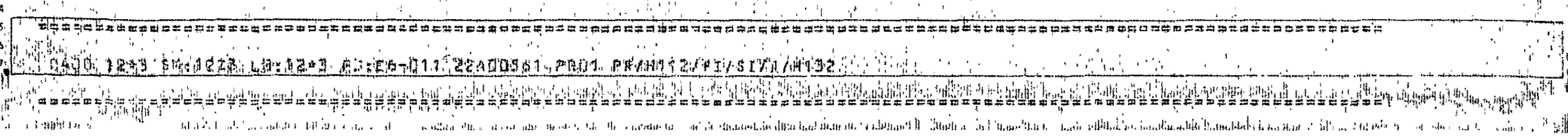
00BREAK00

14:21:32 :114 TO HU203107 (CCKU007 DEC 15, 1980









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DISCHARGE HYDROGRAPH. HYDROGRAPH LOCATION 6

STARTING TIME= 0.00 TIME INCREMENT= 0.30 DRAINAGE AREA= 0.02 BASE FLOW= 0.00

0	1.5000	10.0000	42.0000	55.0000	65.0000
0	68.0000	69.0000	70.0000	70.0000	70.0000
0	70.0000	69.0000	69.0000	67.0000	65.0000
0	57.0000	52.0000	47.0000	42.0000	38.0000
0	0.0000	0.0000	0.0000	0.0000	0.0000
0	.0000				

DISCHARGE HYDROGRAPH. HYDROGRAPH LOCATION 4

STARTING TIME= 0.00 TIME INCREMENT= 0.00 DRAINAGE AREA= 0.02 BASE FLOW= 0.00

0	0.0000	10.0000	28.0000	35.0000	40.0000
0	41.0000	42.0000	43.0000	44.0000	45.0000
0	44.0000	43.0000	41.0000	40.0000	39.0000
0	37.0000	33.0000	30.0000	27.0000	25.0000
0	0.0000	0.0000	0.0000	0.0000	0.0000
0	.0000				

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EXECUTIVE CONTROL CARD OPERATION LIST

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LISTING OF DATA IN CORE

ID  C:\UDSW$$VL4GLF.DAT;1

                    VELOCITY INCREMENT
1 CTABLE                0.2000

 8                  0.0000    0.0050    0.1950    0.3350    0.3700
 8                  0.3750    0.4150    0.4500    0.4900    0.5100
 8                  0.5450    0.5750    0.5900    0.6150    0.6250
 8                  0.6500    0.6600    0.6700    0.6900    0.7000
 8                  0.7100    0.7200    0.7300    0.7400    0.7500
 8                  0.7600    0.7700    0.7800    0.7900    0.7950
 8                  0.7980    0.8000    0.8020    0.8040    0.8060
 8                  0.8080    0.8100    0.8120    0.8140    0.8160
 8                  0.8180    0.8200    0.8220    0.8240    0.8260
 8                  0.8280    0.8300    0.8320    0.8340    0.8360
 8                  0.8380    0.8400    0.8420    0.8440    0.8460
 8                  0.8480    0.8500    0.8520    0.8540    0.8560
 8
```

8		0.4700	0.6600	0.8200	0.9500	0.9900
8		1.0000	0.9900	0.9300	0.8600	0.7800
8		0.6800	0.5630	0.4600	0.3900	0.3300
8		0.2800	0.2410	0.2070	0.1740	0.1470
8		0.1200	0.1070	0.0910	0.0770	0.0650
8		0.0550	0.0470	0.0400	0.0340	0.0290
8		0.0250	0.0210	0.0180	0.0150	0.0130
8		0.0110	0.0090	0.0080	0.0070	0.0060
8		0.0050	0.0040	0.0030	0.0020	0.0010
8		0.0000	0.0000	0.0000	0.0000	0.0000

COMPUTED PEAK FACTOR = 4.50

TIME INCREMENT
0.4307

8		0.0000	0.0060	0.0170	0.0260	0.0350
8		0.0450	0.0550	0.0650	0.0760	0.0870
8		0.0990	0.1120	0.1250	0.1400	0.1560
8		0.1740	0.1940	0.2160	0.2430	0.2730
8		0.3060	0.3430	0.3850	0.4340	0.4900
8		0.5540	0.6250	0.7050	0.7960	0.8980
8		0.1000	0.1140	0.1300	0.1480	0.1690
8		0.1930	0.2200	0.2510	0.2860	0.3260
8		0.3720	0.4240	0.4830	0.5500	0.6260
8		0.7130	0.8120	0.9240	1.0510	1.1960
8		0.1360	0.1550	0.1760	0.2000	0.2270
8		0.2580	0.2930	0.3330	0.3780	0.4290
8		0.4870	0.5530	0.6280	0.7130	0.8090
8		0.9180	1.0420	1.1830	1.3430	1.5240
8		0.1730	0.1960	0.2220	0.2520	0.2860
8		0.3240	0.3670	0.4160	0.4720	0.5350
8		0.6060	0.6870	0.7790	0.8830	1.0000
8		1.1320	1.2820	1.4520	1.6440	1.8600
8		0.2160	0.2440	0.2760	0.3120	0.3520
8		0.3970	0.4480	0.5060	0.5710	0.6440
8		0.7260	0.8190	0.9230	1.0400	1.1710
8		1.3170	1.4810	1.6650	1.8700	2.0980
8		0.2710	0.3050	0.3430	0.3850	0.4320
8		0.4850	0.5450	0.6120	0.6870	0.7710
8		0.8650	0.9710	1.0900	1.2230	1.3710
8		1.5350	1.7200	1.9270	2.1570	2.4120
8		0.3350	0.3760	0.4220	0.4730	0.5300
8		0.5940	0.6660	0.7460	0.8350	0.9340
8		1.0430	1.1670	1.3050	1.4580	1.6270
8		1.8120	2.0120	2.2320	2.4730	2.7360
8		0.4060	0.4550	0.5100	0.5710	0.6390
8		0.7140	0.8000	0.8950	1.0000	1.1160
8		1.2430	1.3880	1.5500	1.7290	1.9260
8		2.1410	2.3750	2.6300	2.9060	3.2030
8		0.4800	0.5370	0.6000	0.6700	0.7470
8		0.8330	0.9310	1.0400	1.1600	1.2920
8		1.4350	1.6000	1.7800	1.9750	2.1870
8		2.4170	2.6650	2.9320	3.2190	3.5270
8		0.5540	0.6170	0.6870	0.7650	0.8520
8		0.9520	1.0610	1.1810	1.3140	1.4610
8		1.6250	1.8080	2.0070	2.2230	2.4570
8		2.7090	2.9810	3.2740	3.5880	3.9240
8		0.6280	0.6980	0.7760	0.8630	0.9600
8		1.0710	1.1930	1.3270	1.4750	1.6380
8		1.8150	2.0170	2.2370	2.4750	2.7320
8		3.0080	3.3040	3.6210	3.9590	4.3180
8		0.7020	0.7800	0.8670	0.9640	1.0720
8		1.1900	1.3250	1.4750	1.6410	1.8240
8		2.0080	2.2300	2.4730	2.7360	3.0190
8		3.3220	3.6450	3.9880	4.3510	4.7340
8		0.7760	0.8620	0.9580	1.0650	1.1840
8		1.3090	1.4570	1.6210	1.8030	2.0040
8		2.2010	2.4430	2.7080	2.9950	3.3040
8		3.6360	3.9880	4.3600	4.7510	5.1610
8		0.8500	0.9440	1.0490	1.1660	1.2960
8		1.4330	1.5950	1.7750	1.9740	2.1940
8		2.4090	2.6750	2.9650	3.2790	3.6170
8		3.9790	4.3650	4.7700	5.1940	5.6360
8		0.9240	1.0260	1.1400	1.2670	1.4080
8		1.5570	1.7330	1.9290	2.1450	2.3840
8		2.6180	2.9060	3.2210	3.5620	3.9290
8		4.3220	4.7390	5.1750	5.6280	6.0980
8		0.9980	1.1080	1.2310	1.3680	1.5200
8		1.6810	1.8710	2.0830	2.3170	2.5750
8		2.8270	3.1380	3.4790	3.8460	4.2420
8		4.6650	5.1110	5.5760	6.0580	6.5570
8		1.0720	1.1900	1.3220	1.4690	1.6320
8		1.8050	2.0090	2.2370	2.4890	2.7660
8		3.0360	3.3700	3.7370	4.1330	4.5580
8		5.0080	5.4870	5.9810	6.4870	7.0030
8		1.1460	1.2720	1.4130	1.5700	1.7440
8		1.9290	2.1470	2.3910	2.6610	2.9580
8		3.2450	3.6010	3.9940	4.4180	4.8720
8		5.3520	5.8600	6.3750	6.8900	7.4020
8		1.2200	1.3540	1.5040	1.6710	1.8560
8		2.0530	2.2850	2.5440	2.8320	3.1500
8		3.4540	3.8320	4.2510	4.7010	5.1850
8		5.6960	6.2320	6.7770	7.3220	7.8600
8		1.2940	1.4350	1.5940	1.7710	1.9670
8		2.1760	2.4220	2.6970	3.0020	3.3400
8		3.6620	4.0630	4.5080	4.9870	5.5000
8		6.0400	6.6040	7.1810	7.7580	8.3280
8		1.3670	1.5160	1.6830	1.8700	2.0770
8		2.2980	2.5580	2.8480	3.1700	3.5270
8		3.8670	4.2900	4.7610	5.2660	5.8080
8		6.3770	6.9740	7.5830	8.1910	8.7910
8		1.4390	1.5960	1.7710	1.9670	2.1850
8		2.4180	2.6910	2.9960	3.3350	3.7100
8		4.0680	4.5130	5.0080	5.5420	6.1130
8		6.7100	7.3370	7.9770	8.6170	9.2490
8		1.5110	1.6760	1.8590	2.0630	2.2910
8		2.5370	2.8230	3.1430	3.4990	3.8930
8		4.2680	4.7350	5.2540	5.8170	6.4190
8		7.0410	7.6990	8.3710	9.0430	9.7060
8		1.5830	1.7560	1.9470	2.1590	2.3970
8		2.6560	2.9550	3.2900	3.6630	4.0760
8		4.4680	4.9570	5.5000	6.0920	6.7250
8		7.3710	8.0610	8.7650	9.4690	10.1720
8		1.6550	1.8360	2.0360	2.2580	2.5060
8		2.7750	3.0870	3.4370	3.8270	4.2600
8		4.6680	5.1790	5.7460	6.3670	7.0310
8		7.7010	8.4230	9.1590	9.8950	10.6310
8		1.7270	1.9160	2.1250	2.3570	2.6150
8		2.8940	3.2190	3.5850	3.9920	4.4440
8		4.8680	5.4010	5.9920	6.6420	7.3380
8		8.0310	8.7850	9.5530	10.3210	11.0890
8		1.7990	1.9960	2.2140	2.4560	2.7240
8		3.0130	3.3510	3.7330	4.1570	4.6280
8		5.0680	5.6230	6.2380	6.9170	7.6440
8		8.3610	9.1470	9.9470	10.7470	11.5470
8		1.8710	2.0760	2.3030	2.5550	2.8330
8		3.1320	3.4830	3.8810	4.3220	4.8120
8		5.2680	5.8440	6.4840	7.1920	7.9500
8		8.6910	9.5090	10.3410	11.1730	12.0050
8		1.9430	2.1560	2.3920	2.6540	2.9420
8		3.2510	3.6150	4.0290	4.4870	4.9960
8		5.4680	6.0650	6.7300	7.4670	8.2560
8		9.0210	9.8710	10.7350	11.5990	12.4630
8		2.0150	2.2360	2.4810	2.7530	3.0520
8		3.3700	3.7470	4.1770	4.6520	5.1800
8		5.6680	6.2860	6.9760	7.7420	8.5620
8		9.3510	10.2330	11.1270	12.0210	12.9150
8		2.0870	2.3160	2.5700	2.8520	3.1620
8		3.4890	3.8790	4.3250	4.8170	5.3640
8		5.8680	6.5070	7.2220	8.0170	8.8680
8		9.6810	10.5950	11.5190	12.4430	13.3670
8		2.1590	2.3960	2.6590	2.9510	3.2720
8		3.6080	4.0110	4.4730	4.9820	5.5480
8		6.0680	6.7280	7.4680	8.2920	9.1740
8		10.0110	10.9570	11.9110	12.8650	13.8190
8		2.2310	2.4760	2.7480	3.0500	3.3830
8		3.7270	4.1440	4.6220	5.1470	5.7320
8		6.2680	6.9490	7.7140	8.5670	9.4800
8		10.3410	11.3190	12.3030	13.2870	14.2710
8		2.3030	2.5560	2.8370	3.1490	3.4930
8		3.8460	4.2770	4.7720	5.3120	5.9160
8		6.4680	7.1700	7.9600	8.8420	9.7860
8		10.6710	11.6810	12.6950	13.7090	14.7230
8		2.3750	2.6360	2.9260	3.2480	3.6040
8		3.9650	4.4100	4.9220	5.4770	6.1000
8		6.6680	7.3910	8.2060	9.1170	10.0920
8		11.0010	12.0430	13.0870	14.1310	15.1750
8		2.4470	2.7160	3.0150	3.3470	3.7150
8		4.0840	4.5430	5.0720	5.6420	6.2840
8		6.8680	7.6120	8.4520	9.3920	10.3980
8		11.3310	12.4050	13.4790	14.5530	15.6270
8		2.5190	2.7960	3.1040	3.4460	3.8260
8		4.2030	4.6760	5.2220	5.8070	6.4680
8		7.0680	7.8330	8.6980	9.6670	10.7040
8		11.6610	12.7670	13.8740	14.9810	16.0870
8		2.5910	2.8760	3.1930	3.5450	3.9370
8		4.3220	4.8090	5.3720	5.9720	6.6520
8		7.2680	8.0540	8.9440	9.9420	11.0100
8		11.9910	13.1290	14.2690	15.4090	16.5490
8		2.6630	2.9560	3.2820	3.6440	4.0480
8		4.4410	4.9420	5.5220	6.1370	6.8360
8		7.4680	8.2750	9.1900	10.2170	11.3160
8		12.3210	13.4910	14.6650	15.8390	17.0130
8		2.7350	3.0360	3.3710	3.7430	4.1590
8		4.5600	5.0750	5.6720	6.3020	7.0200
8		7.6680	8.4960	9.4360	10.4920	11.6220
8		12.6510	13.8530	15.0600	16.2670	17.4740
8		2.8070	3.1160	3.4600	3.8420	4.2700
8		4.6790	5.2080	5.8220	6.4670	7.2040
8		7.8680	8.7170	9.6820	10.7670	11.9280
8		12.9810	14.2150	15.4550	16.6950	17.9350
8		2.8790	3.1960	3.5490	3.9410	4.3810
8		4.7980	5.3410	5.9720	6.6320	7.3880
8		8.0680	8.9380	9.9280	11.0420	12.2340
8		13.3110	14.5770	15.8500	17.1230	18.3960
8		2.9510	3.2760	3.6380	4.0400	4.4920
8		4.9170	5.4740	6.1220	6.7970	7.5720
8		8.2680	9.1590	10.1740	11.3170	12.5400
8		13.6410	14.9390	16.2450	17.5510	18.8570
8		3.0230	3.3560	3.7270	4.1390	4.6030
8		5.0360	5.6070	6.2720	6.9620	7.7560
8		8.4680	9.3800	10.4200	11.5920	12.8460
8		13.9710	15.3010	16.6400	17.9790	19.3180
8		3.0950	3.4360	3.8160	4.2380	4.7140
8		5.1550	5.7410	6.4220	7.1270	7.9400
8		8.6680	9.6010	10.6660	11.8670	13.1520
8		14.3010	15.6630	17.0350	18.4070	19.7790
8		3.1670	3.5160	3.9050	4.3370	4.8250
8		5.2740	5.8750	6.5720	7.2920	8.1240
8		8.8680	9.8220	10.9120	12.1420	13.4580
8		14.6310	16.0250	17.4300	18.8350	20.2400
8		3.2390	3.5960	3.9940	4.4360	4.9360
8		5.3930	6.0080	6.7220	7.4570	8.3080
8		9.0680	10.0430	11.1580	12.4170	13.7640
8		14.9610	16.3870	17.8250	19.2630	20.7010
8		3.3110	3.6760	4.0830	4.5350	5.0470
8		5.5120	6.1410	6.8720	7.6220	8.4920
8		9.2680	10.2640	11.4040	12.6920	14.0700
8		15.2910	16.7490	18.2200	19.6910	21.1620
8		3.3830	3.7560	4.1720	4.6340	5.1580
8		5.6310	6.2740	7.0220	7.7870	8.6760
8		9.4680	10.4850	11.6500	12.9670	14.3760
8		15.6210	17.1110	18.6150	20.1190	21.6230
8		3.4550	3.8360	4.2610	4.7330	5.2690
8		5.7500	6.4070	7.1720	7.9520	8.8600
8		9.6680	10.7060	11.8960	13.2420	14.6820
8		15.9510	17.4730	19.0100	20.5470	22.0840
8		3.5270	3.9160	4.3500	4.8320	5.3800
8		5.8690	6.5410	7.3220	8.1170	9.0440
8		9.8680	10.9270	12.1420	13.5170	14.9880
8		16.2810	17.8350	19.4050	20.9750	22.5450
8		3.5990	3.9960	4.4390	4.9310	5.4910
8		5.9880	6.6740	7.4720	8.2820	9.2280
8		10.0680	11.1480	12.3880	13.7920	15.2940
8		16.6110	18.1970	19.7990	21.4010	23.0030
8		3.6710	4.0760	4.5280	5.0300	5.6020
8		6.1070	6.8070	7.6220	8.4470	9.4120
8		10.2680	11.3690	12.6340	14.0670	15.6000
8		16.9410	18.5590	20.1940	21.8290	23.4640
8		3.7430	4.1560	4.6170	5.1290	5.7130
8		6.2260	6.9400	7.7720	8.6120	9.5960
8		10.4680	11.5900	12.8800	14.3420	15.9060
8		17.2710	18.9210	20.5890	22.2570	23.9250
8		3.8150	4.2360	4.7060	5.2280	5.8240
8		6.3450	7.0730	7.9220	8.7770	9.7800
8		10.6680	11.8110	13.1260	14.6170	16.2120
8		17.6010	19.2830	20.9840	22.6850	24.3860
8		3.8870	4.3160	4.7950	5.3270	5.9350
8		6.4640	7.2060	8.0720	8.9420	9.9640
8		10.8680	12.0320	13.3720	14.8920	16.5180
8		17.9310	19.6450	21.3790	23.1130	24.8470
8		3.9590	4.3960	4.8840	5.4260	6.0460
8		6.5830	7.3390	8.2220	9.1070	10.1480
8		11.0680	12.2530	13.6180	15.1670	16.8240
8		18.2610	20.0070	21.7740	23.5410	25.3080
8		4.0310	4.4760	4.9730	5.5250	6.1570
8		6.7020	7.4720	8.3720	9.2720	10.3320
8		11.2680	12.4740	13.8640	15.4420	17.1300
8		18.5910	20.3690	22.1690	23.9690	25.7690
8		4.1030	4.5560	5.0630	5.6240	6.2680
8		6.8210	7.6050	8.5220	9.4370	10.5160
8		11.4680	12.6950	14.1100	15.7170	17.4360
8		18.9210	20.7310	22.5640	24.3970	26.2300
8		4.1750	4.6360	5.1520	5.7230	6.3790
8		6.9400	7.7380	8.6720	9.6020	10.7000
8		11.6680	12.9160	14.3560	15.9920	17.7420
8		19.2510	21.0930	22.9590	24.8250	26.6910
8		4.2470	4.7160	5.2420	5.8220	6.4900
8		7.0590	7.8710	8.8220	9.7670	10.8840
8		11.8680	13.1370	14.6020	16.2670	18.0480
8		19.5810	21.4550	23.3540	25.2530	27.1520
8		4.3190	4.7960	5.3310	5.9210	6.6010
8		7.1780	8.0040	8.9720	9.9320	11.0680
8		12.0680	13.3580	14.8480	16.5420	18.3540
8		19.9110	21.8170	23.7490	25.6810	27.6130
8		4.3910	4.8760	5.4210	6.0200	6.7120
8		7.2970	8.1370	9.1220	10.0970	11.2520
8		12.2680	13.5790	15.0940	16.8170	18.6600
8		20.2410	22.1790	24.1440	26.1090	28.0740
8		4.4630	4.9560	5.5110	6.1190	6.8230
8		7.4160	8.2700	9.2720	10.2620	11.4360
8		12.4680	13.8000	15.3400	17.0920	18.9660
8		20.5710	22.5410	24.5390	26.5370	28.5350
8		4.5350	5.0360	5.6010	6.2180	6.9340
8		7.5350	8.4030	9.4220	10.4270	11.6200
8		12.6680	14.0210	15.5860	17.3670	19.2720
8		20.9010	22.9030	24.9340	26.9650	28.9960
8		4.6070	5.1160	5.6910	6.3170	7.0450
8		7.6540	8.5360	9.5720	10.5920	11.8040
8		12.8680	14.2420	15.8320	17.6420	19.5780
8		21.2310	23.2650	25.3290	27.3930	29.4570
8		4.6790	5.1960	5.7810	6.4170	7.1570
8		7.7730	8.6690	9.7220	10.7570	11.9880
8		13.0680	14.4630	16.0780	17.9170	19.8840
8		21.5610	23.6270	25.7240	27.8210	29.9180
8		4.7510	5.2760	5.8710	6.5160	7.2690
8		7.8920	8.8020	9.8720	10.9220	12.1720
8		13.2680	14.6840	16.3240	18.1920	20.1900
8		21.8910	23.9890	26.1190	28.2490	30.3790
8		4.8230	5.3560	5.9610	6.6150	7.3800
8		8.0110	8.9350	10.0220	11.0870	12.3560
8		13.4680	14.9050	16.5700	18.4670	20.4960
8		22.2210	24.3510	26.5140	28.6770	30.8400
8		4.8950	5.4360	6.0510	6.7140	7.4920
8		8.1300	9.0680	10.1720	11.2520	12.5400
8		13.6680	15.1260	16.8160	18.7420	20.8020
8		22.5510	24.7130	26.9090	29.1050	31.3010
8		4.9670	5.5160	6.1410	6.8140	7.6030
8		8.2490	9.2010	10.3220	11.4170	12.7240
8		13.8680	15.3470	17.0620	19.0170	21.1080
8		22.8810	25.0750	27.3040	29.5330	31.7620
8		5.0390	5.5960	6.2310	6.9130	7.7150
8		8.3680	9.3340	10.4720	11.5820	12.9080
8		14.0680	15.5680	17.3080	19.2920	21.4140
8		23.2110	25.4370	27.6990	29.9610	32.2230
8		5.1110	5.6760	6.3210	7.0120	7.8270
8		8.4870	9.4670	10.6220	11.7470	13.0920
8		14.2680	15.7890	17.5540	19.5670	21.7200
8		23.5410	25.7990	28.0940	30.3890	32.6840
8		5.1830	5.7560	6.4110	7.1110	7.9390
8		8.6050	9.6000	10.7720	11.9120	13.2760
8		14.4680	16.0100	17.8000	19.8420	22.0260
8		23.8710	26.1610	28.4890	30.8170	33.1450
8		5.2550	5.8360	6.5010	7.2100	8.0510
8		8.7240	9.7330	10.9220	12.0770	13.4600
8		14.6680	16.2310	18.0460	20.1170	22.3320
8		24.2010	26.5230	28.8840	31.2450	33.6060
8		5.3270	5.9160	6.5910	7.3090	8.1630
8		8.8430	9.8660	11.0720	12.2420	13.6440
8		14.8680	16.4520	18.2920	20.3920	22.6380
8		24.5310	26.8850	29.2790	31.6730	34.0670
8		5.3990	5.9960	6.6810	7.4080	8.2750
8		8.9610	9.9990	11.2220	12.4070	13.8280
8		15.0680	16.6730	18.5380	20.6670	22.9440
8		24.8610	27.2470	29.6740	32.1010	34.5280
8		5.4710	6.0760	6.7710	7.5070	8.3870
8		9.0800	10.1320	11.3720	12.5720	14.0120
8		15.2680	16.8940	18.7840	20.9420	23.2500
8		25.1910	27.6090	30.0690	32.5290	34.9890
8		5.5430	6.1560	6.8610	7.6060	8.4990
8		9.1990	10.2650	11.5220	12.7370	14.1960
8		15.4680	17.1150	19.0300	21.2170	23.5560
8		25.5210	27.9710	30.4640	32.9570	35.4500
8		5.6150	6.2360	6.9510	7.7050	8.6110
8		9.3180	10.3980	11.6720	12.9020	14.3800
8		15.6680	17.3360	19.2760	21.4920	23.8620
8		25.8510	28.3330	30.8590	33.3850	35.9110
8		5.6870	6.3160	7.0410	7.8040	8.7230
8		9.4370	10.5310	11.8220	13.0670	14.5640
8		15.8680	17.5570	19.5220	21.7670	24.1680
8		26.1810	28.6950	31.2540	33.8130	36.3720
8		5.7590	6.3960	7.1310	7.9030	8.8350
8		9.5560	10.6640	11.9720	13.2320	14.7480
8		16.0680	17.7780	19.7680	22.0420	24.4740
8		26.5110	29.0570	31.6490	34.2410	36.8330
8		5.8310	6.4760	7.2210	8.0020	8.9470
8		9.6750	10.7970	12.1220	13.3970	14.9320
8		16.2680	17.9990	20.0140	22.3170	24.7800
8		26.8410	29.4190	32.0440	34.6690	37.2940
8		5.9030	6.5560	7.3110	8.1010	9.0590
8		9.7940	10.9300	12.2720	13.5620	15.1160
8		16.4680	18.2200	20.2600	22.5920	25.0860
8		27.1710	29.7810	32.4390	35.0970	37.7550
8		5.9750	6.6360	7.4010	8.2000	9.1710
8		9.9130	11.0630	12.4220	13.7270	15.2990
8		16.6680	18.4410	20.5060	22.8670	25.3920
8		27.5010	30.1430	32.8340	35.5250	38.2160
8		6.0470	6.7160	7.4910	8.2990	9.2830
8		10.0320	11.1960	12.5720	13.8920	15.4830
8		16.8680	18.6620	20.7520	23.1420	25.6980
8		27.8310	30.5050	33.2290	35.9530	38.6770
8		6.1190	6.7960	7.5810	8.3980	9.3950
8		10.1510	11.3290	12.7220	14.0570	15.6670
8		17.0680	18.8830	20.9980	23.4170	26.0040
8		28.1610	30.8670	33.6240	36.3810	39.1380
8		6.1910	6.8760	7.6710	8.4970	9.5070
8		10.2700	11.4620	12.8720	14.2220	15.8510
8		17.2680	19.1040	21.2440	23.6920	26.3100
8		28.4910	31.2290	34.0190	36.8090	39.5990
8		6.2630	6.9560	7.7610	8.5960	9.6190
8		10.3890	11.5950	13.0220	14.3870	16.0350
8		17.4680	19.3250	21.4900	23.9670	26.6160
8		28.8210	31.5910	34.4140	37.2370	40.0600
8		6.3350	7.0360	7.8510	8.6950	9.7310
8		10.5080	11.7280	13.1720	14.5520	16.2190
8		17.6680	19.5460	21.7360	24.2420	26.9220
8		29.1510	31.9530	34.8090	37.6650	40.5210
8		6.4070	7.1160	7.9410	8.7940	9.8430
8		10.6270	11.8610	13.3220	14.7170	16.4030
8		17.8680	19.7670	21.9820	24.5170	27.2280
8		29.4810	32.3150	35.2040	38.0930	40.9820
8		6.4790	7.1960	8.0310	8.8930	9.9550
8		10.7460	11.9940	13.4720	14.8820	16.5870
8		18.0680	19.9880	22.2280	24.7920	27.5

```
5 REACH   3   1   4     5    4000.0000        0.3000        3.00001 1 3 1 0 1
6 RUNOFF  1   1         6       0.2000       77.3000        3.42001 1 0 1 0 1
5 ADDHYD  4   1   5   6   7                                    1 1 0 1 0 1
6 SAVHOW  5   1   7   2
5 REACH   3   2   4     5    3250.0000        0.0050        0.50001 1 0 1 0 0
5 RUNOFF  1   2         6       0.1400       77.0000        6.40001 1 0 1 0 0
5 ADDHYD  4   2   5   3   7                                    1 1 0   0 0
6 SAVHOW  5   2   2     6
6 ADDHYD  4   2   7   6   5                                    1 1 1 1 2 0
ENDATA
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END OF LISTING

EXECUTIVE CONTROL CARD — OPTION= 1 CODE= — HEAD LOSS INCREMENT= 0.01

EXECUTIVE CONTROL CARD — OPTION= CONTINUE — MAIN ASSEMBLY/STREET 1/ — TO ASSETS/STRUCT 2/ 0

STARTING TIME= 0.00 — RAIN DEPTH= 3.65 — RAIN DURATION= 1.00 — RAIN TABLE NO.= 1 — SOIL CONDITION= 2

ALTERNATE NO.= 2 — STORM NO.= 1

SUBROUTINE PLOT — CROSS SECTION 1

LENGTH= 3000.00 — INPUT CODE/SLOPE= 0.00 0 — SLOPE/ROUGH= 0.10

AVERAGE WATER VELOCITY= 1.773 — AVERAGE ROUTING COEFF= 0.5112 — NUMBER OF ROUTINGS= 1.00

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
24.20	72.052	961.50

TIME — HYDROGRAPH, TZERO= 0.00 — DELTA T= 0.20 — DRAINAGE AREA= 2.52

9.00	DISCHG	1.50	1.50	1.72	2.45	3.57	4.93	6.43	8.01	9.62	11.25
11.00	DISCHG	12.89	14.56	16.28	18.26	20.42	22.69	25.02	27.39	29.77	32.16
13.00	DISCHG	34.56	36.95	39.21	41.12	42.77	44.26	45.66	47.01	48.34	49.65
15.00	DISCHG	50.96	52.26	53.52	54.69	55.79	56.84	57.87	58.86	59.89	60.89
17.00	DISCHG	61.85	62.80	63.82	64.87	65.92	65.44	65.50	66.14	66.45	66.76
19.00	DISCHG	67.07	67.37	67.64	67.85	68.02	68.15	68.27	68.38	68.49	68.59
21.00	DISCHG	68.69	68.79	68.89	68.99	69.09	69.19	69.29	69.39	69.49	69.59
23.00	DISCHG	69.69	69.79	69.88	69.93	69.96	69.98	69.99	70.00	70.00	70.00
25.00	DISCHG	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
27.00	DISCHG	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
29.00	DISCHG	70.00	70.00	69.99	69.94	69.87	69.79	69.70	69.61	69.51	69.41
31.00	DISCHG	69.31	69.21	69.12	69.07	69.04	69.02	69.01	69.00	69.00	69.00
33.00	DISCHG	69.00	69.00	68.97	68.89	68.75	68.59	68.40	68.21	68.02	67.82
35.00	DISCHG	67.62	67.42	67.22	67.02	66.82	66.62	66.42	66.22	66.02	65.82
37.00	DISCHG	65.62	65.42	65.15	64.75	64.19	63.50	62.93	62.25	61.56	60.87
39.00	DISCHG	60.17	59.47	58.79	58.13	57.50	56.86	56.27	55.67	55.07	54.46
41.00	DISCHG	53.86	53.26	52.60	52.02	51.50	51.07	50.56	50.06	49.55	49.05
43.00	DISCHG	48.55	48.05	47.57	47.11	46.68	46.26	45.85	45.45	45.04	44.64
45.00	DISCHG	44.24	43.84	43.30	42.41	41.26	39.96	38.56	37.11	35.63	34.15
47.00	DISCHG	32.65	31.16	29.56	27.76	25.78	23.70	21.57	19.40	17.22	15.02
49.00	DISCHG	12.83	10.63	8.66	7.21	6.16	5.37	4.71	4.13	3.59	3.07
51.00	DISCHG	2.56	2.06	1.61	1.30	1.09	0.95	0.84	0.75	0.67	0.59
53.00	DISCHG	0.52	0.45	0.39	0.34	0.31	0.29	0.28	0.26	0.25	0.24
55.00	DISCHG	0.23	0.22	0.21	0.20	0.19	0.16	0.17	0.16	0.15	0.14
57.00	DISCHG	0.13	0.12	0.10	0.06	0.04	0.02	0.01	0.00		

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.3574 — CFS-HRS= 2207.57 — ACRE-FT= 182.43

SUBROUTINE RUNOFF — CROSS SECTION 1

AREA= 0.28 — INPUT RUNOFF CURVE= 77.0 — TIME OF CONCENTRATION= 3.40

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FORM 1411-09-PRINTED BY ROTARY MANIFOLD FORMS.

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
12.26	53.837	(RUNOFF)

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 0.28

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.03	0.05	0.11	0.17	0.24	0.39
8.00	DISCHG	0.56	0.73	1.04	1.36	1.75	2.35	2.94	4.04	5.99	7.93
10.00	DISCHG	10.87	14.97	19.06	24.02	29.61	35.33	40.11	44.37	48.62	50.88
12.00	DISCHG	52.34	53.60	55.66	52.68	51.67	49.92	47.77	45.65	43.60	41.55
14.00	DISCHG	29.53	27.06	26.42	34.01	33.14	32.27	31.14	32.00	29.09	26.00
16.00	DISCHG	27.12	25.42	25.01	24.82	23.54	23.27	22.60	22.07	21.53	21.03
18.00	DISCHG	20.53	20.06	19.66	19.23	18.85	18.40	18.11	17.78	17.46	17.14
20.00	DISCHG	15.06	16.56	16.30	16.04	15.77	15.51	15.28	15.05	14.82	14.63
22.00	DISCHG	14.43	14.24	14.07	13.89	13.73	13.60	13.46	13.33	13.21	13.08
24.00	DISCHG	12.94	12.81	12.66	12.16	11.72	11.33	10.72	10.52	9.55	8.56
26.00	DISCHG	7.77	6.57	5.41	5.43	4.30	4.25	3.67	3.12	1.76	2.35
28.00	DISCHG	1.36	1.21	1.07	1.32	1.31	1.02	0.89	0.71	0.56	0.57
30.00	DISCHG	0.50	0.43	0.37	0.32	0.28	0.24	0.21	0.10	0.15	0.13
32.00	DISCHG	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.03	0.03	0.02
34.00	DISCHG	0.02	0.01	0.01	0.00						

TOTAL ATEA= 11 INCHES OR DRAINAGE AREA= 1.2[illegible] CFS-HRS= 412.43 ACRE-FT= 34.17

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

PEAK TIME	PEAK DISCHARGE	PEAK ELEVATIONS
12.02	14.30	581.19
17.99	45.552	581.22

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.80

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.05	0.05	0.11	0.17	0.24	0.39
8.00	DISCHG	0.56	0.73	1.04	1.36	1.75	2.35	4.46	5.54	7.71	10.38
10.00	DISCHG	14.46	19.90	25.51	32.03	39.30	46.58	53.00	58.90	64.91	69.14
12.00	DISCHG	72.76	74.49	78.48	80.05	81.64	82.06	82.35	82.60	82.81	82.87
14.00	DISCHG	82.31	82.24	82.00	81.92	81.98	82.02	82.10	82.34	82.54	82.69
16.00	DISCHG	82.91	83.07	83.27	83.36	83.03	84.17	84.57	84.97	85.33	85.53
18.00	DISCHG	85.55	85.52	85.46	85.37	85.30	85.24	85.17	85.15	85.10	85.00
20.00	DISCHG	84.88	84.73	84.57	84.42	84.28	84.10	83.97	83.84	83.71	83.62
22.00	DISCHG	83.52	83.43	83.36	83.26	83.22	83.19	83.15	83.12	83.08	83.02
24.00	DISCHG	82.88	82.69	82.49	82.16	81.74	81.32	80.72	80.02	79.53	78.56
26.00	DISCHG	77.77	76.97	76.24	75.52	74.80	74.23	73.67	73.12	72.76	72.39
28.00	DISCHG	72.04	71.80	71.57	71.34	71.18	71.02	70.88	70.77	70.65	70.51
30.00	DISCHG	70.37	70.22	70.07	69.93	69.78	69.65	69.52	69.39	69.28	69.20
32.00	DISCHG	69.15	69.11	69.09	69.07	69.06	69.05	69.04	69.03	69.00	68.90
34.00	DISCHG	68.76	68.59	68.41	68.21	68.02	67.82	67.62	67.42	67.22	67.02
36.00	DISCHG	66.82	66.62	66.42	66.22	66.02	65.82	65.62	65.42	65.15	64.73
38.00	DISCHG	64.19	63.58	62.93	62.25	61.56	60.87	60.17	59.47	58.79	58.13
40.00	DISCHG	57.50	56.88	56.27	55.67	55.07	54.46	53.86	53.26	52.68	52.12
42.00	DISCHG	51.59	51.07	50.56	50.06	49.55	49.05	48.55	48.05	47.57	47.11
44.00	DISCHG	46.63	46.26	45.85	45.45	45.04	44.64	44.24	43.84	43.30	42.41
46.00	DISCHG	41.26	39.96	38.56	37.11	35.63	34.15	32.65	31.16	29.56	27.76
48.00	DISCHG	25.78	23.70	21.57	19.40	17.22	15.02	12.83	10.63	8.66	7.21
50.00	DISCHG	6.16	5.37	4.71	4.13	3.69	3.07	2.56	2.08	1.69	1.30
52.00	DISCHG	1.09	0.96	0.84	0.73	0.67	0.56	0.52	0.45	0.39	0.34
54.00	DISCHG	0.31	0.29	0.28	0.26	0.25	0.24	0.23	0.22	0.21	0.20
56.00	DISCHG	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.10	0.06
58.00	DISCHG	0.04	0.02	0.01	0.00						

PRINTED IN U.S.A.

FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.4505 CFS-HRS= 2021.11 ACRE-FT= 216.61

SUBROUTINE SAVOV CROSS SECTION 1
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 2

SUBROUTINE REACH CROSS SECTION 2
LENGTH= 3250.00 INPUT COEFFICIENT= 0.3000 INPUT ROUTINGS= 3.00

AVERAGE WATER VELOCITY= 1.51 AVERAGE ROUTING COEFF= 0.1164 NUMBER OF ROUTINGS= 2.24

PEAK TIMES: 29.53 PEAK DISCHARGES: 44.363 PEAK ELEVATIONS: 561.41

TIME		HYDROGRAPH, TZERO= 0.00			DELTA T= 0.20			DRAINAGE AREA= 2.52			
5.00	DISCHG	0.20	0.00	0.00	0.01	0.04	0.10	0.22	0.36	0.36	0.32
11.00	DISCHG	1.15	1.33	1.07	2.07	1.04	4.15	4.43	5.19	6.07	7.15
13.00	DISCHG	8.06	9.17	10.35	11.58	12.85	14.14	15.43	16.71	17.97	19.21
15.00	DISCHG	20.41	21.57	22.70	23.80	24.85	25.86	26.86	27.77	28.66	29.52
17.00	DISCHG	30.34	31.13	31.89	32.61	33.31	33.96	34.50	35.16	35.71	36.21
19.00	DISCHG	36.66	37.11	37.52	37.92	38.28	38.58	38.84	39.07	39.28	39.46
21.00	DISCHG	39.77	39.97	40.12	40.24	40.34	40.42	40.52	40.59	40.70	40.84
23.00	DISCHG	40.97	41.08	41.23	41.33	41.43	41.47	41.58	42.19	42.30	42.41
25.00	DISCHG	42.51	42.62	42.73	42.83	42.93	43.04	43.14	43.24	43.34	43.45
27.00	DISCHG	43.55	43.65	43.75	43.75	43.94	44.03	44.13	44.18	44.24	44.29
29.00	DISCHG	44.33	44.35	44.36	44.36	44.35	44.34	44.31	44.27	44.23	44.18
31.00	DISCHG	44.13	44.09	44.00	43.93	43.86	43.79	43.70	43.60	43.48	43.37
33.00	DISCHG	43.25	43.13	42.99	42.85	42.70	42.55	42.41	42.26	42.11	41.97
35.00	DISCHG	41.83	41.69	41.54	41.42	41.25	41.10	40.95	40.91	40.79	40.67
37.00	DISCHG	40.56	40.44	40.33	40.22	40.11	39.99	39.87	39.75	39.63	39.49
39.00	DISCHG	39.36	39.21	39.07	38.91	38.75	38.59	38.41	38.23	38.03	37.83
41.00	DISCHG	37.62	37.40	37.17	36.94	36.70	36.45	36.20	35.94	35.67	35.41
43.00	DISCHG	35.15	34.88	34.58	34.32	34.02	33.73	33.45	33.16	32.87	32.57
45.00	DISCHG	32.26	31.99	31.69	31.43	31.09	30.76	30.41	30.04	29.64	29.20
47.00	DISCHG	28.74	28.25	27.74	27.18	26.58	25.93	25.21	24.42	23.56	22.62
49.00	DISCHG	21.61	20.52	19.37	18.17	16.94	15.70	14.48	13.30	12.16	11.07
51.00	DISCHG	10.05	9.09	8.19	7.36	6.58	5.88	5.23	4.64	4.11	3.63
53.00	DISCHG	3.20	2.82	2.47	2.17	1.90	1.66	1.45	1.27	1.10	0.96
55.00	DISCHG	0.84	0.73	0.63	0.55	0.47	0.41	0.36	0.31	0.27	0.23
57.00	DISCHG	0.20	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05
59.00	DISCHG	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01
61.00	DISCHG	0.01	0.01	0.00							

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.8469 CFS-HRS= 1374.01 ACRE-FT= 113.55

SUBROUTINE RUNOFF CROSS SECTION 3
AREA= 0.14 INPUT RUNOFF CURVE= 77.0 TIME OF CONCENTRATION= 4.40

PEAK TIMES: 12.96 PEAK DISCHARGES: 22.839 PEAK ELEVATIONS (RUNOFF)

TIME		HYDROGRAPH, TZERO= 0.00			DELTA T= 0.20			DRAINAGE AREA= 0.14			
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.05	0.08	0.13
8.00	DISCHG	0.18	0.23	0.32	0.45	0.58	0.71	1.10	1.56	2.06	2.58
10.00	DISCHG	3.76	4.89	6.08	7.39	9.20	11.02	12.03	14.37	16.22	17.86
12.00	DISCHG	19.51	20.56	21.31	22.06	22.00	22.83	22.77	22.71	22.58	22.00
14.00	DISCHG	21.41	21.02	20.20	19.59	18.80	18.19	17.49	16.94	16.39	15.84
16.00	DISCHG	15.27	14.82	14.28	13.88	13.44	13.04	12.69	12.53	12.31	12.00

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18.00	DISCHG	11.53	11.29	11.04	10.78	10.52	10.29	10.08	9.87	9.66	9.48
20.00	DISCHG	9.30	9.12	8.94	8.79	8.64	8.48	8.34	8.21	8.07	7.94
22.00	DISCHG	7.82	7.71	7.59	7.48	7.38	7.29	7.19	7.10	7.00	6.91
24.00	DISCHG	6.82	6.71	6.58	6.45	6.32	6.14	5.93	5.71	5.49	5.21
26.00	DISCHG	4.91	4.60	4.30	3.99	3.67	3.36	3.08	2.79	2.52	2.25
28.00	DISCHG	2.00	1.83	1.62	1.44	1.24	1.17	1.05	0.92	0.84	0.76
30.00	DISCHG	1.69	1.60	1.54	1.45	1.34	1.19	0.36	0.31	0.23	0.25
32.00	DISCHG	0.22	0.20	0.17	0.16	0.14	0.13	0.11	0.10	0.09	0.08
34.00	DISCHG	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02
36.00	DISCHG	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00		

TOTAL RATE, IN INCHES ON DRAINAGE AREA= 0.2978 CFS-HRS= 226.56 ACRE-FT= 12.00

SUBROUTINE ADDHYD CROSS SECTION 2
INPUT HYDROGRAPHS= 5,6 OUTPUT HYDROGRAPH= 7

DUE TO STORAGE OVERFLOW, TIE OUT OF HYDROGRAPHS 2 AND 5 WAS TRUNCATED HERE TO 30% OF OBS.

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
24.11	46.679	361.48

TIME		HYDROGRAPH, TOTAL= 0.30				PLAN TW= 0.2			BASIN AREA= 2.66		
0.00	DISCHG	0.30	0.30	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.30	0.30	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.05	0.08	0.13
8.00	DISCHG	0.18	0.25	0.32	0.45	0.58	0.71	1.10	1.56	2.06	2.56
10.00	DISCHG	3.76	4.95	6.27	7.74	9.32	11.07	13.08	15.10	17.12	20.36
12.00	DISCHG	23.53	25.94	28.71	27.25	31.63	29.53	40.83	31.06	32.93	33.51
14.00	DISCHG	34.20	31.96	33.03	36.25	31.27	47.31	37.89	22.51	39.10	39.64
16.00	DISCHG	40.22	40.78	41.31	41.79	42.30	42.78	43.23	43.65	44.10	44.51
18.00	DISCHG	44.89	45.26	45.62	45.94	46.22	46.50	46.76	46.98	47.16	47.35
20.00	DISCHG	47.51	47.64	47.76	47.87	47.96	48.04	48.11	48.18	48.24	48.28
22.00	DISCHG	48.33	48.37	48.41	48.45	48.49	48.52	48.56	48.59	48.62	48.64
24.00	DISCHG	48.67	48.66	48.66	48.64	48.62	48.59	48.44	48.31	48.22	48.04
26.00	DISCHG	47.86	47.64	47.44	47.23	47.02	46.80	46.62	46.44	46.27	46.10
28.00	DISCHG	45.97	45.86	45.75	45.62	45.53	45.46	45.37	45.27	45.20	45.12
30.00	DISCHG	45.03	44.93	46.85	46.76	44.67	44.57	44.48	44.38	44.28	44.18
32.00	DISCHG	46.08	43.97	43.80	63.75	43.63	63.50	63.36	43.22	43.08	42.93
34.00	DISCHG	42.77	42.62	42.46	42.31	42.15	42.01	41.86	41.71	41.57	41.44
36.00	DISCHG	41.30	41.17	41.05	40.92	40.80	40.69	40.56	40.46	40.33	40.22
38.00	DISCHG	40.11	39.99	39.87	39.75	39.63	39.49	39.36	39.21	39.07	38.91
40.00	DISCHG	38.75	38.59	38.41	38.23	38.03	37.83	37.62	37.40	37.17	36.94
42.00	DISCHG	36.70	36.45	36.20	35.94	35.67	35.41	35.13	34.86	34.58	34.30
44.00	DISCHG	34.02	33.73	33.45	33.16	32.87	32.57	32.28	31.99	31.69	31.40
46.00	DISCHG	31.09	30.76	30.41	30.04	29.64	29.20	28.74	28.25	27.74	27.18
48.00	DISCHG	26.58	25.93	25.21	24.42	23.58	22.62	21.61	20.52	19.37	18.17
50.00	DISCHG	16.94	15.70	14.48	13.30	12.16	11.07	10.05	9.09	8.19	7.36
52.00	DISCHG	6.58	5.88	5.23	4.64	4.11	3.63	3.20	2.82	2.47	2.17
54.00	DISCHG	1.90	1.66	1.45	1.27	1.10	0.96	0.84	0.73	0.63	0.55
56.00	DISCHG	0.47	0.41	0.36	0.31	0.27	0.23	0.20	0.17	0.15	0.13
58.00	DISCHG	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 0.9208 CFS-HRS= 1380.64 ACRE-FT= 130.62

SUBROUTINE SAVROV CROSS SECTION 2
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 4

SUBROUTINE ADDHYD CROSS SECTION 2
INPUT HYDROGRAPHS= 7,6 OUTPUT HYDROGRAPH= 5

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PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
20.08	132.389	502.79
28.28	131.710	502.78

HYDROGRAPH, TZERO= 0.00 DELTA T= 0.25 DRAINAGE AREA= 5.46

TIME											
0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.00	DISCHG	0.00	0.00	0.00	0.02	0.04	0.07	0.15	0.22	0.32	0.52
8.00	DISCHG	0.72	0.96	1.36	1.81	2.53	3.06	5.54	7.12	9.76	12.93
10.00	DISCHG	13.17	20.19	37.78	58.97	48.06	51.42	56.90	75.01	87.10	85.47
12.00	DISCHG	93.[illegible]	102.[illegible]	104.12	107.37	110.92	1[illegible].80	113.16	114.62	115.74	116.25
14.00	DISCHG	116.[illegible]	117.[illegible]	117.[illegible]	118.11	111.75	119.33	120.00	120.[illegible]	121.53	122.34
16.00	DISCHG	123.13	123.16	124.53	125.35	126.16	126.95	127.80	128.62	129.43	130.04
18.00	DISCHG	130.46	130.73	131.58	131.31	131.32	131.76	131.93	132.12	132.27	132.35
20.00	DISCHG	132.39	132.36	132.33	132.29	132.22	132.14	132.08	132.02	131.95	131.90
22.00	DISCHG	131.[illegible]	131.[illegible]	131.77	131.73	131.71	131.71	131.71	131.71	131.70	131.66
24.00	DISCHG	131.[illegible]	131.[illegible]	131.[illegible]	130.80	130.56	129.[illegible]	129.16	128.56	127.55	126.60
26.00	DISCHG	125.[illegible]	124.[illegible]	123.06	122.75	121.[illegible]	121.[illegible]	12[illegible].[illegible]	115.36	116.03	116.50
28.00	DISCHG	119.01	117.66	117.31	116.96	116.72	116.49	116.25	116.04	115.85	115.63
30.00	DISCHG	115.40	115.16	114.92	114.69	114.45	114.22	113.99	113.77	113.55	113.38
32.00	DISCHG	113.23	113.09	112.95	112.82	112.68	112.55	112.40	112.25	112.08	111.83
34.00	DISCHG	111.[illegible]	111.[illegible]	111.[illegible]	111.52	111.17	110.[illegible]	110.[illegible]	109.14	108.[illegible]	108.48
36.00	DISCHG	1[illegible].[illegible]	1[illegible].[illegible]	1[illegible].47	107.16	106.[illegible]	106.10	106.[illegible]	105.[illegible]	105.49	104.95
38.00	DISCHG	1[illegible].[illegible]	1[illegible].[illegible]	1[illegible].[illegible]	102.[illegible]	1[illegible].[illegible]	100.36	99.[illegible]	98.[illegible]	97.85	97.06
40.00	DISCHG	96.25	95.47	94.[illegible]	93.90	93.10	92.30	91.48	90.66	89.85	89.06
42.00	DISCHG	88.29	87.52	86.76	86.00	85.25	84.46	83.69	82.91	82.15	81.41
44.00	DISCHG	80.70	79.99	79.30	78.60	77.91	77.22	76.52	75.83	74.99	73.81
46.00	DISCHG	72.[illegible]	70.71	68.[illegible]	67.14	65.[illegible]	63.[illegible]	62.40	59.[illegible]	57.[illegible]	56.[illegible]
48.00	DISCHG	52.30	49.[illegible]	48.[illegible]	47.[illegible]	46.[illegible]	47.64	47.46	34.19	28.03	25.[illegible]
50.00	DISCHG	23.10	21.07	19.[illegible]	17.[illegible]	16.[illegible]	16.15	12.81	11.19	9.00	8.60
52.00	DISCHG	7.68	6.82	6.07	5.39	4.78	4.22	3.72	3.26	2.86	2.51
54.00	DISCHG	2.21	1.95	1.73	1.53	1.36	1.20	1.07	0.95	0.84	0.75
56.00	DISCHG	0.67	0.59	0.53	0.47	0.42	0.37	0.33	0.29	0.25	0.19
58.00	DISCHG	0.13	0.11	0.09	0.07	0.06	0.05	0.04	0.04	0.03	0.03

TOTAL WATER, IN INCHES ON DRAINAGE AREA= 1.1924 CFS-HRS= 6201.75 ACRE-FT= 347.23

ENDCOP

ENDJOB CARD ENCOUNTERED. END OF JOB.

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1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains (Notes)

4) DOCUMENT TYPE: 100 yr.

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

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     CL  II_ ISL GATI  ' ID TO  ,   F
     IEC  (  R =  01
     DE(  '.TIC  =  5 .  2
**********
C
T1  ' II  IOCKWOOD WTL_AIC  '  F  (EC -  '  ICIT  MOLES
T2  I  '  RATIAC CHEM  FOR  '  EC  L  ,  .  '  I
T3       S.ROCK.OOC BA C. MOLES

J1  ICHECK     INO        NIHV       IDIF       S  IT      ITRIC     PVINS      G          LSEL       A
          ,          F.          ,          ,  ,.  00  00     2.5         0.          ,    3  .  0     0.30

J2  NPLOT      PLOT       PREVS      XSLCV      XSECH      FM         ILLOC      JCM        CNJI       ITRACE
        1.000      0.000     -1.00      0.000      0.300      0.000     -0.000     0.007      0.020      0.000

J   LDG,I      JBSIC                                  ,  ,  ,
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X3	0.000	0.000	0.000	211.000	0.000	227.000	0.000		0.000	0.000

D/S FACE SOUTH HUPOM RIVER DR.

X1	1570.000	7.000	111.300	12.300	57.000	7.000	30.700	1.300	0.000	0.000
X3	10.300	7.000	0.000	0.000	0.000	0.000	0.700	530.700	530.700	0.000
GR	564.500	7.000	574.400	1.000	575.400	1.100	573.000	7.000	572.300	12.900
GR	564.500	13.000	0.000	0.000	0.000	0.000	0.300	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
X1	1570.300	7.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.300	7.000	0.000	0.000	0.000	0.000	0.000	530.700	530.700	0.000
BT	5.300	7.000	594.500	0.000	1.000	594.500	0.300	1.100	594.500	579.300
BT	12.900	594.500	579.300	13.000	594.500	0.000	0.300	0.000	0.000	0.300
X1	1570.300	7.000	0.000	0.000	35.700	0.000	30.700	0.000	0.000	0.300
X2	0.700	7.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.000	7.000	0.300	0.000	0.000	0.000	0.000	561.000	582.100	0.000
NC	0.000	7.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

[illegible] D/S FACE SOUTH HUPOM RIVER DR.

X1	1610.000	7.000	111.300	123.000	170.100	170.000	107.000	0.000	0.000	0.000
X3	10.000	7.000	579.300	30.000	575.400	135.200	573.600	111.000	573.400	120.000
GF	573.400	125.000	532.500	41.000	0.000	0.000	0.000	0.000	0.000	0.000

110' D/S DIXIE HWY.

X1	1570.000	9.000	113.000	127.000	200.000	572.000	300.300	0.300	0.300	0.300
GF	573.100	0.000	583.100	0.000	573.400	100.000	573.300	111.300	573.100	120.100
GR	572.400	132.000	573.500	133.000	565.000	167.000	0.300	0.300	0.300	0.300
NC	0.000	0.300	3.000	0.000	3.100	1.000	0.300	0.300	1.000	15.000

D/S FACE DIXIE HWY.

X1	2021.000	0.000	1.000	35.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	10.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GF	582.400	0.300	574.100	1.000	574.100	1.100	573.000	7.000	574.000	12.900
GR	552.400	13.000	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
X1	2021.000	1.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	1.000	0.000	0.000	0.000	0.000	0.000	570.500	580.500	0.000
GF	5.300	1.100	582.400	0.000	1.000	582.400	0.000	1.100	582.400	579.500
GF	12.900	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000
X1	2021.000	0.000	0.000	0.000	0.000	0.000	0.000	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	581.000	581.400	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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NC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	9751.300	125.000	538.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	12.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	597.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2397.000	0.000	0.000	122.000	122.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 N. SOUND. OFF RAMP

GR	579.200	125.000	582.700	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000
X4	0.000	1.950	5.000	0.000	42.200	0.000	0.000	0.000	0.000	573.600	573.600

X1	2225.200	12.000	95.000	70.000	70.000	109.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 N. SOUND. OFF RAMP

GR	390.000	0.000	580.000	577.300	49.300	573.970	94.000	573.400	0.000	0.000	106.000
X3	0.000	0.000	0.000	2.000	132.500	3.000	0.000	0.000	0.000	0.000	0.000
X1	2205.000	9.000	94.000	20.000	73.000	73.000	0.000	0.000	0.000	0.000	0.000

U/S FACE DIXIE HWY. 3.5.0 I-75 N. EQUNE OFF RAMP

X1	2135.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PERM CENTRAL 1.F.

X1	2135.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	0.000

U/S FACE DIXIE HWY.

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VALLEY BETWEEN N.B. OFF RAMP ? I-75

X1	2572.000	8.000	60.000	70.000	175.000	175.000	175.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000
GR	600.000	0.000	[illegible]	[illegible]	537.000	[illegible]	[illegible]	60.000	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000

D/S FACE I-75

X1	2757.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000
X2	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	[illegible]	[illegible]	0.000
GR	588.000	0.000	584.000	28.000	579.400	46.000	574.500	56.000	574.500	55.100
GR	574.100	60.000	574.400	63.900	574.400	64.000	578.500	74.000	[illegible]	150.000
SB	0.000	2.300	3.000	0.000	8.000	1.000	35.400	0.000	574.400	574.100

D/S FACE I-75

X1	2923.000	0.000	0.000	0.000	165.000	166.000	166.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	579.000	584.600	0.000	0.000	0.000	0.000	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]	0.000	[illegible]

50' U/S I-75

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000
X2	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000
GR	600.000	0.000	582.500	26.000	579.700	46.000	574.800	56.000	574.400	63.000
GR	574.700	64.000	578.800	74.000	580.000	420.000	585.000	600.000	0.000	0.000

50' D/S I-75 S. BOUND RAMPS

X1	3273.000	7.000	123.500	135.500	300.000	300.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	112.500	0.000	147.500	0.000	0.000	0.000	0.000
GR	591.100	0.000	584.300	95.000	575.900	123.500	575.400	130.000	575.600	136.500
GR	583.200	157.000	585.600	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	0.000

D/S FACE I-75 S. BOUND RAMPS

X1	3323.000	11.000	125.000	135.000	50.000	50.000	50.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.500	576.500	0.000
GR	584.200	0.000	584.200	95.000	573.000	125.000	576.500	135.400	575.400	126.500
GR	575.400	130.000	575.400	133.200	576.500	134.600	578.000	135.200	575.200	147.000
GR	591.000	230.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.030	3.000	0.000	8.530	0.000	49.500	0.000	575.400	575.400

D/S FACE I-75 S. BOUND RAMPS

X1	3486.000	0.000	0.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	591.200	591.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.000	0.000
GR	0.000	0.000	591.200	[illegible]	129.000	591.200	[illegible]	135.000	591.200	579.500
GR	136.300	591.200	580.500	130.000	591.200	581.200	132.200	591.200	580.800	134.600
GR	591.200	579.500	135.000	591.200	578.000	230.000	591.000	0.000	0.000	0.000

D/S FACE CARLETON-ROCKWOOD

X1	3553.000	13.000	114.000	126.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	585.000	582.000	0.000
GR	590.000	95.000	58[illegible].000	[illegible]	530.100	109.000	576.400	114.000	576.400	114.100
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

U/S FACE CARLETON-ROCKWOOD

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.000	583.000	0.000
HT	13.000	95.000	590.000	0.000	96.000	537.700	0.000	109.000	586.100	0.000
HT	114.000	586.100	0.000	114.100	586.100	531.100	125.000	586.100	531.100	126.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HT	[illegible]	501.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

X1	3630.000	1.000	20.000	130.000	20.000	20.000	20.000	0.000	0.000	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]

OVERLAND FLOW SEC. D/S OF BRANDON RD.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	0.200	0.200	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	6250.000	[illegible]	310.000	800.000	1500.000	1600.000	1530.000	[illegible]	0.000	0.000
GR	590.000	0.000	585.000	310.000	586.000	325.000	584.000	785.000	585.000	800.000
GR	590.100	960.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	7200.000	6.000	100.000	470.000	920.000	[illegible]	950.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	100.000	586.000	120.000	584.000	450.000	585.000	470.000
GR	590.000	1310.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC. APPROX. 100 FT D/S OF [illegible]

X1	8000.000	8.000	115.000	400.000	470.000	1200.000	600.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	50.000	580.000	115.000	575.000	230.000	575.000	245.000
[illegible]	530.000	600.000	585.000	315.000	590.000	[illegible]	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

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FORM 1411-08 PRINTED BY ROTARY MANIFOLD FORMS

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Lauderschlager drains
Noles

4) DOCUMENT TYPE: 506ye

00BREAK00

09:01:37 X13 TCM RD203107 ROCK,DC7 DEC 15, 1960

LAUDERDALE TEAR DRAIN

[illegible] TP-21

U. S. P. C. Corporation

Rubber Division

PRINTED IN U.S.A.
FORM 1411-3S-PRINTED BY ROTARY MANIFOLD FORMS.

DISCHARGE HYDROGRAPH, HYDROGRAPH LOCATION 5

STARTING TIME= 0.00 TIME INCREMENT= 2.00 DRAINAGE AREA= 2.5[illegible] BASE FLOW= 0.00

3	6.0000	53.0000	47.0000	66.0000	70.0000
3	75.0000	77.0000	80.0000	81.0000	82.0000
3	82.0000	81.0000	83.0000	77.0000	75.0000
3	74.0000	72.0000	73.0000	69.0000	67.0000
3	63.0000	55.0000	51.0000	45.0000	50.0000

END OF TABLE

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS,

LISTING OF DATA IN CORE

10 LAUDENSCHLAGER DRAIN

VELOCITY INCREMENT

1 CTABLE 0.2000

8	0.3000	0.3300	0.4000	0.4300	0.5200
8	0.5700	0.6400	0.6500	0.6900	0.7000
8	0.6400	0.6700	0.6900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

XSECTN NO. DRAINAGE AREA

2 XSECTN 1 1.0000

	ELEVATION	DISCHARGE	END AREA
8	577.6001	0.0000	0.0000
8	579.0000	6.0000	7.0000
8	580.0000	27.0000	20.0000
8	581.0000	70.0000	38.0000
8	582.3000	160.0000	70.0000
8	583.0000	231.0000	158.0000
8	583.5000	283.0000	330.0000

9 ENDTBL

TIME INCREMENT

4 DINHYD

8	0.0000	0.0300	0.1000	0.1900	0.3100
8	0.4700	0.6600	0.8200	0.9300	0.9900
8	1.0000	0.9900	0.9300	0.8600	0.7800
8	0.6800	0.5600	0.4600	0.3900	0.3300
8	0.2800	0.2410	0.2070	0.1740	0.1470
8	0.1260	0.1070	0.0910	0.0770	0.0660
8	0.0550	0.0470	0.0400	0.0340	0.0290
8	0.0250	0.0210	0.0180	0.0150	0.0130
8	0.0110	0.0090	0.0080	0.0070	0.0060
8	0.0050	0.0040	0.0030	0.0020	0.0010
8	0.0000	0.0000	0.0000	0.0000	0.0000

9 ENDTBL

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COMPUTED PEAK K FACTOR = 404.00

S ENERGY	TIME INCREMENT 0.3000				
3	0.0000	0.0060	0.0170	0.0260	0.0350
3	0.0450	0.0550	0.0650	0.0760	0.0870
3	0.0990	0.1120	0.1250	0.1400	0.1560
3	0.1740	0.1940	0.2140	0.2360	0.2590
3	0.2830	0.3080	0.3350	0.3640	0.3950
3	0.4280	0.4630	0.5000	0.5400	0.5830
3	0.6290	0.6780	0.7300	0.7860	0.8460
3	0.9100	0.9780	1.0500	1.1270	1.2090
3	1.2960	1.3880	1.4850	1.5880	1.6970
3	1.8120	1.9330	2.0610	2.1960	2.3380
3	2.4870	2.6430	2.8070	2.9790	3.1590
3	3.3470	3.5430	3.7470	3.9590	4.1790
3	4.4070	4.6430	4.8870	5.1390	5.3990
3	5.6670	5.9430	6.2270	6.5190	6.8190
3	7.1270	7.4430	7.7670	8.0990	8.4390
3	8.7870	9.1430	9.5070	9.8790	10.2590
3	10.6470	11.0430	11.4470	11.8590	12.2790
3	12.7070	13.1430	13.5870	14.0390	14.4990
3	14.9670	15.4430	15.9270	16.4190	16.9190
3	17.4270	17.9430	18.4670	18.9990	19.5390
3	20.0870	20.6430	21.2070	21.7790	22.3590
3	22.9470	23.5430	24.1470	24.7590	25.3790
3	26.0070	26.6430	27.2870	27.9390	28.5990
3	29.2670	29.9430	30.6270	31.3190	32.0190
3	32.7270	33.4430	34.1670	34.8990	35.6390
3	36.3870	37.1430	37.9070	38.6790	39.4590
3	40.2470	41.0430	41.8470	42.6590	43.4790
3	44.3070	45.1430	45.9870	46.8390	47.6990
3	48.5670	49.4430	50.3270	51.2190	52.1190
3	53.0270	53.9430	54.8670	55.7990	56.7390
3	57.6870	58.6430	59.6070	60.5790	61.5590
3	62.5470	63.5430	64.5470	65.5590	66.5790
3	67.6070	68.6430	69.6870	70.7390	71.7990
3	72.8670	73.9430	75.0270	76.1190	77.2190
3	78.3270	79.4430	80.5670	81.6990	82.8390
3	83.9870	85.1430	86.3070	87.4790	88.6590
3	89.8470	91.0430	92.2470	93.4590	94.6790
3	95.9070	97.1430	98.3870	99.6390	100.8990
3	102.1670	103.4430	104.7270	106.0190	107.3190
3	108.6270	109.9430	111.2670	112.5990	113.9390
3	115.2870	116.6430	118.0070	119.3790	120.7590
3	122.1470	123.5430	124.9470	126.3590	127.7790
3	129.2070	130.6430	132.0870	133.5390	134.9990
3	136.4670	137.9430	139.4270	140.9190	142.4190
3	143.9270	145.4430	146.9670	148.4990	150.0390
3	151.5870	153.1430	154.7070	156.2790	157.8590
3	159.4470	161.0430	162.6470	164.2590	165.8790
3	167.5070	169.1430	170.7870	172.4390	174.0990
3	175.7670	177.4430	179.1270	180.8190	182.5190
3	184.2270	185.9430	187.6670	189.3990	191.1390
3	192.8870	194.6430	196.4070	198.1790	199.9590
3	201.7470	203.5430	205.3470	207.1590	208.9790
3	210.8070	212.6430	214.4870	216.3390	218.1990
3	220.0670	221.9430	223.8270	225.7190	227.6190
3	229.5270	231.4430	233.3670	235.2990	237.2390
3	239.1870	241.1430	243.1070	245.0790	247.0590
3	249.0470	251.0430	253.0470	255.0590	257.0790
3	259.1070	261.1430	263.1870	265.2390	267.2990
3	269.3670	271.4430	273.5270	275.6190	277.7190
3	279.8270	281.9430	284.0670	286.1990	288.3390
3	290.4870	292.6430	294.8070	296.9790	299.1590
3	301.3470	303.5430	305.7470	307.9590	310.1790
3	312.4070	314.6430	316.8870	319.1390	321.3990
3	323.6670	325.9430	328.2270	330.5190	332.8190
3	335.1270	337.4430	339.7670	342.0990	344.4390
3	346.7870	349.1430	351.5070	353.8790	356.2590
3	358.6470	361.0430	363.4470	365.8590	368.2790
3	370.7070	373.1430	375.5870	378.0390	380.4990
3	382.9670	385.4430	387.9270	390.4190	392.9190
3	395.4270	397.9430	400.4670	402.9990	405.5390
3	408.0870	410.6430	413.2070	415.7790	418.3590
3	420.9470	423.5430	426.1470	428.7590	431.3790
3	434.0070	436.6430	439.2870	441.9390	444.5990
3	447.2670	449.9430	452.6270	455.3190	458.0190
3	460.7270	463.4430	466.1670	468.8990	471.6390
3	474.3870	477.1430	479.9070	482.6790	485.4590
3	488.2470	491.0430	493.8470	496.6590	499.4790
3	502.3070	505.1430	507.9870	510.8390	513.6990
3	516.5670	519.4430	522.3270	525.2190	528.1190
3	531.0270	533.9430	536.8670	539.7990	542.7390
3	545.6870	548.6430	551.6070	554.5790	557.5590
3	560.5470	563.5430	566.5470	569.5590	572.5790
3	575.6070	578.6430	581.6870	584.7390	587.7990
3	590.8670	593.9430	597.0270	600.1190	603.2190
3	606.3270	609.4430	612.5670	615.6990	618.8390
3	621.9870	625.1430	628.3070	631.4790	634.6590
3	637.8470	641.0430	644.2470	647.4590	650.6790
3	653.9070	657.1430	660.3870	663.6390	666.8990
3	670.1670	673.4430	676.7270	680.0190	683.3190
3	686.6270	689.9430	693.2670	696.5990	699.9390
3	703.2870	706.6430	710.0070	713.3790	716.7590
3	720.1470	723.5430	726.9470	730.3590	733.7790
3	737.2070	740.6430	744.0870	747.5390	750.9990
3	754.4670	757.9430	761.4270	764.9190	768.4190
3	771.9270	775.4430	778.9670	782.4990	786.0390
3	789.5870	793.1430	796.7070	800.2790	803.8590
3	807.4470	811.0430	814.6470	818.2590	821.8790
3	825.5070	829.1430	832.7870	836.4390	840.0990
3	843.7670	847.4430	851.1270	854.8190	858.5190
3	862.2270	865.9430	869.6670	873.3990	877.1390
3	880.8870	884.6430	888.4070	892.1790	895.9590
3	899.7470	903.5430	907.3470	911.1590	914.9790
3	918.8070	922.6430	926.4870	930.3390	934.1990
3	938.0670	941.9430	945.8270	949.7190	953.6190
3	957.5270	961.4430	965.3670	969.2990	973.2390
3	977.1870	981.1430	985.1070	989.0790	993.0590
3	997.0470	1001.0430	1005.0470	1009.0590	1013.0790
3	1017.1070	1021.1430	1025.1870	1029.2390	1033.2990
3	1037.3670	1041.4430	1045.5270	1049.6190	1053.7190
3	1057.8270	1061.9430	1066.0670	1070.1990	1074.3390
3	1078.4870	1082.6430	1086.8070	1090.9790	1095.1590
3	1099.3470	1103.5430	1107.7470	1111.9590	1116.1790
3	1120.4070	1124.6430	1128.8870	1133.1390	1137.3990
3	1141.6670	1145.9430	1150.2270	1154.5190	1158.8190
3	1163.1270	1167.4430	1171.7670	1176.0990	1180.4390
3	1184.7870	1189.1430	1193.5070	1197.8790	1202.2590
3	1206.6470	1211.0430	1215.4470	1219.8590	1224.2790
3	1228.7070	1233.1430	1237.5870	1242.0390	1246.4990
3	1250.9670	1255.4430	1259.9270	1264.4190	1268.9190
3	1273.4270	1277.9430	1282.4670	1286.9990	1291.5390
3	1296.0870	1300.6430	1305.2070	1309.7790	1314.3590
3	1318.9470	1323.5430	1328.1470	1332.7590	1337.3790
3	1342.0070	1346.6430	1351.2870	1355.9390	1360.5990
3	1365.2670	1369.9430	1374.6270	1379.3190	1384.0190
3	1388.7270	1393.4430	1398.1670	1402.8990	1407.6390
3	1412.3870	1417.1430	1421.9070	1426.6790	1431.4590
3	1436.2470	1441.0430	1445.8470	1450.6590	1455.4790
3	1460.3070	1465.1430	1469.9870	1474.8390	1479.6990
3	1484.5670	1489.4430	1494.3270	1499.2190	1504.1190
3	1509.0270	1513.9430	1518.8670	1523.7990	1528.7390
3	1533.6870	1538.6430	1543.6070	1548.5790	1553.5590
3	1558.5470	1563.5430	1568.5470	1573.5590	1578.5790
3	1583.6070	1588.6430	1593.6870	1598.7390	1603.7990
3	1608.8670	1613.9430	1619.0270	1624.1190	1629.2190
3	1634.3270	1639.4430	1644.5670	1649.6990	1654.8390
3	1659.9870	1665.1430	1670.3070	1675.4790	1680.6590
3	1685.8470	1691.0430	1696.2470	1701.4590	1706.6790
3	1711.9070	1717.1430	1722.3870	1727.6390	1732.8990
3	1738.1670	1743.4430	1748.7270	1754.0190	1759.3190
3	1764.6270	1769.9430	1775.2670	1780.5990	1785.9390
3	1791.2870	1796.6430	1802.0070	1807.3790	1812.7590
3	1818.1470	1823.5430	1828.9470	1834.3590	1839.7790
3	1845.2070	1850.6430	1856.0870	1861.5390	1866.9990
3	1872.4670	1877.9430	1883.4270	1888.9190	1894.4190
3	1899.9270	1905.4430	1910.9670	1916.4990	1922.0390
3	1927.5870	1933.1430	1938.7070	1944.2790	1949.8590
3	1955.4470	1961.0430	1966.6470	1972.2590	1977.8790
3	1983.5070	1989.1430	1994.7870	2000.4390	2006.0990
3	2011.7670	2017.4430	2023.1270	2028.8190	2034.5190
3	2040.2270	2045.9430	2051.6670	2057.3990	2063.1390
3	2068.8870	2074.6430	2080.4070	2086.1790	2091.9590
3	2097.7470	2103.5430	2109.3470	2115.1590	2120.9790
3	2126.8070	2132.6430	2138.4870	2144.3390	2150.1990
3	2156.0670	2161.9430	2167.8270	2173.7190	2179.6190
3	2185.5270	2191.4430	2197.3670	2203.2990	2209.2390
3	2215.1870	2221.1430	2227.1070	2233.0790	2239.0590
3	2245.0470	2251.0430	2257.0470	2263.0590	2269.0790
3	2275.1070	2281.1430	2287.1870	2293.2390	2299.2990
3	2305.3670	2311.4430	2317.5270	2323.6190	2329.7190
3	2335.8270	2341.9430	2348.0670	2354.1990	2360.3390
3	2366.4870	2372.6430	2378.8070	2384.9790	2391.1590
3	2397.3470	2403.5430	2409.7470	2415.9590	2422.1790
3	2428.4070	2434.6430	2440.8870	2447.1390	2453.3990
3	2459.6670	2465.9430	2472.2270	2478.5190	2484.8190
3	2491.1270	2497.4430	2503.7670	2510.0990	2516.4390
3	2522.7870	2529.1430	2535.5070	2541.8790	2548.2590
3	2554.6470	2561.0430	2567.4470	2573.8590	2580.2790
3	2586.7070	2593.1430	2599.5870	2606.0390	2612.4990
3	2618.9670	2625.4430	2631.9270	2638.4190	2644.9190
3	2651.4270	2657.9430	2664.4670	2670.9990	2677.5390
3	2684.0870	2690.6430	2697.2070	2703.7790	2710.3590
3	2716.9470	2723.5430	2730.1470	2736.7590	2743.3790
3	2750.0070	2756.6430	2763.2870	2769.9390	2776.5990
3	2783.2670	2789.9430	2796.6270	2803.3190	2810.0190
3	2816.7270	2823.4430	2830.1670	2836.8990	2843.6390
3	2850.3870	2857.1430	2863.9070	2870.6790	2877.4590
3	2884.2470	2891.0430	2897.8470	2904.6590	2911.4790
3	2918.3070	2925.1430	2931.9870	2938.8390	2945.6990
3	2952.5670	2959.4430	2966.3270	2973.2190	2980.1190
3	2987.0270	2993.9430	3000.8670	3007.7990	3014.7390
3	3021.6870	3028.6430	3035.6070	3042.5790	3049.5590
3	3056.5470	3063.5430	3070.5470	3077.5590	3084.5790
3	3091.6070	3098.6430	3105.6870	3112.7390	3119.7990
3	3126.8670	3133.9430	3141.0270	3148.1190	3155.2190
3	3162.3270	3169.4430	3176.5670	3183.6990	3190.8390
3	3197.9870	3205.1430	3212.3070	3219.4790	3226.6590
3	3233.8470	3241.0430	3248.2470	3255.4590	3262.6790
3	3269.9070	3277.1430	3284.3870	3291.6390	3298.8990
3	3306.1670	3313.4430	3320.7270	3328.0190	3335.3190
3	3342.6270	3349.9430	3357.2670	3364.5990	3371.9390
3	3379.2870	3386.6430	3394.0070	3401.3790	3408.7590
3	3416.1470	3423.5430	3430.9470	3438.3590	3445.7790
3	3453.2070	3460.6430	3468.0870	3475.5390	3482.9990
3	3490.4670	3497.9430	3505.4270	3512.9190	3520.4190
3	3527.9270	3535.4430	3542.9670	3550.4990	3558.0390
3	3565.5870	3573.1430	3580.7070	3588.2790	3595.8590
3	3603.4470	3611.0430	3618.6470	3626.2590	3633.8790
3	3641.5070	3649.1430	3656.7870	3664.4390	3672.0990
3	3679.7670	3687.4430	3695.1270	3702.8190	3710.5190
3	3718.2270	3725.9430	3733.6670	3741.3990	3749.1390
3	3756.8870	3764.6430	3772.4070	3780.1790	3787.9590
3	3795.7470	3803.5430	3811.3470	3819.1590	3826.9790
3	3834.8070	3842.6430	3850.4870	3858.3390	3866.1990
3	3874.0670	3881.9430	3889.8270	3897.7190	3905.6190
3	3913.5270	3921.4430	3929.3670	3937.2990	3945.2390
3	3953.1870	3961.1430	3969.1070	3977.0790	3985.0590
3	3993.0470	4001.0430	4009.0470	4017.0590	4025.0790
3	4033.1070	4041.1430	4049.1870	4057.2390	4065.2990
3	4073.3670	4081.4430	4089.5270	4097.6190	4105.7190
3	4113.8270	4121.9430	4130.0670	4138.1990	4146.3390
3	4154.4870	4162.6430	4170.8070	4178.9790	4187.1590
3	4195.3470	4203.5430	4211.7470	4219.9590	4228.1790
3	4236.4070	4244.6430	4252.8870	4261.1390	4269.3990
3	4277.6670	4285.9430	4294.2270	4302.5190	4310.8190
3	4319.1270	4327.4430	4335.7670	4344.0990	4352.4390
3	4360.7870	4369.1430	4377.5070	4385.8790	4394.2590
3	4402.6470	4411.0430	4419.4470	4427.8590	4436.2790
3	4444.7070	4453.1430	4461.5870	4470.0390	4478.4990
3	4486.9670	4495.4430	4503.9270	4512.4190	4520.9190
3	4529.4270	4537.9430	4546.4670	4554.9990	4563.5390
3	4572.0870	4580.6430	4589.2070	4597.7790	4606.3590
3	4614.9470	4623.5430	4632.1470	4640.7590	4649.3790
3	4658.0070	4666.6430	4675.2870	4683.9390	4692.5990
3	4701.2670	4709.9430	4718.6270	4727.3190	4736.0190
3	4744.7270	4753.4430	4762.1670	4770.8990	4779.6390
3	4788.3870	4797.1430	4805.9070	4814.6790	4823.4590
3	4832.2470	4841.0430	4849.8470	4858.6590	4867.4790
3	4876.3070	4885.1430	4893.9870	4902.8390	4911.6990
3	4920.5670	4929.4430	4938.3270	4947.2190	4956.1190
3	4965.0270	4973.9430	4982.8670	4991.7990	5000.7390
3	5009.6870	5018.6430	5027.6070	5036.5790	5045.5590
3	5054.5470	5063.5430	5072.5470	5081.5590	5090.5790
3	5099.6070	5108.6430	5117.6870	5126.7390	5135.7990
3	5144.8670	5153.9430	5163.0270	5172.1190	5181.2190
3	5190.3270	5199.4430	5208.5670	5217.6990	5226.8390
3	5235.9870	5245.1430	5254.3070	5263.4790	5272.6590
3	5281.8470	5291.0430	5300.2470	5309.4590	5318.6790
3	5327.9070	5337.1430	5346.3870	5355.6390	5364.8990
3	5374.1670	5383.4430	5392.7270	5402.0190	5411.3190
3	5420.6270	5429.9430	5439.2670	5448.5990	5457.9390
3	5467.2870	5476.6430	5486.0070	5495.3790	5504.7590
3	5514.1470	5523.5430	5532.9470	5542.3590	5551.7790
3	5561.2070	5570.6430	5580.0870	5589.5390	5598.9990
3	5608.4670	5617.9430	5627.4270	5636.9190	5646.4190
3	5655.9270	5665.4430	5674.9670	5684.4990	5694.0390
3	5703.5870	5713.1430	5722.7070	5732.2790	5741.8590
3	5751.4470	5761.0430	5770.6470	5780.2590	5789.8790
3	5799.5070	5809.1430	5818.7870	5828.4390	5838.0990
3	5847.7670	5857.4430	5867.1270	5876.8190	5886.5190
3	5896.2270	5905.9430	5915.6670	5925.3990	5935.1390
3	5944.8870	5954.6430	5964.4070	5974.1790	5983.9590
3	5993.7470	6003.5430	6013.3470	6023.1590	6032.9790
3	6042.8070	6052.6430	6062.4870	6072.3390	6082.1990
3	6092.0670	6101.9430	6111.8270	6121.7190	6131.6190
3	6141.5270	6151.4430	6161.3670	6171.2990	6181.2390
3	6191.1870	6201.1430	6211.1070	6221.0790	6231.0590
3	6241.0470	6251.0430	6261.0470	6271.0590	6281.0790
3	6291.1070	6301.1430	6311.1870	6321.2390	6331.2990
3	6341.3670	6351.4430	6361.5270	6371.6190	6381.7190
3	6391.8270	6401.9430	6412.0670	6422.1990	6432.3390
3	6442.4870	6452.6430	6462.8070	6472.9790	6483.1590
3	6493.3470	6503.5430	6513.7470	6523.9590	6534.1790
3	6544.4070	6554.6430	6564.8870	6575.1390	6585.3990
3	6595.6670	6605.9430	6616.2270	6626.5190	6636.8190
3	6647.1270	6657.4430	6667.7670	6678.0990	6688.4390
3	6698.7870	6709.1430	6719.5070	6729.8790	6740.2590
3	6750.6470	6761.0430	6771.4470	6781.8590	6792.2790
3	6802.7070	6813.1430	6823.5870	6834.0390	6844.4990
3	6854.9670	6865.4430	6875.9270	6886.4190	6896.9190
3	6907.4270	6917.9430	6928.4670	6938.9990	6949.5390
3	6960.0870	6970.6430	6981.2070	6991.7790	7002.3590
3	7012.9470	7023.5430	7034.1470	7044.7590	7055.3790
3	7066.0070	7076.6430	7087.2870	7097.9390	7108.5990
3	7119.2670	7129.9430	7140.6270	7151.3190	7162.0190
3	7172.7270	7183.4430	7194.1670	7204.8990	7215.6390
3	7226.3870	7237.1430	7247.9070	7258.6790	7269.4590
3	7280.2470	7291.0430	7301.8470	7312.6590	7323.4790
3	7334.3070	7345.1430	7355.9870	7366.8390	7377.6990
3	7388.5670	7399.4430	7410.3270	7421.2190	7432.1190
3	7443.0270	7453.9430	7464.8670	7475.7990	7486.7390
3	7497.6870	7508.6430	7519.6070	7530.5790	7541.5590
3	7552.5470	7563.5430	7574.5470	7585.5590	7596.5790
3	7607.6070	7618.6430	7629.6870	7640.7390	7651.7990
3	7662.8670	7673.9430	7685.0270	7696.1190	7707.2190
3	7718.3270	7729.4430	7740.5670	7751.6990	7762.8390
3	7773.9870	7785.1430	7796.3070	7807.4790	7818.6590
3	7829.8470	7841.0430	7852.2470	7863.4590	7874.6790
3	7885.9070	7897.1430	7908.3870	7919.6390	7930.8990
3	7942.1670	7953.4430	7964.7270	7976.0190	7987.3190
3	7998.6270	8009.9430	8021.2670	8032.5990	8043.9390
3	8055.2870	8066.6430	8078.0070	8089.3790	8100.7590
3	8112.1470	8123.5430	8134.9470	8146.3590	8157.7790
3	8169.2070	8180.6430	8192.0870	8203.5390	8214.9990
3	8226.4670	8237.9430	8249.4270	8260.9190	8272.4190
3	8283.9270	8295.4430	8306.9670	8318.4990	8330.0390
3	8341.5870	8353.1430	8364.7070	8376.2790	8387.8590
3	8399.4470	8411.0430	8422.6470	8434.2590	8445.8790
3	8457.5070	8469.1430	8480.7870	8492.4390	8504.0990
3	8515.7670	8527.4430	8539.1270	8550.8190	8562.5190
3	8574.2270	8585.9430	8597.6670	8609.3990	8621.1390
3	8632.8870	8644.6430	8656.4070	8668.1790	8679.9590
3	8691.7470	8703.5430	8715.3470	8727.1590	8738.9790
3	8750.8070	8762.6430	8774.4870	8786.3390	8798.1990
3	8810.0670	8821.9430	8833.8270	8845.7190	8857.6190
3	8869.5270	8881.4430	8893.3670	8905.2990	8917.2390
3	8929.1870	8941.1430	8953.1070	8965.0790	8977.0590
3	8989.0470	9001.0430	9013.0470	9025.0590	9037.0790
3	9049.1070	9061.1430	9073.1870	9085.2390	9097.2990
3	9109.3670	9121.4430	9133.5270	9145.6190	9157.7190
3	9169.8270	9181.9430	9194.0670	9206.1990	9218.3390
3	9230.4870	9242.6430	9254.8070	9266.9790	9279.1590
3	9291.3470	9303.5430	9315.7470	9327.9590	9340.1790
3	9352.4070	9364.6430	9376.8870	9389.1390	9401.3990
3	9413.6670	9425.9430	9438.2270	9450.5190	9462.8190
3	9475.1270	9487.4430	9499.7670	9512.0990	9524.4390
3	9536.7870	9549.1430	9561.5070	9573.8790	9586.2590
3	9598.6470	9611.0430	9623.4470	9635.8590	9648.2790
3	9660.7070	9673.1430	9685.5870	9698.0390	9710.4990
3	9722.9670	9735.4430	9747.9270	9760.4190	9772.9190
3	9785.4270	9797.9430	9810.4670	9822.9990	9835.5390
3	9848.0870	9860.6430	9873.2070	9885.7790	9898.3590
3	9910.9470	9923.5430	9936.1470	9948.7590	9961.3790
3	9974.0070	9986.6430	9999.2870	10011.9390	10024.5990
3	10037.2670	10049.9430	10062.6270	10075.3190	10088.0190
3	10100.7270	10113.4430	10126.1670	10138.8990	10151.6390
3	10164.3870	10177.1430	10189.9070	10202.6790	10215.4590
3	10228.2470	10241.0430	10253.8470	10266.6590	10279.4790
3	10292.3070	10305.1430	10317.9870	10330.8390	10343.6990
3	10356.5670	10369.4430	10382.3270	10395.2190	10408.1190
3	10421.0270	10433.9430	10446.8670	10459.7990	10472.7390
3	10485.6870	10498.6430	10511.6070	10524.5790	10537.5590
3	10550.5470	10563.5430	10576.5470	10589.5590	10602.5790
3	10615.6070	10628.6430	10641.6870	10654.7390	10667.7990
3	10680.8670	10693.9430	10707.0270	10720.1190	10733.2190
3	10746.3270	10759.4430	10772.5670	10785.6990	10798.8390
3	10811.9870	10825.1430	10838.3070	10851.4790	10864.6590
3	10877.8470	10891.0430	10904.2470	10917.4590	10930.6790
3	10943.9070	10957.1430	10970.3870	10983.6390	10996.8990
3	11010.1670	11023.4430	11036.7270	11050.0190	11063.3190
3	11076.6270	11089.9430	11103.2670	11116.5990	11129.9390
3	11143.2870	11156.6430	11170.0070	11183.3790	11196.7590
3	11210.1470	11223.5430	11236.9470	11250.3590	11263.7790
3	11277.2070	11290.6430	11304.0870	11317.5390	11330.9990
3	11344.4670	11357.9430	11371.4270	11384.9190	11398.4190
3	11411.9270	11425.4430	11438.9670	11452.4990	11466.0390
3	11479.5870	11493.1430	11506.7070	11520.2790	11533.8590
3	11547.4470	11561.0430	11574.6470	11588.2590	11601.8790
3	11615.5070	11629.1430	11642.7870	11656.4390	11670.0990
3	11683.7670	11697.4430	11711.1270	11724.8190	11738.5190
3	11752.2270	11765.9430	11779.6670	11793.3990	11807.1390
3	11820.8870	11834.6430	11848.4070	11862.1790	11875.9590
3	11889.7470	11903.5430	11917.3470	11931.1590	11944.9790
3	11958.8070	11972.6430	11986.4870	12000.3390	12014.1990
3	12028.0670	12041.9430	12055.8270	12069.7190	12083.6190
3	12097.5270	12111.4430	12125.3670	12139.2990	12153.2390
3	12167.1870	12181.1430	12195.1070	12209.0790	12223.0590
3	12237.0470	12251.0430	12265.0470	12279.0590	12293.0790
3	12307.1070	12321.1430	12335.1870	12349.2390	12363.2990

STANDARD CONTROL INSTRUCTIONS

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6 REACH  3   1   6   5    4000.0000      0.0000      0.00001 1 0 1 0 0
6 RUNOFF 1   1       6        0.2000     77.0000      3.40001 1 0 1 0 0
6 ADDHYD 4   1   5   7                                      1 1 0 1 0 0
  ENDATA

END OF LISTING
 EXECUTIVE CONTROL CARD          OPERATION  INCREM,     MAIN TIME INCREMENT=  0.20
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,     FROM ASCOTM/STRUCT   1/  5     TO XSHCTM/STRUCT   0/  1
        STARTING TIME=  0.00     RAIN DEPTH=  5.90     RAIN DURATION=  1.00     RAIN TABLE NO.= 1     SOIL CONDITION= 2
        ALTERNATE NO.= 2         STORM NO.= 1

SUBROUTINE REACH     CROSS SECTION   1
        LENGTH=   4000.00     INPUT COEFFICIENT=  0.0000     INPUT ROUTINGS=  0.00

        AVERAGE WATER VELOCITY=   1.541      AVERAGE ROUTING COEFF= 0.5199      NUMBER OF ROUTINGS=  1.57

        PEAK TIMES                  PEAK DISCHARGES                PEAK ELEVATIONS
          29.11                        2.000                          581.17

  TIME                          HYDROGRAPH, TZERO=   9.00        DELTA T= 0.20        DRAINAGE AREA=   2.52
   9.00   DISCHG      6.00      6.00      6.40      7.67      9.57     11.85     14.34     16.93     19.58     22.26
  11.00   DISCHG     24.94     27.64     30.14     32.23     34.01     35.61     37.12     38.57     39.99     41.41
  13.00   DISCHG     42.81     44.21     45.69     47.33     49.03     50.70     52.76     54.64     56.53     58.63
  15.00   DISCHG     60.32     62.02     63.90     65.07     65.96     66.37     67.04     67.53     67.90     68.39
  17.00   DISCHG     68.60     69.40     69.62     70.07     70.56     71.32     71.51     72.01     72.51     73.01
  19.00   DISCHG     73.51     74.01     74.46     74.82     75.11     75.36     75.58     75.79     76.00     76.20
  21.00   DISCHG     76.40     76.60     76.82     77.06     77.33     77.62     77.91     78.21     78.51     78.80
  23.00   DISCHG     79.10     79.40     79.67     79.83     80.04     80.17     80.29     80.39     80.50     80.60
  25.00   DISCHG     80.70     80.80     80.90     81.00     81.10     81.20     81.30     81.40     81.50     81.60
  27.00   DISCHG     81.70     81.80     81.89     81.94     81.97     81.98     81.99     82.00     82.00     82.00
  29.00   DISCHG     82.00     82.00     81.90     81.94     81.87     81.78     81.69     81.60     81.50     81.40
  31.00   DISCHG     81.30     81.20     81.10     81.00     80.90     80.80     80.70     80.60     80.50     80.40
  33.00   DISCHG     80.30     80.20     80.07     79.88     79.63     79.37     79.08     78.79     78.49     78.20
  35.00   DISCHG     77.90     77.60     77.31     77.06     76.83     76.61     76.41     76.20     76.00     75.80
  37.00   DISCHG     75.60     75.40     75.21     75.06     74.93     74.81     74.71     74.60     74.50     74.40
  39.00   DISCHG     74.30     74.20     74.00     73.94     73.77     73.58     73.39     73.19     73.00     72.80
  41.00   DISCHG     72.60     72.40     72.20     72.00     71.80     71.60     71.40     71.20     71.00     70.80
  43.00   DISCHG     70.60     70.40     70.20     70.00     69.80     69.60     69.40     69.20     69.00     68.80
  45.00   DISCHG     68.60     68.40     68.21     68.06     67.93     67.81     67.71     67.60     67.50     67.40
  47.00   DISCHG     67.30     67.20     67.05     66.81     66.50     66.15     65.77     65.38     64.99     64.59
  49.00   DISCHG     64.19     63.80     63.34     62.75     62.07     61.33     60.56     59.78     58.99     58.19
  51.00   DISCHG     57.39     56.59     55.85     55.24     54.72     54.26     53.83     53.41     53.00     52.60
  53.00   DISCHG     52.20     51.80     51.38     50.93     50.46     49.98     49.49     48.99     48.49     47.99
  55.00   DISCHG     47.50     47.00     46.48     45.93     45.36     44.76     44.19     43.59     42.99     42.39
  57.00   DISCHG     41.79     41.19     34.69     21.60     12.01      6.31      3.21      1.60      0.79      0.38
  59.00   DISCHG      0.19      0.09      0.04      0.02      0.01      0.00

        TOTAL WATER, IN INCHES ON DRAINAGE AREA=   1.9661      CFS-HRS=     3197.57      ACRE-FT=     264.25

SUBROUTINE RUNOFF    CROSS SECTION   1
        AREA=   0.28     INPUT RUNOFF CURVE=  77.0     TIME OF CONCENTRATION=  3.40

        PEAK TIMES                  PEAK DISCHARGES                PEAK ELEVATIONS
          12.23                        22.590                          (RUNOFF)

  TIME                          HYDROGRAPH, TZERO=   0.00        DELTA T= 0.20        DRAINAGE AREA=   0.28
   0.00   DISCHG      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04
6.00	DISCHG	0.09	0.14	0.20	0.34	0.49	0.64	0.92	1.20	1.49	1.94
8.00	DISCHG	2.39	2.88	3.56	4.24	5.04	6.13	7.23	9.08	12.23	15.37
10.00	DISCHG	19.87	24.25	29.62	40.11	41.55	57.05	64.01	70.17	76.14	79.10
12.00	DISCHG	61.13	62.15	62.61	71.94	71.23	72.10	71.46	67.52	64.63	61.35
14.00	DISCHG	51.12	55.85	57.19	58.73	46.30	46.91	44.95	43.25	51.61	40.05
16.00	DISCHG	33.75	37.35	36.89	34.99	33.19	32.86	31.99	31.30	30.27	29.53
18.00	DISCHG	28.73	28.11	27.48	26.85	26.29	25.73	25.21	24.73	24.26	23.80
20.00	DISCHG	23.39	22.58	22.37	22.19	21.61	21.43	21.10	20.76	20.44	20.16
22.00	DISCHG	19.58	19.61	19.30	19.02	18.39	18.09	17.58	17.31	17.13	17.96
24.00	DISCHG	17.72	17.43	17.14	16.87	16.39	15.91	14.66	13.73	12.78	11.72
26.00	DISCHG	10.43	9.53	8.69	7.96	6.57	5.79	5.03	4.27	3.77	3.27
28.00	DISCHG	2.79	2.47	2.14	1.34	1.62	1.40	1.20	1.06	0.91	0.78
30.00	DISCHG	0.68	0.59	0.51	0.44	0.38	0.33	0.29	0.24	0.21	0.18
32.00	DISCHG	0.15	0.13	0.11	0.09	0.08	0.06	0.05	0.04	0.03	0.03
34.00	DISCHG	0.02	0.01	0.01	0.01	0.00					

TOTAL WATER TO INCREASE ON STORAGE AREA= 3.365 CFS-HRS= 311.00 ACRE-FT= 30.56

SUBROUTINE ADDHYD CROSS SECTION 1

INPUT HYDROGRAPH = 2 OUTPUT HYDROGRAPH = 3

DUE TO STORAGE ROUTING, THE SUM OF HYDROGRAPHS 1 AND 2 DOES NOT EQUAL THE SUM OF THE PEAK VALUES.

PEAK TIMES	PEAK DISCHARGES	PEAK ELEVATIONS
12.45	116.738	521.70
13.11	105.341	521.51
13.47	95.755	521.42
13.72	87.025	521.40

TIME HYDROGRAPH, TZERO= 0.00 DELTA T= 0.20 DRAINAGE AREA= 2.80

0.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	DISCHG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04
6.00	DISCHG	0.09	0.14	0.20	0.34	0.49	0.64	0.92	1.20	1.49	1.94
8.00	DISCHG	2.39	2.88	3.56	4.24	5.04	6.13	13.23	15.08	18.63	23.04
10.00	DISCHG	29.54	38.15	46.96	57.04	68.16	79.31	88.95	97.71	106.28	111.33
12.00	DISCHG	114.85	118.18	118.72	118.53	118.32	116.41	114.27	112.13	110.32	108.68
14.00	DISCHG	107.19	106.59	105.95	105.43	105.33	103.24	105.22	105.40	105.51	105.15
16.00	DISCHG	104.64	103.92	103.18	102.54	101.85	101.27	100.78	100.28	99.89	99.59
18.00	DISCHG	99.32	99.14	99.00	98.86	98.80	98.75	98.71	98.75	98.73	98.62
20.00	DISCHG	98.50	98.34	98.15	97.98	97.80	97.63	97.50	97.37	97.26	97.23
22.00	DISCHG	97.22	97.23	97.27	97.32	97.39	97.50	97.60	97.71	97.81	97.84
24.00	DISCHG	97.76	97.60	97.42	97.07	96.59	96.11	95.38	94.53	93.68	92.72
26.00	DISCHG	91.74	90.75	89.85	88.96	88.07	87.39	86.73	86.07	85.66	85.21
28.00	DISCHG	86.76	84.45	84.13	83.83	83.62	83.40	83.20	83.06	82.89	82.72
30.00	DISCHG	82.55	82.37	82.20	82.04	81.88	81.72	81.58	81.44	81.31	81.18
32.00	DISCHG	81.05	80.93	80.81	80.69	80.58	80.46	80.35	80.24	80.10	79.90
34.00	DISCHG	79.65	79.38	79.09	78.80	78.49	78.20	77.90	77.60	77.31	77.06
36.00	DISCHG	76.83	76.61	76.41	76.20	76.00	75.80	75.60	75.40	75.21	75.06
38.00	DISCHG	74.95	74.81	74.71	74.60	74.50	74.40	74.30	74.20	74.08	73.94
40.00	DISCHG	73.77	73.58	73.39	73.19	73.00	72.80	72.60	72.40	72.20	72.00
42.00	DISCHG	71.80	71.60	71.40	71.20	71.00	70.80	70.60	70.40	70.20	70.00
44.00	DISCHG	69.80	69.60	69.40	69.20	69.00	68.80	68.60	68.40	68.21	68.06
46.00	DISCHG	67.93	67.81	67.71	67.60	67.50	67.40	67.30	67.20	67.05	66.81
48.00	DISCHG	66.50	66.15	65.77	65.38	64.99	64.59	64.19	63.80	63.34	62.75
50.00	DISCHG	62.07	61.33	60.56	59.78	59.00	58.19	57.39	56.59	55.85	55.24
52.00	DISCHG	54.72	54.26	53.83	53.41	53.00	52.60	52.20	51.80	51.38	50.93
54.00	DISCHG	50.46	49.98	49.49	48.99	48.49	47.99	47.50	47.00	46.48	45.93
56.00	DISCHG	45.36	44.78	44.19	43.59	42.99	42.39	41.79	41.19	34.69	21.60
58.00	DISCHG	12.01	6.31	3.21	1.60	0.79	0.38	0.19	0.09	0.04	0.02

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Niles and Laudenschlager drains

4) DOCUMENT TYPE: 500 yr

00BREAK00

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**********************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 JOB ID NO. =  2.
 MODIFICATION = 11.1.52
*****************************************************
C
T1 SOUTH ROCKWOOD VILLAGE  IS BLOCK -27  ALONG T HOLL...
T2 500YEAR RATIO CURVE FOR ROUTED FLOW AT  MIDDLE  RIVER
T3       1.2OF 200 CFS  0125
J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     ITRACE     IDEBUG     LSEL       NQ
          0.         2.         0.         0.      .001      .001         0.         1.    3113.270     0.000
J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     SKEWW     NDP       ALLDC      IBW       CHNIM     ITRY
       1.000     0.300    -1.000     0.000     0.300     0.000     0.000     0.000     0.030     0.000
J3   ITEST     METRIC     KT     WSEL     CVT     HVINS     TOPWID     EXPWID     CONTWID     LOBANK     ROBANK
     -11.300   -11.000     1.00      1.00      0.00      0.00      0.00      0.00      0.00      0.00
NC     0.030     0.060     0.035     0.100     0.300     0.000     0.000     0.000     0.000     0.000
XT     5.000   320.000   330.000   340.000   350.000     0.000     0.000     0.000     0.000     0.000
ET     1.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000     0.000     0.000
X1     [illegible]  [illegible]  233.300  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
GR   584.600     0.000   577.000    25.000   577.000   226.000   573.000   228.000   570.500   250.000
GR   572.400   272.000   576.300   278.000   577.000   499.000   580.000   500.000     0.000     0.000

                VALLEY 524
X1   970.000    10.000   195.300   243.000   870.300   670.000   272.000     0.000     0.000     0.000
GR   585.200   125.000   577.300   126.000   574.600   195.000   572.300   215.000   572.500   229.000
GR   574.300   243.000   574.600   248.000   574.900   279.000   504.000   300.000   585.000   450.000

X1  1420.000     0.000     0.000     0.000   150.300   150.000   150.000     0.000     0.000     0.000
X3     0.000     0.000     0.000   170.000     0.300   250.000     0.000     0.000     0.000     0.000

X1  1270.000    10.000   275.300   229.000   150.300   150.000   150.000     0.000     0.000     0.000
X3     0.000    11.700     0.000   474.000     0.200   234.000     0.000     0.000     0.000     0.000
GR   585.200   125.000   577.300   126.000   574.600   195.000   572.300   215.000   572.500   229.000
GR   574.500   243.000   574.600   248.000   574.900   275.000   504.000   300.000   585.000   450.000

X1  1320.000     0.000     0.000     0.000   50.300    50.000    50.000     0.000     0.000     0.000
X3     0.000     0.300     0.000   207.000     0.000   234.000     0.000     0.000     0.000     0.000

X1  1370.000     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
X3     0.000     0.000     0.000   209.000     0.000   234.000     0.000     0.000     0.000     0.000

     50  N/S SPLIT FLOW RIVER  1R

X1  1420.000     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000
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X3	0.000	0.700	9.000	211.000	0.200	227.030	0.000	0.000	0.000	0.000

D/S FACE SOUTH HURON RIVER DR.

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	584.500	13.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.300	0.000	0.000	0.000	0.000

X1	1471.000	0.000	0.300	0.000	1.000	1.000	1.000	1.000	0.000	0.000
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ST	5.300	0.000	584.500	0.300	1.000	584.500	0.300	1.100	584.500	579.300
BT	12.900	584.500	579.300	13.200	584.500	0.000	0.300	0.300	0.000	0.00

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	10.000	0.000	0.000	0.300	0.000	0.000	0.000	581.000	582.100	0.000
NC	0.000	0.300	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

[illegible] D/S SOUTH HURON RIVER DR.

X1	1610.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
GR	580.000	0.300	579.000	30.000	575.400	105.000	573.600	111.000	573.400	120.000
GR	573.400	120.000	582.500	147.000	0.000	0.000	0.000	0.000	0.000	0.000

[illegible] D/S DIXIE HWY.

X1	1910.000	4.000	113.000	127.000	200.000	370.000	300.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	65.000	578.400	121.000	574.100	113.000	573.000	120.000
X2	574.300	120.000	574.300	153.000	583.900	150.000	585.000	1510.000	0.000	0.000
ST	0.300	0.000	0.300	0.000	9.100	0.300	0.000	0.000	1.000	13.000

D/S FACE DIXIE HWY.

X1	2020.300	4.000	1.000	13.000	110.000	110.000	110.000	2.000	0.000	0.000
X2	10.300	0.000	0.300	0.000	0.000	0.300	0.000	580.500	582.500	0.000
GR	582.400	1.000	574.300	0.000	574.100	1.100	582.000	0.000	574.000	14.900
GR	582.400	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	2021.300	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ST	5.000	0.000	582.400	0.000	1.000	582.400	0.000	1.100	582.400	579.500
BT	12.900	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000

X1	2061.000	0.300	0.000	0.300	50.000	40.000	40.000	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	581.000	582.400	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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U/S FACE DIXIE HWY.

X1	2062.900	2.020	0.000	2.020	1.000	1.300	1.000	0.200	0.200	0.000
X3	10.000	0.120	0.000	0.020	1.000	0.300	0.300	587.700	581.600	0.200

D/S FACE PENN CENTRAL R.R.

X1	2112.000	6.000	6.400	23.600	50.000	50.000	50.000	0.000	0.000	0.000
43	10.000	0.200	2.000	0.200	2.000	0.000	0.000	530.000	530.000	1.000
3P	593.900	0.000	574.600	1.400	574.700	0.000	372.200	14.000	574.000	15.200
3L	593.900	28.400	0.000	0.200	2.000	0.000	0.000	1.000	0.000	0.000
MC	2.000	0.000	0.026	0.300	0.020	0.020	0.000	0.000	0.000	0.000

X1	2114.000	0.000	3.000	0.300	4.000	4.000	4.000	1.000	2.000	1.000
X2	10.000	0.000	0.020	0.000	1.000	0.000	0.000	586.000	0.000	1.000
BT	1.000	567.900	583.900	15.300	587.900	583.900	13.600	387.900	0.000	0.000

X1	2114.000	0.000	3.000	0.300	4.000	4.000	4.000	1.000	2.000	1.000
X2	10.000	0.000	0.020	0.000	1.000	0.000	0.000	586.000	0.000	1.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000
MC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PENN CENTRAL R.R.

X1	2114.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000

VALLEY BETWEEN P.C. R.R., I-75 & SOUTH OFF RAMP

X1	2275.000	6.000	12.000	100.000	90.000	90.000	90.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	77.500	0.000	122.500	0.000	0.000	0.000	0.000
03	590.000	0.000	580.000	0.000	577.200	81.000	573.900	94.000	573.400	100.000
02	576.100	106.000	577.500	118.000	580.000	330.000	590.000	330.000	0.000	0.000

U/S FACE I-75 & SOUTH OFF RAMP

X1	2275.000	12.000	95.000	905.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.900	587.700	0.000
03	590.000	0.000	577.200	73.000	576.100	81.000	573.900	95.000	573.600	95.000
02	573.900	93.000	573.900	100.000	573.900	122.000	576.600	204.000	575.300	105.000
04	579.200	125.000	587.700	200.000	0.000	0.000	0.000	0.000	0.000	0.000
BB	0.000	1.950	3.000	0.000	8.610	3.000	42.200	0.000	573.600	573.600

D/S FACE I-75 & SOUTH OFF RAMP

X1	2297.000	0.000	0.700	0.000	123.500	122.000	122.000	0.000	0.000	0.000
X2	0.000	0.000	1.700	571.500	587.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.900	587.700	0.000
BT	12.000	0.000	588.900	0.000	73.500	583.300	0.000	85.000	588.200	0.000
01	95.000	563.200	575.000	85.000	590.800	592.000	92.200	588.210	592.300	100.000
02	586.800	573.500	101.000	584.200	573.900	124.400	593.800	573.000	0.000	587.200
04	575.300	125.000	588.000	0.000	200.000	587.700	0.000	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

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VALLEY BETWEEN N.B. OFF RAMP & I-75

X1	2572.000	8.000	60.000	70.000	175.000	175.000	175.000	0.000	0.000	0.000
X3	[illegible]	0.000	0.000	10.000	[illegible]	115.000	0.000	0.000	0.000	0.000
3R	580.000	0.000	579.600	45.300	577.100	[illegible]	577.400	58.000	577.700	55.000
3R	574.200	70.700	57 .000	[illegible]	[illegible]	[illegible]	0.700	[illegible]	[illegible]	[illegible]

D/S FACE I-75

X1	27[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3R	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	574.100	60.300	574.400	63.900	574.400	64.000	576.500	74.000	586.000	150.000
SE	0.000	2.330	3.000	0.300	9.000	0.000	35.400	0.000	574.400	574.100

[illegible] I-75

X1	2923.000	0.000	0.000	0.000	165.000	165.000	160.000	0.000	0.300	0.000
X2	0.000	0.000	1.000	579.000	534.600	[illegible]	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.0 0	0.000	544.600	565.100	0.000
L [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
L [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

30° U/S I-75

X1	2575.000	[illegible]	[illegible]	[illegible]	30.100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	0.000	[illegible]	[illegible]	[illegible]	0.000	114.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3R	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	574.700	64.000	578.800	74.000	580.000	420.000	585.000	600.000	0.000	0.000

[illegible] D/S I-75 S. BOUND LANES

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	0.000	0.000	0.000	112.500	0.000	147.500	0.000	0.000	0.000	0.000
GR	591.100	0.000	584.300	95.000	575.900	123.500	575.600	130.000	575.600	136.500
GR	583.200	152.000	585.000	550.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 S. BOUND LANES

X1	3323.000	11.000	125.000	135.000	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	536.500	586.500	0.000
GR	591.200	0.000	584.300	95.000	575.900	123.500	575.600	130.000	575.600	136.500
GR	595.500	232.000	575.400	133.200	574.900	134.200	576.000	136.000	583.200	147.000
SB	591.000	255.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	2.000	3.000	0.000	8.500	0.000	49.500	0.000	575.400	575.400

D/S FACE I-75 S. BOUND LANES

X1	3486.000	0.000	0.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	581.200	591.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.000	0.000
3T	0.000	0.000	591.200	0.000	125.000	594.200	575.200	125.400	591.200	579.500
3T	586.800	591.200	[illegible]	90.000	[illegible]	591.200	155.200	591.200	590.400	134.400
3T	591.200	575.[illegible]	[illegible]	591.200	579.000	250.000	[illegible]	0.000	0.000	0.000

D/S FACE CARLETON-ROCKWOOD

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X1	3558.000	13.000	114.000	126.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	585.000	582.000	0.000
GR	590.000	95.000	581.000	96.000	580.100	109.000	576.400	114.000	576.400	114.100
GR	576.400	125.900	576.400	126.000	580.200	131.000	590.000	190.000	590.000	500.000
GR	590.000	581.000	570.000	580.000	590.000	582.000	0.000	0.000	0.000	0.000
GR	0.000	1.200	3.000	0.000	0.000	0.000	47.100	0.000	576.400	576.400

U/S FACE CARLETON-ROCKWOOD

X1	3610.000	0.000	0.000	0.000	61.500	61.500	61.500	0.000	0.000	0.000
X2	0.000	0.000	1.000	581.100	580.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	585.000	582.000	0.000
BT	13.000	95.000	590.000	0.000	96.000	587.700	0.000	109.000	586.100	0.000
BT	114.000	536.100	0.000	114.100	586.100	581.000	125.900	585.100	581.100	126.000
DT	586.100	0.000	131.000	586.100	0.000	190.000	590.000	0.000	500.000	590.000
DT	0.000	581.100	580.000	0.000	581.000	590.000	0.000	582.000	590.000	0.000
NC	0.150	0.150	0.160	0.000	0.000	0.000	1.000	0.000	0.000	0.000

X1	3630.000	0.000	20.000	150.000	20.000	20.000	20.000	0.000	0.000	0.000
GR	582.000	0.000	580.000	20.000	580.000	150.000	590.000	150.000	590.000	500.000
GR	585.000	580.000	585.000	585.000	590.000	580.000	0.000	0.000	0.000	0.000
GR	0.000	20.000	310.000	300.000	330.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC. D/S OF BRANDON RD.

X1	5200.000	0.000	1.000	100.000	1400.000	1150.000	1070.000	0.000	0.000	0.000
GR	590.000	0.000	520.000	0.000	500.000	11.000	584.500	101.000	590.000	102.000
NC	.200	0.200	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	4250.000	6.000	310.000	800.000	1500.000	1600.000	1550.000	0.000	0.000	0.000
GR	590.000	0.000	583.000	310.000	584.000	385.000	500.000	700.000	585.000	800.000
GR	590.000	960.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	7800.000	6.000	100.000	470.000	920.000	930.000	950.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	130.000	584.000	120.000	584.000	450.000	585.000	470.000
GR	590.000	1310.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC. APPROX. 100 FT DIS OF HURON RIVER

X1	3000.000	8.000	115.000	400.000	400.000	1200.000	800.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	50.000	580.000	115.000	575.000	200.000	575.000	265.000
GR	580.000	400.000	585.000	815.000	590.000	930.000	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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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager (Notes)

4) DOCUMENT TYPE: Chapman Drain Rating Curve

00BREAK00

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**************************************************
  HEC2 RELEASE DATED JUN 79 UPDATED FEB 1979
  PROBLEM CODE =  04
  PUBLICATION =  JUL 81
**************************************************


C
C  CHAPMAN DRAIN, VILLAGE OF SOUTH ROCKWOOD AUG 20,1981
C  RATING CURVE D/S OF R.R. CULVERTS
TI       CHAPMAN DRAIN

J1  ICHECK    INQ       NDIM      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
          0.        2.        0.        0.  0.00[illegible]      1.00      0.          [illegible]      1.000

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 ENGLISH INPUT

    150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J5  LPRNT     KUNSEC                    ********REQUESTED SECTION NUMBERS********
    -10.00    -9[illegible].00     3.000     0.00      0.000     0.000     0.000     0.000     0.000     0.000
 1.0      0.100     5.000     0.035     0.030     5.000     0.000     0.000     0.000     0.000     0.000
 QT       3.000    25.000    50.000   150.000   150.000     0.000     0.000     0.000     0.000     0.000

 XT       1.000    10.000   997.000  1025.500   650.000   650.000   579.500   997.000   578.700   998.500
 SP     579.000   997.000   580.000   976.300   579.900   995.000   579.500   997.000   578.700   998.500
 QT     578.700  1021.500   575.100  1303.300   580.700  1007.000   801.000  1024.000   580.000  1025.000

 X1       1.800    12.000   998.500  1001.500   100.500   100.000   100.000     0.000     0.000     0.000
 WR     590.000   985.000   980.000   986.000   579.900   995.000   578.700   998.500   578.700   998.510
 GR     575.700  1000.000   378.700  1301.490   578.700  1001.510   579.100  1303.000   580.700  1007.000
 GR     580.000  1014.000   590.000  1015.000     0.000     0.000     0.000     0.000     0.000     0.000
 SB       2.000     1.980     3.000     0.000     5.000     0.000     0.000     0.000   578.700   578.700

C        3/8 FACE READY RD.

 X1       2.000     0.000     0.010     0.000    20.300    20.000    20.000     0.000     0.000     0.000
 X2       0.000     0.000     1.000   580.300   581.000     0.000     0.000     0.000     0.000     0.000
 BT      12.000   985.000   590.000     0.000   986.000   581.000     0.000   995.000   581.000     0.000
 RT     998.500   581.000     0.000   998.510   581.000   580.000  1000.000   581.000   580.300  1001.490
 BT     581.000   580.000  1001.500   581.000     0.000  1003.000   581.000     0.000  1007.000   581.000
 BT       0.000  1014.000   591.000     0.000  1015.000   540.000     0.000     0.000     0.000     0.000

 X1       2.200     0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.000     0.000

 X1       2.700     9.000   997.000  1003.000   150.000   130.000   150.000     0.000     0.000     0.000
 SR     590.000   979.000   580.600   976.000   580.600   995.000   579.300   997.000   579.200  1000.000
 GR     579.400  1003.200   580.200  1009.000   580.200  1026.000   580.000  1025.000     0.000     0.000
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X1	2.300	13.000	993.900	1001.100	100.000	100.000	100.000	0.000	0.000	0.000
GN	590.000	965.000	580.600	966.000	580.600	993.000	579.300	997.000	578.600	998.900
GR	570.600	999.000	578.600	1000.000	570.600	1001.000	578.600	1001.100	579.400	1003.000
GR	580.200	1009.000	580.200	1014.000	590.000	1015.000	0.000	0.000	0.000	0.000
SD	0.000	3.500	3.300	2.000	1.400	2.000	1.700	0.000	578.600	578.600

U/S FACE WASGERMAN RD

X1	3.000	0.000	0.000	0.000	33.000	33.000	33.000	0.000	0.000	0.000
X2	3.000	0.000	1.000	579.600	579.700	0.000	0.000	0.000	0.000	0.000
X3	15.000	975.000	590.000	0.000	976.000	586.000	0.000	992.000	581.700	0.000
JT	587.400	581.700	2.000	590.900	581.700	579.600	594.000	581.700	579.400	1000.000
JT	581.700	579.300	1001.000	581.700	579.400	1001.100	581.700	578.600	1003.000	581.700
JT	0.000	1009.000	581.700	0.000	1014.000	582.000	0.000	1015.000	590.000	0.000
X1	3.300	7.000	958.100	1004.000	50.000	53.000	47.000	3.000	0.000	0.000
GN	590.300	975.000	590.600	976.000	580.400	993.000	578.300	997.000	579.200	1000.500
GR	579.400	1003.000	580.200	1009.000	580.200	1014.000	590.000	1015.000	0.000	0.000
X1	3.300	13.000	990.300	1002.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.400	975.100	580.200	976.000	580.200	993.000	579.300	997.000	580.300	998.000
GR	579.700	999.000	579.300	1000.000	579.300	1001.000	579.300	1001.000	579.000	1001.300
GR	580.000	1002.000	579.700	1005.000	582.600	1010.000	582.300	1024.000	590.000	1025.000
X1	3.300	0.000	0.000	0.000	120.000	120.000	120.000	0.000	0.000	0.000
X2	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	579.000	0.000
X3	0.000	2.400	3.000	0.000	2.800	0.000	10.000	0.000	579.000	579.000

U/S FACE DETROIT & TOLEDO R.R.

X1	4.300	1.000	0.000	3.000	45.000	45.000	45.000	0.000	0.000	0.000
X2	0.300	0.000	1.000	582.000	580.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	3.000	0.000	0.000	0.000	0.000	0.000	588.600	588.600	0.000
JT	15.000	975.000	590.300	0.000	976.000	586.600	0.000	992.000	588.600	0.000
JT	995.000	588.600	0.000	999.000	586.600	580.300	958.500	580.600	581.400	999.000
JT	588.600	581.900	1000.300	580.400	582.000	1001.000	588.600	581.900	1001.500	580.600
BT	581.400	1002.000	580.600	580.000	1005.000	586.600	0.000	1010.000	580.600	0.000
BT	1024.000	588.600	0.000	1025.000	593.000	0.000	0.000	0.000	0.000	0.000
X1	4.100	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.400	0.000
X1	4.900	13.000	998.000	1002.000	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	584.000	584.000	0.000
GR	590.000	975.200	581.600	976.000	581.600	967.000	580.000	998.000	579.800	998.500
GR	579.800	999.000	579.800	1000.000	579.800	1001.000	579.300	1001.300	580.000	1002.000
GR	581.600	1009.000	581.600	1024.000	590.000	1025.000	0.000	0.000	0.000	0.000
SD	0.000	2.400	3.000	0.000	3.200	0.000	7.000	0.000	579.800	579.800

U/S FACE MICHIGAN CENTRAL R.R.

