

LINE	1	2	3	4	5	6	7	8	9	10
717			KK	DP617						
718			KM	Combine RT614 AND SC617B						
719			KD					22		
720			HC	2						
721			KK	RT617						
722			KM	Smith Creek Route 617 to 703						
723			KD					22		
724			RK	1470 0 0061 0 085				TRAP	2	1
725			KK	SC701						
726			KM	Smith Creek 701 Runoff						
727			KD					22		
728			BA	0 0722						
729			PB	3						
730			LS	0	92					
731			UD	0.360						
732			KK	SC703						
733			KM	Smith Creek 703 Runoff						
734			KD					22		
735			BA	0.1305						
736			PB	3						
737			LS	0	77					
738			UD	0.092						
739			KK	DP703						
740			KM	Combine RT617 SC701 and SC703						
741			KD					22		
742			HC	3						
743			KK	RT703						
744			KM	Smith Creek Route 703 to 705						
745			KD					22		
746			RK	2780 0 0338 0.0786				TRAP	3	1
747			KK	SC705						
748			KM	Smith Creek 705 Runoff						
749			KD					22		
750			BA	0.0869						
751			PB	3						
752			LS	0	69					
753			UD	0.329						
754			KK	DP705						
755			KM	Combine RT703 and SC705						
756			KD					22		
757			HC	2						
758			ZZ							

HEC1 S/N: 1343001909

HMVersion: 6.33

Data File: C:\MINNT\TEMP\vbh1424 TMP

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

MAXIMUM STAGE	TIME OF OPERATION MAX STAGE	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA
					6-HOUR	24-HOUR	72-HOUR	
	HYDROGRAPH AT	SC205	25.	6.00	5.	2.	1.	0.10
	ROUTED TO	RT205	25.	6.00	5.	2.	1.	0.10
	HYDROGRAPH AT	SC207	28.	6.00	6.	2.	1.	0.12
	HYDROGRAPH AT	SC213	27.	6.00	6.	2.	1.	0.12
	3 COMBINED AT	DP213	79.	6.00	16.	6.	2.	0.34
	ROUTED TO	RT213	75.	6.00	16.	6.	2.	0.34
	HYDROGRAPH AT	SC209	19.	6.00	4.	2.	1.	0.14
	HYDROGRAPH AT	SC211	8.	6.00	2.	1.	0.	0.08
	HYDROGRAPH AT	SC215	15.	6.00	3.	1.	0.	0.06
	4 COMBINED AT	DP215	118.	6.00	25.	9.	3.	0.62
	ROUTED TO	RT215	107.	6.00	25.	9.	3.	0.62
	HYDROGRAPH AT	SC219	15.	6.00	4.	1.	0.	0.13
	2 COMBINED AT	DP219	122.	6.00	29.	10.	4.	0.75
	HYDROGRAPH AT	SC201	17.	6.00	4.	1.	0.	0.12
	ROUTED TO	RT201	15.	6.00	4.	1.	0.	0.12
	HYDROGRAPH AT	SC203	13.	6.00	3.	1.	0.	0.11
	2 COMBINED AT	DP203	28.	6.00	7.	3.	1.	0.23
	ROUTED TO	RT203	25.	6.00	7.	3.	1.	0.23
	HYDROGRAPH AT	SC217	7.	5.75	2.	1.	0.	0.05
	2 COMBINED AT	DP217	32.	6.00	8.	3.	1.	0.29
	2 COMBINED AT	DP220	154.	6.00	37.	14.	5.	1.03
	ROUTED TO	RT220	148.	6.00	37.	14.	5.	1.03
	HYDROGRAPH AT	SC301	31.	6.00	6.	2.	1.	0.12

HYDROGRAPH AT	SC303	33	6.00	6.	2.	1	0.13
2 COMBINED AT	DP303	65	6.00	12.	4.	1	0.25
ROUTED TO	RT303	63	6.00	12.	4.	1.	0.25
HYDROGRAPH AT	SC305	16.	6.00	3.	1.	0.	0.06
2 COMBINED AT	DP305	79.	6.00	15.	5	2.	0.31
ROUTED TO	RT305	74.	6.00	15.	5.	2.	0.31
HYDROGRAPH AT	SC307	21.	6.25	5.	2.	1.	0.11
HYDROGRAPH AT	SC309	29.	6.00	6.	2.	1.	0.12
HYDROGRAPH AT	SC311	27.	6.00	5.	2.	1.	0.11
4 COMBINED AT	DP311	150.	6.00	31.	11.	4	0.65
ROUTED TO	RT311	131.	6.00	31.	11.	4.	0.65
HYDROGRAPH AT	SC313	33.	6.00	7.	2.	1.	0.15
HYDROGRAPH AT	SC315	23.	6.00	4.	1.	0.	0.09
3 COMBINED AT	DP315	187.	6.00	42.	15.	5.	0.89
2 COMBINED AT	DP316	335	6.00	80.	29.	10	1.92
ROUTED TO	RES316	325	6.25	78	29.	10.	1.92
7171.74			6.25				
ROUTED TO	RT316	277.	6.50	78.	29.	10.	1.92
HYDROGRAPH AT	SC401	35.	6.00	7.	3.	1.	0.15
2 COMBINED AT	DP401	294.	6.50	85.	31.	10.	2.08
ROUTED TO	RT401	293.	6.50	85.	31.	10	2.08
HYDROGRAPH AT	SC403	25	6.00	5.	2.	1.	0.10
HYDROGRAPH AT	SC405	18.	6.00	3.	1.	0.	0.07
3 COMBINED AT	DP405	310.	6.50	92.	34.	11	2.25
ROUTED TO	RT405	307.	6.50	92.	34.	11	2.25
HYDROGRAPH AT	SC101	14	6.00	3.	1.	0	0.09
ROUTED TO	RT101	12	6.00	3.	1.	0	0.09

	HYDROGRAPH AT	SC103	30	6.00	6.	2.	1.	0.17
	HYDROGRAPH AT	SC105A	20.	6.00	4.	1	0.	0.07
	3 COMBINED AT	DP103	.62	6.00	13.	5	2.	0.33
	ROUTED TO	RES106	49	6.25	13.	5	2.	0.33
7321.97	6.25							
	ROUTED TO	RT103	48	6.25	13.	5.	2.	0.33
	HYDROGRAPH AT	SC105B	18	6.00	4.	1	0.	0.07
	2 COMBINED AT	DP105	61.	6.25	17.	6.	2.	0.40
	ROUTED TO	RT105A	59.	6.25	17.	6.	2.	0.40
	HYDROGRAPH AT	SC107A	39	6.00	7.	2.	1.	0.14
	ROUTED TO	RES108	31.	6.00	7.	2.	1.	0.14
7342.79	6.00							
	2 COMBINED AT	DP107A	90.	6.25	24.	8.	3.	0.53
	ROUTED TO	RT105B	89.	6.25	24.	9.	3.	0.53
	HYDROGRAPH AT	SC107B	11.	6.00	2.	1.	0.	0.04
	2 COMBINED AT	DP107B	94.	6.25	26.	9.	3.	0.57
	ROUTED TO	RT107	92.	6.25	26.	9.	3.	0.57
	HYDROGRAPH AT	SC109	44.	6.00	9.	3.	1.	0.16
	2 COMBINED AT	DP109	123	6.25	34.	12.	4.	0.74
	ROUTED TO	RT109	119.	6.25	34.	12	4.	0.74
	HYDROGRAPH AT	SC111	47	6.00	10.	3	1.	0.19
	2 COMBINED AT	DP111	157.	6.25	43.	16	5.	0.93
	HYDROGRAPH AT	SC407	35.	6.00	8.	3.	1	0.17
	3 COMBINED AT	DP407	466	6.50	144	52	18.	3.34
	ROUTED TO	RT407A	464	6.50	144.	52	18.	3.34
	ROUTED TO	RES407	482.	6.50	140.	52	18	3.34
7000.19	6.50							
	ROUTED TO							

	RT407B	475	6 50	140.	53.	18.	3 34
HYDROGRAPH AT	SC501	31	6 00	6.	2	1.	0. 12
HYDROGRAPH AT	SC503	30.	6 00	6.	2.	1.	0. 12
HYDROGRAPH AT	SC505	44.	6 00	9.	3.	1.	0. 19
3 COMBINED AT	DP505	105.	6 00	21.	7.	2.	0. 43
2 COMBINED AT	DP506	522.	6 50	159.	60.	20.	3. 77
ROUTED TO	RT506	506.	6 50	159.	60	20.	3. 77
HYDROGRAPH AT	SC507	24.	6 00	5.	2.	1.	0. 10
2 COMBINED AT	DP507	513.	6 50	163.	62.	21.	3. 87
ROUTED TO	RT507	485.	6 50	163.	62.	21.	3. 87
HYDROGRAPH AT	SC509	33.	6 00	7.	3.	1.	0. 15
2 COMBINED AT	DP509	504.	6 50	170.	64.	21.	4. 02
ROUTED TO	RT509	489.	6 75	169	64.	21.	4. 02
HYDROGRAPH AT	SC511	23.	6 00	4.	2.	1.	0. 09
2 COMBINED AT	DP511	495.	6 75	173.	66.	22.	4. 11
ROUTED TO	RT511	493.	6 75	173.	66.	22.	4. 11
HYDROGRAPH AT	SC601	19.	5 75	3.	1.	0.	0. 06
ROUTED TO	RT601	18.	6 00	3.	1.	0.	0. 06
HYDROGRAPH AT	SC603	66.	6 00	12	4.	1.	0. 25
2 COMBINED AT	DP603	83.	6 00	15.	5.	2.	0. 31
2 COMBINED AT	DP604	514.	6 75	188.	71	24.	4. 43
ROUTED TO	RT604	510.	6 75	188.	71	24.	4. 43
HYDROGRAPH AT	SC607	24.	6 00	4.	2.	1.	0. 08
HYDROGRAPH AT	SC609	39.	6 00	7.	3	1.	0. 14
3 COMBINED AT	DP609	526	6 75	198.	75	25.	4. 65
ROUTED TO	RES610	532.	6 75	195	75	25.	4. 65

6823 75 6 75

HYDROGRAPH AT

		SC605A	13.	6.00	2.	1.	0	0.05
	ROUTED TO	RT605	13	6.00	2.	1.	0.	0.05
	HYDROGRAPH AT	SC605B	35	6.00	6	2.	1.	0.08
	ROUTED TO	RES605	37.	6.00	6.	2.	1	0.08
6820.83	6.00							
	3 COMBINED AT	DP610	543.	6.75	203.	77.	26.	4.78
	ROUTED TO	RT610	520.	6.75	202.	77.	26.	4.78
	HYDROGRAPH AT	SC611	46.	5.75	6.	2.	1.	0.11
	2 COMBINED AT	DP611	526.	6.75	207.	79.	27.	4.89
	ROUTED TO	RES612	520.	7.00	206.	79.	27.	4.89
6764.02	7.00							
	ROUTED TO	RT612	515.	7.00	206.	79.	27.	4.89
	HYDROGRAPH AT	SC613	55.	6.00	10.	3.	1.	0.12
	ROUTED TO	RES613	9.	7.00	8	6.	5.	0.12
6797.48	7.00							
	ROUTED TO	RT618	9.	7.00	8.	6	5.	0.12
	HYDROGRAPH AT	SC617A	8.	5.75	1.	0.	0.	0.01
	ROUTED TO	RES617	0.	0.25	0	0.	0.	0.01
1.67	24.25							
	HYDROGRAPH AT	SC618	4.	5.75	0.	0.	0.	0.01
	ROUTED TO	RES618	1.	6.50	0.	0.	0.	0.01
6768.48	6.50							
	3 COMBINED AT	DP618	10.	6.75	9.	6.	5.	0.15
	HYDROGRAPH AT	SC615B	24.	5.75	3.	1.	0.	0.03
	ROUTED TO	RES614	8.	6.25	3.	1.	0.	0.03
6727.18	6.25							
	HYDROGRAPH AT	SC615A	31	5.75	4	1.	0.	0.06
	ROUTED TO	RES615	9	6.25	4	1.	0	0.06
6727.50	6.25							
	HYDROGRAPH AT							

	SC617C	12	5.75	2.	1.	0	0.05
5 COMBINED AT	DP613	540.	7.00	222.	88.	33.	5.17
ROUTED TO	RT614	538.	7.00	222.	88.	33.	5.17
HYDROGRAPH AT	SC617B	6.	5.75	1.	0.	0.	0.02
2 COMBINED AT	DP617	539	7.00	222.	88.	33.	5.19
ROUTED TO	RT617	530.	7.00	222.	88.	33.	5.19
HYDROGRAPH AT	SC701	83.	6.00	14.	4.	1.	0.07
HYDROGRAPH AT	SC703	108.	5.75	12.	4.	1.	0.13
3 COMBINED AT	DP703	548.	7.00	243.	96.	36.	5.39
ROUTED TO	RT703	539.	7.00	242.	96.	36.	5.39
HYDROGRAPH AT	SC705	24.	6.00	5.	2.	1.	0.09
2 COMBINED AT	DP705	544.	7.00	247.	98.	36.	5.48

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

VOLUME	ISTAQ	ELEMENT	DT	PEAK	TIME TO	VOLUME	DT	INTERPOLATED TO	
								COMPUTATION INTERVAL	PEAK
< IN>			< MIN>	< CFS>	< MIN>	< IN>	< MIN>	< CFS>	< MIN>
0.63	RT205	MANE	1.53	25.01	361.82	0.63	15.00	24.55	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3242E+01 EXCESS=0.0000E+00 OUTFLOW=0.3242E+01 BASIN STORAGE=0.6137E-09 PERCENT ERROR= 0.0									
0.61	RT213	MANE	0.89	78.80	362.18	0.61	15.00	75.25	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1115E+02 EXCESS=0.0000E+00 OUTFLOW=0.1115E+02 BASIN STORAGE=0.2680E-08 PERCENT ERROR= 0.0									
0.55	RT215	MANE	1.76	116.95	363.39	0.55	15.00	106.55	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1798E+02 EXCESS=0.0000E+00 OUTFLOW=0.1797E+02 BASIN STORAGE=0.1818E-07 PERCENT ERROR= 0.0									
0.43	RT201	MANE	1.57	17.03	362.72	0.43	15.00	15.44	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2807E+01 EXCESS=0.0000E+00 OUTFLOW=0.2807E+01 BASIN STORAGE=0.9399E-09 PERCENT ERROR= 0.0									
0.40	RT203	MANE	2.03	27.87	363.92	0.40	15.00	25.46	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4988E+01 EXCESS=0.0000E+00 OUTFLOW=0.4988E+01 BASIN STORAGE=0.7796E-08 PERCENT ERROR= 0.0									
0.49	RT220	MANE	0.62	154.03	361.35	0.49	15.00	148.25	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2698E+02 EXCESS=0.0000E+00 OUTFLOW=0.2699E+02 BASIN STORAGE=0.1957E-07 PERCENT ERROR= 0.0									
0.63	RT303	MANE	0.86	64.04	361.56	0.63	15.00	62.61	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8341E+01 EXCESS=0.0000E+00 OUTFLOW=0.8342E+01 BASIN STORAGE=0.1536E-09 PERCENT ERROR= 0.0									
0.63	RT305	MANE	1.58	77.52	362.28	0.63	15.00	73.76	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1047E+02 EXCESS=0.0000E+00 OUTFLOW=0.1048E+02 BASIN STORAGE=0.3675E-08 PERCENT ERROR= 0.0									
0.63	RT311	MANE	2.48	148.41	364.63	0.63	15.00	130.68	360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2184E+02 EXCESS=0.0000E+00 OUTFLOW=0.2184E+02 BASIN STORAGE=
0.5873E-07 PERCENT ERROR= 0.0

0.55 RT316 MANE 2.35 317.28 381.27 0.55 15.00 276.52 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5663E+02 EXCESS=0.0000E+00 OUTFLOW=0.5661E+02 BASIN STORAGE=
0.5790E-06 PERCENT ERROR= 0.0

0.56 RT401 MANE 0.55 293.68 390.77 0.56 15.00 293.27 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6176E+02 EXCESS=0.0000E+00 OUTFLOW=0.6176E+02 BASIN STORAGE=
0.1918E-06 PERCENT ERROR= 0.0

0.56 RT405 MANE 1.76 309.24 393.50 0.56 15.00 307.05 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6746E+02 EXCESS=0.0000E+00 OUTFLOW=0.6747E+02 BASIN STORAGE=
0.8720E-06 PERCENT ERROR= 0.0

0.47 RT101 MANE 2.15 14.22 363.91 0.47 15.00 12.19 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2300E+01 EXCESS=0.0000E+00 OUTFLOW=0.2300E+01 BASIN STORAGE=
0.1952E-08 PERCENT ERROR= 0.0

0.54 RT103 MANE 0.88 49.27 376.77 0.54 15.00 47.74 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9452E+01 EXCESS=0.0000E+00 OUTFLOW=0.9453E+01 BASIN STORAGE=
0.4212E-08 PERCENT ERROR= 0.0

0.56 RT105A MANE 1.07 60.30 377.45 0.56 15.00 59.46 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1192E+02 EXCESS=0.0000E+00 OUTFLOW=0.1192E+02 BASIN STORAGE=
0.8741E-08 PERCENT ERROR= 0.0

0.59 RT105B MANE 0.95 89.62 376.94 0.59 15.00 88.57 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1683E+02 EXCESS=0.0000E+00 OUTFLOW=0.1683E+02 BASIN STORAGE=
0.1456E-07 PERCENT ERROR= 0.0

0.60 RT107 MANE 1.86 93.99 379.03 0.60 15.00 91.81 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1823E+02 EXCESS=0.0000E+00 OUTFLOW=0.1823E+02 BASIN STORAGE=
0.7563E-07 PERCENT ERROR= 0.0

0.61 RT109 MANE 4.24 121.75 384.26 0.61 15.00 118.50 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2413E+02 EXCESS=0.0000E+00 OUTFLOW=0.2411E+02 BASIN STORAGE=
0.6139E-06 PERCENT ERROR= 0.0

0.58 RT407A MANE 0.93 464.49 390.28 0.58 15.00 464.24 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1040E+03 EXCESS=0.0000E+00 OUTFLOW=0.1040E+03 BASIN STORAGE=
0.7412E-06 PERCENT ERROR= 0.0

0.58 RT407B MANE 0.39 481.27 390.69 0.58 15.00 475.03 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1041E+03 EXCESS=0.0000E+00 OUTFLOW=0.1041E+03 BASIN STORAGE=
0.4448E-06 PERCENT ERROR= 0.0

0.59 RTS06 MANE 1.03 519.94 392.18 0.59 15.00 505.81 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1187E+03 EXCESS=0.0000E+00 OUTFLOW=0.1187E+03 BASIN STORAGE=
0.1654E-05 PERCENT ERROR= 0.0

0.59 RT507 MANE 1.56 512.11 393.08 0.59 15.00 485.31 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1221E+03 EXCESS=0.0000E+00 OUTFLOW=0.1221E+03 BASIN STORAGE=
0.3950E-05 PERCENT ERROR= 0.0

0.59 RT509 MANE 2.30 503.34 394.73 0.59 15.00 488.98 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1273E+03 EXCESS=0.0000E+00 OUTFLOW=0.1273E+03 BASIN STORAGE=
0.9821E-05 PERCENT ERROR= 0.0

0.59 RT511 MANE 0.49 494.42 405.88 0.59 15.00 493.38 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1303E+03 EXCESS=0.0000E+00 OUTFLOW=0.1303E+03 BASIN STORAGE=
0.2426E-05 PERCENT ERROR= 0.0

0.67 RT601 MANE 1.76 19.12 350.04 0.67 15.00 17.53 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2261E+01 EXCESS=0.0000E+00 OUTFLOW=0.2261E+01 BASIN STORAGE=
0.1563E-08 PERCENT ERROR= 0.0

0.60 RT604 MANE 1.01 512.67 406.50 0.60 15.00 510.03 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1411E+03 EXCESS=0.0000E+00 OUTFLOW=0.1411E+03 BASIN STORAGE=
0.6600E-05 PERCENT ERROR= 0.0

0.63 RT605 MANE 1.01 13.06 361.20 0.63 15.00 12.94 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1688E+01 EXCESS=0.0000E+00 OUTFLOW=0.1688E+01 BASIN STORAGE=
0.1351E-09 PERCENT ERROR= 0.0

0.61 RT610 MANE 2.36 537.83 410.87 0.61 15.00 520.03 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1549E+03 EXCESS=0.0000E+00 OUTFLOW=0.1549E+03 BASIN STORAGE=
0.2893E-04 PERCENT ERROR= 0.0

0.61 RT612 MANE 1.64 518.73 422.53 0.61 15.00 515.18 420.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1589E+03 EXCESS=0.0000E+00 OUTFLOW=0.1588E+03 BASIN STORAGE=
0.2854E-04 PERCENT ERROR= 0.0

4.48 RT618 MANE 0.68 8.91 420.89 4.49 15.00 8.91 420.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2951E+02 EXCESS=0.0000E+00 OUTFLOW=0.2950E+02 BASIN STORAGE=
0.9394E-02 PERCENT ERROR= 0.0

0.71 RT614 MANE 0.60 539.07 421.11 0.71 15.00 537.55 420.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1947E+03 EXCESS=0.0000E+00 OUTFLOW=0.1947E+03 BASIN STORAGE=
0.6513E-02 PERCENT ERROR= 0.0

0.71 RT617 MANE 1.70 537.48 423.63 0.71 15.00 530.20 420.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1955E+03 EXCESS=0.0000E+00 OUTFLOW=0.1955E+03 BASIN STORAGE=
0.5857E-01 PERCENT ERROR= 0.0

0.73 RT703 MANE 1.60 547.45 423.46 0.73 15.00 539.42 420.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2114E+03 EXCESS=0.0000E+00 OUTFLOW=0.2113E+03 BASIN STORAGE=
0.7962E-01 PERCENT ERROR= 0.0

*** NORMAL END OF HEC-1 ***

50 year future-Alternate 3
 HEC1 S/N: 1343001909 HMVersion: 6.33 Data File C:\WINNT\TEMP\vbh3F46 TMP

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*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* U. S. ARMY CORPS OF ENGINEERS *
* MAY 1991 *
* HYDROLOGIC ENGINEERING CENTER *
* VERSION 4.0.1E *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* RUN DATE 06/20/2001 TIME 12:12:04 *
* (916) 756-1104 *
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X X XXXXXXX XXXXX X
X X X X X XX
X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X
X X X X X
X X XXXXXXX XXXXX XXX

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: : : : :
: : Full Microcomputer Implementation : :
: : by : :
: : Haestad Methods, Inc. : :
: : : : :
: : : : :

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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.

THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION

NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS WRITE STAGE FREQUENCY,
 DSS READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

LINE	ID	1	2	3	4	5	6	7	8	9	10
	1	ID	Type	IIA	storm						
	2	IT	15	0	0	288					
	3	ID	5								
	4	KK	SC205								
	5	KM	Smith Creek 205 Runoff								
	6	KD							22		
	7	BA	0.0970								
	8	PB	4								
	9	IN	15								
0.0165	10	PC	0.0005	0.0015	0.0030	0.0045	0.0060	0.0080	0.0100	0.0120	0.0143
0.0600	11	PC	0.0188	0.0210	0.0233	0.0255	0.0278	0.0320	0.0390	0.0460	0.0530
0.8000	12	PC	0.0750	0.1000	0.4000	0.7000	0.7250	0.7500	0.7650	0.7800	0.7900
0.8600	13	PC	0.8100	0.8200	0.8250	0.8300	0.8350	0.8400	0.8450	0.8500	0.8550
0.8975	14	PC	0.8638	0.8675	0.8713	0.8750	0.8788	0.8825	0.8863	0.8900	0.8938
0.9300	15	PC	0.9013	0.9050	0.9083	0.9115	0.9148	0.9180	0.9210	0.9240	0.9270
0.9550	16	PC	0.9325	0.9350	0.9375	0.9400	0.9425	0.9450	0.9475	0.9500	0.9525
0.9800	17	PC	0.9575	0.9600	0.9625	0.9650	0.9675	0.9700	0.9725	0.9750	0.9775
0.9925	18	PC	0.9813	0.9825	0.9838	0.9850	0.9863	0.9875	0.9888	0.9900	0.9913
	19	PC	0.9938	0.9950	0.9963	0.9975	0.9988	1.0000			
	20	LS	0	68							
	21	UD	0.257								
	22	KK	RT205								
	23	KM	Smith Creek Route 205 to 213								
	24	KD							22		
	25	RK	1530	0.0431	0.055			TRAP		2	
	26	KK	SC207								
	27	KM	Smith Creek 207 Runoff								
	28	KD							22		
	29	BA	0.12								
	30	PB	4								
	31	LS	0	68							
	32	UD	0.367								
	33	KK	SC213								
	34	KM	Smith Creek 213 Runoff								
	35	KD							22		
	36	BA	0.1243								
	37	PB	4								
	38	LS	0	67							
	39	UD	0.361								
	40	KK	DP213								
	41	KM	Combine RT205 SC207 and SC213								
	42	KD							22		
	43	HC	3								
	44	KK	RT213								
	45	KM	Smith Creek Route 213 to 215								
	46	KD							22		
	47	RK	1360	0.0493	0.055			TRAP		2	

ID	LINE	1	2	3	4	5	6	7	8	9	10
184	KK	SC311									
185	KM	Smith Creek 311 Runoff									
186	KD								22		
187	BA	0.1064									
188	PB	4									
189	LS	0	68								
190	UD	0.234									
191	KK	DP311									
192	KM	Combine RT305 SC307 SC309 and SC311									
193	KD								22		
194	HC	4									
195	KK	RT311									
196	KM	Tributary Route 311 to 315									
197	KD								22		
198	RK	2860	0.0448	0.0888					TRAP		2
199	KK	SC313									
200	KM	Smith Creek 313 Runoff									
201	KD								22		
202	BA	0.1520									
203	PB	4									
204	LS	0	67								
205	UD	0.352									
206	KK	SC315									
207	KM	Smith Creek 315 Runoff									
208	KD								22		
209	BA	0.0886									
210	PB	4									
211	LS	0	68								
212	UD	0.297									
213	KK	DP315									
214	KM	Combine RT311 SC313 and SC315									
215	KD								22		
216	HC	3									
217	KK	DP316									
218	KM	Combine RT220 and DP315									
219	KD								22		
220	HC	2									
221	KK	RES316									
222	KM	REGIONAL RES 316									
223	KD								22		
224	RS	1	STOR	-1							
225	SV	0	0.72	2.42	4.57	7.19	10.29				
226	SE	7164	7166	7168	7170	7172	7174				
227	SQ	0	10	75	90	360	1225				
228	SE	7164	7166	7168	7170	7172	7174				

ID	LINE	1	2	3	4	5	6	7	8	9	10
229	KK	RT316									
230	KM	Smith Creek Route 316 to 401									
231	KD								22		
232	RK	2575	0.0361	0.120					TRAP	1	2
233	KK	SC401									
234	KM	Smith Creek 401 Runoff									
235	KD								22		
236	BA	0.1524									
237	PB	4									
238	LS	0	68								
239	UD	0.377									
240	KK	DP401									
241	KM	Combine RT316 and SC401									
242	KD								22		
243	HC	2									
244	KK	RT401									
245	KM	Smith Creek Route 401 to 405									
246	KD								22		
247	RK	660	0.0548	0.120					TRAP	1	2
248	KK	SC403									
249	KM	Smith Creek 403 Runoff									
250	KD								22		
251	BA	0.1007									
252	PB	4									
253	LS	0	68								
254	UD	0.332									
255	KK	SC405									
256	KM	Smith Creek 405 Runoff									
257	KD								22		
258	BA	0.0677									
259	PB	4									
260	LS	0	68								
261	UD	0.263									
262	KK	DP405									
263	KM	Combine RT401 SC403 and SC405									
264	KD								22		
265	HC	3									
266	KK	RT405									
267	KM	Smith Creek Route 405 to 407									
268	KD								22		
269	RK	1500	0.0210	0.120					TRAP	1	2

