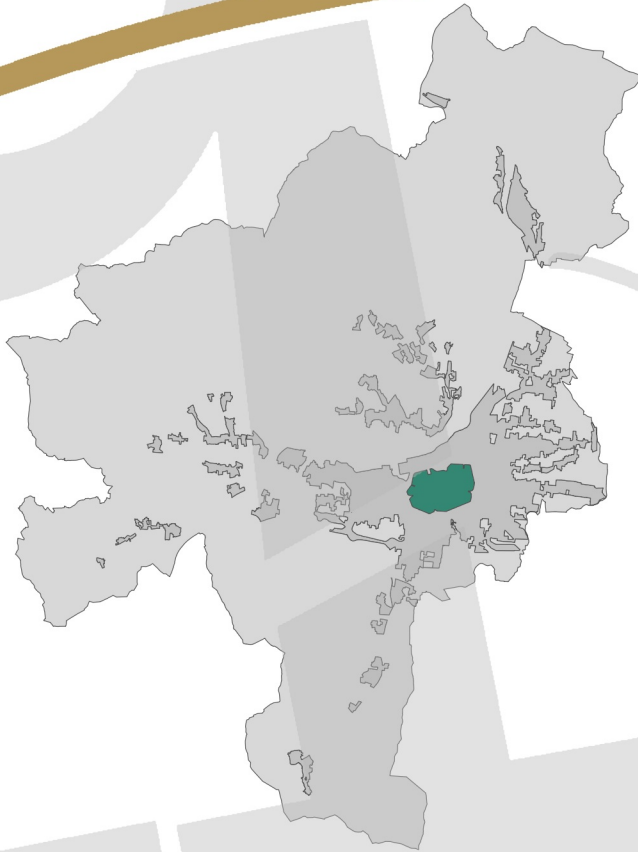




Città
di Lucca

La casa
della Città

il Piano Operativo



Quadro geologico - tecnico

ALL. I5 - Idraulica - Simulazioni sul sistema del Rio Cerchia

Assessore all'Urbanistica

Serena Mammini

Sindaco

Alessandro Tambellini

Adozione

MODELLI IDRAULICI MONODIMENSIONALI

Si riportano gli output forniti dal codice di calcolo Hec-Ras 5.0.6 sul reticolo idraulico con simulazione del deflusso trentennale e duecentennale. Si allegano

- I profili;
- Le sezioni dei corsi d'acqua;
- L'output tabellare con i risultati delle simulazioni svolte.

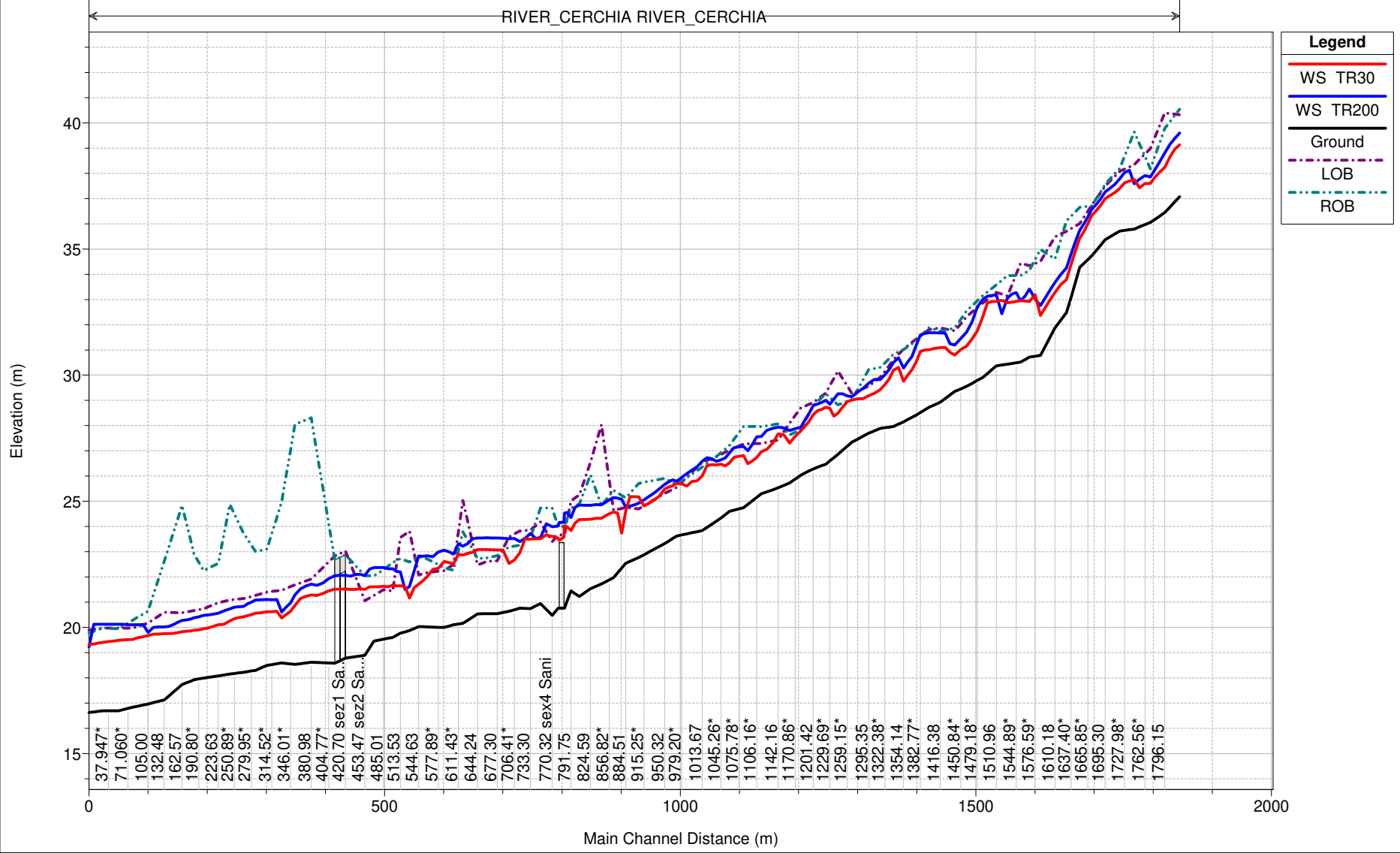
LEGENDA DELLE TABELLE

Le grandezze riportate in tabella hanno il seguente significato:

- **River station** Sezione trasversale del corso d'acqua
- **Q Total** Portata idraulica
- **Min Ch Elev** Quota del fondo rispetto al prescelto sistema di riferimento
- **W.S. Elev** Quota del pelo libero rispetto al prescelto sistema di riferimento
- **Max Chl Dpth** Tirante idraulico massimo (differenza dei termini W.S Elev e il termine Min Ch Elev)
- **LOB Elev** Quota della sommità arginale sinistra rispetto al prescelto sistema di riferimento
- **ROB Elev** Quota della sommità arginale destra rispetto al prescelto sistema di riferimento
- **L.Freeboard** Franco sinistro: differenza fra il termine LOB Elev e il termine W.S Elev
- **R.Freeboard** Franco destro: differenza fra il termine ROB Elev e il termine W.S Elev
- **Vel Chnl** Velocità media della corrente
- **Froude n.** Numero di Froude: se maggiore di 1 indica la presenza di corrente veloce, se inferiore a 1 segnala la presenza di corrente lenta

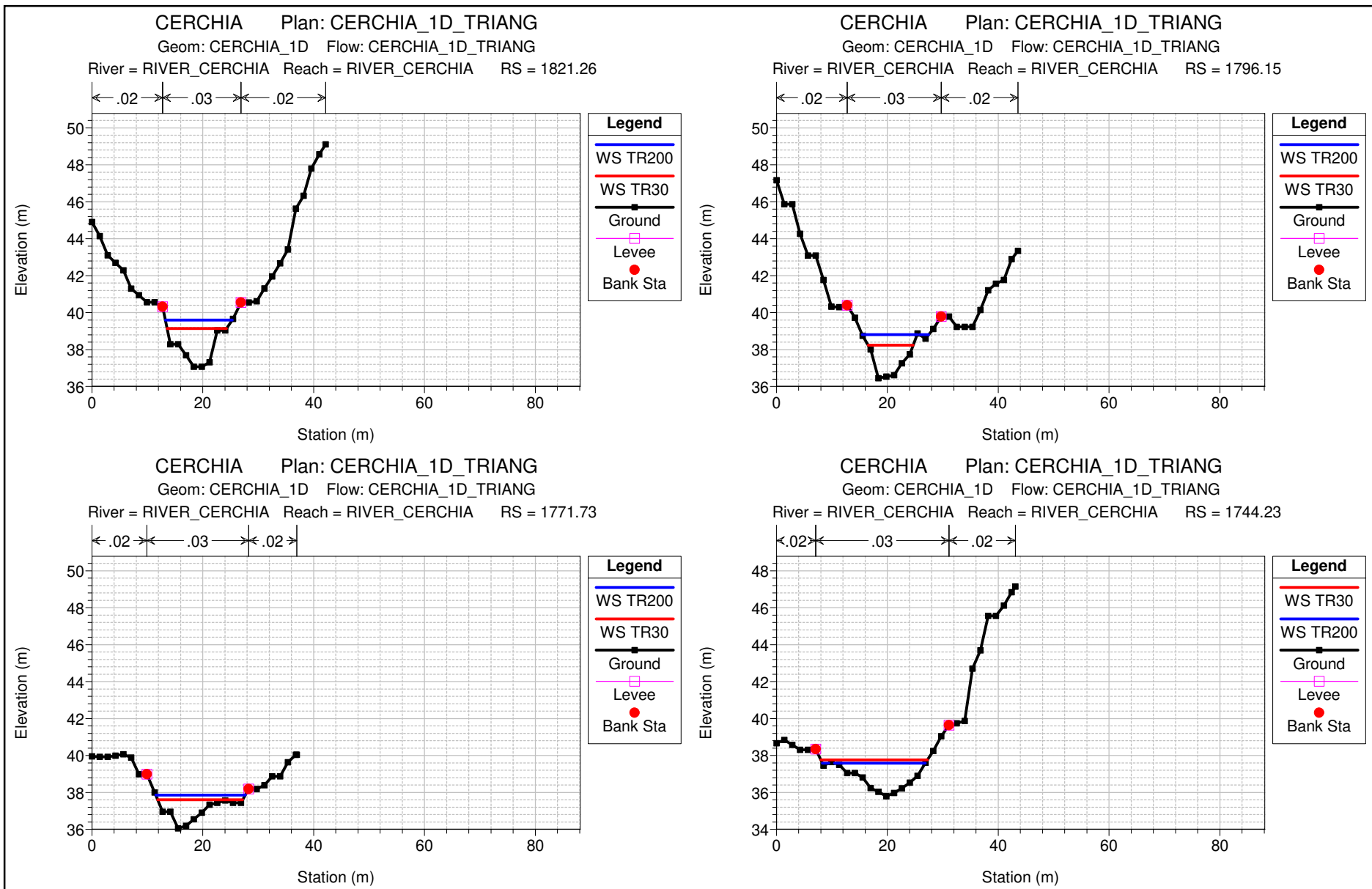
CERCHIA Plan: CERCHIA_1D_TRIANG
 Geom: CERCHIA_1D Flow: CERCHIA_1D_TRIANG