X1	3.000	0.000	0.000	0.000	56.000	56.000	56.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.000	589.700	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	589.700	589.700	0.000
JT	1.000	975.000	590.000	0.000	976.000	589.700	0.000	987.000	589.700	0.000
JT	995.000	589.700	580.000	998.500	589.700	579.600	999.000	589.700	579.300	1000.000
BT	0.000	579.600	1001.000	589.700	579.600	1001.000	579.700	579.600	1002.000	589.700

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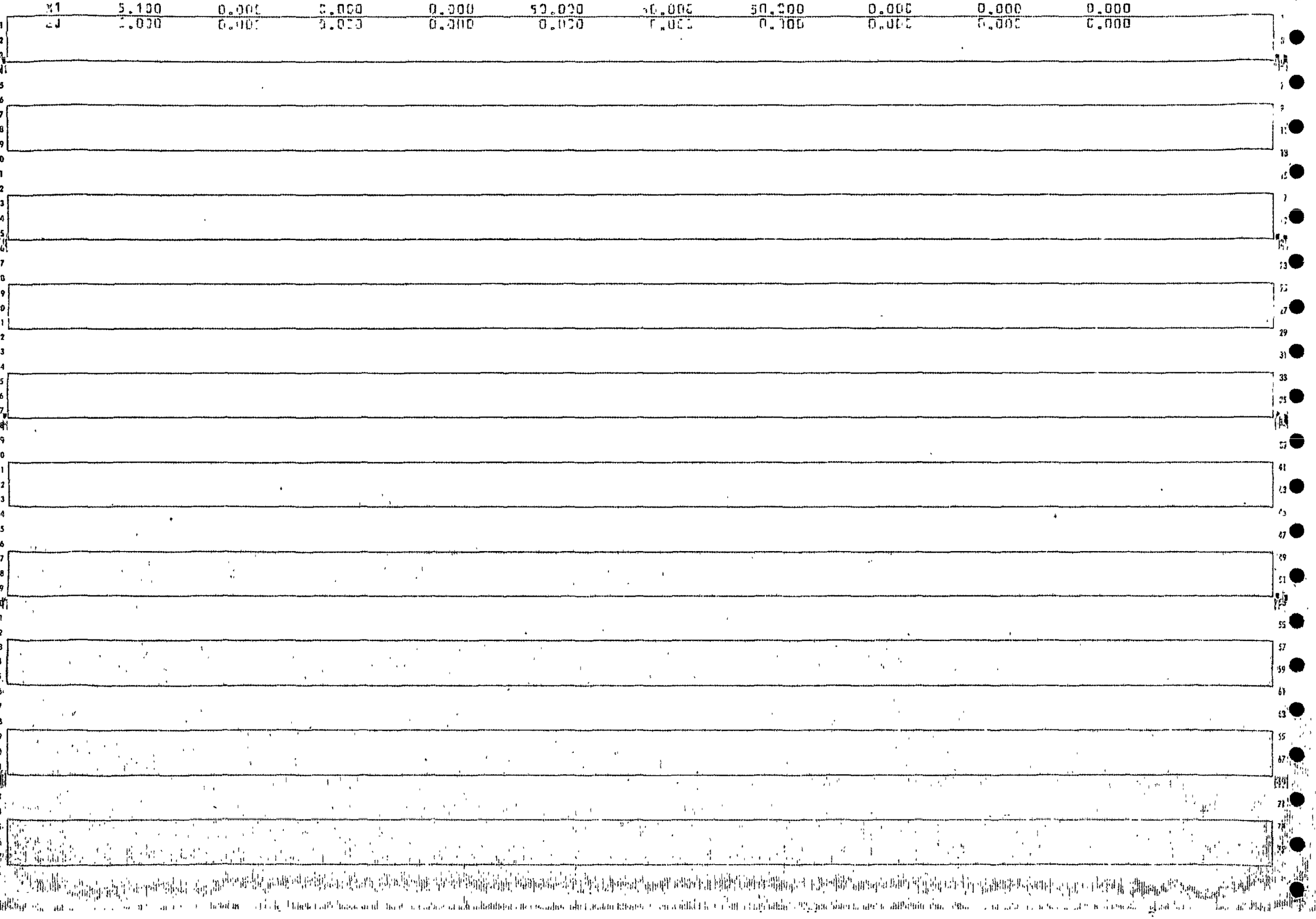
BT	26[illegible]	[illegible]	509.700	0.000	1024.000	509.700	0.000	1025.000	590.000	0.000
X1	5.100	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
Z1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



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  HEC2 RELEASE DATED NOV 75 UPDATED FEB 1977
  ERROR CORR - [illegible]
  [illegible] - [illegible]
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[illegible] HEAIR, VELOCITY OF SOUTH [illegible] HLT [illegible]
[illegible] CURVE [illegible] [illegible]
[illegible]      [illegible]

J1  ICHECK    INQ      NINV     IDIT     STRT     METRIC   HVINS    Q        USEL     FQ

      0.       0.       0.       0.  0.[illegible]     [illegible]     [illegible]     0.   [illegible]     0.[illegible]

J2  [illegible]   IPLOT    PRFMS    [illegible]    [illegible]    [illegible]    ALLOC    [illegible]    [illegible]    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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**************************************************************
  HECP RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR - 101
  MODIFICATION - 51,52,53
**************************************************************

T1CHAPMAN DRAIN, VILLAGE OF SOUTH ROCKWOOD FOR 8039-07
T2RATING CURVE U/S OF H.1. CULVERTS
T3      CHAPMAN DRAIN

J1  ICHECK    INQ       NINV      IDIM      STRT      METRIC    HVIRS     C         LSEL      FB
       0.        A.        0.        0.  0.000260      0.00       0.1        0.   561.500     0.000

J2  NMOP     XFLOW     FLOW     #SCEN     #SECT     FB       FLLC      IPM      CUMIN     STRACE
     3.500     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

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**************************************************************
  NLC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ENFO1 CORR - 01
  MODIFICATION - 30.51.52
**************************************************************

TICHAPSAU DRAIN, VILLAGE OF LOUIS MOLANDOR BUF 2031-37
TREATING CURVE L/S OF R.R. CULVERTS
CS      LEAP AD DRAIN

J1  ICHECK    INO       MINV      IDIR      STRT      METRIC    PVINS     Q         MSFL      FO

      0.        5.        0.        0.  0.000200      0.00      0.0       0.   502.000     0.010

J2  UPROF     IPLOT     PMFAC     MSECU     MFECU     TR        ALLAC     IN        ZMIN      ITRACE

    15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

00BREAK00

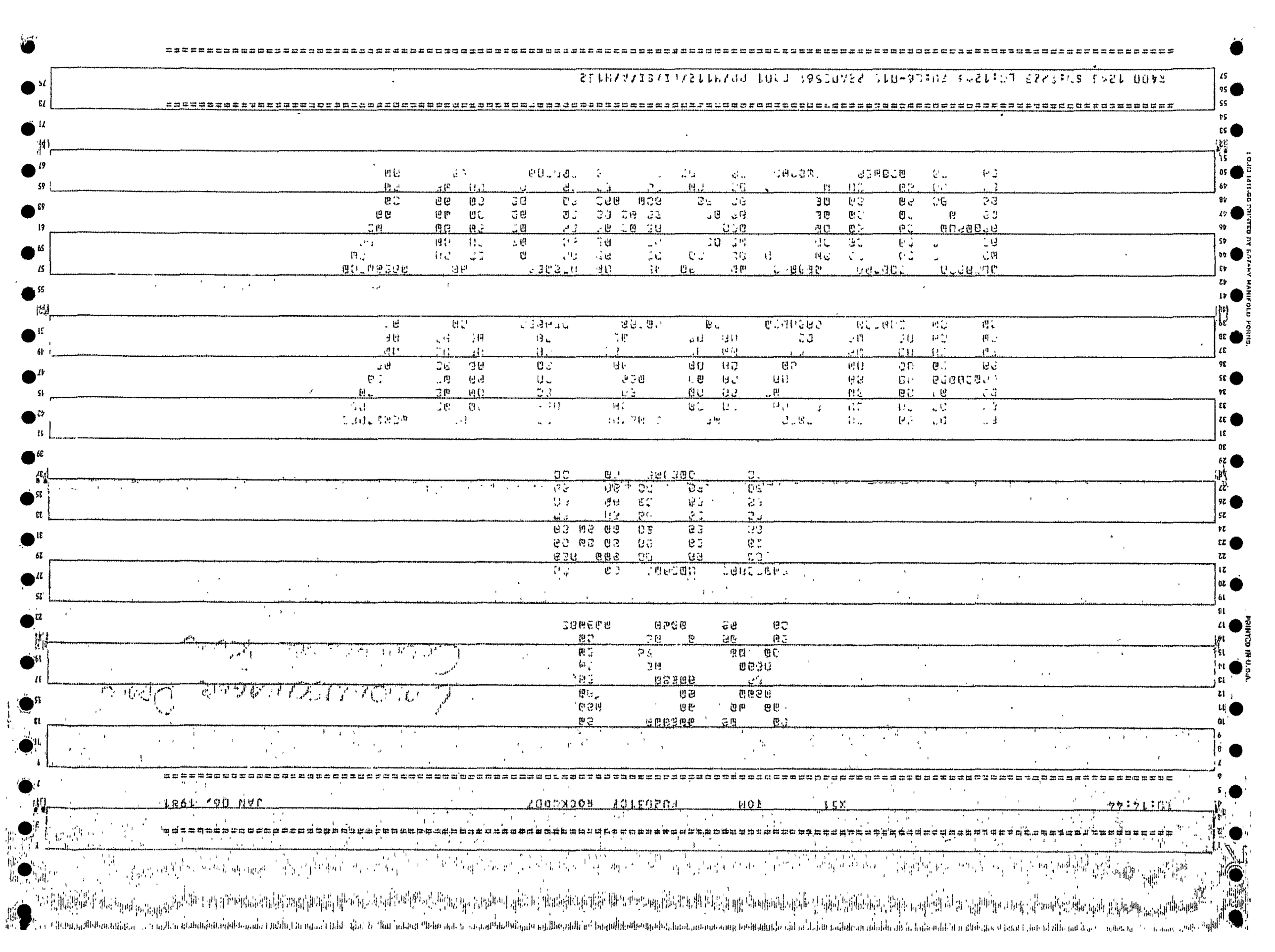
1) COUNTY: Monroe

2) STUDY NAME: Village of S Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains Notes

4) DOCUMENT TYPE: Convergence

00BREAK00



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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

C
T1 LAUDENSCHLAGER DRAIN SOUTH ROCKWOOD FIB HUD 2031-07
T2 CONVERGENCE RUN 1' HIGHER THAN NORMAL DEPTH
T3       LAUDENSCHLAGER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    NVINS     Q         WSEL      FQ
       0.        4.        0.        0.  0.000000      0.00       0.0        0.   578.500     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    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
   150.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

QT      3.000   135.000   135.000   135.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      0.070     0.070     0.035     0.100     0.300     0.000     0.000     0.000     0.000     0.000

        VALLEY 3450' D/S START

X1      1.000     7.000   245.500   254.500     0.000     0.000     0.000     0.000     0.000     0.000
GR    580.000     0.000   577.700   237.000   574.200   [illegible]   577.700   [illegible]   574.300   254.500
GR    577.300   [illegible]   580.000   670.000     0.000     0.000     0.000     0.000     0.000     1.000

        VALLEY 2150' D/S START

X1      2.000     7.000   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]     0.000     0.000
GR    [illegible]   0.000   579.300   137.000   575.500   165.500   575.300   170.000   575.600   174.500
GR    579.000   165.000   590.000   620.000     0.000     0.000     0.000     0.000     0.000     0.000

        VALLEY 650' D/S START

X1      3.000     7.000   155.300   164.300  1300.000  1500.000  1500.000     0.000     0.000     0.000
GR    581.000     0.000   579.700   [illegible]   576.200   155.500   575.700   150.000   576.300   164.500
GR    579.300   175.000   581.000   600.000     0.000     0.000     0.000     0.000     0.000     0.000
QT      3.000    85.000    85.000    85.000     0.000     0.000     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

        VALLEY START OF FIG

X1      4.000    14.000   996.000  1004.000   650.000   650.000   650.000     0.000     0.000     0.000
GR    590.000   640.000   582.300   641.000   582.300   900.000   581.200   961.000   577.000   996.000
GR    577.000   996.000   575.700  1000.000   576.900  1000.000   576.900  1004.000   578.800  1009.000
GR    581.000  1010.000   582.100  1100.000   582.200  1500.000   580.000  1501.000     0.000     0.000
EJ      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
*PROF 1
CCHV=   0.100 CEHV=   0.300
*SECNO 1.000
   SECNO     DEPTH     CWSEL     CRIUS     WSELK     EG        HV        HL        BLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IH2       ICONT     COBAR     TOPWID    ENDST

        VALLEY 3650' D/S START

     1.00      4.80    578.50      0.00    578.50    578.53      0.03      0.00      0.00    574.20
     135.       19.       73.       43.       55.       41.      136.        0.        0.    574.30
     0.00      0.34      1.80      0.32     0.070     0.035     0.070     0.000    573.70    154.56
 0.000242        0.        0.        0.         1         0         0      0.00    250.43    445.00

FLOW DISTRIBUTION FOR SECNO=       1.00          CWSEL=     578.50

STA=      155.      237.      245.      255.      265.      445.
  PER C=      4.4       9.4      54.3      13.1      15.[illegible]
   AREA=     33.0      [illegible]      [illegible]      [illegible]      100.0
    VEL=      0.2       0.6       1.8       0.6       0.2

*SECNO 2.000

        VALLEY 2150' D/S START

     2.00      3.99    578.99      0.00      0.00    579.09      0.10      0.54      0.02    575.50
     135.       13.       99.       23.       [illegible]       33.       [illegible]        5.        7.    575.60
     0.15      0.86      2.97      0.34     0.070     0.035     0.070     0.035    575.00    157.03
 0.0[illegible]      1300.     1300.     1300.         2         [illegible]         0      0.[illegible]    [illegible]    505.24

FLOW DISTRIBUTION FOR SECNO=       2.00          CWSEL=     578.99

STA=      157.      166.      173.      185.      305.
  PER C=      [illegible]      [illegible]      [illegible]      [illegible]
   AREA=     [illegible]      [illegible]      19.[illegible]      23.[illegible]
    VEL=      [illegible]      [illegible]      0.[illegible]      [illegible]

*SECNO 3.000

        VALLEY 650' D/S START

     3.00      4.31    580.01      0.00      0.[illegible]    580.07      0.06      3.98      0.00    576.20
     135.       14.       80.       34.       2[illegible].       36.       86.        9.       13.    576.30
     0.39      0.60      2.42      0.39     0.070     0.035     0.070     0.035    575.70    112.02
 0.000511     1500.     1500.     1500.         2         0         0      0.00    240.29    352.31

FLOW DISTRIBUTION FOR SECNO=       3.00          CWSEL=     [illegible]

STA=      112.      147.      156.      165.      175.      352.
  PER C=      0.6       9.6      65.1      13.6      11.2
   AREA=      5.4      17.5      33.3      23.2      62.9
    VEL=      0.1       0.7       2.4       0.2       0.2

CCHV=   0.300 CEHV=   0.500
*SECNO 4.000
```

VALLEY START OF FIS

4.00	3.64	580.34	0.00	0.00	580.40	0.06	0.33	0.00	577.00
55.	13.	62.	11.	20.	28.	13.	10.	15.	576.90
0.50	0.65	2.19	0.81	0.070	0.035	0.070	0.033	576.70	984.06
0.000498	650.	650.	650.	2	0	0	0.00	25.64	1009.70

FLOW DISTRIBUTION FOR SECNO= 4.00 CWSEL= 580.34

STA=	984.	996.	1004.	1009.	1010.
PER Q=	15.3	72.4	12.2	0.1	
AREA=	20.0	26.1	12.5	0.5	
VEL=	0.7	2.2	0.8	0.2	

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FORM 1411-38 PRINTED BY HOTALY MANIFOLD FORMS

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*****************************************************
HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52
*****************************************************

T1 LAUDENSCHLAGER DRAIN SOUTH ROCKWOOD FIS HUD 2031-07
T2 CONVERGENCE RUN NORMAL DEPTH
T3      LAUDENSCHLAGER
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	W	WSEL	FQ
	0.	2.	0.	0.	0.000910	0.00	0.0	0.	877.300	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBH	CHNIM	ITRACE
	2.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	15.000

FORM 1411-08 PRINTED BY ROTARY MANIFOLD FORMS.
PRINTED IN U.S.A.

*PROF 2
CCLV= 0.100 CEHV= 0.300
*SECNO 1.000

SECNO	DEPTH	CWSEL	CSIMS	WSELR	EG	HV	HL	ULOSS	BANK ELEV
Q	QLOB	QCH	QROB	QLOB	QCH	QROB	VOL	THR	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	YOPLID	ENDST

VALLEY 3490' D/S START

1.00	5.97	577.67	0.00	577.30	577.78	0.11	0.00	0.00	574.20
135.	13.	101.	21.	15.	33.	30.	0.	0.	574.30
0.00	0.83	5.05	0.69	0.070	0.035	0.070	0.000	573.70	237.07
0.000912	0.	0.	0.	0	0	6	0.00	33.45	320.52

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 577.67

STA=	257.	246.	255.	265.	321.
PER Q=	0.5	75.4	23.8	1.5	
AREA=	17.5	53.3	19.6	10.3	
VEL=	0.9	3.0	0.9	0.2	

*SECNO 2.000

VALLEY 2150' D/S START

2.00	3.90	578.90	0.03	0.00	579.02	0.12	1.23	0.00	575.50
135.	13.	102.	20.	14.	33.	32.	2.	3.	575.60
0.14	0.90	3.13	0.64	0.070	0.035	0.070	0.035	575.00	167.26
0.00099	1500.	1500.	1500.	1	1	1	0.00	238.20	293.5

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 578.90

STA=	157.	166.	175.	185.	276.
PER Q=	9.3	75.3	8.7	7.1	
AREA=	14.0	32.5	16.0	13.2	
VEL=	0.9	2.1	1.0	0.2	

*SECNO 3.000

VALLEY 850' D/S START

3.00	5.27	580.07	0.05	2.03	580.07	0.06	1.02	0.01	576.20
135.	14.	88.	33.	23.	36.	35.	6.	5.	576.30
0.38	0.60	2.43	0.39	0.070	0.035	0.070	0.035	575.70	112.55
0.000515	1500.	1500.	1500.	2	2	6	0.00	238.60	351.15

FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 580.31

STA=	113.	147.	156.	165.	175.	351.
PER Q=	0.5	9.6	65.2	13.6	11.0	
AREA=	5.2	17.1	36.3	23.1	62.1	
VEL=	0.1	0.7	2.4	0.1	0.2	

CCHV= 0.300 CEHV= 0.500
*SECNO 4.000

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VALLEY START OF FIS

4.00	3.64	580.34	0.00	0.03	580.40	0.06	0.33	0.00	577.00	
85.	13.	62.	10.	20.	28.	13.	8.	11.	576.90	
0.48	0.65	2.19	0.81	0.070	0.035	0.070	0.035	574.70	934.08	
0.000499	650.	650.	650.	2	0	0	0.50	25.64	1009.70	

FLOW DISTRIBUTION FOR SECNO= 4.00 CWSEL= 580.34

STA=	984.	996.	1004.	1009.	1010.
PER Q=	15.5	72.4	12.2	0.1	
AREA=	19.9	28.1	12.8	0.5	
VEL=	0.7	2.2	0.8	0.2	

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  09
  MODIFICATION -  50,51,52
*****************************************************

T1 LAUDENSCHLAGER DRAIN SOUTH ROCKWOOD FIS HUD 2031-07
T2 CONVERGENCE OUR CRITICAL DEPTH
T3      LAUDENSCHLAGER

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   NVINS    Q        WSEL     FQ

      0.       3.       0.       0. -1.000000     0.00     1.0      0.   576.000    0.000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IDW      CHNI     ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000   15.000
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*PROF 3

CCHV=   0.100 CEHV=   0.300
*SECNO 1.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    ES       HV       HL       CLOES    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      IWA      LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IH2      ICONT    CORAR    TOPWID   ENDST

3720 CRITICAL DEPTH ASSUMED

        VALLEY 3450' D/S START

      1.00     2.10   575.80   575.80   576.00   576.56     0.76     0.00     0.00   574.20
      151.       6.     121.       8.       5.      16.       4.       0.       5.   574.30
      0.[illegible]     2.03     7.36     1.99    0.070    0.035    0.070    0.000   573.70   241.61
  0.013[illegible]       0.       0.       0.        0       10        0     0.00    18.14   259.75

FLOW DISTRIBUTION FOR SECNO=       1.00          CWSEL=     575.80

STA=      242.      246.      255.      260.
  PER Q=       4.7      85.5       5.8
   AREA=       3.1      16.4       3.9
    VEL=       2.0       7.4       2.0

*SECNO 2.000

3301 HV CHANGED MORE THAN HVINS

        VALLEY 2130' D/S START

      2.00     4.08   575.09     0.00     0.00   575.17     0.09     2.51     1.07   575.30
      145.      13.      94.      26.       6.      37.      55.       7.       5.   575.[illegible]
      0.17     0.80     2.81     0.47    0.070    0.035    0.070    0.035   575.00   145.27
  0.000745     1300.    1300.    1300.        6        0        0     0.00   187.21   332.41

FLOW DISTRIBUTION FOR SECNO=       2.00          CWSEL=     579.00

STA=      145.      157.      166.      175.      185.      332.
  PER Q=       0.0       9.4      71.1      13.6       5.8
   AREA=       0.4      15.5      34.2      20.7      35.0
    VEL=       0.1       0.8       2.8       0.9       0.2

*SECNO 3.000

        VALLEY 650' D/S START

      3.00     4.32   580.02     0.00     0.00   580.03     0.05     0.91     0.00   576.20
      135.      14.      87.      34.      27.      36.      30.       6.      10.   576.30
      0.[illegible]     0.53     2.40     0.38    0.070    0.035    0.070    0.035   573.70   110.[illegible]
  0.000500     1500.    1500.    1500.        4        0        0     0.00   244.63   355.30

FLOW DISTRIBUTION FOR SECNO=       3.00          CWSEL=     580.02

STA=      111.      147.      156.      165.      175.      355.
  PER Q=       0.6       9.5      64.7      13.6      11.6
   AREA=       5.8      17.6      36.4      23.3      65.0
    VEL=       0.1       0.7       2.4       0.8       0.2
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CCHV=   0.300 CEHV=   0.500
*SECNO 4.000

        VALLEY START OF FIS

     4.00      3.65    580.35      0.00      0.00    568.40      0.06      0.32      0.00    577.00
      85.       13.       61.       11.       20.       28.       13.        8.       13.    576.90
     0.51      0.65      2.18      0.81     0.070     0.035     0.070     0.035    576.70    984.04
 0.000495      650.      650.      650.         2         0         0      0.00     25.66   1009.70

FLOW DISTRIBUTION FOR SECNO=      4.00          CUSEL=     500.35

STA=      984.      996.     1004.     1009.     1010.
  PER Q=      15.3      72.3      12.2       0.1
   AREA=      20.0      28.2      12.5       0.5
    VEL=       0.6       2.2       0.3       0.2
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HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52

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

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ZLMIN	Q	CHSEL	CHINS	EG	10K*S	VCH	AREA	.01K
	1.000	0.00	0.00	0.00	573.70	135.00	578.50	0.00	578.53	2.42	1.80	231.72	86.70
	1.000	0.00	0.00	0.00	573.70	135.00	577.67	0.00	577.78	9.12	3.05	77.79	44.71
*	1.000	0.00	0.00	0.00	573.70	135.00	575.00	575.00	578.58	136.01	2.56	23.47	11.58
	2.000	1300.00	0.00	0.00	575.00	135.00	578.99	0.00	579.09	8.59	2.97	91.25	46.06
	2.000	1300.00	0.00	0.00	575.00	135.00	578.90	0.00	579.02	9.90	3.13	78.50	42.91
	2.000	1300.00	0.00	0.00	575.00	135.00	579.08	0.00	579.17	7.45	2.81	105.88	49.45
	3.000	1500.00	0.00	0.00	575.70	135.00	580.01	0.00	580.07	5.[illegible]	2.42	145.30	59.74
	3.000	1500.00	0.00	0.00	575.70	135.00	580.01	0.00	580.07	5.13	2.43	144.19	59.49
	3.000	1500.00	0.00	0.00	575.70	135.00	580.02	0.00	580.08	5.00	2.40	148.20	60.40
	4.000	650.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	4.98	2.19	61.08	38.09
	4.000	650.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	4.99	2.19	61.05	38.06
	4.000	650.00	0.00	0.00	576.70	85.00	580.35	0.00	580.40	4.95	2.16	61.23	38.21

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LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CHSEL	DIFUSP	DIF.SX	DIFSCO	TOP.ID	XLCH
1.000	135.00	578.50	0.00	0.00	0.00	290.45	0.00
1.000	135.00	577.67	0.00	0.00	0.37	63.45	0.00
1.000	135.00	575.80	0.00	0.00	-0.20	18.14	0.00
2.000	135.00	578.99	0.00	0.69	0.00	166.21	1300.00
2.000	135.00	578.90	0.00	1.23	0.00	118.24	1300.00
2.000	135.00	579.08	0.00	3.28	0.00	187.21	1300.00
3.000	135.00	580.01	0.00	1.02	0.00	220.29	1300.00
3.000	135.00	580.01	0.30	1.10	0.00	236.60	1300.00
3.000	135.00	580.02	0.30	0.94	0.00	264.63	1300.00
4.000	85.00	580.34	0.00	0.33	0.00	25.64	650.00
4.000	85.00	580.34	0.00	0.34	0.00	25.64	650.00
4.000	85.00	580.35	0.00	0.35	0.00	25.66	650.00

SUMMARY OF ERRORS

CAUTION SECNO= 1.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

PRINTED IN U.S.A.

FORM 141100 PRINTED BY ROTARY MANIFOLD FORMS

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains (Nokes)

4) DOCUMENT TYPE: Convergence

00BREAK00

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*****************************************************
  NECE RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  5[illegible]
*****************************************************

T1 LAUDENSCHLAGER DRAIN SOUTH [illegible] FIG HUD 2011-07
T2 CONVERGENCE RUN CRITICAL DEPTH
T3      LAUDENSCHLAGER

J1  ICHECK    IXQ       NINV      IDIR      STRT      METRIC    HVINS     Q         USEL      FQ

       0.        3.        0.        0. -1.000000      0.00      0.0        0.   [illegible].000     0.000

J2  NPROF     NPLOT     PRINC     MPROF     NCROL     [illegible]     ALONG     [illegible]     CHNI      ITRACE

     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000
```

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

*PROF 3

CCHV= 0.300 CEHV= 0.300

*SECNO 1.000

SECNO	DEPTH	CASE	CHORD	DELX	ES	HV	HL	LOSS	UPWR SLEV
	SLOP	VCH	VBOD	ALL	XSA	ZBOD	ANL	TOP	LEFT/R.BLF
TIME	VLOB	VCH	VROD	XNL	XLCH	XRCH	VTW	ELDIR	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPR	ICONT	CORAR	TOP.SD	ENDST

3720 CRITICAL DEPTH RESULTS

VALLEY 3450' D/S START

1.00	3.26	576.98	576.93	580.00	578.13	1.16	0.00	0.00	574.20
315.	23.	252.	54.	0.	27.	13.	0.	0.	576.20
0.00	2.70	9.46	2.70	0.070	0.035	0.070	0.000	572.70	630.95
0.011631	0.	2.	1.	0	10	3	1.00	25.12	202.67

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 576.96

ST=	230.	246.	253.	400.
PER Q=	1.0	79.4	19.6	
AREA=	9.6	27.0	12.6	
VEL=	2.7	9.5	2.7	

*SECNO 2.100

3220 CROSS SECTION 2.00 SYSTEM 35 0.05 FEET

3301 HV CHANGED MORE THAN HVINS

VALLEY 2950' D/S START

2.00	5.02	580.02	0.00	0.00	580.36	0.04	1.63	0.11	575.50
315.	47.	116.	152.	106.	43.	343.	0.	10.	575.60
0.20	0.44	2.73	0.44	0.070	0.035	0.070	0.035	575.60	0.00
0.000515	1300.	1300.	1300.	6	0	0	0.00	620.00	620.00

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 580.02

STA=	0.	157.	166.	175.	185.	620.
PER Q=	8.2	6.8	36.8	9.4	38.9	
AREA=	28.6	23.6	42.8	30.2	315.6	
VEL=	0.3	0.9	2.7	1.0	0.4	

*SECNO 3.000

VALLEY 650' D/S START

3.00	5.11	580.81	0.00	0.00	580.86	0.05	0.79	0.00	576.20
315.	46.	122.	167.	94.	43.	316.	24.	29.	576.30
0.59	0.49	2.80	0.47	0.070	0.035	0.070	0.035	575.70	21.73
0.000537	1500.	1500.	1500.	4	0	0	0.00	530.24	551.96

FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 580.61

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

PER Q=	7.3	7.3	38.7	10.0	36.8
AREA=	69.4	24.3	43.5	31.6	284.2
VEL=	0.3	0.9	2.8	1.0	0.4

CCHV= 0.300 CCHV= 0.500
*SECNO 4.000

VALLEY START OF FIS

4.00	4.59	581.29	0.00	0.00	581.63	0.34	0.63	0.15	577.00
295.	56.	199.	40.	33.	34.	22.	31.	34.	175.90
0.63	1.63	3.51	1.05	0.270	1.033	0.073	0.025	374.70	974.71
0.032350	651.	657.	530.	2	0	0	0.0	55.64	1032.35

FLOW DISTRIBUTION FOR SECNO= 4.00 CUSEL= 581.29

STA=	475.	531.	996.	004.	1009.	1040.	1033.
PER Q=	0.0	10.0	67.4	13.1	0.3	0.3
AREA=	0.3	32.8	35.7	17.2	1.4	3.3
VEL=	0.1	1.7	3.6	2.2	0.7	0.3

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

00BREAK00

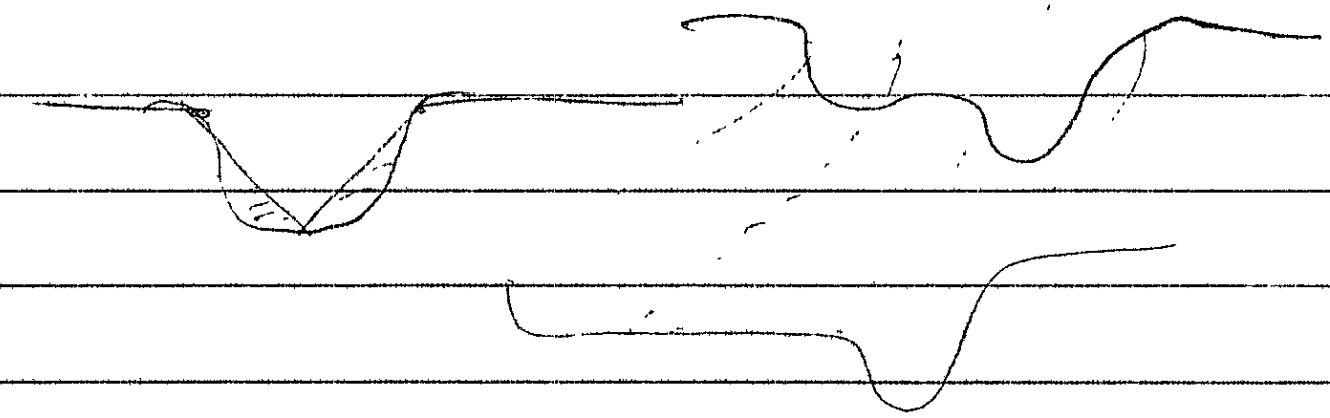
1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains (Notes)

4) DOCUMENT TYPE: Convergence

00BREAK00



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**********************************************************
  HEC2 RELEASED DATED NOV 76 UPDATED DEC 1977
  ICHECK CODE =  01
  QSPECIAL FLOW =  30,51,52
**********************************************************

T1  LAUDENSCHLAGER SPECIAL SOUTH RESERVOIR FIS NOV 2031=Q2
T2  CONVERGENCE OF .1 FT(CHECK THAT NCRS=.LE.20)
T3      LAUDENSCHLAGER

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          USEL       FQ
              0.         4.         1.         1.      0.067002      2.00       0.3        5.      574.500    0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLOC      IDV        CHNIM      ITRACE
            1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000     15.000

J   VARIABLE FLOWS FOR PROFILE NO. 1 ETC.

          130.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

QT          3.000    315.000    315.000    315.000      0.000      1.000      0.000      0.000      0.000      0.000
QC          0.370      0.370      3.000      0.300      1.330      1.000      0.000      0.000      0.300      0.000


          VALLEY 3450' D/S START

X1          4.000      7.000    265.500    254.500      0.000      0.000      0.000      0.000      0.000      0.000
GR        553.000      0.000    577.700    537.000    572.200    545.500    575.700    250.000    574.300    254.500
GR        577.300    265.000    580.000    570.000      0.000      0.000      0.000      0.000      0.000      0.000


          VALLEY 2150' D/S START

X1          4.000      7.000    165.500    174.500   1500.000   1500.000   1570.700      0.000      0.000      0.000
GR        580.000      0.000    579.000    167.300    575.500    165.500    575.300    170.000    575.600    174.500
GR        573.600    105.000    580.000    620.000      0.000      0.000      0.300      0.000      0.000      0.000


          VALLEY 650' D/S START

X1          3.000      8.000    155.500    166.500   1500.000   1500.000   1500.000      0.000      0.000      0.000
GR        561.000      0.000    575.700    167.300    575.200    165.500    575.700    180.000    576.300    166.500
GR        579.300    175.000    581.000    620.000      0.000      0.000      0.000      0.000      0.000      0.000
QT          3.000    295.000    295.000    295.000      0.000      0.300      0.000      0.000      0.000      0.000
NC          0.000      0.000      0.000      0.300      0.500      0.300      0.000      0.000      0.000      0.000


          VALLEY START OF FIS

X1          4.000    144.000    996.000   1004.000    650.000    650.000    650.000      0.000      0.000      0.000
GR        590.000    640.000    582.300    644.000    582.300    930.000    581.200    981.000    577.000    996.000
GR        577.000    996.100    574.700   1000.000    574.900   1003.900    574.900   1004.000    578.800   1009.000
GR        561.000   1020.000    582.100   1100.000    582.200   1530.300    568.000   1500.000      0.000      0.000
EV          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.
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*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO 1.000

SECNO	DELTA	CHSEL	CHINL	ZELEV	FQ	HW	TL	LLOSS	BANK ELEV
	QLOB	QCH	QROB	XLOB	NCH	XROB	WSEL	TW	LEFT/RIGHT
TYPE	VLOB	VCH	VROB	XWL	WTCH	XR2	HTW	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IN2	ICONT	CORAR	TOPWID	ELDST

VALLEY 365.' D/S START

1.00	5.30	579.00	0.00	579.00	579.05	0.53	0.00	0.00	574.20
315.	57.	129.	129.	113.	45.	255.	0.	0.	574.30
0.01	0.06	2.84	0.93	0.070	0.035	0.070	0.000	575.70	112.06
0.000926	0.	0.	0.	2	0	1	1.00	576.06	581.00

FLOW DISTRIBUTION FOR SECNO= 1.00 CHSEL= 579.00

STA=	401.	327.	26.	165.	205.	556.
PER Q=	0.1	0.1	0.1	17.0	50.7
AREA=	0.1	35.9	0.2	22.6	41.7
VEL=	0.6	1.0	2.6	1.0	0.6

*SECNO 2.000

VALLEY 650' D/S START

2.00	4.83	579.33	0.00	0.00	579.41	0.06	0.84	0.00	575.50
315.	42.	136.	136.	78.	41.	263.	12.	14.	575.60
0.21	0.55	3.33	0.52	0.070	0.035	0.070	0.035	575.00	26.83
0.000383	1500.	1500.	1500.	2	0	0	0.00	576.06	585.90

FLOW DISTRIBUTION FOR SECNO= 2.00 CHSEL= 579.03

STA=	27.	157.	166.	179.	185.	567.
PER Q=	5.8	7.9	49.5	10.5	32.3
AREA=	54.0	21.9	42.0	28.7	234.7
VEL=	0.3	1.1	3.3	1.2	0.4

*SECNO 3.000

VALLEY 650' D/S START

3.00	5.13	580.83	0.00	0.00	580.87	0.03	0.96	0.00	576.20
315.	46.	120.	149.	96.	44.	323.	26.	33.	576.30
0.52	0.48	2.75	0.46	0.070	0.035	0.070	0.035	575.70	19.63
0.000517	1500.	1500.	1500.	1	0	0	0.00	576.98	586.60

FLOW DISTRIBUTION FOR SECNO= 3.00 CHSEL= 580.83

STA=	20.	147.	156.	165.	175.	557.
PER Q=	7.5	7.2	36.1	9.9	37.3
AREA=	71.7	24.4	45.7	31.8	291.2
VEL=	0.3	0.9	2.8	1.0	0.4

CCHV= 0.300 CEHV= 0.500

*SECNO 4.000

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

VALLEY START OF FIS

4.00	4.59	581.29	0.00	0.00	581.63	0.34	0.61	0.15	577.00
295.	56.	199.	41.	33.	36.	22.	33.	37.	576.90
0.56	1.00	5.57	[illegible]	0.070	[illegible]	0.070	0.035	576.70	974.53
0.002335	650.	650.	650.	2	[illegible]	[illegible]	0.00	59.12	1033.35

FLOW DISTRIBUTION FOR SECNO= 4.00 C.SEL= 581.29

STA=	975.	511.	945.	1004.	1039.	010.	1004.
PRINT=	0.0	[illegible]	[illegible]	[illegible]	0.3	[illegible]	
PRCP=	0.3	32.5	[illegible]	[illegible]	[illegible]	[illegible]	
VEL=	0.1	1.7	5.6	2.2	0.7	0.3	

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

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*****************************************************
  HEC2 RELEASE DATED NOV 77 UPDATED FEB 1977
  ERROR CORR -  U1
  CLASSIFICATION -  50,51,52
*****************************************************

T1 LAUDENSCHLAGER DRAIN SOUTH [illegible] HCA [illegible]
T2 CONVERGENCE [illegible] REPT
T3      LAUDENSCHLAGER [illegible]

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        [illegible]  0.[illegible]  0.[illegible]  0.0       [illegible]  578.[illegible]  2.0[illegible]

J2  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  FN        [illegible]  [illegible]  [illegible]  [illegible]

     2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000    15.000
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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

*PROF 2

CCHV= 0.100 CEHV= 0.300

*SECNO 1.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HW	HL	SLOPE	ENDS ELEV
Q	VLOB	VCH	VROB	XNL	XNCH	XNR	PTX	ELPIN	SSTA
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	PTX	ELPIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IM2	ICONT	CORAR	TOPWID	ENDST

VALLEY SECT D/S START

3.00	5.01	578.71	0.00	578.50	576.31	0.10	0.03	0.00	574.20
315.	49.	152.	114.	76.	43.	139.	0.	0.	574.30
0.20	3.79	3.30	0.53	0.070	0.035	0.070	0.000	573.70	154.65
0.000634	0.	0.	0.	3	0	3	0.00	547.78	575.04

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 578.71

STA= 15. 27. 141. 165. 265. 476.
PER Q= 6.3 .9 77.4 13.3 2.1
AREA= 20.7 23.2 66.0 30.5 161.3
VEL= 0.4 1.2 3.6 1.3 0.5

*SECNO 2.000

VALLEY SECT U/S START

2.00	4.84	579.84	0.00	0.00	579.42	0.04	1.11	0.00	575.50
315.	42.	135.	157.	77.	41.	267.	10.	13.	575.60
0.21	0.55	3.30	0.51	0.070	0.035	0.070	0.035	575.00	25.45
0.000506	1300.	1300.	1300.	1	0	1	0.00	544.18	569.53

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 579.84

STA= 25. 157. 166. 175. 185. 570.
PER Q= 5.9 7.5 43.0 10.5 33.1
AREA= 55.1 22.0 64.1 28.7 238.0
VEL= 0.3 1.1 3.3 1.1 0.4

*SECNO 3.000

VALLEY SECT D/S START

3.00	5.13	580.83	0.00	0.00	580.37	0.35	0.95	0.00	576.20
315.	46.	120.	149.	96.	44.	323.	25.	32.	576.30
0.52	0.48	2.75	0.46	0.070	0.035	0.070	0.035	575.70	19.49
0.000519	1500.	1500.	1500.	2	0	0	0.00	537.42	556.91

FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 580.83

STA= 19. 167. 156. 165. 175. 557.
PER Q= 7.5 7.2 30.1 9.9 37.3
AREA= 71.9 24.5 43.7 31.8 299.7
VEL= 0.3 0.9 2.9 1.0 0.4

CCHV= 0.300 CEHV= 0.500

*SECNO 4.000

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FORM 1411-08-PRINTED BY ROTARY MANIFOLD FORMS.

VALLEY START OF FIS

4.00	4.59	581.29	0.00	0.70	581.63	0.54	0.61	0.15	577.00
295.	56.	199.	41.	33.	36.	22.	29.	36.	576.90
0.55	1.63	5.57	1.06	0.070	0.035	0.070	0.035	576.79	974.53
0.002355	650.	650.	650.	2		0	0.00	79.12	1033.35

FLOW DISTRIBUTION FOR SECND= 4.00 CASEL= 581.29

STA=	97[illegible].	9[illegible].	99[illegible].	1004.	1009.	1010.	103[illegible].
PERM=	0.[illegible]	1[illegible]	[illegible]	1[illegible]	0.[illegible]	0.[illegible]
AREA=	0.[illegible]	[illegible]	[illegible]	1[illegible]	1.[illegible]	3.4
VEL=	0.1	1.7	5.6	7.2	0.7	0.[illegible]

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

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains

Notes

4) DOCUMENT TYPE: Rating Curve

00BREAK00

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**************************************************
  HEC2 RELEASE DATED JUN 76 UPDATED JUL 1977
  ERROR CODE = 00
  TIME.SEC.CPU = 30.51.53
**************************************************

C
T1 LAUDENSCHLAGER BRANCH, VILLAGE OF ROUTE DOCUMENTS FIS NUC 2331-CP
T2 MAYING C.I.P. UPSTREAM H.P. CULVERTS
T3       LAUDENSCHLAGER

J1  ICHECK    INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
          3.         2.         1.         1.  0.700350     0.00       1.0        0.    570.500      1.000

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  WSPRO CODES FOR USE WITH WSPRO

    150.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  LPRNT     NUMBER                    ********REQUESTED SECTION NUMBERS********
        -1.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ST      0.000     50.000    100.000    150.000    200.000    300.000      0.000      0.000      0.000      0.000
NC      0.060      0.060      0.035      0.300      0.500      0.000      0.000      0.000      0.000      0.000

          100 FT D/S HAGGERMAN RD.

X1        0.000     14.000    996.100   1004.000      0.300      0.000      0.000      0.000      0.000      0.000
GR      590.000    640.000    592.300    641.000    582.000    930.000    561.200    901.000    577.000    996.000
GR      577.000    996.100    576.700   1000.000    576.900   1003.900    575.900   1004.000    578.800   1009.000
GR      561.000   1010.000    582.100   1100.000    582.200   1500.000    590.000   1501.000      0.000      0.000

          D/S FACE HAGGERMAN RD.

X1        0.900      0.000      0.000      0.000    100.000    100.000    100.000      0.000      0.000      0.000
X3       10.000      0.000      0.000    981.000      0.000   1010.000      0.000    580.400    580.400      0.000
SD        0.000      1.460      3.000      0.000      0.300      0.000     38.000      0.000    576.700    576.700

          U/S FACE HAGGERMAN RD.

X1        1.000      0.000      0.000      0.000     16.000     16.000     16.000      0.000      0.000      0.000
X3       10.000      0.000      0.000    981.000      0.000   1010.000      0.000    582.000    582.000      0.000
X2        0.000      0.000      1.000    580.400    582.000      0.000      0.000      0.000      0.000      0.000
BT       14.000    640.000    590.000      0.000    641.000    582.300      0.000    900.000    582.300      0.000
BT      981.000    582.000      0.000    996.000    582.000      0.000    996.100    582.000    580.400   1000.000
BT      582.000    580.400   1003.900    582.000    580.400   1004.000    582.000      0.000   1009.000    582.000
BT        0.000   1010.000    582.000      0.000   1100.000    582.100      0.000   1500.000    582.200      0.000
BT     1501.000    590.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          50 FT U/S HAGGERMAN RD.

X1        0.900      0.000      0.000      0.000     16.000     16.000     16.000      0.000      0.000      0.000
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FORM 1411-CB-PRINTED BY ROTARY MANIFOLD FORMS.

X3	0.000	0.000	0.000	931.000	0.300	1060.000	0.000	0.000	0.000	0.000

100 FT D/S D'WAY CULVERT #2A

X1	1.700	9.700	146.000	154.000	550.000	570.000	570.000	0.000	0.000	0.000
GR	590.000	0.00	582.500	1.000	580.300	136.000	577.100	146.000	576.500	150.000
GR	577.200	154.000	580.600	162.000	582.500	299.000	590.000	300.000	0.000	0.000

D/S D'WAY CULVERT #2A

X1	1.600	15.000	146.200	154.700	150.000	700.000	170.500	0.300	0.300	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	579.600	579.600	0.000
GR	590.000	0.000	582.500	1.000	580.800	136.000	577.900	146.200	577.000	148.500
GR	576.500	148.300	576.500	149.500	576.500	150.000	576.300	150.500	576.500	151.100
GR	577.000	151.500	577.900	151.700	579.200	164.000	582.300	594.000	590.000	300.000
GC	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE D'WAY CULVERT #2A

X1	1.700	5.000	0.300	0.000	1.700	1.700	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.300	0.000	0.000	0.000	0.000	77.600	579.600	0.000
BT	0.000	0.000	580.300	0.000	0.000	0.000	0.000	0.000	580.000	0.000
BT	146.200	580.400	577.900	148.500	580.500	576.700	149.000	580.400	579.100	149.500
BT	580.400	579.500	150.000	580.400	579.600	150.500	580.400	579.900	151.100	580.400
BT	579.100	151.500	580.400	577.700	151.700	580.400	577.900	192.000	580.600	0.000
T	295.000	0.000	0.300	300.000	0.000	0.300	0.000	0.000	0.000	0.000

U/S FACE D'WAY CULVERT #2A

X1	2.000	0.000	0.300	0.000	12.000	12.000	12.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.200	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	580.400	580.400	0.000
X4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S D'WAY CULVERT #2A

X2	2.100	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	580.400	580.400	0.000

50 FT U/S D'WAY CULVERT #2A

X1	2.200	9.000	146.300	154.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	0.000	582.500	1.000	580.300	136.000	577.100	146.000	576.500	150.000
GR	577.200	154.000	580.600	162.000	582.500	299.000	590.000	300.000	0.000	0.000

100 FT D/S D'WAY CULVERT #3

X1	2.700	11.000	157.000	163.000	450.000	400.000	420.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.200	90.000	582.200	130.000	582.200	145.000
GR	577.000	157.000	577.000	160.000	577.400	163.000	582.200	174.000	583.500	299.000
GR	590.000	300.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S D'WAY CULVERT #3

X1	2.000	22.000	155.000	165.000	150.000	100.000	100.000	0.000	0.000	0.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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		0.000	583.500	1.200	582.200	90.000	582.200	130.000	582.200	145.000
GR	579.000	155.000	578.000	155.300	577.200	156.000	577.000	157.000	577.200	158.000
GR	578.000	158.700	579.000	159.300	579.000	161.000	578.000	161.300	577.200	162.000
GR	577.000	163.000	577.200	164.000	578.000	164.700	579.000	165.000	582.200	174.000
GR	583.500	319.000	590.600	320.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE D'WAY CULVERT #3

X1	2.900	0.000	0.000	0.000	1.000	1.000	1.300	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.000	581.000	0.000
ST	13.000	0.000	590.000	0.000	1.000	583.500	0.000	90.000	582.200	0.000
ST	130.000	582.200	0.000	165.000	582.200	0.000	155.000	582.200	579.000	155.300
ST	582.200	582.000	156.900	582.200	580.700	157.000	582.200	581.000	158.000	582.200
ST	580.700	158.700	582.200	580.000	159.000	582.200	579.000	161.000	582.100	579.000
ST	579.100	582.100	580.500	582.000	582.100	581.700	580.000	582.100	581.000	164.000
ST	579.100	581.700	164.700	582.100	580.000	164.000	582.100	579.000	174.000	582.200
ST	1.000	319.000	583.500	0.000	320.000	0.000	0.000	0.000	0.000	0.000

U/S FACE D'WAY CULVERT #3

X1	3.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	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	582.200	582.100	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S D'WAY CULVERT #3

X1	3.100	0.000	0.000	0.000	1.000	1.200	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	582.200	582.100	0.000

35 FT U/S #3 & 35 FT D/S #30

X1	3.200	9.000	137.000	163.000	35.000	35.000	35.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.300	577.900	157.000	577.600	160.000
GR	577.700	163.000	582.300	174.000	583.500	319.000	590.000	320.000	0.000	0.000

D/S D'WAY CULVERT #30

X1	3.000	13.000	147.500	152.500	35.000	35.000	35.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	580.800	580.800	0.000
GR	590.000	0.000	583.500	1.000	581.400	158.000	576.300	147.500	577.300	167.700
GR	576.300	146.500	576.300	150.300	576.300	151.500	577.300	152.300	576.300	152.500
GR	581.400	164.000	583.500	319.300	590.000	320.000	0.000	0.000	0.300	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE D'WAY CULVERT #30

X1	3.900	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	580.800	580.800	0.000
ST	13.000	0.000	590.000	0.000	1.000	583.500	0.000	138.000	581.400	0.000
ST	147.500	581.400	578.300	147.700	581.400	579.300	148.500	581.400	580.300	150.000
ST	581.400	580.000	151.500	581.400	580.300	152.300	581.400	579.300	152.500	581.400
ST	578.300	164.000	581.400	0.000	319.000	583.500	0.000	320.000	590.000	0.000

U/S FACE D'WAY CULVERT #30

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X1	4.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	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	581.400	581.400	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S D'WAY CULVERT #3B

X1	4.100	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	581.400	581.400	0.000

50 FT D/S D'WAY CULVERT #3B

X1	4.200	9.000	157.000	163.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	0.000	583.500	1.000	582.300	149.000	577.900	157.000	577.600	160.000
SD	577.700	163.000	582.500	174.000	582.300	[illegible]	[illegible]	322.000	0.000	0.000

100 FT D/S D'WAY CULVERT #3C

X1	4.700	9.000	345.000	355.000	960.000	960.000	960.000	0.000	0.000	0.000
GR	90.000	200.000	584.000	[illegible]	[illegible]	[illegible]	578.700	345.000	578.000	350.000
SD	578.700	355.000	582.300	[illegible]	[illegible]	[illegible]	590.000	590.000	0.000	0.000

D/S D'WAY CULVERT #3C

X1	4.800	10.000	347.500	352.500	100.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	581.700	581.700	0.000
GR	590.000	200.000	584.000	201.000	582.500	355.000	579.200	347.500	578.000	347.800
GR	578.000	349.000	578.000	350.000	578.000	351.000	578.000	352.200	579.200	352.500
GR	582.900	362.000	584.000	499.000	590.000	500.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE D'WAY CULVERT #3C

X1	4.900	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	581.700	581.700	0.000
BT	15.000	201.000	590.000	0.000	201.000	584.000	0.000	355.000	582.900	0.000
BT	347.500	582.900	579.200	347.800	582.900	580.400	349.000	582.900	581.500	350.000
BT	582.900	581.700	351.000	582.900	581.500	352.200	582.900	580.400	352.500	582.900
BT	579.200	362.000	582.900	0.000	499.000	584.000	0.000	500.000	590.000	0.000

U/S FACE D'WAY CULVERT #3C

X1	5.000	0.000	0.000	0.000	10.000	10.000	10.000	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	582.900	582.900	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S D'WAY CULVERT #3C

X1	5.100	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	582.900	582.900	0.000

50 FT U/S D'WAY CULVERT #3C

X1	5.200	9.000	345.000	355.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	590.000	200.000	[illegible]	201.000	582.300	[illegible]	[illegible]	[illegible]	578.000	350.000

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GR	578.700	355.000	582.500	362.000	584.000	499.000	590.000	500.000	0.000	0.000
X1	5.300	15.000	997.500	1002.500	250.000	250.000	250.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	975.000	0.000	1025.000	0.000	0.000	0.000	0.000
GR	600.000	451.000	584.000	451.000	583.500	987.000	590.000	994.000	578.900	997.500
GR	579.300	999.000	578.900	999.000	579.300	1000.000	585.300	1000.000	579.300	1002.000
GR	579.300	1002.500	579.300	1006.000	583.300	1015.500	584.000	1500.000	600.000	1501.000

B/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X1	5.900	0.000	0.000	0.000	200.000	100.000	100.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	582.500	582.500	0.000
SB	0.000	2.000	3.000	0.000	2.620	0.000	12.300	0.000	577.600	577.600

B/S FACE DETROIT & TOLEDO SHORE LINE R.R.

X1	6.000	0.000	0.000	0.000	47.000	47.000	47.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.500	582.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	582.500	582.500	0.000
BT	15.000	450.000	600.000	0.000	451.000	590.000	0.000	987.000	590.000	0.000
BT	994.000	582.500	0.000	999.000	582.500	582.500	582.500	582.500	582.500	999.000
BT	582.500	582.500	1000.000	582.500	582.500	1001.000	582.500	582.500	1002.500	582.500
BT	582.500	1002.500	582.500	579.300	1006.000	582.500	0.000	1015.000	582.500	0.000
BT	1500.000	582.500	0.000	1501.000	600.000	0.000	0.000	0.000	0.000	0.000

B/S FACE PENN CENTRAL R.R.

X1	6.900	14.000	997.500	1002.500	200.000	200.000	200.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	582.500	582.500	0.000
GR	601.000	430.000	584.000	451.000	583.500	987.000	590.000	997.500	578.900	998.000
GR	579.300	999.000	578.900	1000.000	579.300	1004.000	579.900	1002.000	580.000	1002.500
GR	581.600	1011.000	583.600	1050.000	590.000	1000.000	600.000	1501.000	0.000	0.000
SB	0.000	2.000	3.000	0.000	0.200	0.000	15.000	0.000	578.900	578.900

B/S FACE PENN CENTRAL R.R.

X1	7.000	0.000	0.000	0.000	49.000	49.000	49.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	582.500	590.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	975.000	0.000	1025.000	0.000	590.000	590.000	0.000
BT	14.000	450.000	600.000	0.000	451.000	590.000	0.000	987.000	590.000	0.000
BT	997.500	590.000	980.000	998.000	590.000	861.500	999.000	590.000	582.300	1000.000
BT	590.000	582.500	1001.000	590.000	582.350	1002.000	590.000	581.500	1002.500	590.000
BT	590.000	1011.000	590.000	0.000	1050.000	590.000	0.000	1500.000	590.000	0.000
BT	1501.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7.100	0.000	0.000	0.000	50.000	50.000	50.000	0.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  [illegible]
*****************************************************

T1 LAUDENSCHLAGER DRAIN, VILLAGE OF SOUTH ROCKWOOD PIS [illegible] 2031-07
TERMINS CURVE UPSTREAM T.F. CULVERTS
T3       LAUDENSCHLAGER

J1  ICHECK    INQ       NINV      IDIR      STRT      NETRIC    HVINS     Q         USEL      FQ

      0.        1.        0.        1.  0.[illegible]      0.00      1.0       0.   579.[illegible]   0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     TW        ALLDC     [illegible]      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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**************************************************************
  NEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  30,31,32
**************************************************************

T1 LAUDERSCHLAGER DRAIN, VILLAGE OF SOUTH ROCKWOOD FIS HUD 2.31-07
T2 RATING CURVE UPSTREAM R.P. CULVERTS
T3      LAUDERSCHLAGER

J1  ICHECK    INO       NINV      EDIR      STRT      METRIC    HVINS     Q         HSEL      FQ

      0.        4.        3.        1.  0.000000      0.00      2.0       0.   500.000     0.000

J2  NPROP     EPICT     EHEVS     XSECV     XSECH     FU        FLLDC     SBM       CHRIS     ETRACE

     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
   ODIFICATION -  [illegible]
*****************************************************

T1 LAUDENSCHLAGER DRAIN, VILLAGE OF SOUTH ROCKWOOD HIS HUD 2[illegible]-07
T2RATING CURVE UPSTREAM S.R. CULVERTS
T3       LAUDENSCHLAGER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      [illegible]      [illegible]      0.        0.  0.[illegible]      0.00      [illegible]      0.   [illegible]      0.000

J2  [illegible]    IPLOT     PRFVS     [illegible]     [illegible]     [illegible]     ALLOC     [illegible]     [illegible]     ITRACE

     4.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR -  01
  MODIFICATION -  50,51,52
*****************************************************

T1 LAUDENSCHLAGER DRAIN, VILLAGE OF SOUTH MOCKWOOD F/S RED F031-02
T2RATING CURVE UPSTREAM R.R. CULVERTS
T3       LAUDENSCHLAGER

J1  ICHECK    INQ       NINV      IDIP      STRT      METRIC    HVINS     C         WSEL      FQ

       0.        0.        0.        0.  0.002000      3.00      1.3        0.   500.500     0.000

J2  XPROF     BRLST     PRFWS     XSECW     XSECH     FN        ALLOC     LAT       CHMIN     ISPACE

     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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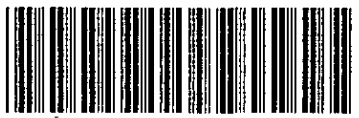

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Noles and Laudenschlager drains

4) DOCUMENT TYPE: Report



HYDRAULIC REPORT
VILLAGE OF SOUTH ROCKWOOD, MICHIGAN
FLOOD INSURANCE STUDY

Monroe Co.

RECEIVED
APR 21 1981
WATER MANAGEMENT

HUD 2031-07
March, 1981

Prepared By:

Wade, Trim & Associates, Inc.
25185 Goddard Road
Taylor, Michigan 48180

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EXHIBIT NO.	DESCRIPTION
1	Field Cross Section Locations and 100-Year Flood Plain - Floodway Map
2	Computer Printouts (See Separate Folder)
3	Water Surface Profiles, Bancroft Noles Drain
4	Bridge Notes and Sketches, Bancroft Noles Drain
5	Diversion Analyses, Bancroft Noles Drain
6	First D'way Culvert U/S of Carleton - Rockwood Road Computations for 50-Year Flood
7	Hydrology, Laudenschlager Drain
8	Water Surface Profiles, Laudenschlager Drain
9	Bridge Notes and Sketches, Laudenschlager Drain
10	Convergence Analysis, Laudenschlager Drain
11	Water Surface Profiles, Huron River

I INTRODUCTION

This report summarizes the hydraulic analyses undertaken to support detailed studies of approximately 1 1/2 miles of the Bancroft Noles Drain, 1 mile of the Laudenschlager Drain, and 4 1/2 miles of the Huron River in the Village of South Rockwood, Michigan. No approximate study was conducted within the community. Bill Weaver served as Project Manager for this study.

The Village of South Rockwood is located in the north-east section of Monroe County and is approximately twenty-five miles south of Detroit. The Village covers approximately 2.4 square miles and is comprised of rural and residential areas.

II BANCROFT NOLES DRAIN (DETAILED)

Detailed studies of the Bancroft Noles Drain were performed from its confluence with Huron River to the corporate boundary of South Rockwood and Berlin Township. A total of 9 valley sections and 17 culverts and bridges were field surveyed by Wade, Trim & Associates, Inc., in February, 1980. Field cross section data were supplemented by U.S.G.S. quadrangle maps of the study area which consist of 5-foot contour intervals (References 1 and 2).

Cross section locations are shown on Exhibit 1. Table 1 cross references section designations by showing the computer section number which corresponds to each cross section letter shown in Exhibit 1. Table 2 lists discharges which have been approved by the Michigan Department of Natural Resources (M.D.N.R.) for the Bancroft Noles Drain.

A. METHOD OF ANALYSIS

The HEC-2 backwater computer program was utilized in the development of water surface profiles (Reference 3). Table 3 presents water surface elevations at selected locations for the four storms (10, 50, 100 and 500-year) analyzed in this report. HEC-2 printouts including computer cross sections plots are presented as Exhibit 2. (Exhibit 2 is contained in the 11" x 15" folder enclosed with this report). Water surface profiles resulting from the backwater analyses are presented as Exhibit 3.

TABLE 1

CROSS REFERENCE INDEX

BANCROFT NOLES DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

CROSS SECTION DESIGNATION	WTA SECTION NO.	COMPUTER NO.	DESCRIPTION
A	23	100	Valley Section
B	24	970	Valley Section
C	40	1,470	D/S Face S. Huron River Dr
D	40	1,510	U/S Face S. Huron River Dr
E	25	1,910	Valley Section
F	26	2,020	D/S Face Dixie Hwy.
G	26	2,062	U/S Face Dixie Hwy.
H	27	2,112	D/S Face Penn Central R.R.
I	28	2,135	U/S Face Penn Central R.R.
J	29	2,275	D/S Face I-75 N. Bound Off Ramp
K	29	2,397	U/S Face I-75 N. Bound Off Ramp
L	30	2,757	D/S Face I-75
M	31	2,923	U/S Face I-75
N	32	3,323	D/S Face I-75 S. Bound Ramps
O	32	3,488	U/S Face I-75 S. Bound Ramps
P	33-A	3,558	D/S Face Carleton-Rockwood Road
Q	33-A	3,610	U/S Face Carleton-Rockwood Road
R	34-B	4,031	D/S Face D'way Culvert
S	34-B	4,045	U/S Face D'way Culvert
T	34-A	4,346	D/S Face D'way Culvert
U	34-A	4,370	U/S Face D'way Culvert
V	34	4,640	D/S Face Brandon Road
W	35	4,691	U/S Face Brandon Road
X	36	5,511	Valley Section
Y	37-A	6,091	D/S Face D'way Culvert
Z	37-A	6,116	U/S Face D'way Culvert

TABLE 1

CROSS REFERENCE INDEX

BANCROFT NOLES DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

(Continued)

CROSS SECTION DESIGNATION	WTA SECTION NO.	COMPUTER NO.	DESCRIPTION
AA	37-B	6,206	D/S Face D'way Culvert
AB	37-B	6,222	U/S Face D'way Culvert
AC	37-C	6,352	D/S Face D'way Culvert
AD	37-C	6,377	U/S Face D'way Culvert
AE	37-D	6,695	D/S Face D'way Culvert
AF	37-D	6,735	U/S Face D'way Culvert
AG	37-E	6,864	D/S Face D'way Culvert
AH	37-E	6,888	U/S Face D'way Culvert
AI	37-F	7,014	D/S Face D'way Culvert
AJ	37-F	7,038	U/S Face D'way Culvert
AK	38	7,808	Valley Section
AL	38-A	7,908	D/S Face D'way Culvert
AM	38-A	7,944	U/S Face D'way Culvert
AN	39	8,614	Valley Section

TABLE 2

FLOOD FLOW FREQUENCY DATA

BANCROFT NOLES DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

LOCATION	FREQUENCY			
	10 YEAR CFS	50 YEAR CFS	100 YEAR CFS	500 YEAR CFS
Confluence with Huron River to Carleton-Rockwood Road	125	220	290	445
Upstream of Carleton-Rockwood Road to Corporate Boundary	110	205	270	420

TABLE 3

FLOOD ELEVATIONS*

BANCROFT NOLES DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

LOCATION	FREQUENCY			
	10 YEAR	50 YEAR	100 YEAR	500 YEAR
Upstream of Penn Central Railroad	580.3	583.0	584.1	586.3
Upstream of I-75 Expressway	580.3	584.5	585.9	588.2
Upstream of Carleton-Rockwood Road	580.3	585.0	586.8	589.9
Upstream of Brandon Road	584.1	585.6	586.8	589.9

*All elevations are based upon National Geodetic Vertical Datum

B. VARIABLES AND COEFFICIENTS

Roughness coefficients (Mannings "n"), were estimated from field inspection, quadrangle maps, and photographs. Typical roughness values for the main channel and overbank areas of the Bancroft Noles Drain range from .02 to .04 and .08 to .10, respectively, for all floods. These values are indicative of summer month conditions and are consistent with values recommended and used in engineering practice (Reference 4). Contraction and expansion coefficients were selected as 0.3 and 0.5, respectively, at bridge sections, and 0.1 and 0.3, respectively, for gradual channel transitions. Bridge notes and sketches along with loss coefficient computations are included in Exhibit 4.

C. HIGH WATER MARKS

There are no documented high water marks for the Bancroft Noles Drain.

D. STARTING CONDITIONS

The mean annual flood elevation of the Huron River (Reference 5), located at its confluence with Bancroft Noles Drain, was utilized for the starting water surface elevation for the 10, 50, 100 and 500-year floods. As shown in Figure 1, the mean annual flood discharge of the Huron River, located at its confluence with Bancroft Noles Drain, is approximately 3,800 cfs which corresponds to a frequency of 2.33 years. This results in a mean annual flood elevation of 577.65, as illustrated in Figure 2.

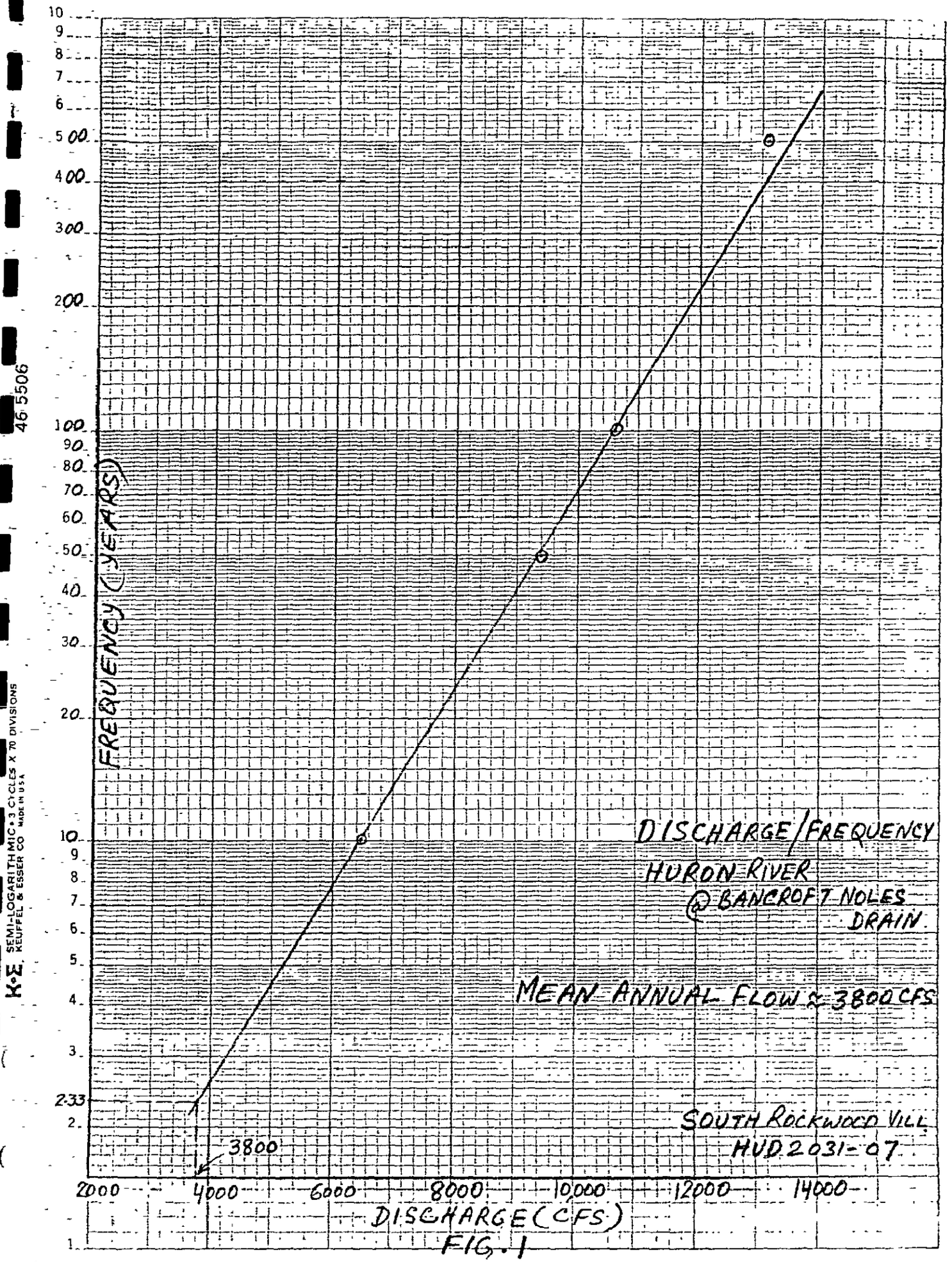


FIG. 1

46 5506
K•E SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.

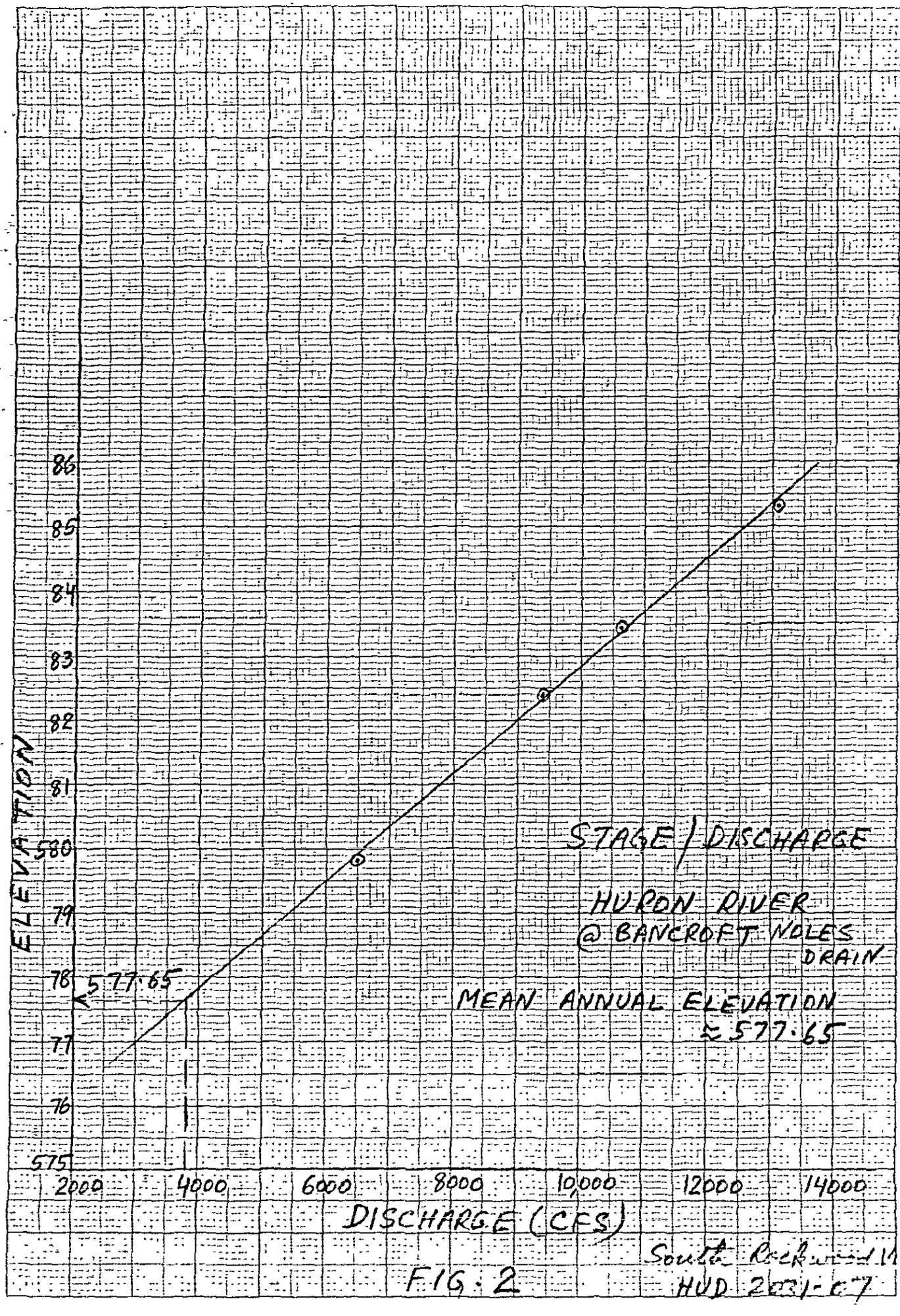


FIG. 2

South Rockwood, MI
HUD 2031-07

K+E 10 X 10 TO ½ INCH 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.
46 1320

E. SPECIAL PROBLEMS

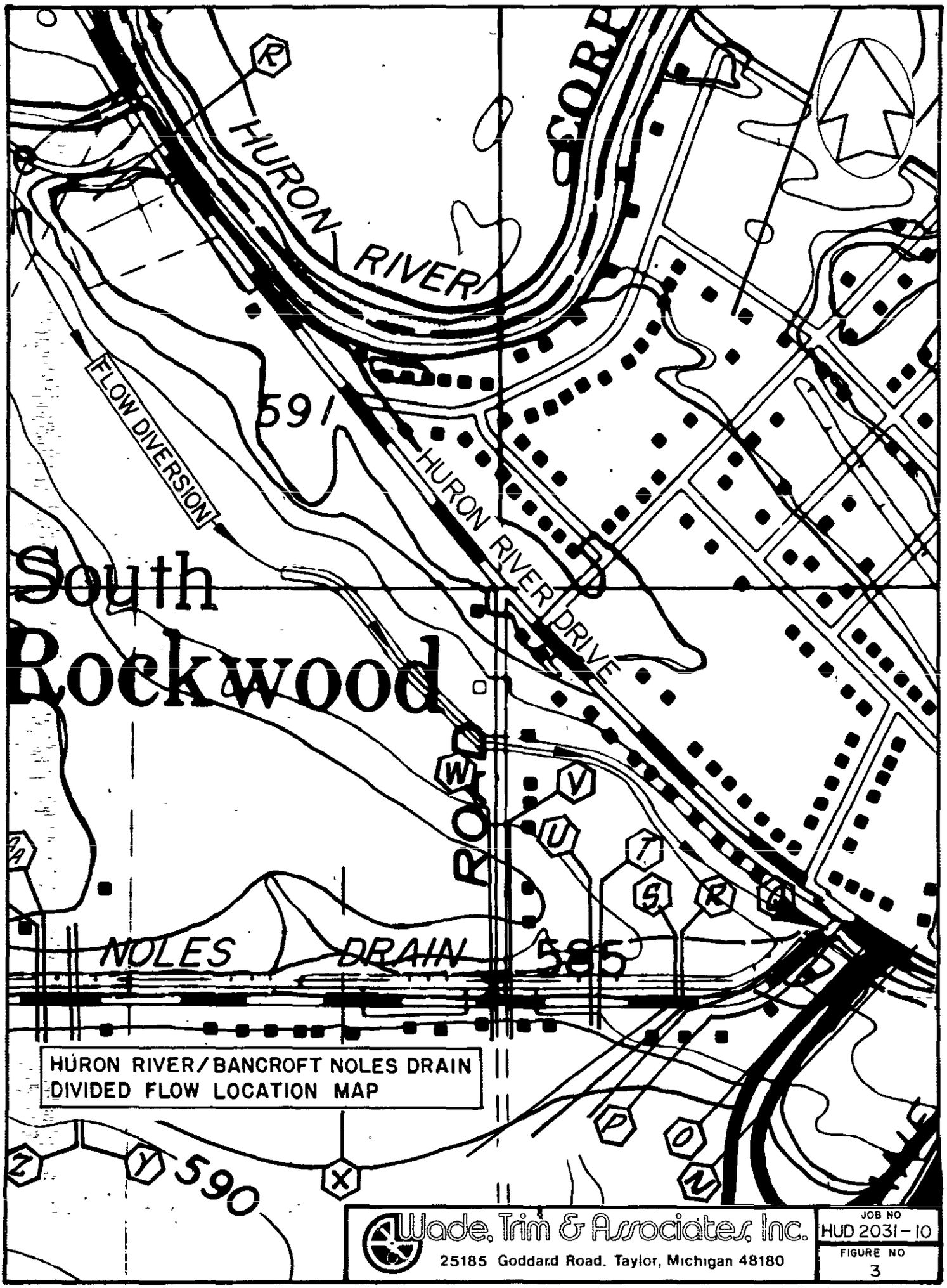
1. Divided Flow

A divided flow situation will occur between the Huron River and Bancroft Noles Drain during major floods. This diversion of flow is located near Riverside Cemetary as shown on Figure 3. The peak flows associated with the diversion from the Huron River, and peak flows associated with floods within the Bancroft Noles drainage basin, will occur at different times due to the different basin characteristics of the two streams. Therefore, two flow conditions were analyzed to determine the worst flood conditions for the Bancroft Noles Drain:

a. Flood elevations were developed for flow quantities associated with the 10, 50, 100 and 500-year floods within the Bancroft Noles basin. No diversion from the Huron River was considered.

b. Flood elevations were developed for flow quantities associated with the diversion from the Huron River. A mean annual flood event (20 cfs) on the Bancroft Noles basin was assumed to occur at the same time as the diversion of flow from the Huron River.

Diverted flow from the Huron River was quantified for the 10, 50, 100 and 500-year floods, from stage/discharge rating curves as presented in Exhibit 5. The HEC-2 backwater computer program was utilized in the development of these curves. The rating curves were started at Cross Section A,



HURON RIVER/BANCROFT NOLES DRAIN
DIVIDED FLOW LOCATION MAP

Wade, Trim & Associates, Inc.
25185 Goddard Road, Taylor, Michigan 48180

JOB NO
HUD 2031-10

FIGURE NO
3

located at the confluence of the two streams and starting elevations were the 10, 50, 100 and 500-year elevations from Cross Section H on the Huron River. Table 4 lists the results of this analysis.

The diversion would have negligible effect upon flood elevations of the Huron River. The diverted flows are relatively small when compared with the flood discharges in the river (less than 3%). However, the flood elevations in the downstream reach of the Bancroft Noles Drain would be raised by the diversion for the 50, 100 and 500-year floods. For the 10-year flood, there is no flow diversion from the Huron River; however, backwater elevations of the Huron River would raise the flood elevations in the downstream reach of the drain. Bancroft Noles Drain flood elevations, produced by the diversion analysis, were utilized in the delineation of flood hazard areas and the development of stream profiles where these elevations exceeded localized flood elevations.

2. First Driveway Culvert U/S of Carleton - Rockwood Road

The Special Bridge Routine was initially set up for the first driveway culvert located approximately 420 feet upstream of Carleton - Rockwood Road. However, the structure converted to low flow for the 10-year flood and there was high tail water submergence for the 100 and 500-year floods. Therefore, the normal Bridge Routine was utilized for the 10, 100 and 500-year floods. However,

TABLE 4

FLOOD FLOW FREQUENCY DATA

HURON RIVER FLOW DIVERSION TO NOLES DRAIN

LOCATION	FREQUENCY/DISCHARGE 10 Year (CFS)	50 Year (CFS)	100 Year (CFS)	500 Year (CFS)
Flow Diversion at Section R (near Riverside Cemetary)	0	165	240	340

the Normal Bridge Routine did not give accurate results for the 50-year flood. Therefore, as presented in Exhibit 6, hand computations were performed for pressure and weir flow to determine the upstream elevation for the 50-year flood. This elevation was incorporated into the computer model by use of an X5 card.

F. GENERAL

All elevations are referenced to the U.S. Geological Survey (U.S.G.S.) Datum. This datum is equivalent to the National Geodetic Vertical Datum (N.G.V.D.).

The hydraulic analyses for this study were based upon the effects of flow unobstructed by ice or debris. The flood elevations are considered valid only if hydraulic structures, in general, remain unobstructed and do not fail.

III LAUDENSCHLAGER DRAIN (DETAILED)

Detailed studies of the Laudenschlager Drain were performed from the corporate boundary at Haggerman Road to the corporate boundary near the Penn Central Railroad. A total of 7 valley sections and 11 culverts and bridges at Laudenschlager Drain and 3 valley sections and 4 culverts at Chapman Drain were field surveyed by Wade, Trim & Associates, Inc., in February, 1980. Field cross section data were supplemented by the U.S.G.S. quadrangle maps of the study area which consist of 5-foot contour intervals (References 1 and 2).

Cross section locations are shown on Exhibit 1. Table 5 cross references section designations by showing the computer section number which corresponds to each cross section letter shown in Exhibit 1.

A. REVISED HYDROLOGY

Table 6 lists flowrates which were approved by the Michigan Department of Natural Resources (M.D.N.R.) for the Laudenschlager Drain (Reference 3). A preliminary HEC-2 run for the drain revealed a severe backwater condition upstream of the Penn Central Railroad which would result in significant storage during floods. This storage would reduce the flow rates downstream of the railroad significantly. Therefore, a revision was required in the Hydrologic Model of the Laudenschlager Drain.

TABLE 5

CROSS REFERENCE INDEX

LAUDENSCHLAGER DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

CROSS SECTION DESIGNATION	WTA SECTION NO.	COMPUTER NO.	DESCRIPTION
A	1-A	0.0	Valley Section
B	1	0.9	D/S Face Haggerman Road
C	1	1.0	U/S Face Haggerman Road
D	2-A	1.8	D/S Face D'way Culvert
E	2-A	2.0	U/S Face D'way Culvert
F	3	2.8	D/S Face D'way Culvert
G	3	3.0	U/S Face D'way Culvert
H	3-B	3.8	D/S Face D'way Culvert
I	3-B	4.0	U/S Face D'way Culvert
J	3-C	4.8	D/S Face D'way Culvert
K	3-C	5.0	U/S Face D'way Culvert
L	4	5.9	D/S Face D.&T.S.L. R.R.
M	4	6.0	U/S Face D.&T.S.L. R.R.
N	4-A	6.9	D/S Face Penn Central R.R.
O	4-A	7.0	U/S Face Penn Central R.R.

TABLE 6

FLOOD FLOW FREQUENCY DATA

LAUDENSCHLAGER DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

LOCATION	FREQUENCY 10 YEAR CFS	50 YEAR CFS	100 YEAR CFS	500 YEAR CFS
D/S Corporate Boundary to U/S Corporate Boundary u/s of Chapman Dr. @ Haggerman Rd.				
Flow rates approved by DNR	130	230	295	435
Revised flow rates DA=2.31+.28=2.58	55	75	85	120
RF used	3.0	4.0	4.6	5.9
actual	3.5			

The following procedure was adopted to revise the Hydrology of the Laudenschlager Drain:

1. An inflow hydrograph was developed for both the Laudenschlager and Chapman Drains, located upstream of the Penn Central Railroad. During major floods, both of these basins will act as one because severe restrictions at the railroad will cause an interactive storage area in which flow will be diverted from one basin to the other, dependent upon the relative capacity of each railroad culvert. Sheets 1 through 10 of Exhibit 7 present the various parameters which were utilized in the TR-20 hydrologic computer program.

2. Stage/discharge rating curves were developed for the railroad culverts on each stream. These curves (Exhibit 7, Sheet 11), were developed by use of the HEC-2 computer backwater program. Starting conditions for the HEC-2 rating curves were determined from preliminary convergence runs which were developed for each stream. All computer runs associated with these analyses are presented in Exhibit 2.

3. Stage/storage curves were developed for the area located upstream of the Penn Central Railroad, which will act as a reservoir during major floods (Exhibit 7, Sheets 12, 13 and 14).

4. The TR-20 hydrologic computer model (Reference 4), "RESVOR" (reservoir routing) routine was utilized to calculate the impact of storage upon the outflow

hydrograph, located at the outlet from the railroad culverts. This outflow hydrograph was distributed between the Laudenschlager and Chapman Drains based upon the culvert rating curves referenced in 2 above.

5. The TR-20 computer model was then expanded to develop peak flow rates for Laudenschlager Drain between the corporate boundary at Haggerman Road and the Penn Central Railroad.

Revised flow rates for the 10, 50, 100 and 500-year storms are presented in Table 6. Computer printouts associated with this analysis are presented in Exhibit 2.

B. METHOD OF ANALYSIS

The HEC-2 backwater computer program (Reference 5), was utilized in the development of water surface profiles. Table 7 presents water surface elevations at selected locations for the 10, 50, 100 and 500-year floods. HEC-2 printouts including computer cross section plots are enclosed separately as Exhibit 2. Water surface profiles resulting from the backwater analysis are presented as Exhibit 8.

C. VARIABLES AND COEFFICIENTS

Roughness coefficients (Mannings "n") were estimated from field inspections, quadrangle maps, and photographs. Typical roughness values for the main channel and overbank areas of the Laudenschlager Drain are .035 and .08, respectively, for all floods. These values are indicative of summer month conditons and are consistent

TABLE 7

FLOOD ELEVATIONS*

LAUDENSCHLAGER DRAIN

SOUTH ROCKWOOD VILLAGE, MICHIGAN

LOCATION	FREQUENCY			
	10 YEAR	50 YEAR	100 YEAR	500 YEAR
Upstream of Haggerman Road	579.7	580.3	580.5	581.4
Upstream of D.&T.S.L. Railroad	582.3	583.1	584.4	586.2
Upstream of Penn Central Railroad	583.5	585.0	585.7	588.5

*All elevations are based upon National Geodetic Vertical Datum

with values recommended and used in engineering practice (Reference 6). Contraction and expansion coefficients were selected as 0.3 and 0.5, respectively, at bridge sections and 0.1 and 0.3, respectively, for gradual channel transitions. Bridge notes and sketches along with loss coefficient computations are included in Exhibit 9.

D. HIGH WATER MARKS

There are no documented high water marks for the Laudenschlager Drain.

E. STARTING CONDITIONS

The starting water surface elevations for the Laudenschlager Drain were obtained by the performance of a convergence analysis, located downstream of the detailed study limit, for a length of approximately 3,450 feet. The following water surface elevations were utilized at the beginning of the convergence run: critical depth, normal depth, and approximately one foot higher than normal depth.

Results of this analysis indicated that convergence was achieved (Exhibit 10); therefore, the resulting energy slope at the start of the detailed study limit was utilized for the 10, 50, 100 and 500-year floods. HEC-2 printouts for the convergence analysis are included in Exhibit 2.

F. GENERAL

All elevations are referenced to the U.S. Geological Survey (U.S.G.S.) Datum. This datum is equivalent to the National Geodetic Vertical Datum (N.G.V.D.).

The hydraulic analyses for this study were based upon the effects of flow unobstructed by ice or debris. The flood elevations are considered valid only if hydraulic structures, in general, remain unobstructed and do not fail.

IV HURON RIVER (DETAILED)

The Huron River was studied by detailed methods in the Rockwood and Flat Rock Flood Insurance Studies (References 7 and 8). The Village of South Rockwood, located on the south side of the Huron River, has a common corporate boundary along the Huron River with each of these two communities. Therefore, the flood elevations and delineations developed in these Flood Insurance Studies were utilized in the development of the Floodway and Flood Hazard limits for the Huron River in the Village of South Rockwood (Exhibit 1). Water surface profiles were reproduced from the aforementioned studies and are presented as Exhibit 11.

Qs are from Rockwood FIS

REFERENCES

1. U.S. Geological Survey Topographical Maps, Rockwood Quadrangle, Michigan - Ontario, 7.5 Minute Series, 1967, Photo Revised 1973.

2. U.S. Geological Survey Topographical Maps, Flat Rock Quadrangle, Michigan, 7.5 Minute Series, 1967, Photo Revised 1973.

3. Wade, Trim & Associates, Inc., Hydrologic Analysis of Bancroft Noles Drain, Laudenschlager Drain and Huron River for Village of South Rockwood, Michigan, Taylor, Michigan, April 1980.

4. U.S. Department of Agriculture, Soil Conservation Service, Technical Release No. 20, Computer Program for Project Formulation, Hydrology, May 1965.

5. U.S. Department of the Army, Corps of Engineers, HEC-2 Water Surface Profiles Users Manual, Hydrologic Engineering Center, Davis, California, August 1979.

6. Chow, Ven Te, Open Channel Hydraulics, McGraw Hill, Inc., New York 1959.

7. U.S. Department of Housing and Urban Development, Flood Insurance Administration, Flood Insurance Study - City of Rockwood, Michigan, October 1977.

8. U.S. Department of Housing and Urban Development, Flood Insurance Administration, Flood Insurance Study - City of Flat Rock, Michigan, 1981 (preliminary).

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 1

Field Cross Section Locations and
100-Year Flood Plain - Floodway Map

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 2

Computer Printouts
(See Separate Folder)

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 3

Water Surface Profiles, Bancroft Noles Drain

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 4

Bridge Notes and Sketches, Bancroft Noles Drain

HUD 2031-05 (NOLES DRAIN & S. HURON RIVER DR)

STRUCTURE DETAIL # 110

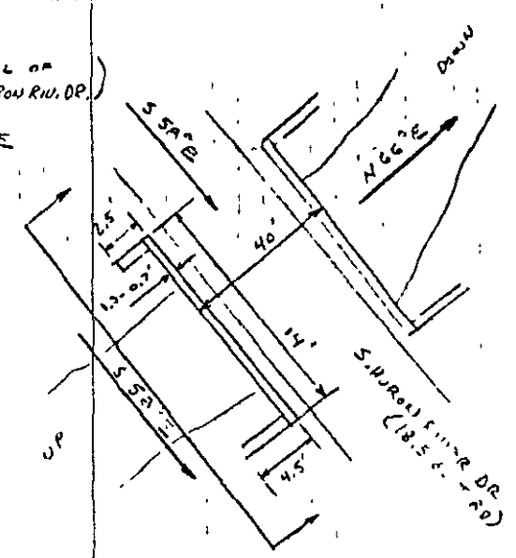
FB 996 MAG. BRGS. → HP DK DS

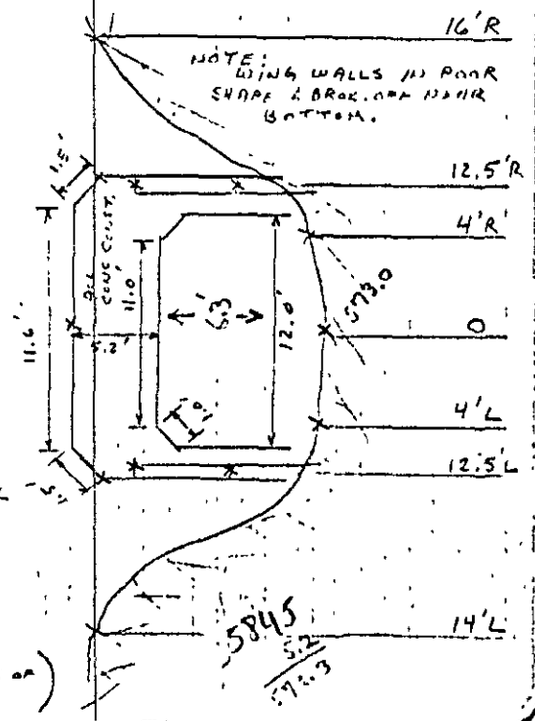
USCGS DATUM

FEB 1, 1980

34

STA	+	HI	−	ELEV	DESC
BM	4.04	588.45		584.41	(PAINTED "X" ON TOP OF NE CR TO CONC. HEADWALL OF BRIDGE OVER DRAIN 400'E DIXIE HWY & ON S. HURON RIV. DR.)
500'L			0.45	588.00	℄ S. HURON RIVER DRIVE
400'L			7.37	581.08	" "
300'L			7.98	580.47	" "
200'L			7.65	580.80	" "
100'L			7.20	581.25	" "
0 (#40)			6.35	582.10	" "
100'R			4.88	583.57	" "
200'R			3.24	585.21	" "
300'R			2.99	585.46	" "
400'R			2.83	585.62	" "
500'R			2.69	585.76	" "
16'R			8.2	580.25	T/BANK
12.5'R			4.70	583.75	TIP OF HEADWALL
12.5'R			6.66	581.79	TOP OF WING WALL
12.5'R			14.70	573.75	BOT. OF BROK. W.W.
4'R			15.5	572.95	TOE/BANK
0			3.98	584.47	℄ TOP HEADWALL
0 (#40)			15.5	572.95	℄ DRAIN
4'L			15.0	573.45	TOE/BANK
12.5'L			12.9	575.55	BOT. OF BROK. WING WALL
12.5'L			9.50	578.95	TOP OF " " "
12.5'L			4.69	583.76	TIP OF HEADWALL
14'L			9.05	579.40	T/BANK
BM CK			0.28	588.17	(℄ ON HYD 21' IN S. HURON RIVER DR & 900'E OF DIXIE HWY (IN FRONT OF HSE #6601))

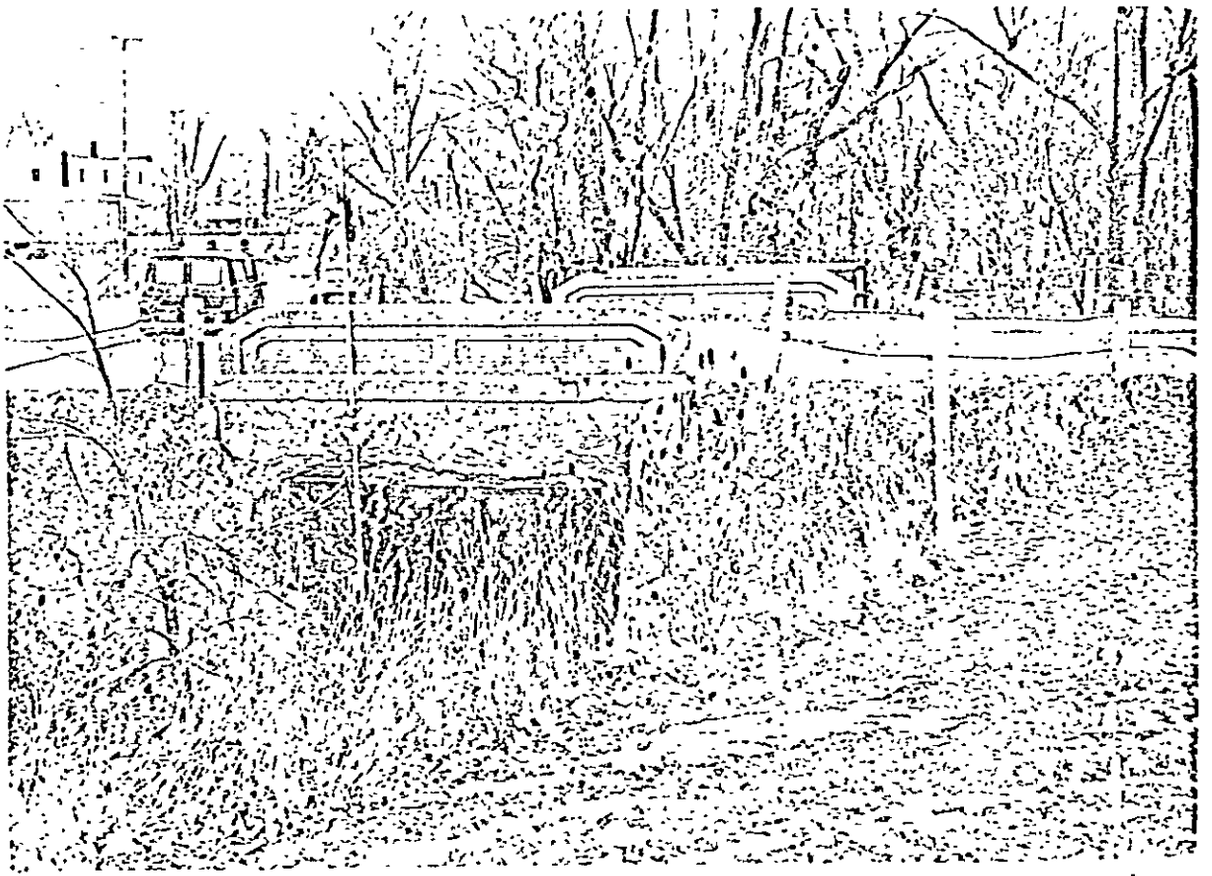




Noles Drain at S. Huron River Drive

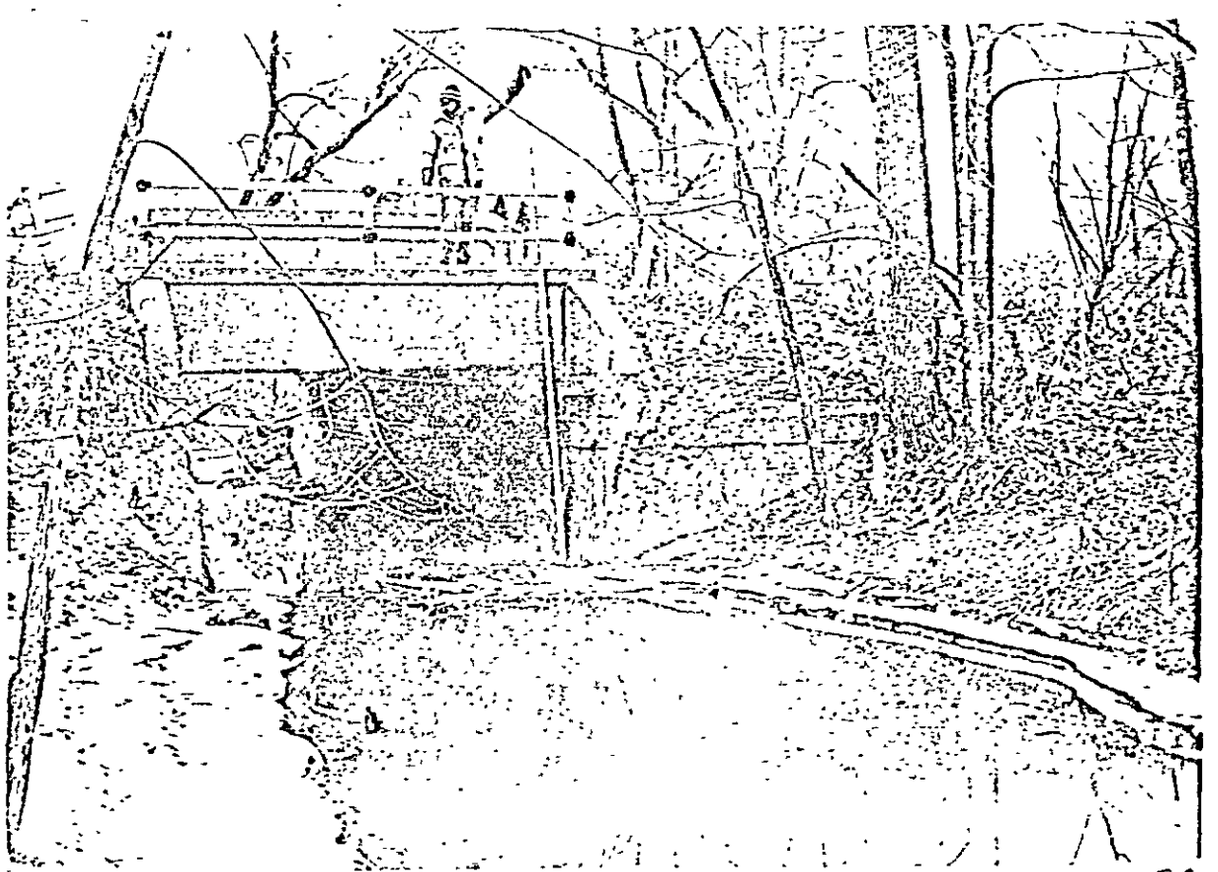
Sheet 1/30

HUD 2031-07



Upstream angle shot (Facing D/S)

Standing D/S (Looking U/S)



Noles Drain at S. Huron River Drive

HUD 2031-07

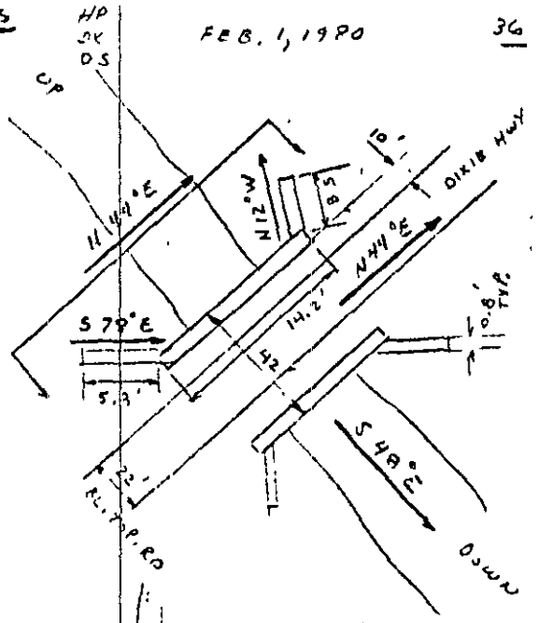
(DIXIE HWY & NOLES DRAIN)
STRUCTURE DETAIL # 26

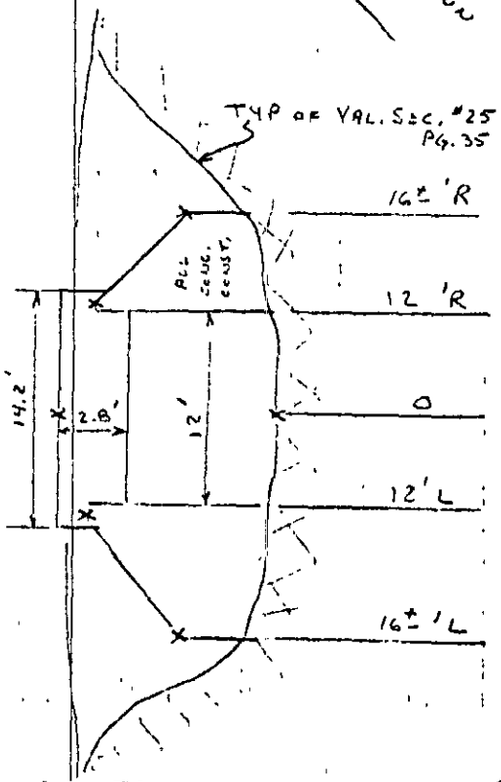
STA	+	HI	−	ELEV
BM	10.81	591.05		580.24
500'L			6.95	584.10
400'L			8.90	582.15
300'L			9.78	581.27
200'L			9.87	581.18
100'L			10.11	580.94
0 (#26)			9.69	581.37
100'R			9.45	581.60
200'R			8.96	582.19
300'R			7.55	583.50
400'R			6.18	584.87
500'R			4.84	586.21
(SIDE VIEW DETAIL #26)				
16±'R			15.02	576.03
12'R			10.12	580.93
0			8.70	582.35
0 (#26)			18.0	573.05
12'L			10.22	580.83
16±L			14.86	576.19

CONT. ON PG. 37

FB 996 MAG. BRGS
USC&GS DATUM
DESC

℄ DIXIE HWY
"
"
"
"
"
"
"
"
"
"
TIP OF WING WALL
TOP OF " "
℄ TOP OF HEADWALL
℄ DRAIN
TOP OF WING WALL
TIP OF " "



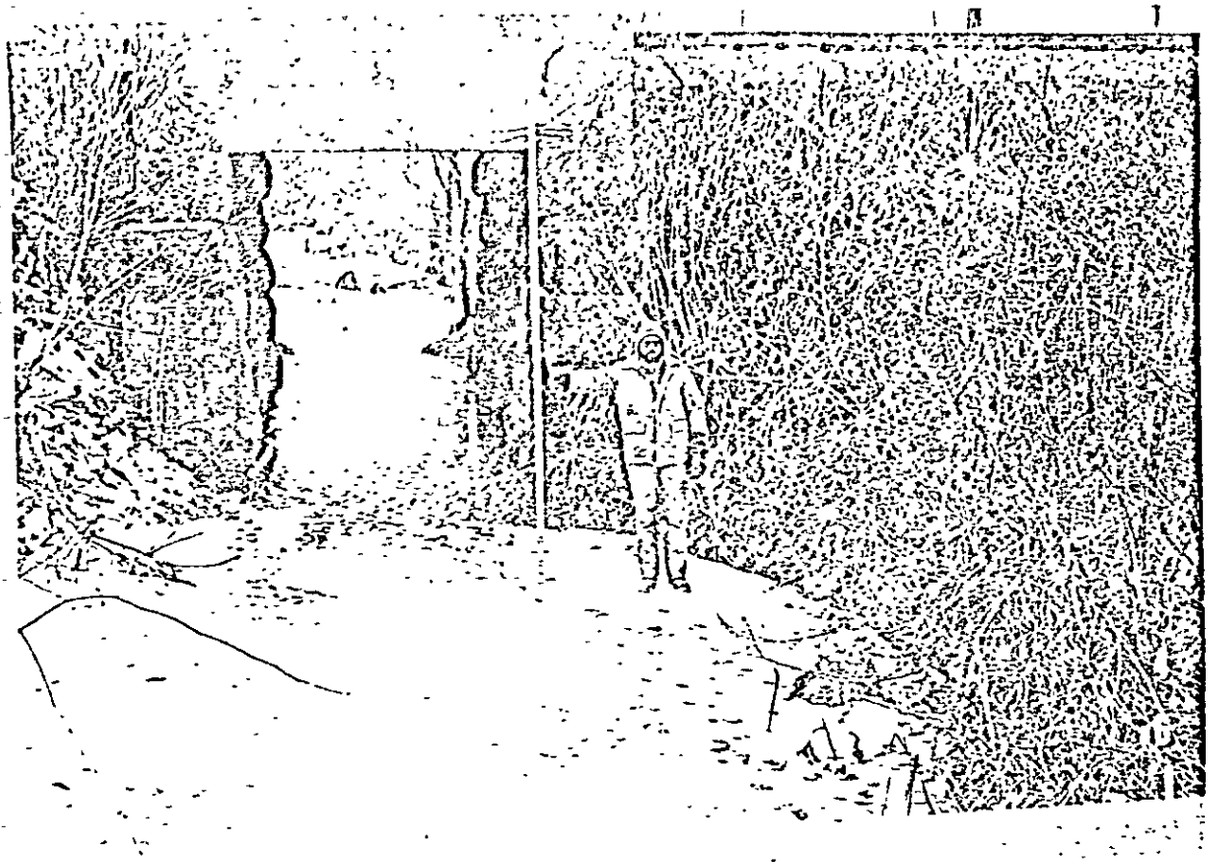


FEB. 1, 1990

36

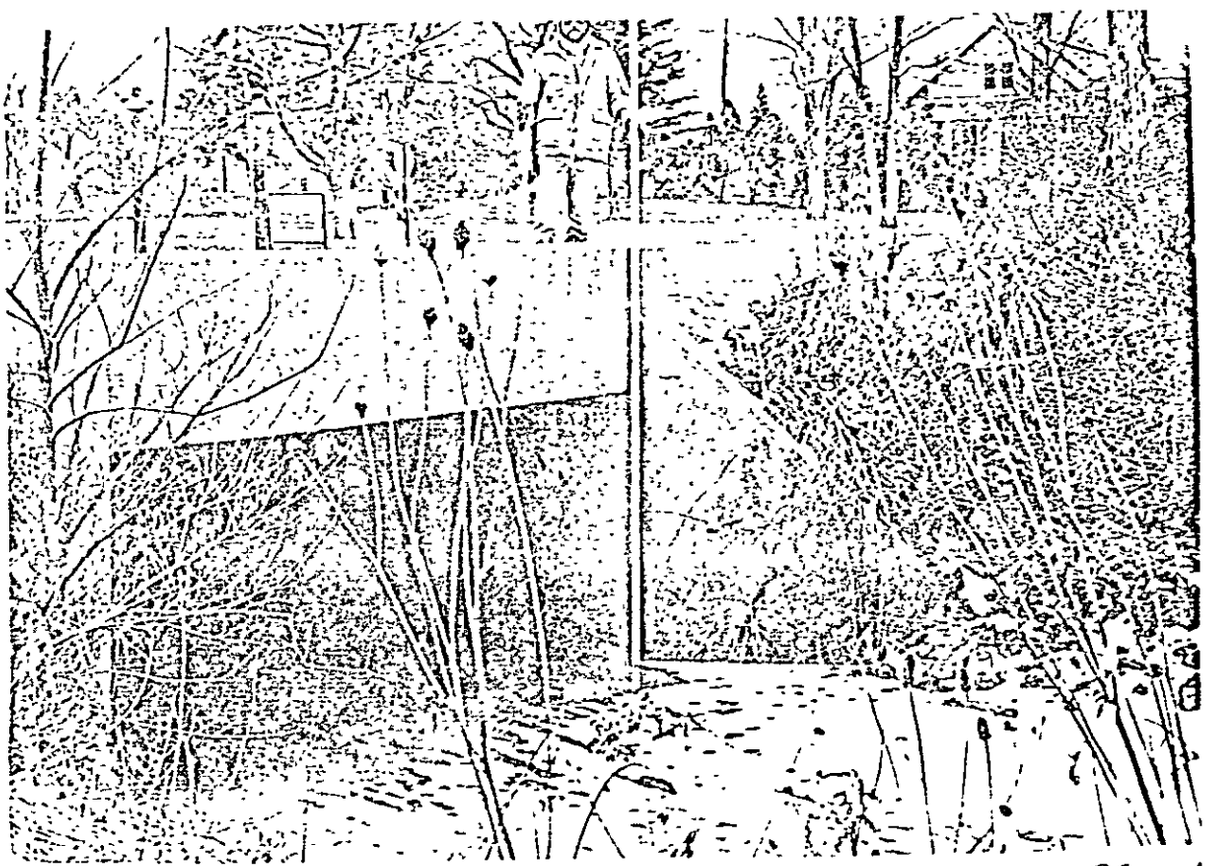
Noles Drain at Dixie Hwy.

Sheet 3/30
HUD 2031-07



Standing at Dixie Hwy and Looking U/S

U/S angle Shot (Facing D/S)



Noles Drain at Dixie Hwy.

Sheet 4/30
HUD 2031-07

HUD 2031-05 (CENTRAL RR & NOLES DRAIN)

DETAILS #27 & 28

FEB 996 MAG, BRGS

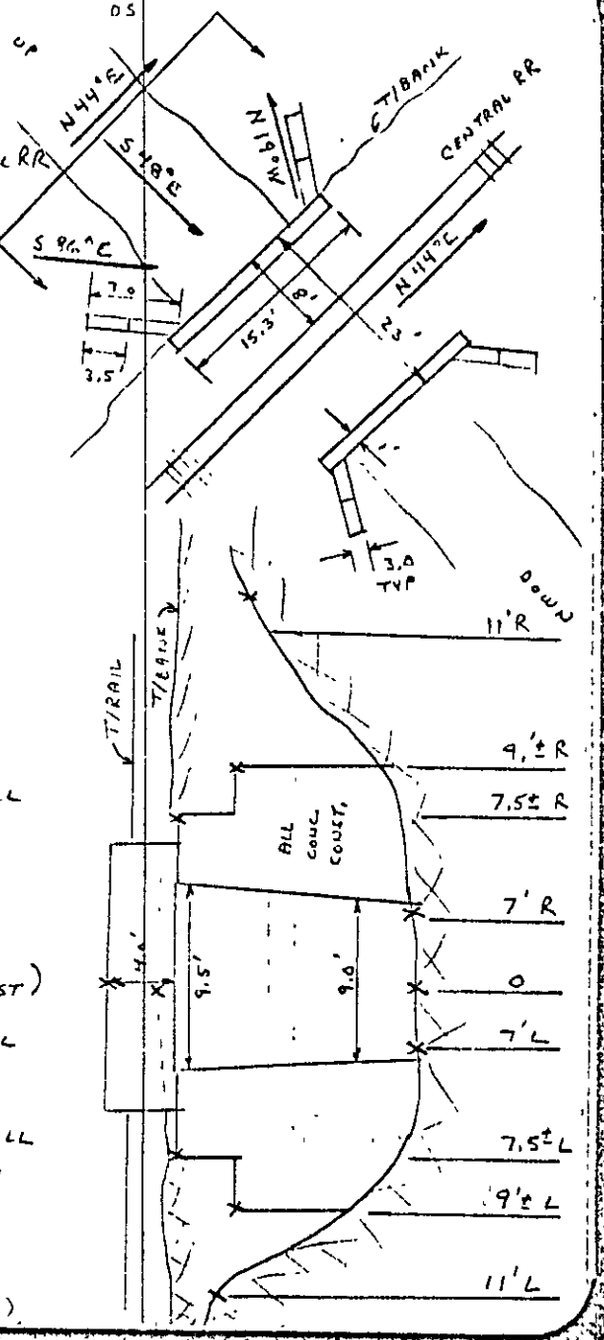
USCGS DATUM

HP DK DS

FEB. 1, 1980

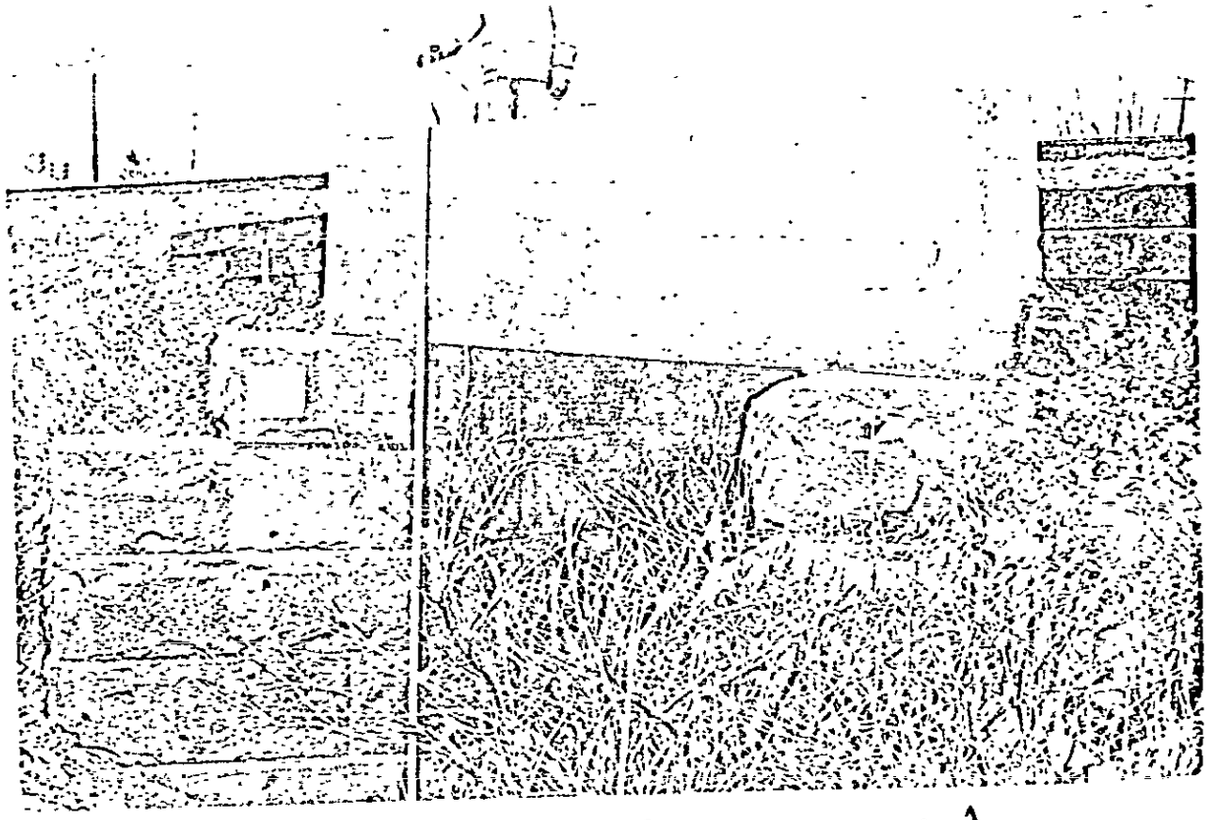
37

STA	+	H₁	−	ELEV	DESC
		591.05			
500'L			3.30	587.75	T/RAIL OF CENTRAL RR
400'L			3.18	587.87	" "
300'L			3.14	587.91	" "
200'L			3.06	587.99	" "
100'L			3.22	587.83	" "
0 (#27)			3.17	587.88	" "
100'R			2.90	588.15	" "
200'R			2.55	588.50	" "
300'R			2.05	589.00	" "
400'R			1.98	589.07	" "
500'R			1.74	589.31	" "
	(SIDE VIEW		#27 &	#28)	
11'R			15.3	575.75	T/BANK
9'± R			9.29	581.76	TIP OF WING WALL
7.5'± R			7.25	583.80	T/STEP OF " "
7'R			16.9	574.15	TOE / BANK
0 (#28)			17.9	573.15	℄ DRAIN
0			5.1	585.95	T/BANK (@ BALLAST)
0			3.15	587.90	T/CONC. HEADWALL
7'L			17.0	574.05	TOE / BANK
7.5'± L			7.22	583.83	T/STEP OF WING WALL
9'± L			9.31	581.74	TIP OF " "
11'L			14.3	576.75	T/BANK
TP			11.00	580.05	(T/CONC WAL @ I-75 RAMP OFF, N/BOUND)



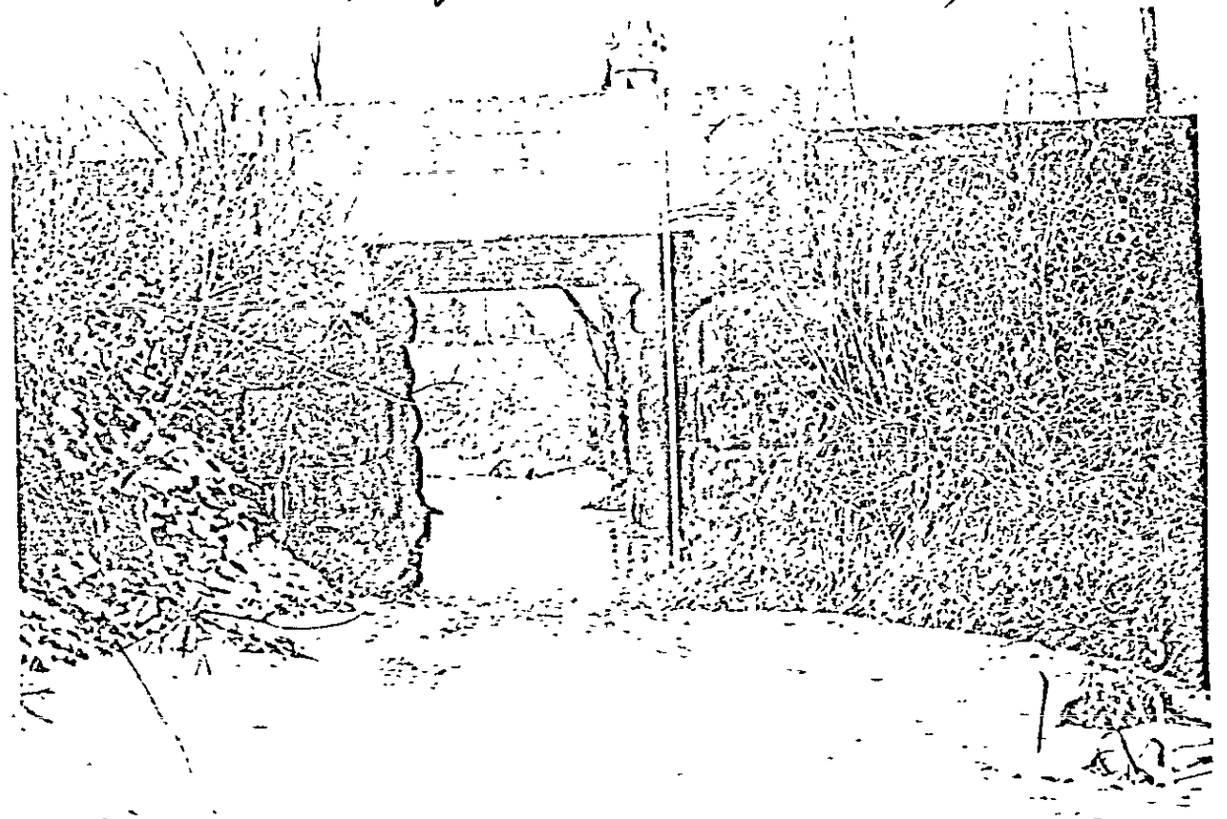
Noles Drain at Penn Central Railroad Sheet 5/30

HUD 2031-07



U/S angle shot (Facing D/S)

Standing D/S (Looking U/S)



Noles Drain at Penn Central Railroad Sheet 1/3

HUD 2031-07

HUD 2051-07

(N. BOUND OFF RAMP I-75 & WELLS DRAIN)

STRUCTURE DETAIL #29

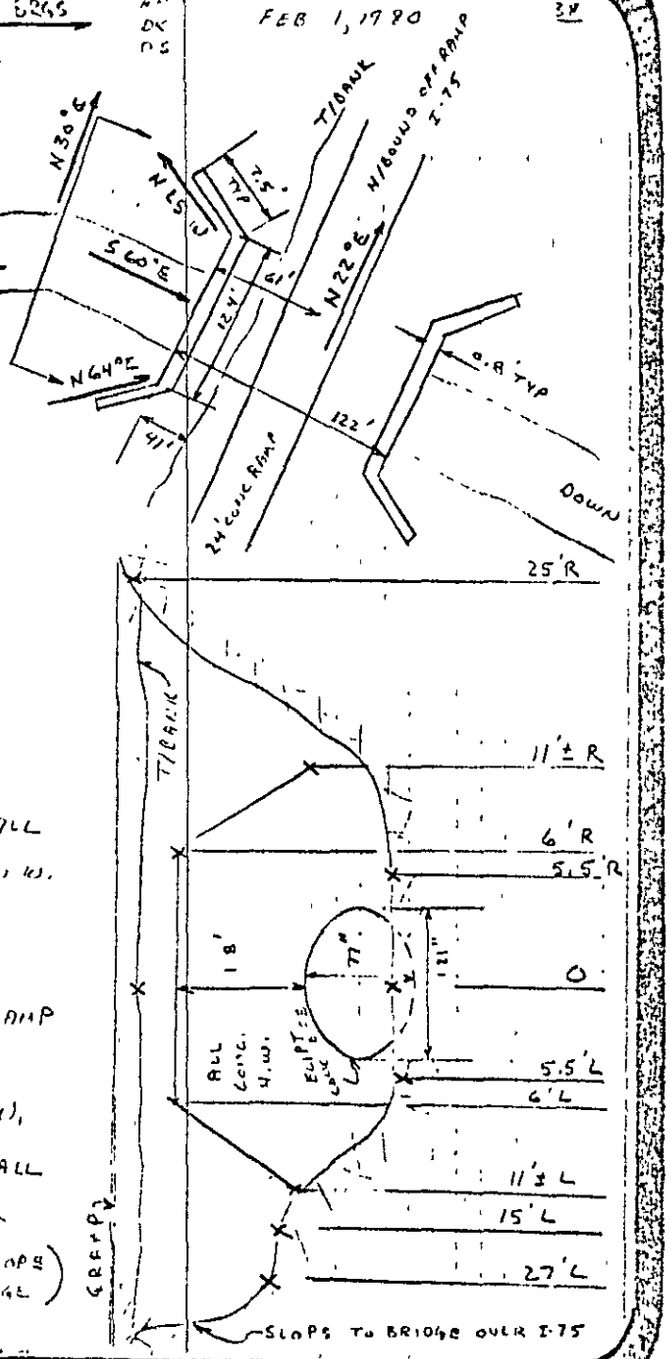
STA	+	HI	−	ELEV	DESC
CONST. FROM T.P. #37	13.24	593.29		580.05	
500' L			6.8	586.49	℄ CONC OFF RAMP
400' L			6.05	587.24	"
300' L			5.23	588.06	"
200' L			4.20	589.09	"
100' L			4.41	588.88	"
0 (#29)			5.10	588.19	"
100' R			5.61	587.68	"
200' R			6.20	587.09	"
300' R			6.65	586.64	"
400' R			6.93	586.46	"
500' R			6.99	586.30	"
	(SIDE VIEW #29)				
25 R			14.1	579.19	T/BANK
11 ± R			16.53	576.76	TIP OF WING WALL
6' R			12.98	580.31	TOP OF H.W. & W.W.
5.5' R			19.2	574.09	TOE / BANK
0 (#29)			19.7	573.59	℄ DRAIN
0			4.9	588.39	TOP / SLOPE BY RAMP
5.5' L			19.5	573.79	TOE / BANK
6' L			12.94	580.35	TOP OF H.W. & W.W.
11' ± L			16.55	576.74	TIP OF WING WALL
15' L			17.2	576.09	T/ PRIME BANK
27' L			16.15	577.14	TOP BRK (TOE SLOPE TO BRIDGE I-75)
SWALE			12.18	581.11	581.08

SEE BOR. PG #2

FB 796 MAG BRGS

USCGS DATUM

FEB 1, 1980



Notes Drain at North Bound Off Ramp I-75

Sheet 7/30

FORM 25 0
(313) 291-5400
Hadley Tim & Associates Inc.
Civil Engineers • Land Surveyors
WORK SHEET
23185 CODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : I-75 NORTH - OFF RAMP
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient): 0 — HEC-2 manual
XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$
where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:
$K_f = 29.1 n^2 L / R^{4/3}$ for English units
Area = 42.2 = ____ W_p = 26.0
$R = A/W_p = 42.2/26.0 = 1.62 R^{4/3} = 1.90$ $L = 122$
n (composite) = .02
$K_f = 29.1 \times (.02)^2 \times 122/1.9 = .75$

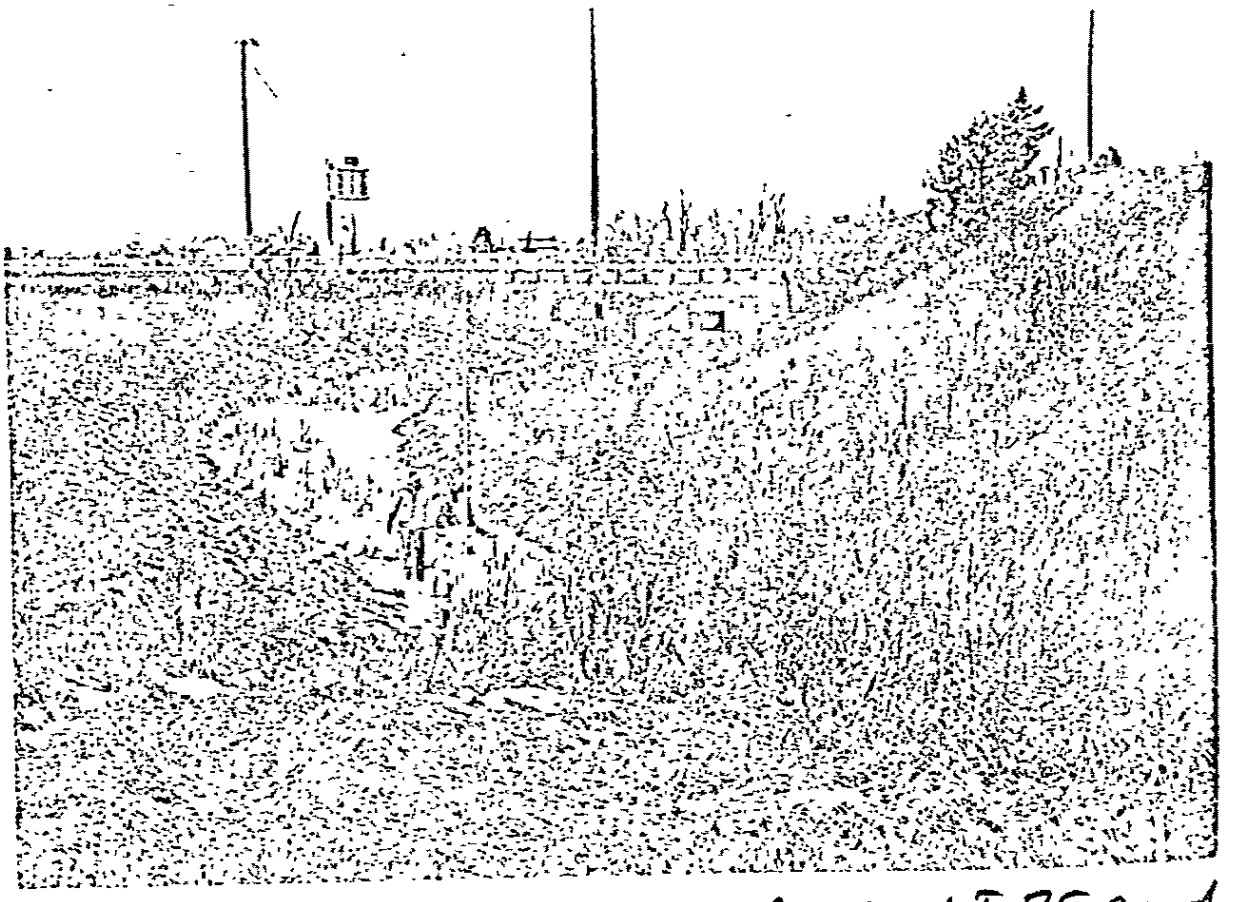
K_e = 0.2 Headwall + Wingwalls, socket end — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has no intermediate piers — HEC-2 manual

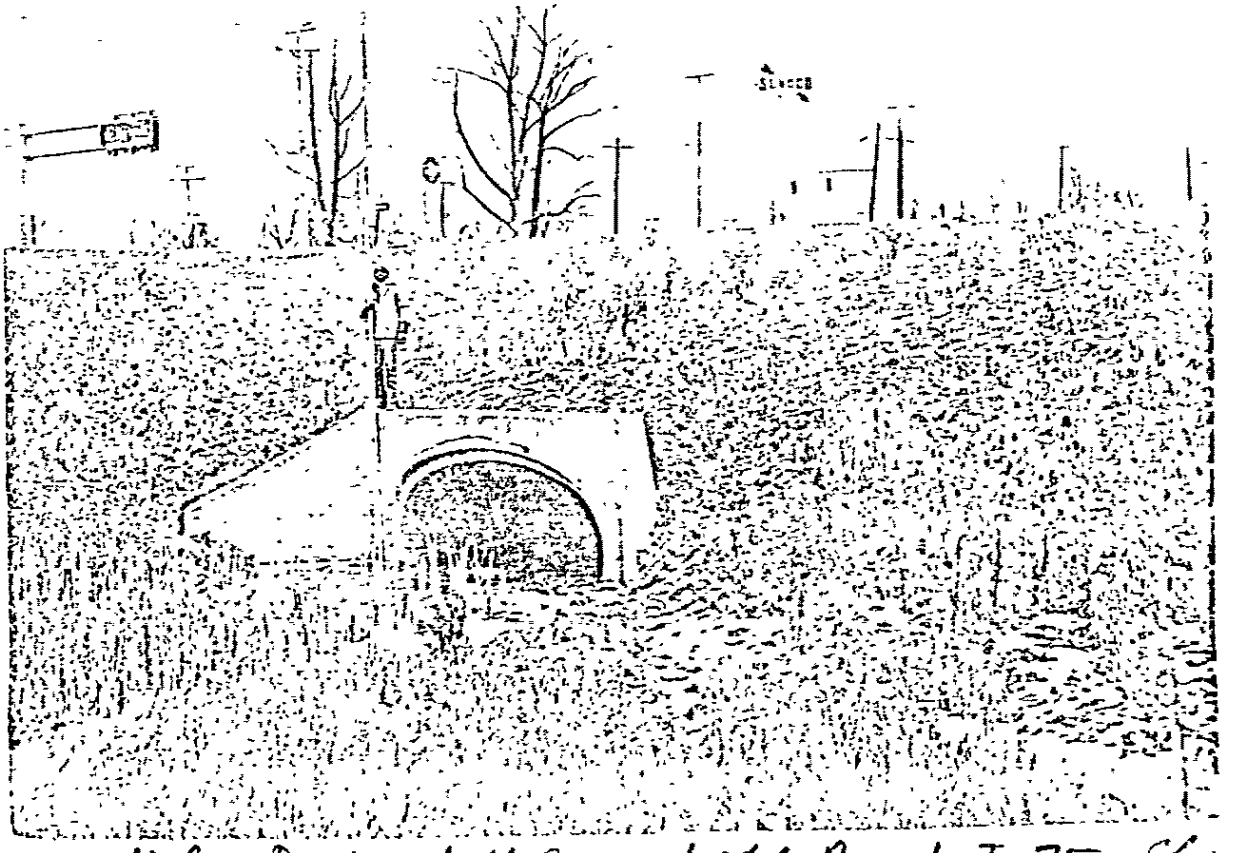
2. XKOR = 1 + 0.2 + .75 + 0 = 1.95
3. COFQ = Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0 (0 if read off BT cards)
5. BWC = bottom width of bridge opening (inc. piers) = 8.61
6. BWP = total width of obstruction = 0 — field data
7. BAREA = bridge opening = 42.2
8. SS = side slope = 0
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 573.6
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 573.6
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No. (Job No.) Owner	Project	Suffix
S. Rockwood - Hydraulics Bancroft Noles Dr.	T. Grant		8 OF 30	HUD	2031	07
	DATE 3/18/80	DATE				



Standing on N. Bound Off Ramp of I-75 and Looking upstream.