LINE	1	2	3	4	5	6	7	8	9	10
ID	1	2	3	4	5	6	7	8	9	10
270			KK	SC101						
271			KM	Smith Creek 101 Runoff						
272			KD					22		
273			BA	0.0920						
274			PB	4						
275			LS	0	64					
276			UD	0.353						
277			KK	RT101						
278			KM	Tributary Route 101 to 103						
279			KD					22		
280			RK	2050	0.0424	0.055		TRAP		2
281			KK	SC103						
282			KM	Smith Creek 103 Runoff						
283			KD					22		
284			BA	0.1670						
285			PB	4						
286			LS	0	65					
287			UD	0.348						
288			KK	SC105A						
289			KM	Smith Creek 105A Runoff						
290			KD					22		
291			BA	0.0693						
292			PB	4						
293			LS	0	70					
294			UD	0.345						
295			KK	DP103						
296			KM	Combine RT101 SC105A and SC103						
297			KD					22		
298			HC	3						
299			KK	RES106						
300			KM	Exisitng Detention Pond 106						
301			KD					22		
302			RS	1	STOR	-1				
303			SA	0.43	0.54	0.65	0.80	0.94	1.00	
304			SE	7320	7322	7324	7326	7328	7330	
305			SQ	0	50	80	100	190	250	
306			SE	7320	7322	7324	7326	7328	7330	
307			KK	RT103						
308			KM	Tributary Route RES103 to 105						
309			KD					22		
310			RK	1150	0.0478	0.055		TRAP		2
311			KK	SC105B						
312			KM	Smith Creek 105B Runoff						
313			KD					22		
314			BA	0.0686						
315			PB	4						
316			LS	0	69					

LINE	ID	1	2	3	4	5	6	7	8	9	10
401	KK	RT407A									
402	KM	SMITH CREEK ROUTE 407 TO RES407									
403	KD										
404	RK	665	0.0210	0.120					22		
									TRAP	1	2
405	KK	RES407									
406	KM	REGIONAL POND RES 407									
407	KD										
408	RS	1	STDR	-1					22		
409	SV	0	.44	1.49	2.93	4.75	6.91	9.41	12.27	15.50	
410	SE	6990	6992	6994	6996	6998	7000	7002	7004	7006	
411	SQ	0	10	25	50	75	450	800	1000	1900	
412	SE	6990	6992	6994	6996	6998	7000	7002	7004	7006	
413	KK	RT407B									
414	KM	ROUTE RES 407 TO DP 506									
415	KD										
416	RK	340	0.0210	0.120					22		
									TRAP	1	2
417	KK	SC501									
418	KM	Smith Creek 501 Runoff									
419	KD										
420	BA	0.1219							22		
421	PB	4									
422	LS	0	68								
423	UD	0.312									
424	KK	SC503									
425	KM	Smith Creek 503 Runoff									
426	KD										
427	BA	0.1193							22		
428	PB	4									
429	LS	0	68								
430	UD	0.334									
431	KK	SC505									
432	KM	Smith Creek 505 Runoff									
433	KD										
434	BA	0.1923							22		
435	PB	4									
436	LS	0	68								
437	UD	0.379									
438	KK	DP505									
439	KM	Combine SC501 SC503 and SC505									
440	KD										
441	HC	3							22		
442	KK	DP506									
443	KM	Combine RT407 and DP505									
444	KD										
445	HC	2							22		

LINE	1	2	3	4	5	6	7	8	9	10
532	KK	SC609								
533	KM	Smith Creek 609 Runoff								
534	KD							22		
535	BA	0.1389								
536	PB	4								
537	LS	0	69							
538	UD	0.326								
539	KK	DP609								
540	KM	Combine RT604 SC607 and SC609								
541	KD							22		
542	HC	3								
543	KK	RES610								
544	KM	Smith Creek Reservoir Route 610								
545	KD							22		
546	RS	1	STOR	-1						
547	SA	2.2	2.7	3.3	3.8	4.4	5.1	5.8		
548	SE	6822	6823	6824	6825	6826	6827	6828		
549	SQ	0	11	701	2361	4843	10331	16010		
550	SE	6822	6823	6824	6825	6826	6827	6828		
551	KK	SC605A								
552	KM	Smith Creek 605A Runoff								
553	KD							22		
554	BA	0.0505								
555	PB	4								
556	LS	0	68							
557	UD	0.252								
558	KK	RT605								
559	KM	SMITH CREEK ROUTE 605 TO DP610								
560	KD							22		
561	RK	2000	0.03	0.013				TRAP	2	2
562	KK	SC605B								
563	KM	SMITH CREEK 605B RUNOFF								
564	KD							22		
565	BA	0.0778								
566	PB	4								
567	LS	0	75							
568	UD	0.252								
569	KK	RES605								
570	KM	FUTURE POND 605								
571	KD							22		
572	RS	1	STOR	-1						
573	SV	0	0.099	0.218	0.36	0.526	0.718	0.937	1.185	1.463
1.773	574	SV	2.117	2.496	2.912					
6827	575	SE	6818	6819	6820	6821	6822	6823	6824	6825
	576	SE	6828	6829	6830					
176.76	577	SQ	0	5.18	19.37	40.40	65.78	92.88	119.23	143.30
	578	SQ	190.33	202.99	214.91					
6827	579	SE	6818	6819	6820	6821	6822	6823	6824	6825

LINE	1	2	3	4	5	6	7	8	9	10
580	SE	6828	6829	6830						
581	KK	DP610								
582	KM	COMBINE RES 610 RES 605 AND RT605								
583	KD							22		
584	HC	3								
585	KK	RT610								
586	KM	Smith Creek Route 610 to 611								
587	KD							22		
588	RK	3200	0.0226	0.090				TRAP	2	1
589	KK	SC611								
590	KM	Smith Creek 611 Runoff								
591	KD							22		
592	BA	0.1095								
593	PB	4								
594	LS	0	69							
595	UD	0.149								
596	KK	DP611								
597	KM	Combine RT610 and SC611								
598	KD							22		
599	HC	2								
600	KK	RES612								
601	KM	Smith Creek Reservoir Route 612								
602	KD							22		
603	RS	1	STOR	-1						
604	SA	1.82	2.77	3.72	4.5	5.28	5.78			
605	SE	6762	6763	6764	6765	6766	6766.5			
606	SQ	0	150	510	1160	2120	2680			
607	SE	6762	6763	6764	6765	6766	6766.5			
608	KK	RT612								
609	KM	Smith Creek Route 612 to 617								
610	KD							22		
611	RK	2250	0.0240	0.0866				TRAP	2	1
612	KK	SC613								
613	KM	Smith Creek 613 Runoff								
614	KD							22		
615	BA	0.1233								
616	PB	4								
617	LS	0	75							
618	UD	0.270								
619	KK	RES613								
620	KM	EXISTING POND 613								
621	KD							22		
622	RS	1	STOR	-1						
623	SA	0.12	0.96	1.09	1.21	1.34	1.47			
624	SE	6794	6796	6798	6800	6802	6804			
625	SQ	4.67	7.44	9.43	22.99	29.35	34.42			
626	SE	6794	6796	6798	6800	6802	6804			

HEC1 S/N: 1343001909

HMVersion 6.33

Data File: C:\WINNT\TEMP\vbh3f46.TMP

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

MAXIMUM STAGE	TIME OF OPERATION MAX STAGE	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA
					6-HOUR	24-HOUR	72-HOUR	
	HYDROGRAPH AT	SC205	54.	6.00	9.	3.	1.	0.10
	ROUTED TO	RT205	53	6.00	9.	3.	1.	0.10
	HYDROGRAPH AT	SC207	62	6.00	12.	4.	1.	0.12
	HYDROGRAPH AT	SC213	60.	6.00	11.	4.	1.	0.12
	3 COMBINED AT	DP213	175.	6.00	32.	11.	4.	0.34
	ROUTED TO	RT213	169.	6.00	33.	11.	4.	0.34
	HYDROGRAPH AT	SC209	51.	6.00	10.	3.	1.	0.14
	HYDROGRAPH AT	SC211	24.	6.00	5.	2.	1.	0.08
	HYDROGRAPH AT	SC215	34.	5.75	6.	2.	1.	0.06
	4 COMBINED AT	DP215	275.	6.00	53.	18.	6.	0.62
	ROUTED TO	RT215	258	6.00	54.	18.	6.	0.62
	HYDROGRAPH AT	SC219	43.	6.00	9.	3.	1.	0.13
	2 COMBINED AT	DP219	301.	6.00	62.	21.	7.	0.75
	HYDROGRAPH AT	SC201	46.	6.00	9.	3.	1.	0.12
	ROUTED TO	RT201	42.	6.00	9.	3.	1.	0.12
	HYDROGRAPH AT	SC203	37.	5.75	7.	2.	1.	0.11
	2 COMBINED AT	DP203	78	6.00	16.	5.	2.	0.23
	ROUTED TO	RT203	74	6.00	16.	5.	2.	0.23
	HYDROGRAPH AT	SC217	21.	5.75	4	1	0.	0.05
	2 COMBINED AT	DP217	93	6.00	19	7	2	0.29
	2 COMBINED AT	DP220	394	6.00	82.	28.	9.	1.03
	ROUTED TO	RT220	384.	6.00	82.	28	9.	1.03
	HYDROGRAPH AT	SC301	67	6.00	12*	4	1.	0.12

HYDROGRAPH AT	SC303	72.	6.00	13.	4.	1.	0.13
2 COMBINED AT	DP303	138.	6.00	24.	8.	3.	0.25
ROUTED TO	RT303	136.	6.00	24.	8.	3.	0.25
HYDROGRAPH AT	SC305	35.	6.00	6.	2.	1.	0.06
2 COMBINED AT	DP305	171.	6.00	30.	10.	3.	0.31
ROUTED TO	RT305	164.	6.00	31.	10.	3.	0.31
HYDROGRAPH AT	SC307	45.	6.00	10.	4.	1.	0.11
HYDROGRAPH AT	SC309	64.	6.00	12.	4.	1.	0.12
HYDROGRAPH AT	SC311	60.	5.75	10.	3.	1.	0.11
4 COMBINED AT	DP311	330.	6.00	63.	21.	7.	0.65
ROUTED TO	RT311	303.	6.00	64.	21.	7.	0.65
HYDROGRAPH AT	SC313	75.	6.00	14.	5.	2.	0.15
HYDROGRAPH AT	SC315	49.	6.00	9.	3.	1.	0.09
3 COMBINED AT	DP315	427.	6.00	86.	29.	10.	0.89
2 COMBINED AT	DP316	811.	6.00	168.	57.	19.	1.92
ROUTED TO	RES316	771.	6.00	165.	57.	19.	1.92
7172.95	6.00						
ROUTED TO	RT316	730.	6.25	166.	57.	19.	1.92
HYDROGRAPH AT	SC401	77.	6.00	15.	5.	2.	0.15
2 COMBINED AT	DP401	789.	6.25	180.	62.	21.	2.08
ROUTED TO	RT401	783.	6.25	180.	62.	21.	2.08
HYDROGRAPH AT	SC403	55.	6.00	10.	3.	1.	0.10
HYDROGRAPH AT	SC405	38.	6.00	7.	2.	1.	0.07
3 COMBINED AT	DP405	837.	6.25	196.	67.	23.	2.25
ROUTED TO	PT405	817.	6.25	197.	68.	23.	2.25
HYDROGRAPH AT	SC101	36.	6.00	7.	2.	1.	0.09
ROUTED TO	RT101	33.	6.00	7.	2.	1.	0.09

	HYDROGRAPH AT	SC103	72.	6.00	14.	5	2	0.17
	HYDROGRAPH AT	SC105A	42.	6.00	8	2	1.	0.07
	3 COMBINED AT	DP103	147.	6.00	28.	10.	3	0.33
	ROUTED TO	RES106	89.	6.25	28	10.	3.	0.33
7324.95	6.25							
	ROUTED TO	RT103	89	6.50	28.	10	3.	0.33
	HYDROGRAPH AT	SC105B	39	6.00	7.	2.	1.	0.07
	2 COMBINED AT	DP105	114.	6.25	35.	12.	4.	0.40
	ROUTED TO	RT105A	113.	6.25	35.	12.	4.	0.40
	HYDROGRAPH AT	SC107A	81.	6.00	14.	5.	2.	0.14
	ROUTED TO	RES108	81	6.00	14.	5.	2.	0.14
7344.38	6.00							
	2 COMBINED AT	DP107A	184.	6.00	49.	17.	6.	0.53
	ROUTED TO	RT105B	174.	6.00	49.	17.	6.	0.53
	HYDROGRAPH AT	SC107B	23.	6.00	4.	1.	0.	0.04
	2 COMBINED AT	DP107B	197.	6.00	53	18	6.	0.57
	ROUTED TO	RT107	183.	6.25	53.	18.	6.	0.57
	HYDROGRAPH AT	SC109	92.	6.00	17.	6.	2.	0.16
	2 COMBINED AT	DP109	268.	6.00	70.	24.	8.	0.74
	ROUTED TO	RT109	257.	6.25	69.	23.	8.	0.74
	HYDROGRAPH AT	SC111	102	6.00	19.	6.	2.	0.19
	2 COMBINED AT	DP111	335	6.25	88.	30.	10.	0.93
	HYDROGRAPH AT	SC407	79.	6.00	16	5.	2.	0.17
	3 COMBINED AT	DP407	1221.	6.25	301.	103.	34.	3.34
	ROUTED TO	RT407A	1205	6.25	301.	103.	35.	3.34
	ROUTED TO	RES407	1103	6.25	294	103	35.	3.34
7004.23	6.25							
	ROUTED TO							

	RT407B	1087	6 50	295.	103	35	3 34
HYDROGRAPH AT	SC501	67.	6 00	12.	4.	1	0 12
HYDROGRAPH AT	SC503	65.	6 00	12.	4.	1	0 12
HYDROGRAPH AT	SC505	97.	6 00	19.	6.	2.	0 19
3 COMBINED AT	DP505	229.	6 00	42.	14.	5	0 43
2 COMBINED AT	DP506	1239.	6 25	334.	117.	39.	3 77
ROUTED TO	RT506	1195.	6 25	334.	118.	39.	3 77
HYDROGRAPH AT	SC507	55	5 75	9.	3.	1.	0 10
2 COMBINED AT	DP507	1219.	6 25	344.	121.	40.	3 87
ROUTED TO	RT507	1203.	6 50	344.	121.	40.	3 87
HYDROGRAPH AT	SC509	73.	6 00	15.	5	2.	0 15
2 COMBINED AT	DP509	1240.	6 50	358.	126.	42.	4 02
ROUTED TO	RT509	1232.	6 50	358.	126.	42.	4 02
HYDROGRAPH AT	SC511	50.	6 00	9.	3.	1.	0 09
2 COMBINED AT	DP511	1250	6 50	366.	129.	43.	4 11
ROUTED TO	RT511	1244.	6 50	366.	129.	43	4 11
HYDROGRAPH AT	SC601	42	5 75	7.	2.	1.	0 06
ROUTED TO	RT601	36	6 00	7	2.	1.	0 06
HYDROGRAPH AT	SC603	140	6 00	24.	8	3.	0 25
2 COMBINED AT	DP603	176.	6 00	31.	10.	3.	0 31
2 COMBINED AT	DP604	1301.	6 50	396.	139.	47.	4 43
ROUTED TO	RT604	1290	6 50	396.	140.	47.	4 43
HYDROGRAPH AT	SC607	50	6 00	9.	3.	1.	0 08
HYDROGRAPH AT	SC609	81.	6 00	14.	5.	2.	0 14
3 COMBINED AT	DP609	1335.	6 50	419.	147.	49	4 65
ROUTED TO	RES610	1338.	6 50	416.	146.	49	4 65

6824 38 6 50

HYDROGRAPH AT

		SC605A	28	6.00	5	2	1	0.05
	ROUTED TO	RT605	28	6.00	5	2	1	0.05
	HYDROGRAPH AT	SC605B	64	5.75	11	3	1	0.08
	ROUTED TO	RES605	67	6.00	11	3	1	0.08
6822.06	6.00							
	3 COMBINED AT	DP610	1367	6.50	430	151	51	4.78
	ROUTED TO	RT610	1339	6.50	430	152	51	4.78
	HYDROGRAPH AT	SC611	96	5.75	11	4	1	0.11
	2 COMBINED AT	DP611	1352	6.50	439	155	52	4.89
	ROUTED TO	RES612	1328	6.50	438	155	52	4.89
6765.18	6.50							
	ROUTED TO	RT612	1306	6.75	438	156	52	4.89
	HYDROGRAPH AT	SC613	101	6.00	17	6	2	0.12
	ROUTED TO	RES613	20	6.75	13	7	6	0.12
6799.57	6.75							
	ROUTED TO	RT618	20	6.75	13	7	6	0.12
	HYDROGRAPH AT	SC617A	16	5.75	2	1	0	0.01
	ROUTED TO	RES617	0	0.25	0	0	0	0.01
1.80	24.25							
	HYDROGRAPH AT	SC618	8	5.75	1	0	0	0.01
	ROUTED TO	RES618	1	6.25	1	0	0	0.01
6768.93	6.25							
	3 COMBINED AT	DP618	21	6.75	14	8	6	0.15
	HYDROGRAPH AT	SC615B	43	5.75	5	2	1	0.03
	ROUTED TO	RES614	13	6.25	5	2	1	0.03
6729.58	6.25							
	HYDROGRAPH AT	SC615A	59	5.75	8	2	1	0.06
	ROUTED TO	RES615	18	6.25	8	2	1	0.06
6729.23	6.25							
	HYDROGRAPH AT							

	SC617C	30.	5.75	4.	1.	0.	0.05
5 COMBINED AT	DP613	1357.	6.75	467.	168.	60.	5.17
ROUTED TO	RT614	1356.	6.75	467.	169.	60.	5.17
HYDROGRAPH AT	SC617B	13.	5.75	2.	1.	0.	0.02
2 COMBINED AT	DP617	1359.	6.75	469.	169.	60.	5.19
ROUTED TO	RT617	1354.	6.75	469.	169.	60.	5.19
HYDROGRAPH AT	SC701	121.	6.00	20.	6.	2.	0.07
HYDROGRAPH AT	SC703	189.	5.75	20.	6.	2.	0.13
3 COMBINED AT	DP703	1392.	6.75	504.	182.	64.	5.39
ROUTED TO	RT703	1383.	6.75	504.	182.	64.	5.39
HYDROGRAPH AT	SC705	51.	6.00	9.	3.	1.	0.09
2 COMBINED AT	DP705	1395.	6.75	513.	185.	65.	5.48

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

VOLUME (IN)	I STA Q	ELEMENT	DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	DT (MIN)	INTERPOLATED TO COMPUTATION INTERVAL	
								PEAK (CFS)	TIME TO PEAK (MIN)
1.21	RT205	MANE	1.25	53.35	362.21	1.21	15.00	52.97	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6234E+01 EXCESS=0.0000E+00 OUTFLOW=0.6235E+01 BASIN STORAGE= 0.6823E-09 PERCENT ERROR= 0.0									
1.19	RT213	MANE	0.81	174.53	361.65	1.19	15.00	169.14	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2157E+02 EXCESS=0.0000E+00 OUTFLOW=0.2158E+02 BASIN STORAGE= 0.2564E-08 PERCENT ERROR= 0.0									
1.09	RT215	MANE	1.34	274.29	362.58	1.09	15.00	257.54	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3573E+02 EXCESS=0.0000E+00 OUTFLOW=0.3573E+02 BASIN STORAGE= 0.1824E-07 PERCENT ERROR= 0.0									
0.92	RT201	MANE	1.30	45.01	363.07	0.92	15.00	42.40	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5952E+01 EXCESS=0.0000E+00 OUTFLOW=0.5952E+01 BASIN STORAGE= 0.6102E-09 PERCENT ERROR= 0.0									
0.87	RT203	MANE	1.63	77.63	363.47	0.87	15.00	74.38	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1080E+02 EXCESS=0.0000E+00 OUTFLOW=0.1080E+02 BASIN STORAGE= 0.5881E-08 PERCENT ERROR= 0.0									
1.01	RT220	MANE	0.58	391.10	360.89	1.00	15.00	383.84	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5525E+02 EXCESS=0.0000E+00 OUTFLOW=0.5525E+02 BASIN STORAGE= 0.1929E-07 PERCENT ERROR= 0.0									
1.21	RT303	MANE	0.68	137.43	361.44	1.21	15.00	135.79	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1604E+02 EXCESS=0.0000E+00 OUTFLOW=0.1604E+02 BASIN STORAGE= 0.1514E-09 PERCENT ERROR= 0.0									
1.22	RT305	MANE	1.39	168.95	362.51	1.21	15.00	163.66	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2014E+02 EXCESS=0.0000E+00 OUTFLOW=0.2014E+02 BASIN STORAGE= 0.3830E-08 PERCENT ERROR= 0.0									
1.21	RT311	MANE	2.07	328.24	364.10	1.21	15.00	302.76	360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4201E+02 EXCESS=0.0000E+00 OUTFLOW=0.4200E+02 BASIN STORAGE=
0.5631E-07 PERCENT ERROR= 0.0

1.10 RT316 MANE 2.04 767.02 364.77 1.10 15.00 729.94 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1125E+03 EXCESS=0.0000E+00 OUTFLOW=0.1124E+03 BASIN STORAGE=
0.5337E-06 PERCENT ERROR= 0.1

1.11 RT401 MANE 0.44 787.02 375.97 1.11 15.00 782.54 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1228E+03 EXCESS=0.0000E+00 OUTFLOW=0.1228E+03 BASIN STORAGE=
0.1898E-06 PERCENT ERROR= 0.0

1.12 RT405 MANE 1.34 830.20 376.81 1.12 15.00 817.08 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1338E+03 EXCESS=0.0000E+00 OUTFLOW=0.1338E+03 BASIN STORAGE=
0.9038E-06 PERCENT ERROR= 0.0

0.98 RT101 MANE 1.75 36.12 363.22 0.97 15.00 32.69 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4771E+01 EXCESS=0.0000E+00 OUTFLOW=0.4772E+01 BASIN STORAGE=
0.2332E-08 PERCENT ERROR= 0.0

1.08 RT103 MANE 0.88 89.45 376.93 1.08 15.00 88.76 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1887E+02 EXCESS=0.0000E+00 OUTFLOW=0.1887E+02 BASIN STORAGE=
0.4357E-08 PERCENT ERROR= 0.0

1.11 RT105A MANE 0.88 113.93 376.70 1.11 15.00 113.48 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2354E+02 EXCESS=0.0000E+00 OUTFLOW=0.2354E+02 BASIN STORAGE=
0.9400E-08 PERCENT ERROR= 0.0

1.16 RT105B MANE 0.71 183.30 361.35 1.15 15.00 174.09 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3282E+02 EXCESS=0.0000E+00 OUTFLOW=0.3282E+02 BASIN STORAGE=
0.1373E-07 PERCENT ERROR= 0.0

1.16 RT107 MANE 1.56 195.65 364.00 1.16 15.00 183.26 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3551E+02 EXCESS=0.0000E+00 OUTFLOW=0.3550E+02 BASIN STORAGE=
0.7782E-07 PERCENT ERROR= 0.0

1.18 RT109 MANE 3.43 265.18 369.00 1.18 15.00 256.51 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4665E+02 EXCESS=0.0000E+00 OUTFLOW=0.4659E+02 BASIN STORAGE=
0.8432E-06 PERCENT ERROR= 0.1

1.15 RT407A MANE 0.60 1216.00 375.90 1.15 15.00 1204.60 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2044E+03 EXCESS=0.0000E+00 OUTFLOW=0.2044E+03 BASIN STORAGE=
0.7684E-06 PERCENT ERROR= 0.0

1.15 RT407B MANE 0.37 1102.63 376.06 1.15 15.00 1087.04 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2047E+03 EXCESS=0.0000E+00 OUTFLOW=0.2047E+03 BASIN STORAGE=
0.4538E-06 PERCENT ERROR= 0.0

1.16 RT506 MANE 0.86 1236.33 377.18 1.16 15.00 1194.79 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2328E+03 EXCESS=0.0000E+00 OUTFLOW=0.2328E+03 BASIN STORAGE=
0.1747E-05 PERCENT ERROR= 0.0

1.16 RT507 MANE 1.18 1218.90 377.51 1.16 15.00 1202.82 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2394E+03 EXCESS=0.0000E+00 OUTFLOW=0.2393E+03 BASIN STORAGE=
0.4122E-05 PERCENT ERROR= 0.0

1.17 RT509 MANE 1.85 1236.35 392.11 1.16 15.00 1232.35 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2496E+03 EXCESS=0.0000E+00 OUTFLOW=0.2495E+03 BASIN STORAGE=
0.1084E-04 PERCENT ERROR= 0.0

1.17 RT511 MANE 0.34 1248.92 390.60 1.17 15.00 1244.08 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2557E+03 EXCESS=0.0000E+00 OUTFLOW=0.2557E+03 BASIN STORAGE=
0.2411E-05 PERCENT ERROR= 0.0

1.28 RT601 MANE 1.53 41.85 348.83 1.27 15.00 36.06 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4276E+01 EXCESS=0.0000E+00 OUTFLOW=0.4277E+01 BASIN STORAGE=
0.1154E-08 PERCENT ERROR= 0.0

1.17 RT604 MANE 0.87 1296.71 391.13 1.17 15.00 1289.95 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2764E+03 EXCESS=0.0000E+00 OUTFLOW=0.2764E+03 BASIN STORAGE=
0.6831E-05 PERCENT ERROR= 0.0

1.21 RT605 MANE 0.75 27.76 360.87 1.21 15.00 27.68 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3245E+01 EXCESS=0.0000E+00 OUTFLOW=0.3246E+01 BASIN STORAGE=
0.1227E-09 PERCENT ERROR= 0.0

1.19 RT610 MANE 1.90 1357.84 394.43 1.19 15.00 1339.32 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3021E+03 EXCESS=0.0000E+00 OUTFLOW=0.3021E+03 BASIN STORAGE=
0.2761E-04 PERCENT ERROR= 0.0

1.19 RT612 MANE 1.26 1327.07 392.93 1.19 15.00 1306.38 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3099E+03 EXCESS=0.0000E+00 OUTFLOW=0.3099E+03 BASIN STORAGE=
0.2664E-04 PERCENT ERROR= 0.0

4.99 RT618 MANE 0.55 20.07 405.99 4.99 15.00 20.06 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3284E+02 EXCESS=0.0000E+00 OUTFLOW=0.3284E+02 BASIN STORAGE=
0.1004E-01 PERCENT ERROR= 0.0

1.29 RT614 MANE 0.50 1356.56 405.44 1.29 15.00 1356.44 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3545E+03 EXCESS=0.0000E+00 OUTFLOW=0.3544E+03 BASIN STORAGE=
0.2386E-01 PERCENT ERROR= 0.0

1.29 RT617 MANE 1.35 1356.60 407.49 1.29 15.00 1353.80 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3561E+03 EXCESS=0.0000E+00 OUTFLOW=0.3560E+03 BASIN STORAGE=
0.8516E-01 PERCENT ERROR= 0.0

1.33 RT703 MANE 1.23 1389.67 406.99 1.32 15.00 1383.12 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3811E+03 EXCESS=0.0000E+00 OUTFLOW=0.3810E+03 BASIN STORAGE=
0.8514E-01 PERCENT ERROR= 0.0

*** NORMAL END OF HEC-1 ***

100 year future-Alternate 3
HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\WINNT\TEMP\vbh1218.TMP

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*****  
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*  
*  
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *  
* U. S. ARMY CORPS OF ENGINEERS *  
* MAY 1991 *  
* HYDROLOGIC ENGINEERING CENTER *  
* VERSION 4.0.1E *  
* 609 SECOND STREET *  
* *  
* DAVIS, CALIFORNIA 95616 *  
* RUN DATE 06/20/2001 TIME 12:11:35 *  
* (916) 756-1104 *  
* *  
*****  
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X X XXXXXXX XXXXX X  
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X X X X X  
XXXXXXXX XXXX X XXXXX X  
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X X X X X  
X X XXXXXXX XXXXX XXX
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::: Full Microcomputer Implementation :::  
::: by :::  
::: Haestad Methods, Inc. :::  
.....  
.....
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIDR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.

