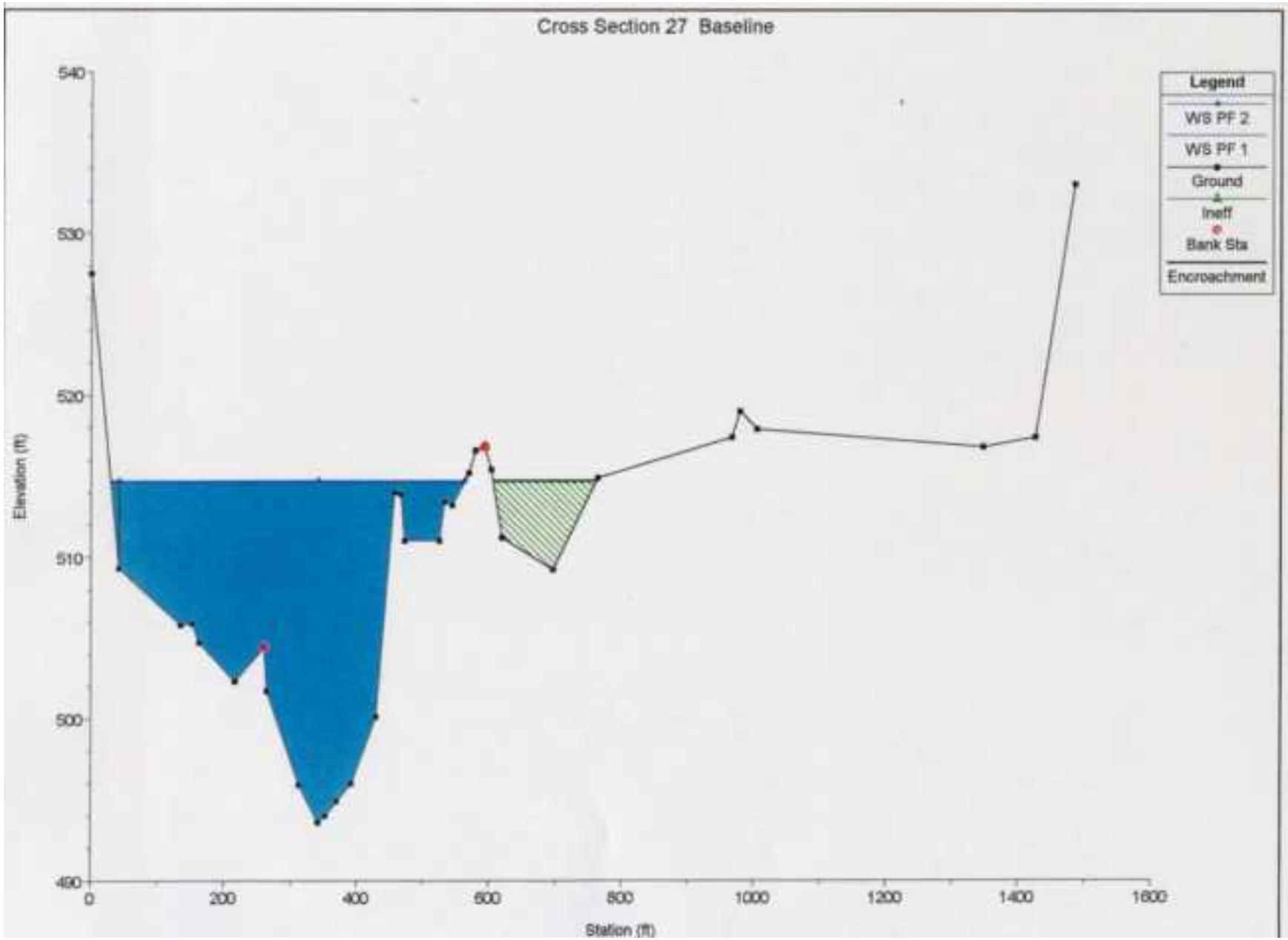
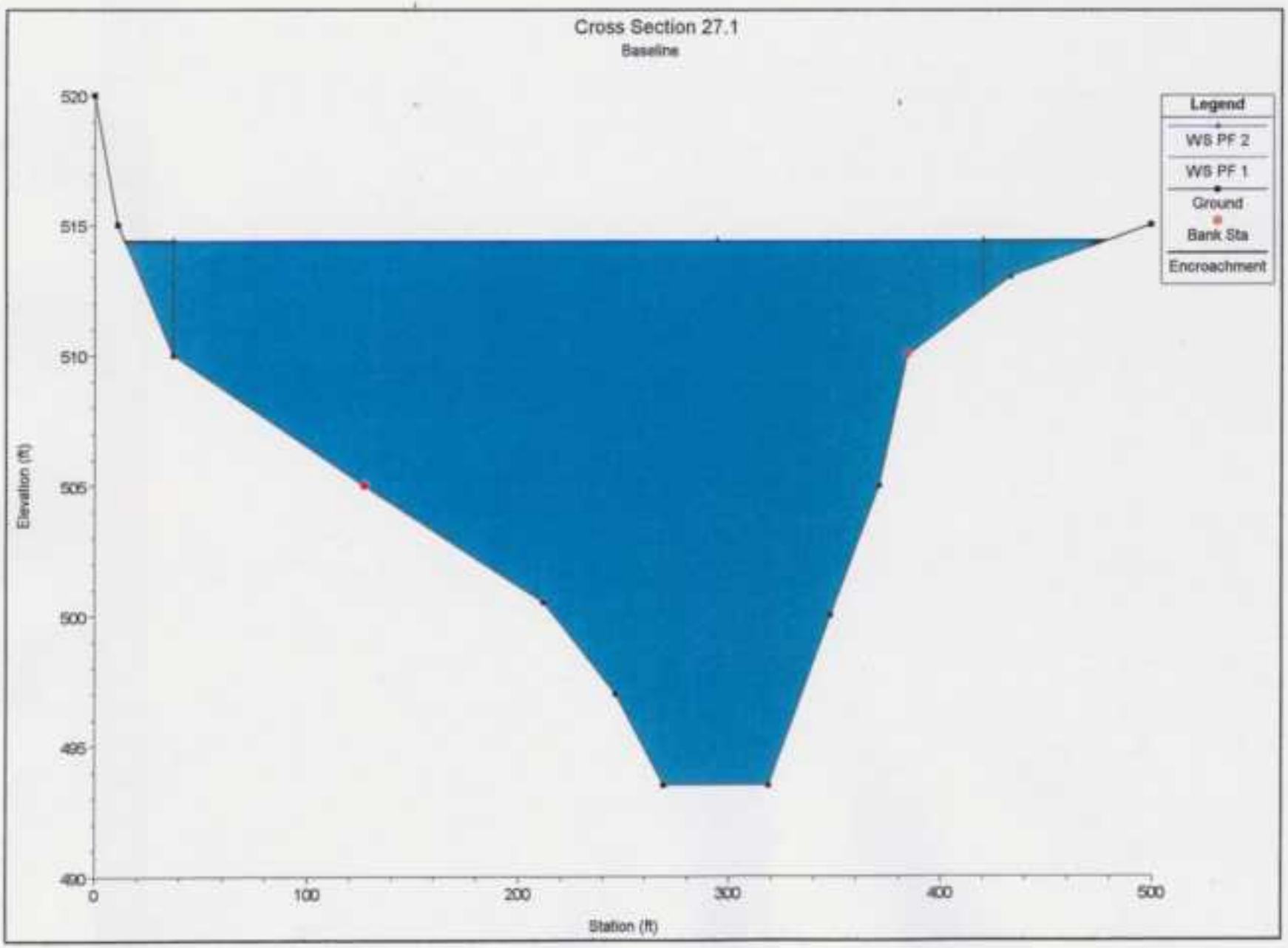
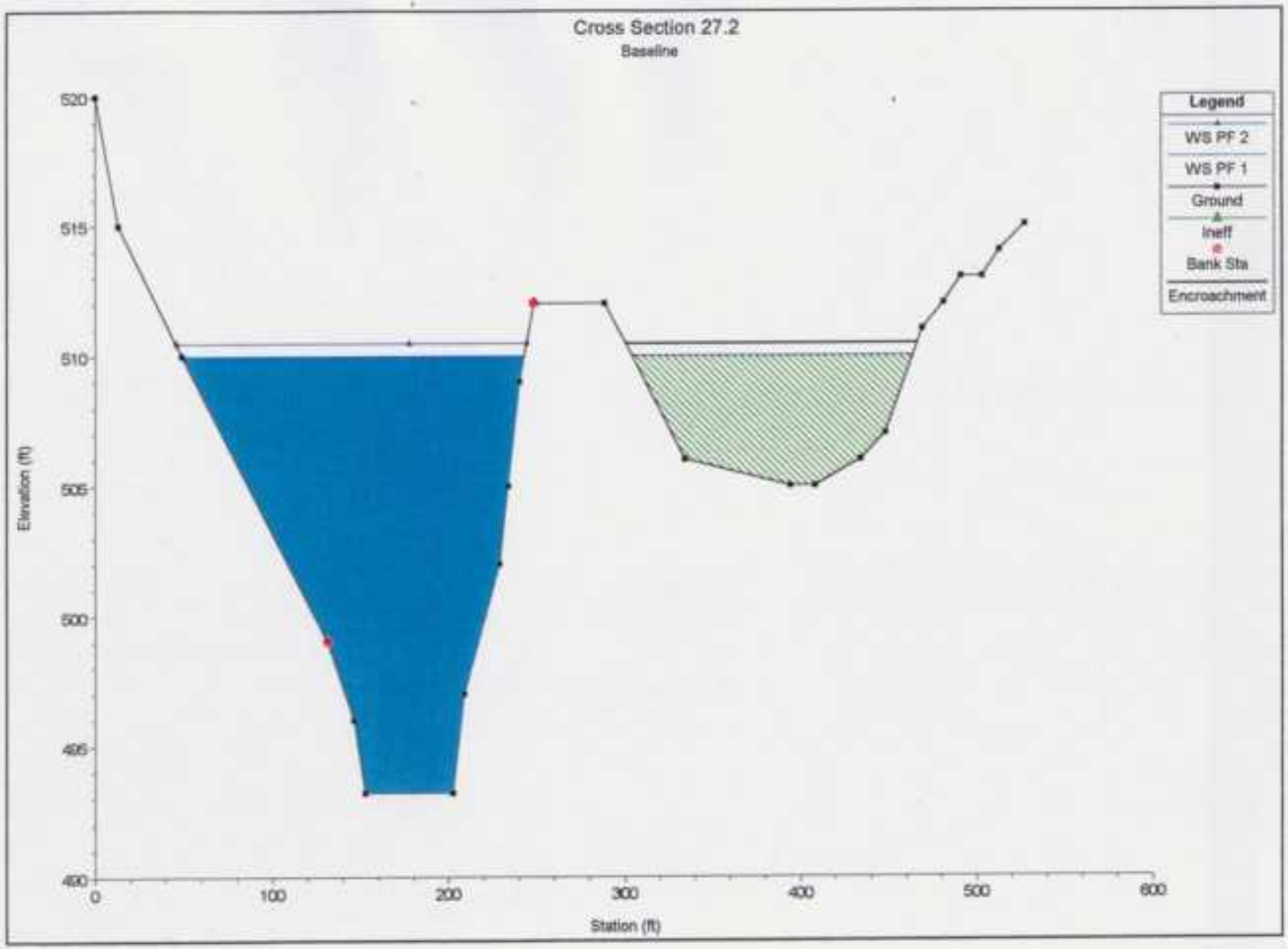
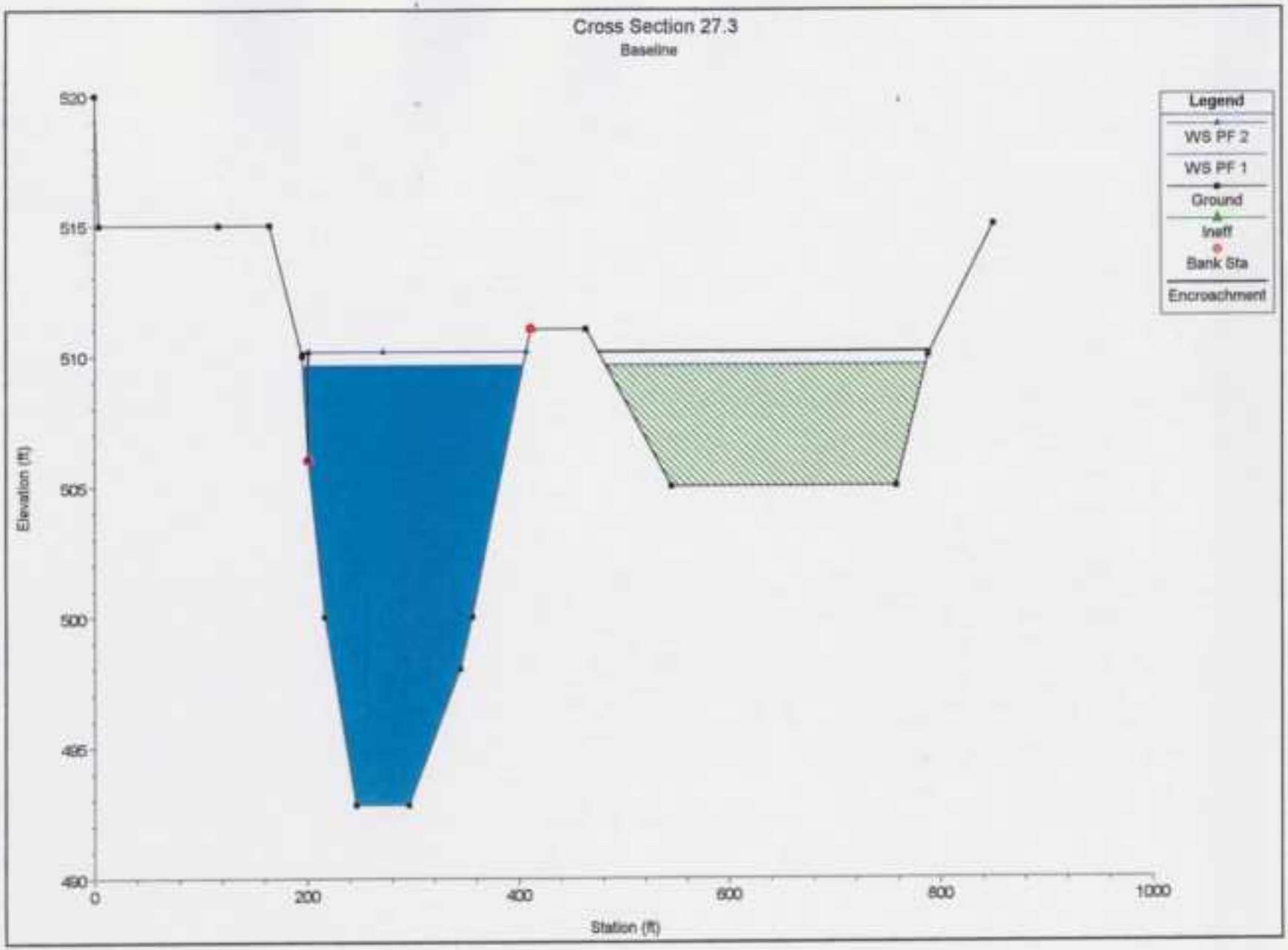
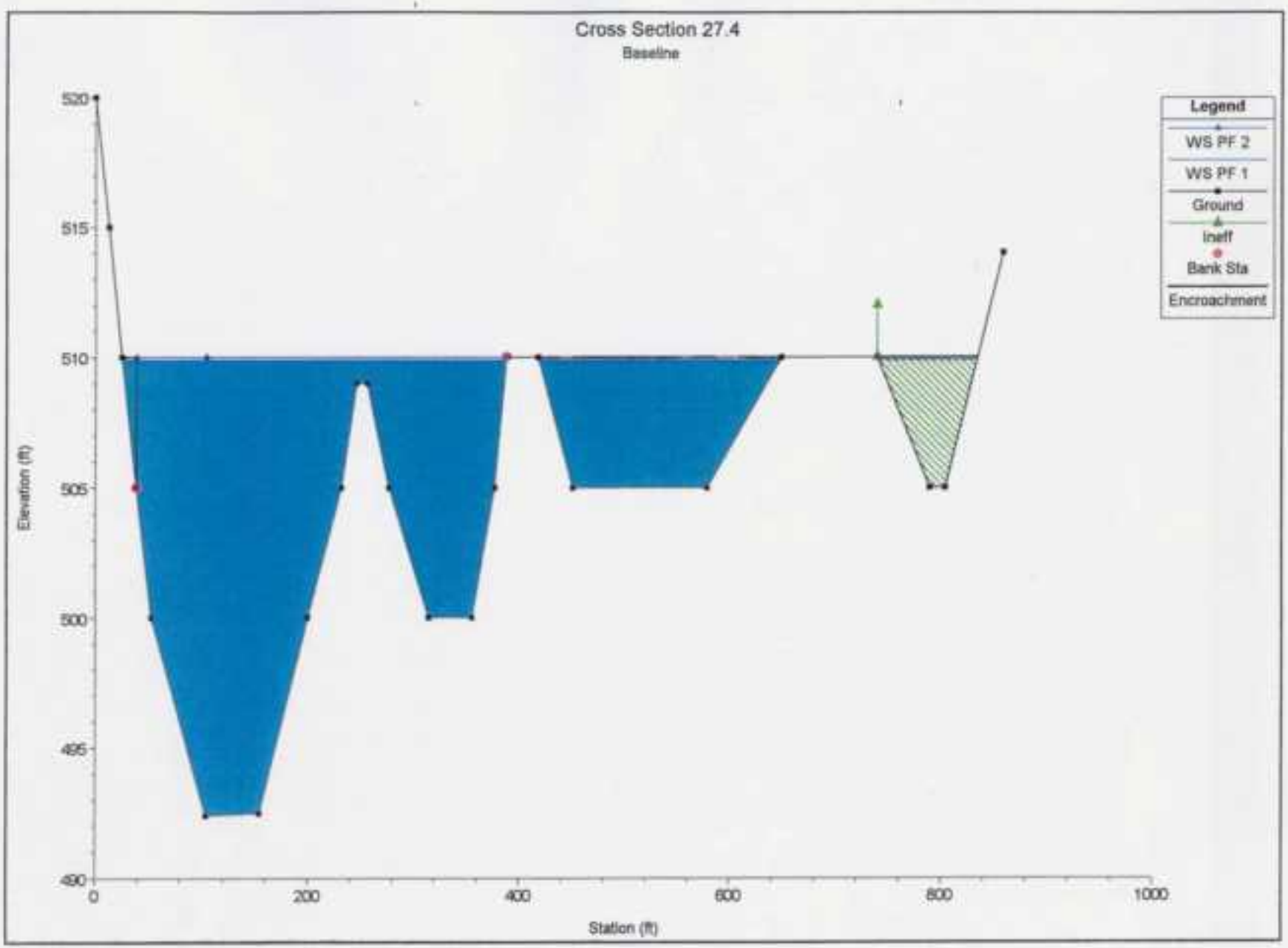
Appendix C
Revised Current Conditions Cross Sections

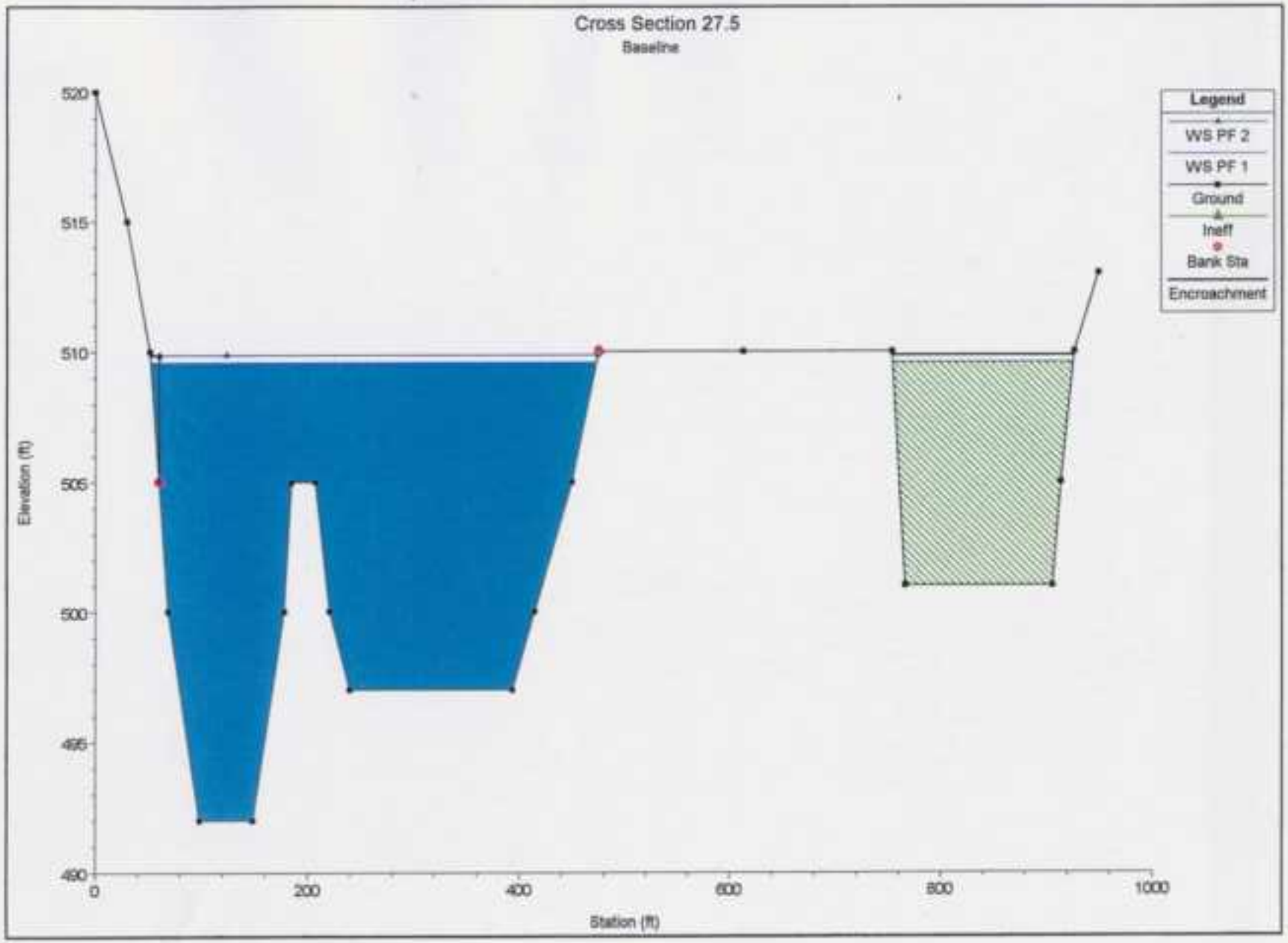

Cross Section 27 Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
540
530
520
510
500
490
0
200
400
600
800
1000
1200
1400
1600

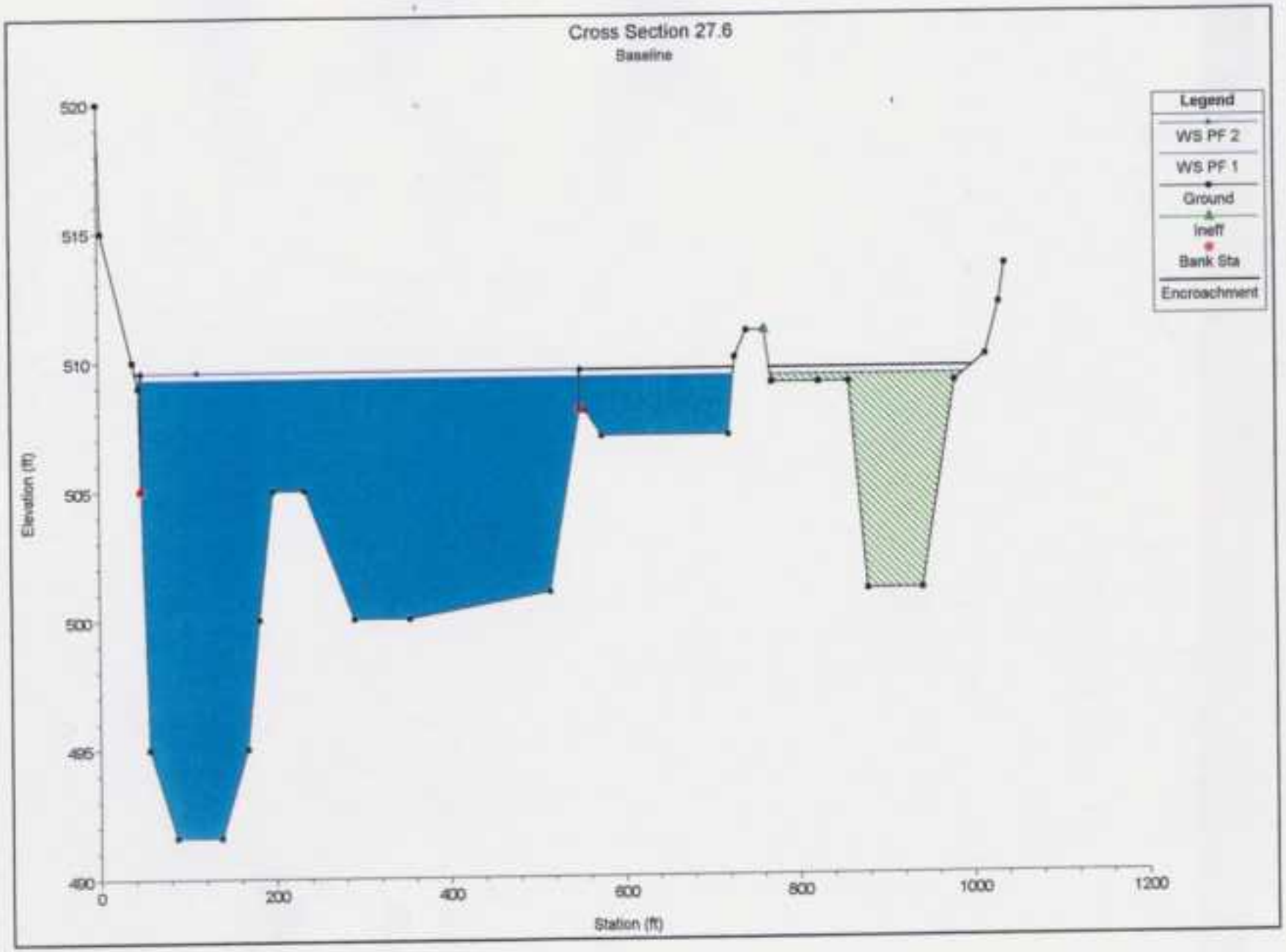

Cross Section 27.1
Baseline
Legend
WS PF 2
WS PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
Station (ft)

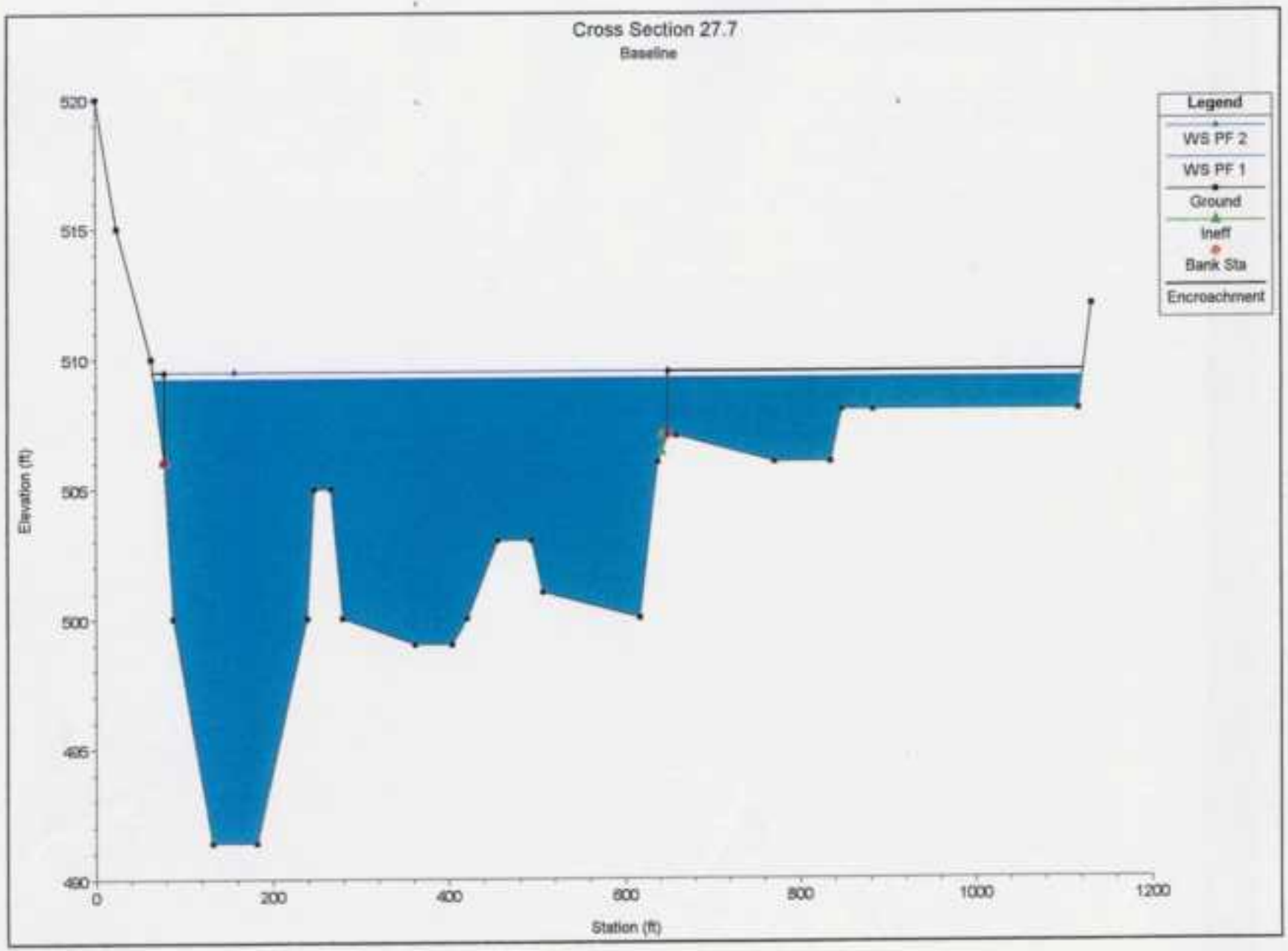

Cross Section 27.2
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
600
Station (ft)