Upstream angle shot (Facing D/S)



Noles Drain at N. Bound Off Ramp I-75

Notes Drain at I-75 Expressway

Sheet 10/30
HUD 2031-07

HUD 2031-05	(S. Bound No I-75 & Notes Detail)						
STRUCTURE DETAIL							
STA	+	H_1	–	ELEV			
Em	0.00	589.96		581.09			
500' L			4.60	595.36			
400' L			4.95	585.01			
300' L			5.25	594.71			
200' L			5.33	594.63			
100' L			5.34	594.62			
0 (@ 31)			5.29	594.67			
100' R			4.83	595.13			
200' R			11.52	585.44			
300' R			4.19	595.77			
400' R			3.90	586.06			
500' R			3.62	596.34			
14' R			11.5	579.16	T/ Bank		
12±' R			13.16	576.20	T.P of Living Hill		
11' R			9.77	580.19	Top of "		
4' R			15.6	574.36	Toe / Bank		
0 (@ 30)			15.85	574.11	℄ DRAIN		
C			9.19	590.77	Top Calk Herbicide		
O			5.77	594.19	City Dist. is Bl. T. Shoulder		
4' L			15.5	574.46	Toe / Bank		
4' L			9.73	590.23	Top of Living Hill		
11' L			14.04	575.92	Top of "		
14' L			10.6	579.36	Top of Bank		
32' L			7.8	582.16	GR BRK (Toe/Slope to I-75 Ditch)		
BM CV			7.42	582.54	582.60 (Bank 'A' on rod at Toe/Slope to Rail Road & Centerline Locust Ave)		

Bridge Location : I-75 EXPRESS WAY

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient): 0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + ΣK, $\Sigma K = K_f + K_e + K_p$

where K_f = friction loss coefficient
K_e = entrance loss coefficient
K_p = loss from intermediate piers

Description of Bridge :

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 35.4 = _____ K_p = 24.5

$R = A/wp = 35.4/24.5 = 1.44$ $R^{4/3} = 1.63$ $L = 166'$

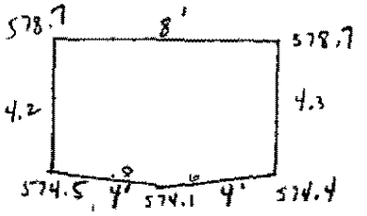
n (composite) = .02

$K_f = 29.1 \times (.02)^2 \times 166/1.63 = 1.18$

K_e = 0.2 Wing walls at 30° to 75° to barrel, crown edge rounded — Hydraulic Charts for the Selection of Highway Culverts Hyd. Eng. Circular No. 5 Dec. 1965 pg. 43

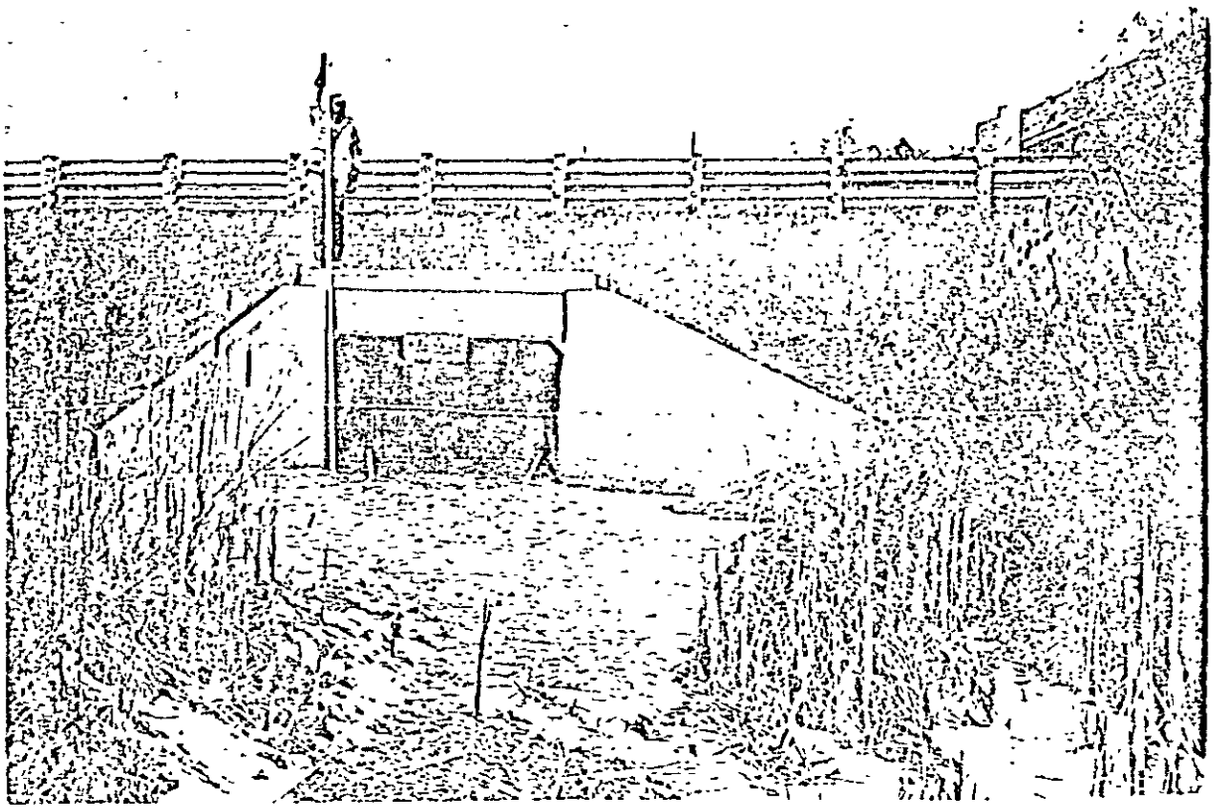
K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has no intermediate piers — HEC-2 manual



2. XKOR = 1 + 0.2 + 1.18 + 0 = 2.38
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) = 8.23
6. BWP = total width of obstruction = 0 — field data
7. BAREA = bridge opening = 35.4
8. SS = side slope = 0 (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 574.4 (0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 574.1 (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No (Job No.) Project Owner Suffix
S. Rockwood Hydraulics — Bancroft Notes - Drain	T. Graf		11 OF 30	Hut • 2031 • 07
	DATE 3-19-80	DATE		



Standing D/S and looking U/S towards I-75

Standing on On/Off S/B I-75 Ramp and looking U/S



Noles Drain at I-75 Expressway

HUD 2031-05 (ON-OFF S/B I-75 RAMP & NOLES DRAIN)

STRUCTURE DETAIL # 32 & #33

FB 996 MAG BRGS → USCGS DATUM

HP 1X DS

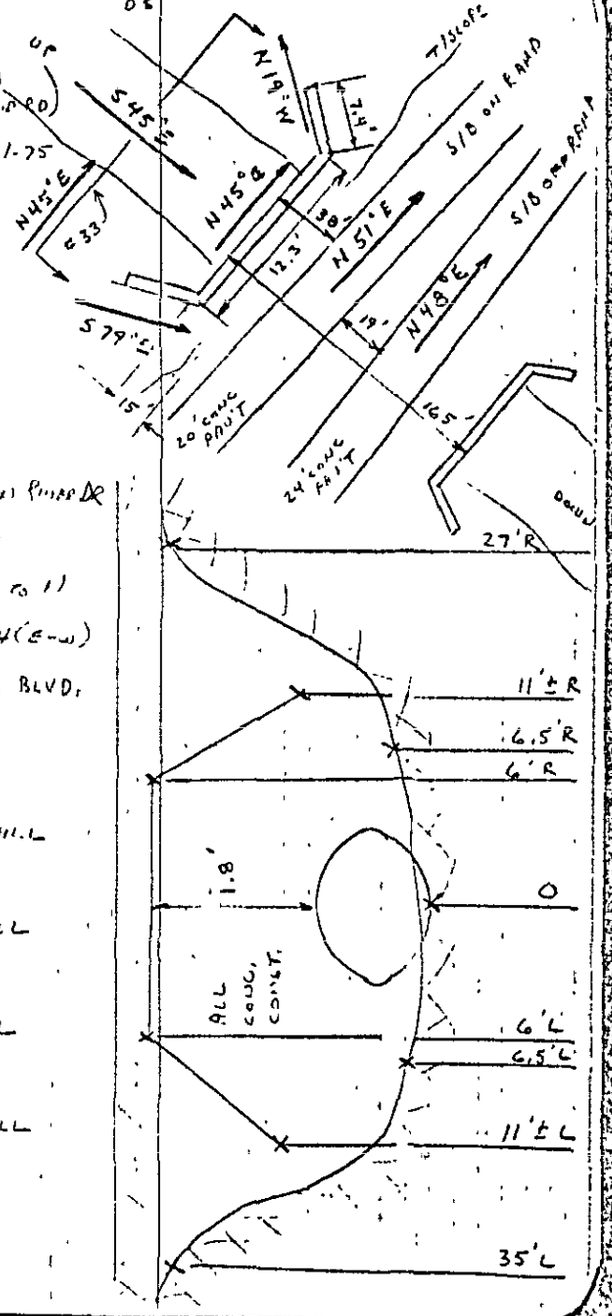
FEB 4, 1980

40

STA	+	HI	−	ELEV	DESC
BM	12.78	595.38		582.60	(PAINTED "X" ON T/SW COR HW. ON S/B OFF RAMP (500' E CARLETON ROCKWOOD RD)
500'R			5.32	590.06	℄ OFF RAMP S/B I-75
400'R			5.24	590.14	" "
300'R			5.08	590.30	" "
200'R			4.79	590.59	" "
100'R			4.40	590.98	" "
0 (#32)			4.18	591.20	" "
100'L			4.20	591.18	" "
160'L			4.26	591.12	EXT " @ ℄ S. HURON RIVER DR
			4.76	590.62	T/C "
185'L			4.46	590.92	EXT " GUT "
191'L			4.5	590.88	EXT " @ T/BANK TO N
207'L			9.3	586.08	EXT " @ ℄ DITCH (E-W)
228'L			7.2	588.18	EXT " @ STRONG BLVD.
27'R			12.2	583.18	T/BANK
11'±R			16.47	578.91	TIP OF WING WALL
6.5'R			19.8	575.58	TOE / BANK
6'R			12.49	582.89	TOP OF HEADWALL
0 (#33)			19.95	575.43	℄ DRAIN
6'L			12.31	583.07	TOP OF HEADWALL
6.5'L			19.45	575.93	TOE / BANK
11'±L			15.24	579.54	TIP OF WING WALL
35'L			11.1	584.28	TOP / BANK

(NOTE: FOR ON RAMP ELEV TO R+L OF DRAIN SEE PG. 41)

CONT. ON PG. 41



Noles Drain at On-Off S/B I-75 Ramps

Sheet 13/30

HUD2031-07

Bridge Location : S. BOUND I-75 RAMPS
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient): 0 — HEC-2 manual
XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$
where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

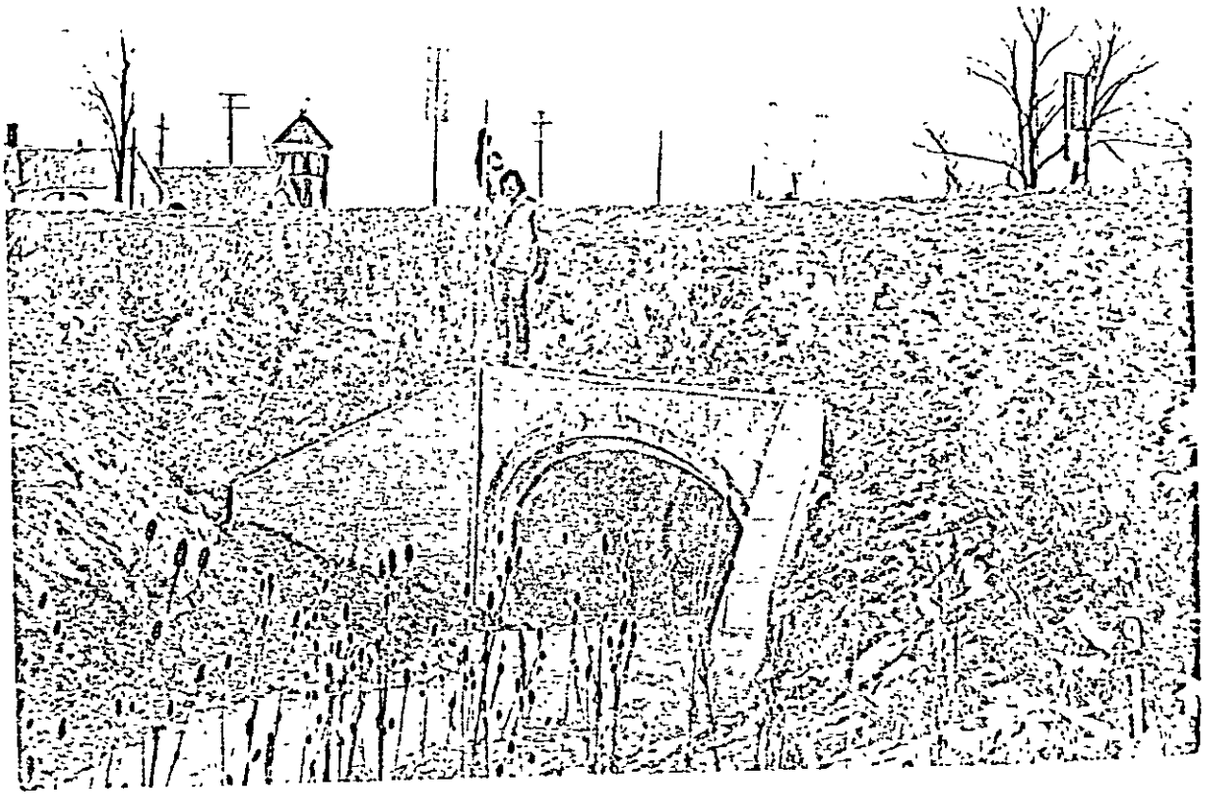
Description of Bridge:
$K_f = 29.1 n^2 L / R^{4/3}$ for English units
Area = 49.5 = _____ $W_p = 26.4$
$R = A/W_p = 49.5/26.4 = 1.88$ $R^{4/3} = 2.32$ $L = 165$
n (composite) $= \frac{6.2(.035) + 20.2(.018)}{26.4} = .02$
$K_f = 29.1 \times (.02)^2 \times 165/2.32 = .83$

$K_e = 0.2$ Headwall & Wingwalls, socket end of pipe (groove end) — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 43

$K_p = 0$ if bridge has no intermediate piers

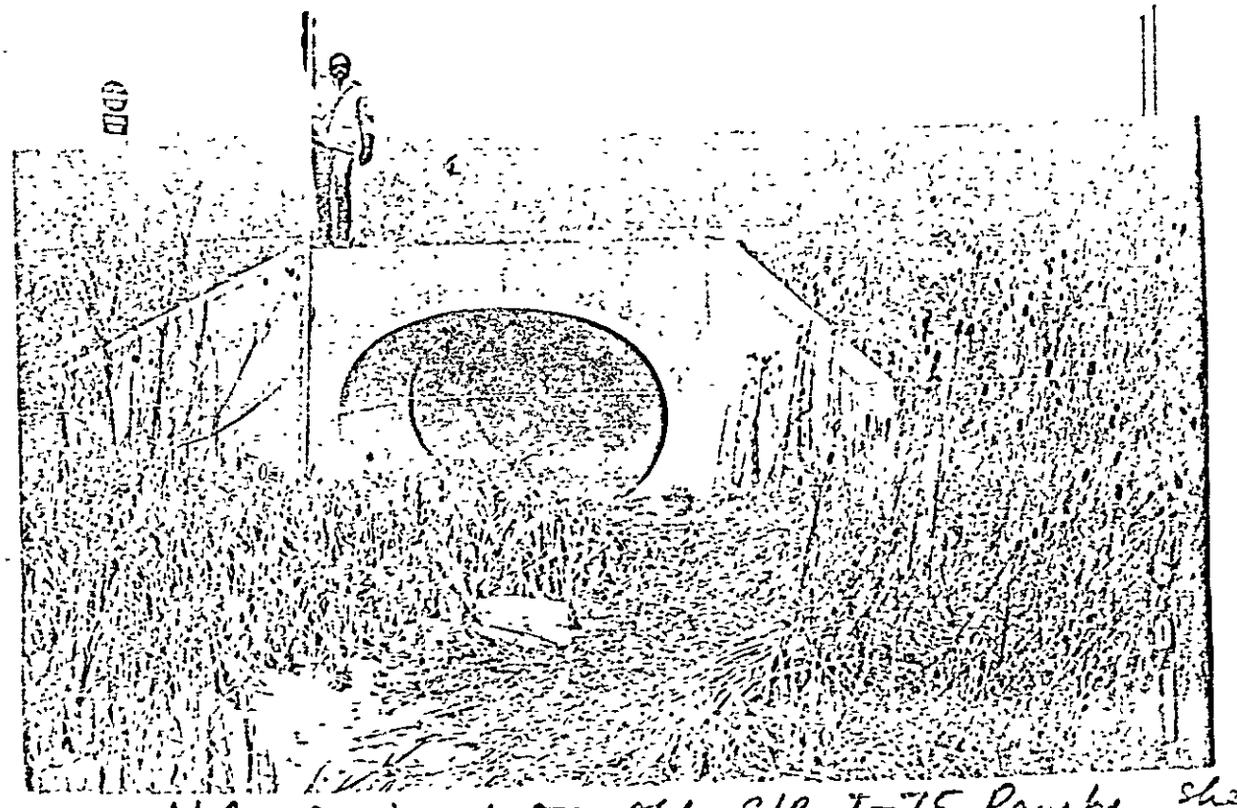
$K_p = 0.05$ if bridge has no intermediate piers — HEC-2 manual

2. XKOR = 1 + 0.2 + 0.83 + 0 = 2.03
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) = 8.53
6. BWP = total width of obstruction = 0 — field data
7. BAREA = bridge opening = 49.5
8. SS = side slope = 0
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 575.4
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 575.4
(0 if equal to minimum elevation in previous x-sect.)



U/S angle shot (Facing D/S)

Standing D/S and looking U/S



Noles Drain at On-Off S/B I-75 Ramps

HUD 2031-05 (CARLETON-ROCKWOOD RD NOLES DRAIN)

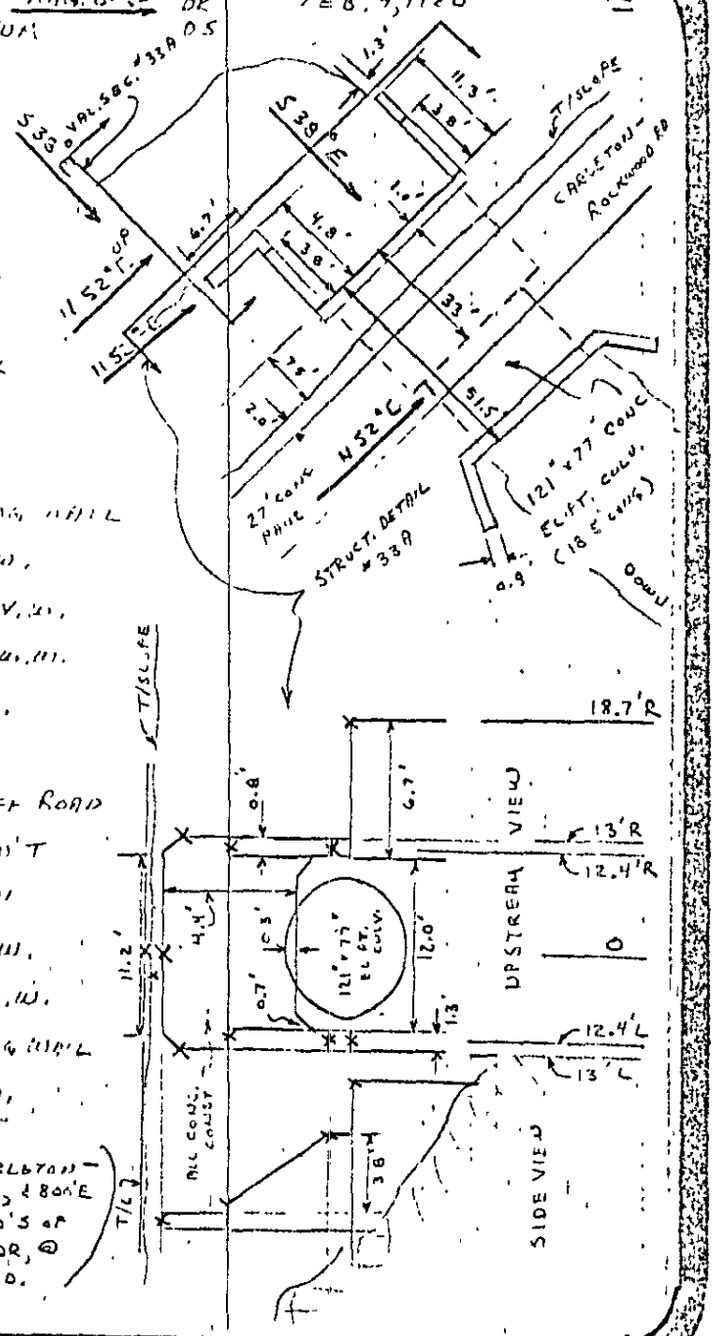
FB 996 MAG. BKGS HP DK DS FEB. 4, 1980 42

STRUCTURE DETAIL #33A

USCGS DATUM

STA	+	HI	−	ELEV		DESC
CONT. FROM PG 41		591.03				
	VALLEY SECTION #33A					
24'R			5.8	585.23		T/BANK
3.5'R			14.5	576.53		TOE/BANK
0 (#33A)			14.65	576.38		℄ DRAIN
3.5'L			14.5	576.53		TOE/BANK
11'L			10.9	580.13		T/BANK
	STRUCTURE DETAIL #33A					
18.7'R			10.94	580.09		TIP OF WING WALL
13'R			6.24	584.79		COR OF H.W.
12.4'R			10.01	581.02		T/JOG IN W.W.
12.4'R			8.40	582.63		BOT/JOG IN W.W.
0			5.55	585.48		℄ TOP H.W.
0 (#33A)			14.65	576.38		℄ DRAIN
0			5.02	586.01		T/SLOPE OFF ROAD
0			4.76	586.27		T/C TO PAV'T
0			5.08	585.95		GUT TO "
12.4'L			8.33	582.70		T/JOG IN W.W.
12.4'L			10.32	580.71		BOT/JOG IN W.W.
12.4'L			10.95	580.08		TIP OF WING WALL
13'L			6.21	584.82		COR TO H.W.
3[illegible] CK			7.39	583.64	583.60	℄ HYD 30'S CARLETON-ROCKWOOD RD, & 800'E BRANDON RD, 500'S OF SHURON RIVER DR, @ MID PT OF BEND.

(NOTE: SEE BOT. PG 41 FOR ℄ RD ELEV.)



Noles Drain at Carleton-Rockwood Rd.

Sheet 16/30
HUD 2031-07

FORM 250
(313) 291-5400
Civil Engineers • Land Surveyors
WORK SHEET
25185 CODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : CARLETON-ROCKWOOD RD.

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient): 0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient

k_e = entrance loss coefficient

k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = = ____ Wp =

$R = A/wp$ $R^{4/3}$ = L =

n (composite) =

$K_f = 29.1 \times (\quad)^2 \times \quad / \quad =$

K_e =

SEE FOLLOWING PAGES

Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 43

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has no intermediate piers — HEC-2 manual

2. XKOR = 1 + + + = 1.70

3. COFQ = Coefficient of discharge = 3.0 — HEC-2 manual

4. RDLEN = Length of weir = _____ (0 if read off BT cards)

5. BWC = bottom width of bridge opening (inc. piers) = 9.17

6. BWP = total width of obstruction = 0 — field data

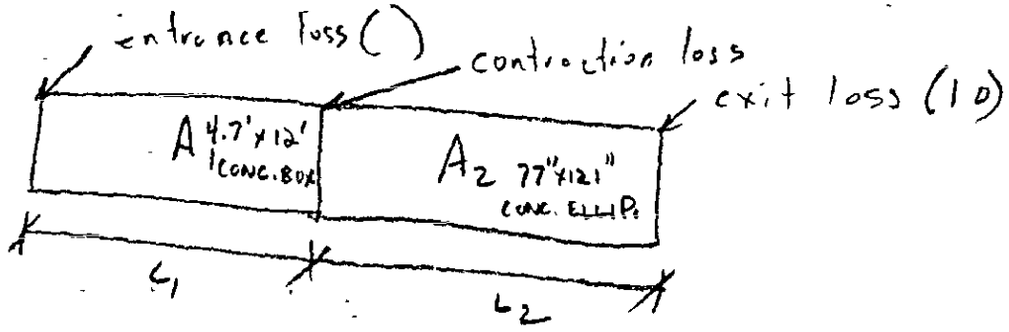
7. BAREA = bridge opening = 43.1

8. SS = side slope = 0 (horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 576.4 (0 if equal to minimum elevation in previous x-sect.)

10. ELCHD = Elevation of channel invert D/S side = 576.4 (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No. (Job No.) Owner Project Suffix
S Rockwood - Hydraulics Dovcroft Notes Dr.	T. Grant		17 OF 30	HUD • 2031 • 07
	DATE 3-19-80	DATE		



$$h_1 + h_2 = \frac{Q^2}{2g}\left[\frac{XKOR_1}{A_1^2} + \frac{XKOR_2}{A_2^2}\right]$$

$$H_L = \frac{\left(\frac{Q}{A_2}\right)^2}{2g}\left[XKOR_1\left(\frac{A_2}{A_1}\right)^2 + XKOR_2\right] \Rightarrow M$$

$$\frac{\sqrt{H\,2g}\,A_2}{M} = Q$$

solve for this

$$XKOR_1 = K_{f_1} + K_e$$

$$K_{f_1} = \frac{29.1\,n^2\,L_1}{R_1^{4/3}}$$

$A_1 = 56.4$ $W.P_1 = 33.4$

$R_1 = 56.4/33.4 = 1.69$

$L_1 = 33'$

$n_1 = .02$

$$K_{f_1} = \frac{29.1\,(.02)^2\,33}{(1.69)^{4/3}} = .19$$

$K_e = 0.7$ - Wingwalls parallel (ext of sides)

$XKOR_1 = .19 + 0.7 = 0.89$

(Contd.)

Subject: XKOR Computations for Noles Drain at Carleton-Rockwood Rd.

Sheet 16/30
HOD 2031-07

(see previous sheet)

$XKOR_2 = 1 + K_{f_2} + K_{conl.}$

$A_2 = 43.1 \quad w.P._2 = 25.8$

$R_2 = 43.1/25.8 = 1.67$

$L_2 = 18.5'$

$n_2 = .02$

$K_{conl.} = \left(\frac{1}{C_c} - 1\right)^2 \quad C_c = .790$

$K_c = \left(\frac{1}{.79} - 1\right)^2 = .07$

$K_{f_2} = \frac{29.1 (.02)^2 \cdot 18.5}{(1.67)^{4/3}}$

$= .11$

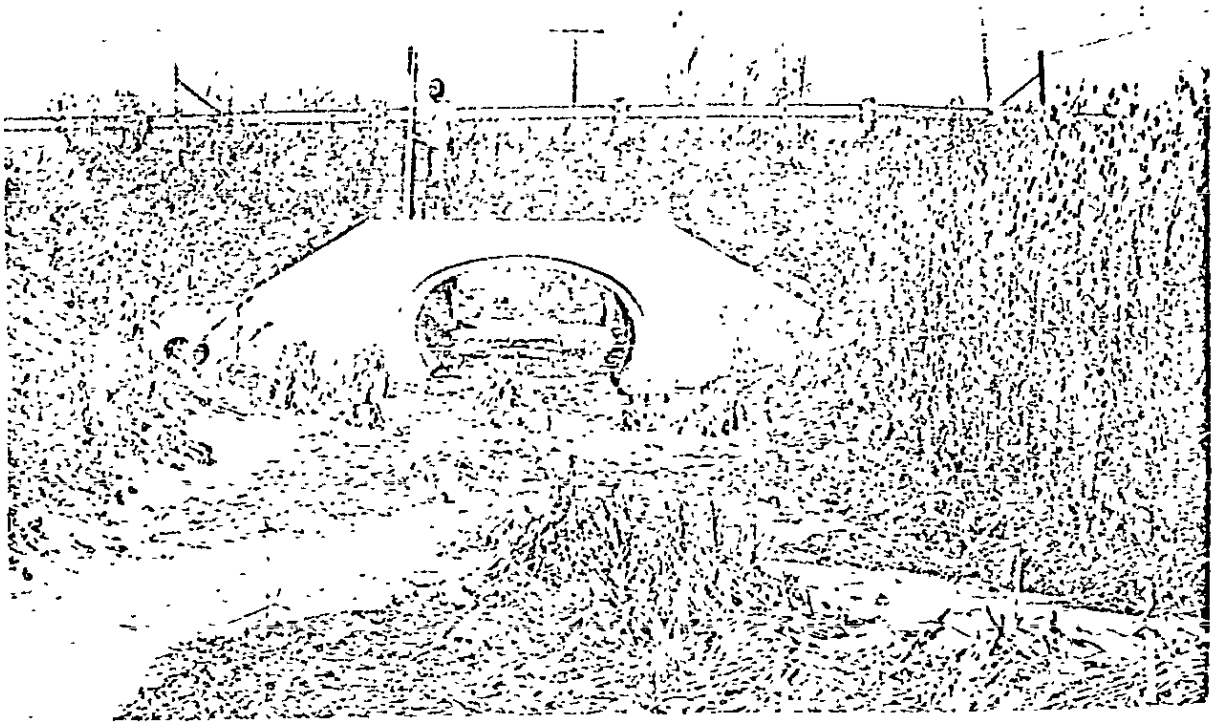
$\boxed{XKOR_2 = 1 + .11 + .07 = 1.18}$

$M = XKOR_1 \left(\frac{A_2}{A_1}\right)^2 + XKOR_2$

$= .89 \left(\frac{43.1}{56.4}\right)^2 + 1.18$

$M = .52 + 1.18 = 1.70$

Subject: XKOR Computations for
Noles Drain at Carleton-Rockwood Rd.



Standing D/S and looking U/S
Standing on Carleton-Rockwood Rd. and looking U/S



Noles Drain at Carleton-Rockwood Rd. Sheet 2:130
HUD 203-07

HUD 2031-07

(BRANDON RD & NOLES DRAIN)

STRUCTURE DETAIL # 34 & # 35

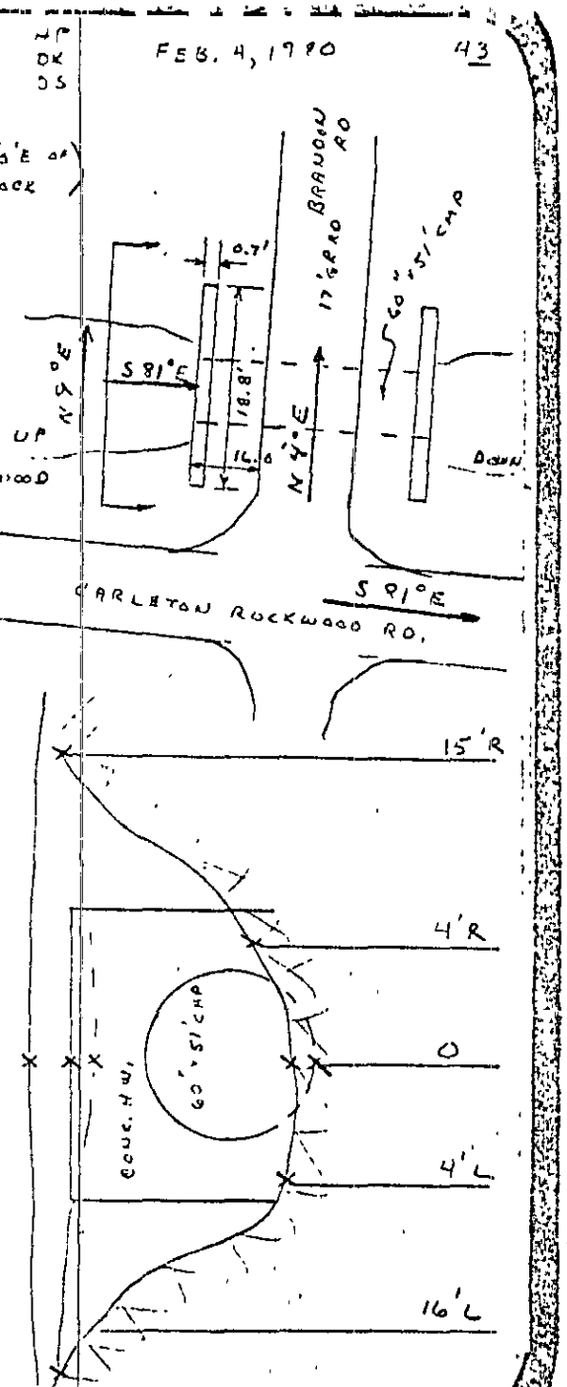
FB 996 MAG BRGS — NP OK DS

USCGS DATUM

FEB. 4, 1980 — 43

STA	+	HI	-	ELEV	DESC
BM	2.32	590.33		588.01	(ENVD 25's @ BRANDON RD, IN FRONT OF 6011 CARL.-ROCK)
500'R			4.08	586.25	@ BRANDON RD.
400'R			4.09	586.24	"
300'R			3.50	586.83	"
200'R			3.39	586.94	"
100'R			4.62	585.71	"
30'R			4.98	585.35	" @ CARLETON ROCKWOOD
0 (#33)			5.21	585.12	"
25'L			5.79	584.54	" (LP)
50'L			5.33	585.00	"
200'L			4.28	586.05	"
300'L			4.17	586.16	"
400'L			4.26	586.07	"
500'L			5.03	585.30	"
15'R			5.95	584.38	T/BANK
4'R			10.25	580.08	TOE/BANK
0 (#34)			11.05	579.28	@ DRAIN
0			11.66	578.67	IND. 60"x51' CMP
0			5.58	584.75	T/CONC. H.W.
0			6.3	584.03	GRND @ H.W.
0			5.5	584.83	W. EDGE GR RD.
4'L			10.3	579.50	TOE/BANK
16'L			6.7	583.63	T/BANK.

CONT. on Pg. #44



Noles Drain at Brandon Rd.

Sheet 21/30

Bridge Location: BRANDON RD.

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 18.3 Wp = 15

$R = A/wp$ 1.22 $R^{4/3}$ = 1.30 L = 51

n (composite).

$K_f = 29.1 \times (0.02)^2 \times 51 / 1.30 = 0.46$

$K_e = 0.2$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

$K_p = 0$ if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers — HEC-2 manual

60" CONCRETE CULVERT

.6 FT OF FILL

AREA = 19.6 - 1.3 = 18.3

$\frac{.6}{5} = 0.12$ $\frac{A_1}{A_2} = 0.068$ $A_1 = 1.3\ FT^2$

2. XKOR = 1 + .46 + .2 + .0 = 1.66

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): 4.2

6. [illegible] width of obstruction = 0. — field data

7. [illegible]: bridge opening inc. piers = 18.3

8. SS = side slope = 0.
(horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 579.3
(0 if equal to minimum elevation in previous x-sect.)

10. ELCHD = Elevation of channel invert D/S side = 579.3
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No (Job No) Owner • Project • Suffix
S. Rockwood FIS - Noles Drain	DRB		22 OF 30	HUS • 2031 • 07
	DATE 12/80	DATE		



U/S angle Shot (Facing D/S)

Noles Drain at Brandon Rd.

Sheet 23/30

HUD 2031-07

HUD 2031-05

(PLAIN CARLETON - ROCKWOOD RD)

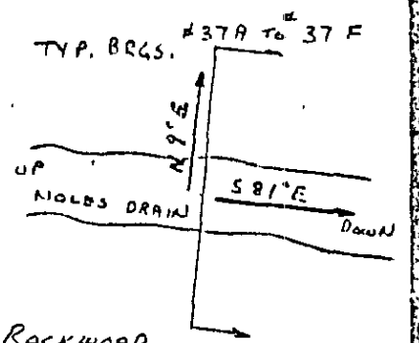
VALLEY SECTIONS #37A TO #37C

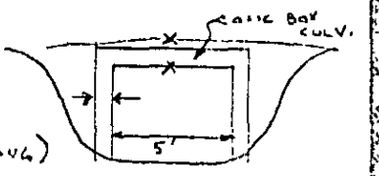
FB 996 MAG. BRG. NP
USCGS DATUM DE
DESC DS

FEB 5, 1980 46

STA	+	HI	−	ELEV	
CONT FROM PG 45		595.23			
	542'± E (OF RITTER SCHOOL EXT)				
#37A			6.73	589.50	℄ CARLETON ROCKWOOD RD
#37A			7.45	587.78	℄ DRIVE @ NOLES DRAIN
#37A			13.60	581.63	INV. 60" x 25' CMP CULV.
#37A			4.42	590.81	F/G HSE # 5731 CARLETON ROCKWOOD
	437'± E (OF RITTER SCHOOL EXT)				
#37B			6.15	589.08	℄ CARLETON ROCKWOOD RD
#37B			7.55	587.68	℄ DRIVE @ NOLES DRAIN
#37B			8.21	587.02	INSIDE TOP INVERT BOX CULV. (16' LONG)
#37B			5.27	589.96	F/G HSE # 5707 CARLEMAN - ROCKWOOD
	282'± E (OF RITTER SCHOOL EXT)				
#37C			5.57	589.66	℄ CARLETON - ROCKWOOD RD
#37C			7.35	587.88	℄ DRIVE @ NOLES DRAIN
#37C			12.98	582.25	INV. OF 60" x 25' CMP CULV.
#37C			4.45	590.78	F/G HSE # 5689 CARLETON ROCKWOOD

CONT. ON PG 47





Noles Drain at Four Bridges

Sheet 24/30
HUD 2031-07

HUD 2031-05

(ALONG CARLETON-ROCKWOOD RD)

VALLEY SECTIONS "37D TO "37F

FB 996 MAG BRGS. HP DK DS

USCGS DATUM

FEB. 5, 1980

47

DESC.

STA	+	HI	−	ELEV	
		595.23			
53'± W (OF RITTER SCHOOL EXT.)					
"37D			5.23	590.00	
"37D			6.25	588.98	
"37D			7.86	587.37	
"37D			12.72	582.51	
"37D			4.79	590.44	
222'± W (OF RITTER SCHOOL EXT.)					
"37E			5.32	589.91	
"37E			7.32	587.91	
"37E			13.11	582.12	
"37E			4.33	590.90	
372'± W (OF RITTER SCHOOL EXT.)					
"37F			5.34	589.85	
"37F			5.72	589.51	
"37F			12.09	583.15	
"37F			4.62	590.61	
3M CK			4.23	591.00	591.01

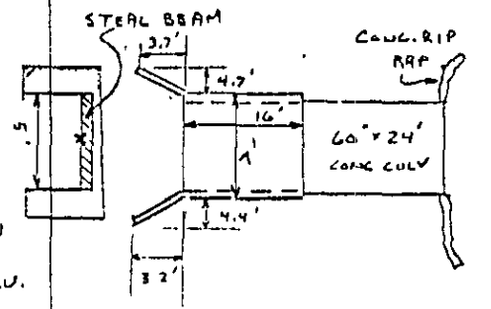
℄ CARLETON ROCKWOOD RD

℄ DRIVE @ NOLES DRAIN

INSIDE TOP BOX & BEAM CULV.

INV. 60" x 24' CONC. CULV.

F/G HSE # 5651 CARLETON ROCKWOOD



BOTH STRUCTURES USED TOGETHER FOR COMMON DRIVEWAY.

TYP OF S.RGS.

℄ CARLETON ROCKWOOD RD

℄ DRIVE @ DRAIN

INV. OF 60" x 24' CONC CULV

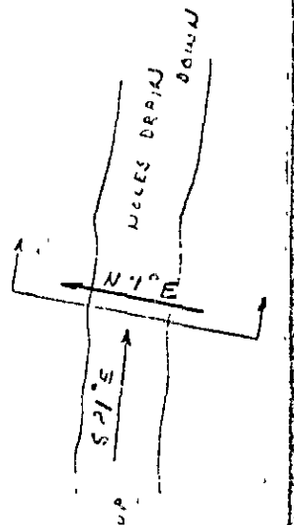
F/G HSE # 5613 CARLETON ROCKWOOD

℄ CARLETON ROCKWOOD RD.

℄ DRIVE @ DRAIN

INV. OF 60" x 24' CONC CULV.

F/G HSE # 5555 CARLETON ROCKWOOD



℄ HWD 25'S CARLETON-ROCKWOOD RD, 5600'± E OF ARMSTRONG RD. (IN FRONT OF RITTERS SCHOOL)

Sheet 25/30
HUD 2031-07

Noles Drain at Fort Bridges

FORM 25 0
(313) 291 5400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location: FOOTBRIDGE 37-A (About 540 ft Bridge Losses - SB Card East of Ritter School Ext)

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$k_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = 19.6 = 19.6 Wp = 15.7

$R = A/wp$ 1.25 $R^{4/3} = 1.34$ $L = 25$

n (composite) =

$k_f = 29.1 \times (0.02)^2 \times 25 / 1.34 = 0.22$

$k_e = 0.5$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

k_p = 0 if bridge has no intermediate piers

$k_p = 0.05$ if bridge has intermediate piers — HEC-2 manual

2. XKOR = 1 + .22 + .5 + 0.0 = 1.72
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): 3.9
6. [illegible] width of obstruction = 0. — field data
7. [illegible] bridge opening inc. piers = 19.6
8. SS = side slope = 0.
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 581.6
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 581.6
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No. (Job No.) Owner	Project	Suffix
Bancroft + Noles Drain	DRB		26 OF 30	HUD	2031	07
	DATE 1/81	DATE				

Bridge Location: FOOTBRIDGE 37-B (About 435 ft East of Ritter School Ext)
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = 5 × 5.02 = 26 Wp = 20.2

R = A/wp 1.29 $R^{4/3}$ = 1.41 L = 14

n (composite).

$K_f = 29.1 \times (0.02)^2 \times 14 / 1.4 = .12$

K_c = — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

2. XKOR = 1 + .12 + .5 + 0 = 1.62
3. COFQ Coefficient of discharge = 2.0 — HEC-2 manual
4. RDLEN = Length of weir = 0 (0 if read off BT cards)
5. BWC = Bottom width of bridge opening (inc. piers) = 5
6. [illegible] width of obstruction = 0 — field data
7. [illegible] bridge opening inc. piers = N.A.
8. SS = side slope = — (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 581.8
   (0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 581.8
    (0 if equal to minimum elevation in previous X-sect.)

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner Project Suffix
Bancroft Nobles Drain	DATE 11/21	DATE	27 OF 20	HUD • 2071 • 37

FORM 25 0
(313) 291 6400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : DRIVEWAY CULVERT 37C
Bridge Losses - SB Card STA. 6352 TO 6377

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_c + k_p$

where k_f = friction loss coefficient
k_c = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$k_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = 19.6 = 19.6 Wp = 15.7

$R = A/wp = 19.6/15.7$ $R^{4/3} = 1.34$ L =

n (composite) =

$k_f = 29.1 \times (.025)^2 \times 24 / 1.34 = .33$

$k_c = .2$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

k_p = 0 if bridge has no intermediate piers

k_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60 IN CONCRETE CULVERT
24 FT LONG

2. XKOR = 1 + .33 + .20 + 0.0 = 1.52
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0.0 (0 if read off BT cards)
5. BWC - bottom width of bridge opening (inc. piers) = 4.0
6. [illegible] of obstruction = _____ — field data
7. [illegible] bridge opening inc. piers = 19.6
8. SS = side slope = _____
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 582.2
(0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 582.2
(0 if equal to minimum elevation in previous X-sect.)

SUBJECT	BY	CHK.	SHEET NO	File Code No. (Job No.) Owner	Project	Suffix
S. Rockwood Noles Drain	DRB		28 OF 30	HUD	2031	07
	DATE 3/81	DATE				

Bridge Location : DRIVEWAY CULVERT 37D STA. 6695 TO 6735

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) _____ HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 18 FT^2 = _____ WP = 16.5

$R = A/wp$ 18/16.5 $R^{4/3}$ = 1.012 L = 410

n (composite).

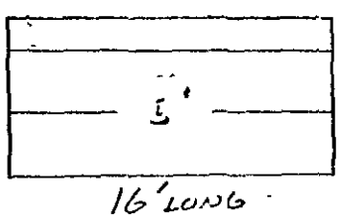
$K_f = 29.1 \times (0.025)^2 \times 410 / 1.012 = .65$

$K_e = 0.2$ Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

K_p = 0 if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers HEC-2 manual

A = 18 FT^2
17.2



60 IN CONCRETE CULVERT
24 FT LONG
A = 19.6 FT^2
P = 15.7 FT

2. XKOR = 1 + .65 + .2 + = 1.85
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) = 5.0
6. [illegible] width of obstruction = 0. field data
7. [illegible] = bridge opening inc. piers = 10
8. SS = side slope = 0. (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 583.7 (0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 583.7 (0 if equal to minimum elevation in previous X-sect.)

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No) Owner Project Suffix
[illegible]	DATE	DATE	29 OF 30	[illegible]

FORM 25 0
(313) 291 5400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : DRIVEWAY CULVERT 37F
Bridge Losses - SB Card

STA. 7014 TO 7038

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$k_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = 19.6 = 19.6 Wp = 15.7

$R = A/wp$ 19.6/15.7 $R^{4/3}$ = 1.34 L =

n (composite) =

$k_f = 29.1 \times (.025)^2 \times 24 / 1.34 = .33$

k_e = .2 — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

k_p = 0 if bridge has no intermediate piers

k_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60 IN CONCRETE CULVERT

24 FT LONG

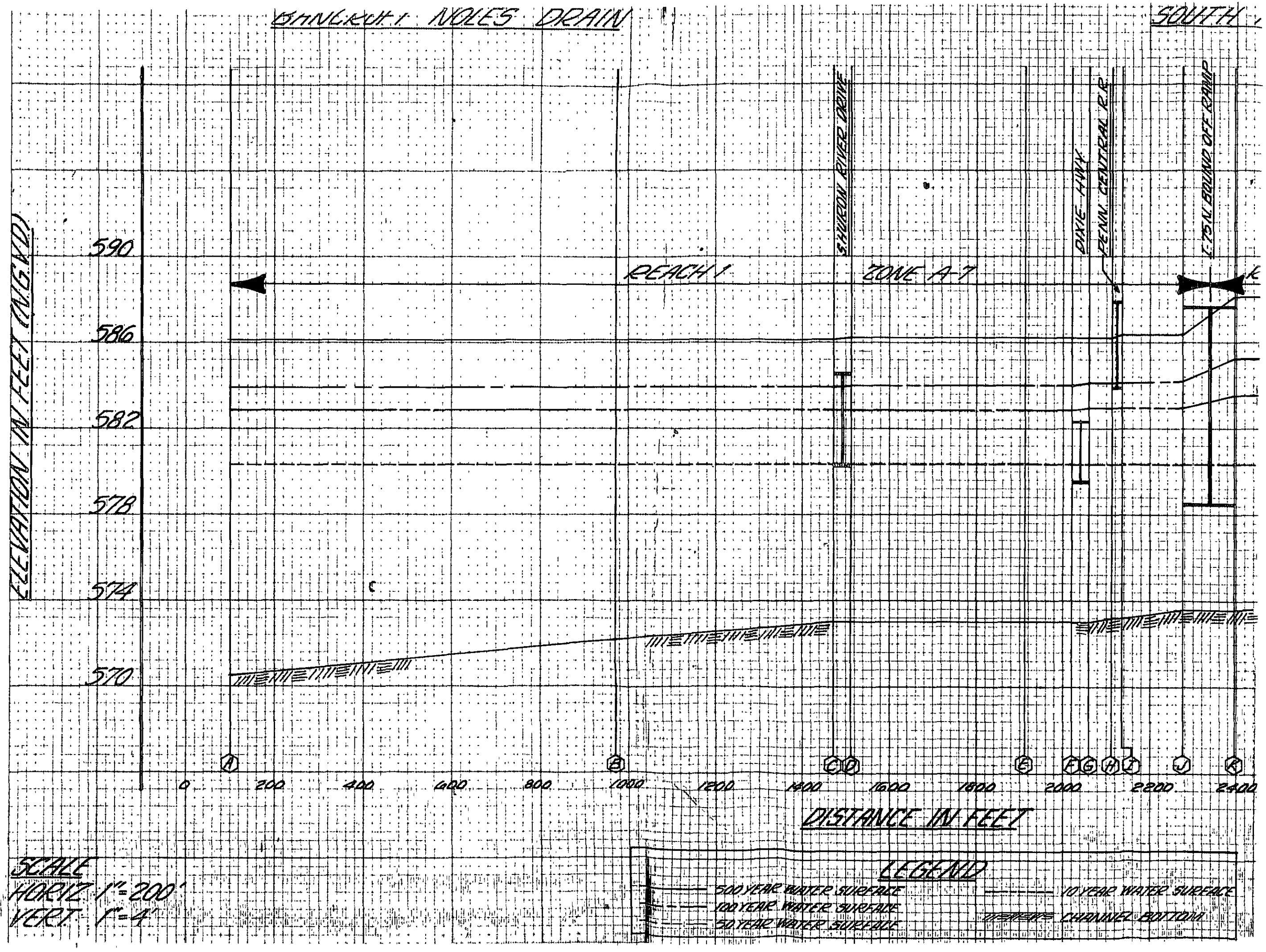
2. XKOR = 1 + 0.33 + 0.20 + 0.0 = 1.52
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = ~~[illegible]~~ 0.0 (0 if read off BT cards)
5. BWC = bottom width of bridge opening (inc. piers) = ~~[illegible]~~ 4.
6. [illegible] width of obstruction = ~~[illegible]~~ — field data
7. [illegible] bridge opening inc. piers = ~~[illegible]~~ 19.6
8. SS = side slope = ~~[illegible]~~
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 593.1
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 593.1
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO	File Code No. (Job No.) Owner Project Suffix
[illegible] Rockwood - [illegible]	DRB		30 OF 30	HUD • 2031 • 07
	DATE 3/81	DATE		

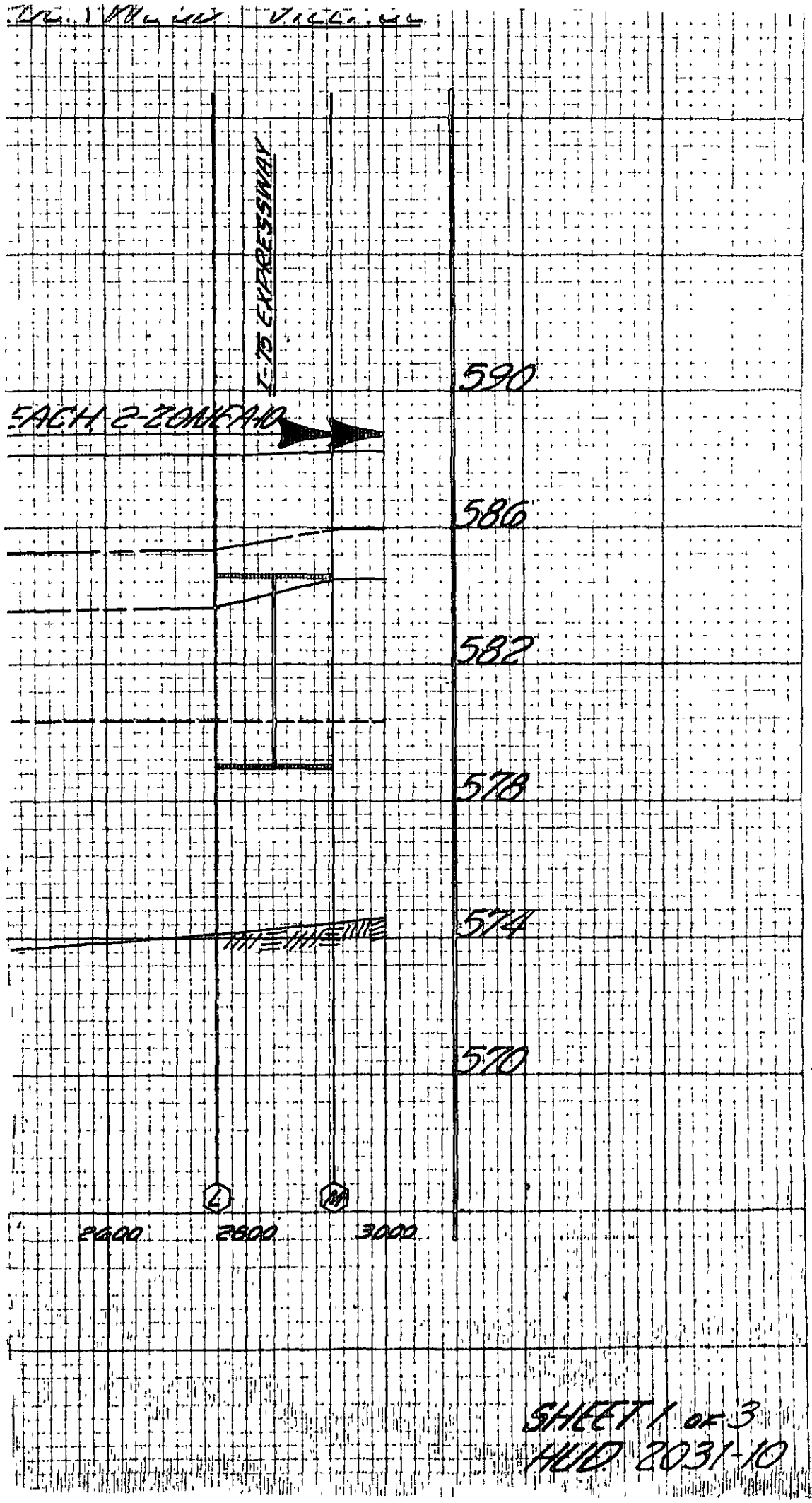
VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 5

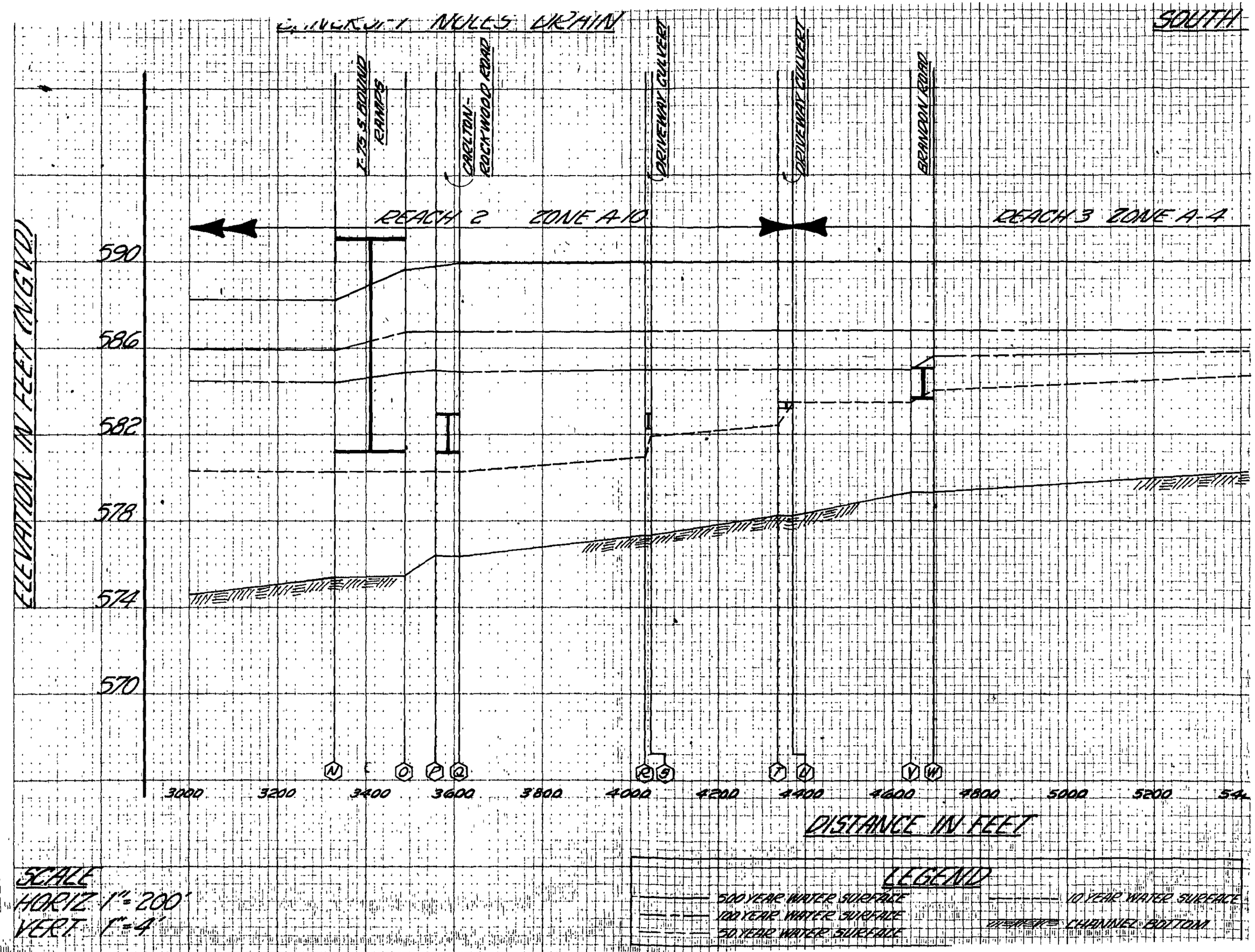
Diversion Analyses, Bancroft Noles Drain



BANCROFT NOLES DRAIN
SOUTH
ELEVATION IN FEET (N.G.V.D.)
590
586
582
578
574
570
REACH 1
ZONE A-7
SHURON RIVER DRIVE
DIXIE HWY.
PENN. CENTRAL R.R.
I-75 N. BOUND OFF RAMP
A
B
C
D
E
F
G
H
I
J
K
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
DISTANCE IN FEET
SCALE
HORIZ. 1"=200'
VERT. 1"=4'
LEGEND
500 YEAR WATER SURFACE
100 YEAR WATER SURFACE
50 YEAR WATER SURFACE
10 YEAR WATER SURFACE
CHANNEL BOTTOM



SHEET 1 OF 3
HUD 2031-10



NOLES DRAIN
SOUTH
I-75 S. BOUND RAMPS
CARLTON-ROCKWOOD ROAD
DRIVEWAY CULVERT
DRIVEWAY CULVERT
BRANDON ROAD
REACH 2 ZONE A-10
REACH 3 ZONE A-4
ELEVATION IN FEET (N.G.V.D.)
590
586
582
578
574
570
N
O
P
Q
R
S
T
U
V
W
3000
3200
3400
3600
3800
4000
4200
4400
4600
4800
5000
5200
DISTANCE IN FEET
SCALE
HORIZ. 1" = 200'
VERT. 1" = 4'
LEGEND
500 YEAR WATER SURFACE
100 YEAR WATER SURFACE
50 YEAR WATER SURFACE
10 YEAR WATER SURFACE
CHANNEL BOTTOM

ROCKWOOD VILLAGE

590

586

582

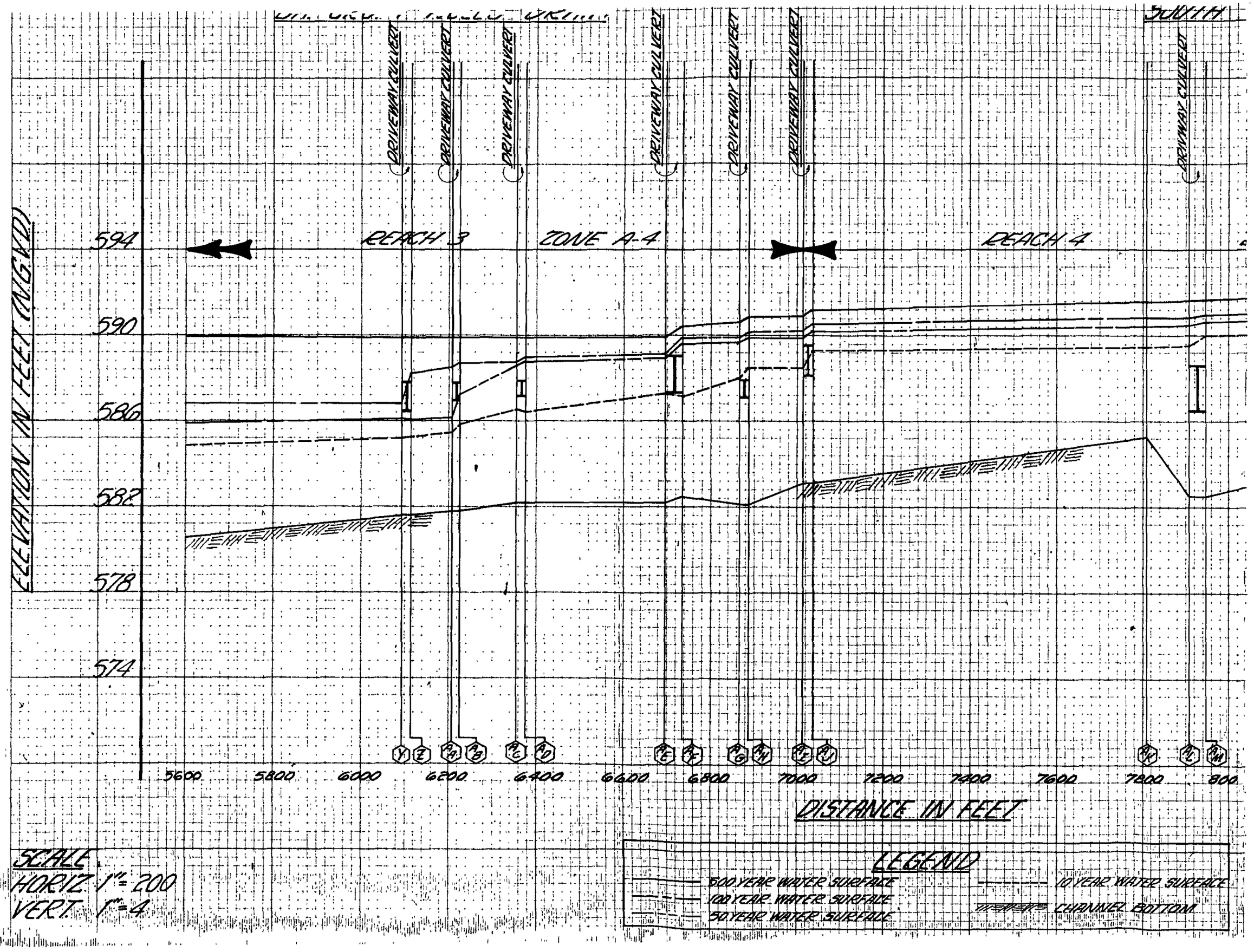
578

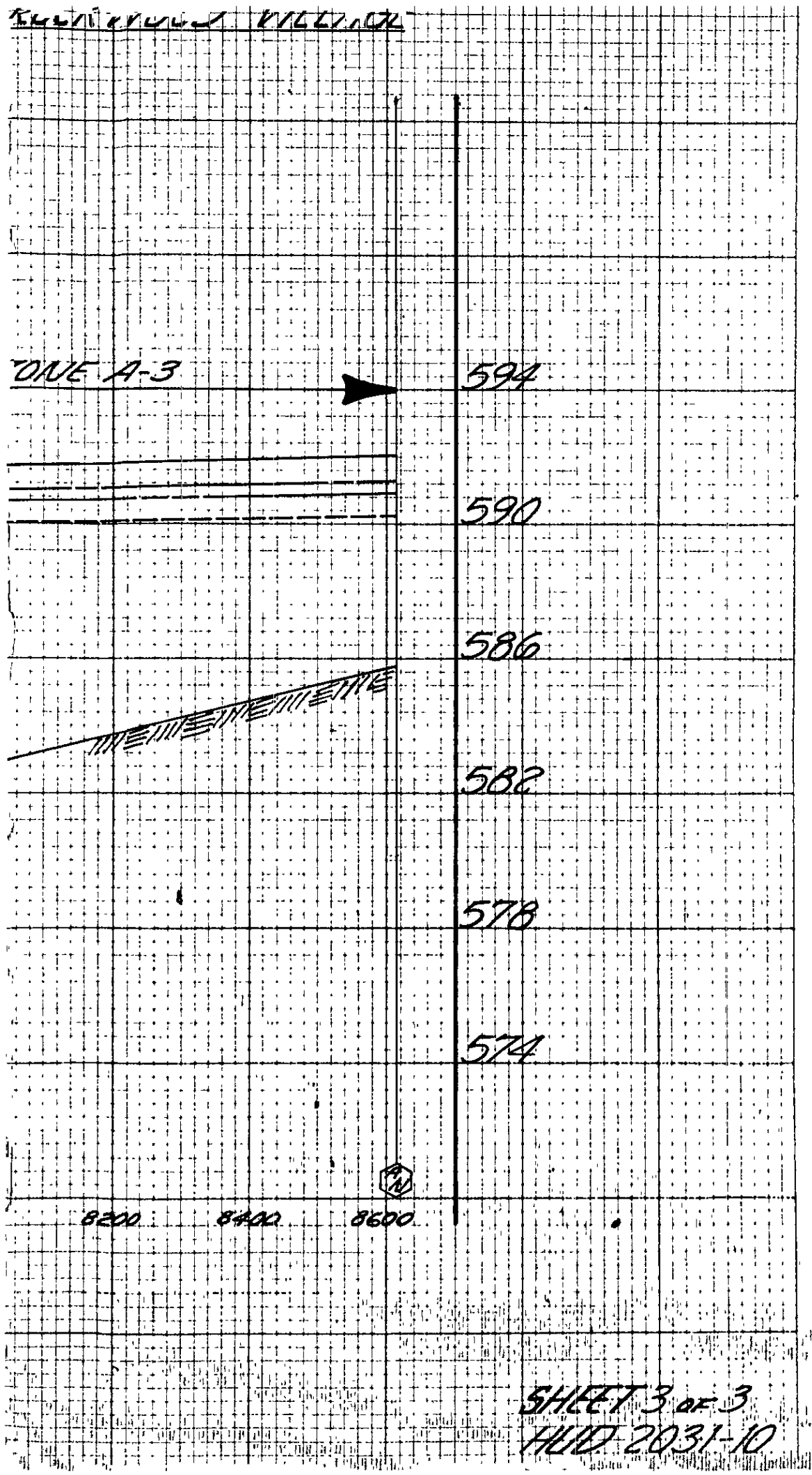
574

570

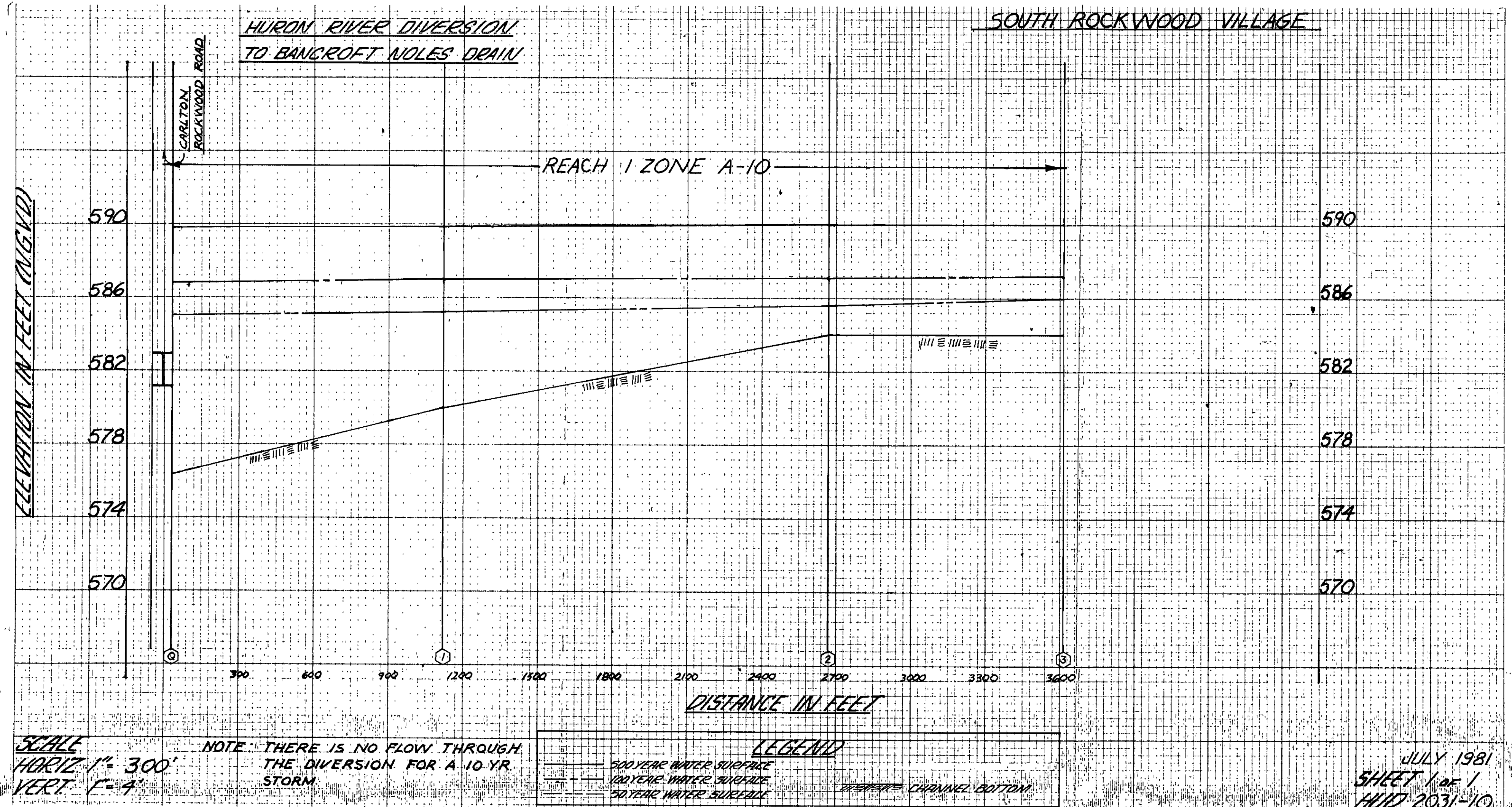
5600

SHEET 2 of 3
HUD 7031-10


DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
SOUTH
REACH 3
ZONE A-4
REACH 4
ELEVATION IN FEET (N.G.V.D.)
594
590
586
582
578
574
Y
Z
AA
AB
AC
AD
AE
AF
AG
AH
AI
AJ
AK
AL
AM
5600
5800
6000
6200
6400
6600
6800
7000
7200
7400
7600
7800
800
DISTANCE IN FEET
SCALE
HORIZ. 1"= 200
VERT. 1"= 4
LEGEND
500 YEAR WATER SURFACE
100 YEAR WATER SURFACE
50 YEAR WATER SURFACE
10 YEAR WATER SURFACE
CHANNEL BOTTOM



SHEET 3 OF 3
HUD 2031-10



SCALE
HORIZ 1" = 300'
VERT 1"=4'

NOTE: THERE IS NO FLOW THROUGH THE DIVERSION FOR A 10 YR STORM

JULY 1981
SHEET 1 OF 1
HUD 2031-10

Wade Trim & Associates, Inc.
Civil Engineers • Land Surveyors • Community Planners
Taylor, Michigan

July 9, 1981

RECEIVED
JUL 13 1981
WATER MANAGEMENT

Ms. Suzanne Elmer
Michigan Department of Natural Resources
Flood Insurance and
Flood Plain Delineation Unit
P.O. Box 30028
Stevens T. Mason Building
Lansing, Michigan 48909

Additional info on diversion from Huron River to Bancroft Noles Drain

Village of South Rockwood, Mich.
Hydraulic Analysis

Dear Ms. Elmer:

This is with reference to your June 29, 1981 letter regarding the hydraulic analysis of the Laudenschlager and Bancroft-Noles Drains and the Huron River, associated with the Village of South Rockwood, Michigan - Flood Insurance Administration Study performed by this office.

The hydraulic model set up for the diversion area, located between the Huron River and Bancroft-Noles Drain was based upon 5-foot U.S.G.S. topography and field investigations. This area was modeled in a conservative fashion with high roughness values (Manning's "n") and a restricted effective flow area to reflect the character of the land. The following are in response to your concerns regarding this diversion area:

1. Brandon Road crosses the diversion area; however, this dirt road was constructed at the existing grade and does not create a restriction to flow. The cross section utilized in the model near this road was developed in such a way that the worst restriction was taken into account.

2. Huron River flood elevations will exceed the minimum South Huron River Drive road elevation by more than two feet during the 100-year flood. Thus, the supply of flow from the Huron River to the diversion area will be unrestricted in the vicinity of this road.

25185 Goddard Road • P.O. Box 1041 • Taylor, Michigan 48180 • (313) 291-5400 • Wats (800) 482-2884
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3. The diversion analysis model is not sensitive to cross section changes due to the extensive amount of available flow area and slow velocities. Therefore, this office does not believe that a more detailed survey would add to the accuracy of the analysis. Enclosed is a plan and profile which will be utilized to designate the flood hazards in this area.

Finally, the following are in response to your questions regarding the Laudenschlager Drain:

1. In accordance with our Contract, the limit of detailed study for this stream ends at the Detroit Toledo/Penn Central Railroad corridor.

2. As suggested, the backwater for the railroad corridor will be delineated for the entire reach of this stream located within the Village, as shown on the enclosed revised portion of the flood hazard map.

With these considerations, the hydraulic analysis for the Village of South Rockwood has been finalized and will be utilized in the development of the Flood Insurance Study. If you have any questions regarding this matter, please call me at (313) 291-5400.

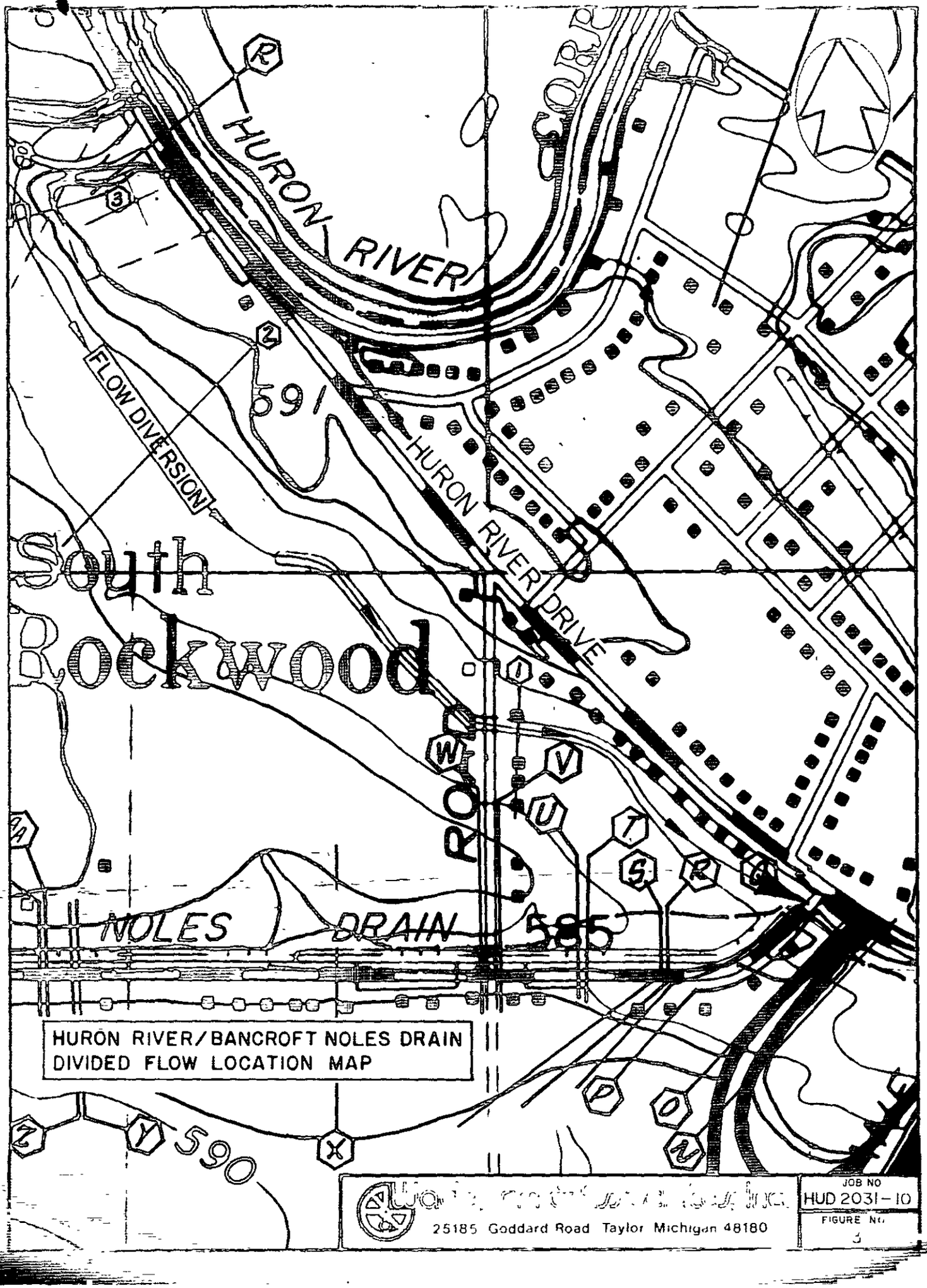
Very truly yours,

WADE, TRIM & ASSOCIATES, INC.

William J. Weaver

William J. Weaver, P.E.

WJW:lj
BUD 2031-07
Enclosures
cc: Mr. Martin Gunn,
Federal Emergency Management Agency
Mr. Norb Schwartz,
Federal Emergency Management Agency

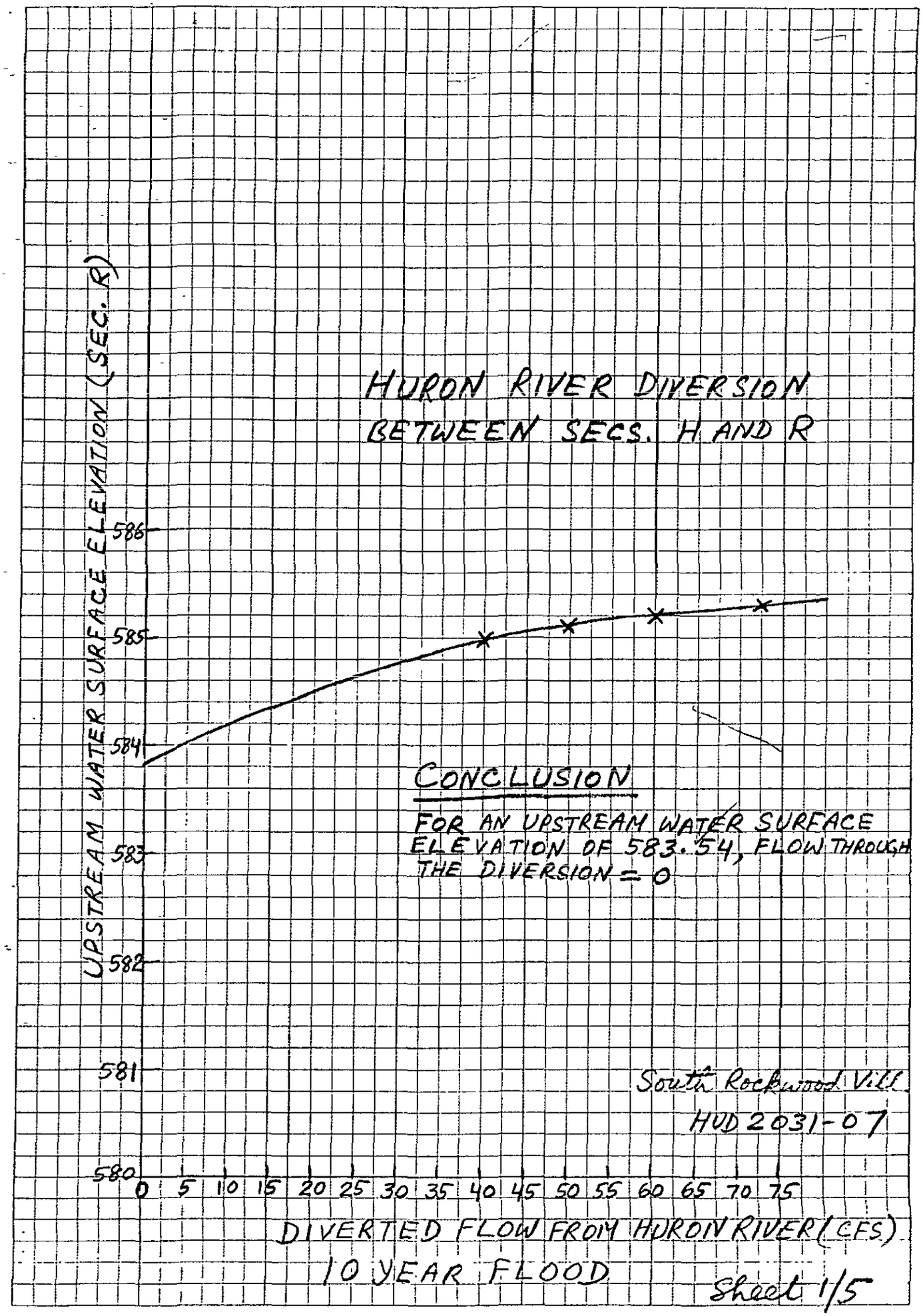


25185 Goddard Road Taylor Michigan 48180

JOB NO
HUD 2031-10

FIGURE NO
3

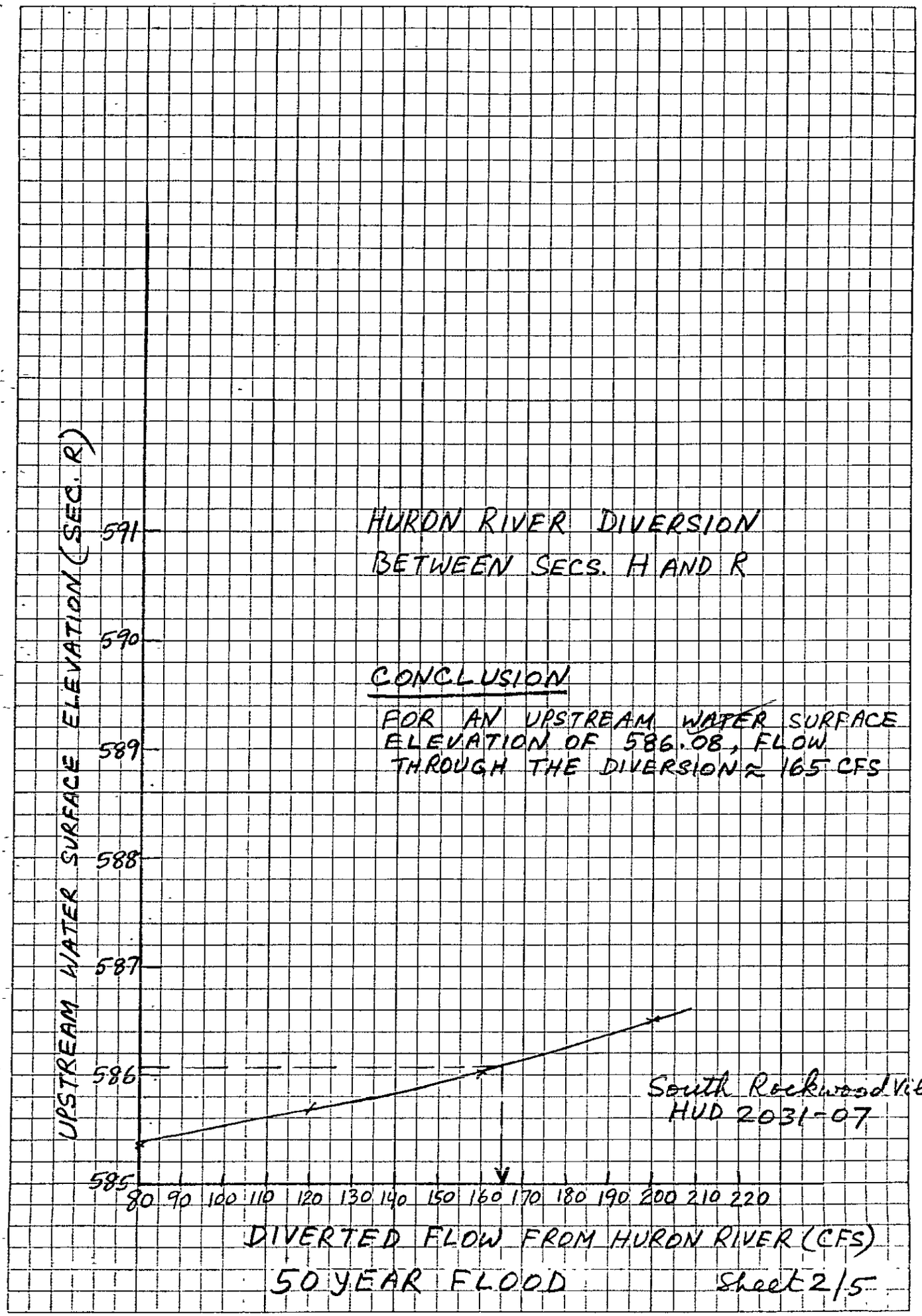
46 0460
K+E 6 x 6 TO THE INCH • 7 x 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.



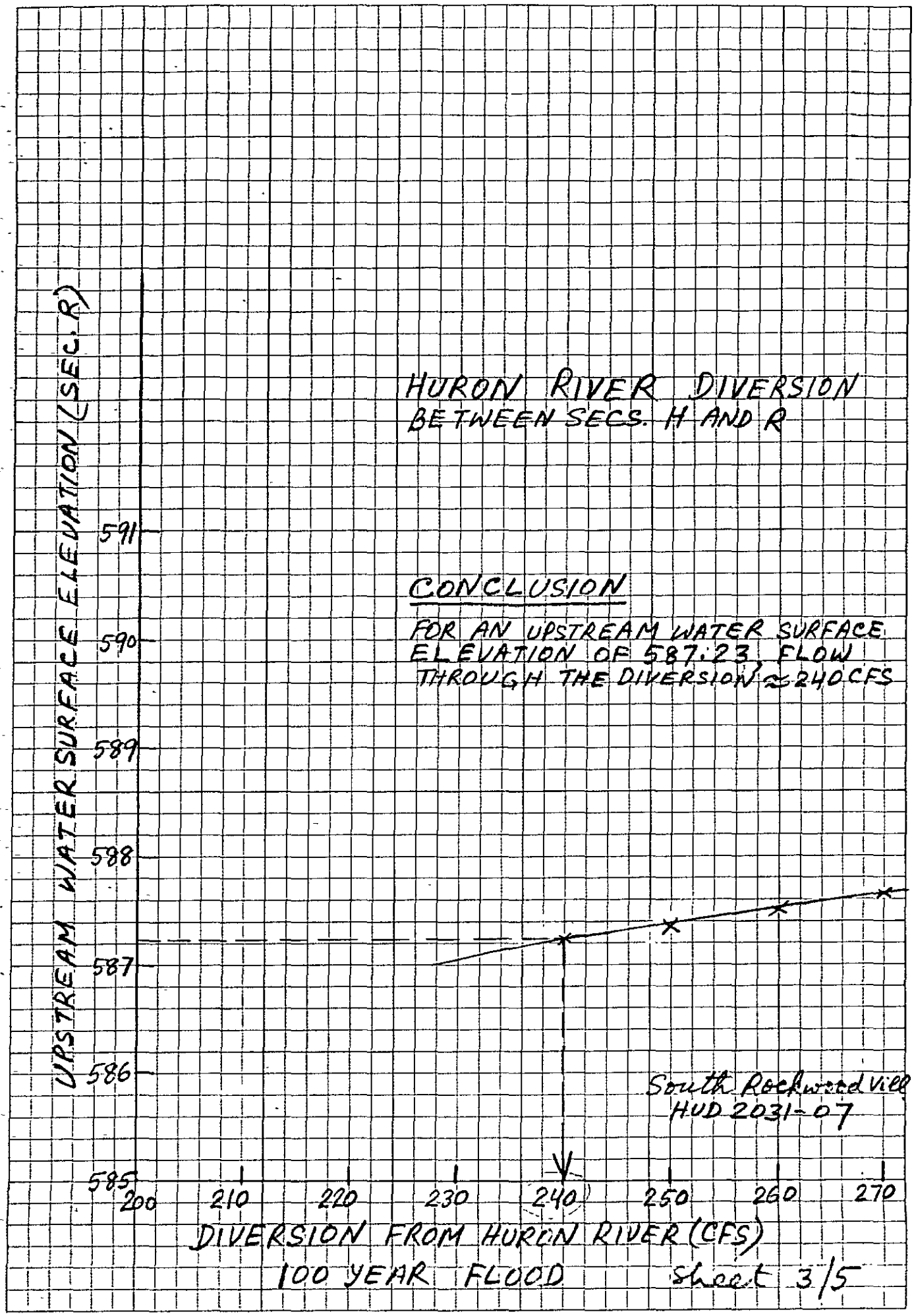
CONCLUSION

FOR AN UPSTREAM WATER SURFACE ELEVATION OF 583.54, FLOW THROUGH THE DIVERSION = 0

South Rockwood Vill.
HUD 2031-07



46 0460
K+E 5 X 5 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.



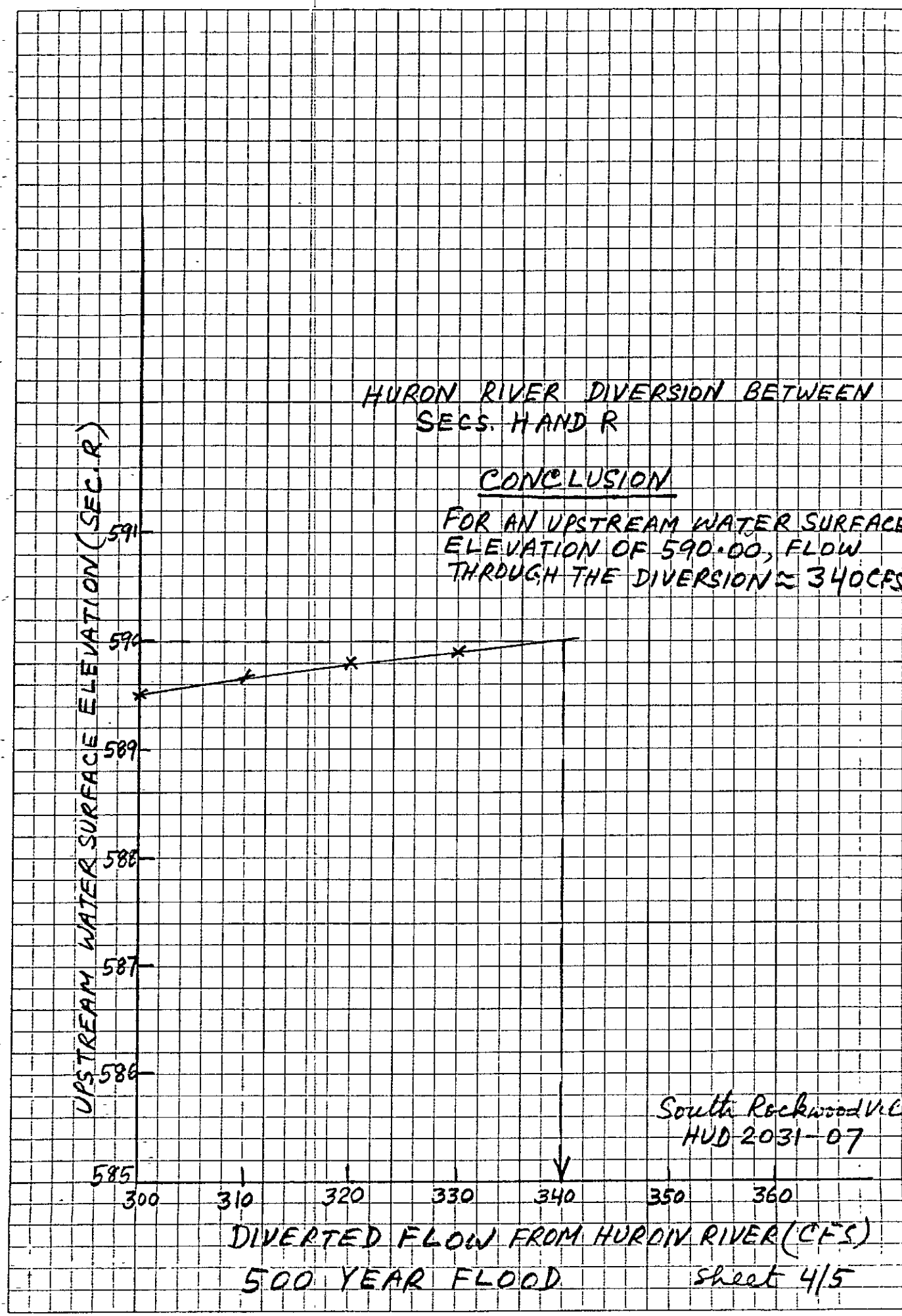
46 0460
K+E 6 X 6 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.

46 0460
K+E 6 X 6 TO THE INCH • 7 X 10 INCHES KEUFFEL & ESSER CO MADE IN U.S.A.

HURON RIVER DIVERSION BETWEEN SECS. H AND R

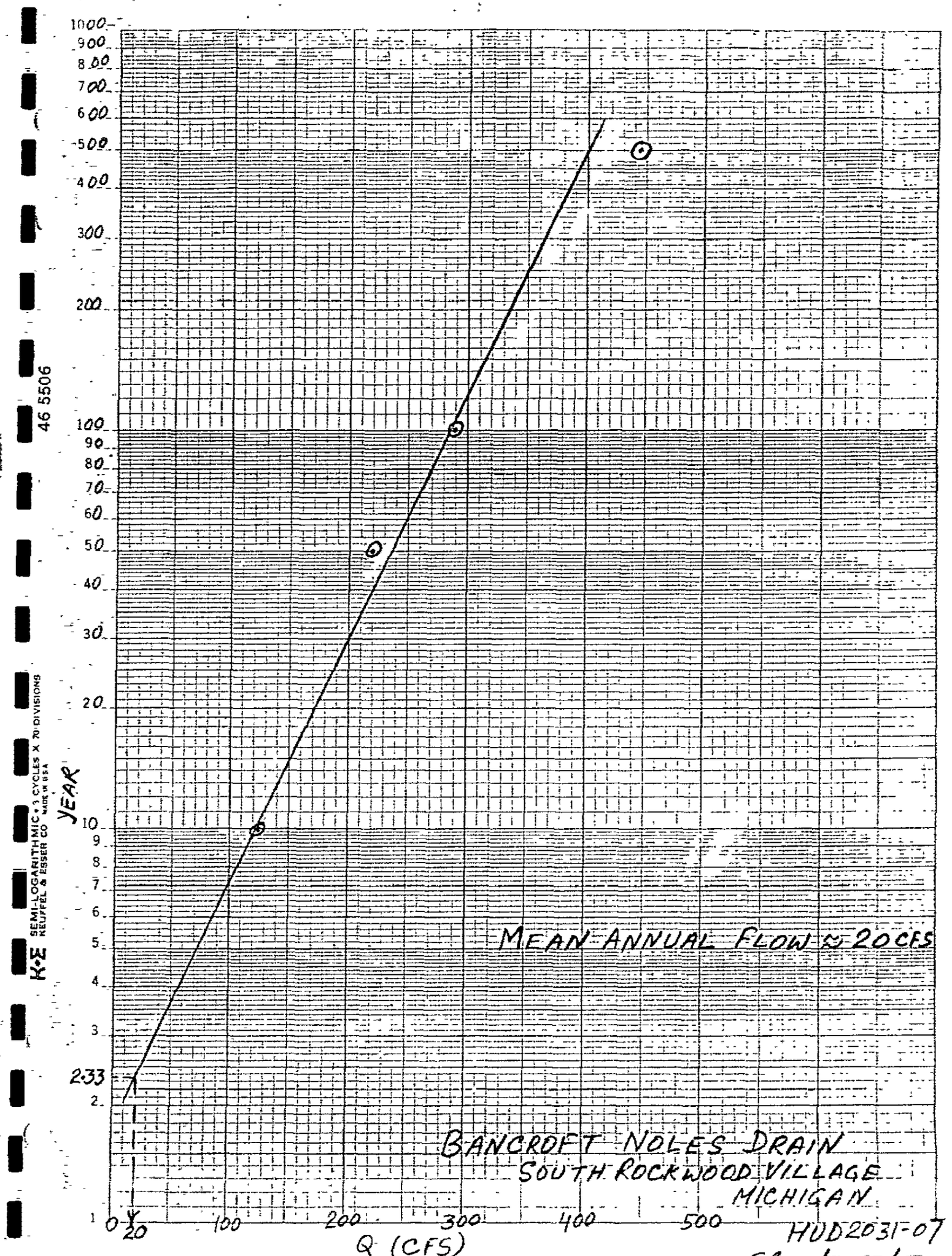
CONCLUSION

FOR AN UPSTREAM WATER SURFACE ELEVATION OF 590.00, FLOW THROUGH THE DIVERSION ≈ 340 CFS



South Rockwood Vic.
HUD-2031-07

500 YEAR FLOOD


1000
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
9
8
7
6
5
4
3
2.33
2
1
YEAR
0
20
100
200
300
400
500
Q (CFS)
MEAN ANNUAL FLOW ≈ 20 CFS
BANCROFT NOLES DRAIN
SOUTH ROCKWOOD VILLAGE
MICHIGAN
HUD2031-07
Sheet 5/5
46 5506
K+E SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 6

First D'way Culvert U/S of Carleton - Rockwood Road
Computations for 50-Year Flood

Wade Trim & Associates, Inc.
Civil Engineers • Land Surveyors
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

WORK SHEET

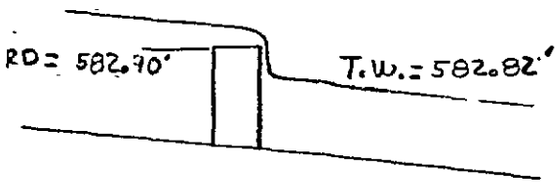
REFERENCE

HAND CALCULATION FOR FOOTBRIDGE 34B

(MODELED AS NORMAL BRIDGE, 50 YR FLOW REQUIRES SPECIAL BRIDGE ROUTINE) 50-YR FLOW = 205 CFS

FOOTBRIDGE 34A - 60" CONCRETE CULVERT

$A = 19.6\ FT^2$ EFFECTIVE WIER = 30.0 FT
$L = 25'$ XKOR = 1.5 (SEE ATTACHED)



TRY 584.0

WIER FLOW:
$$Q = CLH^{3/2} = 3.0(30)(1.1)^{3/2} = 104\ CFS$$

PRESSURE FLOW:
$$Q = A\sqrt{2gH/K} = 19.6\sqrt{\frac{2(32.2)1.17}{1.5}} = 139\ CFS$$

243 CFS

TRY 583.80

$$Q = 3(30)(.9)^{3/2} = 77\ CFS$$

$$Q = 19.6\sqrt{\frac{2(32.2)(.98)}{1.5}} = 127$$

204 CFS

Subject: First FootBridge upstream of Carleton-Rockwood Road.

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No) Owner Project Suffix
SOUTH ROCKWOOD F-IS	DRB		1 OF 2	HUD • 2031 • 07
	DATE 3/01	DATE		

Bridge Location : FOOT BRIDGE - 34B

REFERENCE

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) _____ HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$k_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = $= \frac{19.6}{}$ $Wp = 15.07$

$R = A/wp$ 1.25 $R^{4/3} = 1.04$ $L = 25'$

n (composite).

$k_f = 29.1 \times (0.02)^2 \times 25 / 1.4 = .21$

$k_e = 0.2$ Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

$k_p = 0$ if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers HEC-2 manual

60 INCH CONCRETE CULVERT = 19.6 FT

$Q = A\sqrt{2gh/k}$ $H = \left(\frac{205}{19.6}\right)^2 1.5 / 2(32.2) = 2.5$ FT ◦ WIER ◦◦ PRESSURE

2. XKOR = 1 + .21 + .2 + 0 = 1.41 ⇒ 1.5

3. COFQ Coefficient of discharge = _____ HEC-2 manual

4. RDLEN = Length of weir = _____ (0 if read off BT cards)

5. BWC = Bottom width of bridge opening (inc. piers) = _____

6. [illegible] width of obstruction = _____ field data

7. [illegible] bridge opening inc. piers = _____

8. SS = side slope = _____
(horizontal per 1 vertical unit)

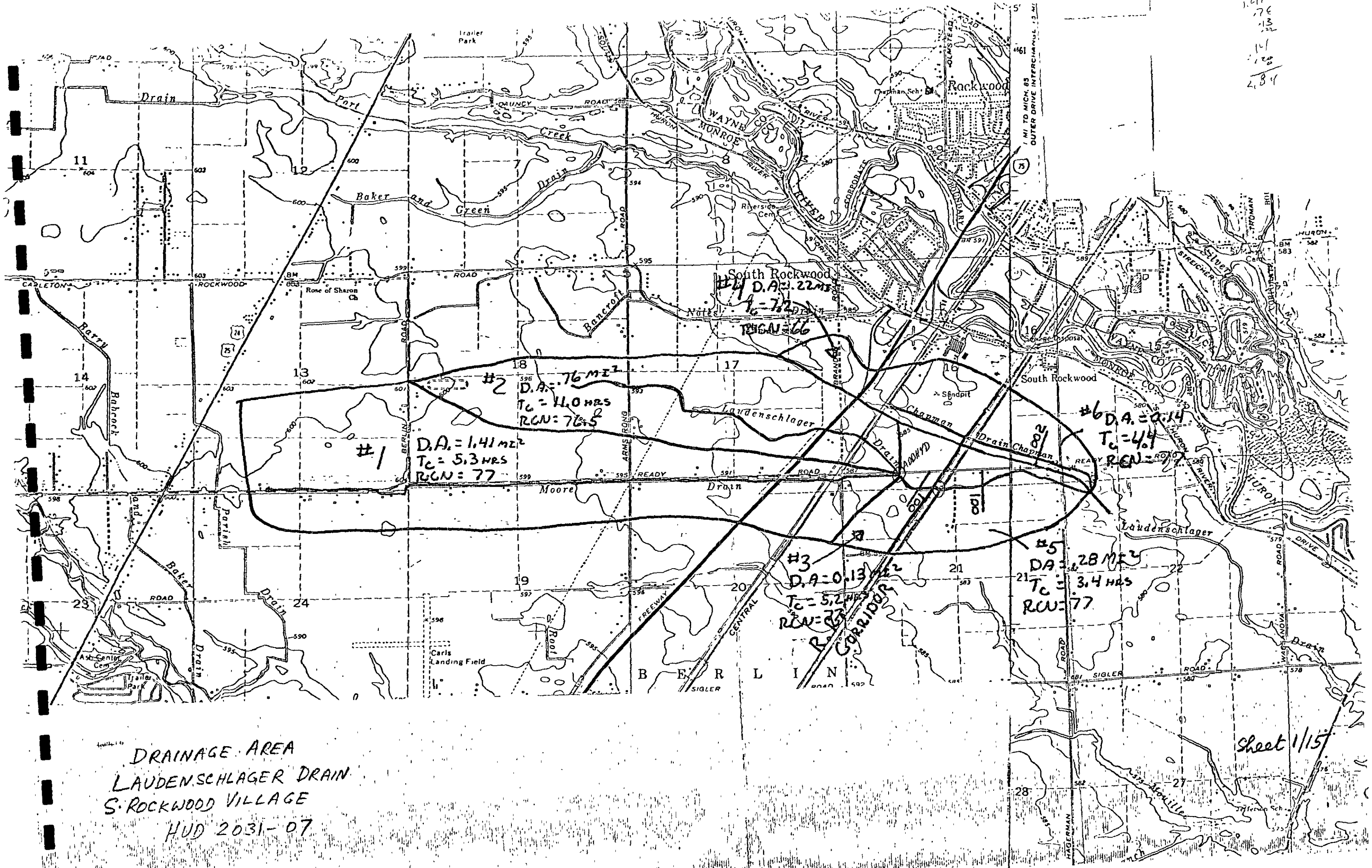
9. ELCHU = Elevation of channel invert U/S side = _____
(0 if equal to minimum elevation in previous x-sect.)

10. ELCHD = Elevation of channel invert D/S side = _____
(0 if equal to minimum elevation in previous x-sect.)

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 7

Hydrology, Laudenschlager Drain

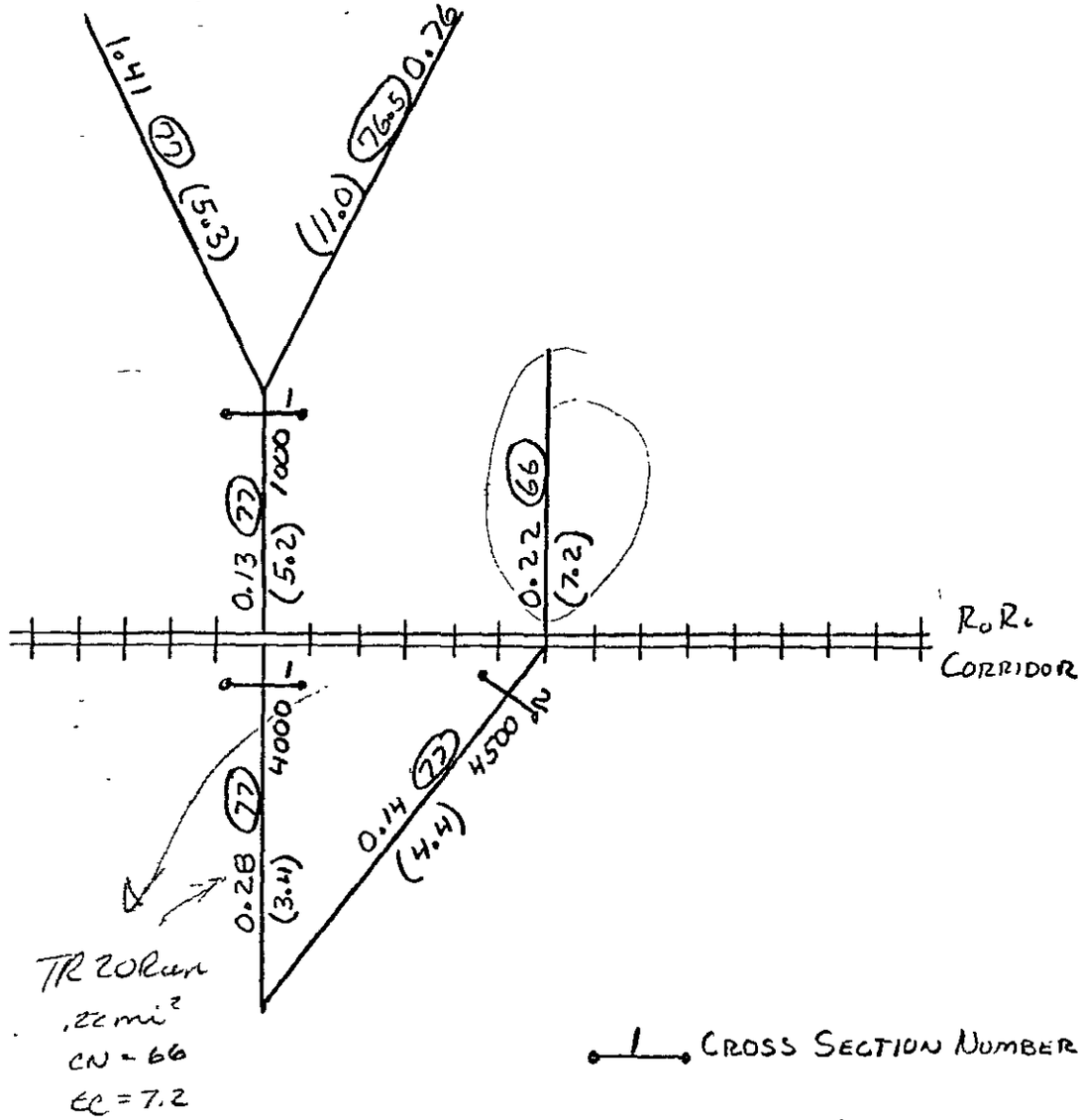


DRAINAGE AREA
LAUDENSCHLAGER DRAIN
S. ROCKWOOD VILLAGE
HUD 2031-07

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

LAUDENSCHLAGER DRAIN
TR-20 FLOW SCHEMATIC



1 CROSS SECTION NUMBER

1000 REACH LENGTH - FEET

1.041 DRAINAGE AREA - SQ. MI.

(5.3) TIME OF CONCENTRATION - HRS

(77) RUNOFF CURVE NUMBER

SUBJECT	BY	CHK.	SHEET NO.	File Code No (Job No) Owner Project Suffix
LAUDENSCHLAGER DRAIN	DRB		2 OF 15	HOD 2031.07
	DATE 3/81	DATE		

LAUDENSCHLAGER DRAIN
TIME OF CONCENTRATION REVISIONS

REFERENCE

I SUB AREA A (1)

$T_c = 5.3$ HRS — HYDROLOGY REPORT 4/80

II SUB AREA B (2)

$T_c = 11.0$ HRS — HYDROLOGY REPORT 11/80

III SUB AREA C (3)

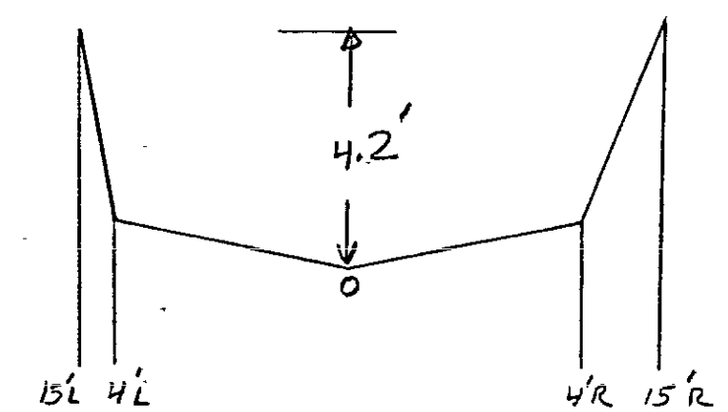
OVERLAND FLOW

LENGTH 2000 FT
DROP 4 FT
$S_o = .20\%$

$V = .25\, S^{1/2} = .25(.2)^{1/2} = .11$ FT/SEC

$T = 2000/.11 \times 3600 = 5.05$ HRS — 5.05 HRS

CHANNEL FLOW



AREA = 80 FT²

$W.P_o = 31.5$ $\quad R = A/WP = 80/31.5 = 2.54$

$S_o = .7/1000 = .0007$

$$V = \frac{1.49\, R^{2/3} S_o^{1/2}}{n} = \frac{1.49\,(2.54)^{2/3}(.0007)^{1/2}}{.035} = 2.1 \text{ FPS}$$

SUBJECT	BY	CHK	SHEET NO.	File Code No (Job No) Owner	Project	Suffix
LAUDENSCHLAGER DRAIN	DRB		3 OF 15	HUD	2031	07
	DATE 12/80	DATE				

REFERENCE

$T = 1000/2.1 \times 3600 = 0.13$ — 0.13

IV SUBAREA D (4) — 5.2 HRS

OVERLAND FLOW
LENGTH = 3000 FT
DROP = 590 − 583 = 7 FT
$S_0 = (7/3000)100 = 0.23\%$

$U = .25(.23)^{1/2} = 0.12$
$T = 3000/.12(3600) = 6.94$ HRS — 6.94

CHANNEL FLOW
ASSUME SAME CHANNEL AS #(3)

$R = 2.54$
$S_0 = 1/2000' = .0005'$

$U = \dfrac{1.49(2.54)^{2/3}(.0005)^{1/2}}{.035} = 1.8$ FPS

$T = 2000/1.8(3600) = .31$ HRS — .31 HRS

7.2 HRS

RUNOFF CURVE NUMBERS — HYDROLOGY REPORT

(1) 77 — "
(2) 76.5
(3) 77 — "
(4) 40% OPEN SPACE (.4) 49 = 19.6
48% LEGUME (.48) 78 = 37.4
12% PASTURE (.12) 74 = 8.9
66

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner	Project	Suffix
LAUDENSCHLAGER DRAIN	DRR		4 OF 15	HUD	2031	00
	DATE 12/80	DATE				

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

WORK SHEET

REFERENCE

TIME OF CONCENTRATION FOR LAUDENSCHLAGER DRAIN FOR D/S R.R. CORRIDOR.

AREA #5

OVERLAND FLOW

LENGTH = 1800'

DROP. ≈ 2.5' (FIELD BOOK 996)

$S = .14\%$

$U = .48\, S^{1/2} = .48(.14)^{1/2} = 0.18$ FPS

$T = 1800/.18\,(3600) = 2.8$ HRS

CHANNEL FLOW

$U = 1.9$ FT/SEC

$T = 4000/1.9\,(3600) = .6$ HR

TOTAL 3.4 HRS

HYDROLOGY REPORT 4/80

RUNOFF CURVE NUMBER : 77

HYDROLOGY REPORT 4/80

AREA = $0.41\ MI^2 - .13\ MI^2 = .28\ MI^2$

↑ U/S RR CORRIDORS

AREA #6

OVERLAND FLOW

LENGTH 1500 FT

DROP ≈ 2'

$S_0 = 0.13\%$

$U = .48\, S^{1/2} = .48(.13)^{1/2} = 0.17$ FPS

$T = 1500/.17\,(3600) = 2.45$ HRS

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No.) Owner Project Suffi
LAUDENSCHLAGER DRAIN	DRB		5 OF 15	HUD • 2031 • 0
	DATE 12/80	DATE		

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Civil Engineers • Land Surveyors

WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

CHANNEL FLOW

U = .46 FPS FROM TR-20 X-SECT 002

L = 3250

T = 3250 / 3600 (.46) = 1.96 HRS

TOTAL 4.4 HRS

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner Project Suffix
Time of Concentration Laudenschlager Drain	D R B		6 OF 15	HUD • 2031 • 07
	DATE 12/80	DATE		

FORM 25-0

(313) 291-5400

Wade Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

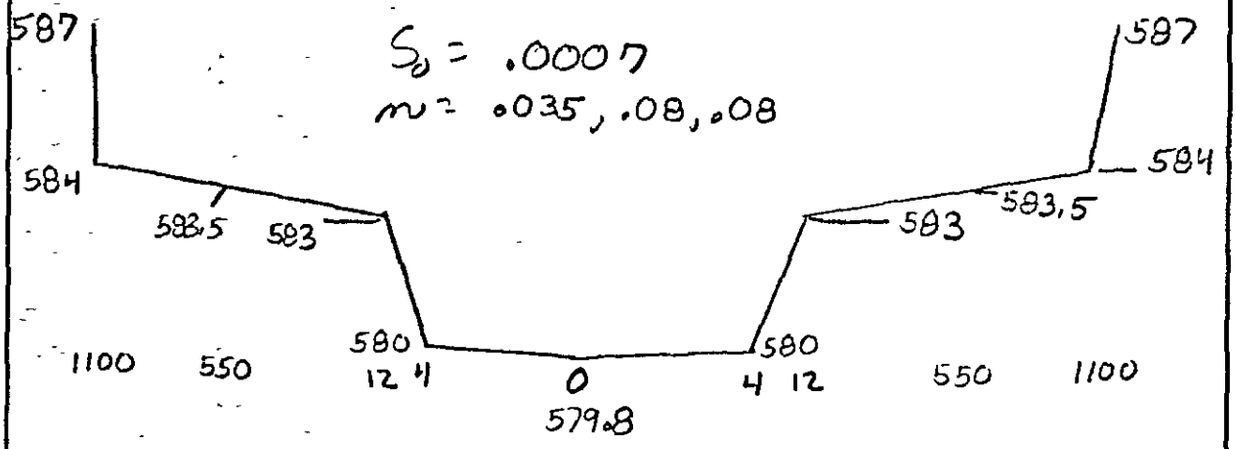
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

LAUDENSCHLAGER DRAIN

X-SECTION 001

DATA FROM FIELD BOOK 996, DETAIL # 8, PAGE 21



SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner	Project	Suffix
LAUDENSCHLAGER DRAIN	DRP		7 OF 15	HUD	2031	07
	DATE 12/80	DATE				

REFERENCE

Rating Curve for a Typical X-Sec. of Laudenschlager Drain upstream of Penn Central Railroad used in TR-20 Computer Program.