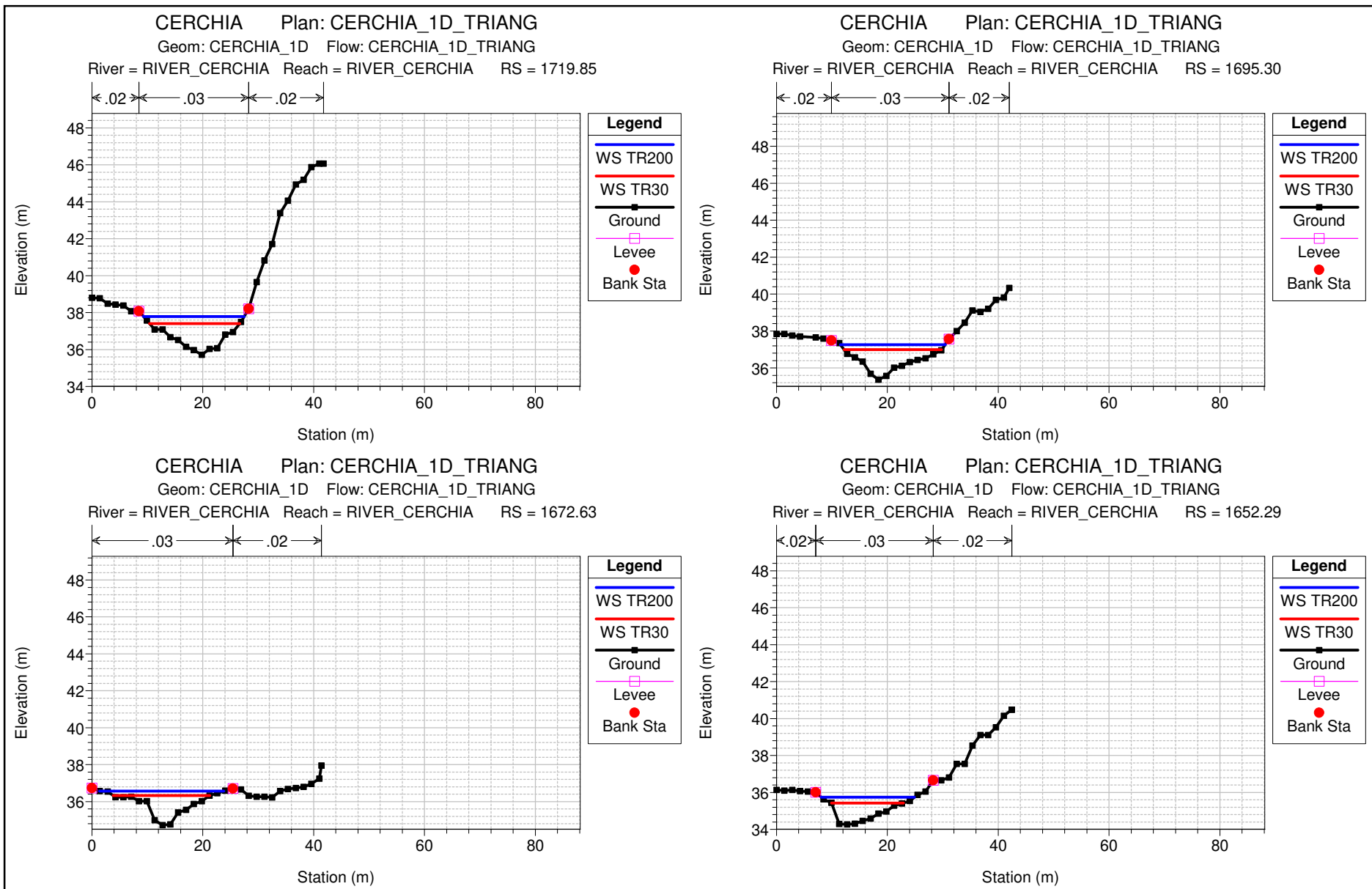
RIVER_CERCHIA RIVER_CERCHIA

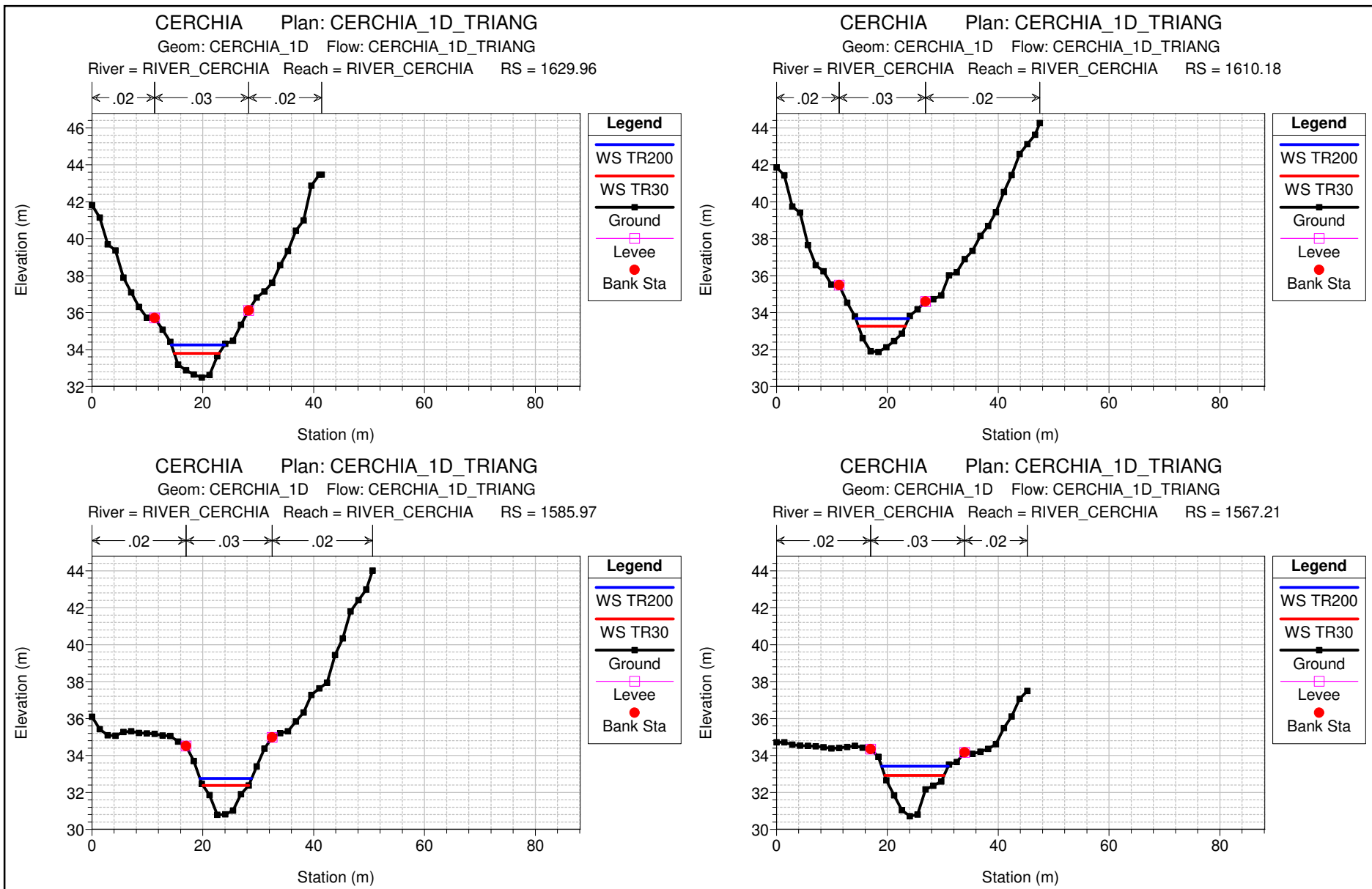


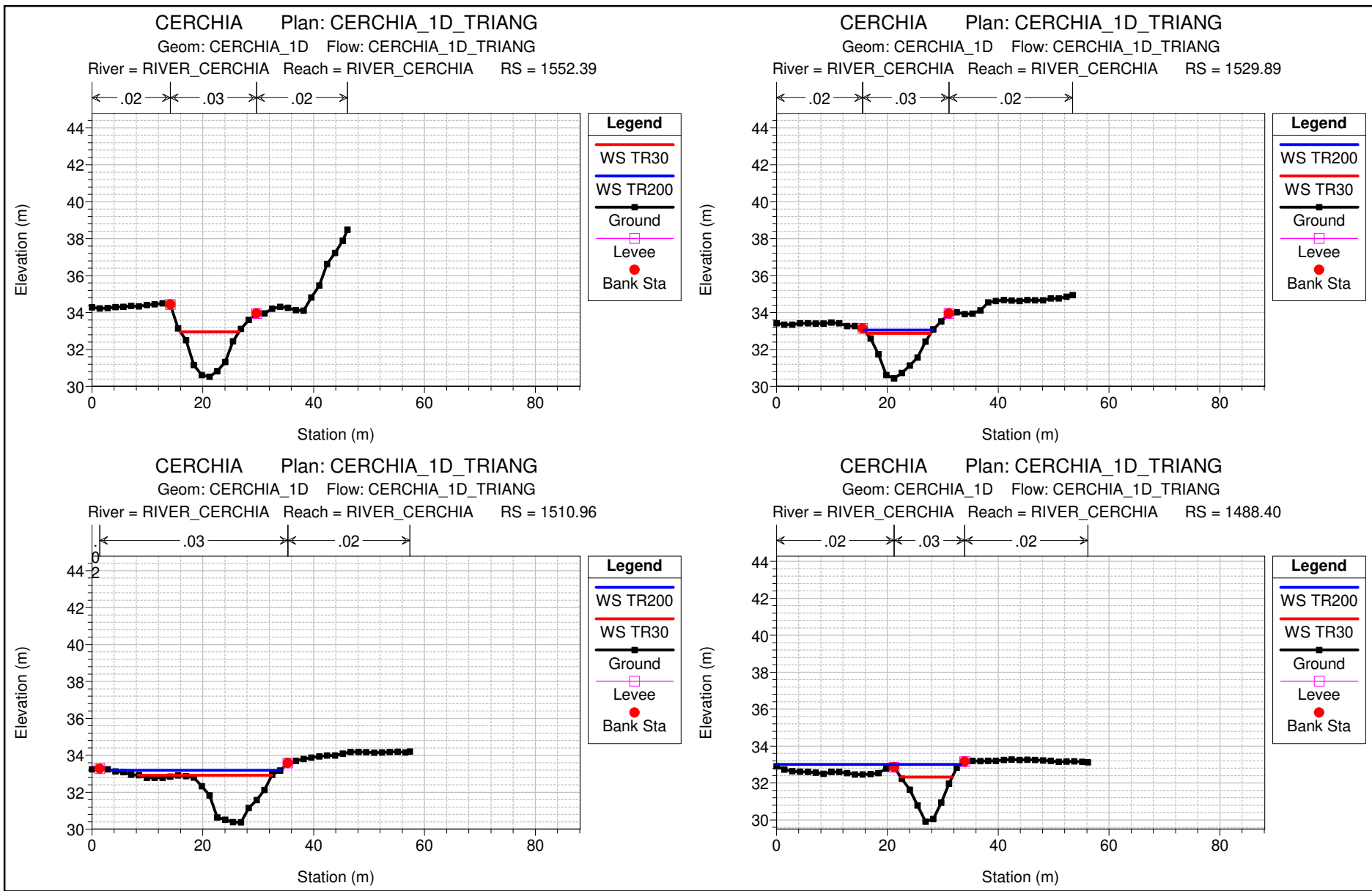
Legend	
—	WS TR30
—	WS TR200
—	Ground
- - -	LOB
- . - .	ROB