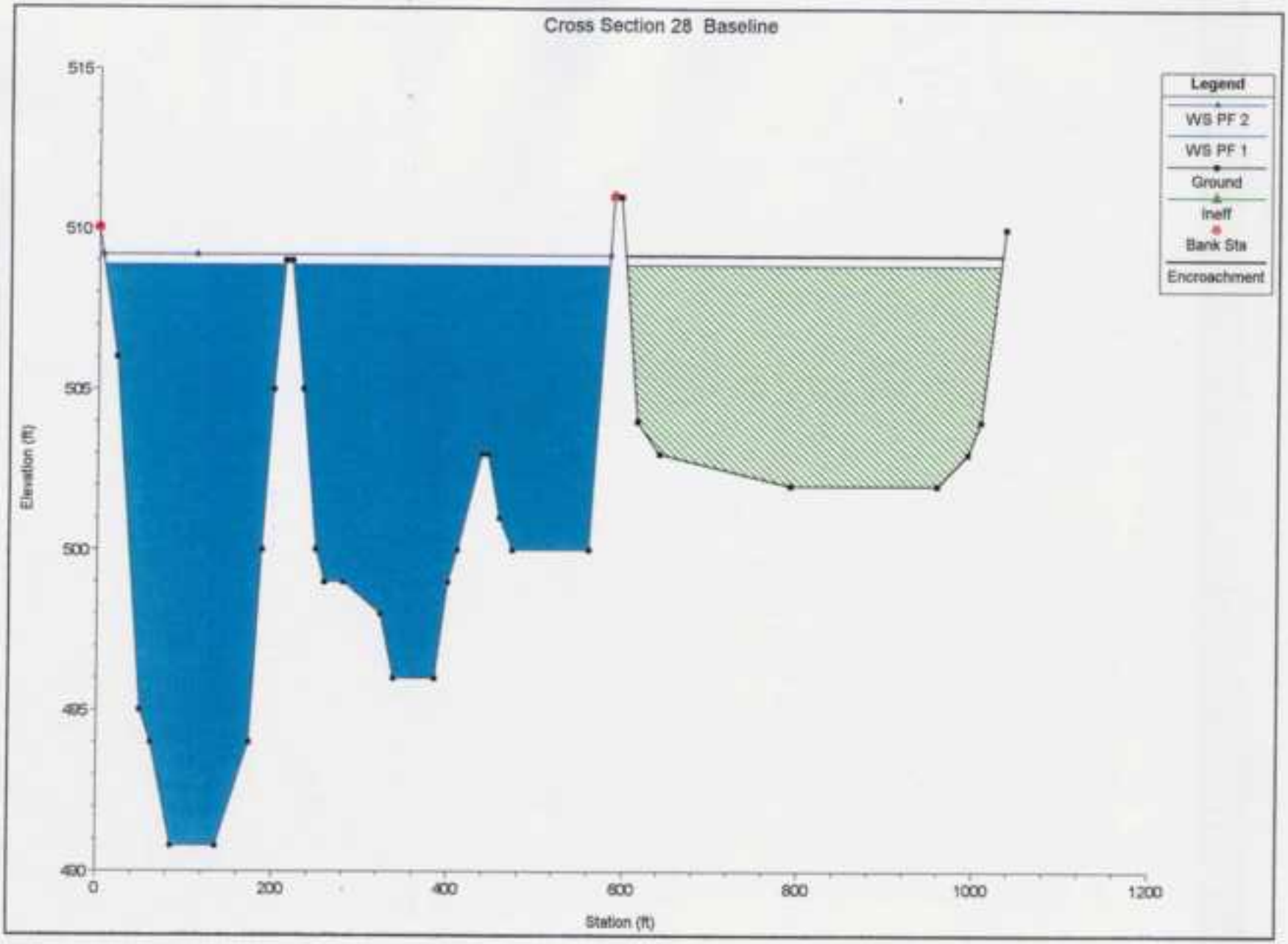

Cross Section 27.3
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

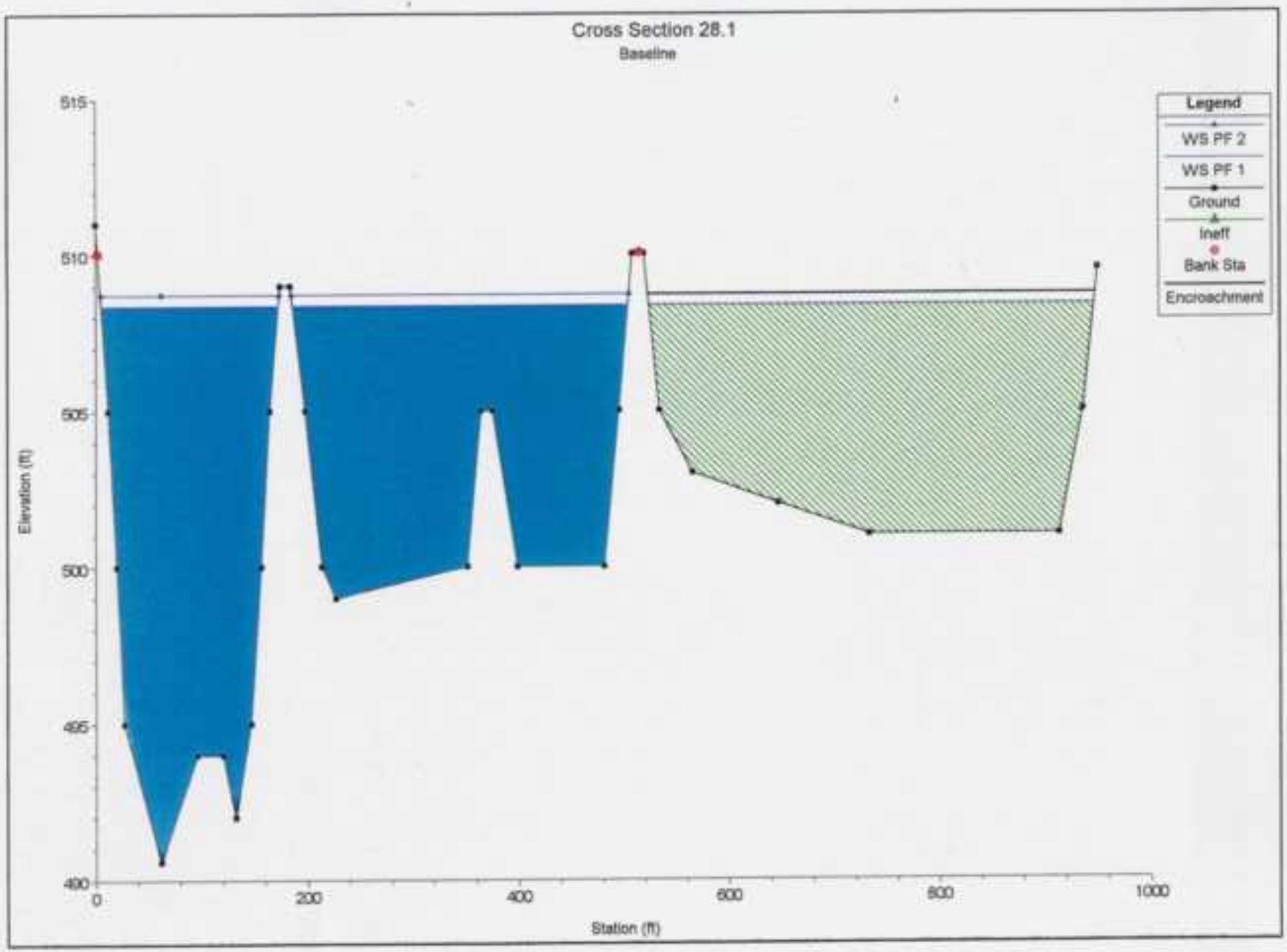

Cross Section 27.4
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

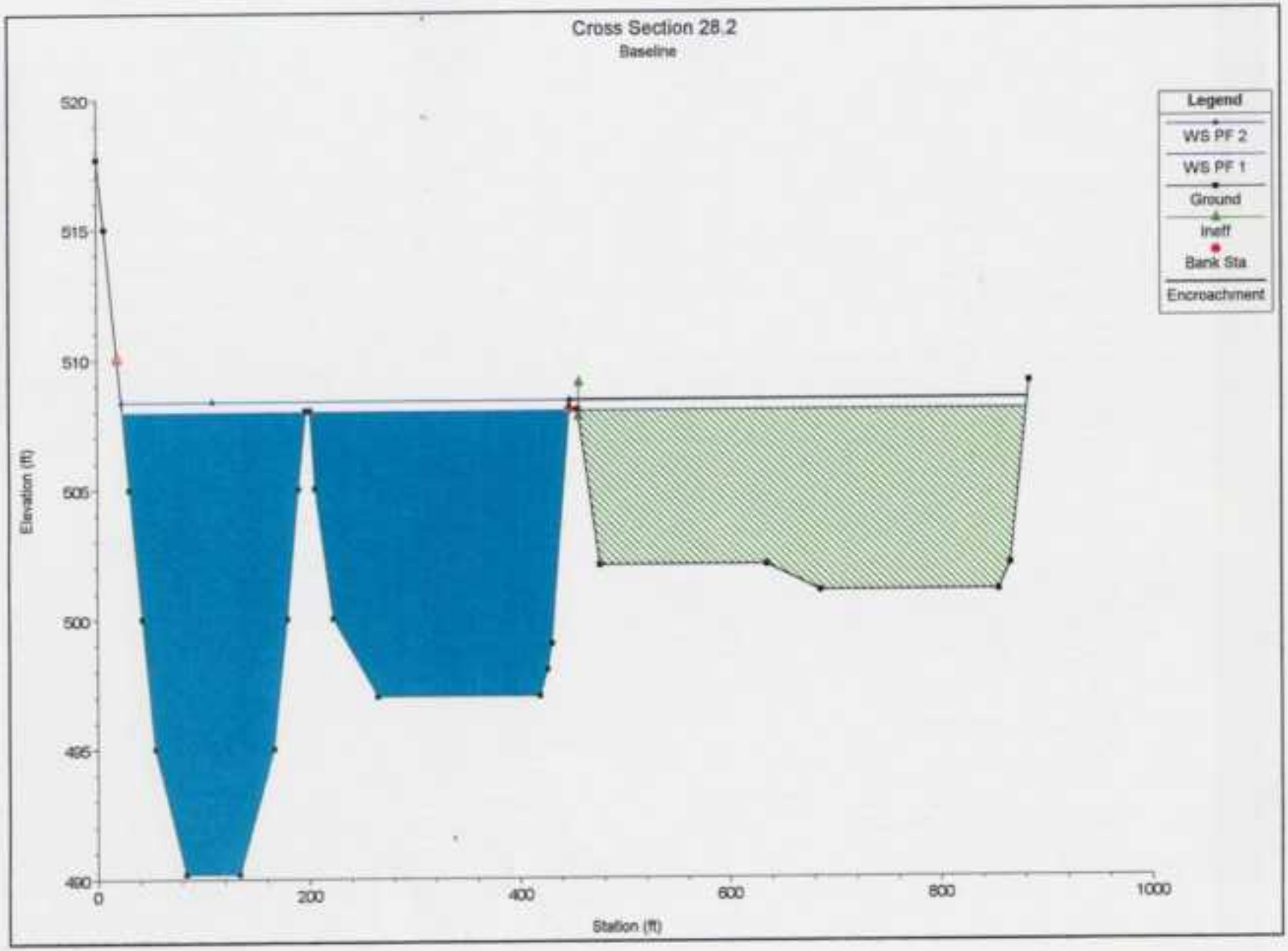

Cross Section 27.5
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

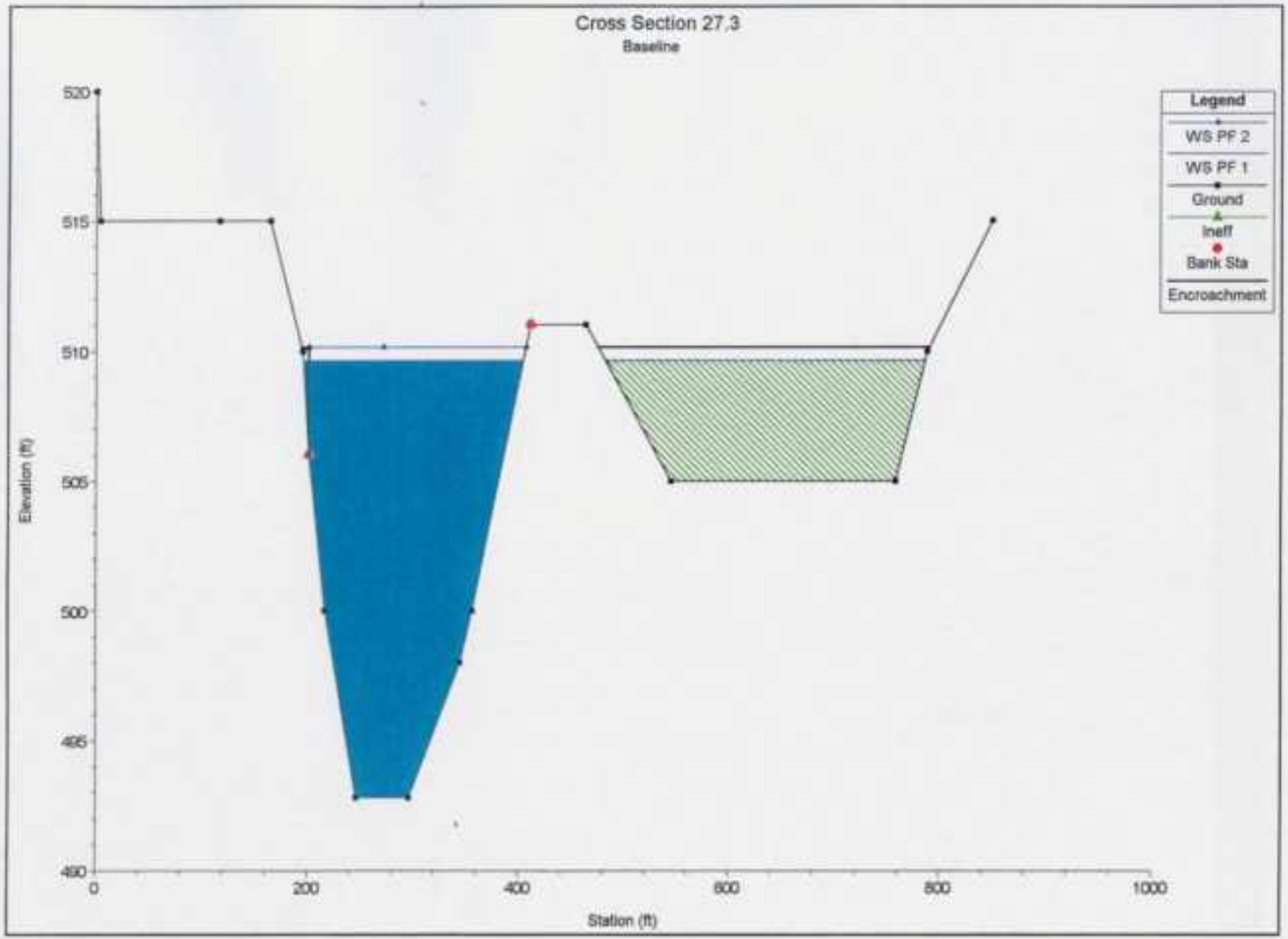

Cross Section 27.6
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 27.7
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 28 Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 28.1
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)


Cross Section 28.2
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)


Cross Section 27.3
Baseline
Legend
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

Appendix D
HEC-2 Input and Output TRC Revised Current Conditions

```
 *  WATER S  ACE PROFILES                          *                                  *  U.S. ARMY CORPS  ENGINEERS
*
 *  VERSION OF NOVEMBER 1976                       *                                  *  THE HYDROLOGIC ENGINEERING
CENTER  *
 *  UPDATED MAY 1984                               *                                  *  609 SECOND STREET, SUITE D
*
 *  IBM-PC-XT VERSION AUGUST 1985                  *                                  *  DAVIS, CALIFORNIA 95616
*
 *  RUN DATE  04-14-02   TIME  23:24:04                *                                  *  (916) 440-2105 (FTS) 448-
2105      *
 ****************************************************
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

1

THIS RUN EXECUTED 04-14-02

```
 ************************************************
   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 AUGUST 1985
 ************************************************
```

T1 TOWN OF POWNAL FLOOD INSURANCE STUDY
T2 100-YEAR FLOOD
T3 POWNAL, VT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	6.	0.	0.	.016000	.00	.0	0.	488.700	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	.000	-1.000	.000	.000	.000	.000	.000	.000	15.000

	1.000	34.000	3.000	4.000	27.000	28.000	9.000	110.000	120.000	.000

NC	.035	.030	.040	.100	.300	.000	.000	.000	.000	.000
QT	6.000	12000.000	22500.000	29400.000	55800.000	29400.000	29400.000	.000	.000	.000
NH	4.000	.035	1940.000	.100	2140.000	.050	2240.000	.040	2540.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	1390.000	2290.000
X1	39.000	15.000	2140.000	2290.000	.000	.000	.000	.000	.000	.000
GR	495.000	.000	489.300	250.000	487.800	625.000	487.300	745.000	486.000	1775.000
GR	485.000	2110.000	484.600	2140.000	477.500	2170.000	476.500	2180.000	477.000	2218.000
GR	476.000	2240.000	477.500	2252.000	490.000	2290.000	497.700	2440.000	500.000	2540.000
NC	.040	.040	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	1494.000	2394.000
X1	38.000	16.000	2226.000	2394.000	1397.000	1600.000	1620.000	.000	.000	.000
GR	498.000	579.000	491.700	627.000	491.000	751.000	491.200	943.000	491.200	1068.000
GR	496.500	1246.000	490.000	1531.000	488.100	1830.000	487.800	2226.000	477.500	2258.000
GR	476.400	2271.000	477.000	2307.000	475.500	2338.000	477.500	2363.000	487.800	2394.000
GR	497.500	2423.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.060	.035	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	100.000	1000.000
X1	37.000	16.000	600.000	814.000	1290.000	2160.000	1990.000	.000	.000	.000
GR	498.000	.000	491.700	48.000	491.000	220.000	488.900	600.000	483.800	614.000
GR	482.400	644.000	482.900	679.000	482.900	709.000	483.600	727.000	486.100	790.000
GR	490.500	814.000	489.400	885.000	491.000	919.000	495.100	955.000	495.100	2300.000
GR	503.600	2325.000	.000	.000	.000	.000	.000	.000	.000	.000

1

NC	.035	.035	.045	.300	.500	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	1733.000	2633.000
X1	36.200	29.000	2382.000	2632.000	210.000	210.000	210.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	495.000	498.000	.000
GR	525.000	.000	498.000	100.000	491.000	2000.000	489.900	2118.000	487.600	2378.900
GR	487.600	2379.000	487.600	2381.900	487.600	2382.000	481.700	2401.000	481.800	2428.000
GR	482.700	2465.000	483.400	2479.000	495.600	2479.100	495.600	2493.000	485.700	2493.100
GR	485.700	2497.000	480.900	2497.100	480.300	2508.000	485.600	2558.000	488.100	2587.000
GR	488.900	2632.000	488.900	2632.100	489.400	2667.000	491.000	2698.000	495.100	2737.000
GR	495.100	2923.000	495.100	3249.000	495.100	4082.000	504.300	5199.000	.000	.000
SB	.000	1.560	2.900	.000	250.000	.000	2687.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	1733.000	2633.000
X1	36.100	.000	.000	.000	22.000	22.000	22.000	.000	.000	.000
X2	.000	.000	1.000	496.100	498.000	.000	.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	498.000	500.700	.000
BT	29.000	.000	525.000	525.000	100.000	498.000	498.000	2000.000	498.100	491.000
BT	2118.000	498.800	489.900	2378.900	499.800	487.600	2379.000	505.300	487.600	2381.900
BT	505.300	487.600	2382.000	505.300	495.200	2401.000	505.400	495.300	2428.000	505.500
BT	495.400	2465.000	505.600	495.500	2479.000	505.700	495.600	2479.100	500.200	495.600
BT	2493 [illegible]0	500.200	495.600	2493.100	500.200	495.600	2497.000	500.200	495.600	7.100

BT	2698.000	501.000	491.000	2737.000	501.100	495.100	2923.000	501.700	495.100	[illegible]9.000
BT	501	495.100	4082.000	502.900	495.100	199.000	504.300	504.300	.000	.000
NH	5.000	.035	241.000	.050	262.000	.045	371.000	.070	764.000	.035
NH	1434.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	241.000	941.000
X1	35.000	19.000	241.000	451.000	280.000	120.000	340.000	.000	.000	.000
GR	515.500	.000	503.000	90.000	491.600	241.000	484.000	262.000	480.600	306.000
GR	479.200	324.000	480.500	341.000	484.200	371.000	484.300	393.000	484.500	405.000
GR	484.100	423.000	483.500	428.000	484.200	432.000	492.800	451.000	496.800	764.000
GR	496.100	1123.000	496.600	1365.000	497.900	1396.000	501.800	1434.000	.000	.000
NC	.035	.035	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	201.000	901.000
X1	34.200	19.000	205.000	360.000	330.000	330.000	340.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	497.300	493.200	.000
GR	510.000	.000	502.000	100.000	501.400	123.000	499.300	200.000	482.400	205.000
GR	482.400	205.100	480.100	236.000	484.200	278.000	483.800	310.000	485.200	339.000
GR	483.900	360.000	483.900	360.100	498.400	364.000	494.500	482.000	497.700	794.000
GR	497.900	893.000	499.100	1035.000	503.400	1661.000	503.600	1695.000	.000	.000
SB	.000	1.560	2.800	.000	155.000	.000	1757.000	.000	482.500	482.500
ET	.000	.000	.000	.000	.000	.000	9.100	.000	204.500	904.500
X1	34.100	.000	.000	.000	27.000	27.000	27.000	.000	.000	.000
X2	.000	.000	1.000	494.900	494.500	.000	.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	499.300	494.500	.000
BT	19.000	.000	510.000	510.000	100.000	502.000	502.000	123.000	501.400	501.400
BT	200.000	499.300	499.300	205.000	499.300	482.400	205.100	499.300	494.900	236.000
BT	499.100	494.700	278.000	498.900	494.500	310.000	498.700	494.300	339.000	498.500
BT	494.100	360.000	498.400	494.000	360.100	498.400	483.900	364.000	498.400	498.400

1

BT	482.000	494.500	494.500	794.000	497.700	497.700	893.000	497.900	497.900	1305.000
BT	499.100	499.100	1661.000	503.400	503.400	1695.000	503.600	503.600	.000	.000
NC	.100	.035	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	65.000	865.000
X1	33.000	21.000	65.000	247.000	130.000	60.000	99.000	.000	.000	.000
GR	508.900	.000	488.700	65.000	484.200	80.000	482.800	87.000	482.900	111.000
GR	482.700	123.000	483.300	150.000	483.700	181.000	483.900	213.000	484.600	237.000
GR	488.700	247.000	489.700	303.000	491.900	317.000	495.900	496.000	497.800	706.000
GR	497.300	895.000	498.400	1075.000	497.800	1248.000	497.400	1363.000	495.600	1623.000
GR	503.600	1644.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	4.000	.100	141.000	.045	209.000	.047	390.000	.035	1284.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	113.000	913.000
X1	32.000	21.000	141.000	269.000	1140.000	460.000	1030.000	.000	.000	.000
GR	512.300	.000	489.300	30.000	489.600	141.000	486.100	174.000	484.700	201.000
GR	484.300	222.000	484.800	239.000	486.100	257.000	486.700	259.000	493.000	269.000
GR	491.400	380.000	496.200	390.000	495.900	454.000	498.600	634.000	497.800	874.000

NC	.100	.090	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	3.350	803.350
X1	31.000	40.000	.000	187.000	1170.000	1110.000	1220.000	.000	.000	.000
GR	507.000	.000	503.700	.100	486.700	41.000	483.300	67.000	482.000	80.000
GR	481.700	100.000	482.000	107.000	482.700	116.000	485.700	153.000	485.200	169.000
GR	486.700	180.000	490.100	187.000	491.700	223.000	494.300	247.000	494.300	287.000
GR	497.600	330.000	497.800	398.000	497.800	447.000	497.500	520.000	496.900	563.000
GR	497.400	623.000	498.000	703.000	495.800	774.000	499.400	836.000	501.200	910.000
GR	501.200	986.000	501.300	1047.000	501.400	1147.000	501.200	1202.000	501.600	1216.000
GR	501.500	1226.000	501.700	1253.000	501.200	1268.000	502.800	1349.000	504.300	1356.000
GR	502.800	1363.000	502.500	1385.000	502.000	1483.000	502.000	1506.000	505.000	1786.000
NC	.100	.060	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	22.650	822.650
X1	30.000	35.000	490.000	748.000	820.000	1140.000	3080.000	.000	.000	.000
X4	1.000	506.100	825.000	.000	.000	.000	.000	.000	.000	.000
GR	516.100	.000	499.100	38.000	498.000	61.000	496.800	111.000	497.100	161.000
GR	496.800	211.000	496.800	261.000	499.900	278.000	500.300	390.000	500.100	490.000
GR	492.700	545.000	490.700	573.000	491.300	599.000	491.200	634.000	490.200	647.000
GR	490.700	668.000	492.700	688.000	494.400	692.000	494.200	706.000	492.900	712.000
GR	490.100	729.000	492.900	732.000	503.000	748.000	506.000	756.000	504.000	764.000
GR	502.800	790.000	504.400	800.000	503.000	808.000	505.100	925.000	506.100	936.000
GR	505.400	958.000	506.400	1027.000	510.300	1041.000	510.200	1051.000	519.200	1082.000
QT	6.000	11900.000	22500.000	29400.000	55700.000	29400.000	29400.000	.000	.000	.000
NH	5.000	.100	139.000	.040	282.000	.100	642.000	.030	1700.000	.050
NH	1994.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	139.000	939.000

1

X1	29.000	24.000	139.000	642.000	990.000	1080.000	1090.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	512.800	.000	497.700	27.000	496.000	139.000	493.800	156.000	491.000	177.000
GR	488.800	217.000	489.900	267.000	493.900	277.000	498.100	282.000	499.500	302.000
GR	498.500	362.000	498.800	456.000	499.100	516.000	497.900	618.000	506.900	642.000
GR	506.900	652.000	502.600	668.000	505.500	678.000	505.400	687.000	500.100	692.000
GR	502.300	1012.000	508.300	1450.000	511.500	1712.000	515.500	1994.000	.000	.000
QT	6.000	11700.000	22100.000	28900.000	54700.000	28900.000	28900.000	.000	.000	.000
NH	7.000	.100	139.000	.040	405.000	.050	442.000	.035	846.000	.020
NH	940.000	.060	2345.000	.100	2433.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	25.000	680.000
X1	28.200	27.000	19.000	447.000	901.000	383.300	983.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	517.700	.000	515.000	7.000	510.000	19.000	505.000	31.000	500.000	43.000
GR	495.000	55.000	490.200	84.000	490.200	134.000	495.000	166.000	500.000	179.000
GR	505.000	190.000	508.000	197.000	508.000	201.000	505.000	206.000	500.000	223.000
GR	497.000	265.000	497.000	419.000	498.000	426.000	499.000	430.000	508.000	447.000
GR	508.000	455.000	502.000	476.000	502.000	635.000	501.000	686.000	501.000	855.000
GR	502.[illegible]	866.000	509.000	884.000	.000	.000	.000	.000	.000	.000

ET		.000	.000	.000	.000	.000	9.100	.000	7.000	.000
X1	28.000	33.000	2.000	514.600	238.000	383.300	238.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	511.000	.000	510.000	2.000	505.000	12.000	500.000	20.000	495.000	27.200
GR	490.600	62.000	494.000	96.000	494.000	120.000	492.000	132.000	495.000	146.500
GR	500.000	156.500	505.000	164.500	509.000	174.000	509.000	183.500	505.000	198.000
GR	500.000	214.000	499.000	227.000	500.000	352.000	505.000	365.000	505.000	375.500
GR	500.000	399.500	500.000	481.500	505.000	495.500	510.000	508.000	510.000	514.600
GR	510.000	519.000	505.000	533.500	503.000	565.500	502.000	646.500	501.000	733.000
GR	501.000	914.000	505.000	936.000	509.500	950.000	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	11.000	680.000
X1	28.000	34.000	.000	587.000	175.000	383.300	156.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	510.000	.000	506.000	21.500	495.000	50.000	494.000	62.000	490.800	86.000
GR	490.800	136.000	494.000	173.000	500.000	187.000	505.000	199.500	509.000	212.000
GR	509.000	219.000	505.000	233.000	500.000	248.500	499.000	258.500	499.000	279.500
GR	498.000	322.500	496.000	337.500	496.000	385.000	499.000	400.000	500.000	410.500
GR	503.000	438.000	503.000	445.000	501.000	458.000	500.000	473.000	500.000	560.000
GR	511.000	587.000	511.000	595.000	504.000	615.000	503.000	640.500	502.000	790.500
GR	502.000	957.500	503.000	992.500	504.000	1007.500	510.000	1035.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	78.000	825.000
X1	27.700	27.000	78.000	649.000	383.000	176.250	331.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	520.000	.000	515.000	24.000	510.000	63.000	506.000	78.000	500.000	88.500
GR	491.400	132.250	491.400	182.250	500.000	239.000	505.000	247.800	505.000	266.600
GR	500.000	280.000	499.000	362.000	499.000	404.000	500.000	421.000	503.000	456.000
GR	503.000	494.000	501.000	507.000	500.000	617.000	506.000	638.000	507.000	649.000
GR	507.000	659.000	506.000	771.000	506.000	835.000	508.000	848.000	508.000	883.000

1

GR	508.000	1117.000	512.000	1132.000	.000	.000	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	49.000	836.000
X1	27.600	31.000	48.700	550.000	144.000	176.250	144.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	520.000	.000	515.000	4.000	510.000	39.000	509.000	45.700	505.000	48.700
GR	495.000	57.000	491.600	87.500	491.600	137.500	495.000	168.000	500.000	181.600
GR	505.000	198.200	505.000	234.000	500.000	290.000	500.000	354.000	501.000	515.000
GR	508.000	550.000	508.000	556.000	507.000	575.000	507.000	721.000	510.000	728.500
GR	511.000	741.500	511.000	762.000	509.000	770.000	509.000	824.000	509.000	858.000
GR	501.000	879.000	501.000	941.500	509.000	979.500	510.000	1015.000	512.000	1031.000
GR	513.500	1038.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	61.000	784.000
X1	27.500	23.000	60.600	474.900	237.000	176.250	237.000	.000	.000	.000

GR	520.000	.000	515.000	30.000	510.000	32.000	505.000	00.000	500.000	39.200
GR	492.000	98.900	492.000	148.900	500.000	178.400	505.000	185.400	505.000	207.900
GR	500.000	220.900	497.000	239.900	497.000	393.900	500.000	414.900	505.000	450.400
GR	510.000	474.900	510.000	612.700	510.000	753.400	501.000	766.400	501.000	906.400
GR	505.000	914.400	510.000	926.400	513.000	948.900	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	28.000	593.000
X1	27.400	24.000	39.000	388.000	246.500	176.250	246.500	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	520.000	.000	515.000	13.000	510.000	25.000	505.000	39.000	500.000	53.000
GR	492.400	104.500	492.500	154.500	500.000	200.000	505.000	232.000	509.000	246.000
GR	509.000	256.000	505.000	277.000	500.000	315.000	500.000	356.000	505.000	377.000
GR	510.000	388.000	510.000	418.000	505.000	451.000	505.000	579.000	510.000	649.000
GR	510.000	739.000	505.000	789.000	505.000	804.000	514.000	859.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	201.000	649.000
X1	27.300	17.000	201.000	411.000	287.000	176.250	253.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	520.000	.000	515.000	4.000	515.000	117.000	515.000	165.000	510.000	195.000
GR	506.000	201.000	500.000	216.500	492.800	246.250	492.800	296.250	498.000	345.000
GR	500.000	356.000	511.000	411.000	511.000	463.000	505.000	545.000	505.000	758.000
GR	510.000	788.000	515.000	850.000	.000	.000	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	40.000	420.000
X1	27.200	24.000	131.000	248.500	255.000	176.250	248.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	520.000	.000	515.000	13.000	510.000	49.000	499.000	131.000	496.000	146.000
GR	493.200	152.500	493.200	202.500	497.000	209.000	502.000	229.000	505.000	234.000
GR	509.000	240.500	512.000	248.500	512.000	288.500	506.000	334.500	505.000	394.500
GR	505.000	408.500	506.000	434.000	507.000	448.000	511.000	469.000	512.000	481.000
GR	513.000	491.000	513.000	503.000	514.000	513.000	515.000	527.500	.000	.000

1

NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	37.000	420.000
X1	27.100	12.000	127.000	384.000	193.500	176.250	193.500	.000	.000	.000
GR	520.000	.000	515.000	11.000	510.000	37.000	505.000	127.000	500.500	246.000
GR	493.500	269.000	493.500	319.000	500.000	348.000	505.000	371.000	510.000	384.000
GR	513.000	433.000	515.000	499.000	.000	.000	.000	.000	.000	.000
NC	.060	.045	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	43.000	594.000
X1	27.000	33.000	261.000	594.000	90.000	176.250	90.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	527.500	.000	509.300	43.000	505.800	136.000	505.900	153.000	504.700	164.000
GR	502.300	217.000	504.400	261.000	501.700	265.000	495.900	314.000	493.600	342.000
GR	494.000	354.000	494.900	371.000	496.000	393.000	500.100	430.000	514.000	458.000
GR	513.[illegible]	467.000	511.000	474.000	511.000	526.000	513.400	534.000	513.200	[illegible].000

GR	516.[illegible]	1348.000	517.400	1426.000	533.000	486.000	.000	.000	.000	.000
NH	4.000	.100	61.000	.025	207.000	.040	397.000	.030	527.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	207.000	407.000
X1	26.000	28.000	207.000	397.000	520.000	690.000	530.000	.000	.000	.000
GR	527.300	.000	514.100	25.000	511.800	61.000	512.600	67.000	512.300	87.000
GR	509.900	107.000	509.700	118.000	510.700	159.000	510.900	172.000	508.600	207.000
GR	497.600	221.000	496.100	229.000	496.800	245.000	495.600	261.000	495.900	277.000
GR	496.700	290.000	497.600	307.000	499.200	326.000	497.800	344.000	496.100	363.000
GR	497.800	377.000	504.800	397.000	505.400	423.000	519.800	479.000	519.900	491.000
GR	520.200	511.000	520.700	516.000	520.700	527.000	.000	.000	.000	.000
NC	.060	.060	.045	.300	.500	.000	.000	.000	.000	.000
NH	4.000	.100	67.000	.025	172.000	.040	404.000	.030	907.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	104.010	404.010
X1	25.200	25.000	172.000	404.000	90.000	60.000	83.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	510.000	520.300	.000
GR	527.300	.000	514.100	25.000	511.800	61.000	512.600	67.000	512.300	87.000
GR	512.500	103.000	509.200	172.000	500.300	191.000	496.100	211.000	496.600	230.000
GR	496.300	237.000	497.700	273.000	501.300	288.000	499.800	305.000	497.000	310.000
GR	495.200	323.000	497.800	339.000	502.600	349.000	503.400	380.000	515.800	404.000
GR	522.500	491.000	521.700	592.000	522.400	701.000	522.900	877.000	532.200	907.000
SB	1.050	1.560	2.800	.000	140.000	5.000	3781.000	2.266	499.400	499.400
NC	.030	.030	.040	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	104.010	404.010
X1	25.100	20.000	172.000	404.000	27.000	27.000	27.000	.000	.000	.000
X2	.000	.000	1.000	519.700	513.600	.000	.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	513.600	521.200	.000
BT	8.000	.000	530.000	530.000	11.000	513.600	513.600	172.000	514.700	509.200
BT	172.100	514.700	513.200	239.000	517.600	516.100	351.000	520.500	519.000	404.000
BT	521.200	519.700	404.100	529.900	515.800	.000	.000	.000	.000	.000
GR	530.000	.000	513.600	11.000	509.200	172.000	500.300	191.000	496.100	211.000
GR	496.600	230.000	496.300	237.000	497.700	273.000	501.300	288.000	499.800	305.000
GR	497.000	310.000	495.200	323.000	497.800	339.000	502.600	349.000	503.400	380.000
GR	510.400	380.100	510.400	401.000	515.800	401.100	515.800	404.000	529.900	404.100

1

NC	.040	.070	.040	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	15.050	315.050
X1	24.000	15.000	110.000	315.100	100.000	100.000	100.000	.000	.000	.000
GR	530.000	.000	513.600	11.000	513.200	39.000	512.600	55.000	513.600	110.000
GR	497.700	140.000	496.200	166.000	496.500	201.000	497.700	219.000	499.700	235.000
GR	497.600	240.000	496.600	265.000	497.600	293.000	499.900	315.000	530.000	315.100
ET	.000	.000	.000	.000	.000	.000	9.100	.000	10.400	315.050
X1	23.200	.000	.000	.000	675.000	675.000	675.000	.000	.900	.000
SB	.000	1.560	3.500	.000	.100	.000	.010	.000	507.000	507.000
NC	.040	.020	.020	.000	.000	.000	.000	.000	.000	.000

X2	.000	.000	1.000	507.100	515.700	.000	.000	.000	.000	.000
BT	7.000	.000	535.000	535.000	.100	515.700	507.000	150.000	516.700	507.000
BT	168.000	516.000	507.000	169.000	523.400	523.400	173.000	523.400	523.400	174.000
BT	536.400	536.400	.000	.000	.000	.000	.000	.000	.000	.000
GR	535.000	.000	507.000	.100	507.000	168.000	523.400	169.000	523.400	173.000
GR	536.400	174.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.040	.030	.040	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	.000	.000	.000	.000	9.100	.000	.000	230.000
X1	22.000	13.000	.000	204.000	1020.000	1020.000	1020.000	.000	.000	.000
GR	541.200	.000	515.900	33.000	511.500	79.000	508.200	106.000	507.800	124.000
GR	507.300	148.000	507.100	169.000	515.900	184.000	525.200	204.000	526.300	210.000
GR	526.300	223.000	525.200	235.000	534.800	249.000	.000	.000	.000	.000
NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	5.000	.030	110.000	.100	228.000	.030	407.000	.040	545.000	.030
NH	608.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

1

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

*PROF 1

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 39.000
3720 CRITICAL DEPTH ASSUMED

39.00	12.65	488.65	488.65	488.70	489.72	1.07	.00	.00	484.60
29400.	14235.	15165.	0.	3452.	1396.	0.	0.	0.	490.00
.00	4.12	10.87	.00	.048	.047	.000	.000	476.00	412.58
.005931	0.	0.	0.	0	6	0	.00	1873.31	2285.90

0
FLOW DISTRIBUTION FOR SECNO= 39.00 CWSEL= 488.65

STA=	413.	625.	745.	1775.	2110.	2140.	2290.
PER Q=	.6	1.6	36.4	8.8	1.1	51.6
AREA=	90.2	132.0	2059.7	1055.1	115.5	1395.7
VEL=	1.8	3.5	5.2	2.5	2.8	10.9

*SECNO 38.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

```
      .09      3.32      6.24      2.48      .040      .050      .0        .000   475.50   616.53
  .001313     1397.     1620.     1600.         4         0                 .00  1527.98  2409.77
)
 FLOW DISTRIBUTION FOR SECNO=     38.00          CWSEL=    493.07

 STA=     617.      627.      751.      943.     1068.     1131.     1531.     1830.     2226.     2394.     2410.
   PER Q=       .0       1.4       2.7       1.6        .3       1.3      13.9      27.6      50.8        .4
    AREA=      7.2     213.8     379.1     234.3      59.0     207.2    1203.3    2029.2    2391.7      41.6
     VEL=      1.0       1.9       2.1       2.0       1.3       1.8       3.4       4.0       6.2       2.5

 *SECNO 37.000
     37.00     13.18    495.58       .00       .00    496.04       .46      2.55       .02    488.90
    29400.     8906.    16325.     4169.     2925.     2410.     1322.      447.      130.    490.50
       .18      3.04      6.77      3.15      .060      .045      .035      .000    482.40     18.42
   .001682     1290.     1990.     2160.         3         0         0       .00   2282.99   2301.42
0
1
  04-14-02      23:24:04                                                                                PAGE     9


    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


 FLOW DISTRIBUTION FOR SECNO=     37.00          CWSEL=    495.58

 STA=      18.       48.      220.      600.      814.      885.      919.      955.     2300.     2301.
   PER Q=       .3       6.6      23.4      55.5       7.5       3.3       1.0       2.4        .0
    AREA=     57.4     727.9    2140.1    2409.6     399.9     183.0      91.1     648.1        .3
     VEL=      1.6       2.7       3.2       6.8       5.5       5.3       3.2       1.1        .7

 CCHV=     .300 CEHV=     .500
 *SECNO 36.200

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      495.00 ELREA=      498.00

     36.20     15.86    496.16       .00       .00    496.34       .18       .21       .09    487.60
    29400.    18151.    11249.        0.     6247.     2802.        0.      485.      140.    488.90
       .20      2.91      4.01       .00      .035      .045      .035      .000    480.30    599.37
   .000679      210.      210.      210.         2         0         0       .00   2032.63   2632.00
0
 FLOW DISTRIBUTION FOR SECNO=     36.20          CWSEL=    496.16

 STA=     599.     2000.     2118.     2379.     2379.     2382.     2382.     2632.
   PER Q=      25.6       8.1      27.6        .0        .4        .0      38.3
    AREA=    3613.8     673.8    1933.3        .9      24.8        .9    2801.9
     VEL=      2.1       3.5       4.2       4.6       4.6       4.6       4.0


 SPECIAL BRIDGE
```

.00	1.56	2.90	.00	250.00	.00	2687.00	.00	480.30	480.30

*SECNO 36.100
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
499.06	497.87	.00	2282.	26973.	2687.	3950.	496.10	498.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 498.00 ELREA= 500.70

36.10	18.23	498.53	.00	.00	498.60	.07	2.26	.00	487.60
29400.	21016.	8384.	0.	11206.	3395.	0.	491.	141.	488.90
.20	1.88	2.47	.00	.035	.045	.000	.000	480.30	98.02
.000199	22.	22.	22.	2	0	2	.00	2533.98	2632.00

0
1

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

FLOW DISTRIBUTION FOR SECNO= 36.10 CWSEL= 498.53

STA=	98.	2000.	2118.	2379.	2379.	2382.	2382.	2632.
PER Q=	39.5	7.8	23.8	.0	.3	.0	28.5	
AREA=	7665.9	954.0	2552.7	1.1	31.7	1.1	3395.4	
VEL=	1.5	2.4	2.7	2.9	2.9	2.9	2.5	

1490 NH CARD USED
*SECNO 35.000

3301 HV CHANGED MORE THAN HVINS

35.00	19.17	498.37	.00	.00	499.03	.66	.13	.30	491.60
29400.	1194.	22632.	5574.	303.	3107.	2331.	556.	152.	492.80
.21	3.94	7.28	2.39	.035	.050	.049	.000	479.20	151.34
.001697	280.	340.	120.	2	0	0	.00	1249.24	1400.57

0
FLOW DISTRIBUTION FOR SECNO= 35.00 CWSEL= 498.37

STA=	151.	241.	451.	764.	1123.	1365.	1401.
PER Q=	4.1	77.0	7.8	6.3	4.6	.2	
AREA=	303.5	3106.8	1117.2	689.0	488.7	35.8	
VEL=	3.9	7.3	2.0	2.7	2.8	1.8	

3301 HV CH ED MORE THAN HVINS

34.20	18.58	498.68	.00	.00	500.09	1.41	.69	.37	482.40
29400.	145.	24756.	4499.	39.	2413.	1224.	593.	160.	483.90
.22	3.70	10.26	3.67	.035	.045	.035	.000	480.10	200.18
.002491	330.	340.	330.	0	0	0	.00	785.54	985.73

0
FLOW DISTRIBUTION FOR SECNO= 34.20 CWSEL= 498.68

STA=	200.	205.	360.	360.	364.	482.	794.	893.	986.
PER Q=	.5	84.2	.1	.3	3.2	10.9	.6	.1	
AREA=	39.2	2412.7	1.5	29.4	263.6	806.1	87.5	36.3	
VEL=	3.7	10.3	12.8	3.3	3.6	4.0	2.0	1.1	

1

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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.56	2.80	.00	155.00	.00	1757.00	.00	482.50	482.50

*SECNO 34.100
PRESS FLOW BECAUSE EGLWC OF 502.49 EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
505.46	502.49	.00	14986.	14703.	1757.	1922.	494.90	494.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 499.30 ELREA= 494.50

34.10	19.12	499.22	.00	.00	500.38	1.16	.29	.00	482.40
29400.	0.	23619.	5781.	0.	2494.	1569.	595.	160.	483.90
.23	.00	9.47	3.68	.000	.045	.035	.000	480.10	205.00
.002031	27.	27.	27.	4	0	3	.00	845.76	1050.76

0
FLOW DISTRIBUTION FOR SECNO= 34.10 CWSEL= 499.22

STA=	205.	360.	360.	364.	482.	794.	893.	1035.	1051.
PER Q=	80.3	.1	.3	4.2	13.4	1.1	.5	.0	
AREA=	2494.1	1.5	31.4	325.5	969.8	139.4	100.6	.9	