THE DEFINITION OF -AMSK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION

NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE, SINGLE EVENT DAMAGE CALCULATION, DSS: WRITE STAGE FREQUENCY,

DSS: READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE: GREEN AND AMPT INFILTRATION

KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

LINE	ID	1	2	3	4	5	6	7	8	9	10
	1	ID	Type	IIA	storm						
	2	IT	15	0	0	288					
	3	ID	5								
	4	KK	SC205								
	5	KM	Smith Creek 205 Runoff								
	6	KD							22		
	7	BA	0.0970								
	8	PB	4.6								
	9	IN	15								
0.0165	10	PC	0.0005	0.0015	0.0030	0.0045	0.0060	0.0080	0.0100	0.0120	0.0143
0.0600	11	PC	0.0188	0.0210	0.0233	0.0255	0.0278	0.0320	0.0390	0.0460	0.0530
0.8000	12	PC	0.0750	0.1000	0.4000	0.7000	0.7250	0.7500	0.7650	0.7800	0.7900
0.8600	13	PC	0.8100	0.8200	0.8250	0.8300	0.8350	0.8400	0.8450	0.8500	0.8550
0.8975	14	PC	0.8638	0.8675	0.8713	0.8750	0.8788	0.8825	0.8863	0.8900	0.8938
0.9300	15	PC	0.9013	0.9050	0.9083	0.9115	0.9148	0.9180	0.9210	0.9240	0.9270
0.9550	16	PC	0.9325	0.9350	0.9375	0.9400	0.9425	0.9450	0.9475	0.9500	0.9525
0.9800	17	PC	0.9575	0.9600	0.9625	0.9650	0.9675	0.9700	0.9725	0.9750	0.9775
0.9925	18	PC	0.9813	0.9825	0.9838	0.9850	0.9863	0.9875	0.9888	0.9900	0.9913
	19	PC	0.9938	0.9950	0.9963	0.9975	0.9988	1.0000			
	20	LS	0	68							
	21	UD	0.257								
	22	KK	RT205								
	23	KM	Smith Creek Route 205 to 213								
	24	KD							22		
	25	RK	1530	0.0431	0.055			TRAP		2	
	26	KK	SC207								
	27	KM	Smith Creek 207 Runoff								
	28	KD							22		
	29	BA	0.12								
	30	PB	4.6								
	31	LS	0	68							
	32	UD	0.367								
	33	KK	SC213								
	34	KM	Smith Creek 213 Runoff								
	35	KD							22		
	36	BA	0.1243								
	37	PB	4.6								
	38	LS	0	67							
	39	UD	0.361								
	40	KK	DP213								
	41	KM	Combine RT205 SC207 and SC213								
	42	KD							22		
	43	HC	3								
	44	KK	RT213								
	45	KM	Smith Creek Route 213 to 215								
	46	KD							22		
	47	RK	1360	0.0493	0.055			TRAP		2	

LINE
 ID. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10

184	KK	SC311								
185	KM	Smith Creek 311 Runoff								
186	KD								22	
187	BA	0. 1064								
188	PB	4. 6								
189	LS	0	68							
190	UD	0. 234								
191	KK	DP311								
192	KM	Combine RT305 SC307 SC309 and SC311								
193	KD								22	
194	HC	4								
195	KK	RT311								
196	KM	Tributary Route 311 to 315								
197	KD								22	
198	RK	2860	0. 0448	0. 0888					TRAP	2
199	KK	SC313								
200	KM	Smith Creek 313 Runoff								
201	KD								22	
202	BA	0. 1520								
203	PB	4. 6								
204	LS	0	67							
205	UD	0. 352								
206	KK	SC315								
207	KM	Smith Creek 315 Runoff								
208	KD								22	
209	BA	0. 0886								
210	PB	4. 6								
211	LS	0	68							
212	UD	0. 297								
213	KK	DP315								
214	KM	Combine RT311 SC313 and SC315								
215	KD								22	
216	HC	3								
217	KK	DP316								
218	KM	Combine RT220 and DP315								
219	KD								22	
220	HC	2								
221	KK	RES316								
222	KM	REGIONAL RES 316								
223	KD								22	
224	RS	1	STOR	-1						
225	SV	0	. 72	2. 42	4. 57	7. 19	10. 29			
226	SE	7164	7166	7168	7170	7172	7174			
227	SQ	0	10	75	90	360	1225			
228	SE	7164	7166	7168	7170	7172	7174			

LINE	1	2	3	4	5	6	7	8	9	10
229										
230										
231								22		
232								TRAP	1	2
233										
234										
235								22		
236										
237										
238										
239										
240										
241										
242								22		
243										
244										
245										
246								22		
247								TRAP	1	2
248										
249										
250								22		
251										
252										
253										
254										
255										
256										
257								22		
258										
259										
260										
261										
262										
263										
264								22		
265										
266										
267										
268								22		
269								TRAP	1	2

LINE	1	2	3	4	5	6	7	8	9	10
270	KK	SC101								
271	KM	Smith Creek 101 Runoff								
272	KD							22		
273	BA	0.0920								
274	PB	4.6								
275	LS	0	64							
276	UD	0.353								
277	KK	RT101								
278	KM	Tributary Route 101 to 103								
279	KD							22		
280	RK	2050	0.0424	0.055				TRAP		2
281	KK	SC103								
282	KM	Smith Creek 103 Runoff								
283	KD							22		
284	BA	0.1670								
285	PB	4.6								
286	LS	0	65							
287	UD	0.348								
288	KK	SC105A								
289	KM	Smith Creek 105A Runoff								
290	KD							22		
291	BA	0.0693								
292	PB	4.6								
293	LS	0	70							
294	UD	0.345								
295	KK	DP103								
296	KM	Combine RT101 SC105A and SC103								
297	KD							22		
298	HC	3								
299	KK	RES106								
300	KM	Existing Detention Pond 106								
301	KD							22		
302	RS	1	STOR	-1						
303	SA	0.43	0.54	0.65	0.80	0.94	1.00			
304	SE	7320	7322	7324	7326	7328	7330			
305	SQ	0	50	80	100	190	250			
306	SE	7320	7322	7324	7326	7328	7330			
307	KK	RT103								
308	KM	Tributary Route RES103 to 105								
309	KD							22		
310	RK	1150	0.0478	0.055				TRAP		2
311	KK	SC105B								
312	KM	Smith Creek 105B Runoff								
313	KD							22		
314	BA	0.0686								
315	PB	4.6								
316	LS	0	69							

LINE	ID	1	2	3	4	5	6	7	8	9	10
401	KK	RT407A									
402	KM	SMITH CREEK ROUTE 407 TO RES407									
403	KD										
404	RK	665	0.0210	0.120					22		
									TRAP	1	2
405	KK	RES407									
406	KM	REGIONAL POND RES 407									
407	KD										
408	RS	1	STOR	-1					22		
409	SV	0	.44	1.49	2.93	4.75	6.91	9.41	12.27	15.50	
410	SE	6990	6992	6994	6996	6998	7000	7002	7004	7006	
411	SQ	0	10	25	50	75	450	800	1000	1900	
412	SE	6990	6992	6994	6996	6998	7000	7002	7004	7006	
413	KK	RT407B									
414	KM	ROUTE RES 407 TO DP 506									
415	KD										
416	RK	340	0.0210	0.120					22		
									TRAP	1	2
417	KK	SC501									
418	KM	Smith Creek 501 Runoff									
419	KD										
420	BA	0.1219							22		
421	PB	4.6									
422	LS	0	68								
423	UD	0.312									
424	KK	SC503									
425	KM	Smith Creek 503 Runoff									
426	KD										
427	BA	0.1193							22		
428	PB	4.6									
429	LS	0	68								
430	UD	0.334									
431	KK	SC505									
432	KM	Smith Creek 505 Runoff									
433	KD										
434	BA	0.1923							22		
435	PB	4.6									
436	LS	0	68								
437	UD	0.379									
438	KK	DPS05									
439	KM	Combine SC501 SC503 and SC505									
440	KD										
441	HC	3							22		
442	KK	DPS06									
443	KM	Combine RT407 and DPS05									
444	KD										
445	HC	2							22		

LINE	1	2	3	4	5	6	7	8	9	10
580	SE	6828	6829	6830						
581	KK	DP610								
582	KM	COMBINE RES 610 RES 605 AND RT605								
583	KD							22		
584	HC	3								
585	KK	RT610								
586	KM	Smith Creek Route 610 to 611								
587	KD							22		
588	RK	3200	0.0226	0.090				TRAP	2	1
589	KK	SC611								
590	KM	Smith Creek 611 Runoff								
591	KD							22		
592	BA	0.1095								
593	PB	4.6								
594	LS	0	69							
595	UD	0.149								
596	KK	DP611								
597	KM	Combine RT610 and SC611								
598	KD							22		
599	HC	2								
600	KK	RES612								
601	KM	Smith Creek Reservoir Route 612								
602	KD							22		
603	RS	1	STOR	-1						
604	SA	1.82	2.77	3.72	4.5	5.28	5.78			
605	SE	6762	6763	6764	6765	6766	6766.5			
606	SQ	0	150	510	1160	2120	2680			
607	SE	6762	6763	6764	6765	6766	6766.5			
608	KK	RT612								
609	KM	Smith Creek Route 612 to 617								
610	KD							22		
611	RK	2250	0.0240	0.0866				TRAP	2	1
612	KK	SC613								
613	KM	Smith Creek 613 Runoff								
614	KD							22		
615	BA	0.1233								
616	PB	4.6								
617	LS	0	75							
618	UD	0.270								
619	KK	RES613								
620	KM	EXISTING POND 613								
621	KD							22		
622	RS	1	STOR	-1						
623	SA	0.12	0.96	1.09	1.21	1.34	1.47			
624	SE	6794	6796	6798	6800	6802	6804			
625	SQ	4.67	7.44	9.43	22.99	29.35	34.42			
626	SE	6794	6796	6798	6800	6802	6804			

HEC1 S/N: 1343001909

HMVersion: 6.33

Data File: C:\WINNT\TEMP\vbh1218 TMP

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

MAXIMUM STAGE	TIME OF OPERATION MAX STAGE	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA
					6-HOUR	24-HOUR	72-HOUR	
	HYDROGRAPH AT	SC205	73.	6.00	13.	4.	1.	0.10
	ROUTED TO	RT205	73.	6.00	13.	4.	1.	0.10
	HYDROGRAPH AT	SC207	86.	6.00	16.	5.	2.	0.12
	HYDROGRAPH AT	SC213	85.	6.00	16.	5.	2.	0.12
	3 COMBINED AT	DP213	243.	6.00	44.	14.	5.	0.34
	ROUTED TO	RT213	236.	6.00	44.	15.	5.	0.34
	HYDROGRAPH AT	SC209	74.	6.00	14.	5.	2.	0.14
	HYDROGRAPH AT	SC211	35.	6.00	8.	3.	1.	0.08
	HYDROGRAPH AT	SC215	48.	5.75	8.	3.	1.	0.06
	4 COMBINED AT	DP215	389.	6.00	73.	24.	8.	0.62
	ROUTED TO	RT215	368.	6.00	73.	24.	8.	0.62
	HYDROGRAPH AT	SC219	64.	6.00	12.	4.	1.	0.13
	2 COMBINED AT	DP219	432.	6.00	86.	29.	10.	0.75
	HYDROGRAPH AT	SC201	67.	6.00	12.	4.	1.	0.12
	ROUTED TO	RT201	63.	6.00	12.	4.	1.	0.12
	HYDROGRAPH AT	SC203	57.	5.75	10.	3.	1.	0.11
	2 COMBINED AT	DP203	116.	6.00	22.	8.	3.	0.23
	ROUTED TO	RT203	111.	6.00	22.	8.	3.	0.23
	HYDROGRAPH AT	SC217	32.	5.75	5.	2.	1.	0.05
	2 COMBINED AT	DP217	139.	6.00	28.	9.	3.	0.29
	2 COMBINED AT	DP220	570.	6.00	113.	38.	13.	1.03
	ROUTED TO	RT220	559.	6.00	113.	38.	13.	1.03
	HYDROGRAPH AT	SC301	91.	6.00	16.	5.	2.	0.12

HYDROGRAPH AT	SC303	99.	6.00	17	6.	2.	0.13
2 COMBINED AT	DP303	190.	6.00	33	11.	4.	0.25
ROUTED TO	RT303	187.	6.00	33.	11	4.	0.25
HYDROGRAPH AT	SC305	48.	6.00	8.	3.	1.	0.06
2 COMBINED AT	DP305	235	6.00	41.	13.	5.	0.31
ROUTED TO	RT305	227.	6.00	41.	14.	5.	0.31
HYDROGRAPH AT	SC307	64.	6.00	14.	5.	2.	0.11
HYDROGRAPH AT	SC309	89.	6.00	16.	5.	2.	0.12
HYDROGRAPH AT	SC311	84.	5.75	14.	5.	2.	0.11
4 COMBINED AT	DP311	458.	6.00	86.	28.	9.	0.65
ROUTED TO	RT311	426.	6.00	86.	28.	9.	0.65
HYDROGRAPH AT	SC313	105.	6.00	19.	6.	2.	0.15
HYDROGRAPH AT	SC315	68.	6.00	12	4.	1.	0.09
3 COMBINED AT	DP315	599.	6.00	117.	38.	13.	0.89
2 COMBINED AT	DP316	1158.	6.00	230	76.	26.	1.92
ROUTED TO	RES316	1219.	6.00	228.	76.	26.	1.92
7173.99		6.00					
ROUTED TO	RT316	1005.	6.25	228.	77.	26.	1.92
HYDROGRAPH AT	SC401	107.	6.00	20.	7.	2.	0.15
2 COMBINED AT	DP401	1095.	6.00	248.	83.	28.	2.08
ROUTED TO	RT401	1086.	6.25	248.	83.	28.	2.08
HYDROGRAPH AT	SC403	75.	6.00	13	4	1.	0.10
HYDROGRAPH AT	SC405	51.	6.00	9.	3	1	0.07
3 COMBINED AT	DP405	1177.	6.00	270	91.	30.	2.25
ROUTED TO	RT405	1162.	6.25	270	91.	30.	2.25
HYDROGRAPH AT	SC101	53.	6.00	10	3.	1	0.09
ROUTED TO	RT101	48.	6.00	10.	3.	1.	0.09

	HYDROGRAPH AT	SC103	103	6 00	19.	6.	2.	0 17
	HYDROGRAPH AT	SC105A	57	6 00	10.	3	1.	0 07
	3 COMBINED AT	DP103	208.	6 00	39	13	4.	0 33
	ROUTED TO	RES106	136.	6. 25	38.	13	4.	0 33
7326. 79	6. 25							
	ROUTED TO	RT103	132.	6. 25	38.	13.	4.	0. 33
	HYDROGRAPH AT	SC105B	53.	6. 00	9.	3.	1.	0. 07
	2 COMBINED AT	DP105	167.	6. 25	48.	16.	5.	0. 40
	ROUTED TO	RT105A	164.	6. 25	48.	16.	5.	0. 40
	HYDROGRAPH AT	SC107A	110.	6. 00	19.	6.	2.	0 14
	ROUTED TO	RES108	128.	6. 00	19.	6.	2.	0. 14
7344. 93	6. 00							
	2 COMBINED AT	DP107A	263.	6. 00	67.	22.	7.	0. 53
	ROUTED TO	RT105B	250.	6 00	67.	22.	7.	0. 53
	HYDROGRAPH AT	SC107B	31.	6. 00	5.	2.	1.	0. 04
	2 COMBINED AT	DP107B	281.	6. 00	72.	24.	8.	0 57
	ROUTED TO	RT107	255.	6. 00	72.	24.	8.	0. 57
	HYDROGRAPH AT	SC109	127.	6. 00	23	7.	2.	0. 16
	2 COMBINED AT	DP109	382.	6. 00	95.	31.	10.	0. 74
	ROUTED TO	RT109	357.	6. 25	94.	31.	10.	0 74
	HYDROGRAPH AT	SC111	140.	6. 00	26.	9.	3.	0. 19
	2 COMBINED AT	DP111	463.	6. 25	120.	40	13.	0 93
	HYDROGRAPH AT	SC407	110.	6 00	22	7.	2.	0. 17
	3 COMBINED AT	DP407	1718.	6. 25	412	138	46	3. 34
	ROUTED TO	RT407A	1709.	6 25	413.	138.	46.	3. 34
	ROUTED TO	RES407	1882.	6. 25	406.	138.	46.	3 34
7005. 96	6. 25							
	ROUTED TO							

	RT407B	1853.	6 25	406.	138	46	3.34
HYDROGRAPH AT	SC501	93.	6 00	16.	5	2	0.12
HYDROGRAPH AT	SC503	89.	6 00	16.	5.	2	0.12
HYDROGRAPH AT	SC505	135.	6 00	25.	8	3.	0.19
3 COMBINED AT	DP505	317.	6. 00	57.	19	6.	0.43
2 COMBINED AT	DP506	2065.	6 25	460.	157.	52	3.77
ROUTED TO	RT506	2004.	6. 25	461.	157.	53.	3.77
HYDROGRAPH AT	SC507	77.	5. 75	13.	4.	1.	0.10
2 COMBINED AT	DP507	2036.	6. 25	473.	161.	54.	3.87
ROUTED TO	RT507	1936.	6. 25	474.	162.	54.	3.87
HYDROGRAPH AT	SC509	102.	6. 00	20.	7.	2.	0.15
2 COMBINED AT	DP509	2019.	6. 25	493.	168.	56.	4.02
ROUTED TO	RT509	1852.	6. 25	493.	169.	56.	4.02
HYDROGRAPH AT	SC511	69.	6. 00	12.	4.	1.	0.09
2 COMBINED AT	DP511	1891.	6. 25	504.	173.	58.	4.11
ROUTED TO	RT511	1859.	6. 25	505.	173.	58.	4.11
HYDROGRAPH AT	SC601	59.	5. 75	9.	3.	1.	0.06
ROUTED TO	RT601	50.	5. 75	9.	3.	1.	0.06
HYDROGRAPH AT	SC603	192.	6. 00	33.	11	4.	0.25
2 COMBINED AT	DP603	241.	6. 00	42.	14.	5.	0.31
2 COMBINED AT	DP604	1989.	6. 25	546.	186	62	4.43
ROUTED TO	RT604	1923.	6 25	546.	187.	62.	4.43
HYDROGRAPH AT	SC607	67	6. 00	12.	4	1.	0.08
HYDROGRAPH AT	SC609	111.	6. 00	19.	6	2.	0.14
3 COMBINED AT	DP609	2025	6 25	577.	197	66	4.65
ROUTED TO	RES610	1986	6. 50	572	196	66.	4.65

6824.77 6 50

HYDROGRAPH AT

		SC605A	38.	6.00	7.	2	1.	0.05
	ROUTED TO	RT605	38	6.00	7.	2	1	0.05
	HYDROGRAPH AT	SC605B	86.	5.75	14	4	1.	0.08
	ROUTED TO	RES605	87.	6.00	14	4	1.	0.08
6822.79	6.00							
	3 COMBINED AT	DP610	2028.	6.25	593.	203.	68.	4.78
	ROUTED TO	RT610	2024.	6.50	592	203.	68.	4.78
	HYDROGRAPH AT	SC611	131	5.75	15.	5.	2.	0.11
	2 COMBINED AT	DP611	2040.	6.50	606.	208.	70.	4.89
	ROUTED TO	RES612	2049.	6.50	604.	208.	70.	4.89
6765.93	6.50							
	ROUTED TO	RT612	2013.	6.50	605.	208.	70.	4.89
	HYDROGRAPH AT	SC613	131.	6.00	22.	7.	2.	0.12
	ROUTED TO	RES613	26.	6.75	17.	9.	6.	0.12
6800.81	6.75							
	ROUTED TO	RT618	26.	6.75	17.	9.	6.	0.12
	HYDROGRAPH AT	SC617A	21.	5.75	2.	1.	0.	0.01
	ROUTED TO	RES617	0.	0.25	0.	0.	0.	0.01
1.89	24.25							
	HYDROGRAPH AT	SC618	10.	5.75	1.	0.	0.	0.01
	ROUTED TO	RES618	2.	6.25	1.	0.	0.	0.01
6769.25	6.25							
	3 COMBINED AT	DP618	27.	6.75	18.	9.	6.	0.15
	HYDROGRAPH AT	SC615B	55.	5.75	6	2.	1	0.03
	ROUTED TO	RES614	17	6.25	6.	2	1.	0.03
6731.25	6.25							
	HYDROGRAPH AT	SC615A	78	5.75	10.	3	1.	0.06
	ROUTED TO	RES615	27	6.25	10	3.	1.	0.06
6730.55	6.25							
	HYDROGRAPH AT							

	SC617C	42.	5.75	5.	2.	1.	0.05
5 COMBINED AT	DP613	2084	6.50	643.	224.	78.	5.17
ROUTED TO	RT614	2069.	6.50	643.	224.	78.	5.17
HYDROGRAPH AT	SC617B	19.	5.75	3	1	0.	0.02
2 COMBINED AT	DP617	2073.	6.50	646.	225.	79.	5.19
ROUTED TO	RT617	2018.	6.50	646.	226.	79.	5.19
HYDROGRAPH AT	SC701	143.	6.00	24.	7.	2.	0.07
HYDROGRAPH AT	SC703	241.	5.75	26.	8.	3.	0.13
3 COMBINED AT	DP703	2088.	6.50	690.	241.	84.	5.39
ROUTED TO	RT703	2035.	6.50	690.	241.	84.	5.39
HYDROGRAPH AT	SC705	69.	6.00	12.	4.	1.	0.09
2 COMBINED AT	DP705	2059.	6.50	702.	245.	85.	5.48

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

VOLUME	ISTAQ	ELEMENT	DT	PEAK	TIME TO	VOLUME	DT	INTERPOLATED TO	
								COMPUTATION	INTERVAL
(IN)			(MIN)	(CFS)	(MIN)	(IN)	(MIN)	PEAK	TIME TO
					PEAK			(CFS)	(MIN)
1.61	RT205	MANE	1.16	73.01	361.09	1.60	15.00	72.75	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8279E+01 EXCESS=0.0000E+00 OUTFLOW=0.8281E+01 BASIN STORAGE=0.6725E-09 PERCENT ERROR= 0.0									
1.58	RT213	MANE	0.68	241.83	361.58	1.58	15.00	236.06	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2872E+02 EXCESS=0.0000E+00 OUTFLOW=0.2872E+02 BASIN STORAGE=0.2629E-08 PERCENT ERROR= 0.0									
1.47	RT215	MANE	1.22	385.02	362.86	1.46	15.00	367.94	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4805E+02 EXCESS=0.0000E+00 OUTFLOW=0.4804E+02 BASIN STORAGE=0.1887E-07 PERCENT ERROR= 0.0									
1.27	RT201	MANE	1.16	66.37	362.28	1.26	15.00	62.68	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8184E+01 EXCESS=0.0000E+00 OUTFLOW=0.8184E+01 BASIN STORAGE=0.9881E-09 PERCENT ERROR= 0.0									
1.21	RT203	MANE	1.41	115.46	362.70	1.20	15.00	111.38	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1496E+02 EXCESS=0.0000E+00 OUTFLOW=0.1496E+02 BASIN STORAGE=0.8667E-08 PERCENT ERROR= 0.0									
1.37	RT220	MANE	0.48	567.24	360.71	1.36	15.00	558.98	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7512E+02 EXCESS=0.0000E+00 OUTFLOW=0.7512E+02 BASIN STORAGE=0.2030E-07 PERCENT ERROR= 0.0									
1.61	RT303	MANE	0.59	188.91	360.84	1.60	15.00	187.02	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2130E+02 EXCESS=0.0000E+00 OUTFLOW=0.2131E+02 BASIN STORAGE=0.1416E-09 PERCENT ERROR= 0.0									
1.61	RT305	MANE	1.24	232.62	362.59	1.61	15.00	227.13	360.00
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2675E+02 EXCESS=0.0000E+00 OUTFLOW=0.2675E+02 BASIN STORAGE=0.5252E-08 PERCENT ERROR= 0.0									
1.61	RT311	MANE	1.92	450.82	364.28	1.61	15.00	426.45	360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5579E+02 EXCESS=0.0000E+00 OUTFLOW=0.5579E+02 BASIN STORAGE=
0.6001E-07 PERCENT ERROR= 0.0

1.48 RT316 MANE 1.74 1194.53 364.68 1.47 15.00 1004.93 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1512E+03 EXCESS=0.0000E+00 OUTFLOW=0.1512E+03 BASIN STORAGE=
0.5864E-06 PERCENT ERROR= 0.0

1.49 RT401 MANE 0.41 1094.79 361.22 1.49 15.00 1086.04 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1649E+03 EXCESS=0.0000E+00 OUTFLOW=0.1649E+03 BASIN STORAGE=
0.1807E-06 PERCENT ERROR= 0.0

1.51 RT405 MANE 1.21 1176.34 362.67 1.50 15.00 1161.99 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1796E+03 EXCESS=0.0000E+00 OUTFLOW=0.1796E+03 BASIN STORAGE=
0.8659E-06 PERCENT ERROR= 0.0

1.33 RT101 MANE 1.62 51.82 362.66 1.33 15.00 48.11 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6511E+01 EXCESS=0.0000E+00 OUTFLOW=0.6511E+01 BASIN STORAGE=
0.2091E-08 PERCENT ERROR= 0.0

1.45 RT103 MANE 0.69 135.62 376.48 1.45 15.00 131.83 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2540E+02 EXCESS=0.0000E+00 OUTFLOW=0.2540E+02 BASIN STORAGE=
0.3720E-08 PERCENT ERROR= 0.0

1.49 RT105A MANE 0.89 166.29 376.47 1.49 15.00 164.43 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3156E+02 EXCESS=0.0000E+00 OUTFLOW=0.3156E+02 BASIN STORAGE=
0.8833E-08 PERCENT ERROR= 0.0

1.54 RT105B MANE 0.75 261.14 361.88 1.54 15.00 250.39 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4380E+02 EXCESS=0.0000E+00 OUTFLOW=0.4381E+02 BASIN STORAGE=
0.1490E-07 PERCENT ERROR= 0.0

1.55 RT107 MANE 1.40 280.11 363.29 1.55 15.00 255.27 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4738E+02 EXCESS=0.0000E+00 OUTFLOW=0.4737E+02 BASIN STORAGE=
0.7031E-07 PERCENT ERROR= 0.0

1.57 RT109 MANE 3.23 375.40 368.46 1.58 15.00 356.52 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6211E+02 EXCESS=0.0000E+00 OUTFLOW=0.6205E+02 BASIN STORAGE=
0.8344E-06 PERCENT ERROR= 0.1

1.54 RT407A MANE 0.61 1712.65 375.87 1.53 15.00 1708.75 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2734E+03 EXCESS=0.0000E+00 OUTFLOW=0.2734E+03 BASIN STORAGE=
0.7778E-06 PERCENT ERROR= 0.0

1.54 RT407B MANE 0.42 1870.48 375.60 1.54 15.00 1852.84 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2739E+03 EXCESS=0.0000E+00 OUTFLOW=0.2739E+03 BASIN STORAGE=
0.4500E-06 PERCENT ERROR= 0.0

1.55 RT506 MANE 0.66 2060.19 376.35 1.55 15.00 2003.51 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3112E+03 EXCESS=0.0000E+00 OUTFLOW=0.3112E+03 BASIN STORAGE=
0.1858E-05 PERCENT ERROR= 0.0

1.55 RT507 MANE 1.11 2018.76 376.93 1.55 15.00 1936.21 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3201E+03 EXCESS=0.0000E+00 OUTFLOW=0.3201E+03 BASIN STORAGE=
0.3792E-05 PERCENT ERROR= 0.0

1.56 RT509 MANE 1.67 2001.20 378.95 1.56 15.00 1852.12 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3338E+03 EXCESS=0.0000E+00 OUTFLOW=0.3338E+03 BASIN STORAGE=
0.9645E-05 PERCENT ERROR= 0.0

1.56 RT511 MANE 0.39 1888.94 375.90 1.56 15.00 1858.53 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3423E+03 EXCESS=0.0000E+00 OUTFLOW=0.3423E+03 BASIN STORAGE=
0.2396E-05 PERCENT ERROR= 0.0