1 cm Horiz. = 96 m 1 cm Vert. = 2.25 m

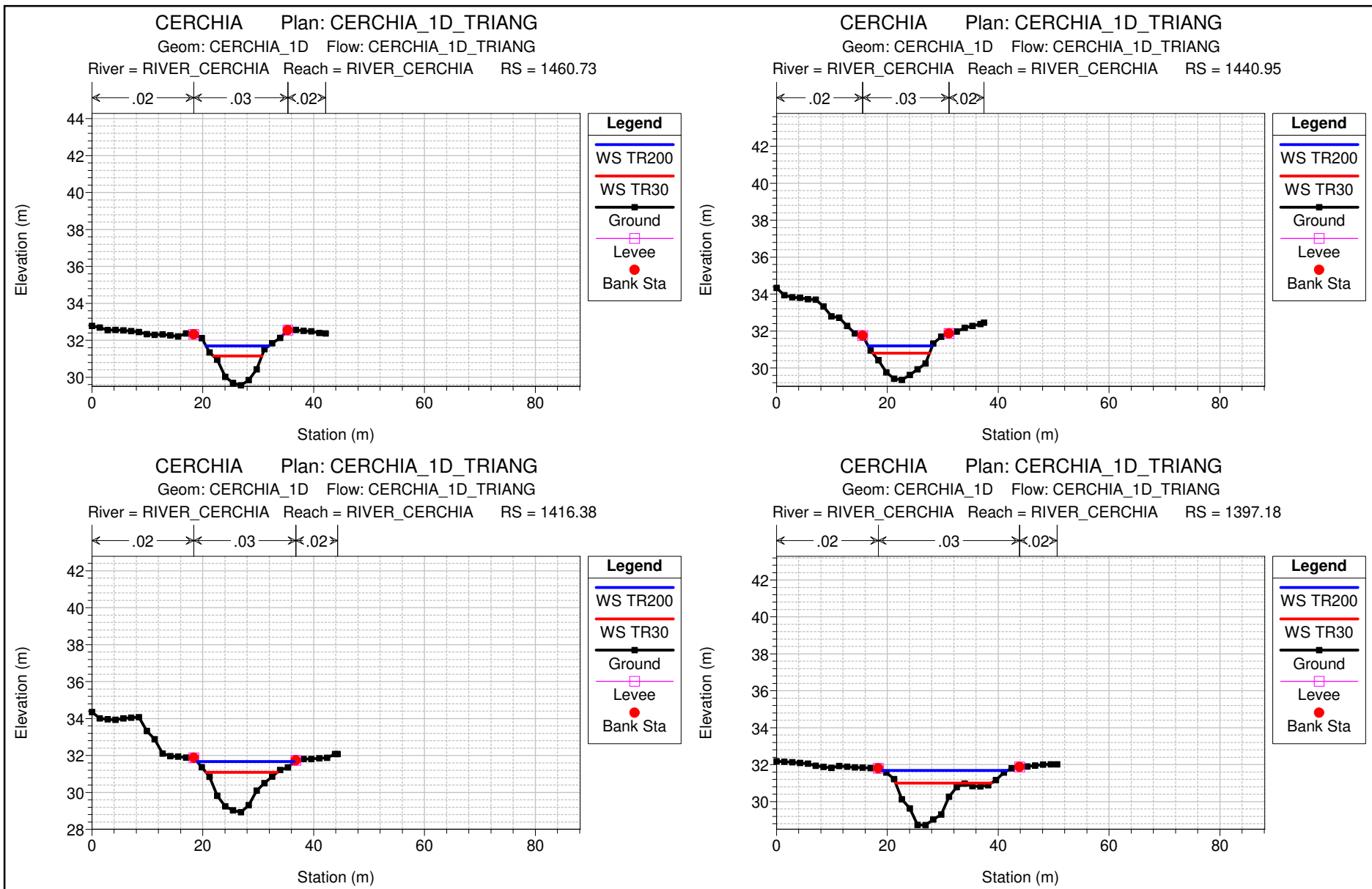




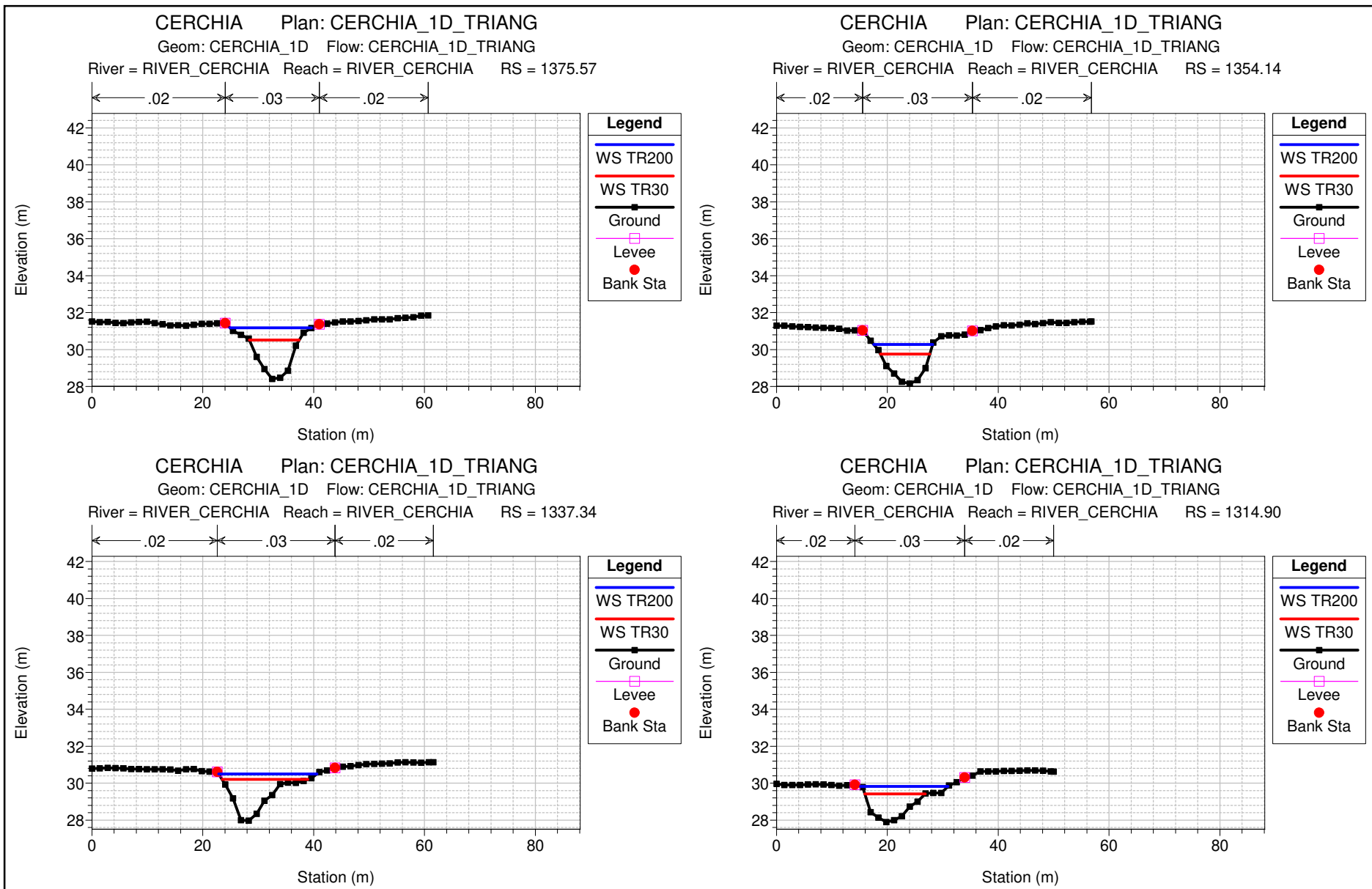




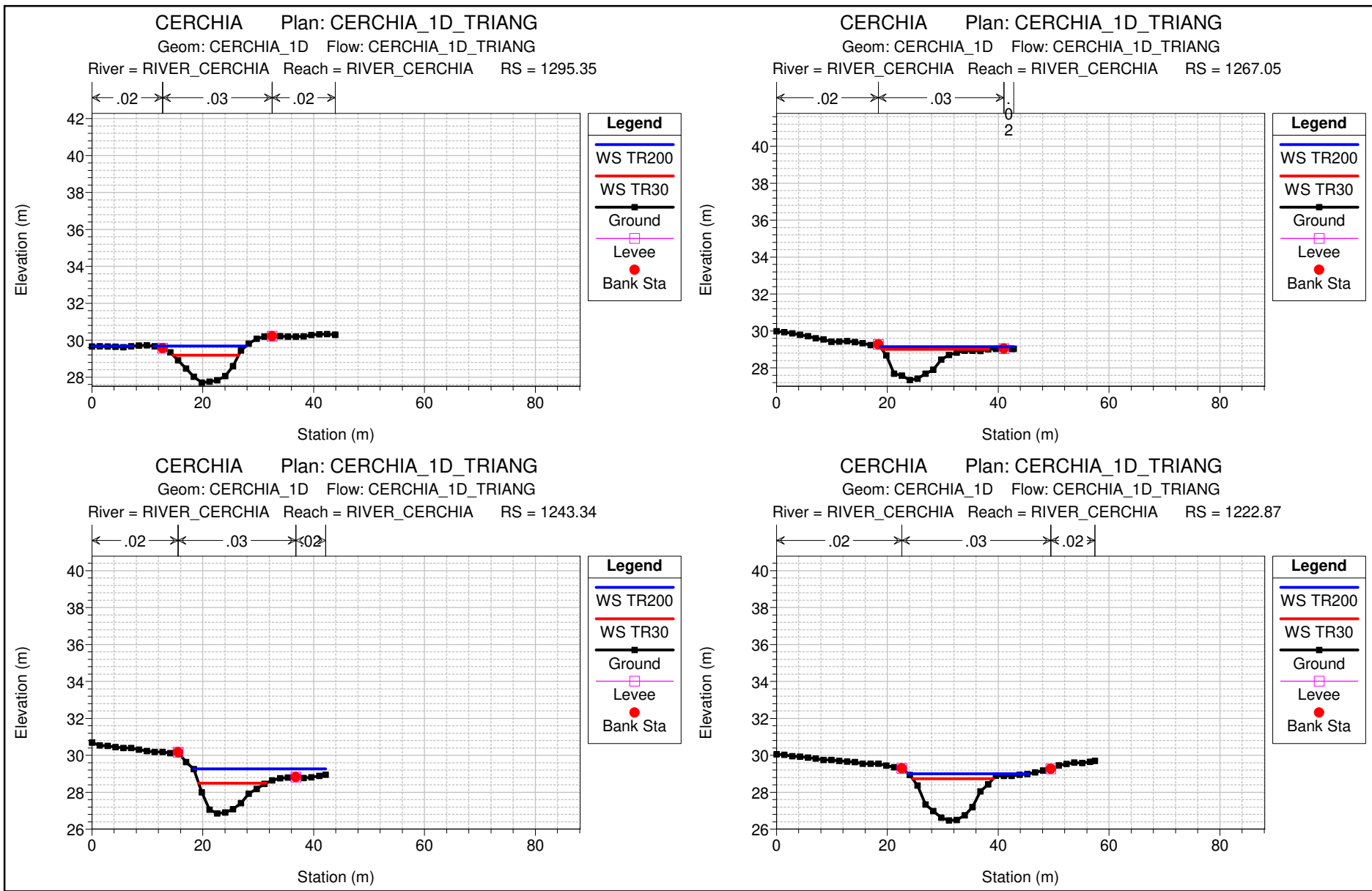
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