```
*SECNO 33.000

3301 HV CHANGED MORE THAN HVINS

    33.00     17.81    500.51       .00       .00    500.73       .22       .07       .28    488.70
   29400.      232.    14251.    14917.      224.     3030.     5586.      607.      162.    488.70
      .23      1.03      4.70      2.67      .100      .045      .035      .000    482.70     27.00
  .000483      130.       99.       60.         3         0         0       .00   1608.89   1635.89
0
 FLOW DISTRIBUTION FOR SECNO=     33.00          CWSEL=    500.51

 STA=      27.      65.     247.     303.     317.     496.     706.     895.    1075.    1248.    1363.    1623.    1636.
   PER Q=      .8     48.5     10.1      1.9     13.2      5.8      3.7      2.9      2.4      2.2      8.4       .2
    AREA=   224.4   3030.0    633.4    135.9   1183.3    768.7    559.5    478.9    417.0    334.7   1042.7     31.6
     VEL=     1.0      4.7      4.7      4.2      3.3      2.2      1.9      1.8      1.7      1.9      2.4      1.6

1
  04-14-02     23:24:04                                                                                          PAGE   12


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


 CCHV=    .100 CEHV=    .300
 1490 NH CARD USED
 *SECNO 32.000

 3265 DIVIDED FLOW

    32.00     16.64    500.94       .00       .00    501.34       .40       .55       .05    489.60
   29400.     3465.    12596.    13339.     1364.     1895.     3694.      735.      181.    493.00
      .28      2.54      6.65      3.61      .100      .046      .039      .000    484.30     14.81
  .001196     1140.     1030.      460.         2         0         0       .00   1226.31   1274.51
0
 FLOW DISTRIBUTION FOR SECNO=     32.00          CWSEL=    500.94

 STA=      15.     141.     269.     380.     454.     634.     874.     976.    1210.    1275.
   PER Q=     11.8     42.8     15.3      5.4      7.9      6.4      3.6      6.5       .2
    AREA=   1364.2   1894.6    970.5    384.6    664.8    658.4    330.8    653.6     31.2
     VEL=      2.5      6.6      4.6      4.1      3.5      2.9      3.2      2.9      1.5

 *SECNO 31.000

 3265 DIVIDED FLOW

    31.00     20.66    502.36       .00       .00    502.94       .58      1.55       .06    507.00
   29400.        0.    21096.     8304.        0.     2958.     4297.      923.      215.    490.10
      .33       .00      7.13      1.93      .100      .050      .090      .000    481.70      3.32
  .001462     1170.     1220.     1110.         2         0         0       .00   1451.50   1539.85
0
```

```
STA=              187.     223.     287.     398.     520.      ?3.     774.    1202.    1540.
  PER Q=      /1.8       4.5      4.9      3.9      3.4      3.       4.8      3.0       .2
   AREA=   2957.7     412.7    547.2    592.8    567.6    534.8    760.9    763.9    117.5
    VEL=      7.1       3.2      2.6      2.0      1.8      1.9      1.9      1.2       .5

*SECNO 30.000

3265 DIVIDED FLOW

    30.00    15.87   505.97      .00      .00   506.49      .52     3.54      .01   500.10
   29400.    7072.   22071.     257.    3376.    3345.     211.    1236.     255.   503.00
      .46     2.09     6.60     1.22     .100     .045     .060     .000   490.10    22.64
  .001347     820.    3080.    1140.        3        0        0      .00   955.29   997.34
0
1
 04-14-02     23:24:04                                                                          PAGE    13


   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


FLOW DISTRIBUTION FOR SECNO=     30.00          CWSEL=    505.97

STA=      23.      111.     161.     211.     261.     390.     490.     748.     997.
  PER Q=      4.7       3.6      3.6      3.7      4.9      3.4     75.1       .9
   AREA=    651.9     451.0    451.0    458.5    787.0    577.0   3345.5    210.7
    VEL=      2.1       2.4      2.4      2.4      1.8      1.8      6.6      1.2

1490 NH CARD USED
*SECNO 29.000
    29.00    18.47   507.27      .00      .00   507.43      .16      .90      .04   496.00
   29400.    2058.   17449.    9893.    1249.    5310.    2960.    1437.     283.   506.90
      .56     1.65     3.29     3.34     .100     .052     .030     .000   488.80     9.89
  .000574     990.    1090.    1080.        2        0        0      .00  1365.01  1374.89
0
FLOW DISTRIBUTION FOR SECNO=     29.00          CWSEL=    507.27

STA=      10.      139.     642.    1012.    1375.
  PER Q=      7.0      59.3     27.0      6.7
   AREA=   1249.1   5310.5   2058.0    902.0
    VEL=      1.6       3.3      3.9      2.2

1490 NH CARD USED
*SECNO 28.200

3265 DIVIDED FLOW


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      510.00 ELREA=      508.00
```

```
      .59       .00      6.33       .00      .100      .057      .030      .000    490.20     24.12
  .002500      901.      983.      383.         2         0         0       .00    418.08    446.75

FLOW DISTRIBUTION FOR SECNO=     28.20          CWSEL=    507.87

STA=       24.      447.
  PER Q=     100.0
   AREA=    4565.4
    VEL=       6.3
```



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

*SECNO 28.100

3265 DIVIDED FLOW


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      510.00 ELREA=      510.00

    28.10     17.78    508.38       .00       .00    509.02       .63       .53       .00    510.00
   28900.        0.    28900.        0.        0.     4520.        0.     1599.      300.    510.00
      .60       .00      6.39       .00      .060      .045      .045      .000    490.60      5.23
  .001979      238.      238.      383.         2         0         0       .00    485.53    503.96

FLOW DISTRIBUTION FOR SECNO=     28.10          CWSEL=    508.38

STA=        5.      515.
  PER Q=     100.0
   AREA=    4519.6
    VEL=       6.4

*SECNO 28.000

3265 DIVIDED FLOW


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      510.00 ELREA=      511.00

    28.00     18.08    508.88       .00       .00    509.26       .38       .21       .03    510.00
   28900.        0.    28900.        0.        0.     5875.        0.     1617.      302.    511.00
      .61       .00      4.92       .00      .060      .045      .045      .000    490.80      6.00
  .001007      175.      156.      383.         2         0         0       .00    568.03    581.80

FLOW DISTRIBUTION FOR SECNO=     28.00          CWSEL=    508.88
```

```
  AREA=    5.0
   VEL=    4.9

SECNO 27.700
    27.70    17.85   509.25      .00      .00   509.59      .34      .33      .00   506.00
   28900.      21.   27263.    1616.      20.    5672.     907.    1663.     308.   507.00
      .63     1.06     4.81     1.78     .060     .045     .045     .000   491.40    65.81
  .001007     383.     331.     176.        2        0        0      .00  1055.88  1121.69
```



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

FLOW DISTRIBUTION FOR SECNO=     27.70          CWSEL=    509.25

STA=      66.      78.     649.     659.     771.     835.     848.     883.    1117.    1122.
 PER Q=     .1     94.3      .1      2.2      1.7       .2       .2      1.2       .0
  AREA=   19.8   5672.5    22.5    308.0    208.0     29.3     43.8    292.5      2.9
   VEL=    1.1      4.8     1.8      2.1      2.3      1.8      1.2      1.2       .7

SECNO 27.600

265 DIVIDED FLOW

    27.60    17.79   509.39      .00      .00   509.75      .36      .16      .01   505.00
   28900.       8.   24974.    3918.       8.    4976.    1225.    1685.     311.   508.00
      .64     1.00     5.02     3.20     .060     .045     .045     .000   491.60    43.03
  .001105     144.     144.     176.        1        0        0      .00   909.24   993.67

FLOW DISTRIBUTION FOR SECNO=     27.60          CWSEL=    509.39

STA=      43.      49.     550.     879.     942.     994.
 PER Q=     .0     86.4      3.6      8.2      1.7
  AREA=    7.7   4976.0    529.8    525.0    170.0
   VEL=    1.0      5.0      2.0      4.5      2.9

SECNO 27.500

495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     505.00 ELREA=     510.00

    27.50    17.52   509.52      .00      .00   510.12      .60      .29      .07   505.00
   28900.      26.   28874.       0.      18.    4646.       0.    1714.     315.   510.00
      .65     1.46     6.21      .00     .060     .045     .045     .000   492.00    52.83
  .001433     237.     237.     176.        2        0        0      .00   419.70   472.53

FLOW DISTRIBUTION FOR SECNO=     27.50          CWSEL=    509.52
```

```
   AREA=      17.5    4646.1
    VEL=       1.5       6.2

*SECNO 27.400

 04-14-02      23:24:04                                                                                                PAGE    16

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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      505.00 ELREA=      510.00

    27.40     17.27    509.67       .00       .00    510.76      1.09       .50       .15    505.00
   28900.       71.    28829.        0.       31.     3441.       0.     1737.      317.    510.00
      .66      2.33      8.38       .00      .060      .045      .045      .000    492.40     25.91
  .003099      247.      247.      176.         2         0         0       .00    361.38    387.29

FLOW DISTRIBUTION FOR SECNO=     27.40          CWSEL=    509.67

STA=      26.       39.      388.
  PER Q=        .2      99.8
   AREA=      30.6    3440.5
    VEL=       2.3       8.4

*SECNO 27.300

3301 HV CHANGED MORE THAN HVINS


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      506.00 ELREA=      511.00

    27.30     17.07    509.87       .00       .00    512.06      2.19       .97       .33    506.00
   28900.       27.    28873.        0.       11.     2430.       0.     1754.      318.    511.00
      .67      2.38     11.88       .00      .060      .045      .045      .000    492.80    195.19
  .004874      287.      253.      176.         2         0         0       .00    210.19    405.38

FLOW DISTRIBUTION FOR SECNO=     27.30          CWSEL=    509.87

STA=     195.      201.      411.
  PER Q=        .1      99.9
   AREA=      11.3    2430.5
    VEL=       2.4      11.9

*SECNO 27.200

3301 HV CHANGED MORE THAN HVINS
```

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

   27.20    16.99    510.19       .00       .00    514.19      4.01      1.58       .55    499.00
  28900.    3409.    25491.        0.      466.     1509.        0.     1767.      320.     512.00
     .67     7.31     16.90       .00      .060      .045      .045      .000    493.20     47.66
 .008692     255.      248.      176.         3         0         0       .00    196.00    243.66

LOW DISTRIBUTION FOR SECNO=     27.20          CWSEL=    510.19

TA=       48.      131.      249.
 PER Q=     11.8      88.2
  AREA=    466.4    1508.7
   VEL=      7.3      16.9

SECNO 27.100

301 HV CHANGED MORE THAN HVINS

   27.10    20.82    514.32       .00       .00    515.06       .74       .54       .33    505.00
  28900.    2100.    26435.      364.      662.     3687.      167.     1781.      321.     510.00
     .68     3.17     7.17      2.18      .060      .045      .045      .000    493.50     14.53
 .001376     194.      194.      176.         3         0         0       .00    462.06    476.59

LOW DISTRIBUTION FOR SECNO=     27.10          CWSEL=    514.32

TA=       15.       37.      127.      384.      433.      477.
 PER Q=      .3       7.0      91.5       1.2        .1
  AREA=    48.5     613.9    3686.5     138.2      28.8
   VEL=     1.5       3.3       7.2       2.4        .9

SECNO 27.000

495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      504.40 ELREA=      516.80

   27.00    21.15    514.75       .00       .00    515.21       .46       .12       .03    504.40
  28900.    8092.    20808.        0.     2058.     3513.        0.     1792.      322.     516.80
     .68     3.93     5.92       .00      .060      .045      .045      .000    493.60     30.12
 .001259      90.       90.      176.         2         0         0       .00    534.29    564.41

LOW DISTRIBUTION FOR SECNO=     27.00          CWSEL=    514.75

TA=       30.       43.      136.      153.      164.      217.      261.      594.
 PER Q=      .2       7.6       2.0       1.4       9.1       7.7      72.0
  AREA=    35.1     669.8     151.3     104.0     596.4     501.7    3513.4
   VEL=     1.6       3.3       3.8       3.9       4.4       4.4       5.9
```

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


1490 NH CARD USED
*SECNO 26.000
    26.00     19.53    515.13       .00       .00    515.83       .70       .55       .07    508.60
   28900.     3236.    23165.     2499.      737.     3271.      445.     1853.      328.    504.80
      .71      4.39      7.08      5.61      .026      .040      .030      .000    495.60     23.04
  .000849     520.      530.      690.         2         0         0       .00    437.80    460.85
)
FLOW DISTRIBUTION FOR SECNO=     26.00          CWSEL=    515.13

STA=       23.      118.      159.      207.      397.      423.      461.
  PER Q=      3.3       3.5       4.4      80.2       6.1       2.6
   AREA=    290.1     202.2     244.7    3271.2     260.8     184.2
    VEL=      3.3       5.0       5.1       7.1       6.7       4.1

CCHV=    .300 CEHV=    .500
1490 NH CARD USED
*SECNO 25.200

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      510.00 ELREA=      520.30

    25.20     19.92    515.12       .00       .00    516.01       .89       .08       .10    509.20
   28900.     2109.    26791.        0.      488.     3444.        0.     1861.      329.    515.80
      .71      4.32      7.78       .00      .028      .040      .030      .000    495.20     23.07
  .001248      90.       83.       60.         2         0         0       .00    379.62    402.68
)
FLOW DISTRIBUTION FOR SECNO=     25.20          CWSEL=    515.12

STA=       23.      172.      404.
  PER Q=      7.3      92.7
   AREA=    488.1    3443.6
    VEL=      4.3       7.8


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.56      2.80       .00    140.00      5.00   3781.00      2.27    499.40    499.40

*SECNO 25.100
6840,FLOW IS BY WEIR AND LOW FLOW
3420 BRIDGE W.S.=    515.18 BRIDGE VELOCITY=,     10.07      CALCULATED CHANNEL AREA=,     2695.
```

Q	QOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	OB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD
519.70	516.76	.06	2016.	27149.	3781.	3674.	519.70	513.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 513.60 ELREA= 521.20

25.10	20.84	516.04	.00	.00	516.76	.72	.75	.00	509.20
28900.	3292.	25608.	0.	749.	3622.	0.	1864.	329.	515.80
.71	4.40	7.07	.00	.030	.040	.000	.000	495.20	9.36
.001022	27.	27.	27.	2	0	2	.00	394.64	404.00

FLOW DISTRIBUTION FOR SECNO= 25.10 CWSEL= 516.04

STA=	9.	172.	404.
PER Q=	11.4	88.6	
AREA=	749.1	3622.0	
VEL=	4.4	7.1	

*SECNO 24.000

24.00	19.83	516.03	.00	.00	516.97	.94	.11	.11	513.60
28900.	722.	28178.	0.	287.	3586.	0.	1873.	330.	530.00
.71	2.51	7.86	.00	.040	.040	.070	.000	496.20	9.37
.001121	100.	100.	100.	2	0	0	.00	305.69	315.05

FLOW DISTRIBUTION FOR SECNO= 24.00 CWSEL= 516.03

STA=	9.	39.	55.	110.	315.
PER Q=	.6	.5	1.4	97.5	
AREA=	75.8	50.2	161.4	3586.1	
VEL=	2.3	2.7	2.5	7.9	

*SECNO 23.200

23.20	19.69	516.79	.00	.00	517.75	.96	.77	.01	514.50
28900.	674.	28226.	0.	273.	3557.	0.	1933.	335.	530.90
.74	2.47	7.94	.00	.040	.040	.070	.000	497.10	9.46
.001155	675.	675.	675.	2	0	0	.00	305.59	315.05

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

FLOW DISTRIBUTION FOR SECNO= 23.20 CWSEL= 516.79

STA=	9.	39.	55.	110.	315.
PER Q=	.6	.4	1.3	97.7	
AREA=	71.6	47.9	153.6	3556.9	
VEL=	2.3	2.6	2.5	7.9	

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.56	3.50	.00	.10	.00	.01	.00	507.00	507.00

*SECNO 23.100
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
**********	527.65	.00	28987.	0.	0.	0.	507.10	515.70

23.10	21.58	528.58	.00	.00	529.56	.98	11.81	.00	535.00
28900.	0.	28847.	53.	0.	3625.	35.	1933.	335.	507.00
.74	.00	7.96	1.51	.000	.020	.020	.000	507.00	.02
.000224	5.	5.	5.	2	0	6	.00	173.38	173.40

FLOW DISTRIBUTION FOR SECNO= 23.10 CWSEL= 528.58

STA=	0.	168.	169.	173.	173.
PER Q=	99.8	.0	.1	.0	
AREA=	3624.6	13.4	20.7	1.0	
VEL=	8.0	1.0	1.9	.4	

*SECNO 22.000

22.00	21.80	528.90	.00	.00	530.20	1.30	.48	.16	541.20
28900.	0.	28511.	389.	0.	3096.	101.	2013.	339.	525.20
.77	.00	9.21	3.87	.040	.040	.030	.000	507.10	16.04
.001563	1020.	1020.	1020.	2	0	0	.00	224.36	240.40

FLOW DISTRIBUTION FOR SECNO= 22.00 CWSEL= 528.90

STA=	16.	204.	210.	223.	235.	240.
PER Q=	98.7	.3	.4	.5	.1	
AREA=	3096.4	18.9	33.8	37.8	10.0	
VEL=	9.2	4.2	3.7	4.2	2.6	

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	[illegible]OB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

```
CHV=     .100 CEHV=     .300
1490 NH CARD USED
```



```
                                                                THIS RUN EXECUTED 04-14-02
*************************************************
  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 AUGUST 1985
*************************************************

T1 TOWN OF POWNAL FLOOD INSURANCE STUDY
T2 100-YR
T3 DETERMINATION OF FLOODWAY

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        7.        0.        0.   .000000      .00        .0        0.   489.700     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    15.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000
```



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

*PROF 2

CHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 39.000

3470 ENCROACHMENT STATIONS=    1390.0    2290.0  TYPE=     1  TARGET=     900.000
    39.00    13.70   489.70      .00   488.65   490.78     1.08      .00       .00   484.60
   29400.   13206.   16194.       0.    2885.    1551.       0.       0.        0. 100000.00
      .00     4.58    10.44      .00     .056     .047     .000     .000    476.00  1390.00
  .004871       0.       0.       0.        0        0        0      .00    899.09  2289.09
```

```
STA=    1390.    1775.    2110.    2140.    2290.
  PER Q=     30.5     12.9      1.5     55.1
   AREA=   1331.0   1407.0    147.0   1550.6
    VEL=      6.7      2.7      3.0     10.4

*SECNO 38.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    1494.0    2394.0  TYPE=     1  TARGET=     900.000
    38.00    18.18   493.68      .00   493.07   494.07      .39     3.22      .07   487.80
   29400.   14531.   14869.       0.    3772.    2493.       0.     182.      30. 100000.00
      .09     3.85     5.96      .00     .040     .050     .040     .000   475.50  1494.00
  .001187    1397.    1620.    1600.        4        0        0      .00   900.00  2394.00
)
FLOW DISTRIBUTION FOR SECNO=     38.00          CWSEL=    493.68

STA=    1494.    1531.    1830.    2226.    2394.
  PER Q=      1.1     16.7     31.6     50.6
   AREA=    120.5   1383.6   2268.1   2493.1
    VEL=      2.7      3.6      4.1      6.0

*SECNO 37.000

3470 ENCROACHMENT STATIONS=     100.0    1000.0  TYPE=     1  TARGET=     900.000
    37.00    13.55   495.95      .00   495.58   496.44      .49     2.34      .03   488.90
   29400.    8914.   16648.    3837.    2846.    2489.     765.     413.      61.    490.50
      .17     3.13     6.69     5.02     .060     .045     .035     .000   482.40   100.00
  .001571    1290.    1990.    2160.        3        0        0      .00   900.00  1000.00
)
(
 04-14-02     23:24:04                                                                                                PAGE   24


   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


FLOW DISTRIBUTION FOR SECNO=     37.00          CWSEL=    495.95

STA=     100.     220.     600.     814.     885.     919.     955.    1000.
  PER Q=      5.2     25.1     56.6      8.1      3.6      1.2       .2
   AREA=    565.0   2280.8   2488.9    426.2    195.6    104.5     38.3
    VEL=      2.7      3.2      6.7      5.6      5.4      3.4      1.5

CCHV=    .300 CEHV=    .500
*SECNO 36.200

3470 ENCROACHMENT STATIONS=    1733.0    2633.0  TYPE=     1  TARGET=     900.000
```

```
   36.20      5.15   496.45      .00   496.16   496.73      .2      .23      .06   487.60
  29400.      772.   12628.       0.     4068.    2874.       0     444.      66.    488.90
     .19      4.12     4.39      .00     .035     .045     .035     .000   480.30  1733.00
 .000785      210.     210.     210.        2        0        0      .00   899.00  2632.00

FLOW DISTRIBUTION FOR SECNO=     36.20          CWSEL=    496.45

STA=    1733.    2000.    2118.    2379.    2379.    2382.    2382.    2632.
  PER Q=     15.4      9.5     31.7       .0       .4       .0     43.0
   AREA=   1323.8    708.0   2008.9       .9     25.7       .9   2874.3
    VEL=      3.4      3.9      4.6      5.1      5.1      5.1      4.4


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .00      1.56      2.90       .00    250.00       .00   2687.00       .00    480.30    480.30

*SECNO 36.100
PRESSURE AND WEIR FLOW


 EGPRS      EGLWC       H3        QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
   499.35    498.07       .00     3183.    26101.     2687.     3950.      496.10    498.00


3470 ENCROACHMENT STATIONS=    1733.0    2633.0  TYPE=     1  TARGET=     900.000

 04-14-02     23:24:04                                                                          PAGE   25


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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      498.00 ELREA=      500.70

   36.10    18.26   498.56      .00   498.53   498.74      .17     2.01      .00   487.60
  29400.   18129.   11271.       0.     5440.    3403.       0.     448.      66.    488.90
     .19     3.33     3.31      .00     .035     .045     .000     .000   480.30  1733.00
 .000356      22.      22.      22.        2        0        2      .00   899.00  2632.00

FLOW DISTRIBUTION FOR SECNO=     36.10          CWSEL=    498.56

STA=    1733.    2000.    2118.    2379.    2379.    2382.    2382.    2632.
  PER Q=     18.7     10.5     32.0       .0       .4       .0     38.3
   AREA=   1888.2    957.4   2560.4      1.1     31.8      1.1   3402.8
```

```
1490 NH CARD USED
*SECNO 35.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     241.0     941.0  TYPE=     1  TARGET=     700.000
    35.00     19.20   498.40      .00   498.37   499.35      .95      .22      .39   491.60
   29400.        0.   25829.    3571.       0.    3113.    1440.     493.      71.    492.80
      .20       .00     8.30     2.48     .035     .049     .061     .000   479.20   241.00
  .002235      280.     340.     120.        2        0        0      .00   700.00   941.00

FLOW DISTRIBUTION FOR SECNO=     35.00          CWSEL=    498.40

STA=     241.     451.     764.     941.
  PER Q=     87.9      9.0      3.1
   AREA=   3113.2   1126.7    313.7
    VEL=      8.3      2.4      2.9

*SECNO 34.200

3470 ENCROACHMENT STATIONS=     201.0     901.0  TYPE=     1  TARGET=     700.000
    34.20     18.90   499.00      .00   498.68   500.25     1.26      .75      .15   482.40
   29400.      136.   24084.    5180.      39.    2461.    1364.     526.      76.    483.90
      .21      3.47     9.78     3.80     .035     .045     .035     .000   480.10   201.00
  .002206      330.     340.     330.        2        0        0      .00   700.00   901.00


 04-14-02     23:24:04                                                                                                PAGE   26


   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


FLOW DISTRIBUTION FOR SECNO=     34.20          CWSEL=    499.00

STA=     201.     205.     360.     360.     364.     482.     794.     893.     901.
  PER Q=       .5     81.9       .1       .3      3.8     12.5       .9       .1
   AREA=     39.3   2461.3      1.5     30.6    300.5    903.9    118.5      8.5
    VEL=      3.5      9.8     12.2      3.2      3.7      4.1      2.2      1.9


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.56      2.80       .00    155.00       .00   1757.00       .00    482.50    482.50

*SECNO 34.100
 PRESS FLOW BECAUSE EGLWC OF    502.65  EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW
```

EGPRS	TGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
505.78	502.65	.00	15642.	13758.	1757.	1922.	494.90	494.50

```
3470 ENCROACHMENT STATIONS=      204.5      904.5  TYPE=      1  TARGET=      700.000
    34.10     19.28    499.38       .00    499.22    500.48      1.10       .23       .00    482.40
   29400.        9.    23326.     6064.        8.     2521.     1578.      528.       76.    483.90
      .21      1.13      9.25      3.84      .035      .045      .035      .000    480.10    204.50
  .001910       27.       27.       27.         3         0         4       .00    700.00    904.50
)
FLOW DISTRIBUTION FOR SECNO=      34.10          CWSEL=     499.38

STA=      205.      205.      360.      360.      364.      482.      794.      893.      904.
  PER Q=       .0      79.3        .1        .3       4.5      14.3       1.3        .1
   AREA=      8.1    2521.3       1.5      32.1     346.2    1024.5     156.8      16.5
    VEL=      1.1       9.3      11.5       3.1       3.8       4.1       2.5       2.2

*SECNO 33.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=       65.0      865.0  TYPE=      1  TARGET=      800.000
    33.00     17.70    500.40       .00    500.51    500.79       .39       .10       .21    488.70
   29400.        0.    17112.    12288.        0.     3010.     3118.      538.       78.    488.70
      .22       .00      5.68      3.94      .100      .045      .035      .000    482.70     65.00
  .000773      130.       99.       60.         3         0         0       .00    800.00    865.00
```


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

```
FLOW DISTRIBUTION FOR SECNO=      33.00          CWSEL=     500.40

STA=       65.      247.      303.      317.      496.      706.      865.
  PER Q=      58.2      12.6       2.4      16.3       7.0       3.5
   AREA=    3010.2     627.3     134.4    1163.8     745.8     447.1
    VEL=       5.7       5.9       5.3       4.1       2.7       2.3

CCHV=     .100 CEHV=     .300
1490 NH CARD USED
*SECNO 32.000

3470 ENCROACHMENT STATIONS=      113.0      913.0  TYPE=      1  TARGET=      800.000
    32.00     16.77    501.07       .00    500.94    501.74       .67       .86       .08    489.60
```

```
 .001699    1140.    1030.     460.        2        0        0      .00   800.00   913.00

FLOW DISTRIBUTION FOR SECNO=     32.00          CWSEL=    501.07

STA=     113.     141.     269.     380.     454.     634.     874.     913.
  PER Q=      2.7     51.8     18.7      6.8     10.0      8.3      1.6
  AREA=    322.4   1911.8    985.3    394.5    688.9    690.5    129.3
   VEL=      2.5      8.0      5.6      5.0      4.3      3.5      3.7

*SECNO 31.000

3470 ENCROACHMENT STATIONS=       3.3     803.3  TYPE=     1  TARGET=     800.000
   31.00    21.25   502.95      .00   502.36   503.49      .54     1.74      .01100000.00
  29400.       0.   21018.    8382.       0.    3065.    3945.     793.     109.    490.10
     .31      .00     6.86     2.12     .100     .050     .090     .000   481.70     3.35
 .001294    1170.    1220.    1110.        2        0        0      .00   800.00   803.35

FLOW DISTRIBUTION FOR SECNO=     31.00          CWSEL=    502.95

STA=       3.     187.     223.     287.     398.     520.     623.     774.     803.
  PER Q=     71.5      4.6      5.2      4.4      3.9      3.9      5.4      1.1
  AREA=   3065.4    433.8    584.8    657.9    639.2    595.2    849.4    184.8
   VEL=      6.9      3.1      2.6      2.0      1.8      1.9      1.9      1.8

*SECNO 30.000
```



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


3470 ENCROACHMENT STATIONS=      22.6     822.7  TYPE=     1  TARGET=     800.000
   30.00    16.11   506.21      .00   505.97   506.70      .50     3.21      .00   500.10
  29400.    7187.   21950.     263.    3487.    3406.     170.    1108.     138.    503.00
     .44     2.06     6.44     1.55     .100     .045     .060     .000   490.10    22.65
 .001255     820.    3080.    1140.        3        0        0      .00   800.00   822.65

FLOW DISTRIBUTION FOR SECNO=     30.00          CWSEL=    506.21

STA=      23.     111.     161.     211.     261.     390.     490.     748.     823.
  PER Q=      4.8      3.7      3.7      3.8      5.0      3.6     74.7       .9
  AREA=    672.7    462.8    462.8    470.3    817.4    600.6   3406.3    169.7
   VEL=      2.1      2.3      2.3      2.3      1.8      1.7      6.4      1.6

1490 NH CARD USED
*SECNO 29.000

3470 ENCROACHMENT STATIONS=     139.0     939.0  TYPE=     1  TARGET=     800.000
```

```
      .52       .00      3.85      4.80      .100      .053      .0?       .000   488.80   139.00
  .000833      990.     1090.     1080.         0         0                .00   800.00   939.00

FLOW DISTRIBUTION FOR SECNO=      29.00          CWSEL=     507.55

STA=      139.      642.      939.
  PER Q=      71.3      28.7
   AREA=    5449.6    1758.9
    VEL=       3.8       4.8

1490 NH CARD USED
*SECNO 28.200

3470 ENCROACHMENT STATIONS=       25.0      680.0  TYPE=      1  TARGET=      655.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=   100000.00 ELREA=       508.00

    28.20     18.13    508.33       .00    507.87    508.67       .34       .83       .02100000.00
   28900.        0.    22036.     6864.        0.     4761.     1384.     1412.      170.    508.00
      .56       .00      4.63      4.96      .100      .056      .035      .000   490.20    25.00
  .001242      901.      983.      383.         1         0         0       .00   655.00   680.00


 04-14-02      23:24:04                                                                          PAGE    29


   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


FLOW DISTRIBUTION FOR SECNO=      28.20          CWSEL=     508.33

STA=       25.      447.      635.      680.
  PER Q=      76.2      18.6       5.1
   AREA=    4761.3    1079.3     304.8
    VEL=       4.6       5.0       4.9

*SECNO 28.100

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=        7.0      680.0  TYPE=      1  TARGET=      673.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=   100000.00 ELREA=       510.00

    28.10     17.92    508.52       .00    508.38    509.14       .62       .39       .08100000.00
   28900.        0.    28900.        0.        0.     4585.        0.     1443.      174.    510.00
      .58       .00      6.30       .00      .060      .045      .045      .000   490.60     7.00
  .001888      238.      238.      383.         2         0         0       .00   484.93   504.30
```

```
TA=        7.      515.
 PER Q=     100.0
  AREA=   4585.2
   VEL=       6.3

SECNO 28.000

265 DIVIDED FLOW


470 ENCROACHMENT STATIONS=       11.0      680.0  TYPE=      1  TARGET=      669.000

495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=   100000.00 ELREA=       511.00

   28.00     18.20    509.00       .00    508.88    509.37       .37       .20       .02100000.00
  28900.        0.    28900.        0.        0.     5938.        0.     1462.      176.     511.00
     .58       .00      4.87       .00      .060      .045      .045      .000    490.80     11.00
 .000965      175.      156.      383.         2         0         0       .00    564.09    582.09


04-14-02      23:24:04                                                                                                PAGE    30


  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


LOW DISTRIBUTION FOR SECNO=      28.00          CWSEL=     509.00

TA=       11.      587.
 PER Q=     100.0
  AREA=   5938.5
   VEL=       4.9

SECNO 27.700

470 ENCROACHMENT STATIONS=       78.0      825.0  TYPE=      1  TARGET=      747.000
   27.70     17.94    509.34       .00    509.25    509.69       .35       .33       .00    506.00
  28900.        0.    27774.     1126.        0.     5724.      522.     1507.      180.     507.00
     .60       .00      4.85      2.16      .060      .045      .045      .000    491.40     78.00
 .001022      383.      331.      176.         2         0         0       .00    747.00    825.00

LOW DISTRIBUTION FOR SECNO=      27.70          CWSEL=     509.34

TA=       78.      649.      659.      771.      825.
 PER Q=     96.1        .2       2.3       1.4
  AREA=   5724.0      23.4     318.1     180.4
   VEL=       4.9       1.9       2.1       2.3

SECNO 27.600
```

3470 ENCRO: ENT STATIONS= 49.0 836.0 TYPE= 1 GET= 787.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 100000.00 ELREA= 508.00

27.60	17.83	509.43	.00	509.39	509.90	.48	.17	.04	100000.00
28900.	0.	27999.	901.	0.	4989.	435.	1527.	183.	508.00
.61	.00	5.61	2.07	.060	.045	.045	.000	491.60	49.00
.001392	144.	144.	176.	2	0	0	.00	745.78	836.00

FLOW DISTRIBUTION FOR SECNO= 27.60 CWSEL= 509.43

STA=	49.	550.	556.	575.	721.	727.	824.	836.
PER Q=	96.9	.0	.2	2.7	.0	.1	.0	
AREA=	4988.6	8.6	36.6	354.4	7.4	23.4	5.1	
VEL=	5.6	1.6	1.9	2.2	1.3	.7	.7	

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

*SECNO 27.500

3470 ENCROACHMENT STATIONS= 61.0 784.0 TYPE= 1 TARGET= 723.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 100000.00 ELREA= 510.00

27.50	17.68	509.68	.00	509.52	510.26	.58	.33	.03	100000.00
28900.	0.	28900.	0.	0.	4715.	0.	1554.	186.	510.00
.62	.00	6.13	.00	.060	.045	.045	.000	492.00	61.00
.001390	237.	237.	176.	0	0	0	.00	412.37	473.37

FLOW DISTRIBUTION FOR SECNO= 27.50 CWSEL= 509.68

STA=	61.	475.
PER Q=	100.0	
AREA=	4715.3	
VEL=	6.1	

*SECNO 27.400

3470 ENCROACHMENT STATIONS= 28.0 593.0 TYPE= 1 TARGET= 565.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 505.00 ELREA= 510.00

27.40	17.43	509.83	.00	509.67	510.89	1.05	.48	.14	505.00
28900.	78.	28822.	0.	32.	3496.	0.	1578.	188.	510.00

```
 .002942     247.     247.     176.       2        0        0      .00   359.83   387.83

FLOW DISTRIBUTION FOR SECNO=     27.40          CWSEL=    509.83

STA=      28.      39.     388.
  PER Q=       .3     99.7
   AREA=     31.6   3495.6
    VEL=      2.5      8.2

*SECNO 27.300

3301 HV CHANGED MORE THAN HVINS
```



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


3470 ENCROACHMENT STATIONS=     201.0     649.0  TYPE=     1  TARGET=     448.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      506.00 ELREA=      511.00

    27.30     17.21    510.01       .00    509.87    512.15      2.15       .94       .33    506.00
   28900.        0.    28900.        0.        0.     2458.        0.     1595.      190.    511.00
      .64       .00     11.76       .00      .060      .045      .045      .000    492.80    201.00
  .004846      287.      253.      176.         2         0         0       .00    205.05    406.05

FLOW DISTRIBUTION FOR SECNO=     27.30          CWSEL=    510.01

STA=     201.     411.
  PER Q=    100.0
   AREA=   2457.8
    VEL=     11.8

*SECNO 27.200

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      40.0     420.0  TYPE=     1  TARGET=     380.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      499.00 ELREA=      512.00

    27.20     17.15    510.35       .00    510.19    514.22      3.88      1.55       .52    499.00
   28900.     3499.    25401.        0.      480.     1527.        0.     1608.      191.    512.00
      .64      7.29     16.64       .00      .060      .045      .045      .000    493.20     46.50
  .008335      255.      248.      176.         3         0         0       .00    197.60    244.09
```

```
STA=        4        131.      249.
  PER Q=       2.1       87.9
   AREA=     479.9     1526.9
    VEL=       7.3       16.6

*SECNO 27.100
```



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


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=       37.0      420.0  TYPE=      1  TARGET=      383.000
    27.10     20.82    514.32       .00    514.32    515.08       .76       .54       .31    505.00
   28900.     1978.    26622.      300.      614.     3686.      116.     1622.      192.    510.00
      .65      3.22      7.22      2.59      .060      .045      .045      .000    493.50     37.00
  .001396      194.      194.      176.         3         0         0       .00    383.00    420.00

FLOW DISTRIBUTION FOR SECNO=      27.10          CWSEL=     514.32

STA=       37.      127.      384.      420.
  PER Q=       6.8      92.1       1.0
   AREA=     613.9    3686.4     115.9
    VEL=       3.2       7.2       2.6