FORM 25-0

(313) 291-5400

Wade Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

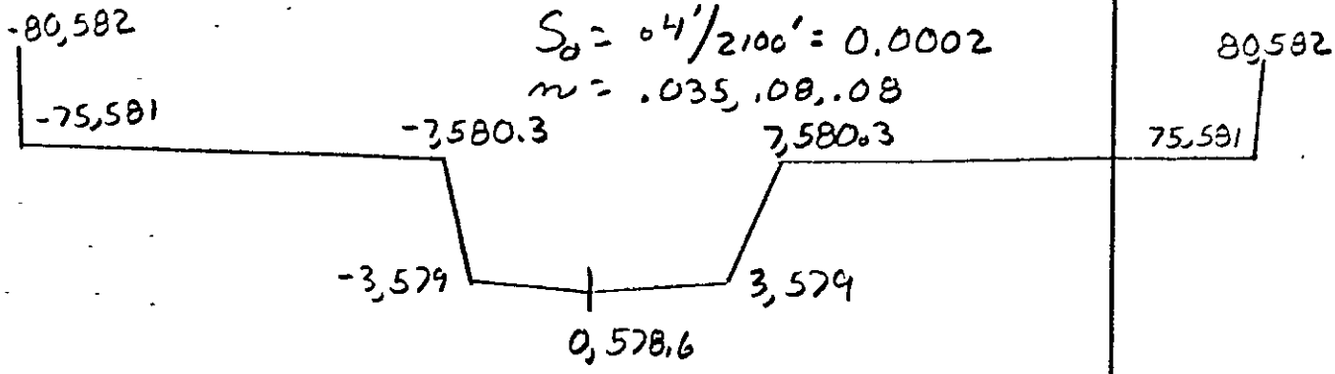
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

CHAPMAN DRAIN

X-SECTION 002

DATA FROM FIELD BOOK 996, DETAIL # 18, PAGE 28



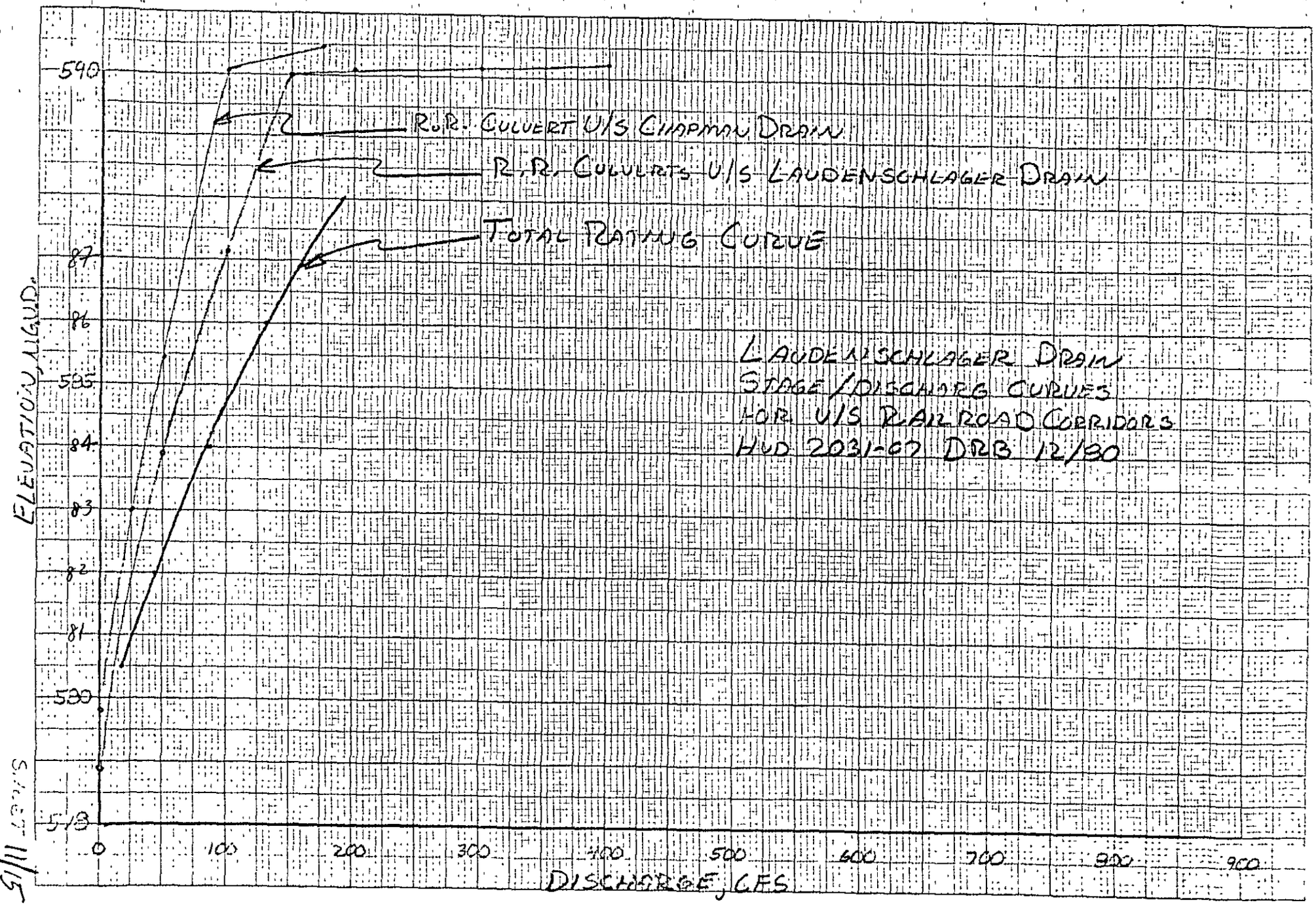
$S_o = .04'/2100' = 0.0002$

$n = .035, .08, .08$

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No) Owner Project
Landcare Chapman Drain Basin Area	DRB		9 OF 15	HUD • 50 • 1 •
	DATE 12/20	DATE		

Rating curve for a Typical x-sec of Chapman Drain used in TR-20 Computer Program

K+E 10 X 10 TO ½ INCH 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.
46 1320



S.H.ET 11/15

Drain
Port
Creek
Baker and Green Drain
Trailer Park
DAUNCY ROAD
SOUTH
HURON
WOODRUFF
OLMSTEAD ROAD
Chapman Sch
Rockwood
WAYNE CO
MONROE CO
RIVER
HORSEPASTURE
BOUNDARY
Riverside Cem
BM 591
1 MI TO MICH 85 OUTER DRIVE-INTERCHANGE 75 MI
11
12
7
8
9
10
ROCKWOOD ROAD
BM 600
Rose of Sharon Ch
Bancroft
Notes Drain
Ritter Sch
South Rockwood
Sewage Disposal
STREICHER
Sewer
BM 583
THOMAN
HURON
13
18
17
16
14
15
Barry
Babcock
BERLIN ROAD
ARMSTRONG
Lardenschlager
Chapman
Drain Chapman
BRANDON
Drain
South Rockwood
Sandpit
READY ROAD
Moore
Drain
Parish
Drain
Baker
ROAD
23
24
19
20
21
22
Ash Cemetery
Trailer Park
Carls Landing Field
Root
FREEWAY
CENTRAL
R.R. Corridor
B E R L I N
SIGLER ROAD
Drain
HAGERMAN
27
28
Jellerson Sch
Sheet 12/15

APPROX. STORAGE AREA FOR CHAPMAN DRAIN

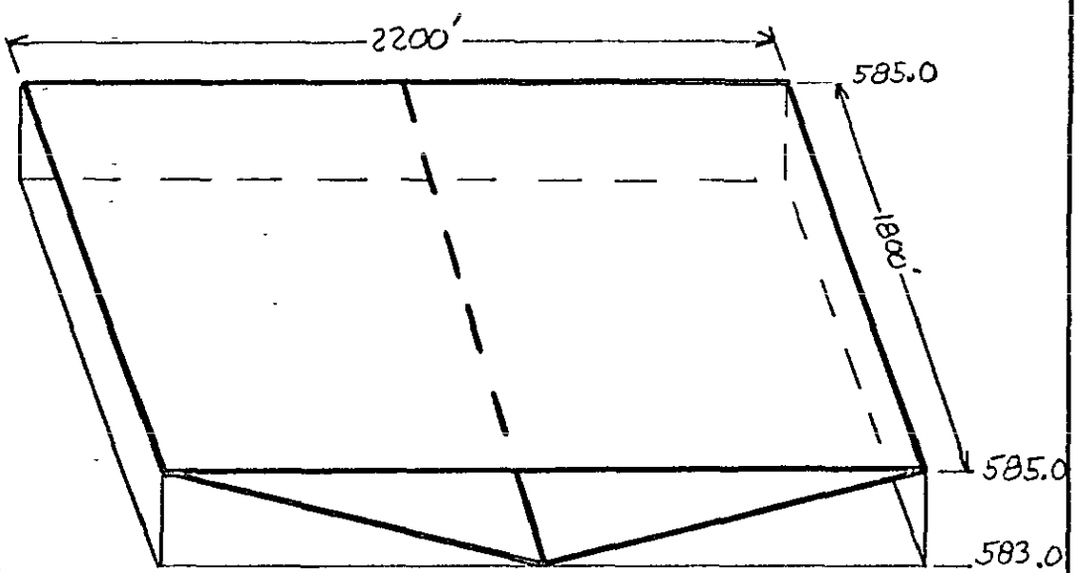
APPROX. STORAGE AREA FOR LAUDENSCHLAGER DRAIN

APPROX. STORAGE AREAS
LAUDENSCHLAGER/CHAPMAN
DRAINS
S. ROCKWOOD VILLAGE

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

STORAGE VOLUME U/S RR FOR LADENSLAGER DRAIN



TOTAL TRIANGLER VOLUME BETWN 583 TO 585:

$\frac{1}{2}(2200) 2 \times 1800' = 3{,}960{,}000\ FT^3$

SUBSTRACT VOLUME FOR SLOPING OVERBANKS UPTO ELEV. OF 585

$\left[\frac{1}{2}(1100) 2 \times 1800\right] \frac{1}{2} \times 2$ (FOR BOTH SIDES) $= 1{,}980{,}000\ FT^3$

TOTAL STORAGE @ ELEV. OF 585 ⇒ $240{,}000 + 800{,}000 + 1{,}980{,}000 / 43560 =$ 70 AC-FT

TOTAL VOLUME @ ELEV OF 586 ⇒ (ASSUME VERTICAL WALLS ABOVE 585)

$70 + [6{,}040{,}000 / 43560] =$ 210 AC-FT

($6{,}040{,}000 / 43560$ = 140 AC-FT)

TOTAL VOLUME @ ELEV. OF 587 ⇒ $210 + 140$ 350 AC-FT

TOTAL VOLUME @ ELEV. OF 588 ⇒ $350 + 140$ 490 AC-FT

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No.) Owner / Project / Suffix
STORAGE VOLUME LADENSLAGER DRAIN	DRP		13 OF 15	HUD • 20 • 01
	DATE 12/80	DATE		

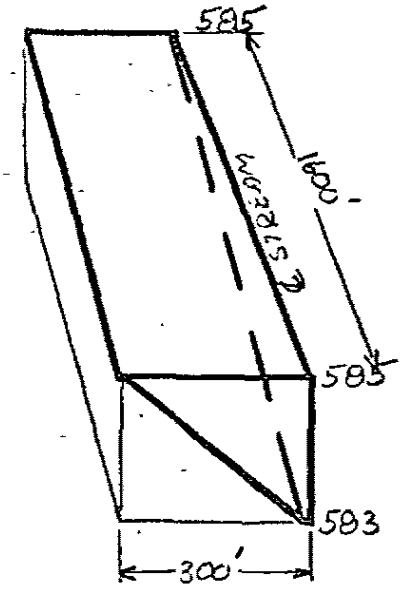
FORM 25 0
(313) 291-5400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

REFERENCE

STORAGE VOLUME U/S RR FOR CHAPMAN DRAIN

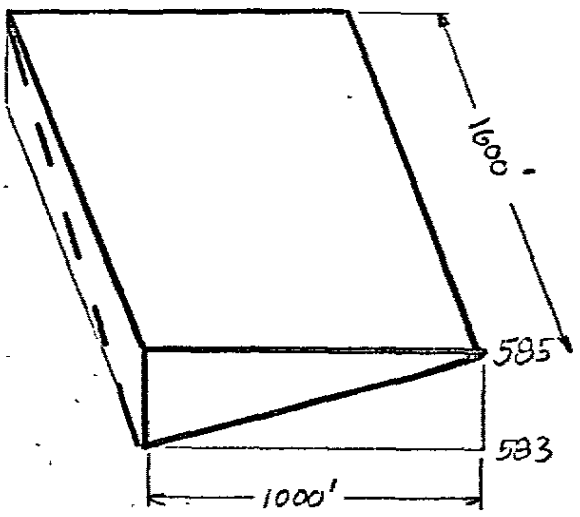


TOTAL VOLUME FOR RED AREA.

$$U = \frac{\frac{1}{2}(300)\,2 \times 1600}{2}$$

2 ← DUE TO SLOPING OVERBANKS TO ELEV OF 585

VOLUME = 240,000 FT³



TOTAL VOLUME FOR RED AREA

$$U = \frac{\frac{1}{2}(1000)\,2 \times 1600}{2} = 800{,}000 \text{ FT}^3$$

2 ← DUE TO SLOPING OVERBANK AREAS

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner Project Suffi
Storage Volume Chapman Drain LOUDENSCHLAGER DRAIN AREA	DRR DATE 12/80	DATE	14 OF 15	HUD • 2031 •

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180
(313) 291-5400

FORM 25-0

WORK SHEET

DISCHARGE HYDROGRAPH FOR LAUDENSCHLAGER + CHAPMAN DRAIN D/S R.R. CORRIDOR

REFERENCE	10YR			50YR			100YR			500YR		
TIME HRS	TOTAL HYDRO-GRAPH	LAUDEN-SCHLAGER DR.	CHAPMAN DRAIN	TOTAL HYDRO-GRAPH	LAUDEN-SCHLAGER DRAIN	CHAPMAN DRAIN	TOTAL HYDRO-GRAPH	LAUDEN-SCHLAGER DR.	CHAPMAN DR.	TOTAL HYDRO-GRAPH	LAUDEN-SCHLAGER DRAIN	CHAPMAN DRAIN
7	0	0	0	0	0	0	.3	.3	0	.3	.3	0
9	0	0	0	0	0	0	1.5	1.5	0	6	6	0
11	9	9	0	19	12	7	28	18	10	55	33	22
13	56	33	23	67	40	27	70	42	28	79	47	28
15	68	40	28	79	49	30	87	52	35	106	66	40
17	73	43	30	91	55	36	104	64	40	114	70	44
19	76	45	31	100	61	39	109	68	41	121	75	46
21	78	46	32	105	65	40	111	69	42	126	77	49
23	79	47	32	106	66	40	113	70	43	130	80	50
25	78	46	32	107	67	40	114	70	44	133	81	52
27	77	46	31	107	67	40	115	70	45	134	82	52
29	74	45	29	106	106	40	114	70	44	134	82	52
31	70	72	28	102	63	39	112	69	43	132	81	51
33	58	35	23	95	57	38	110	69	41	130	80	50
35	15	11	4	87	54	33	107	67	40	127	77	50
37	7	7	0	80	49	31	104	65	39	123	75	48
39	4	4		73	45	28	95	58	37	120	74	46
41	2.15	2.15		66	39	27	86	52	34	117	72	45
43	1.15	1.5		13	10	3	78	47	31	113	70	43
45	1	1		3	3	0	71	43	28	110	68	42
47	.16	.16		1	1		48	28	20	107	67	40
49	.14	.14		.16	.16		6	4	2	102	63	39
51	.12	.12		.13	.13		1	1		92	55	37
53	.11	.11		.12	.12		.13	.13		83	51	32
55	0	0		.1	.1		.12	.12		76	46	30

SUBJECT Lauden-Schlager Drainage Area S. Rockwood F/S

BY DRB DATE 12/80

CHK. DATE

SHEET NO. 15 OF 15

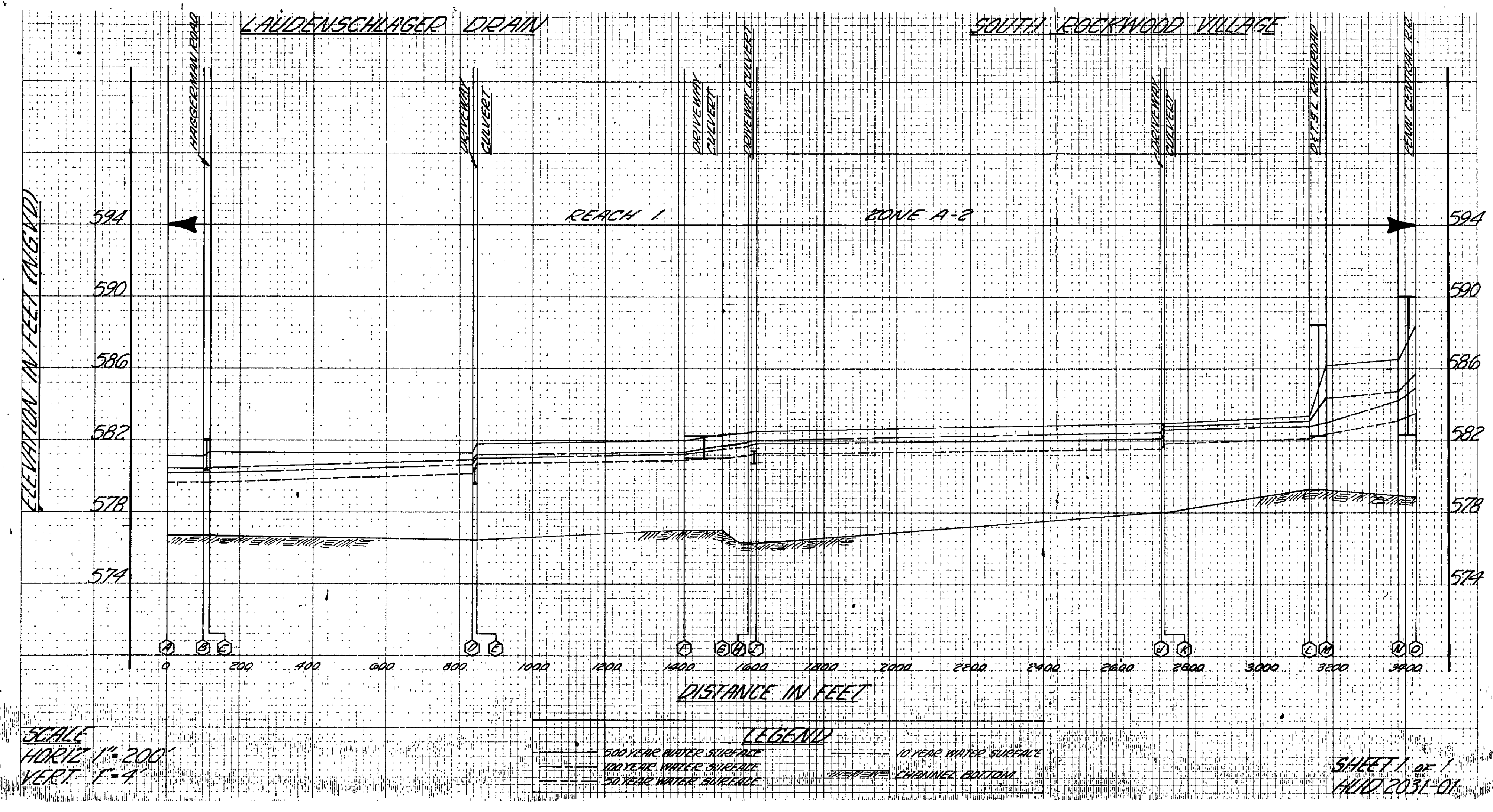
File Code No (Job No) Project 2031 Suffix .02

Owner HUD

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 8

Water Surface Profiles, Laudenschlager Drain


LAUDENSCHLAGER DRAIN
SOUTH ROCKWOOD VILLAGE
HAGGERMAN ROAD
DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
DRIVEWAY CULVERT
D&T S.L. RAILROAD
PENN CENTRAL R.R.
REACH 1
ZONE A-2
ELEVATION IN FEET (N.G.V.D.)
594
590
586
582
578
574
A B C D E F G H I J K L M N O
0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400
DISTANCE IN FEET
LEGEND
500 YEAR WATER SURFACE
100 YEAR WATER SURFACE
50 YEAR WATER SURFACE
10 YEAR WATER SURFACE
CHANNEL BOTTOM
SCALE
HORIZ 1"=200'
VERT 1"=4'
SHEET 1 OF 1
HUD 2031-01

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 9

Bridge Notes and Sketches, Laudenschlager Drain

HUD 2031-05

STRUCTURE DETAIL # 1

(HAGGERMAN RD, 360'± S OF READY RD)

STA	+	H.I.	−	ELEV	DESC
				593.47	(W. BOLT ON H YD @ SW COR OF HAGGERMAN & READY RD)
	3.30	586.77			
500' R			4.60	582.17	℄ RD
400' R			4.70	582.07	"
300' R			4.80	581.97	"
200' R			4.60	582.17	"
100' R			4.70	582.07	"
0 (℄ DRAIN)			4.75	582.02	"
100' L			5.45	581.32	"
200' L			4.80	581.97	"
300' L			4.60	582.17	"
360' L			4.60	582.17	" (@ ℄ READY RD)

NOTE FOR REMAING ℄ ROAD ELEV. SEE STRUCTURE DETAIL # 17.

(# 1 CONT. ON PG. 12)

STANDARD: ALL MEAS R. & L. ARE TAKEN AS IF FACING DOWNSTREAM. USING EXIST. ℄ DRAIN AS ZERO REFERENCE. TYP THROUGHOUT STUDY.

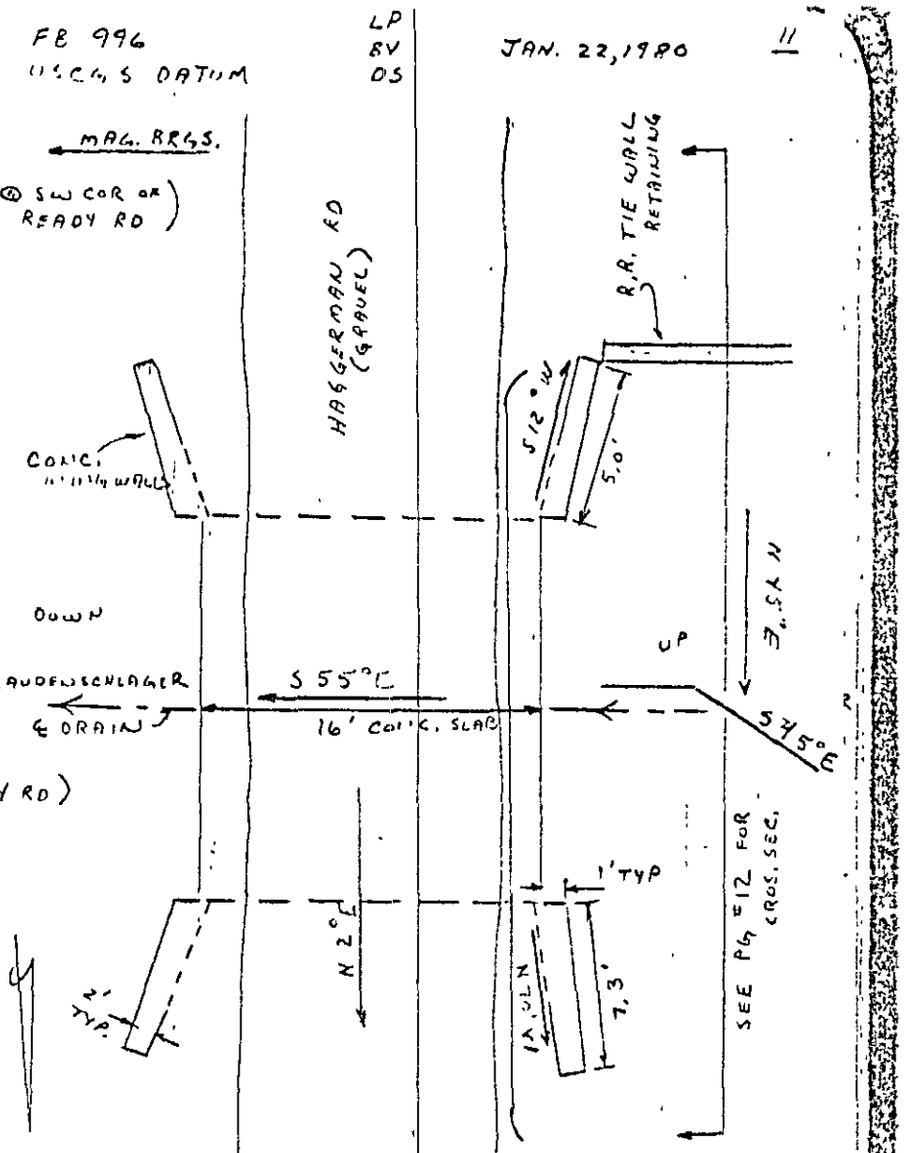
SOUTH ROCKWOOD DRAIN (CONT.)

FB 996
USC&GS DATUM

LP
BV
DS

JAN. 22, 1980

II



NOTE: ALL L & R MEAS. WERE TAKEN FACING DOWNSTREAM

Laudenschlager Drain @ Haggerman Rd.
HUD 2031-07

Sheet 1/4

HUD 2031-07

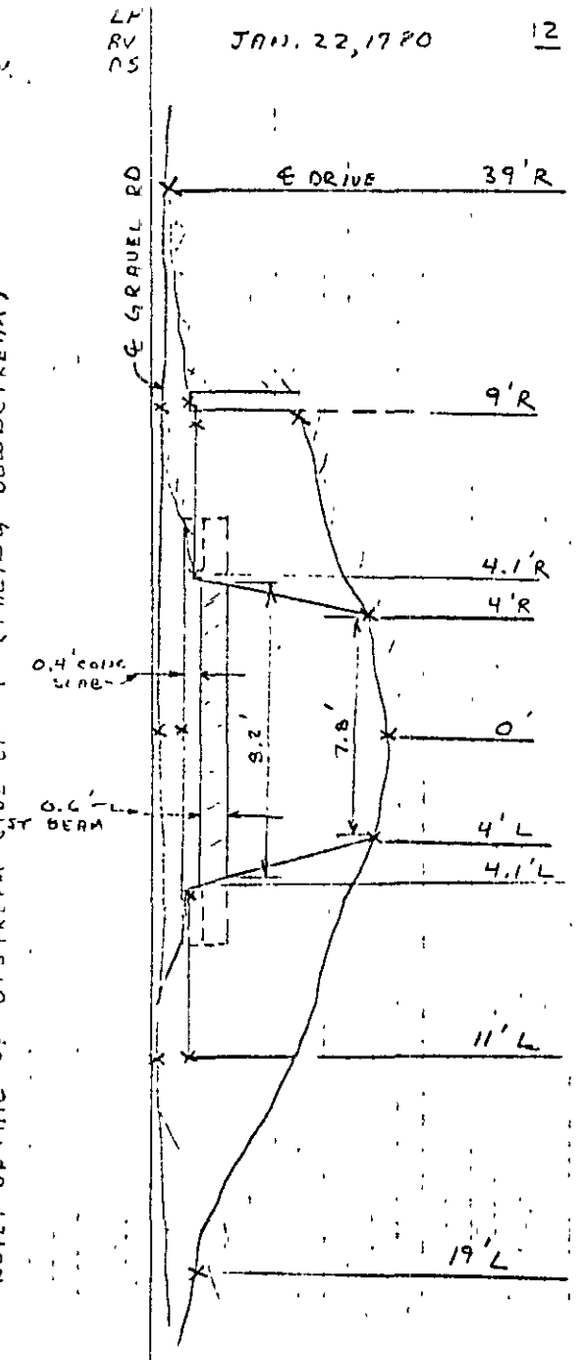
STRUCTURE DETAIL #1 (CONT FROM PG. 11)

FB 996
USGS DATUM

STA	+	HI	−	ELEV.	DESC.
(CONT FROM PG 11)		586.77			
9'L			5.6	581.17	T/BANK
11'L			5.60	581.17	T/CONC. W.W.
11'L			4.95	581.82	& RD
4.1'L			5.60	581.17	T/CONC W.W.
4'L			9.9	576.97	TOE
0 (•)			10.1	576.67	& DRAIN
0			5.33	581.44	T/CONC SLAB
0			4.75	582.02	& RAD
11'R			9.9	576.87	TOE
4.1'R			5.50	581.27	T/CONC. W.W.
9'R			8.0	578.77	T/BANK
9'L			5.60	581.17	T/CONC. W.W.
9'R			5.80	580.97	T/R.R. TIE WALL
9'R			4.5	582.27	& RD
39'R			5.2	581.57	& DRIVE TO W

CONT. ON PG 13

NOTE: DETAIL OF UPSTREAM SIDE OF #1 (FACING DOWNSTREAM)



Laudenschlager Drain @ Haggerman Rd

Sheet 2/43

Bridge Location : HAGGERMAN RD.

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 38 Wp = 25

$R = A/wp$ 1.52 $R^{4/3}$ = 1.075 L = 16'

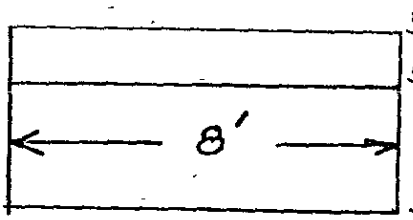
n (composite) =

$K_f = 29.1 \times (.025)^2 \times 16 / 1.175 = 0.16$

$K_c = 0.5$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 43

$K_p = 0$ if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers — HEC-2 manual

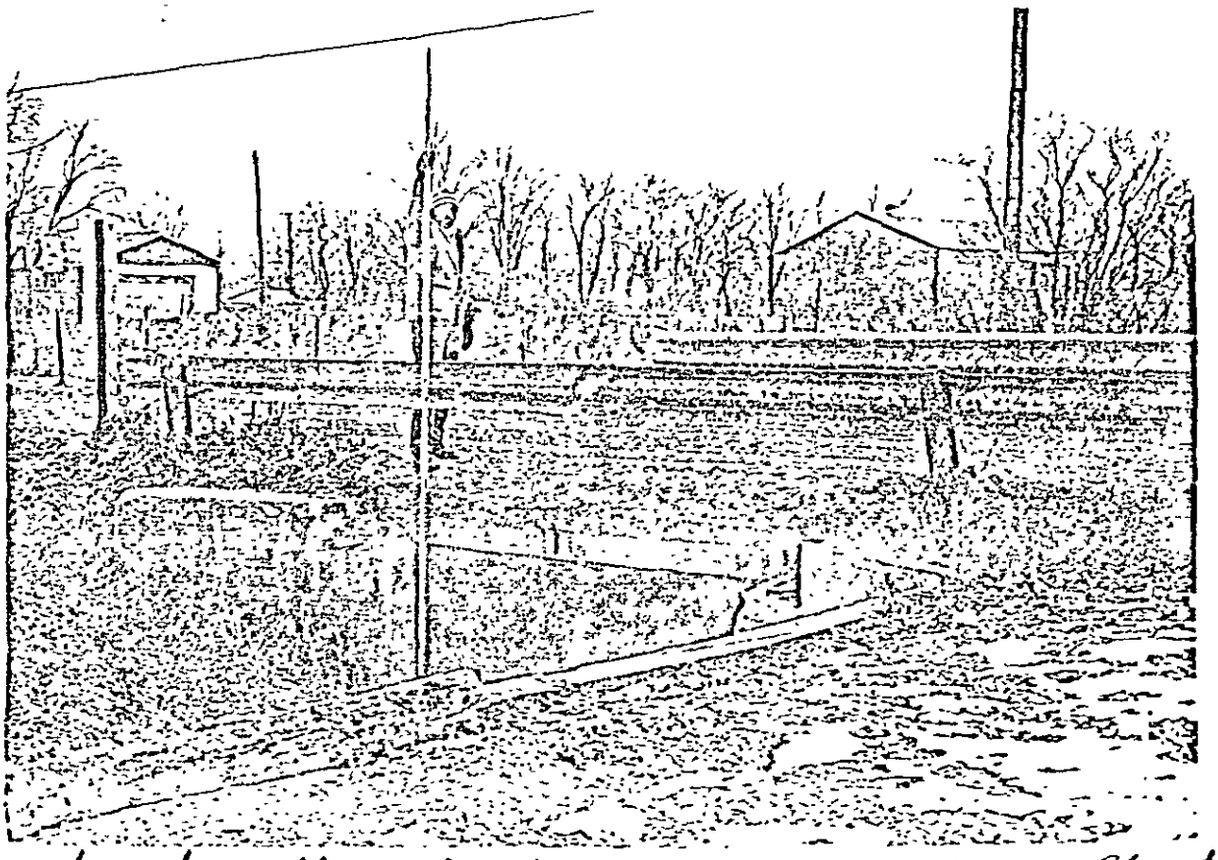


2. XKOR = 1 + .16 + .50 + 0.0 = 1.66
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0. (0 if read off BT cards)
5. BWC = bottom width of bridge opening (inc. piers) = 8.
6. [illegible] width of obstruction = 0. — field data
7. [illegible] = bridge opening inc. piers = 29
8. SS = side slope = 0. (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 576.7 (0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 576.7 (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK	SHEET NO.	File Code No (Job No) Owner Project Suffix
LAUDENSCHLAGER DRAIN	DRB		3 of 43	HUD • 2031 • 07
	DATE 12/80	DATE		



Standing on Structure looking U/S



U/S angle shot (Facing D/S)

Laudenschlager Drain at Haggerman Rd.

HUD 2031-07

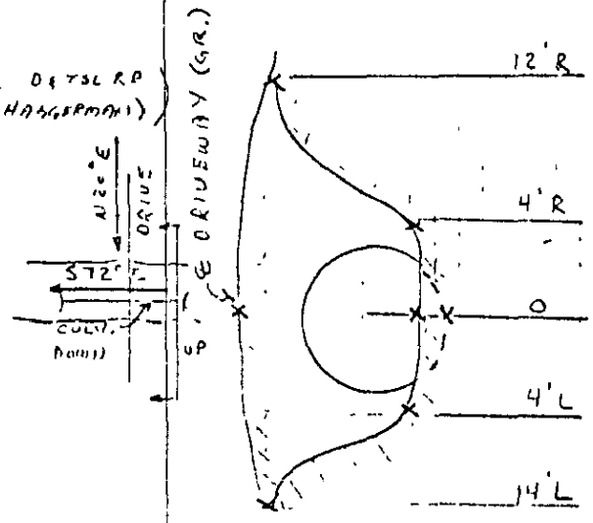
FB 976
USCGS DATUM

JAN. 22, 1980

14

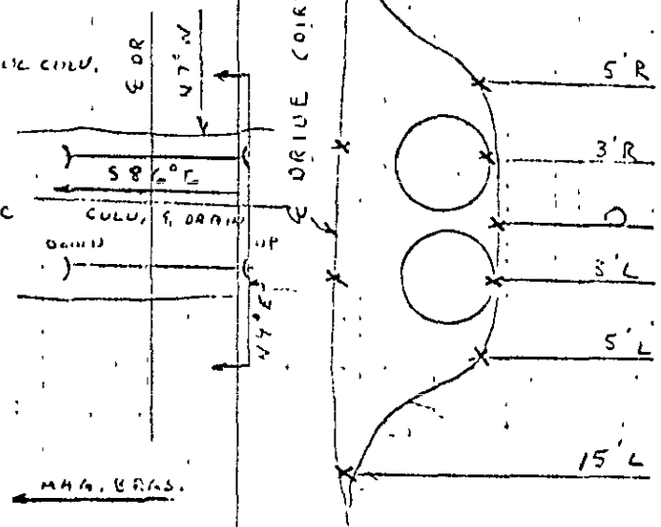
STRUCTURE DETAIL #2A
(1000'± W HAGGERMAN & 150'± S of READY RD)

STA	+	H.I.	-	ELEV		DESC.
BM				584.21		(N'LY BOLT ON 5TH HYD 2500'± E D&TSL RR & 21'N OF READY RD (1ST HYD W OF HAGGERMAN))
	1.40	585.61				
2'R			5.0	580.61		T/BANK
4'R			8.45	577.16		TOE
0 (#2A)			9.10	576.51		℄ DRAIN
0			9.55	576.06		INV. 42"x14' CMP
0			5.25	580.36		℄ DRIVE
4'L			8.50	577.11		TOE
14'L			4.95	580.76		T/BANK
BM CC			1.40	585.61	585.61	SEE DESC ABOVE.



STRUCTURE DETAIL #3
(1400'± W OF HAGGERMAN, 2[illegible]'± S OF READY RD)

BM	4.94	586.82		581.88		(N'LY BOLT 3[illegible] HYD 1900'± D&TSL RR, 21'N READY (ACROSS [illegible] WITH RAILING ON ROOF)
14'R			4.6	582.22		T/BANK
5'R			9.4	577.42		TOE
3'R			9.65	577.17		INV. 48"x108' CONC CULV.
3'R			4.7	582.12		℄ DRIVE
0 (#3)			9.8	577.02		℄ DRAIN
3'L			9.83	576.99		INV. 48"x108' CC
3'L			4.6	582.22		℄ DRIVE
5'L			9.8	577.02		TOE
15'L			4.6	582.22		T/BANK



(CONT. ON PG# 15)

Driveway Culvert
Secs. (1.8-2.0)

Driveway Culvert
Secs. (2.8-3.0)

Landenschlager Drain
HUD 2031-07

Sheet 5/43

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

WORK SHEET

Bridge Location: DRIVE WAY CULVERT #2A (Secs. 1-8-2)

REFERENCE

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0. — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 8.6 Wp = 9.0

R = A/wp 0.956 $R^{4/3}$ = .94 L = 14

n (composite) =

$K_f = 29.1 \times (0.025)^2 \times 14 \;/\; .94 = .027$

K_e = END-SECTION CONFORMING TO FILL (.5) — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 43

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

42" CMP 14 FT LONG $A_2 = 9.6\,FT^2$ EFFECTIVE FLOW AREA 9.6 - .96 = $8.6\,FT^2$

.55 FT OF FILL

$\frac{D_1}{D_2} = \frac{.55}{3.5} = 0.157 \Rightarrow \frac{A_1}{A_2} = 0.100$ $A_1 = 9.6(.1) = .96\,FT^2$

2. XKOR = 1 + .027 + .5 + .05 = 1.082

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) = 2.8

6. [illegible] width of obstruction = 0. — field data

[illegible] bridge opening inc. piers = 8.6

8. SS = side slope = 0. (horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 576.5 (0 if equal to minimum elevation in previous x-sect.)

10. ELCHD = Elevation of channel invert D/S side = 576.5 (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No) Project Owner Suffix
LAUDENSCHLAGER DRAIN	DRB DATE 12/80	DATE	6 OF 43	HUD • 2031 • 07

FORM 25 0
(313) 291-5400
Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location: DRIVEWAY CULVERT #3 (Secs. 2.8-3.)
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 25 Wp = 25

$R = A/wp$ 1.0 $R^{4/3} = 1.0$ $L = 108'$

n (composite) = .02

$K_f = 29.1 \times (.02)^2 \times 108 / 1 = 1.25$

K_e = .5 PROJECTING FROM FILL — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

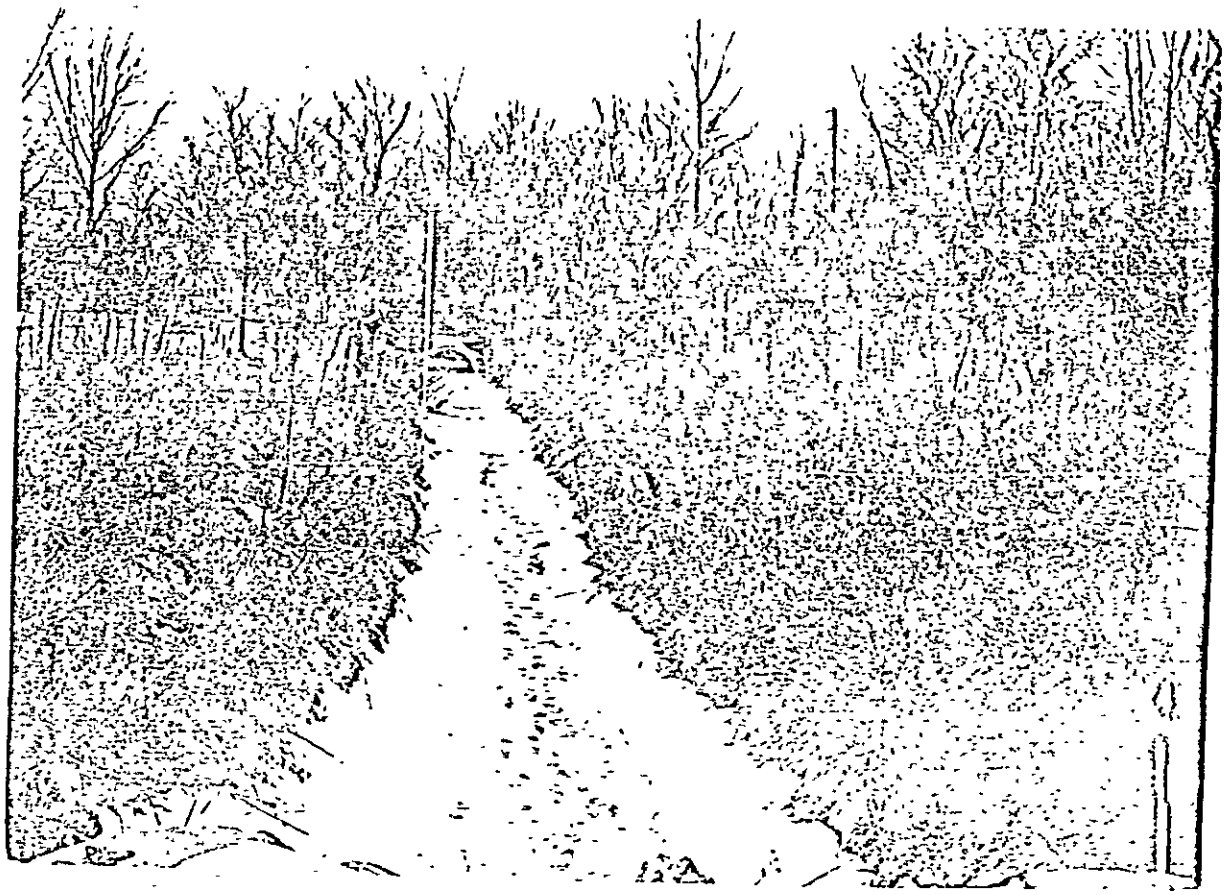
K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

TWIN 48" CONCRETE CULVERTS
NO FILL IN CULVERTS AREA = $\frac{2\pi 4^2}{4} = 25 FT^2$

2. XKOR = 1 + 1.25 + .5 + 105 = 2.80
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) = 6.25
6. Total width of obstruction = 0. — field data
7. Width of bridge opening inc. piers = 25.
8. SS = side slope = 0. (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 577.0 (0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 577.0 (0 if equal to minimum elevation in previous x-sect.)

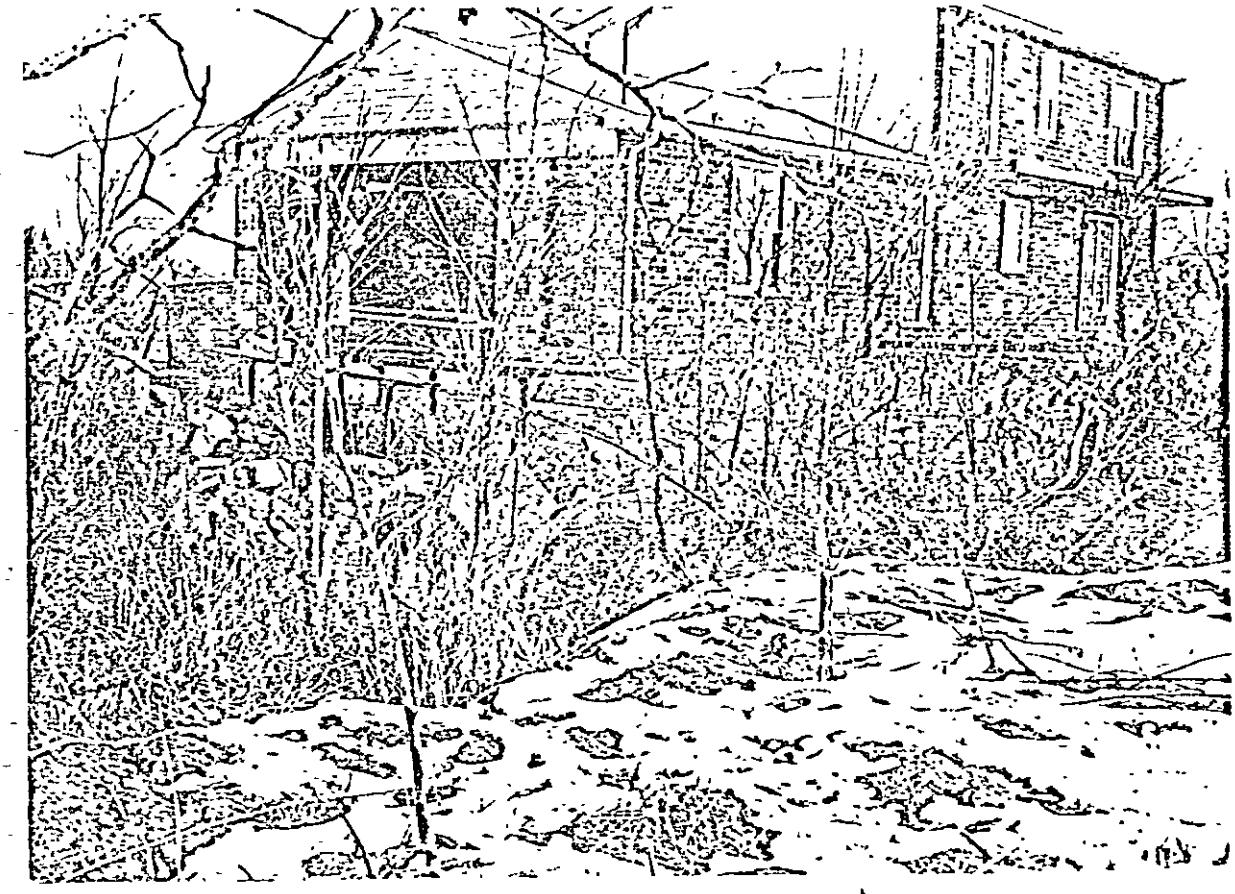
SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner Project Suffix
Laudenschlager Drain	DRB		7 OF 43	
	DATE 12/80	DATE		



Standing D'way Culvert (Secs 2.8-3.) Looking U/S

Laudenschlager Drain

HUD 2031-07



D'way Culvert (Secs 2.8-3.) U/S angle Shot (Facing D/S)

D'way Culvert (Secs 2.8-3.) Standing D/S (Looking U/S)



Laudenschlager Drain

HUD 2031-05

FB 996 BV JAN. 22, 1960 15

USCGS DATUM DS

VALLEY SECTION #3A

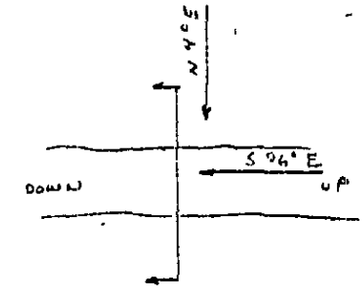
(50' W OF #3)

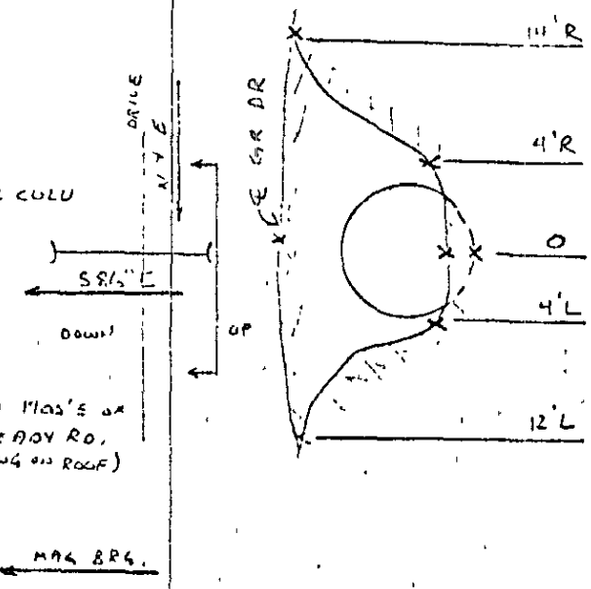
STA	+	HI	-	ELEV		DESC.
(CONT FROM PG 14)		586.92				
14'R			4.55	582.27		T/BANK
3'R			9.15	577.67		TOE
0 (#3A)			9.25	577.57		℄ DRAIN
3'L			8.9	577.92		TOE
11'L			4.50	582.32		T/BANK

STRUCTURE DETAIL #3B

(1700'± W OF HAGGERMAN, 200 ± S OF READY RD)

		586.92				
14'R			5.6	581.22		T/BANK
4'R			9.15	577.67		TOE
0 (#3B)			10.5	576.32		℄ DRAIN
0			11.00	575.82		INV. 60" x 22' CONC CULV
0			5.40	581.42		℄ DRIVE
1'L			9.2	577.62		TOE
12"L			6.5	580.32		T/BANK
3M'CK			4.94	581.88	581.88	N'LY BOLT ON 4TH HID MOD'E OF DR TSL PR, 21'N OF READY RD. (ACROSS 4SE WITH RAILING ON ROOF)





D'way Culvert (Secs. 3.8-4.0)

Laudenschlager Drain

Sheet 10/43

HUD 2031-07

FORM 25 0
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Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : DRIVEWAY CULVERT 3B (Secs. 3-8-4.0)
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$K_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = = 18.6 Wp = 16

$R = A/wp$ 1.16 $R^{4/3}$ = 1.21 L = 22'

n (composite) =

$K_f = 29.1 \times (0.02)^2 \times 22 / 1.21 = 0.21$

K_e = PROJECTING FROM FILL (.5) — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

K_p = 0 if bridge has no intermediate piers

✓ K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60" CONCRETE CULVERT
0.5 FT OF FILL

$\frac{D_1}{D_2} = \frac{.5}{5} = .1$ $\frac{A_1}{A_2} = 0.052$ $A_1 = .052(19.6) = 1.0$

2. XKOR = 1 + .21 + .5 + 0.0 = 1.71
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0. (0 if read off BT cards)
5. BWG = bottom width of bridge opening (inc. piers) = 4.1
6. [illegible] width of obstruction = 0. — field data
7. [illegible] = bridge opening inc. piers = 18.6
8. SS = side slope = 0.
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 576.3
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 576.3
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK	SHEET NO.	File Code No. (Job No.) Owner Project Suffix
Laudenschlager Drain	DRB		11 OF 43	HUD • 2021 • 07
	DATE 12/80	DATE		

FB 996
USCGS DATUM

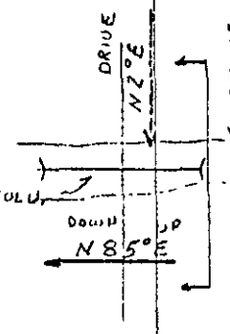
LP
RV
DS

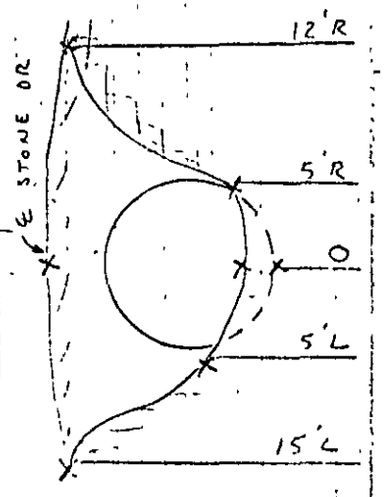
JAN. 24, 1980

16

STRUCTURE DETAIL # 3 C
(300'± E D&TSL RR & 400'S of READY RD)

STA	+	H_1	−	ELEV	DESC.
SM	2.64	589.72		587.08	(RR SPIKE E/S P.P. 20'S READY RD)
T.P	5.41	588.21	6.92	582.80	(60' SE OF D&TSL RR)
12'R			5.7	5[illegible].51	T/BANK
5'R			9.5	577.71	TOE
0 (#3C)			10.2	577.01	℄ DRAIN
0			11.50	576.71	← INV. 60' × 12' CONC CULV.
0			5.3	582.91	℄ DRIVE
5'L			9.5	578.71	TOE
15'L			5.9	582.31	T/BANK
TP			5.13	583.08	

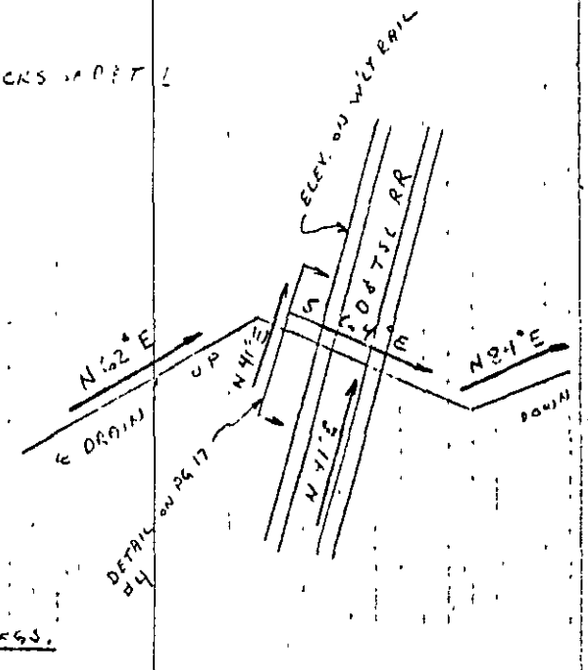




8.57 591.65
(D&TSL RR & LAUDENSCHLAGER DRAIN)
STRUCTURE DETAIL #4

500'L			3.15	588.50	T/RAIL OF W'LY TRACKS OF DET L
400'L			3.26	588.39	"
300'L			3.26	588.39	"
200'L			3.19	588.46	"
100'L			3.17	588.48	"
0 (#4)			3.18	588.47	"
100'R			3.07	588.58	"
200'R			2.94	588.71	"
300'R			2.86	588.79	"
400'R			2.91	588.74	"
500'R			2.91	588.74	"

(CONT ON PG # 17)



Diway Culvert
(Secs. 4.8-5.)
Laudenschlager Drain
Sheet 12/43
HUD 2031-07

FORM 25 0

(313) 291 5400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : DRIVEWAY CULVERT #3C (Secs. 4-8-5)
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$k_f = 29.1 n^2 L / R^{4/3}$ for English units

Area = 1.11 = 15.5 Wp = 14

$R = A/wp$ $R^{4/3}$ = 1.15 L = 12'

n (composite) =

$k_f = 29.1 \times (.02)^2 \times 12 / 1.15 = .16$

k_e = PROJECTING FROM FILL (0.5) — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 45

k_p = 0 if bridge has no intermediate piers

k_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60" CONCRETE CULVERT
1.3 FT OF FILL

$\frac{D_1}{D_2} = \frac{1.3}{5} = 0.26$ $\frac{A_1}{A_2} = 0.207$ $A_1 = 19.6(.207) = 4.1$

2. XKOR = 1 + 0.16 + .5 + 0.0 = 1.66
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) = 4.2
6. [illegible] total width of obstruction = 0. — field data
7. [illegible] = bridge opening inc. piers = 15.5
8. SS = side slope = 0.
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 578.
(0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 578.
(0 if equal to minimum elevation in previous X-sect.)

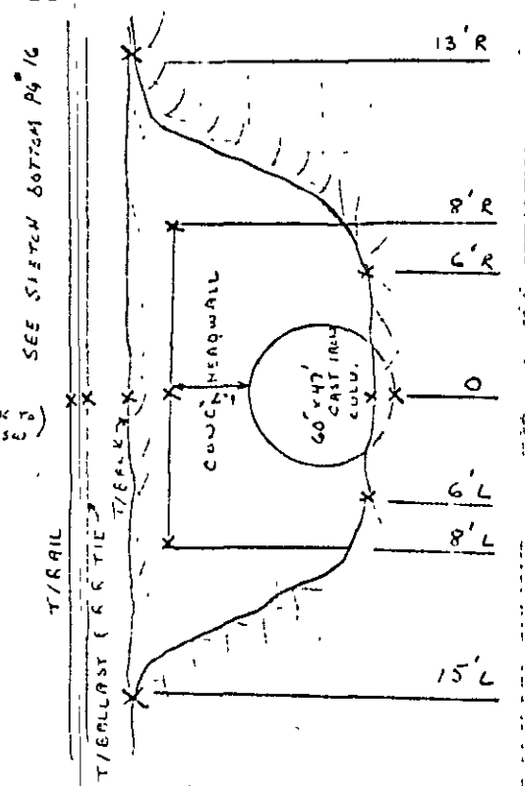
SUBJECT	BY	CHK.	SHEET NO	File Code No. (Job No.) Owner	Project	Suffix
Laudenschlager Drain	DRB		13 OF 43	400	2071	07
	DATE 12/80	DATE				

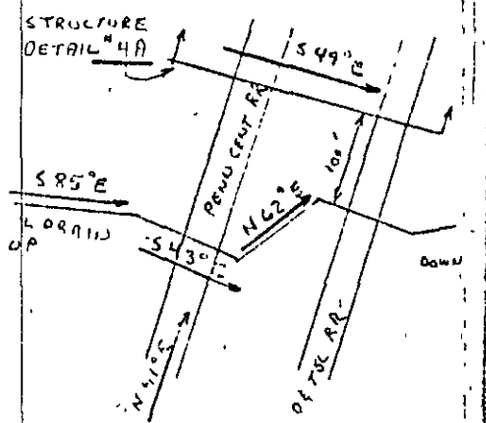
HUD 2031-05 (LAUDENSCHLAGER DRAIN / BC TSL PR) FB 996 LP BV DS JAN. 24, 1980 17

STRUCTURE DETAIL #4 CONT FROM PG 16 USCGS DATUM

STA	+	H.	− (SIDE VIEW)	ELEV	DESC.
(CONT. FROM PG 16)		591.65			
13'R			5.8	585.85	T/BANK
8'R			7.60	584.05	T/CONC. HEADWALL
6'R			12.6	579.05	TOE
0 (#4)			14.0	577.65	℄ DRAIN
0			13.36	578.29	INV. 60"x47' C.I. CULV
0			7.66	583.99	T/CONC HEADWALL
0			5.6	586.05	T/GROUND COVER (BANK TO NE-SW)
0			3.77	587.88	T/WOOD TIE & BALLAST
0			3.18	588.47	T/W'LY RAIL TO TRACKS
6'L			12.75	578.90	TOE
8'L			7.67	583.18	T/CONC HEADWALL
15'L			5.6	586.05	T/BANK
	STRUCTURE DETAIL #4A				
40'R			8.2	583.45	T/BANK
40'R			10.85	580.80	℄ DITCH
3'R			6.15	585.50	T/BANK OF RR. BERM
20'R			5.25	586.40	TOE OF BALLAST
17'R			3.90	587.75	T/BALLAST & R.R TIES
15.5'R			3.43	588.22	T/RAIL (E'LY TRACK)
10.5'R			3.46	588.19	T/RAIL (" ").
4'R			3.94	587.71	T/BALLAST & R.R. TIES
7'R			4.52	587.13	℄ SWALE IN BALLAST
5'R			3.77	587.88	T/BALLAST & RR. TIES
			(CONT.)		

MAG. PEGS.





Laudenschlager Drain at D.&T.S.L. Railroad

Sheet 14/43

HUD 2031-07

Bridge Location: DETROIT & TOLEDO SHORE LINE R.R.

REFERENCE

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 19.6 - 7.3 = 12.3 Wp = 13.2

R = A/wp 1.07 $R^{4/3}$ = 1.09 L =

n (composite).

K_f = 29.1 x (.020)^2 x 47 / 1.09 = 0.50

K_c = .5 — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60" CAST IRON CULVERT

D/S END - .35' SEDIMENT = .6 FT^2 OF FILL

U/S END - 2.0' SEDIMENT = 7.3 FT^2 OF FILL

2. XKOR = 1 + .150 + .150 + 0. = 2.00

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): 2.62

6. [illegible] width of obstruction = 0. — field data

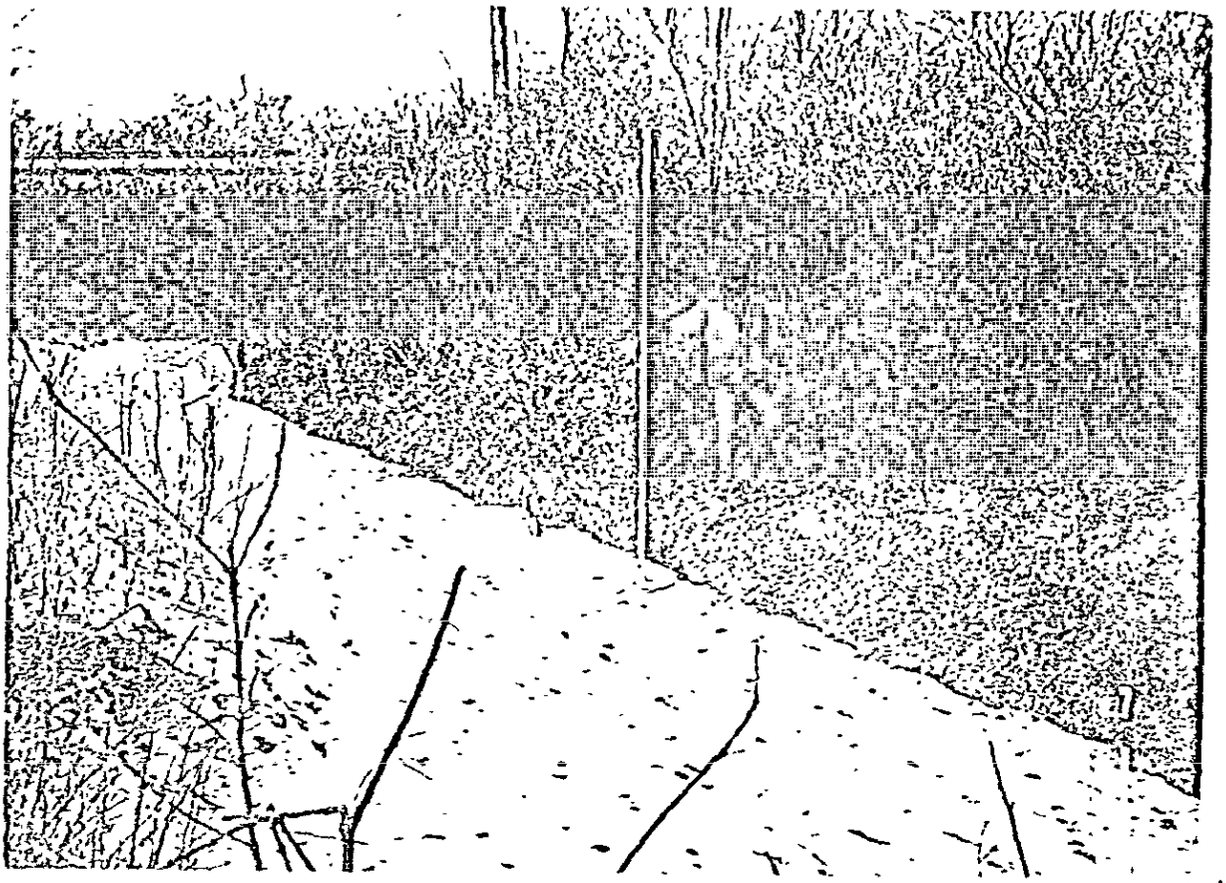
7. [illegible] bridge opening inc. piers = 12.3

8. SS = side slope = 0.0
(horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 577.6
(0 if equal to minimum elevation in previous x-sect.)

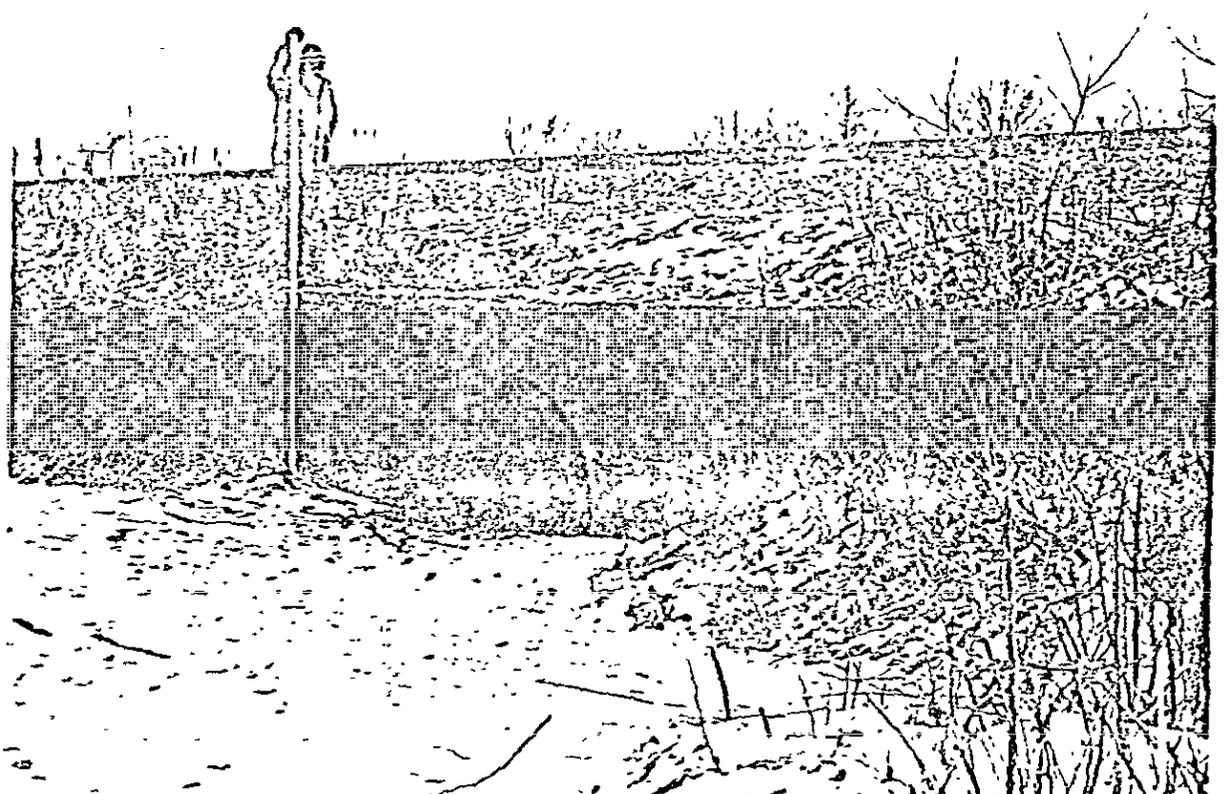
10. ELCHD = Elevation of channel invert D/S side = 577.6
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK	SHEET NO.	File Code No (Job No) Owner Project Suffix
D&T RR. Lauder-Schlagel Drain	DRB		15 of 43	HUD • 2031 • 07
	DATE 12/82	DATE		



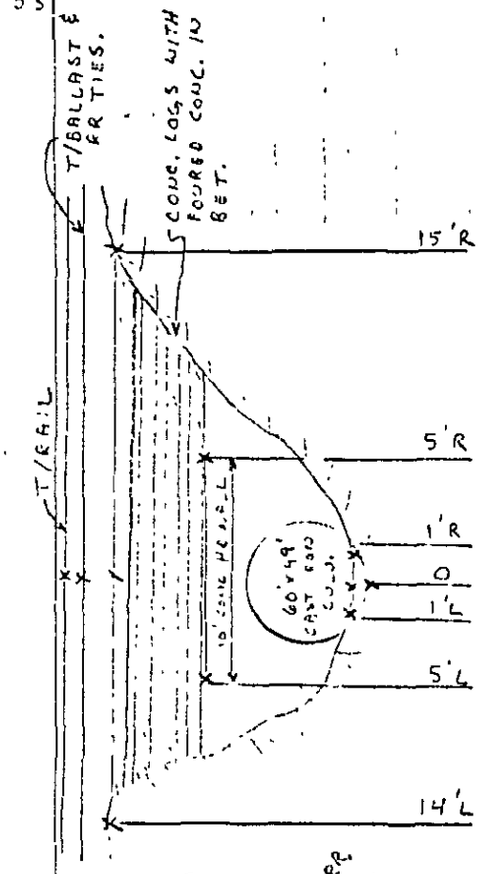
Standing on D. & T. S. L. Railroad (Looking U/S)

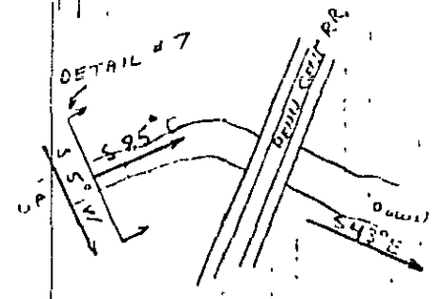
D. & T. S. L. Railroad, U/S angle shot (Facing D/S)



Laudenschlager Drain

HUD 2031-05	(LAUDENSCHLAGER DRAIN			Penn Central RR)		FB 996	LP EV DS	JAN. 25, 1980	20
	STRUCTURE DETAIL #6 CONT FROM PG 19					USCGS DATUM			
STA	+	HI	−	ELEV		DESC			
(CONT FROM PG 19)		592.87							
100'R			2.55	590.32		T/RAIL OF W'LY TRACKS			
200'R			2.48	590.39		"			
	STRUCTURE DETAIL #6 (SIDE VIEW)								
15'R			6.2	586.67		T/BANK			
5 R			9.33	583.54		T/CONC HEAD WALL			
1'R			13.6	579.27		TOE/BANK			
0 (#6)			14.0	578.87		℄ DRAIN			
0			15.42	577.45		INV. 60" x 49' C.I. CULV.			
0			5.93	586.94		T/CONC LOGS			
0			3.65	589.22		T/BALLAST & PR TIES			
0			2.95	589.92		T/RAIL			
1'L			13.5	579.37		TOE/BANK			
5'L			9.44	583.43		T/CONC. HEAD WALL			
4'L			5.5	587.37		T/BANK			
	VALLEY SECTION #7								
13'R			11.15	581.72		T/BANK			
3.5'R			13.65	579.22		TOE			
0 (#7)			14.3	578.57		℄ DRAIN			
3.5'L			14.0	578.87		TOE			
13'L			9.7	583.17		T/BANK			
BACK			8.86	584.01	583.99	T/CONC. HEADWALL (IN ℄) OF DETAIL #4 (SIDE VIEW)			





MAG BRGS

Laudenschlager Drain at Penn Central R.R.

Sheet 17/43

HUD 2031-07

FORM 25 0
(313) 291 5400

Wade, Trim & Associates, Inc.
Civil Engineers • Land Surveyors
WORK SHEET

25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location : PENN CENTRAL R.R.

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 manual

XKOR (Loss Coefficient) = 1.0 + Σk , $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge :

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 19.6 - 4.5 = 15.1 W_p = 14.8

$R = A/w_p$ 1.02 $R^{4/3}$ = 1.03 L = 49'

n (composite) =

$K_f = 29.1 \times (.02)^2 \times 49 / 1.03 = .55$

K_e = 0.5 — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

k_p = 0 if bridge has no intermediate piers

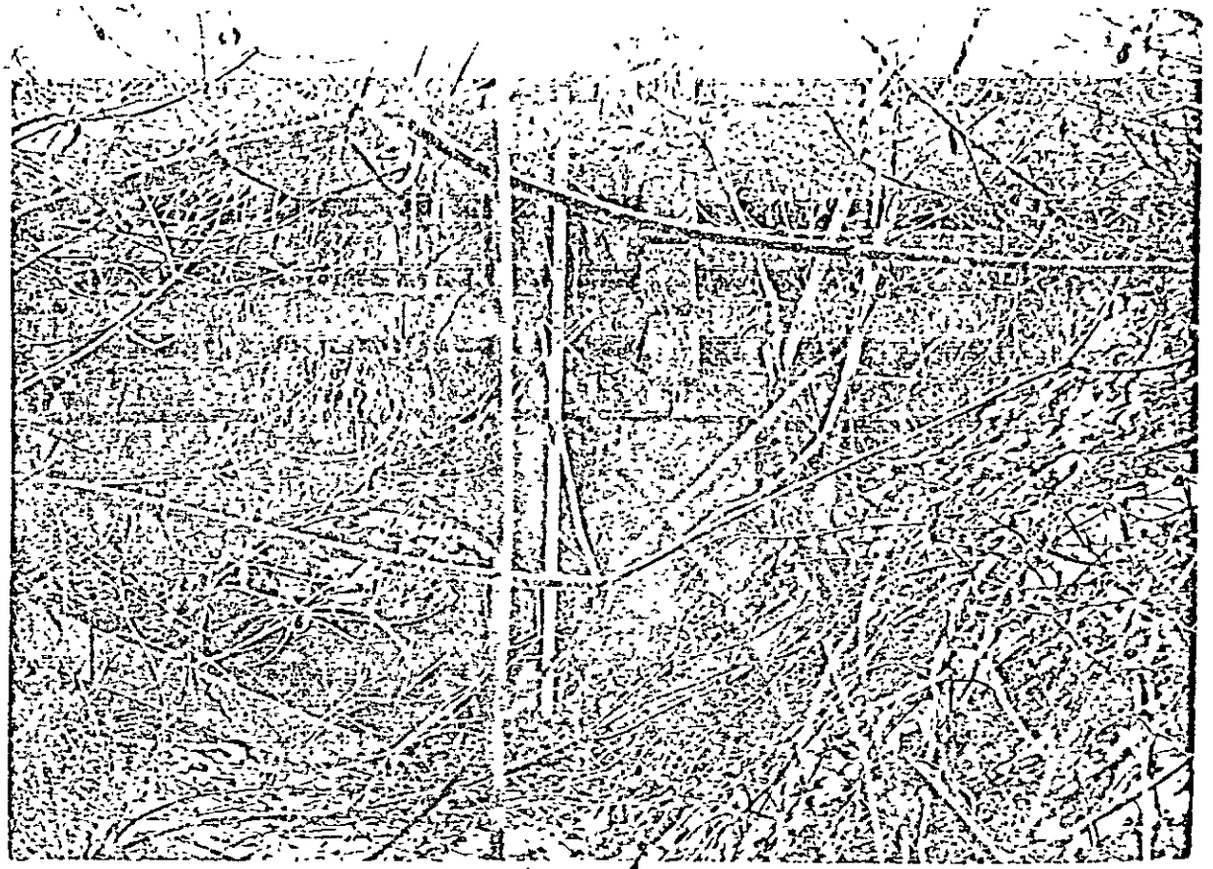
K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

60" CAST IRON CULVERT

D/S END - 1.4' SEDIMENT } 4.5' OF FILL
U/S END - 1.4' SEDIMENT }

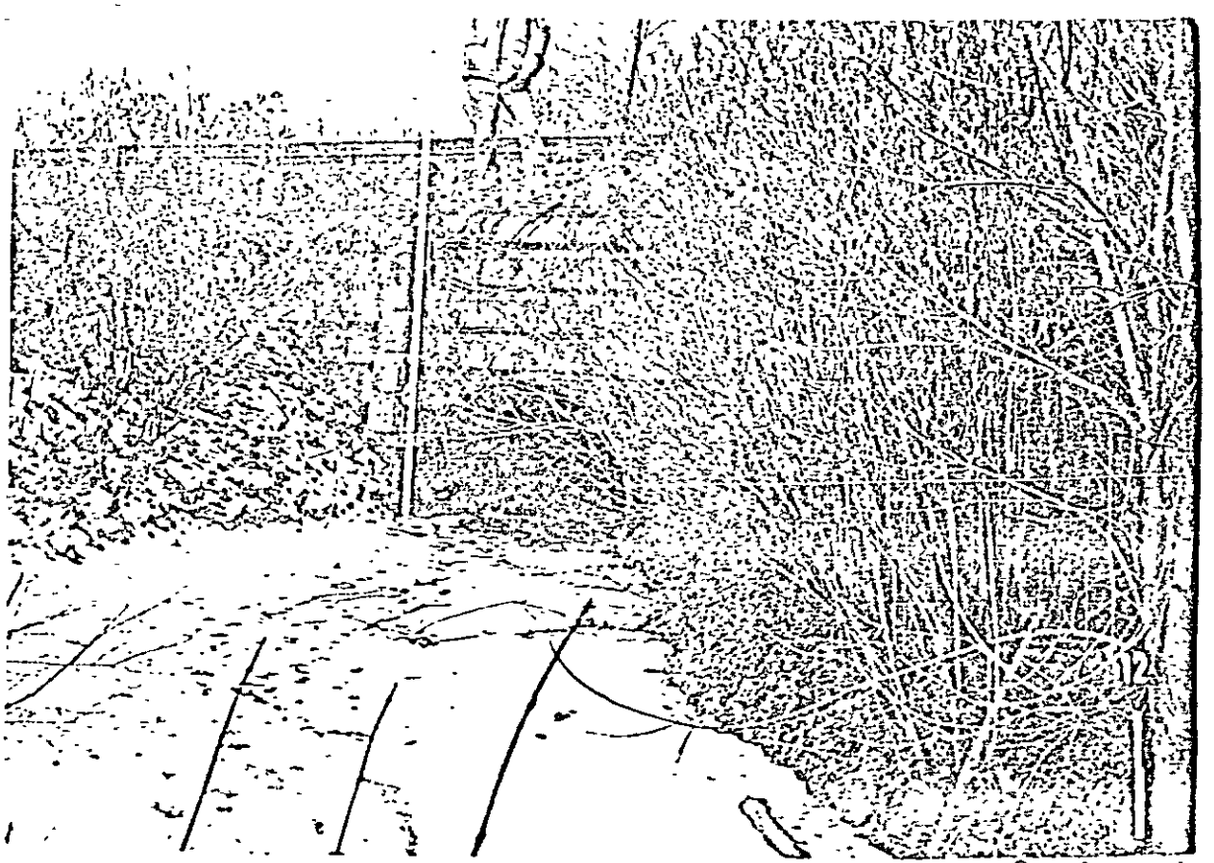
2. XKOR = 1 + 0.55 + 0.5 + 0.0 = 2.05
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0. (0 if read off BT cards)
5. BWC = bottom width of bridge opening (inc. piers) = 4.2
6. [illegible] width of obstruction = 0. — field data
7. [illegible] bridge opening inc. piers = 15.
8. SS = side slope = 0.
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 578.9
(0 if equal to minimum elevation in previous X-sect.)
10. ELCHD = Elevation of channel invert D/S side = 578.9
(0 if equal to minimum elevation in previous X-sect.)

SUBJECT	BY	CHK	SHEET NO.	File Code No. (Job No.) Owner	Project	Suffix
LAUDENSCHLAGER DRAW	DRB		18 OF 43	NCD	2031	07
	DATE 12/83	DATE				



Upstream angle shot (Facing Downstream)

Standing D/S looking U/S



Laudenschlager Drain at Penn Central Railroad Sheet 10 of 43
HUD 2031-07

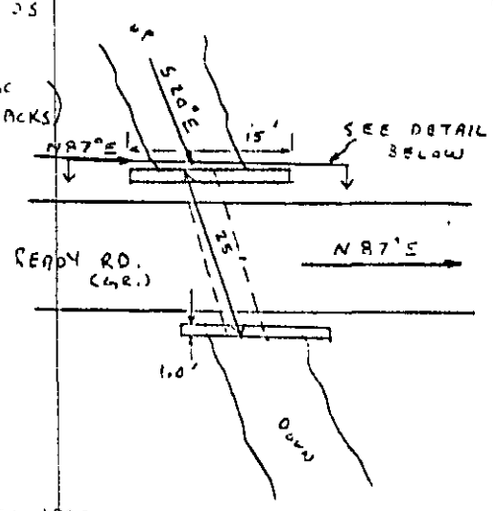
HUD 2031-05 | READY RD (BET DIXIE HWY & RR TRACKS) | FB 996 | LP RV DS | JAN 25, 1980 | 21

STRUCTURE DETAIL #8 | USCGS DATUM

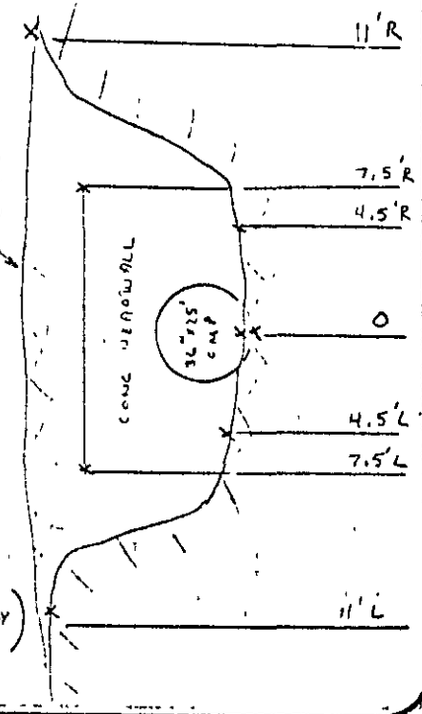
STA	+	HI	−	ELEV		DESC.
BM				584.85	(CHISELED HEADWALL	SQUARE ON TOP OF NE COR CONC ON N/S READY RD (1300' W RR TRACKS)
	4.05	588.90				
500' L			4.80	584.10		℄ ROAD (READY RD)
400' L			4.75	584.15		"
300' L			4.70	584.20		"
200' L			4.85	584.05		"
100' L			5.28	583.62		"
0 (#8)			5.20	583.70		"
100' R			4.80	584.10		"
200' R			4.30	584.60		"
300' R			4.20	584.70		"
400' R			3.85	585.05		"
500' R			3.65	585.25		"

STRUCTURE DETAIL #8 (SIDE VIEW)

11' R			5.5	583.40		T/BANK
7.5' R			4.14	584.76		T/CONC H.W.
4.5' R			8.55	580.35		TOE
0 (#8)			9.25	579.65		℄ DRAIN
0			10.24	578.66		INV. 36" × 25' CMP
4.5' L			8.8	580.10		TOE
7.5' L			4.05	584.85		T/CONC. H.W.
11' L			5.75	583.15		T/BANK
BM CK			2.13	586.77	586.78	(RR SPIKE S/S 36" LONE OAK 800' E DIXIE HWY 25' N ℄ READY RD)



MAG BRGS.



Landenschlager Drain at Ready Rd.

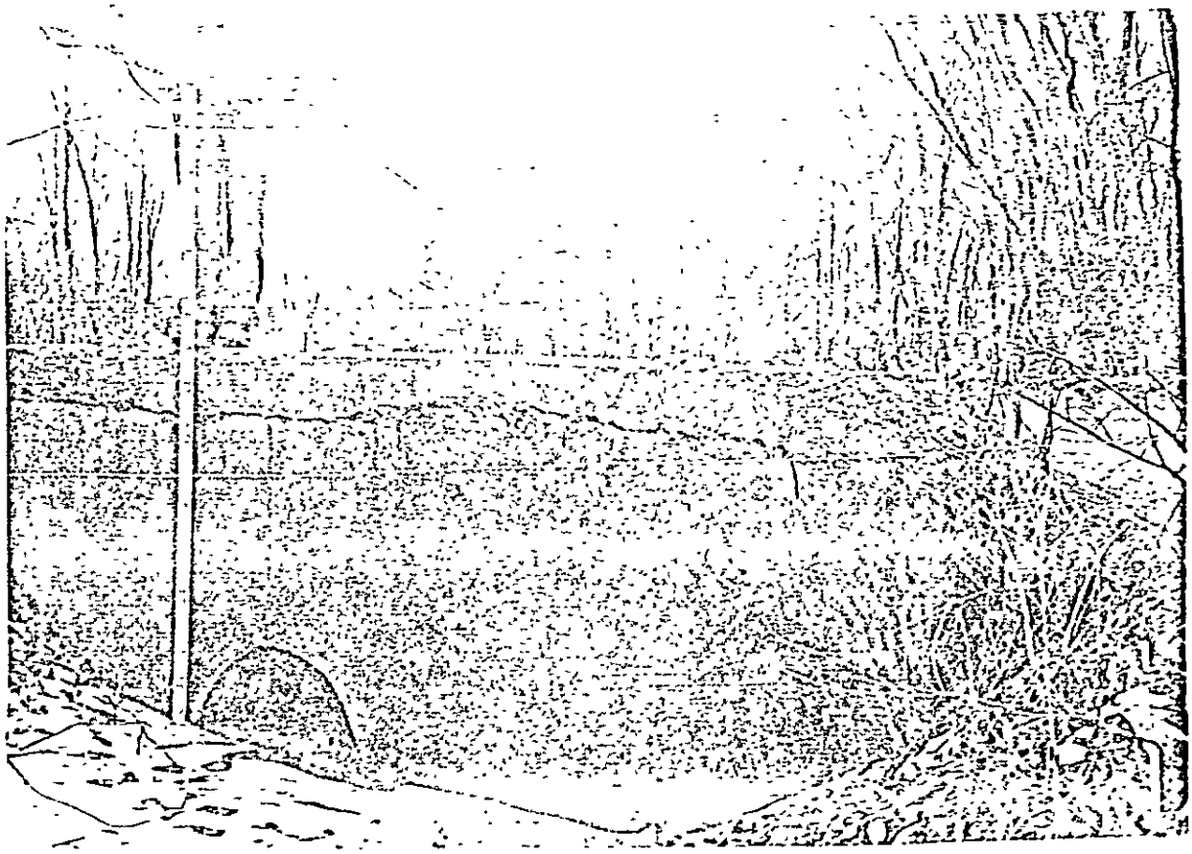
Sheet 20/43

HUD 2031-07



Standing on Ready Road (Looking U/S)

U/S angle shot (Facing D/S)



Lauderschlager Drain at Ready Rd.

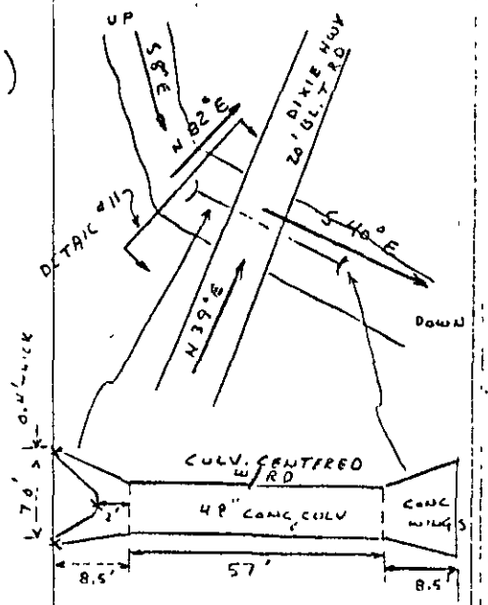
Exhibit 1/43
HUD 2031-07

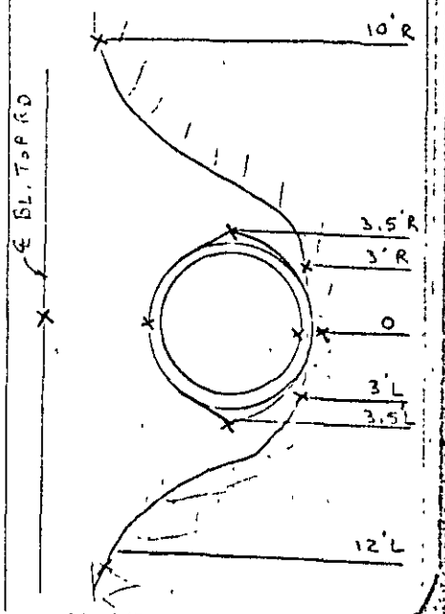
HUD 2031-05 | DIXIE HWY. (BET. READY & S HURON RIVER DR.) | FB 996 | MAG BRG → | BY DS | JAN 25, 1980 | CS

STRUCTURE DETAIL # 10 | USCGS DATUM

STA	+	.N.	-	ELEV	DESC
BM				588.50	("1" ON E'LY BOLT HYD 765'NE READY RD & 45'SE DIXIE HWY (1ST HYD SW LAUD-- DRAW)
	3.39	591.89			
500'L			4.70	587.19	℄ DIXIE HWY
400'L			4.78	587.11	"
300'L			4.98	586.91	"
200'L			5.30	586.57	"
100'L			5.27	586.62	"
0 (#10)			4.72	587.17	"
100'R			5.03	586.86	"
200'R			5.16	586.73	"
300'R			5.17	586.72	"
400'R			5.25	586.64	"
500'R			5.15	586.74	"
	STRUCTURE DETAIL #11				
10'R			7.05	584.84	T/BANK
3.5'R			8.57	583.32	N/S T/CULV WING
3'R			10.7	581.19	TOE/BANK
0 (#11)			10.8	581.09	℄ DRAIN
0			10.74	581.15	INV. 48" x 57' CONC CULV
0			6.33	585.56	TOP OF 48" CULV.
3'L			10.7	581.19	TOE/BANK
3.5'L			8.65	583.24	S/S T/CULV WING
12'L			7.2	584.69	T/BANK

CONT. ON PG 24

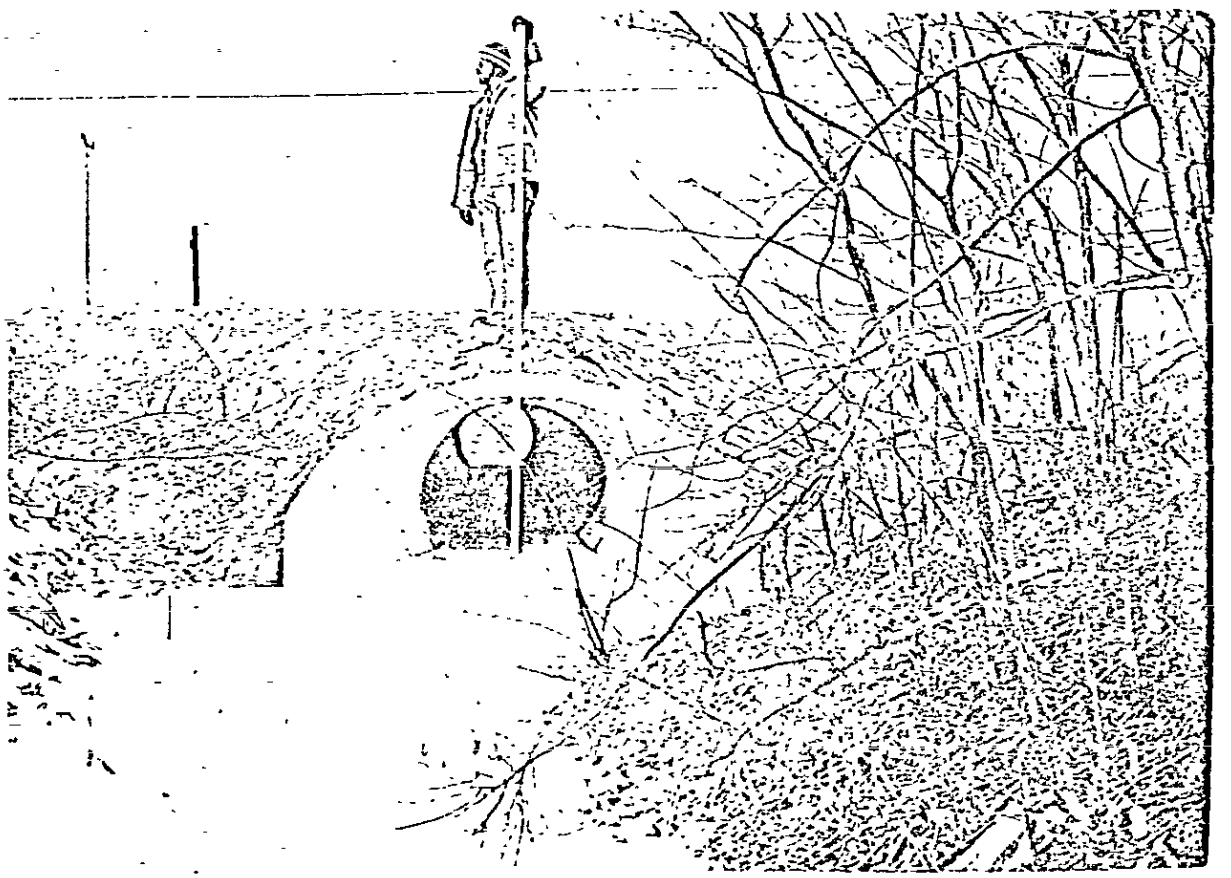




Laudenschlager Drain at Dixie Hwy.

Sheet 22/43

HUD2031-07



Standing D/S (Looking U/S)

Laudenschlager Drain at Dixie Hwy.

Sheet 23/43

HUD 2031-07

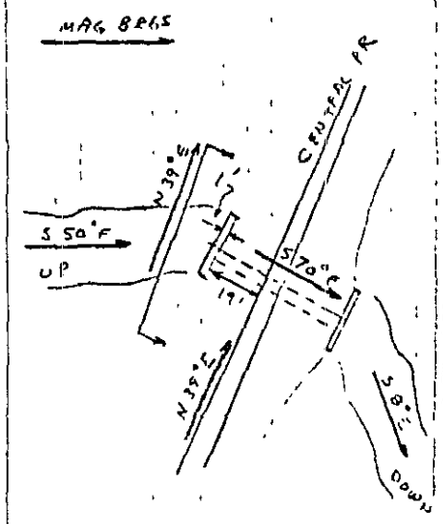
HUD 2031-05 | CENTRAL PR (BET READY & S. HURON RIVER) | FB 996 | BV DS | JAN. 25, 1980 | 47

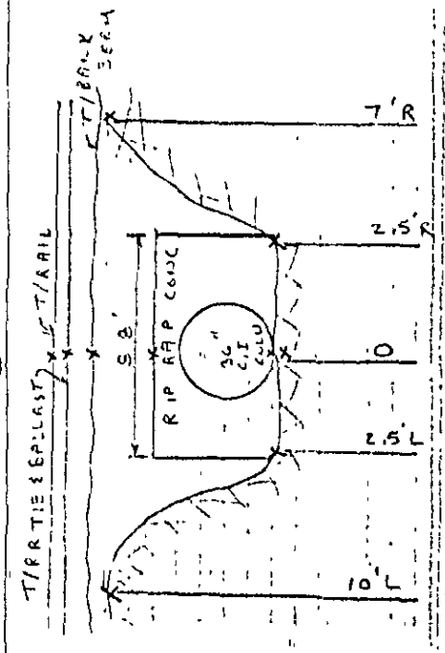
STRUCTURE DETAIL #12 | USCGS DATUM

STA	±	HI	−	ELEV		DESC.
(CONT FROM PG 23)		591.89				
500'L			1.60	590.29		T/W'LY RAIL on TRACKS
400'L			1.64	590.25		" "
300'L			1.74	590.15		" "
200'L			1.73	590.16		" "
100'L			1.69	590.20		" "
[illegible] (#12)			1.69	590.21		" "
[illegible]			1.56	590.33		" "
200'R			1.52	590.37		" "
[illegible]'R			1.40	590.49		" "
400'R			1.27	590.62		" "
500'R			1.18	590.71		" "

STRUCTURE DETAIL #13

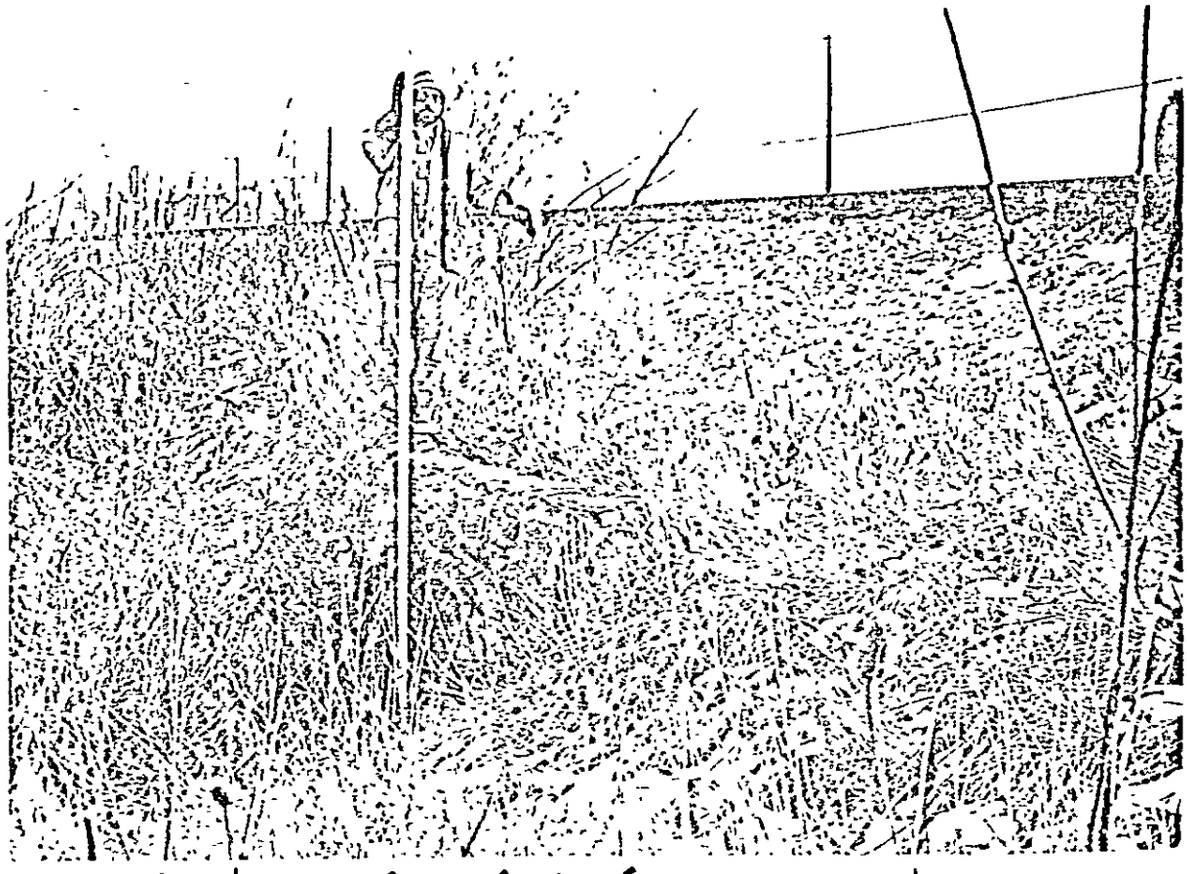
7'R			7.5	581.39		T/BANK
2.5'R			10.05	581.84		TOE
0 (#13)			10.3	581.59		℄ DRAIN
0			11.18	580.71		INV 36" x 37' CAST IRON CULV
0			6.42	585.47		T/CONC RIP RAP H.W.
0			5.45	586.44		T/BANK to BERM W (TOE/BALLAST)
0			2.25	589.64		T/BALLAST & RR TIES
0			1.68	590.21		T/RAIL (W'LY)
2.5'L			10.1	581.79		TOE/BANK
10'L			6.8	585.09		T/BANK
BM CK			3.85	588.04	588.05	(X' ON E'LY BOLT HYD 1365' NE ℄ READY RD & 45' SE DIXIE HWY 1ST HYD NE LAUD- DRAIN)





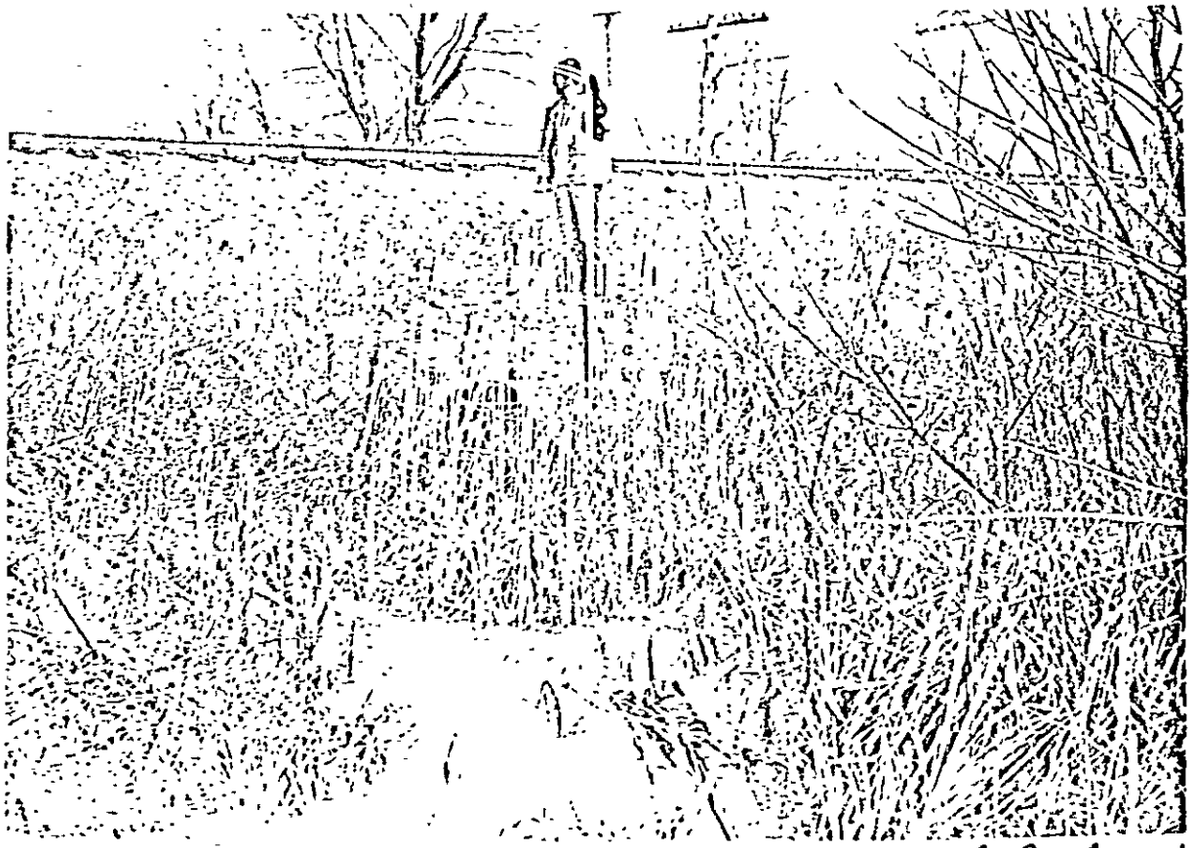
Laudenschlager Drain at Central Railroad

Sheet 24/43
HUD 2031-07



U/S angle shot (Facing D/S)

Standing D/S (Looking U/S)



Laudenschlager Drain at Central Railroad sheet 25/43

HUD 2031-07

ABANDONED RD. (SET. READY / S. HURON RIVER DR.)

FB 996 MAG BRGS LP BV DS

USCGS DATUM

JAN. 25, 1980

25

STA	+	HI	-	ELEV
BM				585.47
	7.23	592.70		
500'L			5.4	587.30
400'L			5.4	587.30
300'L			5.4	587.30
200'L			5.3	587.40
100'L			5.3	587.40
0 (#14A)			5.4	587.30
100'R			5.3	587.40
200'R			5.1	587.60
300'R			5.25	587.55
400'R			5.4	587.30
500'R			5.5	587.20
STRUCTURE DETAIL #14A (SIDE VIEW)				
12'R			8.2	584.50
4'R			11.1	581.60
			11.85	580.85
0 (#14A)			11.4	581.30
4'L			11.05	581.65
12'L			7.95	584.75



Standing D/s (Looking U/s)

Landenschlager Drain at an Earthen Rd.
(Abandoned)

Sheet 27/43
HUD 2031-07

HUD 2031-07

(BRANDON RD E/T. & LAUDENSCHLAGER DRAIN)

STRUCTURE DETAIL "14"

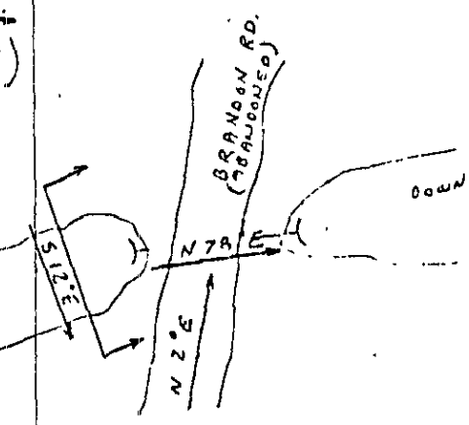
FB 996 (USCGS DATUM)

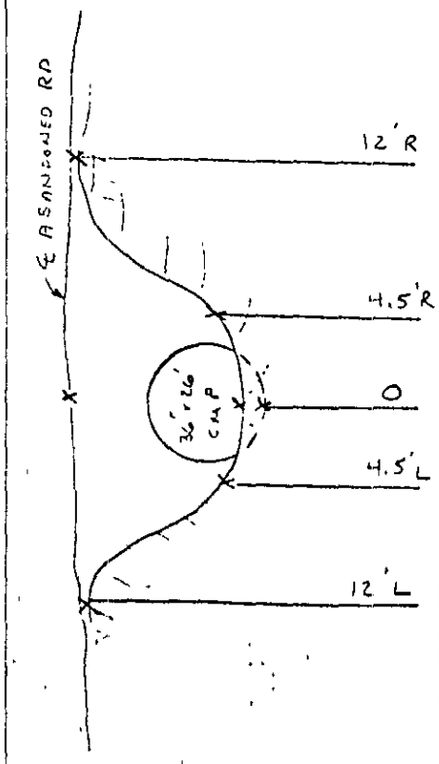
HP DK DS

FEB. 5, 1980

29

STA	+	HI	−	ELEV	DESC (MAG. BRGS.)
BM				587.07	(CHISELED SQUARE ON EXTREME TOP OF SE COR. H.W. ON E/S I-75 & DRAIN)
	3.76	590.83			
230 L			4.5	586.33	T/BANK OF DITCH E/S I-75
200 L			4.3	586.53	& BRANDON RD E/T
100 L			5.1	585.73	"
0 (℄H)			5.4	585.43	"
100 R			6.0	584.83	"
200 R			5.2	585.63	"
300 R			5.2	585.63	"
400 R			4.9	585.93	"
500 R			4.9	585.93	"
	DETAIL "1H" (SIDE VIEW)				
12 R			5.4	585.43	T/BANK
4.5' R			8.9	581.93	TOE/BANK
0 (℄H)			9.6	581.23	& DRAIN
0			9.68	581.15	INV. 36"×26' CMP
4.5' L			9.0	581.83	TOE/BANK
12' L			5.6	585.23	T/BANK
BM CK			3.76	587.07	(SEE DESC ABOVE)





Laudenschlager Drain at Brandon Rd. (Abandoned)

Sheet 28/43

HUD 2031-07



Standing on Brandon Rd (Looking U/S)

U/S angle shot (Facing D/S)



Landenschlager Drain at Brandon Rd. Sheet 2 of 3
MUD 2031-07

HUD 2031-05

(SOUTH BOUND I-75 & LAUDENSCHLAGER DRAIN.)

STRUCTURE DETAIL #15

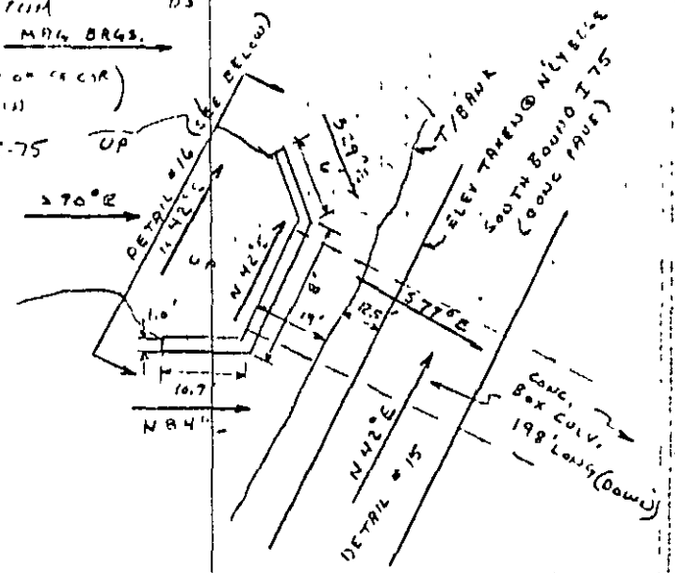
FE 796

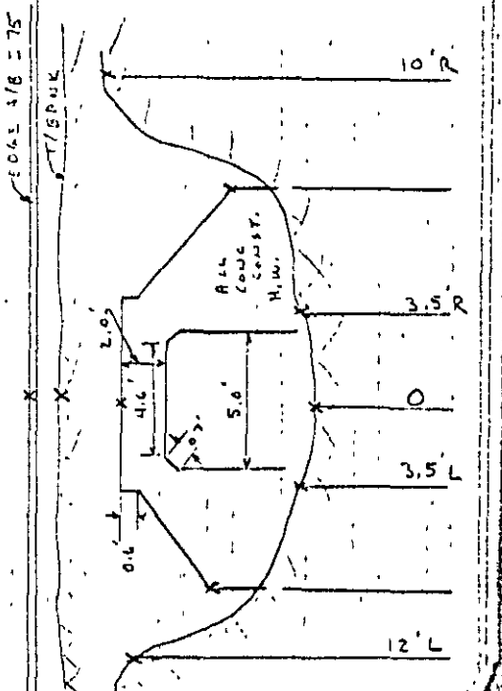
USCGS DATUM

HP
DK
DS

JAN. 30, 1980

STA	+	HI	-	ELEV	DESC
SM	7.31	594.38		587.07	(CHISELED SQUARE ON EXTREME TOP OF SE COR) CONC H.W. ON S/S S/B I-75 & DRAIN
500 L			4.63	589.75	N EDGE S. BOUND I-75
400 L			4.62	589.76	"
300 L			4.58	589.80	"
200 L			4.64	589.74	"
100 L			4.69	589.69	"
0 (#15)			4.68	589.70	"
100 R			4.68	589.70	"
200 R			4.64	589.74	"
300 R			4.73	589.65	"
400 R			4.76	589.62	"
500 R			4.75	589.63	"
	DETAIL #16				
10' R			8.5	585.88	T/BANK
R			11.64	582.74	TIP OF WING WALL
3.5' R			12.75	581.63	TOE / BANK
0 (#16)			12.8	581.58	℄ DRAIN
0			7.25	587.13	T/HEADWALL
0			5.3	589.08	T/BANK TO I-75
3.5' L			12.7	581.68	TOE / BANK
L			11.20	583.18	TIP OF WING WALL
12' L			8.65	585.73	T/BANK
BACK			7.31	587.07	(SEE DESC ABOVE)

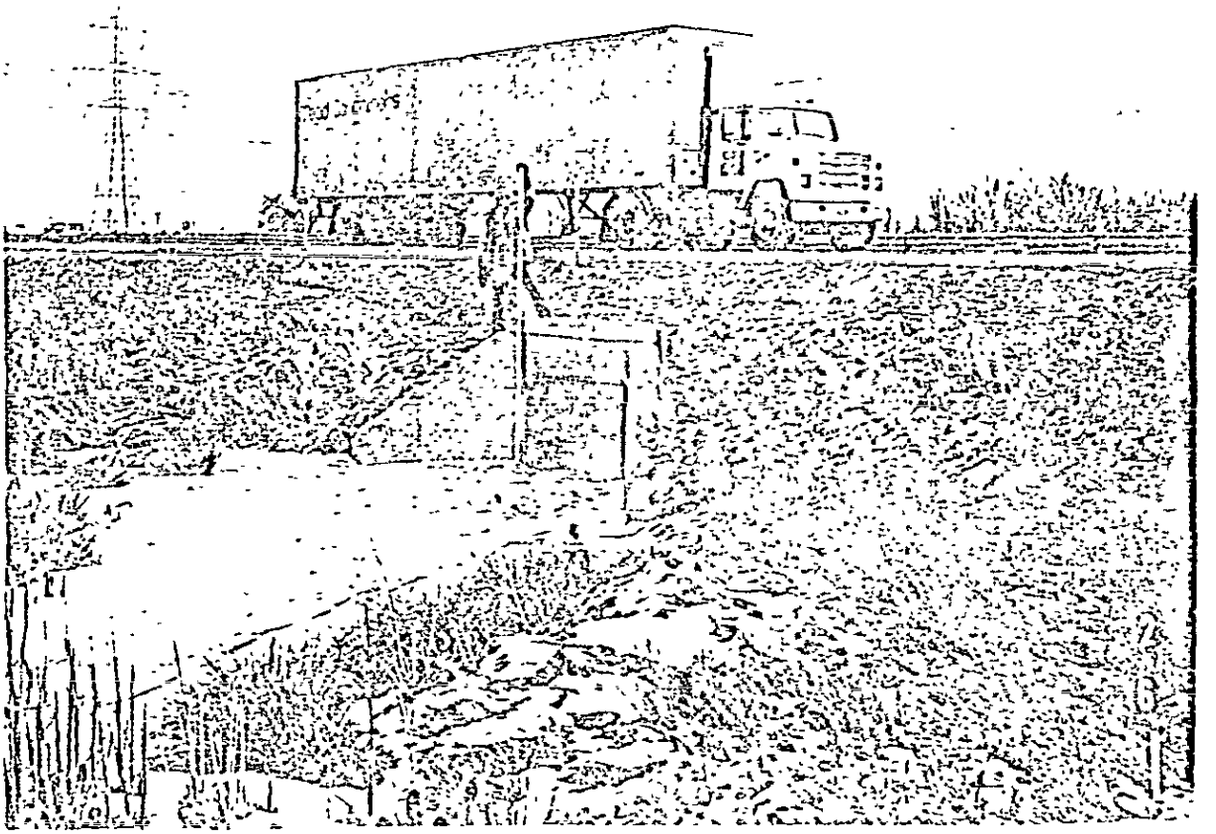




Laudenschlager Drain at I-75

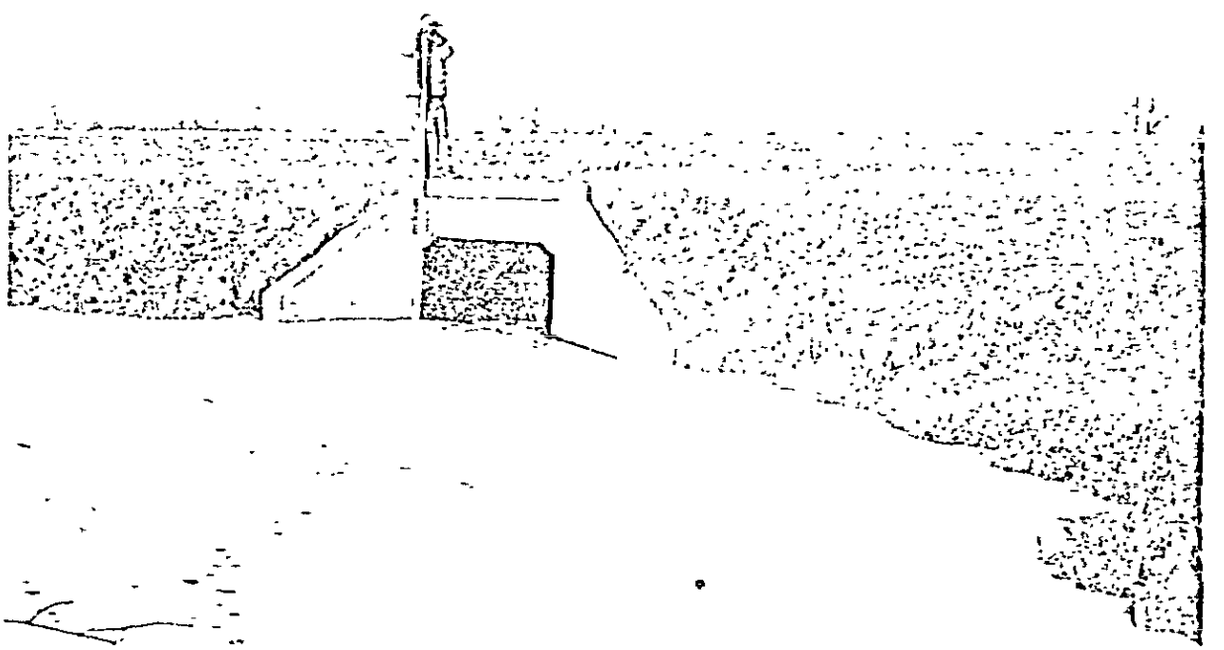
Sheet 30/43

HUD 2031-07



U/s angle Shot (Facing D/s)

Standing D/s (Looking U/s)



- Lauderschlager Drain at I-75

HUD 2031-05

(READY RD & CHAPMAN DRAIN)

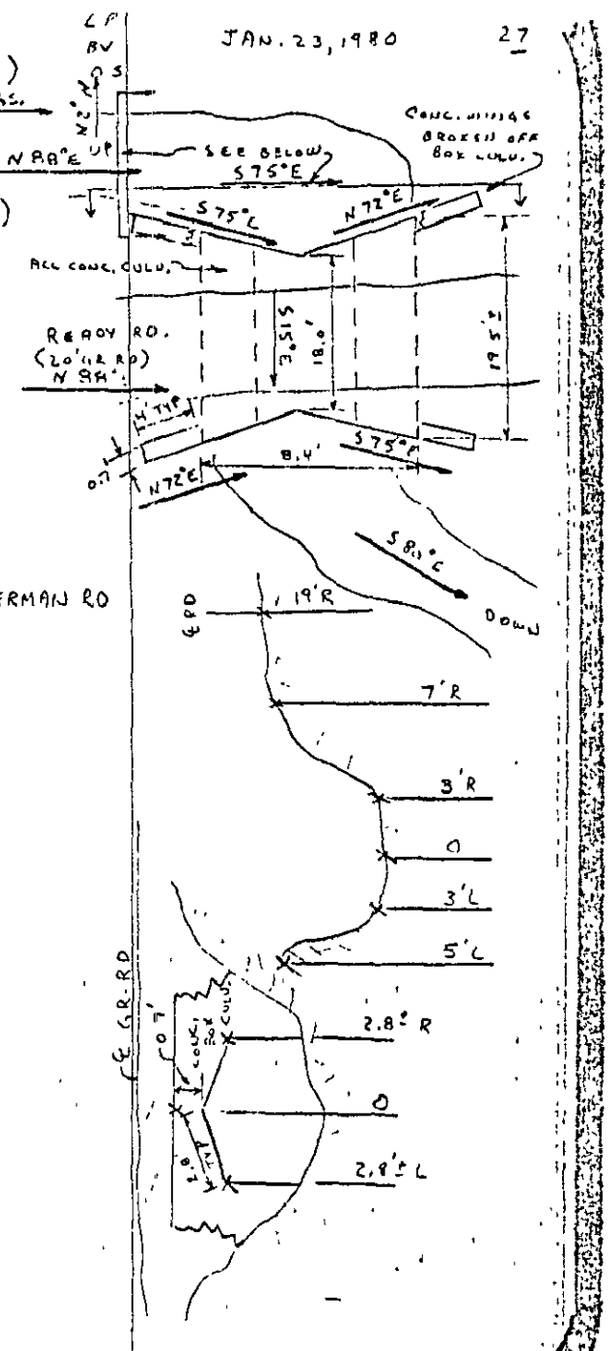
STRUCTURE DETAIL # 17A

FB 996
(USCGS DATUM)

JAN. 23, 1980

27

STA	+	HI	-	ELEV	DESC
BM	3.00	586.47		583.47	(W'LY BOLT ON NW'D @ SW COR OF READY & HAGGERMAN RDS)
500'L			5.1	581.37	℄ READY RD (20'GR)
400'L			4.7	581.77	"
300'L			4.9	581.57	"
200'L			5.8	580.67	"
100'L			5.7	580.77	"
0 (#17A)			5.10	581.37	"
100'R			5.8	580.67	"
200 R			5.6	580.87	"
260 R			4.3	582.17	" @ ℄ HAGGERMAN RD
300'R			4.7	581.77	"
400'R			4.0	582.47	"
500'R			3.9	582.57	"
	DETAIL #17A	(SIDE VIEWS)			
19'R			5.4	581.07	℄ READY RD
7'R			5.9	580.67	T/BANK
3'R			7.4	579.07	TOE/BANK
1.8'R			6.40	580.07	CUR TO BOX CULV.
0 (#17A)			7.8	578.67	℄ DRAIN
0			5.20	581.27	T/CONC BOX CULV
2.8'L			6.50	579.97	CUR TO BOX "
3'L			7.4	579.07	TOE/BANK
5'L			6.6	579.87	T/BANK
BM OK			3.00	583.47	(SEE DESC ABOVE)



Chapman Drain at Ready Rd.

Sheet 32/43

Bridge Location: READY ROAD

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 3 × 2.6 = 7.8 Wp = 11.2

R = A/wp 0.70 $R^{4/3}$ = .62 L = 20

n (composite).

$K_f = 29.1 \times (.02)^2 \times 20 / .62 = .38$

$K_c = .5$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

2. XKOR = 1 + .38 + .50 + 0 = 1.88

3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual

4. RDLEN = Length of weir = 0. (0 if read off BT cards)

5. BRC = Bottom width of bridge opening (inc. piers): 5

6. [illegible] width of obstruction = 0. — field data

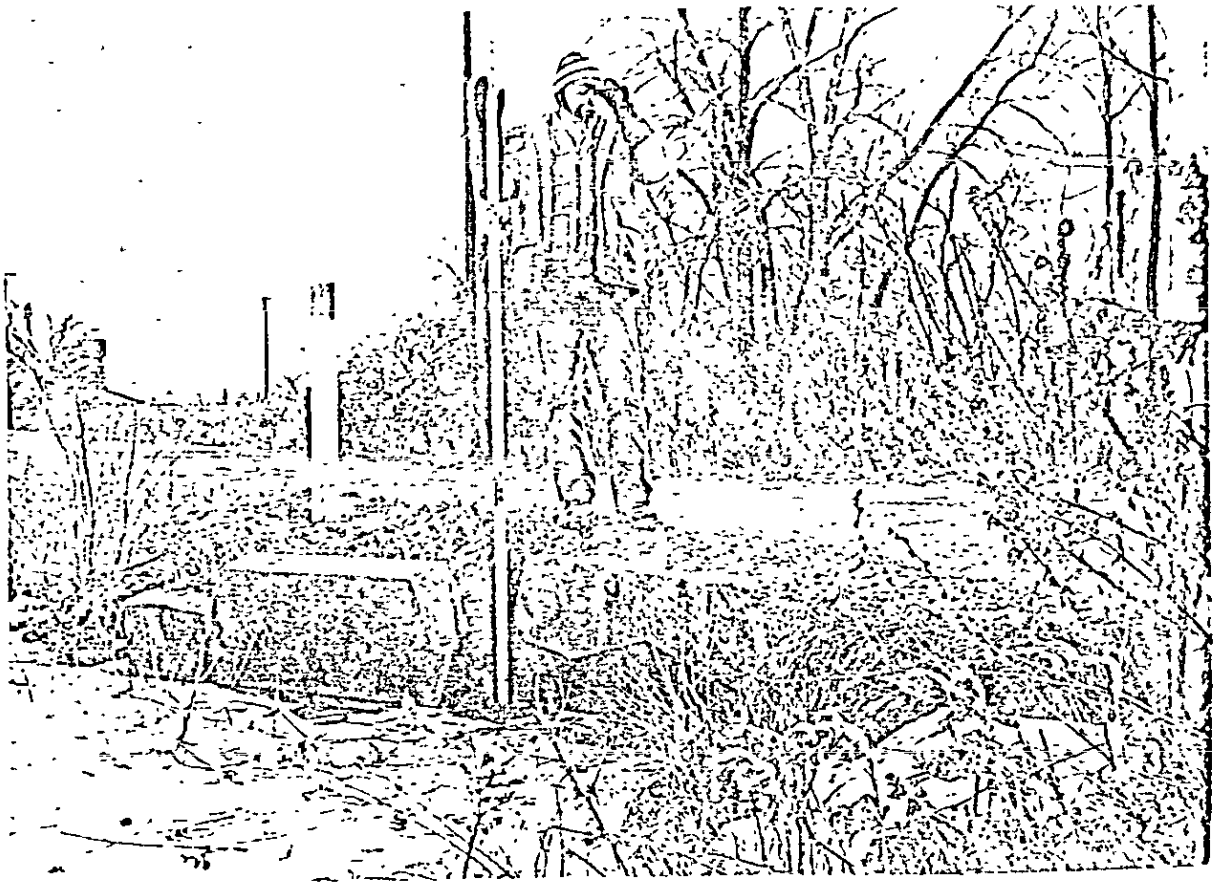
7. [illegible] bridge opening inc. piers = 8.

8. SS = side slope = 0.
(horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 578.7
(0 if equal to minimum elevation in previous X-sect.)

10. ELCHD = Elevation of channel invert D/S side = 578.7
(0 if equal to minimum elevation in previous X-sect.)

SUBJECT	BY	CHK.	SHEET NO	File Code No (Job No) Owner Project Suffix
CHAPMAN DRAIN	DRB		33 OF 43	HUD • 2031 • 07
	DATE 12/80	DATE		



U/S angle shot (Facing D/S)

Standing D/S (Looking U/S)



Chapman Drain at Ready Rd.