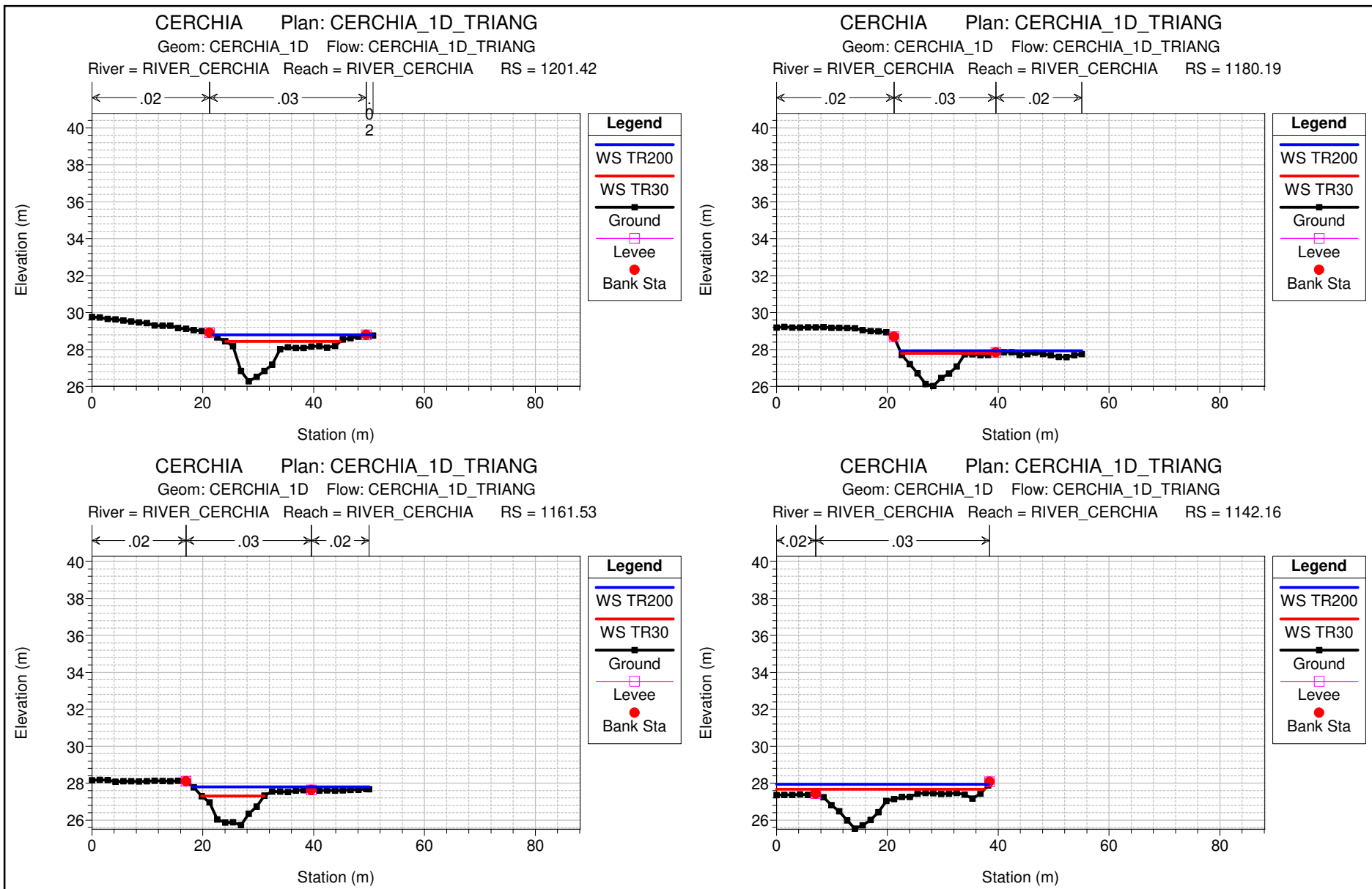
1 cm Horiz. = 10 m 1 cm Vert. = 3 m

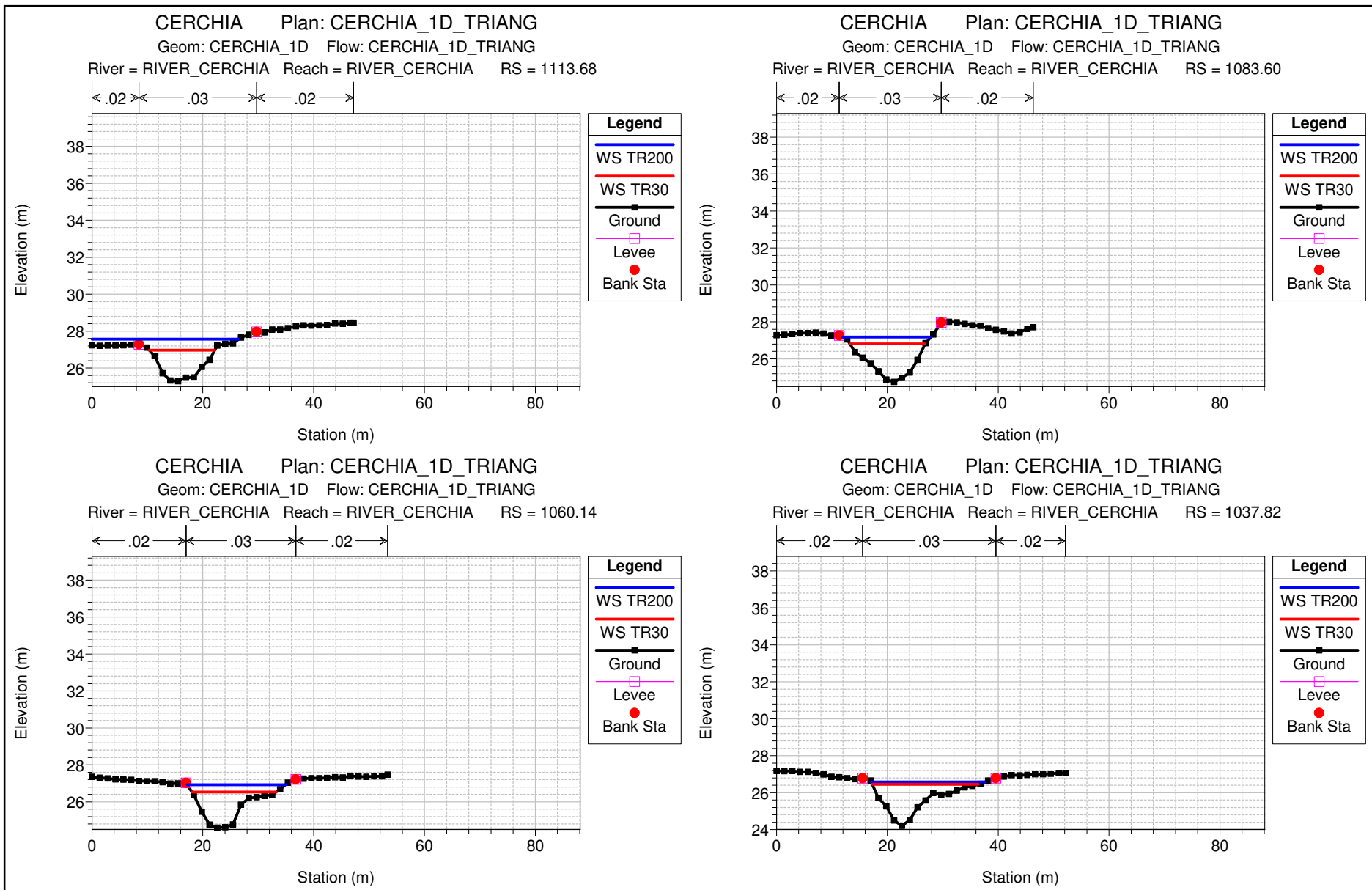


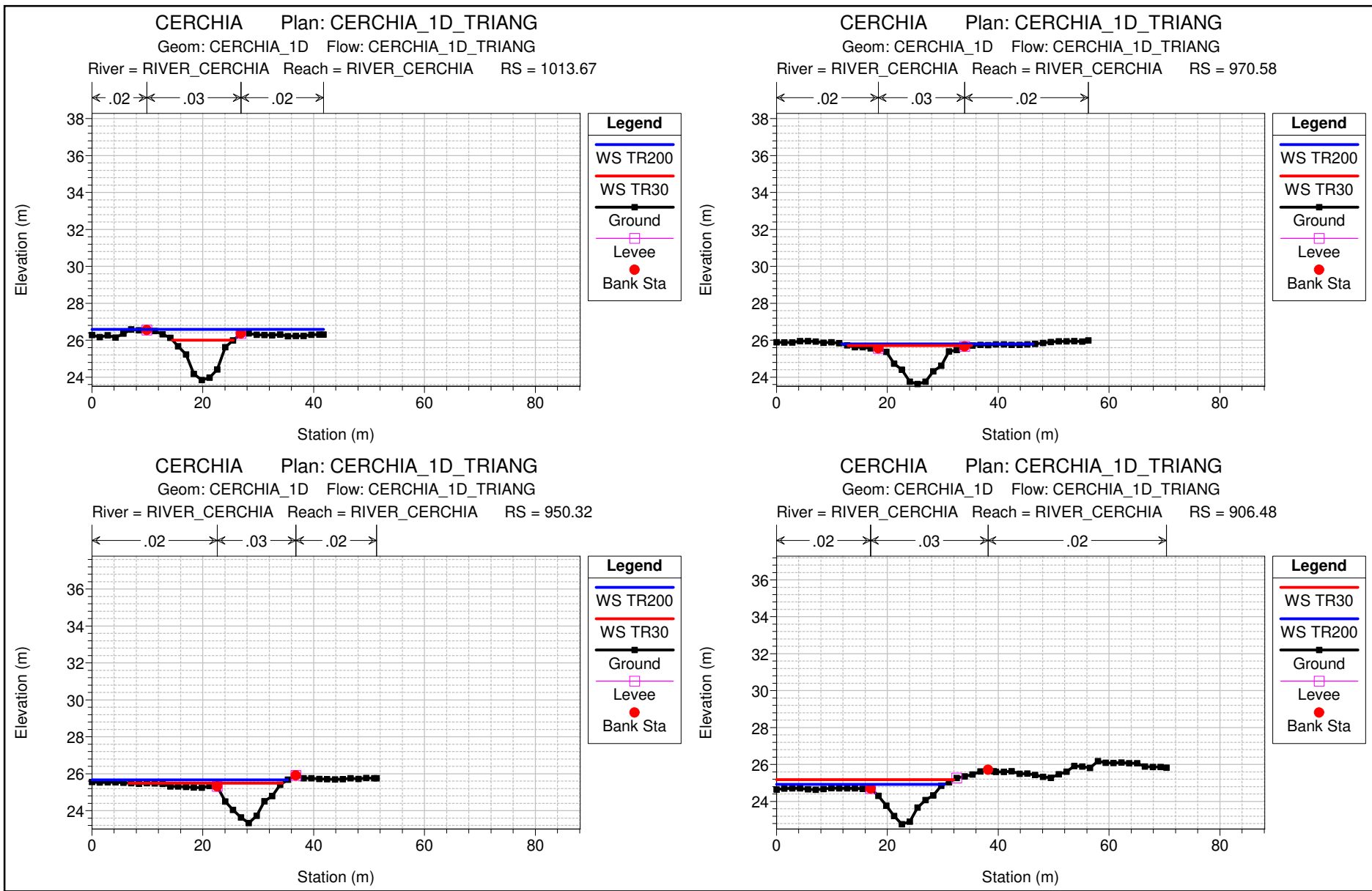
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