*SECNO 27.000

3470 ENCROACHMENT STATIONS=       43.0      594.0  TYPE=      1  TARGET=      551.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       504.40 ELREA=   100000.00

    27.00     21.17    514.77       .00    514.75    515.23       .46       .12       .03    504.40
   28900.     7996.    20904.        0.     2026.     3517.        0.     1632.      193. 100000.00
      .65      3.95      5.94       .00      .060      .045      .045      .000    493.60     43.00
  .001267       90.       90.      176.         2         0         0       .00    521.57    564.57

FLOW DISTRIBUTION FOR SECNO=      27.00          CWSEL=     514.77

STA=       43.      136.      153.      164.      217.      261.      594.
  PER Q=       7.4       2.0       1.4       9.1       7.8      72.3
   AREA=     671.1     151.6     104.1     597.1     502.3    3517.4
    VEL=       3.2       3.8       3.9       4.4       4.5       5.9

1490 NH CARD USED
*SECNO 26.000
```

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


3470 ENCROACHMENT STATIONS=     207.0     407.0  TYPE=     1  TARGET=     200.000
    26.00     19.37    514.97      .00    515.13    516.14      1.18       .70       .21    508.60
   28900.        0.    28358.     542.        0.     3240.      100.     1686.      198.    504.80
      .67       .00      8.75     5.39      .060      .040      .030      .000    495.60    207.00
  .001372      520.      530.     690.         2         0         0       .00    200.00    407.00

FLOW DISTRIBUTION FOR SECNO=     26.00          CWSEL=    514.97

STA=     207.     397.     407.
  PER Q=     98.1      1.9
   AREA=   3239.6    100.5
    VEL=      8.8      5.4

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 25.200

3470 ENCROACHMENT STATIONS=     104.0     404.0  TYPE=     1  TARGET=     300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      510.00 ELREA=      520.30

    25.20     20.23    515.43      .00    515.12    516.33       .90       .11       .08    509.20
   28900.     1736.    27165.       0.      313.     3516.        0.     1693.      198.    515.80
      .67      5.54      7.73      .00      .025      .040      .030      .000    495.20    104.01
  .001202       90.       83.      60.         2         0         0       .00    299.28    403.29

FLOW DISTRIBUTION FOR SECNO=     25.20          CWSEL=    515.43

STA=     104.     172.     404.
  PER Q=      6.0     94.0
   AREA=    313.2   3515.9
    VEL=      5.5      7.7


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.56      2.80       .00    140.00      5.00   3781.00      2.27    499.40    499.40

*SECNO 25.100
6840,FLOW IS BY WEIR AND LOW 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

20 BRIDGE W.S.=     515.48 BRIDGE VELOCITY=,       9.67      CALCULATED CHANNEL AREA=,      2758.

GPRS      EGLWC       H3        QWEIR      QLOW      BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  519.70    516.94       .05      2228.    26667.     3781.     3674.      519.70    513.60


70 ENCROACHMENT STATIONS=     104.0     404.0  TYPE=     1  TARGET=     300.000

95 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      513.60 ELREA=      521.20

  25.10    20.93   516.13      .00   516.04   516.94      .81      .61      .00   509.20
 28900.    2109.   26791.       0.     408.    3643.       0.    1696.     198.   515.80
    .67     5.17     7.35      .00     .030     .040     .000     .000   495.20   104.01
.001098      27.      27.      27.        2        0        3      .00   299.99   404.00

OW DISTRIBUTION FOR SECNO=     25.10          CWSEL=    516.13

'A=     104.     172.     404.
PER Q=      7.3     92.7
 AREA=    408.2   3643.3
  VEL=      5.2      7.4

ECNO 24.000

70 ENCROACHMENT STATIONS=      15.1     315.0  TYPE=     1  TARGET=     300.000
  24.00    19.98   516.18      .00   516.03   517.10      .92      .11      .06   513.60
 28900.     736.   28164.       0.     289.    3616.       0.    1705.     199. 100000.00
    .68     2.54     7.79      .00     .040     .040     .070     .000   496.20    15.05
.001090     100.     100.     100.        2        0        0      .00   300.00   315.05

OW DISTRIBUTION FOR SECNO=     24.00          CWSEL=    516.18

A=      15.      39.      55.     110.     315.
PER Q=       .5       .5      1.5     97.5
 AREA=     67.3     52.5    169.5   3616.1
  VEL=      2.3      2.7      2.6      7.8

ECNO 23.200

4-14-02     23:24:04                                                                          PAGE    36

 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
```

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 10.4 315.0 TYPE= 1 TARGET= 304.650

23.20	19.82	516.92	.00	516.79	517.86	.94	.75	.01	514.50
28900.	716.	28184.	0.	285.	3583.	0.	1765.	204.	100000.00
.70	2.51	7.87	.00	.040	.040	.070	.000	497.10	10.40
.001125	675.	675.	675.	0	0	0	.00	304.65	315.05

FLOW DISTRIBUTION FOR SECNO= 23.20 CWSEL= 516.92

STA=	10.	39.	55.	110.	315.
PER Q=	.6	.5	1.4	97.5	
AREA=	74.5	49.9	160.6	3583.0	
VEL=	2.3	2.7	2.5	7.9	

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.56	3.50	.00	.10	.00	.01	.00	507.00	507.00

*SECNO 23.100
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
**********	527.76	.00	28992.	0.	0.	0.	507.10	515.70

3470 ENCROACHMENT STATIONS= .0 173.4 TYPE= 1 TARGET= 173.390

23.10	21.58	528.58	.00	528.58	529.56	.98	11.70	.00	100000.00
28900.	0.	28847.	53.	0.	3625.	35.	1766.	204.	507.00
.70	.00	7.96	1.51	.000	.020	.020	.000	507.00	.02
.000224	5.	5.	5.	2	0	6	.00	173.37	173.40

FLOW DISTRIBUTION FOR SECNO= 23.10 CWSEL= 528.58

STA=	0.	168.	169.	173.	173.
PER Q=	99.8	.0	.1	.0	
AREA=	3624.9	13.4	20.7	1.0	
VEL=	8.0	1.0	1.9	.4	

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

```
*SECNO 22.
    22.00     21.79    528.89       .00    528.90    530.22      1.33       .48       .17    541.20
   28900.        0.    28710.      190.        0.    3094.       53.     1845.      208.    525.20
      .73       .00      9.28      3.62      .040      .040      .030      .000    507.10     16.05
  .001588     1020.     1020.     1020.         2         0         0       .00    206.95    223.00

FLOW DISTRIBUTION FOR SECNO=     22.00          CWSEL=    528.89

STA=       16.      204.      210.      223.
  PER Q=     99.3        .3        .4
  AREA=   3094.5      18.8      33.7
   VEL=      9.3       4.2       3.3

CCHV=     .100 CEHV=     .300
1490 NH CARD USED

 04-14-02     23:24:04                                                                          PAGE   38


                                                                                THIS RUN EXECUTED 04-14-02
**************************************************
  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 AUGUST 1985
**************************************************


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


L, VT

SUMMARY PRINTOUT


      CWSEL      .01K       EG      TOPWID    STENCL    STENCR     WSELK

*    488.650   3817.67    489.72   1873.31       .00       .00    488.70
     489.700   4212.64    490.78    899.09   1390.00   2290.00    488.65

     493.071   8113.53    493.46   1527.98       .00       .00       .00
     493.677   8534.98    494.07    900.00   1494.00   2394.00    493.07

     495.576   7168.52    496.04   2282.99       .00       .00       .00
     495.948   7418.64    496.44    900.00    100.00   1000.00    495.58

     496.159  11285.66    496.34   2032.63       .00       .00       .00
     496.450  10490.17    496.73    899.00   1733.00   2633.00    496.16
```

498.368	7137.65	499.03	1249.24	.00	.00	.00
498.398	6218.15	499.35	700.00	241.00	941.00	498.37
498.682	5890.22	500.09	785.54	.00	.00	.00
498.996	6259.20	500.25	700.00	201.00	901.00	498.68
499.218	6524.40	500.38	845.76	.00	.00	.00
499.380	6726.93	500.48	700.00	204.50	904.50	499.22
500.511	13380.59	500.73	1608.89	.00	.00	.00
500.402	10577.23	500.79	800.00	65.00	865.00	500.51
500.940	8501.78	501.34	1226.31	.00	.00	.00
501.074	7132.66	501.74	800.00	113.00	913.00	500.94
502.362	7688.34	502.94	1451.50	.00	.00	.00
502.949	8174.50	503.49	800.00	3.35	803.35	502.36

CWSEL	.01K	EG	TOPWID	STENCL	STENCR	WSELK
505.970	8010.35	506.49	955.29	.00	.00	.00
506.206	8299.92	506.70	800.00	22.65	822.65	505.97
507.271	12271.59	507.43	1365.01	.00	.00	.00
507.549	10185.02	507.82	800.00	139.00	939.00	507.27
507.865	5780.49	508.49	418.08	.00	.00	.00
508.325	8199.42	508.67	655.00	25.00	680.00	507.87
508.384	6496.00	509.02	485.53	.00	.00	.00
508.521	6651.44	509.14	484.93	7.00	680.00	508.38
508.883	9109.34	509.26	568.03	.00	.00	.00
509.000	9305.32	509.37	564.09	11.00	680.00	508.88
509.250	9107.58	509.59	1055.88	.00	.00	.00
509.340	9041.16	509.69	747.00	78.00	825.00	509.25
509.392	8695.36	509.75	909.24	.00	.00	.00
509.427	7745.05	509.90	745.78	49.00	836.00	509.39
509.516	7634.15	510.12	419.70	.00	.00	.00
509.680	7752.23	510.26	412.37	61.00	784.00	509.52
509.675	5191.60	510.76	361.38	.00	.00	.00
509.833	5328.30	510.89	359.63	28.00	593.00	509.67
509.875	4139.75	512.06	210.19	.00	.00	.00

510.18	3099.82	514.19	196.00	.00	.00	.00
510.34	3165.47	514.22	197.60	40.00	420.00	510.19
514.322	7790.87	515.06	462.06	.00	.00	.00
514.322	7735.96	515.08	383.00	37.00	420.00	514.32
514.752	8144.97	515.21	534.29	.00	.00	.00
514.766	8119.93	515.23	521.57	43.00	594.00	514.75
515.132	9917.41	515.83	437.80	.00	.00	.00
514.966	7803.09	516.14	200.00	207.00	407.00	515.13
515.120	8180.09	516.01	379.62	.00	.00	.00
515.431	8336.12	516.33	299.28	104.01	404.01	515.12
516.035	9042.12	516.76	394.64	.00	.00	.00
516.128	8719.95	516.94	299.99	104.01	404.01	516.04
516.035	8631.80	516.97	305.69	.00	.00	.00
516.181	8753.08	517.10	300.00	15.05	315.05	516.03

CWSEL	.01K	EG	TOPWID	STENCL	STENCR	WSELK
516.793	8504.22	517.75	305.59	.00	.00	.00
516.919	8618.05	517.86	304.65	10.40	315.05	516.79
528.580	19299.73	529.56	173.38	.00	.00	.00
528.582	19302.26	529.56	173.37	.01	173.40	528.58
528.901	7310.94	530.20	224.36	.00	.00	.00
528.891	7253.38	530.22	206.95	.00	230.00	528.90

, VT

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR
39.000	488.65	-.05	489.72	1873.31	14234.76	15165.24	.00	.00	.00	2140.00	2290.00
39.000	489.70	1.05	490.78	899.09	13205.63	16194.38	.00	900.00	1390.00	2140.00	2290.00

TENCR

00

290.00

38.000	493.68	.61	494.07	900.00	14531.35	14868.65	.00	900.00	1494.00	2226.00	2394.00	2394.00
37.000	495.58	.00	496.04	2282.99	8906.07	16324.66	4169.27	.00	.00	600.00	814.00	.00
37.000	495.95	.37	496.44	900.00	8914.28	16648.42	3837.30	900.00	100.00	600.00	814.00	1000.00
36.200	496.16	.00	496.34	2032.63	18150.92	11249.08	.00	.00	.00	2382.00	2632.00	.00
36.200	496.45	.29	496.73	899.00	16772.30	12627.70	.00	900.00	1733.00	2382.00	2632.00	2633.00
36.100	498.53	.00	498.60	2533.98	21015.66	8384.34	.00	.00	.00	2382.00	2632.00	.00
36.100	498.56	.03	498.74	899.00	18129.23	11270.77	.00	900.00	1733.00	2382.00	2632.00	2633.00
35.000	498.37	.00	499.03	1249.24	1194.21	22631.74	5574.05	.00	.00	241.00	451.00	.00
35.000	498.40	.03	499.35	700.00	.00	25828.50	3571.50	700.00	241.00	241.00	451.00	941.00
34.200	498.68	.00	500.09	785.54	145.25	24756.18	4498.57	.00	.00	205.00	360.00	.00
34.200	499.00	.31	500.25	700.00	136.37	24083.84	5179.79	700.00	201.00	205.00	360.00	901.00
34.100	499.22	.00	500.38	845.76	.00	23619.44	5780.56	.00	.00	205.00	360.00	.00
34.100	499.38	.16	500.48	700.00	9.09	23326.45	6064.46	700.00	204.50	205.00	360.00	904.50
33.000	500.51	.00	500.73	1608.89	232.16	14250.81	14917.03	.00	.00	65.00	247.00	.00
33.000	500.40	-.11	500.79	800.00	.00	17112.38	12287.62	800.00	65.00	65.00	247.00	365.00
32.000	500.94	.00	501.34	1226.31	3465.09	12595.80	13339.11	.00	.00	141.00	269.00	00
32.000	501.07	.13	501.74	800.00	799.93	15240.21	13359.86	800.00	113.00	141.00	269.00	913.00
31.000	502.36	.00	502.94	1451.50	.00	21095.63	8304.37	.00	.00	.00	187.00	00
31.000	502.95	.59	503.49	800.00	.00	21017.93	8382.07	800.00	3.35	.00	187.00	303.35
30.000	505.97	.00	506.49	955.29	7071.66	22071.41	256.93	.00	.00	490.00	748.00	00
30.000	506.21	.24	506.70	800.00	7186.52	21950.22	263.26	800.00	22.65	490.00	748.00	922.65

939.00	29.000	507.55	.28	507.82	800.00	.00	20962.57	8437.43	800.00	139.00	139.00	642.00
.00	28.200	507.87	.00	508.49	418.08	.00	28900.00	.00	.00	.00	19.00	447.00
680.00	28.200	508.33	.46	508.67	655.00	.00	22035.85	6864.15	655.00	25.00	19.00	447.00
.00	28.100	508.38	.00	509.02	485.53	.00	28900.00	.00	.00	.00	2.00	514.60
680.00	28.100	508.52	.14	509.14	484.93	.00	28900.00	.00	673.00	7.00	2.00	514.60
.00	28.000	508.88	.00	509.26	568.03	.00	28900.00	.00	.00	.00	.00	587.00
580.00	28.000	509.00	.12	509.37	564.09	.00	28900.00	.00	669.00	11.00	.00	587.00

1

STENCR	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR
.00	27.700	509.25	.00	509.59	1055.88	21.03	27263.38	1615.60	.00	.00	78.00	649.00
325.00	27.700	509.34	.09	509.69	747.00	.00	27774.15	1125.85	747.00	78.00	78.00	649.00
.00	27.600	509.39	.00	509.75	909.24	7.70	24973.94	3918.35	.00	.00	48.70	550.00
336.00	27.600	509.43	.03	509.90	745.78	.00	27998.60	901.40	787.00	49.00	48.70	550.00
.00	27.500	509.52	.00	510.12	419.70	25.69	28874.31	.00	.00	.00	60.60	474.90
784.00	27.500	509.68	.16	510.26	412.37	.00	28900.00	.00	723.00	61.00	60.60	474.90
00	27.400	509.67	.00	510.76	361.38	71.39	28828.61	.00	.00	.00	39.00	388.00
393.00	27.400	509.83	.16	510.89	359.63	78.24	28821.76	.00	565.00	28.00	39.00	388.00
00	27.300	509.87	.00	512.06	210.19	26.79	28873.21	.00	.00	.00	201.00	411.00
549.00	27.300	510.01	.13	512.15	205.05	.00	28900.00	.00	448.00	201.00	201.00	411.00
00	27.200	510.19	.00	514.19	196.00	3409.37	25490.63	.00	.00	.00	131.00	248.50
	27.200	510.35	.16	514.22	197.60	3498.76	25401.24	.00	380.00	40.00	131.00	248.50

0	27.100	514.32	.00	515.06	462.06	2100.18	26435.42	364.40	.00	.00	127.00	384.00
0.00	27.100	514.32	.00	515.08	383.00	1978.08	26622.29	299.63	383.00	37.00	127.00	384.00
0	27.000	514.75	.00	515.21	534.29	8091.99	20808.01	.00	.00	.00	261.00	594.00
4.00	27.000	514.77	.01	515.23	521.57	7995.78	20904.22	.00	551.00	43.00	261.00	594.00
0	26.000	515.13	.00	515.83	437.80	3236.14	23165.31	2498.55	.00	.00	207.00	397.00
7.00	26.000	514.97	-.17	516.14	200.00	.00	28357.94	542.06	200.00	207.00	207.00	397.00
0	25.200	515.12	.00	516.01	379.62	2108.67	26791.34	.00	.00	.00	172.00	404.00
4.01	25.200	515.43	.31	516.33	299.28	1735.50	27164.50	.00	300.00	104.01	172.00	404.00
0	25.100	516.04	.00	516.76	394.64	3292.42	25607.58	.00	.00	.00	172.00	404.00
4.01	25.100	516.13	.09	516.94	299.99	2109.19	26790.80	.00	300.00	104.01	172.00	404.00
0	24.000	516.03	.00	516.97	305.69	722.04	28177.97	.00	.00	.00	110.00	315.10
5.05	24.000	516.18	.15	517.10	300.00	735.62	28164.38	.00	300.00	15.05	110.00	315.10
0	23.200	516.79	.00	517.75	305.59	673.66	28226.35	.00	.00	.00	110.00	315.10
5.05	23.200	516.92	.13	517.86	304.65	715.96	28184.04	.00	304.65	10.40	110.00	315.10
0	23.100	528.58	.00	529.56	173.38	.00	28846.93	53.07	.00	.00	.00	168.00
3.40	23.100	528.58	.00	529.56	173.37	.00	28846.91	53.09	173.39	.01	.00	168.00
0	22.000	528.90	.00	530.20	224.36	.00	28511.33	388.67	.00	.00	.00	204.00
0.00	22.000	528.89	-.01	530.22	206.95	.00	28709.94	190.06	230.00	.00	.00	204.00

:BEL

*	39.000	488.65	489.72	10.87	59.31	12.65	1873.31	.00	.01	2140.00	484.60	2290.00
:90.00												
	39.000	489.70	490.78	10.44	48.71	13.70	899.09	.00	.01	2140.00	484.60	
:290.00100000.00												
	38.000	493.07	493.46	6.24	13.13	17.57	1527.98	.00	.01	2226.00	487.80	2394.00
:87.80												
	38.000	493.68	494.07	5.96	11.87	18.18	900.00	.00	.01	2226.00	487.80	
:394.00100000.00												
	37.000	495.58	496.04	6.77	16.82	13.18	2282.99	.00	.01	600.00	488.90	814.00
:90.50												
	37.000	495.95	496.44	6.69	15.71	13.55	900.00	.00	.01	600.00	488.90	814.00
:90.50												
	36.200	496.16	496.34	4.01	6.79	15.86	2032.63	.00	.01	2382.00	487.60	2632.00
:88.90												
	36.200	496.45	496.73	4.39	7.85	16.15	899.00	.00	.01	2382.00	487.60	2632.00
:88.90												
	36.100	498.53	498.60	2.47	1.99	18.23	2533.98	.00	.01	2382.00	487.60	2632.00
88.90												
	36.100	498.56	498.74	3.31	3.56	18.26	899.00	.00	.01	2382.00	487.60	2632.00
88.90												
	35.000	498.37	499.03	7.28	16.97	19.17	1249.24	.00	.01	241.00	491.60	451.00
92.80												
	35.000	498.40	499.35	8.30	22.35	19.20	700.00	.00	.01	241.00	491.60	451.00
92.80												
	34.200	498.68	500.09	10.26	24.91	18.58	785.54	.00	.01	205.00	482.40	360.00
83.90												
	34.200	499.00	500.25	9.78	22.06	18.90	700.00	.00	.01	205.00	482.40	360.00
83.90												
	34.100	499.22	500.38	9.47	20.31	19.12	845.76	.00	.01	205.00	482.40	360.00
83.90												
	34.100	499.38	500.48	9.25	19.10	19.28	700.00	.00	.01	205.00	482.40	360.00
83.90												
	33.000	500.51	500.73	4.70	4.83	17.81	1608.89	.00	.01	65.00	488.70	247.00
88.70												
	33.000	500.40	500.79	5.68	7.73	17.70	800.00	.00	.01	65.00	488.70	247.00
88.70												
	32.000	500.94	501.34	6.65	11.96	16.64	1226.31	.00	.01	141.00	489.60	269.00
93.00												
	32.000	501.07	501.74	7.97	16.99	16.77	800.00	.00	.01	141.00	489.60	269.00
93.00												
	31.000	502.36	502.94	7.13	14.62	20.66	1451.50	.00	.01	.00	507.00	187.00

490.10								.00	.01	.00	100000.00	187.00
	30.000	505.97	506.49	6.60	13.47	15.87	955.29	.00	.01	490.00	500.10	748.00
503.00												
	30.000	506.21	506.70	6.44	12.55	16.11	800.00	.00	.01	490.00	500.10	748.00
503.00												
	29.000	507.27	507.43	3.29	5.74	18.47	1365.01	.00	.01	139.00	496.00	642.00
506.90												
	29.000	507.55	507.82	3.85	8.33	18.75	800.00	.00	.01	139.00	496.00	642.00
506.90												
	28.200	507.87	508.49	6.33	25.00	17.67	418.08	.00	.01	19.00	510.00	447.00
508.00												
	28.200	508.33	508.67	4.63	12.42	18.13	655.00	.00	.01	19.00	100000.00	447.00
508.00												
	28.100	508.38	509.02	6.39	19.79	17.78	485.53	.00	.01	2.00	510.00	514.60
510.00												
	28.100	508.52	509.14	6.30	18.88	17.92	484.93	.00	.01	2.00	100000.00	514.60
510.00												
	28.000	508.88	509.26	4.92	10.07	18.08	568.03	.00	.01	.00	510.00	587.00
511.00												
	28.000	509.00	509.37	4.87	9.65	18.20	564.09	.00	.01	.00	100000.00	587.00
511.00												

1

RBEL	SECNO	CWSEL	EG	VCH	10K*S	DEPTH	TOPWID	CLSTA	BW	STCHL	XLBEL	STCHR
	27.700	509.25	509.59	4.81	10.07	17.85	1055.88	.00	.01	78.00	506.00	649.00
507.00												
	27.700	509.34	509.69	4.85	10.22	17.94	747.00	.00	.01	78.00	506.00	649.00
507.00												
	27.600	509.39	509.75	5.02	11.05	17.79	909.24	.00	.01	48.70	505.00	550.00
508.00												
	27.600	509.43	509.90	5.61	13.92	17.83	745.78	.00	.01	48.70	100000.00	550.00
508.00												
	27.500	509.52	510.12	6.21	14.33	17.52	419.70	.00	.01	60.60	505.00	474.90
510.00												
	27.500	509.68	510.26	6.13	13.90	17.68	412.37	.00	.01	60.60	100000.00	474.90
510.00												
	27.400	509.67	510.76	8.38	30.99	17.27	361.38	.00	.01	39.00	505.00	388.00
510.00												
	27.400	509.83	510.89	8.25	29.42	17.43	359.63	.00	.01	39.00	505.00	388.00
510.00												

511.00												
	27.30	510.01	512.15	11.76	48.46	17.21	205.05	.00	.01	201.00	506.00	411.00
511.00												
	27.200	510.19	514.19	16.90	86.92	16.99	196.00	.00	.01	131.00	499.00	248.50
512.00												
	27.200	510.35	514.22	16.64	83.35	17.15	197.60	.00	.01	131.00	499.00	248.50
512.00												
	27.100	514.32	515.06	7.17	13.76	20.82	462.06	.00	.01	127.00	505.00	384.00
510.00												
	27.100	514.32	515.08	7.22	13.96	20.82	383.00	.00	.01	127.00	505.00	384.00
510.00												
	27.000	514.75	515.21	5.92	12.59	21.15	534.29	.00	.01	261.00	504.40	594.00
16.80												
	27.000	514.77	515.23	5.94	12.67	21.17	521.57	.00	.01	261.00	504.40	
94.00100000.00												
	26.000	515.13	515.83	7.08	8.49	19.53	437.80	.00	.01	207.00	508.60	397.00
04.80												
	26.000	514.97	516.14	8.75	13.72	19.37	200.00	.00	.01	207.00	508.60	397.00
04.80												
	25.200	515.12	516.01	7.78	12.48	19.92	379.62	.00	.01	172.00	509.20	404.00
15.80												
	25.200	515.43	516.33	7.73	12.02	20.23	299.28	.00	.01	172.00	509.20	404.00
15.80												
	25.100	516.04	516.76	7.07	10.22	20.84	394.64	.00	.01	172.00	509.20	404.00
15.80												
	25.100	516.13	516.94	7.35	10.98	20.93	299.99	.00	.01	172.00	509.20	404.00
15.80												
	24.000	516.03	516.97	7.86	11.21	19.83	305.69	.00	.01	110.00	513.60	315.10
30.00												
	24.000	516.18	517.10	7.79	10.90	19.98	300.00	.00	.01	110.00	513.60	
15.10100000.00												
	23.200	516.79	517.75	7.94	11.55	19.69	305.59	.00	.01	110.00	514.50	315.10
30.90												
	23.200	516.92	517.86	7.87	11.25	19.82	304.65	.00	.01	110.00	514.50	
15.10100000.00												
	23.100	528.58	529.56	7.96	2.24	21.58	173.38	.00	.01	.00	535.00	168.00
07.00												
	23.100	528.58	529.56	7.96	2.24	21.58	173.37	.00	.01	.00	100000.00	168.00
07.00												
	22.000	528.90	530.20	9.21	15.63	21.80	224.36	.00	.01	.00	541.20	204.00
25.20												
	22.000	528.89	530.22	9.28	15.88	21.79	206.95	.00	.01	.00	541.20	204.00
25.20												

SUMMARY OF ERRORS AND SPECIAL NOTES

'AUTION SECNO= 39.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

THIS RUN EXECUTED 04-14-02

```
*************************************************
 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 AUGUST 1985
*************************************************
```

J
R

UNEXPECTED END OF FILE ABORT IN SUBROUTINE H2MAIN

Appendix E
TRC HEC-RAS Baseline Conditions Model Results

Bas
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
22	31	28,900	507.1	529.26		530.5	0.001455	8.99	3,277.81	225.35	0.39
	31	28,900	507.1	529.25		530.51	0.00147	9.04	3,245.00	214.42	0.39
23.1	30	28,900	507	528.95	516.72	529.9	0.000213	7.83	3,723.82	173.41	0.29
	30	28,900	507	528.95	516.72	529.9	0.000213	7.83	3,723.81	173.38	0.29
	29.5	Inline Weir									
23.2	29	28,900	497.1	516.33		517.36	0.001274	8.2	3,689.92	305.28	0.35
	29	28,900	497.1	516.57		517.56	0.001212	8.06	3,761.28	304.65	0.34
24	28	28,900	496.2	515.48		516.5	0.001261	8.17	3,704.46	305.31	0.35
	28	28,900	496.2	515.76		516.74	0.001189	8.02	3,780.35	300	0.34
25.1	27	28,900	495.2	515.46	507.58	516.27	0.00118	7.48	4,144.40	391.34	0.34
	27	28,900	495.2	515.7	507.58	516.57	0.001197	7.6	3,922.66	297.09	0.34
	26.5	Bridge									
25.2	26	28,900	495.2	515.07	507.57	515.97	0.00127	7.83	3,911.80	379.41	0.36
	26	28,900	495.2	515.41	507.57	516.31	0.001208	7.74	3,822.68	299.24	0.35
26	25	28,900	495.6	515.07		515.79	0.000879	7.19	4,427.64	437.47	0.31
	25	28,900	495.6	514.94		516.12	0.001378	8.76	3,335.81	200	0.37
27	24	28,900	493.6	514.67	506.81	515.15	0.001318	6.04	5,529.56	687.68	0.31
	24	28,900	493.6	514.73	506.81	515.2	0.0013	6.01	5,524.75	521.12	0.31
27.1	23	28,900	493.5	514.31		515.01	0.001207	6.93	4,688.14	461.73	0.32
	23	28,900	493.5	514.37		515.07	0.001191	6.91	4,611.89	383	0.31
27.2	22	28,900	493.2	509.98	509.03	514.16	0.009173	17.23	1,934.92	353.62	0.83
	22	28,900	493.2	510.45	509.03	514.27	0.008167	16.52	2,027.21	198.61	0.79
27.3	21	28,900	492.8	509.63	506.07	511.91	0.005184	12.13	2,390.44	512.68	0.62
	21	28,900	492.8	510.15	506.06	512.25	0.004689	11.62	2,486.41	205.74	0.59
27.4	20	28,900	492.4	509.89	505.41	510.63	0.002264	7.26	4,418.73	684.8	0.4
	20	28,900	492.4	509.99	505.08	511.02	0.002863	8.14	3,551.43	348.98	0.45
27.5	19	28,900	492	509.57	502.79	510.16	0.001414	6.19	4,684.39	591.35	0.32
	19	28,900	492	509.85	502.79	510.42	0.001329	6.04	4,784.99	413.58	0.31
27.6	18	28,900	491.6	509.3	503.66	509.79	0.001445	5.7	5,317.27	904.36	0.32
	18	28,900	491.6	509.57	503.66	510.08	0.001421	5.71	5,061.26	501.3	0.32
27.7	17	28,900	491.4	509.22	503.32	509.57	0.001029	4.85	6,571.33	1055.68	0.27
	17	28,900	491.4	509.48	503.32	509.86	0.001064	4.98	5,802.47	571	0.28
28	16	28,900	490.8	508.86	501.95	509.24	0.001014	4.93	5,860.37	996.3	0.27
	16	28,900	490.8	509.17	501.95	509.52	0.00094	4.79	6,038.25	578.03	0.26
28.1	15	28,900	490.6	508.35	503.22	508.99	0.001999	6.42	4,504.94	907.88	0.37
	15	28,900	490.6	508.71	503.22	509.3	0.001782	6.18	4,678.52	488.96	0.35
28.2	14	28,900	490.2	507.96	501.54	508.57	0.001525	6.28	4,604.77	845.04	0.33
	14	28,900	490.2	508.36	501.54	508.93	0.001375	6.05	4,775.20	424.07	0.32

Data tables from HEC-RAS.xls

Baseline
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
29	13	29,400	488.8	507.51	501.1	507.66	0.000563	3.28	9,850.72	1383.03	0.18
	13	29,400	488.8	507.64	501.32	507.9	0.00083	3.85	7,280.10	800	0.21
30	12	29,400	490.1	506.27		506.77	0.001249	6.45	7,225.21	995.93	0.31
	12	29,400	490.1	506.29		506.79	0.001241	6.43	7,128.95	800	0.31
31	11	29,400	481.7	502.47		503.14	0.001599	7.48	7,414.69	1488.69	0.33
	11	29,400	481.7	503.02		503.57	0.0013	6.89	7,065.42	800	0.3
32	10	29,400	484.3	501.1		501.48	0.001125	6.55	7,144.02	1228.95	0.3
	10	29,400	484.3	501.23		501.87	0.001594	7.84	5,248.38	800	0.36
33	9	29,400	482.7	500.64		500.87	0.000512	4.87	9,049.45	1609.65	0.21
	9	29,400	482.7	500.52		500.92	0.000822	5.89	6,221.19	800	0.25
34.1	8	29,400	480.1	499.4	494.51	500.53	0.001956	9.37	4,270.38	882.23	0.41
	8	29,400	480.1	499.6	494.51	500.64	0.001779	9.01	4,258.85	700	0.39
	7.5	Bridge									
34.2	7	29,400	480.1	498.84	493.49	500.23	0.00242	10.18	3,804.54	804.68	0.45
	7	29,400	480.1	499.11	493.49	500.34	0.002143	9.69	3,941.92	700	0.43
35	6	29,400	479.2	498.54		499.11	0.001845	6.87	5,951.17	1253.1	0.31
	6	29,400	479.2	498.47		499.36	0.002675	8.1	4,601.03	700	0.37
36.1	5	29,400	480.3	498.65	492.17	498.71	0.000209	2.55	14,902.84	4415.82	0.12
	5	29,400	480.3	498.59	492.17	498.75	0.000359	3.33	8,869.88	900	0.16
	4.5	Bridge									
36.2	4	29,400	480.3	496.37	492.14	496.54	0.000707	4.15	9,473.88	3692.29	0.22
	4	29,400	480.3	496.48	492.14	496.76	0.000795	4.43	6,973.53	900	0.23
37	3	29,400	482.4	495.7		496.21	0.001813	7.08	6,935.90	2284.28	0.37
	3	29,400	482.4	495.96		496.46	0.001633	6.82	6,105.58	900	0.35
38	2	29,400	475.5	493.03	490.41	493.45	0.001411	6.45	6,697.22	1524	0.3
	2	29,400	475.5	493.55	490.39	493.96	0.001269	6.13	6,149.49	900	0.28
39	1	29,400	476	488.42	488.42	489.5	0.00603	10.8	4,421.80	1814.8	0.62
	1	29,400	476	488.49	488.49	490.01	0.007291	11.92	3,345.87	895.4	0.68

Data tables from HEC-RAS.xls

Ba e

HEC-RAS Encr nment Table 1

HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
22	31	529.26		530.5	225.35		28,456.40	443.6		0	204	
	31	529.25	-0.01	530.51	214.42		28,591.50	308.5	0	0	204	230
23.1	30	528.95		529.9	173.41		28,848.96	51.04		0	168	
	30	528.95	0	529.9	173.38		28,848.97	51.03	0.01	0	168	173.4
	29.5	Inline Weir										
23.2	29	516.33		517.36	305.28	515.65	28,384.35			110	315.1	
	29	516.57	0.24	517.56	304.65	591.03	28,308.97		10.4	110	315.1	315.05
24	28	515.48		516.5	305.31	530.95	28,369.05			110	315.1	
	28	515.76	0.28	516.74	300	600.09	28,299.91		15.05	110	315.1	315.05
25.1	27	515.46		516.27	391.34	2816	26,084.00			172	404	
	27	515.7	0.24	516.57	297.09	1952.96	26,947.04		104.01	172	404	404.01
	26.5 BR U	514.97		516.14	351.4	284.87	28,615.13			172	404	
	26.5 BR U	515.39	0.42	516.48	351.69	566.95	28,333.05			172	404	
	26.5 BR D	514.94		516.13	339.31	28.01	28,871.99			172	404	
	26.5 BR D	515.31	0.37	516.44	340.72	44.87	28,855.13			172	404	
25.2	26	515.07		515.97	379.41	2029.26	26,870.74			172	404	
	26	515.41	0.34	516.31	299.24	1726.76	27,173.24		104.01	172	404	404.01
26	25	515.07		515.79	437.47	3141.85	23,431.19	2326.96		207	397	
	25	514.94	-0.13	516.12	200		28,358.28	541.72	207	207	397	407
27	24	514.67		515.15	533.11	7812.73	21,087.27			261	594	
	24	514.73	0.06	515.2	521.12	7812.27	21,087.73		43	261	594	594
27.1	23	514.31		515.01	461.73	1848.58	26,769.45	281.97		127	384	
	23	514.37	0.06	515.07	383	1849.06	26,767.11	283.83	37	127	384	420
27.2	22	509.98		514.16	193.97	3297.38	25,602.62			131	248.5	
	22	510.45	0.47	514.27	198.61	3482.17	25,417.83		40	131	248.5	248.5
27.3	21	509.63		511.91	208.6	23.21	28,876.79			201	411	
	21	510.15	0.52	512.25	205.74		28,900.00		201	201	411	411
27.4	20	509.89		510.63	591.08	68.63	25,496.97	3334.4		39	388	
	20	509.99	0.11	511.02	348.98		28,900.00		39	39	388	388
27.5	19	509.57		510.16	420.02	26.26	28,873.74			60.6	474.9	
	19	509.85	0.29	510.42	413.58		28,900.00		60.6	60.6	474.9	474.9
27.6	18	509.3		509.79	683.05	6.89	28,085.02	808.09		48.7	550	
	18	509.57	0.27	510.08	501.3		28,900.00		48.7	48.7	550	550
27.7	17	509.22		509.57	1055.68	20.79	27,430.38	1448.83		78	649	
	17	509.48	0.25	509.86	571		28,900.00		78	78	649	649
28	16	508.86		509.24	567.66		28,900.00			0	587	
	16	509.17	0.31	509.52	578.03		28,900.00		0	0	587	587