HUD 2031-05 (HAGGERMAN RD & CHAPMAN DRAIN) FB 996 LP BV DS JAN. 23, 1980 28

STRUCTURE DETAIL #17 (USCGS DATUM)

STA	+	H1	-	ELEV	DESC
BM	3.00	586.47		583.47	(W'LY BOLT ON HYD @ SW COR OF READY & HAGGERMAN RDS)
500'L			5.4	581.07	℄ HAGGERMAN RD
400 L			5.4	581.07	"
300 L			5.2	581.27	"
200 L			4.8	581.67	"
100 L			4.4	582.07	"
0 (#17)			4.8	581.67	"
[illegible]'R			4.3	582.17	" @ ℄ RENDY RD

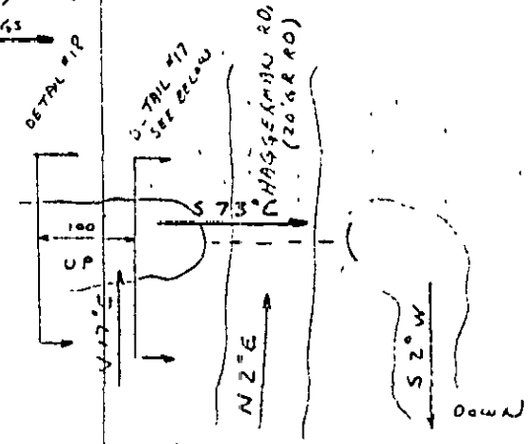
(FOR MORE ELEV TO R SEE DETAIL #1 PG 11)

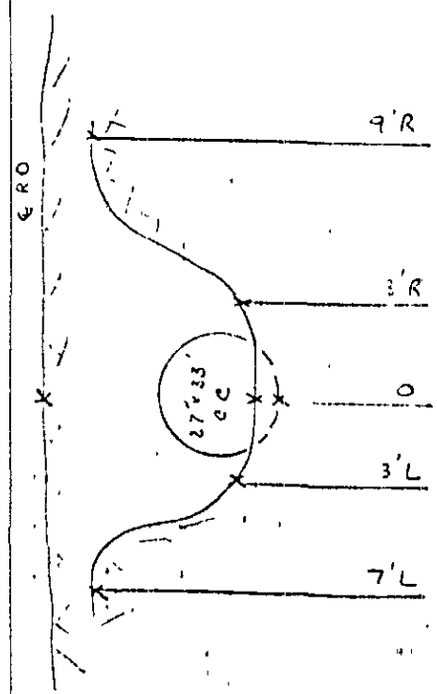
DETAIL #17 (SIDE VIEW)

9'R			6.1	580.[illegible]7	T/BANK
3'R			7.3	579.17	TOE/BANK
0 (#17)			7.90	578.57	℄ DRAIN
0			8.95	577.62	INV. OF 27"x33' CONC CULV.
3'L			7.6	578.87	TOE/BANK
7'L			6.3	580.17	T/BANK

DETAIL #18 (NO CULV)

[illegible]'R			6.3	580.17	T/BANK
3'R			7.1	579.37	TOE
0 (#18)			7.3	579.17	℄ DRAIN
3'L			7.2	579.27	TOE
7'L			5.9	580.57	T/BANK
BM CK			3.00	583.47	(SEE DESC. ABOVE)





Chapman Drain at Haggerman Rd

Sheet 35/43

HUD2031-07

Wade Trim & Associates Inc.
Civil Engineers • Land Surveyors
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180
(313) 291 6400

FORM 25 0

WORK SHEET

Bridge Location: HAGGERMAN ROAD

Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk , Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient

k_e = entrance loss coefficient

k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = = 1.7 Wp = 5.8

R = A/wp .29 $R^{4/3}$ = .19 L = 33

n (composite) =

$K_f = 29.1 \times (.102)^2 \times 33 / .19 = 2.02$

$K_e = .5$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

$K_p = 0$ if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers — HEC-2 manual

27" CULVERT 1' OF FILL

$A_1 = .429 (3.97) = 1.7\ FT^2$

$\frac{A_1}{A_2} = .429$

2. XKOR = 1 + 2.02 + .5 + 0 = 3.52

3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual

4. RDLEN = Length of weir = 0 (0 if read off BT cards)

5. BWC = botHom width of bridge opening (inc. piers) = 1.0

[illegible] width of obstruction = 0. — field data

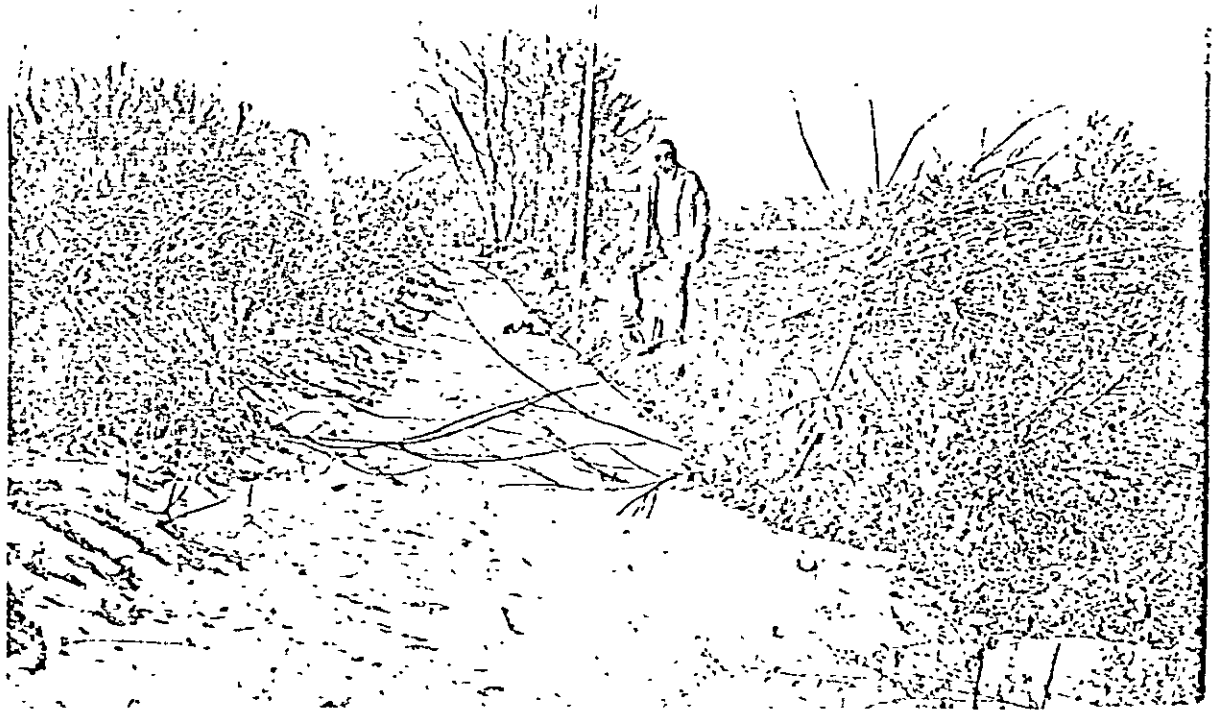
7. [illegible] = bridge opening inc. piers = 1.07

8. SS = side slope = 0.0 (horizontal per 1 vertical unit)

9. ELCHU = Elevation of channel invert U/S side = 578.6 (0 if equal to minimum elevation in previous x-sect.)

10. ELCHD = Elevation of channel invert D/S side = 578.6 (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No (Job No) Owner / Project	Suffix
Chapman Drain	DRB		36 OF 43	HUD • 2031	• 07
	DATE 12-90	DATE			



Standing on Haggerman Rd. (Looking U/S)

U/S angle shot (Facing D/S)



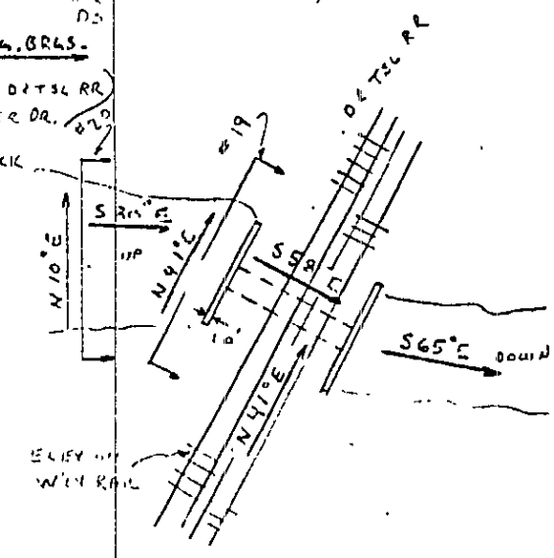
Chapman Drain at Haggerman Rd Sheet 37/43

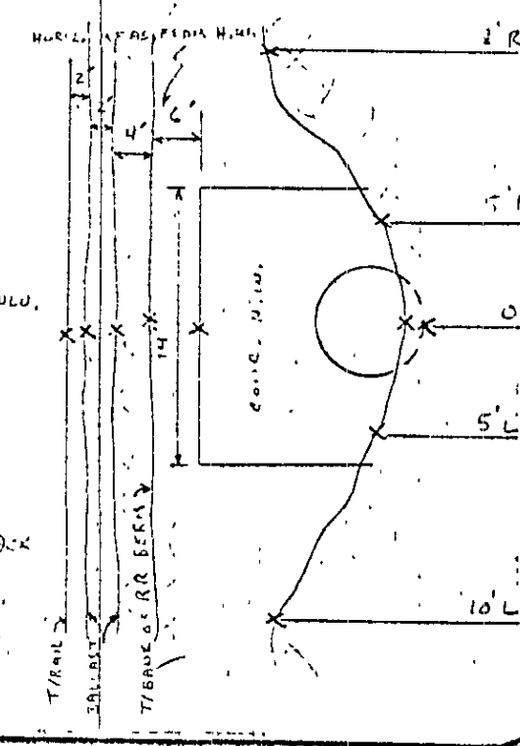
HIID 2031-07

HUD 2031-05 | DETSL RR & CHAPMAN DRAIN | FB 496 (USCGS DATUM) | HP DK DS | JAN. 31, 1980 | 30

STRUCTURE DETAIL # 19

STA	+	HI	−	ELEV	DESC
BM	6.88	591.52	..	584.64	(TOP OF EXTREME S. END CONC H.W. UNDER DETSL RR 20' NW TRACKS & 2440'E S/S HURON RIVER DR.)
500 L			2.98	588.54	T/W'LY RAIL OF W. TRACK
400 L			2.93	588.59	"
300 L			2.95	588.57	"
200 L			2.96	588.56	"
100 L			2.93	588.57	"
0 (#19)			2.97	588.55	"
100 L			3.07	588.45	"
[illegible] R			3.04	588.48	"
[illegible] R			2.98	588.54	"
[illegible] R			3.04	588.48	"
500 R			3.06	588.46	"
	VALLEY SECTION # 20 & DETAIL #19 (S10E)				
8 R			8.6	582.92	T/BANK/DRAIN
5 R			11.7	579.82	TOE " "
10 (#20)			12.55	578.97	℄ DRAIN
0			13.48	578.04	INV. 48" × 45' CAST IRON CULV.
0			6.88	584.64	T/CONC. HEADWALL
0			5.0	586.00	T/BANK TO RR BERM
0			4.5	587.02	TOE RR BALLAST
0			3.6	587.92	T/BALLAST
0			2.97	584.95	T/W'LY RAIL OF W. TRACK
5 L			11.8	57[illegible].72	
10 L			8.7	582.82	
TP			3.76	587.76	(T/H.W. E/S CONRAIL RR)





Chapman Drain at D.T.S.L. Railroad

Sheet 38/43
HUD 2031-07

Bridge Location: DETROIT & TOLEDO SHORE LINE R.R.

REFERENCE

Bridge Losses - SB Card

1. XK (Pier Shape Coefficient) 0.0 — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, $\Sigma k = k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = = 101 Wp = 12

$R = A/wp$ .84 $R^{4/3}$ = .79 L = 45

n (composite).

$K_f = 29.1 \times (.020)^2 \times 45 / 1.79 = 0.66$

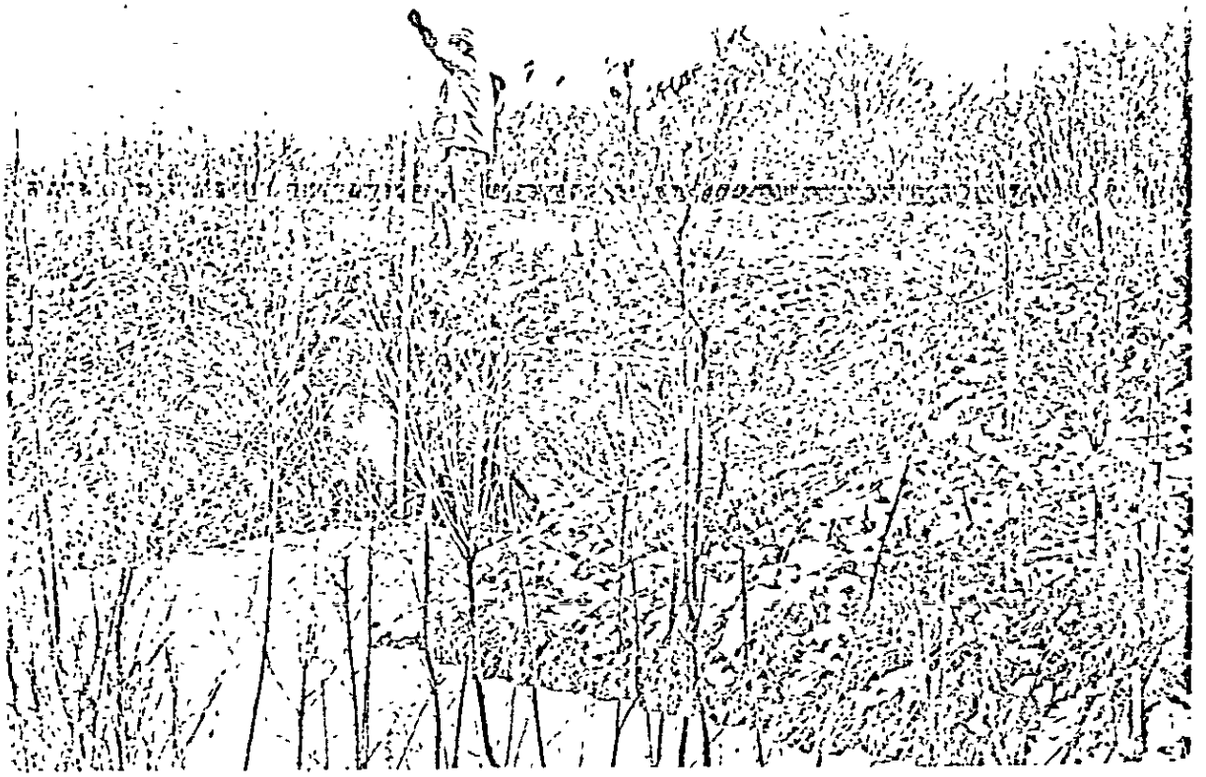
K_e = .50 — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 43

K_p = 0 if bridge has no intermediate piers

K_p = 0.05 if bridge has intermediate piers — HEC-2 manual

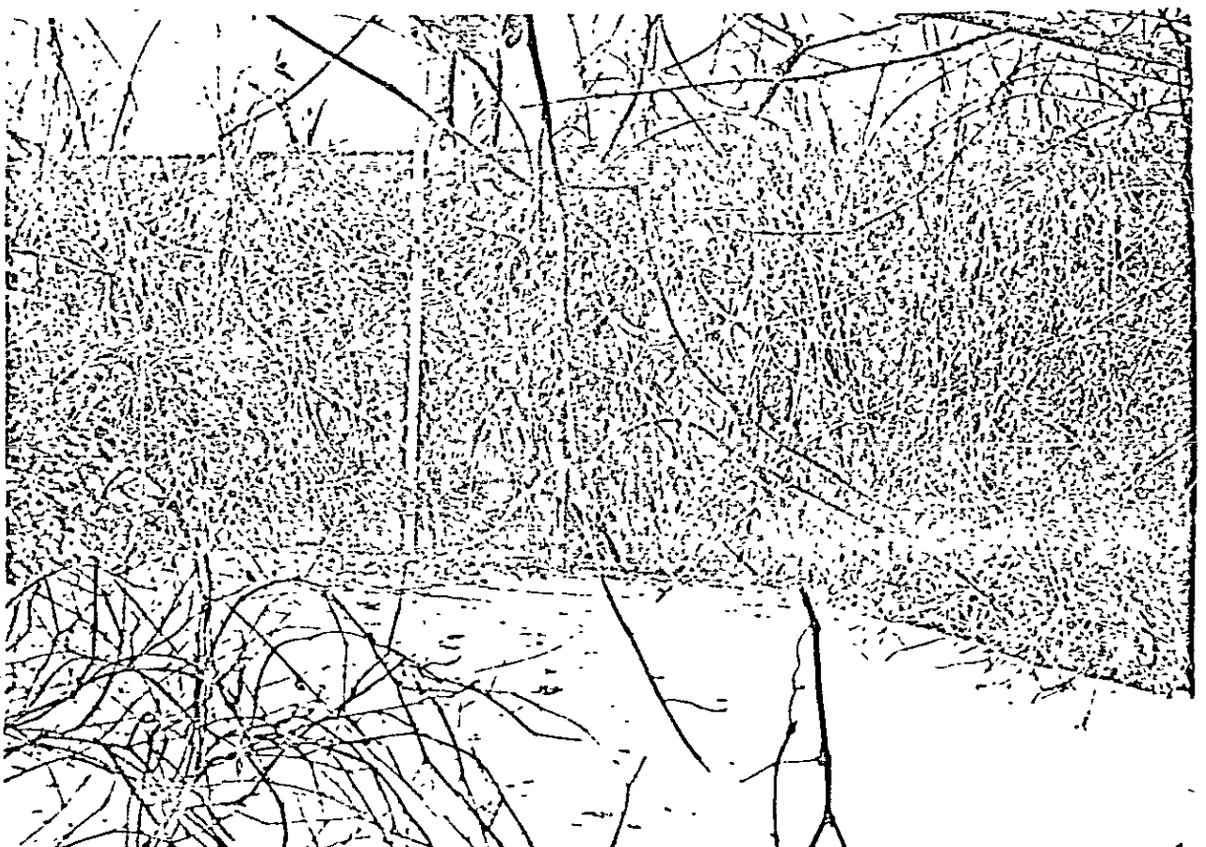
2. XKOR = 1 + 0.66 + .50 + 0.0 = 2.16
3. COFQ Coefficient of discharge = 3.0 — HEC-2 manual
4. RDLEN = Length of weir = 0. (0 if read off BT cards)
5. BWC = bottom width of bridge opening (inc. piers) = 3.33
6. [illegible] width of obstruction = 0. — field data
7. [illegible] bridge opening inc. piers = 10.
8. SS = side slope = 0. (horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 579. (0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 579. (0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK	SHEET NO	File Code No (Job No) Owner	Project	Suffix
Chapman Drain	DATE 12/80	DATE	39 OF 42	HOD	31	07



U/S angle shot (Facing D/S)

Standing D/S (Looking U/S)



Chapman Drain at D. & T. S.L. Railroad

HUD
ZAPLAS

CONRAIL RR & CHAPMANS DRAIN

STRUCTURE DETAIL #21

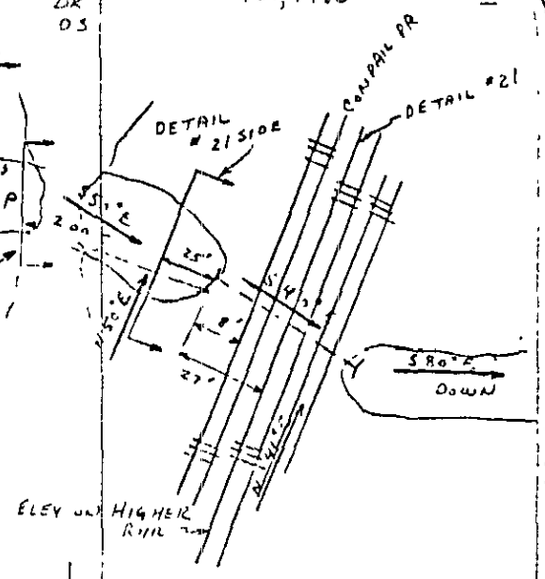
STA (CONT FROM PG 2)	+	HI	−	ELEV	DESC.
TP	5.03	592.79		587.76	
500 L			3.68	589.11	T/W'LY RAIL TO E'LY TRACKS
400 L			3.54	589.25	"
300 L			3.46	589.33	"
200 L			3.35	589.44	"
100 L			3.20	589.59	"
0 (#21)			3.13	589.66	"
100 R			3.02	589.77	"
200 R			2.96	589.83	"
300 R			2.94	589.85	"
400 R			2.96	589.83	"
500 R			2.96	589.83	"
13 R			11.15	581.64	T/BANK
1 R			12.7	580.09	TOE/BANK
0 (#21)			12.95	579.84	℄ DRAIN
0			14.75	578.04	100.48' × 56' CAST IRON CULV
0			6.8	585.99	T/SLOPE RR BERM
0			5.21	587.58	T/RAIL (LOWER)
0			5.55	587.24	TOE/BALLAST
0			3.9	588.89	TOP/BALLAST
0			3.13	589.66	T/RAIL
1 L			13.2	579.59	TOE/BANK
9 L			11.15	581.64	T/BANK
BK			8.13	584.66	584.64 (TOP OF CONC. HW 24' NW OF EAST ℄ END OF CONC. HW 24' NW OF C.R. # 2440 S/S. HURON RIVER DR)

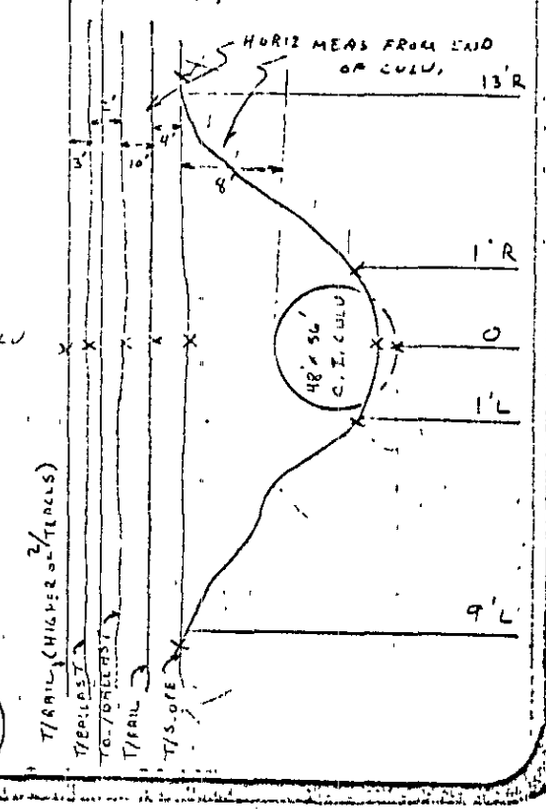
FB 996
(USC&GS DATUM)
MAG. BRGS

HD
LOK
DS

JAN. 31, 1980

31





Chapman Drain at Penn Central Railroad

Sheet 41/43
HUD 2031-07

FORM 25 0
(313) 291 5400
Wade Trim & Associates Inc.
Civil Engineers • Land Surveyors
WORK SHEET
25185 GODDARD ROAD
TAYLOR, MICHIGAN 48180

Bridge Location: Conrail R.R. (Penn Central R.R.)
Bridge Losses - SB Card

REFERENCE

1. XK (Pier Shape Coefficient) 0. — HEC-2 Manual

XKOR (Loss Coefficient) = 1.0 + Σk, Σk = $k_f + k_e + k_p$

where k_f = friction loss coefficient
k_e = entrance loss coefficient
k_p = loss from intermediate piers

Description of Bridge:

$K_f = 29.1\, n^2 L / R^{4/3}$ for English units

Area = 6.09 = 6.9 Wp = 6.3

$R = A/wp$ 1.09 $R^{4/3}$ = 1.13 L = 56

n (composite) =

$K_f = 29.1 \times (0.02)^2 \times 56 \;/\; 1.13 = .58$

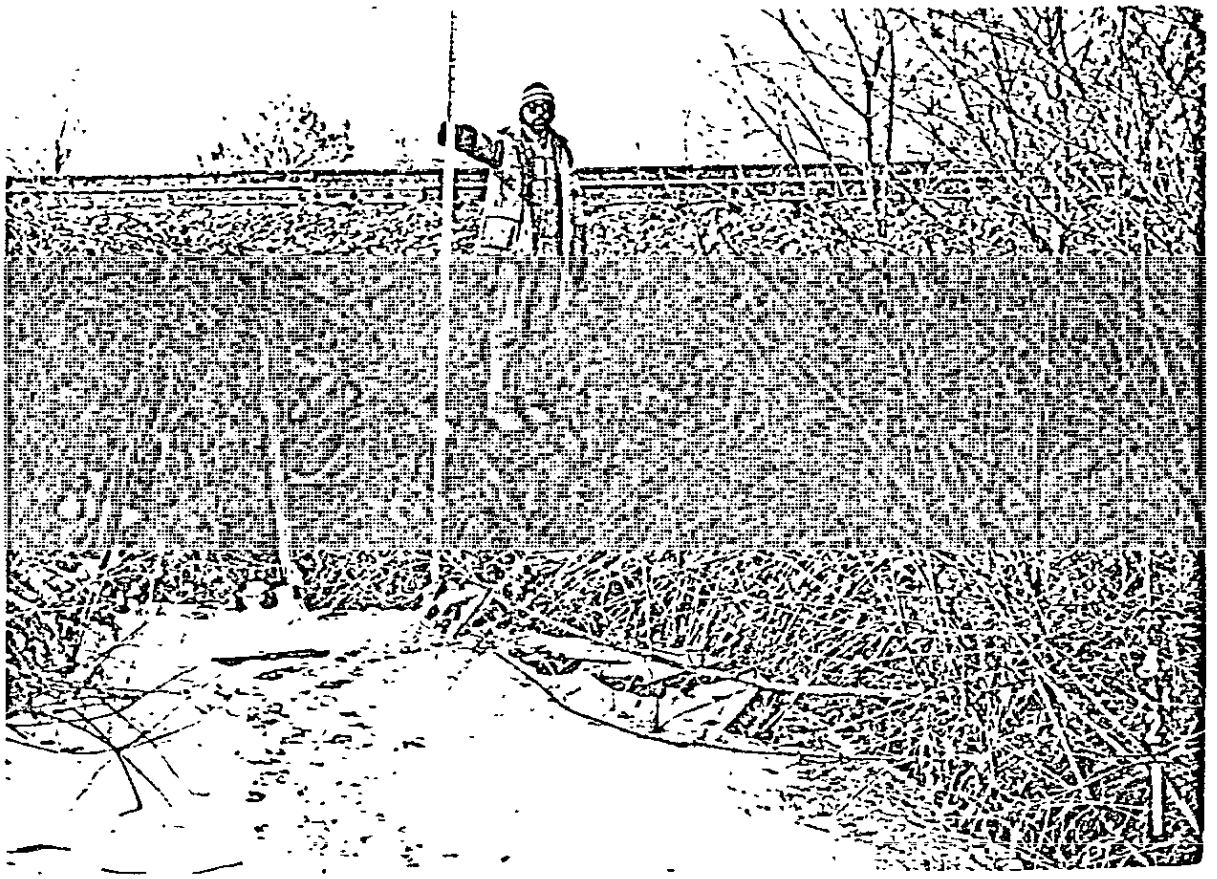
$K_e = .5$ — Hydraulic Charts for the Selection of Highway Culverts Circular No. 5 Dec. 1965 pg. 49

$K_p = 0$ if bridge has no intermediate piers

$K_p = 0.05$ if bridge has intermediate piers — HEC-2 manual

2. XKOR = 1 + .58 + .5 + 0.0 = 2.08
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): 3.2
6. [illegible] width of obstruction = 0 — field data
7. [illegible] bridge opening inc. piers = 7.0
8. SS = side slope = 0
(horizontal per 1 vertical unit)
9. ELCHU = Elevation of channel invert U/S side = 579.8
(0 if equal to minimum elevation in previous x-sect.)
10. ELCHD = Elevation of channel invert D/S side = 579.8
(0 if equal to minimum elevation in previous x-sect.)

SUBJECT	BY	CHK.	SHEET NO.	File Code No (Job No) Owner Project Suffix
Chapman Drain	DRB		42 OF 43	HUD • 2031 • 07
	DATE 12/80	DATE		



Standing D/S (Looking U/S)

Chapman Drain at Penn Central Railroad

Sheet 43/43

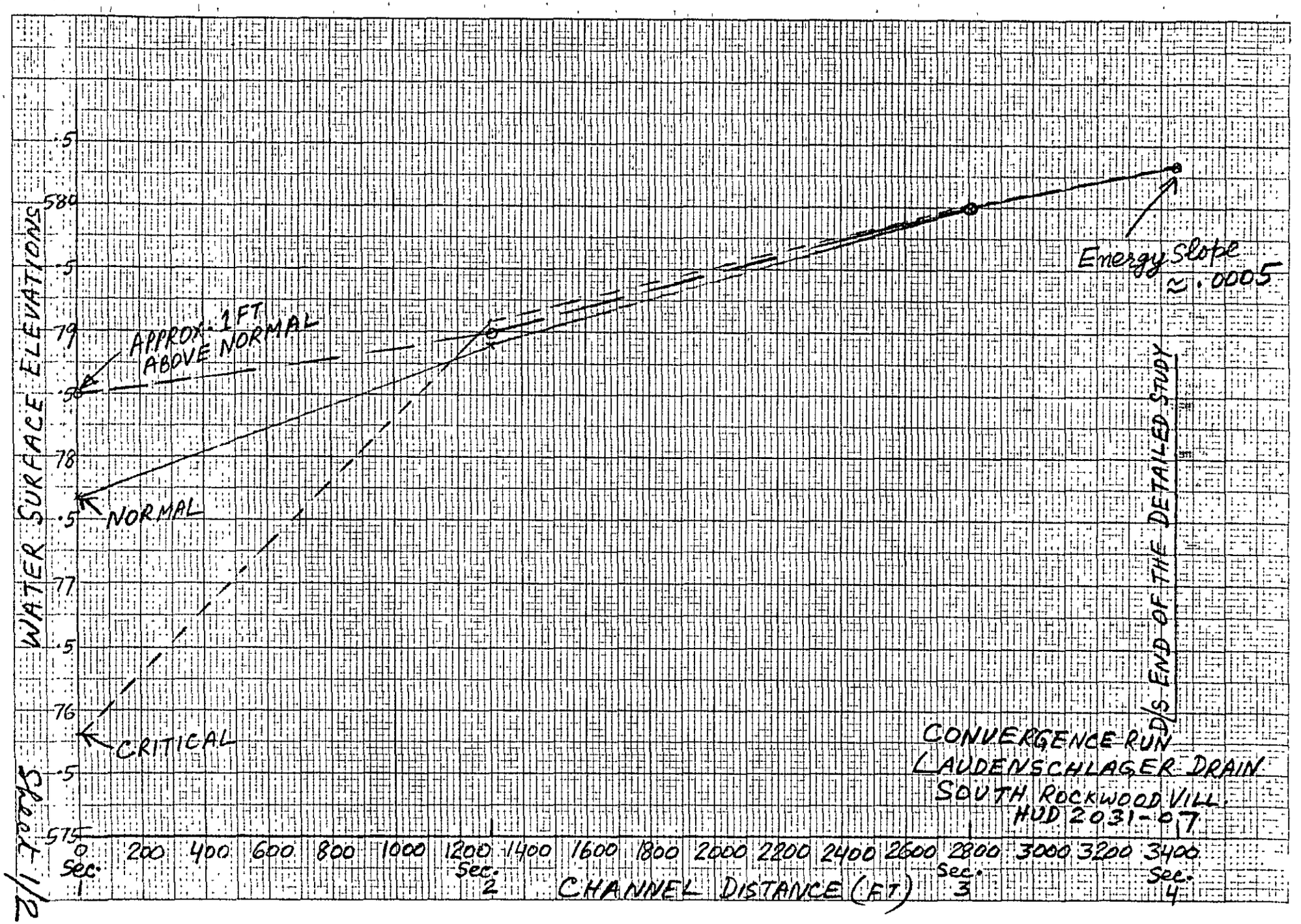
HUD 2031-07

VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

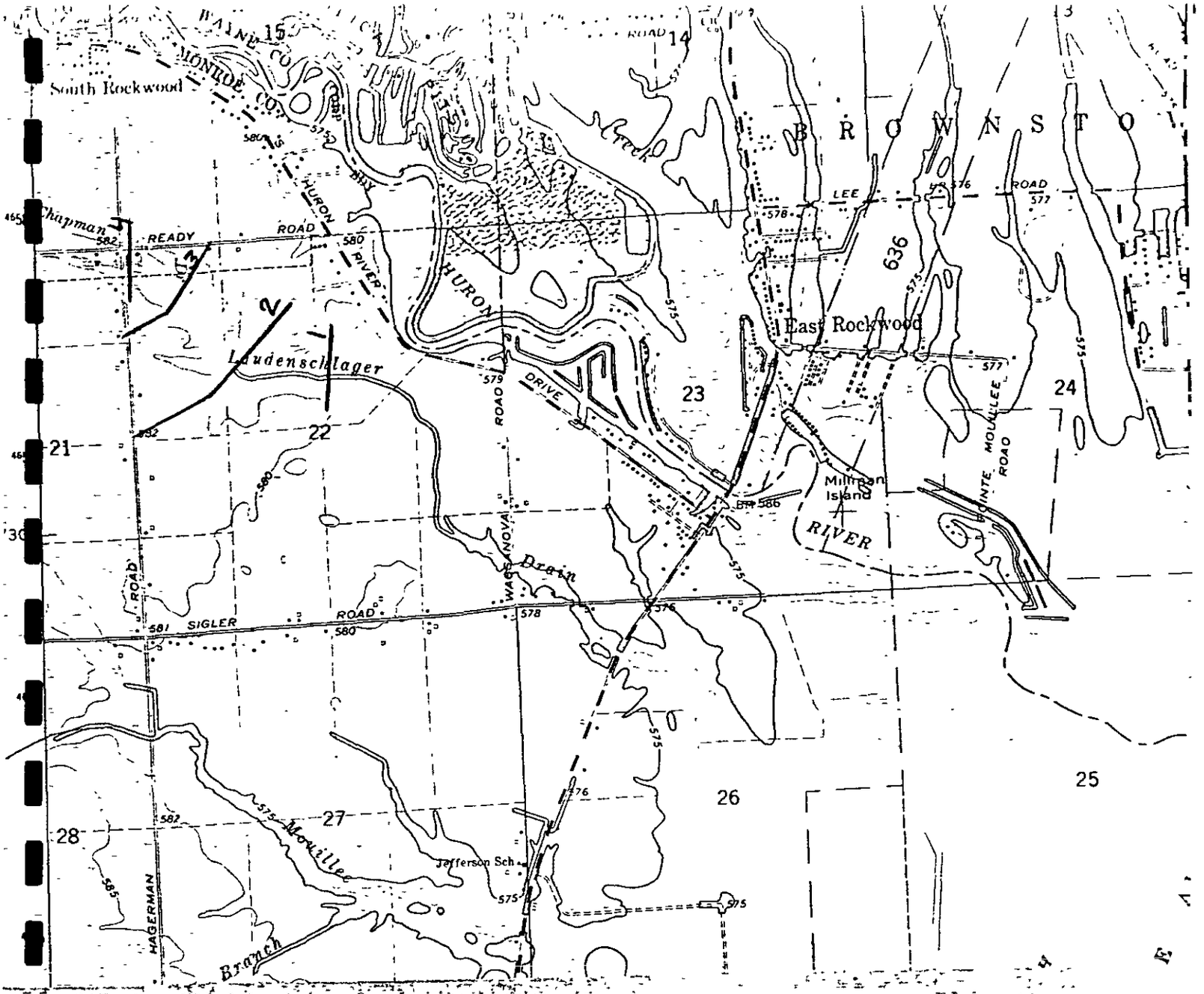
EXHIBIT 10

Convergence Analysis, Laudenschlager Drain

K+E 10 TO CH 7 INCHES
KEUFFEL & ESSER CO MADE IN USA
46 1320



Sheet 1/2



CROSS-SECTION LOCATIONS
CONVERGENCE RUN
LAUDENSCHLAGER DRAIN
SOUTH ROCKWOOD VILLAGE
HUD 2031-07

Sheet 2/2

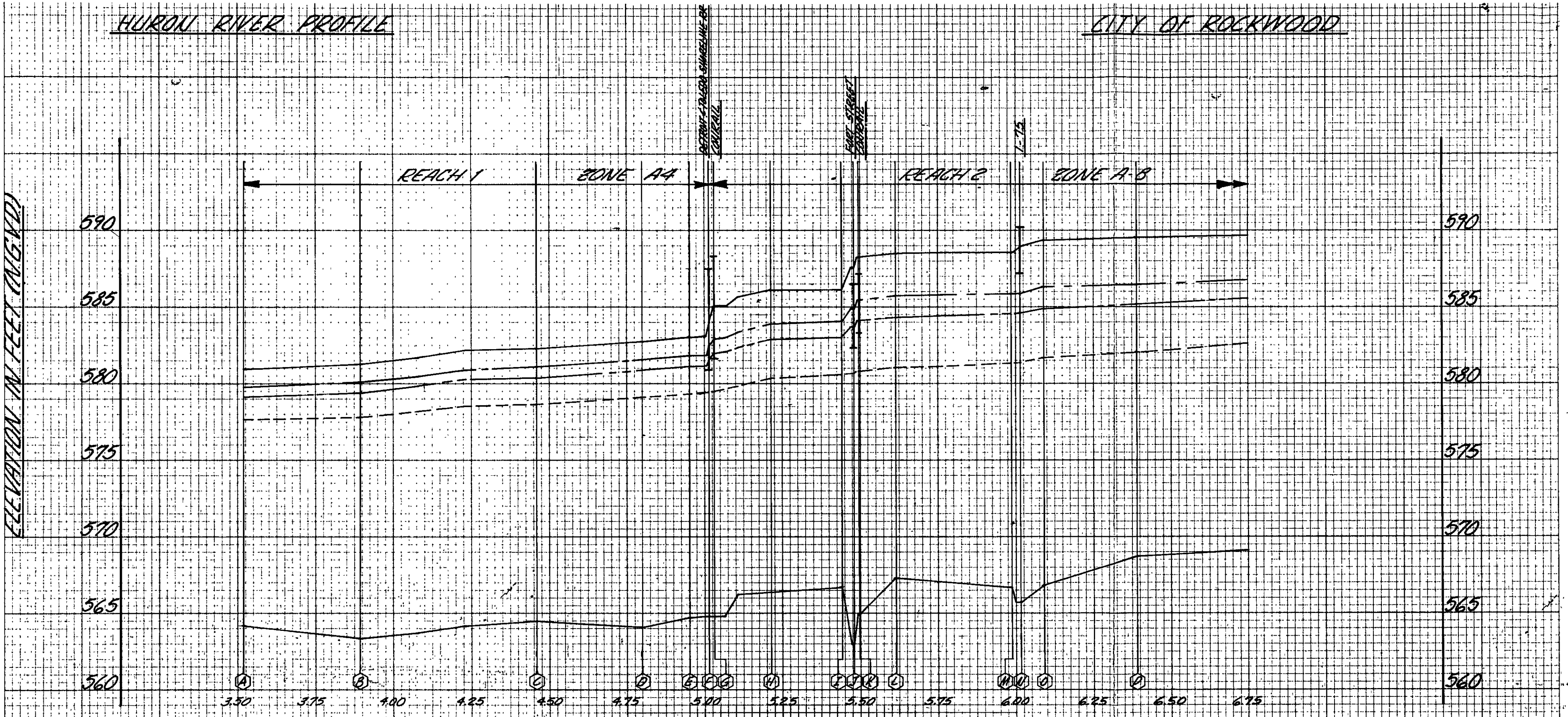
VILLAGE OF SOUTH ROCKWOOD, MICHIGAN

EXHIBIT 11

Water Surface Profiles, Huron River

HURON RIVER PROFILE

CITY OF ROCKWOOD



LEGEND

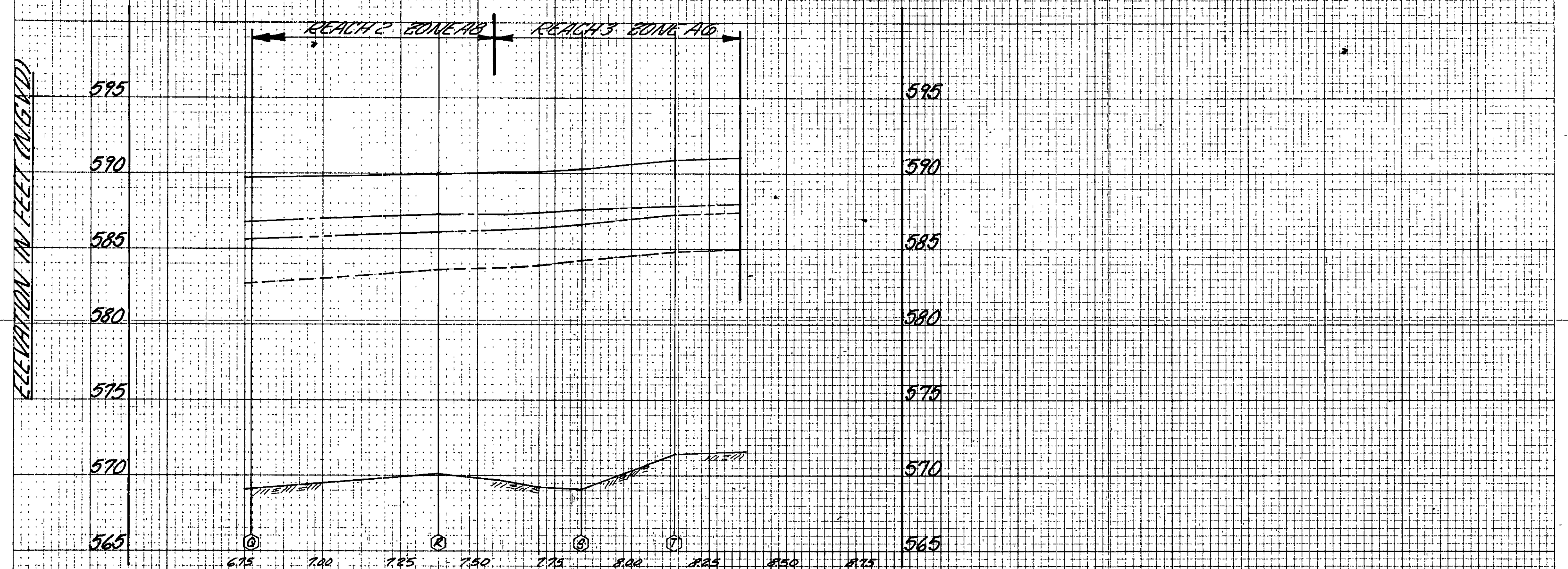
- 500 YEAR WATER SURFACE
- 100 YEAR WATER SURFACE
- 50 YEAR WATER SURFACE
- 10 YEAR WATER SURFACE
- STREAM CHANNEL BOTTOM

SCALE
HORIZ 1" = 1,320'
VERT 1" = 5'

SHEET 1 of 2
HUD 2031-10

HURON RIVER PROFILE

CITY OF ROCKWOOD



LEGEND

——— 500 YEAR WATER SURFACE
– – – 100 YEAR WATER SURFACE
— — — 50 YEAR WATER SURFACE
——— 10 YEAR WATER SURFACE
CHANNEL BOTTOM

SCALE
HORIZ. 1" = 1,320'
VERT. 1" = 5'

SHEET 2 OF 2
HUD 2031-10

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Noles and Laudenschlager drains

4) DOCUMENT TYPE: Summary

00BREAK00

****

HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52

****

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

S.ROCKWOOD BANC, NOLES

SUMMARY PRINTOUT TABLE 110

SECNO	CMSEL	DIFKWS	EG	TOPWID	CLOP	ZCH	CROP	PERMNC	STEMIL	STCHL	STCHR	STEMCT
100.000	577.65	0.00	577.66	476.35	12.72	245.58	31.71	0.00	0.00	228.00	272.00	0.00
100.000	577.65	0.00	577.66	296.10	7.12	256.13	26.76	0.05	122.97	228.00	272.00	419.07
970.000	577.70	0.00	577.71	156.73	31.51	223.91	34.59	0.00	0.00	195.00	243.00	0.00
970.000	577.70	0.00	577.72	114.14	26.93	233.52	29.33	0.05	153.27	195.00	243.00	272.31
1120.000	577.71	0.00	577.73	80.00	22.84	259.36	7.80	80.00	170.00	195.00	243.00	250.00
1120.000	577.71	0.01	577.73	80.00	22.87	259.33	7.80	80.00	170.00	195.00	243.00	250.00
1270.000	577.68	0.00	577.78	30.00	51.03	219.74	19.22	30.00	234.00	215.00	229.00	234.00
1270.000	577.68	0.01	577.79	30.00	51.03	219.75	19.22	30.00	234.00	215.00	229.00	234.00
1320.000	577.68	0.00	577.82	24.00	40.18	243.66	6.15	24.00	207.00	215.00	229.00	231.00
1320.000	577.69	0.01	577.83	24.00	40.18	243.67	6.15	24.00	207.00	215.00	229.00	231.00
1370.000	577.71	0.00	577.87	20.00	36.73	253.27	0.00	20.00	209.00	215.00	229.00	229.00
1370.000	577.72	0.01	577.88	20.00	36.72	253.28	0.00	20.00	209.00	215.00	229.00	229.00
1420.000	577.72	0.00	577.96	16.00	27.19	262.81	0.00	16.00	211.00	215.00	229.00	227.00
1420.000	577.72	0.01	577.96	16.00	27.19	262.81	0.00	16.00	211.00	215.00	229.00	227.00
1470.000	577.71	0.00	578.14	11.94	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
1470.000	577.71	0.01	578.15	11.94	0.00	290.00	0.00	0.00	1.00	1.00	13.00	13.00
1471.000	577.71	0.00	578.14	11.94	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
1471.000	577.71	0.00	578.15	11.94	0.00	290.00	0.00	0.00	1.00	1.00	13.00	13.00
1509.000	577.77	0.00	578.20	11.94	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
1509.000	577.78	0.00	578.20	11.94	0.00	290.00	0.00	0.00	1.00	1.00	13.00	13.00
1510.000	577.78	0.00	578.20	11.94	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
1510.000	577.79	0.01	578.21	11.94	0.00	290.00	0.00	0.00	1.00	1.00	13.00	13.00
1610.000	578.26	0.00	578.33	93.14	61.29	214.06	14.55	0.00	0.00	111.00	129.00	0.00
1610.000	578.26	0.00	578.34	52.39	58.39	223.32	8.29	0.04	79.46	111.00	129.00	132.35
1910.000	578.35	0.00	578.55	31.17	23.47	256.91	9.62	0.00	0.00	113.00	127.00	0.00
1910.000	578.35	0.01	578.58	21.36	19.40	266.73	3.87	0.04	107.20	113.00	127.00	128.57

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

SECNO	CJSEL	DIFKWS	EG	TOPHID	CLOS	QCH	QROB	PERENC	STENCL	STCIL	STCHR	STENCR
2020.000	576.40	0.00	576.79	11.93	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2020.000	576.42	0.04	576.82	11.95	0.00	290.00	0.00	12.50	1.00	1.00	13.00	3.00
2021.000	576.40	0.00	576.79	11.93	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2021.000	576.42	0.04	576.82	11.95	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2061.000	578.46	0.00	578.84	11.95	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2061.000	578.49	0.03	578.87	11.95	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2062.000	578.46	0.00	578.84	11.95	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2062.000	578.49	0.03	578.87	11.95	0.00	290.00	0.00	0.00	0.00	1.00	13.00	0.00
2112.000	578.49	0.00	579.16	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2112.000	578.53	0.03	579.19	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2113.000	578.52	0.00	579.19	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2113.000	578.53	0.03	579.19	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2134.000	578.62	0.00	579.25	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2134.000	578.65	0.03	579.28	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2135.000	578.62	0.00	579.26	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2135.000	578.65	0.03	579.28	9.13	0.00	290.00	0.00	0.00	0.00	6.40	15.60	0.00
2205.000	579.30	0.00	579.40	45.00	32.77	195.23	42.00	45.00	77.50	94.00	106.00	122.50
2205.000	579.32	0.02	579.42	45.00	32.80	195.20	42.18	45.00	77.50	94.00	106.00	122.50
2273.000	579.13	0.00	579.57	10.00	0.00	290.00	0.00	0.00	0.00	95.00	105.00	0.00
2273.000	579.15	0.02	579.59	10.00	0.00	290.00	0.00	0.00	0.00	95.00	105.00	0.00
2397.000	580.25	0.00	580.56	10.00	0.00	290.00	0.00	0.00	0.00	95.00	105.00	0.00
2397.000	580.26	0.02	580.58	10.00	0.00	290.00	0.00	0.00	0.00	95.00	105.00	0.00
2572.000	580.65	0.00	580.70	81.00	60.27	162.27	67.46	100.00	15.00	60.00	70.00	115.00
2572.000	580.67	0.02	580.72	81.35	60.41	161.80	67.79	100.00	15.00	60.00	70.00	115.00
2757.000	580.48	0.00	581.01	8.00	0.00	290.00	0.00	0.00	0.00	56.00	64.00	0.00
2757.000	580.50	0.02	581.03	8.00	0.00	290.00	0.00	0.00	0.00	56.00	64.00	0.00
2923.000	582.65	0.00	582.96	8.00	0.00	290.00	0.00	0.00	0.00	56.00	64.00	0.00
2923.000	582.67	0.02	582.98	8.00	0.00	290.00	0.00	0.00	0.00	56.00	64.00	0.00
2973.000	582.99	0.00	583.01	86.78	46.94	117.10	125.96	108.00	6.00	56.00	64.00	114.00
2973.000	583.01	0.02	583.03	86.81	47.06	116.86	126.06	108.00	6.00	56.00	64.00	114.00
3273.000	583.01	0.00	583.37	35.00	42.27	206.48	41.25	35.00	112.50	123.50	136.50	147.50
3273.000	583.03	0.02	583.09	35.00	42.29	206.44	41.27	35.00	112.50	123.50	136.50	147.50
3323.000	582.90	0.00	583.15	10.00	0.00	290.00	0.00	0.00	0.00	125.00	135.00	0.00
3323.000	582.92	0.02	583.17	10.00	0.00	290.00	0.00	0.00	0.00	125.00	135.00	0.00
3488.000	583.78	0.00	583.98	10.00	0.00	290.00	0.00	0.00	0.00	125.00	135.00	0.00
3488.000	583.80	0.02	584.00	10.00	0.00	290.00	0.00	0.00	0.00	125.00	135.00	0.00
3558.000	584.01	0.00	584.02	100.74	0.00	117.27	172.73	0.00	0.00	114.00	126.00	0.00
3558.000	584.03	0.02	584.04	100.87	0.00	116.92	173.50	0.00	0.00	114.00	126.00	0.00

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SECNO	CUSEL	DIFKHS	ES	TOPWID	GLOB	ECN	GTOB	PERENC	STENCL	STCHL	STCHT	STENCR
3610.003	584.19	0.00	584.20	101.67	0.00	114.28	175.72	0.00	0.00	114.00	126.00	0.00
3610.003	584.20	0.02	584.21	101.67	0.00	114.28	175.97	0.00	0.00	114.00	126.00	0.00

PRINTED IN U.S.A.

FORM 1411-GD PRINTED BY ROTAR / MANIFOLD FORMS,

S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 150

SECND	ALCH	CLTDE	CLCD	CLTDT	C	C.BCL	CDILS	BG	IDIAS	WCH	AREA	VOL.
100.000	0.00	0.00	0.00	570.50	290.00	577.65	0.00	577.66	0.43	0.92	663.66	641.66
100.000	0.00	0.00	0.00	570.50	290.00	577.65	0.00	577.66	0.47	0.96	517.17	623.47
970.000	870.00	0.00	0.00	572.30	290.00	577.70	0.00	577.71	0.79	1.03	450.75	526.75
970.000	870.00	0.00	0.00	572.30	290.00	577.70	0.00	577.72	0.85	1.07	395.62	514.21
1120.000	150.00	0.00	0.00	572.30	290.00	577.71	0.00	577.73	1.05	1.19	306.68	283.50
1120.000	150.00	0.00	0.00	572.30	290.00	577.71	0.00	577.73	1.04	1.19	307.09	284.07
1270.000	150.00	0.00	0.00	572.30	290.00	577.68	0.00	577.74	3.34	2.97	130.14	125.44
1270.000	150.00	0.00	0.00	572.30	290.00	577.68	0.00	577.74	3.33	2.97	130.31	125.67
1320.000	50.00	0.00	0.00	572.30	290.00	577.68	0.00	577.82	6.53	3.29	123.49	113.46
1320.000	50.00	0.00	0.00	572.30	290.00	577.69	0.00	577.83	6.51	3.29	123.63	113.68
1370.000	50.00	0.00	0.00	572.30	290.00	577.71	0.00	577.87	10.67	3.51	104.71	89.84
1370.000	50.00	0.00	0.00	572.30	290.00	577.72	0.00	577.88	10.57	3.50	106.85	89.20
1420.000	50.00	0.00	0.00	572.30	290.00	577.72	0.00	577.96	16.29	4.11	84.75	71.83
1420.000	50.00	0.00	0.00	572.30	290.00	577.72	0.00	577.96	16.24	4.10	84.84	71.97
1470.000	50.00	0.00	0.00	573.30	290.00	577.71	0.00	578.14	42.52	5.28	54.90	44.47
1470.000	50.00	0.00	0.00	573.30	290.00	577.71	0.00	578.15	42.63	5.28	54.77	44.4
1471.000	1.00	584.50	579.30	573.00	290.00	577.71	0.00	578.14	13.86	5.28	54.93	77.89
1471.000	1.00	584.50	579.30	573.00	290.00	577.71	0.00	578.15	14.08	5.29	54.79	77.28
1509.000	38.00	584.50	579.30	573.00	290.00	577.77	0.00	578.20	13.34	5.21	55.72	79.34
1509.000	38.00	584.50	579.30	573.00	290.00	577.78	0.00	578.20	13.64	5.23	55.44	78.54
1510.000	1.00	0.00	0.00	573.00	290.00	577.78	0.00	578.20	40.83	5.20	55.72	45.39
1510.000	1.00	0.00	0.00	573.00	290.00	577.79	0.00	578.21	40.98	5.20	55.77	45.30
1610.000	100.00	0.00	0.00	573.40	290.00	578.26	0.00	578.33	4.18	2.47	217.48	141.78
1610.000	100.00	0.00	0.00	573.40	290.00	578.26	0.00	578.34	4.55	2.58	179.99	136.03
1910.000	300.00	0.00	0.00	573.00	290.00	578.35	0.00	578.55	10.01	3.81	104.24	91.65
1910.000	300.00	0.00	0.00	573.00	290.00	578.35	0.00	578.58	10.74	3.95	92.05	88.47
2020.000	110.00	0.00	0.00	573.00	290.00	578.40	0.00	578.79	34.92	4.99	58.08	49.07
2020.000	110.00	0.00	0.00	573.00	290.00	578.44	0.00	578.82	34.45	4.96	58.51	49.41
2021.000	1.00	582.40	579.50	573.00	290.00	578.40	0.00	578.79	11.39	4.99	58.11	85.94
2021.000	1.00	582.40	579.50	573.00	290.00	578.44	0.00	578.82	11.16	4.95	58.54	86.80
2061.000	40.00	582.40	579.50	573.00	290.00	578.46	0.00	578.84	11.05	4.94	58.78	87.25
2061.000	40.00	582.40	579.50	573.00	290.00	578.49	0.00	578.87	10.84	4.93	59.17	88.06
2062.000	1.00	0.00	0.00	573.00	290.00	578.46	0.00	578.86	33.82	4.93	58.77	49.87
2062.000	1.00	0.00	0.00	573.00	290.00	578.49	0.00	578.87	33.18	4.90	59.19	50.35
2112.000	50.00	0.00	0.00	573.20	290.00	578.49	0.00	579.16	72.52	6.58	44.09	34.06
2112.000	50.00	0.00	0.00	573.20	290.00	578.53	0.00	579.19	71.36	6.53	44.39	34.36

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

SECNO	XLOC	ELTRD	ELLC	ELDCH	Q	CHSEL	CRCHS	EG	10K*S	VCH	AREA	.01K
2113.000	1.00	587.90	583.90	573.20	290.00	576.50	0.00	579.17	39.91	6.37	44.14	45.91
2113.000	1.00	587.90	583.90	573.20	290.00	576.53	0.00	579.19	39.20	6.33	44.44	46.32
2134.000	21.00	587.90	583.90	573.20	290.00	578.62	0.00	579.25	37.42	6.24	45.23	47.29
2134.000	21.00	587.90	583.90	573.20	290.00	578.65	0.00	579.28	36.83	6.37	45.51	47.72
2135.000	1.00	0.00	0.00	573.20	290.00	578.62	0.00	579.26	67.77	6.41	45.25	35.23
2135.000	1.00	0.00	0.00	573.20	290.00	578.65	0.00	579.28	66.60	6.37	45.53	35.51
2205.000	70.00	0.00	0.00	573.40	290.00	579.50	0.00	579.41	4.75	2.95	175.27	135.42
2205.000	70.00	0.00	0.00	573.40	290.00	579.53	0.00	579.42	4.65	2.89	176.25	134.43
2275.000	70.00	0.00	0.00	573.60	290.00	579.13	0.00	579.57	31.48	5.34	54.28	51.60
2275.000	70.00	0.00	0.00	573.60	290.00	579.15	0.00	579.59	31.12	5.32	54.50	51.84
2397.000	122.00	587.70	579.50	573.60	290.00	580.25	0.00	580.56	18.39	4.43	65.33	67.63
2397.000	122.00	587.70	579.50	573.60	290.00	580.28	0.00	580.58	18.19	4.41	65.76	67.99
2572.000	175.00	0.00	0.00	574.00	290.00	580.65	0.00	580.70	3.64	2.48	239.46	152.05
2572.000	175.00	0.00	0.00	574.00	290.00	580.67	0.00	580.72	3.50	2.43	241.22	155.35
2757.000	185.00	0.00	0.00	574.10	290.00	580.65	0.00	581.01	45.60	5.84	49.63	43.04
2757.000	185.00	0.00	0.00	574.10	290.00	580.50	0.00	581.03	45.00	5.82	49.79	43.23
2923.000	166.00	584.60	579.00	574.60	290.00	582.65	0.00	582.96	22.35	4.49	64.55	61.54
2923.000	166.00	584.60	579.00	574.60	290.00	582.67	0.00	582.98	22.17	4.48	64.79	61.80
2973.000	50.00	0.00	0.00	574.60	290.00	582.99	0.00	583.01	1.29	1.74	330.69	253.46
2973.000	50.00	0.00	0.00	574.60	290.00	583.01	0.00	583.03	1.27	1.73	337.51	256.92
3273.000	300.00	0.00	0.00	575.60	290.00	583.01	0.00	583.07	2.28	2.14	216.26	192.09
3273.000	300.00	0.00	0.00	575.60	290.00	583.05	0.00	583.09	2.26	2.13	216.76	192.93
3323.000	50.00	0.00	0.00	575.60	290.00	582.90	0.00	583.15	18.43	4.03	71.97	67.55
3323.000	50.00	0.00	0.00	575.60	290.00	582.92	0.00	583.17	18.28	4.02	72.18	67.82
3488.000	165.00	591.00	581.20	575.60	290.00	583.78	0.00	583.98	13.37	3.59	80.79	79.32
3488.000	165.00	591.00	581.20	575.60	290.00	583.80	0.00	584.00	13.27	3.58	81.01	79.62
3558.000	70.00	0.00	0.00	576.60	290.00	584.01	0.00	584.02	1.53	1.28	405.80	234.78
3558.000	70.00	0.00	0.00	576.60	290.00	584.03	0.00	584.04	1.51	1.28	407.89	236.39
3610.000	51.50	583.00	581.10	576.60	290.00	584.19	0.00	584.20	1.36	1.22	424.15	249.01
3610.000	51.50	583.00	581.10	576.60	290.00	584.20	0.00	584.21	1.34	1.22	425.77	250.20

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

S.ROCKWOOD BARC. VOLES

SUMMARY PRINTOUT TABLE 152

SEC O	H	CUSEL	DEPUSP	DEPLBH	DEPKNS	OP.IL	HLCH
100.000	290.00	577.65	0.00	0.00	0.00	476.35	0.00
100.000	290.00	577.65	0.00	0.00	0.00	296.10	0.00
970.000	290.00	577.70	0.00	0.05	0.00	156.75	870.00
970.000	290.00	577.70	0.00	0.05	0.00	1[illegible].14	870.00
1120.000	290.00	577.71	0.00	0.01	0.00	80.00	150.00
1120.000	290.00	577.71	0.00	0.01	0.01	80.00	150.00
1270.000	290.00	577.68	0.00	-0.03	0.00	30.00	150.00
1270.000	290.00	577.68	0.00	-0.03	0.01	30.00	150.00
1320.000	290.00	577.68	0.00	0.00	0.00	24.00	50.00
1320.000	290.00	577.69	0.00	0.00	0.01	24.00	50.00
1370.000	290.00	577.71	0.00	0.03	0.00	20.00	50.00
1370.000	290.00	577.72	0.00	0.03	0.01	20.00	50.00
1420.000	290.00	577.72	0.00	0.01	0.00	16.00	50.00
1420.000	290.00	577.72	0.00	0.01	0.01	16.00	50.00
1470.000	290.00	577.71	0.00	-0.01	0.00	11.94	50.00
1470.000	290.00	577.71	0.00	-0.01	0.01	11.94	50.00
1471.000	290.00	577.71	0.00	0.00	0.00	11.94	1.00
1471.000	290.00	577.71	0.00	0.00	0.00	11.94	1.00
1509.000	290.00	577.77	0.00	0.06	0.00	11.94	30.00
1509.000	290.00	577.78	0.00	0.06	0.00	11.94	30.00
1510.000	290.00	577.78	0.00	0.00	0.00	11.94	1.00
1510.000	290.00	577.79	0.00	0.01	0.01	11.94	1.00
1610.000	290.00	578.26	0.00	0.40	0.00	93.14	100.00
1610.000	290.00	578.26	0.00	0.47	0.00	52.89	100.00
1910.000	290.00	578.35	0.00	0.09	0.00	31.17	300.00
1910.000	290.00	578.35	0.00	0.09	0.01	21.36	300.00
2020.000	290.00	578.40	0.00	0.06	0.00	11.95	110.00
2020.000	290.00	578.44	0.00	0.00	0.04	11.95	110.00
2021.000	290.00	578.40	0.00	0.00	0.00	11.95	1.00
2021.000	290.00	578.44	0.00	0.00	0.04	11.95	1.00
2061.000	290.00	578.46	0.00	0.05	0.00	11.95	40.00
2061.000	290.00	578.49	0.00	0.05	0.03	11.95	40.00
2062.000	290.00	578.46	0.00	0.00	0.00	11.95	1.00
2062.000	290.00	578.49	0.00	0.00	0.03	11.95	1.00
2112.000	290.00	578.49	0.00	0.03	0.00	9.13	50.00
2112.000	290.00	578.53	0.00	0.03	0.03	9.13	50.00

FORM 1411-SD-PRINTED BY ROTARY MANIFOLD FORMS, LIMITED IN U.S.A.

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
2113.000	290.00	578.50	0.00	0.01	0.00	9.13	1.00
2113.000	290.00	578.53	0.00	0.01	0.03	9.13	1.00
2134.000	290.00	578.62	0.00	0.12	0.00	9.13	21.00
2134.000	290.00	578.63	0.00	0.11	0.03	9.13	21.00
2135.000	290.00	578.62	0.00	0.01	0.00	9.13	1.00
2135.000	290.00	578.65	0.00	0.01	0.03	9.13	1.00
2205.000	290.00	579.30	0.00	0.63	0.00	45.00	70.00
2205.000	290.00	579.33	0.00	0.67	0.02	45.00	70.00
2275.000	290.00	579.13	0.00	-0.18	0.00	10.00	70.00
2275.000	290.00	579.15	0.00	-0.17	0.02	10.00	70.00
2397.000	290.00	580.25	0.00	1.13	0.00	10.00	122.00
2397.000	290.00	580.28	0.00	1.13	0.02	10.00	122.00
2572.000	290.00	580.65	0.00	0.39	0.00	81.80	175.00
2572.000	290.00	580.67	0.00	0.39	0.02	81.80	175.00
2757.000	290.00	580.48	0.00	-0.17	0.00	8.00	185.00
2757.000	290.00	580.50	0.00	-0.17	0.02	8.00	185.00
2923.000	290.00	582.65	0.00	2.17	0.00	8.00	166.00
2923.000	290.00	582.67	0.00	2.17	0.02	8.00	166.00
2973.000	290.00	582.99	0.00	0.34	0.00	86.73	50.00
2973.000	290.00	583.01	0.00	0.34	0.02	86.81	50.00
3273.000	290.00	583.01	0.00	0.03	0.00	35.00	300.00
3273.000	290.00	583.03	0.00	0.03	0.02	35.00	300.00
3323.000	290.00	582.90	0.00	-0.11	0.00	10.00	50.00
3323.000	290.00	582.92	0.00	-0.11	0.02	10.00	50.00
3488.000	290.00	583.78	0.00	0.88	0.00	10.00	165.00
3488.000	290.00	583.80	0.00	0.88	0.02	10.00	165.00
3558.000	290.00	584.01	0.00	0.23	0.00	100.74	70.00
3558.000	290.00	584.03	0.00	0.23	0.02	100.87	70.00
3610.000	290.00	584.19	0.00	0.18	0.00	101.87	51.50
3610.000	290.00	584.20	0.00	0.17	0.02	101.97	51.50

SUMMARY OF ERRORS

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

FLOODWAY DATA, S.ROCKWOOD BANC. NO.ES
PROFILE NO. 2

STATION	FLOODWAY WIDTH (FT)	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
150.000	296.	517.	0.6	577.6	577.6	0.0
970.000	114.	355.	0.9	577.7	577.7	0.0
1120.000	80.	307.	0.9	577.7	577.7	0.0
1270.000	30.	150.	1.9	577.7	577.7	0.0
1320.000	24.	124.	2.3	577.7	577.7	0.0
1370.000	20.	105.	2.8	577.7	577.7	0.0
1420.000	16.	85.	3.3	577.7	577.7	0.0
1470.000	12.	65.	5.3	577.7	577.7	0.0
1471.000	12.	65.	5.2	577.7	577.7	0.0
1509.000	12.	55.	5.2	577.3	577.3	0.0
1510.000	12.	56.	5.2	577.3	577.3	0.0
1610.000	53.	180.	1.6	578.3	578.3	0.0
1910.000	31.	92.	3.2	577.3	577.3	0.0
2022.000	12.	59.	5.0	578.4	578.4	0.0
2029.000	12.	59.	5.0	578.4	578.4	0.0
2061.000	12.	59.	4.9	578.5	578.5	0.0
2062.000	12.	59.	4.9	578.5	578.5	0.0
2112.000	9.	44.	6.3	578.5	578.5	0.0
2113.000	9.	44.	6.3	578.5	578.5	0.0
2134.000	9.	46.	6.1	578.6	578.6	0.0
2135.000	9.	43.	6.4	578.6	578.6	0.0
2205.000	45.	176.	1.6	579.3	579.3	0.0
2275.000	10.	55.	5.3	579.1	579.1	0.0
2397.000	10.	66.	4.4	580.3	580.3	0.0
2572.000	22.	24".	1.2	581.6	581.6	0.0
2757.000	8.	52.	5.8	580.5	580.5	0.0
2923.000	9.	65.	4.3	582.6	582.6	0.0
2973.000	87.	308.	0.7	583.0	583.0	0.0
3273.000	35.	217.	1.3	583.0	583.0	0.0
3323.000	10.	72.	4.0	582.9	582.9	0.0
3488.000	20.	81.	3.6	583.6	583.0	0.0
3553.000	131.	408.	0.7	584.0	584.0	0.0
3610.000	132.	426.	0.7	584.2	584.2	0.0

PRINTED IN U.S.A.
FORM 1411-GD PRINTED P/Y ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft Noles and Lauderschlager drains

4) DOCUMENT TYPE: Summary - 10yr.

00BREAK00

****

HEC2 RELEASE DATED NOV 76 UPDATED DEC 1977

ERROR CORR - 01

MODIFICATION - 30,31,52

****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES "MESSAGE IN SUMMARY" OF ERRORS LIST

S.ROCKWOOD BASIC, NOLES

SUMMARY PRINTOUT TABLE 150

SECNO	XLOB	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	IFRZS	VCH	AREA	.9VK
100.000	0.00	0.00	0.00	570.50	125.00	577.65	0.00	577.65	0.08	0.40	643.66	441.66
100.000	0.00	0.00	0.00	570.50	220.00	577.65	0.00	577.66	0.25	0.70	643.66	441.66
100.000	0.00	0.00	0.00	570.50	290.00	577.65	0.00	577.66	0.43	0.92	643.66	441.66
100.000	0.00	0.00	0.00	570.50	445.00	577.65	0.00	577.68	1.02	1.42	643.66	441.66
970.000	670.00	0.00	0.00	572.30	125.00	577.66	0.00	577.66	0.15	0.45	445.09	329.35
970.000	670.00	0.00	0.00	572.30	220.00	577.68	0.00	577.69	0.46	0.79	447.35	323.50
970.000	670.00	0.00	0.00	572.30	290.00	577.72	0.00	577.71	0.79	1.03	450.75	326.70
970.000	670.00	0.00	0.00	572.30	445.00	577.75	0.00	577.78	1.75	1.55	461.00	336.02
1120.000	150.00	0.00	0.00	572.30	125.00	577.66	0.00	577.66	0.20	0.52	302.97	270.61
1120.000	150.00	0.00	0.00	572.30	220.00	577.68	0.00	577.69	0.61	0.91	304.75	280.84
1120.000	150.00	0.00	0.00	572.30	290.00	577.71	0.00	577.73	1.05	1.19	306.68	283.50
1120.000	150.00	0.00	0.00	572.30	445.00	577.78	0.00	577.83	2.33	1.79	312.68	291.81
1270.000	150.00	0.00	0.00	572.30	125.00	577.66	0.00	577.68	1.00	1.29	149.76	126.94
1270.000	150.00	0.00	0.00	572.30	220.00	577.67	0.00	577.73	3.10	2.26	149.81	125.01
1270.000	150.00	0.00	0.00	572.30	290.00	577.68	0.00	577.78	5.34	2.97	150.14	125.44
1270.000	150.00	0.00	0.00	572.30	445.00	577.70	0.00	577.95	12.36	4.54	151.00	126.56
1320.000	50.00	0.00	0.00	572.30	125.00	577.66	0.00	577.68	1.23	1.43	122.03	112.50
1320.000	50.00	0.00	0.00	572.30	220.00	577.67	0.00	577.75	3.79	2.50	123.21	113.06
1320.000	50.00	0.00	0.00	572.30	290.00	577.68	0.00	577.82	6.53	3.29	123.69	113.46
1320.000	50.00	0.00	0.00	572.30	445.00	577.75	0.00	578.05	15.12	5.03	124.15	114.43
1370.000	50.00	0.00	0.00	572.30	125.00	577.66	0.00	577.69	2.02	1.48	103.75	87.87
1370.000	50.00	0.00	0.00	572.30	220.00	577.68	0.00	577.78	5.18	2.60	104.22	88.44
1370.000	50.00	0.00	0.00	572.30	290.00	577.71	0.00	577.87	10.80	3.41	104.71	89.06
1370.000	50.00	0.00	0.00	572.30	445.00	577.78	0.00	578.15	23.99	5.16	106.16	90.86
1420.000	50.00	0.00	0.00	572.30	125.00	577.66	0.00	577.71	3.11	1.79	83.96	70.89
1420.000	50.00	0.00	0.00	572.30	220.00	577.69	0.00	577.83	9.47	3.13	84.44	71.48
1420.000	50.00	0.00	0.00	572.30	290.00	577.72	0.00	577.96	15.29	4.11	84.75	71.85
1420.000	50.00	0.00	0.00	572.30	445.00	577.81	0.00	578.35	34.60	6.20	86.14	73.56
1470.000	50.00	0.00	0.00	573.00	125.00	577.66	0.00	577.74	8.09	2.30	54.43	43.96
1470.000	50.00	0.00	0.00	573.00	220.00	577.68	0.00	577.94	24.82	4.03	54.61	44.16
1470.000	50.00	0.00	0.00	573.00	290.00	577.71	0.00	578.14	42.52	5.28	54.90	44.47
1470.000	50.00	0.00	0.00	573.00	445.00	577.79	0.00	578.77	96.08	7.98	55.73	45.40

FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

PRINTED IN U.S.A.

SECNO	XLCA	ELTRO	ELLC	ELMIN	Q	CUSEL	CRITS	EC	TOKAS	VCH	AREA	.01K
1471.000	1.00	584.50	579.30	573.00	125.00	577.66	0.00	577.74	2.65	2.30	54.35	76.76
1471.000	1.00	584.50	579.30	573.00	220.00	577.66	0.00	577.74	4.70	4.03	54.35	77.30
1471.000	1.00	584.50	579.30	573.00	290.00	577.71	0.00	577.79	6.36	5.28	54.93	77.69
1471.000	1.00	584.50	579.30	573.00	445.00	577.81	0.00	577.89	9.80	7.96	55.79	78.56
1539.000	38.00	584.50	579.30	573.00	125.00	577.67	0.00	577.75	2.62	2.29	54.59	77.23
1509.000	38.00	584.50	579.30	573.00	220.00	577.72	0.00	577.97	7.94	4.00	55.02	78.07
1509.000	38.00	584.50	579.30	573.00	290.00	577.77	0.00	578.20	13.54	5.29	55.70	79.39
1509.000	38.00	584.50	579.30	573.00	445.00	577.90	0.00	578.39	27.09	7.65	58.11	84.27
1610.000	1.00	0.00	0.00	573.00	125.00	577.67	0.00	577.75	8.07	2.29	54.48	44.01
1610.000	1.00	0.00	0.00	573.00	220.00	577.72	0.00	577.97	24.30	4.00	55.04	44.63
1610.000	1.00	0.00	0.00	573.00	290.00	577.78	0.00	578.20	40.63	5.20	55.72	45.39
1610.000	1.00	0.00	0.00	573.00	445.00	577.99	0.00	578.39	85.25	7.88	72.22	48.19
1610.000	100.00	0.00	0.00	573.40	125.00	577.77	0.00	577.85	.87	1.85	76.50	112.82
1610.000	100.00	0.00	0.00	573.40	220.00	578.01	0.00	578.05	3.03	2.33	194.68	126.35
1610.000	100.00	0.00	0.00	573.40	290.00	578.26	0.00	578.33	4.98	2.47	217.48	141.70
1610.000	100.00	0.00	0.00	573.40	445.00	579.01	0.00	579.11	9.22	3.05	293.94	194.71
1910.000	300.00	0.00	0.00	573.00	125.00	577.81	0.00	577.89	2.48	1.31	97.79	73.61
1910.000	300.00	0.00	0.00	573.00	220.00	578.05	0.00	578.14	4.41	2.09	95.93	82.51
1910.000	300.00	0.00	0.00	573.00	290.00	578.35	0.00	578.55	10.01	3.81	104.24	91.65
1910.000	300.00	0.00	0.00	573.00	445.00	579.08	0.00	579.41	13.31	4.91	128.78	119.73
2021.000	1.00	0.00	0.00	573.00	125.00	577.82	0.00	577.91	3.00	2.44	51.14	72.20
2021.000	1.00	0.00	0.00	573.00	220.00	578.12	0.00	578.37	7.69	4.02	52.78	79.33
2021.000	1.00	0.00	0.00	573.00	290.00	578.40	0.00	578.79	11.59	4.99	56.17	85.94
2021.000	1.00	0.00	0.00	573.00	445.00	579.11	0.00	579.79	18.74	6.72	66.49	102.80
2061.000	40.00	582.40	579.50	573.00	125.00	577.83	0.00	577.92	2.96	2.43	51.36	72.63
2061.000	40.00	582.40	579.50	573.00	220.00	578.16	0.00	578.41	7.54	3.99	55.19	80.13
2061.000	40.00	582.40	579.50	573.00	290.00	578.45	0.00	578.84	11.05	4.94	58.78	87.23
2061.000	40.00	582.40	579.50	573.00	445.00	579.20	0.00	579.07	17.80	6.58	67.61	105.30
2062.000	1.00	0.00	0.00	573.00	125.00	577.83	0.00	577.93	9.10	2.44	51.29	41.43
2062.000	1.00	0.00	0.00	573.00	220.00	578.16	0.00	578.41	23.08	3.99	55.19	45.79
2062.000	1.00	0.00	0.00	573.00	290.00	578.45	0.00	578.84	33.82	4.93	58.77	49.87
2062.000	1.00	0.00	0.00	573.00	445.00	579.22	0.00	579.37	54.66	6.58	67.63	60.19
2112.000	50.00	0.00	0.00	573.20	125.00	577.84	0.00	578.01	15.55	3.27	38.26	28.25
2112.000	50.00	0.00	0.00	573.20	220.00	578.19	0.00	578.63	49.56	5.33	41.30	31.25
2112.000	50.00	0.00	0.00	573.20	290.00	578.49	0.00	579.16	72.52	6.58	44.09	34.06
2112.000	50.00	0.00	0.00	573.20	445.00	579.22	0.00	580.42	118.37	8.76	50.78	40.90
2113.000	1.00	587.90	583.90	573.20	125.00	577.85	0.00	578.01	10.86	3.27	38.20	37.93
2113.000	1.00	587.90	583.90	573.20	220.00	578.19	0.00	578.63	27.29	5.32	41.33	42.11
2113.000	1.00	587.90	583.90	573.20	290.00	578.50	0.00	579.17	39.91	6.57	44.14	45.97
2113.000	1.00	587.90	583.90	573.20	445.00	579.24	0.00	580.43	65.08	8.75	50.85	55.16

FORM 1411-OFFPRINTED BY ROTARY MANIFOLD FORMS.
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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	TOPWS	VCH	AREA	.01K
2134.000	21.00	587.90	583.90	573.20	125.00	577.87	0.00	578.04	10.64	3.25	38.48	38.31
2134.000	21.00	587.90	583.90	573.20	220.00	578.26	0.00	578.69	25.04	5.25	42.07	43.11
2134.000	21.00	587.90	583.90	573.20	290.00	578.62	0.00	579.25	37.44	6.61	45.21	47.39
2134.000	21.00	587.90	583.90	573.20	445.00	579.47	0.00	580.57	58.43	8.39	53.05	58.20
2135.000	1.00	0.00	0.00	573.20	125.00	577.87	0.00	578.04	19.36	3.25	38.48	28.41
2135.000	1.00	0.00	0.00	573.20	220.00	578.27	0.00	578.69	47.32	5.23	42.03	31.98
2135.000	1.00	0.00	0.00	573.20	290.00	578.62	0.00	579.26	67.77	6.41	45.23	35.22
2135.000	1.00	0.00	0.00	573.20	445.00	579.46	0.00	580.37	105.62	8.38	53.09	43.31
2205.000	70.00	0.00	0.00	573.40	125.00	578.05	0.00	578.09	2.46	1.77	118.04	79.75
2205.000	70.00	0.00	0.00	573.40	220.00	578.72	0.00	578.90	4.22	2.55	149.17	107.12
2205.000	70.00	0.00	0.00	573.60	290.00	579.30	0.00	579.40	4.73	2.90	173.27	133.40
2205.000	70.00	0.00	0.00	573.40	445.00	580.64	0.00	580.76	4.82	3.38	215.52	202.74
2275.000	70.00	0.00	0.00	573.60	125.00	578.02	0.00	578.05	19.43	2.50	43.16	36.07
2275.000	70.00	0.00	0.00	573.60	220.00	578.62	0.00	578.93	24.16	4.47	49.16	44.76
2275.000	70.00	0.00	0.00	573.60	290.00	579.13	0.00	579.37	31.48	5.34	56.28	51.68
2275.000	70.00	0.00	0.00	573.60	445.00	580.31	0.00	581.01	42.13	6.73	66.15	68.36
2397.000	122.00	587.70	576.50	573.60	125.00	578.14	0.00	578.33	19.54	3.11	40.14	26.63
2397.000	122.00	587.70	576.50	573.60	220.00	578.73	0.00	578.94	27.34	4.01	44.90	38.53
2397.000	122.00	587.70	576.50	573.60	290.00	580.25	0.00	580.56	48.39	4.43	65.52	67.63
2397.000	122.00	587.70	576.50	573.60	445.00	583.35	0.00	583.68	84.83	4.61	96.45	115.48
2572.000	175.00	0.00	0.00	574.00	125.00	578.53	0.00	578.63	6.53	2.06	87.52	55.22
2572.000	175.00	0.00	0.00	574.00	220.00	579.54	0.00	579.67	10.23	2.62	152.12	96.32
2572.000	175.00	0.00	0.00	574.00	290.00	580.61	0.00	580.70	13.54	2.46	239.46	152.13
2572.000	175.00	0.00	0.00	574.00	445.00	583.73	0.00	583.76	1.30	1.91	500.09	390.81
2757.000	185.00	0.00	0.00	574.10	125.00	578.48	0.00	578.70	25.13	3.72	33.62	24.94
2757.000	185.00	0.00	0.00	574.10	220.00	579.50	0.00	579.63	42.39	5.29	41.77	33.91
2757.000	185.00	0.00	0.00	574.10	290.00	580.48	0.00	581.01	45.40	5.86	49.63	43.04
2757.000	185.00	0.00	0.00	574.10	445.00	583.74	0.00	583.81	2.80	2.77	363.59	266.04
2923.000	166.00	584.60	579.00	574.30	125.00	578.90	0.00	579.10	23.76	3.64	34.31	25.64
2923.000	166.00	584.60	579.00	574.60	220.00	580.60	0.00	580.93	28.29	4.56	48.21	41.36
2923.000	166.00	584.60	579.00	574.30	290.00	582.65	0.00	582.95	32.33	6.29	64.55	68.34
2923.000	166.00	584.60	579.00	574.60	445.00	586.13	0.00	586.15	1.00	1.39	576.28	445.90
2973.000	50.00	0.00	0.00	574.40	125.00	579.10	0.00	579.17	6.26	2.53	87.47	49.97
2973.000	50.00	0.00	0.00	574.40	220.00	580.95	0.00	580.99	3.12	2.25	218.02	124.47
2973.000	50.00	0.00	0.00	574.40	290.00	582.99	0.00	583.01	1.29	1.74	385.75	255.36
2973.000	50.00	0.00	0.00	574.40	445.00	586.15	0.00	586.16	0.66	1.54	667.87	548.61
3273.000	300.00	0.00	0.00	575.40	125.00	579.29	0.00	579.35	3.55	2.10	86.19	53.06
3273.000	300.00	0.00	0.00	575.40	220.00	581.04	0.00	581.10	3.97	2.29	147.14	110.38
3273.000	300.00	0.00	0.00	575.40	290.00	583.01	0.00	583.07	2.28	2.14	216.26	192.09
3273.000	300.00	0.00	0.00	575.40	445.00	586.15	0.00	586.21	1.62	2.27	325.88	349.90
3323.000	50.00	0.00	0.00	575.40	125.00	579.25	0.00	579.44	20.77	3.52	35.47	24.16
3323.000	50.00	0.00	0.00	575.40	220.00	580.93	0.00	581.21	26.34	4.21	52.30	42.87
3323.000	50.00	0.00	0.00	575.40	290.00	582.90	0.00	583.15	18.43	4.03	71.97	67.55
3323.000	50.00	0.00	0.00	575.40	445.00	586.00	0.00	586.29	16.24	4.32	103.02	110.41

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

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	CRIMS	EG	TOK*S	VCH	AREA	.01K
	3488.000	165.00	591.00	581.20	575.40	125.00	579.70	0.00	579.86	23.08	3.18	39.32	26.02
1	3488.000	165.00	591.00	581.20	575.40	220.00	581.32	0.00	581.55	21.45	3.92	56.15	47.49
2	3488.000	165.00	591.00	581.20	575.40	290.00	583.71	0.00	585.90----	19.37	3.59	80.79	79.32
3	3488.000	165.00	591.00	581.20	575.40	445.00	590.36	0.00	588.35	9.42	3.52	126.57	146.99
4													
5	3558.000	70.00	0.00	0.00	576.40	125.00	579.86	0.00	560.00	17.38	3.01	41.57	29.99
6	3558.000	70.00	0.00	0.00	576.40	220.00	581.69	0.00	581.69	17.13	3.61	61.00	53.15
7	3558.000	70.00	0.00	0.00	576.40	290.00	584.01	0.00	584.02	1.53	1.20	405.80	234.78
8	3558.000	70.00	0.00	0.00	576.40	445.00	590.39	0.00	588.57	0.22	0.93	1086.77	944.37
9													
10	3610.000	51.50	583.00	581.10	576.40	125.00	579.95	0.00	580.08	16.39	2.95	42.40	30.87
11	3610.000	51.50	583.00	581.10	576.40	220.00	582.01	0.00	582.18	12.33	3.27	67.35	61.41
12	3610.000	51.50	583.00	581.10	576.40	290.00	584.19	0.00	584.20	1.36	1.22	424.15	249.01
13	3610.000	51.50	583.00	581.10	576.40	445.00	588.65	0.00	588.64	0.22	0.92	1090.92	936.51
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FORM 1411-SB PRINTED BY NOTARY MANIFOLD FORMS.

S.ROCKWOOD MANC. NOLES

SUMMARY PRINTOUT TABLE 15C

SECNO	Q	DHSEL	DEFUSP	DEFUSX	DEFKUS	TSPHID	XLOM
100.000	125.00	577.65	0.00	0.00	0.00	476.35	0.00
100.000	220.00	577.65	0.00	0.00	0.00	476.35	0.00
100.000	290.00	577.65	0.00	0.00	0.00	476.35	0.00
100.000	445.00	577.65	0.00	0.00	0.00	476.35	0.00
970.000	125.00	577.66	0.00	0.01	0.00	156.64	870.00
970.000	220.00	577.68	0.00	0.03	0.00	156.68	870.00
970.000	290.00	577.70	0.00	0.05	0.00	156.75	870.00
970.000	445.00	577.76	0.00	0.1	0.00	156.94	870.00
1120.000	125.00	577.66	0.00	0.00	0.00	80.00	150.00
1120.000	220.00	577.68	0.00	0.01	0.00	80.00	150.00
1120.000	290.00	577.71	0.00	0.01	0.00	80.00	150.00
1120.000	445.00	577.78	0.00	0.02	0.00	80.00	150.00
1270.000	125.00	577.66	0.00	-0.01	0.00	30.00	150.00
1270.000	220.00	577.67	0.00	-0.02	0.00	30.00	150.00
1270.000	290.00	577.68	0.00	-0.03	0.00	30.00	150.00
1270.000	445.00	577.70	0.00	-0.08	0.00	30.00	150.00
1320.000	125.00	577.66	0.00	0.00	0.00	24.00	50.00
1320.000	220.00	577.67	0.00	0.00	0.00	24.00	50.00
1320.000	290.00	577.68	0.00	0.00	0.00	24.00	50.00
1320.000	445.00	577.71	0.00	0.01	0.00	24.00	50.00
1370.000	125.00	577.66	0.00	0.01	0.00	20.00	50.00
1370.000	220.00	577.68	0.00	0.02	0.00	20.00	50.00
1370.000	290.00	577.71	0.00	0.03	0.00	20.00	50.00
1370.000	445.00	577.78	0.00	0.07	0.00	20.00	50.00
1420.000	125.00	577.66	0.00	0.00	0.00	16.00	50.00
1420.000	220.00	577.69	0.00	0.01	0.00	16.00	50.00
1420.000	290.00	577.72	0.00	0.01	0.00	16.00	50.00
1420.000	445.00	577.81	0.00	0.02	0.00	16.00	50.00
1470.000	125.00	577.66	0.00	-0.00	0.00	11.94	50.00
1470.000	220.00	577.68	0.00	-0.01	0.00	11.94	50.00
1470.000	290.00	577.71	0.00	-0.01	0.00	11.94	50.00
1470.000	445.00	577.78	0.00	-0.03	0.00	11.94	50.00
1471.000	125.00	577.66	0.00	0.00	0.00	11.94	1.00
1471.000	220.00	577.68	0.00	0.00	0.00	11.94	1.00
1471.000	290.00	577.71	0.00	0.00	0.00	11.94	1.00
1471.000	445.00	577.78	0.00	0.01	0.00	11.94	1.00
1509.000	125.00	577.67	0.00	0.01	0.00	11.94	38.00
1509.000	220.00	577.72	0.00	0.03	0.00	11.94	38.00
1509.000	290.00	577.77	0.00	0.06	0.00	11.94	38.00
1509.000	445.00	577.98	0.00	0.20	0.00	11.94	38.00
1510.000	125.00	577.67	0.00	0.00	0.00	11.94	1.00
1510.000	220.00	577.72	0.00	0.00	0.00	11.94	1.00
1510.000	290.00	577.78	0.00	0.00	0.00	11.94	1.00
1510.000	445.00	577.99	0.00	0.01	0.00	11.94	1.00

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS,

SECNO	D	CLSEL	DIFWSP	DIFWEX	DIFKWS	TOPWID	X_CP
1610.000	125.00	577.77	0.00	0.09	0.00	81.94	100.00
1610.000	220.00	578.51	0.00	0.28	0.00	37.33	100.00
1610.000	290.00	578.26	0.00	0.43	0.00	93.44	100.00
1610.000	445.00	579.21	0.00	1.29	0.00	110.37	100.00
1910.000	125.00	577.80	0.00	0.03	0.00	26.97	300.00
1910.000	220.00	578.08	0.00	0.07	0.00	30.08	300.00
1910.000	290.00	578.55	0.00	0.09	0.00	31.17	300.00
1910.000	445.00	579.00	0.00	0.07	0.00	34.65	300.00
2020.000	125.00	577.82	0.00	0.02	0.00	11.95	110.00
2020.000	220.00	578.12	0.00	0.05	0.00	11.95	110.00
2020.000	290.00	578.40	0.00	0.06	0.00	11.95	110.00
2020.000	445.00	579.09	0.00	0.01	0.00	11.96	110.00
2021.000	125.00	577.82	0.00	0.00	0.00	11.95	1.00
2021.000	220.00	578.12	0.00	0.00	0.00	11.95	1.00
2021.000	290.00	578.40	0.00	0.00	0.00	11.95	1.00
2021.000	445.00	579.10	0.00	0.00	0.00	11.96	1.00
2061.000	125.00	577.83	0.00	0.01	0.00	11.95	40.00
2061.000	220.00	578.13	0.00	0.03	0.00	11.95	40.00
2061.000	290.00	578.46	0.00	0.05	0.00	11.95	40.00
2061.000	445.00	579.20	0.00	0.10	0.00	11.96	40.00
2062.000	125.00	577.83	0.00	0.00	0.00	11.95	1.00
2062.000	220.00	578.13	0.00	0.00	0.00	11.95	1.00
2062.000	290.00	578.46	0.00	0.00	0.00	11.95	1.00
2062.000	445.00	579.20	0.00	0.00	0.00	11.96	1.00
2112.000	125.00	577.85	0.00	0.01	0.00	9.13	50.00
2112.000	220.00	578.19	0.00	0.03	0.00	9.13	50.00
2112.000	290.00	578.49	0.00	0.03	0.00	9.13	50.00
2112.000	445.00	579.22	0.00	0.02	0.00	9.14	50.00
2113.000	125.00	577.85	0.00	0.00	0.00	9.13	1.00
2113.000	220.00	578.19	0.00	0.00	0.00	9.13	1.00
2113.000	290.00	578.50	0.00	0.01	0.00	9.13	1.00
2113.000	445.00	579.24	0.00	0.01	0.00	9.14	1.00
2134.000	125.00	577.87	0.00	0.03	0.00	9.13	21.00
2134.000	220.00	578.26	0.00	0.07	0.00	9.13	21.00
2134.000	290.00	578.62	0.00	0.12	0.00	9.13	21.00
2134.000	445.00	579.47	0.00	0.23	0.00	9.14	21.00
2135.000	125.00	577.87	0.00	0.00	0.00	9.13	1.00
2135.000	220.00	578.27	0.00	0.00	0.00	9.13	1.00
2135.000	290.00	578.62	0.00	0.01	0.00	9.13	1.00
2135.000	445.00	579.48	0.00	0.01	0.00	9.14	1.00
2205.000	125.00	578.25	0.00	0.18	0.00	45.00	70.00
2205.000	220.00	578.72	0.00	0.46	0.00	45.00	70.00
2205.000	290.00	579.30	0.00	0.68	0.00	45.00	70.00
2205.000	445.00	580.64	0.00	1.16	0.00	45.00	70.00

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SECNO	Q	CHSEL	DIFLSP	DIFLSX	DIFXS	TOPWID	WLCH
2275.000	125.00	578.02	0.00	-0.03	0.00	10.00	70.00
2275.000	220.00	578.62	0.00	-0.11	0.00	10.00	70.00
2275.000	290.00	579.15	0.00	-0.18	0.00	10.00	70.00
2275.000	445.00	580.37	0.00	-0.33	0.00	10.00	70.00
2397.000	125.00	578.18	0.00	0.16	0.00	10.00	122.00
2397.000	220.00	579.19	0.00	0.57	0.00	10.00	122.00
2397.000	290.00	580.25	0.00	1.13	0.00	10.00	122.00
2397.000	445.00	583.35	0.00	3.24	0.00	10.00	122.00
2572.000	125.00	578.43	0.00	0.25	0.00	38.57	175.00
2572.000	220.00	579.34	0.00	0.35	0.00	68.87	175.00
2572.000	290.00	580.65	0.00	0.39	0.00	81.80	175.00
2572.000	445.00	583.73	0.00	0.39	0.00	89.09	175.00
2757.000	125.00	578.48	0.00	0.05	0.00	8.00	185.00
2757.000	220.00	579.50	0.00	-0.04	0.00	8.00	185.00
2757.000	290.00	580.48	0.00	-0.17	0.00	8.00	185.00
2757.000	445.00	583.74	0.00	0.01	0.00	83.96	185.00
2923.000	125.00	578.92	0.00	0.42	0.00	8.00	166.00
2923.000	220.00	581.62	0.00	1.12	0.00	8.00	166.00
2923.000	290.00	582.65	0.00	2.17	0.00	8.00	166.00
2923.000	445.00	586.13	0.00	2.39	0.00	117.49	166.00
2973.000	125.00	579.10	0.00	0.23	0.00	33.75	50.00
2973.000	220.00	580.93	0.00	0.24	0.00	74.02	50.00
2973.000	290.00	582.90	0.00	0.24	0.00	96.70	50.00
2973.000	445.00	586.15	0.00	0.02	0.00	91.63	50.00
3273.000	125.00	579.29	0.00	0.20	0.00	33.96	300.00
3273.000	220.00	581.04	0.00	0.09	0.00	23.00	300.00
3273.000	290.00	583.01	0.00	0.03	0.00	33.00	300.00
3273.000	445.00	586.15	0.00	-0.05	0.00	30.00	300.00
3323.000	125.00	579.25	0.00	-0.04	0.00	10.00	50.00
3323.000	220.00	580.93	0.00	-0.11	0.00	10.00	50.00
3323.000	290.00	582.90	0.00	-0.11	0.00	10.00	50.00
3323.000	445.00	586.00	0.00	-0.14	0.00	10.00	50.00
3488.000	125.00	579.70	0.00	0.45	0.00	10.00	165.00
3488.000	220.00	581.32	0.00	0.38	0.00	10.00	165.00
3488.000	290.00	583.78	0.00	0.88	0.00	10.00	165.00
3488.000	445.00	588.36	0.00	2.36	0.00	10.00	165.00
3558.000	125.00	579.86	0.00	0.16	0.00	12.00	70.00
3558.000	220.00	581.49	0.00	0.17	0.00	12.00	70.00
3558.000	290.00	584.01	0.00	0.23	0.00	100.74	70.00
3558.000	445.00	588.57	0.00	0.21	0.00	147.94	70.00
3610.000	125.00	579.93	0.00	0.09	0.00	12.00	51.50
3610.000	220.00	582.01	0.00	0.52	0.00	12.00	51.50
3610.000	290.00	584.19	0.00	0.18	0.00	101.87	51.50
3610.000	445.00	588.63	0.00	0.06	0.00	148.37	51.50

SUMMARY OF ERRORS-

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FORM 1411-GH-PRINTED BY ROTARY MANIFOLD FORMS

FLOOD INSURANCE ZONE DATA FOR S.ROCKWOOD EANC. NOLES

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND@ 10%	2%	0.2%
100.000	0.	0.0	0.0	0.0
970.000	870.	-0.0	-0.0	0.1
1120.000	1020.	-0.0	-0.0	0.1
1270.000	1170.	-0.0	-0.0	0.0
1320.000	1220.	-0.0	-0.0	0.0
1370.000	1270.	-0.0	-0.0	0.1
1420.000	1320.	-0.1	-0.0	0.1
1470.000	1370.	-0.0	-0.0	0.1
1471.000	1371.	-0.0	-0.0	0.1
1509.000	1409.	-0.1	-0.1	0.2
1510.000	1410.	-0.1	-0.1	0.2
1911.000	1811.	-0.5	-0.3	0.6
1912.000	1812.	-0.5	-0.3	0.7
2022.000	1922.	-0.6	-0.3	0.7
2021.000	1921.	-0.6	-0.3	0.7
2061.000	1961.	-0.6	-0.3	0.7
2062.000	1962.	-0.6	-0.3	0.7
2112.000	2012.	-0.6	-0.3	0.7
2113.000	2013.	-0.7	-0.4	0.7
2134.000	2034.	-0.7	-0.4	0.8
2135.000	2035.	-0.7	-0.4	0.9
2205.000	2105.	-1.3	-0.6	1.3
2275.000	2175.	-1.1	-0.5	1.2
2397.000	2297.	-2.1	-1.1	3.1
2572.000	2472.	-2.2	-1.1	3.1
2757.000	2657.	-2.3	-1.0	3.1
2923.000	2823.	-3.8	-2.0	3.5
2973.000	2873.	-3.9	-2.0	3.2
3273.000	3173.	-3.7	-2.0	3.1
3323.000	3223.	-3.6	-2.0	3.1
3488.000	3388.	-4.1	-2.5	4.6
3558.000	3458.	-4.2	-2.5	4.6
3610.000	3510.	-4.2	-2.2	4.4
WEIGHTED AVG FOR REACH		-1.3	-0.7	1.4

FHF FOR THE REACH = 015 WITH 7.58 OF THE REACH WITHIN 3.5 FEET
ZONE FOR THE REACH = A 3

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

INC NO.	TOTAL LENGTH	AVG ELEVATION DATA 10%	2%	DIFF.	STD. AVG.	SEC.	PERCENT WITHIN
	0.					SEC.	TCO.000
1	100.	577.7	577.7	-0.0	-0.0	005	100.
2	200.	577.7	577.7	-0.0	-0.0	005	100.

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	3	300.	577.7	577.7	-0.0	-0.0	005	100.
	4	400.	577.7	577.7	-0.0	-0.0	005	100.
	5	500.	577.7	577.7	-0.0	-0.0	005	100.
	6	600.	577.7	577.7	-0.0	-0.0	005	100.
	7	700.	577.7	577.7	-0.0	-0.0	005	100.
	8	800.	577.7	577.7	-0.0	-0.0	005	100.
		870.				SEC.	870,000	
	9	900.	577.7	577.7	-0.0	-0.0	005	100.
	10	1000.	577.7	577.7	-0.0	-0.0	005	100.
		1020.				SEC.	1120,000	
	11	1100.	577.7	577.7	-0.0	-0.0	005	100.
		1170.				SEC.	1270,000	
	12	1200.	577.7	577.7	-0.0	-0.0	005	100.
		1220.				SEC.	1320.000	
		1270.				SEC.	1370,000	
	13	1300.	577.7	577.7	-0.1	-0.0	005	100.
		1320.				SEC.	1420,000	
		1370.				SEC.	1470,000	
		1371.				SEC.	1471,000	
	14	1400.	577.7	577.7	-0.1	-0.0	005	100.
		1409.				SEC.	1509,000	
		1510.				SEC.	1510,000	
	15	1500.	577.7	577.8	-0.3	-0.0	005	100.
		1510.				SEC.	1610,000	
	16	1600.	577.3	578.2	-0.3	-0.1	005	100.
	17	1700.	577.8	578.3	-0.5	-0.1	005	100.
	18	1800.	577.8	578.3	-0.5	-0.1	005	100.
		1810.				SEC.	1910,000	
	19	1900.	577.8	578.4	-0.6	-0.1	005	100.
		1920.				SEC.	2020,000	
		1921.				SEC.	2021,000	
		1961.				SEC.	2061,000	
		1962.				SEC.	2062,000	
	20	2000.	577.8	578.5	-0.6	-0.2	005	100.
		2012.				SEC.	2112,000	
		2013.				SEC.	2113,000	
		2034.				SEC.	2134,000	
		2035.				SEC.	2135,000	
	21	2103.	578.0	578.9	-1.0	-0.2	005	95.
		2105.				SEC.	2205,000	
		2175.				SEC.	2275,000	
	22	2200.	578.0	579.2	-1.2	-0.3	005	91.
		2297.				SEC.	2397,000	
	23	2300.	578.1	579.8	-1.7	-0.3	005	87.
	24	2400.	578.3	580.4	-2.1	-0.4	005	83.
		2472.				SEC.	2572,000	
	25	2500.	578.4	580.6	-2.2	-0.5	005	80.
	26	2600.	578.5	580.6	-2.1	-0.5	005	58.
		2657.				SEC.	2757,000	
	27	2700.	578.5	580.8	-2.3	-0.6	005	26.
	28	2800.	578.7	581.7	-3.0	-0.7	005	25.
		2823.				SEC.	2923,000	
		2873.				SEC.	2973,000	
	29	2900.	579.1	583.0	-3.9	-0.8	010	24.
	30	3000.	579.1	583.0	-3.8	-0.9	010	23.
	31	3100.	579.2	583.0	-3.8	-1.0	010	19.
		3173.				SEC.	3273,000	
	32	3200.	579.3	583.0	-3.7	-1.1	010	9.
		3223.				SEC.	3323,000	
	33	3300.	579.4	583.1	-3.8	-1.2	010	6.
		3388.				SEC.	3488,000	
	34	3400.	579.6	583.5	-4.0	-1.2	010	9.
		3458.				SEC.	3558,000	
	35	3500.	579.8	584.1	-4.2	-1.3	015	8.

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THIS REACH CAN BE SUBDIVIDED BY INC NO. TO MEET FIA REQUIREMENTS
INPUT 20N WHERE N IS THE NUMBER OF REACHES AND THEN INPUT THE END
OF EACH REACH BY INC NO, FOR EXAMPLE 202 25 33
A NEGATIVE INC NO. WILL SUPPRESS INTERMEDIATE INC OUTPUT.

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FORM 1411-GS PRINTED BY ROTARY MANIFOLD FORMS.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft, Nolen and Laudenschlager drains

4) DOCUMENT TYPE: Summary 10yr.

00BREAK00

****

USE DELOSS LATCE NOW TO UPD.TE FILE 5997

ERROR CODE = 21

SPECIFICATION = 55,01,02

****

NOTE = ASTERISK (*) AT LEFT OF SPECIES CODE INDICATES UNUSUAL TREE QUALITY OR DEFECT

S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 110

SEQ NO	CUBIC	DEFRO	LC	TOPHT2	PLOT	DCT	VOL	FIBER	STUMP2	STCLL	STCL2	STEM24
6247.300	586.36	0.00	586.36	63.00	22.36	73.61	13.73	63.00	167.00	194.00	206.00	230.00
6247.300	586.67	0.00	586.70	63.00	56.41	111.22	35.30	63.00	167.00	194.00	206.00	230.00
6247.300	586.7	0.00	586.71	63.00	72.14	132.51	52.30	63.00	167.00	194.00	206.00	230.00
6247.300	586.77	0.00	586.81	63.00	216.19	191.50	93.37	63.00	167.00	194.00	206.00	230.00
6352.300	586.53	0.00	586.67	59.84	17.58	70.14	22.24	63.00	167.00	197.50	202.50	230.00
6352.300	586.69	0.00	586.77	60.00	72.25	82.00	65.95	63.00	167.00	197.50	202.50	230.00
6352.300	586.79	0.00	586.84	63.00	96.09	81.12	92.00	63.00	167.00	197.50	202.50	230.00
6352.300	586.86	0.00	586.91	63.00	138.25	111.95	125.77	63.00	167.00	197.50	202.50	230.00
6377.000	586.42	0.00	586.48	63.00	7.03	112.07	7.03	63.00	167.00	197.50	202.50	230.00
6377.000	586.87	0.00	586.90	63.00	73.45	60.73	73.82	63.00	167.00	197.50	202.50	230.00
6377.000	586.84	0.00	586.90	63.00	159.86	108.22	151.91	63.00	167.00	197.50	202.50	230.00
6427.000	587.29	0.00	587.31	63.00	13.02	79.01	17.13	63.00	167.00	194.00	206.00	230.00
6427.000	587.37	0.00	587.41	63.00	39.08	132.10	42.03	63.00	167.00	194.00	206.00	230.00
6427.000	589.06	0.00	589.10	63.00	53.78	159.93	56.29	63.00	167.00	194.00	206.00	230.00
6427.000	589.87	0.00	589.93	63.00	91.67	235.13	93.20	63.00	167.00	194.00	206.00	230.00
6642.000	589.92	0.00	589.94	60.00	10.75	65.64	14.50	60.00	170.00	197.00	206.00	230.00
6642.000	590.02	0.00	590.04	60.00	46.50	10.71	51.74	60.00	170.00	194.00	206.00	230.00
6642.000	589.91	0.00	589.15	60.00	62.24	155.46	52.30	60.00	170.00	194.00	206.00	230.00
6642.000	589.97	0.00	590.01	60.00	131.74	229.76	98.40	60.00	170.00	194.00	206.00	230.00
6655.000	587.30	0.00	587.42	58.92	15.31	71.08	23.61	60.00	170.00	197.50	202.50	230.00
6655.000	590.73	0.00	590.87	60.00	50.83	76.35	59.33	60.00	170.00	197.50	202.50	230.00
6655.000	589.92	0.00	590.00	60.00	72.54	96.82	85.16	60.00	170.00	197.50	202.50	230.00
6655.000	589.96	0.00	590.06	60.00	136.53	129.76	165.72	60.00	170.00	197.50	202.50	230.00
6735.000	587.25	0.00	587.81	57.73	0.00	110.00	0.00	60.00	170.00	197.50	202.50	230.00
6735.000	589.60	0.00	589.70	60.00	64.92	66.28	75.80	60.00	170.00	197.50	202.50	230.00
6735.000	589.91	0.00	589.95	60.00	87.37	86.09	99.51	60.00	170.00	197.50	202.50	230.00
6735.000	590.49	0.00	590.56	60.00	141.74	120.65	157.40	60.00	170.00	197.50	202.50	230.00
6864.000	588.03	0.00	588.04	60.00	44.67	33.62	51.73	60.00	170.00	197.50	202.50	230.00
6864.000	589.73	0.00	589.74	60.00	65.43	69.79	69.74	60.00	170.00	197.50	202.50	230.00
6864.000	589.99	0.00	590.00	60.00	112.70	84.08	93.23	60.00	170.00	197.50	202.50	230.00
6864.000	590.65	0.00	590.68	60.00	175.77	155.02	169.81	60.00	170.00	197.50	202.50	230.00

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	SECNO	CWSEL	DIFKUS	EG	TOPWID	QLOW	QCW	QNOW	PERCNC	STENCL	STCHL	STCHR	STENCR
	6895.000	587.74	0.00	588.32	60.00	0.00	110.00	0.00	60.00	170.00	197.50	202.50	230.00
	6[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6887.000	587.86	0.00	588.40	60.00	0.00	110.00	0.00	60.00	170.00	197.50	202.50	230.00
	6837.000	589.71	0.00	589.80	60.00	62.20	112.71	50.01	60.00	170.00	197.50	202.50	230.00
	6[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6838.000	589.55	0.00	589.55	60.00	45.22	80.78	39.53	60.00	170.00	197.50	202.50	230.00
	6838.000	589.89	0.00	589.90	60.00	85.52	49.00	70.30	60.00	170.00	197.50	202.50	230.00
	6838.000	590.19	0.00	590.21	60.00	112.61	53.51	94.17	60.00	170.00	197.50	202.50	230.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7014.000	589.91	0.00	589.94	60.00	58.15	53.19	83.66	60.00	170.00	197.50	202.50	230.00
	7014.000	590.23	0.00	590.27	60.00	79.00	79.22	110.96	60.00	170.00	197.50	202.50	230.00
	7014.000	590.94	0.00	591.01	60.00	132.85	102.65	174.52	60.00	170.00	197.50	202.50	230.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7033.000	590.56	0.00	590.59	60.00	82.67	75.74	111.62	60.00	170.00	197.50	202.50	230.00
	7033.000	591.22	0.00	591.28	60.00	135.36	105.40	175.04	60.00	170.00	197.50	202.50	230.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7088.000	591.61	0.00	591.64	236.55	172.31	144.02	98.67	0.00	0.00	195.00	206.00	0.00
	7903.000	589.55	0.00	589.58	32.00	26.19	60.74	23.07	32.00	150.00	198.00	202.00	212.00
	7903.000	590.34	0.00	590.36	132.70	67.32	71.35	65.35	0.00	0.00	198.00	202.00	0.00
	7903.000	590.39	0.00	590.43	192.45	95.37	79.56	94.67	0.00	0.00	198.00	202.00	0.00
	7903.000	591.3[illegible]	0.00	591.38	231.32	139.39	91.06	102.85	0.00	0.00	198.00	202.00	0.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7909.000	589.30	0.00	589.32	32.00	12.46	92.40	5.12	32.00	150.00	198.00	202.00	212.00
	7909.000	590.52	0.00	590.60	182.22	71.39	70.56	63.05	0.00	0.00	198.00	202.00	0.00
	7909.000	590.[illegible]	0.00	590.[illegible]	190.[illegible]	130.71	83.[illegible]	95.[illegible]	0.00	0.00	198.00	202.00	0.00
	7909.000	591.[illegible]	0.00	591.[illegible]	231.30	174.47	76.45	102.10	0.00	0.00	198.00	202.00	0.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7943.000	589.94	0.00	590.03	90.00	31.52	57.06	21.41	90.00	150.00	198.00	202.00	240.00
	7943.000	590.58	0.00	590.65	184.69	72.26	67.84	64.89	0.00	0.00	198.00	202.00	0.00
	7943.000	590.92	0.00	590.98	199.32	101.29	72.31	90.39	0.00	0.00	198.00	202.00	0.00
	7943.000	591.57	0.00	591.7[illegible]	231.83	174.57	77.81	102.32	0.00	0.00	198.00	202.00	0.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7964.000	590.03	0.00	590.03	90.00	32.35	58.19	20.90	90.00	150.00	198.00	202.00	240.00
	7964.000	590.63	0.00	590.66	186.73	69.37	66.58	67.06	0.00	0.00	198.00	202.00	0.00
	7964.000	590.96	0.00	590.99	201.85	96.60	77.75	95.69	0.00	0.00	198.00	202.00	0.00
	7964.000	591.68	0.00	591.71	232.41	166.53	90.21	163.26	0.00	0.00	198.00	202.00	0.00
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	8614.000	590.25	0.00	590.27	108.53	27.67	72.85	9.47	0.00	0.00	195.00	205.00	0.00
	8614.000	590.93	0.00	590.97	128.02	72.15	109.34	26.56	0.00	0.00	195.00	205.00	0.00
	8614.000	591.20	0.00	591.34	138.26	101.94	130.26	37.78	0.00	0.00	195.00	205.00	0.00
	8614.000	592.02	0.00	592.09	147.35	172.35	168.64	79.61	0.00	0.00	195.00	205.00	0.00

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S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 150

SECID	WELL	FLOW	WELC	ELEC	H	CASE	CHEM	TS	TEMP	WCT	OPER	GAS
6267.000	65.00	0.00	0.00	581.30	110.00	536.56	0.00	586.58	1.30	1.36	146.57	62.05
6267.000	65.00	0.00	0.00	581.30	205.00	588.58	0.00	583.70	1.14	1.40	280.12	151.80
6267.000	65.00	0.00	0.00	581.30	270.00	586.78	0.00	591.57	1.36	1.81	216.69	157.91
6267.000	65.00	0.00	0.00	581.30	420.00	589.32	0.00	589.97	2.71	2.59	358.35	251.90
6352.000	65.00	0.00	0.00	582.20	110.00	586.55	0.00	586.67	32.82	3.10	58.40	19.20
6352.000	65.00	0.00	0.00	582.20	205.00	588.69	0.00	588.72	5.67	2.14	194.21	86.07
6352.000	65.00	0.00	0.00	582.20	270.00	588.79	0.00	588.94	5.92	2.72	200.93	90.40
6352.000	65.00	0.00	0.00	582.20	420.00	589.04	0.00	589.71	10.77	3.26	354.17	123.26
6377.000	25.00	587.90	587.20	582.20	110.00	586.62	585.28	587.39	164.01	2.57	16.75	9.23
6377.000	25.00	587.90	587.20	582.20	205.00	588.67	0.00	588.90	4.79	2.01	295.80	93.71
6377.000	25.00	587.90	587.20	582.20	270.00	588.84	0.00	589.00	7.16	2.50	216.36	100.21
6377.000	25.00	587.90	587.20	582.20	420.00	589.04	0.00	589.90	8.25	3.09	256.98	138.13
6427.000	50.00	0.00	0.00	582.20	110.00	586.56	0.00	586.68	32.82	3.10	58.40	19.20
6427.000	50.00	0.00	0.00	582.20	205.00	588.69	0.00	588.72	5.67	2.14	194.21	86.07
6427.000	50.00	0.00	0.00	582.20	270.00	588.79	0.00	588.94	5.92	2.72	200.93	90.40
6427.000	50.00	0.00	0.00	582.20	420.00	589.04	0.00	589.71	10.77	3.26	354.17	123.26
6642.000	215.00	0.00	0.00	582.50	110.00	586.56	0.00	586.68	32.82	3.10	58.40	19.20
6642.000	215.00	0.00	0.00	582.50	205.00	588.69	0.00	588.72	5.67	2.14	194.21	86.07
6642.000	215.00	0.00	0.00	582.50	270.00	588.79	0.00	588.94	5.92	2.72	200.93	90.40
6642.000	215.00	0.00	0.00	582.50	420.00	589.04	0.00	589.71	10.77	3.26	354.17	123.26
6695.000	53.00	0.00	0.00	582.50	110.00	587.30	0.00	587.42	22.62	3.41	61.90	23.13
6695.000	53.00	0.00	0.00	582.50	205.00	589.52	0.00	589.67	8.75	2.55	159.75	60.14
6695.000	53.00	0.00	0.00	582.50	270.00	589.12	0.00	589.19	12.52	3.23	221.56	76.37
6695.000	53.00	0.00	0.00	582.50	420.00	589.94	0.00	590.01	14.49	3.70	221.36	110.33
6735.000	40.00	589.00	587.30	582.50	110.00	587.25	585.57	587.81	105.60	6.01	18.31	10.71
6735.000	40.00	589.00	587.30	582.50	205.00	589.68	0.00	589.70	4.36	2.53	204.65	98.14
6735.000	40.00	589.00	587.30	582.50	270.00	589.90	0.00	590.05	6.25	3.48	250.45	108.71
6735.000	40.00	589.00	587.30	582.50	420.00	590.48	0.00	590.56	9.63	3.29	293.39	135.96
6864.000	129.00	0.00	0.00	582.10	110.00	586.55	0.00	586.66	2.24	1.26	172.94	73.51
6864.000	129.00	0.00	0.00	582.10	205.00	588.73	0.00	588.76	1.97	1.42	273.90	146.16
6864.000	129.00	0.00	0.00	582.10	270.00	588.96	0.00	589.01	2.89	1.77	289.41	158.90
6864.000	129.00	0.00	0.00	582.10	420.00	589.62	0.00	589.75	4.22	2.44	325.98	194.53
6865.000	1.00	587.90	587.10	582.10	110.00	587.79	585.16	589.32	35.70	5.60	18.70	12.41
6865.000	1.00	587.90	587.10	582.10	205.00	589.66	0.00	589.82	17.47	4.16	122.09	49.04
6865.000	1.00	587.90	587.10	582.10	270.00	589.90	0.00	590.10	23.17	4.92	136.26	56.09
6865.000	1.00	587.90	587.10	582.10	420.00	590.48	0.00	590.78	30.61	6.05	172.20	75.91
6887.000	22.00	587.90	587.10	582.10	110.00	587.36	585.16	589.40	35.70	5.68	18.70	12.41
6887.000	22.00	587.90	587.10	582.10	205.00	589.71	0.00	589.84	14.49	4.06	125.06	50.60
6887.000	22.00	587.90	587.10	582.10	270.00	589.96	0.00	590.16	21.53	4.78	140.31	58.19
6887.000	22.00	587.90	587.10	582.10	420.00	590.59	0.00	590.85	28.13	5.85	177.72	79.19
6888.000	1.00	0.00	0.00	582.10	110.00	586.56	0.00	586.68	32.82	3.10	58.40	19.20
6888.000	1.00	0.00	0.00	582.10	205.00	588.69	0.00	588.72	5.67	2.14	194.21	86.07
6888.000	1.00	0.00	0.00	582.10	270.00	588.79	0.00	588.94	5.92	2.72	200.93	90.40
6888.000	1.00	0.00	0.00	582.10	420.00	589.04	0.00	589.71	10.77	3.26	354.17	123.26

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SECNO	XLCH	ELTRD	ELLC	ELTIN	Q	CHSEL	CRTNS	EG	TOKMS	VCH	AREA	.01K
7914.000	126.00	0.00	0.00	563.10	110.00	585.50	0.00	588.60	5.71	1.90	121.00	46.05
7914.000	126.00	0.00	0.00	563.10	205.00	590.51	0.00	590.95	5.01	2.00	221.00	87.50
7914.000	126.00	0.00	0.00	563.10	270.00	590.86	0.00	590.97	5.04	2.04	290.00	104.00
7914.000	126.00	0.00	0.00	563.10	420.00	591.64	0.00	591.71	5.17	2.17	453.00	179.00
7930.000	84.00	589.50	589.50	583.10	110.00	589.34	0.00	589.38	2.49	1.36	165.27	70.49
7930.000	84.00	589.50	589.50	583.10	205.00	590.23	0.00	590.30	3.59	2.02	223.38	109.07
7930.000	84.00	589.50	589.50	583.10	270.00	590.81	0.00	590.87	3.94	2.27	270.20	121.17
7930.000	84.00	589.50	589.50	583.10	420.00	591.99	0.00	592.04	7.27	3.72	379.97	152.62
7808.000	770.00	0.00	0.00	585.30	110.00	589.50	0.00	589.53	2.93	1.50	152.13	64.30
7808.000	770.00	0.00	0.00	585.30	205.00	590.51	0.00	590.54	2.63	1.75	320.50	126.51
7808.000	770.00	0.00	0.00	585.30	270.00	590.86	0.00	590.88	2.94	1.94	391.85	157.53
7808.000	770.00	0.00	0.00	585.30	420.00	591.64	0.00	591.64	3.32	2.15	561.00	242.25
7903.000	980.00	0.00	0.00	582.50	110.00	589.52	0.00	589.53	5.42	2.75	141.67	45.50
7903.000	980.00	0.00	0.00	582.50	205.00	590.52	0.00	590.53	4.97	2.37	257.10	92.00
7903.000	980.00	0.00	0.00	582.50	270.00	590.89	0.00	590.93	5.36	2.53	325.16	116.81
7903.000	980.00	0.00	0.00	582.50	420.00	591.65	0.00	591.68	5.12	2.63	487.50	185.66
7929.000	1.00	586.60	586.50	582.50	110.00	589.50	0.00	589.52	11.37	1.97	72.62	14.07
7929.000	1.00	586.60	586.50	582.50	205.00	590.51	0.00	590.53	12.01	2.00	224.21	54.53
7929.000	1.00	586.60	586.50	582.50	270.00	590.86	0.00	590.96	11.92	3.50	273.59	78.22
7929.000	1.00	586.60	586.50	582.50	420.00	591.64	0.00	591.68	8.64	3.26	436.71	142.99
7943.000	1.00	586.50	586.50	582.50	110.00	589.49	0.00	589.55	12.09	1.91	97.44	29.51
7943.000	1.00	586.60	586.50	582.50	205.00	590.51	0.00	590.55	12.38	2.42	213.21	50.27
7943.000	1.00	586.60	586.50	582.50	270.00	590.86	0.00	590.91	11.21	2.49	279.44	70.14
7943.000	84.00	586.60	586.50	582.50	420.00	591.67	0.00	591.71	8.42	3.22	441.06	144.77
7944.000	1.00	0.00	0.00	582.50	110.00	590.03	0.00	590.05	2.84	1.72	155.27	65.01
7944.000	1.00	0.00	0.00	582.50	205.00	590.61	0.00	590.66	4.62	2.25	273.32	97.46
7944.000	1.00	0.00	0.00	582.50	270.00	590.96	0.00	590.99	4.94	2.65	337.22	121.51
7944.000	1.00	0.00	0.00	582.50	420.00	591.69	0.00	591.71	4.97	2.60	498.54	168.32
8614.000	670.00	0.00	0.00	585.00	110.00	590.23	0.00	590.27	3.43	1.76	137.97	59.35
8614.000	670.00	0.00	0.00	585.00	205.00	590.92	0.00	590.97	4.62	2.27	219.62	95.37
8614.000	670.00	0.00	0.00	585.00	270.00	591.21	0.00	591.27	5.15	2.59	287.55	118.57
8614.000	670.00	0.00	0.00	585.00	420.00	591.82	0.00	591.88	4.50	2.84	373.15	179.57

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S.ROCKWOOD BANC. ROLES

SUMMARY PRINTOUT TABLE 130

SECND	T	C.B.L	DT.DP	LZ.AS	DZY.S	TH.ZZ	ILC#
6287.000	110.00	586.55	0.00	0.00	0.00	63.00	65.00
6287.000	205.00	583.69	0.00	0.00	0.00	63.00	65.00
6287.000	270.00	591.53	0.00	0.00	0.00	63.00	65.00
6287.000	420.00	599.62	0.00	0.00	0.00	63.00	65.00
6352.000	110.00	586.53	0.00	-0.03	0.00	59.04	65.00
6352.000	205.00	583.69	0.00	0.01	0.00	63.00	65.00
6352.000	270.00	588.79	0.00	0.01	0.00	63.00	65.00
6352.000	420.00	599.63	0.00	0.03	0.00	63.00	65.00
6377.000	110.00	586.43	0.00	-0.19	0.00	53.53	25.00
6377.000	205.00	590.87	0.00	0.18	0.00	63.00	25.00
6377.000	270.00	589.04	0.00	0.04	0.00	63.00	25.00
6377.000	420.00	599.84	0.00	0.20	0.00	63.00	25.00
6427.000	110.00	587.09	0.00	0.07	0.00	63.00	50.00
6427.000	205.00	590.23	0.00	0.22	0.00	63.00	50.00
6427.000	270.00	589.06	0.00	0.02	0.00	63.00	50.00
6427.000	420.00	599.87	0.00	0.02	0.00	63.00	50.00
6642.000	110.00	587.27	0.00	0.07	0.00	60.00	215.00
6642.000	205.00	590.42	0.00	0.25	0.00	60.00	215.00
6642.000	270.00	589.19	0.00	0.01	0.00	60.00	215.00
6642.000	420.00	599.96	0.00	0.00	0.00	60.00	215.00
6695.000	110.00	587.30	0.00	-0.03	0.00	56.92	55.00
6695.000	205.00	590.42	0.00	0.20	0.00	60.00	55.00
6695.000	270.00	589.12	0.00	0.01	0.00	60.00	55.00
6695.000	420.00	599.76	0.00	0.03	0.00	60.00	55.00
6735.000	110.00	587.25	0.00	-0.05	0.00	57.75	40.00
6735.000	205.00	589.68	0.00	0.75	0.00	60.00	40.00
6735.000	270.00	590.57	0.00	0.59	0.00	60.00	40.00
6735.000	420.00	599.69	0.00	0.52	0.00	60.00	40.00
6864.000	110.00	582.05	0.00	0.80	0.00	60.00	129.00
6864.000	205.00	589.73	0.00	0.06	0.00	60.00	129.00
6864.000	270.00	588.99	0.00	0.08	0.00	60.00	129.00
6864.000	420.00	599.62	0.00	0.13	0.00	60.00	129.00
6865.000	110.00	587.28	0.00	-0.20	0.00	63.00	1.00
6865.000	205.00	589.66	0.00	-0.07	0.00	60.00	1.00
6865.000	270.00	589.90	0.00	-0.09	0.00	60.00	1.00
6865.000	420.00	599.49	0.00	-0.12	0.00	60.00	1.00
6887.000	110.00	587.29	0.00	0.06	0.00	60.00	22.00
6887.000	205.00	589.71	0.00	0.05	0.00	60.00	22.00
6887.000	270.00	589.96	0.00	0.07	0.00	60.00	22.00
6887.000	420.00	599.59	0.00	0.09	0.00	60.00	22.00
6888.000	110.00	588.55	0.00	0.00	0.00	60.00	1.00
6888.000	205.00	589.66	0.00	0.11	0.00	60.00	1.00
6888.000	270.00	590.14	0.00	0.25	0.00	60.00	1.00
6888.000	420.00	590.88	0.00	0.30	0.00	60.00	1.00

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SECNO	G	CUSEL	DIFUSP	DIFUSX	DIFKUS	TOPUID	XLCH
7014.000	110.00	588.58	0.00	0.02	0.00	60.00	126.00
7014.000	205.00	[illegible]	0.00	0.03	0.00	[illegible]	[illegible]
7014.000	270.00	[illegible]	0.00	0.04	0.00	[illegible]	[illegible]
7014.000	[illegible]	[illegible]	0.00	0.02	0.00	[illegible]	[illegible]
7038.000	110.00	589.31	0.00	0.73	0.00	60.00	24.00
7038.000	205.00	590.28	0.00	0.37	0.00	60.00	24.00
7038.000	270.00	[illegible]	0.00	[illegible]	0.00	[illegible]	24.00
7038.000	[illegible]	[illegible]	0.00	[illegible]	0.00	[illegible]	[illegible]
7808.000	110.00	589.50	0.00	0.20	0.00	123.75	770.00
7808.000	205.00	590.51	0.00	0.23	0.00	201.22	770.00
7808.000	270.00	590.86	0.00	0.29	0.00	212.98	770.00
7808.000	420.00	[illegible]	0.00	[illegible]	0.00	[illegible]	[illegible]
7908.000	110.00	[illegible]	0.00	[illegible]	0.00	[illegible]	100.00
7908.000	205.00	590.56	0.00	0.03	0.00	123.10	100.00
7908.000	270.00	590.89	0.00	0.03	0.00	198.43	100.00
7908.000	420.00	591.65	0.00	0.04	0.00	231.32	100.00
7909.000	110.00	[illegible]	0.00	-1.[illegible]	0.00	[illegible]	1.00
7909.000	205.00	[illegible]	0.00	-1.[illegible]	0.00	[illegible]	1.00
7909.000	270.00	590.88	0.00	-0.01	0.00	198.32	1.00
7909.000	420.00	591.64	0.00	-0.00	0.00	231.00	1.00
7943.000	110.00	[illegible]	0.00	[illegible]	0.00	90.00	[illegible]
7943.000	205.00	590.5[illegible]	0.00	0.05	0.00	134.50	34.00
7943.000	270.00	[illegible]	0.00	[illegible]	0.00	199.32	34.00
7943.000	420.00	591.67	0.00	0.05	0.00	231.82	34.00
7944.000	110.00	590.03	0.00	0.09	0.00	90.00	1.00
7944.000	205.00	590.63	0.00	0.05	0.00	136.75	1.00
7944.000	270.00	590.96	0.00	0.03	0.00	201.05	1.00
7944.000	420.00	[illegible]	0.00	[illegible]	0.00	[illegible]	1.00
8614.000	110.00	590.23	0.00	0.20	0.00	108.50	670.00
8614.000	205.00	590.92	0.00	0.30	0.00	128.02	670.00
8614.000	270.00	[illegible]	0.00	0.33	0.00	[illegible]	670.00
8614.000	420.00	592.02	0.00	0.34	0.00	147.35	670.00