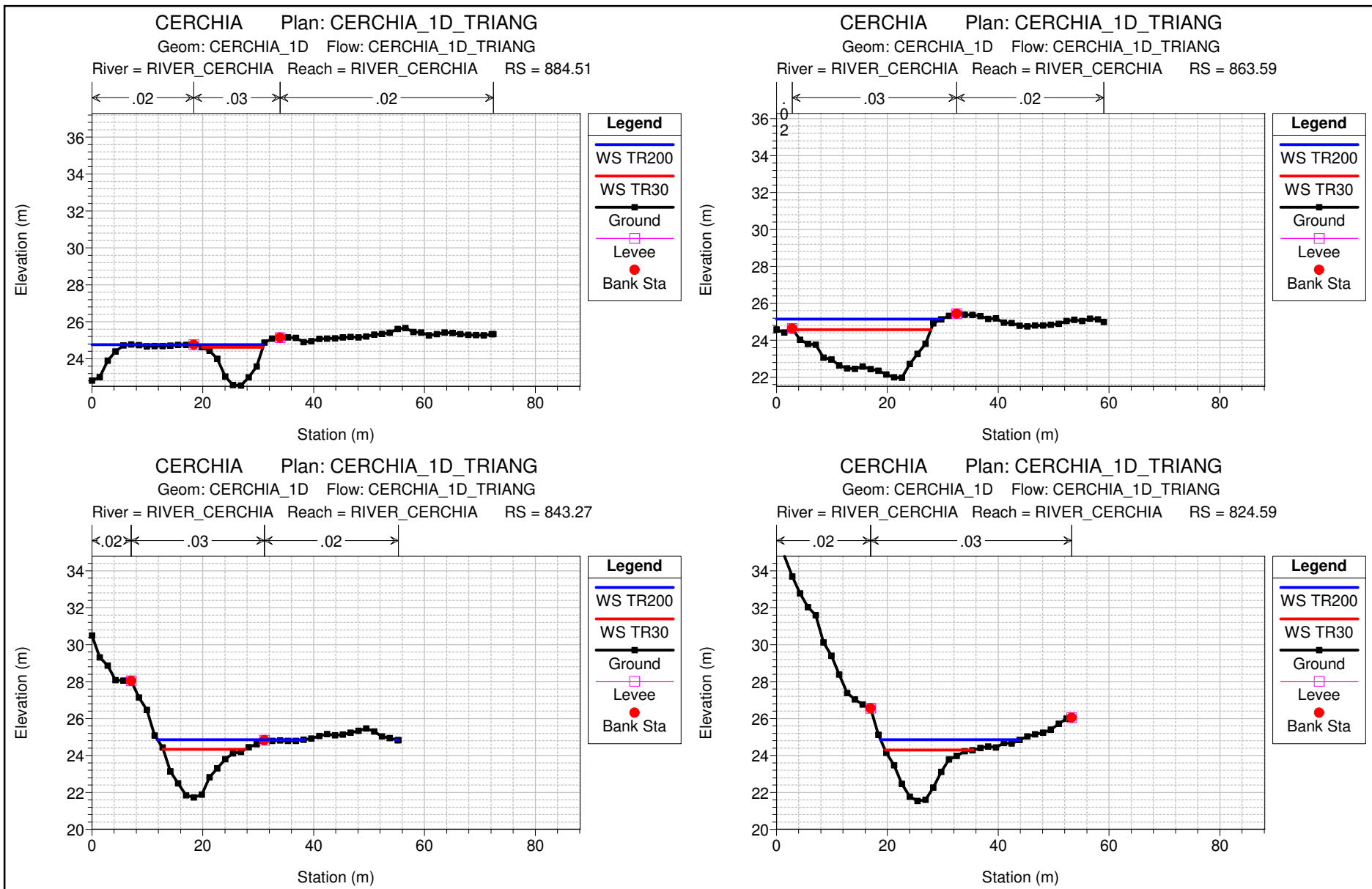
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



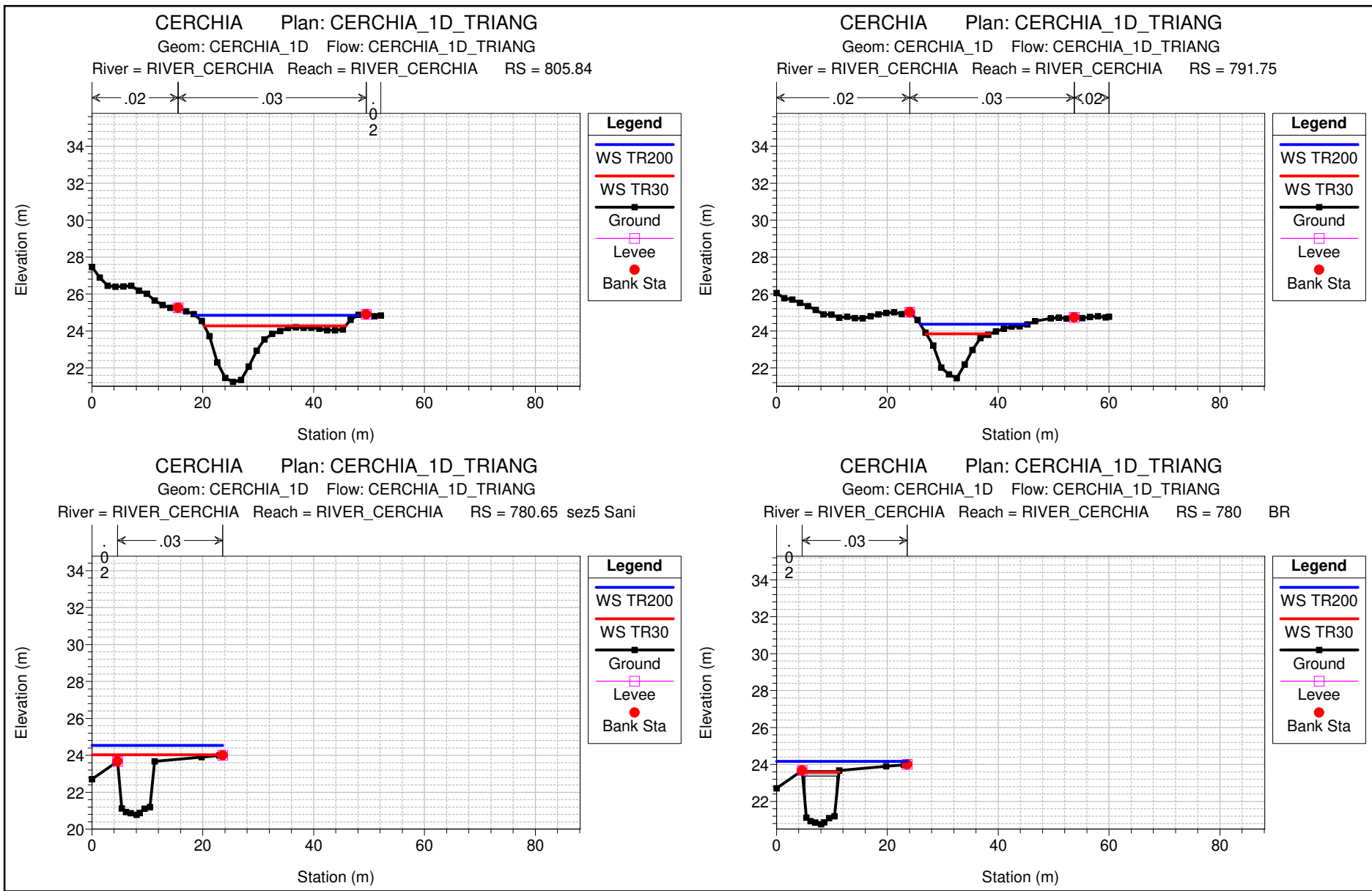




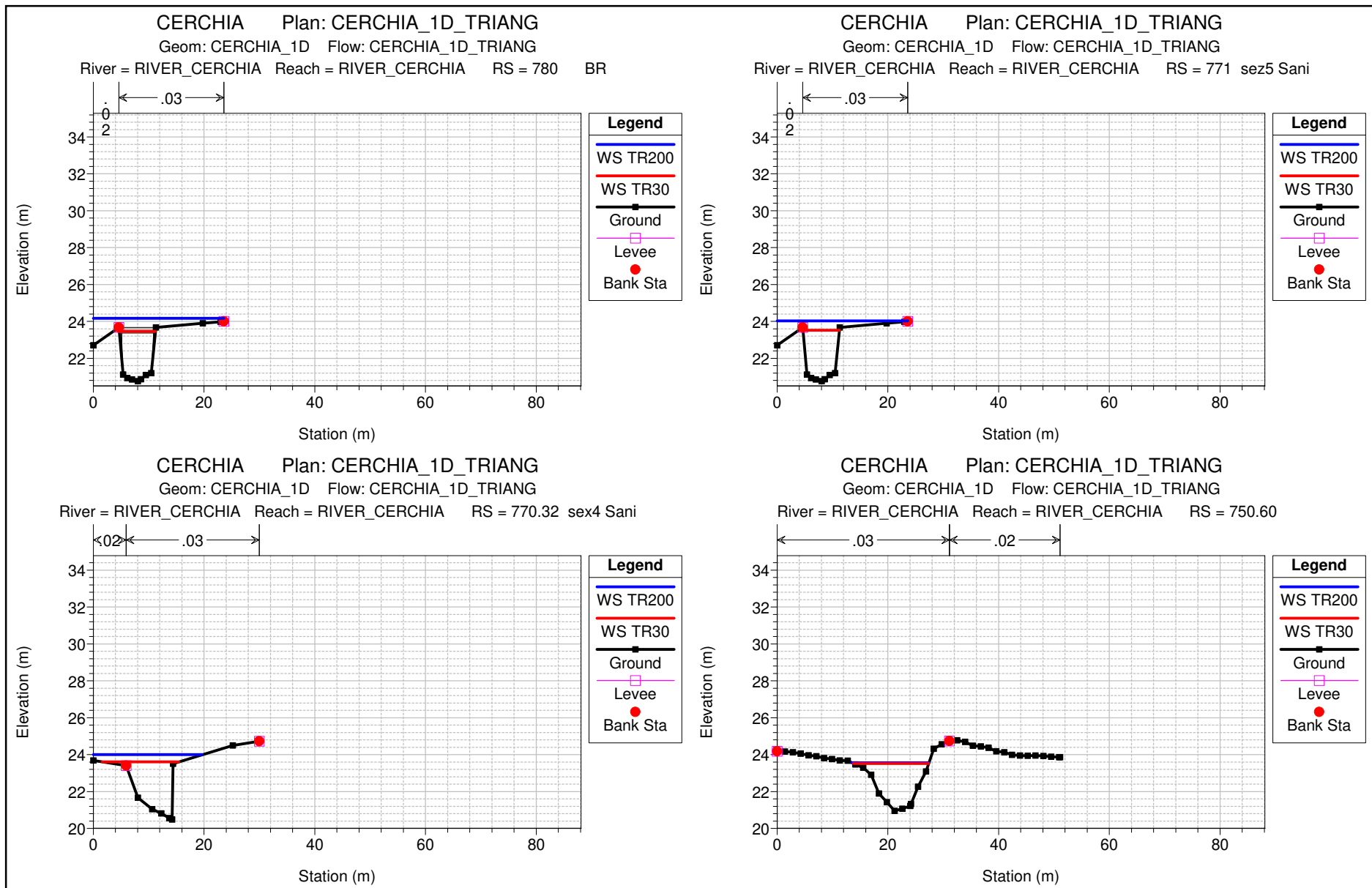
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