Data tables from HEC-RAS.xls

Baseline
HEC-RAS Encroachment Table 1

HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
28.1	15	508.35		508.99	485.22		28,900.00			2	514.6	
	15	508.71	0.36	509.3	488.96		28,900.00		2	2	514.6	514.6
28.2	14	507.96		508.57	419.72		28,899.97	0.03		19	447	
	14	508.36	0.4	508.93	424.07		28,900.00		19	19	447	447
29	13	507.51		507.66	1383.03	2050.9	17,804.94	9544.17		139	642	
	13	507.64	0.13	507.9	800		21,145.32	8254.68	139	139	642	939
30	12	506.27		506.77	995.93	7064.74	22,074.59	260.67		490	748	
	12	506.29	0.02	506.79	800	7076.51	22,056.24	267.25	22.65	490	748	822.65
31	11	502.47		503.14	1488.69		22,281.43	7118.57		0	187	
	11	503.02	0.55	503.57	800		21,209.93	8190.07	3.35	0	187	803.35
32	10	501.1		501.48	1228.95	3330.73	12,533.40	13535.88		141	269	
	10	501.23	0.14	501.87	800	790.35	15,144.59	13465.06	113	141	269	913
33	9	500.64		500.87	1609.65	246.05	14,860.00	14293.95		65	247	
	9	500.52	-0.12	500.92	800		17,846.22	11553.78	65	65	247	865
34.1	8	499.4		500.53	882.23	128.73	23,641.05	5630.21		205	360	
	8	499.6	0.2	500.64	700	8.9	23,013.85	6377.25	204.5	205	360	904.5
	7.5 BR U	499.4		500.53	882.23	80.02	8,969.79	20346.38		205	360	
	7.5 BR U	499.6	0.2	500.63	918.91	98.44	8,351.37	20942.41		205	360	
	7.5 BR D	499.4		500.53	882.23	80.02	8,969.79	20346.38		205	360	
	7.5 BR D	499.57	0.17	500.63	913.35	98.03	8,396.03	20898.16		205	360	
34.2	7	498.84		500.23	804.68	146.97	24,820.97	4432.06		205	360	
	7	499.11	0.26	500.34	700	136.34	24,010.33	5253.32	201	205	360	901
35	6	498.54		499.11	1253.1	1329.34	21,592.03	6478.63		241	451	
	6	498.47	-0.07	499.36	700		25,337.30	4062.7	241	241	451	941
36.1	5	498.65		498.71	2534.42	20673.03	8,726.97			2382	2632	
	5	498.59	-0.06	498.75	899	18046.72	11,353.28		1733	2382	2632	2633
	4.5 BR U	498.65		498.72	1995.66	6072.63	23,383.58			2382	2632	
	4.5 BR U	498.59	-0.06	498.76	1985.45	5936.85	23,533.46			2382	2632	
	4.5 BR D	498.48		498.69	1966.67	4892.02	24,564.01	0.19		2382	2632	
	4.5 BR D	498.51	0.02	498.74	1970.45	5340.35	24,129.78	0.18		2382	2632	
36.2	4	496.37		496.54	2088.55	17562.56	11,837.44			2382	2632	
	4	496.48	0.12	496.76	899	16632.37	12,767.63		1733	2382	2632	2633
37	3	495.7		496.21	2284.28	9411.5	17,251.26	2737.24		600	814	
	3	495.96	0.26	496.46	900	9044.74	16,993.08	3362.19	100	600	814	1000
38	2	493.03		493.45	1524	13906.53	15,389.00	104.47		2226	2394	
	2	493.55	0.52	493.96	900	14241.58	15,158.42		1494	2226	2394	2394
39	1	488.42		489.5	1814.8	14691.47	14,708.53			2140	2290	
	1	488.49	0.07	490.01	895.4	13045.64	16,354.36		1390	2140	2290	2290

Data tables from HEC-RAS.xls

B: e

HEC-RAS Velocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
22	31		8.99	3.9	8.82		1.45	0.27	1.26		3164.08	113.73	3277.81
	31		9.04	3.75	8.91		1.47	0.25	1.31		3162.66	82.35	3245
23.1	30		7.83	1.37	7.76		0.26	0.02	0.23		3686.67	37.15	3723.82
	30		7.83	1.37	7.76		0.26	0.02	0.23		3686.67	37.14	3723.81
	29.5	Inline Weir											
23.2	29	2.27	8.2		7.83	0.18	1.22		0.9	227.01	3462.91		3689.92
	29	2.36	8.06		7.68	0.19	1.18		0.87	250.14	3511.14		3761.28
24	28	2.29	8.17		7.8	0.18	1.21		0.89	231.79	3472.67		3704.46
	28	2.4	8.02		7.64	0.19	1.16		0.87	249.71	3530.64		3780.35
25.1	27	4.3	7.48		6.97	0.3	1.04		0.75	655.34	3489.06		4144.4
	27	5.15	7.6		7.37	0.39	1.08		0.92	378.9	3543.76		3922.66
	26.5	Bridge											
25.2	26	4.22	7.83		7.39	0.26	1.14		0.8	480.31	3431.5		3911.8
	26	5.54	7.74		7.56	0.33	1.11		0.93	311.75	3510.93		3822.68
26	25	4.33	7.19	5.27	6.53	0.22	0.91	0.37	0.55	726.3	3260.04	441.29	4427.64
	25		8.76	5.4	8.66		1.38	0.43	1.29		3235.52	100.29	3335.81
27	24	3.83	6.04		5.23	0.72	0.93		0.84	2040.13	3489.43		5529.56
	24	3.87	6.01		5.23	0.73	0.92		0.84	2018.28	3506.47		5524.75
27.1	23	2.79	6.93	1.7	6.16	0.44	1.12	0.14	0.76	661.44	3860.48	166.21	4688.14
	23	2.99	6.91	2.41	6.27	0.49	1.11	0.23	0.87	618.44	3875.75	117.7	4611.89
27.2	22	7.34	17.23		14.94	3.12	7.29		5.56	449.37	1485.55		1934.92
	22	7.13	16.52		14.26	2.9	6.64		5.06	488.65	1538.56		2027.21
27.3	21	2.35	12.13		12.09	0.49	3.73		3.63	9.89	2380.55		2390.44
	21		11.62		11.62		3.41		3.41		2486.41		2486.41
27.4	20	2.05	7.26	3.83	6.54	0.33	1.4	0.54	1.04	33.42	3514.03	871.28	4418.73
	20		8.14		8.14		1.77		1.77		3551.43		3551.43
27.5	19	1.47	6.19		6.17	0.17	0.98		0.96	17.93	4666.46		4684.39
	19		6.04		6.04		0.93		0.93		4784.99		4784.99
27.6	18	0.96	5.7	2.1	5.44	0.09	0.87	0.2	0.69	7.2	4925.82	384.25	5317.27
	18		5.71		5.71		0.87		0.87		5061.26		5061.26
27.7	17	1.07	4.85	1.62	4.4	0.1	0.63	0.12	0.4	19.49	5657.36	894.48	6571.33
	17		4.98		4.98		0.66		0.66		5802.47		5802.47
28	16		4.93		4.93		0.64		0.64		5860.37		5860.37
	16		4.79		4.79		0.6		0.6		6038.25		6038.25
28.1	15		6.42		6.42		1.13		1.13		4504.94		4504.94
	15		6.18		6.18		1.04		1.04		4678.52		4678.52
28.2	14		6.28	0.31	6.28		1.02	0.01	1.02		4604.67	0.11	4604.77
	14		6.05		6.05		0.94		0.94		4775.2		4775.2

Baseline
HEC-RAS Velocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
29	13	1.6	3.28	3.04	2.98	0.34	0.38	0.15	0.25	1280.24	5431.71	3138.78	9850.72
	13		3.85	4.62	4.04		0.55	0.3	0.46		5494.59	1785.51	7280.1
30	12	2.01	6.45	0.91	4.07	0.58	1.01	0.08	0.56	3515.9	3422.42	286.9	7225.21
	12	2.01	6.43	1.52	4.12	0.58	1.01	0.18	0.68	3525.34	3427.68	175.93	7128.95
31	11		7.48	1.6	3.97		1.58	0.34	0.5		2977.63	4437.06	7414.69
	11		6.89	2.05	4.16		1.32	0.52	0.71		3078.01	3987.41	7065.42
32	10	2.41	6.55	3.52	4.12	0.75	1.03	0.28	0.41	1383.84	1914.58	3845.6	7144.02
	10	2.42	7.84	4.5	5.6	0.82	1.48	0.46	0.64	326.82	1931.87	2989.69	5248.38
33	9	1.07	4.87	2.48	3.25	0.18	0.53	0.13	0.18	229.39	3053.71	5766.35	9049.45
	9		5.89	3.62	4.73		0.8	0.26	0.39		3031.29	3189.9	6221.19
34.1	8	3	9.37	3.3	6.88	0.25	1.98	0.29	0.58	42.93	2523.69	1703.75	4270.38
	8	1.09	9.01	3.76	6.9	0.05	1.83	0.34	0.65	8.18	2554.89	1695.78	4258.85
	7.5	Bridge											
34.2	7	3.67	10.18	3.34	7.73	0.35	2.37	0.31	0.69	40.01	2437.75	1326.79	3804.54
	7	3.43	9.69	3.69	7.46	0.31	2.13	0.34	0.73	39.79	2478.53	1423.6	3941.92
35	6	4.17	6.87	2.6	4.94	0.4	1.69	0.3	0.55	318.73	3142.09	2490.35	5951.17
	6		8.1	2.76	6.39		2.37	0.5	1.08		3127.42	1473.61	4601.03
36.1	5	1.8	2.55		1.97	0.07	0.16		0.08	11477.71	3425.13		14902.84
	5	3.31	3.33		3.31	0.19	0.28		0.21	5459.57	3410.31		8869.88
	4.5	Bridge											
36.2	4	2.65	4.15		3.1	0.16	0.45		0.2	6620.47	2853.41		9473.88
	4	4.07	4.43		4.22	0.31	0.51		0.37	4090.56	2882.96		6973.53
37	3	3.14	7.08	1.82	4.24	0.58	1.28	0.11	0.34	2996.36	2435.71	1503.82	6935.9
	3	3.17	6.82	4.39	4.82	0.58	1.18	0.42	0.69	2849.33	2490.38	765.87	6105.58
38	2	3.26	6.45	2.56	4.39	0.28	1.22	0.22	0.39	4272.22	2384.12	40.87	6697.22
	2	3.87	6.13		4.78	0.4	1.1		0.53	3678.03	2471.46		6149.49
39	1	4.8	10.8		6.65	0.69	3.47		0.92	3059.73	1362.07		4421.8
	1	6.61	11.92		8.79	1.19	4.21		1.69	1974.06	1371.81		3345.87

Appendix F
HEC-RAS Input and Output for 1976 Flood Event

1976 Cal ion Run
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
22	31	14600	507.1	524.46		525.1	0.001076	6.42	2274.89	180.57	0.32
	31	14600	507.1	524.46		525.1	0.001076	6.42	2274.88	180.57	0.32
23.1	30	14600	507	524.31	513.15	524.71	0.000116	5.02	2920.51	173.03	0.21
	30	14600	507	524.31	513.15	524.71	0.000116	5.02	2920.51	173.03	0.21
	29.5	Inline Weir									
23.2	29	14600	497.1	510.87		511.46	0.001125	6.2	2354.34	198.18	0.32
	29	14600	497.1	510.91		511.5	0.001113	6.18	2362.38	198.26	0.32
24	28	14600	496.2	510.13		510.71	0.001078	6.12	2387.03	198.49	0.31
	28	14600	496.2	510.18		510.76	0.001064	6.09	2396.87	198.58	0.31
25.1	27	14600	495.2	509.89	504.33	510.56	0.001426	6.56	2223.93	233.46	0.35
	27	14600	495.2	509.95	504.33	510.61	0.001402	6.53	2235.15	235.44	0.35
	26.5	Bridge									
25.2	26	14600	495.2	509.86	504.33	510.51	0.001418	6.47	2257.99	234.4	0.36
	26	14600	495.2	509.92	504.33	510.56	0.001394	6.43	2270	235.64	0.35
26	25	14600	495.6	509.8		510.38	0.001064	6.19	2428.78	260.75	0.32
	25	14600	495.6	509.82		510.45	0.001134	6.37	2311.45	200	0.33
27	24	14600	493.6	509.26	502.95	509.74	0.001235	5.89	3008.3	407.08	0.3
	24	14600	493.6	509.3	502.95	509.78	0.001216	5.85	3028.1	405.54	0.3
27.1	23	14600	493.5	509.12		509.62	0.001408	5.68	2681.07	328.95	0.32
	23	14600	493.5	509.17		509.66	0.001384	5.65	2697.73	329.99	0.32
27.2	22	14600	493.2	507.03	504.34	508.99	0.005324	11.6	1404.88	287.73	0.62
	22	14600	493.2	507.14	504.34	509.05	0.005156	11.47	1422.24	167.11	0.61
27.3	21	14600	492.8	506.72	502.06	507.73	0.002992	8.07	1809.98	436.4	0.46
	21	14600	492.8	506.85	502.06	507.83	0.00289	7.96	1834.3	189.23	0.45
27.4	20	14600	492.4	506.39	501.92	506.94	0.002237	6.02	2564.46	506.12	0.38
	20	14600	492.4	506.48	501.92	507.06	0.002284	6.1	2392.81	309.24	0.39
27.5	19	14600	492	506.19	500.34	506.5	0.001082	4.42	3305.37	556.06	0.27
	19	14600	492	506.32	500.34	506.61	0.001036	4.35	3353.08	396.25	0.26
27.6	18	14600	491.6	505.87	501.52	506.19	0.00157	4.54	3217.63	589.7	0.31
	18	14600	491.6	506.01	501.52	506.32	0.001466	4.44	3288.72	491.37	0.3
27.7	17	14600	491.4	505.72	501.19	505.97	0.0012	3.98	3667.26	558.55	0.27
	17	14600	491.4	505.88	501.19	506.12	0.001111	3.89	3755.35	559.37	0.26
28	16	14600	490.8	505.42	499.34	505.63	0.000822	3.65	3996.35	922.73	0.23
	16	14600	490.8	505.6	499.35	505.8	0.000765	3.57	4089.75	521.73	0.22

Data tables from HEC-RAS.xls

1976 Calibration Run
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
28.1	15	14600	490.6	505.05	501.11	505.43	0.001866	4.93	2959.82	853.35	0.34
	15	14600	490.6	505.26	501.11	505.62	0.001692	4.78	3054.2	452.74	0.32
28.2	14	14600	490.2	504.78	499.24	505.08	0.00106	4.41	3313.26	798.97	0.27
	14	14600	490.2	505.01	499.22	505.29	0.000976	4.29	3404.91	394.41	0.26
29	13	15000	488.8	503.87	499.48	504.07	0.000938	3.79	4430.43	1064.98	0.25
	13	15000	488.8	503.99	499.52	504.25	0.001148	4.09	3670.16	755.85	0.26
30	12	15000	490.1	502.57		502.92	0.001222	5.14	4267.42	717.07	0.29
	12	15000	490.1	502.63		502.97	0.001191	5.09	4311	717.3	0.29
31	11	15000	481.7	499.31		499.73	0.001071	5.48	4140.67	823.85	0.26
	11	15000	481.7	499.67		500.04	0.000949	5.23	4393.84	793.55	0.25
32	10	15000	484.3	497.61		498.12	0.001692	6.73	3255.56	557.23	0.35
	10	15000	484.3	497.62		498.35	0.002169	7.62	2535.6	455.93	0.4
33	9	15000	482.7	496.63		496.99	0.000854	5.24	3516.2	687.69	0.26
	9	15000	482.7	496.64		497.02	0.000909	5.26	3346.8	513.23	0.26
34.1	8	15000	480.1	495.87	489.73	496.72	0.001726	7.48	2118.05	337.74	0.37
	8	15000	480.1	495.91	489.73	496.75	0.001709	7.45	2128.86	338.37	0.37
	7.5	Bridge									
34.2	7	15000	480.1	495.17	489.73	496.15	0.002128	7.99	1914	246.97	0.41
	7	15000	480.1	495.2	489.73	496.18	0.002107	7.97	1922.1	251.21	0.4
35	6	15000	479.2	494.59		495.2	0.002384	6.37	2495.83	389.23	0.34
	6	15000	479.2	494.6		495.23	0.002463	6.43	2441.34	350.7	0.34
36.1	5	15000	480.3	493.62	489.31	494.35	0.002494	6.83	2194.59	1420.35	0.4
	5	15000	480.3	493.65	489.31	494.37	0.002467	6.81	2202.04	886.06	0.39
	4.5	Bridge									
36.2	4	15000	480.3	493.57	489.31	494.31	0.002537	6.87	2183.1	1406.67	0.4
	4	15000	480.3	493.6	489.31	494.33	0.002508	6.85	2190.69	886.06	0.4
37	3	15000	482.4	493.37		493.72	0.001454	5.44	3967.49	904.5	0.32
	3	15000	482.4	493.4		493.75	0.001445	5.44	3891.77	840.08	0.32
38	2	15000	475.5	491.08		491.4	0.00111	5.19	3950.03	1012.99	0.26
	2	15000	475.5	491.22		491.51	0.001046	5.01	4051.82	900	0.25
39	1	15000	476	487.45	487.45	488.3	0.004347	8.63	2782.79	1573.32	0.52
	1	15000	476	487.25	487.25	488.32	0.005267	9.37	2241.08	891.64	0.57

Data tables from HEC-RAS.xls

1976 Ca[illegible]ion Run
HEC-RAS [illegible]ocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
22	31		6.42		6.42		0.81		0.81		2274.89		2274.89
	31		6.42		6.42		0.81		0.81		2274.88		2274.88
23.1	30		5.02	0.57	5		0.11	0	0.1		2907.7	12.81	2920.51
	30		5.02	0.57	5		0.11	0	0.1		2907.7	12.81	2920.51
	29.5	Inline Weir											
23.2	29		6.2		6.2		0.78		0.78		2354.34		2354.34
	29		6.18		6.18		0.77		0.77		2362.38		2362.38
24	28		6.12		6.12		0.76		0.76		2387.03		2387.03
	28		6.09		6.09		0.75		0.75		2396.87		2396.87
25.1	27		6.56		6.56		0.9		0.9		2223.93		2223.93
	27		6.53		6.53		0.89		0.89		2235.15		2235.15
	26.5	Bridge											
25.2	26		6.47		6.47		0.88		0.88		2257.99		2257.99
	26		6.43		6.43		0.87		0.87		2270		2270
26	25	1.33	6.19	3.84	6.01	0.03	0.77	0.24	0.6	11.38	2257.63	159.76	2428.78
	25		6.37	3.71	6.32		0.81	0.23	0.77		2262.38	49.08	2311.45
27	24	2.12	5.89		4.85	0.29	0.88		0.57	825.02	2183.28		3008.3
	24	2.11	5.85		4.82	0.29	0.87		0.56	835.65	2192.45		3028.1
27.1	23	1.5	5.68		5.45	0.18	0.86		0.71	153.04	2528.03		2681.07
	23	1.5	5.65		5.41	0.18	0.85		0.7	156.82	2540.91		2697.73
27.2	22	4.54	11.6		10.39	1.32	3.51		2.74	240.39	1164.49		1404.88
	22	4.5	11.47		10.27	1.3	3.43		2.67	246.67	1175.57		1422.24
27.3	21	0.6	8.07		8.07	0.06	1.76		1.75	0.38	1809.6		1809.98
	21		7.96		7.96		1.71		1.71		1834.3		1834.3
27.4	20	0.88	6.02	1.82	5.69	0.09	1.06	0.18	0.76	2.7	2364.02	197.74	2564.46
	20		6.1		6.1		1.08		1.08		2392.81		2392.81
27.5	19	0.52	4.42		4.42	0.03	0.55		0.55	1.22	3304.14		3305.37
	19		4.35		4.35		0.54		0.54		3353.08		3353.08
27.6	18	0.4	4.54		4.54	0.03	0.63		0.63	0.28	3217.35		3217.63
	18		4.44		4.44		0.6		0.6		3288.72		3288.72
27.7	17		3.98		3.98		0.49		0.49		3667.26		3667.26
	17		3.89		3.89		0.46		0.46		3755.35		3755.35
28	16		3.65		3.65		0.39		0.39		3996.35		3996.35
	16		3.57		3.57		0.37		0.37		4089.75		4089.75
28.1	15		4.93		4.93		0.75		0.75		2959.82		2959.82
	15		4.78		4.78		0.7		0.7		3054.2		3054.2
28.2	14		4.41		4.41		0.55		0.55		3313.26		3313.26
	14		4.29		4.29		0.52		0.52		3404.91		3404.91

Data tables from HEC-RAS.xls

1976 Calibration Run
HEC-RAS Velocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
29	13	1.6	3.79		3.39	0.39	0.42		0.42	819.92	3610.52		4430.43
	13		4.09		4.09		0.52		0.52		3670.16		3670.16
30	12	1.29	5.14		3.52	0.3	0.72		0.45	1799.48	2467.94		4267.42
	12	1.28	5.09		3.48	0.29	0.7		0.44	1827.42	2483.58		4311
31	11		5.48	1.04	3.62		0.89	0.18	0.33		2408.67	1732	4140.67
	11		5.23	1.08	3.41		0.81	0.18	0.33		2471.38	1922.47	4393.84
32	10	2.37	6.73	3.44	4.61	0.81	1.19	0.29	0.61	950.98	1468.17	836.41	3255.56
	10	2.35	7.62	3.89	5.92	0.85	1.53	0.38	0.73	225.73	1469.77	840.1	2535.6
33	9	1.05	5.24	2.5	4.27	0.2	0.67	0.12	0.27	101.08	2323.12	1092	3516.2
	9		5.26	2.71	4.48		0.69	0.17	0.36		2326.35	1020.44	3346.8
34.1	8		7.48	1.53	7.08		1.37	0.08	0.66		1977.13	140.92	2118.05
	8		7.45	1.54	7.05		1.36	0.08	0.65		1982.12	146.75	2128.86
	7.5	Bridge											
34.2	7		7.99	1.6	7.84		1.6	0.06	1.01		1867.48	46.51	1914
	7		7.97	1.57	7.8		1.59	0.06	0.99		1872.61	49.5	1922.1
35	6	2.7	6.37	0.96	6.01	0.22	1.61	0.13	0.94	59.02	2312.13	124.68	2495.83
	6		6.43	0.98	6.14		1.64	0.14	1.05		2314.85	126.5	2441.34
36.1	5		6.83		6.83		1.31		1.31		2194.59		2194.59
	5		6.81		6.81		1.3		1.3		2202.04		2202.04
	4.5	Bridge											
36.2	4		6.87		6.87		1.33		1.33		2183.1		2183.1
	4		6.85		6.85		1.32		1.32		2190.69		2190.69
37	3	1.94	5.44	3.35	3.78	0.27	0.82	0.27	0.4	1656.59	1935.88	375.02	3967.49
	3	2.01	5.44	3.36	3.85	0.28	0.81	0.27	0.42	1569.89	1942.78	379.09	3891.77
38	2	2.29	5.19	1.66	3.8	0.16	0.83	0.11	0.27	1876.97	2056.96	16.1	3950.03
	2	2.32	5.01		3.7	0.18	0.78		0.29	1971.92	2079.9		4051.82
39	1	2.85	8.63		5.39	0.3	2.29		0.48	1559.87	1222.93		2782.79
	1	3.64	9.37		6.69	0.46	2.72		0.82	1046.73	1194.36		2241.08

Data tables from HEC-RAS.xls

Appendix G
HEC RAS Model Cross Sections and Model Results, Landfill Configuration 1

Landfill Option 1
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
22	31	28,900	507.1	529.26		530.5	0.001455	8.99	3,277.68	225.35	0.39
	31	28,900	507.1	529.25		530.51	0.001471	9.04	3,244.90	214.42	0.39
23.1	30	28,900	507	528.95	516.71	529.9	0.000213	7.83	3,723.82	173.41	0.29
	30	28,900	507	528.95	516.71	529.9	0.000213	7.83	3,723.81	173.38	0.29
	29.5	Inline Weir									
23.2	29	28,900	497.1	515.07		516.31	0.001682	8.97	3,303.71	304.43	0.4
	29	28,900	497.1	515.5		516.66	0.001529	8.7	3,434.19	304.65	0.38
24	28	28,900	496.2	513.79		515.11	0.001831	9.22	3,188.13	304.17	0.42
	28	28,900	496.2	514.39		515.6	0.001599	8.83	3,369.04	300	0.39
25.1	27	28,900	495.2	513.46	507.58	514.87	0.002293	9.54	3,030.17	384.93	0.46
	27	28,900	495.2	514.28	507.57	515.38	0.0017	8.53	3,501.09	297.06	0.4
	26.5	Bridge									
25.2	26	28,900	495.2	513.38	507.58	514.66	0.002011	9.19	3,281.34	363.08	0.44
	26	28,900	495.2	513.95	507.58	515.11	0.001737	8.76	3,386.88	296.41	0.41
26	25	28,900	495.6	513.36		514.4	0.001432	8.55	3,689.25	417.33	0.38
	25	28,900	495.6	513.46		514.88	0.001852	9.61	3,039.55	200	0.43
27	24	28,900	493.6	512.62	506.82	513.39	0.002145	7.66	4,490.80	604.11	0.4
	24	28,900	493.6	512.95	506.82	513.66	0.001948	7.38	4,633.11	476.11	0.38
27.1	23	28,900	493.5	512.38		513.21	0.001682	7.67	4,322.86	447.38	0.37
	23	28,900	493.5	512.69		513.49	0.001574	7.53	4,328.88	403	0.36
27.2	22	28,900	493.2	511.02	509.11	512.67	0.00367	12.05	3,328.69	426.54	0.54
	22	28,900	493.2	511.28	509.1	512.97	0.0036	12.07	3,243.93	380	0.54
27.3	21	28,900	492.8	511.26	507.14	511.88	0.001373	7.21	5,139.99	616.23	0.33
	21	28,900	492.8	511.34	507.08	512.15	0.001732	7.97	4,334.47	448	0.37
27.4	20	28,900	492.4	511.12	505.4	511.51	0.001149	4.99	5,904.20	819.11	0.29
	20	28,900	492.4	511.31	505.4	511.69	0.001089	4.91	5,911.33	619	0.28
27.5	19	28,900	492	510.74	502.8	511.23	0.000981	5.66	5,183.97	621.11	0.28
	19	28,900	492	510.93	502.8	511.42	0.000987	5.62	5,144.07	389.4	0.27
27.6	18	28,900	491.6	509.14	505.51	510.71	0.003966	10.05	2,882.07	394.79	0.54
	18	28,900	491.6	509.41	505.51	510.91	0.003754	9.81	2,944.62	270.5	0.52
27.7	17	28,900	491.4	509.36	503.47	510.11	0.001709	6.94	4,190.01	669.36	0.36
	17	28,900	491.4	509.61	503.47	510.33	0.00163	6.81	4,244.97	368	0.35
28	16	28,900	490.8	508.96	501.91	509.55	0.001395	6.18	4,675.27	851.86	0.33
	16	28,900	490.8	509.24	501.91	509.81	0.0013	6.03	4,792.18	425.34	0.32

Data tables from HEC-RAS.xls

Landfill Cap Option 1
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
28.1	15	28,900	490.6	508.26	503.8	509.19	0.003491	7.72	3,741.31	891.51	0.48
	15	28,900	490.6	508.63	503.8	509.48	0.003038	7.39	3,913.05	472.75	0.45
28.2	14	28,900	490.2	507.96	501.55	508.57	0.001526	6.28	4,604.14	845.02	0.33
	14	28,900	490.2	508.36	501.55	508.93	0.001372	6.06	4,772.82	422	0.32
29	13	29,400	488.8	507.52	501.11	507.67	0.000562	3.28	9,857.14	1383.38	0.18
	13	29,400	488.8	507.63	501.32	507.89	0.00083	3.85	7,278.02	800	0.21
30	12	29,400	490.1	506.27		506.77	0.00125	6.45	7,225.03	995.92	0.31
	12	29,400	490.1	506.29		506.79	0.001241	6.43	7,130.05	800	0.31
31	11	29,400	481.7	502.47		503.14	0.001601	7.49	7,409.15	1487.42	0.33
	11	29,400	481.7	503.02		503.57	0.001298	6.89	7,069.69	800	0.3
32	10	29,400	484.3	501.1		501.48	0.001125	6.55	7,144.58	1228.95	0.3
	10	29,400	484.3	501.23		501.87	0.001594	7.84	5,248.45	800	0.36
33	9	29,400	482.7	500.65		500.88	0.00051	4.86	9,058.69	1609.69	0.21
	9	29,400	482.7	500.52		500.92	0.000822	5.89	6,221.29	800	0.25
34.1	8	29,400	480.1	499.41	494.5	500.54	0.001948	9.35	4,280.16	884.25	0.41
	8	29,400	480.1	499.6	494.5	500.64	0.001779	9.01	4,259.02	700	0.39
	7.5	Bridge									
34.2	7	29,400	480.1	498.85	493.49	500.23	0.00242	10.18	3,804.59	804.69	0.45
	7	29,400	480.1	499.11	493.49	500.34	0.002138	9.68	3,945.92	700	0.43
35	6	29,400	479.2	498.54		499.11	0.001845	6.87	5,951.25	1253.1	0.31
	6	29,400	479.2	498.47		499.37	0.002668	8.09	4,606.15	700	0.37
36.1	5	29,400	480.3	498.65	492.17	498.71	0.000209	2.55	14,902.84	4415.82	0.12
	5	29,400	480.3	498.6	492.17	498.76	0.000358	3.33	8,874.98	900	0.16
	4.5	Bridge									
36.2	4	29,400	480.3	496.37	492.15	496.54	0.000707	4.15	9,473.81	3692.28	0.22
	4	29,400	480.3	496.48	492.15	496.76	0.000797	4.43	6,968.86	900	0.23
37	3	29,400	482.4	495.7		496.21	0.001813	7.08	6,935.83	2284.28	0.37
	3	29,400	482.4	495.96		496.46	0.001634	6.82	6,104.35	900	0.35
38	2	29,400	475.5	493.03	490.41	493.44	0.001414	6.46	6,691.50	1523.66	0.3
	2	29,400	475.5	493.54	490.4	493.96	0.001272	6.14	6,143.78	900	0.28
39	1	29,400	476	488.42	488.42	489.5	0.005997	10.77	4,431.83	1816.2	0.62
	1	29,400	476	488.49	488.49	490.01	0.007249	11.89	3,352.70	895.42	0.68

Data tables from HEC-RAS.xls

Landfi) Option 1
HEC-RAS En. .achment Table 1

HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
22	31	529.26		530.5	225.35		28,456.51	443.49		0	204	
	31	529.25	-0.01	530.51	214.42		28,591.56	308.44	0	0	204	230
23.1	30	528.95		529.9	173.41		28,848.96	51.04		0	168	
	30	528.95	0	529.9	173.38		28,848.97	51.03	0.01	0	168	173.4
	29.5	Inline Weir										
23.2	29	515.07		516.31	304.43	154.09	28,745.91			110	315	
	29	515.5	0.43	516.66	304.65	263.91	28,636.09		10.4	110	315	315.05
24	28	513.79		515.11	304.17	73.73	28,826.27			110	315	
	28	514.39	0.61	515.6	300	205.76	28,694.24		15.05	110	315	315.05
25.1	27	513.46		514.87	229.06		28,900.00			172	404	
	27	514.28	0.82	515.38	297.06	1,444.68	27,455.32		104.01	172	404	404.01
	26.5 BR U	513.31		514.82	221.35		28,900.00			172	404	
	26.5 BR U	513.88	0.56	515.26	249.02	3.89	28,896.11			172	404	
	26.5 BR D	513.3		514.77	219.75	0.55	28,899.45			172	404	
	26.5 BR D	513.86	0.56	515.22	228.69	0.70	28,899.30			172	404	
25.2	26	513.38		514.66	363.08	897.34	28,002.66			172	404	
	26	513.95	0.57	515.11	296.41	1,106.21	27,793.79		104.01	172	404	404.01
26	25	513.36		514.4	417.33	1,756.69	25,092.25	2,051.06		207	397	
	25	513.46	0.11	514.88	200		28,393.30	506.70	207	207	397	407
27	24	512.62		513.39	481.42	6,559.47	22,340.53			261	594	
	24	512.95	0.33	513.66	476.11	6,737.45	22,162.55		43	261	594	594
27.1	23	512.38		513.21	447.38	1,242.69	25,022.09	2,635.22		127	367	
	23	512.69	0.31	513.49	403	1,347.89	25,125.57	2,426.54	37	127	367	440
27.2	22	511.02		512.67	426.54	2,656.10	18,930.11	7,313.79		131	234	
	22	511.28	0.26	512.97	380	2,788.93	19,284.58	6,826.49	40	131	234	420
27.3	21	511.26		511.88	616.23	31.03	18,949.09	9,919.88		201	382	
	21	511.34	0.07	512.15	448		21,061.92	7,838.08	201	201	382	649
27.4	20	511.12		511.51	716.69	89.93	28,685.20	124.87		39	647	
	20	511.31	0.19	511.69	619	88.35	28,811.65		28	39	647	647
27.5	19	510.74		511.23	431.75	38.01	28,700.29	161.69		61	450	
	19	510.93	0.19	511.42	389.4		28,900.00		61	61	450	450.4
27.6	18	509.14		510.71	279.05	10.73	28,884.98	4.29		49	320	
	18	509.41	0.27	510.91	270.5		28,900.00		49	49	320	319.5
27.7	17	509.36		510.11	391.54	29.94	28,833.51	36.55		78	446	
	17	509.61	0.25	510.33	368		28,900.00		78	78	446	446
28	16	508.96		509.55	422.47		28,900.00			0	439	
	16	509.24	0.28	509.81	425.34		28,900.00		11	0	439	439

Data tables from HEC-RAS.xls

Landfill Cap Option 1
HEC-RAS Encroachment Table 1

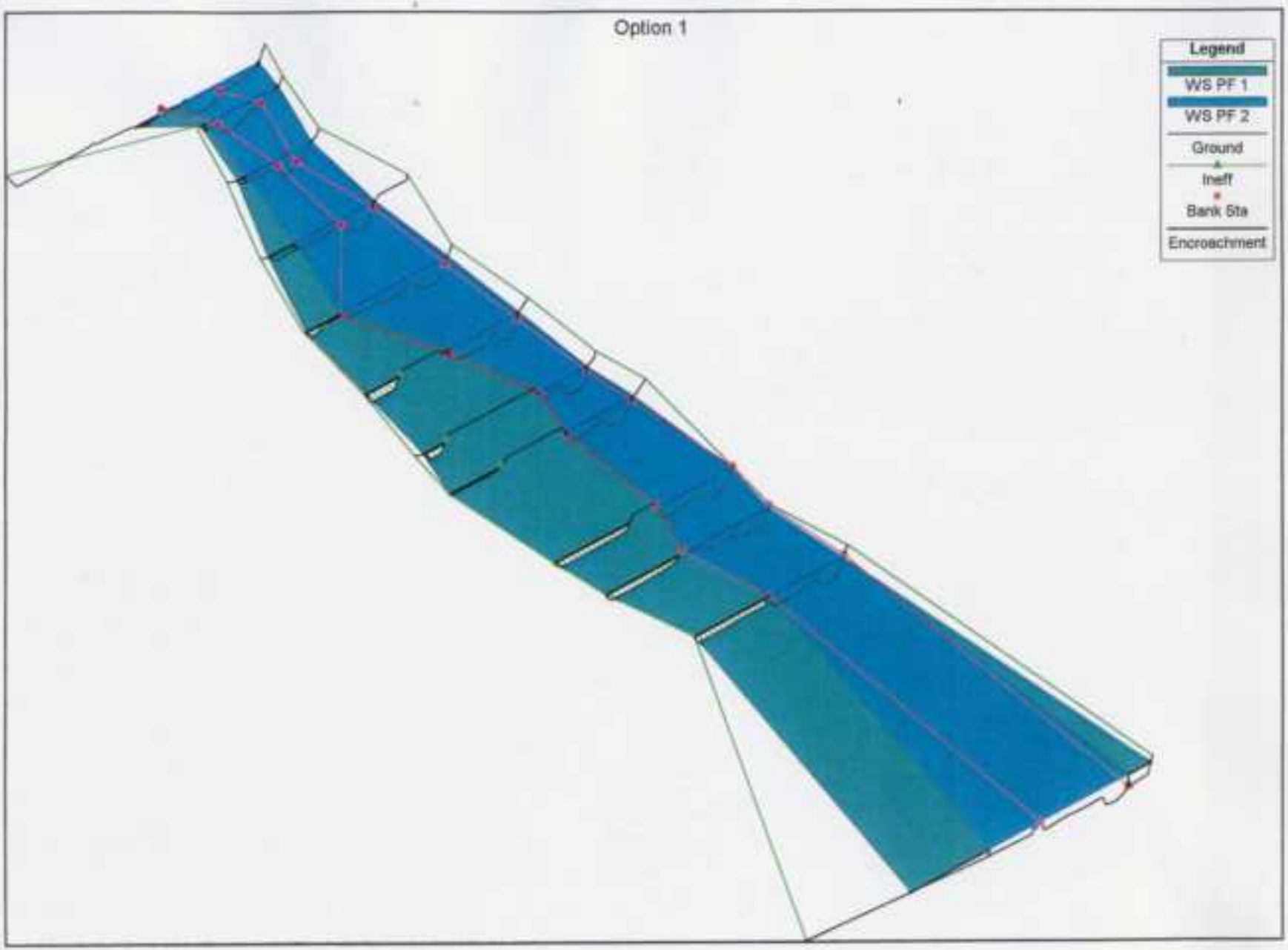
HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
28.1	15	508.26		509.19	470.07		28,900.00			2	499	
	15	508.63	0.37	509.48	472.75		28,900.00		7	2	499	499
28.2	14	507.96		508.57	419.7		28,899.97	0.03		19	447	
	14	508.36	0.4	508.93	422		28,900.00		25	19	447	447
29	13	507.52		507.67	1383.38	2,050.55	17,799.14	9,550.32		139	642	
	13	507.63	0.12	507.89	800		21,147.68	8,252.31	139	139	642	939
30	12	506.27		506.77	995.92	7,064.66	22,074.72	260.61		490	748	
	12	506.29	0.02	506.79	800	7,077.15	22,055.39	267.45	22.65	490	748	822.65
31	11	502.47		503.14	1487.42		22,287.84	7,112.16		0	187	
	11	503.02	0.56	503.57	800		21,204.86	8,195.14	3.35	0	187	803.35
32	10	501.1		501.48	1228.95	3,330.57	12,532.64	13,536.79		141	269	
	10	501.23	0.13	501.87	800	790.34	15,144.45	13,465.21	113	141	269	913
33	9	500.65		500.88	1609.69	246.02	14,847.45	14,306.53		65	247	
	9	500.52	-0.13	500.92	800		17,846.03	11,553.97	65	65	247	865
34.1	8	499.41		500.54	884.25	127.34	23,618.62	5,654.04		205	360	
	8	499.6	0.19	500.64	700	8.90	23,013.32	6,377.78	204.5	205	360	904.5
	7.5 BR U	499.41		500.53	884.25	81.05	8,931.61	20,381.33		205	360	
	7.5 BR U	499.6	0.19	500.63	918.96	98.46	8,337.90	20,931.62		205	360	
	7.5 BR D	499.41		500.53	884.25	81.05	8,931.61	20,381.33		205	360	
	7.5 BR D	499.57	0.16	500.63	913.14	98.03	8,384.58	20,885.37		205	360	
34.2	7	498.85		500.23	804.69	146.97	24,820.84	4,432.19		205	360	
	7	499.11	0.27	500.34	700	136.29	23,997.40	5,266.32	201	205	360	901
35	6	498.54		499.11	1253.1	1,329.35	21,591.86	6,478.80		241	451	
	6	498.47	-0.06	499.37	700		25,325.44	4,074.56	241	241	451	941
36.1	5	498.65		498.71	2534.42	20,673.03	8,726.97			2,382	2,632	
	5	498.6	-0.05	498.76	899	18,049.68	11,350.32		1733	2,382	2,632	2633
	4.5 BR U	498.65		498.72	1995.66	6,072.63	23,383.58			2,382	2,632	
	4.5 BR U	498.6	-0.05	498.77	1986.43	6,012.99	23,458.09			2,382	2,632	
	4.5 BR D	498.48		498.69	1966.67	4,892.02	24,564.01	0.19		2,382	2,632	
	4.5 BR D	498.52	0.03	498.74	1972.01	5,437.04	24,033.86	0.18		2,382	2,632	
36.2	4	496.37		496.54	2088.54	17,562.51	11,837.49			2,382	2,632	
	4	496.48	0.11	496.76	899	16,627.91	12,772.09		1733	2,382	2,632	2633
37	3	495.7		496.21	2284.28	9,411.51	17,251.36	2,737.13		600	814	
	3	495.96	0.25	496.46	900	9,043.83	16,994.83	3,361.34	100	600	814	1000
38	2	493.03		493.44	1523.66	13,897.74	15,397.88	104.38		2,226	2,394	
	2	493.54	0.52	493.96	900	14,231.26	15,168.74		1494	2,226	2,394	2394
39	1	488.42		489.5	1816.2	14,717.85	14,682.15			2,140	2,290	
	1	488.49	0.07	490.01	895.42	13,071.77	16,328.23		1390	2,140	2,290	2290