1.69 RT601 MANE 1.45 58.44 348.00 1.67 15.00 50.32 345.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5645E+01 EXCESS=0.0000E+00 OUTFLOW=0.5647E+01 BASIN STORAGE=
0.1270E-08 PERCENT ERROR= 0.0

1.57 RT604 MANE 0.72 1983.48 376.98 1.57 15.00 1923.02 375.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3698E+03 EXCESS=0.0000E+00 OUTFLOW=0.3698E+03 BASIN STORAGE=
0.6409E-05 PERCENT ERROR= 0.0

1.61 RT605 MANE 0.70 37.92 360.83 1.60 15.00 37.89 360.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4310E+01 EXCESS=0.0000E+00 OUTFLOW=0.4311E+01 BASIN STORAGE=
0.1412E-09 PERCENT ERROR= 0.0

1.59 RT610 MANE 1.67 2027.37 379.94 1.58 15.00 2023.64 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4035E+03 EXCESS=0.0000E+00 OUTFLOW=0.4035E+03 BASIN STORAGE=
0.2797E-04 PERCENT ERROR= 0.0

1.59 RT612 MANE 1.17 2043.90 392.25 1.59 15.00 2012.90 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4142E+03 EXCESS=0.0000E+00 OUTFLOW=0.4142E+03 BASIN STORAGE=
0.2807E-04 PERCENT ERROR= 0.0

5.38 RT618 MANE 0.55 25.57 405.91 5.38 15.00 25.57 405.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3541E+02 EXCESS=0.0000E+00 OUTFLOW=0.3541E+02 BASIN STORAGE=
0.1004E-01 PERCENT ERROR= 0.0

1.69 RT614 MANE 0.44 2080.55 390.76 1.69 15.00 2068.68 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4649E+03 EXCESS=0.0000E+00 OUTFLOW=0.4649E+03 BASIN STORAGE=
0.2386E-01 PERCENT ERROR= 0.0

1.69 RT617 MANE 1.20 2064.21 393.04 1.69 15.00 2018.25 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4671E+03 EXCESS=0.0000E+00 OUTFLOW=0.4670E+03 BASIN STORAGE=
0.8516E-01 PERCENT ERROR= 0.0

1.73 RT703 MANE 1.04 2083.33 392.68 1.73 15.00 2034.65 390.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4980E+03 EXCESS=0.0000E+00 OUTFLOW=0.4979E+03 BASIN STORAGE=
0.8514E-01 PERCENT ERROR= 0.0

*** NORMAL END OF HEC-1 ***

HEC-RAS COMPUTATIONS

HEC-RAS
 Existing Condition
 6-29-01

HEC-RAS Plan: Imported Pla

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Cr1 W.S (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Ch1 (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Ch1
Tributary A	TA-01	3677.50	12.00	1051.00	1053.25	1051.31	1053.25	0.000062	0.44	26.97	398.93	0.05
Tributary A	TA-01	3677.50	40.00	1051.00	1053.40	1051.70	1053.40	0.000000	0.01	2660.24	403.40	0.00
Tributary A	TA-01	3677.50	65.00	1051.00	1053.40	1051.96	1053.40	0.000000	0.01	2660.58	403.43	0.00
Tributary A	TA-01	3677.50	140.00	1051.00	1052.61	1052.61	1053.43	0.025471	7.24	19.33	380.25	1.01
Tributary A	TA-01	3677.50	192.00	1051.00	1053.40	1053.40	1053.40	0.000001	0.03	2660.63	403.43	0.00
Tributary A	TA-01	3660										
Tributary A	TA-01	3622.50	12.00	1050.00	1050.31	1050.31	1050.47	0.043320	3.18	3.77	336.94	1.00
Tributary A	TA-01	3622.50	40.00	1050.00	1050.71	1050.71	1051.05	0.032457	4.72	8.48	338.12	0.99
Tributary A	TA-01	3622.50	65.00	1050.00	1050.97	1050.97	1051.45	0.029428	5.58	11.68	338.92	0.99
Tributary A	TA-01	3622.50	140.00	1050.00	1052.00	1052.00	1052.00	0.000000	0.03	2424.08	342.00	0.00
Tributary A	TA-01	3622.50	192.00	1050.00	1052.00	1052.00	1052.00	0.000001	0.04	2424.04	342.00	0.01
Tributary A	TA-01	3575	12.00	1046.00	1046.52	1046.52	1046.66	0.048225	2.95	4.07	15.62	1.02
Tributary A	TA-01	3575	40.00	1046.00	1046.85	1046.85	1047.06	0.039327	3.89	10.83	25.49	1.00
Tributary A	TA-01	3575	65.00	1046.00	1047.03	1047.03	1047.29	0.037021	4.08	15.94	30.93	1.00
Tributary A	TA-01	3575	140.00	1046.00	1047.39	1047.39	1047.75	0.034280	4.80	29.17	41.84	1.01
Tributary A	TA-01	3575	192.00	1046.00	1047.58	1047.58	1047.99	0.032995	5.12	37.50	47.44	1.01
Tributary A	TA-01	3065	12.00	1016.00	1016.54	1016.54	1016.68	0.047225	2.99	4.01	14.85	1.01
Tributary A	TA-01	3065	40.00	1016.00	1016.88	1016.88	1017.10	0.039171	3.77	10.61	24.16	1.00
Tributary A	TA-01	3065	65.00	1016.00	1017.06	1017.06	1017.33	0.037637	4.19	15.50	29.20	1.01
Tributary A	TA-01	3065	140.00	1016.00	1017.44	1017.44	1017.81	0.034070	4.89	28.61	39.67	1.02
Tributary A	TA-01	3065	192.00	1016.00	1017.64	1017.64	1018.06	0.032502	5.20	36.91	45.05	1.01
Tributary A	TA-01	2765	12.00	1000.00	1000.90		1000.97	0.012528	2.16	5.57	12.37	0.57
Tributary A	TA-01	2765	40.00	1000.00	1001.98		1002.01	0.002098	1.49	26.85	27.17	0.26
Tributary A	TA-01	2765	65.00	1000.00	1002.00		1002.09	0.005186	2.36	27.52	27.53	0.42
Tributary A	TA-01	2765	140.00	1000.00	1002.07		1002.42	0.019675	4.75	29.54	30.41	0.82
Tributary A	TA-01	2765	192.00	1000.00	1002.17	1002.17	1002.72	0.028203	5.96	32.63	34.34	0.99
Tributary A	TA-01	2710	12.00	999.00	1000.93	999.30	1000.93	0.000087	0.48	25.10	948.08	0.06
Tributary A	TA-01	2710	40.00	999.00	1002.00	999.66	1002.00	0.000000	0.00	12255.58	965.40	0.00
Tributary A	TA-01	2710	65.00	999.00	1001.95	999.92	1002.00	0.000619	1.69	38.41	964.67	0.17
Tributary A	TA-01	2710	140.00	999.00	1001.76	1000.53	1002.00	0.003594	3.90	35.92	961.56	0.41
Tributary A	TA-01	2710	192.00	999.00	1002.00	1000.89	1002.00	0.000000	0.01	12256.23	965.41	0.00
Tributary A	TA-01	2650										
Tributary A	TA-01	2650	12.00	994.00	994.30	994.30	994.45	0.045704	3.13	3.84	621.51	1.02
Tributary A	TA-01	2650	40.00	994.00	994.66	994.66	995.00	0.033966	4.83	8.63	835.90	1.00
Tributary A	TA-01	2650	65.00	994.00	994.92	994.92	995.38	0.029885	5.41	12.01	846.02	0.99
Tributary A	TA-01	2650	140.00	994.00	995.54	995.54	996.30	0.025465	7.01	19.96	869.89	1.00
Tributary A	TA-01	2650	192.00	994.00	995.89	995.89	996.84	0.023859	7.81	24.57	883.72	1.00
Tributary A	TA-01	2625	12.00	992.00	992.71	992.71	992.90	0.043436	3.43	3.49	9.80	1.01
Tributary A	TA-01	2625	40.00	992.00	993.16	993.16	993.45	0.036844	4.35	9.19	15.90	1.01
Tributary A	TA-01	2625	65.00	992.00	993.40	993.40	993.76	0.034306	4.80	13.56	19.31	1.01
Tributary A	TA-01	2625	140.00	992.00	993.90	993.90	994.39	0.031558	5.63	24.87	26.15	1.02
Tributary A	TA-01	2625	192.00	992.00	994.19	994.19	994.71	0.026919	5.82	33.81	39.51	0.97
Tributary A	TA-01	2445	12.00	978.00	978.65	978.65	978.81	0.044061	3.26	3.68	11.35	1.01
Tributary A	TA-01	2445	40.00	978.00	979.05	979.05	979.32	0.037973	4.16	9.61	18.34	1.01
Tributary A	TA-01	2445	65.00	978.00	979.27	979.27	979.60	0.035655	4.59	14.16	22.26	1.01
Tributary A	TA-01	2445	140.00	978.00	979.73	979.73	980.17	0.032135	5.35	26.17	30.27	1.01
Tributary A	TA-01	2445	192.00	978.00	979.96	979.96	980.47	0.030612	5.68	33.78	34.38	1.01
Tributary A	TA-01	1795	12.00	952.00	952.83	952.83	952.79	0.045231	3.23	3.71	11.80	1.02
Tributary A	TA-01	1795	40.00	952.00	953.40	953.40	953.47	0.007063	2.18	18.36	26.24	0.46
Tributary A	TA-01	1795	65.00	952.00	953.28	953.28	953.56	0.029853	4.22	15.39	24.03	0.93
Tributary A	TA-01	1795	140.00	952.00	953.88	953.88	954.11	0.032563	5.28	26.49	31.52	1.02
Tributary A	TA-01	1795	192.00	952.00	953.91	953.91	954.40	0.030882	5.61	34.25	35.84	1.01
Tributary A	TA-01	1735.5	12.00	950.00	951.87	950.30	951.87	0.000098	0.49	24.27	26.07	0.06
Tributary A	TA-01	1735.5	40.00	950.00	953.45	950.66	953.45	0.000009	0.20	374.91	294.69	0.02
Tributary A	TA-01	1735.5	65.00	950.00	953.47	950.92	953.47	0.000023	0.32	380.96	295.23	0.03
Tributary A	TA-01	1735.5	140.00	950.00	953.45	951.53	953.45	0.000114	0.71	374.61	294.67	0.07
Tributary A	TA-01	1735.5	192.00	950.00	953.44	951.88	953.45	0.000218	0.98	372.52	294.48	0.10
Tributary A	TA-01	1710										
Tributary A	TA-01	1682.5	14.00	949.00	949.52	949.33	949.58	0.009634	2.09	6.71	23.33	0.51
Tributary A	TA-01	1682.5	46.00	949.00	949.94	949.73	950.16	0.014110	3.76	12.22	31.80	0.68
Tributary A	TA-01	1682.5	73.00	949.00	950.17	949.99	950.53	0.016912	4.78	15.27	457.24	0.78
Tributary A	TA-01	1682.5	160.00	949.00	950.88	950.68	951.51	0.024701	7.33	21.83	472.37	1.00
Tributary A	TA-01	1682.5	220.00	949.00	951.07	951.07	952.11	0.023061	8.16	26.97	484.24	1.00
Tributary A	TA-01	1630	14.00	948.00	948.48	948.48	948.59	0.047345	2.75	5.08	21.39	1.00
Tributary A	TA-01	1630	46.00	948.00	948.76	948.76	948.95	0.041913	3.54	12.98	34.18	1.01
Tributary A	TA-01	1630	73.00	948.00	948.91	948.91	949.15	0.039469	3.89	18.78	41.11	1.01

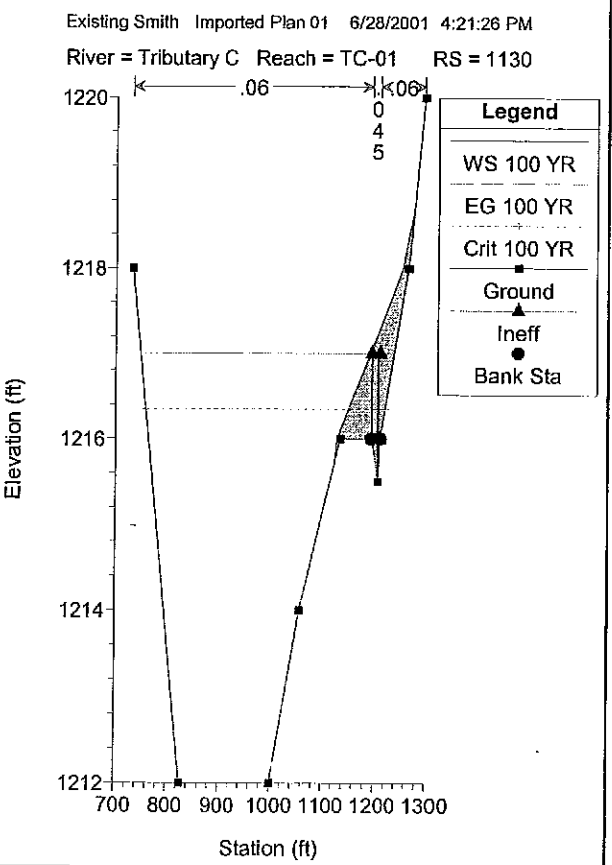
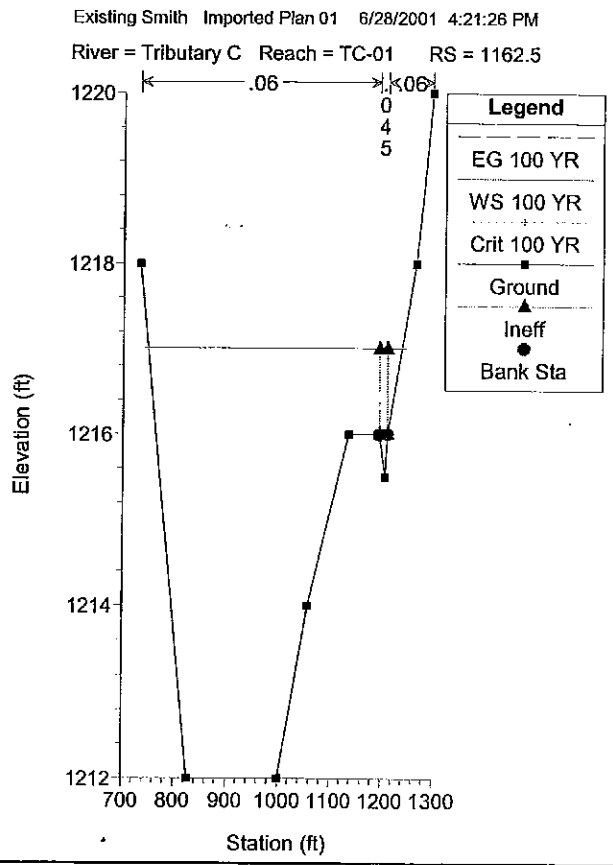
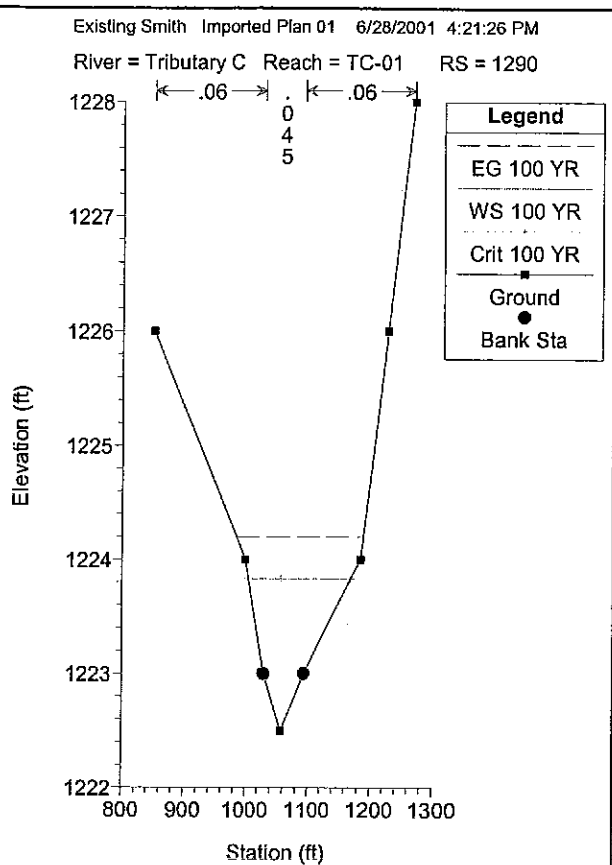
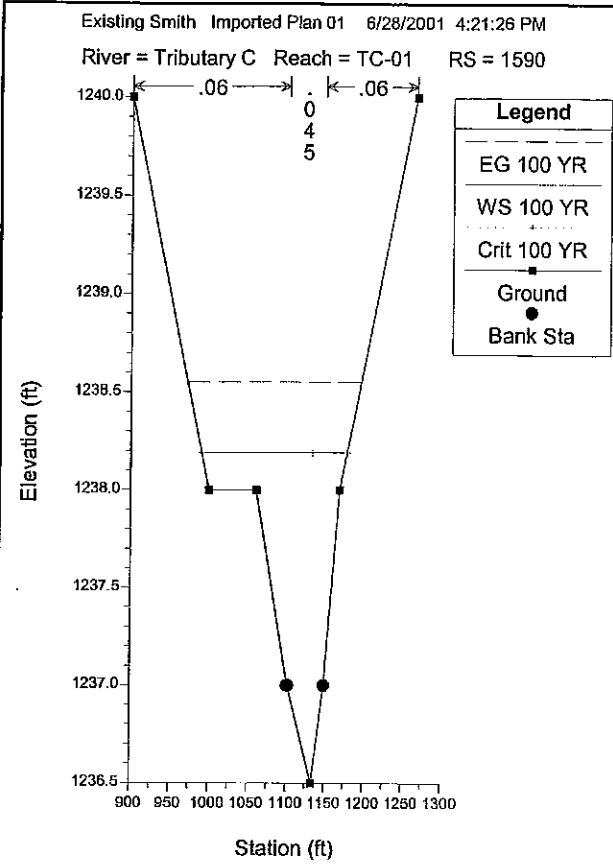
River	Reach	River Sta.	Q.Total (cfs)	Min Ch El. (ft)	W.S. Elev. (ft)	Crit W.S. (ft)	E.G. Elev. (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Crit
Tributary A	TA-01	1630	160.00	948.00	949.24	949.24	949.59	0.031829	4.80	34.10	53.26	0.99
Tributary A	TA-01	1630	220.00	948.00	949.41	949.41	949.83	0.028372	5.24	44.18	59.52	0.97
Tributary A	TA-01	1380	14.00	936.00	936.60	936.60	936.75	0.045681	3.14	4.45	14.92	1.01
Tributary A	TA-01	1380	46.00	936.00	936.96	936.96	937.21	0.038409	3.97	11.60	24.08	1.01
Tributary A	TA-01	1380	73.00	936.00	937.15	937.15	937.46	0.033422	4.50	16.52	30.11	0.99
Tributary A	TA-01	1380	160.00	936.00	937.80	937.80	938.03	0.023954	5.43	33.76	45.97	0.91
Tributary A	TA-01	1380	220.00	936.00	937.84	937.84	938.31	0.021332	5.84	45.69	54.30	0.89
Tributary A	TA-01	1280	14.00	926.00	926.90	926.90	927.13	0.041117	3.86	3.63	8.08	1.02
Tributary A	TA-01	1280	46.00	926.00	928.53	928.53	928.57	0.001777	1.60	28.74	22.74	0.25
Tributary A	TA-01	1280	73.00	926.00	929.19	929.19	929.23	0.001296	1.60	45.74	28.69	0.22
Tributary A	TA-01	1280	160.00	926.00	928.93	928.93	930.02	0.002032	2.30	69.61	35.40	0.29
Tributary A	TA-01	1280	220.00	926.00	930.21	930.21	930.32	0.002688	2.76	79.58	37.85	0.34
Tributary A	TA-01	1202.50	14.00	925.00	928.83	925.31	928.84	0.000122	0.55	25.66	67.25	0.07
Tributary A	TA-01	1202.50	46.00	925.00	928.55	925.69	928.55	0.000011	0.24	221.95	90.99	0.02
Tributary A	TA-01	1202.50	73.00	925.00	928.21	925.95	929.21	0.000014	0.30	285.18	100.56	0.03
Tributary A	TA-01	1202.50	160.00	925.00	929.98	926.59	929.98	0.000033	0.53	366.69	111.70	0.04
Tributary A	TA-01	1202.50	220.00	925.00	930.27	926.97	930.28	0.000050	0.67	399.90	115.73	0.05
Tributary A	TA-01	1170	Culvert									
Tributary A	TA-01	1137.5	14.50	918.00	918.32	918.32	918.48	0.041862	3.19	4.54	16.92	0.99
Tributary A	TA-01	1137.5	47.75	918.00	918.72	918.72	919.07	0.032241	4.75	10.05	20.46	0.99
Tributary A	TA-01	1137.5	75.00	918.00	918.96	918.96	919.44	0.030136	5.58	13.44	22.64	1.00
Tributary A	TA-01	1137.5	165.50	918.00	919.63	919.63	920.45	0.025219	7.26	22.80	28.65	1.00
Tributary A	TA-01	1137.5	227.50	918.00	920.02	920.02	921.02	0.023122	8.03	28.32	32.17	1.00
Tributary A	TA-01	1120	14.50	916.00	916.96	916.96	917.21	0.040519	3.99	3.64	7.59	1.01
Tributary A	TA-01	1120	47.75	916.00	917.54	917.54	917.94	0.034617	5.06	9.43	12.22	1.02
Tributary A	TA-01	1120	75.00	916.00	917.85	917.85	918.33	0.032536	5.54	13.54	14.64	1.01
Tributary A	TA-01	1120	165.50	916.00	918.54	918.54	919.19	0.029277	6.49	25.51	20.10	1.01
Tributary A	TA-01	1120	227.50	916.00	918.90	918.90	919.63	0.027292	6.84	33.25	22.94	1.00
Tributary A	TA-01	760	14.50	896.00	897.04	897.04	897.30	0.040350	4.15	3.50	6.74	1.02
Tributary A	TA-01	760	47.75	896.00	897.67	897.67	898.10	0.034446	5.27	9.07	10.86	1.02
Tributary A	TA-01	760	75.00	896.00	898.00	898.00	898.52	0.032350	5.76	13.03	13.01	1.01
Tributary A	TA-01	760	165.50	896.00	898.78	898.78	899.45	0.028290	6.67	24.80	17.96	1.00
Tributary A	TA-01	760	227.50	896.00	899.14	899.14	899.92	0.027131	7.11	31.98	20.39	1.00
Tributary A	TA-01	510	14.50	880.40	883.87	883.87	883.87	0.000051	0.33	43.85	25.28	0.04
Tributary A	TA-01	510	47.75	880.40	885.63	885.63	885.63	0.000062	0.48	99.48	38.04	0.05
Tributary A	TA-01	510	75.00	880.40	886.56	886.56	886.56	0.000064	0.54	137.98	44.80	0.05
Tributary A	TA-01	510	165.50	880.40	887.54	887.54	887.55	0.000142	0.89	185.20	51.91	0.08
Tributary A	TA-01	510	227.50	880.40	887.90	887.90	887.92	0.000205	1.11	204.69	54.57	0.10
Tributary A	TA-01	492.50	14.50	882.00	883.87	882.32	883.87	0.000123	0.55	26.15	33.61	0.07
Tributary A	TA-01	492.50	47.75	882.00	885.62	882.71	885.63	0.000147	0.94	50.64	62.49	0.09
Tributary A	TA-01	492.50	75.00	882.00	886.56	882.95	886.56	0.000033	0.47	193.58	76.00	0.04
Tributary A	TA-01	492.50	165.50	882.00	887.54	883.63	887.55	0.000067	0.78	273.87	88.22	0.06
Tributary A	TA-01	492.50	227.50	882.00	887.90	884.01	887.92	0.000094	0.97	307.11	92.81	0.07
Tributary A	TA-01	480	Culvert									
Tributary A	TA-01	427.50	15.25	876.50	876.84	876.84	877.00	0.039025	3.19	4.78	15.37	0.96
Tributary A	TA-01	427.50	49.75	876.50	877.23	877.23	877.60	0.033364	4.88	10.19	18.91	1.01
Tributary A	TA-01	427.50	78.00	876.50	877.50	877.50	877.98	0.028902	5.60	13.94	17.98	0.99
Tributary A	TA-01	427.50	172.50	876.50	878.18	878.18	879.02	0.024729	7.34	23.51	20.99	1.00
Tributary A	TA-01	427.50	237.50	876.50	878.57	878.57	879.61	0.023194	8.18	29.04	23.16	1.00
Tributary A	TA-01	345	15.25	870.00	871.07	871.07	871.35	0.039915	4.22	3.61	6.72	1.01
Tributary A	TA-01	345	49.75	870.00	871.73	871.73	872.17	0.034018	5.34	9.31	10.80	1.01
Tributary A	TA-01	345	78.00	870.00	872.06	872.06	872.60	0.032070	5.85	13.34	12.92	1.01
Tributary A	TA-01	345	172.50	870.00	872.84	872.84	873.57	0.028561	6.83	25.27	17.78	1.01
Tributary A	TA-01	345	237.50	870.00	873.22	873.22	874.05	0.027578	7.30	32.54	20.18	1.01
Tributary A	TA-01	216	15.25	862.00	863.07	863.07	863.35	0.040039	4.22	3.61	6.72	1.02
Tributary A	TA-01	216	49.75	862.00	863.73	863.73	864.17	0.034101	5.34	9.31	10.79	1.01
Tributary A	TA-01	216	78.00	862.00	864.07	864.07	864.60	0.032070	5.84	13.35	12.92	1.01
Tributary A	TA-01	216	172.50	862.00	864.85	864.85	865.57	0.028098	6.78	25.44	17.83	1.00
Tributary A	TA-01	216	237.50	862.00	865.24	865.24	866.05	0.026974	7.23	32.83	20.28	1.00
Tributary A	TA-01	75	15.25	850.00	850.71	850.71	850.90	0.043428	3.44	4.44	12.46	1.02
Tributary A	TA-01	75	49.75	850.00	851.14	851.14	851.44	0.037004	4.35	11.43	20.00	1.01
Tributary A	TA-01	75	78.00	850.00	851.37	851.37	851.72	0.034428	4.74	16.46	24.00	1.01
Tributary A	TA-01	75	172.50	850.00	851.88	851.88	852.36	0.031127	5.57	31.00	32.94	1.01
Tributary A	TA-01	75	237.50	850.00	852.11	852.11	852.69	0.029687	6.09	39.09	36.13	1.02
Smith Creek	SC-07	27840	9.00	1320.00	1320.39	1320.34	1320.48	0.029058	2.41	3.74	13.35	0.80
Smith Creek	SC-07	27840	46.00	1320.00	1320.81	1320.81	1321.08	0.037463	4.12	11.16	21.45	1.01