SUMMARY OF ERRORS

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

FLOOD INSURANCE ZONE DATA FOR S.ROCKWOOD SANC. NOLES

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10%	2%	0.2%
6307.000	[illegible]	-2.[illegible]	-0.1	[illegible]
6352.000	85.	-2.[illegible]	-0.1	[illegible]
6377.000	9[illegible].	-2.6	-0.2	0.8
6427.000	14[illegible].	-1.2	-0.2	0.8
6642.000	355.	-1.8	-0.2	0.8
6695.000	[illegible]	-1.[illegible]	-0.[illegible]	[illegible]
6739.000	[illegible]	-2.[illegible]	-0.2	[illegible]
6[illegible].000	[illegible]	-[illegible]	-0.[illegible]	[illegible]
6865.000	578.	-2.1	-0.2	0.6
6837.000	60[illegible].	-2.1	-0.3	0.6
6838.000	60[illegible].	-1.6	-0.3	0.7
[illegible]	[illegible]	-[illegible]	-0.[illegible]	[illegible]
[illegible]	[illegible]	-[illegible]	-0.[illegible]	[illegible]
[illegible]	[illegible]	-[illegible]	-0.[illegible]	[illegible]
7908.000	1621.	-1.4	-0.3	0.8
7909.000	1622.	-1.6	-0.4	0.8
7963.000	1656.	-1.0	-0.[illegible]	0.7
[illegible]	[illegible]	-[illegible]	-0.[illegible]	[illegible]
[illegible].000	[illegible]27.	-[illegible]	-0.4	[illegible]
WEIGHTED AVG FOR REACH		-1.4	-0.3	0.7

FHF FOR THE REACH = 015 WITH [illegible] OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 3

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1 FILE RELEASE DATE: 30 JUN 67 RELEASE # 1007
2 USGS CODE = 01
3 DUPLICATION = 10.00.52

****

4

5 NOTE= ASTERISK (*) AT LEFT OF FIELD-S VALUE INDICATES MISSING OR SUSPECT DATA

6

7 S.ROCKWOOD CANC. MILES

8

9 SUMMARY PRINTOUT TABLE 150

SPECIFIC	SLOPE	ALTIT	SILT	SILICA	CL	CHLORIDE	SULFATE	PH	HARDNESS	MAGN	CALCIUM	SODIUM
100.000	0.00	0.00	0.00	570.30	60.00	580.26	0.00	580.26	0.00	0.05	1899.33	1323.54
100.000	0.00	0.00	0.00	570.30	70.00	580.26	0.00	580.26	0.00	0.09	1899.33	1323.54
100.000	0.00	0.00	0.00	570.30	80.00	580.26	0.00	580.26	0.00	0.13	1899.33	1323.54
100.000	0.00	0.00	0.00	570.30	90.00	580.26	0.00	580.26	0.00	0.17	1899.33	1323.54
970.000	870.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.01	0.12	862.60	801.46
970.000	870.00	0.00	0.00	572.30	70.00	580.26	0.00	580.26	0.01	0.14	862.60	801.46
970.000	870.00	0.00	0.00	572.30	80.00	580.26	0.00	580.26	0.01	0.16	862.60	801.46
970.000	870.00	0.00	0.00	572.30	90.00	580.26	0.00	580.26	0.01	0.17	862.60	801.46
1120.000	150.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.01	0.11	510.92	617.08
1120.000	150.00	0.00	0.00	572.30	70.00	580.26	0.00	580.26	0.01	0.13	510.92	617.08
1120.000	150.00	0.00	0.00	572.30	80.00	580.26	0.00	580.26	0.02	0.20	510.92	617.08
1120.000	150.00	0.00	0.00	572.30	90.00	580.26	0.00	580.26	0.02	0.23	510.97	617.19
1270.000	150.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.06	0.42	227.66	240.22
1270.000	150.00	0.00	0.00	572.30	70.00	580.26	0.00	580.26	0.08	0.49	227.66	240.23
1270.000	150.00	0.00	0.00	572.30	80.00	580.26	0.00	580.26	0.11	0.56	227.66	240.23
1270.000	150.00	0.00	0.00	572.30	90.00	580.26	0.00	580.26	0.14	0.63	227.67	240.25
1320.000	50.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.09	0.62	185.23	216.50
1320.000	50.00	0.00	0.00	572.30	70.00	580.26	0.00	580.26	0.10	0.64	185.23	216.50
1320.000	50.00	0.00	0.00	572.30	80.00	580.26	0.00	580.26	0.14	0.67	185.23	216.47
1320.000	50.00	0.00	0.00	572.30	90.00	580.26	0.00	580.26	0.17	0.70	185.24	216.48
1370.000	50.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.15	0.48	155.70	156.92
1370.000	50.00	0.00	0.00	572.30	70.00	580.26	0.00	580.26	0.17	0.56	155.71	156.93
1370.000	50.00	0.00	0.00	572.30	80.00	580.26	0.00	580.26	0.20	0.63	155.70	156.91
1370.000	50.00	0.00	0.00	572.30	90.00	580.26	0.00	580.27	0.23	0.70	155.69	156.91
1420.000	50.00	0.00	0.00	572.30	60.00	580.26	0.00	580.26	0.23	0.58	125.40	124.83
1420.000	50.00	0.00	0.00	572.30	70.00	580.26	0.00	580.27	0.31	0.68	125.40	124.83
1420.000	50.00	0.00	0.00	572.30	80.00	580.26	0.00	580.27	0.41	0.77	125.40	124.83
1420.000	50.00	0.00	0.00	572.30	90.00	580.26	0.00	580.27	0.52	0.87	125.40	124.83
1470.000	50.00	0.00	0.00	573.00	60.00	580.26	0.00	580.27	0.56	0.70	85.40	80.26
1470.000	50.00	0.00	0.00	573.00	70.00	580.26	0.00	580.27	0.76	0.82	85.40	80.26
1470.000	50.00	0.00	0.00	573.00	80.00	580.26	0.00	580.27	0.99	0.94	85.40	80.26
1470.000	50.00	0.00	0.00	573.00	90.00	580.26	0.00	580.27	1.20	1.05	85.40	80.09

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FORM 1411 GO PRINTED BY ROTARY MANIFOLD FORMS

SECNO	XLCH	ELTRD	ELLC	ELMIN	O	CHSEL	CTINS	ES	10K*S	VCH	AREA	.01K
1471.000	1.00	536.50	579.50	573.00	60.00	530.26	0.00	550.27	0.49	0.81	74.00	85.99
1471.000	1.00	536.50	579.50	573.00	70.00	530.26	0.00	550.27	0.56	0.95	74.00	85.99
1471.000	1.00	536.50	579.50	573.00	80.00	530.26	0.00	550.27	0.63	1.08	74.00	85.99
1471.000	1.00	536.50	579.50	573.00	90.00	530.26	0.00	550.27	0.69	1.22	74.00	85.99
1509.000	36.00	536.50	579.50	573.00	60.00	530.26	0.00	550.27	0.69	0.81	74.00	85.99
1509.000	36.00	536.50	579.50	573.00	70.00	530.26	0.00	550.27	0.66	0.95	74.00	85.99
1509.000	36.00	536.50	579.50	573.00	80.00	530.26	0.00	550.27	0.63	1.08	74.00	85.99
1509.000	36.00	536.50	579.50	573.00	90.00	530.26	0.00	550.27	0.69	1.22	74.00	85.99
1510.000	1.00	0.00	0.00	573.00	60.00	530.26	0.00	550.27	0.56	0.78	85.59	80.24
1510.000	1.00	0.00	0.00	573.00	70.00	530.26	0.00	550.27	0.76	0.82	85.39	80.24
1510.000	1.00	0.00	0.00	573.00	80.00	530.26	0.00	550.28	0.99	0.94	85.38	80.23
1510.000	1.00	0.00	0.00	573.00	90.00	530.26	0.00	550.28	1.20	1.05	85.38	80.07
1610.000	100.00	0.00	0.00	573.00	60.00	530.27	0.00	550.27	0.72	0.29	665.26	319.26
1610.000	100.00	0.00	0.00	573.40	70.00	530.27	0.00	560.28	0.05	0.33	457.55	319.65
1610.000	100.00	0.00	0.00	573.40	80.00	530.28	0.00	560.28	0.06	0.38	457.69	319.93
1610.000	100.00	0.00	0.00	573.40	90.00	530.28	0.00	560.29	0.08	0.44	415.61	309.33
1910.000	300.00	0.00	0.00	573.00	60.00	530.27	0.00	550.27	0.19	0.12	174.56	174.36
1910.000	300.00	0.00	0.00	573.00	70.00	530.27	0.00	550.28	0.16	0.20	174.41	174.22
1910.000	300.00	0.00	0.00	573.00	80.00	530.28	0.00	560.28	0.21	0.69	174.64	174.69
1910.000	300.00	0.00	0.00	573.00	90.00	530.28	0.00	560.29	0.27	0.79	166.21	172.30
2020.000	110.00	0.00	0.00	573.00	60.00	530.27	0.00	550.28	0.52	0.71	72.45	75.61
2020.000	110.00	0.00	0.00	573.00	70.00	530.27	0.00	560.28	0.59	0.87	72.50	75.68
2020.000	110.00	0.00	0.00	573.00	80.00	530.28	0.00	560.29	1.12	0.79	72.35	75.73
2020.000	110.00	0.00	0.00	573.00	90.00	530.28	0.00	560.30	1.42	1.12	60.62	75.61
2021.000	1.00	582.40	579.50	573.00	60.00	580.27	0.00	580.28	0.52	0.64	71.29	83.03
2021.000	1.00	582.40	579.50	573.00	70.00	580.27	0.00	580.29	0.79	0.75	71.29	83.02
2021.000	1.00	582.40	579.50	573.00	80.00	580.27	0.00	580.29	0.93	1.12	71.29	83.01
2021.000	1.00	582.40	579.50	573.00	90.00	580.28	0.00	590.30	1.16	1.23	71.29	82.99
2061.000	40.00	582.40	579.50	573.00	60.00	580.27	0.00	580.28	0.52	0.84	71.29	83.03
2061.000	40.00	582.40	579.50	573.00	70.00	580.27	0.00	580.29	0.71	0.98	71.29	83.02
2061.000	40.00	582.40	579.50	573.00	80.00	580.28	0.00	590.30	0.93	1.18	71.29	83.01
2061.000	40.00	582.40	579.50	573.00	90.00	580.28	0.00	590.31	1.10	1.24	71.29	82.99
2062.000	1.00	0.00	0.00	573.00	60.00	580.27	0.00	580.28	0.63	0.75	80.44	75.59
2062.000	1.00	0.00	0.00	573.00	70.00	580.28	0.00	580.29	0.86	0.87	80.48	75.65
2062.000	1.00	0.00	0.00	573.00	80.00	580.28	0.00	590.30	1.12	0.99	80.52	75.70
2062.000	1.00	0.00	0.00	573.00	90.00	590.29	0.00	590.31	1.43	1.12	80.59	75.78
2112.000	50.00	0.00	0.00	573.20	60.00	580.27	0.00	580.29	1.31	0.99	60.30	50.97
2112.000	50.00	0.00	0.00	573.20	70.00	580.28	0.00	580.30	1.88	1.16	60.43	51.03
2112.000	50.00	0.00	0.00	573.20	80.00	580.28	0.00	580.31	2.45	1.32	60.48	51.08
2112.000	50.00	0.00	0.00	573.20	90.00	590.29	0.00	590.32	3.09	1.49	60.55	51.16
2113.000	1.00	587.90	583.90	573.20	60.00	580.27	0.00	580.29	1.27	0.99	80.35	68.58
2113.000	1.00	587.90	583.90	573.20	70.00	580.28	0.00	580.30	1.04	1.16	80.39	68.64
2113.000	1.00	587.90	583.90	573.20	80.00	580.28	0.00	590.31	1.36	1.32	80.43	68.70
2113.000	1.00	587.90	583.90	573.20	90.00	580.29	0.00	590.32	1.71	1.49	80.49	68.79

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CLSEL	CRIMS	EG	10K*S	VCH	AREA	.01K
2134.000	21.30	597.50	585.50	573.20	60.00	580.27	0.00	580.29	0.76	0.99	60.37	68.61
2134.000	21.30	597.50	585.50	573.20	70.00	580.31	0.00	580.34	0.90	1.16	60.42	55.60
2134.000	21.30	597.50	585.50	573.20	80.00	580.34	0.00	580.38	1.04	1.33	60.47	60.75
2134.000	21.30	597.50	585.50	573.20	90.00	580.38	0.00	580.42	1.18	1.50	60.54	66.12
2135.000	1.30	0.00	0.00	573.20	60.00	580.27	0.00	580.29	1.39	0.99	60.56	50.96
2135.000	1.30	0.00	0.00	573.20	70.00	580.32	0.00	580.33	1.63	1.16	60.61	51.01
2135.000	1.30	0.00	0.00	573.20	80.00	580.36	0.00	580.38	1.87	1.33	60.66	51.06
2135.000	1.30	0.00	0.00	573.20	90.00	580.41	0.00	580.42	2.11	1.49	60.73	51.14
2205.000	70.00	0.00	0.00	573.40	60.00	580.29	0.00	580.29	0.19	0.49	219.21	182.83
2205.000	70.00	0.00	0.00	573.40	70.00	580.30	0.00	580.30	0.15	0.57	219.03	183.57
2205.000	70.00	0.00	0.00	573.40	80.00	580.31	0.00	580.32	0.19	0.65	220.30	184.13
2205.000	70.00	0.00	0.00	573.40	90.00	580.32	0.00	580.33	0.24	0.73	220.97	184.41
2275.000	70.00	0.00	0.00	573.60	60.00	580.28	0.00	580.29	0.82	0.91	65.87	68.11
2275.000	70.00	0.00	0.00	573.60	70.00	580.29	0.00	580.31	1.05	1.06	65.98	68.31
2275.000	70.00	0.00	0.00	573.60	80.00	580.30	0.00	580.33	1.35	1.21	66.10	68.49
2275.000	70.00	0.00	0.00	573.60	90.00	580.31	0.00	580.34	1.73	1.36	66.13	68.52
2397.000	122.00	597.70	573.50	573.60	60.00	580.30	0.00	580.35	0.73	0.99	64.37	65.19
2397.000	122.00	597.70	573.50	573.60	70.00	580.36	0.00	580.37	0.92	1.16	66.66	69.30
2397.000	122.00	597.70	573.50	573.60	80.00	580.39	0.00	580.41	1.32	1.20	66.87	69.61
2397.000	122.00	597.70	573.50	573.60	90.00	580.42	0.00	580.45	1.65	1.34	67.22	70.13
2572.000	175.00	0.00	0.00	574.00	60.00	580.39	0.00	580.39	0.55	0.91	224.91	134.10
2572.000	175.00	0.00	0.00	574.00	70.00	580.41	0.00	580.39	0.29	0.99	217.44	136.61
2572.000	175.00	0.00	0.00	574.00	80.00	580.43	0.00	580.42	0.33	0.73	220.36	138.50
2572.000	175.00	0.00	0.00	574.00	90.00	580.46	0.00	580.47	0.41	0.81	223.72	140.91
2737.000	165.00	0.00	0.00	574.10	60.00	580.34	0.00	580.37	2.06	1.24	48.57	41.79
2737.000	165.00	0.00	0.00	574.10	70.00	580.37	0.00	580.41	2.78	1.44	48.75	42.00
2737.000	165.00	0.00	0.00	574.10	80.00	580.41	0.00	580.45	3.57	1.63	49.09	42.32
2737.000	165.00	0.00	0.00	574.10	90.00	580.45	0.00	580.50	4.46	1.82	49.56	42.78
2923.000	186.00	584.60	579.00	574.40	60.00	580.39	0.00	580.44	10.87	1.70	35.22	18.22
2923.000	186.00	584.60	579.00	574.40	70.00	580.44	0.00	580.50	14.80	1.99	35.22	18.20
2923.000	186.00	584.60	579.00	574.40	80.00	580.50	0.00	580.55	19.30	2.27	35.22	18.17
2923.000	186.00	584.60	579.00	574.40	90.00	580.56	0.00	580.61	24.52	2.55	35.23	18.14
2973.000	50.00	0.00	0.00	574.40	60.00	580.44	0.00	580.45	0.36	0.73	180.00	99.40
2973.000	50.00	0.00	0.00	574.40	70.00	580.51	0.00	580.52	0.46	0.85	185.61	102.84
2973.000	50.00	0.00	0.00	574.40	80.00	580.58	0.00	580.59	0.57	0.92	190.88	106.37
2973.000	50.00	0.00	0.00	574.40	90.00	580.64	0.00	580.66	0.69	1.04	197.11	110.63
3273.000	300.00	0.00	0.00	575.40	60.00	580.46	0.00	580.46	0.65	0.72	126.71	89.40
3273.000	300.00	0.00	0.00	575.40	70.00	580.52	0.00	580.53	0.58	0.82	129.11	91.78
3273.000	300.00	0.00	0.00	575.40	80.00	580.60	0.00	580.61	0.72	0.92	131.82	96.50
3273.000	300.00	0.00	0.00	575.40	90.00	580.69	0.00	580.70	0.86	1.02	134.87	97.59
3323.000	50.00	0.00	0.00	575.40	60.00	580.55	0.00	580.47	2.59	1.26	47.50	37.26
3323.000	50.00	0.00	0.00	575.40	70.00	580.61	0.00	580.59	3.39	1.45	48.15	38.24
3323.000	50.00	0.00	0.00	575.40	80.00	580.69	0.00	580.69	4.23	1.63	48.94	38.92
3323.000	50.00	0.00	0.00	575.40	90.00	580.67	0.00	580.72	5.12	1.81	49.68	39.78

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	SECNO	XLCH	ELVTD	ELLC	ELMID	Q	CUSCL	CRILS	EE	10K*S	VCH	AREA	.01K
	3486.000	165.00	303.00	561.20	575.40	60.00	5[illegible]	0.00	582.52	3.54	1.31	45.64	32.34
1	3[illegible]	165.00	[illegible]	561.20	575.40	70.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	3[illegible]	165.00	[illegible]	561.20	575.40	80.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	3[illegible]	165.00	[illegible]	561.20	575.40	90.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4													
5	3558.000	70.00	0.00	0.00	576.40	60.00	580.52	0.00	580.54	2.30	1.21	49.59	38.67
6	3558.000	70.00	0.00	0.00	576.40	70.00	580.61	0.00	580.66	3.05	1.39	50.43	40.10
7	3558.000	70.00	0.00	0.00	576.40	80.00	580.71	0.00	580.78	3.87	1.56	51.33	41.77
8	3558.000	70.00	0.00	0.00	576.40	90.00	[illegible]	0.00	[illegible]	4.80	1.66	52.17	43.41
9													
10	3610.000	51.50	303.00	581.10	576.40	60.00	580.52	0.00	580.55	2.40	1.22	49.29	38.73
11	3610.000	51.50	303.00	581.10	576.40	70.00	580.62	0.00	580.65	3.06	1.39	50.37	40.00
12	3610.000	51.50	303.00	581.10	576.40	80.00	580.72	0.00	580.78	3.89	1.55	51.76	41.66
13	3610.000	51.50	303.00	581.10	576.40	90.00	[illegible]	0.00	[illegible]	4.85	1.67	53.10	43.50
14													
15	3630.000	20.00	0.00	0.00	580.20	60.00	580.63	0.00	580.63	150.69	0.82	93.10	4.61
16	3630.000	20.00	0.00	0.00	580.20	70.00	580.66	0.00	580.67	131.53	0.81	96.71	6.10
17	3630.000	20.00	0.00	0.00	580.20	80.00	580.79	0.00	580.80	94.46	0.77	103.84	8.23
18	3630.000	20.00	0.00	0.00	580.20	90.00	580.93	0.00	580.93	72.42	0.75	120.79	10.56
19													
20	4730.000	1570.00	0.00	0.00	580.20	60.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	4730.000	1570.00	0.00	0.00	580.20	70.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22	4730.000	1570.00	0.00	0.00	580.20	80.00	582.76	0.00	582.76	6.00	0.37	161.43	24.50
23	4730.000	1570.00	0.00	0.00	580.20	70.00	582.89	0.00	582.89	6.83	0.41	171.90	26.79
24													
25	5797.000	1330.00	0.00	0.00	582.40	70.00	[illegible]	0.00	[illegible]	[illegible]	0.32	[illegible]	[illegible]
26	[illegible]	1530.00	0.00	0.00	[illegible]	50.00	[illegible]	0.00	[illegible]	[illegible]	0.23	[illegible]	[illegible]
27	[illegible]	1530.00	0.00	0.00	[illegible]	60.00	[illegible]	0.00	[illegible]	[illegible]	0.25	[illegible]	[illegible]
28	6251.000	1550.00	0.00	0.00	584.50	70.00	584.61	0.00	584.61	21.14	0.24	267.63	15.22
29													
30	7205.000	950.00	0.00	0.00	586.00	40.00	585.00	0.00	585.00	2.57	0.11	349.19	24.96
31	7205.000	950.00	0.00	0.00	586.00	50.00	585.20	0.00	585.20	3.53	0.13	388.66	29.45
32	7205.000	950.00	0.00	0.00	586.00	60.00	585.48	0.00	585.48	5.16	0.14	421.30	33.75
33	7205.000	950.00	0.00	0.00	586.00	70.00	585.82	0.00	585.82	7.31	0.15	457.07	38.25
34													
35	8000.000	805.00	0.00	0.00	575.00	40.00	585.00	0.00	585.00	0.00	0.01	3498.51	850.96
36	8000.000	805.00	0.00	0.00	575.00	50.00	585.10	0.00	585.10	0.00	0.02	3574.09	875.90
37	8000.000	805.00	0.00	0.00	575.00	60.00	585.18	0.00	585.18	0.00	0.02	3639.75	897.87
38	8000.000	805.00	0.00	0.00	575.00	70.00	585.27	0.00	585.27	0.01	0.02	3705.10	919.55
39													
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SUMMARY FILTOUT TABLE 150

SEC ID	P	C.SEL	VEL.SD	VEL.A	VEL.DIR	SEL.ID	#.I
130.300	60.0.	550.26	0.00	0.00	0.00	485.72	0.00
130.000	70.00	580.26	0.00	0.00	0.00	485.72	0.00
130.300	80.00	580.26	0.00	0.00	0.00	485.72	0.00
130.300	90.00	580.26	0.00	0.00	0.00	485.72	0.00
970.300	60.00	580.26	0.00	0.00	0.00	164.12	870.00
970.000	70.00	580.26	0.00	0.00	0.00	164.12	870.00
970.000	80.00	580.26	0.00	0.00	0.00	164.12	870.00
970.300	90.00	580.26	0.00	0.00	0.00	164.12	870.00
1120.300	60.00	580.26	0.00	0.00	0.00	30.00	150.00
1120.000	70.00	580.26	0.00	0.00	0.00	30.00	150.00
1120.300	80.00	580.26	0.00	0.00	0.00	30.00	150.00
1120.000	90.00	580.26	0.00	0.00	0.00	30.00	150.00
1270.300	60.00	580.26	0.00	-0.00	0.00	30.00	150.00
1270.300	70.00	580.26	0.00	-0.00	0.00	30.00	150.00
1270.000	80.00	580.26	0.00	-0.00	0.00	30.00	150.00
1271.000	90.00	580.26	0.00	-0.00	-0.00	30.00	150.00
1320.300	60.00	580.26	0.00	-0.00	0.00	24.00	50.00
1320.300	70.00	580.26	0.00	-0.00	0.00	24.00	50.00
1320.000	80.00	580.26	0.00	-0.00	0.00	24.00	50.00
1320.000	90.00	580.26	0.00	-0.00	-0.00	24.00	50.00
1370.000	60.00	580.26	0.00	0.00	0.00	20.00	50.00
1370.000	70.00	580.26	0.00	0.00	0.00	20.00	50.00
1370.000	80.00	580.26	0.00	0.00	0.00	20.00	50.00
1370.000	90.00	580.26	0.00	0.00	-0.00	20.00	50.00
1420.000	60.00	580.26	0.00	-0.00	0.00	16.00	50.00
1420.000	70.00	580.26	0.00	-0.00	0.00	16.00	50.00
1420.000	80.00	580.26	0.00	-0.00	0.00	16.00	50.00
1420.000	90.00	580.26	0.00	-0.00	-0.00	16.00	50.00
1470.000	60.00	580.26	0.00	0.00	0.00	11.96	50.00
1470.000	70.00	580.26	0.00	-0.00	0.00	11.96	50.00
1470.000	80.00	580.26	0.00	-0.00	0.00	11.96	50.00
1470.000	90.00	580.26	0.00	-0.00	-0.00	11.96	50.00
1471.000	60.00	580.26	0.00	-0.00	0.00	11.96	1.00
1471.000	70.00	580.26	0.00	-0.00	0.00	11.96	1.00
1471.000	80.00	580.25	0.00	-0.00	0.00	11.96	1.00
1471.000	90.00	580.25	0.00	-0.00	-0.00	11.96	1.00
1509.000	60.00	580.26	0.00	0.00	0.00	11.96	50.00
1509.000	70.00	580.26	0.00	0.00	0.00	11.96	50.00
1509.000	80.00	580.26	0.00	0.00	0.00	11.96	50.00
1509.000	90.00	580.26	0.00	0.00	-0.00	11.96	50.00
1510.000	60.00	580.26	0.00	0.00	0.00	11.96	1.00
1510.000	70.00	580.26	0.00	0.00	0.00	11.96	1.00
1510.000	80.00	580.26	0.00	0.00	0.00	11.96	1.00
1510.000	90.00	580.26	0.00	0.00	0.00	11.96	1.00

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SECNO	Q	CNSEL	DIFWSP	DIFWSX	DIFKUS	TOP.ID	XLCH
1610.000	60.00	580.27	[illegible]	[illegible]	[illegible]	[illegible]	100.00
1610.000	70.00	580.27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1610.000	80.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1610.000	90.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1910.000	60.00	580.27	0.00	-0.00	0.00	42.68	300.00
1910.000	70.00	580.27	0.00	-0.00	0.00	42.67	300.00
1910.000	80.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1910.000	90.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2020.000	60.00	580.27	0.00	-0.00	0.00	11.97	110.00
2020.000	70.00	580.27	0.00	-0.00	0.00	11.97	110.00
2020.000	80.00	580.28	0.00	-0.00	0.00	11.97	110.00
2020.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2021.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2021.000	70.00	580.27	0.00	-0.00	0.00	11.97	1.00
2021.000	80.00	580.27	0.00	-0.00	0.00	11.97	1.00
2021.000	90.00	580.28	0.00	-0.00	0.01	11.97	1.00
2061.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2061.000	[illegible]	580.27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2061.000	[illegible]	580.28	0.00	0.00	0.00	11.97	45.00
2061.000	90.00	580.28	0.00	0.00	0.01	11.97	45.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2062.000	90.00	580.29	0.00	0.01	0.02	11.97	1.00
2112.000	60.00	580.27	0.00	-0.00	0.00	9.15	50.00
2112.000	70.00	580.27	0.00	-0.00	0.00	9.15	50.00
2112.000	80.00	580.28	0.00	-0.00	0.00	9.15	50.00
2112.000	90.00	580.29	0.00	-0.00	0.00	[illegible]	50.00
2113.000	60.00	580.27	0.00	0.00	0.00	9.15	1.00
2113.000	70.00	580.28	0.00	0.00	0.00	9.15	1.00
2113.000	80.00	580.28	0.00	0.00	0.00	9.15	1.00
2113.000	90.00	580.29	0.00	0.00	0.02	9.15	1.00
2134.000	60.00	580.27	0.00	0.00	0.00	9.15	21.00
2134.000	70.00	580.28	0.00	0.00	0.00	9.15	21.00
2134.000	80.00	580.28	0.00	0.00	0.00	9.15	21.00
2134.000	90.00	580.29	0.00	0.00	0.02	9.15	21.00
2135.000	60.00	580.27	0.00	0.00	0.00	9.15	1.00
2135.000	70.00	580.28	0.00	0.00	0.00	9.15	1.00
2135.000	80.00	580.28	0.00	0.00	0.00	9.15	1.00
2135.000	90.00	580.29	0.00	0.00	0.02	9.15	1.00
2205.000	60.00	580.29	0.00	0.02	0.00	45.00	70.00
2205.000	70.00	580.30	0.00	0.02	0.00	45.00	70.00
2205.000	80.00	580.31	0.00	0.03	0.00	45.00	70.00
2205.000	90.00	580.33	0.00	0.04	0.04	45.00	70.00

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SECNO	Q	CHSEL	DIFHSP	DIFHEX	DIFKHS	TCPWID	XLCK
2275.000	50.00	530.23	0.00	-0.01	0.00	10.00	70.00
2275.000	70.00	530.33	0.00	-0.01	0.00	10.00	70.00
2275.000	80.00	530.39	0.00	-0.01	0.00	10.00	70.00
2275.000	90.00	530.43	0.00	-0.01	0.00	10.00	70.00
2397.000	60.00	530.33	0.00	0.03	0.00	10.00	122.00
2397.000	70.00	530.36	0.00	0.02	0.00	10.00	122.00
2397.000	80.00	530.39	0.00	0.04	0.00	10.00	122.00
2397.000	90.00	530.43	0.00	0.01	0.00	10.00	122.00
2572.000	60.00	530.35	0.00	0.02	0.00	81.28	175.00
2572.000	70.00	530.38	0.00	0.02	0.00	81.33	175.00
2572.000	80.00	530.42	0.00	0.01	0.00	81.38	175.00
2572.000	90.00	530.46	0.00	0.01	0.00	81.43	175.00
2757.000	60.00	530.34	0.00	-0.01	0.00	8.00	185.00
2757.000	70.00	530.37	0.00	-0.01	0.00	8.00	185.00
2757.000	80.00	530.41	0.00	-0.01	0.00	8.00	185.00
2757.000	90.00	530.45	0.00	-0.01	0.00	8.00	185.00
2923.000	60.00	530.50	0.00	0.09	0.00	8.00	166.00
2923.000	90.00	530.54	0.00	0.11	0.00	8.00	166.00
2973.000	60.00	580.63	0.00	0.11	0.22	74.23	50.00
2973.000	90.00	580.67	0.00	0.11	0.22	74.23	50.00
3273.000	60.00	580.66	0.00	0.01	0.00	35.00	300.00
3273.000	70.00	580.69	0.00	0.01	0.00	35.00	300.00
3273.000	80.00	580.73	0.00	0.01	0.00	35.00	300.00
3273.000	90.00	580.76	0.00	0.01	0.00	35.00	300.00
3323.000	60.00	580.45	0.00	-0.01	0.00	10.00	50.00
3323.000	70.00	580.51	0.00	-0.01	0.00	10.00	50.00
3323.000	80.00	580.59	0.00	-0.01	0.00	10.00	50.00
3323.000	90.00	580.67	0.00	-0.02	0.22	10.00	50.00
3467.000	60.00	530.49	0.00	0.05	0.00	10.00	165.00
3485.000	70.00	580.58	0.00	0.06	0.00	10.00	165.00
3467.000	80.00	580.63	0.00	0.09	0.00	10.00	165.00
3518.000	90.00	580.73	0.00	0.11	0.29	10.00	115.00
3558.000	60.00	580.62	0.00	0.02	0.00	12.00	70.00
3558.000	70.00	580.65	0.00	0.03	0.00	12.00	70.00
3558.000	80.00	580.70	0.00	0.03	0.00	12.00	70.00
3558.000	90.00	580.84	0.00	0.04	0.33	12.00	70.00
3610.000	60.00	580.53	0.00	0.01	0.00	12.00	56.53
3610.000	70.00	580.62	0.00	0.02	0.00	12.00	56.53
3610.000	80.00	580.74	0.00	0.02	0.00	12.00	56.53
3610.000	90.00	580.85	0.00	0.02	0.33	12.00	56.53

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SECNO	Q	CUSEL	DIFHSP	DIFUSX	DIFKUS	TOPMID	XLCH
3630.000	60.00	520.36	0.00	[illegible]	0.00	[illegible]	[illegible]
[illegible]	70.00	[illegible]	0.00	[illegible]	0.00	[illegible]	[illegible]
3630.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4700.000	40.00	582.42	0.00	1.86	0.00	72.71	1070.00
4700.000	50.00	582.61	0.00	1.95	0.00	75.01	1070.00
4700.000	60.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4700.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1070.00
6250.000	40.00	584.26	0.00	[illegible]	0.00	[illegible]	1550.00
6250.000	50.00	584.39	0.00	1.78	0.00	471.92	1550.00
6250.000	60.00	584.50	0.00	1.75	0.00	475.36	1550.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7200.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7200.000	50.00	585.10	0.00	0.70	0.00	380.00	950.00
7200.000	60.00	585.13	0.00	[illegible]	0.00	474.61	930.00
7200.000	70.00	585.26	0.00	0.65	0.27	420.90	950.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8000.000	60.00	585.18	0.00	0.00	0.00	769.92	800.00
8000.000	70.00	585.27	0.00	0.00	0.27	772.20	800.00

[illegible]

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     PRSE HEC-2S, DATED JUN 76 UPDATED TO JUNE 1979
     EXAMPLE PROB. - 01
     SPECIFICATION - 50,55,52
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C
T1 SCIOTO RIVER AT VILLAGE PIKE JUNCTION-NO WARNING DATA
T2 12-YEAR                                    SEGMENT 1A
T3       S,ROCKWOOD DAMG. SOLES

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
          0.        2.        0.        1.  3.000000      0.20      1.0       1.  533.500     5.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
      1.000     2.000    -1.000     3.000     3.000     0.070     0.300     0.000     0.000     0.000

J3  ET TABLE CODES FOR SUBAREA OUTFLOW
    150.000   110.000   200.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J4  LPRNT     NLNSEC                    ********REQUESTED SECTION NUMBERS********
          2
      - 0.300   -10.00     0.000     0.000     0.000     0.000     3.000     5.000     0.300     0.000
C         1.500     1.000   205.000   270.300   220.100     5.000     5.000     1.000     5.000     1.000
ET        0.000     0.000     0.000     0.000     1.410     0.000     0.000     0.000     0.000     0.000
NC        0.080     0.060     0.040     0.300     0.500     0.030     0.000     0.000     0.000     0.000

                FIELD PORK SECTION XSP-C

X1     6287.000    10.000   194.000   206.000    65.000    65.000    65.000     0.000    -1.500     0.000
X3        0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR      600.000    31.000   586.600    32.000   586.600   146.000   584.300   194.000   593.700   200.000
GR      584.100   214.000   577.400   213.000   590.000   159.000   582.600   201.000   589.000

X1     6352.000    14.000   197.500   202.500    65.000    65.300    65.000     0.000    -1.500     0.000
X3        0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR      600.000    31.000   587.600    32.000   587.600   186.000   586.200   197.500   584.700   198.000
GR      568.800   199.000   583.700   200.000   552.900   201.000   594.700   552.200   576.200   202.500
GR      582.300   215.000   590.000   209.000   591.600   202.000   600.200   595.000     0.000     0.000
ET        0.000     1.520     3.000     0.000     4.000     0.000     0.600     0.700   582.200   582.200

X1     6377.000     0.000     0.000     0.000    15.000    25.000    25.000     0.000     0.000     0.000
GR        0.000     0.000     1.000   587.200   587.200     0.000     0.300     0.300     0.000     0.000
X3        0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR       14.000    31.000   588.500    10.000   146.000   585.500     0.000   167.000   587.900     0.000
GR      197.500   587.900   584.700   198.000   587.900   586.200   199.000   587.900   587.000   200.000
GR      587.900   587.200   231.000   587.900   587.000   202.000   587.900   586.200   202.500   587.900
GR      584.700   215.000   587.900     0.000   230.000   588.500     0.000   231.000   598.500     0.000
GR      593.000   598.500     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     6427.000    10.000   194.000   206.000    50.000    50.000    50.000     0.000    -1.500     0.000
X3        0.000     0.000     0.000   167.000     0.000   230.000     0.000     0.000     0.000     0.000
GR      600.000    31.000   587.100    32.000   587.600   198.000   584.300   194.000   584.700   200.000
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GR	584.100	206.000	587.300	215.000	590.000	259.000	591.600	592.000	600.000	393.000

VALLEY SECTION #37

X1	6642.000	14.000	197.500	202.500	211.000	215.000	215.000	0.000	-1.200	0.000
X3	0.000	0.000	0.000	170.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	600.000	31.000	593.400	32.000	596.600	119.000	594.300	594.000	583.700	200.000
GR	584.100	206.000	587.300	215.000	590.000	259.000	591.600	592.000	600.000	393.000

FIELD MOOK #37-B

X1	6693.000	14.000	197.500	202.500	53.000	53.000	53.000	0.000	-1.200	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GT	600.000	31.000	590.400	32.000	589.100	119.000	596.200	197.500	584.700	199.000
GT	593.000	194.000	595.700	259.000	592.000	301.000	597.700	592.300	596.200	202.500
GT	597.300	215.000	600.000	259.000	599.600	312.000	600.000	600.000	0.000	0.000
GR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	595.700	595.700

X1	6735.000	0.000	0.000	0.000	40.000	40.000	40.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	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
GT	197.500	589.000	585.000	198.000	589.000	595.500	199.000	589.000	587.300	200.000
GT	589.000	587.500	201.000	589.000	587.300	202.000	589.000	596.500	202.500	589.000
GT	585.000	215.000	589.000	0.000	230.000	590.300	0.000	231.000	589.000	0.000
GR	595.700	600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

FIELD #37E

X1	6664.000	14.000	197.500	202.500	129.000	129.000	129.000	0.000	-1.600	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GT	600.000	31.000	590.400	32.000	596.600	119.000	596.200	197.500	596.700	199.000
GT	587.300	194.000	595.700	259.000	595.000	201.000	597.700	592.300	596.200	202.500
GR	587.300	215.000	590.000	259.000	591.600	392.000	600.000	393.000	0.000	0.000
NC	0.000	0.000	0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6865.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000
GT	14.000	31.000	596.400	0.000	32.000	536.600	0.000	198.000	597.900	0.000
GT	197.500	587.900	584.600	198.000	587.900	586.100	199.000	587.900	586.900	200.000
GT	587.900	587.100	201.000	587.900	586.900	202.000	587.900	596.100	202.500	587.900
GT	584.600	215.000	587.900	0.000	259.000	501.400	0.000	592.000	600.000	0.000
GT	393.000	590.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6387.000	0.000	0.000	0.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	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

X1	6868.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000

FIELD #00K #37

X1	7014.000	14.000	197.500	202.500	126.000	126.000	126.000	0.000	-0.600	0.000
X3	0.000	0.000	0.000	170.000	0.000	230.000	0.000	0.000	0.000	0.000

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GR	600.000	31.000	590.400	32.000	586.000	138.000	586.200	197.500	586.700	198.000
GR	583.900	199.000	583.700	200.000	583.900	201.000	584.700	202.000	586.200	202.500
GR	587.300	215.000	587.300	259.000	591.600	392.000	600.000	393.000	0.000	0.000
ST	0.000	1.520	3.000	0.000	4.000	0.000	19.600	0.000	583.100	583.100
X1	7036.100	0.200	0.000	0.300	24.000	24.000	25.200	0.300	0.200	0.200
X2	0.000	0.300	1.000	590.200	589.500	0.000	0.300	0.000	0.300	0.500
X3	0.000	0.300	2.000	170.200	3.000	250.000	0.300	0.000	0.300	0.000
BT	14.000	31.200	599.400	0.300	169.000	589.400	0.000	170.000	589.500	0.000
ET	197.600	5[illegible].300	3[illegible]	19[illegible]	2[illegible]	5[illegible]	19[illegible]	5[illegible]	5[illegible]	200.000
ET	539.500	5[illegible]	3[illegible]	539.300	5[illegible]	20[illegible]	5[illegible]	5[illegible]	20[illegible]	5[illegible]
BT	585.400	2[illegible]	5[illegible]	0.300	2[illegible]	5[illegible]	1.000	3[illegible]	5[illegible]	0.000
BT	393.300	599.400	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
	VALLEY SECTION #38									
X1	7235.000	5.000	155.000	200.000	220.200	220.000	220.000	1.000	2.000	0.000
GR	300.000	15.000	592.600	16.000	587.500	149.000	585.700	195.000	585.300	200.000
GR	585.300	204.000	583.900	212.000	590.300	268.000	600.000	290.000	0.000	0.000
ET	0.000	7.100	0.000	0.000	0.000	0.000	180.000	212.000	0.000	0.000
	VALLEY SECTION #39									
X1	7908.000	12.000	193.300	202.000	100.700	150.000	100.000	2.000	0.000	2.000
GR	600.000	15.000	592.600	16.000	588.600	149.000	584.500	193.000	583.200	199.500
GR	586.[illegible]	1[illegible]	5[illegible]	2[illegible]	5[illegible]	2[illegible]	2[illegible]	2[illegible]	2[illegible]	212.000
GR	590.500	2[illegible]	5[illegible]	2[illegible]	0.300	0.300	1.000	1.000	0.000	1.000
BT	0.000	1[illegible]	0.200	0.000	0.000	0.000	1.000	1.000	0.000	0.000
ET	0.000	7.100	0.000	0.000	0.000	0.000	180.000	212.000	0.000	0.000
X1	7905.000	3.000	0.500	3.000	1.000	1.200	1.000	3.000	3.000	3.000
BT	12.000	15.000	600.200	0.000	16.000	592.500	0.000	193.000	583.600	3.000
BT	198.400	5[illegible]	5[illegible]	19[illegible]	5[illegible]	5[illegible]	159.500	2[illegible]	5[illegible]	205.000
BT	588.600	586.500	231.500	582.600	535.800	232.000	589.600	584.500	212.000	588.900
BT	0.000	2[illegible]	590.300	0.000	290.300	600.300	0.000	3.000	0.000	0.000
ET	0.000	7.100	0.000	0.000	0.000	0.000	180.000	240.000	0.000	0.000
X1	7943.000	5.000	0.000	0.002	34.200	34.000	34.000	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
NG	0.000	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	7.100	0.000	0.000	0.000	0.000	150.000	240.000	0.000	0.000
X1	7954.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
	VALLEY SECTION #39									
X1	8674.000	0.000	155.000	205.000	670.000	670.000	420.000	0.000	0.000	0.000
GR	590.000	15.000	592.300	120.000	589.300	149.000	584.300	195.000	585.300	200.000
GR	586.500	205.000	589.600	211.000	591.600	273.000	600.000	275.000	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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  FLOOD RELEASE DATA FOR SUBAREA 21   007
  PROJECT YEAR =  71
  IDENTIFIER =  5/29/80
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C
C  ADD 20,000 CFS TO VILLAGE FIS HYDROGRAPH FOR PROJECT FLOWS
C  ADD 10,000 CFS TO ROCKWOOD BASIC FLOWS FOR PROJECT FLOWS
T3      S.ROCKWOOD BASIC, FLOWS

J1  ICHECK    ITAB        METRC       IDTF       STAT      METRIC     HYDPRS      G          TSEL       FD
          0.          2.          0.         0.  1.000000      1.00        3.0        5.    500.250      3.000

J2  NPLOT     IPLOT      PRFVS      XSECV      XSECI        FR       ALLOC       IECS       CHNI      ITRACE
          1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  LROPT     METRIC                    ******* PREHISTORIC STATION DATA *******
       -10.000    -10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
NC       0.040      0.030      0.035      0.100      0.300      0.000      0.030      0.000      0.030      0.030
QO       5.000    -10.000     70.000    -10.000     90.000      0.000      0.000      0.000      0.000      0.000
LS       0.010      0.100      0.100      0.030      1.200      0.030      0.030      0.000      0.000      0.000

X1     100.000      0.000    220.000    272.000      0.000      0.000      0.000      0.000      0.000      0.000
GR     564.600      0.000    577.000     25.000    577.000    226.000    573.000    228.000    570.500    250.000
GR     572.600    272.000    576.300    278.000    577.000    449.000    580.000    500.000      0.000      0.000

VALLEY #27

X1     975.000     10.000    195.000    243.000    870.000    870.000    870.000      0.000      0.000      0.000
GR     565.200    125.000    577.100    126.000    576.600    195.000    572.300    215.000    572.500    229.000
GR     574.300    243.000    574.200    248.000    574.900    275.000    584.000    300.000    585.000    450.000

X1    1120.000      0.000      0.000      0.000    150.000    150.000    150.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    170.000      0.000    258.000      0.000      0.000      0.000      0.000

X1    1270.000     10.000    215.000    226.000    150.000    150.000    150.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    204.000      0.000    234.000      0.500      0.300      0.300      0.300
GR     565.200    125.000    577.100    126.000    576.600    195.000    572.300    215.000    572.500    229.000
GR     574.500    243.000    574.600    248.000    574.900    275.000    584.000    300.000    585.000    450.000

X1    1320.000      0.000      0.000      0.000     50.000     60.000      0.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    207.300      0.000    251.000      0.200      0.100      0.000      0.000

X1    1370.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      0.000      0.000
X3       0.000      0.000      0.000    209.000      0.000    226.300      0.500      0.000      0.000      0.000

SDC 10/S SOUTH FORK RIVER OR.
X1    1420.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      0.000      0.000
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X3	0.000	0.000	0.000	211.000	0.000		0.000	0.000	0.000	0.000
	D/S FACE SOUTH HURON RIVER DR.									
X1	1470.000	0.000	1.000	15.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	380.700	380.700	0.000
GR	584.500	0.000	575.400	0.000	573.400	1.000	573.000	7.000	573.000	12.900
GR	584.500	13.000	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
X1	1471.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	380.700	380.700	0.000
BT	5.000	0.000	584.500	0.000	1.000	584.500	0.000	1.100	584.500	579.300
BT	12.900	584.500	579.300	13.000	584.500	0.000	0.000	0.000	0.000	0.000
X1	1505.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	381.000	382.100	0.000
XC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	C/L 1ST SOUTH HURON RIVER DR.									
X1	1510.000	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	381.000	382.100	0.000
	1ST DR'S SOUTH HURON RIVER DR.									
X1	1610.000	7.000	111.000	129.000	100.000	100.000	100.000	0.000	0.000	0.000
GR	580.000	0.000	579.000	30.000	575.400	175.000	573.600	111.000	573.400	120.000
GT	574.400	129.000	532.900	147.000	0.000	0.000	0.000	0.000	0.000	0.000
	110' D/S DIXIE HWY.									
X1	1910.000	9.000	113.000	127.000	200.000	370.000	300.000	0.000	0.000	0.000
GR	581.000	0.000	583.000	66.000	575.400	175.000	574.100	113.000	573.000	120.000
GR	575.600	127.000	571.900	93.000	565.000	165.000	565.000	310.000	0.000	0.000
GT	0.000	0.000	0.000	0.000	0.100	0.000	0.000	0.000	1.000	93.000
	D/S FACE DIXIE HWY.									
X1	2026.000	8.000	1.000	93.000	110.000	110.000	100.000	1.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	381.500	582.400	0.000
GR	582.400	0.000	574.100	1.000	574.100	1.100	573.000	7.000	574.000	12.900
GR	582.600	13.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
XC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2021.000	0.000	0.000	0.000	1.000	1.100	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	380.500	380.500	0.000
BT	5.000	0.000	582.400	0.000	1.000	582.400	0.000	1.100	582.400	579.500
BT	12.900	582.400	579.500	13.000	582.400	0.000	0.000	0.000	0.000	0.000
X1	2041.000	0.000	0.000	0.000	0.000	0.000	0.000	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	581.000	581.400	0.000
XC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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U/S FACE DIXIE HWY.

X1	2052.300	0.000	0.000	0.300	0.000	1.000	1.300	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.300	0.000	0.000	0.000	537.900	537.900	0.000

D/S FACE PENN CENTRAL R.R.

X1	2112.300	5.000	0.000	15.400	50.000	50.000	50.000	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.000	0.000	0.000	0.000	566.000	566.000	0.000
SF	537.300	0.000	537.300	0.000	537.300	0.000	537.300	11.000	537.300	15.200
SP	537.900	15.600	0.000	0.000	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

X1	2105.300	0.000	0.000	5.000	1.300	1.000	1.000	0.000	0.000	0.000
X3	10.300	0.000	0.000	0.000	0.300	0.000	0.000	566.000	566.000	0.000
ST	6.000	5.000	537.900	0.000	6.400	567.900	0.000	6.500	567.900	583.900
NT	11.000	567.900	533.900	15.500	537.900	583.900	15.600	567.900	0.000	0.000

X1	2156.300	0.000	0.000	0.000	21.300	0.000	0.000	0.000	0.000	0.000
X3	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X5	10.000	0.000	0.000	0.000	0.000	0.000	0.000	567.900	567.900	0.000
NC	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PENN CENTRAL R.R.

X1	2135.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	587.900	587.900	0.000

VALLEY STREAM D.C. R.R. & I-75 N. BOUND OFF RAMP

X1	2205.000	9.000	94.000	106.000	70.200	70.000	70.000	0.000	0.000	0.000
X3	0.300	0.000	0.000	77.500	0.300	122.500	0.000	0.000	0.000	0.000
SP	590.300	0.000	580.600	0.000	577.700	81.000	573.900	94.000	573.400	100.000
SR	579.100	106.000	577.900	116.000	410.500	337.000	320.000	537.000	0.000	0.000

D/S FACE I-75 N. BOUND. OFF RAMP

X1	2275.000	12.000	95.000	105.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.300	0.000	0.000	0.000	587.700	587.700	0.000
SF	588.900	0.000	577.300	73.900	573.100	85.000	575.900	25.000	573.500	83.500
SR	579.600	95.200	575.800	120.300	573.600	101.000	573.500	454.300	575.300	125.300
6R	579.200	125.000	587.700	200.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.950	3.000	0.000	3.610	0.000	42.200	0.000	573.600	573.600

U/S FACE I-75 N. BOUND. OFF RAMP

X1	2397.000	0.000	0.000	0.000	122.000	122.000	122.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	573.500	587.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	588.900	587.700	0.000
SF	22.000	0.000	580.900	0.000	73.900	586.300	0.000	586.700	586.200	0.000
SR	95.000	586.200	575.500	0.000	586.200	587.700	73.200	586.200	0.000	100.000
6R	588.200	575.500	587.700	575.200	575.500	120.400	586.200	574.000	573.000	586.200
SB	575.300	125.000	588.000	0.000	200.000	587.700	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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VALLEY BETWEEN N.B. OFF RAMP & I-75

X1	2572.000	0.000	60.000	72.000	175.000	172.500	175.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	72.000	0.000	172.500	0.000	0.000	0.000	0.000
SR	502.000	0.000	570.600	0.000	577.300	60.000	55.200	60.000	574.000	60.000
SR	574.200	70.000	574.000	0.000	574.700	60.000	0.000	0.000	0.000	0.000

D/S FACE I-75

X1	2753.000	70.000	56.000	72.000	565.000	172.500	172.500	0.000	0.000	0.000
X3	15.000	0.000	0.000	0.000	0.000	0.000	0.000	60.000	574.000	0.000
SR	558.000	0.000	564.000	23.000	579.400	46.000	574.500	56.000	574.500	56.000
SR	574.100	60.000	574.400	63.900	574.400	64.000	579.500	74.000	588.000	150.000
SR	0.000	2.340	3.000	0.000	0.000	0.000	25.400	0.000	574.400	574.100

U/S FACE I-75

X1	2923.000	0.000	0.000	0.000	166.000	166.000	166.000	0.000	0.300	0.000
X2	0.000	0.000	1.000	579.000	564.600	0.300	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.100	0.000	0.000	0.000	0.000	60.000	574.000	0.000
SR	0.000	0.000	300.000	0.000	0.000	5.000	172.000	56.000	574.000	574.000
SR	574.000	0.000	574.000	64.000	574.000	64.000	574.000	74.000	0.000	0.000

S.B. I/S I-75

X1	3273.000	0.000	50.000	72.000	50.000	60.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	244.500	0.000	0.000	0.000	0.000
GR	500.000	0.000	582.500	28.000	579.700	46.000	574.600	56.000	574.400	60.000
GR	574.700	64.000	578.800	74.000	580.000	420.000	585.000	600.000	0.000	0.000

S.B. D/S I-75 S. BOUND RAMPS

X1	3273.000	7.000	123.500	136.500	300.000	320.000	305.000	0.000	0.000	0.000
X3	0.000	3.000	0.000	112.500	0.000	147.500	0.000	0.000	0.000	0.000
GR	591.100	3.000	584.300	55.000	575.900	123.500	575.400	130.000	575.600	136.500
GR	582.200	147.000	575.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE I-75 S. BOUND RAMPS

X1	3323.200	11.000	125.000	135.000	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	586.500	586.500	0.000
GR	591.200	0.000	586.300	55.000	575.000	125.000	574.900	135.000	575.400	120.000
GR	575.400	130.000	574.400	133.000	574.500	134.000	570.000	135.200	575.200	147.200
GR	591.000	230.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SR	0.000	2.030	3.000	0.000	0.530	0.000	49.520	0.000	575.400	575.400

U/S FACE I-75 S. BOUND RAMPS

X1	3488.000	0.000	3.000	0.000	165.000	165.000	165.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	591.200	591.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	591.200	591.000	0.000
SR	0.000	0.000	591.000	0.000	125.000	591.200	586.000	135.400	575.200	579.500
SR	125.000	591.000	200.000	150.000	591.200	591.200	135.200	591.200	575.000	139.400
SR	599.200	570.400	135.000	595.200	572.000	230.000	595.000	0.000	0.000	0.000

D/S FACE CANYON-ROCK OD

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X1	3558.000	13.000	114.000	126.000	70.000	70.000	70.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	585.000	582.000	0.000
GR	590.000	95.000	582.000	96.000	582.100	109.000	576.400	114.000	576.400	114.100
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

U/S FACE CORRECTION-ROCKWOOD

X1	3510.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	586.000	583.000	0.000
HT	13.000	95.000	590.000	0.000	96.000	587.700	0.000	109.000	586.100	0.000
HT	114.000	586.100	0.000	114.100	586.100	581.100	125.900	586.100	581.100	126.000
[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]

X1	3630.000	[illegible]	20.000	150.000	20.000	20.000	20.000	0.000	0.000	0.000
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OVERLAND FLOW SEC. D/S OF BRANDON RD.

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
GR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NC	0.200	0.200	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000
GR	590.000	0.000	585.000	310.000	584.000	325.000	586.000	735.000	505.000	800.000
GR	590.000	960.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.

X1	7200.000	6.000	100.000	470.000	920.000	940.000	950.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	100.000	584.000	120.000	584.000	450.000	585.000	470.000
GR	590.000	1310.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OVERLAND FLOW SEC.-APPROX. 100 FT DIR OF HURON RIVER

X1	8000.000	0.000	115.000	400.000	400.000	1200.000	800.000	0.000	0.000	0.000
GR	590.000	0.000	585.000	50.000	580.000	115.000	575.000	200.000	575.000	265.000
GR	[illegible]	400.000	585.000	615.000	590.000	900.000	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

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains

4) DOCUMENT TYPE: Summary 10yr Natural

00BREAK00

****

TEST RELEASE DATED FEB 70 UPDATED FEB '077

JOB06 2083 - 01

MODIFICATION - 69.59.52

****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES PLEASE SEE SUMMARY OF 4.0 S LIST

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SECND	KELH	KLEND	TLLC	ELMIN	C	CMDL	CRCNE	EQ	TORQ	WCH	AIRA	.01F
0.000	0.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	5.36	2.27	61.01	36.71
0.000	0.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	5.36	2.27	61.01	36.71
0.000	100.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	14.35	2.39	26.53	22.64
0.000	100.00	0.00	0.00	576.70	85.00	580.34	0.00	580.40	14.39	2.39	26.53	22.64
1.000	16.00	582.00	580.30	576.70	85.00	580.47	0.00	580.61	13.45	2.91	29.17	23.18
1.000	16.00	582.00	580.30	576.70	85.00	580.47	0.00	580.61	13.45	2.91	29.17	23.18
1.200	100.00	0.00	0.00	576.70	85.00	580.61	0.00	580.61	7.37	2.07	68.19	42.37
1.200	100.00	0.00	0.00	576.70	85.00	580.61	0.00	580.61	7.32	2.07	68.19	42.37
1.700	570.00	0.00	0.00	576.50	85.00	580.86	0.00	580.89	3.82	2.08	67.96	43.46
1.700	570.00	0.00	0.00	576.50	85.00	580.86	0.00	580.89	3.85	2.08	66.36	43.30
1.900	100.00	0.00	0.00	576.50	85.00	580.91	0.00	580.95	7.37	2.26	96.37	31.32
1.900	100.00	0.00	0.00	576.50	85.00	580.91	0.00	580.95	7.37	2.26	96.41	31.35
2.000	12.00	580.40	579.60	576.50	85.00	581.13	0.00	581.16	5.23	1.97	113.61	37.18
2.000	12.00	580.40	579.60	576.50	85.00	581.13	0.00	581.16	5.22	1.97	113.65	37.20
2.200	55.00	0.00	0.00	576.50	85.00	581.14	0.00	581.18	2.74	1.85	88.50	51.37
2.200	55.00	0.00	0.00	576.50	85.00	581.14	0.00	581.18	2.73	1.85	86.58	51.40
2.700	420.00	0.00	0.00	577.00	85.00	581.28	0.00	581.35	4.90	2.43	63.46	38.40
2.700	420.00	0.00	0.00	577.00	85.00	581.28	0.00	581.35	4.90	2.43	63.46	38.40
2.900	100.00	0.00	0.00	577.00	85.00	581.34	0.00	581.43	11.71	2.39	35.53	24.84
2.900	100.00	0.00	0.00	577.00	85.00	581.34	0.00	581.43	11.71	2.39	35.54	24.84
3.000	106.00	582.20	581.00	577.00	85.00	581.77	0.00	581.84	8.26	2.13	39.85	29.57
3.000	106.00	582.20	581.00	577.00	85.00	581.77	0.00	581.84	8.26	2.13	39.85	29.57
3.200	55.00	0.00	0.00	577.60	85.00	581.79	0.00	581.87	5.54	2.56	58.35	36.11
3.200	55.00	0.00	0.00	577.60	85.00	581.79	0.00	581.87	5.56	2.56	58.36	36.11
3.800	35.00	0.00	0.00	576.30	85.00	581.82	0.00	581.89	6.34	2.44	58.67	33.77
3.800	35.00	0.00	0.00	576.30	85.00	581.82	0.00	581.89	6.34	2.44	58.67	33.77

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	CHIS	ES	10K*S	VCH	AREA	.01K
4.000	20.20	581.40	580.30	576.30	35.20	582.05	0.00	582.14	5.09	2.26	64.99	37.68
4.000	20.20	581.40	580.30	576.30	35.20	582.05	0.00	582.14	5.09	2.27	65.00	37.68
4.200	30.20	0.00	0.00	577.60	85.00	582.10	0.00	582.19	4.18	2.33	65.78	41.85
4.200	30.00	0.00	0.00	577.60	85.00	582.10	0.00	582.19	4.18	2.33	65.78	41.56
4.700	960.00	0.00	0.00	578.00	85.00	582.44	0.00	582.48	2.58	1.73	74.04	52.92
4.700	960.00	0.00	0.00	578.00	85.00	582.44	0.00	582.48	2.58	1.73	74.04	52.92
4.800	300.00	0.00	0.00	578.00	85.00	582.47	0.00	582.56	30.70	3.52	21.66	15.34
4.800	100.00	0.00	0.00	578.00	85.00	582.40	0.00	582.64	30.69	3.92	21.66	15.34
5.000	10.00	582.90	581.70	578.00	85.00	582.86	0.00	583.05	23.35	3.55	23.93	17.59
5.000	10.00	582.90	581.70	578.00	85.00	582.86	0.00	583.05	23.35	3.55	23.93	17.59
5.000	50.00	0.00	0.00	578.00	85.00	583.10	0.00	583.12	1.23	1.92	106.23	76.71
5.200	50.00	0.00	0.00	578.00	85.00	583.10	0.00	583.12	1.35	1.39	106.85	73.12
5.800	250.00	0.00	0.00	579.30	85.00	583.14	0.00	583.19	5.16	2.36	66.81	37.46
5.800	250.00	0.00	0.00	579.30	85.00	583.14	0.00	583.19	5.16	2.36	66.81	37.46
5.900	10.00	0.00	0.00	579.30	85.00	583.42	0.00	583.49	36.41	4.44	19.11	14.09
5.900	100.00	0.00	0.00	579.30	85.00	583.12	0.00	583.43	36.36	4.64	19.12	14.10
6.000	47.00	580.50	582.30	579.30	85.00	584.24	0.00	584.61	16.51	3.31	25.63	20.92
6.000	47.00	580.50	582.30	579.30	85.00	584.24	0.00	584.61	16.51	3.31	25.63	20.94
6.200	150.00	0.00	0.00	578.90	85.00	584.78	0.00	584.91	13.48	2.95	28.85	23.14
6.900	200.00	0.00	0.00	578.90	85.00	584.78	0.00	584.92	13.48	2.95	28.86	23.15
7.000	49.00	590.00	582.50	578.90	85.00	585.70	0.00	585.80	9.15	2.54	33.46	28.10
7.000	49.00	590.00	582.50	578.90	85.00	585.70	0.00	585.80	9.15	2.54	33.47	28.11
7.100	50.00	0.00	0.00	578.90	85.00	585.83	0.00	585.89	0.26	0.67	335.34	165.24
7.100	50.00	0.00	0.00	578.90	85.00	585.83	0.00	585.84	0.26	0.66	335.53	165.38

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LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 152

STEP	t	SUBEL	DIR SP	DIR.SP	DIRSUB	TOP.ID	T.TI
0.000	85.00	580.34	0.00	0.00	0.00	25.63	0.00
0.000	85.00	580.34	0.00	0.00	0.00	25.63	0.00
0.900	85.00	580.34	0.00	0.00	0.00	8.00	100.00
0.900	85.00	580.34	0.00	0.00	0.00	8.00	100.00
1.000	85.00	580.47	0.00	0.00	0.00	8.00	10.00
1.000	85.00	580.47	0.00	0.00	0.00	8.00	10.00
1.900	85.00	580.60	0.00	0.00	0.00	26.73	90.00
1.900	85.00	580.60	0.00	0.00	0.00	26.73	90.00
1.700	85.00	580.86	0.00	0.00	0.00	61.46	570.00
1.700	85.00	580.86	0.00	0.00	0.00	26.00	570.00
1.900	85.00	580.91	0.00	0.00	0.00	24.17	10.00
1.900	85.00	580.91	0.00	0.00	0.00	24.32	100.00
2.000	85.00	581.13	0.00	0.00	0.00	24.72	10.00
2.000	85.00	581.13	0.00	0.00	0.00	24.74	10.00
2.200	85.00	581.14	0.00	0.00	0.00	24.74	10.00
2.200	85.00	581.14	0.00	0.00	0.00	24.77	80.00
2.700	85.00	581.28	0.00	0.00	0.00	24.77	420.00
2.700	85.00	581.28	0.00	0.00	0.00	24.77	420.00
2.900	85.00	581.34	0.00	0.00	0.00	10.00	100.00
2.900	85.00	581.34	0.00	0.00	0.00	10.00	100.00
3.000	85.00	581.77	0.00	0.43	0.00	10.00	106.00
3.000	85.00	581.77	0.00	0.43	0.00	10.00	106.00
3.200	85.00	581.79	0.00	0.02	0.00	22.97	35.00
3.200	85.00	581.79	0.00	0.02	0.00	22.97	35.00
3.500	85.00	581.82	0.00	0.03	0.00	23.47	35.00
3.500	85.00	581.82	0.00	0.03	0.00	23.47	35.00
4.000	85.00	582.00	0.00	0.18	0.00	24.04	50.00
4.000	85.00	582.00	0.00	0.18	0.00	24.04	50.00
4.200	85.00	582.10	0.00	0.02	0.00	24.19	50.00
4.200	85.00	582.10	0.00	0.02	0.00	24.19	50.00
4.700	85.00	582.44	0.00	0.34	0.00	36.09	867.00
4.700	85.00	582.44	0.00	0.34	0.00	36.09	867.00
4.800	85.00	582.40	0.00	-0.04	0.00	5.00	100.00
4.800	85.00	582.40	0.00	-0.04	0.00	5.00	100.00
5.000	85.00	582.46	0.00	0.06	0.00	5.00	10.00
5.000	85.00	582.46	0.00	0.06	0.00	5.00	10.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
5.200	85.00	583.10	0.00	0.24	0.00	94.42	50.00
[illegible]	[illegible]	[illegible]	[illegible]	0.24	-0.00	[illegible]	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]
5.800	85.00	583.14	0.00	0.85	0.00	22.79	250.00
5.900	85.00	583.12	0.00	-0.02	0.00	5.00	100.00
[illegible]	[illegible]	[illegible]	[illegible]	-0.02	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	0.00	1.31	0.00	5.00	47.00
6.900	85.00	584.46	0.00	1.31	0.00	5.00	47.00
6.900	85.00	584.78	0.00	0.54	0.00	5.00	200.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.000	85.00	585.70	0.00	0.92	0.00	5.00	[illegible]
7.000	85.00	585.70	0.00	0.92	0.00	5.00	49.00
7.100	85.00	585.83	0.00	0.13	0.00	100.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SUMMARY OF ERRORS

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FLOODWAY DATA, LAUDENSCHLAGER
PROFILE NO. 2

STATION	FLOODWAY WIDTH (FT)	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
0.000	25.	61.	1.4	[illegible]	[illegible]	0.0
0.900	8.	29.	3.0	[illegible]	[illegible]	0.0
1.000	0.	29.	2.9	[illegible]	[illegible]	0.0
1.200	27.	66.	1.2	580.6	580.6	0.0
1.700	26.	66.	1.3	580.8	580.8	0.0
1.800	74.	96.	0.9	580.9	580.9	0.0
2.000	[illegible]	114.	[illegible]	[illegible]	[illegible]	0.0
2.200	79.	[illegible]	1.0	[illegible]	[illegible]	0.0
2.700	[illegible]	[illegible]	1.3	[illegible]	[illegible]	0.0
2.800	10.	36.	2.4	581.3	581.3	0.0
3.000	10.	40.	2.1	581.8	581.8	0.0
3.200	23.	59.	1.5	[illegible]	581.0	0.0
3.700	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
4.000	[illegible]	[illegible]	[illegible]	582.1	[illegible]	0.0
4.200	[illegible]	[illegible]	[illegible]	582.1	582.1	0.0
4.700	30.	74.	[illegible]	582.4	582.4	0.0
4.800	5.	22.	3.9	582.4	582.4	0.0
5.000	5.	24.	3.6	582.9	582.9	0.0
5.700	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
5.800	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
5.900	5.	[illegible]	[illegible]	[illegible]	[illegible]	0.0
6.000	5.	26.	3.3	584.4	584.4	0.0
6.900	5.	29.	2.9	584.8	584.8	0.0
7.000	5.	33.	2.5	585.7	585.7	0.0
7.100	[illegible]	[illegible]	0.3	[illegible]	[illegible]	0.0

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00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager

4) DOCUMENT TYPE: Summary 50 yr.

00BREAK00

****

HEGP RELEASE DATED NOV 76 UPDATED FEB 1977

JOB CLIP = 01

MODIFICATION = [illegible]

****

NOTE= ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES BYPASS OF SUBREACH LIST

[illegible]

SUMMARY PRINTOUT TABLE 150

SECID	XLOC	YLOC	ELC	VOLT	I	CHSTA	CHI	LB	TIES	XC	FLOW	AREA
100.100	0.00	0.00	0.00	570.50	200.00	582.88	0.00	582.63	0.00	0.08	3193.15	2701.62
100.200	0.00	0.00	0.00	570.50	160.00	582.85	0.00	582.83	0.00	0.11	3193.15	2701.62
100.300	0.00	0.00	0.00	570.50	120.00	582.80	0.00	582.83	0.00	0.14	3193.15	2701.62
[illegible]												
970.100	370.00	0.00	0.00	572.30	200.00	582.56	0.00	582.07	0.01	0.10	1352.42	1465.70
970.200	370.00	0.00	0.00	572.30	160.00	582.59	0.00	582.39	0.02	0.24	1352.46	1465.77
970.300	370.00	0.00	0.00	572.30	220.00	582.61	0.00	582.80	0.02	0.29	1237.61	1450.01
[illegible]												
1120.100	150.00	0.00	0.00	572.30	200.00	582.68	0.00	582.39	0.03	0.33	720.54	1055.78
1120.200	150.00	0.00	0.00	572.30	220.00	582.66	0.00	582.38	0.04	0.40	720.54	1055.78
1270.100	150.00	0.00	0.00	572.30	200.00	582.68	0.00	582.39	0.03	0.37	306.24	381.69
1270.200	150.00	0.00	0.00	572.30	160.00	582.67	0.00	582.39	0.03	0.35	306.24	381.69
1270.300	150.00	0.00	0.00	572.30	220.00	582.67	0.00	582.39	0.03	0.32	306.25	381.70
1270.000	150.00	0.00	0.00	572.30	220.00	582.87	0.00	582.89	0.33	1.17	306.26	381.72
1320.100	50.00	0.00	0.00	572.30	200.00	582.56	0.00	582.08	0.00	0.59	248.11	365.05
1320.200	50.00	0.00	0.00	572.30	160.00	582.58	0.00	582.08	0.00	0.43	248.08	364.93
1320.300	50.00	0.00	0.00	572.30	220.00	582.57	0.00	582.08	0.27	1.26	248.09	364.94
1320.000	50.00	0.00	0.00	572.30	220.00	582.87	0.00	582.68	2.42	1.30	247.93	364.77
1370.000	50.00	0.00	0.00	572.30	200.00	582.88	0.00	582.38	0.13	0.60	208.08	234.07
1370.100	50.00	0.00	0.00	572.30	160.00	582.89	0.00	582.38	0.36	0.84	208.04	234.01
1370.200	50.00	0.00	0.00	572.30	180.00	582.87	0.00	582.38	0.59	1.08	207.99	233.97
1370.300	50.00	0.00	0.00	572.30	220.00	582.87	0.00	582.38	0.33	0.83	207.94	233.85
1420.000	50.00	0.00	0.00	572.30	200.00	582.89	0.00	582.39	0.29	0.73	167.30	184.70
1420.100	50.00	0.00	0.00	572.30	160.00	582.87	0.00	582.39	0.57	1.02	167.28	184.66
1420.200	50.00	0.00	0.00	572.30	180.00	582.87	0.00	582.90	0.95	1.31	167.26	184.63
1420.300	50.00	0.00	0.00	572.30	220.00	582.87	0.00	582.50	1.42	1.60	167.22	184.58
[illegible]												
1470.100	50.00	0.00	0.00	573.00	200.00	582.88	0.00	582.89	0.45	1.55	120.81	152.22
1470.000	50.00	0.00	0.00	573.00	240.00	582.87	0.00	582.90	0.83	1.20	120.79	152.19
1470.200	50.00	0.00	0.00	573.00	180.00	582.87	0.00	582.91	1.40	1.54	120.77	152.15
1470.100	50.00	0.00	0.00	573.00	220.00	582.87	0.00	582.92	1.42	1.89	116.67	118.84

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SECNO	XLCH	ELTRO	ELLC	ELNTX	Q	CUSEL	CPINS	EG	TCK*S	VCH	AREA	.01K
1471.000	1.00	504.50	579.30	573.00	100.30	582.86	0.30	582.89	1.17	1.36	73.73	92.35
1471.000	1.00	504.50	579.30	573.00	100.30	582.86	0.30	582.89	1.17	1.36	73.73	92.35
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1503.000	1.00	504.50	579.30	573.00	100.01	582.87	0.00	582.90	1.17	1.37	73.73	92.35
1503.000	1.00	504.50	579.30	573.00	100.01	582.86	0.00	582.91	2.30	1.93	73.73	92.37
1503.000	1.00	504.50	579.30	573.00	100.00	582.84	0.00	582.92	3.75	2.64	73.73	92.40
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1512.000	1.00	0.00	0.00	573.00	140.00	582.93	0.00	582.92	0.54	1.19	121.32	152.58
1512.000	1.00	0.00	0.00	573.00	180.00	582.94	0.00	582.94	1.39	1.53	121.34	152.81
1512.000	1.00	0.00	0.00	573.00	220.00	582.93	0.00	582.95	3.37	1.91	117.27	119.72
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1512.000	100.00	0.00	0.00	573.40	100.00	582.93	0.00	582.95	0.87	0.49	846.83	704.33
1513.000	100.00	0.00	0.00	573.40	220.00	582.96	0.00	582.99	0.10	0.60	812.69	695.51
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1910.000	300.00	0.00	0.00	573.00	220.00	582.96	0.00	582.99	0.66	1.24	297.75	373.40
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2020.000	100.00	0.00	0.00	573.00	100.00	582.91	0.00	582.91	0.67	2.59	116.62	145.73
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2021.000	1.00	582.40	579.50	573.00	100.00	582.89	0.00	582.91	1.48	1.50	77.49	82.11
2021.000	1.00	582.40	579.50	573.00	140.00	582.89	0.00	582.94	2.95	1.82	77.55	82.21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2061.000	40.00	582.40	579.50	573.00	100.00	582.89	0.00	582.92	1.69	1.30	77.41	81.99
2061.000	40.00	582.40	579.50	573.00	140.00	582.90	0.00	582.95	2.90	1.82	77.52	82.17
2061.000	40.00	582.40	579.50	573.00	180.00	582.93	0.00	582.98	4.77	2.33	77.68	82.42
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2062.000	1.00	0.00	0.00	573.00	100.00	582.91	0.00	582.92	0.67	0.99	116.61	145.71
2062.000	1.00	0.00	0.00	573.00	140.00	582.93	0.00	582.96	0.91	1.24	117.05	146.43
2062.000	1.00	0.00	0.00	573.00	180.00	582.97	0.00	583.01	1.50	1.59	117.50	147.18
2062.000	1.00	0.00	0.00	573.00	220.00	582.01	0.00	583.07	2.20	1.93	118.12	148.20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2112.000	80.00	3.00	0.00	573.20	100.00	582.96	0.00	583.03	5.38	2.12	84.94	77.63
2112.000	80.00	3.00	0.00	573.20	220.00	583.00	0.00	583.11	7.94	2.58	85.34	78.07
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2113.000	1.00	587.90	583.90	573.20	220.00	583.00	0.00	583.11	6.30	2.58	85.34	105.09
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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SECNO	XLCH	ELTRO	ELLC	ELMIN	C	CUSEL	CRIMS	CG	10K*S	VCH	AREA	.01K
2134.000	21.20	587.90	583.90	573.20	100.00	582.91	0.00	582.93	0.93	1.18	84.47	103.79
2134.000	21.20	587.90	583.90	573.20	140.00	582.93	0.00	582.97	1.39	1.65	84.71	104.15
2134.000	21.20	587.90	583.90	573.20	180.00	582.95	0.00	582.99	1.84	2.13	84.95	104.51
2134.000	21.20	587.90	583.90	573.20	220.00	582.97	0.00	583.01	2.30	2.60	85.19	104.87
2135.000	1.20	0.00	0.00	573.20	100.00	582.91	0.00	582.93	1.03	1.18	84.46	77.10
2135.000	1.20	0.00	0.00	573.20	140.00	582.93	0.00	582.97	1.61	1.65	84.70	77.36
2135.000	1.20	0.00	0.00	573.20	180.00	582.95	0.00	582.99	2.19	2.13	84.94	77.62
2135.000	1.20	0.00	0.00	573.20	220.00	582.97	0.00	583.01	2.77	2.60	85.18	77.88
2276.000	70.20	0.00	0.00	573.40	100.00	582.91	0.00	582.93	0.16	0.73	340.42	344.24
2276.000	70.20	0.00	0.00	573.40	140.00	582.93	0.00	582.97	0.74	1.30	340.66	344.60
2276.000	70.20	0.00	0.00	573.40	180.00	582.95	0.00	582.99	1.32	1.88	340.90	344.96
2276.000	70.20	0.00	0.00	573.40	220.00	582.97	0.00	583.01	1.90	2.45	341.14	345.32
2275.000	70.20	0.00	0.00	573.60	100.00	582.91	0.00	582.93	0.16	0.73	340.42	344.24
2275.000	70.20	0.00	0.00	573.60	140.00	582.93	0.00	582.97	0.74	1.30	340.66	344.60
2275.000	70.20	0.00	0.00	573.60	180.00	582.95	0.00	582.99	1.32	1.88	340.90	344.96
2275.000	70.20	0.00	0.00	573.60	220.00	582.97	0.00	583.01	1.90	2.45	341.14	345.32
2276.000	70.20	0.00	0.00	573.60	100.00	582.91	0.00	582.93	0.16	0.73	340.42	344.24
2276.000	70.20	0.00	0.00	573.60	140.00	582.93	0.00	582.97	0.74	1.30	340.66	344.60
2276.000	70.20	0.00	0.00	573.60	180.00	582.95	0.00	582.99	1.32	1.88	340.90	344.96
2276.000	70.20	0.00	0.00	573.60	220.00	582.97	0.00	583.01	1.90	2.45	341.14	345.32
2277.000	70.20	0.00	0.00	573.60	100.00	582.91	0.00	582.93	0.16	0.73	340.42	344.24
2277.000	70.20	0.00	0.00	573.60	140.00	582.93	0.00	582.97	0.74	1.30	340.66	344.60
2277.000	70.20	0.00	0.00	573.60	180.00	582.95	0.00	582.99	1.32	1.88	340.90	344.96
2277.000	70.20	0.00	0.00	573.60	220.00	582.97	0.00	583.01	1.90	2.45	341.14	345.32
2397.000	192.50	507.70	572.50	573.60	220.00	582.97	0.00	583.50	3.19	2.17	122.21	123.23
2737.000	185.00	0.00	0.00	574.10	100.00	582.91	0.00	583.10	0.20	0.71	310.06	223.45
2737.000	185.00	0.00	0.00	574.10	140.00	582.93	0.00	583.30	0.35	0.95	326.47	236.38
2737.000	185.00	0.00	0.00	574.10	180.00	582.95	0.00	583.50	0.50	1.18	342.51	249.31
2737.000	185.00	0.00	0.00	574.10	220.00	582.97	0.00	583.69	0.63	1.33	358.24	262.24
2923.000	166.00	584.60	579.00	574.40	100.00	582.96	0.00	583.39	2.13	1.42	70.21	68.53
2923.000	166.00	584.60	579.00	574.40	140.00	582.82	0.00	583.68	3.55	1.89	73.92	73.30
2923.000	166.00	584.60	579.00	574.40	180.00	582.66	0.00	583.96	4.97	2.36	77.62	78.07
2923.000	166.00	584.60	579.00	574.40	220.00	582.50	0.00	584.25	6.39	2.84	81.33	82.84
2973.000	50.00	0.00	0.00	574.40	100.00	582.96	0.00	583.39	0.14	0.70	463.97	328.33
2973.000	50.00	0.00	0.00	574.40	140.00	582.82	0.00	583.68	0.19	0.70	521.87	306.78
2973.000	50.00	0.00	0.00	574.40	180.00	582.66	0.00	583.96	0.24	0.70	579.77	285.23
2973.000	50.00	0.00	0.00	574.40	220.00	582.50	0.00	584.25	0.29	0.70	637.67	263.68
3273.000	300.00	0.00	0.00	575.40	100.00	582.96	0.00	583.40	0.57	0.90	229.55	209.45
3273.000	300.00	0.00	0.00	575.40	140.00	582.82	0.00	583.68	0.79	1.02	246.64	232.46
3273.000	300.00	0.00	0.00	575.40	180.00	582.66	0.00	583.96	1.00	1.14	263.73	255.47
3273.000	300.00	0.00	0.00	575.40	220.00	582.50	0.00	584.25	1.22	1.26	280.82	278.48
3273.000	300.00	0.00	0.00	575.40	100.00	582.96	0.00	583.40	0.57	0.90	229.55	209.45
3273.000	300.00	0.00	0.00	575.40	140.00	582.82	0.00	583.68	0.79	1.02	246.64	232.46
3273.000	300.00	0.00	0.00	575.40	180.00	582.66	0.00	583.96	1.00	1.14	263.73	255.47
3273.000	300.00	0.00	0.00	575.40	220.00	582.50	0.00	584.25	1.22	1.26	280.82	278.48
3323.000	50.00	0.00	0.00	575.40	100.00	582.96	0.00	583.41	1.01	1.30	76.86	91.72
3323.000	50.00	0.00	0.00	575.40	140.00	582.82	0.00	583.91	1.42	1.72	81.45	100.42
3323.000	50.00	0.00	0.00	575.40	180.00	582.66	0.00	584.41	1.82	2.15	86.04	109.12
3323.000	50.00	0.00	0.00	575.40	220.00	582.50	0.00	584.90	2.23	2.57	90.63	117.82
3323.000	50.00	0.00	0.00	575.40	100.00	582.96	0.00	583.41	1.01	1.30	76.86	91.72
3323.000	50.00	0.00	0.00	575.40	140.00	582.82	0.00	583.91	1.42	1.72	81.45	100.42
3323.000	50.00	0.00	0.00	575.40	180.00	582.66	0.00	584.41	1.82	2.15	86.04	109.12
3323.000	50.00	0.00	0.00	575.40	220.00	582.50	0.00	584.90	2.23	2.57	90.63	117.82
3323.000	50.00	0.00	0.00	575.40	100.00	582.96	0.00	583.41	1.01	1.30	76.86	91.72
3323.000	50.00	0.00	0.00	575.40	140.00	582.82	0.00	583.91	1.42	1.72	81.45	100.42
3323.000	50.00	0.00	0.00	575.40	180.00	582.66	0.00	584.41	1.82	2.15	86.04	109.12
3323.000	50.00	0.00	0.00	575.40	220.00	582.50	0.00	584.90	2.23	2.57	90.63	117.82

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FORM 141-OD PRINTED BY ROTARY MANIFOLD FORMS

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
3438.000	165.00	591.00	581.20	575.40	100.00	583.46	0.00	583.51	1.76	1.29	77.82	75.31
3438.000	165.00	591.00	581.20	575.40	140.00	584.07	0.00	584.11	2.33	1.67	83.68	85.26
3438.000	165.00	591.00	[illegible]	575.40	180.00	[illegible]	0.00	[illegible]	[illegible]	1.97	91.50	94.19
3438.000	165.00	591.00	[illegible]	575.40	220.00	[illegible]	0.00	[illegible]	[illegible]	2.21	99.64	[illegible]
3558.000	70.00	0.00	0.00	576.40	100.00	583.51	0.00	583.52	0.26	0.51	355.69	197.30
3558.000	70.00	0.00	0.00	576.40	140.00	584.12	0.00	584.12	0.33	0.60	416.91	243.36
3558.000	70.00	0.00	0.00	576.40	180.00	584.93	0.00	584.93	0.33	0.63	500.90	311.21
3558.000	70.00	0.00	0.00	576.40	220.00	585.79	0.00	[illegible]	0.30	0.71	690.74	500.05
3610.000	[illegible]	[illegible]	[illegible]	[illegible]	100.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	301.51	201.11
3610.000	51.50	583.00	581.10	576.40	140.00	584.17	0.00	584.17	0.32	0.59	472.29	247.55
3610.000	51.50	583.00	581.10	576.40	180.00	584.98	0.00	584.99	0.32	0.62	507.15	316.45
3610.000	51.50	583.00	581.10	576.40	220.00	585.81	0.00	585.81	0.31	0.63	597.68	395.18
3630.000	20.00	0.00	0.00	580.00	100.00	[illegible]	0.00	[illegible]	0.90	0.24	478.14	102.11
3630.000	20.00	0.00	0.00	580.00	140.00	[illegible]	0.00	[illegible]	1.30	0.23	564.97	133.47
3630.000	20.00	0.00	0.00	580.00	180.00	584.99	0.00	584.99	0.99	0.27	650.30	180.22
3630.000	20.00	0.00	0.00	580.00	220.00	585.81	0.00	585.82	0.85	0.28	159.83	238.59
4700.000	[illegible]	0.00	0.00	580.00	[illegible]	[illegible]	0.00	583.72	[illegible]	[illegible]	[illegible]	[illegible]
4700.000	[illegible]	0.00	0.00	580.00	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4700.000	[illegible]	0.00	0.00	580.00	[illegible]	[illegible]	0.00	[illegible]	[illegible]	0.42	[illegible]	[illegible]
4700.000	1070.00	0.00	0.00	580.00	200.00	585.96	0.00	585.96	2.04	0.43	463.11	118.61
6230.000	1550.00	0.00	0.00	584.00	80.00	584.72	0.00	584.72	16.63	0.24	335.96	19.73
6230.000	[illegible]	0.00	0.00	[illegible]	120.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	45.62
6230.000	[illegible]	0.00	0.00	[illegible]	160.00	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6230.000	[illegible]	0.00	0.00	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	163.44
7200.000	950.00	0.00	0.00	584.00	80.00	585.35	0.00	585.35	3.58	0.17	488.61	42.30
7200.000	950.00	0.00	0.00	584.00	120.00	585.66	0.00	585.66	3.78	0.20	633.17	61.72
7200.000	950.00	0.00	0.00	584.00	160.00	586.01	0.00	586.01	3.21	0.24	824.52	89.35
7200.000	950.00	0.00	0.00	584.00	200.00	586.50	0.00	586.50	2.19	0.23	1117.14	135.14
8000.000	800.00	0.00	0.00	575.00	80.00	585.36	0.00	585.36	0.01	0.03	3773.64	943.36
8000.000	800.00	0.00	0.00	575.00	120.00	585.66	0.00	585.66	0.01	0.04	4011.29	1026.43
8000.000	800.00	0.00	0.00	575.00	160.00	586.02	0.00	586.02	0.02	0.05	4294.96	1129.30
8000.000	800.00	0.00	0.00	575.00	200.00	586.51	0.00	586.51	0.02	0.05	4664.57	1276.79

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FORM 1411 GB PRINTED BY ROTARY MANIFOLD FORMS

S.ROCKWOOD BANC. MOLES

SUMMARY PRINTOUT TABLE 150

970.300	140.00	582.82	0.00	0.00	0.00	171.64	672.00
970.300	180.00	582.82	0.00	0.00	0.00	171.64	672.00
1120.000	100.00	582.82	0.00	-0.00	0.00	80.00	150.00
1120.000	140.00	582.82	0.00	-0.00	0.00	80.00	150.00
1120.000	180.00	582.82	0.00	-0.00	0.00	80.00	150.00
1120.000	220.00	582.82	0.00	-0.00	0.00	80.00	150.00
1270.000	100.00	582.82	0.00	-0.00	0.00	80.00	150.00
1270.000	140.00	582.82	0.00	-0.00	0.00	80.00	150.00
1270.000	180.00	582.82	0.00	-0.00	0.00	80.00	150.00
1270.000	220.00	582.82	0.00	-0.00	-0.00	80.00	150.00
1370.000	100.00	582.82	0.00	0.00	0.00	80.00	150.00
1370.000	140.00	582.82	0.00	0.00	0.00	80.00	150.00
1370.000	180.00	582.82	0.00	0.00	0.00	80.00	150.00
1370.000	220.00	582.82	0.00	0.00	-0.00	80.00	150.00
1420.000	100.00	582.82	0.00	-0.00	0.00	16.00	50.00
1420.000	140.00	582.82	0.00	-0.00	0.00	16.00	50.00
1420.000	180.00	582.82	0.00	-0.00	0.00	16.00	50.00
1420.000	220.00	582.82	0.00	-0.00	-0.00	16.00	50.00
1470.000	100.00	582.82	0.00	-0.00	0.00	12.84	50.00
1470.000	140.00	582.82	0.00	-0.00	0.00	12.84	50.00
1470.000	180.00	582.82	0.00	-0.00	0.00	12.84	50.00
1470.000	220.00	582.82	0.00	-0.00	-0.01	11.99	50.00
1471.000	100.00	582.84	0.00	-0.01	0.00	12.84	1.00
1471.000	140.00	582.83	0.00	-0.02	0.00	12.84	1.00
1471.000	180.00	582.83	0.00	-0.04	0.00	12.84	1.00
1471.000	220.00	582.81	0.00	-0.06	-0.04	12.83	1.00
1509.000	100.00	582.82	0.00	0.00	0.00	80.00	150.00
1509.000	140.00	582.82	0.00	0.00	0.00	80.00	150.00
1509.000	180.00	582.82	0.00	0.00	0.00	80.00	150.00
1509.000	220.00	582.83	0.00	0.02	-0.04	12.83	80.00
1510.000	100.00	582.84	0.00	0.02	0.00	12.84	1.00
1510.000	140.00	582.83	0.00	0.04	0.00	12.84	1.00
1510.000	180.00	582.83	0.00	0.06	0.00	12.84	1.00
1510.000	220.00	582.82	0.00	0.08	0.00	12.84	1.00

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SECNO	D	CUSEL	DIFLSP	DIFUSX	DIFRUS	TOPOLD	XLCH
1610.000	100.00	582.92	0.00	0.01	0.00	147.00	100.00
1610.000	140.00	582.92	0.00	0.02	0.00	147.00	100.00
1610.000	180.00	582.93	0.00	0.04	0.00	147.00	100.00
1610.300	220.00	582.94	0.00	0.05	0.00	147.00	100.00
1910.000	100.00	582.92	0.00	-0.00	0.00	60.00	300.00
1910.000	140.00	582.92	0.00	-0.00	0.00	60.71	300.00
1910.300	180.00	582.94	0.00	-0.00	0.00	60.00	300.00
1910.000	220.00	582.9[illegible]	0.00	-0.01	0.00	60.[illegible]	300.00
2020.000	100.00	582.92	0.00	-0.01	0.00	13.00	110.00
2020.000	140.00	582.93	0.00	-0.01	0.00	13.00	110.00
2020.000	220.00	582.94	0.00	-0.02	0.00	12.00	110.00
2021.000	100.00	582.[illegible]	0.00	-0.00	0.00	14.00	1.00
2021.000	140.00	582.[illegible]	0.00	-0.01	0.00	9.[illegible]	1.00
2021.000	180.00	582.92	0.00	-0.03	0.00	13.00	1.00
2021.300	220.00	582.93	0.00	-0.05	0.00	13.00	1.00
2061.000	100.00	582.[illegible]	0.00	-0.01	0.00	13.00	40.00
2061.000	140.00	582.[illegible]	0.00	-0.02	0.00	13.00	40.00
2061.000	180.00	582.[illegible]	0.00	-0.04	0.00	13.00	40.00
2061.300	220.00	582.94	0.00	0.03	0.05	13.00	40.00
2092.000	100.00	582.92	0.00	-0.02	0.00	9.16	50.00
2092.000	140.00	582.93	0.00	-0.01	0.00	9.16	50.00
2092.000	180.00	582.[illegible]	0.00	-0.01	0.00	9.16	50.00
2092.300	220.00	582.[illegible]	0.00	-0.01	0.00	9.16	50.00
2113.000	100.00	582.90	0.00	0.00	0.00	9.16	1.00
2113.000	140.00	582.93	0.00	0.00	0.00	9.16	1.00
2113.000	180.00	582.96	0.00	0.00	0.00	9.16	1.00
2113.300	220.00	582.98	0.00	0.00	0.10	9.16	1.00
2134.000	100.00	582.92	0.00	0.00	0.00	9.16	21.00
2134.000	140.00	582.93	0.00	0.00	0.00	9.16	21.00
2134.000	180.00	582.97	0.00	0.01	0.00	9.16	21.00
2134.300	220.00	583.01	0.00	0.01	0.11	9.16	21.00
2135.000	100.00	582.91	0.00	0.00	0.00	9.16	1.00
2135.000	140.00	582.93	0.00	0.00	0.00	9.16	1.00
2135.000	180.00	582.97	0.00	0.00	0.00	9.16	1.00
2135.300	220.00	583.01	0.00	0.00	0.11	9.16	1.00
2205.000	100.00	582.93	0.00	0.02	0.01	45.00	70.00
2205.000	140.00	582.93	0.00	0.01	0.00	45.00	70.00
2205.000	180.00	583.04	0.00	0.02	0.00	45.00	70.00
2205.300	220.00	583.12	0.00	0.11	0.11	45.00	70.00

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS

SECNO	S	CUSEL	DIFWSP	DIFWSX	DIFKHS	TOPWID	XLCP
2275.000	100.00	592.92	0.00	-0.01	-0.00	10.00	70.00
2275.000	140.00	592.96	0.00	-0.03	0.00	10.00	70.00
2275.000	180.00	593.01	0.00	-0.03	0.00	10.01	70.00
2275.000	220.01	593.07	0.01	-0.04	0.00	10.00	70.00
2397.000	100.00	583.37	0.00	0.05	0.00	10.00	122.00
2397.000	140.00	583.26	0.00	0.00	0.00	10.00	122.00
2397.000	180.00	583.51	0.00	0.00	0.00	10.00	122.00
2397.000	220.00	583.	0.00	0.0	0.0	10.00	122.00
2572.000	140.00	583.50	0.00	0.04	0.00	86.53	175.00
2572.000	180.00	583.57	0.00	0.06	0.00	86.70	175.00
2572.000	220.00	583.91	0.00	0.09	0.00	87.39	175.00
2757.000	100.00	583.39	0.00	0.00	0.00	35.00	185.00
2757.000	140.00	583.50	0.00	0.00	0.00	34.72	185.00
2757.000	180.00	583.57	0.00	0.00	0.00	34.87	185.00
2757.000	220.00	583.91	0.00	0.00	0.00	83.94	185.00
2923.000	100.00	583.39	0.00	0.00	0.00	35.00	166.00
2923.000	140.00	583.50	0.00	0.00	0.00	34.72	166.00
2923.000	180.00	583.57	0.00	0.00	0.00	34.87	166.00
2923.000	220.00	583.91	0.00	0.00	0.00	83.94	166.00
3273.000	100.00	583.39	0.00	0.00	0.00	35.00	300.00
3273.000	140.00	583.50	0.00	0.00	0.00	34.72	300.00
3273.000	180.00	584.53	0.00	0.00	0.00	35.00	300.00
3273.000	220.00	585.16	0.00	0.00	1.77	55.00	300.00
3323.000	100.00	583.33	0.00	-0.01	0.00	10.00	50.00
3323.000	140.00	583.86	0.00	-0.02	0.00	10.00	50.00
3323.000	180.00	584.50	0.00	-0.03	0.00	10.00	50.00
3323.000	220.00	585.14	0.00	-0.04	1.77	90.09	50.00
3436.000	100.00	583.43	0.00	0.00	0.00	10.00	165.00
3436.000	140.00	584.07	0.00	0.21	0.00	10.00	165.00
3436.000	180.00	584.86	0.00	0.36	0.00	90.00	165.00
3436.000	220.00	585.62	0.00	0.55	2.11	90.00	165.00
3554.000	100.00	583.41	0.00	0.00	0.00	97.11	70.00
3554.000	140.00	584.12	0.00	0.05	0.00	110.41	70.00
3554.000	180.00	584.93	0.00	0.07	0.00	106.45	70.00
3558.000	220.00	585.75	0.00	0.08	2.24	130.09	70.00
3614.000	100.00	583.56	0.00	0.00	0.00	97.56	51.50
3614.000	140.00	584.17	0.00	0.00	0.00	100.75	51.50
3614.000	180.00	584.95	0.00	0.00	0.00	116.62	51.50
3614.000	220.00	585.81	0.00	0.00	2.29	111.96	51.50

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SECNO	Q	CUSEL	DIFFSP	DIFFSX	DIFFHS	TOPWID	XLCH
3630.000	100.00	583.56	0.00	0.00	0.00	139.25	20.00
3630.000	140.00	586.12	0.00	0.01	0.00	140.11	20.00
3630.000	180.00	588.05	0.00	0.01	0.00	140.81	20.00
3630.000	220.00	589.63	0.00	0.01	0.00	141.41	20.00
4700.000	80.00	543.77	0.00	0.19	0.01	93.01	1070.00
4700.000	120.00	554.37	0.00	0.19	0.01	93.67	1070.00
4700.000	160.00	545.16	0.00	0.17	0.00	150.64	1070.00
4700.000	200.00	563.09	0.00	1.13	1.24	151.31	1070.00
6250.000	80.00	530.33	0.00	0.00	0.00	147.62	1550.00
6250.000	120.00	545.18	0.00	0.01	0.00	526.41	1550.00
6250.000	160.00	535.70	0.00	0.04	0.00	155.31	1550.00
6250.000	200.00	536.32	0.00	0.35	1.50	603.31	1550.00
7200.000	80.00	530.35	0.00	0.00	0.00	436.76	950.00
7200.000	120.00	534.46	0.00	0.01	0.00	437.95	950.00
7200.000	160.00	536.71	0.00	0.32	0.00	561.32	950.00
7200.000	200.00	536.30	0.00	0.19	1.15	632.11	950.00
8000.000	80.00	530.37	0.00	0.00	0.00	272.00	0.00
8000.000	120.00	533.00	0.00	0.00	0.00	272.65	0.00
8000.000	160.00	534.05	0.00	0.00	0.00	273.01	0.00
8000.000	200.00	536.51	0.00	0.01	1.15	705.72	0.00

SUM = # OF SECTIONS

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1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

Notes

3) WATERCOURSE: Bancroft and Laudenschlager drains

4) DOCUMENT TYPE: Summary 100 yr



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[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

S.ROCKJOCK BANC. MCLES

SUMMARY PRINTOUT TABLE 130

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
100,000	0.00	0.00	0.00	570.50	260.00	593.93	0.00	593.93	0.01	0.17	3704.05	3373.66
100,000	0.00	0.00	0.00	570.50	270.00	593.93	0.00	593.93	0.01	0.18	3704.05	3373.66
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	593.93	[illegible]	[illegible]	[illegible]	[illegible]
970,000	870.00	0.00	0.00	572.30	260.00	593.93	0.00	593.93	0.02	0.30	1484.27	1779.09
970,000	870.00	0.00	0.00	572.30	270.00	593.93	0.00	593.93	0.02	0.31	1484.27	1779.09
970,000	870.00	0.00	0.00	572.30	280.00	593.93	0.00	593.93	0.02	0.32	1484.27	1779.09
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1120,000	150.00	0.00	0.00	572.30	270.00	593.93	0.00	583.93	0.05	0.44	804.54	1255.98
1120,000	150.00	0.00	0.00	572.30	280.00	593.93	0.00	583.93	0.05	0.46	804.54	1255.98
1120,000	150.00	0.00	0.00	572.30	290.00	593.93	0.00	583.93	0.05	0.43	804.54	1255.98
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1270,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	583.94	[illegible]	[illegible]	337.55	444.44
1270,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.00	583.94	[illegible]	[illegible]	337.57	444.40
1270,000	150.00	0.00	0.00	572.30	280.00	583.92	0.00	583.94	0.41	1.36	337.55	444.37
1270,000	150.00	0.00	0.00	572.30	290.00	593.92	0.00	583.94	0.43	1.41	337.54	444.35
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	50.00	0.00	0.00	[illegible]	[illegible]	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	50.00	0.00	0.00	[illegible]	[illegible]	[illegible]	0.00	[illegible]	0.43	1.46	273.10	402.15
[illegible]	50.00	0.00	0.00	572.30	280.00	593.91	0.00	583.94	0.43	1.51	273.08	402.11
1520.000	50.00	0.00	0.00	572.30	290.00	593.91	0.00	583.95	0.52	1.96	273.04	402.07
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1370,000	50.00	0.00	0.00	572.30	260.00	593.92	0.00	583.95	0.95	1.42	228.28	266.20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1420,000	50.00	0.00	0.00	572.30	260.00	583.91	0.00	583.96	1.54	1.72	183.99	209.56
1420,000	50.00	0.00	0.00	572.30	270.00	583.91	0.00	583.96	1.66	1.79	183.97	209.54
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1470.000	50.00	0.00	0.00	573.00	260.00	593.91	0.00	583.97	2.24	2.01	134.17	174.75
1470.000	50.00	0.00	0.00	573.00	270.00	593.91	0.00	583.97	2.39	2.06	134.15	174.72
1470.000	50.00	0.00	0.00	573.00	280.00	593.91	0.00	583.98	2.57	2.16	134.13	174.69
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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SECNO	XLOC	ELTOP	ELLC	ELMIN	A	CUSEL	CHLS	EE	TOKES	VCH	APGA	.01K
1471.000	1.00	584.50	579.50	573.00	260.00	583.99	0.00	584.01	6.23	3.53	93.75	90.71
1471.000	1.00	584.50	579.50	573.00	270.00	583.99	0.00	584.01	6.23	3.53	93.75	90.71
1471.000	1.00	584.50	579.50	573.00	280.00	583.99	0.00	584.01	6.23	3.53	93.75	90.71
1471.000	1.00	584.50	579.50	573.00	290.00	583.99	0.00	584.01	6.23	3.53	93.75	90.71
1509.000	30.00	584.50	579.50	573.00	260.00	583.99	0.00	584.16	6.32	3.52	93.75	90.66
1509.000	30.00	584.50	579.50	573.00	270.00	583.99	0.00	584.16	6.47	3.66	93.75	90.68
1509.000	30.00	584.50	579.50	573.00	280.00	583.99	0.00	584.16	6.53	3.81	93.75	90.69
1509.000	30.00	584.50	579.50	573.00	290.00	583.99	0.00	584.16	6.58	3.97	93.75	90.71
1510.000	1.00	0.00	0.00	573.00	260.00	583.99	0.00	584.16	2.17	1.99	135.20	176.10
1510.000	1.00	0.00	0.00	573.00	270.00	584.09	0.00	584.27	2.34	2.07	135.26	176.40
1510.000	1.00	0.00	0.00	573.00	280.00	584.00	0.00	584.38	2.51	2.14	135.33	176.72
1510.000	1.00	0.00	0.00	573.00	290.00	584.01	0.00	584.50	2.69	2.22	135.39	177.05
1610.000	100.00	0.00	0.00	573.40	260.00	583.97	0.00	584.70	5.00	3.59	1010.77	906.34
1610.000	100.00	0.00	0.00	573.40	270.00	583.97	0.00	584.07	5.09	3.49	1010.84	908.05
1610.000	100.00	0.00	0.00	573.40	280.00	583.98	0.00	584.09	5.09	3.63	1011.64	909.98
1610.000	100.00	0.00	0.00	573.40	290.00	583.10	0.00	584.10	5.19	3.66	981.29	897.45
1810.000	300.00	0.00	0.00	573.00	260.00	583.99	0.00	584.03	6.23	3.53	355.63	427.64
1810.000	300.00	0.00	0.00	573.00	270.00	583.99	0.00	584.03	6.23	3.53	355.63	427.64
1810.000	300.00	0.00	0.00	573.00	280.00	583.99	0.00	584.03	6.23	3.53	355.63	427.64
1810.000	300.00	0.00	0.00	573.00	290.00	583.99	0.00	584.03	6.23	3.53	355.63	427.64
1830.000	0.00	0.00	0.00	573.00	260.00	583.99	0.00	584.16	2.25	2.00	131.63	170.35
1830.000	0.00	0.00	0.00	573.00	270.00	584.09	0.00	584.27	2.41	2.08	131.71	170.64
1830.000	0.00	0.00	0.00	573.00	280.00	584.00	0.00	584.38	2.58	2.15	131.78	170.96
1830.000	0.00	0.00	0.00	573.00	290.00	584.01	0.00	584.50	2.76	2.23	131.83	171.29
2021.000	1.00	582.40	579.50	573.00	260.00	583.99	0.00	584.12	6.13	2.88	91.67	105.05
2021.000	1.00	582.40	579.50	573.00	270.00	583.99	0.00	584.13	6.30	2.99	91.73	105.15
2021.000	1.00	582.40	579.50	573.00	280.00	583.99	0.00	584.14	6.46	3.10	91.78	105.26
2021.000	1.00	582.40	579.50	573.00	290.00	584.01	0.00	584.17	6.63	3.21	91.83	105.48
2061.000	40.00	582.40	579.50	573.00	260.00	583.01	0.00	584.14	6.08	2.88	91.89	105.41
2061.000	40.00	582.40	579.50	573.00	270.00	583.02	0.00	584.16	6.55	2.99	91.96	105.54
2061.000	40.00	582.40	579.50	573.00	280.00	583.03	0.00	584.17	6.72	3.10	92.04	105.67
2061.000	40.00	582.40	579.50	573.00	290.00	583.04	0.00	584.19	6.89	3.20	92.25	106.02
2062.000	1.00	0.00	0.00	573.00	260.00	583.98	0.00	584.15	2.30	2.05	131.98	171.48
2062.000	1.00	0.00	0.00	573.00	270.00	584.09	0.00	584.16	2.47	2.13	132.13	171.73
2062.000	1.00	0.00	0.00	573.00	280.00	584.11	0.00	584.18	2.65	2.20	132.29	172.01
2062.000	1.00	0.00	0.00	573.00	290.00	584.12	0.00	584.20	2.83	2.27	132.33	172.42
2112.000	50.00	0.00	0.00	573.20	260.00	583.98	0.00	584.18	6.58	3.73	95.09	88.88
2112.000	50.00	0.00	0.00	573.20	270.00	584.08	0.00	584.20	6.21	2.84	95.15	88.99
2112.000	50.00	0.00	0.00	573.20	280.00	584.09	0.00	584.22	9.88	2.94	95.29	89.10
2112.000	50.00	0.00	0.00	573.20	290.00	584.10	0.00	584.25	10.55	3.04	95.44	89.27
2113.000	1.00	582.50	579.50	573.20	260.00	583.04	0.00	584.18	7.16	2.78	93.59	97.19
2113.000	1.00	582.50	579.50	573.20	270.00	583.07	0.00	584.20	7.72	2.89	93.55	97.15
2113.000	1.00	582.50	579.50	573.20	280.00	583.09	0.00	584.22	8.51	2.99	93.55	97.12
2113.000	1.00	582.50	579.50	573.20	290.00	583.10	0.00	584.25	8.93	3.10	93.59	97.06

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	CRICS	ES	10K*S	VCH	AREA	.01K
2134.000	21.00	587.90	582.90	572.20	260.00	584.00	0.00	584.20	7.96	2.78	93.59	97.14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2135.000	1.00	0.00	0.00	573.20	260.00	584.00	0.00	584.20	0.53	2.73	95.22	89.07
2135.000	1.00	0.00	0.00	572.20	270.00	584.20	0.00	584.22	0.48	2.63	95.32	89.14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2135.000	1.00	0.00	0.00	572.20	290.00	584.21	0.00	584.22	0.43	2.53	95.41	89.20
2205.000	70.00	0.00	0.00	573.40	260.00	584.20	0.00	584.22	0.35	1.20	395.67	436.59
2205.000	70.00	0.00	0.00	573.40	270.00	584.22	0.00	584.24	0.36	1.25	396.56	439.92
2205.000	70.00	0.00	0.00	573.40	280.00	584.25	0.00	584.26	0.40	1.29	397.60	441.65
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2275.000	70.00	0.00	0.00	573.60	260.00	584.19	0.00	584.22	0.39	2.59	104.69	125.00
2275.000	70.00	0.00	0.00	573.60	270.00	584.17	0.00	584.27	0.39	2.59	104.65	128.68
2275.000	70.00	0.00	0.00	573.60	280.00	584.19	0.00	584.30	0.70	2.67	104.87	129.19
2275.000	70.00	0.00	0.00	573.60	290.00	584.21	0.00	584.33	0.91	2.76	105.08	129.50
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2367.000	122.00	587.70	578.50	573.60	260.00	585.61	0.00	585.62	0.40	2.39	117.29	160.94
2367.000	122.00	587.70	578.50	573.60	290.00	585.06	0.00	585.62	0.64	2.45	119.45	151.91
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2372.000	175.00	0.00	0.00	574.00	290.00	585.05	0.00	585.66	0.24	0.93	670.46	339.16
2757.000	185.00	0.00	0.00	574.10	260.00	585.31	0.00	585.32	0.43	1.21	517.37	395.10
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2757.000	185.00	0.00	0.00	574.10	280.00	585.53	0.00	585.55	0.45	1.25	541.95	416.20
2757.000	185.00	0.00	0.00	574.10	290.00	585.66	0.00	585.67	0.46	1.27	555.83	426.18
2923.000	166.00	584.60	579.00	574.40	260.00	585.94	0.00	585.95	0.37	1.14	555.44	427.04
2923.000	166.00	584.60	579.00	574.40	270.00	585.92	0.00	585.92	0.39	1.17	563.69	434.98
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2923.000	166.00	584.60	579.00	574.40	280.00	585.90	0.00	585.91	0.42	1.22	571.99	441.05
2973.000	50.00	0.00	0.00	574.40	260.00	585.95	0.00	585.96	0.24	0.92	649.68	527.59
2973.000	50.00	0.00	0.00	574.40	270.00	585.92	0.00	586.03	0.25	0.95	656.18	535.16
2973.000	50.00	0.00	0.00	574.40	280.00	586.00	0.00	586.10	0.27	0.97	662.68	542.74
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3273.000	330.00	0.00	0.00	575.40	260.00	586.02	0.00	586.04	0.62	1.39	321.93	343.53
3273.000	330.00	0.00	0.00	575.40	270.00	586.09	0.00	586.11	0.65	1.44	324.14	347.16
3273.000	330.00	0.00	0.00	575.40	280.00	586.17	0.00	586.19	0.68	1.48	326.79	351.34
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3323.000	50.00	0.00	0.00	575.40	280.00	586.04	0.00	586.15	0.36	2.71	103.54	110.87
3323.000	50.00	0.00	0.00	575.40	290.00	586.11	0.00	586.23	0.37	2.75	104.06	111.90

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SECNO	XLCH	ELTPD	ELLC	ELTIP	O	CUSEL	CRIUS	EG	TOK*S	VCH	AREA	.CIF
3483.000	965.00	591.00	5[illegible]	575.[illegible]	260.0[illegible]	5[illegible]	0.00	586.77	4.6[illegible]	2.37	109.81	420.23
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3554.000	70.00	0.00	0.00	575.40	260.00	586.76	0.00	586.76	0.14	0.71	633.92	451.56
3553.000	70.00	0.00	0.00	575.40	270.00	586.91	0.00	586.92	0.14	0.72	852.66	672.75
3551.000	70.00	0.00	0.00	575.40	280.00	587.06	0.00	587.06	0.14	0.72	1071.40	893.94
3551.000	70.00	0.00	0.00	575.40	290.00	587.20	0.00	587.20	0.14	0.74	1290.14	1115.14
3610.000	51.50	583.00	584.10	575.40	260.00	586.97	0.00	586.97	0.14	0.72	842.04	669.09
3610.000	51.50	583.00	584.10	575.40	270.00	586.97	0.00	586.97	0.14	0.71	860.79	681.23
3610.000	51.50	583.00	584.10	575.40	280.00	587.11	0.00	587.11	0.14	0.72	879.97	702.41
3611.000	51.50	583.00	584.10	575.40	290.00	587.25	0.00	587.25	0.14	0.72	899.16	724.57
3631.000	20.50	0.00	0.00	575.00	260.00	586.97	0.00	586.97	0.06	0.27	1078.73	925.49
3630.000	20.00	0.00	0.00	583.00	270.00	586.97	0.00	586.97	0.06	0.27	1115.19	938.27
3630.000	20.00	0.00	0.00	583.00	280.00	587.11	0.00	587.11	0.06	0.27	1134.29	951.52
3630.000	20.00	0.00	0.00	583.00	290.00	587.26	0.00	587.26	0.06	0.28	1147.13	965.73
4703.000	1070.00	0.00	0.00	583.00	260.00	587.22	0.00	587.25	2.15	0.44	562.52	177.48
4703.000	1070.00	0.00	0.00	583.00	270.00	587.37	0.00	587.37	2.13	0.45	605.16	184.83
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6250.000	1553.00	0.00	0.00	584.00	270.00	587.35	0.00	587.35	0.70	0.14	2028.55	422.41
7200.000	952.00	0.00	0.00	584.00	240.00	587.24	0.00	587.24	1.11	0.17	1651.22	227.56
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8000.000	800.00	0.00	0.00	575.00	240.00	587.25	0.00	587.25	0.02	0.06	5288.38	1518.94
8000.000	800.00	0.00	0.00	575.00	250.00	587.37	0.00	587.37	0.03	0.06	5390.59	1561.43
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 155

SEQNC	R	C [illegible]	[illegible]	[illegible]	[illegible]	TOP [illegible]	[illegible]
100.000	260.00	583.93	0.00	0.00	0.00	497.80	0.00
100.000	270.00	583.93	0.00	0.00	0.00	497.80	0.00
100.000	280.00	583.93	0.00	0.00	0.00	[illegible]	0.00
[illegible]	290.00	583.93	0.00	0.00	0.00	[illegible]	0.00
970.000	260.00	583.93	0.00	0.00	0.00	174.65	870.00
970.000	270.00	583.93	0.00	0.00	0.00	174.65	870.00
970.000	280.00	583.93	0.00	0.00	0.00	174.65	870.00
970.000	290.00	583.93	0.00	0.00	0.00	160.[illegible]	870.00
1120.000	260.00	583.93	0.00	-0.00	0.00	80.00	150.00
1120.000	270.00	583.93	0.00	-0.00	0.00	80.00	150.00
1120.000	280.00	583.93	0.00	-0.00	0.00	80.00	150.00
1120.000	290.00	583.93	0.00	-0.00	0.00	80.00	150.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	270.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1270.000	280.00	583.92	0.00	-0.01	0.00	30.00	150.00
1270.000	290.00	583.92	0.00	-0.01	-0.00	30.00	150.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	270.00	583.91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	583.91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1320.000	290.00	583.91	0.00	-0.00	-0.00	24.00	50.00
1370.000	260.00	583.92	0.00	0.00	0.00	20.00	50.00
1370.000	270.00	583.92	0.00	0.00	0.00	20.00	50.00
1370.000	280.00	583.92	0.00	0.00	0.00	20.00	50.00
1370.000	290.00	583.92	0.00	0.00	-0.00	20.00	50.00
1420.000	260.00	583.91	0.00	-0.00	0.00	16.00	50.00
1420.000	270.00	583.91	0.00	-0.00	0.00	16.00	50.00
1420.000	280.00	583.91	0.00	-0.00	0.00	16.00	50.00
1420.000	290.00	583.91	0.00	-0.01	-0.00	16.00	50.00
1470.000	260.00	583.91	0.00	-0.00	0.00	12.94	50.00
1470.000	270.00	583.91	0.00	-0.01	0.00	12.94	50.00
1470.000	280.00	583.91	0.00	-0.01	0.00	12.94	50.00
1470.000	290.00	583.91	0.00	-0.00	-0.00	11.99	50.00
1471.000	260.00	583.82	0.00	-0.09	0.00	12.93	1.00
1471.000	270.00	583.81	0.00	-0.10	0.00	12.93	1.00
1471.000	280.00	583.80	0.00	-0.11	0.00	12.93	1.00
1471.000	290.00	583.79	0.00	-0.11	-0.02	12.93	1.00
1509.000	260.00	583.85	0.00	0.03	0.00	12.93	38.00
1509.000	270.00	583.84	0.00	0.03	0.00	12.93	38.00
1509.000	280.00	583.84	0.00	0.04	0.00	12.93	38.00
1509.000	290.00	583.83	0.00	0.04	-0.02	12.93	38.00
1510.000	260.00	583.99	0.00	0.18	0.00	12.93	1.00
1510.000	270.00	584.00	0.00	0.18	0.00	12.93	1.00
1510.000	280.00	584.00	0.00	0.17	0.00	12.93	1.00
1510.000	290.00	584.01	0.00	0.18	0.02	12.90	1.00

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SECNO	θ	CHSEL	DIFHSP	DIFHSX	DIFHLS	TCPUID	XLCX
1610.000	260.00	584.06	0.00	0.02	0.00	9.17	100.00
1610.000	270.00	584.05	0.00	0.02	0.00	9.17	100.00
1610.000	280.00	584.06	0.00	0.02	0.00	9.17	100.00
1610.000	290.00	584.10	0.00	0.06	0.04	9.17	100.00
1910.000	260.00	584.06	0.00	-0.01	0.00	9.17	300.00
1910.000	270.00	584.06	0.00	-0.01	0.00	9.17	300.00
1910.000	280.00	584.06	0.00	-0.01	0.00	9.17	300.00
1910.000	290.00	584.09	0.00	-0.01	0.00	9.17	300.00
2020.000	260.00	584.03	0.00	-0.03	0.00	13.00	110.00
2020.000	270.00	584.04	0.00	-0.03	0.00	13.00	110.00
2020.000	280.00	584.05	0.00	-0.03	0.00	13.00	110.00
2020.000	290.00	584.07	0.00	-0.03	0.01	13.00	110.00
2021.000	260.00	583.94	0.00	-0.05	0.00	13.00	1.00
2021.000	270.00	583.95	0.00	-0.05	0.00	13.00	1.00
2021.000	280.00	583.96	0.00	-0.05	0.00	13.00	1.00
2021.000	290.00	584.01	0.00	-0.05	0.02	13.00	1.00
2061.000	260.00	584.01	0.00	0.03	0.00	13.00	40.00
2061.000	270.00	584.02	0.00	0.03	0.00	13.00	40.00
2061.000	280.00	584.03	0.00	0.03	0.00	13.00	40.00
2061.000	290.00	584.04	0.00	0.03	0.01	13.00	40.00
2062.000	260.00	584.07	0.00	0.01	0.00	13.00	1.00
2062.000	270.00	584.08	0.00	0.01	0.00	13.00	1.00
2062.000	280.00	584.09	0.00	0.01	0.00	13.00	1.00
2062.000	290.00	584.12	0.00	0.02	0.04	13.00	1.00
2112.000	260.00	584.06	0.00	-0.02	0.00	9.17	50.00
2112.000	270.00	584.07	0.00	-0.02	0.00	9.17	50.00
2112.000	280.00	584.08	0.00	-0.02	0.00	9.17	50.00
2112.000	290.00	584.12	0.00	-0.02	0.04	9.17	50.00
2113.000	260.00	584.06	0.00	-0.05	0.00	9.17	1.00
2113.000	270.00	584.07	0.00	-0.00	0.00	9.17	1.00
2113.000	280.00	584.08	0.00	-0.05	0.00	9.17	1.00
2113.000	290.00	584.12	0.00	-0.05	0.04	9.17	1.00
2134.000	260.00	584.08	0.00	0.02	0.00	9.17	21.00
2134.000	270.00	584.09	0.00	0.02	0.00	9.17	21.00
2134.000	280.00	584.10	0.00	0.02	0.00	9.17	21.00
2134.000	290.00	584.12	0.00	0.02	0.04	9.17	21.00
2135.000	260.00	584.08	0.00	0.01	0.00	9.17	1.00
2135.000	270.00	584.10	0.00	0.01	0.00	9.17	1.00
2135.000	280.00	584.11	0.00	0.01	0.00	9.17	1.00
2135.000	290.00	584.13	0.00	0.01	0.04	9.17	1.00
2205.000	260.00	584.20	0.00	0.12	0.00	45.00	70.00
2205.000	270.00	584.22	0.00	0.13	0.00	45.00	70.00
2205.000	280.00	584.25	0.00	0.16	0.00	45.00	70.00
2205.000	290.00	584.27	0.00	0.15	0.07	45.00	70.00

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SECNO	Q	CUSEL	DIFWSP	DIFWSK	DIFKUS	TOPWID	XLCH
2275.000	260.00	584.15	0.00	-0.05	0.00	10.30	70.30
[illegible]	270.00	[illegible]	[illegible]	-0.[illegible]	0.30	[illegible]	70.30
[illegible]	[illegible]	[illegible]	[illegible]	-0.[illegible]	0.30	[illegible]	70.30
[illegible]	[illegible]	[illegible]	[illegible]	-0.[illegible]	[illegible]	[illegible]	[illegible]
2397.000	260.00	585.22	0.00	1.07	0.00	10.30	122.00
2397.000	270.00	585.32	0.00	1.96	0.00	10.30	122.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2572.000	260.00	585.31	0.00	0.09	0.00	89.90	175.00
2572.000	270.00	585.42	0.00	0.10	0.00	89.96	175.00
2572.000	280.00	585.53	0.00	0.10	0.00	90.10	175.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2757.000	260.00	585.31	0.00	0.00	0.00	109.71	185.00
2757.000	270.00	585.42	0.00	0.00	0.00	111.32	185.00
2757.000	280.00	585.53	0.00	0.00	0.00	113.02	185.00
2757.000	290.00	585.66	0.00	0.00	0.34	114.85	185.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2923.300	260.00	586.09	0.00	2.55	0.00	115.53	160.00
2923.000	290.00	585.16	0.00	0.50	0.22	117.59	160.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2973.000	290.00	586.17	0.00	0.56	0.22	91.56	50.00
3273.000	260.00	585.95	0.00	1.00	0.00	35.00	300.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3323.300	260.00	585.90	0.00	-0.05	0.00	10.50	50.00
3323.000	270.00	585.97	0.00	-0.05	0.00	10.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3488.000	260.00	586.68	0.00	0.78	0.00	10.00	165.00
3488.000	270.00	586.01	0.00	0.85	0.00	10.00	165.00
3488.000	280.00	586.95	0.00	0.91	0.00	10.00	165.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3558.000	270.00	586.91	0.00	0.10	0.00	137.47	70.00
3558.000	280.00	587.05	0.00	0.11	0.00	138.34	70.00
3558.000	290.00	587.20	0.00	0.11	0.42	139.27	70.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3610.000	260.00	586.82	0.00	0.06	0.00	136.98	51.50
3610.000	270.00	586.97	0.00	0.06	0.00	137.84	51.50
3610.000	280.00	587.11	0.00	0.06	0.00	138.72	51.50
3610.000	290.00	587.25	0.00	0.06	0.42	139.64	51.50

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
3630.000	260.00	506.04	0.00	0.00	0.00	222.[illegible]	20.00
3630.000	270.00	[illegible]	0.00	0.00	0.00	[illegible]	[illegible]
3630.000	[illegible]	[illegible]	0.00	0.00	0.00	[illegible]	[illegible]
3630.000	290.00	[illegible]	0.00	0.00	[illegible]	[illegible]	[illegible]
4700.000	240.00	506.95	0.00	0.11	0.00	101.14	1070.00
4700.000	250.00	507.00	0.00	0.11	0.00	101.18	1070.00
4700.000	[illegible]	[illegible]	0.00	0.11	0.00	[illegible]	[illegible]
4700.000	[illegible]	[illegible]	0.00	0.11	0.42	[illegible]	[illegible]
6250.000	240.00	587.15	0.00	0.20	0.00	692.64	1550.00
6250.000	250.00	587.28	0.00	0.19	0.00	704.24	1550.00
6250.000	260.00	587.4[illegible]	0.00	0.19	0.00	715.5[illegible]	1550.00
[illegible]	[illegible]	[illegible]	0.00	0.1[illegible]	0.40	[illegible]	1550.00
7200.000	240.00	587.2[illegible]	0.00	0.09	0.00	[illegible]	950.00
7200.000	250.00	587.37	0.00	0.09	0.00	[illegible].53	950.00
7200.000	260.00	587.49	0.00	0.08	0.00	[illegible].92	950.00
7200.000	270.00	587.62	0.00	0.07	0.30	862.57	950.00
[illegible]	[illegible]	[illegible]	0.00	0.01	0.00	[illegible].71	[illegible]
[illegible]	[illegible]	[illegible]	0.00	0.01	0.00	[illegible]	[illegible]
8000.000	260.00	587.50	0.00	0.01	0.00	832.4[illegible]	[illegible]
8000.000	270.00	587.63	0.00	0.01	0.35	835.95	[illegible]

SUMMARY OF ERRORS

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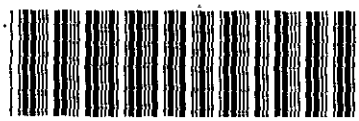