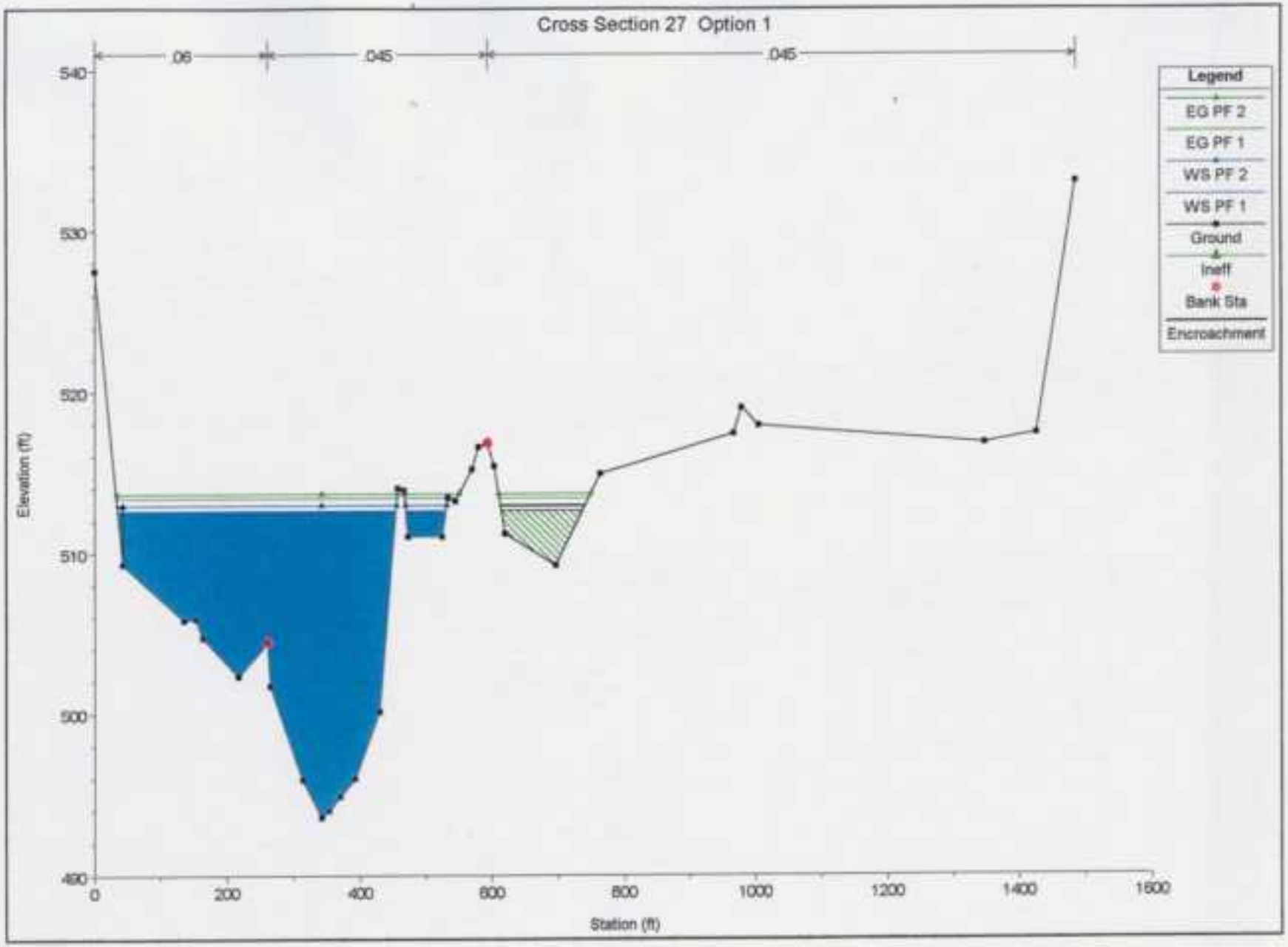
Data tables from HEC-RAS.xls

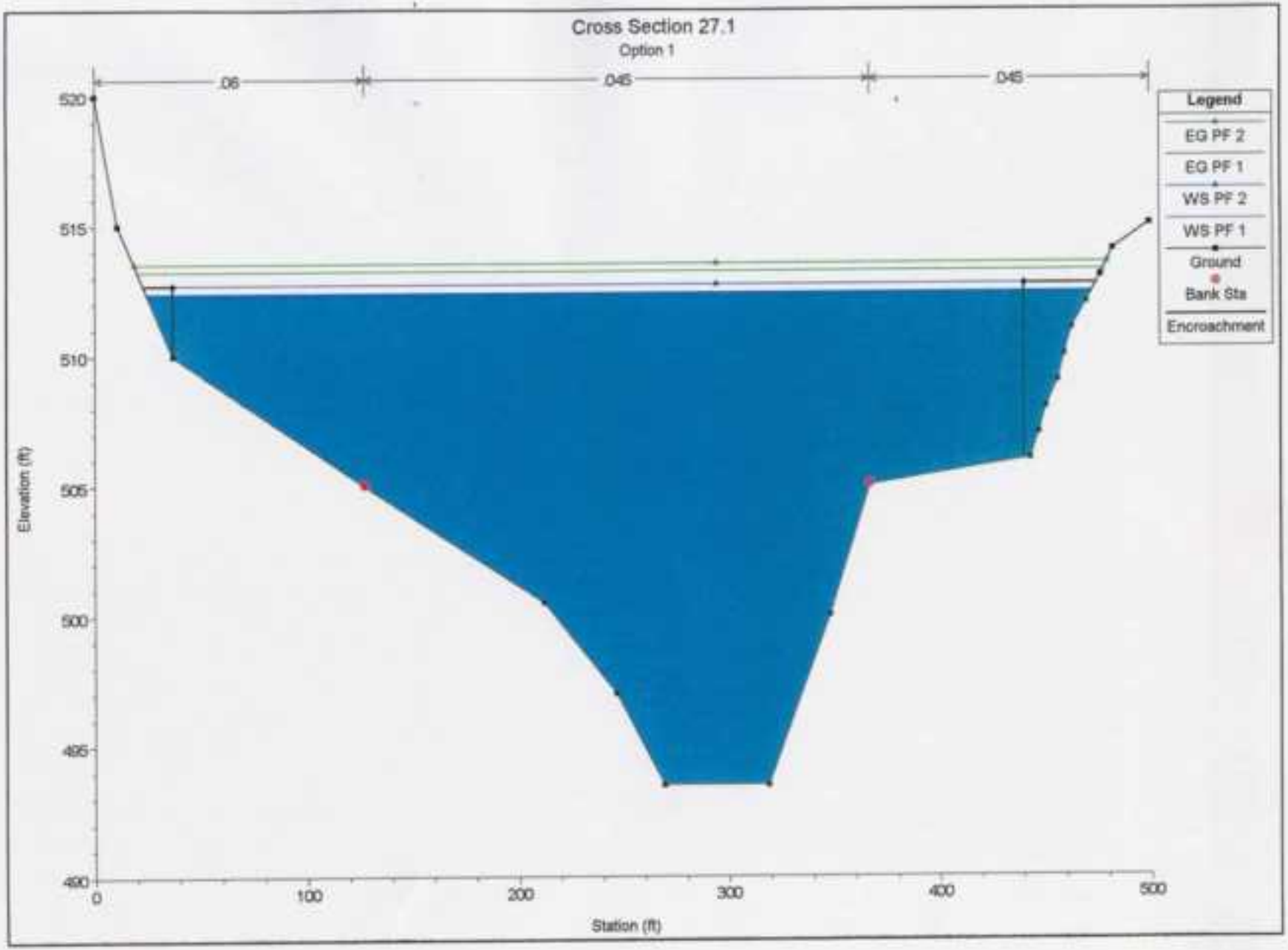
Landfill Option 1
HEC-RAS Velocity Table

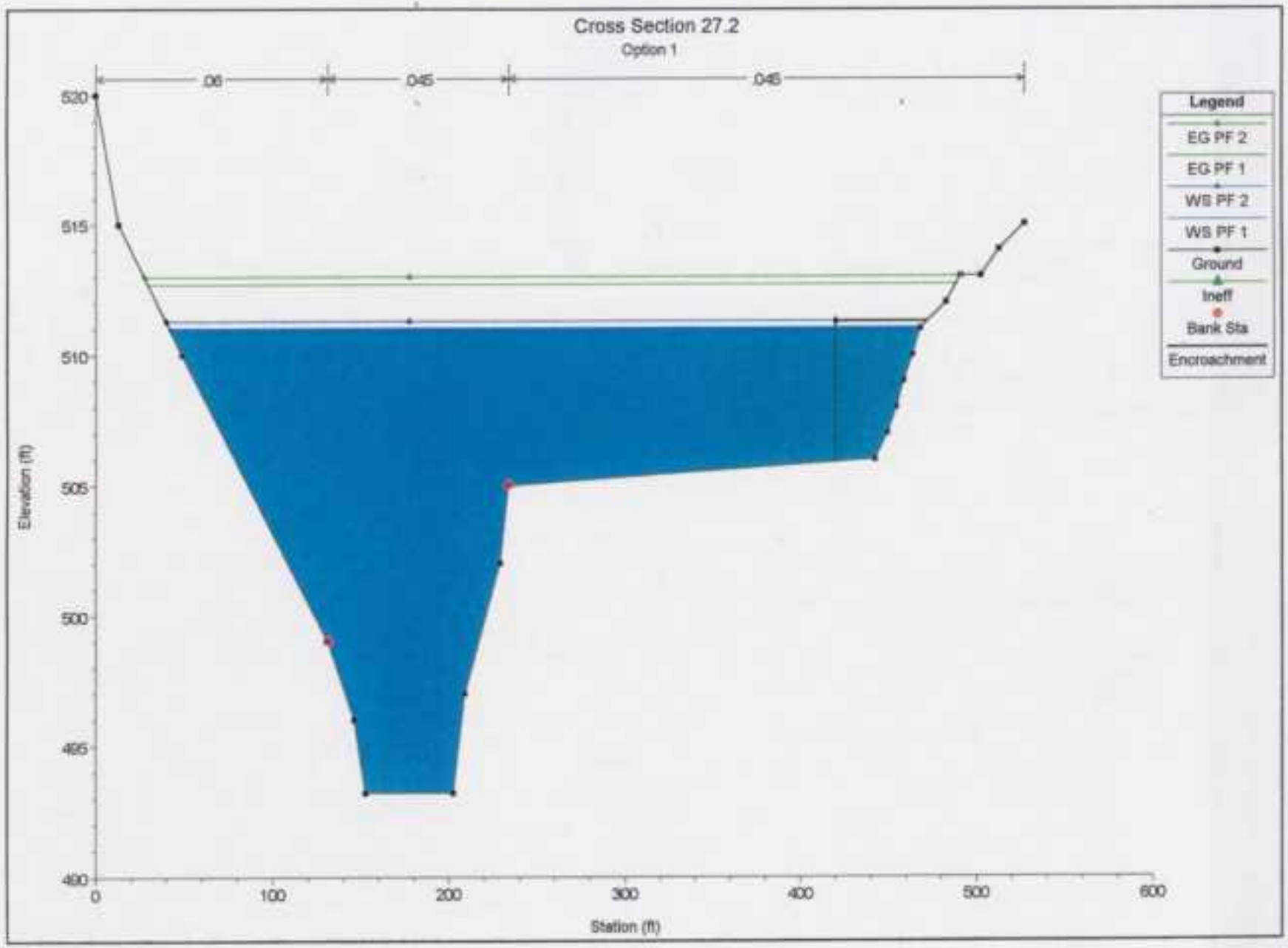
HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
22	31		8.99	3.9	8.82		1.45	0.27	1.26		3,163.97	113.71	3,277.68
	31		9.04	3.75	8.91		1.47	0.25	1.31		3,162.56	82.33	3,244.90
23.1	30		7.83	1.37	7.76		0.26	0.02	0.23		3,686.67	37.15	3,723.82
	30		7.83	1.37	7.76		0.26	0.02	0.23		3,686.67	37.14	3,723.81
	29.5	Inline Weir											
23.2	29	1.53	8.97		8.75	0.11	1.5		1.07	100.57	3,203.14		3,303.71
	29	1.84	8.7		8.42	0.14	1.4		1.01	143.21	3,290.98		3,434.19
24	28	1.17	9.22		9.06	0.07	1.6		1.13	62.87	3,125.25		3,188.13
	28	1.72	8.83		8.58	0.12	1.45		1.05	119.53	3,249.51		3,369.04
25.1	27		9.54		9.54		1.78		1.78		3,030.17		3,030.17
	27	5.12	8.53		8.25	0.42	1.39		1.18	282.42	3,218.67		3,501.09
	26.5 BR U		9.85		9.85		1.98		1.98		2,935.03		2,935.03
	26.5 BR U	0.69	9.46		9.44	0.02	1.83		1.61	5.62	3,056.13		3,061.75
	26.5 BR D	0.17	9.74		9.73	0.02	1.91		1.72	3.16	2,965.78		2,968.93
	26.5 BR D	0.15	9.36		9.35	0.01	1.77		1.5	4.50	3,086.14		3,090.64
25.2	26	3.81	9.19		8.81	0.22	1.63		1.11	235.71	3,045.63		3,281.34
	26	5.21	8.76		8.53	0.33	1.46		1.2	212.26	3,174.61		3,386.88
26	25	4.21	8.55	6.07	7.83	0.22	1.34	0.52	0.78	417.40	2,934.00	337.84	3,689.25
	25		9.61	5.93	9.51		1.7	0.54	1.61		2,954.07	85.48	3,039.55
27	24	4.17	7.66		6.44	0.93	1.5		1.23	1,572.50	2,918.30		4,490.80
	24	4.13	7.38		6.24	0.89	1.39		1.16	1,630.77	3,002.34		4,633.11
27.1	23	2.74	7.67	4.34	6.69	0.46	1.42	0.6	1.01	454.23	3,261.65	606.98	4,322.86
	23	2.89	7.53	4.61	6.68	0.49	1.35	0.65	1.03	467.13	3,335.42	526.33	4,328.88
27.2	22	4.94	12.05	6	8.68	1.37	3.39	1.19	1.77	537.99	1,571.55	1219.14	3,328.69
	22	4.97	12.07	6.3	8.91	1.37	3.38	1.27	1.87	561.42	1,598.29	1084.22	3,243.93
27.3	21	1.27	7.21	3.99	5.62	0.14	1.23	0.5	0.71	24.36	2,629.38	2486.25	5,139.99
	21		7.97	4.63	6.67		1.51	0.67	1.01		2,642.71	1691.77	4,334.47
27.4	20	1.72	4.99	1.21	4.89	0.21	0.68	0.08	0.59	52.23	5,748.70	103.27	5,904.20
	20	1.85	4.91		4.89	0.23	0.65		0.64	47.82	5,863.51		5,911.33
27.5	19	1.31	5.66	1.98	5.57	0.13	0.78	0.16	0.72	29.08	5,073.42	81.47	5,183.97
	19		5.62		5.62		0.78		0.78		5,144.07		5,144.07
27.6	18	1.65	10.05	1.75	10.03	0.27	2.55	0.14	2.47	6.50	2,873.12	2.45	2,882.07
	18		9.81		9.81		2.43		2.43		2,944.62		2,944.62
27.7	17	1.41	6.94	2.19	6.9	0.17	1.18	0.16	1.12	21.17	4,152.16	16.68	4,190.01
	17		6.81		6.81		1.13		1.13		4,244.97		4,244.97
28	16		6.18		6.18		0.94		0.94		4,675.27		4,675.27
	16		6.03		6.03		0.89		0.89		4,792.18		4,792.18
28.1	15		7.72		7.72		1.7		1.7		3,741.31		3,741.31
	15		7.39		7.39		1.53		1.53		3,913.05		3,913.05
28.2	14		6.28	0.31	6.28		1.02	0.01	1.02		4,604.04	0.1	4,604.14
	14		6.06		6.06		0.94		0.94		4,772.82		4,772.82

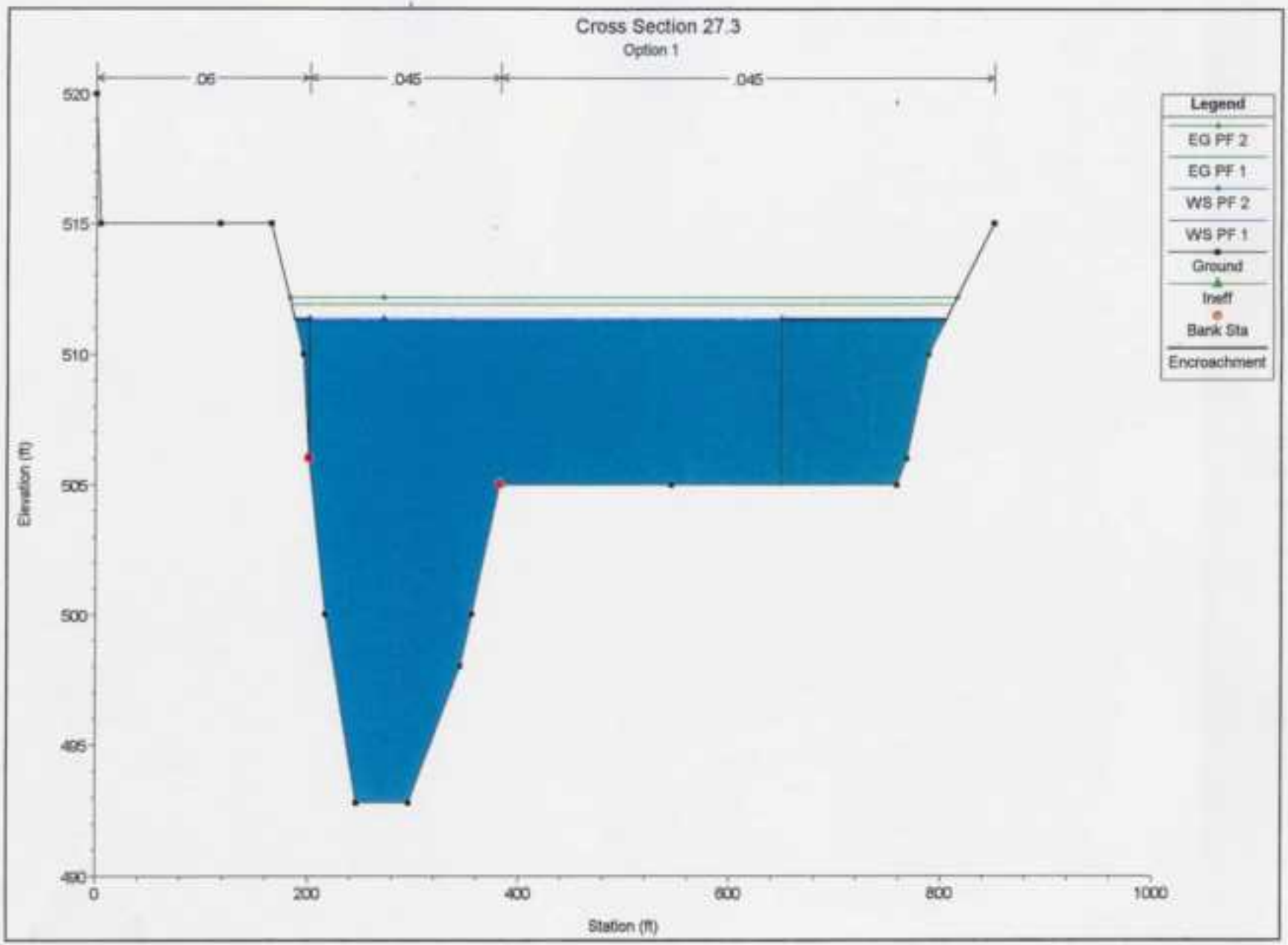
Data tables from HEC-RAS.xls

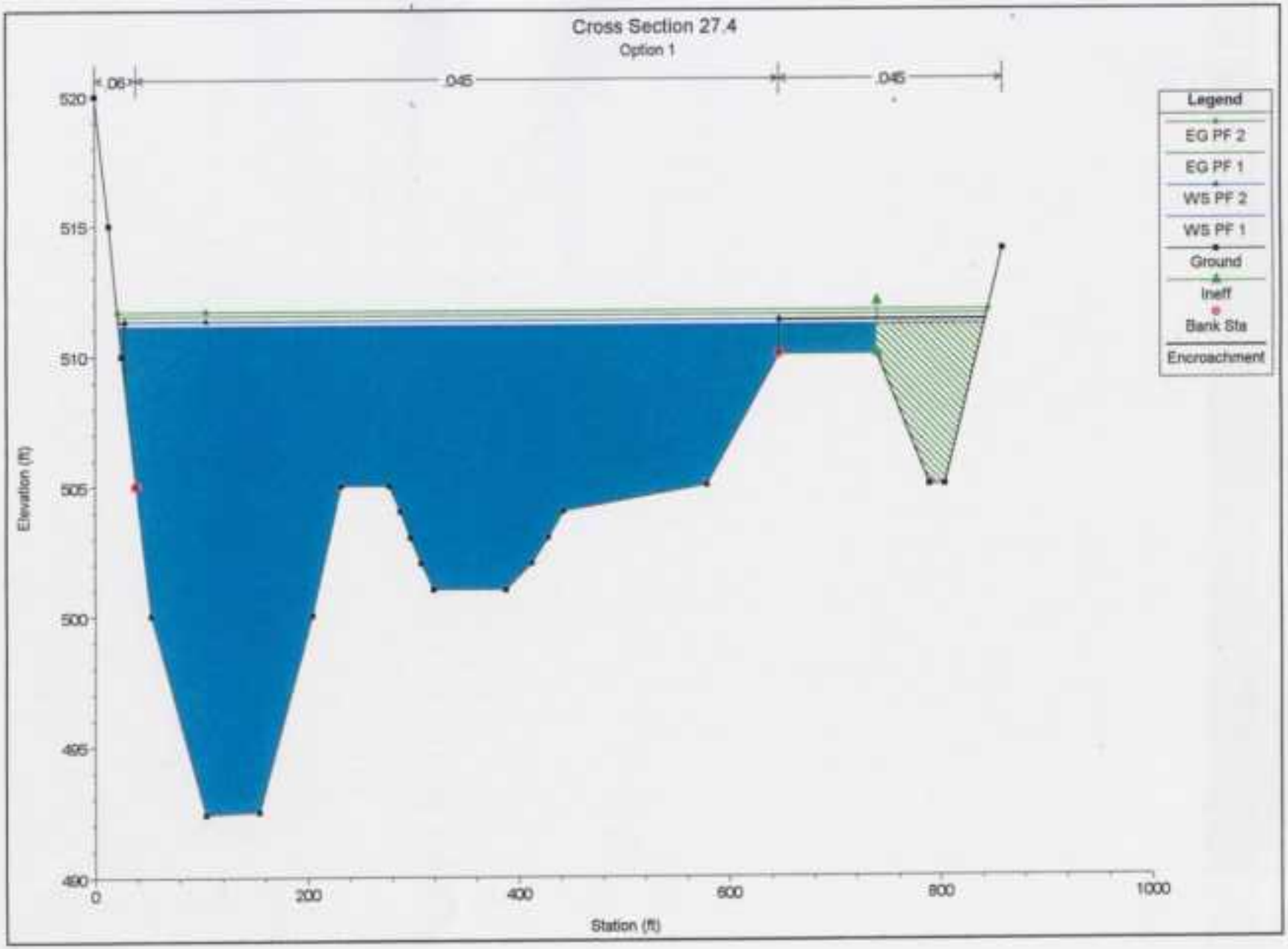

Option 1
Legend
WS PF 1
WS PF 2
Ground
Ineff
Bank Sta
Encroachment

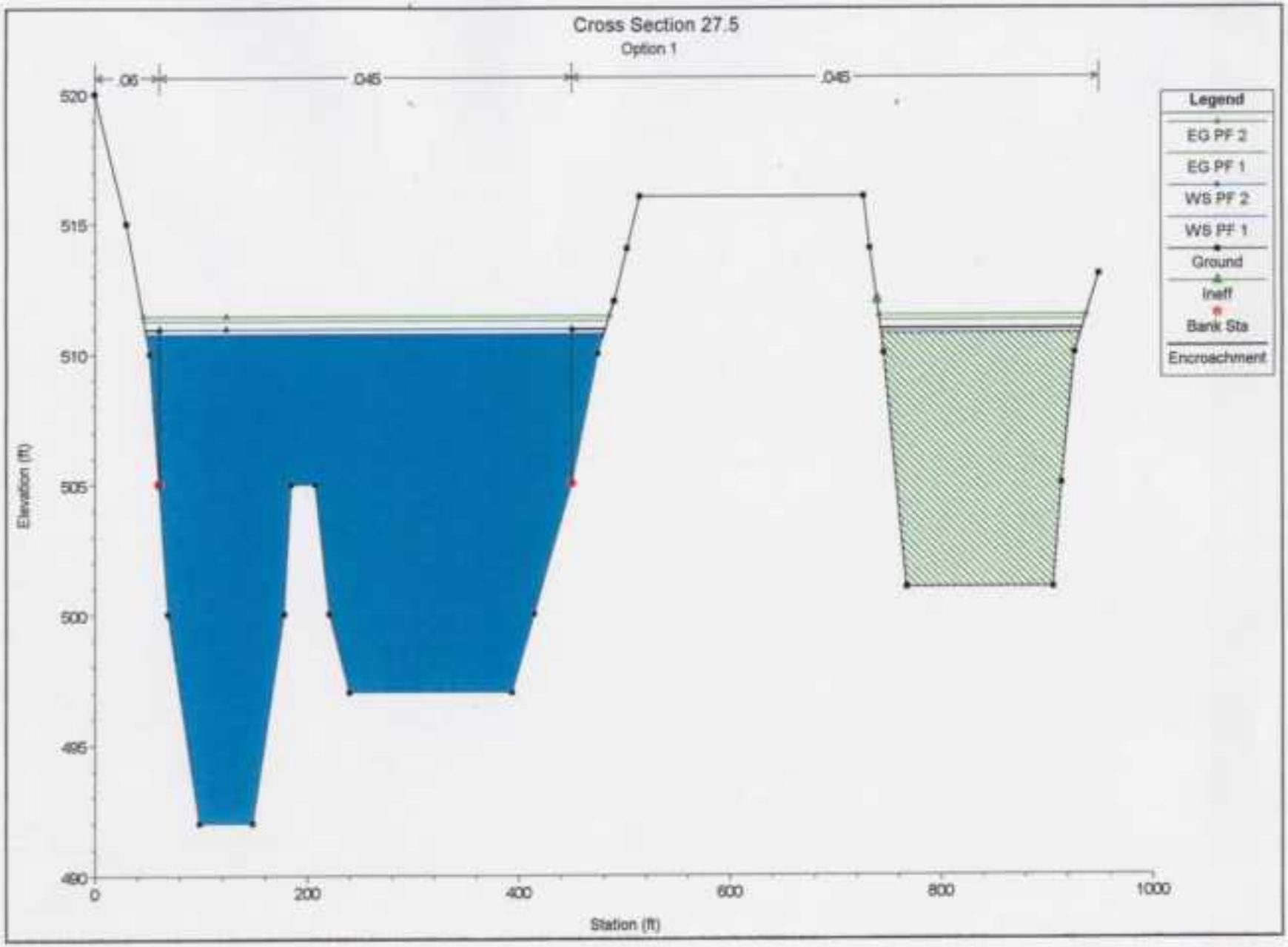

Cross Section 27 Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
540
530
520
510
500
490
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

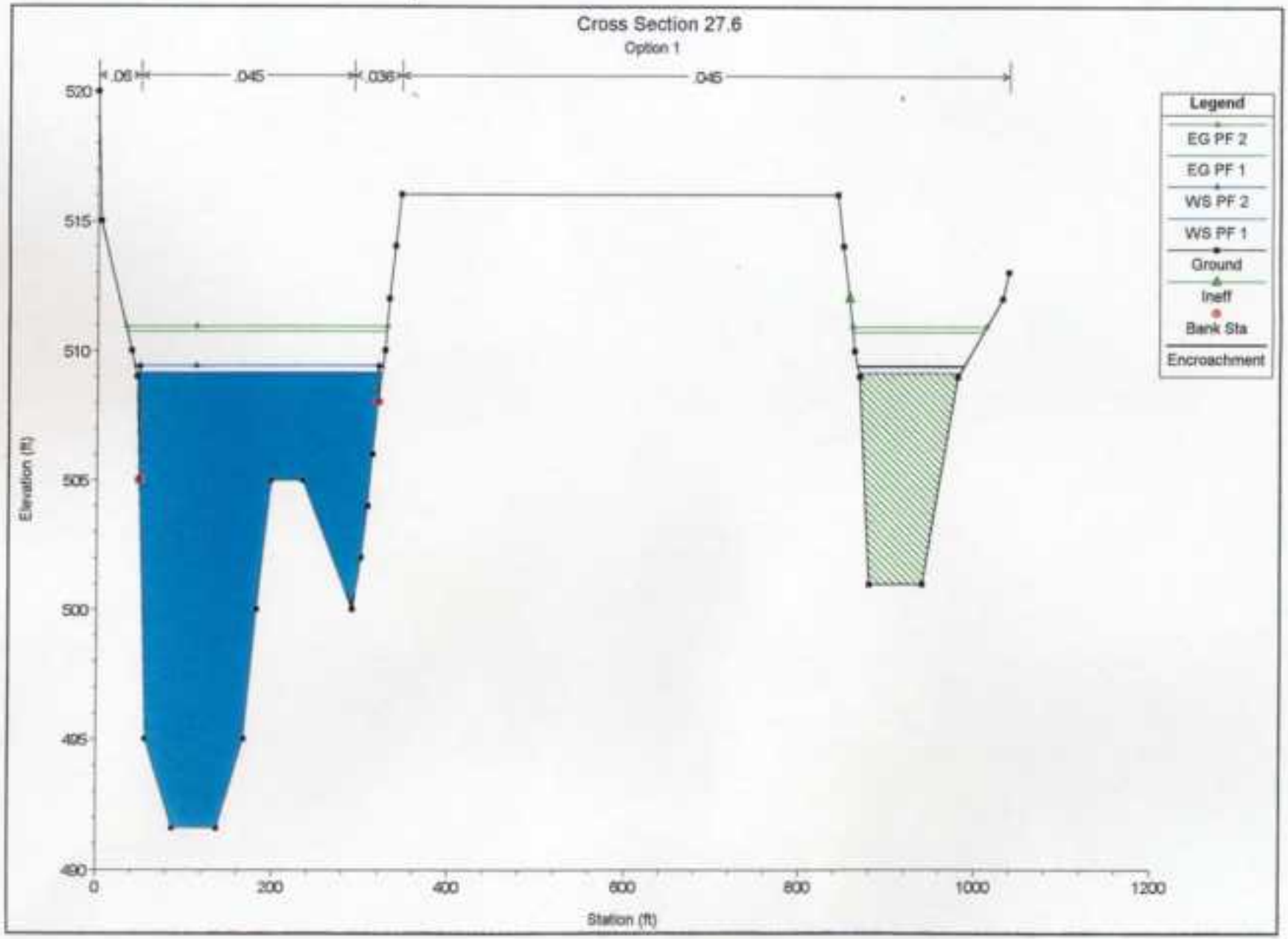

Cross Section 27.1
Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
Station (ft)

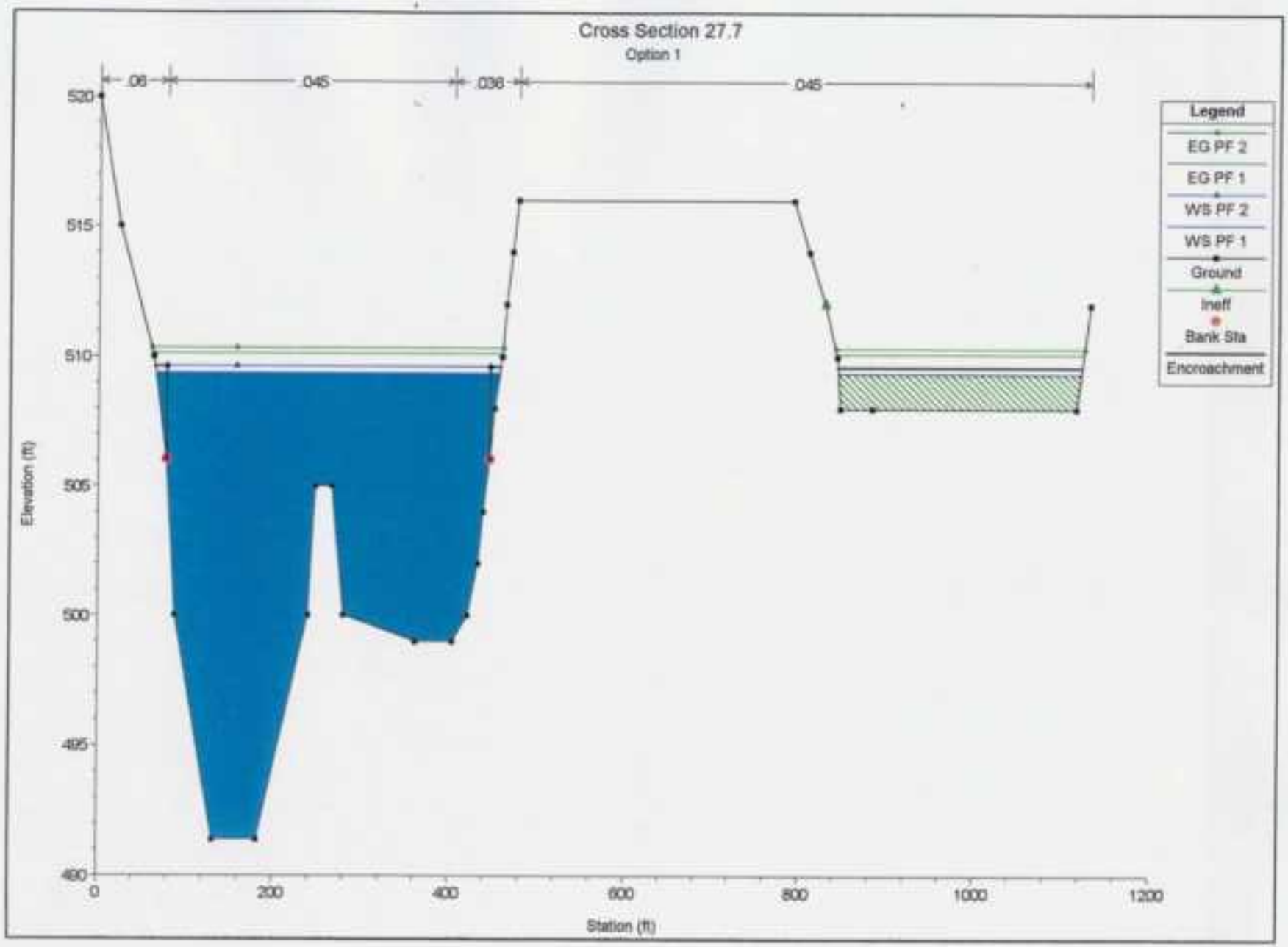

Cross Section 27.2
Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
600
Station (ft)