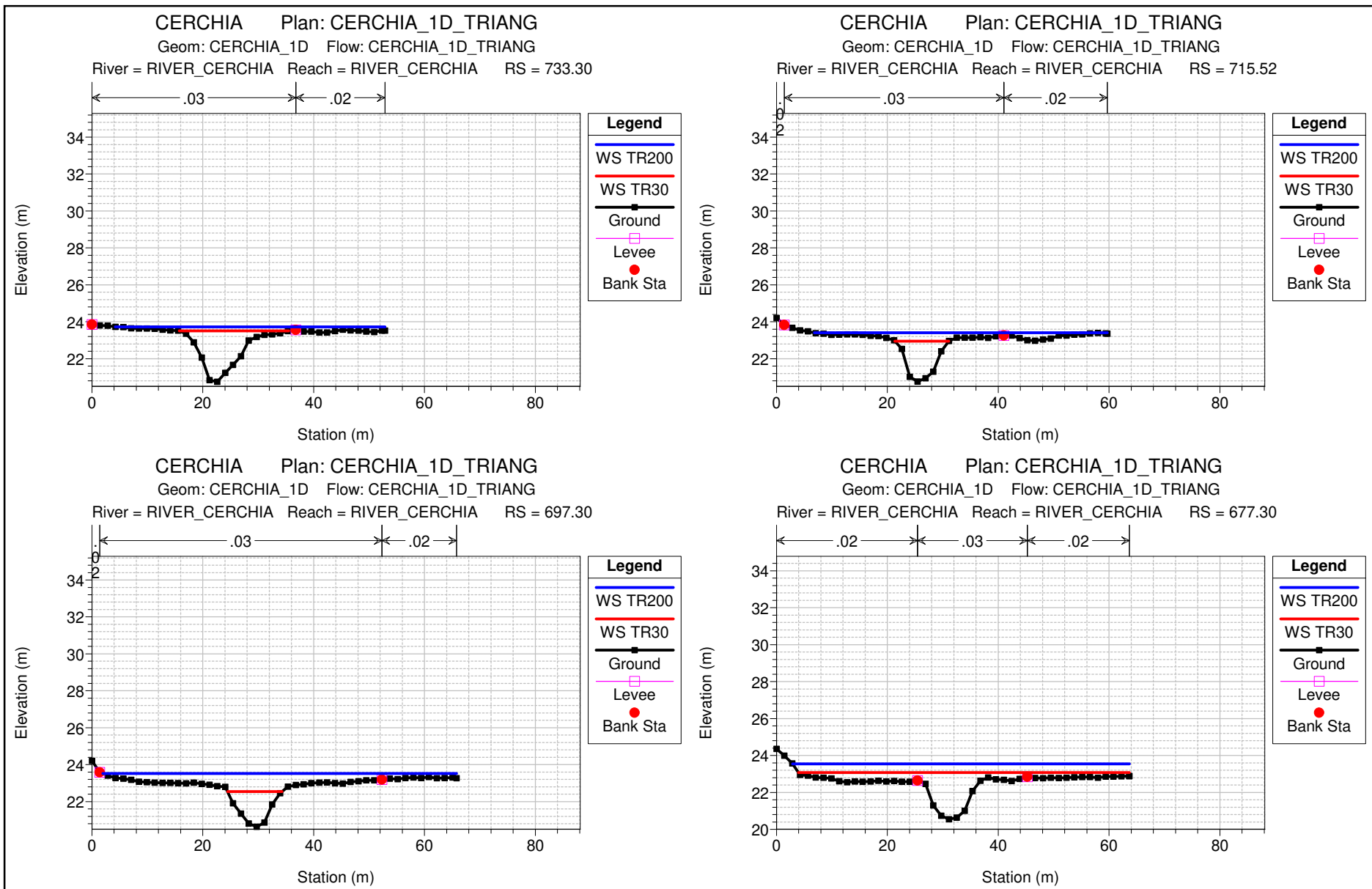
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