River	Reach	River Sta	Q Total (cfs)	Min. Chl 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)	Frbuds # Chl
Smith Creek	SC-07	27840	86.00	1320.00	1321.11	1321.11	1321.45	0.034201	4.69	18.32	27.06	1.01
Smith Creek	SC-07	27840	226.00	1320.00	1321.74	1321.74	1322.26	-0.030239	5.74	39.34	39.13	1.01
Smith Creek	SC-07	27840	330.00	1320.00	1322.06	1322.06	1322.67	0.028595	6.27	52.64	44.79	1.01
Smith Creek	SC-07	27180	9.00	1291.50	1291.83	1291.83	1291.91	0.071092	2.83	4.06	24.85	1.15
Smith Creek	SC-07	27180	46.00	1291.50	1292.13	1292.13	1292.28	0.043190	3.62	18.70	81.55	1.03
Smith Creek	SC-07	27180	86.00	1291.50	1292.27	1292.27	1292.43	0.038927	4.21	31.65	107.89	1.03
Smith Creek	SC-07	27180	226.00	1291.50	1292.56	1292.56	1292.79	0.034921	5.36	71.00	163.18	1.05
Smith Creek	SC-07	27180	330.00	1291.50	1292.71	1292.71	1292.97	0.034146	5.91	96.67	190.86	1.07
Smith Creek	SC-07	28775	9.00	1273.00	1274.01	1273.09	1274.01	0.000011	0.09	104.54	302.27	0.02
Smith Creek	SC-07	28775	48.00	1273.00	1274.15	1273.26	1274.15	0.000150	0.38	145.41	305.41	0.07
Smith Creek	SC-07	28775	89.00	1273.00	1274.23	1273.39	1274.23	0.000379	0.62	169.76	307.27	0.11
Smith Creek	SC-07	28775	248.00	1273.00	1274.43	1274.00	1274.46	0.001301	1.31	233.61	312.08	0.22
Smith Creek	SC-07	28775	368.00	1273.00	1274.56	1274.00	1274.60	0.001850	1.68	273.87	315.07	0.26
Smith Creek	SC-07	28750	Culvert									
Smith Creek	SC-07	28725	9.00	1270.00	1270.16	1270.12	1270.20	0.027114	1.59	5.67	46.72	0.70
Smith Creek	SC-07	28725	48.00	1270.00	1270.42	1270.38	1270.58	0.029894	3.19	15.04	64.41	0.87
Smith Creek	SC-07	28725	89.00	1270.00	1270.58	1270.57	1270.86	0.034677	4.27	20.84	75.36	0.99
Smith Creek	SC-07	28725	248.00	1270.00	1271.15	1271.15	1271.71	0.027635	6.01	41.26	114.03	0.99
Smith Creek	SC-07	28725	368.00	1270.00	1272.00	1272.00	1272.06	0.001812	1.98	216.18	216.03	0.27
Smith Creek	SC-07	28460	9.00	1260.00	1260.38	1260.38	1260.47	0.050908	2.46	3.66	19.33	0.99
Smith Creek	SC-07	28460	48.00	1260.00	1260.73	1260.73	1260.92	0.042654	3.49	13.74	37.43	1.02
Smith Creek	SC-07	28460	89.00	1260.00	1260.94	1260.94	1261.18	0.038889	3.94	22.58	47.99	1.01
Smith Creek	SC-07	28460	248.00	1260.00	1261.44	1261.44	1261.78	0.026492	4.78	57.47	95.85	0.92
Smith Creek	SC-07	28460	368.00	1260.00	1261.67	1261.67	1262.06	0.024702	5.22	82.69	119.93	0.92
Smith Creek	SC-07	28025	9.00	1241.50	1241.83	1241.83	1241.91	0.053409	2.28	3.95	24.17	0.99
Smith Creek	SC-07	28025	48.00	1241.50	1242.13	1242.13	1242.25	0.027706	2.89	21.14	85.90	0.82
Smith Creek	SC-07	28025	89.00	1241.50	1242.25	1242.25	1242.41	0.028873	3.55	33.51	108.87	0.88
Smith Creek	SC-07	28025	248.00	1241.50	1242.56	1242.56	1242.83	0.030222	4.98	70.26	134.31	0.98
Smith Creek	SC-07	28025	368.00	1241.50	1242.73	1242.73	1243.06	0.029523	5.60	94.84	149.87	1.00
Smith Creek	SC-07	25825	9.00	1234.75	1236.51	1234.96	1236.51	0.000001	0.04	323.80	323.06	0.01
Smith Creek	SC-07	25825	48.00	1234.75	1236.16	1235.16	1235.31	0.046366	3.07	15.62	90.15	1.02
Smith Creek	SC-07	25825	89.00	1234.75	1236.54	1235.31	1236.54	0.000081	0.42	333.37	327.75	0.06
Smith Creek	SC-07	25825	248.00	1234.75	1236.81	1235.73	1236.82	0.000313	0.91	430.82	372.19	0.11
Smith Creek	SC-07	25825	368.00	1234.75	1237.03	1235.99	1237.04	0.000460	1.18	513.18	402.39	0.14
Smith Creek	SC-07	25800	Culvert									
Smith Creek	SC-07	25775	9.00	1232.00	1232.47	1232.47	1232.70	0.037530	3.85	2.34	21.82	0.99
Smith Creek	SC-07	25775	48.00	1232.00	1233.42	1233.42	1234.13	0.028171	6.75	7.11	56.17	1.00
Smith Creek	SC-07	25775	89.00	1232.00	1235.00	1235.00	1235.00	0.000097	0.53	194.52	148.01	0.06
Smith Creek	SC-07	25775	248.00	1232.00	1235.01	1235.01	1235.04	0.000740	1.46	195.62	148.54	0.18
Smith Creek	SC-07	25775	368.00	1232.00	1235.01	1235.01	1235.08	0.001629	2.16	195.62	148.54	0.26
Smith Creek	SC-07	25590	9.00	1216.00	1216.60	1216.60	1216.76	0.046377	3.17	2.84	9.38	1.02
Smith Creek	SC-07	25590	48.00	1216.00	1218.95	1218.95	1218.96	0.000290	0.60	79.92	71.89	0.10
Smith Creek	SC-07	25590	89.00	1216.00	1219.94	1219.94	1218.96	0.001021	1.12	79.14	71.42	0.19
Smith Creek	SC-07	25590	248.00	1216.00	1219.48	1219.54	1219.54	0.002591	2.00	123.76	94.54	0.31
Smith Creek	SC-07	25590	368.00	1216.00	1219.78	1219.87	1219.87	0.003244	2.38	154.33	107.55	0.35
Smith Creek	SC-07	25520	9.00	1215.00	1216.60	1215.11	1216.60	0.000007	0.12	73.55	67.53	0.02
Smith Creek	SC-07	25520	48.00	1215.00	1218.95	1215.32	1218.95	0.000006	0.19	310.78	134.77	0.02
Smith Creek	SC-07	25520	89.00	1215.00	1218.95	1215.49	1218.95	0.000020	0.36	310.10	134.56	0.03
Smith Creek	SC-07	25520	248.00	1215.00	1219.50	1215.97	1219.51	0.000089	0.83	380.22	157.73	0.07
Smith Creek	SC-07	25520	368.00	1215.00	1219.80	1216.25	1219.82	0.000148	1.13	440.41	170.64	0.09
Smith Creek	SC-07	25480	Culvert									
Smith Creek	SC-07	25440	9.00	1208.00	1208.19	1208.17	1208.25	0.035244	2.02	4.46	25.77	0.83
Smith Creek	SC-07	25440	48.00	1208.00	1208.50	1208.50	1208.75	0.037894	4.03	11.91	28.72	1.01
Smith Creek	SC-07	25440	89.00	1208.00	1208.75	1208.75	1209.13	0.032922	4.95	18.00	31.12	1.01
Smith Creek	SC-07	25440	248.00	1208.00	1209.49	1209.49	1210.24	0.025807	6.93	35.81	38.17	1.00
Smith Creek	SC-07	25440	368.00	1208.00	1209.94	1209.94	1210.91	0.023828	7.92	46.47	42.40	1.00
Smith Creek	SC-07	25240	9.00	1200.00	1200.30	1200.29	1200.42	0.040665	2.69	3.34	12.86	0.93
Smith Creek	SC-07	25240	48.00	1200.00	1200.78	1200.78	1201.08	0.036566	4.35	11.04	19.18	1.01
Smith Creek	SC-07	25240	89.00	1200.00	1201.10	1201.10	1201.49	0.032823	4.98	17.88	23.36	1.00
Smith Creek	SC-07	25240	248.00	1200.00	1201.88	1201.88	1202.48	0.028617	6.23	39.78	33.39	1.01
Smith Creek	SC-07	25240	368.00	1200.00	1202.24	1202.24	1203.00	0.026582	7.01	52.67	36.28	1.01
Smith Creek	SC-07	25020	9.00	1190.00	1190.51	1190.51	1190.64	0.048043	2.91	3.09	12.05	1.01
Smith Creek	SC-07	25020	48.00	1190.00	1191.00	1191.00	1191.26	0.038466	4.07	11.79	23.54	1.01
Smith Creek	SC-07	25020	89.00	1190.00	1191.28	1191.28	1191.61	0.035501	4.61	19.31	30.13	1.01
Smith Creek	SC-07	25020	248.00	1190.00	1191.94	1191.94	1192.43	0.030525	5.63	44.08	45.51	1.01
Smith Creek	SC-07	25020	368.00	1190.00	1192.24	1192.24	1192.86	0.027564	6.31	58.46	48.13	1.00

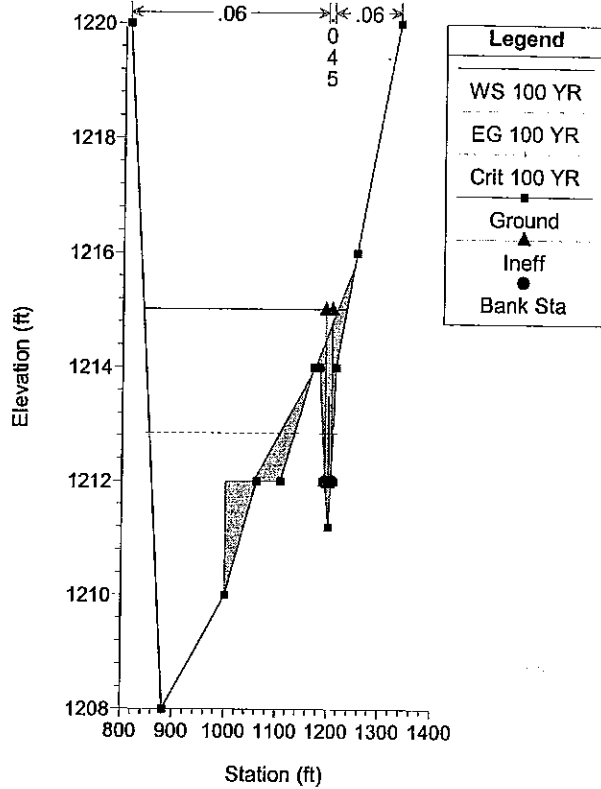
River	Reach	River Sta	Q Total (cfs)	Min Chl El: (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Crnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Smith Creek	SC-03	18300	1168.00	1000.00	1005.86		1006.37	0.004218	6.12	239.93	62.44	0.49
Smith Creek	SC-03	18300	1679.00	1000.00	1006.23		1007.07	0.006447	7.95	271.72	67.68	0.61
Smith Creek	SC-03	18080	62.00	996.00	996.87	996.87	997.12	0.037403	4.04	15.34	30.24	1.00
Smith Creek	SC-03	18000	252.00	998.00	1004.62		1004.62	0.000011	0.43	723.97	128.98	0.03
Smith Creek	SC-03	18000	463.00	996.00	1005.09		1005.10	0.000030	0.73	784.94	131.43	0.04
Smith Creek	SC-03	18090	1168.00	996.00	1006.12		1006.15	0.000120	1.58	923.08	138.85	0.69
Smith Creek	SC-03	18090	1679.00	996.00	1006.66		1006.72	0.000198	2.11	997.89	139.71	0.12
Smith Creek	SC-03	18860	62.00	990.00	995.82		995.83	0.000048	0.67	119.67	35.14	0.05
Smith Creek	SC-03	18860	252.00	990.00	1004.62		1004.62	0.000014	0.70	657.97	116.46	0.03
Smith Creek	SC-03	18860	463.00	990.00	1005.07		1005.09	0.000040	1.22	714.48	130.20	0.06
Smith Creek	SC-03	18860	1168.00	990.00	1006.05		1006.11	0.000184	2.71	855.82	159.01	0.12
Smith Creek	SC-03	18860	1679.00	990.00	1006.54		1006.65	0.000317	3.64	936.65	169.11	0.16
Smith Creek	SC-03	18840	62.00	990.00	995.82	990.89	995.83	0.000059	0.82	75.61	42.08	0.06
Smith Creek	SC-03	18840	252.00	990.00	1004.62	992.26	1004.62	0.000007	0.51	800.77	129.18	0.02
Smith Creek	SC-03	18840	463.00	990.00	1005.08	993.40	1005.09	0.000022	0.91	864.01	145.74	0.04
Smith Creek	SC-03	18840	1168.00	990.00	1006.06	996.28	1006.10	0.000104	2.05	1024.99	180.38	0.09
Smith Creek	SC-03	18840	1679.00	990.00	1006.56	998.01	1006.64	0.000179	2.75	1118.12	191.46	0.12
Smith Creek	SC-03	18900	Culvert									
Smith Creek	SC-03	18752.5	62.00	987.00	988.39	988.39	988.84	0.030891	5.34	11.61	15.36	1.00
Smith Creek	SC-03	18752.5	252.00	987.00	989.77	989.77	990.80	0.022684	8.53	28.54	23.64	1.00
Smith Creek	SC-03	18752.5	463.00	987.00	990.90	990.90	992.60	0.018939	10.47	44.24	30.60	1.00
Smith Creek	SC-03	18752.5	1168.00	987.00	993.81	993.81	996.96	0.016240	14.25	81.97	48.59	1.00
Smith Creek	SC-03	18752.5	1679.00	987.00	995.53	995.53	999.55	0.014973	16.08	104.42	59.30	1.00
Smith Creek	SC-03	18490	62.00	979.00	981.27	980.73	981.40	0.004651	3.24	27.20	28.40	0.43
Smith Creek	SC-03	18490	252.00	979.00	982.67	981.97	982.90	0.005132	5.00	80.53	45.43	0.50
Smith Creek	SC-03	18490	463.00	979.00	983.61		983.92	0.005083	5.92	127.10	53.11	0.51
Smith Creek	SC-03	18490	1168.00	979.00	985.92		986.33	0.004214	7.26	271.58	71.89	0.50
Smith Creek	SC-03	18490	1679.00	979.00	987.19		987.63	0.003782	7.75	367.62	80.07	0.49
Smith Creek	SC-02	18210	63.00	977.00	978.22	978.22	978.59	0.033861	4.85	13.06	18.90	1.01
Smith Creek	SC-02	18210	257.00	977.00	979.33	979.33	980.18	0.023175	7.49	36.65	23.45	0.97
Smith Creek	SC-02	18210	460.00	977.00	980.16	980.16	981.32	0.020088	8.93	57.39	26.88	0.97
Smith Creek	SC-02	18210	1181.00	977.00	982.25	982.25	984.11	0.015972	11.72	123.18	36.18	0.95
Smith Creek	SC-02	18210	1704.00	977.00	983.39	983.39	985.58	0.014643	12.96	167.53	41.29	0.94
Smith Creek	SC-02	17820	63.00	967.00	971.13		971.13	0.000058	0.59	121.87	42.86	0.06
Smith Creek	SC-02	17820	257.00	967.00	976.45		976.45	0.000036	0.85	472.94	224.68	0.05
Smith Creek	SC-02	17820	460.00	967.00	977.32		977.34	0.000065	1.21	674.57	234.88	0.07
Smith Creek	SC-02	17820	1181.00	967.00	978.54		978.59	0.000199	2.30	969.82	249.06	0.12
Smith Creek	SC-02	17820	1704.00	967.00	979.03		979.11	0.000314	2.98	1091.60	254.69	0.15
Smith Creek	SC-02	17645	63.00	966.00	971.11	966.90	971.12	0.000094	0.95	66.39	84.26	0.07
Smith Creek	SC-02	17645	257.00	966.00	976.45	968.29	976.45	0.000006	0.38	980.15	210.68	0.02
Smith Creek	SC-02	17645	460.00	966.00	977.33	969.38	977.33	0.000014	0.58	1172.36	226.72	0.03
Smith Creek	SC-02	17645	1181.00	966.00	978.55	972.35	978.57	0.000053	1.24	1483.35	248.37	0.08
Smith Creek	SC-02	17645	1704.00	966.00	979.04	974.09	979.07	0.000081	1.67	1585.87	256.62	0.08
Smith Creek	SC-02	17570	Culvert									
Smith Creek	SC-02	17575	66.00	964.00	964.80	964.80	965.16	0.033499	4.80	13.76	25.80	1.00
Smith Creek	SC-02	17575	268.00	964.00	965.90	966.90	966.66	0.025904	6.97	38.47	40.87	1.00
Smith Creek	SC-02	17575	464.00	964.00	966.65	966.65	967.50	0.018340	7.59	67.65	64.64	0.90
Smith Creek	SC-02	17575	1219.00	964.00	968.20	968.20	969.74	0.017466	10.54	131.32	82.07	0.96
Smith Creek	SC-02	17575	1770.00	964.00	969.07	969.07	971.05	0.017228	12.02	167.01	88.82	0.98
Smith Creek	SC-02	17450	66.00	958.00	959.85	959.79	960.24	0.026958	5.03	13.13	14.23	0.92
Smith Creek	SC-02	17450	268.00	958.00	961.13	961.13	961.91	0.026640	7.10	37.73	24.12	1.00
Smith Creek	SC-02	17450	464.00	958.00	961.89	961.89	962.87	0.024899	7.94	58.40	30.01	1.00
Smith Creek	SC-02	17450	1219.00	958.00	963.73	963.73	965.17	0.021886	9.64	128.49	44.16	1.00
Smith Creek	SC-02	17450	1770.00	958.00	964.66	964.66	966.32	0.020746	10.37	170.70	51.30	1.00
Smith Creek	SC-02	16970	66.00	948.00	949.40	949.24	949.60	0.018405	3.52	18.72	26.67	0.74
Smith Creek	SC-02	16970	268.00	948.00	950.45	950.15	950.81	0.013891	4.81	55.69	40.10	0.72
Smith Creek	SC-02	16970	464.00	948.00	951.16		951.62	0.011383	5.46	84.98	43.34	0.69
Smith Creek	SC-02	16970	1219.00	948.00	952.96		953.75	0.009904	7.15	170.48	51.67	0.69
Smith Creek	SC-02	16970	1770.00	948.00	953.84		954.86	0.010227	8.11	218.14	55.77	0.72
Smith Creek	SC-02	16500	66.00	940.00	942.07	941.74	942.29	0.013073	3.79	17.43	16.83	0.66
Smith Creek	SC-02	16500	268.00	940.00	943.39	943.06	943.90	0.015534	5.73	46.74	27.56	0.78
Smith Creek	SC-02	16500	464.00	940.00	944.01	943.81	944.79	0.018947	7.09	65.49	32.62	0.88
Smith Creek	SC-02	16500	1219.00	940.00	945.61	945.61	947.02	0.021915	9.53	127.96	45.60	1.00
Smith Creek	SC-02	16500	1770.00	940.00	946.51	946.51	948.15	0.020861	10.27	172.41	52.93	1.00
Smith Creek	SC-02	15780	66.00	926.00	927.15	927.15	927.44	0.036588	4.35	15.17	26.41	1.01
Smith Creek	SC-02	15780	268.00	926.00	928.00	928.00	928.53	0.031042	5.81	46.11	46.04	1.02

River	Reach	River Sta	Q Total (cfs)	Min Chl El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Friction Coef
Smith Creek	SC-01	4882	547.00	698.00	701.01	701.01	701.04	0.001416	2.25	504.58	477.18	0.25
Smith Creek	SC-01	4882	1396.00	698.00	701.11	701.01	701.26	0.007017	5.15	552.29	479.57	0.56
Smith Creek	SC-01	4882	2016.00	698.00	701.37	701.01	701.56	0.007710	5.76	680.82	485.96	0.80
Smith Creek	SC-01	4890										
Smith Creek	SC-01	4830	79.00	696.00	697.60	697.10	697.86	0.008369	4.13	19.15	195.53	0.58
Smith Creek	SC-01	4830	308.00	696.00	698.71	698.71	700.10	0.021661	9.46	32.57	467.14	1.01
Smith Creek	SC-01	4830	547.00	698.00	701.00	701.00	701.00	0.000031	0.49	1720.78	522.50	0.04
Smith Creek	SC-01	4830	1396.00	696.00	701.01	701.01	701.02	0.000201	1.26	1724.67	522.62	0.10
Smith Creek	SC-01	4830	2016.00	696.00	701.01	701.01	701.03	0.000418	1.81	1724.67	522.62	0.15
Smith Creek	SC-01	4770	79.00	696.00	696.64	696.64	696.81	0.044398	3.26	24.24	75.59	1.01
Smith Creek	SC-01	4770	308.00	696.00	697.10	697.10	697.38	0.037271	4.24	72.60	133.66	1.01
Smith Creek	SC-01	4770	547.00	696.00	697.40	697.39	697.74	0.032944	4.66	117.29	170.82	0.99
Smith Creek	SC-01	4770	1396.00	696.00	698.03	698.03	698.51	0.028368	5.60	251.11	317.11	0.88
Smith Creek	SC-01	4770	2016.00	696.00	698.31	698.31	698.89	0.024560	6.16	346.03	341.01	0.95
Smith Creek	SC-01	4340	79.00	684.00	686.18	685.74	686.36	0.009853	3.42	23.08	21.19	0.58
Smith Creek	SC-01	4340	308.00	684.00	687.33	687.06	687.80	0.013229	5.60	62.03	58.01	0.73
Smith Creek	SC-01	4340	547.00	684.00	687.90	687.85	688.53	0.014935	6.80	103.11	86.60	0.80
Smith Creek	SC-01	4340	1396.00	684.00	689.15	689.15	689.70	0.011708	7.44	348.62	320.35	0.75
Smith Creek	SC-01	4340	2016.00	684.00	689.50	689.50	690.10	0.013047	8.24	475.05	391.13	0.80
Smith Creek	SC-01	3990	85.00	680.00	680.93	680.93	681.12	0.025679	3.88	30.52	90.24	0.86
Smith Creek	SC-01	3990	320.00	680.00	681.42	681.42	681.71	0.025709	5.43	93.63	165.14	0.95
Smith Creek	SC-01	3990	559.00	680.00	681.70	681.70	682.04	0.027521	6.23	145.92	209.11	1.00
Smith Creek	SC-01	3990	1418.00	680.00	682.27	682.27	682.79	0.028977	8.00	287.46	272.18	1.08
Smith Creek	SC-01	3990	2068.00	680.00	682.59	682.59	683.20	0.028531	8.87	375.09	291.61	1.10
Smith Creek	SC-01	3390.5	85.00	664.00	665.40	664.57	665.44	0.001782	1.74	48.84	44.07	0.26
Smith Creek	SC-01	3390.5	320.00	664.00	667.39	665.37	667.49	0.001327	2.71	118.19	55.57	0.26
Smith Creek	SC-01	3390.5	559.00	664.00	668.90	665.99	669.06	0.001172	3.26	171.43	63.94	0.26
Smith Creek	SC-01	3390.5	1418.00	664.00	673.11	667.69	673.42	0.000953	4.45	318.85	242.96	0.26
Smith Creek	SC-01	3390.5	2068.00	664.00	675.72	668.77	676.11	0.000977	5.04	410.06	297.02	0.26
Smith Creek	SC-01	3328										
Smith Creek	SC-01	3266.5	85.00	660.00	660.57	660.57	660.85	0.035953	4.29	19.83	38.97	1.00
Smith Creek	SC-01	3266.5	320.00	660.00	661.38	661.38	662.06	0.026404	6.64	48.19	44.64	1.00
Smith Creek	SC-01	3266.5	559.00	660.00	662.00	662.00	662.99	0.023391	8.00	89.84	48.97	1.00
Smith Creek	SC-01	3266.5	1418.00	660.00	663.71	663.71	665.56	0.019114	10.93	129.71	67.76	1.00
Smith Creek	SC-01	3266.5	2068.00	660.00	664.77	664.77	667.15	0.017554	12.39	166.87	162.38	1.00
Smith Creek	SC-01	3220	85.00	658.00	658.79	658.79	658.99	0.041395	3.62	23.48	59.35	1.01
Smith Creek	SC-01	3220	320.00	658.00	659.35	659.35	659.69	0.034062	4.69	68.28	101.20	1.01
Smith Creek	SC-01	3220	559.00	658.00	659.68	659.68	660.11	0.032223	5.28	105.93	126.05	1.01
Smith Creek	SC-01	3220	1418.00	658.00	660.41	660.41	661.10	0.026100	6.69	215.00	169.82	0.99
Smith Creek	SC-01	3220	2068.00	658.00	662.46		662.64	0.002277	3.60	665.92	269.62	0.34
Smith Creek	SC-01	2837.5	85.00	650.00	651.40	650.57	651.44	0.001782	1.74	48.84	43.55	0.26
Smith Creek	SC-01	2837.5	320.00	650.00	653.38	651.37	653.49	0.001327	2.71	118.19	55.68	0.26
Smith Creek	SC-01	2837.5	559.00	650.00	654.90	651.99	655.06	0.001172	3.26	171.43	65.00	0.26
Smith Creek	SC-01	2837.5	1418.00	650.00	659.11	653.70	659.42	0.000953	4.45	318.85	340.99	0.26
Smith Creek	SC-01	2837.5	2068.00	650.00	661.72	654.75	662.11	0.000877	5.04	410.06	681.11	0.26
Smith Creek	SC-01	2780										
Smith Creek	SC-01	2717.5	85.00	648.00	648.57	648.57	648.85	0.036017	4.29	19.82	42.74	1.00
Smith Creek	SC-01	2717.5	319.00	648.00	649.37	649.37	650.05	0.026721	8.66	47.93	53.71	1.00
Smith Creek	SC-01	2717.5	548.00	648.00	649.97	649.97	650.95	0.023303	7.93	69.09	61.98	0.99
Smith Creek	SC-01	2717.5	1400.00	648.00	651.68	651.68	653.51	0.019069	10.87	128.81	85.30	1.00
Smith Creek	SC-01	2717.5	2069.00	648.00	655.23	652.75	656.27	0.004390	8.18	252.98	473.71	0.54
Smith Creek	SC-01	2580	85.00	640.00	642.21		642.27	0.001449	1.82	47.82	37.59	0.24
Smith Creek	SC-01	2580	319.00	640.00	644.89		644.63	0.000465	1.81	289.56	161.02	0.16
Smith Creek	SC-01	2580	548.00	640.00	646.44		646.46	0.000175	1.42	836.21	641.15	0.10
Smith Creek	SC-01	2580	1400.00	640.00	651.89		651.89	0.000011	0.53	4927.91	790.97	0.03
Smith Creek	SC-01	2580	2069.00	640.00	655.43		655.43	0.000005	0.46	7788.15	824.60	0.02
Smith Creek	SC-01	2305	85.00	640.00	641.77	640.73	641.83	0.001724	2.00	42.41	246.41	0.27
Smith Creek	SC-01	2305	319.00	640.00	644.27	641.76	644.42	0.001285	3.11	102.42	551.13	0.27
Smith Creek	SC-01	2305	548.00	640.00	646.12	642.52	646.34	0.001140	3.73	146.91	696.16	0.27
Smith Creek	SC-01	2305	1400.00	640.00	651.44	644.71	651.84	0.000925	5.10	274.54	966.18	0.27
Smith Creek	SC-01	2305	2069.00	640.00	654.85	646.11	655.38	0.000946	5.80	356.47	1111.56	0.27
Smith Creek	SC-01	2250										
Smith Creek	SC-01	2195	85.00	636.00	636.74	636.74	637.10	0.031631	4.80	17.72	467.21	0.98
Smith Creek	SC-01	2195	319.00	636.00	637.77	637.77	638.65	0.024330	7.53	42.39	656.86	1.00
Smith Creek	SC-01	2195	548.00	636.00	638.54	638.54	639.79	0.021388	8.99	60.96	757.87	0.99