1) COUNTY: Monroe

2) STUDY NAME: Village of S Rockwood

3) WATERCOURSE: Bancroft (Nbres) and Laudenschlager

4) DOCUMENT TYPE: Summary 500yr



HEC2 RELEASED DATED NOV 76 UPDATED ... 1977

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

SUMMARY PRINTOUT TABLE 150

...ESRD	...CH	ELTRD	ELMN	CRITW	...	...SEL	CHNNL	...	VOL	...	AREA	...CH
100.000	0.30	0.00	0.00	570.50	320.00	586.07	0.00	586.07	0.00	0.16	4775.38	4941.53
100.000	0.30	0.00	0.00	570.50	330.00	586.07	0.00	586.07	0.00	0.17	4775.38	4941.53
100.000	0.30	0.00	0.00	570.50	340.00	586.07	0.00	586.07	0.00	0.17	4775.38	4941.53
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
970.000	870.00	0.00	0.00	572.30	330.00	586.07	0.00	586.07	0.02	0.30	2094.27	2564.18
970.000	870.00	0.00	0.00	572.30	340.00	586.07	0.00	586.07	0.02	0.31	2094.27	2564.18
970.000	870.00	0.00	0.00	572.30	350.00	586.07	0.00	586.07	0.02	0.32	2094.27	2564.18
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1120.000	150.00	0.00	0.00	572.30	340.00	586.07	0.00	586.07	0.04	0.46	975.73	1703.78
1120.000	150.00	0.00	0.00	572.30	350.00	586.07	0.00	586.07	0.04	0.48	975.73	1703.78
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1270.000	150.00	0.00	0.00	572.30	350.00	586.05	0.00	586.08	0.55	1.46	401.70	583.21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1320.000	50.00	0.00	0.00	572.30	320.00	586.05	0.00	586.08	0.37	1.47	324.40	529.59
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1320.000	50.00	0.00	0.00	572.30	340.00	586.05	0.00	586.08	0.44	1.74	324.37	529.49
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1370.000	50.00	0.00	0.00	572.30	320.00	586.06	0.00	586.09	0.92	1.48	271.62	534.22
1370.000	50.00	0.00	0.00	572.30	330.00	586.06	0.00	586.09	0.96	1.53	271.60	534.19
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1420.000	50.00	0.00	0.00	572.30	320.00	586.05	0.00	586.10	1.49	1.79	218.18	261.90
1420.000	50.00	0.00	0.00	572.30	330.00	586.05	0.00	586.10	1.59	1.85	218.17	261.89
1420.000	50.00	0.00	0.00	572.30	340.00	586.05	0.00	586.10	1.69	1.90	218.16	261.87
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1470.000	50.00	0.00	0.00	573.00	330.00	586.04	0.00	586.11	2.19	2.12	161.91	272.76
1470.000	50.00	0.00	0.00	573.00	340.00	586.04	0.00	586.12	2.53	2.19	161.89	272.72
1470.000	50.00	0.00	0.00	573.00	350.00	586.04	0.00	586.12	4.31	2.26	154.80	168.50
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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SECNO	XLCH	ELTRD	FLLC	ELTIN	Q	CUSEL	CRITS	EG	10K*S	VCH	AREA	.01K
1471.000	1.00	584.50	579.30	573.00	320.00	585.96	0.00	586.15	9.62	3.50	92.73	103.19
1471.000	1.00	584.50	579.30	573.00	330.00	585.95	0.00	586.15	10.20	3.62	92.64	103.04
1471.000	1.00	584.50	579.30	573.00	340.00	585.97	0.00	586.15	10.78	3.73	92.56	102.89
1471.000	1.00	584.50	579.30	573.00	350.00	585.98	0.00	586.17	11.40	3.86	91.05	101.21
1509.000	30.00	584.50	579.30	573.00	320.00	586.00	0.00	586.19	9.50	3.49	93.12	103.63
1509.000	30.00	584.50	579.30	573.00	330.00	585.99	0.00	586.19	10.12	3.60	93.06	103.72
1509.000	30.00	584.50	579.30	573.00	340.00	585.99	0.00	586.21	10.77	3.71	92.91	103.59
1509.000	30.00	584.50	579.30	573.00	350.00	586.00	0.00	586.23	11.45	3.82	91.42	101.96
1510.000	1.00	0.00	0.00	573.00	330.00	586.14	0.00	586.21	2.16	2.11	163.05	224.78
1510.000	1.00	0.00	0.00	573.00	340.00	586.14	0.00	586.22	2.29	2.17	163.11	224.87
1510.000	1.00	0.00	0.00	573.00	350.00	586.17	0.00	586.24	4.27	2.24	156.19	170.33
1510.000	100.00	0.00	0.00	573.20	320.00	586.20	0.00	586.27	0.06	0.55	1324.71	1355.57
1510.000	100.00	0.00	0.00	573.20	330.00	586.21	0.00	586.22	0.06	0.57	1325.19	1356.05
1510.000	100.00	0.00	0.00	573.60	340.00	586.22	0.00	586.22	0.06	0.58	1326.39	1352.08
1610.000	100.00	0.00	0.00	573.60	350.00	586.25	0.00	586.25	0.07	0.61	1302.14	1341.36
1510.000	300.00	0.00	0.00	573.00	320.00	586.20	0.00	586.27	0.22	1.05	776.13	675.02
1510.000	300.00	0.00	0.00	573.00	330.00	586.21	0.00	586.27	0.23	1.12	777.55	677.46
1510.000	300.00	0.00	0.00	573.00	340.00	586.22	0.00	586.29	0.25	1.19	777.65	675.27
1510.000	300.00	0.00	0.00	573.00	350.00	586.25	0.00	586.26	0.27	1.20	689.71	670.37
2020.000	210.00	0.00	0.00	573.00	320.00	586.17	0.00	586.23	2.25	2.19	159.08	216.69
2020.000	210.00	0.00	0.00	573.00	330.00	586.17	0.00	586.23	2.34	2.17	159.17	216.85
2020.000	210.00	0.00	0.00	573.00	340.00	586.21	0.00	586.25	3.11	2.24	159.20	216.70
2020.000	210.00	0.00	0.00	573.00	350.00	586.21	0.00	586.27	4.53	2.39	151.63	156.31
2021.000	1.00	582.40	579.50	573.00	320.00	586.13	0.00	586.25	4.26	2.76	119.56	155.11
2021.000	1.00	582.40	579.50	573.00	330.00	586.14	0.00	586.26	4.52	2.84	119.62	155.23
2021.000	1.00	582.40	579.50	573.00	340.00	586.17	0.00	586.27	4.77	2.93	119.68	155.34
2021.000	1.00	582.40	579.50	573.00	350.00	586.17	0.00	586.31	5.04	3.00	120.09	155.96
2061.000	40.00	582.40	579.50	573.00	320.00	586.15	0.00	586.27	4.24	2.75	119.73	155.43
2061.000	40.00	582.40	579.50	573.00	330.00	586.15	0.00	586.28	4.50	2.84	119.80	155.57
2061.000	40.00	582.40	579.50	573.00	340.00	586.16	0.00	586.29	4.77	2.92	119.87	155.69
2061.000	40.00	582.40	579.50	573.00	350.00	586.19	0.00	586.33	5.01	3.00	120.26	156.44
2062.000	1.00	0.00	0.00	573.00	320.00	586.20	0.00	586.27	2.13	2.10	159.57	219.36
2062.000	1.00	0.00	0.00	573.00	330.00	586.21	0.00	586.28	2.26	2.16	159.69	219.57
2062.000	1.00	0.00	0.00	573.00	340.00	586.22	0.00	586.30	2.39	2.23	159.80	219.77
2062.000	1.00	0.00	0.00	573.00	350.00	586.25	0.00	586.33	2.52	2.29	160.19	220.46
2112.000	50.00	0.00	0.00	573.20	320.00	586.16	0.00	586.32	4.96	2.70	116.61	148.59
2112.000	50.00	0.00	0.00	573.20	330.00	586.19	0.00	586.32	5.09	2.80	116.69	148.71
2112.000	50.00	0.00	0.00	573.20	340.00	586.20	0.00	586.33	5.22	2.96	116.76	148.82
2112.000	50.00	0.00	0.00	573.20	350.00	586.23	0.00	586.37	5.50	3.04	117.03	149.26
2113.000	1.00	587.90	583.90	573.20	320.00	586.14	0.00	586.32	8.15	3.43	93.17	112.75
2113.000	1.00	587.90	583.90	573.20	330.00	586.14	0.00	586.34	8.67	3.54	93.17	112.85
2113.000	1.00	587.90	583.90	573.20	340.00	586.15	0.00	586.36	9.21	3.64	93.17	112.94
2113.000	1.00	587.90	583.90	573.20	350.00	586.17	0.00	586.39	9.77	3.76	93.17	111.98

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SECNO	XLCN	ELTRD	ELLC	ELMIN	Q	CMSAL	CRIWS	EG	10K*S	VCH	AREA	.01K
2134.000	21.00	587.92	583.90	573.20	320.00	586.16	0.00	586.34	12.37	3.41	95.76	90.99
2134.000	21.00	587.92	583.90	573.20	330.00	586.17	0.00	586.36	13.16	3.52	95.77	90.96
2134.000	21.00	587.92	583.90	573.20	340.00	586.17	0.00	586.37	13.94	3.62	95.77	90.94
2134.000	21.00	587.92	583.90	573.20	350.00	586.18	0.00	586.38	14.73	3.73	95.77	90.92
2135.000	1.00	0.00	0.00	573.20	320.00	586.23	0.00	586.35	8.28	2.71	114.96	111.18
2135.000	1.00	0.00	0.00	573.20	330.00	586.24	0.00	586.37	8.79	2.87	115.06	111.30
2135.000	1.00	0.00	0.00	573.20	340.00	586.25	0.00	586.39	9.31	2.95	115.16	111.40
2135.000	1.00	0.00	0.00	573.20	350.00	586.26	0.00	586.40	9.82	3.03	115.26	111.50
2205.000	70.00	0.00	0.00	573.40	320.00	586.32	0.00	586.37	0.27	1.20	492.59	612.29
2205.000	70.00	0.00	0.00	573.40	330.00	586.32	0.00	586.39	0.29	1.24	493.24	614.43
2205.000	70.00	0.00	0.00	573.40	340.00	586.33	0.00	586.41	0.30	1.27	494.07	616.61
2205.000	70.00	0.00	0.00	573.40	350.00	586.34	0.00	586.43	0.32	1.30	495.06	618.82
2275.000	70.00	0.00	0.00	573.60	320.00	586.33	0.00	586.41	0.23	1.17	125.96	164.66
2275.000	70.00	0.00	0.00	573.60	330.00	586.33	0.00	586.43	0.24	1.22	126.10	164.90
2275.000	70.00	0.00	0.00	573.60	340.00	586.33	0.00	586.44	0.24	1.26	126.25	165.16
2275.000	70.00	0.00	0.00	573.60	350.00	586.34	0.00	586.46	0.25	1.31	126.41	165.43
2397.000	122.00	587.92	583.90	573.60	320.00	587.95	0.00	587.96	0.07	1.71	696.13	553.79
2397.000	122.00	587.92	583.90	573.60	330.00	587.96	0.00	587.97	0.07	1.76	704.56	560.22
2397.000	122.00	587.92	583.90	573.60	340.00	587.96	0.00	587.98	0.08	1.82	713.15	566.87
2397.000	122.00	587.92	583.90	573.60	350.00	587.97	0.00	587.99	0.08	1.87	721.90	573.74
2572.000	175.00	0.00	0.00	574.00	320.00	587.95	0.00	587.96	0.13	2.79	692.65	570.96
2572.000	175.00	0.00	0.00	574.00	330.00	587.96	0.00	587.97	0.14	2.88	701.11	578.75
2572.000	175.00	0.00	0.00	574.00	340.00	587.96	0.00	587.98	0.15	2.97	709.76	586.76
2572.000	175.00	0.00	0.00	574.00	350.00	587.97	0.00	587.99	0.15	3.06	718.62	594.96
2757.000	185.00	0.00	0.00	574.10	320.00	587.95	0.00	587.96	0.21	0.97	859.48	701.02
2757.000	185.00	0.00	0.00	574.10	330.00	587.96	0.00	587.97	0.22	0.99	868.53	709.49
2757.000	185.00	0.00	0.00	574.10	340.00	587.96	0.00	587.98	0.23	1.01	875.25	716.62
2757.000	185.00	0.00	0.00	574.10	350.00	587.97	0.00	587.99	0.23	1.03	881.47	723.07
2923.000	166.00	584.60	579.00	574.40	320.00	588.01	0.00	588.02	0.25	1.00	825.75	667.85
2923.000	166.00	584.60	579.00	574.40	330.00	588.07	0.00	588.07	0.24	1.03	832.53	675.97
2923.000	166.00	584.60	579.00	574.40	340.00	588.11	0.00	588.12	0.25	1.05	839.49	682.43
2923.000	166.00	584.60	579.00	574.40	350.00	588.14	0.00	588.14	0.26	1.07	846.76	688.25
2973.000	50.00	0.00	0.00	574.50	320.00	586.11	0.00	588.01	0.17	0.90	861.78	765.50
2973.000	50.00	0.00	0.00	574.40	330.00	586.07	0.00	588.07	0.18	0.90	847.48	772.98
2973.000	50.00	0.00	0.00	574.40	340.00	586.12	0.00	588.12	0.19	0.92	851.95	778.87
2973.000	50.00	0.00	0.00	574.40	350.00	588.16	0.00	588.16	0.20	0.94	855.94	784.14
3273.000	300.00	0.00	0.00	575.40	320.00	588.03	0.00	588.03	1.46	1.39	391.16	457.74
3273.000	300.00	0.00	0.00	575.40	330.00	588.07	0.00	588.09	0.51	1.43	393.23	461.36
3273.000	300.00	0.00	0.00	575.40	340.00	588.14	0.00	588.14	0.54	1.47	394.88	464.21
3273.000	300.00	0.00	0.00	575.40	350.00	588.15	0.00	588.18	0.56	1.51	396.36	466.78
3333.000	57.00	0.00	0.00	575.45	320.00	588.62	0.00	588.23	0.47	1.14	636.37	467.38
3333.000	57.00	0.00	0.00	575.45	330.00	588.09	0.00	588.09	0.46	1.16	645.69	474.28
3333.000	57.00	0.00	0.00	575.45	340.00	588.13	0.00	588.14	0.50	1.19	653.09	479.96
3523.000	190.00	0.00	0.00	575.60	350.00	588.17	0.00	588.18	0.52	1.21	659.82	484.94

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SECNO	XLCH	ELTRD	ELLC	ELTIN	Q	CUSSL	CRIMS	EG	10K*S	VCH	AREA	.01K
3408.000	165.00	590.00	581.20	575.40	320.00	509.25	0.00	569.36	4.08	2.36	135.51	158.63
3468.000	165.00	590.00	581.20	575.40	330.00	509.25	0.00	539.60	4.22	2.41	136.91	160.56
3488.000	165.00	590.00	581.20	575.40	340.00	509.25	0.00	539.83	4.31	2.47	138.22	162.34
3508.000	165.00	590.00	581.20	575.40	350.00	509.25	0.00	539.83	4.32	2.52	139.49	164.00
3558.000	70.00	0.00	0.00	575.40	320.00	509.25	0.00	539.35	0.09	0.00	1205.76	1038.16
3598.000	70.00	0.00	0.00	575.40	330.00	509.45	0.00	539.49	0.09	0.01	1227.92	1116.01
3558.000	70.00	0.00	0.00	575.40	340.00	509.67	0.00	539.63	0.09	0.02	1249.59	1192.15
3558.000	70.00	0.00	0.00	575.40	350.00	509.67	0.00	539.63	0.09	0.03	1270.80	1266.26
3610.000	51.50	583.00	581.10	576.40	320.00	509.33	0.00	539.33	0.09	0.01	1234.31	1124.07
3610.000	51.50	583.00	581.10	576.40	340.00	509.67	0.00	539.67	0.09	0.02	1255.12	1190.45
3610.000	51.50	583.00	581.10	576.40	350.00	509.83	0.00	539.80	0.09	0.02	1275.75	1176.75
3630.000	20.00	0.00	0.00	580.00	320.00	509.33	0.00	539.33	0.28	0.22	1672.55	626.05
3650.000	20.00	0.00	0.00	580.00	330.00	509.50	0.00	539.50	0.28	0.22	1700.23	632.15
3630.000	20.00	0.00	0.00	580.00	340.00	509.67	0.00	539.67	0.28	0.22	1741.62	645.69
3630.000	20.00	0.00	0.00	580.00	350.00	509.83	0.00	539.80	0.28	0.22	1774.47	664.52
4700.000	1070.00	0.00	0.00	580.00	330.00	509.45	0.00	539.45	1.01	0.39	857.44	528.87
7200.000	950.00	0.00	0.00	584.00	300.00	509.51	0.00	539.51	0.18	0.10	3927.41	708.33
7200.000	950.00	0.00	0.00	584.00	310.00	509.65	0.00	539.65	0.17	0.10	4103.20	749.94
7200.000	950.00	0.00	0.00	584.00	320.00	509.79	0.00	539.78	0.16	0.10	4271.05	790.31
7200.000	950.00	0.00	0.00	584.00	330.00	509.92	0.00	539.92	0.16	0.10	4443.33	831.22
8000.000	800.00	0.00	0.00	575.00	300.00	509.51	0.00	539.51	0.02	0.05	7229.95	2393.28
8000.000	800.00	0.00	0.00	575.00	310.00	509.65	0.00	539.65	0.02	0.05	7361.25	2457.13
8000.000	800.00	0.00	0.00	575.00	320.00	509.79	0.00	539.79	0.02	0.05	7480.03	2515.36
8000.000	800.00	0.00	0.00	575.00	330.00	509.92	0.00	539.92	0.02	0.05	7587.75	2573.51

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S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 15C

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
100.000	320.00	586.07	0.00	0.00	0.00	530.00	0.00
100.000	330.00	586.07	0.00	0.00	0.00	530.00	0.00
100.000	340.00	586.07	0.00	0.00	0.00	530.00	0.00
100.000	350.00	586.07	0.00	0.00	0.00	492.49	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
970.000	330.00	586.07	0.00	0.00	0.00	325.00	870.00
970.000	340.00	586.07	0.00	0.00	0.00	325.00	870.00
970.000	350.00	586.07	0.00	0.00	0.00	257.52	870.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1120.000	330.00	586.07	0.00	-0.00	0.00	90.00	150.00
1120.000	340.00	586.07	0.00	-0.00	0.00	90.00	150.00
1120.000	350.00	586.07	0.00	-0.00	-0.00	90.00	150.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1270.000	330.00	586.06	0.00	-0.00	-0.00	30.00	150.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1370.000	320.00	586.06	0.00	0.00	0.00	20.00	50.00
1370.000	330.00	586.05	0.00	0.00	0.00	20.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1370.000	340.00	586.05	0.00	-0.01	0.00	20.00	50.00
1370.000	350.00	586.05	0.00	-0.01	-0.00	20.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1420.000	320.00	586.05	0.00	-0.01	0.00	15.00	50.00
1420.000	330.00	586.05	0.00	-0.01	0.00	16.00	50.00
1420.000	340.00	586.05	0.00	-0.01	0.00	15.00	50.00
1420.000	350.00	586.05	0.00	-0.01	-0.00	00.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1470.000	330.00	586.04	0.00	-0.01	0.00	13.00	50.00
1470.000	340.00	586.04	0.00	-0.01	0.00	13.00	50.00
1470.000	350.00	586.04	0.00	-0.00	-0.00	12.00	50.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1471.000	330.00	585.94	0.00	-0.10	0.00	13.00	1.00
1471.000	340.00	585.94	0.00	-0.10	0.00	13.00	1.00
1471.000	350.00	585.94	0.00	-0.10	-0.02	12.00	1.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1509.000	330.00	586.00	0.00	0.06	0.00	13.00	38.00
1509.000	340.00	586.00	0.00	0.06	0.00	13.00	38.00
1509.000	350.00	586.00	0.00	0.06	0.01	12.01	38.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1510.000	330.00	586.13	0.00	0.14	0.00	13.00	1.00
1510.000	340.00	586.13	0.00	0.14	0.00	13.00	1.00
1510.000	350.00	586.13	0.00	0.14	0.00	12.00	1.00

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SECNO	D	CHSEL	DIF.SP	DIF.SX	DIFRUS	TOPUID	XLCH
1610.000	320.00	586.20	0.00	0.07	-0.00	147.00	100.00
1610.000	330.00	586.21	0.00	0.07	0.00	147.00	100.00
1610.000	340.00	586.22	0.00	0.07	0.00	147.00	100.00
1610.000	350.00	586.23	0.00	0.07	0.00	147.00	100.00
1910.000	320.00	586.20	0.00	-0.05	0.00	245.00	300.00
1910.000	330.00	586.21	0.00	-0.05	0.00	245.00	300.00
1910.000	340.00	586.22	0.00	-0.05	0.00	245.00	300.00
1910.000	350.00	586.23	0.00	-0.05	0.00	245.00	300.00
2020.000	320.00	586.17	0.00	-0.04	0.00	13.00	110.00
2020.000	330.00	586.17	0.00	-0.04	0.00	13.00	110.00
2020.000	340.00	586.19	0.00	-0.04	0.00	13.00	110.00
2020.000	350.00	586.21	0.00	-0.04	0.04	12.00	110.00
2021.000	320.00	586.13	0.00	-0.05	0.00	13.00	1.00
2021.000	330.00	586.14	0.00	-0.04	0.00	13.00	1.00
2021.000	340.00	586.14	0.00	-0.04	0.00	13.00	1.00
2021.000	350.00	586.17	0.00	-0.04	0.03	13.00	1.00
2051.000	320.00	586.15	0.00	0.02	0.00	13.00	70.00
2051.000	330.00	586.16	0.00	0.02	0.00	13.00	70.00
2051.000	340.00	586.1	0.00	0.02	0.00	13.00	70.00
2051.000	350.00	586.19	0.00	0.02	0.04	13.00	70.00
2052.000	320.00	586.25	0.00	0.05	0.00	13.00	1.00
2052.000	330.00	586.27	0.00	0.05	0.00	13.00	1.00
2052.000	340.00	586.28	0.00	0.05	0.00	13.00	1.00
2052.000	350.00	586.29	0.00	0.05	0.00	13.00	1.00
2112.000	320.00	586.18	0.00	-0.02	0.00	9.54	50.00
2112.000	330.00	586.19	0.00	-0.02	0.00	9.54	50.00
2112.000	340.00	586.20	0.00	-0.02	0.00	9.54	50.00
2112.000	350.00	586.21	0.00	-0.03	0.04	9.54	50.00
2113.000	320.00	586.14	0.00	-0.04	0.00	9.54	1.00
2113.000	330.00	586.14	0.00	-0.05	0.00	9.54	1.00
2113.000	340.00	586.15	0.00	-0.05	0.00	9.54	1.00
2113.000	350.00	586.17	0.00	-0.05	0.03	9.54	1.00
2134.000	320.00	586.16	0.00	0.02	0.00	9.19	21.00
2134.000	330.00	586.17	0.00	0.02	0.00	9.19	21.00
2134.000	340.00	586.17	0.00	0.03	0.00	9.19	21.00
2134.000	350.00	586.20	0.00	0.03	0.04	9.19	21.00
2135.000	320.00	586.23	0.00	0.07	0.00	9.19	1.00
2135.000	330.00	586.24	0.00	0.07	0.00	9.19	1.00
2135.000	340.00	586.25	0.00	0.00	0.00	9.19	1.00
2135.000	350.00	586.28	0.00	0.08	0.05	9.19	1.00
2205.000	320.00	586.35	0.00	0.12	0.00	45.00	70.00
2205.000	330.00	586.37	0.00	0.13	0.00	45.00	70.00
2205.000	340.00	586.39	0.00	0.14	0.00	45.00	70.00
2205.000	350.00	586.43	0.00	0.15	0.04	45.00	70.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
2275.000	320.00	536.30	0.00	-0.06	0.00	10.00	70.00
2275.000	330.00	536.31	0.00	-0.06	0.00	10.00	70.00
2275.000	340.00	536.32	0.00	-0.06	0.00	10.00	70.00
2275.000	350.00	536.32	0.00	-0.07	0.00	10.00	70.00
2397.000	320.00	507.95	0.00	1.65	0.00	135.00	122.00
2397.000	330.00	508.01	0.00	1.69	0.00	135.00	122.00
2397.000	340.00	508.05	0.00	1.72	0.00	135.00	122.00
2397.000	350.00	508.10	0.00	1.75	0.00	135.00	122.00
2572.000	320.00	507.95	0.00	0.00	0.00	94.43	175.00
2572.000	330.00	508.01	0.00	0.00	0.00	94.43	175.00
2572.000	340.00	508.06	0.00	0.00	0.00	94.51	175.00
2572.000	350.00	508.10	0.00	0.00	0.00	94.50	175.00
2757.000	320.00	507.95	0.00	0.00	0.00	150.00	185.00
2757.000	330.00	508.01	0.00	0.00	0.00	150.00	185.00
2757.000	340.00	508.06	0.00	0.00	0.00	150.00	185.00
2757.000	350.00	508.10	0.00	0.00	0.00	150.00	185.00
2923.000	320.00	507.95	0.00	0.00	0.00	167.95	200.00
2923.000	330.00	508.01	0.00	0.00	0.00	167.95	200.00
2923.000	340.00	508.06	0.00	0.00	0.00	167.95	200.00
2923.000	350.00	508.16	0.00	0.06	0.15	167.95	200.00
3273.000	320.00	508.01	0.00	-0.00	0.00	35.00	300.00
3273.000	330.00	508.07	0.00	-0.00	0.00	35.00	300.00
3273.000	340.00	508.11	0.00	-0.00	0.00	35.00	300.00
3273.000	350.00	508.15	0.00	-0.00	0.15	35.00	300.00
3323.000	320.00	508.02	0.00	0.02	0.00	154.36	50.00
3323.000	330.00	508.08	0.00	0.02	0.00	155.84	50.00
3323.000	340.00	508.13	0.00	0.02	0.00	157.00	50.00
3323.000	350.00	508.18	0.00	0.02	0.15	157.23	50.00
3488.000	320.00	589.25	0.00	1.25	0.00	10.00	165.00
3488.000	330.00	589.39	0.00	1.31	0.00	10.00	165.00
3488.000	340.00	589.52	0.00	1.39	0.00	10.00	165.00
3488.000	350.00	589.65	0.00	1.48	0.40	10.00	165.00
3558.000	320.00	589.33	0.00	0.03	0.00	152.67	75.00
3558.000	330.00	589.48	0.00	0.10	0.00	153.78	75.00
3558.000	340.00	589.63	0.00	0.10	0.00	154.63	75.00
3558.000	350.00	589.76	0.00	0.11	0.41	155.47	75.00
3610.000	320.00	589.39	0.00	0.04	0.00	153.13	51.50
3610.000	330.00	589.53	0.00	0.04	0.00	154.04	51.50
3610.000	340.00	589.67	0.00	0.04	0.00	154.90	51.50
3610.000	350.00	589.80	0.00	0.04	0.41	155.74	51.50

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKUS	TOPWID	XLCH
3630.000	320.00	589.39	0.00	0.00	0.00	246.03	20.00
3630.000	330.00	589.55	0.00	0.00	0.00	247.2[illegible]	20.00
3630.000	340.00	589.57	0.00	0.00	0.00	[illegible]	20.00
3630.000	350.00	589.[illegible]	0.00	0.00	0.4[illegible]	[illegible]	20.00
4700.000	300.00	589.45	0.00	0.05	0.00	1[illegible].44	1070.00
4700.000	310.00	589.53	0.00	0.05	0.00	1[illegible].68	1070.00
4700.000	320.00	589.72	0.00	0.05	0.00	1[illegible].92	1070.00
4700.000	330.00	589.[illegible]	0.00	0.05	0.4[illegible]	1[illegible].95	1070.00
6250.000	300.00	589.4[illegible]	0.00	0.05	0.00	[illegible].13	1550.00
6250.000	310.00	589.63	0.00	0.05	0.00	925.65	1550.00
6250.000	320.00	589.77	0.00	0.05	0.00	938.29	1550.00
6250.000	330.00	589.9[illegible]	0.00	0.05	0.41	950.63	1550.00
7200.000	300.00	589.5[illegible]	0.00	0.02	0.00	1[illegible].[illegible]	950.00
7200.000	310.00	589.[illegible]	0.00	0.02	0.00	1[illegible]	950.00
7200.000	320.00	589.78	0.00	0.02	0.00	1269.43	950.00
7200.000	330.00	589.92	0.00	0.00	0.41	1294.17	950.00
8200.000	300.00	589.[illegible]	0.00	0.00	0.00	[illegible]	800.00
8200.000	310.00	589.[illegible]	0.00	0.00	0.00	[illegible]	800.00
8200.000	320.00	589.[illegible]	0.00	0.00	0.00	[illegible]	800.00
8200.000	330.00	589.92	0.00	0.00	0.41	898.06	800.00

SUMMARY OF ERRORS

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



1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains
Noles

4) DOCUMENT TYPE: Summary Chapman Drain Rating Curve



PRINTED IN U.S.A.

FORM 1411-GD PRINTED BY ROTARY MANIFOLD FORMS.

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  HEC6 RELEASE DATED NOV 76 UPDATED FEB 1977
  ERROR CORR - 01
  JOB TIME =  30.51.52
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 NOTE- ACTIONS (**) ARE LEFT BY USER-SECTION OUTSIDE SUBSCRIPTS MESSAGE IS A MONKEY OF TROUBLES LIST


 CLAPTAN DRAIN

 SUMMARY PRINTOUT TABLE  150
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RECRD											
1.000	450.00	0.00	0.00	570.70	25.00	581.04	0.00	581.06	2.56	1.15	45.31	15.62
1.000	450.00	0.00	0.00	570.70	50.00	581.78	0.00	581.78	2.60	1.40	79.98	31.04
1.000	450.00	0.00	0.00	570.70	100.00	582.87	0.00	582.89	2.63	1.71	139.63	61.70
1.000	450.00	0.00	0.00	570.70	150.00	583.81	0.00	583.85	2.67	1.93	190.03	82.96
1.300	100.00	0.00	0.00	573.70	25.00	581.03	0.00	581.10	5.34	1.60	32.93	10.82
1.300	100.00	0.00	0.00	573.70	50.00	581.79	0.00	581.83	6.34	2.13	53.22	20.34
1.300	100.00	0.00	0.00	573.70	100.00	582.12	0.00	582.87	6.70	2.72	82.37	35.64
1.300	100.00	0.00	0.00	573.70	150.00	583.33	0.00	583.71	6.95	3.13	109.13	56.59
2.100	20.00	581.00	580.30	578.70	25.00	581.19	0.00	581.24	6.12	1.53	36.01	12.32
2.000	20.00	581.00	580.30	578.70	50.00	581.85	0.00	581.86	5.68	2.08	54.40	20.98
2.000	20.00	581.00	580.30	578.70	100.00	582.87	0.00	582.91	6.36	2.67	83.78	39.65
2.000	20.00	581.00	580.30	578.70	150.00	583.71	0.00	583.77	6.58	3.07	107.88	58.46
2.200	50.00	0.00	0.00	574.70	25.00	581.21	0.00	581.23	4.31	1.51	57.01	12.49
2.200	50.00	0.00	0.00	574.70	50.00	581.86	0.00	581.89	5.46	2.05	55.23	21.43
2.200	50.00	0.00	0.00	574.70	100.00	582.90	0.00	582.94	6.15	2.64	84.71	40.32
2.200	50.00	0.00	0.00	574.70	150.00	583.74	0.00	583.80	6.41	3.04	108.84	59.27
2.700	150.00	0.00	0.00	579.20	25.00	581.27	0.00	581.29	2.41	1.06	53.77	16.10
2.700	150.00	0.00	0.00	579.20	50.00	581.94	0.00	581.95	2.52	1.30	86.13	31.51
2.700	150.00	0.00	0.00	579.20	100.00	582.99	0.00	583.01	2.44	1.59	136.94	63.98
2.700	150.00	0.00	0.00	579.20	150.00	583.85	0.00	583.87	2.40	1.91	178.16	96.76
2.400	100.00	0.00	0.00	578.60	25.00	581.30	0.00	581.31	3.80	1.61	39.72	12.63
2.300	100.00	0.00	0.00	578.60	50.00	581.96	0.00	581.99	3.06	2.15	58.60	22.22
2.300	100.00	0.00	0.00	578.60	100.00	583.01	0.00	583.06	3.81	2.76	88.58	41.49
2.300	100.00	0.00	0.00	578.60	150.00	583.87	0.00	583.92	4.18	3.19	112.67	60.39
3.000	33.00	581.20	579.80	578.60	25.00	582.12	0.00	582.12	1.02	0.99	62.95	24.71
3.000	33.00	581.20	579.80	578.60	50.00	582.41	0.00	582.43	2.81	1.74	71.35	29.81
3.000	33.00	581.20	579.80	578.60	100.00	583.15	0.00	583.19	5.14	2.64	92.18	44.13
3.000	33.00	581.20	579.80	578.60	150.00	583.99	0.00	584.03	5.66	3.10	115.82	63.02
3.200	50.00	0.00	0.00	579.20	25.00	582.12	0.00	582.13	0.54	0.58	75.80	34.12
3.200	50.00	0.00	0.00	579.20	50.00	582.43	0.00	582.44	1.40	1.00	87.34	42.24
3.200	50.00	0.00	0.00	579.20	100.00	583.19	0.00	583.21	2.32	1.51	116.31	65.61
3.200	50.00	0.00	0.00	579.20	150.00	584.02	0.00	584.05	2.44	1.77	148.41	96.08

	SECNO	XLCH	ELTOP	ELLC	ELMIN	S	C.SEL	CRIUS	EG	10K*S	VCH	AREA	.01K
	3.300	1950.00	0.00	0.00	579.20	25.00	582.31	0.00	582.33	2.35	1.18	35.91	16.31
1	3.300	1950.00	0.00	0.00	579.00	50.00	582.80	0.00	582.92	4.87	1.89	66.93	22.65
2	3.300	1950.00	0.00	0.00	579.20	100.00	583.66	0.00	583.83	9.75	2.80	93.46	41.72
3	3.300	1950.00	0.00	0.00	579.20	150.00	584.59	0.00	584.73	5.50	2.56	133.84	65.17
4													
5	3.900	100.00	0.00	0.00	579.00	25.00	582.53	0.00	582.39	10.34	1.95	12.80	7.78
6	3.900	100.00	0.00	0.00	579.00	50.00	582.91	0.00	583.08	20.07	3.30	15.15	9.79
7	3.900	100.00	0.00	0.00	579.00	100.00	583.79	0.00	583.83	39.71	5.30	18.65	12.53
8	3.900	100.00	0.00	0.00	579.00	150.00	584.74	0.00	584.79	5.07	2.52	130.10	66.65
9													
10	4.000	65.00	580.60	582.00	579.00	25.00	582.49	0.00	582.56	9.02	1.66	13.65	8.33
11	4.000	65.00	580.60	582.00	579.00	50.00	583.03	0.00	583.75	16.39	2.78	18.01	12.35
12	4.000	65.00	580.60	582.00	579.00	100.00	584.05	0.00	587.14	15.75	3.13	31.43	25.20
13	4.000	65.00	580.60	582.00	579.00	150.00	585.00	0.00	590.79	1.53	0.52	348.02	283.05
14													
15	4.100	50.00	0.00	0.00	579.40	25.00	582.55	0.00	582.90	2.58	1.26	33.42	14.69
16	4.100	50.00	0.00	0.00	579.40	50.00	583.78	0.00	583.80	2.56	1.49	70.84	31.22
17	4.100	50.00	0.00	0.00	579.40	100.00	587.16	0.00	587.19	0.47	0.94	235.95	146.43
18	4.100	50.00	0.00	0.00	579.40	150.00	590.01	0.00	590.01	0.39	0.99	326.29	240.17
19													
20	4.900	50.00	0.00	0.00	579.60	25.00	582.56	0.00	582.98	16.00	2.29	10.92	6.66
21	4.900	50.00	0.00	0.00	579.60	50.00	583.79	0.00	583.81	2.13	5.79	15.67	10.66
22	4.900	50.00	0.00	0.00	579.60	100.00	587.17	0.00	587.20	0.26	0.77	293.63	205.00
23	4.900	50.00	0.00	0.00	579.60	150.00	590.01	0.00	590.01	0.23	0.00	383.51	314.52
24													
25	5.000	56.00	589.73	582.00	579.80	25.00	582.97	0.00	582.97	10.13	2.03	12.31	7.65
26	5.000	56.00	589.73	582.00	579.80	50.00	583.81	0.00	583.82	6.37	2.20	21.96	16.79
27	5.000	56.00	589.73	582.00	579.80	100.00	587.18	0.00	587.20	0.27	0.51	437.10	386.05
28	5.000	56.00	589.73	582.00	579.80	150.00	590.48	0.00	590.48	0.13	0.73	457.29	417.29
29													
30	5.100	50.00	0.00	0.00	579.80	25.00	582.99	0.00	582.99	0.61	0.71	88.41	32.01
31	5.100	50.00	0.00	0.00	579.80	50.00	583.82	0.00	583.82	0.18	0.56	206.36	116.95
32	5.100	50.00	0.00	0.00	579.80	100.00	587.20	0.00	587.22	0.27	0.51	437.08	386.01
33	5.100	50.00	0.00	0.00	579.80	150.00	590.48	0.00	590.48	0.13	0.73	457.21	417.17
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PRINTED IN U.S.A.

FORM 1411 G2 PRINTED BY ROTARY MANIFOLD FORMS.

CHAPMAN DRAIN

SUMMARY PRINTOUT TABLE 150

RECNO	D	CHSEL	[illegible]	[illegible]	[illegible]	TERMID	[illegible]
1.000	25.00	581.04	0.00	0.00	0.34	46.11	650.00
1.000	50.00	581.76	0.00	0.00	0.76	46.26	650.00
1.000	100.00	582.79	0.00	0.00	1.29	[illegible]	650.00
1.000	150.00	583.62	0.00	0.00	1.62	[illegible]	650.00
1.800	25.00	581.08	0.00	0.03	0.00	28.11	100.00
1.800	50.00	581.79	0.00	0.03	0.00	28.27	100.00
1.800	100.00	582.82	0.00	0.03	0.00	28.48	100.00
1.800	150.00	583.65	0.00	0.02	0.00	[illegible]	100.00
2.000	25.00	581.14	0.00	0.12	0.00	28.14	20.00
2.000	50.00	581.03	0.00	0.04	0.00	28.28	20.00
2.000	100.00	582.87	0.00	0.05	0.00	28.49	20.00
2.000	150.00	583.71	0.00	0.04	0.00	28.67	20.00
2.200	25.00	[illegible]	[illegible]	0.02	0.00	[illegible]	50.00
2.200	50.00	[illegible]	[illegible]	0.03	0.00	[illegible]	50.00
2.200	100.00	582.93	0.00	0.03	0.00	28.50	50.00
2.200	150.00	583.74	0.00	0.03	0.00	28.6[illegible]	50.00
2.700	25.00	581.27	0.00	[illegible]	0.00	[illegible]	150.00
2.700	50.00	581.96	0.00	[illegible]	0.00	48.32	150.00
2.700	100.00	582.99	0.00	[illegible]	0.00	[illegible]	150.00
2.700	150.00	583.85	0.00	0.10	0.00	48.72	150.00
2.800	25.00	581.30	0.00	0.03	0.00	28.19	100.00
2.800	50.00	581.96	0.00	0.03	0.00	28.33	100.00
2.800	100.00	583.01	0.00	0.02	0.00	28.55	100.00
2.800	150.00	583.87	0.00	0.02	0.00	28.72	100.00
3.000	25.00	582.12	0.00	0.22	0.00	28.36	33.00
3.000	50.00	582.41	0.00	0.45	0.00	28.42	33.00
3.000	100.00	583.15	0.00	0.14	0.00	28.57	33.00
3.000	150.00	583.90	0.00	0.11	0.00	28.74	33.00
3.200	25.00	582.12	0.00	0.01	0.00	38.36	50.00
3.200	50.00	582.43	0.00	0.02	0.00	38.42	50.00
3.200	100.00	583.19	0.00	0.04	0.00	38.58	50.00
3.200	150.00	584.02	0.00	0.05	0.00	38.75	50.00
3.800	25.00	582.31	0.00	0.19	0.00	16.64	1950.00
3.800	50.00	582.88	0.00	0.45	0.00	31.99	1950.00
3.800	100.00	583.85	0.00	0.67	0.00	48.28	1950.00
3.800	150.00	584.69	0.00	0.67	0.00	48.51	1950.00
3.900	25.00	582.33	0.00	0.02	0.00	4.00	100.00
3.900	50.00	582.91	0.00	0.03	0.00	4.00	100.00
3.900	100.00	583.79	0.00	-0.07	0.00	4.00	100.00
3.900	150.00	584.74	0.00	0.05	0.00	48.53	100.00
4.000	25.00	582.49	0.00	0.18	0.00	4.00	45.00
4.000	50.00	583.43	0.00	0.72	0.00	4.00	45.00
4.000	100.00	586.93	0.00	3.20	0.00	4.00	45.00
4.000	150.00	589.00	0.00	4.26	0.00	49.72	45.00

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

SECNO	Q	CWSEL	DIFUSP	DIFUSX	DIFKWS	TOPWID	XLCH
4.100	25.00	582.56	0.00	0.07	0.00	16.25	50.00
4.100	50.00	583.70	0.00	0.10	0.00	40.15	50.00
4.100	100.00	587.19	0.00	0.00	0.00	45.10	50.00
4.100	150.00	589.00	0.00	0.00	0.00	49.01	50.00
4.900	25.00	582.59	0.00	-0.01	0.00	4.00	50.00
4.900	50.00	583.74	0.00	-0.04	0.00	4.00	50.00
4.900	100.00	587.17	0.00	0.00	0.00	48.[illegible]	50.00
4.900	150.00	589.0[illegible]	0.00	0.00	0.00	49.71	50.00
5.000	25.00	582.93	0.00	0.35	0.00	4.00	56.00
5.000	50.00	585.3[illegible]	0.00	1.57	0.00	4.00	56.00
5.000	100.00	590.20	0.00	2.89	0.00	50.00	56.00
5.000	150.00	590.[illegible]	0.00	[illegible]	0.00	50.00	56.00
5.100	25.00	582.99	0.00	0.00	0.00	50.00	50.00
5.100	50.00	585.42	0.00	0.11	0.00	40.91	50.00
5.100	100.00	590.00	0.00	0.00	0.00	50.00	50.00
5.100	150.00	590.46	0.00	0.00	0.00	50.00	50.00

SUMMARY OF ERRORS

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

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft and Laudenschlager drains
Nodes

4) DOCUMENT TYPE: Summary Convergence

00BREAK00

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HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977

ERROR CODE = "

MODIFICATIONS - 27.51.52

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NOTE- GOOD FLOW (CD) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

LAUDERSCHRACE!

SUMMARY PRINTOUT TABLE 150

SECNO	Q.CH	Q.TRIB	Q.LOC	E.G.ELEV	CWSEL	CRIWS	E.G.SLOPE	VEL	FROUDE #	FLOW AREA	TOP WIDTH
0.000	0.00	0.00	0.00	576.70	50.00	576.62	0.00	579.74	23.60	3.03	22.85	10.29
0.000	0.00	0.00	0.00	576.70	100.00	579.42	0.00	579.69	23.61	3.08	39.07	20.58
0.000	0.00	0.00	0.00	576.70	150.00	580.00	0.00	580.37	27.96	3.50	53.87	30.65
0.000	0.00	0.00	0.00	576.70	200.00	580.52	0.00	580.85	29.60	4.96	66.66	41.17
0.000	0.00	0.00	0.00	576.70	300.00	581.47	0.00	581.76	29.01	3.02	99.15	61.76
0.900	100.00	0.00	0.00	576.70	50.00	579.06	0.00	579.01	26.96	3.09	16.20	9.63
0.900	100.00	0.00	0.00	576.70	100.00	579.65	0.00	579.97	29.43	3.42	22.60	15.93
0.900	100.00	0.00	0.00	576.70	150.00	580.15	0.00	580.71	31.19	3.47	27.42	21.18
0.900	100.00	0.00	0.00	576.70	200.00	580.63	0.00	581.07	32.05	4.34	74.30	47.07
0.900	100.00	0.00	0.00	576.70	300.00	581.57	0.00	581.99	19.24	3.32	90.10	68.39
1.000	16.00	582.00	580.40	576.70	50.00	578.91	0.00	579.05	25.43	3.03	16.52	9.92
1.000	16.00	582.00	580.40	576.70	100.00	579.74	0.00	580.03	36.85	4.32	23.14	16.47
1.000	16.00	582.00	580.40	576.70	150.00	580.35	0.00	580.81	47.66	5.37	27.93	21.73
1.000	16.00	582.00	580.40	576.70	200.00	580.90	0.00	581.54	51.17	6.02	33.21	27.96
1.000	16.00	582.00	580.40	576.70	300.00	582.02	0.00	582.20	14.58	4.86	108.53	78.58
1.200	50.00	0.00	0.00	576.70	50.00	579.08	0.00	579.15	10.05	2.31	31.84	15.77
1.200	50.00	0.00	0.00	576.70	100.00	580.07	0.00	580.17	10.89	2.95	54.17	31.40
1.200	50.00	0.00	0.00	576.70	150.00	580.88	0.00	580.93	9.91	3.30	74.89	47.66
1.200	50.00	0.00	0.00	576.70	200.00	581.63	0.00	581.76	8.20	3.47	122.39	69.51
1.200	50.00	0.00	0.00	576.70	300.00	582.24	0.00	582.32	8.96	3.91	200.97	100.21
1.700	570.00	0.00	0.00	576.50	50.00	579.53	0.00	579.58	5.92	1.99	36.02	20.55
1.700	570.00	0.00	0.00	576.50	100.00	580.56	0.00	580.65	7.03	2.69	59.32	37.71
1.700	570.00	0.00	0.00	576.50	150.00	581.35	0.00	581.45	6.59	2.96	111.85	58.43
1.700	570.00	0.00	0.00	576.50	200.00	582.08	0.00	582.12	6.31	2.69	236.29	94.14
1.700	570.00	0.00	0.00	576.50	300.00	582.68	0.00	582.73	3.99	2.73	407.78	150.26
1.800	100.00	0.00	0.00	576.50	50.00	579.51	0.00	579.91	89.36	5.06	9.88	5.29
1.800	100.00	0.00	0.00	576.50	100.00	580.64	0.00	580.84	31.41	4.46	44.09	17.84
1.800	100.00	0.00	0.00	576.50	150.00	581.65	0.00	581.57	19.90	4.01	106.75	33.63
1.800	100.00	0.00	0.00	576.50	200.00	582.14	0.00	582.19	9.28	3.00	239.96	65.65
1.800	100.00	0.00	0.00	576.50	300.00	582.76	0.00	582.79	6.37	2.67	412.53	118.87

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FORM 1411.08 PRINTED BY ROTARY MANIFOLD FORMS.

	SECNO	XLCN	ELTPD	ELLC	ELMIN	Q	CHSEL	CRIUS	DC	TOR*S	VCP	AREA	.01K
	1.900	1.00	580.40	579.60	576.50	50.00	579.46	0.00	579.97	104.46	5.72	8.74	4.89
1	☆ 1.900	1.00	580.40	579.60	576.50	100.00	580.20	581.20	580.51	109.37	5.55	45.66	9.61
2	☆ 1.900	1.00	580.40	579.60	576.50	150.00	581.45	581.43	581.71	113.56	5.99	72.08	13.95
3	1.900	1.00	580.40	579.60	576.50	200.00	582.47	0.00	582.19	25.32	3.03	207.57	41.66
4	1.900	1.00	580.40	579.60	576.50	300.00	582.77	0.01	582.79	10.47	2.24	384.68	92.71
5													
6	2.000	12.00	580.40	579.60	576.50	50.00	579.62	0.00	580.11	128.99	5.63	8.88	4.40
7	2.000	12.00	580.40	579.60	576.50	100.00	580.31	0.00	580.55	31.20	3.20	34.19	17.90
8	2.000	12.00	580.40	579.60	576.50	150.00	581.77	0.00	581.35	15.07	3.69	123.20	24.07
9	2.000	12.00	580.40	579.60	576.50	200.00	582.71	0.00	582.22	21.05	2.91	245.62	43.56
10	2.000	12.00	580.40	579.60	576.50	300.00	582.79	0.03	582.80	10.09	2.20	389.41	94.45
11													
12	2.100	1.00	0.00	0.00	576.50	50.00	579.06	0.00	580.18	69.93	4.49	11.14	6.25
13	2.100	1.00	0.00	0.00	576.50	100.00	579.82	0.00	580.06	6.27	2.31	134.60	39.91
14	2.100	1.00	0.00	0.00	576.50	150.00	581.21	0.00	581.06	17.09	2.09	166.63	47.41
15	2.100	1.00	0.00	0.00	576.50	200.00	582.33	0.00	582.22	8.57	2.90	250.20	68.30
16	2.100	1.00	0.00	0.00	576.50	300.00	582.78	0.00	582.81	5.95	2.59	423.15	122.92
17													
18	2.200	50.00	0.00	0.00	576.50	50.00	580.27	0.00	580.50	2.40	1.69	52.16	32.29
19	2.200	50.00	0.00	0.00	576.50	100.00	581.04	0.00	581.09	6.51	1.99	159.00	71.03
20	2.200	50.00	0.00	0.00	576.50	150.00	581.99	0.00	581.98	5.45	2.20	190.06	80.79
21	2.200	50.00	0.00	0.00	576.50	200.00	582.80	0.00	582.84	3.44	2.47	272.30	106.77
22	2.200	50.00	0.00	0.00	576.50	300.00	582.90	0.00	582.84	3.31	2.52	443.22	164.89
23													
24	2.700	420.00	0.00	0.00	577.50	50.00	580.39	0.00	580.46	4.26	1.94	43.27	24.16
25	2.700	420.00	0.00	0.00	577.50	100.00	581.24	0.00	581.32	7.35	2.49	75.41	47.41
26	2.700	420.00	0.00	0.00	577.50	150.00	582.31	0.00	582.36	4.07	3.47	92.71	52.79
27	2.700	420.00	0.00	0.00	577.50	200.00	583.36	0.00	583.56	10.31	4.12	106.53	62.29
28	2.700	420.00	0.00	0.00	577.00	300.00	582.96	0.00	583.15	11.49	4.66	199.79	83.52
29													
30	2.800	100.00	0.00	0.00	577.00	50.00	580.45	0.00	580.50	9.89	1.88	26.61	15.90
31	2.800	100.00	0.00	0.00	577.00	100.00	581.34	0.00	581.87	6.38	2.15	63.68	38.98
32	2.800	100.00	0.00	0.00	577.00	150.00	582.12	0.00	582.24	11.01	2.92	72.35	45.20
33	2.800	100.00	0.00	0.00	577.00	200.00	583.15	0.00	583.60	12.07	3.26	115.43	57.56
34	2.800	100.00	0.00	0.00	577.00	300.00	583.16	0.00	583.29	10.75	3.34	243.90	91.49
35													
36	2.900	1.00	582.10	581.00	577.00	50.00	580.64	0.00	580.52	8.98	2.26	22.13	18.92
37	2.900	1.00	582.10	581.00	577.00	100.00	581.79	0.00	581.98	28.24	4.10	23.90	14.82
38	2.900	1.00	582.10	581.00	577.00	150.00	581.06	579.69	582.49	63.53	5.28	23.90	14.82
39	2.900	1.00	582.10	581.00	577.00	200.00	58[illegible].06	579.97	583.16	112.95	8.37	23.90	14.82
40	2.900	1.00	582.10	581.00	577.00	300.00	583.11	0.00	583.36	39.88	5.14	177.25	47.51
41													
42	3.000	106.00	582.10	581.00	577.00	50.00	580.51	0.00	580.59	6.59	2.22	22.55	19.48
43	3.000	106.00	582.10	581.00	577.00	100.00	582.06	0.00	582.30	31.47	4.11	24.36	17.83
44	3.000	106.00	582.10	581.00	577.00	150.00	582.85	0.00	582.90	19.67	3.41	117.26	33.82
45	3.000	106.00	582.10	581.00	577.00	200.00	583.61	0.00	583.64	5.38	2.07	321.41	86.23
46	3.000	106.00	582.10	581.00	577.00	300.00	583.56	0.00	583.63	13.40	3.25	307.35	81.71
47													
48	3.100	1.00	0.00	0.00	577.00	50.00	580.55	0.00	580.60	8.84	1.81	27.58	16.81
49	3.100	1.00	0.00	0.00	577.00	100.00	582.32	0.00	582.36	4.02	1.82	85.86	49.65
50	3.100	1.00	0.00	0.00	577.00	150.00	582.97	0.00	583.01	3.75	1.92	192.18	77.51
51	3.100	1.00	0.00	0.00	577.00	200.00	583.62	0.00	583.64	2.37	1.65	371.93	129.81
52	3.100	1.00	0.00	0.00	577.00	300.00	583.59	0.00	583.64	5.56	2.52	365.18	127.45
53													
54													
55													
56													
57													

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FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

	SECNO	XLCH	ELTRO	FLLC	ELMIN	Q	CMSEL	CRIMS	EG	10K*S	VCH	AIFA	.01K
	3.200	35.00	0.00	0.00	577.60	50.00	580.57	0.00	580.64	7.65	2.34	33.61	18.32
	3.200	35.00	0.00	0.00	577.60	100.00	582.52	0.00	582.60	4.01	2.58	71.07	45.02
	3.200	35.00	0.00	0.00	577.30	150.00	582.96	0.00	583.05	5.36	2.97	139.99	64.78
	3.200	35.00	0.00	0.00	577.60	200.00	582.61	0.00	582.66	3.59	2.55	315.27	108.61
	3.200	35.00	0.00	0.00	577.60	300.00	583.59	0.00	583.70	8.22	3.96	302.38	104.62
	3.600	35.00	0.00	0.00	576.30	50.00	580.59	0.00	580.68	13.38	2.49	20.07	13.67
	3.600	35.00	0.00	0.00	576.30	100.00	582.59	0.00	582.62	3.17	1.75	151.24	56.19
	3.600	35.00	0.00	0.00	576.30	150.00	583.04	0.00	583.09	2.53	1.70	291.11	94.01
	3.600	35.00	0.00	0.00	576.30	200.00	583.67	0.00	583.68	1.71	1.55	471.59	152.16
	3.800	35.00	0.00	0.00	576.30	300.00	583.72	0.00	583.74	3.53	2.24	466.21	159.63
	3.900	1.00	581.40	580.80	576.30	50.00	580.57	0.00	580.70	9.47	2.80	17.65	16.24
	3.900	1.00	581.40	580.80	576.30	100.00	582.57	0.00	582.63	10.38	2.85	135.36	51.50
	3.900	1.00	581.40	580.80	576.30	150.00	583.02	0.00	583.09	5.06	2.24	232.41	86.03
	3.900	1.00	581.40	580.80	576.30	200.00	583.67	0.00	583.73	2.72	1.75	432.90	121.35
	3.900	1.00	581.40	580.80	576.30	300.00	583.72	0.00	583.75	5.50	2.50	449.50	127.88
	4.000	20.00	581.40	580.80	576.30	50.00	580.59	0.00	580.72	9.64	2.80	17.80	16.27
	4.000	20.00	581.40	580.80	576.30	100.00	582.55	0.00	582.62	5.88	2.10	131.31	52.73
	4.000	20.00	581.40	580.80	576.30	150.00	583.00	0.00	583.10	5.14	2.23	262.31	86.17
	4.000	20.00	581.40	580.80	576.30	200.00	583.67	0.00	583.69	2.77	1.74	483.91	121.74
	4.000	20.00	581.40	580.80	576.30	300.00	583.73	0.00	583.76	5.43	2.49	451.84	128.78
	4.100	1.00	0.00	0.00	576.30	50.00	580.63	0.00	580.72	13.05	2.47	20.25	13.14
	4.100	1.00	0.00	0.00	576.30	100.00	582.59	0.00	582.65	3.66	1.77	142.55	59.09
	4.100	1.00	0.00	0.00	576.30	150.00	583.03	0.00	583.10	2.50	1.77	294.37	94.96
	4.100	1.00	0.00	0.00	576.30	200.00	583.61	0.00	583.69	1.70	1.55	472.99	153.41
	4.100	1.00	0.00	0.00	576.30	300.00	583.76	0.00	583.76	3.47	2.22	491.47	160.99
	4.200	50.00	0.00	0.00	577.60	50.00	580.72	0.00	580.78	6.20	2.20	36.20	20.08
	4.200	50.00	0.00	0.00	577.60	100.00	582.46	0.00	582.53	4.22	2.66	77.51	45.69
	4.200	50.00	0.00	0.00	577.60	150.00	583.07	0.00	583.14	4.61	2.79	161.99	69.06
	4.200	50.00	0.00	0.00	577.60	200.00	583.67	0.00	583.71	3.03	2.64	333.52	114.65
	4.200	50.00	0.00	0.00	577.60	300.00	583.73	0.00	583.81	6.29	3.52	349.20	119.65
	4.700	960.00	0.00	0.00	576.00	50.00	581.19	0.00	581.22	3.49	1.58	42.53	26.78
	4.700	960.00	0.00	0.00	576.00	100.00	582.80	0.00	582.84	2.50	1.80	98.68	63.25
	4.700	960.00	0.00	0.00	576.00	150.00	583.44	0.00	583.48	2.66	2.04	191.04	91.96
	4.700	960.00	0.00	0.00	576.00	200.00	583.94	0.00	583.98	2.43	2.07	313.37	126.24
	4.700	960.00	0.00	0.00	576.00	300.00	584.22	0.00	584.27	3.64	2.61	394.01	157.34
	4.800	100.00	0.00	0.00	576.00	50.00	581.20	0.00	581.36	26.49	3.19	15.65	9.71
	4.800	100.00	0.00	0.00	576.00	100.00	582.82	0.00	582.91	8.92	2.90	62.83	33.48
	4.800	100.00	0.00	0.00	576.00	150.00	583.46	0.00	583.55	9.47	3.25	119.32	48.74
	4.800	100.00	0.00	0.00	576.00	200.00	583.96	0.00	584.03	7.42	3.05	232.93	73.42
	4.800	100.00	0.00	0.00	576.00	300.00	584.26	0.00	584.34	9.12	3.50	322.85	99.35
	4.900	1.00	582.90	581.70	576.00	50.00	581.19	0.00	581.36	14.99	3.54	14.12	12.91
	4.900	1.00	582.90	581.70	576.00	100.00	582.52	580.31	583.21	56.98	6.67	15.00	13.25
	4.900	1.00	582.90	581.70	576.00	150.00	582.73	581.31	584.26	128.20	10.00	15.00	13.25
	4.900	1.00	582.90	581.70	576.00	200.00	583.91	0.00	584.06	30.70	4.73	168.80	36.10
	4.900	1.00	582.90	581.70	576.00	300.00	584.25	0.00	584.35	23.89	4.41	270.17	61.37

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FORM 1431-J PRINTED BY ROTARY MANIFOLD FORMS.

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	CRIHS	EG	10X*S	VCP	ARGA	.01K
5.000	10.00	582.90	581.70	578.00	50.00	589.20	0.00	581.40	14.80	3.53	16.16	12.96
5.000	10.00	582.90	581.70	578.00	100.00	582.64	0.00	583.29	71.85	6.66	15.52	11.00
5.000	10.00	582.90	581.70	578.00	150.00	582.90	581.31	584.41	250.65	9.91	15.16	10.59
5.000	10.00	582.90	581.70	578.00	200.00	584.10	0.00	584.12	93.23	4.11	195.95	41.49
5.000	10.00	582.90	581.70	578.00	300.00	584.28	0.00	584.38	22.96	4.33	274.32	62.61
5.100	1.00	0.00	0.00	576.00	50.00	581.26	0.00	581.41	25.20	3.14	15.93	9.96
5.100	1.00	0.00	0.00	576.00	100.00	583.48	0.00	583.67	6.65	2.22	112.19	47.21
5.100	1.00	0.00	0.00	576.00	150.00	584.90	0.00	584.91	2.74	1.38	509.38	171.93
5.100	1.00	0.00	0.00	576.00	200.00	584.15	0.00	584.15	5.69	2.71	272.76	83.94
5.100	1.00	0.00	0.00	576.00	300.00	584.33	0.00	584.39	3.12	3.32	540.60	105.28
5.200	50.00	0.00	0.00	574.00	50.00	581.45	0.00	581.48	2.51	1.42	48.44	31.56
5.200	50.00	0.00	0.00	574.00	100.00	583.97	0.00	583.98	1.46	1.34	197.24	93.76
5.200	50.00	0.00	0.00	574.00	150.00	584.90	0.00	584.91	0.83	0.87	651.56	253.93
5.200	50.00	0.00	0.00	574.00	200.00	584.14	0.00	584.17	1.30	1.02	378.13	149.15
5.200	50.00	0.00	0.00	574.00	300.00	584.38	0.00	584.42	2.84	2.35	444.01	173.13
5.300	250.00	0.00	0.00	579.30	50.00	581.55	0.00	581.61	11.09	2.43	36.64	15.01
5.300	250.00	0.00	0.00	579.30	100.00	583.70	0.00	583.75	4.34	2.36	74.09	44.93
5.300	250.00	0.00	0.00	579.30	150.00	584.91	0.00	584.94	2.07	2.25	154.50	89.57
5.300	250.00	0.00	0.00	579.30	200.00	584.1.	0.00	584.29	3.39	3.74	118.07	65.27
5.300	250.00	0.00	0.00	579.30	300.00	584.44	0.00	584.64	16.05	5.18	130.66	73.19
5.900	100.00	0.00	0.00	579.30	50.00	581.44	0.00	581.92	49.96	4.27	11.71	7.08
5.900	100.00	0.00	0.00	579.30	100.00	583.55	0.00	583.63	4.38	2.33	85.91	47.78
5.900	100.00	0.00	0.00	579.30	150.00	584.86	0.00	584.87	2.77	2.24	155.33	90.17
5.900	100.00	0.00	0.00	579.30	200.00	584.35	0.00	584.39	2.56	3.62	123.06	61.35
5.900	100.00	0.00	0.00	579.30	300.00	584.62	0.00	584.80	14.25	4.89	140.10	79.48
6.000	47.00	588.50	582.30	579.30	50.00	581.92	500.31	582.21	71.87	4.35	11.50	5.90
6.000	47.00	588.50	582.30	579.30	100.00	585.44	0.00	585.60	14.36	3.26	30.69	26.37
6.000	47.00	588.50	582.30	579.30	150.00	586.32	0.00	586.33	0.36	1.08	335.47	258.40
6.000	47.00	588.50	582.30	579.30	200.00	586.55	0.00	586.57	0.39	1.44	336.95	260.04
6.000	47.00	588.50	582.30	579.30	300.00	586.61	0.00	586.64	1.30	2.15	339.36	262.73
6.900	200.00	0.00	0.00	576.90	50.00	582.51	0.00	582.55	5.47	1.94	49.76	21.38
6.900	200.00	0.00	0.00	576.90	100.00	585.66	0.00	585.69	0.82	1.15	193.90	110.59
6.900	200.00	0.00	0.00	576.90	150.00	586.56	0.00	586.56	0.38	1.00	337.45	243.21
6.900	200.00	0.00	0.00	576.90	200.00	586.57	0.00	586.58	0.67	1.32	339.31	245.18
6.900	200.00	0.00	0.00	576.90	300.00	586.64	0.00	586.67	1.45	1.96	342.94	249.04
7.000	49.00	590.00	582.50	578.90	50.00	582.76	0.00	582.87	15.09	2.67	18.73	12.87
7.000	49.00	590.00	582.50	578.90	100.00	587.00	0.00	587.10	6.04	2.50	39.95	35.27
7.000	49.00	590.00	582.50	578.90	150.00	590.06	0.00	590.06	0.21	0.81	413.78	328.43
7.000	49.00	590.00	582.50	578.90	200.00	590.09	0.00	590.10	0.37	1.08	415.70	330.68
7.000	49.00	590.00	582.50	578.90	300.00	590.14	0.00	590.16	0.81	1.61	418.27	333.71
7.100	50.00	0.00	0.00	578.90	50.00	582.90	0.00	582.92	3.17	1.58	68.08	28.07
7.100	50.00	0.00	0.00	578.90	100.00	587.13	0.00	587.13	0.00	0.09	3683.31	1624.24
7.100	50.00	0.00	0.00	578.90	150.00	590.08	0.00	590.08	0.00	0.06	6760.03	4605.15
7.100	50.00	0.00	0.00	578.90	200.00	590.10	0.00	590.10	0.00	0.08	6798.22	4646.35
7.100	50.00	0.00	0.00	578.90	300.00	590.16	0.00	590.16	0.00	0.12	6862.29	4515.82

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LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CHSEL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.000	50.00	578.62	0.00	0.00	0.12	18.29	0.00
0.000	100.00	579.62	0.00	0.00	-0.08	21.91	0.00
0.000	150.00	580.02	0.00	0.00	[illegible]	[illegible]	0.00
0.000	200.00	580.56	0.00	0.00	[illegible]	26.50	0.00
0.000	300.00	581.40	0.00	0.00	-0.10	42.54	0.00
0.900	50.00	578.86	0.00	0.24	0.00	8.00	100.00
0.900	100.00	579.66	0.00	0.24	0.00	8.00	100.00
0.900	150.00	580.25	0.00	0.23	0.00	8.00	100.00
0.900	200.00	580.02	0.00	0.27	0.00	27.39	100.00
0.900	300.00	581.67	0.00	0.27	0.00	29.00	100.00
1.000	50.00	579.91	0.00	0.05	0.00	8.00	16.00
1.000	100.00	579.74	0.00	0.08	0.00	8.00	16.00
1.000	150.00	580.35	0.00	0.10	0.00	8.00	16.00
1.000	200.00	580.95	0.00	0.15	0.00	8.00	16.00
1.000	300.00	582.03	0.00	0.36	0.00	29.00	16.00
1.200	50.00	579.08	0.00	0.17	0.00	20.54	50.00
1.200	100.00	580.07	0.00	0.33	0.00	24.53	50.00
1.200	150.00	580.55	0.00	0.50	0.00	27.71	50.00
1.200	200.00	581.65	0.00	0.45	0.00	122.50	50.00
1.200	300.00	582.25	0.00	0.21	0.00	120.00	50.00
1.700	50.00	579.53	0.00	0.45	0.00	20.05	570.00
1.700	100.00	580.56	0.00	0.50	0.00	25.25	570.00
1.700	150.00	581.35	0.00	0.50	0.00	123.47	570.00
1.700	200.00	582.05	0.00	0.42	0.00	230.12	570.00
1.700	300.00	582.48	0.00	0.44	0.00	293.05	570.00
1.800	50.00	579.51	0.00	-0.02	0.00	3.50	100.00
1.800	100.00	580.64	0.00	0.08	0.00	28.44	100.00
1.800	150.00	581.45	0.00	0.10	0.00	137.78	100.00
1.800	200.00	582.14	0.00	0.09	0.00	243.62	100.00
1.800	300.00	582.76	0.00	0.08	0.00	293.07	100.00
1.900	50.00	579.46	0.00	-0.05	0.00	3.50	1.00
1.900	100.00	581.20	0.00	0.57	0.00	101.57	1.00
1.900	150.00	581.43	0.00	-0.02	0.00	135.38	1.00
1.900	200.00	582.15	0.00	0.01	0.00	243.69	1.00
1.900	300.00	582.77	0.00	0.01	0.00	298.07	1.00
2.000	50.00	579.62	0.00	0.16	0.00	3.50	12.00
2.000	100.00	581.58	0.00	0.38	0.00	158.20	12.00
2.000	150.00	581.77	0.00	0.54	0.00	156.36	12.00
2.000	200.00	582.18	0.00	0.03	0.00	248.65	12.00
2.000	300.00	582.79	0.00	0.01	0.00	298.08	12.00
2.100	50.00	579.86	0.00	0.24	0.00	3.50	1.00
2.100	100.00	581.62	0.00	0.05	0.00	165.42	1.00
2.100	150.00	581.80	0.00	0.03	0.00	192.53	1.00
2.100	200.00	582.10	0.00	-0.00	0.00	249.91	1.00
2.100	300.00	582.78	0.00	-0.00	0.00	298.08	1.00

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FORM 1-111-00 PRINTED BY ROTARY MANIFOLD FORMS.

SECNO	Q	CUSEL	DIFUSP	DIFUSK	DIFKUS	TOPWID	XLCH
2.200	50.00	580.27	0.00	0.40	0.00	23.78	50.00
2.200	100.00	581.65	0.00	0.32	0.00	169.01	50.00
2.200	150.00	581.34	0.00	0.05	0.00	197.37	50.00
2.200	200.00	582.70	0.00	0.02	0.00	232.72	50.00
2.200	300.00	582.00	0.00	0.01	0.00	298.08	50.00
2.700	50.00	580.39	0.00	0.12	0.00	20.65	420.00
2.700	100.00	581.75	0.00	0.13	0.00	75.00	420.00
2.700	150.00	582.04	0.00	0.17	0.00	23.12	420.00
2.700	200.00	582.[illegible]	0.00	0.11	0.00	113.70	420.00
2.700	300.00	582.95	0.00	0.16	0.00	239.27	420.00
2.800	50.00	580.43	0.00	0.06	0.00	10.00	100.00
2.800	100.00	581.3[illegible]	0.00	0.06	0.00	16.[illegible]	100.00
2.800	150.00	582.12	0.00	0.12	0.00	2[illegible]	100.00
2.800	200.00	582.[illegible]	0.00	0.17	0.00	[illegible]	100.00
2.800	300.00	583.10	0.00	0.22	0.00	260.03	100.00
2.900	50.00	580.44	0.00	-0.01	0.00	10.00	1.00
2.900	100.00	581.71	0.00	-0.[illegible]	0.00	[illegible]	1.00
2.900	150.00	[illegible]	0.00	[illegible]	0.00	27.02	1.00
2.900	200.00	[illegible]	0.00	[illegible]	0.00	[illegible]	1.00
2.900	300.00	583.11	0.00	-0.07	0.00	243.83	1.00
3.000	50.00	580.51	0.00	0.20	0.00	10.00	106.00
3.000	100.00	582.[illegible]	0.00	0.[illegible]	0.00	10.00	106.00
3.000	150.00	582.35	0.00	0.37	0.00	210.[illegible]	106.00
3.000	200.00	583.[illegible]	0.00	1.[illegible]	0.00	[illegible]	106.00
3.000	300.00	583.36	0.00	0.45	0.00	318.02	106.00
3.100	50.00	580.55	0.00	0.03	0.00	10.00	1.00
3.100	100.00	582.32	0.00	0.29	0.00	105.53	1.00
3.100	150.00	582.97	0.00	0.12	0.00	222.29	1.00
3.100	200.00	583.52	0.00	0.01	0.00	318.04	1.00
3.100	300.00	583.59	0.00	0.03	0.00	318.03	1.00
3.200	50.00	580.57	0.00	0.02	0.00	17.73	35.00
3.200	100.00	582.32	0.00	-0.00	0.00	30.07	35.00
3.200	150.00	582.96	0.00	-0.01	0.00	105.90	35.00
3.200	200.00	583.61	0.00	-0.00	0.00	318.04	35.00
3.200	300.00	583.58	0.00	-0.01	0.00	318.03	35.00
3.800	50.00	580.59	0.00	0.02	0.00	5.00	35.00
3.800	100.00	582.39	0.00	0.07	0.00	164.26	35.00
3.800	150.00	583.06	0.00	0.10	0.00	256.66	35.00
3.800	200.00	583.67	0.00	0.05	0.00	318.05	35.00
3.800	300.00	583.72	0.00	0.14	0.00	318.07	35.00
3.900	50.00	580.57	0.00	-0.01	0.00	5.00	1.00
3.900	100.00	582.37	0.00	-0.03	0.00	160.66	1.00
3.900	150.00	583.05	0.00	-0.01	0.00	256.66	1.00
3.900	200.00	583.67	0.00	-0.00	0.00	318.05	1.00
3.900	300.00	583.72	0.00	-0.00	0.00	318.07	1.00

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

SECNO	C	CHSEL	DIFLSP	DIFLSX	DIFKUS	TOPWID	XLCH
4.000	50.00	580.59	0.00	0.02	0.00	5.00	20.00
4.000	100.00	582.39	0.00	0.02	0.00	133.21	20.00
4.000	150.00	583.06	0.00	0.01	0.00	256.93	20.00
4.000	200.00	583.07	0.00	0.01	0.00	[illegible]	20.00
4.000	300.00	583.73	0.00	0.01	0.00	318.07	20.00
4.100	50.00	580.63	0.00	0.04	0.00	5.00	1.00
4.100	100.00	582.46	0.00	0.02	0.00	172.66	1.00
4.100	150.00	582.00	0.00	0.02	0.00	[illegible]	1.00
4.100	200.00	583.66	0.00	0.02	0.00	[illegible]	1.00
4.100	300.00	583.74	0.00	0.01	0.00	312.07	1.00
4.200	50.00	580.72	0.00	0.09	0.00	13.34	50.00
4.200	100.00	[illegible]	0.00	-0.00	0.00	[illegible]	50.00
4.200	150.00	583.07	0.00	-0.00	0.00	[illegible]	50.00
4.200	200.00	583.07	0.00	-0.00	0.00	[illegible]	50.00
4.200	300.00	583.73	0.00	-0.01	0.00	318.07	50.00
4.700	50.00	581.19	0.00	0.67	0.00	21.46	960.00
4.700	100.00	[illegible]	0.00	[illegible]	0.00	[illegible]	960.00
4.700	150.00	[illegible]	0.00	[illegible]	0.00	202.12	960.00
4.700	200.00	[illegible]	0.00	[illegible]	0.00	[illegible]	960.00
4.700	300.00	584.22	0.00	[illegible]	0.00	298.07	960.00
4.800	50.00	581.20	0.00	0.02	0.00	5.00	100.00
4.800	100.00	[illegible]	0.00	[illegible]	0.00	[illegible]	100.00
4.800	150.00	[illegible]	0.00	[illegible]	0.00	[illegible]	100.00
4.800	200.00	[illegible]	0.00	[illegible]	0.00	[illegible]	100.00
4.800	300.00	584.26	0.00	0.05	0.00	298.09	100.00
4.900	50.00	581.19	0.00	-0.02	0.00	5.00	1.00
4.900	100.00	582.52	0.00	-0.00	0.00	24.74	1.00
4.900	150.00	582.73	0.00	-0.02	0.00	25.99	1.00
4.900	200.00	583.94	0.00	-0.05	0.00	276.59	1.00
4.900	300.00	584.25	0.00	-0.01	0.00	298.09	1.00
5.000	50.00	581.20	0.00	0.02	0.00	5.00	10.00
5.000	100.00	582.66	0.00	0.12	0.00	5.00	10.00
5.000	150.00	582.90	0.00	0.17	0.00	78.44	10.00
5.000	200.00	584.00	0.00	0.09	0.00	298.00	10.00
5.000	300.00	584.28	0.00	0.03	0.00	298.09	10.00
5.100	50.00	581.26	0.00	0.05	0.00	5.00	1.00
5.100	100.00	583.42	0.00	0.75	0.00	155.10	1.00
5.100	150.00	584.90	0.00	2.00	0.00	298.30	1.00
5.100	200.00	584.10	0.00	0.09	0.00	298.03	1.00
5.100	300.00	584.33	0.00	0.05	0.00	298.11	1.00
5.200	50.00	581.45	0.00	0.19	0.00	22.70	50.00
5.200	100.00	583.47	0.00	0.05	0.00	207.27	50.00
5.200	150.00	584.90	0.00	0.00	0.00	298.30	50.00
5.200	200.00	584.14	0.00	0.04	0.00	298.05	50.00
5.200	300.00	584.38	0.00	0.05	0.00	298.13	50.00

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FORM 1411-GB-PRINTED BY ROTARY MANIFOLD FORMS.

SUMMARY OF ERRORS

CAUTION SECNO= 1.900 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.900 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1.900 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.900 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1.900 PROFILE= 3 SO TOO LARGE ATTEMPTED TO BALANCE REGEL

SECNO	Q	CSEL	DIFWSF	DIFWSX	DIFKUS	TOPWID	XLCH
7.100	50.00	582.50	0.30	0.30	0.14	50.30	50.00
7.100	130.00	572.15	0.30	0.30	0.13	49.39	50.00
7.102	150.70	590.76	0.70	0.01	0.00	49.76	50.00
7.102	290.20	590.20	0.70	0.01	0.00	1269.76	50.00
7.102	300.00	590.16	0.30	0.02	0.00	1269.77	50.00
7.000	50.00	582.50	0.30	0.24	0.00	50.30	50.00
6.900	300.00	583.64	0.00	0.03	0.00	50.05	250.00
6.900	30.00	582.51	0.00	0.60	0.00	55.05	201.00
6.000	300.00	580.61	0.00	3.99	0.00	50.00	47.00
6.000	50.00	581.92	0.00	0.27	0.00	5.30	47.00
5.900	300.00	584.62	0.00	0.19	0.00	50.00	130.00
5.900	50.00	583.64	0.00	0.06	0.00	50.00	250.00
5.300	300.00	584.44	0.00	0.06	0.00	50.00	250.00
5.200	50.00	581.55	0.00	0.10	0.00	20.57	250.00
5.100	100.00	585.50	0.00	0.32	0.00	55.39	250.00
5.000	130.00	584.91	0.00	0.30	0.00	50.30	250.00
4.900	300.00	583.50	0.00	0.30	0.00	50.00	250.00

FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

PRINTED IN U.S.A.

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: ~~Bancroft~~ Notes and Laudenschlager

4) DOCUMENT TYPE: Summary Convergence

00BREAK00

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AEC2 RELEASE DATED NOV 75 UPDATED FEB 1977

ERROR CODE = 0

SUBROUTINE = SCALE

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NOTE- ENTERING (R) AT LEFT OF CROSS-SECTION NUMBER INDICATES CODING IS SUPPLY OF ERRORS LIST

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

	I.CNO	J.CSI	FLTRO	F.LC	ELTRO	Q	CUBEL	.RIVE	.G	TIMES	VOH	AREA	.01R
	1.000	0.00	0.00	0.00	573.72	315.00	579.03	0.30	579.05	5.26	2.84	400.57	137.29
	1.000	0.00	0.00	0.00	573.72	315.00	578.73	0.30	578.03	9.04	3.58	297.19	104.70
*	1.000	1.10	.05	.01	573.3.	315.11	578.5.	578.30	579.13	145.71	9.16	48.95	27.27
	2.000	1300.00	0.00	0.00	575.70	315.00	579.24	0.00	579.24	6.25	3.35	372.20	109.13
	2.000	1300.00	0.00	0.00	575.00	315.00	579.34	0.00	579.92	6.06	3.30	384.97	110.97
	2.000	1300.00	0.00	0.00	575.00	315.00	580.02	0.00	580.06	5.15	2.71	494.92	130.85
	3.000	1520.00	0.00	0.00	575.70	315.00	581.5	0.00	580.07	7.17	2.75	562.06	130.60
	3.000	1520.00	0.00	0.00	575.72	315.00	581.07	0.00	580.07	5.14	2.75	463.52	138.76
	3.000	1520.00	0.00	0.00	575.72	315.00	581.69	0.00	580.16	5.37	2.80	452.96	135.91
	4.000	650.00	0.00	0.00	576.70	295.00	581.29	0.00	581.63	23.55	5.57	90.75	60.79
	4.000	650.00	0.00	0.00	576.70	295.00	581.29	0.00	581.63	23.55	5.57	90.75	60.79
	4.000	650.00	0.00	0.00	576.73	295.00	581.29	0.00	581.67	23.60	5.58	90.60	60.72

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FORM 1411-GD-PRINTED BY ROTARY MANIFOLD FORMS

LAUDENSCHLAGER

SUMMARY PRINTOUT TABLE 150

SESMO	H	CUSEL	DIFUSH	DIFUSI	DIFUME	TOPSIE	XLCH
1.000	315.00	579.00	0.00	0.00	0.00	416.95	0.00
1.000	315.00	570.71	0.00	0.00	0.21	342.76	0.00
1.000	315.00	57[illegible]	0.00	0.00	-3.[illegible]	[illegible]	0.00
2.000	315.00	57[illegible]	0.00	0.[illegible]	0.00	540.[illegible]	1300.00
2.000	315.00	579.34	0.00	1.[illegible]	0.00	544.[illegible]	1300.00
2.000	315.00	580.02	0.00	3.04	0.00	620.00	1300.00
3.000	315.00	[illegible]	0.00	1.00	0.00	[illegible]	[illegible]
3.000	315.00	[illegible]	0.00	0.9[illegible]	0.00	[illegible]	1500.00
3.000	315.00	[illegible]	0.00	[illegible]	0.00	[illegible]	1500.00
4.000	295.00	581.29	0.00	0.46	0.00	39.02	650.00
4.000	295.00	581.29	0.00	0.46	0.00	39.02	650.00
4.000	[illegible]	[illegible]	0.00	[illegible]	0.00	[illegible]	650.00

SUMMARY OF ERRORS

[illegible] SECNO [illegible] DECIL [illegible] CHIFFICAL DL [illegible]

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

00BREAK00

1) COUNTY: Monroe

2) STUDY NAME: Village of S. Rockwood

3) WATERCOURSE: Bancroft-Noles and Laudenschlager drains

4) DOCUMENT TYPE: Summary

00BREAK00

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NEC2 RELEASE DATE: NOV 77 UPDATED FEB 1977
[illegible]
[illegible]

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NOTE- ASTERISK [illegible]

S.ROCKWOOD BASC. NOLES

SUMMARY PRINTOUT TABLE 150

3610.000	70.00	0.00	0.00	576.40	290.00	584.19	0.00	584.20	1.26	1.18	437.64	258.75
3610.000	70.00	0.00	0.00	576.40	290.00	584.19	0.00	584.20	1.26	1.18	437.64	258.75
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4039.000	1.00	582.90	582.30	577.30	270.00	584.25	0.00	584.29	10.00	2.96	308.24	85.03
4039.000	1.00	582.90	582.30	577.30	270.00	584.25	0.00	584.29	10.00	2.96	308.24	85.03
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4045.000	1.00	0.00	0.00	577.30	270.00	584.29	0.00	584.32	6.26	2.38	347.41	107.95
4045.000	1.00	0.00	0.00	577.30	270.00	584.29	0.00	584.32	6.26	2.38	347.41	107.95
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4295.000	200.00	0.00	0.00	578.20	270.00	584.48	0.00	584.49	5.29	2.79	258.06	117.39
4295.000	200.00	0.00	0.00	578.20	270.00	584.48	0.00	584.49	5.29	2.79	258.06	117.39
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4346.000	1.00	583.50	583.20	578.20	270.00	584.49	0.00	584.63	74.71	4.55	139.32	31.24
4346.000	1.00	583.50	583.20	578.20	270.00	584.49	0.00	584.63	74.71	4.55	139.32	31.24
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4370.000	1.00	0.00	0.00	578.20	270.00	584.69	0.00	584.80	19.15	3.95	194.34	61.70
4370.000	1.00	0.00	0.00	578.20	270.00	584.69	0.00	584.80	19.15	3.95	194.34	61.70
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4590.000	170.00	0.00	0.00	579.30	270.00	584.83	0.00	584.99	12.48	3.95	132.30	76.43
4590.000	170.00	0.00	0.00	579.30	270.00	584.83	0.00	584.99	12.48	3.95	132.30	76.43

FORM 1411-00 PRINTED BY ROTARY MANIFOLD FORMS. PRINTED IN U.S.A.

SECNO	XLCN	ELTRD	ELLC	ELMIN	D	CUSEL	CRIMS	FG	10**S	VCH	AREA	.01K
4640.200	50.00	0.20	0.20	570.32	270.02	584.63	0.02	505.25	44.07	6.54	54.79	40.31
4660.730	70.30	0.73	0.20	585.11	270.02	584.63	0.02	505.25	44.07	6.54	54.79	40.31
4671.030	81.20	0.99	0.20	579.32	270.02	584.63	0.02	506.00	13.92	4.97	166.31	72.37
4741.230	30.20	0.00	0.20	579.32	270.02	584.63	0.02	506.77	12.03	4.50	150.96	75.24
4761.430	70.20	0.00	0.20	579.32	270.02	584.63	0.02	506.77	12.03	4.50	150.96	75.24
5511.030	390.30	0.00	0.20	550.40	270.02	584.26	0.02	506.26	2.50	1.96	303.60	170.77
5042.030	250.20	0.02	0.20	539.62	270.02	584.53	0.02	506.60	7.93	3.42	191.66	95.58
5099.030	50.20	0.00	0.20	541.62	270.02	584.53	0.02	506.74	69.65	3.15	90.69	76.39
5110.001	25.20	527.20	536.42	579.62	270.01	584.53	0.02	508.34	6.73	1.37	301.92	134.00
5167.021	65.20	0.04	0.20	541.62	270.02	584.53	0.02	508.57	2.18	2.22	273.81	159.07
5205.021	45.20	0.02	0.20	581.62	270.02	584.54	0.02	508.58	5.39	2.37	232.45	116.27
5222.000	16.00	587.71	587.80	541.13	270.02	583.76	0.00	506.00	4.57	2.23	246.65	126.24
5287.000	65.00	0.02	0.01	551.00	270.00	583.78	0.02	510.01	1.89	1.80	286.87	198.36
5357.000	70.00	1.02	0.01	561.11	270.00	583.78	0.02	510.11	1.89	1.80	287.02	198.47

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FORM 1411-GD-PRINTED BY ROTARY MANIFOLD FORMS.

S.ROCKWOOD BASIC. MOLES

SUMMARY PRINTOUT TABLE 150

3613.000	270.00	584.19	1.00	0.00	0.00	118.70	75.00	
3613.000	270.00	584.19	1.00	0.00	0.00	118.70	75.00	
[illegible]								
4031.000	270.00	554.25	0.00	-0.00	0.00	222.19	1.00	
4031.000	270.00	554.25	0.00	-0.00	0.00	222.19	1.00	
[illegible]								
4048.000	270.00	554.25	0.00	0.00	0.00	222.21	1.00	
4048.000	270.00	554.25	0.00	0.00	0.00	222.20	1.00	
[illegible]								
4215.000	270.00	574.62	0.00	0.00	0.00	163.32	200.00	
4215.000	270.00	574.62	0.00	0.00	0.00	163.32	200.00	
[illegible]								
4346.000	270.00	574.69	0.00	0.00	0.00	150.19	1.00	
4346.000	270.00	584.69	0.00	0.00	0.00	150.19	1.00	
[illegible]								
4370.000	270.00	584.69	0.00	-0.01	0.00	150.59	1.00	
4370.000	270.00	584.69	0.00	-0.01	0.00	150.59	1.00	
[illegible]								
4590.000	270.00	584.83	0.00	0.01	0.00	58.27	170.00	
4590.000	270.00	584.83	0.00	0.01	0.00	58.27	170.00	
[illegible]								
4691.000	270.00	585.06	0.00	1.05	0.00	58.69	51.00	
4691.000	270.00	585.06	0.00	1.05	0.00	58.69	51.00	
[illegible]								
5511.000	270.00	986.24	0.00	0.30	0.00	189.59	390.00	
5511.000	270.00	986.24	0.00	0.33	0.02	153.60	390.00	
[illegible]								

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SECNO	Q	CLSEL	DIFHSP	DIFHSX	DIFHS	TUP.ID	XLCH
1091.000	270.00	583.57	0.00	0.02	0.03	58.01	50.02
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6116.000	270.00	583.57	0.00	0.04	0.04	58.19	25.00
6161.000	270.00	588.53	0.00	0.02	0.03	61.05	45.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6206.000	270.00	588.53	0.00	0.02	0.04	63.01	45.00
6222.000	270.00	588.74	0.00	0.02	0.03	63.10	10.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6267.000	270.00	588.74	0.00	0.02	0.03	63.00	05.00

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FLOODWAY DATA, S.ROCKWOOD BANC. MOLES
PROFILE NO. 2

STATION	FLOW (CFS)	SECTION AREA	MEAN VELOCITY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6344.000	222.	312.	0.5	586.3	586.3	0.0
6765.000	222.	347.	0.5	586.3	586.3	0.0
6995.000	222.	358.	0.5	586.3	586.3	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6349.000	151.	172.	1.0	584.7	584.7	0.0
6370.000	151.	164.	1.0	584.7	584.7	0.0
6420.000	151.	303.	0.7	584.8	584.8	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6241.000	56.	172.	1.0	583.9	583.9	0.0
6261.000	56.	353.	0.7	584.2	584.2	0.0
6281.000	62.	365.	1.5	584.5	584.5	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6206.000	63.	233.	1.2	586.5	586.5	0.0
6222.000	63.	246.	1.1	586.8	586.8	0.0
6237.000	63.	267.	0.9	586.8	586.8	0.0

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(*** RELEASE DATE .04 76 UPDATED TO : 1977

(*** CODE = 0061

'OBJ' OPTION = 00.51.52

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NOTE= ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES REVERSE (+ SIGN) OF ORDER LIST

S.ROCKWOOD BANC. ROLES

SUMMARY PRINTOUT TABLE 150

SECNO	WSEL	CHAN	LOB	ELTRK	Q	VOL	CSLOS	EG	TOPWS	VCL	AREA	ACT
6207.000	65.00	0.00	0.00	581.80	270.00	586.76	0.00	588.81	1.86	1.80	236.43	197.91
6207.000	65.00	0.00	0.00	581.80	270.00	586.68	0.00	588.91	1.75	1.77	292.73	204.09
6350.000	65.00	0.00	0.00	582.20	270.00	588.75	0.00	590.14	1.92	2.29	270.13	90.47
6350.000	65.00	0.00	0.00	582.20	270.00	588.66	0.00	590.24	1.85	2.13	287.69	94.95
6377.000	25.00	587.90	587.20	582.20	270.00	589.04	0.00	589.08	7.16	2.50	216.36	100.91
6377.000	25.00	587.90	587.20	582.20	270.00	589.11	0.00	589.14	6.76	2.45	220.62	103.87
6427.000	53.00	0.00	0.00	582.20	270.00	589.03	0.00	589.08	8.39	2.02	254.75	174.72
6427.000	53.00	0.00	0.00	582.20	270.00	589.10	0.00	589.14	7.97	1.99	259.55	179.14
6642.000	215.00	0.00	0.00	582.50	270.00	589.11	0.00	589.15	2.56	2.04	248.09	168.67
6642.000	215.00	0.00	0.00	582.50	270.00	589.18	0.00	589.21	2.46	2.01	251.92	172.27
6645.000	53.00	0.00	0.00	582.50	270.00	589.12	0.00	589.19	14.23	3.20	167.06	71.58
6645.000	53.00	0.00	0.00	582.50	270.00	589.19	0.00	589.25	13.97	3.12	170.85	73.69
6735.000	40.00	589.00	587.30	582.50	270.00	589.91	0.00	589.95	6.95	2.43	214.23	102.41
6735.000	40.00	589.00	587.30	582.50	270.00	589.92	0.00	589.96	6.87	2.42	215.05	102.98
6864.000	139.00	0.00	0.00	582.50	270.00	589.59	0.00	593.01	2.60	1.76	209.53	159.00
6864.000	139.00	0.00	0.00	582.50	270.00	590.00	0.00	593.02	2.58	1.76	290.29	159.64
6865.000	1.00	587.90	587.10	582.10	270.00	589.90	0.00	590.11	23.11	4.92	136.40	56.17
6865.000	1.00	587.90	587.10	582.10	270.00	589.91	0.00	590.12	22.73	4.89	137.31	56.63
6887.000	22.00	587.90	587.10	582.10	270.00	589.97	0.00	590.16	23.67	4.73	140.46	58.27
6887.000	22.00	587.90	587.10	582.10	270.00	589.98	0.00	590.17	23.17	4.73	141.29	58.60
6888.000	1.00	0.00	0.00	582.10	270.00	590.19	0.00	590.21	2.54	1.69	301.67	169.25
6888.000	1.00	0.00	0.00	582.10	270.00	590.20	0.00	590.22	2.53	1.68	302.23	169.72
7014.000	32.00	0.00	0.00	583.10	270.00	590.25	0.00	590.27	6.37	2.44	220.45	106.97
7014.000	32.00	0.00	0.00	583.10	270.00	590.24	0.00	590.30	6.33	2.43	220.99	107.36
7038.000	24.00	589.50	588.10	583.10	270.00	590.56	0.00	590.59	4.94	2.22	240.31	121.53
7038.000	24.00	589.50	588.10	583.10	270.00	590.57	0.00	590.60	4.92	2.21	240.50	121.67

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	C.SEL	CRIWS	EG	10K*S	VCH	AREA	.01K
7808.000	770.00	0.00	0.00	585.30	270.00	590.[illegible]	0.00	590.88	2.94	1.94	391.95	157.57
7808.000	770.00	0.00	0.00	585.30	270.00	590.[illegible]	0.00	590.90	3.22	2.[illegible]	310.20	15[illegible]
7903.000	100.00	0.00	0.00	582.50	270.00	590.[illegible]	0.00	590.9[illegible]	3.36	2.[illegible]	325.2[illegible]	116.[illegible]
7903.000	100.00	0.00	0.00	582.50	270.00	590.9[illegible]	0.00	590.95	3.83	2.65	266.76	111.[illegible]
7909.000	1.00	588.60	586.50	582.50	270.00	590.8[illegible]	0.00	590.94	11.91	3.50	273.99	78.23
7909.000	1.00	588.60	586.50	582.50	270.00	590.[illegible]	0.00	590.9[illegible]	13.3[illegible]	3.71	21[illegible].66	73.[illegible]
7943.000	34.00	588.60	586.50	582.50	270.00	590.9[illegible]	0.00	590.9[illegible]	11.2[illegible]	3.41	279.95	[illegible]
7943.000	34.00	588.60	586.50	582.50	270.00	590.96	0.00	591.01	12.89	3.56	220.65	73.20
7944.000	1.00	0.00	0.00	582.50	270.00	590.96	0.00	590.99	4.93	2.45	337.32	121.55
7944.000	1.00	0.00	0.00	582.50	270.00	590.9[illegible]	0.00	591.02	3.32	2.55	27[illegible]	1[illegible]7.0[illegible]
8614.000	670.00	0.00	0.00	585.80	270.00	591.2[illegible]	0.00	591.34	3.15	2.[illegible]	267.93	1[illegible].01
8614.000	670.00	0.00	0.00	585.80	270.00	591.34	0.00	591.39	5.46	2.60	238.61	115.50

FORM 1411 GB PRINTED BY ROTARY MANIFOLD FORMS.
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S.ROCKWOOD BANC. NOLES

SUMMARY PRINTOUT TABLE 150

SECOND	Q	CUSEL	DIFUSR	DIFUSR	DIFKS	TORQUE	KLOD
6287.000	270.00	588.78	0.00	0.00	0.00	63.00	65.00
6287.000	270.00	588.88	0.00	0.00	0.10	63.00	65.00
6352.000	270.00	588.79	0.00	0.01	0.00	63.00	65.00
6352.000	270.00	588.89	0.00	0.01	0.10	63.00	65.00
6377.000	270.00	589.04	0.00	0.24	0.00	63.00	25.00
6377.000	270.00	589.11	0.00	0.21	0.07	63.00	25.00
6427.000	270.00	589.00	0.00	0.02	0.00	63.00	50.00
6427.000	270.00	589.12	0.00	0.02	0.02	63.00	50.00
6642.000	270.00	589.11	0.00	0.05	0.00	60.00	215.00
6642.000	270.00	589.10	0.00	0.05	0.00	60.00	215.00
6692.000	270.00	589.92	0.00	0.01	0.00	60.00	50.00
6692.000	270.00	589.15	0.00	0.01	0.00	60.00	50.00
6735.000	270.00	589.91	0.00	0.79	0.00	60.00	40.00
6735.000	270.00	589.92	0.00	0.74	0.01	60.00	40.00
6864.000	270.00	589.95	0.00	0.08	0.00	60.00	120.00
6864.000	270.00	590.00	0.00	0.00	0.00	60.00	120.00
6865.000	270.00	589.90	0.00	-0.09	0.00	60.00	1.00
6865.000	270.00	589.91	0.00	-0.09	0.01	60.00	1.00
6887.000	270.00	589.97	0.00	0.07	0.00	60.00	22.00
6887.000	270.00	589.98	0.00	0.07	0.01	60.00	22.00
6888.000	270.00	590.19	0.00	0.23	0.00	60.00	1.00
6888.000	270.00	590.20	0.00	0.22	0.01	60.00	1.00
7014.000	270.00	590.23	0.00	0.04	0.00	60.00	126.00
7014.000	270.00	590.24	0.00	0.04	0.01	60.00	126.00
7038.000	270.00	590.56	0.00	0.33	0.00	60.00	24.00
7038.000	270.00	590.57	0.00	0.33	0.00	60.00	24.00
7008.000	270.00	590.86	0.00	0.29	0.00	292.99	270.00
7008.000	270.00	590.87	0.00	0.30	0.01	109.77	270.00
7908.000	270.00	590.89	0.00	0.04	0.00	198.45	100.00
7908.000	270.00	590.91	0.00	0.04	0.01	114.91	100.00
7909.000	270.00	590.88	0.00	-0.01	0.00	198.14	1.00
7909.000	270.00	590.89	0.00	-0.02	0.00	116.87	1.00
7943.000	270.00	590.92	0.00	0.04	0.00	197.34	34.00
7943.000	270.00	590.94	0.00	0.05	0.02	115.55	34.00
7944.000	270.00	590.98	0.00	0.08	0.00	201.07	1.00
7944.000	270.00	590.98	0.00	0.04	0.03	117.29	1.00

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SECNO	C	CLSEL	DIF.SP	DIF.SX	DIF.MS	TOPWID	XLCH
0614.000	270.00	564.29	0.00	0.32	0.00	138.21	677.00
0314.000	270.00	564.29	0.00	0.32	0.00	138.21	677.00

SUMMARY OF ERRORS

FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.
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FLOODWAY DATA, S.ROCKWOOD SANC. NOLES
PROFILE NO. 2

STATION	WIDTH (FT)	SECTION AREA	MEAN VELOCITY	WATER SURFACE ELEVATION FLOODWAY	FLOODWAY	DIFFERENCE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6427.000	63.	260.	1.0	589.2	589.1	0.1
6642.000	60.	252.	1.1	589.2	589.1	0.1
6695.000	60.	171.	1.6	589.2	589.1	0.1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6867.000	60.	141.	1.9	590.0	590.0	0.0
6888.000	60.	302.	0.9	590.2	590.2	0.0
7014.000	60.	221.	1.2	590.2	590.2	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7909.000	117.	219.	1.2	590.9	590.9	0.0
7943.000	116.	221.	1.2	590.9	590.9	0.0
7974.000	117.	278.	1.0	591.0	591.0	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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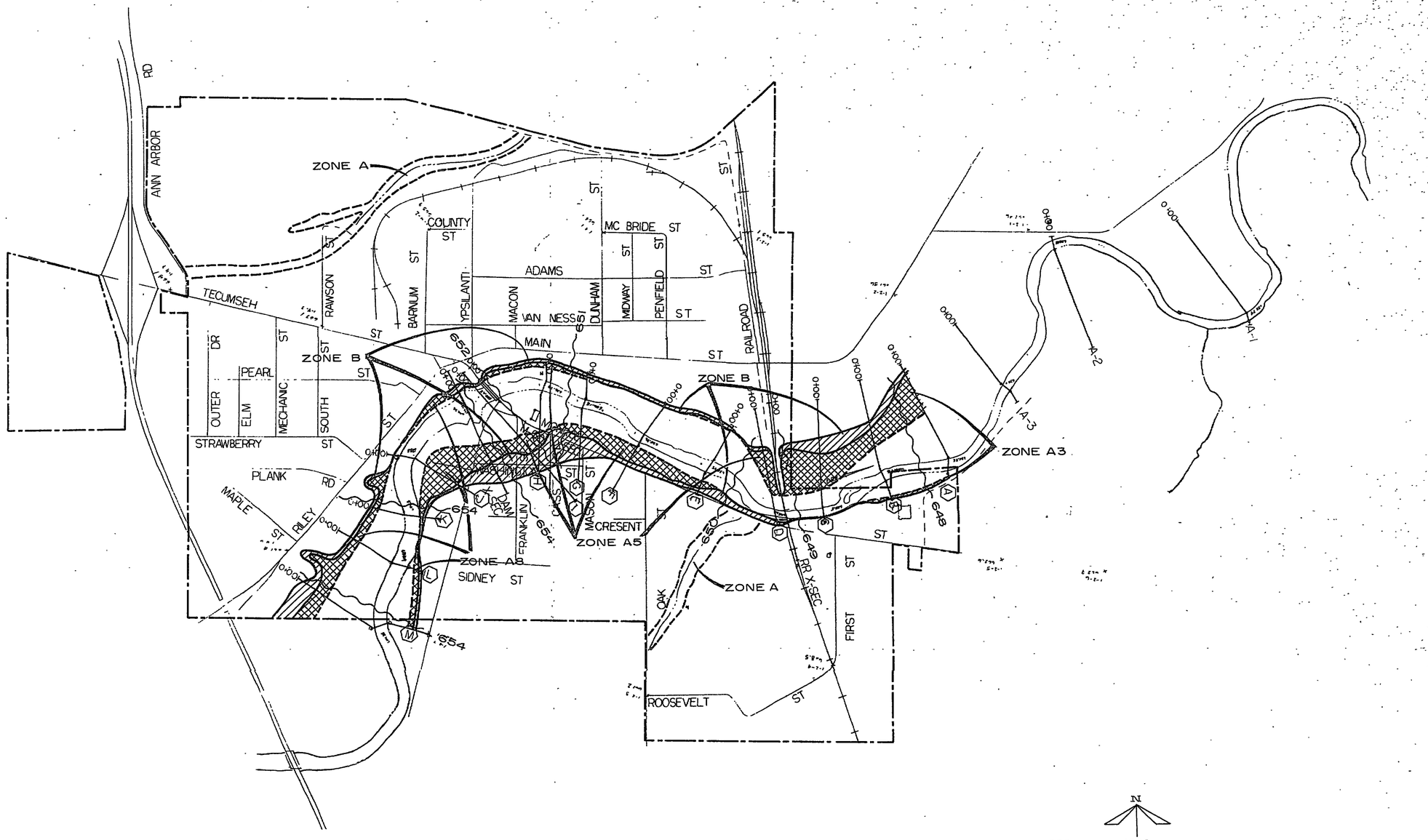
FORM 1411-GB PRINTED BY ROTARY MANIFOLD FORMS.

Dundee FIS
Work Map
MDNR Copy



500 YR. FLOOD BOUNDARY
100 YR. FLOOD BOUNDARY
FLOODWAY FRINGE
FLOODWAY
500 YR. FLOOD BOUNDARY
CROSS SECTION LINE
BASE FLOOD ELEVATION LINE WITH ELEVATION IN FEET N.G.V.D. 690

VILLAGE OF DUNDEE
MONROE COUNTY, MICHIGAN
FLOOD INSURANCE STUDY
FLOOD BOUNDARY AND FLOODWAY/ FLOOD INSURANCE RATE WORK MAP

PREPARED BY
WILLIAMS & WORKS, INC.
GRAND RAPIDS, MICHIGAN
(JOB No. 85376)

FOR
FEDERAL EMERGENCY MANAGEMENT AGENCY
FLOOD INSURANCE AND MITIGATION OFFICE
FEDERAL CONTRACT NO. H-3970

RECEIVED
MAR 2 1981
WATER MANAGEMENT

ORIGINAL SURVEY		BY	DATE
NOTE BOOK NO	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK NO	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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AUG 2 9 1980
WATER MANAGEMENT

DUNDEE (VILLAGE) E.I.S.
MONROE ST. (M-50) OVER RIVER RAISIN

ELEVATION

DISTANCE (FEET)

FLOOD PROFILE
RIVER RAISIN
VILLAGE OF DUNDEE
MONROE COUNTY, MICH.

WILLIAMS & WORKS
ENGINEERS/SURVEYORS/PLANNERS/GEOLOGISTS
GRAND RAPIDS, MICHIGAN

ELEVATION IN FEET (NGVD)

710
705
700
695
690
685
680
675
670
665
660
655
650
645
640
635
630
625

DOWNSTREAM VILLAGE LIMIT
PENN RAILROAD R.R.
MONROE ST. (M-50)
DUNDEE DAM
EASTERN VILLAGE LIMIT

R B C D E F G H I J K L M

115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130

STREAM DISTANCE IN THOUSANDS OF FEET FROM MOUTH

LEGEND
- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

CE104N
02/19/81

NO. 1794—CROSS SECTION 10 x 10
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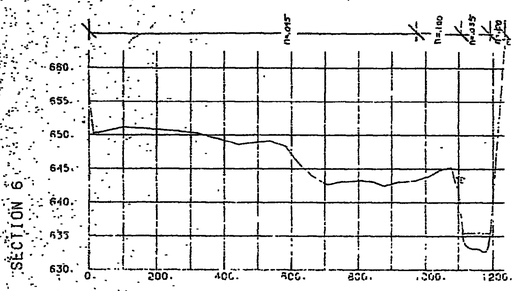

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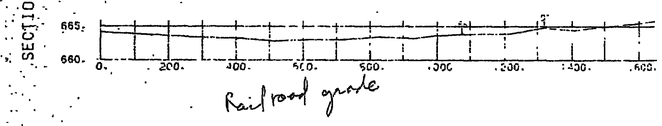
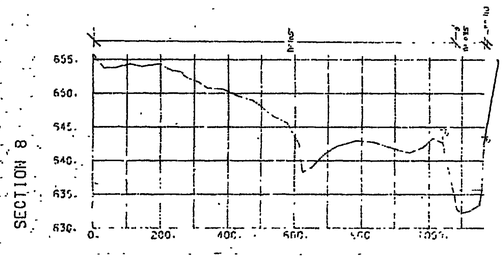
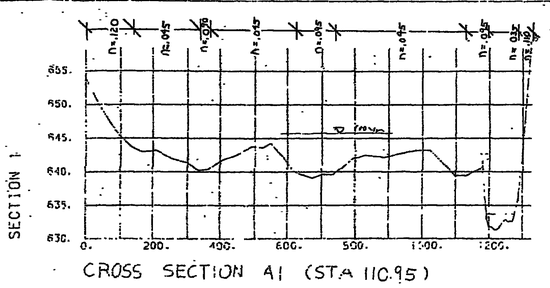


Railroad grade





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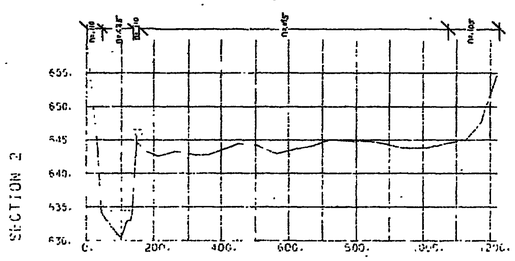

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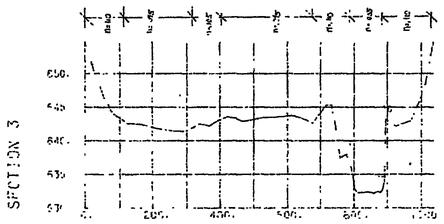

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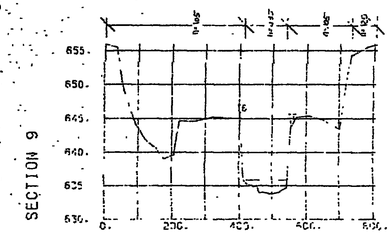

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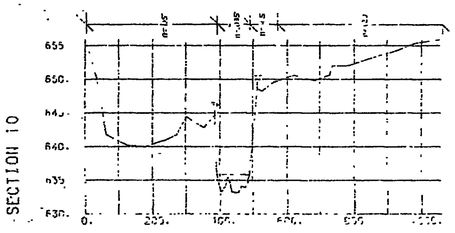

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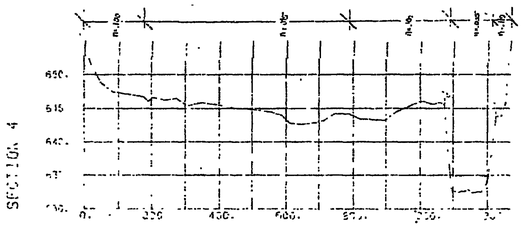

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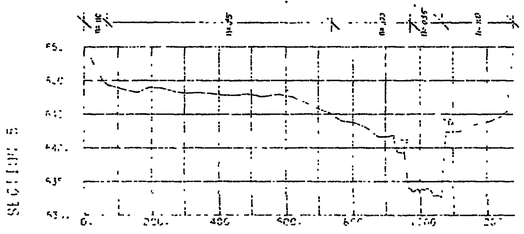

CROSS SECTION B (STA 115.97)

HUD-FIA FLOOD STUDIES FOR WILLIAMS & WORKS - RAISIN RIVER, DUNDEE TWP.

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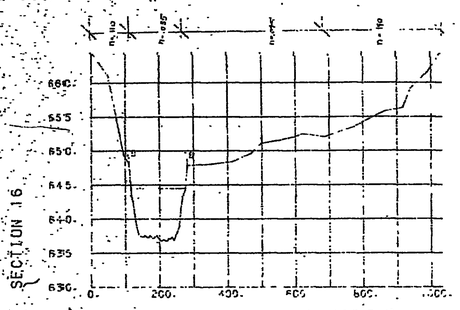

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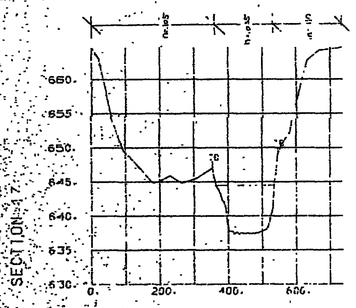

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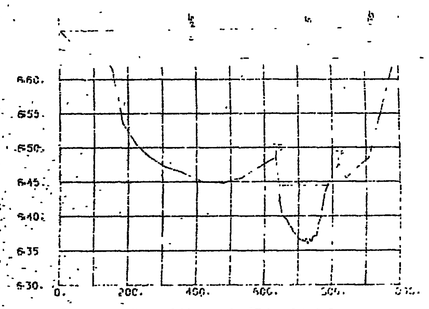

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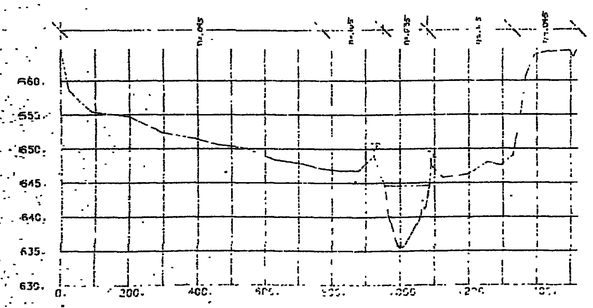

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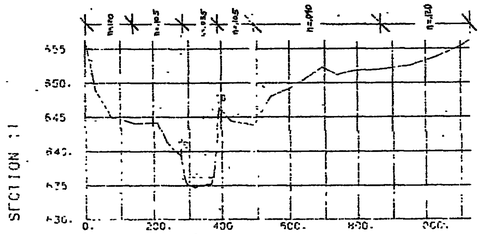

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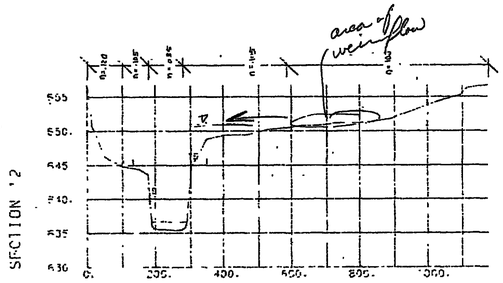

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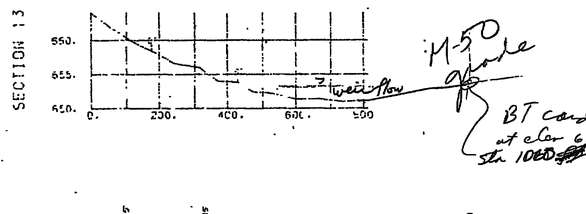
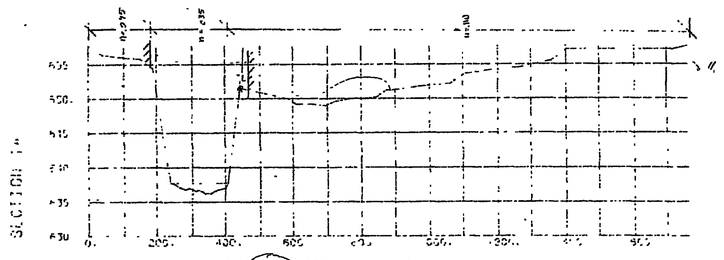


M-50 Mode
BT cards at elev 652.7 are at Sta 1060



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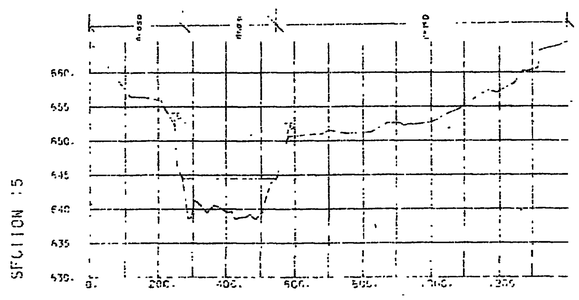

CROSS SECTION DAM (STA 121.44)

HUD-FIA FLOOD STUDIES FOR WILLIAMS & WORKS : RAISIN RIVER, DUNDEE TWP.

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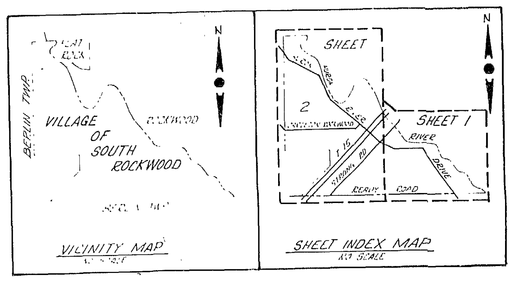

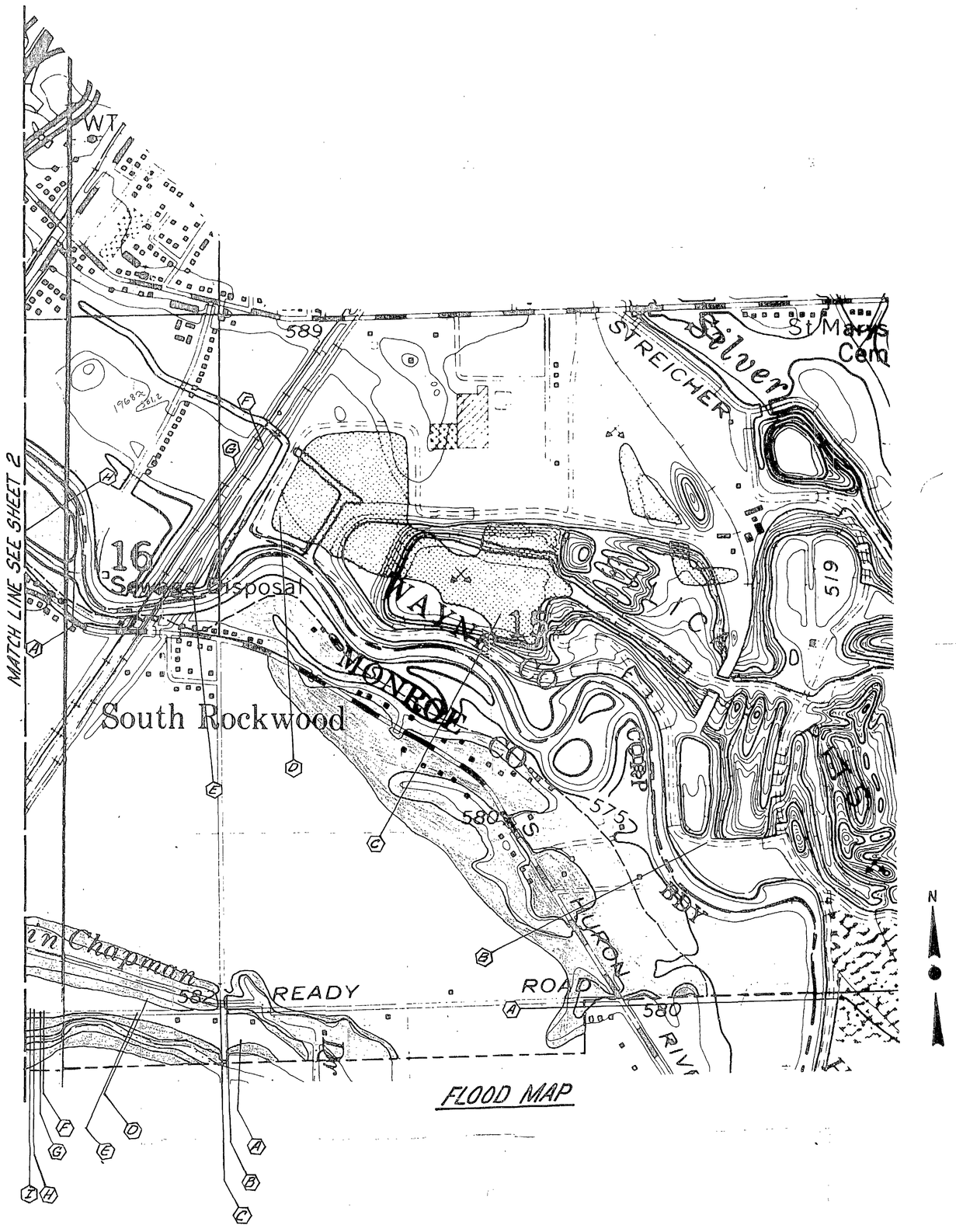

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LEGEND

FLOODWAY — 100 YR. BOUNDARY — 500 YR. BOUNDARY

A — A CROSS SECTION

CORPORATE LIMIT

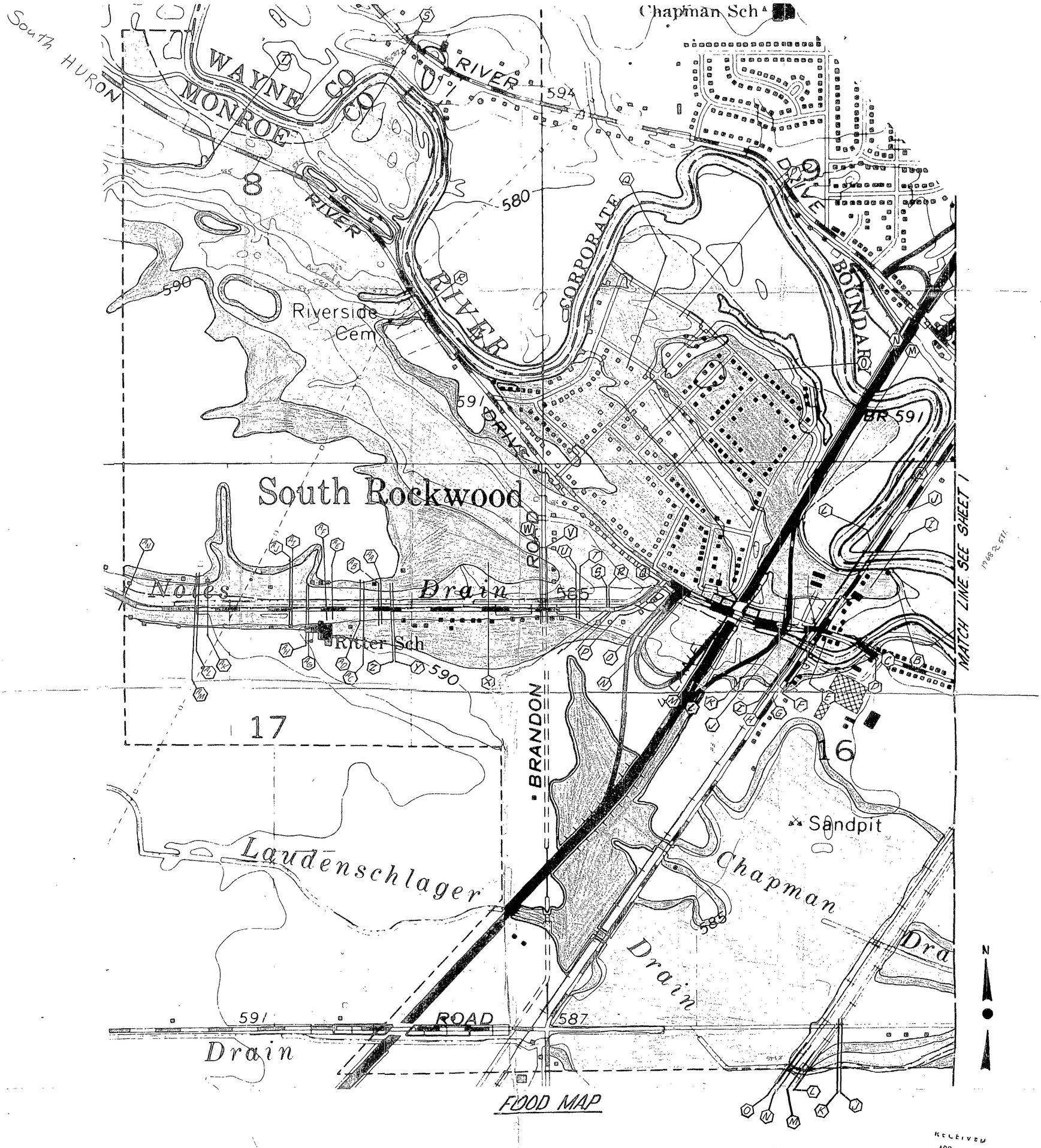
COUNTY BOUNDARY

VILLAGE OF SOUTH ROCKWOOD

MONROE COUNTY, MICHIGAN

SCALE: 1" = 400'

SHEET 1 of 2
HUD 2031-10



FOOD MAP

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WATER MANAGEMENT

LEGEND

FLOODWAY — 100 YR. BOUNDARY — 500 YR. BOUNDARY

A — A CROSS SECTION

CORPORATE LIMIT

COUNTY BOUNDARY

VILLAGE OF SOUTH ROCKWOOD

MONROE COUNTY, MICHIGAN

SCALE: 1" = 400'

SHEET 2 of 2
HUD 2031-10

1) COUNTY: Monroe

2) STUDY NAME: Whiteford Twp.