Cross Section 27.3
Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

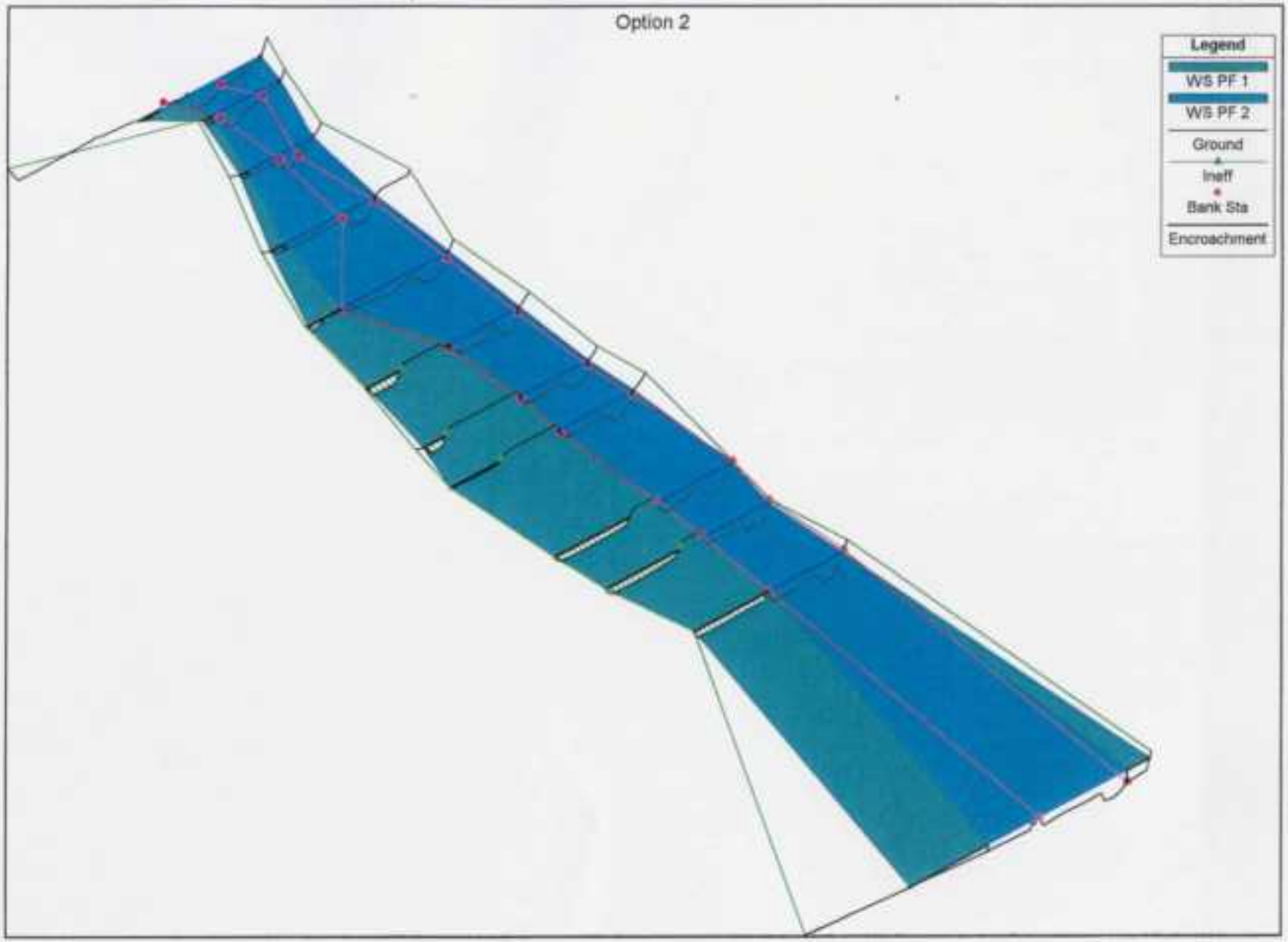

Cross Section 27.4
Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

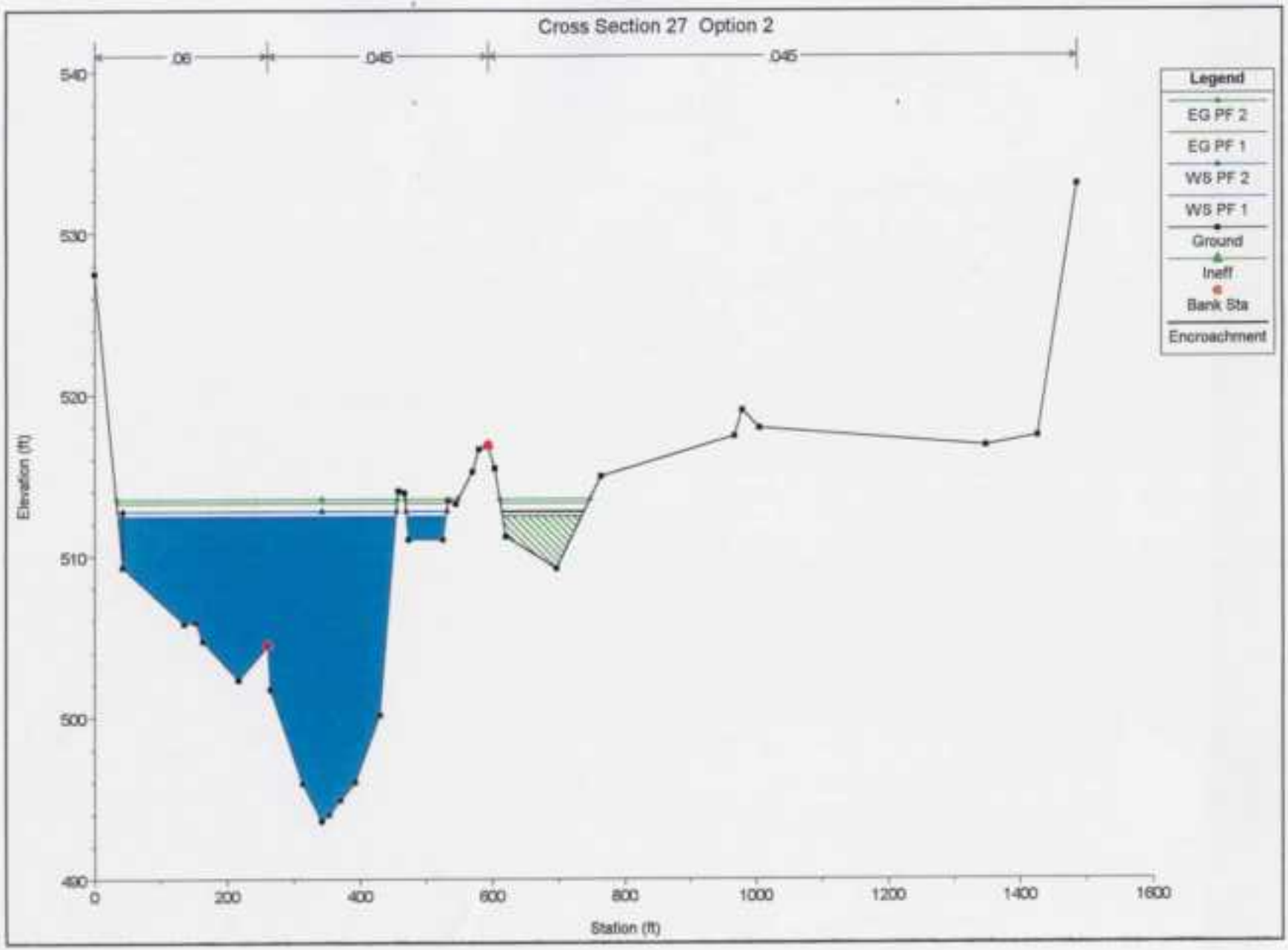

Cross Section 27.5
Option 1
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

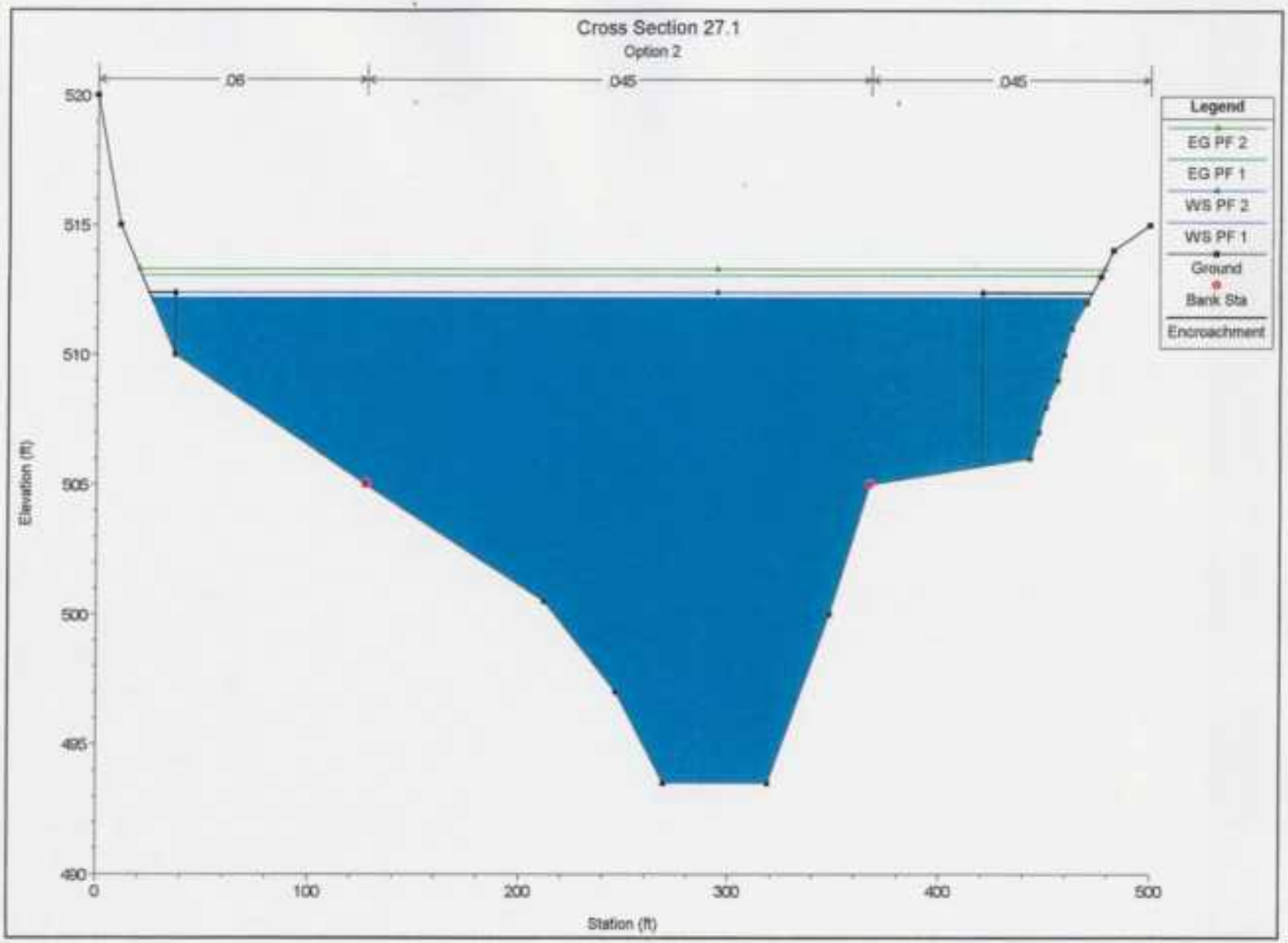

Cross Section 27.6
Option 1
.06
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)

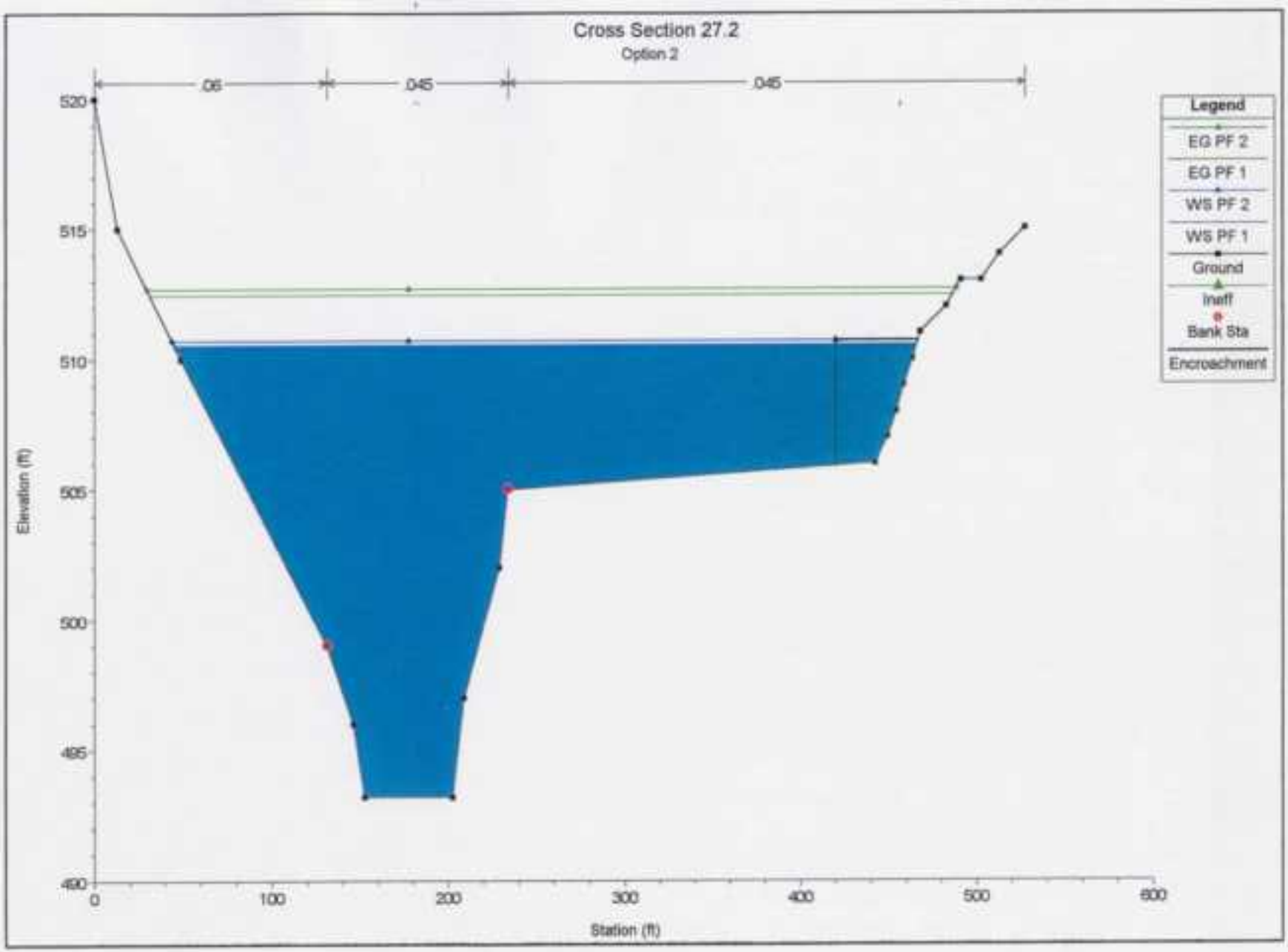

Cross Section 27.7
Option 1
.06
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)

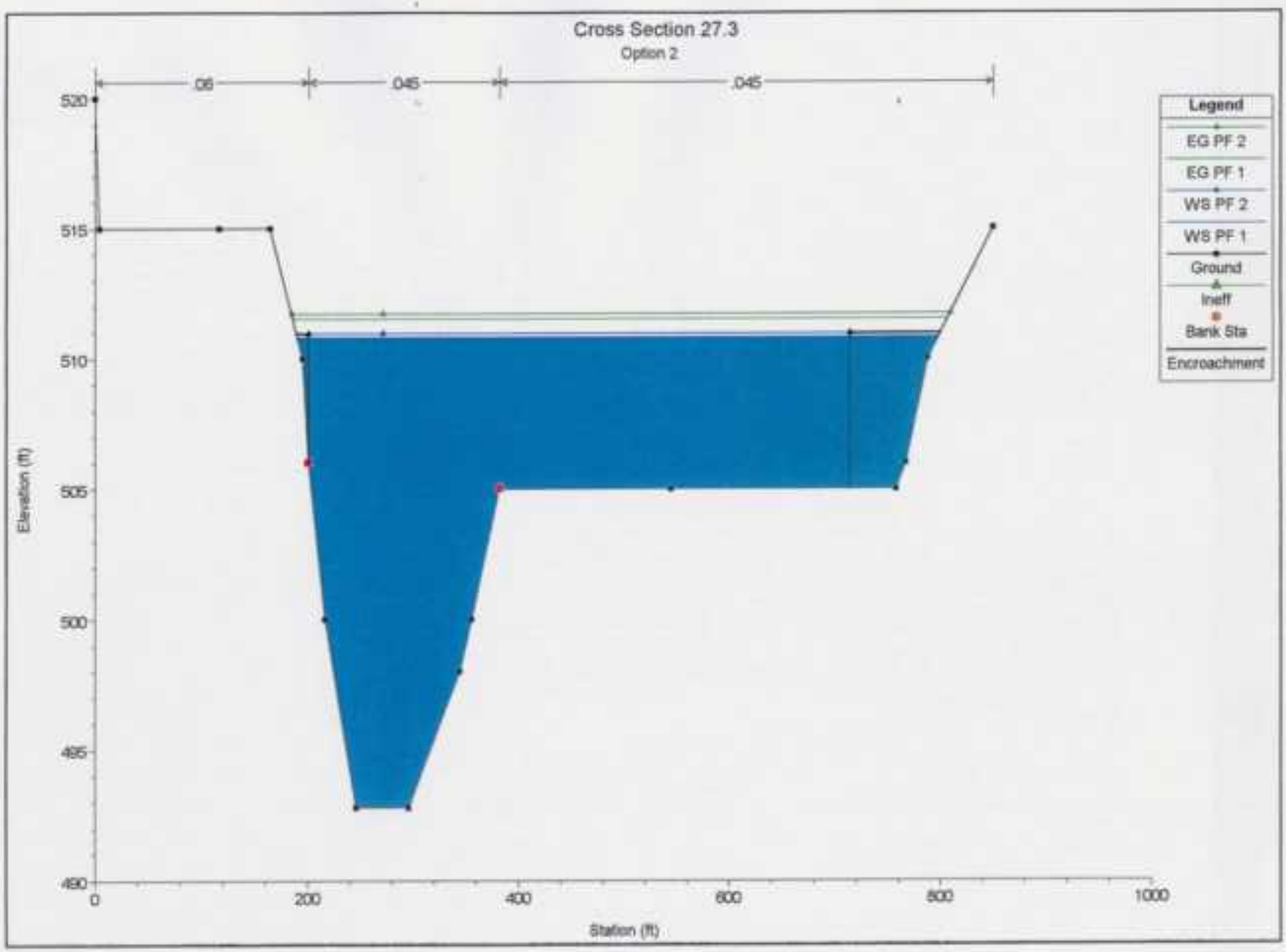
Appendix H
HEC RAS Model Cross Sections and Model Results, Landfill Configuration 2

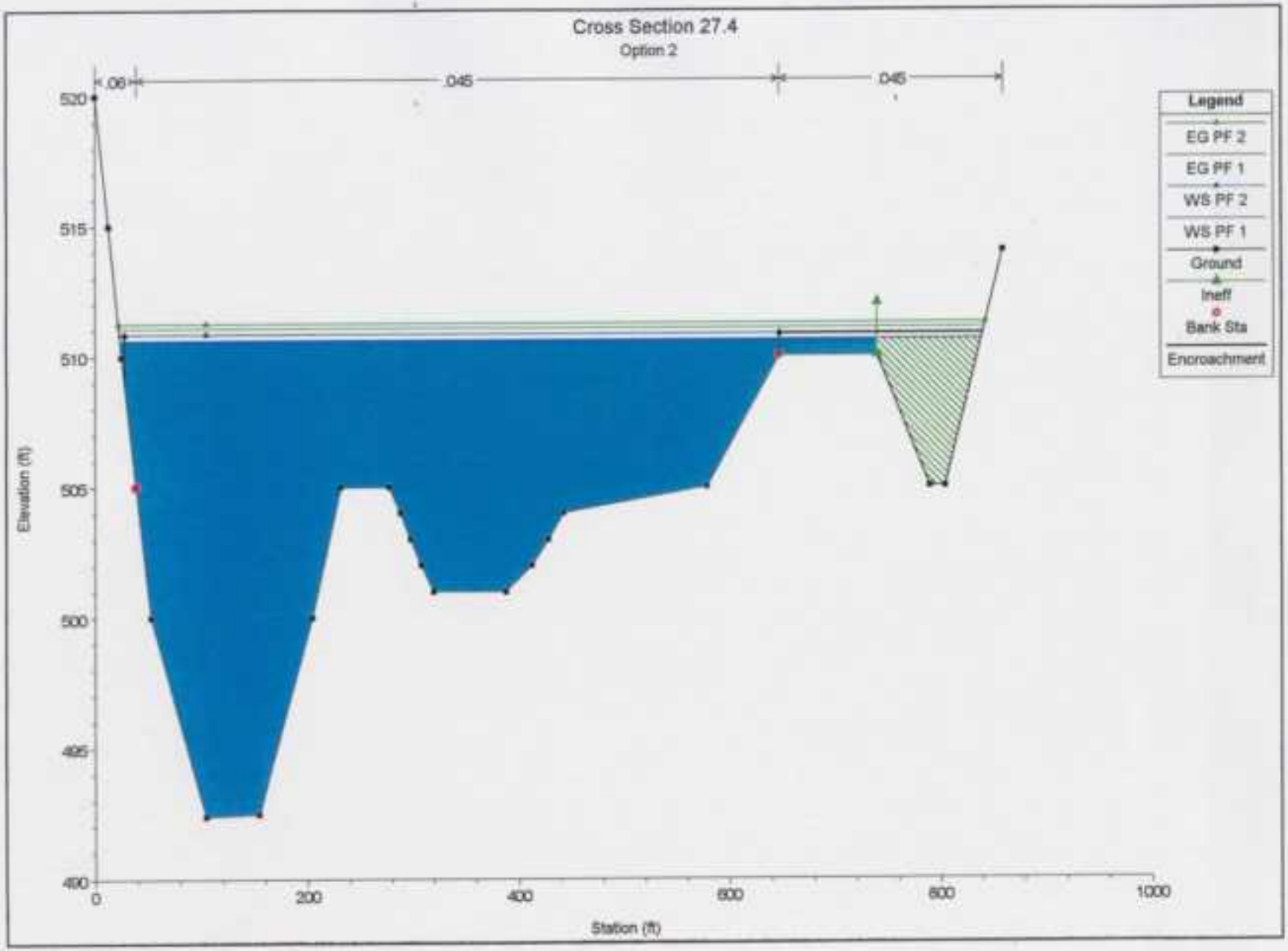

Option 2
Legend
WS PF 1
WS PF 2
Ground
Ineff
Bank Sta
Encroachment

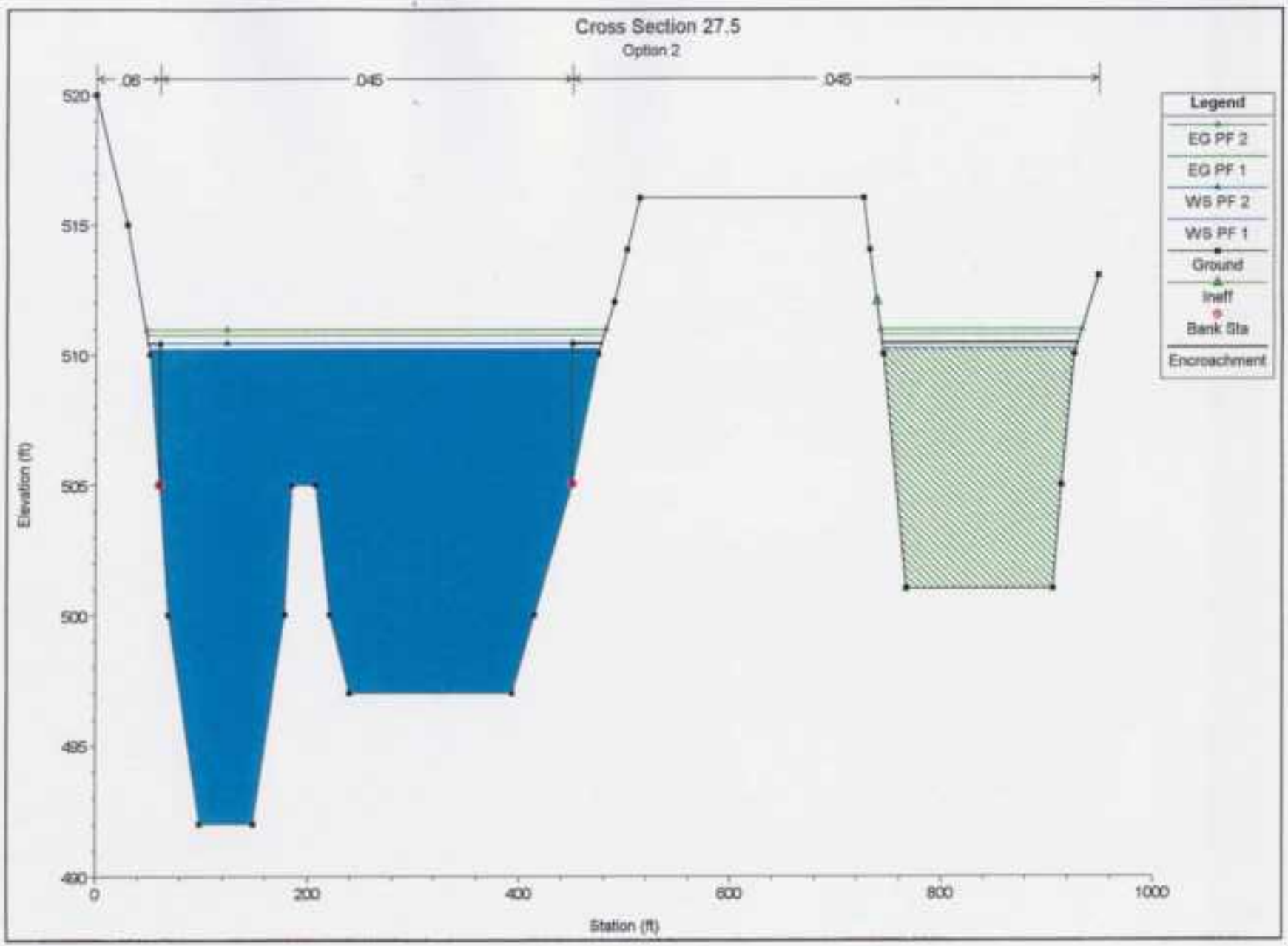

Cross Section 27 Option 2
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
540
530
520
510
500
490
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

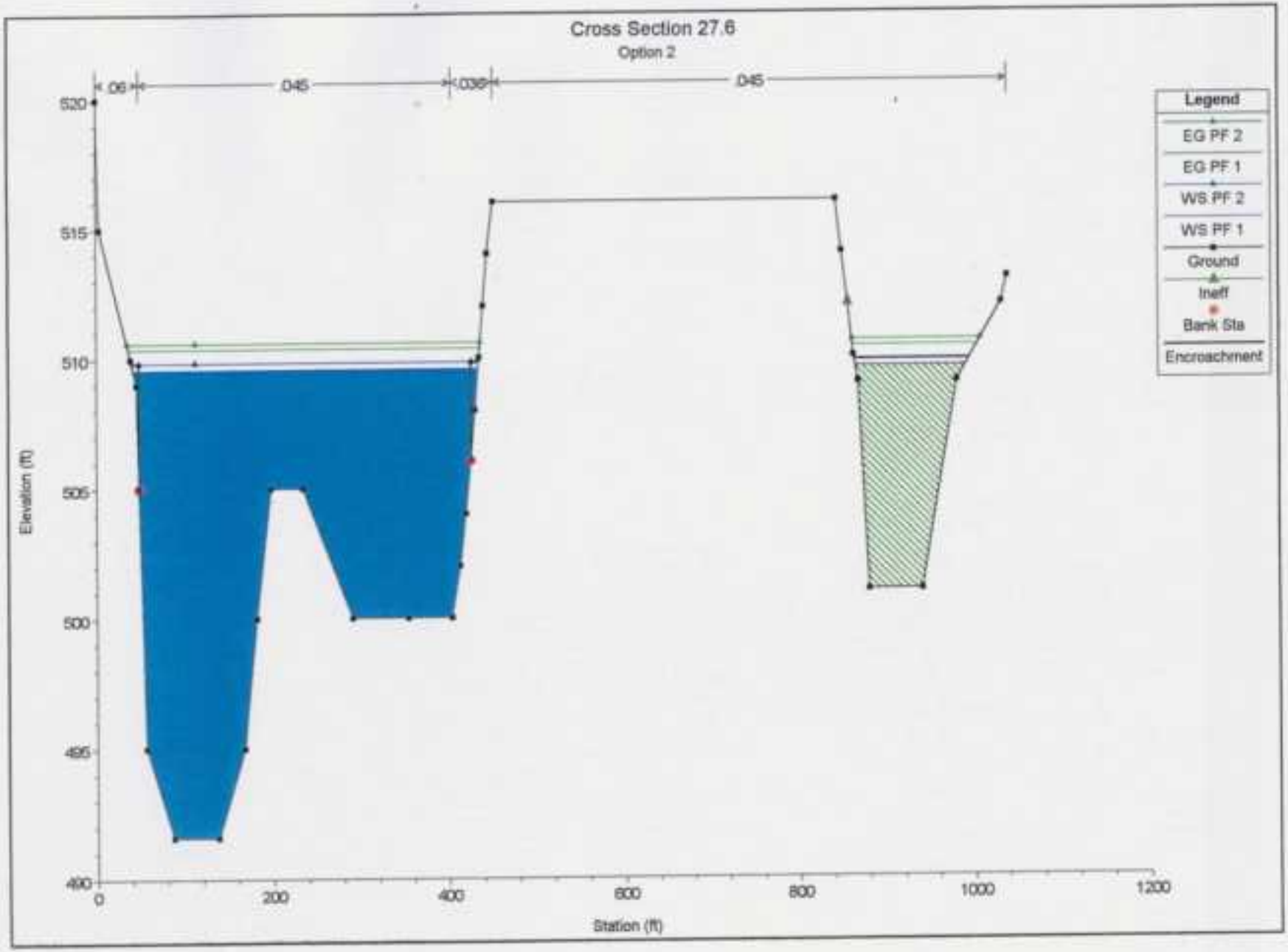

Cross Section 27.1
Option 2
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
Station (ft)

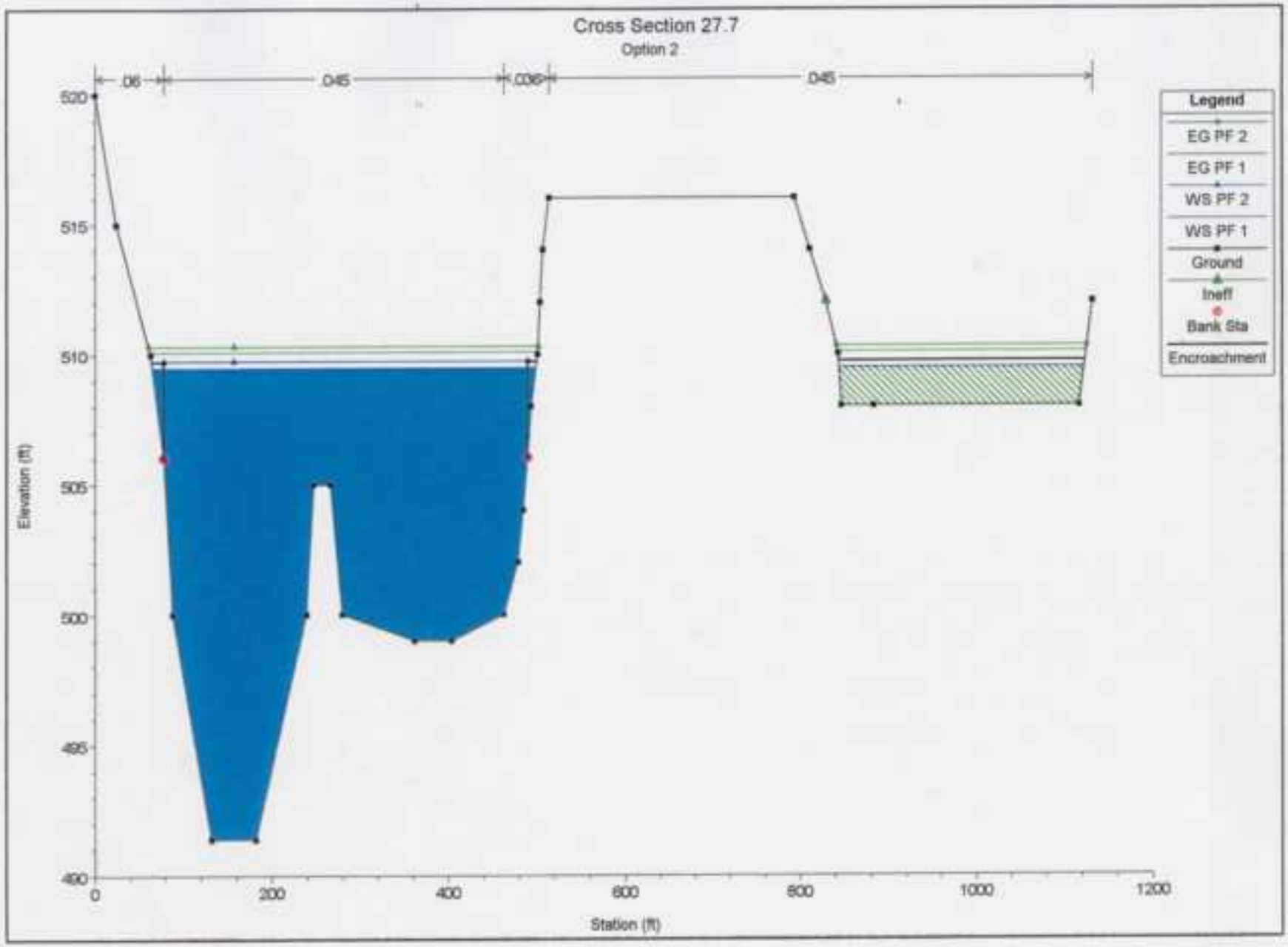

Cross Section 27.2
Option 2
.05
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
100
200
300
400
500
600
Station (ft)

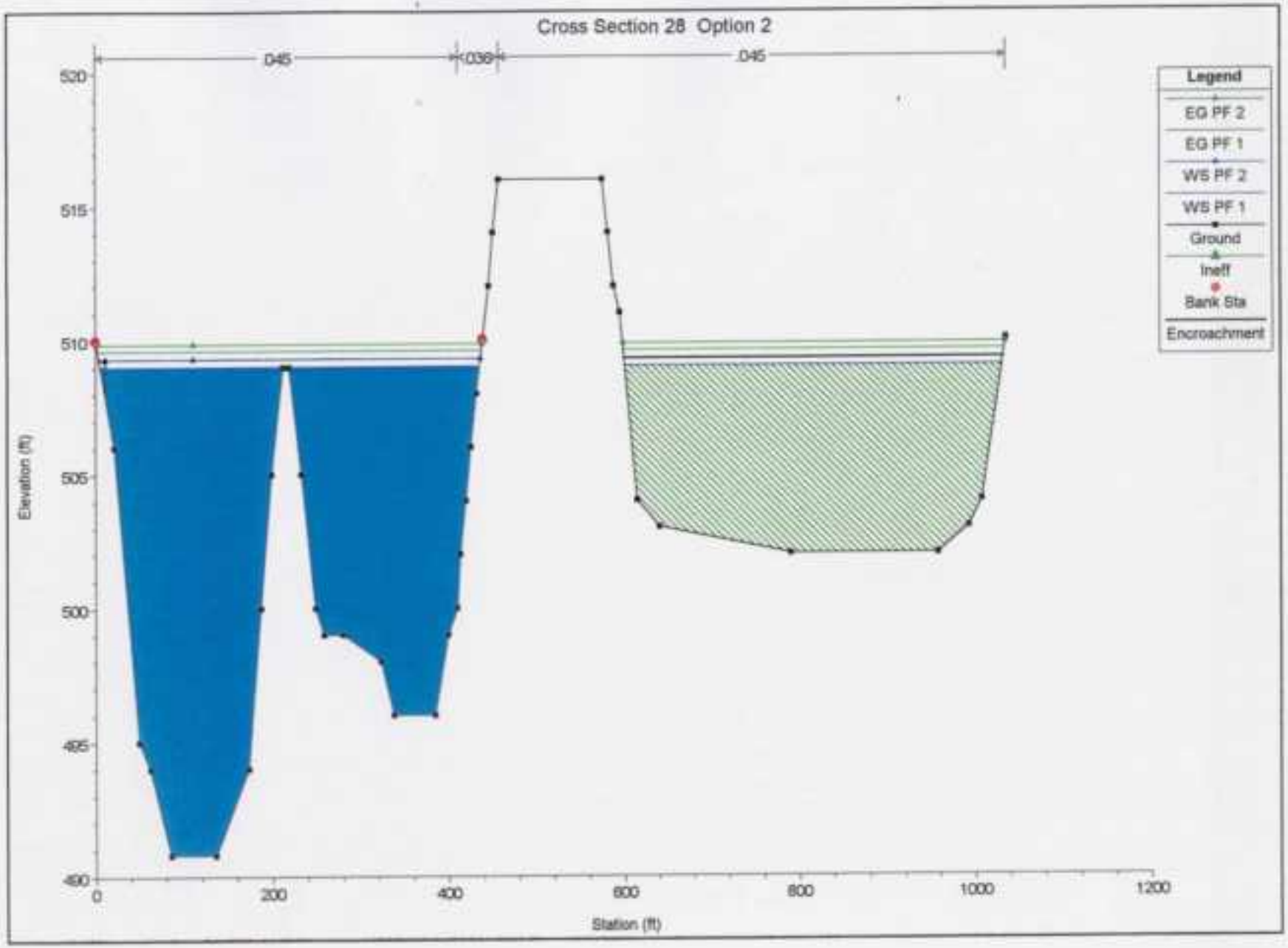

Cross Section 27.3
Option 2
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