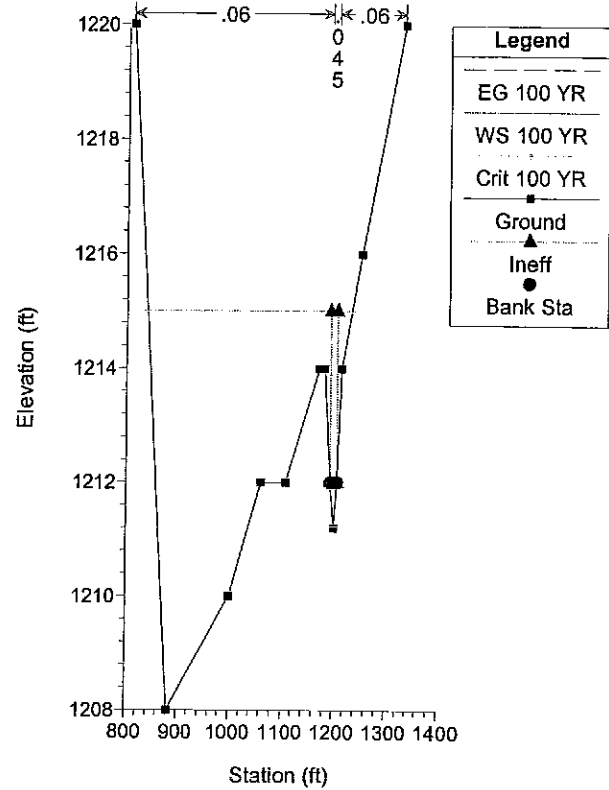
River	Reach	River Sta	Q Total (cfs)	Min Ch Elev (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/m)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Erode # CH
Tributary B	TB-01	4180	91.00	1205.00	1208.61	1206.64	1208.61	0.000079	0.43	216.40	136.81	0.06
Tributary B	TB-01	4180	184.00	1205.00	1208.83	1207.33	1208.84	0.000215	0.77	247.44	143.30	0.10
Tributary B	TB-01	4180	267.00	1205.00	1209.27	1208.00	1209.28	0.000227	0.90	313.49	156.20	0.10
Tributary B	TB-01	4130	Culvert									
Tributary B	TB-01	4060	22.00	1203.00	1203.94	1203.94	1204.17	0.037859	3.85	5.72	29.07	0.99
Tributary B	TB-01	4060	73.00	1203.00	1204.50	1204.50	1204.99	0.029374	5.62	13.00	50.50	0.99
Tributary B	TB-01	4060	119.00	1203.00	1204.87	1204.87	1205.56	0.027652	6.70	17.75	64.74	1.01
Tributary B	TB-01	4060	246.00	1203.00	1205.74	1205.74	1206.85	0.022850	8.44	29.13	105.49	0.99
Tributary B	TB-01	4060	353.00	1203.00	1206.35	1206.35	1207.76	0.020916	9.53	37.06	132.28	0.99
Tributary B	TB-01	3960	22.00	1176.50	1177.29	1177.20	1177.40	0.023975	2.74	8.04	20.44	0.77
Tributary B	TB-01	3960	73.00	1176.50	1177.71	1177.84	1177.94	0.028294	3.82	19.09	31.50	0.87
Tributary B	TB-01	3960	119.00	1176.50	1177.93	1177.88	1178.24	0.028727	4.47	26.64	37.22	0.93
Tributary B	TB-01	3960	246.00	1176.50	1178.35	1178.35	1178.83	0.030851	5.52	44.57	47.82	1.01
Tributary B	TB-01	3960	353.00	1176.50	1178.64	1178.64	1179.19	0.029805	5.97	59.11	54.90	1.01
Tributary B	TB-01	2910	22.00	1156.00	1158.41	1156.41	1156.54	0.047348	2.87	7.67	30.39	1.01
Tributary B	TB-01	2910	73.00	1156.00	1156.72	1156.72	1156.93	0.040234	3.67	19.88	48.11	1.01
Tributary B	TB-01	2910	119.00	1156.00	1156.90	1156.90	1157.15	0.037743	4.06	29.32	58.24	1.01
Tributary B	TB-01	2910	246.00	1156.00	1157.24	1157.24	1157.58	0.034457	4.71	52.23	77.48	1.01
Tributary B	TB-01	2910	353.00	1156.00	1157.44	1157.44	1157.84	0.032962	5.07	69.59	89.34	1.01
Tributary B	TB-01	2740	22.00	1151.50	1154.07	1152.08	1154.07	0.000033	0.33	115.92	224.27	0.04
Tributary B	TB-01	2740	73.00	1151.50	1154.32	1152.49	1154.33	0.000173	0.81	173.92	236.56	0.09
Tributary B	TB-01	2740	119.00	1151.50	1154.48	1152.78	1154.49	0.000299	1.11	212.52	244.40	0.12
Tributary B	TB-01	2740	248.00	1151.50	1154.24	1153.42	1154.33	0.002490	3.02	154.39	232.50	0.34
Tributary B	TB-01	2740	353.00	1151.50	1154.93	1154.05	1154.96	0.000631	2.18	326.62	266.23	0.22
Tributary B	TB-01	2710	Culvert									
Tributary B	TB-01	2680	28.00	1149.50	1150.28	1150.28	1150.54	0.036275	4.09	6.84	230.32	0.89
Tributary B	TB-01	2680	91.00	1149.50	1150.90	1150.90	1151.48	0.028163	6.08	14.97	248.90	1.00
Tributary B	TB-01	2680	149.00	1149.50	1151.35	1151.35	1152.15	0.025320	7.17	20.78	258.74	1.00
Tributary B	TB-01	2680	324.00	1149.50	1152.43	1152.43	1153.77	0.021377	9.30	34.85	288.11	1.00
Tributary B	TB-01	2680	451.00	1149.50	1154.00	1154.00	1154.00	0.000052	0.62	1110.54	332.25	0.05
Tributary B	TB-01	2520	28.00	1142.00	1143.24	1143.24	1143.51	0.031512	4.18	7.16	15.81	0.94
Tributary B	TB-01	2520	91.00	1142.00	1143.87	1143.87	1144.18	0.024517	4.86	23.27	35.11	0.88
Tributary B	TB-01	2520	149.00	1142.00	1144.25	1144.25	1144.47	0.014645	4.54	57.07	129.87	0.72
Tributary B	TB-01	2520	324.00	1142.00	1144.55	1144.55	1144.84	0.017740	5.79	101.17	159.39	0.82
Tributary B	TB-01	2520	451.00	1142.00	1144.70	1144.70	1145.05	0.019520	6.46	126.77	174.25	0.87
Tributary B	TB-01	1290	28.00	1086.00	1086.61	1086.61	1086.76	0.043628	3.12	8.98	29.51	1.00
Tributary B	TB-01	1290	91.00	1086.00	1086.97	1086.97	1087.22	0.038803	4.01	22.71	46.94	1.02
Tributary B	TB-01	1290	149.00	1086.00	1087.18	1087.18	1087.48	0.035786	4.40	33.89	57.33	1.01
Tributary B	TB-01	1290	324.00	1086.00	1087.81	1087.81	1088.02	0.032778	5.17	62.71	78.00	1.02
Tributary B	TB-01	1290	451.00	1086.00	1087.84	1087.84	1088.31	0.031224	5.51	81.85	89.10	1.01
Tributary B	TB-01	1010	28.00	1063.00	1063.88	1063.88	1064.10	0.040288	3.82	7.34	16.70	1.01
Tributary B	TB-01	1010	91.00	1063.00	1064.40	1064.40	1064.82	0.028786	5.21	16.31	24.83	0.97
Tributary B	TB-01	1010	149.00	1063.00	1064.75	1064.75	1065.27	0.024494	5.96	27.68	29.80	0.94
Tributary B	TB-01	1010	324.00	1063.00	1065.49	1065.49	1066.23	0.019984	7.36	53.88	40.60	0.92
Tributary B	TB-01	1010	451.00	1063.00	1065.89	1065.89	1066.74	0.018945	8.09	71.16	46.37	0.92
Pleier Road	PR-1	2090	5.00	1092.00	1090.02	1090.02	1090.04	0.404344		4.70	268.05	0.00
Pleier Road	PR-1	2090	23.00	1092.00	1090.06	1090.06	1090.09	0.148927		15.91	270.54	0.00
Pleier Road	PR-1	2090	42.70	1092.00	1090.09	1090.09	1090.14	0.146533		23.23	272.15	0.00
Pleier Road	PR-1	2090	104.00	1092.00	1090.18	1090.17	1090.25	0.080218		47.86	277.51	0.00
Pleier Road	PR-1	2090	148.50	1092.00	1090.22	1090.21	1090.31	0.074851		60.79	280.29	0.00
Pleier Road	PR-1	1190	6.00	1050.00	1044.11	1044.05	1044.11	0.013321		9.70	96.41	0.00
Pleier Road	PR-1	1190	30.00	1050.00	1044.22	1044.15	1044.25	0.027820		21.72	111.71	0.00
Pleier Road	PR-1	1190	56.00	1050.00	1044.32	1044.23	1044.36	0.028298		32.70	124.05	0.00
Pleier Road	PR-1	1190	136.00	1050.00	1044.47	1044.39	1044.57	0.040451		53.14	144.24	0.00
Pleier Road	PR-1	1190	193.50	1050.00	1044.56	1044.48	1044.69	0.043837		66.08	155.67	0.00
Pleier Road	PR-1	610	6.50	1023.50	1023.74	1023.73	1023.79	0.055662	1.89	3.44	28.72	0.96
Pleier Road	PR-1	610	35.00	1023.50	1023.96	1023.96	1024.08	0.048663	2.74	12.77	55.37	1.01
Pleier Road	PR-1	610	85.00	1023.50	1024.08	1024.08	1024.25	0.043262	3.28	19.99	65.11	1.01
Pleier Road	PR-1	610	156.50	1023.50	1024.35	1024.35	1024.62	0.032439	4.22	39.70	82.23	0.96
Pleier Road	PR-1	610	223.00	1023.50	1024.50	1024.50	1024.82	0.029164	4.66	53.02	92.02	0.95
Pleier Road	PR-1	200	7.00	1002.00	1002.49	1002.49	1002.61	0.048707	2.83	2.48	10.20	1.01
Pleier Road	PR-1	200	38.00	1002.00	1002.95	1002.95	1003.20	0.039218	3.98	9.55	20.03	1.02
Pleier Road	PR-1	200	71.00	1002.00	1003.23	1003.23	1003.54	0.035577	4.48	15.83	25.79	1.01
Pleier Road	PR-1	200	171.00	1002.00	1003.74	1003.74	1004.19	0.031959	5.37	31.86	36.58	1.01
Pleier Road	PR-1	200	243.00	1002.00	1004.01	1004.01	1004.52	0.030350	5.75	42.23	42.09	1.01



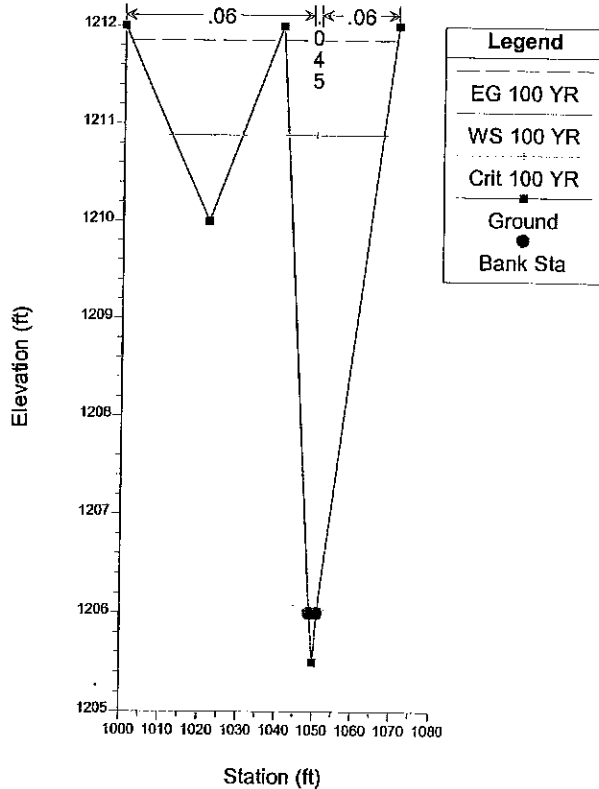
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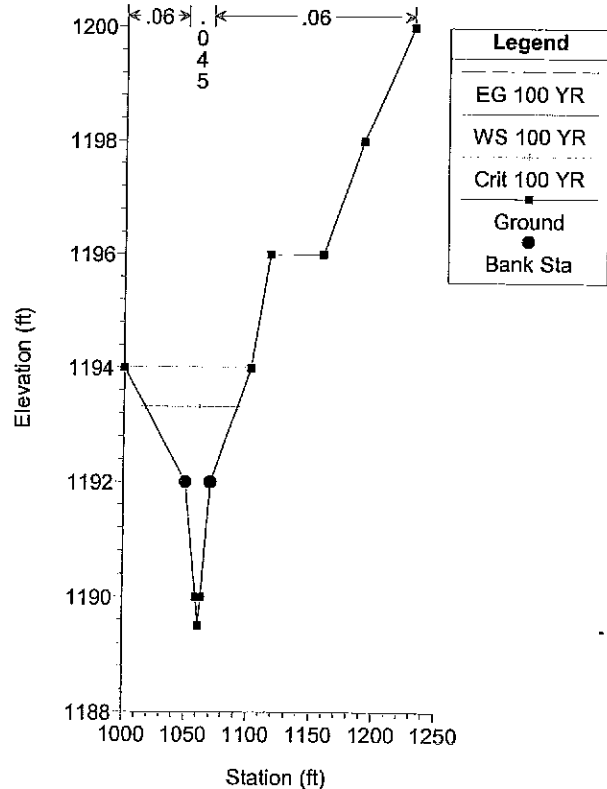
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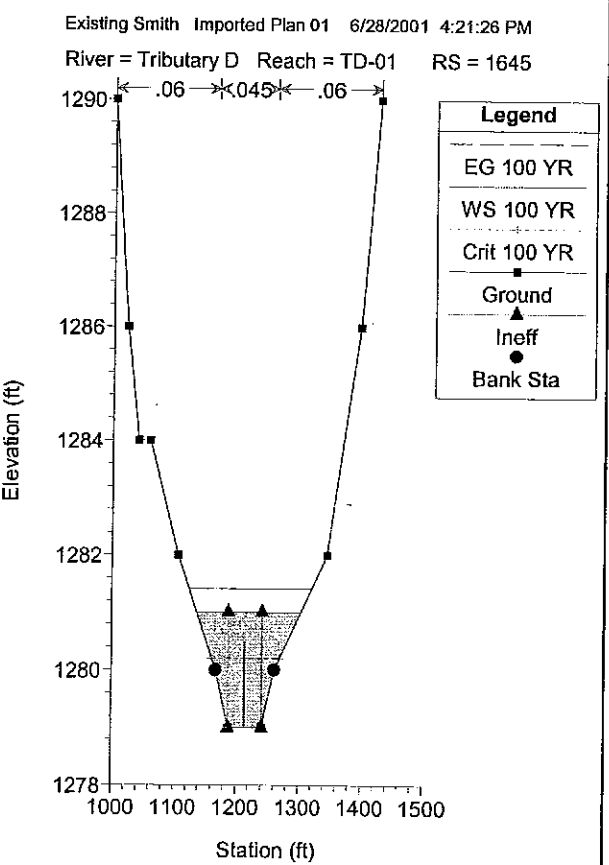
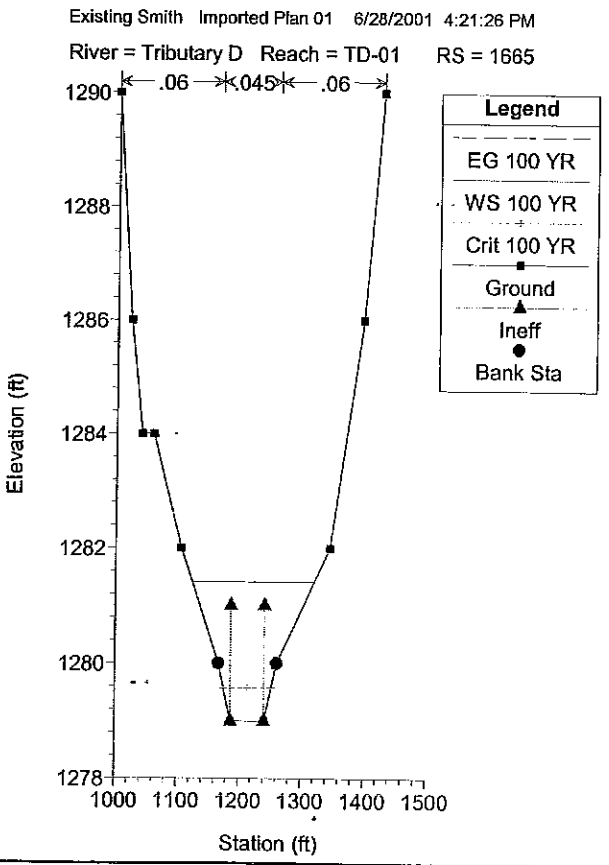
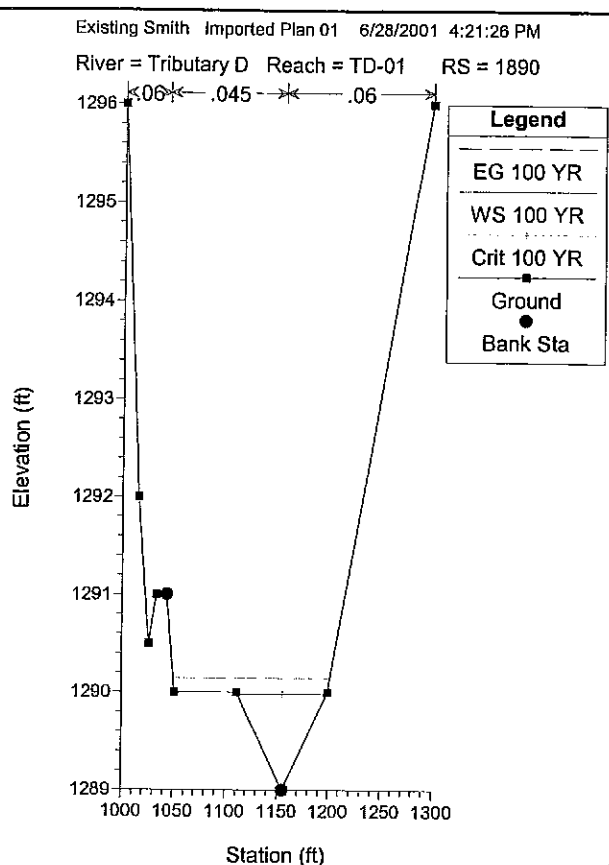
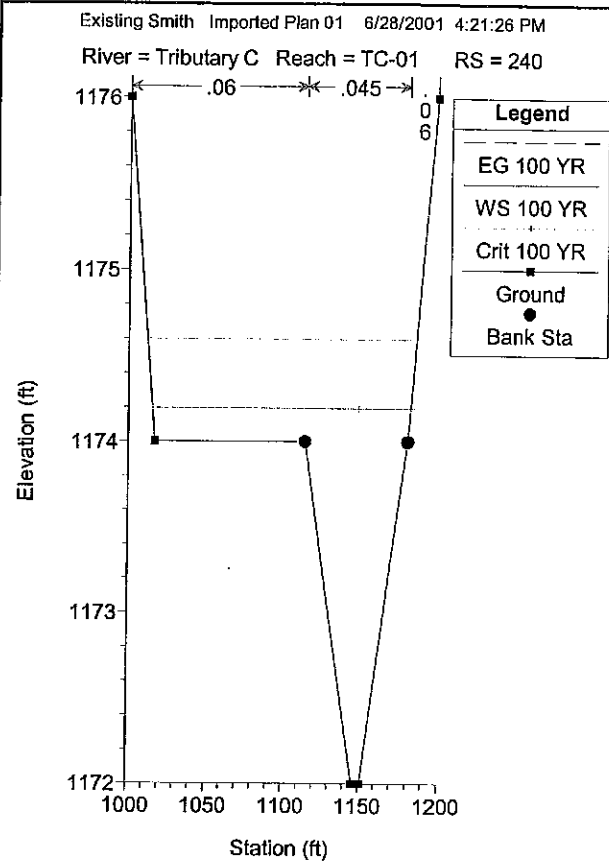


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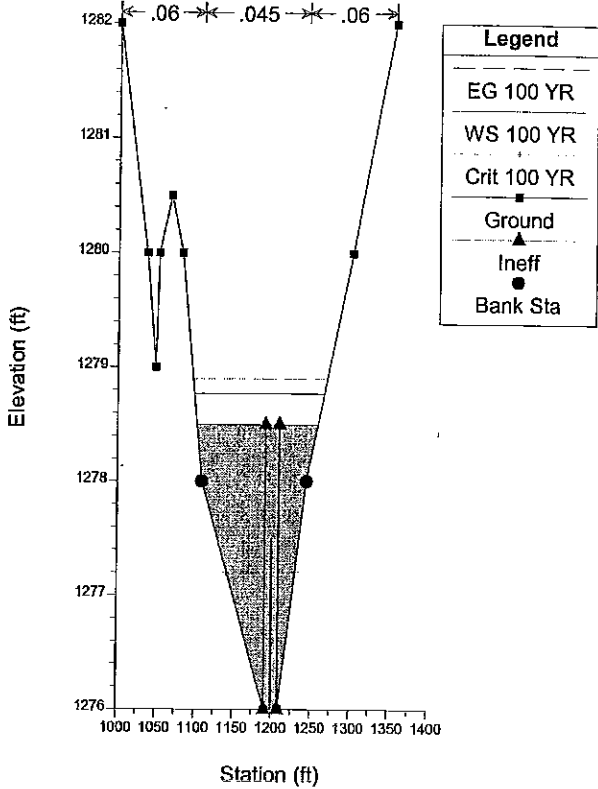


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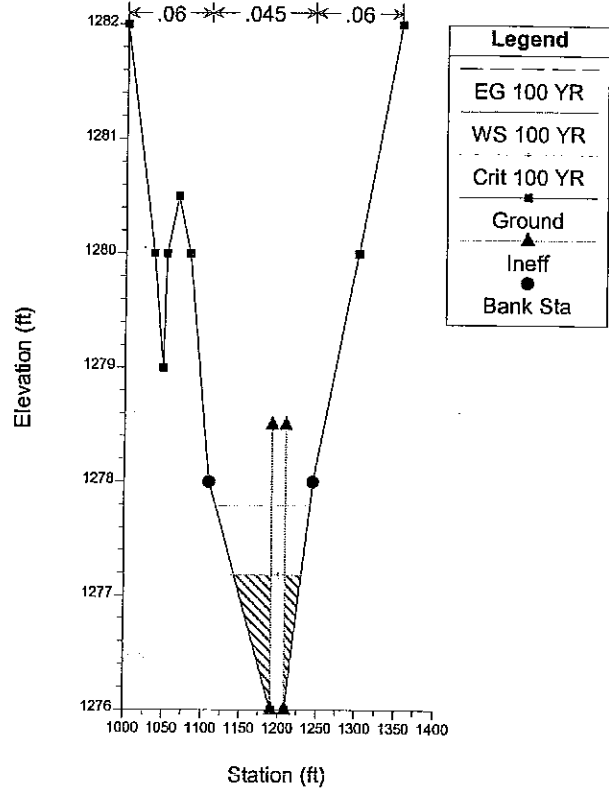




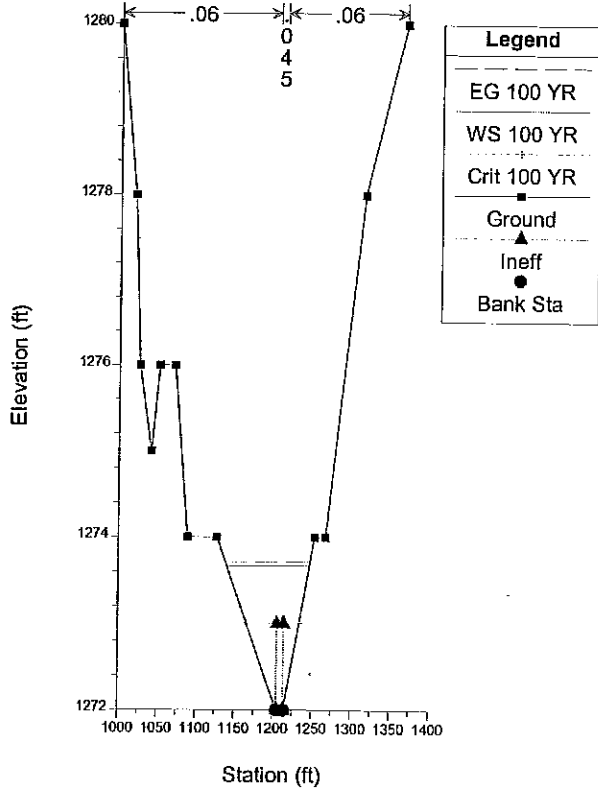
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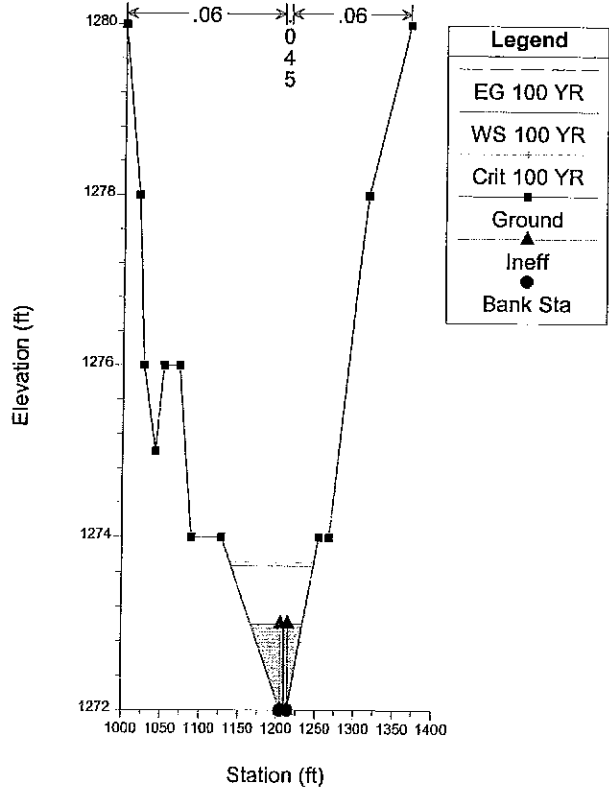
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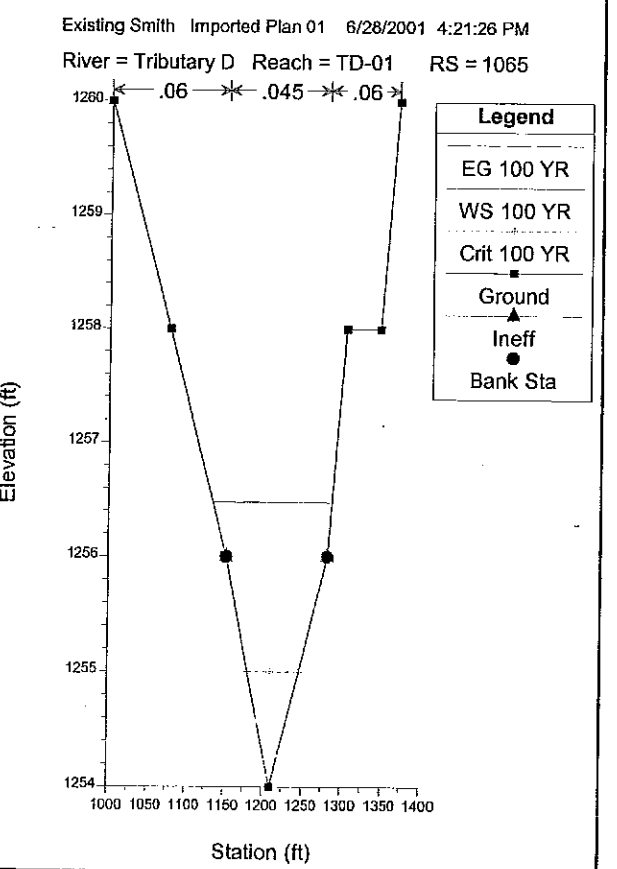
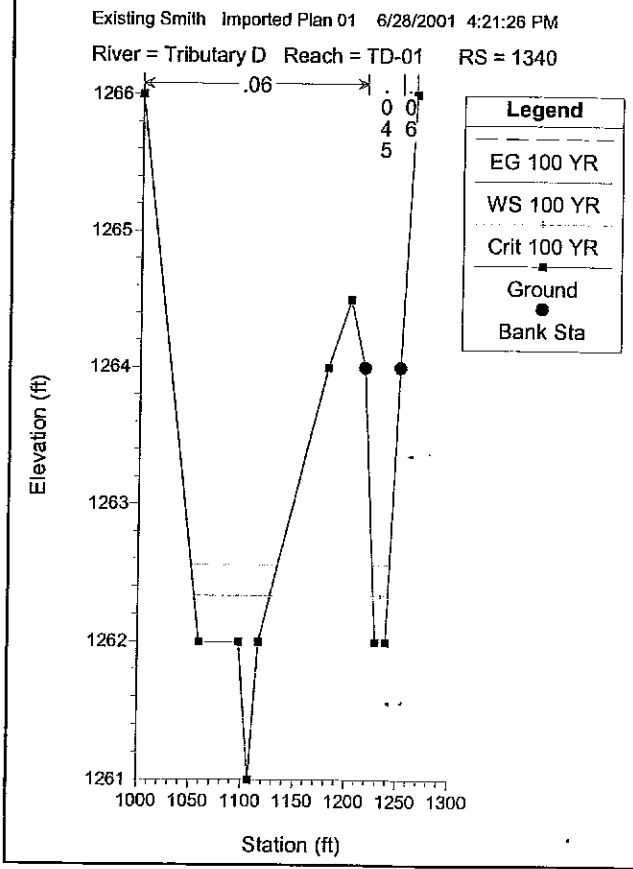
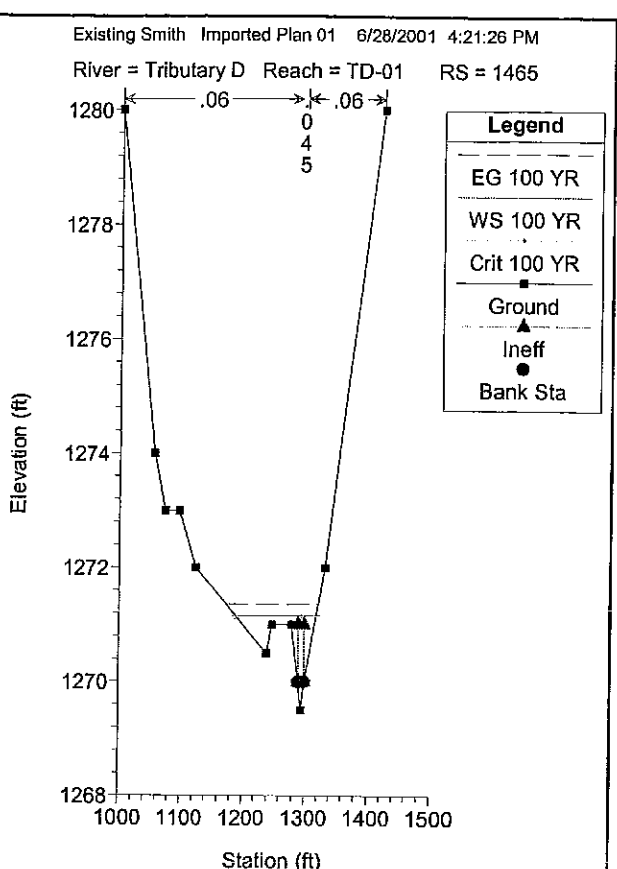
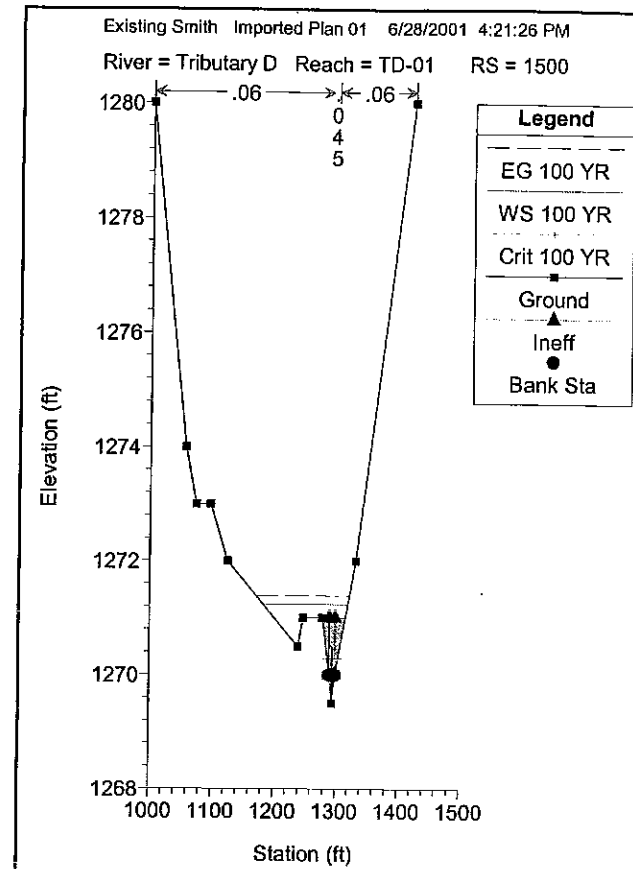