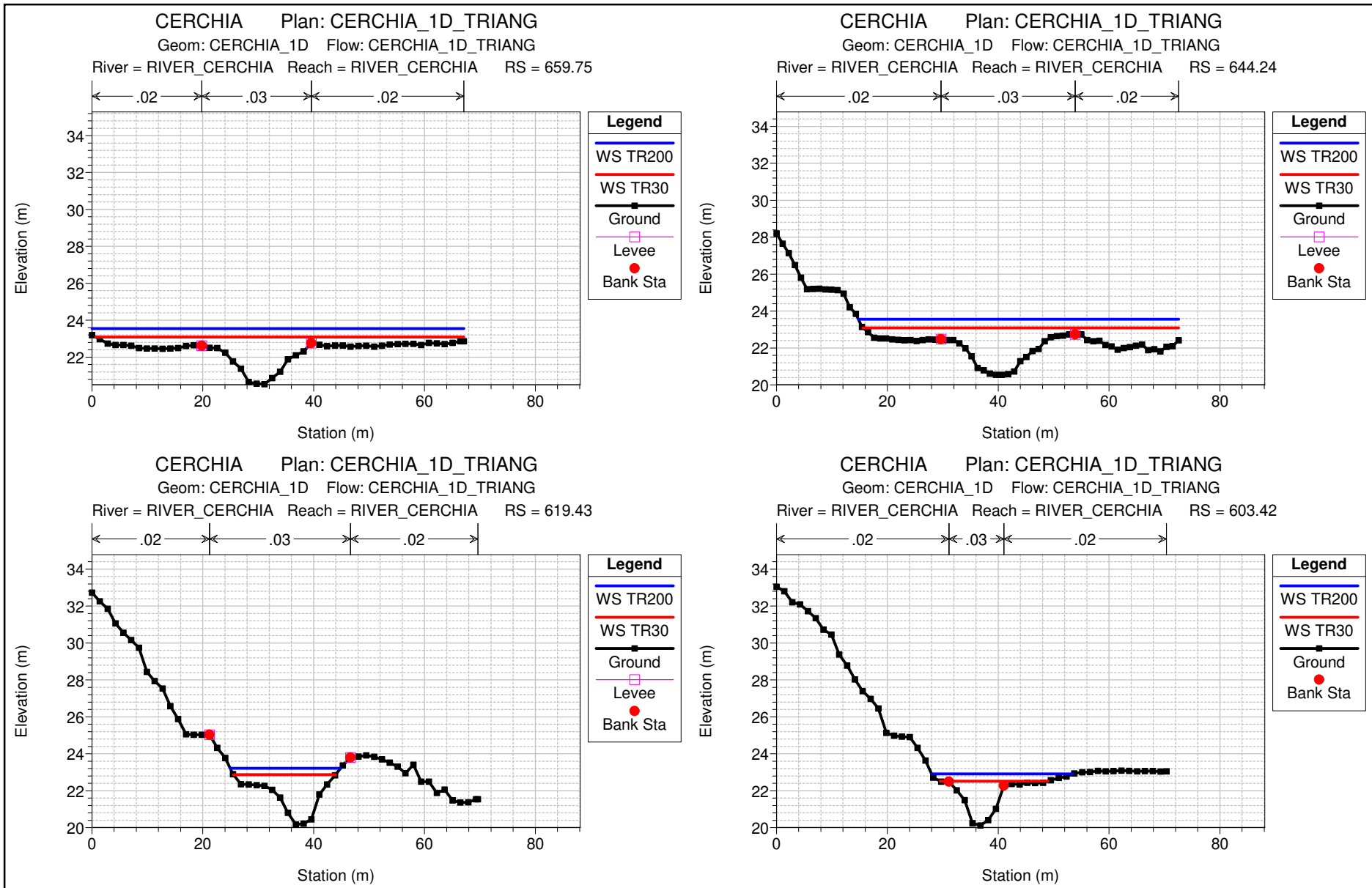
1 cm Horiz. = 10 m 1 cm Vert. = 3 m

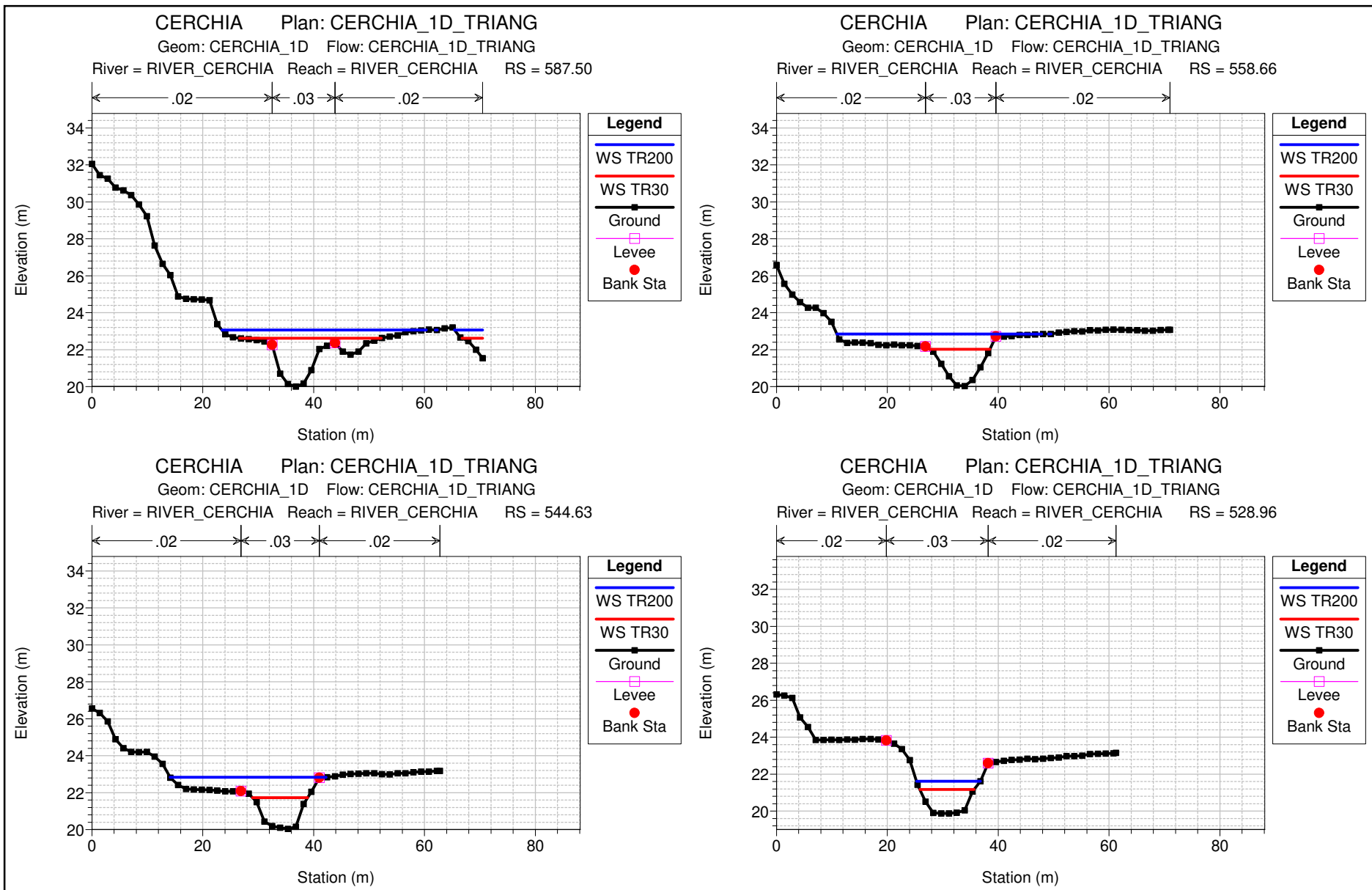


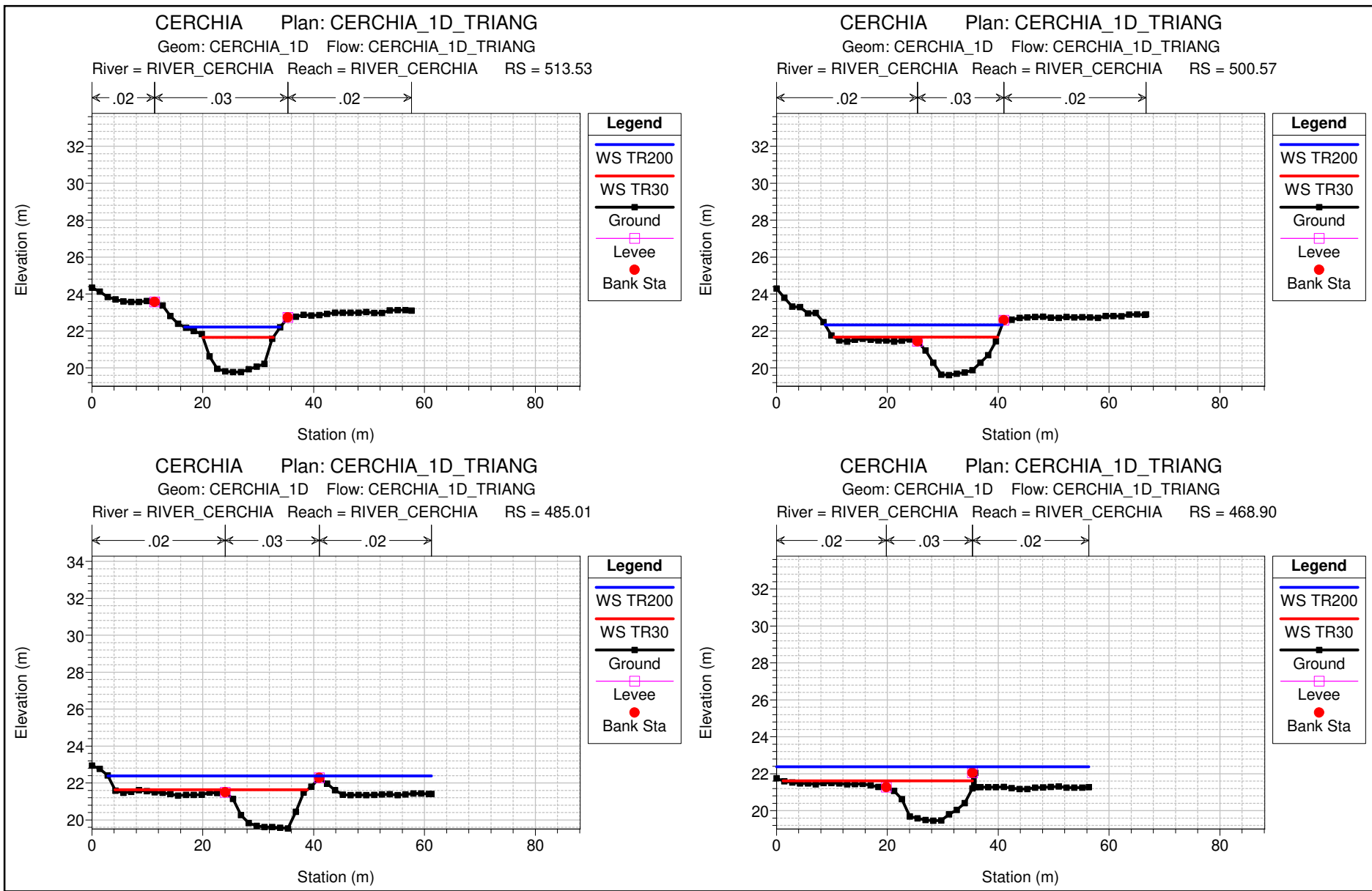
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



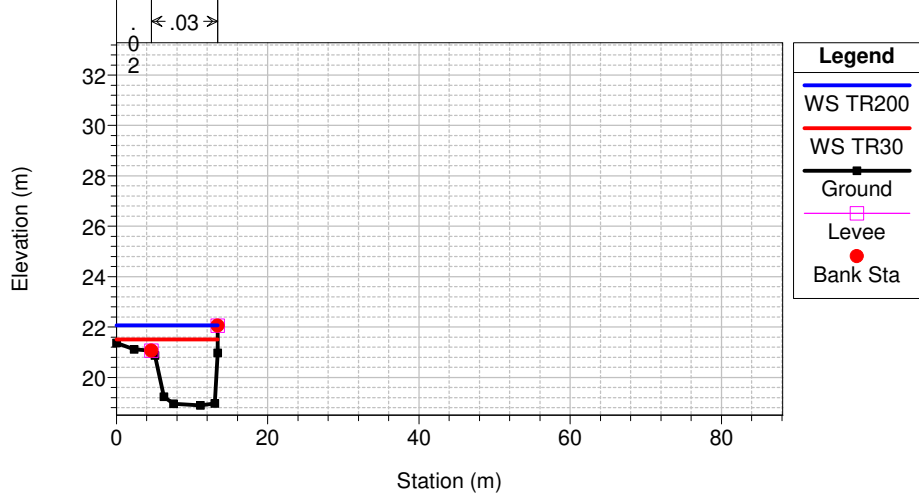
1 cm Horiz. = 10 m 1 cm Vert. = 3 m



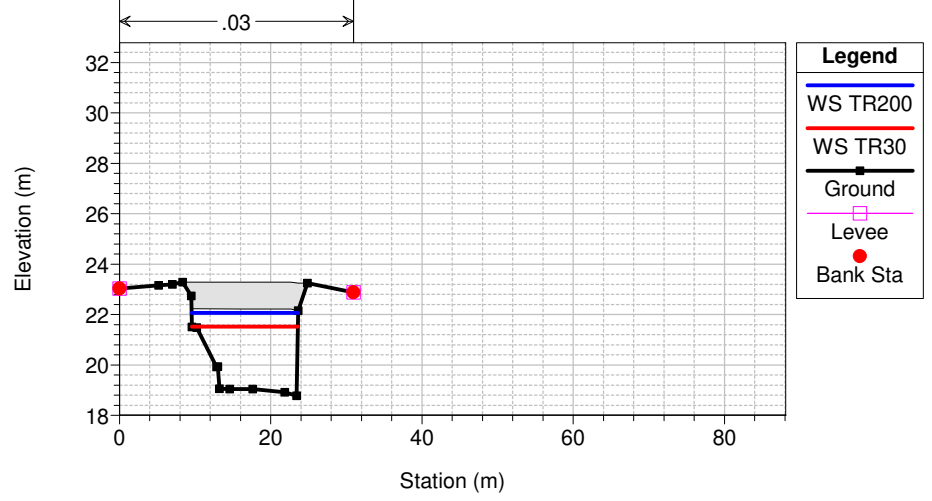




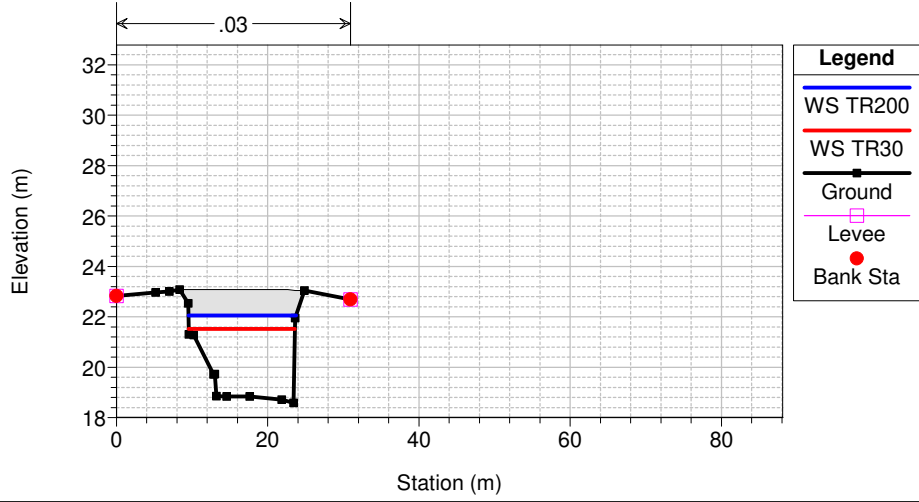
CERCHIA Plan: CERCHIA_1D_TRIANG
 Geom: CERCHIA_1D Flow: CERCHIA_1D_TRIANG
 River = RIVER_CERCHIA Reach = RIVER_CERCHIA RS = 453.47 sez2 Sani



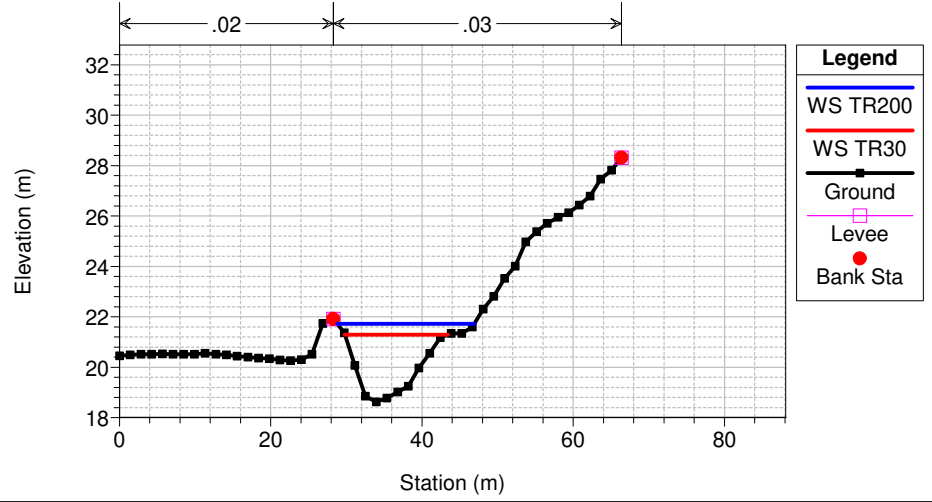
CERCHIA Plan: CERCHIA_1D_TRIANG
 Geom: CERCHIA_1D Flow: CERCHIA_1D_TRIANG
 River = RIVER_CERCHIA Reach = RIVER_CERCHIA RS = 420.70 sez1 Sani