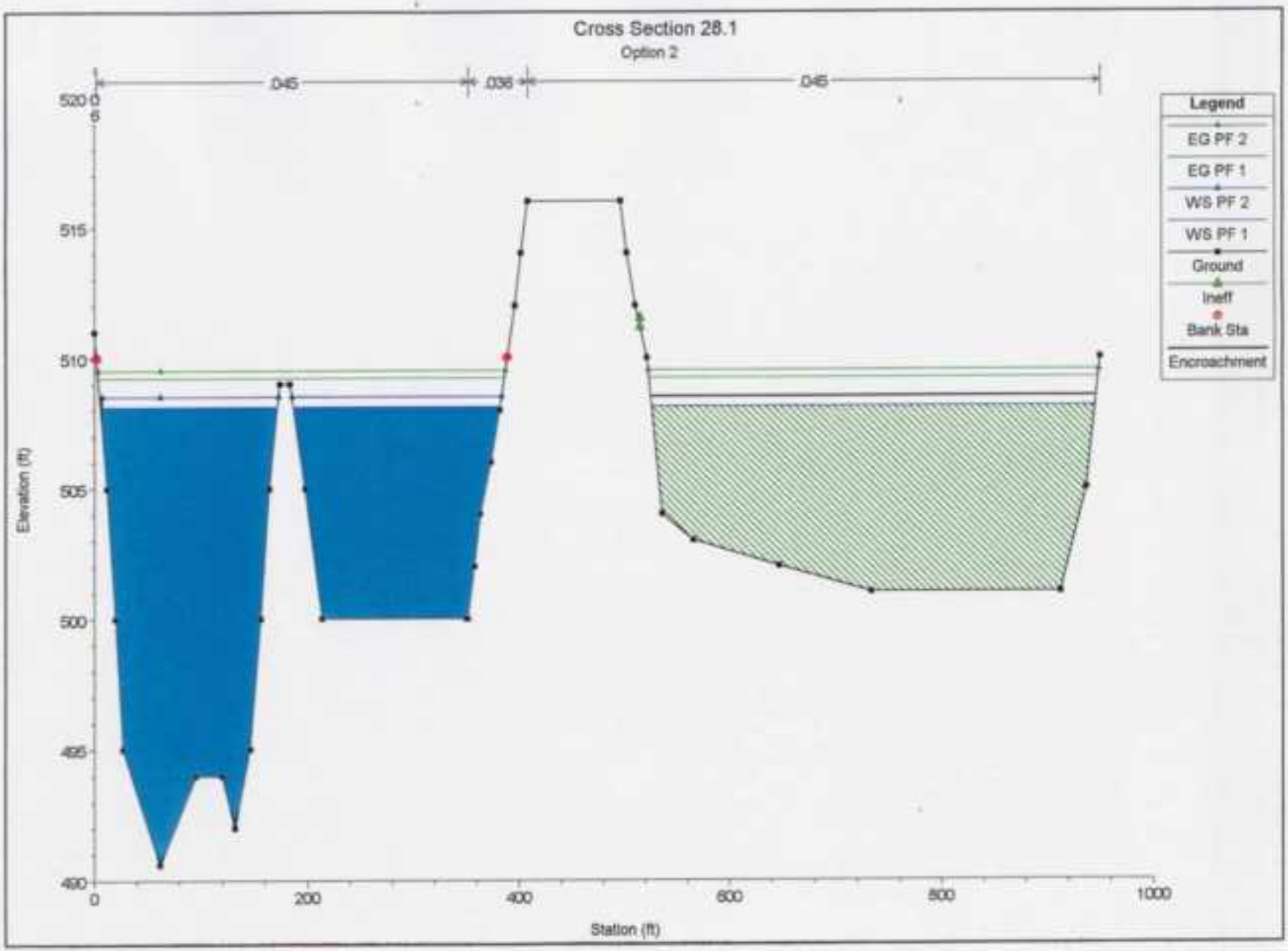

Cross Section 27.4
Option 2
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

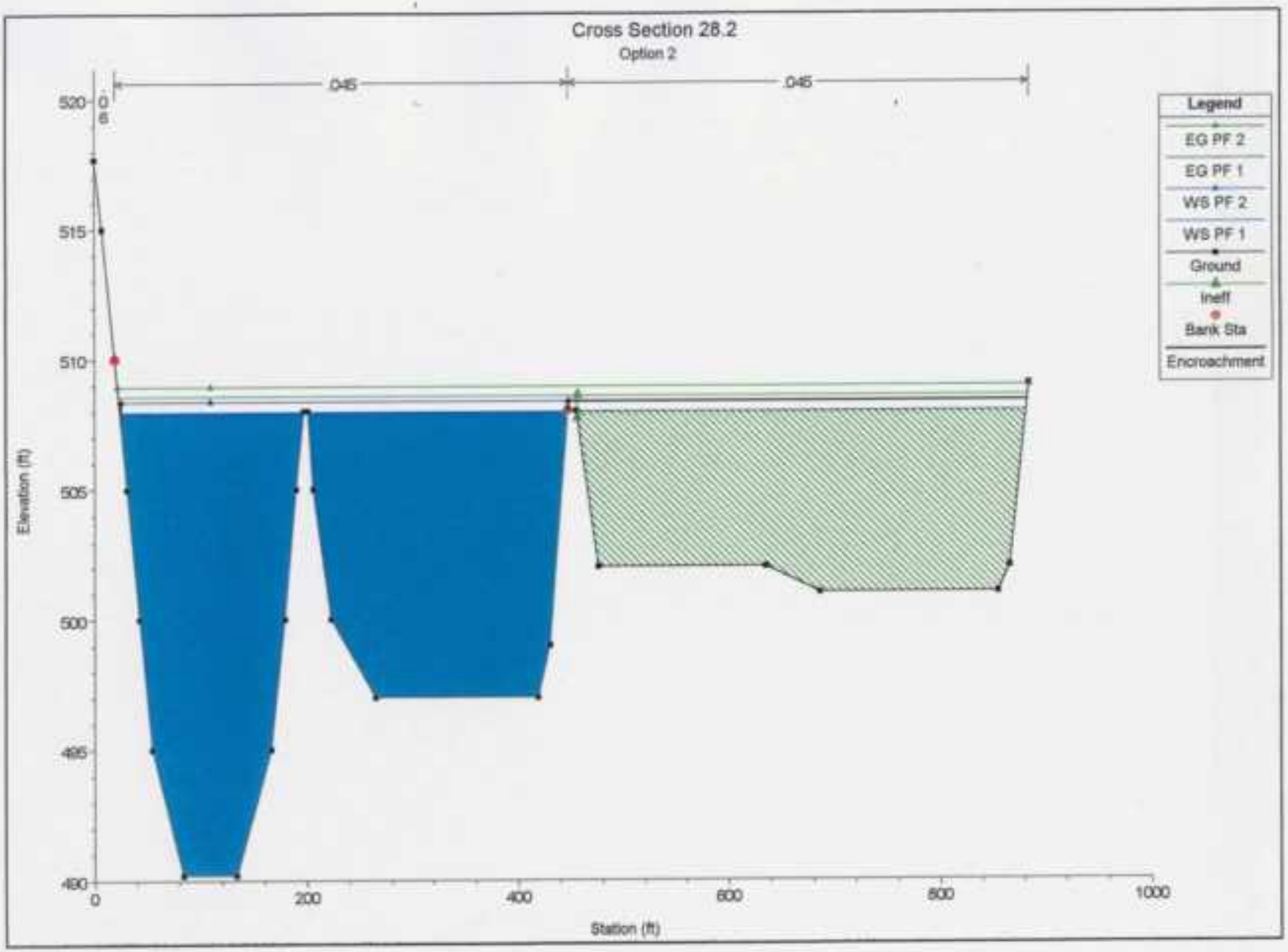

Cross Section 27.5
Option 2
.06
.045
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)

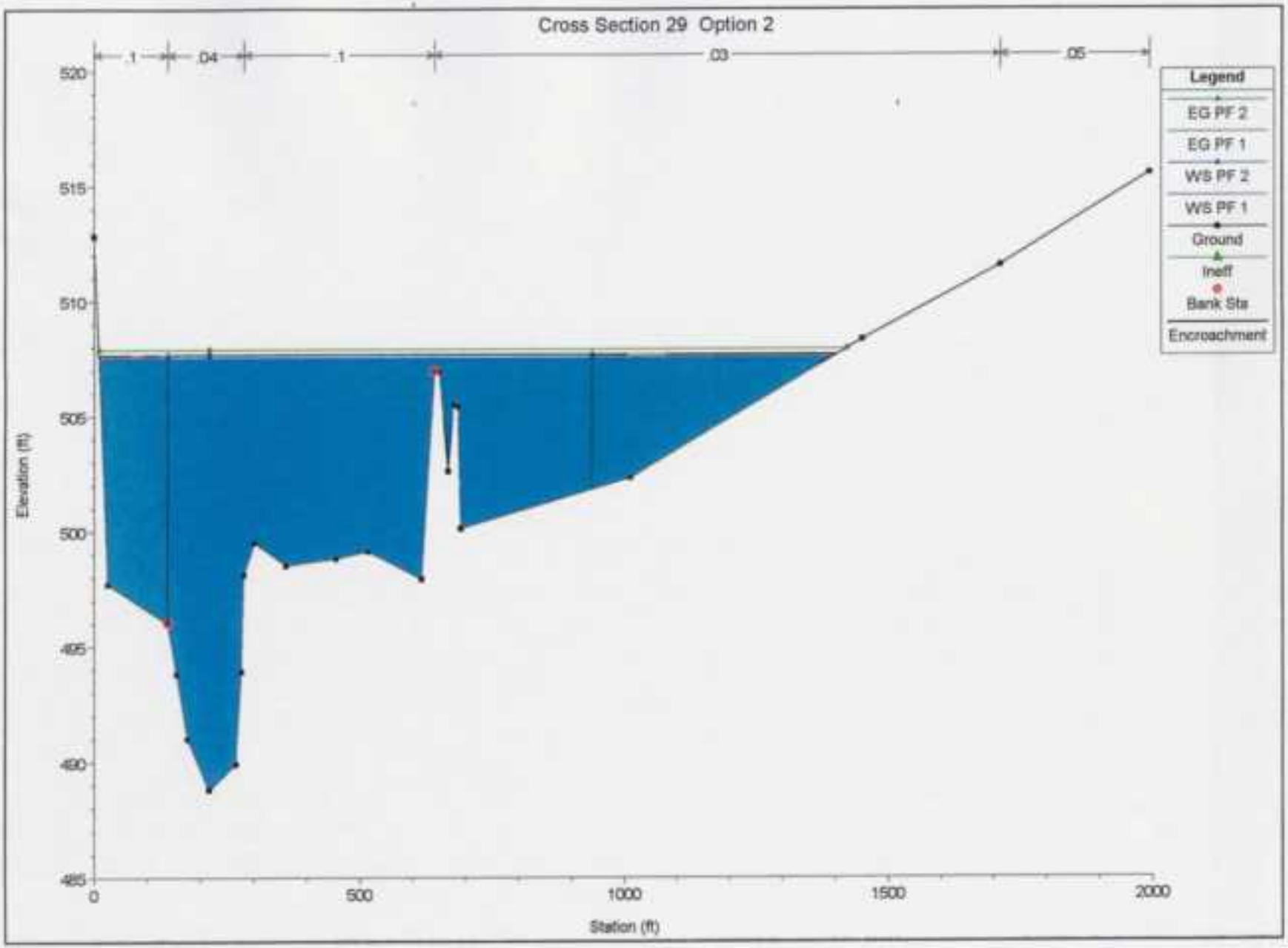

Cross Section 27.6
Option 2
.06
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 27.7
Option 2
.06
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 28 Option 2
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
1200
Station (ft)


Cross Section 28.1
Option 2
.045
.036
.045
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000


Cross Section 28.2
Option 2
.045
.045
0.6
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
0
200
400
600
800
1000
Station (ft)


Cross Section 29 Option 2
.1
.04
.1
.03
.05
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
520
515
510
505
500
495
490
485
0
500
1000
1500
2000
Station (ft)

Landfill C ption 2
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
22	31	28,900	507.1	529.26		530.5	0.001455	8.99	3,277.68	225.35	0.39
	31	28,900	507.1	529.25		530.51	0.001471	9.04	3,244.90	214.42	0.39
23.1	30	28,900	507	528.95	516.71	529.9	0.000213	7.83	3,723.82	173.41	0.29
	30	28,900	507	528.95	516.71	529.9	0.000213	7.83	3,723.81	173.38	0.29
	29.5	Inline Weir									
23.2	29	28,900	497.1	514.98		516.24	0.001714	9.03	3,277.48	304.37	0.4
	29	28,900	497.1	515.38		516.57	0.001567	8.77	3,399.94	304.64	0.39
24	28	28,900	496.2	513.66		515	0.001884	9.31	3,149.79	304.09	0.42
	28	28,900	496.2	514.24		515.47	0.001656	8.93	3,322.39	300.00	0.4
25.1	27	28,900	495.2	513.32	507.58	514.76	0.002373	9.64	2,998.32	379.84	0.47
	27	28,900	495.2	514.12	507.57	515.24	0.001774	8.65	3,452.47	297.06	0.41
	26.5	Bridge									
25.2	26	28,900	495.2	513.23	507.58	514.55	0.002097	9.33	3,227.84	360.48	0.45
	26	28,900	495.2	513.78	507.58	514.98	0.001815	8.89	3,337.01	296.08	0.42
26	25	28,900	495.6	513.21		514.29	0.001497	8.69	3,627.16	414.42	0.39
	25	28,900	495.6	513.29		514.75	0.00192	9.72	3,005.71	200.00	0.44
27	24	28,900	493.6	512.43	506.82	513.23	0.002277	7.83	4,395.79	599.03	0.41
	24	28,900	493.6	512.73	506.82	513.48	0.00208	7.57	4,526.34	474.36	0.39
27.1	23	28,900	493.5	512.18		513.03	0.001786	7.82	4,230.08	444.95	0.38
	23	28,900	493.5	512.38		513.28	0.001793	7.92	4,073.82	383.00	0.38
27.2	22	28,900	493.2	510.52	509.11	512.42	0.004361	12.84	3,117.24	420.54	0.59
	22	28,900	493.2	510.7	509.1	512.67	0.004347	12.93	3,025.65	376.02	0.59
27.3	21	28,900	492.8	510.8	507.14	511.49	0.001607	7.63	4,855.01	607.66	0.36
	21	28,900	492.8	510.95	507.14	511.71	0.001721	7.82	4,549.62	513.00	0.37
27.4	20	28,900	492.4	510.62	505.4	511.05	0.001386	5.28	5,545.54	814.85	0.31
	20	28,900	492.4	510.83	505.4	511.25	0.00129	5.17	5,614.38	619.00	0.3
27.5	19	28,900	492	510.19	502.8	510.73	0.001134	5.91	4,950.04	608.72	0.3
	19	28,900	492	510.41	502.8	510.94	0.001125	5.85	4,940.90	389.40	0.29
27.6	18	28,900	491.6	509.58	504.08	510.36	0.001963	7.11	4,081.17	518.06	0.38
	18	28,900	491.6	509.82	504.08	510.58	0.001879	6.97	4,147.17	377.00	0.37
27.7	17	28,900	491.4	509.47	503.24	510.07	0.0014	6.22	4,672.48	712.61	0.33
	17	28,900	491.4	509.72	503.24	510.3	0.001334	6.1	4,738.71	412.00	0.32
28	16	28,900	490.8	509.01	501.91	509.6	0.00144	6.15	4,696.62	859.96	0.33
	16	28,900	490.8	509.29	501.91	509.85	0.001311	6	4,814.91	425.53	0.31

Data tables from HEC-RAS.xls

Landfill C: ption 2
HEC-RAS Standard Table 1

HEC-2 Cross Section	HEC-RAS River Station	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Velocity Channel (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Channel
28.1	15	28,900	490.6	508.13	503.84	509.23	0.003221	8.39	3,442.95	781.48	0.48
	15	28,900	490.6	508.5	503.84	509.52	0.002865	8.08	3,577.50	364.28	0.45
28.2	14	28,900	490.2	507.96	501.56	508.57	0.001528	6.28	4,602.66	845.02	0.33
	14	28,900	490.2	508.36	501.56	508.93	0.001373	6.06	4,771.39	422.00	0.32
29	13	29,400	488.8	507.52	501.11	507.67	0.000562	3.28	9,857.14	1,383.38	0.18
	13	29,400	488.8	507.63	501.32	507.89	0.00083	3.85	7,278.02	800.00	0.21
30	12	29,400	490.1	506.27		506.77	0.00125	6.45	7,225.03	995.92	0.31
	12	29,400	490.1	506.29		506.79	0.001241	6.43	7,130.05	800.00	0.31
31	11	29,400	481.7	502.47		503.14	0.001601	7.49	7,409.15	1,487.42	0.33
	11	29,400	481.7	503.02		503.57	0.001298	6.89	7,069.69	800.00	0.3
32	10	29,400	484.3	501.1		501.48	0.001125	6.55	7,144.58	1,228.95	0.3
	10	29,400	484.3	501.23		501.87	0.001594	7.84	5,248.45	800.00	0.36
33	9	29,400	482.7	500.65		500.88	0.00051	4.86	9,058.69	1,609.69	0.21
	9	29,400	482.7	500.52		500.92	0.000822	5.89	6,221.29	800.00	0.25
34.1	8	29,400	480.1	499.41	494.5	500.54	0.001948	9.35	4,280.16	884.25	0.41
	8	29,400	480.1	499.6	494.5	500.64	0.001779	9.01	4,259.02	700.00	0.39
	7.5	Bridge									
34.2	7	29,400	480.1	498.85	493.49	500.23	0.00242	10.18	3,804.59	804.69	0.45
	7	29,400	480.1	499.11	493.49	500.34	0.002138	9.68	3,945.92	700.00	0.43
35	6	29,400	479.2	498.54		499.11	0.001845	6.87	5,951.25	1,253.10	0.31
	6	29,400	479.2	498.47		499.37	0.002668	8.09	4,606.15	700.00	0.37
36.1	5	29,400	480.3	498.65	492.17	498.71	0.000209	2.55	14,902.84	4,415.82	0.12
	5	29,400	480.3	498.6	492.17	498.76	0.000358	3.33	8,874.98	900.00	0.16
	4.5	Bridge									
36.2	4	29,400	480.3	496.37	492.15	496.54	0.000707	4.15	9,473.81	3,692.28	0.22
	4	29,400	480.3	496.48	492.15	496.76	0.000797	4.43	6,968.86	900.00	0.23
37	3	29,400	482.4	495.7		496.21	0.001813	7.08	6,935.83	2,284.28	0.37
	3	29,400	482.4	495.96		496.46	0.001634	6.82	6,104.35	900.00	0.35
38	2	29,400	475.5	493.03	490.41	493.44	0.001414	6.46	6,691.50	1,523.66	0.3
	2	29,400	475.5	493.54	490.4	493.96	0.001272	6.14	6,143.78	900.00	0.28
39	1	29,400	476	488.42	488.42	489.5	0.005997	10.77	4,431.83	1,816.20	0.62
	1	29,400	476	488.49	488.49	490.01	0.007249	11.89	3,352.70	895.42	0.68

Data tables from HEC-RAS.xls

Landfill C ption 2
Encroach..nt Table

HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
22	31	529.26		530.5	225.35		28,456.51	443.49		0	204	
	31	529.25	-0.01	530.51	214.42		28,591.56	308.44	0	0	204	230
23.1	30	528.95		529.9	173.41		28,848.96	51.04		0	168	
	30	528.95	0	529.9	173.38		28,848.97	51.03	0.01	0	168	173.4
	29.5	Inline Weir										
23.2	29	514.98		516.24	304.37	134.24	28,765.76			110	315.1	
	29	515.38	0.4	516.57	304.64	233.49	28,666.51		10.4	110	315.1	315.05
24	28	513.66		515	304.09	51.76	28,848.24			110	315.1	
	28	514.24	0.58	515.47	300.00	168.22	28,731.78		15.05	110	315.1	315.05
25.1	27	513.32		514.76	229.05		28,900.00			172	404	
	27	514.12	0.8	515.24	297.06	1,382.32	27,517.68		104.01	172	404	404.01
	26.5 BR U	513.17		514.71	224.05		28,900.00			172	404	
	26.5 BR U	513.71	0.54	515.13	228.47	0.34	28,899.66			172	404	
	26.5 BR D	513.16		514.66	221.79	0.56	28,899.44			172	404	
	26.5 BR D	513.7	0.54	515.09	211.34	0.54	28,899.46			172	404	
25.2	26	513.23		514.55	360.48	804.07	28,095.93			172	404	
	26	513.78	0.55	514.98	296.08	1,032.60	27,867.40		104.01	172	404	404.01
26	25	513.21		514.29	414.42	1,633.90	25,241.91	2,024.19		207	397	
	25	513.29	0.09	514.75	200.00		28,398.01	501.99	207	207	397	407
27	24	512.43		513.23	479.42	6,450.17	22,449.83			261	594	
	24	512.73	0.3	513.48	474.36	6,621.83	22,278.17		43	261	594	594
27.1	23	512.18		513.03	444.95	1,191.14	25,130.83	2,578.03		127	367	
	23	512.38	0.21	513.28	383.00	1,301.98	25,830.35	1,767.67	37	127	367	420
27.2	22	510.52		512.42	420.54	2,584.04	19,522.69	6,793.27		131	234	
	22	510.7	0.18	512.67	376.02	2,690.46	19,892.59	6,316.95	40	131	234	420
27.3	21	510.8		511.49	607.66	24.85	19,420.63	9,454.53		201	382	
	21	510.95	0.16	511.71	513.00		20,111.44	8,788.56	201	201	382	714
27.4	20	510.62		511.05	715.49	78.57	28,770.21	51.22		39	647	
	20	510.83	0.21	511.25	619.00	80.99	28,819.01		28	39	647	647
27.5	19	510.19		510.73	425.23	32.30	28,732.25	135.46		60.6	450.4	
	19	510.41	0.21	510.94	389.40		28,900.00		61	60.6	450.4	450.4
27.6	18	509.58		510.36	392.33	9.67	28,849.85	40.48		48.7	426	
	18	509.82	0.24	510.58	377.00		28,900.00		49	48.7	426	426
27.7	17	509.47		510.07	434.16	29.52	28,844.20	26.28		78	490	
	17	509.72	0.25	510.3	412.00		28,900.00		78	78	490	490
28	16	509.01		509.6	430.20		28,900.00			0	439	
	16	509.29	0.29	509.85	425.53		28,900.00		11	0	439	439

Data tables from HEC-RAS.xls

Landfill Option 2
Encroachment Table

HEC-2 Cross Section	HEC-RAS River Station	Water Surface Elevation (ft)	Prof Delta WS (ft)	Energy Grade Elevation (ft)	Top Wdth Act (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Enc Sta Left (ft)	Ch Sta Left (ft)	Ch Sta Right (ft)	Enc Sta Right (ft)
28.1	15	508.13		509.23	362.01		28,900.00			2	389	
	15	508.5	0.37	509.52	364.28		28,900.00		7	2	389	389
28.2	14	507.96		508.57	419.70		28,899.97	0.03		19	447	
	14	508.36	0.4	508.93	422.00		28,900.00		25	19	447	447
29	13	507.52		507.67	1,383.38	2,050.55	17,799.14	9,550.32		139	642	
	13	507.63	0.12	507.89	800.00		21,147.68	8,252.31	139	139	642	939
30	12	506.27		506.77	995.92	7,064.66	22,074.72	260.61		490	748	
	12	506.29	0.02	506.79	800.00	7,077.15	22,055.39	267.45	22.65	490	748	822.65
31	11	502.47		503.14	1,487.42		22,287.84	7,112.16		0	187	
	11	503.02	0.56	503.57	800.00		21,204.86	8,195.14	3.35	0	187	803.35
32	10	501.1		501.48	1,228.95	3,330.57	12,532.64	13,536.79		141	269	
	10	501.23	0.13	501.87	800.00	790.34	15,144.45	13,465.21	113	141	269	913
33	9	500.65		500.88	1,609.69	246.02	14,847.45	14,306.53		65	247	
	9	500.52	-0.13	500.92	800.00		17,846.03	11,553.97	65	65	247	865
34.1	8	499.41		500.54	884.25	127.34	23,618.62	5,654.04		205	360	
	8	499.6	0.19	500.64	700.00	8.90	23,013.32	6,377.78	204.5	205	360	904.5
	7.5 BR U	499.41		500.53	884.25	81.05	8,931.61	20,381.33		205	360	
	7.5 BR U	499.6	0.19	500.63	918.96	98.46	8,337.90	20,931.62		205	360	
	7.5 BR D	499.41		500.53	884.25	81.05	8,931.61	20,381.33		205	360	
	7.5 BR D	499.57	0.16	500.63	913.14	98.03	8,384.58	20,885.37		205	360	
34.2	7	498.85		500.23	804.69	146.97	24,820.84	4,432.19		205	360	
	7	499.11	0.27	500.34	700.00	136.29	23,997.40	5,266.32	201	205	360	901
35	6	498.54		499.11	1,253.10	1,329.35	21,591.86	6,478.80		241	451	
	6	498.47	-0.06	499.37	700.00		25,325.44	4,074.56	241	241	451	941
36.1	5	498.65		498.71	2,534.42	20,673.03	8,726.97			2382	2632	
	5	498.6	-0.05	498.76	899.00	18,049.68	11,350.32		1733	2382	2632	2633
	4.5 BR U	498.65		498.72	1,995.66	6,072.63	23,383.58			2382	2632	
	4.5 BR U	498.6	-0.05	498.77	1,986.43	6,012.99	23,458.09			2382	2632	
	4.5 BR D	498.48		498.69	1,966.67	4,892.02	24,564.01	0.19		2382	2632	
	4.5 BR D	498.52	0.03	498.74	1,972.01	5,437.04	24,033.86	0.18		2382	2632	
36.2	4	496.37		496.54	2,088.54	17,562.51	11,837.49			2382	2632	
	4	496.48	0.11	496.76	899.00	16,627.91	12,772.09		1733	2382	2632	2633
37	3	495.7		496.21	2,284.28	9,411.51	17,251.36	2,737.13		600	814	
	3	495.96	0.25	496.46	900.00	9,043.83	16,994.83	3,361.34	100	600	814	1000
38	2	493.03		493.44	1,523.66	13,897.74	15,397.88	104.38		2226	2394	
	2	493.54	0.52	493.96	900.00	14,231.26	15,168.74		1494	2226	2394	2394
39	1	488.42		489.5	1,816.20	14,717.85	14,682.15			2140	2290	
	1	488.49	0.07	490.01	895.42	13,071.77	16,328.23		1390	2140	2290	2290

Data tables from HEC-RAS.xls

Landfill (ption 2
HEC-RAS Velocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
22	31		8.99	3.9	8.82		1.45	0.27	1.26		3,163.97	113.71	3,277.68
	31		9.04	3.75	8.91		1.47	0.25	1.31		3,162.56	82.33	3,244.90
23.1	30		7.83	1.37	7.76		0.26	0.02	0.23		3,686.67	37.15	3,723.82
	30		7.83	1.37	7.76		0.26	0.02	0.23		3,686.67	37.14	3,723.81
	29.5	Inline Weir											
23.2	29	1.46	9.03		8.82	0.1	1.52		1.08	92.01	3,185.47		3,277.48
	29	1.77	8.77		8.5	0.13	1.43		1.03	132.01	3,267.93		3,399.94
24	28	1.03	9.31		9.18	0.06	1.63		1.15	50.39	3,099.41		3,149.79
	28	1.61	8.93		8.7	0.11	1.48		1.07	104.76	3,217.63		3,322.39
25.1	27		9.64		9.64		1.82		1.82		2,998.32		2,998.32
	27	5.1	8.65		8.37	0.42	1.44		1.21	271.29	3,181.18		3,452.47
	26.5 BR U		9.95		9.95		2.01		2.01		2,903.25		2,903.25
	26.5 BR U	0.38	9.57		9.56	0.01	1.87		1.77	0.9	3,021.29		3,022.19
	26.5 BR D	0.18	9.85		9.84	0.02	1.95		1.75	3.16	2,934.13		2,937.28
	26.5 BR D	0.17	9.47		9.46	0.02	1.81		1.64	3.16	3,051.47		3,054.63
25.2	26	3.73	9.33		8.95	0.21	1.68		1.15	215.8	3,012.03		3,227.84
	26	5.14	8.89		8.66	0.33	1.51		1.24	200.82	3,136.19		3,337.01
26	25	4.17	8.69	6.15	7.97	0.22	1.39	0.54	0.8	392.14	2,905.64	329.39	3,627.16
	25		9.72	5.99	9.62		1.75	0.55	1.65		2,921.92	83.79	3,005.71
27	24	4.22	7.83		6.57	0.96	1.57		1.29	1527.88	2,867.91		4,395.79
	24	4.19	7.57		6.38	0.93	1.46		1.22	1581.79	2,944.55		4,526.34
27.1	23	2.75	7.82	4.4	6.83	0.48	1.48	0.63	1.05	433.05	3,211.75	585.29	4,230.08
	23	2.96	7.92	4.74	7.09	0.53	1.51	0.7	1.16	439.44	3,261.58	372.8	4,073.82
27.2	22	5.23	12.84	6.16	9.27	1.56	3.89	1.29	2	494.29	1,520.12	1102.83	3,117.24
	22	5.28	12.93	6.47	9.55	1.58	3.93	1.39	2.13	509.98	1,538.83	976.84	3,025.65
27.3	21	1.33	7.63	4.13	5.95	0.16	1.39	0.55	0.8	18.69	2,545.09	2291.23	4,855.01
	21		7.82	4.45	6.35		1.46	0.63	0.93		2,573.30	1976.32	4,549.62
27.4	20	1.78	5.28	0.9	5.21	0.23	0.77	0.05	0.67	44.17	5,444.18	57.19	5,545.54
	20	1.9	5.17		5.15	0.25	0.73		0.72	42.54	5,571.83		5,614.38
27.5	19	1.39	5.91	2.05	5.84	0.15	0.87	0.18	0.81	23.26	4,860.62	66.16	4,950.04
	19		5.85		5.85		0.85		0.85		4,940.90		4,940.90
27.6	18	1.09	7.11	2.63	7.08	0.12	1.29	0.21	1.24	8.86	4,056.93	15.38	4,081.17
	18		6.97		6.97		1.24		1.24		4,147.17		4,147.17
27.7	17	1.31	6.22	1.92	6.19	0.15	0.97	0.12	0.92	22.58	4,636.24	13.66	4,672.48
	17		6.1		6.1		0.93		0.93		4,738.71		4,738.71
28	16		6.15		6.15		0.96		0.96		4,696.62		4,696.62
	16		6		6		0.9		0.9		4,814.91		4,814.91

Data tables from HEC-RAS.xls

Landfill C ption 2
HEC-RAS Velocity Table

HEC-2 Cross Section	HEC-RAS River Station	Velocity Left (ft/s)	Velocity Channel (ft/s)	Velocity Right (ft/s)	Velocity Total (ft/s)	Shear LOB (lb/sq ft)	Shear Channel (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)	Flow Area Left (sq ft)	Flow Area Channel (sq ft)	Flow Area Right (sq ft)	Flow Area (sq ft)
28.1	15		8.39		8.39		1.86		1.86		3,442.95		3,442.95
	15		8.08		8.08		1.7		1.7		3,577.50		3,577.50
28.2	14		6.28	0.31	6.28		1.02	0.01	1.02		4,602.55	0.1	4,602.66
	14		6.06		6.06		0.94		0.94		4,771.39		4,771.39
29	13	1.6	3.28	3.04	2.98	0.34	0.38	0.15	0.25	1280.84	5,434.05	3142.26	9,857.14
	13		3.85	4.62	4.04		0.55	0.3	0.46		5,493.28	1784.74	7,278.02
30	12	2.01	6.45	0.91	4.07	0.58	1.01	0.08	0.56	3515.81	3,422.37	286.85	7,225.03
	12	2.01	6.43	1.52	4.12	0.58	1.01	0.18	0.68	3525.98	3,428.04	176.04	7,130.05
31	11		7.49	1.6	3.97		1.58	0.34	0.5		2,976.95	4432.2	7,409.15
	11		6.89	2.05	4.16		1.32	0.52	0.71		3,078.99	3990.7	7,069.69
32	10	2.41	6.55	3.52	4.12	0.75	1.03	0.28	0.41	1383.9	1,914.64	3846.04	7,144.58
	10	2.42	7.84	4.5	5.6	0.82	1.48	0.46	0.64	326.82	1,931.88	2989.75	5,248.45
33	9	1.07	4.86	2.48	3.25	0.18	0.53	0.13	0.18	229.61	3,054.75	5774.32	9,058.69
	9		5.89	3.62	4.73		0.8	0.26	0.39		3,031.31	3189.98	6,221.29
34.1	8	2.96	9.35	3.3	6.87	0.24	1.98	0.28	0.57	43.03	2,525.41	1711.72	4,280.16
	8	1.09	9.01	3.76	6.9	0.05	1.83	0.34	0.65	8.18	2,554.93	1695.92	4,259.02
	7.5 BR U	104.39	4.85	12.11	8.34					0.78	1,842.79	1682.5	3,526.07
	7.5 BR U	31.11	4.45	11.49	7.95					3.16	1,872.30	1822.29	3,697.76
	7.5 BR D	104.39	4.85	12.11	8.34					0.78	1,842.79	1682.5	3,526.07
	7.5 BR D	36.7	4.49	11.61	8.01					2.67	1,867.35	1798.47	3,668.49
34.2	7	3.67	10.18	3.34	7.73	0.35	2.37	0.31	0.69	40.01	2,437.76	1326.83	3,804.59
	7	3.42	9.68	3.69	7.45	0.31	2.13	0.34	0.73	39.82	2,479.41	1426.69	3,945.92
35	6	4.17	6.87	2.6	4.94	0.4	1.69	0.3	0.55	318.74	3,142.10	2490.41	5,951.25
	6		8.09	2.76	6.38		2.36	0.5	1.08		3,128.96	1477.2	4,606.15
36.1	5	1.8	2.55		1.97	0.07	0.16		0.08	11477.71	3,425.13		14,902.84
	5	3.3	3.33		3.31	0.19	0.27		0.21	5463.25	3,411.73		8,874.98
	4.5 BR U	5.18	8.72	1	7.62					1172.91	2,683.14		3,856.05
	4.5 BR U	5.64	8.74	1	7.84					1066.22	2,683.14		3,749.36
	4.5 BR D	5.83	9.15	0.52	8.35					839.53	2,683.14	0.36	3,523.04
	4.5 BR D	6.04	8.96	0.51	8.2					900.54	2,683.14	0.36	3,584.04
36.2	4	2.65	4.15		3.1	0.16	0.45		0.2	6620.42	2,853.40		9,473.81
	4	4.07	4.43		4.22	0.31	0.52		0.37	4087.2	2,881.66		6,968.86
37	3	3.14	7.08	1.82	4.24	0.58	1.28	0.11	0.34	2996.35	2,435.71	1503.77	6,935.83
	3	3.17	6.82	4.39	4.82	0.58	1.18	0.42	0.69	2848.64	2,490.09	765.62	6,104.35
38	2	3.26	6.46	2.56	4.39	0.28	1.23	0.22	0.39	4267.19	2,383.49	40.81	6,691.50
	2	3.87	6.14		4.79	0.4	1.11		0.54	3673.38	2,470.40		6,143.78
39	1	4.8	10.77		6.63	0.69	3.45		0.91	3068.96	1,362.87		4,431.83
	1	6.6	11.89		8.77	1.19	4.19		1.69	1979.79	1,372.92		3,352.70

Data tables from HEC-RAS.xls