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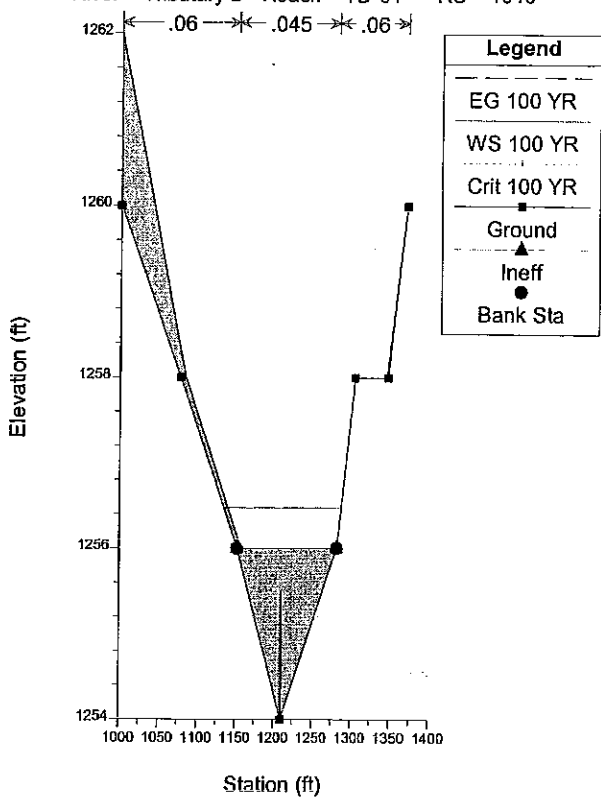


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 River = Tributary D Reach = TD-01 RS = 1500

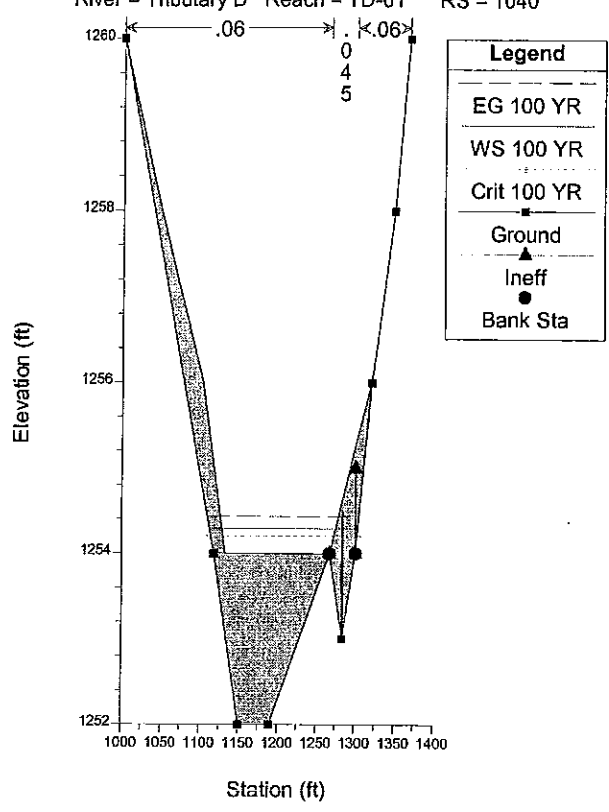




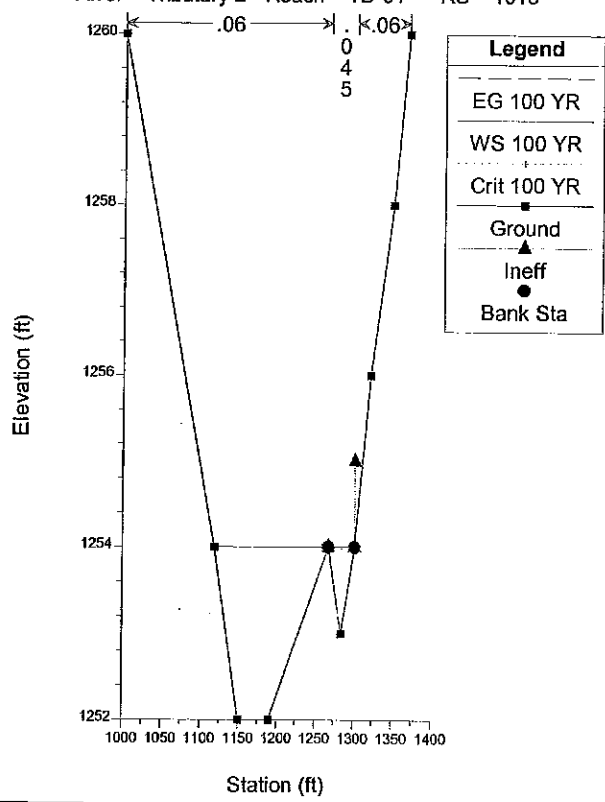
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 River = Tributary D Reach = TD-01 RS = 1040



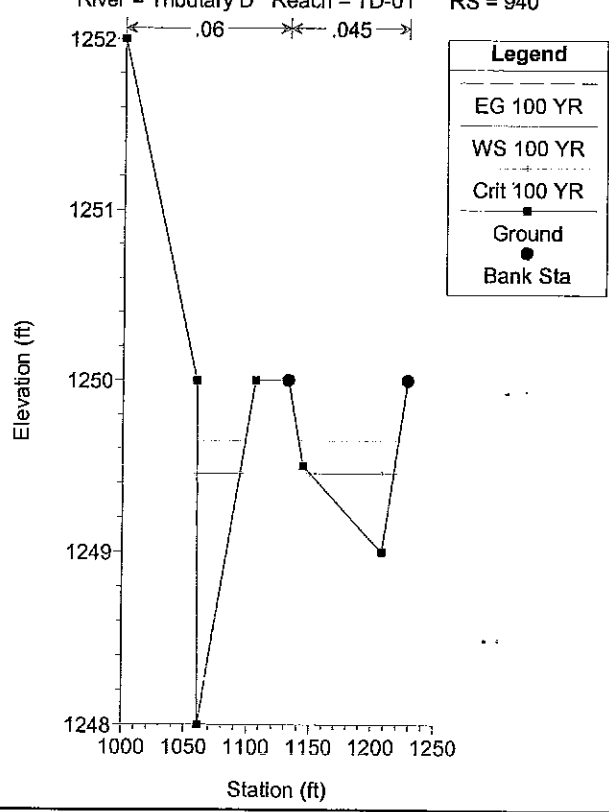
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 River = Tributary D Reach = TD-01 RS = 1040



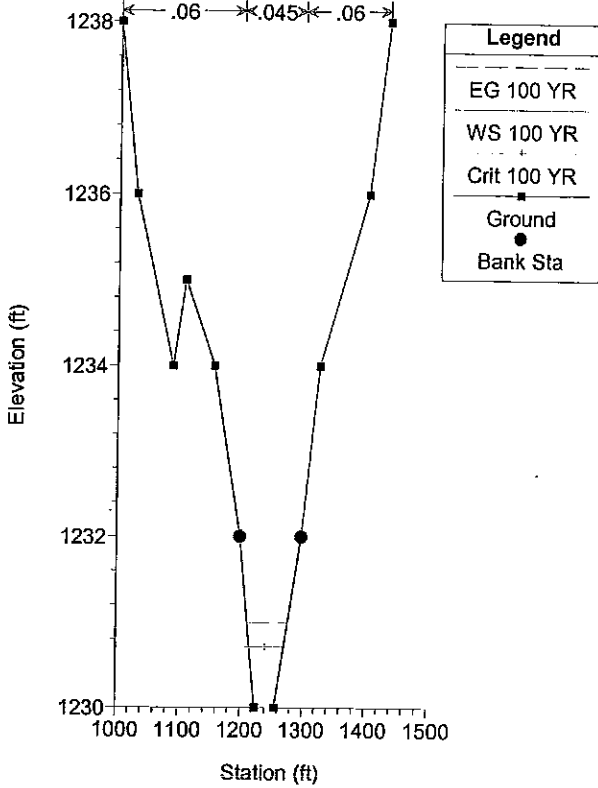
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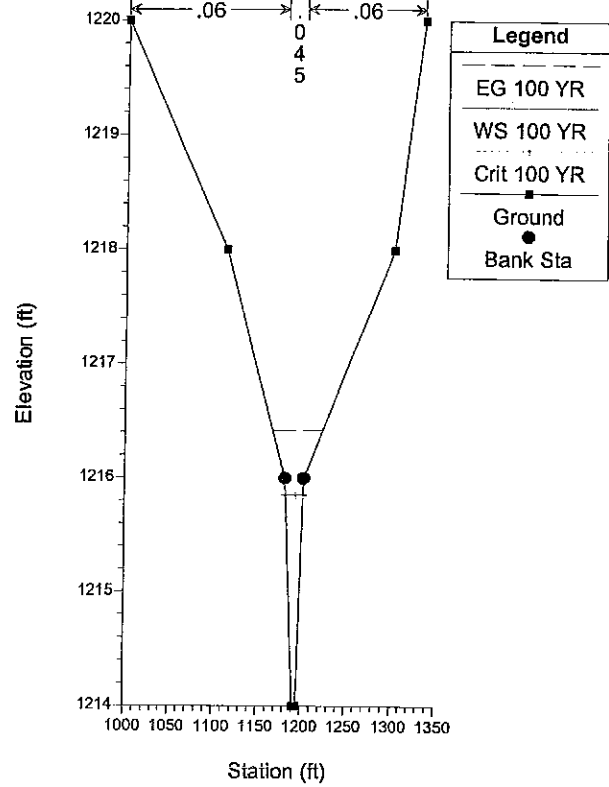
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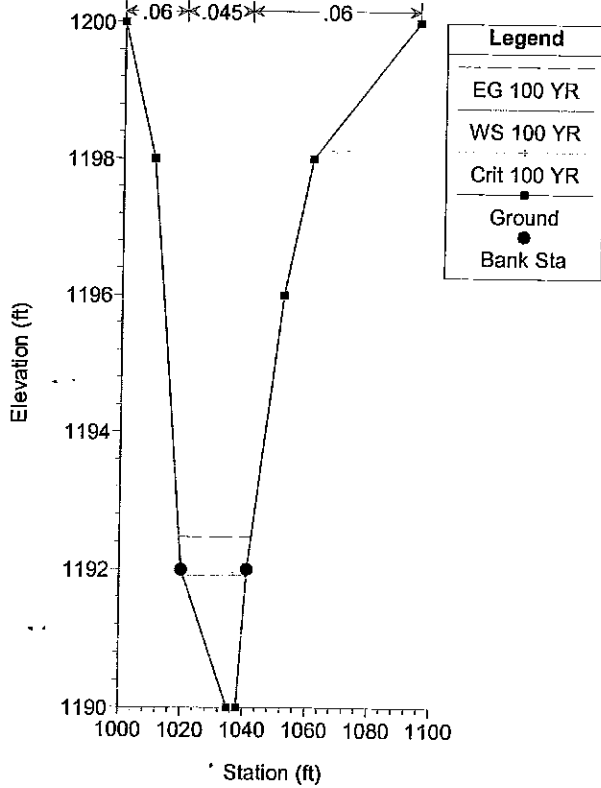
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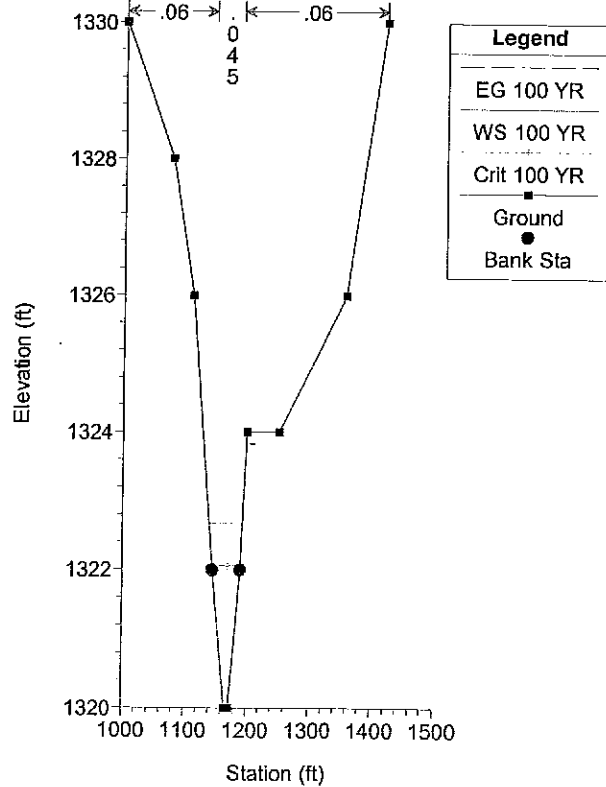
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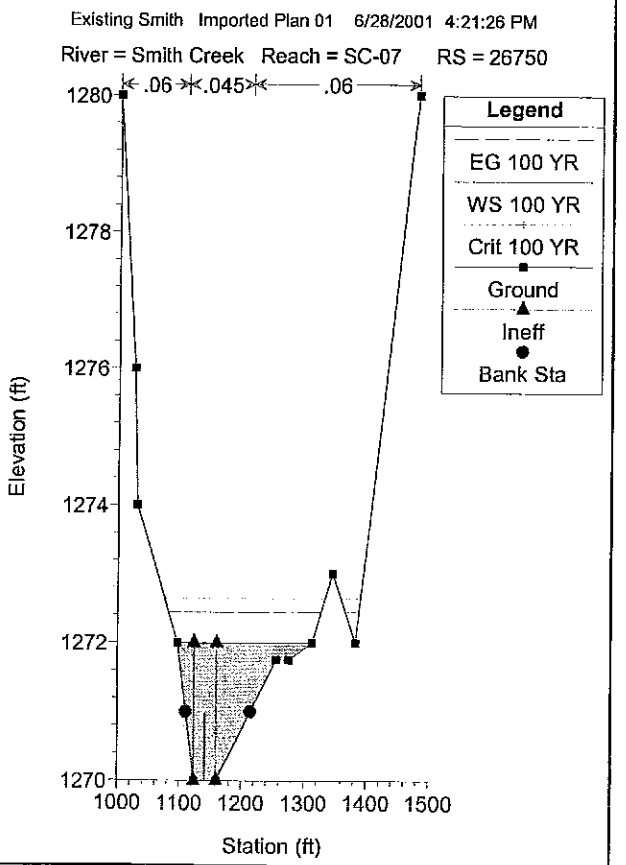
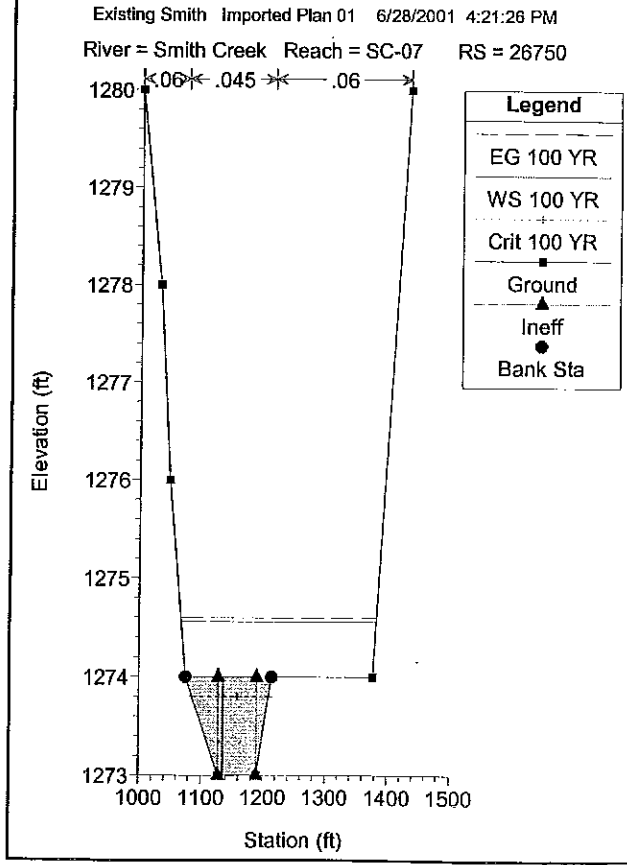
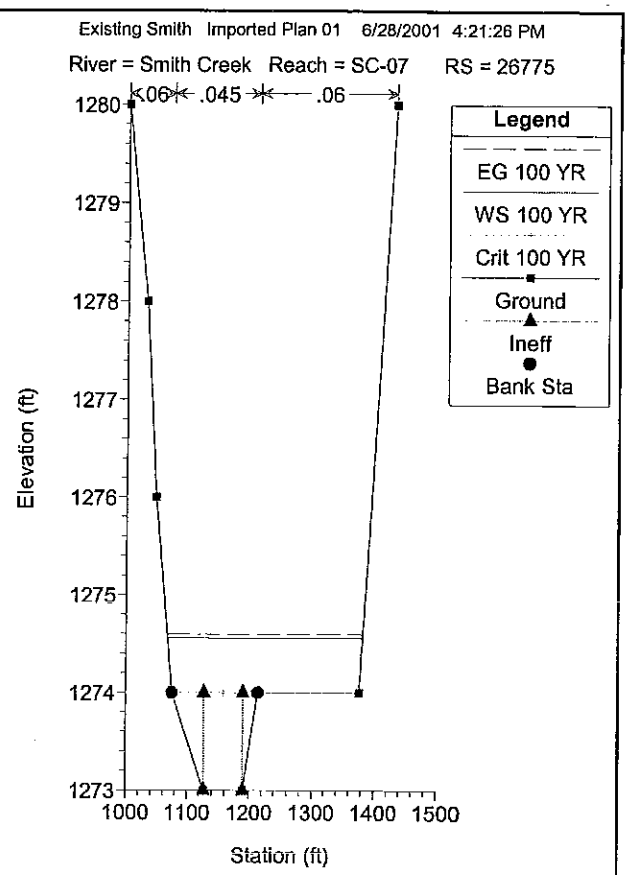
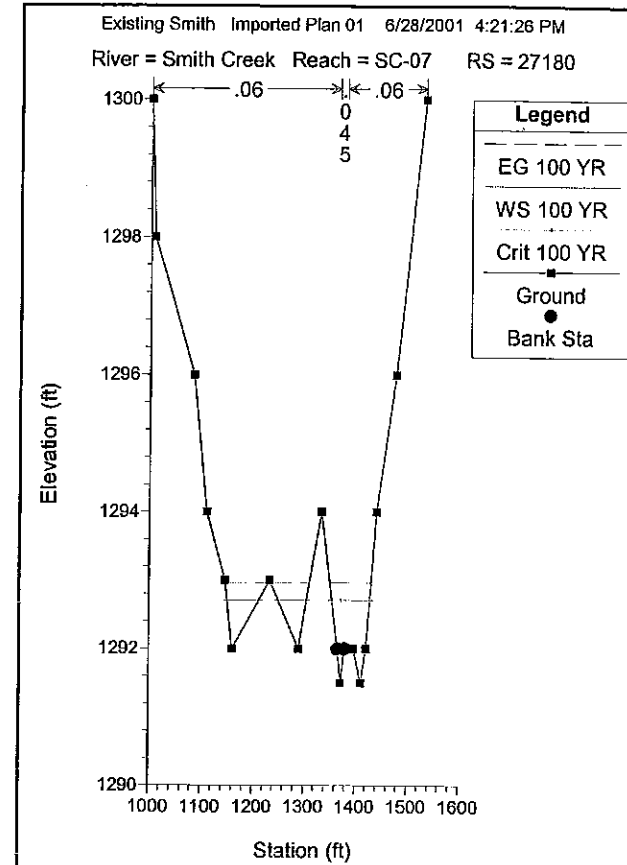


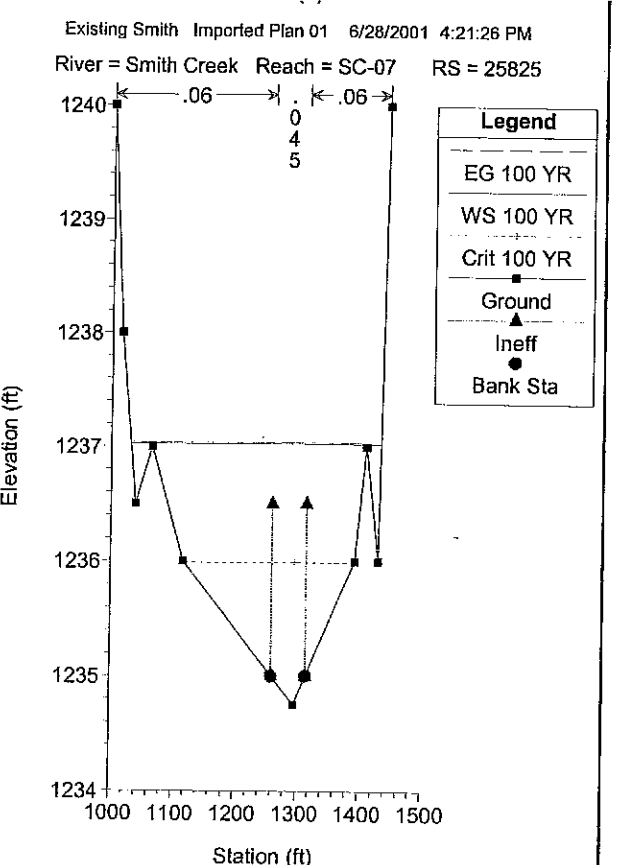
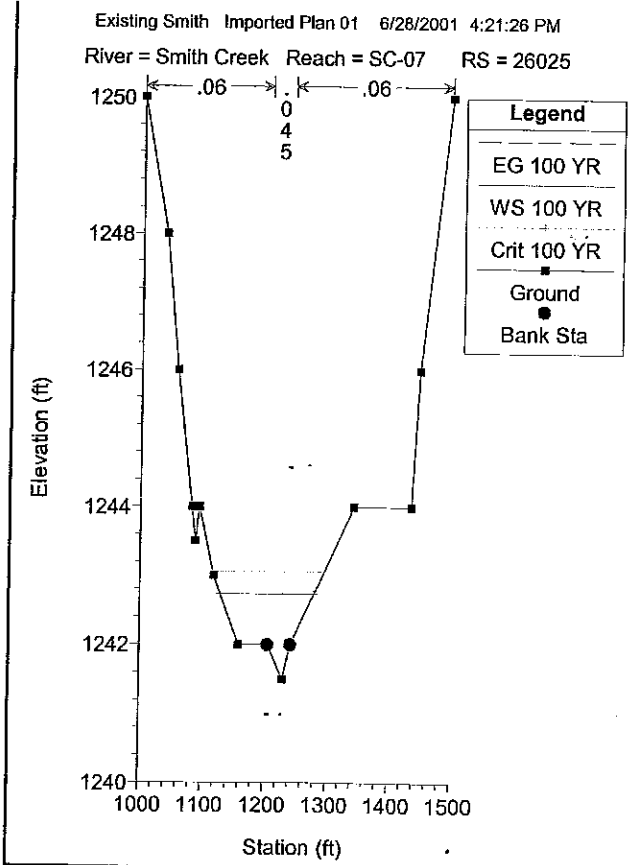
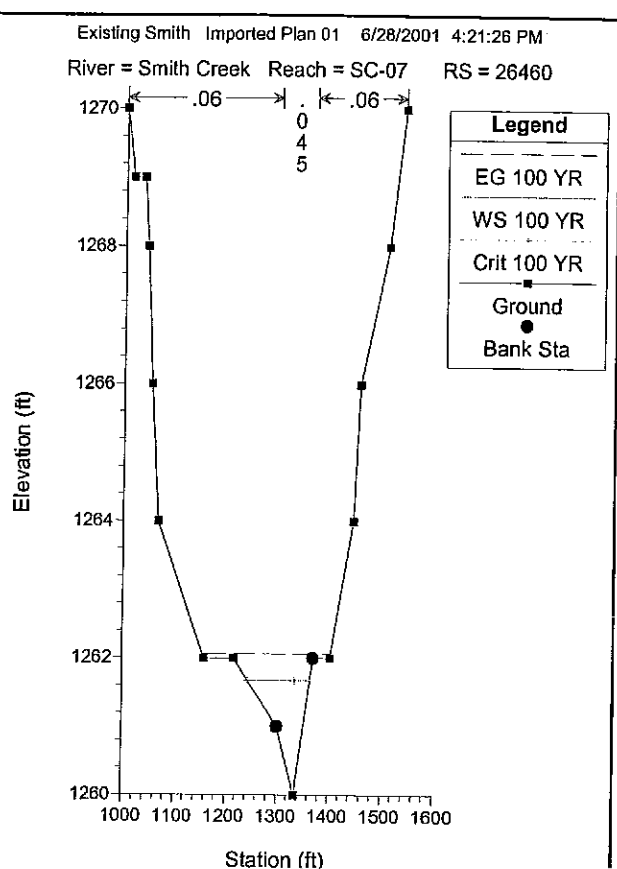
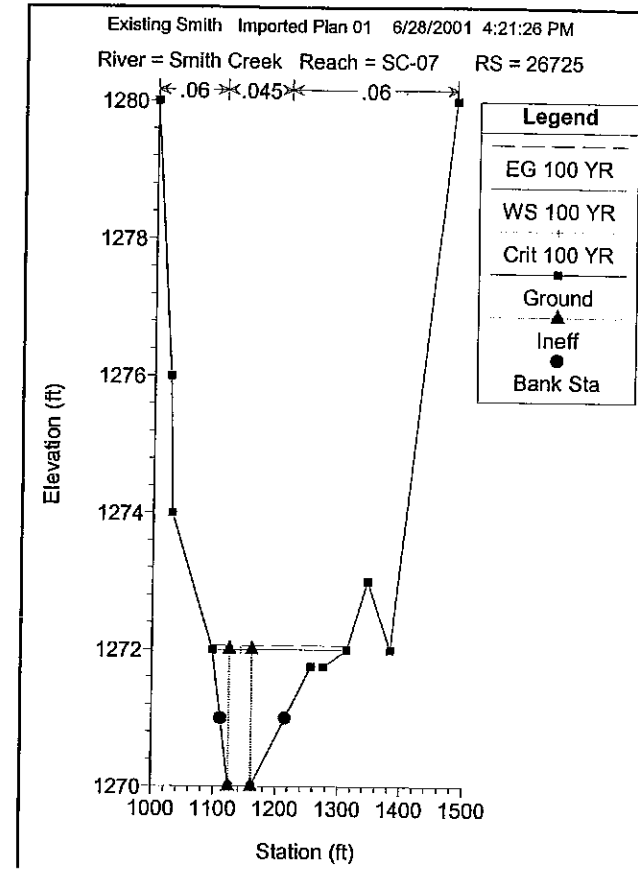
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 River = Tributary D Reach = TD-01 RS = 120