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: 100yr

1 JOB HUD-FIA H-4705 T06
T2 WHITEFORD TOWNSHIP FIS
T3 TEN MILE CREEK 100-YR FLOW

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-1.	4.	0.	0.	0.000000	0.00	.5	0.	647.600	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	1.000	34.000	3.000	4.000	27.000	28.000	9.000	0.000	0.000	0.000
NC	.065	.065	.052	.100	.300	0.000	0.000	0.000	0.000	0.000
QT	5.000	1050.000	1530.000	1780.000	2380.000	1780.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
X1	1.000	9.000	200.000	300.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	650.000	650.000	0.000
GR	654.000	0.000	649.800	200.000	641.600	215.000	640.700	230.000	644.900	300.000
GR	647.000	400.000	647.100	500.000	650.000	515.000	660.000	520.000	0.000	0.000
NC	.065	.065	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2.000	8.000	200.000	356.000	1150.000	1150.000	1150.000	0.000	0.000	0.000
GR	660.200	0.000	652.400	100.000	648.100	200.000	643.200	236.000	642.500	243.000
GR	643.300	275.000	648.800	316.000	657.800	356.000	0.000	0.000	0.000	0.000
X1	2.100	0.000	0.000	0.000	350.000	350.000	350.000	0.000	.900	0.000
X1	2.500	0.000	0.000	0.000	500.000	500.000	500.000	0.000	1.300	0.000
X1	3.000	12.000	226.000	322.000	550.000	550.000	550.000	.960	0.000	0.000
GR	658.000	0.000	657.000	100.000	655.000	200.000	652.300	226.000	648.300	244.000
GR	646.700	247.000	646.400	256.000	647.200	268.000	648.300	270.000	649.500	256.000
GR	659.700	322.000	661.300	500.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.100	9.000	95.000	193.000	500.000	500.000	500.000	0.000	-1.500	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.300	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
NC	.065	.065	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.500	9.000	95.000	193.000	500.000	500.000	500.000	0.000	-.200	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.300	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	4.000	9.000	95.000	193.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	652.300	150.000	650.500	151.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	265.000	0.000	0.000
X1	4.010	9.000	95.000	193.000	10.000	10.000	10.000	0.000	0.000	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.800	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
X1	4.980	8.000	189.000	232.000	131.000	131.000	131.000	0.000	0.000	0.000
GR	659.500	185.000	657.700	189.000	649.600	189.000	650.500	209.000	651.800	226.000
GR	653.100	231.900	657.700	232.000	658.500	233.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
X1	4.990	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

UNIVERSITY OF MICHIGAN, COMMONS

X2	0.000	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000
X1	5.010	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	5.020	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	5.500	9.000	252.000	356.000	67.000	67.000	67.000	0.000	0.000	0.000
GR	660.500	240.000	657.000	252.000	654.400	260.000	652.500	272.000	650.800	291.000
GR	650.400	307.000	651.800	325.000	653.300	330.000	660.000	356.000	0.000	0.000
X1	5.580	8.000	311.000	336.000	167.000	167.000	167.000	0.000	0.000	0.000
GR	659.500	300.000	658.200	311.000	653.100	311.100	651.300	316.000	650.400	327.000
GR	651.000	335.900	658.200	336.000	659.500	341.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
X1	5.590	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	658.200	659.500	0.000	0.000	0.000	0.000	0.000
X1	6.010	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	658.200	659.500	0.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6.400	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	6.500	8.000	81.000	125.000	91.000	91.000	91.000	0.000	0.000	0.000
GR	665.100	0.000	654.100	81.000	652.200	86.000	651.100	100.000	651.800	108.000
GR	652.000	120.000	653.700	125.000	662.500	180.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.100	.300	0.000	0.000	0.000	0.000	0.000
X1	6.520	0.000	0.000	0.000	269.000	269.000	269.000	0.000	1.200	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	6.550	5.000	0.000	51.000	160.000	160.000	160.000	0.000	0.000	0.000
GR	665.000	0.000	653.000	6.000	652.600	27.000	653.900	51.000	665.000	52.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
X1	6.580	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	6.590	0.000	0.000	0.000	120.000	120.000	120.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	7.010	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	7.800	9.000	237.000	295.000	49.000	49.000	49.000	0.000	0.000	0.000
GR	663.200	0.000	663.600	100.000	663.000	200.000	661.200	237.000	654.400	246.000
GR	652.300	264.000	653.200	285.000	660.000	295.000	665.000	315.000	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

THE UNIVERSITY OF MICHIGAN COMPUTING

CCHV= .100 CEHV= .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
OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=		650.00	ELREA=	650.00					
1.00	6.90	647.60	0.00	647.60	647.83	.23	0.00	0.00	649.80
1780.	0.	1780.	0.	0.	466.	0.	0.	0.	644.90
0.00	0.00	3.82	0.00	.065	.052	.065	0.000	640.70	204.02
.002229	0.	0.	0.	0	0	1	0.00	95.98	300.00
2.00	7.33	649.83	0.00	0.00	649.97	.14	2.13	.01	648.10
1780.	28.	1752.	0.	35.	578.	0.	14.	3.	657.80
.11	.82	3.03	0.00	.065	.055	.065	.055	642.50	159.83
.001570	1150.	1150.	1150.	2	0	1	0.00	160.74	320.57
2.10	7.02	650.42	0.00	0.00	650.59	.16	.61	.01	649.00
1780.	19.	1761.	0.	24.	542.	0.	19.	5.	658.70
.14	.80	3.25	0.00	.065	.055	.065	.055	643.40	166.91
.001942	350.	350.	350.	2	0	1	0.00	152.31	319.21
2.50	6.77	651.47	0.00	0.00	651.66	.18	1.06	.01	650.30
1780.	12.	1768.	0.	16.	512.	0.	25.	6.	660.00
.18	.77	3.45	0.00	.065	.055	.065	.055	644.70	172.78
.002336	500.	500.	500.	2	0	1	0.00	145.31	318.09
3.00	6.80	653.20	0.00	0.00	653.64	.44	1.91	.08	652.30
1780.	4.	1776.	0.	4.	332.	0.	31.	8.	659.70
.21	1.01	5.35	0.00	.065	.055	.065	.055	646.40	208.65
.005693	550.	550.	550.	2	0	1	0.00	84.57	293.21
3.10	7.43	655.23	0.00	0.00	655.46	.23	1.80	.02	657.10
1780.	0.	1772.	8.	0.	457.	7.	35.	9.	653.40
.24	0.00	3.88	1.05	.065	.055	.065	.055	647.80	102.17
.002481	500.	500.	500.	2	0	1	0.00	98.69	200.86

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
** D/S FACE ROCK DAM									
3.50	7.29	656.39	0.00	0.00	656.64	.25	1.17	.00	658.40
1780.	0.	1774.	6.	0.	1445.	6.	41.	10.	654.70
.28	0.00	3.99	.95	.065	.050	.065	.054	649.10	102.66

CITY OF CHICAGO

.002222	500.	500.	500.	2	0	1	0.00	97.65	200.31

CCHV= .300 CEHV= .500

4.00	5.99	656.49	0.00	0.00	656.84	.35	.15	.05	658.60
1780.	0.	1758.	22.	0.	368.	18.	41.	10.	654.90
.28	0.00	4.77	1.26	.065	.050	.065	.054	650.50	103.06
.004124	50.	50.	50.	3	0	1	0.00	112.39	215.44

4.01	6.84	656.64	0.00	0.00	656.90	.26	.03	.03	658.60
1780.	0.	1774.	6.	0.	436.	7.	41.	10.	654.90
.28	0.00	4.06	1.00	.065	.050	.065	.054	649.80	102.49
.002373	10.	10.	10.	2	0	1	0.00	98.00	200.49

** D/S FACE DRIVEWAY BRIDGE

4.99	7.29	656.89	0.00	0.00	657.61	.72	.48	.23	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.050	.065	.054	649.60	189.00
.006480	131.	131.	131.	2	0	1	0.00	42.98	231.98

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX ELLC= 657.70

4.99	7.30	656.90	0.00	0.00	657.62	.72	.00	.00	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.050	.065	.054	649.60	189.00
.002336	1.	1.	1.	0	0	1	0.00	42.98	231.98

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX ELLC= 657.70

5.01	7.35	656.95	0.00	0.00	657.66	.71	.04	.01	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.050	.065	.054	649.60	189.00
.002264	16.	16.	16.	2	0	1	0.00	42.98	231.98

5.02	7.36	656.96	0.00	0.00	657.67	.71	.00	.00	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.050	.065	.054	649.60	189.00
.006289	1.	1.	1.	0	0	1	0.00	42.98	231.98

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 5.50, -.400FT. AND MULTIPLYING BY .773

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.01	7.59	657.59	0.00	0.00	657.91	.32	.13	.12	656.60

1780.	1.	1779.	0.	1.	391.	0.	43.	10.	659.60
.29	.71	4.55	0.00	.065	.050	.065	.054	650.00	246.64
.002658	34.	34.	34.	2	0	1	0.00	76.97	323.61

1645 INT SEC ADDED BY RAISING SEC 1.01, .400FT AND MULTIPLYING BY 1.294

5.50	7.41	657.81	0.00	0.00	658.02	.21	.07	.03	657.00
1780.	1.	1779.	0.	1.	489.	0.	43.	10.	660.00
.29	.51	3.64	0.00	.065	.050	.065	.054	650.40	249.21
.001740	34.	34.	34.	2	0	1	0.00	98.31	347.52

1645 INT SEC ADDED BY RAISING SEC 5.58, 0.000FT AND MULTIPLYING BY 2.431

1.01	7.45	657.85	0.00	0.00	658.14	.29	.08	.04	658.20
1780.	0.	1780.	0.	0.	411.	0.	43.	11.	658.20
.29	0.00	4.33	0.00	.065	.050	.065	.054	650.40	326.76
.002090	42.	42.	42.	2	0	1	0.00	60.76	387.52

1645 INT SEC ADDED BY RAISING SEC 1.01, 0.000FT AND MULTIPLYING BY .804

1.02	7.48	657.88	0.00	0.00	658.33	.45	.11	.08	658.20
1780.	0.	1780.	0.	0.	332.	0.	44.	11.	658.20
.30	0.00	5.37	0.00	.065	.050	.065	.054	650.40	321.51
.003364	42.	42.	42.	2	0	1	0.00	48.84	370.35

1645 INT SEC ADDED BY RAISING SEC 1.02, 0.000FT AND MULTIPLYING BY .756

1.03	7.50	657.90	0.00	0.00	658.68	.78	.19	.17	658.20
1780.	0.	1780.	0.	0.	251.	0.	44.	11.	658.20
.30	0.00	7.08	0.00	.065	.050	.065	.054	650.40	316.26
.006340	42.	42.	42.	2	0	1	0.00	36.91	353.17

1645 INT SEC ADDED BY RAISING SEC 1.03, 0.000FT AND MULTIPLYING BY .677

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

** D/S FACE DRIVEWAY BRIDGE

5.58	7.43	657.83	0.00	0.00	659.57	1.74	.40	.48	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.050	.065	.053	650.40	311.01
.016618	42.	42.	42.	2	0	1	0.00	24.99	HE 335.99

UNIVERSITY OF MICHIGAN COMPUTING CENTER

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 659.50 MAX ELLC= 658.20

5.59	7.44	657.84	0.00	0.00	659.58	1.74	.01	.00	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.030	.065	.053	650.40	311.01
.005983	1.	1.	1.	0	0	1	0.00	24.99	335.99

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 659.50 MAX ELLC= 658.20

6.01	7.83	658.23	0.00	0.00	659.79	1.56	.12	.09	658.20
1780.	0.	1780.	0.	0.	178.	0.	44.	11.	658.20
.30	0.00	10.02	0.00	.065	.030	.065	.053	650.40	310.78
.010142	16.	16.	16.	4	0	1	-.65	25.32	336.10

6.40	7.91	658.31	0.00	0.00	659.82	1.51	.01	.02	658.20
1780.	0.	1780.	0.	0.	180.	0.	44.	11.	658.20
.30	.03	9.87	.03	.065	.050	.065	.053	650.40	310.09
.013584	1.	1.	1.	2	0	1	0.00	26.33	336.41

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 6.50, -.467FT AND MULTIPLYING BY .723

3301 HV CHANGED MORE THAN HVINS

1.01	9.35	659.98	0.00	0.00	660.29	.31	.11	.36	653.63
1780.	217.	1348.	216.	107.	269.	103.	44.	11.	653.23
.30	2.02	5.01	2.10	.065	.050	.065	.053	650.63	24.75
.001715	30.	30.	30.	3	0	1	0.00	96.04	120.80

1645 INT SEC ADDED BY RAISING SEC 1.01, .233FT AND MULTIPLYING BY 1.192

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
1.02	9.27	660.14	0.00	0.00	660.36	.23	.04	.03	652.87
1780.	213.	1354.	213.	125.	318.	120.	45.	11.	653.47
.30	1.71	4.26	1.78	.065	.050	.065	.053	650.87	29.99
.001241	30.	30.	30.	2	0	1	0.00	113.59	143.58

1645 INT SEC ADDED BY RAISING SEC. 1.02, .233FT AND MULTIPLYING BY 1.161

6.50	9.14	660.24	0.00	0.00	660.41	.18	.03	.01	654.10
1780.	208.	1363.	209.	139.	363.	133.	45.	11.	653.70
.31	1.50	3.76	1.56	.065	.050	.065	.053	651.10	135.82
.000979	30.	30.	30.	2	0	1	0.00	130.03	165.85

CCHV= .100 CEHV= .300

6.52	8.21	660.51	0.00	0.00	660.77	.25	.33	.02	655.30
1780.	172.	1430.	178.	100.	322.	99.	49.	12.	654.90
.33	1.72	4.44	1.80	.065	.050	.065	.053	652.30	42.60
.001599	269.	269.	269.	2	0	1	0.00	117.49	160.09

CCHV= .300 CEHV= .500

** D/S FACE US 23 BRIDGE

6.55	8.15	660.75	0.00	0.00	661.12	.38	.30	.06	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.48	.065	.050	.065	.053	652.60	2.13
.002150	160.	160.	160.	2	0	1	0.00	49.49	51.62

CCHV= .500 CEHV= 1.000

6.58	8.15	660.75	0.00	0.00	661.12	.38	.00	.00	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.29	.065	.030	.065	.053	652.60	2.13
.000774	1.	1.	1.	0	0	1	0.00	49.49	51.62

6.59	8.26	660.86	0.00	0.00	661.22	.36	.09	.01	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.29	.065	.030	.065	.052	652.60	2.07
.000740	120.	120.	120.	2	0	1	0.00	49.55	51.63

7.01	8.26	660.86	0.00	0.00	661.22	.36	.00	.00	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.48	.065	.050	.065	.052	652.60	2.07
.002055	1.	1.	1.	0	0	1	0.00	49.55	51.63

CCHV= .300 CEHV= .500

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
7.80	8.70	661.00	0.00	0.00	661.33	.33	.10	.01	661.20
1780.	0.	1779.	1.	0.	384.	2.	52.	12.	660.00
.34	0.00	4.63	.65	.065	.050	.065	.052	652.30	237.26
.002148	49.	49.	49.	3	0	1	0.00	61.74	299.00

THE UNIVERSITY OF MICHIGAN COMPUTING CENTER



1) COUNTY: Monroe

2) STUDY NAME: Whiteford Twp.

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: 100 yr Encroachment



1 JOB HUD-FIA H-4705 T06
T2 WHITEFORD TOWNSHIP FIS
T3 TEN MILE CREEK 100-YR FLOW

J1	ICHECK	INQ	NINV	IDIR	STFT	METRIC	HVINS	Q	WSEL	FQ
	-1.	4.	0.	0.	0.000000	0.00	.5	0.	647.600	0.000

ENCROACHED RUN

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	1.000	34.000	3.000	4.000	27.000	28.000	9.000	0.000	0.000	0.000
NC	.065	.065	.052	.100	.300	0.000	0.000	0.000	0.000	0.000
QT	5.000	1050.000	1530.000	1780.000	2380.000	1780.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	1.400	0.000	0.000	0.000	0.000
X1	1.000	9.000	200.000	300.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	650.000	650.000	0.000
GR	654.000	0.000	649.800	200.000	641.600	215.000	640.700	230.000	644.900	300.000
GR	647.000	400.000	647.100	500.000	650.000	515.000	660.000	520.000	0.000	0.000
NC	.065	.065	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2.000	8.000	200.000	356.000	1150.000	1150.000	1150.000	0.000	0.000	0.000
GR	660.200	0.000	652.400	100.000	648.100	200.000	643.200	236.000	642.500	243.000
GR	643.300	275.000	648.800	316.000	657.800	356.000	0.000	0.000	0.000	0.000
X1	2.100	0.000	0.000	0.000	350.000	350.000	350.000	0.000	.900	0.000
X1	2.500	0.000	0.000	0.000	500.000	500.000	500.000	0.000	1.300	0.000
X1	3.000	12.000	226.000	322.000	550.000	550.000	550.000	.960	0.000	0.000
GR	658.000	0.000	657.000	100.000	655.000	200.000	652.300	226.000	648.300	244.000
GR	646.700	247.000	646.400	256.000	647.200	268.000	648.300	270.000	649.500	296.000
GR	659.700	322.000	661.300	500.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.100	9.000	95.000	193.000	500.000	500.000	500.000	0.000	-1.500	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.300	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
NC	.065	.065	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3.500	9.000	95.000	193.000	500.000	500.000	500.000	0.000	-.200	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.300	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	4.000	9.000	95.000	193.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	652.300	150.000	650.500	151.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	265.000	0.000	0.000
X1	4.010	9.000	95.000	193.000	10.000	10.000	10.000	0.000	0.000	0.000
GR	662.300	0.000	658.600	95.000	653.100	116.000	649.800	153.000	650.000	166.000
GR	650.800	183.000	653.800	185.000	654.900	193.000	660.000	215.000	0.000	0.000
X1	4.980	8.000	189.000	232.000	131.000	131.000	131.000	0.000	0.000	0.000
GR	658.500	185.000	657.700	189.000	649.600	189.000	650.500	209.000	651.800	226.000
GR	653.100	231.900	657.700	232.000	658.500	233.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
X1	4.990	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

UNIVERSITY OF CINCINNATI DOCTORATE

RJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	652.303	264.000	653.200	265.000	660.000	295.000	665.000	315.000	0.000	0.000
GR	663.200	0.000	663.600	100.000	663.000	200.000	661.200	237.000	654.400	246.000
X1	7.803	9.000	237.000	295.000	49.000	49.000	49.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.500	0.000	.300	0.000	0.000	0.000	0.000
X1	7.010	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000
X1	6.593	0.000	0.000	0.000	120.000	120.000	120.000	0.000	0.000	0.000
X1	6.580	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.500	0.000	1.000	.500	0.000	0.000	0.000
GR	665.000	0.000	653.000	6.000	652.600	27.000	653.900	51.000	665.000	52.000
X1	6.550	5.000	0.000	51.000	160.000	160.000	160.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	0.000	0.000	0.000	0.000	0.000	0.000
X1	6.520	0.000	0.000	0.000	269.000	269.000	269.000	0.000	1.200	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
GR	652.000	120.000	653.700	125.000	662.500	180.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.100	.300	0.000	0.000	0.000	0.000	0.000
GR	665.100	0.000	654.100	61.000	652.200	86.000	651.100	100.000	651.800	108.000
X1	6.500	8.000	81.000	125.000	91.000	91.000	91.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	6.400	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	658.200	659.500	0.000	0.000	0.000	0.000	0.000
X1	6.010	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	658.200	659.500	0.000	0.000	0.000	0.000	0.000
X1	5.590	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
GR	651.000	335.900	658.200	336.000	659.500	341.000	0.000	0.000	0.000	0.000
GR	659.500	300.000	658.200	311.000	653.100	311.100	651.300	316.000	650.400	327.000
X1	5.580	8.000	311.000	336.000	167.000	167.000	167.000	0.000	0.000	0.000
GR	650.400	307.000	651.800	325.000	653.300	330.000	660.000	356.000	0.000	0.000
GR	660.500	240.000	657.000	252.000	654.400	260.000	652.500	272.000	650.800	291.000
X1	5.500	9.000	252.000	356.000	67.000	67.000	67.000	0.000	0.000	0.000
NC	0.003	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	5.020	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.003	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000
X1	5.010	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000

CCHV= .100 CEHV= .300

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AICB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNI	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=		650.00	ELREA=	650.00					
1.00	6.90	647.60	0.00	647.60	647.83	.23	0.00	0.00	649.80
1780.	0.	1780.	0.	0.	466.	0.	0.	0.	644.90
0.00	0.00	3.82	0.00	.065	.052	.065	0.000	640.70	204.02
.002229	0.	0.	0.	0	0	1	0.00	95.98	300.00
2.00	7.33	649.83	0.00	0.00	649.97	.14	2.13	.01	648.10
1780.	28.	1752.	0.	35.	578.	0.	14.	3.	657.80
.11	.82	3.03	0.00	.065	.055	.065	.055	642.50	159.83
.001570	1150.	1150.	1150.	2	0	1	0.00	160.74	320.57
2.10	7.02	650.42	0.00	0.00	650.59	.16	.61	.01	649.00
1780.	19.	1761.	0.	24.	542.	0.	19.	5.	658.70
.14	.80	3.25	0.00	.065	.055	.065	.055	643.40	166.91
.001942	350.	350.	350.	2	0	1	0.00	152.31	319.21
2.50	6.77	651.47	0.00	0.00	651.66	.18	1.06	.01	650.30
1780.	12.	1768.	0.	16.	512.	0.	25.	6.	660.00
.18	.77	3.45	0.00	.065	.055	.065	.055	644.70	172.78
.002336	500.	500.	500.	2	0	1	0.00	145.31	318.09
3.00	6.80	653.20	0.00	0.00	653.64	.44	1.91	.08	652.30
1780.	4.	1776.	0.	4.	332.	0.	31.	8.	659.70
.21	1.01	5.35	0.00	.065	.055	.065	.055	646.40	208.65
.005693	550.	550.	550.	2	0	1	0.00	84.57	293.21
3.10	7.43	655.23	0.00	0.00	655.46	.23	1.80	.02	657.10
1780.	0.	1772.	8.	0.	457.	7.	35.	9.	653.40
.24	0.00	3.88	1.05	.065	.055	.065	.055	647.80	102.17
.002481	500.	500.	500.	2	0	1	0.00	98.69	200.86

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNI	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

** D/S FACE ROCK DAM

3.50	7.29	656.39	0.00	0.00	656.64	.25	1.17	.00	658.40
1780.	0.	1774.	6.	0.	445.	6.	41.	10.	654.70
.28	0.00	3.99	.95	.065	.050	.065	.054	649.10	102.66

.002222	500.	500.	500.	2	0	1	0.00	97.65	200.31

CCHV= .300 CEHV= .500

4.00	5.99	656.49	0.00	0.00	656.84	.35	.15	.05	658.60
1780.	0.	1758.	22.	0.	368.	18.	41.	10.	654.90
.28	0.00	4.77	1.26	.065	.050	.065	.054	650.50	103.06
.004124	50.	50.	50.	3	0	1	0.00	112.39	215.44

4.01	6.84	656.64	0.00	0.00	656.90	.26	.03	.03	658.60
1780.	0.	1774.	6.	0.	436.	7.	41.	10.	654.90
.28	0.00	4.06	1.00	.065	.050	.065	.054	649.80	102.49
.002373	10.	10.	10.	2	0	1	0.00	98.00	200.49

** D/S FACE DRIVEWAY BRIDGE

4.98	7.29	656.89	0.00	0.00	657.61	.72	.48	.23	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.050	.065	.054	649.60	189.00
.006480	131.	131.	131.	2	0	1	0.00	42.98	231.98

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 658.50 MAX ELLC= 657.70

4.99	7.30	656.90	0.00	0.00	657.62	.72	.00	.00	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.030	.065	.054	649.60	189.00
.002336	1.	1.	1.	0	0	1	0.00	42.98	231.98

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 658.50 MAX ELLC= 657.70

5.01	7.35	656.95	0.00	0.00	657.66	.71	.04	.01	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.030	.065	.054	649.60	189.00
.002264	16.	16.	16.	2	0	1	0.00	42.98	231.98

5.02	7.36	656.96	0.00	0.00	657.67	.71	.00	.00	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.050	.065	.054	649.60	189.00
.006289	1.	1.	1.	0	0	1	0.00	42.98	231.98

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 5.50, -.400FT AND MULTIPLYING BY .773

SECNO	DEPTH	CWSEL	CRIWS	WSEIK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALCB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.01	7.59	657.59	0.00	0.00	657.91	.32	.13	.12	656.60

1780.	1.	1779.	0.	1.	391.	0.	43.	10.	659.60
.29	.71	4.55	0.00	.065	.050	.065	.054	650.00	246.64
.002658	34.	34.	34.	2	0	1	0.00	76.97	323.61

1645 INT SEC ADDED BY RAISING SEC 1.01, .400FT AND MULTIPLYING BY 1.294

5.50	7.41	657.81	0.00	0.00	658.02	.21	.07	.03	657.00
1780.	1.	1779.	0.	1.	489.	0.	43.	10.	660.00
.29	.51	3.64	0.00	.065	.050	.065	.054	650.40	249.21
.001740	34.	34.	34.	2	0	1	0.00	98.31	347.52

1645 INT SEC ADDED BY RAISING SEC 5.58, 0.000FT AND MULTIPLYING BY 2.431

1.01	7.45	657.85	0.00	0.00	658.14	.29	.08	.04	658.20
1780.	0.	1780.	0.	0.	411.	0.	43.	11.	658.20
.29	0.00	4.33	0.00	.065	.050	.065	.054	650.40	326.76
.002090	42.	42.	42.	2	0	1	0.00	60.76	387.52

1645 INT SEC ADDED BY RAISING SEC 1.01, 0.000FT AND MULTIPLYING BY .804

1.02	7.48	657.88	0.00	0.00	658.33	.45	.11	.08	658.20
1780.	0.	1780.	0.	0.	332.	0.	44.	11.	658.20
.30	0.00	5.37	0.00	.065	.050	.065	.054	650.40	321.51
.003364	42.	42.	42.	2	0	1	0.00	48.84	370.35

1645 INT SEC ADDED BY RAISING SEC 1.02, 0.000FT AND MULTIPLYING BY .756

1.03	7.50	657.90	0.00	0.00	658.68	.78	.19	.17	658.20
1780.	0.	1780.	0.	0.	251.	0.	44.	11.	658.20
.30	0.00	7.08	0.00	.065	.050	.065	.054	650.40	316.26
.006340	42.	42.	42.	2	0	1	0.00	36.91	353.17

1645 INT SEC ADDED BY RAISING SEC 1.03, 0.000FT AND MULTIPLYING BY .677

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AICB	ACH	ARCB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

** D/S FACE DRIVEWAY BRIDGE

5.58	7.4	657.83	0.00	0.00	659.57	1.74	.40	.48	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.050	.065	.053	650.40	311.01
.016618	42.	42.	42.	2	0	1	0.00	24.99	335.99

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 659.50 MAX EIIC= 658.20

5.59	7.44	657.84	0.00	0.00	659.58	1.74	.01	.00	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.030	.065	.053	650.40	311.01
.005983	1.	1.	1.	0	0	1	0.00	24.99	335.99

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 659.50 MAX ELLC= 658.20

6.01	7.83	658.23	0.00	0.00	659.79	1.56	.12	.09	658.20
1780.	0.	1780.	0.	0.	178.	0.	44.	11.	658.20
.30	0.00	10.02	0.00	.065	.030	.065	.053	650.40	310.78
.010142	16.	16.	16.	4	0	1	-.65	25.32	336.10
6.40	7.91	658.31	0.00	0.00	659.82	1.51	.01	.02	658.20
1780.	0.	1780.	0.	0.	180.	0.	44.	11.	658.20
.30	.03	9.87	.03	.065	.050	.065	.053	650.40	310.09
.013584	1.	1.	1.	2	0	1	0.00	26.33	336.41

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 6.50, -.467FT AND MULTIPLYING BY .723

3301 HV CHANGED MORE THAN HVINS

1.01	9.35	659.98	0.00	0.00	660.29	.31	.11	.36	653.63
1780.	217.	1348.	216.	107.	269.	103.	44.	11.	653.23
.30	2.02	5.01	2.10	.065	.050	.065	.053	650.63	24.75
.001715	30.	30.	30.	3	0	1	0.00	96.04	120.80

1645 INT SEC ADDED BY RAISING SEC 1.01, .233FT AND MULTIPLYING BY 1.192

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
1.02	9.27	660.14	0.00	0.00	660.36	.23	.04	.03	653.87
1780.	213.	1354.	213.	125.	318.	120.	45.	11.	653.47
.30	1.71	4.26	1.78	.065	.050	.065	.053	650.87	29.99
.001241	30.	30.	30.	2	0	1	0.00	113.59	143.58

1645 INT SEC ADDED BY RAISING SEC 1.02, .233FT AND MULTIPLYING BY 1.161

6.50	9.14	660.24	0.00	0.00	660.41	.18	.03	.01	654.10
1780.	208.	1363.	209.	139.	363.	133.	45.	11.	653.70
.31	1.50	3.76	1.56	.065	.050	.065	.053	651.10	THE35.82
.000979	30.	30.	30.	2	0	1	0.00	130.03	165.85

CCHV= .100 CEHV= .300

6.52	8.21	660.51	0.00	0.00	660.77	.25	.33	.02	655.30
1780.	172.	1430.	178.	100.	322.	99.	49.	12.	654.90
.33	1.72	4.44	1.80	.065	.050	.065	.053	652.30	42.60
.001599	269.	269.	269.	2	0	1	0.00	117.49	160.09

CCHV= .300 CEHV= .500

** D/S FACE US 23 BRIDGE

6.55	8.15	660.75	0.00	0.00	661.12	.38	.30	.06	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.48	.065	.050	.065	.053	652.60	2.13
.002150	160.	160.	160.	2	0	1	0.00	49.49	51.62

CCHV= .500 CEHV= 1.000

6.58	8.15	660.75	0.00	0.00	661.12	.38	.00	.00	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.29	.065	.030	.065	.053	652.60	2.13
.000774	1.	1.	1.	0	0	1	0.00	49.49	51.62

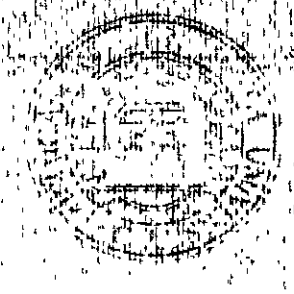
6.59	8.26	660.86	0.00	0.00	661.22	.36	.09	.01	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.29	.065	.030	.065	.052	652.60	2.07
.000740	120.	120.	120.	2	0	1	0.00	49.55	51.63

7.01	8.26	660.86	0.00	0.00	661.22	.36	.00	.00	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.48	.065	.050	.065	.052	652.60	2.07
.002055	1.	1.	1.	0	0	1	0.00	49.55	51.63

CCHV= .300 CEHV= .500

SECNO	DEPTH	CWSEL	CRIWS	WSEIK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	ARCB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNI	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7.80	8.70	661.00	0.00	0.00	661.33	.33	.10	.01	661.20
1780.	0.	1779.	1.	0.	384.	2.	52.	12.	660.00
.34	0.00	4.63	.65	.065	.050	.065	.052	652.30	237.26
.002148	49.	49.	49.	3	0	1	0.00	61.74	299.00



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*****************************************
HEC2 VERSION UPDATED JAN 1975
ERROR CORRECTIONS 01,02,03,04,05,06,07,08
MODIFICATIONS 52,53,54,55,56,57,58
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T1      JOB HUD-FIA H-4705  T06
T2      FLOOD INSURANCE STUDIES
T3      FLOODWAY DETERMINATION

J1  ICHECK    INQ       NINV      IDIR      STPT      METRIC    HVINS     Q         WSEL      FQ

      -1.       6.        0.        0.   0.000000     0.00       0.0       0.    647.600    0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSFCH     FN        ALLDC     IBW       CHNIM     ITRACE

    15.000    0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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UNIVERSITY OF MICHIGAN

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CCHV=     .100 CEHV=     .300
 2800 NAT Q1=     377.02  WSEL=     647.60  ENC Q1=     389.52  WSEL=     647.70  RATIO=  -.0331
 NAT Q1=     390.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=     647.70
   SECNO     DEPTH     CWSEL     CRIWS     WSEIK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNI       XNCH      XNF       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      200.0      300.0  TYPE=      4  TARGET=        0.000

OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       650.00 ELREA=       650.00

     1.00      6.90    647.60      0.00    647.60    647.83       .23      0.00      0.00    649.80
    1780.        0.     1780.        0.        0.      466.        0.        0.        0.    644.90
     0.00      0.00      3.82      0.00      .065      .052      .065     0.000    640.70    204.02
  .002229        0.        0.        0.         0         0         1      0.00     95.98    300.00

 2800 NAT Q1=     449.26  WSEL=     649.83  ENC Q1=     456.80  WSEL=     649.93  RATIO=  -.0168
 NAT Q1=     465.  RATIOS LOB,CH,ROB=   .0180   .9820  0.0000  WSEL=     649.93

3470 ENCROACHMENT STATIONS=      200.0      356.0  TYPE=      4  TARGET=         .018
     2.00      7.34    649.84      0.00    649.83    649.99       .15      2.16       .01    648.10
    1780.        0.     1780.        0.        0.      581.        0.       14.        3.    657.80
      .10       .01      3.06      0.00      .065      .055      .065      .055    642.50    200.00
  .001598     1150.     1150.     1150.         3         0         1      0.00    120.67    320.67

 2800 NAT Q1=     403.91  WSEL=     650.42  ENC Q1=     413.46  WSEL=     650.52  RATIO=  -.0237
 NAT Q1=     419.  RATIOS LOB,CH,ROB=   .0123   .9877  0.0000  WSEL=     650.52

3470 ENCROACHMENT STATIONS=      200.0      356.0  TYPE=      4  TARGET=         .012
     2.10      7.05    650.45      0.00    650.42    650.61       .17       .62       .01    649.00
    1780.        0.     1780.        0.        0.      544.        0.       18.        4.    658.70
      .13       .01      3.27      0.00      .065      .055      .065      .055    643.40    200.00
  .001952      350.      350.      350.         3         0         1      0.00    119.32    319.32

 2800 NAT Q1=     368.31  WSEL=     651.47  ENC Q1=     379.13  WSEL=     651.57  RATIO=  -.0294
 NAT Q1=     382.  RATIOS LOB,CH,ROB=   .0083   .9917  0.0000  WSEL=     651.57
   SECNO     DEPTH     CWSEL     CRIWS     WSEIK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      200.0      356.0  TYPE=      4  TARGET=         .008
     2.50      6.80    651.50      0.00    651.47    651.68       .19      1.06       .01    650.30
    1780.        0.     1780.        0.        0.      515.        0.       24.        5.    660.00
      .17       .01      3.46      0.00      .065      .055      .065      .055    644.70    200.00
  .002324      500.      500.      500.         3         0         1      0.00    118.21    318.21

 2800 NAT Q1=     235.92  WSEL=     653.20  ENC Q1=     243.96  WSEL=     653.30  RATIO=  -.0341
 NAT Q1=     245.  RATIOS LOB,CH,ROB=   .0027   .9973  0.0000  WSEL=     653.30
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 3470 ENCROACHMENT STATIONS=     217.0     309.1  TYPE=     4  TARGET=          .003
      3.00      6.81    653.21      0.00    653.20    653.66       .44      1.90       .08    652.30
      1780.        0.    1780.        0.        0.      333.        0.      30.        6.    659.70
       .20       .02      5.34      0.00      .065      .055      .065      .055    646.40    216.96
   .005651       550.      550.      550.         3         0         1      0.00     76.29    293.25

  2800 NAT Q1=     357.39  WSEL=     655.23  ENC Q1=     367.62  WSEL=     655.33  RATIO=   -.0286
  NAT Q1=     369.  RATIOS LOB,CH,ROB=  0.0000    .9952    .0048  WSEL=     655.33

 3470 ENCROACHMENT STATIONS=      95.0     193.0  TYPE=     4  TARGET=          .005
      3.10      7.44    655.24      0.00    655.23    655.47       .23      1.79       .02    657.10
      1780.        0.    1780.        0.        0.      458.        0.      34.        7.    653.40
       .24      0.00      3.88       .01      .065      .055      .065      .055    647.80    102.10
   .002474       500.      500.      500.         3         0         1      0.00     90.90    193.00

  2800 NAT Q1=     377.59  WSEL=     655.39  ENC Q1=     388.13  WSEL=     656.49  RATIO=   -.0279
  NAT Q1=     390.  RATIOS LOB,CH,ROB=  0.0000    .9963    .0037  WSEL=     656.49

 3470 ENCROACHMENT STATIONS=      95.0     193.0  TYPE=     4  TARGET=          .004
        ** D/S FACE ROCK DAM

      3.50      7.30    656.40      0.00    656.39    656.65       .25      1.17       .00    658.40
      1780.        0.    1780.        0.        0.      446.        0.      40.        8.    654.70
       .27      0.00      3.99       .01      .065      .050      .065      .054    649.10    102.64
   .002228       500.      500.      500.         3         0         1      0.00     90.37    193.00

 CCHV=     .300 CEHV=     .500
  2800 NAT Q1=     277.17  WSEL=     656.49  ENC Q1=     284.19  WSEL=     656.59  RATIO=   -.0253
  NAT Q1=     288.  RATIOS LOB,CH,ROB=  0.0000    .9857    .0143  WSEL=     656.59

 3470 ENCROACHMENT STATIONS=      95.0     193.0  TYPE=     4  TARGET=          .014
      4.00      5.99    656.49      0.00    656.49    656.85       .36       .15       .06    658.60
      1780.        0.    1780.        0.        0.      368.        0.      40.        9.    654.90
       .28      0.00      4.83       .01      .065      .050      .065      .054    650.50    103.05
   .004222        50.       50.       50.         2         0         1      0.00     89.95    193.00

  2800 NAT Q1=     365.40  WSEL=     655.64  ENC Q1=     376.39  WSEL=     656.74  RATIO=   -.0301
  NAT Q1=     378.  RATIOS LOB,CH,ROB=  0.0000    .9959    .0041  WSEL=     656.74
    SECNO     DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL       OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALCB       ACH       AROB      VOL      TWA      LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNI        XNCH      XNR       WTN      ELMIN    SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR    TOPWID   ENDST

 3470 ENCROACHMENT STATIONS=      95.0     193.0  TYPE=     4  TARGET=          .004
      4.01      6.86    656.66      0.00    656.64    656.92       .26       .03       .03    658.60
      1780.        0.    1780.        0.        0.      439.        0.      40.        9.    654.90
       .28      0.00      4.06       .01      .065      .050      .065      .054    649.80    102.40
   .002355        10.       10.       10.         2         0         1      0.00     90.60    193.00

  2800 NAT Q1=     221.13  WSEL=     655.89  ENC Q1=     226.53  WSEL=     656.99  RATIO=   -.0244
  NAT Q1=     227.  RATIOS LOB,CH,ROB=  0.0000   1.0000   0.0000  WSEL=     656.99
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3470 ENCROACHMENT STATIONS= 189.0 232.0 TYPE= 4 TARGET= 0.000

** D/S FACE DRIVEWAY BRIDGE

4.98	7.31	656.91	0.00	656.89	657.63	.72	.48	.23	657.70
1780.	0.	1780.	0.	0.	262.	0.	41.	9.	657.70
.28	0.00	6.80	0.00	.065	.050	.065	.054	649.60	189.00
.006427	131.	131.	131.	2	0	1	0.00	42.98	231.98

CCHV= .500 CEHV= 1.000

2800 NAT Q1= 368.31 WSEL= 656.90 ENC Q1= 377.89 WSEL= 657.00 RATIO= -.0260
NAT Q1= 378. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 657.00

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX EIIC= 657.70

3470 ENCROACHMENT STATIONS= 189.0 232.0 TYPE= 4 TARGET= 0.000

4.99	7.31	656.91	0.00	656.90	657.63	.72	.00	.00	657.70
1780.	0.	1780.	0.	0.	262.	0.	41.	9.	657.70
.28	0.00	6.80	0.00	.065	.030	.065	.054	649.60	189.00
.002312	1.	1.	1.	2	0	1	0.00	42.98	231.98

2800 NAT Q1= 374.10 WSEL= 656.95 ENC Q1= 383.36 WSEL= 657.05 RATIO= -.0248
NAT Q1= 383. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 657.05

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX EIIC= 657.70

3470 ENCROACHMENT STATIONS= 189.0 232.0 TYPE= 4 TARGET= 0.000

5.01	7.37	656.97	0.00	656.95	657.67	.71	.04	.01	657.70
1780.	0.	1780.	0.	0.	264.	0.	41.	9.	657.70
.28	0.00	6.74	0.00	.065	.030	.065	.054	649.60	189.00
.002248	16.	16.	16.	2	0	1	0.00	42.98	231.98

2800 NAT Q1= 224.45 WSEL= 656.96 ENC Q1= 230.22 WSEL= 657.06 RATIO= -.0257
NAT Q1= 230. RATIOS LOB,CH,ROB= 0.0000 1.0000 0.0000 WSEL= 657.06

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AICE	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 189.0 232.0 TYPE= 4 TARGET= 0.000

5.02	7.37	656.97	0.00	656.96	657.68	.70	.00	.00	657.70
1780.	0.	1780.	0.	0.	264.	0.	41.	9.	657.70
.28	0.00	6.73	0.00	.065	.050	.065	.054	649.60	189.00
.006229	1.	1.	1.	2	0	1	0.00	42.98	231.98

CCHV= .300 CEHV= .500

2800 NAT Q1= 426.76 WSEL= 657.81 ENC Q1= 439.38 WSEL= 657.91 RATIO= -.0296
NAT Q1= 440. RATIOS LOB,CH,ROB= .0004 .9996 0.0000 WSEL= 657.91

3470 ENCROACHMENT STATIONS= 252.0 356.0 TYPE= 4 TARGET= .000

5.50	7.42	657.82	0.00	657.81	658.03	.21	.20	.15	657.00
1780.	0.	1780.	0.	0.	489.	0.	42.	9.	660.00
.29	.01	3.64	0.00	.065	.050	.065	.054	650.40	252.00

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   .001733      67.      67.      67.       2        0        1     0.00    95.55   347.55

  2800 NAT Q1=     138.08  WSEL=    657.83  ENC Q1=     141.00  WSEL=    657.93  RATIO=  -.0211
   NAT Q1=     141.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    657.93

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=     311.0     336.0  TYPE=     4  TARGET=       0.000
        ** D/S FACE DRIVEWAY BRIDGE

      5.58     7.29   657.69     0.00   657.83   659.50     1.81      .67      .80   658.20
      1780.       0.     1780.       0.       0.      165.       0.      43.       9.   658.20
       .29     0.00    10.79     0.00     .065     .050     .065     .054   650.40   311.01
   .017614      167.      167.      167.       3        0        1     0.00    24.98   335.99

 CCHV=     .500 CEHV=    1.000
  2800 NAT Q1=     230.13  WSEL=    657.84  ENC Q1=     235.45  WSEL=    657.94  RATIO=  -.0231
   NAT Q1=     235.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    657.94

 NORMAL BRIDGE,NRD= 0 MIN ELTRD=  659.50 MAX ELIC=  658.20

 3470 ENCROACHMENT STATIONS=     311.0     336.0  TYPE=     4  TARGET=       0.000
      5.59     7.35   657.75     0.00   657.84   659.53     1.77      .01      .02   658.20
      1780.       0.     1780.       0.       0.      167.       0.      43.       9.   658.20
       .29     0.00    10.69     0.00     .065     .030     .065     .054   650.40   311.01
   .006174         1.       1.       1.       2        0        1     0.00    24.99   335.99

 NORMAL BRIDGE,NRD= 0 MIN ELTRD=  659.50 MAX ELIC=  658.20

      6.01     7.69   658.09     0.00   658.23   659.70     1.61      .09      .08   658.20
      1780.       0.     1780.       0.       0.      175.       0.      43.       9.   658.20
       .29     0.00    10.19     0.00     .065     .030     .065     .053   650.40   311.00
   .005389        16.      16.      16.       3        0        1     0.00    25.00   336.00

  2800 NAT Q1=     152.72  WSEL=    658.31  ENC Q1=     156.24  WSEL=    658.41  RATIO=  -.0230
   NAT Q1=     156.  RATIOS LOB,CH,ROB=  .0001  .9999  .0000  WSEL=    658.41
     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      XNI        XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR     TOPWID    ENDST

 3470 ENCROACHMENT STATIONS=     311.0     336.0  TYPE=     4  TARGET=       .000
      6.40     7.74   658.14     0.00   658.31   659.72     1.58      .01      .01   658.20
      1780.       0.     1780.       0.       0.      176.       0.      43.       9.   658.20
       .29     0.00    10.10     0.00     .065     .050     .065     .053   650.40   311.00
   .014609         1.       1.       1.       2        0        1     0.00    25.00   336.00

 CCHV=     .300 CEHV=     .500
  2800 NAT Q1=     568.75  WSEL=    660.24  ENC Q1=     568.75  WSEL=    660.34  RATIO=  .0000
   NAT Q1=     583.  RATIOS LOB,CH,ROB=  .1190  .7620  .1190  WSEL=    660.34
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 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=      39.9      162.1  TYPE=     4  TARGET=        .025
      6.50      9.09    660.19      0.00    660.24    660.37       .17       .22       .42    654.10
      1780.      214.     1351.      215.      136.      361.      131.       44.       9.    653.70
        .30      1.58      3.74      1.64      .065      .050      .065      .053    651.10     39.88
    .000979       91.       91.       91.         2         0         1      0.00    122.26    162.14

 CCHV=     .100 CEHV=     .300
  2800 NAT Q1=     445.16  WSEL=     660.51  ENC Q1=     445.16  WSEL=     660.61  RATIO=   0.0000
  NAT Q1=     457.  RATIOS LOB,CH,ROB=    .0990    .7993    .1017  WSEL=     660.61

 3470 ENCROACHMENT STATIONS=      47.2      156.0  TYPE=     4  TARGET=        .027
      6.52      8.17    660.47      0.00    660.51    660.72       .25       .33       .02    655.30
      1780.      179.     1417.      184.       97.      320.       96.       47.       10.    654.90
        .32      1.84      4.42      1.92      .065      .050      .065      .053    652.30     47.15
    .001601       269.      269.      269.         2         0         1      0.00    108.87    156.02

 CCHV=     .300 CEHV=     .500
  2800 NAT Q1=     383.86  WSEL=     660.75  ENC Q1=     391.78  WSEL=     660.85  RATIO=   -.0206
  NAT Q1=     392.  RATIOS LOB,CH,ROB=  0.0000    .9994    .0006  WSEL=     660.85

       ** D/S FACE US 23 BRIDGE

      6.55      8.10    660.70      0.00    660.75    661.08       .38       .30       .06    665.00
      1780.        0.     1780.        0.        0.      360.        0.       49.       10.    653.90
        .33      0.00      4.95       .01      .065      .050      .065      .053    652.60      2.15
    .002192       160.      160.      160.         2         0         1      0.00     48.85     51.00

 CCHV=     .500 CEHV=    1.000
  2800 NAT Q1=     639.62  WSEL=     660.75  ENC Q1=     653.12  WSEL=     660.85  RATIO=   -.0211
  NAT Q1=     653.  RATIOS LOB,CH,ROB=  0.0000  1.0000    .0000  WSEL=     660.85
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNI       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICCNT     CORAR     TOPWID    ENDST

      6.58      8.11    660.71      0.00    660.75    661.09       .38       .00       .00    665.00
      1780.        0.     1780.        0.        0.      360.        0.       49.       10.    653.90
        .33      0.00      4.95       .01      .065      .030      .065      .053    652.60      2.15
    .000788         1.        1.        1.         2         0         1      0.00     48.85     51.00

  2800 NAT Q1=     654.33  WSEL=     660.86  ENC Q1=     667.75  WSEL=     660.96  RATIO=   -.0205
  NAT Q1=     658.  RATIOS LOB,CH,ROB=  0.0000  1.0000    .0000  WSEL=     660.96
      6.59      8.22    660.82      0.00    660.86    661.18       .37       .09       .01    665.00
      1780.        0.     1780.        0.        0.      365.        0.       50.       10.    653.90
        .34      0.00      4.87       .01      .065      .030      .065      .052    652.60      2.09
    .000753       120.      120.      120.         2         0         1      0.00     48.91     51.00

  2800 NAT Q1=     392.67  WSEL=     660.86  ENC Q1=     400.78  WSEL=     660.96  RATIO=   -.0206
  NAT Q1=     401.  RATIOS LOB,CH,ROB=  0.0000  1.0000    .0000  WSEL=     660.96
      7.01      8.22    660.82      0.00    660.86    661.19       .37       .00       .00    665.00
      1780.        0.     1780.        0.        0.      365.        0.       50.       10.    653.90
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      .34      0.00      4.87       .01      .065      .050      .065      .052    652.60      2.09
  .002091       1.        1.        1.         2         0         1      0.00    48.91     51.00

 CCHV=    .300 CEHV=    .500
  2800 NAT Q1=     384.10  WSEL=     661.00  ENC Q1=     392.80  WSEL=     661.10  RATIO=  -.0226
  NAT Q1=     393.  RATIOS LOB,CH,ROB=  0.0000    .9991    .0009  WSEL=     661.10

 3470 ENCROACHMENT STATIONS=      237.0     295.0  TYPE=      4  TARGET=        .001
      7.80      8.66    660.96      0.00    661.00    661.30       .34       .10       .01    661.20
     1780.        0.     1780.        0.        0.      382.         0.       51.       10.    660.00
       .34      0.00      4.66       .01      .065      .050      .065      .052    652.30    237.31
  .002189       49.       49.       49.         2         0         1      0.00    57.69    295.00
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1) COUNTY: Monroe

2) STUDY NAME: Whiteford Twp

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: 100yr Flow



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1     JOB HUD-FIA H-4705 T06
T2     WHITEFORD  TOWNSHIP  FIS
T3     TEN MILE CREEK   100-YR FLOW

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       -1.       4.        0.        0.  0.000000      0.00       .5        0.   647.600     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     1.000    34.000     3.000     4.000    27.000    28.000     9.000     0.000     0.000     0.000
NC      .065      .065      .052      .100      .300     0.000     0.000     0.000     0.000     0.000
QT     5.000  1050.000  1530.000  1780.000  2380.000  1780.000     0.000     0.000     0.000     0.000
ET     0.000     0.000     0.000     0.000     0.000     1.400     0.000     0.000     0.000     0.000

X1     1.000     9.000   200.000   300.000     0.000     0.000     0.000     0.000     0.000     0.000
X3    10.000     0.000     0.000     0.000     0.000     0.000     0.000   650.000   650.000     0.000
GR   654.000     0.000   649.800   200.000   641.600   215.000   640.700   230.000   644.900   300.000
GR   647.000   400.000   647.100   500.000   650.000   515.000   660.000   520.000     0.000     0.000
NC      .065      .065      .055     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     2.000     8.000   200.000   356.000  1150.000  1150.000  1150.000     0.000     0.000     0.000
GR   660.200     0.000   652.400   100.000   648.100   200.000   643.200   236.000   642.500   243.000
GR   643.300   275.000   648.800   316.000   657.800   356.000     0.000     0.000     0.000     0.000

X1     2.100     0.000     0.000     0.000   350.000   350.000   350.000     0.000      .900     0.000

X1     2.500     0.000     0.000     0.000   500.000   500.000   500.000     0.000    1.300     0.000

X1     3.000    12.000   226.000   322.000   550.000   550.000   550.000      .960     0.000     0.000
GR   658.000     0.000   657.000   100.000   655.000   200.000   652.300   226.000   648.300   244.000
GR   646.700   247.000   646.400   256.000   647.200   268.000   648.300   270.000   649.500   296.000
GR   659.700   322.000   661.300   500.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     3.100     9.000    95.000   193.000   500.000   500.000   500.000     0.000    -1.500     0.000
GR   662.300     0.000   658.600    95.000   653.100   116.000   649.300   153.000   650.000   166.000
GR   650.800   183.000   653.800   185.000   654.900   193.000   660.000   215.000     0.000     0.000
NC      .065      .065      .050     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     3.500     9.000    95.000   193.000   500.000   500.000   500.000     0.000     -.200     0.000
GR   662.300     0.000   658.600    95.000   653.100   116.000   649.300   153.000   650.000   166.000
GR   650.800   183.000   653.800   185.000   654.900   193.000   660.000   215.000     0.000     0.000
NC     0.000     0.000     0.000      .300      .500     0.000     0.000     0.000     0.000     0.000

X1     4.000     9.000    95.000   193.000    50.000    50.000    50.000     0.000     0.000     0.000
GR   662.300     0.000   658.600    95.000   653.100   116.000   652.300   150.000   650.500   151.000
GR   650.800   183.000   653.800   185.000   654.900   193.000   660.000   265.000     0.000     0.000

X1     4.010     9.000    95.000   193.000    10.000    10.000    10.000     0.000     0.000     0.000
GR   662.300     0.000   658.600    95.000   653.100   116.000   649.800   153.000   650.000   166.000
GR   650.800   183.000   653.800   185.000   654.900   193.000   660.000   215.000     0.000     0.000

X1     4.980     8.000   189.000   232.000   131.000   131.000   131.000     0.000     0.000     0.000
GR   658.500   185.000   657.700   189.000   649.600   189.000   650.500   209.000   651.800   226.000
GR   653.100   231.900   657.700   232.000   658.500   233.000     0.000     0.000     0.000     0.000
NC     0.000     0.000      .030      .500     1.000     0.000     0.000     0.000     0.000     0.000

X1     4.990     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
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RJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	652.300	264.000	653.200	285.000	660.000	295.000	315.000	0.000	0.000	0.000
GR	663.200	0.000	663.600	100.000	663.000	200.000	237.000	654.400	246.000	
X1	7.800	9.000	237.000	295.000	49.000	49.000	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	7.010	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6.590	0.000	0.000	0.000	120.000	120.000	120.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6.580	0.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000	0.000
GR	665.000	0.000	653.000	6.000	652.600	27.000	653.900	51.000	665.000	52.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
X1	6.550	5.000	0.000	51.000	160.000	160.000	160.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	6.520	0.000	0.000	0.000	269.000	269.000	0.000	0.000	1.200	0.000
NC	0.000	0.000	0.000	.100	.300	0.000	0.000	0.000	0.000	0.000
3R	652.000	120.000	653.700	125.000	662.500	180.000	0.000	0.000	0.000	0.000
GR	665.100	0.000	654.100	81.000	652.200	86.000	651.100	100.000	651.800	108.000
X1	6.500	8.000	81.000	125.000	91.000	91.000	91.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	6.400	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	656.200	659.500	0.000	0.000	0.000	0.000	0.000
X1	6.010	0.000	0.000	0.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	656.200	659.500	0.000	0.000	0.000	0.000	0.000
X1	5.590	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.030	.500	1.000	0.000	0.000	0.000	0.000	0.000
GR	651.000	335.900	658.200	336.000	659.500	341.000	0.000	0.000	0.000	0.000
GR	659.500	300.000	658.200	311.000	653.100	311.100	651.300	316.000	650.400	327.000
X1	5.580	8.000	311.000	336.000	167.000	167.000	167.000	0.000	0.000	0.000
GR	650.400	307.000	651.800	325.000	653.300	330.000	660.000	356.000	0.000	0.000
GR	660.500	240.000	657.000	252.000	654.400	260.000	652.500	272.000	650.800	291.000
X1	5.500	9.000	252.000	356.000	67.000	67.000	67.000	0.000	0.000	0.000
NC	0.000	0.000	0.000	.300	.500	0.000	0.000	0.000	0.000	0.000
X1	5.020	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000
X1	5.010	0.000	0.000	0.000	16.000	16.000	15.000	0.000	0.000	0.000
X2	0.300	0.000	0.000	657.700	658.500	0.000	0.000	0.000	0.000	0.000

CCHV= .100 CEHV= .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	XNI	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=		650.00	ELREA=	650.00					
1.00	6.90	647.60	0.00	647.60	647.83	.23	0.00	0.00	649.80
1780.	0.	1780.	0.	0.	466.	0.	0.	0.	644.90
0.00	0.00	3.82	0.00	.065	.052	.065	0.000	640.70	204.02
.002229	0.	0.	0.	0	0	1	0.00	95.98	300.00
2.00	7.33	649.83	0.00	0.00	649.97	.14	2.13	.01	648.10
1780.	28.	1752.	0.	35.	578.	0.	14.	3.	657.80
.11	.82	3.03	0.00	.065	.055	.065	.055	642.50	159.83
.001570	1150.	1150.	1150.	2	0	1	0.00	160.74	320.57
2.10	7.02	650.42	0.00	0.00	650.59	.16	.61	.01	649.00
1780.	19.	1761.	0.	24.	542.	0.	19.	5.	658.70
.14	.80	3.25	0.00	.065	.055	.065	.055	643.40	166.91
.001942	350.	350.	350.	2	0	1	0.00	152.31	319.21
2.50	6.77	651.47	0.00	0.00	651.66	.18	1.06	.01	650.30
1780.	12.	1768.	0.	16.	512.	0.	25.	6.	660.00
.18	.77	3.45	0.00	.065	.055	.065	.055	644.70	172.78
.002336	500.	500.	500.	2	0	1	0.00	145.31	318.09
3.00	6.80	653.20	0.00	0.00	653.64	.44	1.91	.08	652.30
1780.	4.	1776.	0.	4.	332.	0.	31.	8.	659.70
.21	1.01	5.35	0.00	.065	.055	.065	.055	646.40	208.65
.005693	550.	550.	550.	2	0	1	0.00	84.57	293.21
3.10	7.43	655.23	0.00	0.00	655.46	.23	1.80	.02	657.10
1780.	0.	1772.	8.	0.	457.	7.	35.	9.	653.40
.24	0.00	3.88	1.05	.065	.055	.065	.055	647.80	102.17
.002481	500.	500.	500.	2	0	1	0.00	98.69	200.86

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNI	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
** D/S PACE ROCK DAM									
3.50	7.29	656.39	0.00	0.00	656.64	.25	1.17	.00	658.40
1780.	0.	1774.	6.	0.	445.	6.	41.	10.	654.70
.28	0.00	3.99	.95	.065	.050	.065	.054	649.10	102.66

.002222	500.	500.	500.	2	0	1	0.00	97.65	200.31

CCHV= .300 CEHV= .500

4.00	5.99	656.49	0.00	0.00	656.84	.35	.15	.05	658.60
1780.	0.	1758.	22.	0.	368.	18.	41.	10.	654.90
.28	0.00	4.77	1.26	.065	.050	.065	.054	650.50	103.06
.004124	50.	50.	50.	3	0	1	0.00	112.39	215.44

4.01	6.84	656.64	0.00	0.00	656.90	.26	.03	.03	658.60
1780.	0.	1774.	6.	0.	436.	7.	41.	10.	654.90
.28	0.00	4.06	1.00	.065	.050	.065	.054	649.80	102.49
.002373	10.	10.	10.	2	0	1	0.00	98.00	200.49

** D/S FACE DRIVEWAY BRIDGE

4.98	7.29	656.89	0.00	0.00	657.61	.72	.48	.23	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.050	.065	.054	649.60	189.00
.006480	131.	131.	131.	2	0	1	0.00	42.98	231.98

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX ELIC= 657.70

4.99	7.30	656.90	0.00	0.00	657.62	.72	.00	.00	657.70
1780.	0.	1780.	0.	0.	261.	0.	42.	10.	657.70
.29	0.00	6.82	0.00	.065	.030	.065	.054	649.60	189.00
.002336	1.	1.	1.	0	0	1	0.00	42.98	231.98

NORMAL BRIDGE,NRD= 0 MIN ELTRD= 658.50 MAX ELIC= 657.70

5.01	7.35	656.95	0.00	0.00	657.66	.71	.04	.01	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.030	.065	.054	649.60	189.00
.002264	16.	16.	16.	2	0	1	0.00	42.98	231.98

5.02	7.36	656.96	0.00	0.00	657.67	.71	.00	.00	657.70
1780.	0.	1780.	0.	0.	264.	0.	42.	10.	657.70
.29	0.00	6.75	0.00	.065	.050	.065	.054	649.60	189.00
.006289	1.	1.	1.	0	0	1	0.00	42.98	231.98

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 5.50, -.400FT AND MULTIPLYING BY .773

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	ARCB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XBL	XNCH	XNE	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.01	7.59	657.59	0.00	0.00	657.91	.32	.13	.12	656.60

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1780.	1.	1779.	0.	1.	391.	0.	43.	10.	659.60
.29	.71	4.55	0.00	.065	.050	.065	.054	650.00	246.64
.002658	34.	34.	34.	2	0	1	0.00	76.97	323.61

1645 INT SEC ADDED BY RAISING SEC 1.01, .400FT AND MULTIPLYING BY 1.294

5.50	7.41	657.81	0.00	0.00	658.02	.21	.07	.03	657.00
1780.	1.	1779.	0.	1.	489.	0.	43.	10.	660.00
.29	.51	3.64	0.00	.065	.050	.065	.054	650.40	249.21
.001740	34.	34.	34.	2	0	1	0.00	98.31	347.52

1645 INT SEC ADDED BY RAISING SEC 5.58, 0.000FT AND MULTIPLYING BY 2.431

1.01	7.45	657.85	0.00	0.00	658.14	.29	.08	.04	658.20
1780.	0.	1780.	0.	0.	411.	0.	43.	11.	658.20
.29	0.00	4.33	0.00	.065	.050	.065	.054	650.40	326.76
.002090	42.	42.	42.	2	0	1	0.00	60.76	387.52

1645 INT SEC ADDED BY RAISING SEC 1.01, 0.000FT AND MULTIPLYING BY .804

1.02	7.48	657.88	0.00	0.00	658.33	.45	.11	.08	658.20
1780.	0.	1780.	0.	0.	332.	0.	44.	11.	658.20
.30	0.00	5.37	0.00	.065	.050	.065	.054	650.40	321.51
.003364	42.	42.	42.	2	0	1	0.00	48.84	370.35

1645 INT SEC ADDED BY RAISING SEC 1.02, C.000FT AND MULTIPLYING BY .756

1.03	7.50	657.90	0.00	0.00	658.68	.78	.19	.17	658.20
1780.	0.	1780.	0.	0.	251.	0.	44.	11.	658.20
.30	0.00	7.08	0.00	.065	.050	.065	.054	650.40	316.26
.006340	42.	42.	42.	2	0	1	0.00	36.91	353.17

1645 INT SEC ADDED BY RAISING SEC 1.03, 0.000FT AND MULTIPLYING BY .677

3301 HV CHANGED MORE THAN HVINS

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

** D/S FACE DRIVEWAY BRIDGE

5.58	7.43	657.83	0.00	0.00	659.57	1.74	.40	.48	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.050	.065	.053	650.40	311.01
.016618	42.	42.	42.	2	0	1	0.00	24.99	1335.99

CCHV= .500 CEHV= 1.000

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 659.50 MAX ELIC= 658.20

5.59	7.44	657.84	0.00	0.00	659.58	1.74	.01	.00	658.20
1780.	0.	1780.	0.	0.	168.	0.	44.	11.	658.20
.30	0.00	10.57	0.00	.065	.030	.065	.053	650.40	311.01
.005983	1.	1.	1.	0	0	1	0.00	24.99	335.99

NORMAL BRIDGE, NRD= 0 MIN ELTRD= 659.50 MAX ELIC= 658.20

6.01	7.83	658.23	0.00	0.00	659.79	1.56	.12	.09	658.20
1780.	0.	1780.	0.	0.	178.	0.	44.	11.	658.20
.30	0.00	10.02	0.00	.065	.030	.065	.053	650.40	310.78
.010142	16.	16.	16.	4	0	1	-.65	25.32	336.10

6.40	7.91	658.31	0.00	0.00	659.82	1.51	.01	.02	658.20
1780.	0.	1780.	0.	0.	180.	0.	44.	11.	658.20
.30	.03	9.87	.03	.065	.050	.065	.053	650.40	310.09
.013584	1.	1.	1.	2	0	1	0.00	26.33	336.41

CCHV= .300 CEHV= .500

1645 INT SEC ADDED BY RAISING SEC 6.50, -.467FT AND MULTIPLYING BY .723

3301 HV CHANGED MORE THAN HVINS

1.01	9.35	659.98	0.00	0.00	660.29	.31	.11	.36	653.63
1780.	217.	1348.	216.	107.	269.	103.	44.	11.	653.23
.30	2.02	5.01	2.10	.065	.050	.065	.053	650.63	24.75
.001715	30.	30.	30.	3	0	1	0.00	96.04	120.80

1645 INT SEC ADDED BY RAISING SEC 1.01, .233FT AND MULTIPLYING BY 1.192

SECNO	DEPTH	CWSEL	CRIWS	WSEIK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AICE	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNF	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.02	9.27	660.14	0.00	0.00	660.36	.23	.04	.03	653.87
1780.	213.	1354.	213.	125.	318.	120.	45.	11.	653.47
.30	1.71	4.26	1.78	.065	.050	.065	.053	650.87	29.99
.001241	30.	30.	30.	2	0	1	0.00	113.59	143.58

1645 INT SEC ADDED BY RAISING SEC 1.02, .233FT AND MULTIPLYING BY 1.161

6.50	9.14	660.24	0.00	0.00	660.41	.18	.03	.01	654.10
1780.	208.	1363.	209.	139.	363.	133.	45.	11.	653.70
.31	1.50	3.76	1.56	.065	.050	.065	.053	651.10	135.82
.000979	30.	30.	30.	2	0	1	0.00	130.03	165.85

CCHV= .100 CEHV= .300

6.52	8.21	660.51	0.00	0.00	660.77	.25	.33	.02	655.30
1780.	172.	1430.	178.	100.	322.	99.	49.	12.	654.90
.33	1.72	4.44	1.80	.065	.050	.065	.053	652.30	42.60
.001599	269.	269.	269.	2	0	1	0.00	117.49	160.09

CCHV= .300 CEHV= .500

** D/S FACE US 23 BRIDGE

6.55	8.15	660.75	0.00	0.00	661.12	.38	.30	.06	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.48	.065	.050	.065	.053	652.60	2.13
.002150	160.	160.	160.	2	0	1	0.00	49.49	51.62

CCHV= .500 CEHV= 1.000

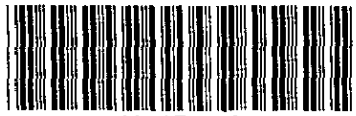
6.58	8.15	660.75	0.00	0.00	661.12	.38	.00	.00	665.00
1780.	0.	1779.	1.	0.	362.	2.	50.	12.	653.90
.33	0.00	4.92	.29	.065	.030	.065	.053	652.60	2.13
.000774	1.	1.	1.	0	0	1	0.00	49.49	51.62

6.59	8.26	660.86	0.00	0.00	661.22	.36	.09	.01	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.29	.065	.030	.065	.052	652.60	2.07
.000740	120.	120.	120.	2	0	1	0.00	49.55	51.63

7.01	8.26	660.86	0.00	0.00	661.22	.36	.00	.00	665.00
1780.	0.	1779.	1.	0.	367.	2.	51.	12.	653.90
.34	0.00	4.85	.48	.065	.050	.065	.052	652.60	2.07
.002055	1.	1.	1.	0	0	1	0.00	49.55	51.63

CCHV= .300 CEHV= .500

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	AICB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
7.80	8.70	661.00	0.00	0.00	661.33	.33	.10	.01	661.20
1780.	0.	1779.	1.	0.	384.	2.	52.	12.	660.00
.34	0.00	4.63	.65	.065	.050	.065	.052	652.30	237.26
.002148	49.	49.	49.	3	0	1	0.00	61.74	299.00

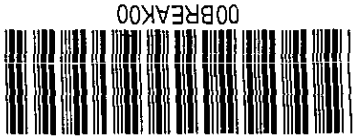


1) COUNTY: Monroe

2) STUDY NAME: White Ford Twp.

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: 100 yr Summary



SUMMARY PRINTOUT FOR MULTIPLE PROFILES

FLOODWAY DETERMINATION

SECTION SECTION	DISCHARGE DISCHARGE	CWSEL CWSEL	CWSEL	TO	EG	TOPWID	STENCL	STENCR	WSELK	# D	# D	WSELK
1.000	1780.00	647.60	647.60	377.02	647.83	95.98	0.00	0.00	647.60	-I	-I	647.60
1.000	1780.00	647.60	647.60	377.02	647.83	95.98	200.00	300.00	647.60	0.00	0.00	647.60
2.000	1780.00	649.83	649.83	449.26	649.97	160.74	0.00	0.00	0.00	647.60	647.60	0.00
2.000	1780.00	649.84	649.84	445.35	649.99	120.67	200.00	356.00	649.83	647.60	647.60	649.83
2.100	1780.00	650.42	650.42	403.91	650.59	152.31	0.00	0.00	0.00	0.00	0.00	0.00
2.100	1780.00	650.45	650.45	402.86	650.61	119.32	200.00	356.00	650.42	649.83	649.83	650.42
2.500	1780.00	651.47	651.47	368.31	651.66	145.31	0.00	0.00	0.00	0.00	0.00	0.00
2.500	1780.00	651.50	651.50	369.22	651.68	118.21	200.00	356.00	651.47	650.42	650.42	651.47
3.000	1780.00	653.20	653.20	235.92	653.64	84.57	0.00	0.00	0.00	0.00	0.00	0.00
3.000	1780.00	653.21	653.21	236.78	653.66	76.29	216.96	309.12	653.20	651.47	651.47	653.20
3.100	1780.00	655.23	655.23	357.39	655.46	98.69	0.00	0.00	0.00	0.00	0.00	0.00
3.100	1780.00	655.24	655.24	357.84	655.47	90.90	95.00	193.00	655.23	653.20	653.20	655.23
3.500	1780.00	656.39	656.39	377.59	656.64	97.65	0.00	0.00	0.00	0.00	0.00	0.00
3.500	1780.00	656.40	656.40	377.08	656.65	90.37	95.00	193.00	656.39	655.23	655.23	656.39
4.000	1780.00	656.49	656.49	277.17	656.84	112.39	0.00	0.00	0.00	0.00	0.00	0.00
4.000	1780.00	656.49	656.49	273.64	656.85	89.95	95.00	193.00	656.49	656.39	656.39	656.49
4.010	1780.00	656.64	656.64	365.40	656.90	98.00	0.00	0.00	0.00	0.00	0.00	0.00
4.010	1780.00	656.66	656.66	366.83	656.92	90.60	95.00	193.00	656.64	656.49	656.49	656.64
4.980	1780.00	656.89	656.89	221.13	657.61	42.98	0.00	0.00	0.00	0.00	0.00	0.00
4.980	1780.00	656.91	656.91	222.04	657.63	42.98	189.00	232.00	656.89	656.64	656.64	656.89
4.990	1780.00	656.90	656.90	368.31	657.62	42.98	0.00	0.00	0.00	0.00	0.00	0.00
4.990	1780.00	656.91	656.91	370.20	657.63	42.98	189.00	232.00	656.90	656.89	656.89	656.90
5.010	1780.00	656.95	656.95	374.10	657.66	42.98	0.00	0.00	0.00	0.00	0.00	0.00
5.010	1780.00	656.97	656.97	375.43	657.67	42.98	189.00	232.00	656.95	656.90	656.90	656.95
5.020	1780.00	656.96	656.96	224.45	657.67	42.98	0.00	0.00	0.00	0.00	0.00	0.00
5.020	1780.00	656.97	656.97	225.53	657.68	42.98	189.00	232.00	656.96	656.95	656.95	656.96
5.500	1780.00	657.81	657.81	426.76	658.02	98.31	0.00	0.00	0.00	0.00	0.00	0.00
5.500	1780.00	657.82	657.82	427.56	658.03	95.55	252.00	356.00	657.81	656.96	656.96	657.81
5.580	1780.00	657.83	657.83	138.08	659.57	24.99	0.00	0.00	0.00	0.00	0.00	0.00
5.580	1780.00	657.69	657.69	134.12	659.50	24.98	311.00	336.00	657.83	657.81	657.81	657.83
5.590	1780.00	657.84	657.84	230.13	659.58	24.99	0.00	0.00	0.00	0.00	0.00	0.00
5.590	1780.00	657.75	657.75	226.54	659.53	24.99	311.00	336.00	657.84	657.83	657.83	657.84
6.010	1780.00	658.23	658.23	176.75	659.79	25.32	0.00	0.00	0.00	0.00	0.00	0.00
6.010	1780.00	658.09	658.09	242.48	659.70	25.00	0.00	0.00	658.23	657.84	657.84	658.23

THE UNIVERSITY OF MICHIGAN

6.400	1780.00	658.31	658.31	152.72	659.82	26.33	0.00	0.00	0.00	0.00	0.00	0.00
6.400	1780.00	658.14	658.14	147.27	659.72	25.00	311.00	336.00	658.31	658.23	658.23	658.31

THE UNIVERSITY OF MICHIGAN LIBRARY

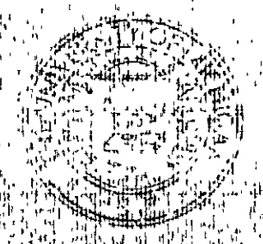
SECTION SECTION	DISCHARGE DISCHARGE	CWSEL CWSEL	CWSEL	TQ	EG	TOPWID	STENCL	STENCR	WSELK	#	D	#	D	WSELK
6.500	1780.00	660.24	660.24	568.75	660.41	130.03	0.00	0.00	0.00		0.00		0.00	0.00
6.500	1780.00	660.19	660.19	566.58	660.37	122.26	39.88	152.14	660.24		658.31		658.31	660.24
6.520	1780.00	660.51	660.51	445.16	660.77	117.49	0.00	0.00	0.00		0.00		0.00	0.00
6.520	1780.00	660.47	660.47	444.83	660.72	108.87	47.15	156.02	660.51		660.24		660.24	660.51
6.550	1780.00	660.75	660.75	383.86	661.12	49.49	0.00	0.00	0.00		0.00		0.00	0.00
6.550	1780.00	660.70	660.70	380.22	661.08	48.85	0.00	51.00	660.75		660.51		660.51	660.75
6.580	1780.00	660.75	660.75	639.62	661.12	49.49	0.00	0.00	0.00		0.00		0.00	0.00
6.580	1780.00	660.71	660.71	633.90	661.09	48.85	0.00	51.00	660.75		660.75		660.75	660.75
6.590	1780.00	660.86	660.86	654.33	661.22	49.55	0.00	0.00	0.00		0.00		0.00	0.00
6.590	1780.00	660.82	660.82	648.69	661.18	48.91	0.00	51.00	660.86		660.75		660.75	660.86
7.010	1780.00	660.86	660.86	392.67	661.22	49.55	0.00	0.00	0.00		0.00		0.00	0.00
7.010	1780.00	660.82	660.82	389.29	661.19	48.91	0.00	51.00	660.86		660.86		660.86	660.86
7.800	1780.00	661.00	661.00	384.10	661.33	61.74	0.00	0.00	0.00		0.00		0.00	0.00
7.800	1780.00	660.96	660.96	380.41	661.30	57.69	237.00	295.00	661.00		660.86		660.86	661.00

SECTION NUMBER	DISCHARGE CFS	CWSEL	CWSEL DIFF EACH Q	CWSEL DIFF EACH SECTION	CWSEL-WSELK	TOPWID	T.W. DIFF	LENGTH
1.000	1780.000	647.600	0.000	0.000	0.000	95.976	0.000	0.000
1.000	1780.000	647.600	0.000	0.000	0.000	95.976	0.000	0.000
2.000	1780.000	649.830	0.000	2.230	0.000	160.736	0.000	1150.000
2.000	1780.000	649.844	.014	2.244	.014	120.668	40.068	1150.000
2.100	1780.000	650.424	0.000	.594	0.000	152.308	0.000	350.000
2.100	1780.000	650.447	.023	.602	.023	119.319	32.989	350.000
2.500	1780.000	651.471	0.000	1.048	0.000	145.307	0.000	500.000
2.500	1780.000	651.496	.025	1.049	.025	118.207	27.100	500.000
3.000	1780.000	653.199	0.000	1.728	0.000	84.565	0.000	550.000
3.000	1780.000	653.214	.015	1.718	.015	76.291	8.274	550.000
3.100	1780.000	655.230	0.000	2.031	0.000	98.693	0.000	500.000
3.100	1780.000	655.236	.005	2.021	.005	90.901	7.791	500.000
3.500	1780.000	656.394	0.000	1.164	0.000	97.647	0.000	500.000
3.500	1780.000	656.399	.005	1.164	.005	90.366	7.282	500.000
4.000	1780.000	656.490	0.000	.096	0.000	112.386	0.000	50.000
4.000	1780.000	656.492	.001	.092	.001	89.953	22.433	50.000
4.010	1780.000	656.643	0.000	.153	0.000	98.001	0.000	10.000
4.010	1780.000	656.661	.018	.169	.018	90.599	7.403	10.000
4.980	1780.000	656.892	0.000	.249	0.000	42.982	0.000	131.000
4.980	1780.000	656.908	.016	.247	.016	42.983	-.000	131.000
4.990	1780.000	656.896	0.000	.004	0.000	42.982	0.000	1.000
4.990	1780.000	656.913	.017	.004	.017	42.983	-.000	1.000
5.010	1780.000	656.955	0.000	.059	0.000	42.984	0.000	16.000

5.010	1780.000	656.969	.014	.056	.014	42.984	-.000	16.000
5.020	1780.000	656.958	0.000	.004	0.000	42.984	0.000	1.000
5.020	1780.000	656.974	.015	.005	.015	42.984	-.000	1.000
5.500	1780.000	657.814	0.000	.855	0.000	98.309	0.000	33.500
5.500	1780.000	657.821	.007	.847	.007	95.546	2.762	33.500
5.580	1780.000	657.830	0.000	.017	0.000	24.988	0.000	41.750
5.580	1780.000	657.691	-.140	-.130	-.140	24.983	.005	41.750
5.590	1780.000	657.840	0.000	.009	0.000	24.988	0.000	1.000
5.590	1780.000	657.751	-.089	.060	-.089	24.985	.002	1.000
6.010	1780.000	658.226	0.000	.386	0.000	25.319	0.000	16.000
6.010	1780.000	658.086	-.140	.335	-.140	24.996	.323	16.000
6.400	1780.000	658.307	0.000	.081	0.000	26.326	0.000	1.000
6.400	1780.000	658.136	-.171	.050	-.171	24.998	1.328	1.000
6.500	1780.000	660.236	0.000	1.929	0.000	130.030	0.000	30.333
6.500	1780.000	660.193	-.042	2.058	-.042	122.262	7.767	30.333
6.520	1780.000	660.512	0.000	.277	0.000	117.495	0.000	269.000
6.520	1780.000	660.470	-.042	.277	-.042	108.865	8.630	269.000
6.550	1780.000	660.747	0.000	.235	0.000	49.490	0.000	160.000
6.550	1780.000	660.705	-.043	.234	-.043	48.853	.637	160.000
6.580	1780.000	660.748	0.000	.001	0.000	49.490	0.000	1.000
6.580	1780.000	660.706	-.042	.001	-.042	48.854	.636	1.000
6.590	1780.000	660.855	0.000	.107	0.000	49.554	0.000	120.000
6.590	1780.000	660.815	-.040	.109	-.040	48.909	.645	120.000
7.010	1780.000	660.857	0.000	.002	0.000	49.554	0.000	1.000
7.010	1780.000	660.816	-.041	.001	-.041	48.909	.645	1.000
7.800	1780.000	661.000	0.000	.143	0.000	61.737	0.000	49.000
7.800	1780.000	660.961	-.039	.145	-.039	57.686	4.051	49.000

DATA FOR LAST CROSS SECTION

PROFILE	TYPE ENC	TARGET	TOP WIDTH AREA-ACRES	TOP WIDTH AREA-DIFF
1	0.000	0.000	12.155	0.000
2	4.000	.001	10.460	-1.695





1) COUNTY: Monroe

2) STUDY NAME: Whiteford

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: Report



7-31-79

FLOOD INSURANCE STUDY HYDRAULIC REPORT

PROJECT: HUD-FIA-H-4705 Whiteford Twp. FIS, Monroe County, Michigan

CONSULTING FIRM: McNamee, Porter and Seeley/Smith, Hinchman and Grylls

WATERCOURSE: North Ten Mile Creek

STUDY LIMITS: Michigan Ohio State Line (downstream limit) to US 23 (upstream limit)

DATE OF AERIAL SURVEY:

DATE OF LAND SURVEY: 4/10/79 - 4/11/79
McNamee, Porter and Seeley field crew

SOURCE OF FLOWS: Discharges were computed by MP&S/SH&G and approved by MDNR on 3/20/79

TOPOGRAPHIC INFORMATION: USGS topographic maps; 5' contours. 1"=1000'

METHOD OF ANALYSIS: HEC-2 water surface profile computer program

VARIABLES AND COEFFICIENTS:

Channel "n"	.050-.052
Overbank "n"	.065
n values thru bridges	.03
Contraction Coefficients	.1-.4
Expansion Coefficients	.3-1.0

Bridge loss coefficients were chosen per References 1 and 2.

PHOTOGRAPHS: Enclosed for your review, please return.

CROSS-SECTIONS: See Table 1 for cross-section description. Cross-section plots enclosed.

BRIDGE SKETCHES: Enclosed for your review.

REFERENCES:

1. "Hec-2 Water Surface Profiles", Users Manual, U.S. Army Corps of Engineers, Feb. 1972.
2. "Application of the Hec-2 Bridge Routines", U.S. Army Corps of Engineers, June 1974.
3. "Roughness Characteristics of Natural Channels", Barnes, Harry H. Jr., Geological Survey Water Supply Paper 1849.
4. "Floodway Determination using computer Program Hec-2", Bonner, Vernon R., U.S. Army Corps of Engineers Hec Training Document 5, May 1974.

Starting Conditions

Starting elevations of floods at the downstream end of North Ten Mile Creek were based on the City of Sylvania Flood Insurance Study. Since the flows used for the two studies were different, a rating curve was developed from the Sylvania FIS and was used for the Whiteford starting elevations. The rating curve and computations are included.

High Water Marks

During July of 1975 or 1976, storm event, we were informed by a resident, that the water level reached approximately 2 feet below his driveway bridge (Section G). There is no record of discharge for this particular event. The observed high water level is about 1' below the computed 10-year flood elevation.

Designated Floodway

Encroachment method 4 in the HEC-2 program was used to determine encroachment stations based on the allowable surcharge of 0.1 ft. At field surveyed sections the designated floodway was established using the computer determined encroachment stations. Between field surveyed sections, the available topographic information was used to complete the floodway delineation.

Computer Outputs

Enclosed are computer outputs for (i) 100 year natural and 100-year designated floodway, (ii) 10, 50 and 500 year flood profiles, (iii) sensitivity analysis.

Whiteford T-06

MPG 4/3/19

Whiteford N Ten Mile Creek X-sections

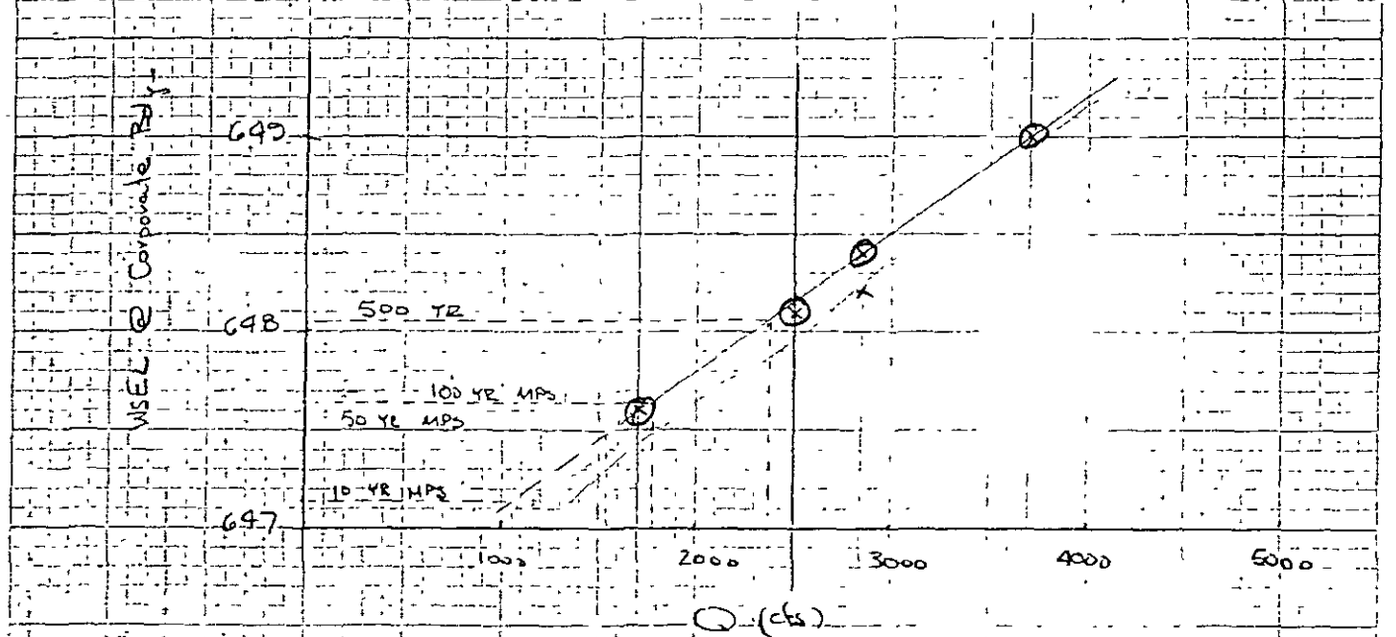
Sylvania FIS flows were higher than approved MPS values

	10	50	100	500
Sylvania	1700	2500	2850	3700
MPS	1050	1530	1780	2380

Question: Sylvania hydraulics are detail up to the top body but can't be used directly due to the difference in flows. How do we compensate?

per SKS develope a rating curve and extrapolate lower to get WSEL @ MPS flows:

		10	50	100	500	
WSEL	Sylvania FIS	647.6	648.1	648.4	649.0	(Scaled from profile)

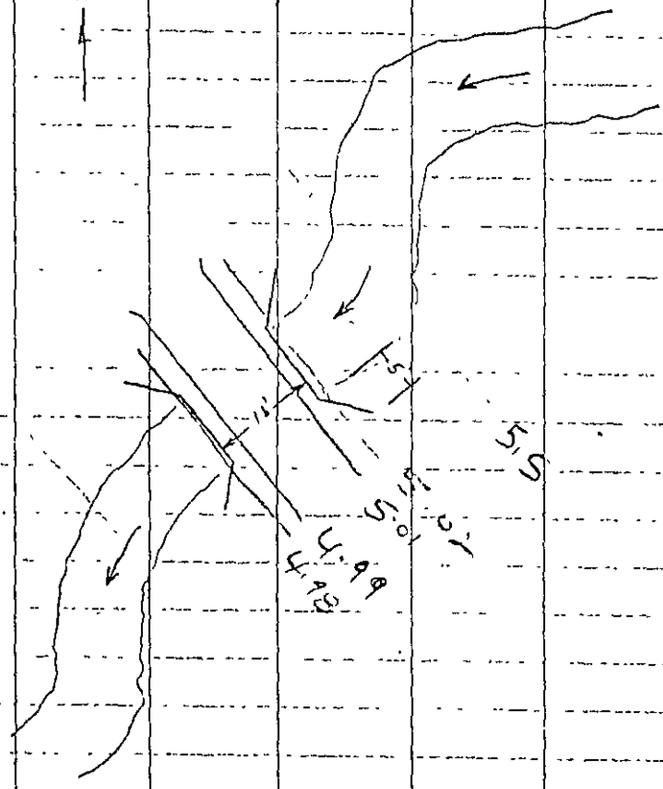


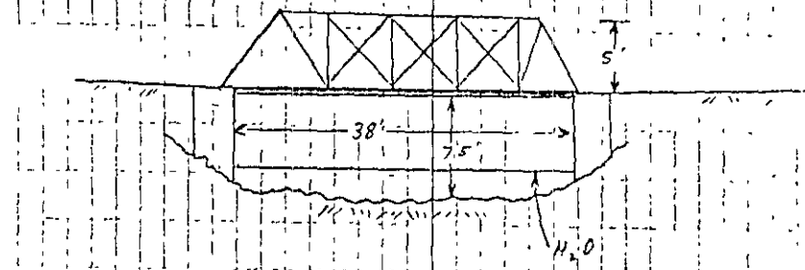
		10 YR	50 YR	100 YR	500 YR
WSEL	MPS FIS:	647.13	647.5	647.64	648.05
*	use these ⟹	647.1	647.5	647.6	648.1

4-10-79
35° Sunny

472-G
20

X-sec # 5 Brdg. Sketch





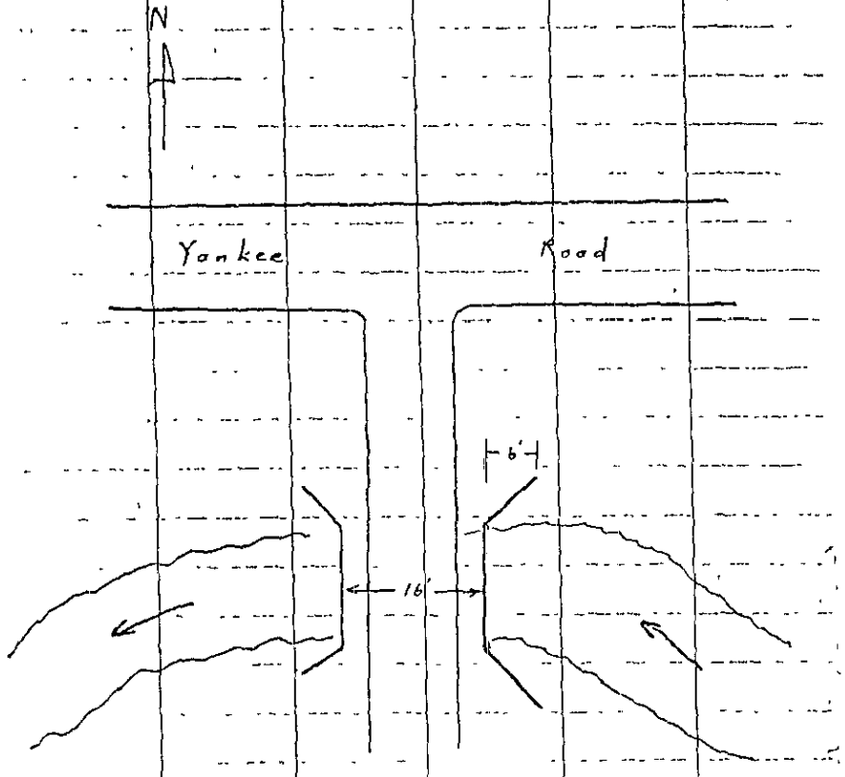
4-10-79

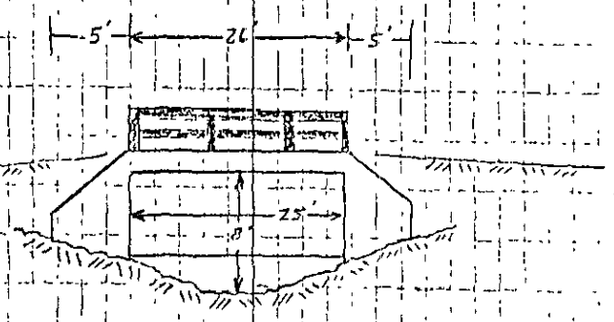
35° Sunny

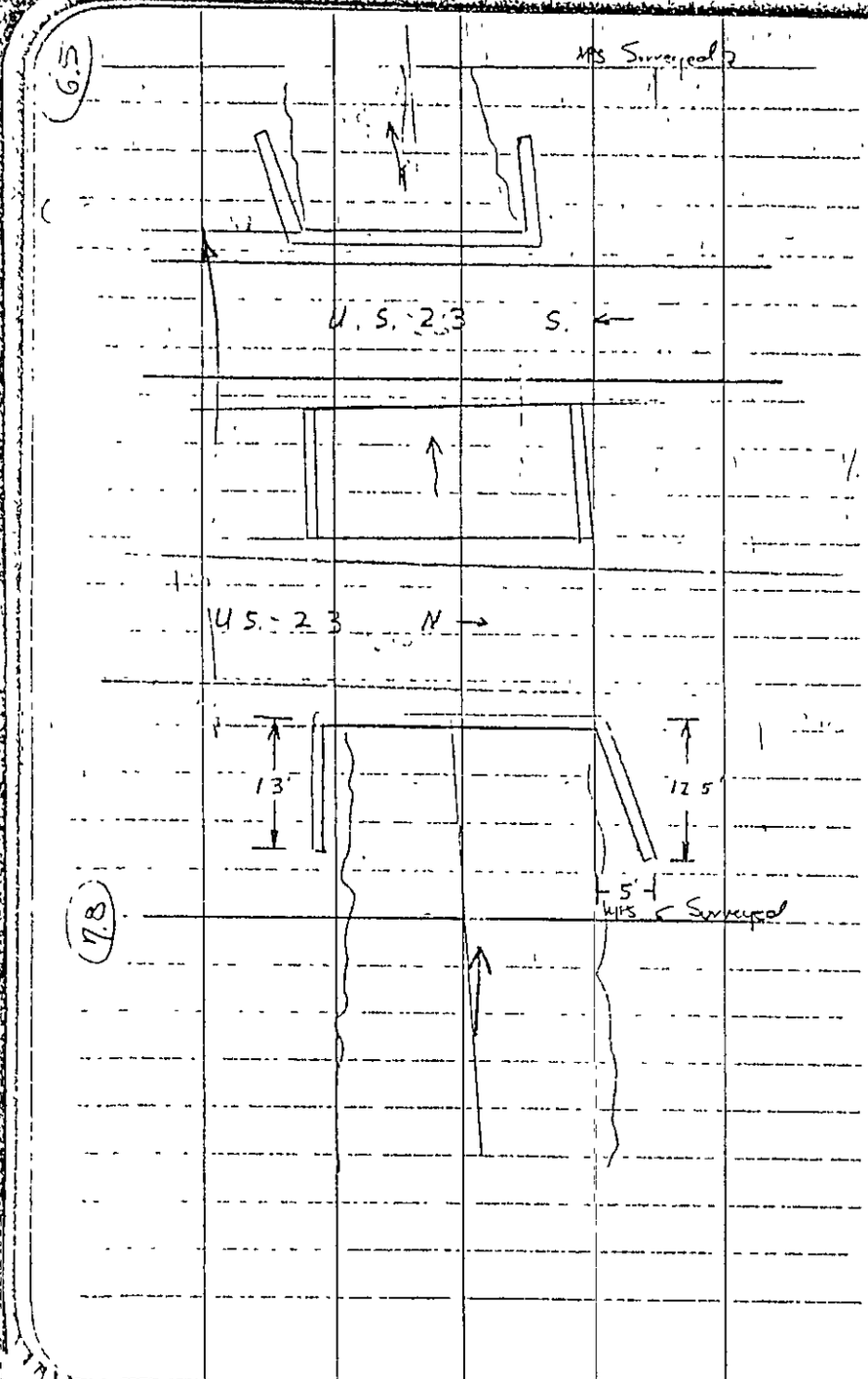
472-G

16

X-sec # 6 Bridge Detail



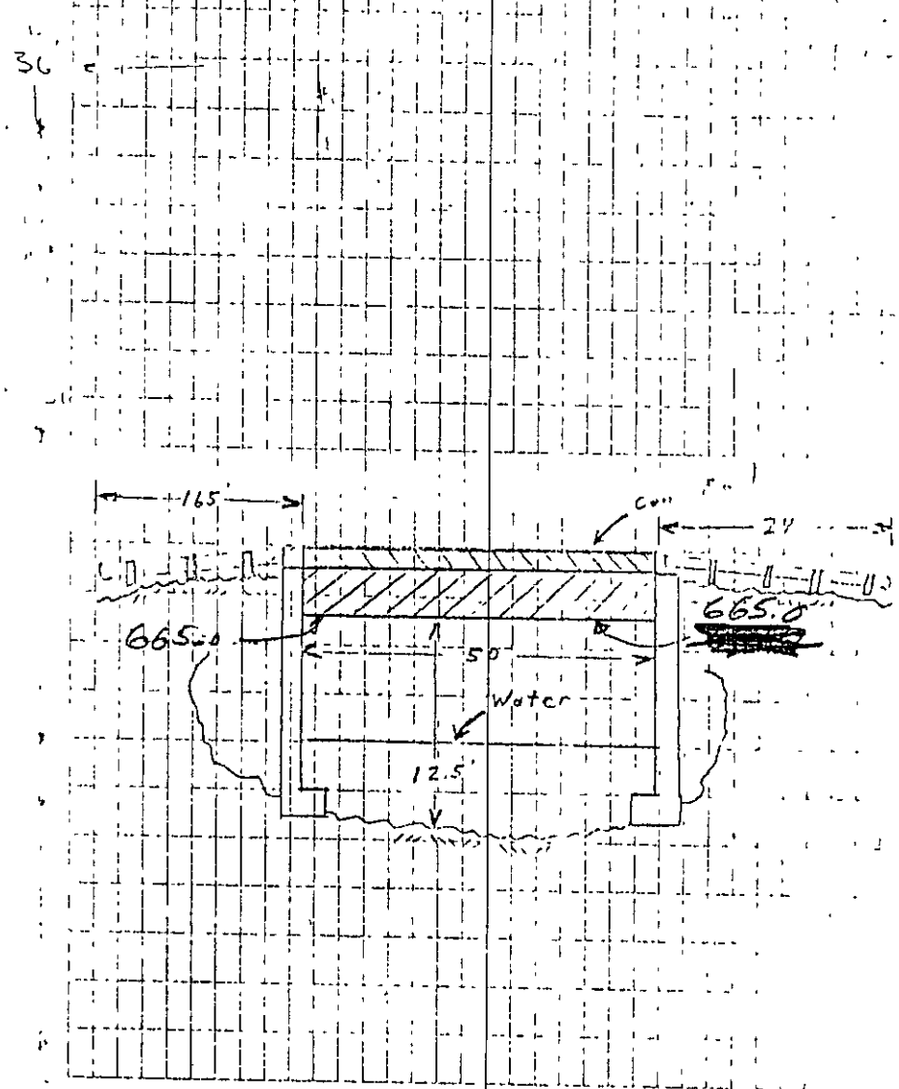




4-10-79
35° Sunny

472-G/15

X-sec # 7 Bridge Sketch



CONSULTING ENGINEERS
ANN ARBOR, MICHIGAN

COMMUNITY: WHITEFORD TWP FILE NO
WATERCOURSE: NORTH TEN MILE CREEK.
DATE CHK BY DATE

TABLE 1 - SECNO

Section Types	Description
1	Surveyed (See Remarks if Other Than MBS and/or Abrams)
2	Field Survey Section, partly modified for modelling
3	Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks)
4	Synthetic - Developed from topo, surveyed sections, or other information

SECTION NO.	SECTION TYPE		REMARKS
1.0	A	2	VALLEY SECTION EXTENDED BY USGS RIGHT OVERBANK INEFFECTIVE.
2.0	B	2	VALLEY SECTION.
2.1		3	REPEAT 2+0.9'
2.5		3	REPEAT 2+2.2'
3.0	C	2	VALLEY SECTION EXTENDED BY USGS. LEFT OVERBANK INEFFECTIVE.
3.1		3	REPEAT 3.5 - 1.5'
3.5		4	D/S FACE SECTION OF ROCKDAM MODIFIED FROM SECTIONS 3.0 4.0 AND 5.0. RIGHT OVERBANK INEFFECTIVE; VALLEY SECTION WITHOUT THE DAM.
4.0	D	2	VALLEY SECTION ON THE ROCK DAM EXTENDED BY USGS. RIGHT OVERBANK INEFFECTIVE.
4.01		4	REPEAT 3.5; U/S FACE OF ROCKDAM, MODIFIED FOR 4 ON 1 EXPANSION FROM U/S BRIDGE.
4.98		2	D/S FACE OF DRIVEWAY BRIDGE DEVELOPED FROM BRIDGE DETAIL
4.99		4	REPEAT OF 4.98 (BRIDGE SECTION)
5.01	E	4	U/S FACE OF DRIVEWAY BRIDGE, REPEAT 4.98. (BRIDGE SECTION).

CONSULTING ENGINEERS

ANN ARBOR, MICHIGAN

COMMUNITY: WHITEFORD TWP. FILE NO.

WATERCOURSE: NORTH TEN MILE CREEK.

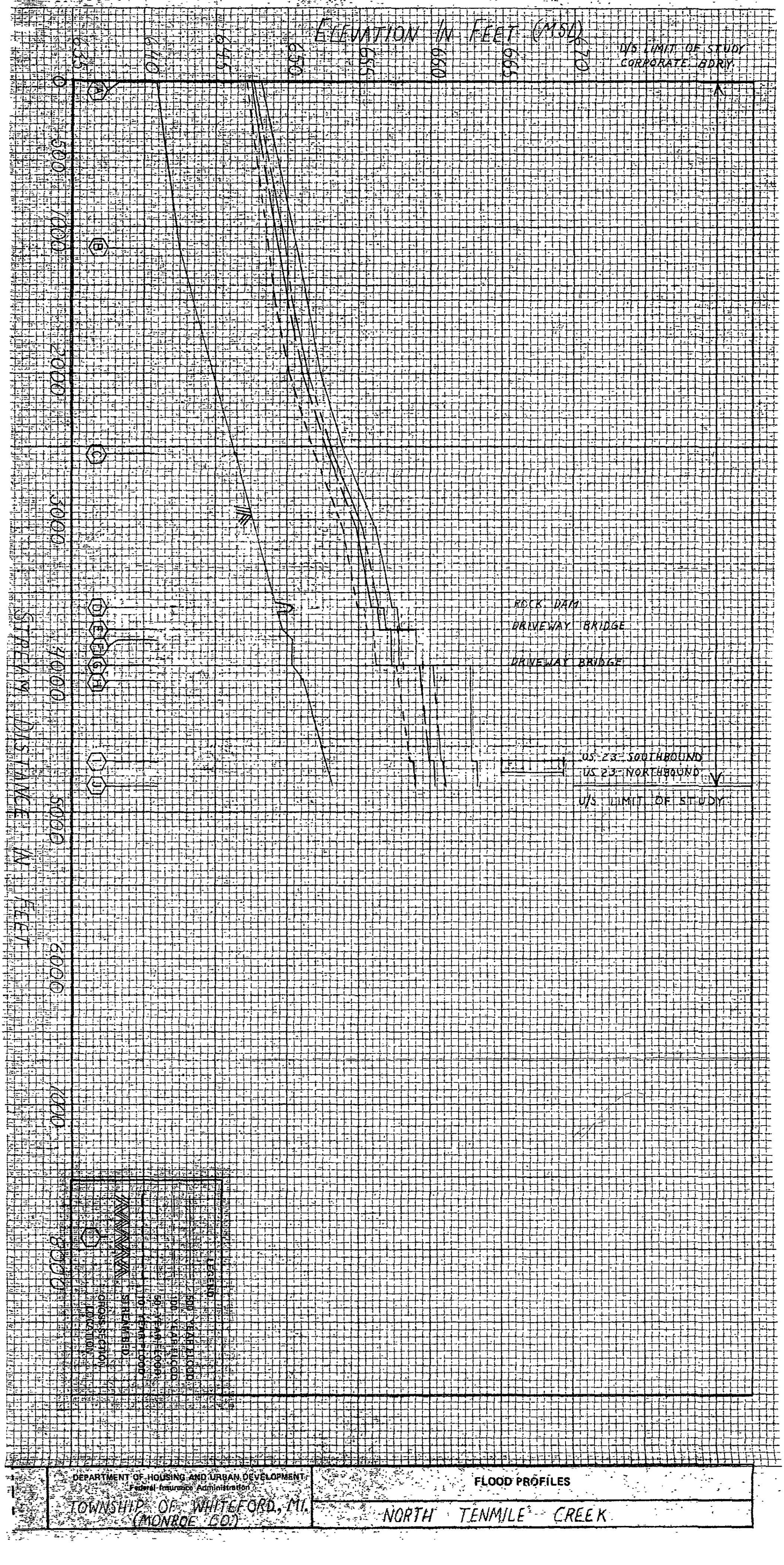
DATE CHK BY DATE

TABLE 1 - SECNO

Section Types	Description
1	Surveyed (See Remarks if Other Than MRS and/or Abrams)
2	Field Survey Section, partly modified for modelling
3	Synthetic - Repeat of nearby surveyed section with an invert adjustment (See Remarks)
4	Synthetic - Developed from topo, surveyed sections, or other information

SECTION NO.	SECTION TYPE		REMARKS
5.02		4	REPEAT OF 4.98
5.5	F	2	VALLEY SECTION, MODIFIED FOR 4 ON 1 EXPANSION
5.58		2	DIS FACE OF DRIVEWAY BRIDGE DEVELOPED FROM BRIDGE DETAIL
5.59		4	REPEAT OF 5.58 (BRIDGE FACE)
6.01	G	4	UIS FACE SECTION OF DRIVEWAY BRIDGE, REPEAT 5.58
6.4		4	REPEAT OF 5.58
6.5	H	2	VALLEY SECTION MODIFIED FOR 1 ON 1 CONTRACTION DIS SIDE OF DRIVEWAY BRIDGE.
6.52		3	REPEAT 6.5 + 12'
6.55		2	JUST DIS FACE SECTION US 23 DEVELOPED FROM BRIDGE DETAIL.
6.58	I	4	DIS BRIDGE SECTION US 23 REPEAT 6.55
6.59		4	UIS BRIDGE SECTION US 23
7.01		4	REPEAT 6.55
7.8	J	2	VALLEY SECTION MODIFIED BASED ON 1 ON 1 EXPANSION UIS U.S. 23

"PERFECT" CROSS SECTION
10 X 10 = ONE INCH
EUGENE DIETZGEN CO.



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Federal Insurance Administration	FLOOD PROFILES
TOWNSHIP OF WHITEFORD, MI. (MONROE CO.)	NORTH TENMILE CREEK

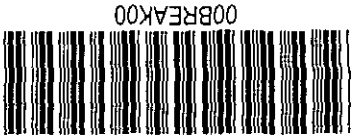


1) COUNTY: Monroe

2) STUDY NAME: Whiteford Twp.

3) WATERCOURSE: North Ten Mile Creek

4) DOCUMENT TYPE: [redacted] Summary 100yr



SUMMARY PRINTOUT FOR MULTIPLE PROFILES

500 YEAR FLOW

100 year →

SECTION	DISCHARGE	CWSEL	CWSEL	TO	EG	TOPWID	STENCL	STENCR	WSELK	#	D	#	D	WSELK
SECTION	DISCHARGE	CWSEL												
1.000	1780.00	647.60	647.60	377.02	647.83	95.98	0.00	0.00	647.60		-I		-I	647.60
1.000	1050.00	647.10	647.10	317.06	647.20	95.06	0.00	0.00	647.10		0.00		0.00	647.10
1.000	1530.00	647.50	647.50	364.69	647.67	95.79	0.00	0.00	647.50		0.00		0.00	647.50
1.000	2380.00	648.10	648.10	441.17	648.43	96.89	0.00	0.00	648.10		0.00		0.00	648.10
2.000	1780.00	649.83	649.83	449.26	649.97	160.74	0.00	0.00	0.00		647.60		647.60	0.00
2.000	1050.00	648.54	648.54	276.92	648.64	124.32	0.00	0.00	0.00		647.10		647.10	0.00
2.000	1530.00	649.44	649.44	391.58	649.56	149.92	0.00	0.00	0.00		647.50		647.50	0.00
2.000	2380.00	650.70	650.70	596.07	650.87	185.00	0.00	0.00	0.00		648.10		648.10	0.00
2.100	1780.00	650.42	650.42	403.91	650.59	152.31	0.00	0.00	0.00		0.00		0.00	0.00
2.100	1050.00	649.10	649.10	240.56	649.22	114.00	0.00	0.00	0.00		0.00		0.00	0.00
2.100	1530.00	650.02	650.02	347.66	650.17	141.07	0.00	0.00	0.00		0.00		0.00	0.00
2.100	2380.00	651.30	651.30	542.09	651.49	176.54	0.00	0.00	0.00		0.00		0.00	0.00
2.500	1780.00	651.47	651.47	368.31	651.66	145.31	0.00	0.00	0.00		0.00		0.00	0.00
2.500	1050.00	650.15	650.15	216.07	650.28	108.54	0.00	0.00	0.00		0.00		0.00	0.00
2.500	1530.00	651.07	651.07	315.86	651.24	134.26	0.00	0.00	0.00		0.00		0.00	0.00
2.500	2380.00	652.33	652.33	497.10	652.55	169.10	0.00	0.00	0.00		0.00		0.00	0.00
3.000	1780.00	653.20	653.20	235.92	653.64	84.57	0.00	0.00	0.00		0.00		0.00	0.00
3.000	1050.00	651.93	651.93	140.85	652.24	71.55	0.00	0.00	0.00		0.00		0.00	0.00
3.000	1530.00	652.82	652.82	204.01	653.21	80.09	0.00	0.00	0.00		0.00		0.00	0.00
3.000	2380.00	654.01	654.01	310.78	654.56	94.01	0.00	0.00	0.00		0.00		0.00	0.00
3.100	1780.00	655.23	655.23	357.39	655.46	98.69	0.00	0.00	0.00		0.00		0.00	0.00
3.100	1050.00	653.81	653.81	218.00	653.96	87.19	0.00	0.00	0.00		0.00		0.00	0.00
3.100	1530.00	654.79	654.79	311.53	654.99	95.19	0.00	0.00	0.00		0.00		0.00	0.00
3.100	2380.00	656.16	656.16	468.12	656.45	106.32	0.00	0.00	0.00		0.00		0.00	0.00
3.500	1780.00	656.39	656.39	377.59	656.64	97.65	0.00	0.00	0.00		0.00		0.00	0.00
3.500	1050.00	654.93	654.93	223.14	655.10	85.75	0.00	0.00	0.00		0.00		0.00	0.00
3.500	1530.00	655.93	655.93	324.70	656.15	93.89	0.00	0.00	0.00		0.00		0.00	0.00
3.500	2380.00	657.36	657.36	500.68	657.66	105.50	0.00	0.00	0.00		0.00		0.00	0.00
4.000	1780.00	656.49	656.49	277.17	656.84	112.39	0.00	0.00	0.00		0.00		0.00	0.00
4.000	1050.00	655.04	655.04	142.05	655.33	86.47	0.00	0.00	0.00		0.00		0.00	0.00
4.000	1530.00	656.03	656.03	230.07	656.36	104.29	0.00	0.00	0.00		0.00		0.00	0.00
4.000	2380.00	657.46	657.46	394.66	657.84	129.78	0.00	0.00	0.00		0.00		0.00	0.00
4.010	1780.00	656.64	656.64	365.40	656.90	98.00	0.00	0.00	0.00		0.00		0.00	0.00
4.010	1050.00	655.22	655.22	216.95	655.40	86.48	0.00	0.00	0.00		0.00		0.00	0.00
4.010	1530.00	656.19	656.19	314.95	656.42	94.39	0.00	0.00	0.00		0.00		0.00	0.00
4.010	2380.00	657.58	657.58	484.50	657.89	105.67	0.00	0.00	0.00		0.00		0.00	0.00
4.980	1780.00	656.89	656.89	221.13	657.61	42.98	0.00	0.00	0.00		0.00		0.00	0.00
4.980	1050.00	655.53	655.53	149.68	655.95	42.95	0.00	0.00	0.00		0.00		0.00	0.00
4.980	1530.00	656.47	656.47	197.76	657.08	42.97	0.00	0.00	0.00		0.00		0.00	0.00
4.980	2380.00	657.76	657.76	270.98	658.75	43.40	0.00	0.00	0.00		0.00		0.00	0.00

THE UNIVERSITY OF MICHIGAN COPY

SECTION SECTION	DISCHARGE DISCHARGE	CWSEL CWSEL	CWSEL	TQ	EG	TOPWID	STENCL	STENCR	WSELK	# D	# D	WSELK
4.990	1780.00	656.90	656.90	368.31	657.62	42.98	0.00	0.00	0.00	0.00	0.00	0.00
4.990	1050.00	655.53	655.53	249.77	655.95	42.95	0.00	0.00	0.00	0.00	0.00	0.00
4.990	1530.00	656.47	656.47	329.98	657.09	42.97	0.00	0.00	0.00	0.00	0.00	0.00
4.990	2380.00	657.77	657.77	304.13	658.78	43.43	0.00	0.00	0.00	0.00	0.00	0.00
5.010	1780.00	656.95	656.95	374.10	657.66	42.98	0.00	0.00	0.00	0.00	0.00	0.00
5.010	1050.00	655.57	655.57	253.67	655.98	42.95	0.00	0.00	0.00	0.00	0.00	0.00
5.010	1530.00	656.52	656.52	335.79	657.13	42.97	0.00	0.00	0.00	0.00	0.00	0.00
5.010	2380.00	657.87	657.87	304.13	658.87	44.08	0.00	0.00	0.00	0.00	0.00	0.00
5.020	1780.00	656.96	656.96	224.45	657.67	42.98	0.00	0.00	0.00	0.00	0.00	0.00
5.020	1050.00	655.58	655.58	152.29	655.99	42.95	0.00	0.00	0.00	0.00	0.00	0.00
5.020	1530.00	656.53	656.53	201.59	657.13	42.97	0.00	0.00	0.00	0.00	0.00	0.00
5.020	2380.00	658.00	658.00	286.47	658.92	44.86	0.00	0.00	0.00	0.00	0.00	0.00
5.500	1780.00	657.81	657.81	426.76	658.02	98.31	0.00	0.00	0.00	0.00	0.00	0.00
5.500	1050.00	656.10	656.10	240.09	656.25	86.08	0.00	0.00	0.00	0.00	0.00	0.00
5.500	1530.00	657.26	657.26	359.54	657.45	94.31	0.00	0.00	0.00	0.00	0.00	0.00
5.500	2380.00	659.09	659.09	604.82	659.32	107.65	0.00	0.00	0.00	0.00	0.00	0.00
5.580	1780.00	657.83	657.83	138.08	659.57	24.99	0.00	0.00	0.00	0.00	0.00	0.00
5.580	1050.00	656.33	656.33	96.08	657.33	24.94	0.00	0.00	0.00	0.00	0.00	0.00
5.580	1530.00	657.27	657.27	122.32	658.79	24.97	0.00	0.00	0.00	0.00	0.00	0.00
5.580	2380.00	658.60	658.60	163.26	661.09	29.93	0.00	0.00	0.00	0.00	0.00	0.00
5.590	1780.00	657.84	657.84	230.13	659.58	24.99	0.00	0.00	0.00	0.00	0.00	0.00
5.590	1050.00	656.34	656.34	160.45	657.33	24.94	0.00	0.00	0.00	0.00	0.00	0.00
5.590	1530.00	657.29	657.29	204.29	658.80	24.97	0.00	0.00	0.00	0.00	0.00	0.00
5.590	2380.00	658.62	658.62	176.75	661.41	30.07	0.00	0.00	0.00	0.00	0.00	0.00
6.010	1780.00	658.23	658.23	176.75	659.79	25.32	0.00	0.00	0.00	0.00	0.00	0.00
6.010	1050.00	656.48	656.48	166.25	657.42	24.94	0.00	0.00	0.00	0.00	0.00	0.00
6.010	1530.00	657.56	657.56	216.91	658.95	24.98	0.00	0.00	0.00	0.00	0.00	0.00
6.010	2380.00	658.91	658.91	176.75	661.70	33.83	0.00	0.00	0.00	0.00	0.00	0.00
6.400	1780.00	658.31	658.31	152.72	659.82	26.33	0.00	0.00	0.00	0.00	0.00	0.00
6.400	1050.00	656.50	656.50	100.62	657.44	24.94	0.00	0.00	0.00	0.00	0.00	0.00
6.400	1530.00	657.57	657.57	130.30	658.96	24.98	0.00	0.00	0.00	0.00	0.00	0.00
6.400	2380.00	661.42	661.42	293.73	662.54	41.00	0.00	0.00	0.00	0.00	0.00	0.00
6.500	1780.00	660.24	660.24	568.75	660.41	130.03	0.00	0.00	0.00	0.00	0.00	0.00
6.500	1050.00	657.77	657.77	276.42	657.95	96.42	0.00	0.00	0.00	0.00	0.00	0.00
6.500	1530.00	659.39	659.39	454.14	659.57	118.47	0.00	0.00	0.00	0.00	0.00	0.00
6.500	2380.00	662.83	662.83	1023.62	662.96	163.28	0.00	0.00	0.00	0.00	0.00	0.00
6.520	1780.00	660.51	660.51	445.16	660.77	117.49	0.00	0.00	0.00	0.00	0.00	0.00
6.520	1050.00	658.21	658.21	210.35	658.47	86.09	0.00	0.00	0.00	0.00	0.00	0.00
6.520	1530.00	659.72	659.72	352.08	659.98	106.60	0.00	0.00	0.00	0.00	0.00	0.00
6.520	2380.00	662.97	662.97	817.00	663.15	150.96	0.00	0.00	0.00	0.00	0.00	0.00

THE UNIVERSITY OF MICHIGAN COMPUTING CENTER

SECTION SECTION	DISCHARGE DISCHARGE	CWSEL CWSEL	CWSEL	TQ	EG	TOPWID	STENCL	STENCR	WSELK	#	D	#	D	WSELK
6.550	1780.00	660.75	660.75	383.86	661.12	49.49	0.00	0.00	0.00		0.00		0.00	0.00
6.550	1050.00	658.59	658.59	224.49	658.85	48.22	0.00	0.00	0.00		0.00		0.00	0.00
6.550	1530.00	660.00	660.00	325.36	660.35	49.05	0.00	0.00	0.00		0.00		0.00	0.00
6.550	2380.00	663.05	663.05	587.43	663.44	50.85	0.00	0.00	0.00		0.00		0.00	0.00
6.580	1780.00	660.75	660.75	639.62	661.12	49.49	0.00	0.00	0.00		0.00		0.00	0.00
6.580	1050.00	658.59	658.59	374.35	658.85	48.22	0.00	0.00	0.00		0.00		0.00	0.00
6.580	1530.00	660.00	660.00	542.42	660.35	49.05	0.00	0.00	0.00		0.00		0.00	0.00
6.580	2380.00	663.05	663.05	978.93	663.44	50.85	0.00	0.00	0.00		0.00		0.00	0.00
6.590	1780.00	660.86	660.86	654.33	661.22	49.55	0.00	0.00	0.00		0.00		0.00	0.00
6.590	1050.00	658.70	658.70	386.10	658.94	48.28	0.00	0.00	0.00		0.00		0.00	0.00
6.590	1530.00	660.11	660.11	556.28	660.45	49.12	0.00	0.00	0.00		0.00		0.00	0.00
6.590	2380.00	663.13	663.13	991.54	663.51	50.90	0.00	0.00	0.00		0.00		0.00	0.00
7.010	1780.00	660.86	660.86	392.67	661.22	49.55	0.00	0.00	0.00		0.00		0.00	0.00
7.010	1050.00	658.70	658.70	231.74	658.95	48.28	0.00	0.00	0.00		0.00		0.00	0.00
7.010	1530.00	660.12	660.12	333.89	660.45	49.12	0.00	0.00	0.00		0.00		0.00	0.00
7.010	2380.00	663.13	663.13	595.17	663.52	50.90	0.00	0.00	0.00		0.00		0.00	0.00
7.800	1780.00	661.00	661.00	384.10	661.33	61.74	0.00	0.00	0.00		0.00		0.00	0.00
7.800	1050.00	658.80	658.80	215.75	659.06	53.07	0.00	0.00	0.00		0.00		0.00	0.00
7.800	1530.00	660.25	660.25	318.97	660.56	57.73	0.00	0.00	0.00		0.00		0.00	0.00
7.800	2380.00	663.31	663.31	649.10	663.61	187.85	0.00	0.00	0.00		0.00		0.00	0.00

SECTION NUMBER	DISCHARGE CFS	CWSEL	CWSEL DIFF EACH C	CWSEL DIFF EACH SECTION	CWSEL-WSELK	TOPWID	T.W. DIFF	LENGTH
1.000	1780.000	647.600	0.000	0.000	0.000	95.976	0.000	0.000
1.000	1050.000	647.100	-.500	0.000	0.000	95.061	.915	0.000
1.000	1530.000	647.500	.400	0.000	0.000	95.793	.183	0.000
1.000	2380.000	648.100	.600	0.000	0.000	96.890	-.915	0.000
2.000	1780.000	649.830	0.000	2.230	0.000	160.736	0.000	1150.000
2.000	1050.000	648.542	-1.288	1.442	0.000	124.318	36.418	1150.000
2.000	1530.000	649.437	.895	1.937	0.000	149.925	10.811	1150.000
2.000	2380.000	650.703	1.266	2.603	0.000	184.996	-24.261	1150.000
2.100	1780.000	650.424	0.000	.594	0.000	152.308	0.000	350.000
2.100	1050.000	649.105	-1.319	.563	0.000	114.005	38.303	350.000
2.100	1530.000	650.022	.917	.584	0.000	141.069	11.239	350.000
2.100	2380.000	651.298	1.276	.595	0.000	176.542	-24.234	350.000
2.500	1780.000	651.471	0.000	1.048	0.000	145.307	0.000	500.000
2.500	1050.000	650.149	-1.322	1.045	0.000	108.543	36.763	500.000
2.500	1530.000	651.071	.922	1.049	0.000	134.263	11.044	500.000
2.500	2380.000	652.330	1.258	1.031	0.000	169.102	-23.795	500.000
3.000	1780.000	653.199	0.000	1.728	0.000	84.565	0.000	550.000
3.000	1050.000	651.933	-1.266	1.784	0.000	71.553	13.012	550.000
3.000	1530.000	652.817	.884	1.746	0.000	80.085	4.480	550.000
3.000	2380.000	654.006	1.189	1.677	0.000	94.005	-9.440	550.000
3.100	1780.000	655.230	0.000	2.031	0.000	98.693	0.000	500.000
3.100	1050.000	653.808	-1.422	1.875	0.000	87.190	11.503	500.000
3.100	1530.000	654.786	.977	1.968	0.000	95.193	3.499	500.000
3.100	2380.000	656.161	1.375	2.154	0.000	106.319	-7.627	500.000

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3.500	1780.000	656.394	0.000	1.164	0.000	97.647	0.000	500.000
3.500	1050.000	654.931	-1.464	1.122	0.000	85.753	11.894	500.000
3.500	1530.000	655.931	1.001	1.146	0.000	93.890	3.757	500.000
3.500	2380.000	657.359	1.428	1.199	0.000	105.502	-7.855	500.000
4.000	1780.000	656.490	0.000	.096	0.000	112.386	0.000	50.000
4.000	1050.000	655.035	-1.455	.105	0.000	86.466	25.920	50.000
4.000	1530.000	656.029	.993	.097	0.000	104.291	8.095	50.000
4.000	2380.000	657.460	1.431	.100	0.000	129.781	-17.396	50.000
4.010	1780.000	656.643	0.000	.153	0.000	98.001	0.000	10.000
4.010	1050.000	655.220	-1.423	.185	0.000	86.481	11.521	10.000
4.010	1530.000	656.193	.972	.164	0.000	94.387	3.614	10.000
4.010	2380.000	657.581	1.388	.121	0.000	105.673	-7.671	10.000
4.980	1780.000	656.892	0.000	.249	0.000	42.982	0.000	131.000
4.980	1050.000	655.529	-1.364	.308	0.000	42.953	.030	131.000
4.980	1530.000	656.465	.936	.272	0.000	42.973	.009	131.000
4.980	2380.000	657.763	1.298	.182	0.000	43.395	-.413	131.000
4.990	1780.000	656.896	0.000	.004	0.000	42.982	0.000	1.000
4.990	1050.000	655.532	-1.364	.004	0.000	42.953	.030	1.000
4.990	1530.000	656.470	.937	.005	0.000	42.973	.009	1.000
4.990	2380.000	657.770	1.300	.007	0.000	43.427	-.444	1.000
5.010	1780.000	656.955	0.000	.059	0.000	42.984	0.000	16.000
5.010	1050.000	655.573	-1.382	.040	0.000	42.954	.030	16.000
5.010	1530.000	656.525	.952	.055	0.000	42.975	.009	16.000
5.010	2380.000	657.868	1.343	.098	0.000	44.083	-1.099	16.000
5.020	1780.000	656.958	0.000	.004	0.000	42.984	0.000	1.000
5.020	1050.000	655.576	-1.383	.003	0.000	42.954	.030	1.000
5.020	1530.000	656.528	.953	.004	0.000	42.975	.009	1.000
5.020	2380.000	657.997	1.469	.130	0.000	44.864	-1.880	1.000
5.500	1780.000	657.814	0.000	.855	0.000	98.309	0.000	33.500
5.500	1050.000	656.097	-1.716	.522	0.000	86.084	12.225	33.500
5.500	1530.000	657.264	1.166	.735	0.000	94.310	3.998	33.500
5.500	2380.000	659.090	1.826	1.092	0.000	107.654	-9.345	33.500
5.580	1780.000	657.830	0.000	.017	0.000	24.988	0.000	41.750
5.580	1050.000	656.327	-1.503	.230	0.000	24.937	.050	41.750
5.580	1530.000	657.273	.946	.009	0.000	24.969	.018	41.750
5.580	2380.000	658.599	1.326	-.490	0.000	29.925	-4.937	41.750
5.590	1780.000	657.840	0.000	.009	0.000	24.988	0.000	1.000
5.590	1050.000	656.338	-1.502	.011	0.000	24.938	.050	1.000
5.590	1530.000	657.288	.950	.015	0.000	24.970	.018	1.000
5.590	2380.000	658.619	1.331	.020	0.000	30.065	-5.078	1.000
6.010	1780.000	658.226	0.000	.386	0.000	25.319	0.000	16.000
6.010	1050.000	656.475	-1.751	.137	0.000	24.942	.377	16.000
6.010	1530.000	657.555	1.080	.267	0.000	24.978	.341	16.000
6.010	2380.000	658.909	1.354	.290	0.000	33.834	-8.514	16.000
6.400	1780.000	658.307	0.000	.081	0.000	26.326	0.000	1.000
6.400	1050.000	656.498	-1.809	.023	0.000	24.943	1.383	1.000
6.400	1530.000	657.566	1.068	.011	0.000	24.979	1.347	1.000
6.400	2380.000	661.417	3.850	2.508	0.000	41.000	-14.674	1.000
6.500	1780.000	660.236	0.000	1.929	0.000	130.030	0.000	30.333

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6.500	1050.000	657.767	-2.468	1.269	0.000	96.420	33.610	30.333
6.500	1530.000	659.386	1.619	1.820	0.000	118.471	11.559	30.333
6.500	2380.000	662.830	3.443	1.413	0.000	163.283	-33.253	30.333
6.520	1780.000	660.512	0.000	.277	0.000	117.495	0.000	269.000
6.520	1050.000	658.208	-2.304	.441	0.000	86.093	31.401	269.000
6.520	1530.000	659.715	1.507	.329	0.000	106.605	10.890	269.000
6.520	2380.000	662.972	3.257	.142	0.000	150.961	-33.466	269.000
6.550	1780.000	660.747	0.000	.235	0.000	49.490	0.000	160.000
6.550	1050.000	658.589	-2.158	.381	0.000	48.217	1.274	160.000
6.550	1530.000	660.004	1.415	.289	0.000	49.052	.439	160.000
6.550	2380.000	663.053	3.049	.081	0.000	50.851	-1.360	160.000
6.580	1780.000	660.748	0.000	.001	0.000	49.490	0.000	1.000
6.580	1050.000	658.591	-2.158	.001	0.000	48.218	1.272	1.000
6.580	1530.000	660.005	1.414	.001	0.000	49.053	.437	1.000
6.580	2380.000	663.053	3.048	.001	0.000	50.852	-1.361	1.000
6.590	1780.000	660.855	0.000	.107	0.000	49.554	0.000	120.000
6.590	1050.000	658.697	-2.158	.106	0.000	48.281	1.274	120.000
6.590	1530.000	660.114	1.417	.109	0.000	49.117	.437	120.000
6.590	2380.000	663.133	3.019	.080	0.000	50.898	-1.344	120.000
7.010	1780.000	660.857	0.000	.002	0.000	49.554	0.000	1.000
7.010	1050.000	658.698	-2.159	.001	0.000	48.281	1.273	1.000
7.010	1530.000	660.116	1.418	.002	0.000	49.118	.437	1.000
7.010	2380.000	663.135	3.019	.002	0.000	50.899	-1.344	1.000
7.800	1780.000	661.000	0.000	.143	0.000	61.737	0.000	49.000
7.800	1050.000	658.805	-2.196	.106	0.000	53.072	8.665	49.000
7.800	1530.000	660.247	1.442	.131	0.000	57.727	4.010	49.000
7.800	2380.000	663.311	3.064	.177	0.000	187.848	-126.111	49.000

DATA FOR LAST CROSS SECTION

PROFILE	TYPE ENC	TARGET	TOP WIDTH AREA-ACRES	TOP WIDTH AREA-DIFF
1	0.000	0.000	12.155	0.000
2	0.000	0.000	9.954	-2.201
3	0.000	0.000	11.471	-.684
4	0.000	0.000	13.813	1.659

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