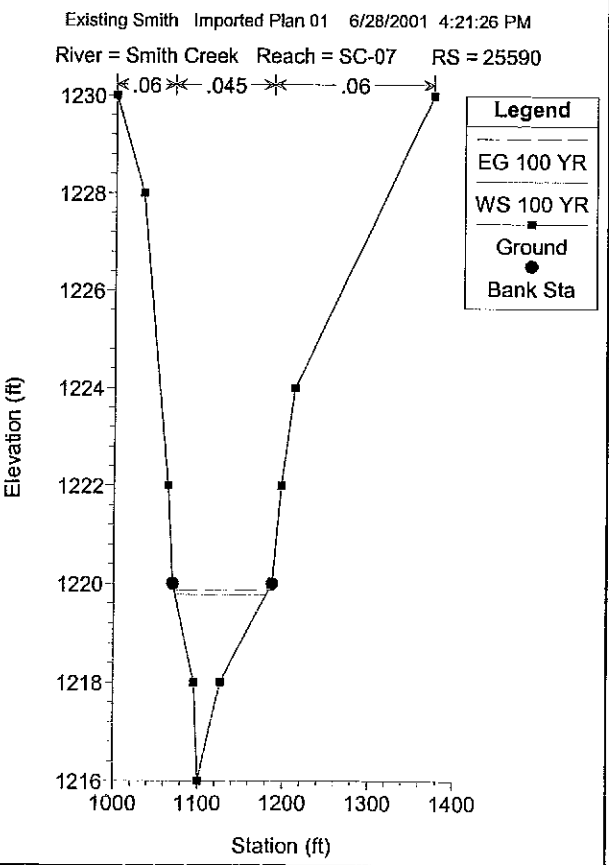
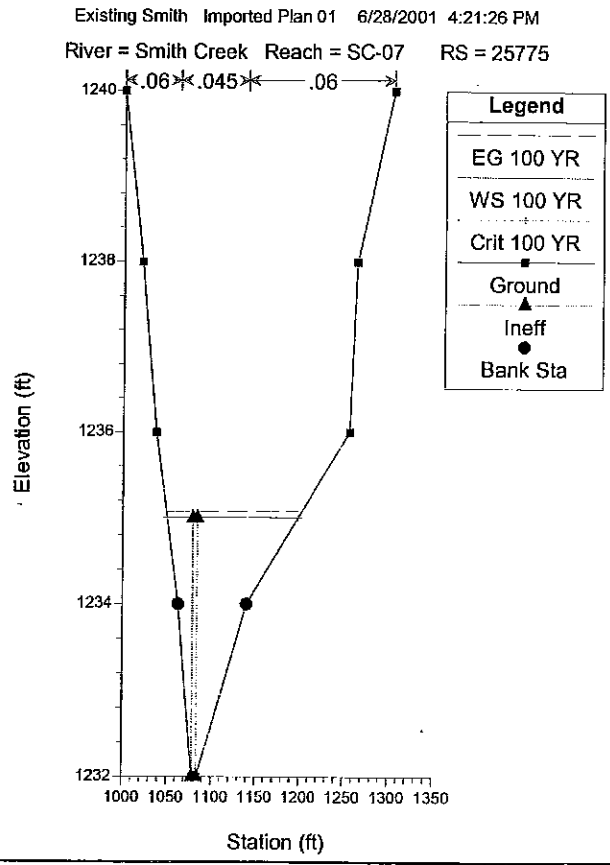
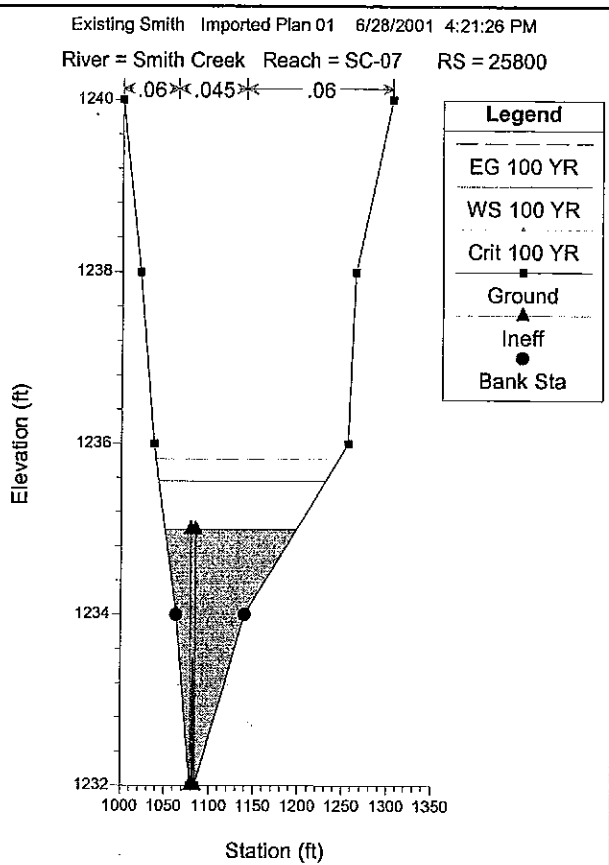
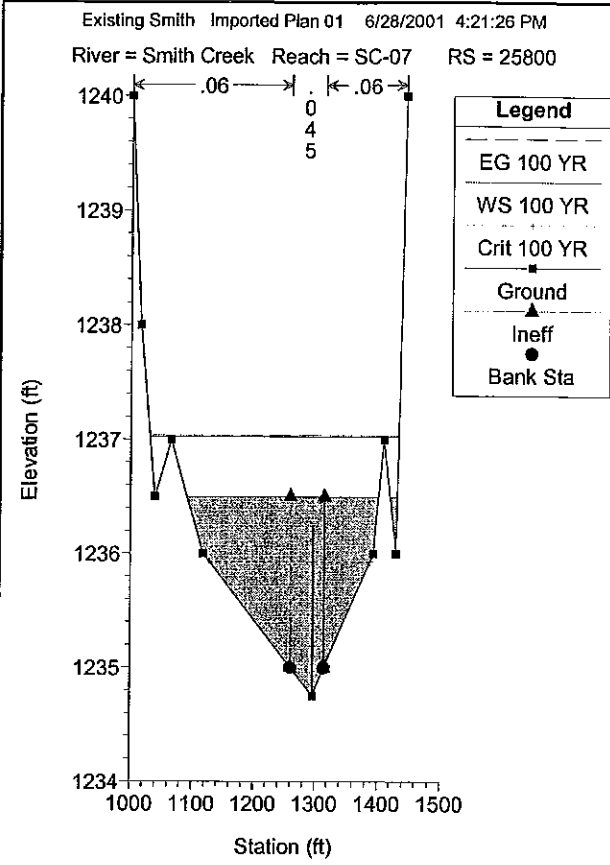


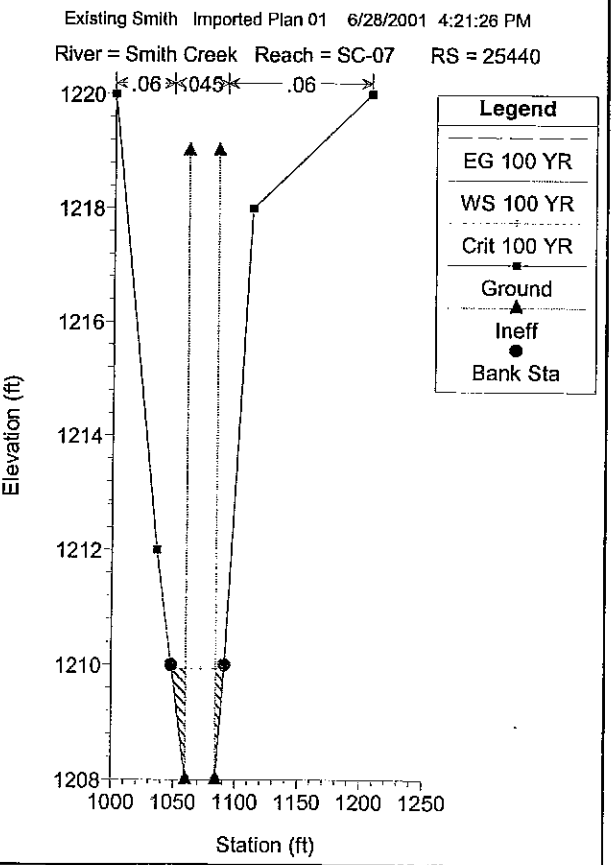
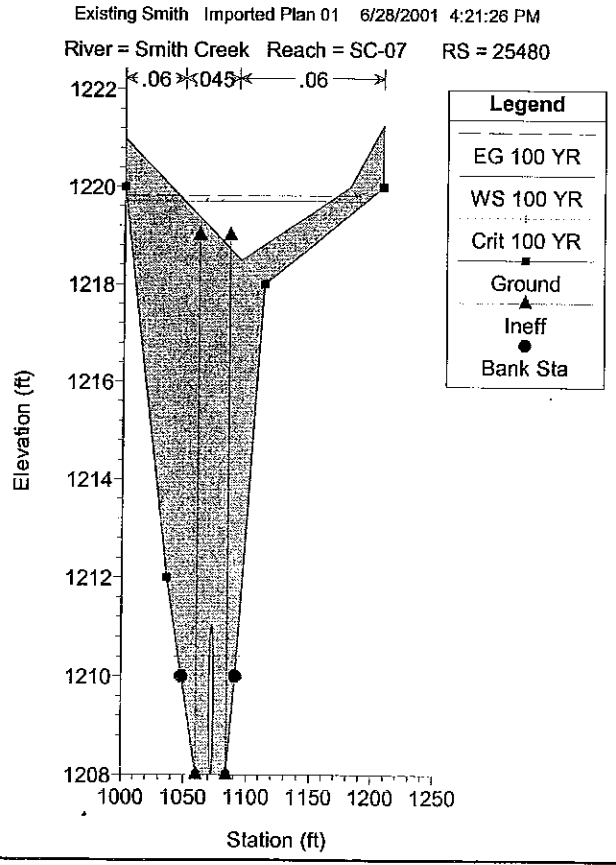
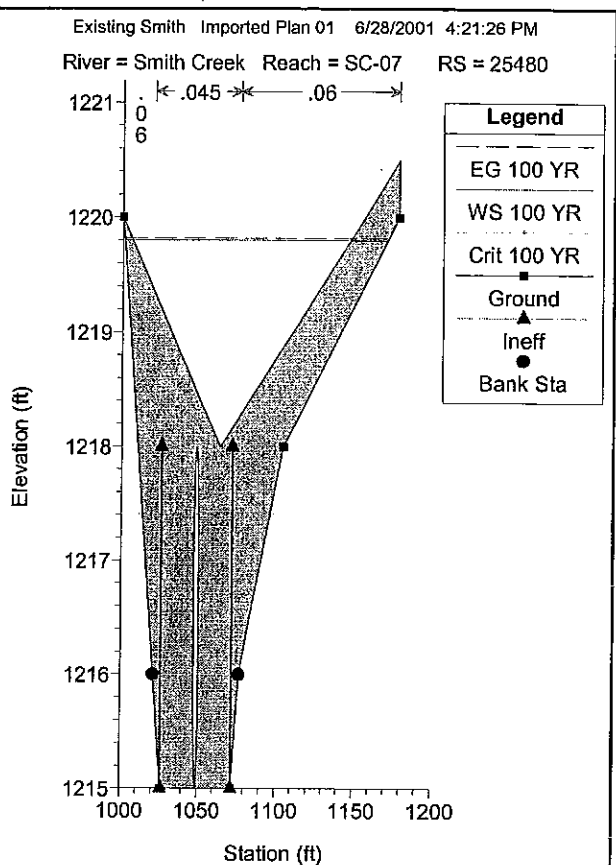
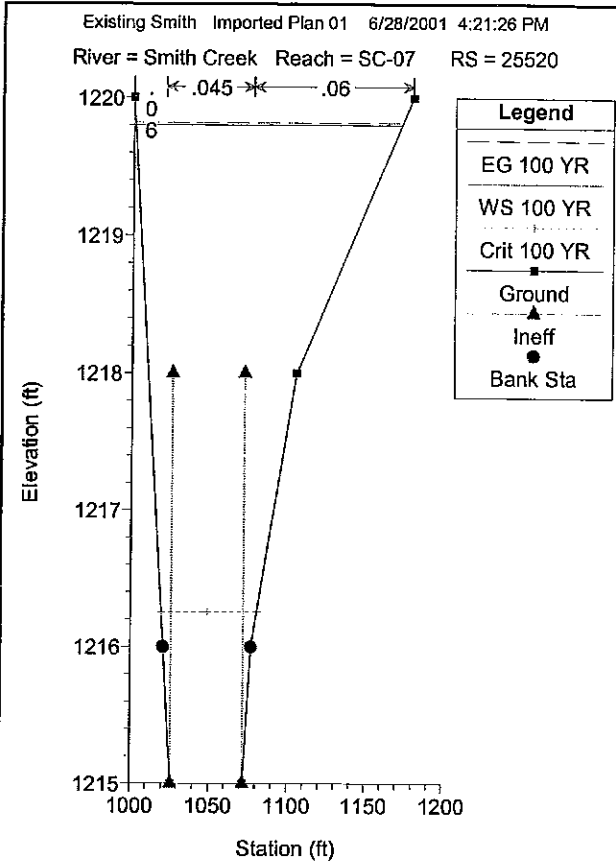
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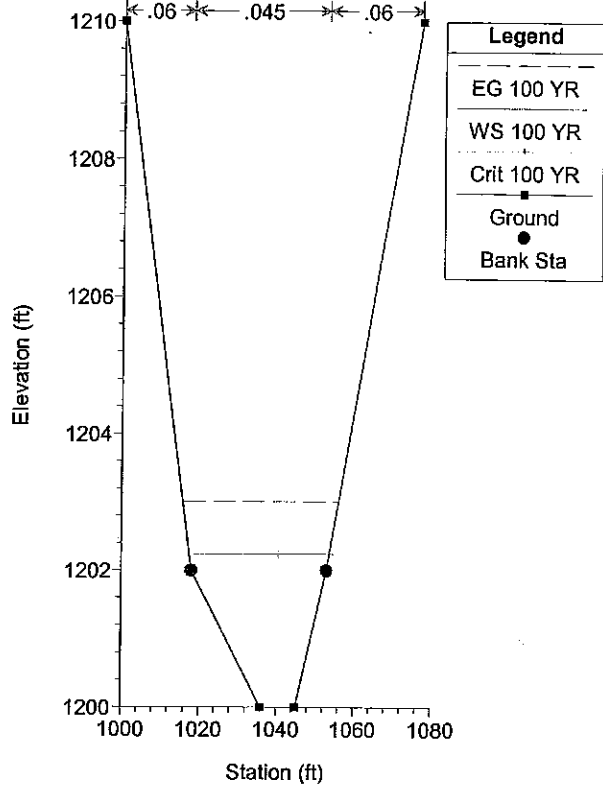




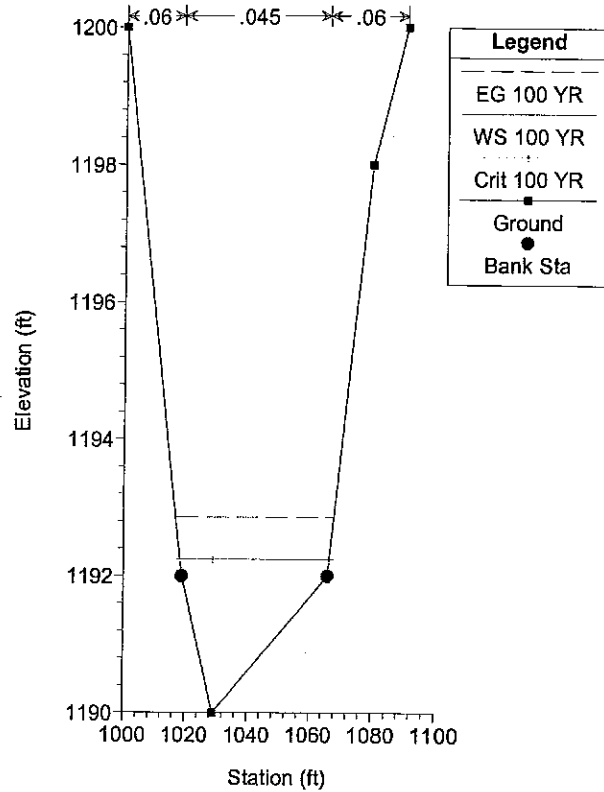




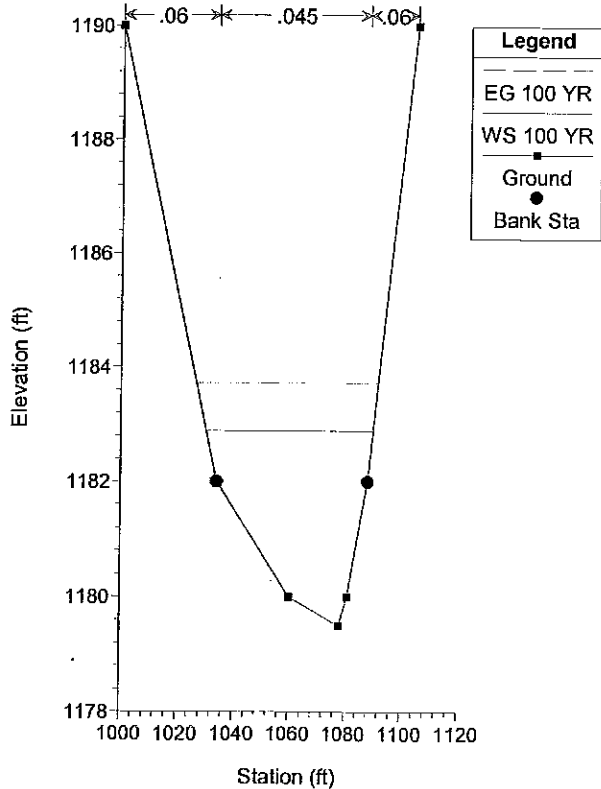
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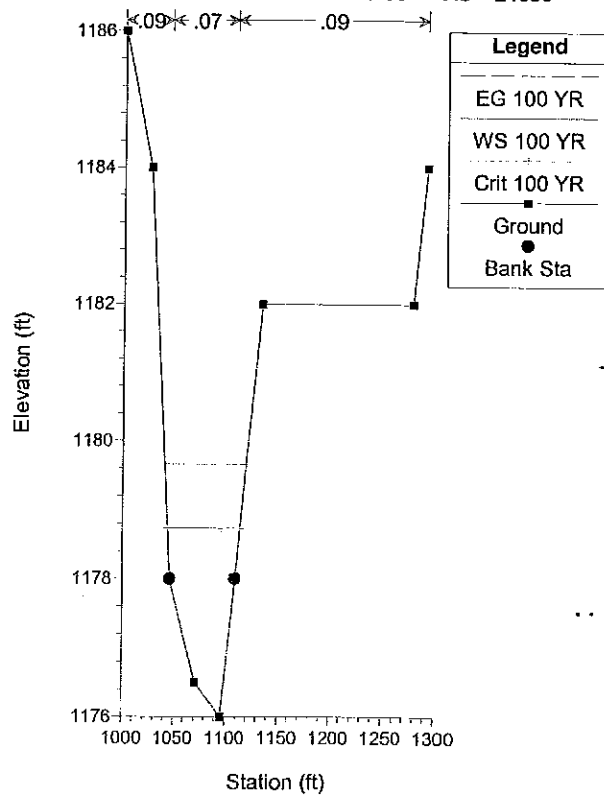
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 River = Smith Creek Reach = SC-07 RS = 25020



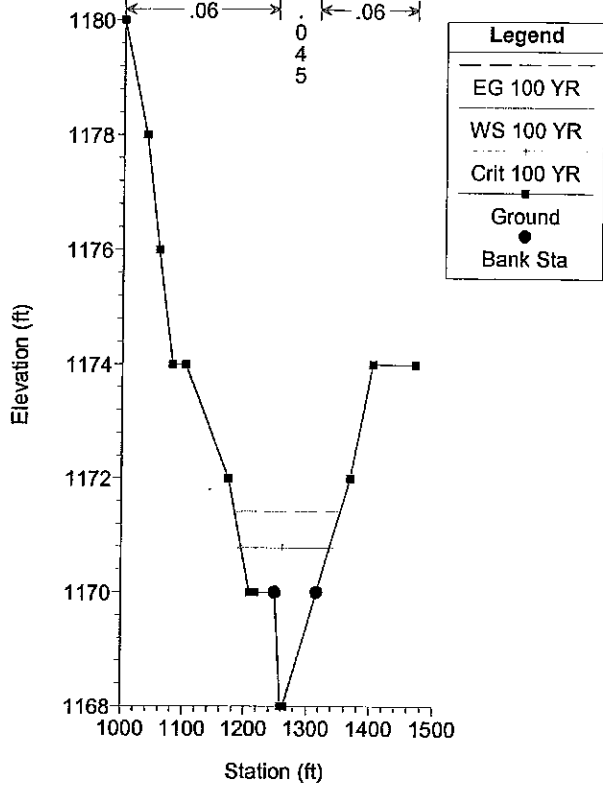
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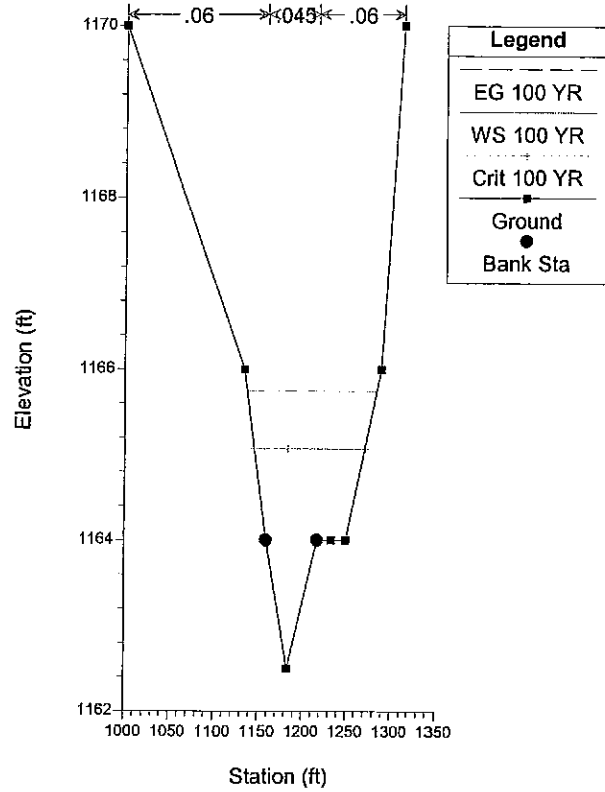
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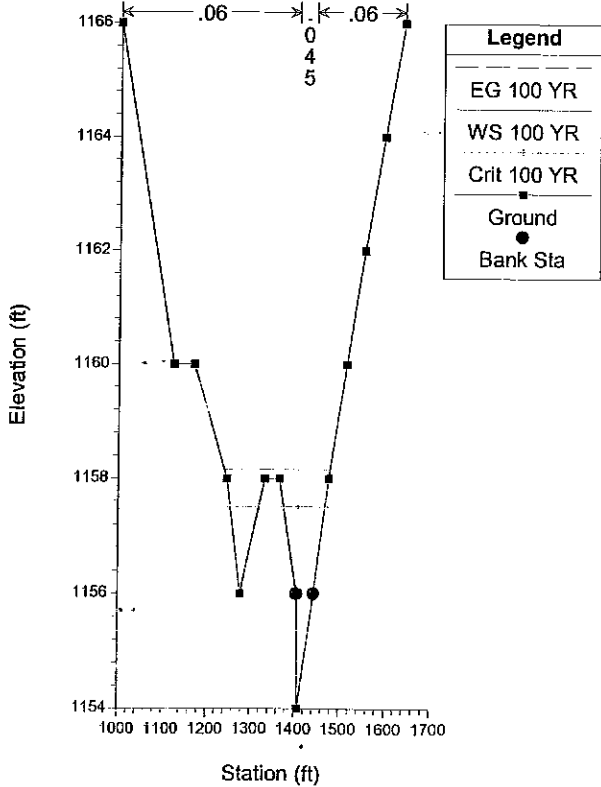
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Existing Smith Imported Plan 01 6/28/2001 4:21:26 PM
 River = Smith Creek Reach = SC-05 RS = 24110



Existing Smith Imported Plan 01 6/28/2001 4:21:26 PM
 River = Smith Creek Reach = SC-05 RS = 23910



Existing Smith Imported Plan 01 6/28/2001 4:21:26 PM
 River = Smith Creek Reach = SC-05 RS = 23520