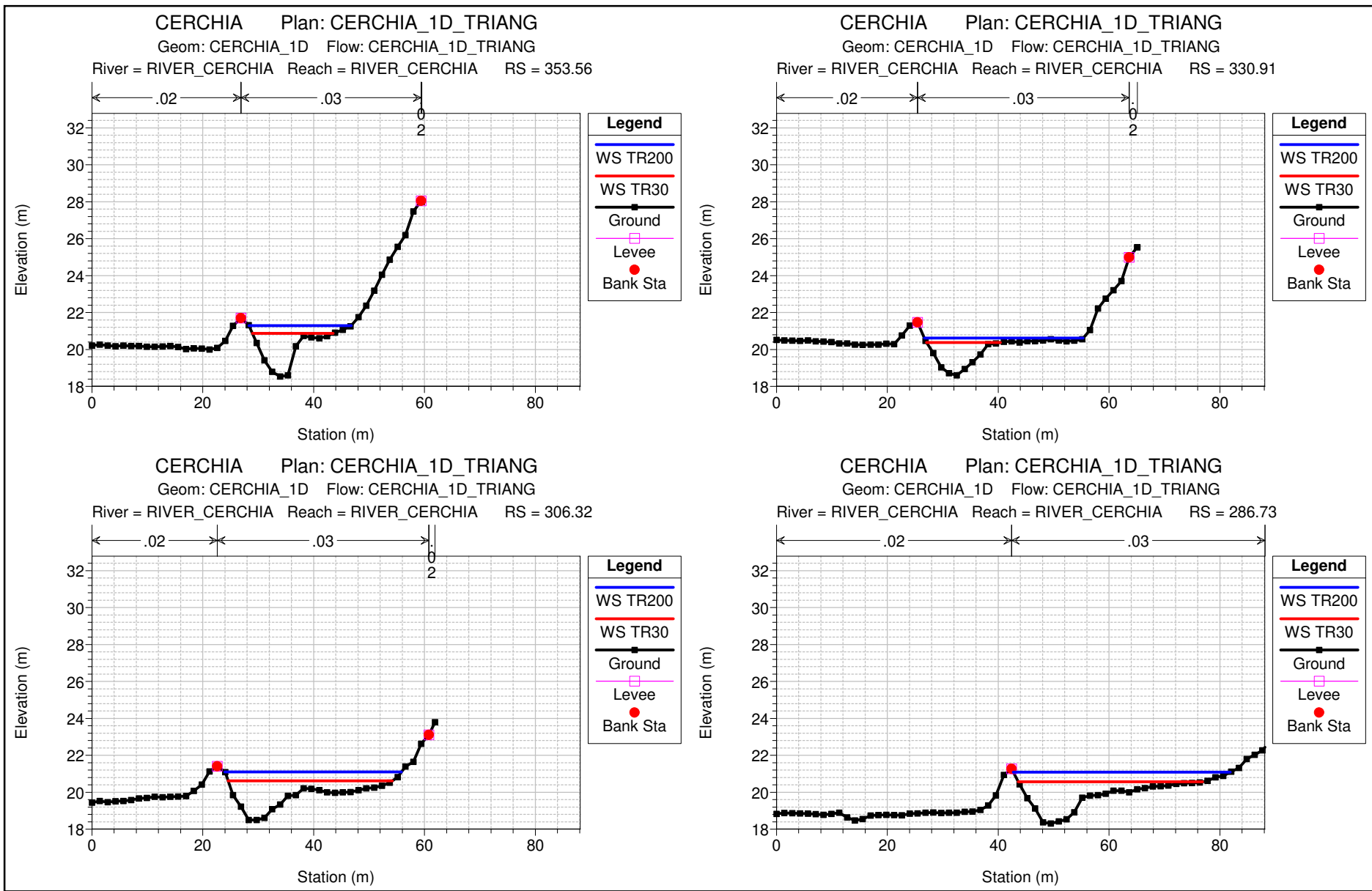
CERCHIA Plan: CERCHIA_1D_TRIANG
 Geom: CERCHIA_1D Flow: CERCHIA_1D_TRIANG
 River = RIVER_CERCHIA Reach = RIVER_CERCHIA RS = 412.7

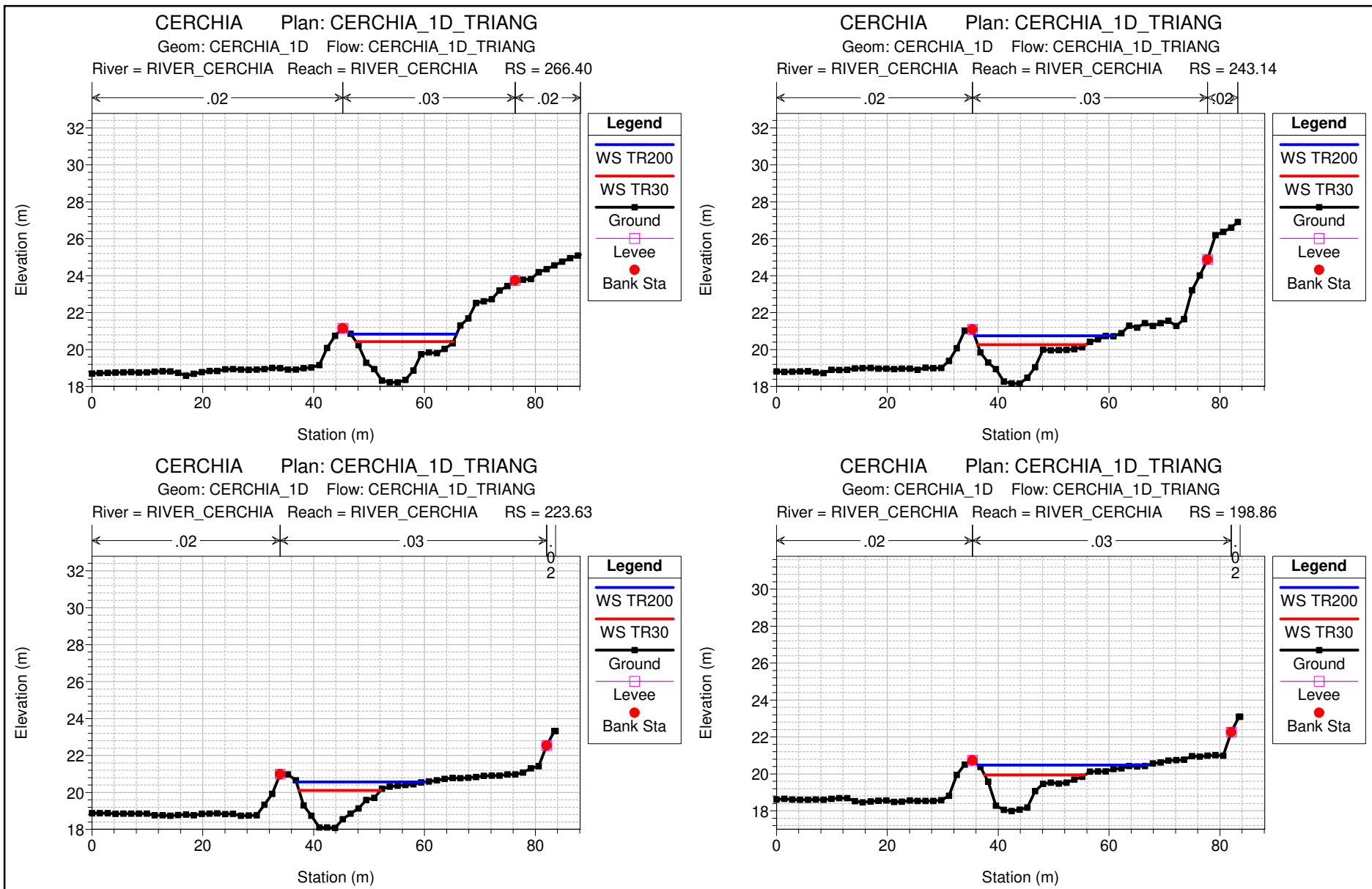


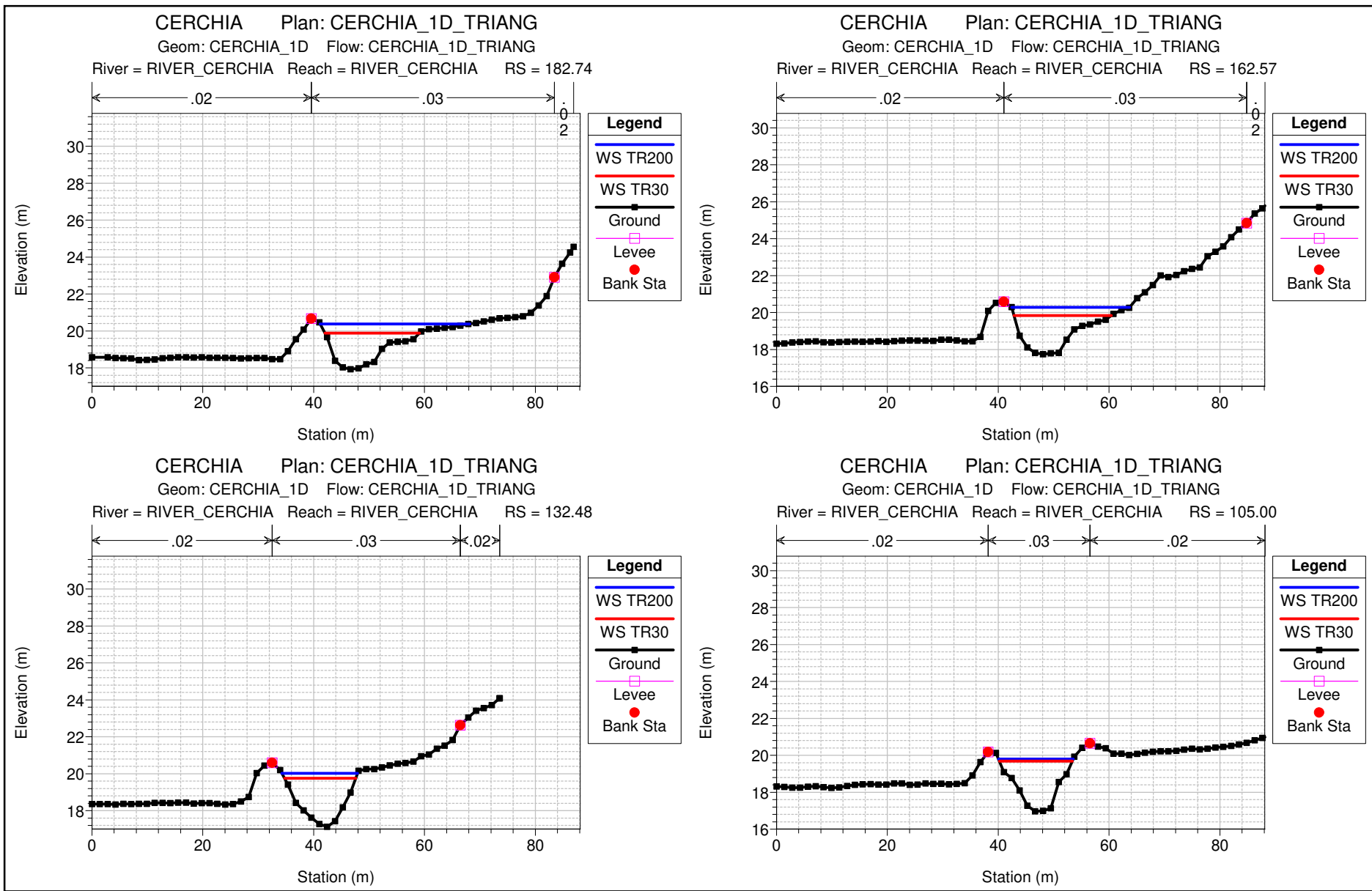
CERCHIA Plan: CERCHIA_1D_TRIANG
 Geom: CERCHIA_1D Flow: CERCHIA_1D_TRIANG
 River = RIVER_CERCHIA Reach = RIVER_CERCHIA RS = 380.98



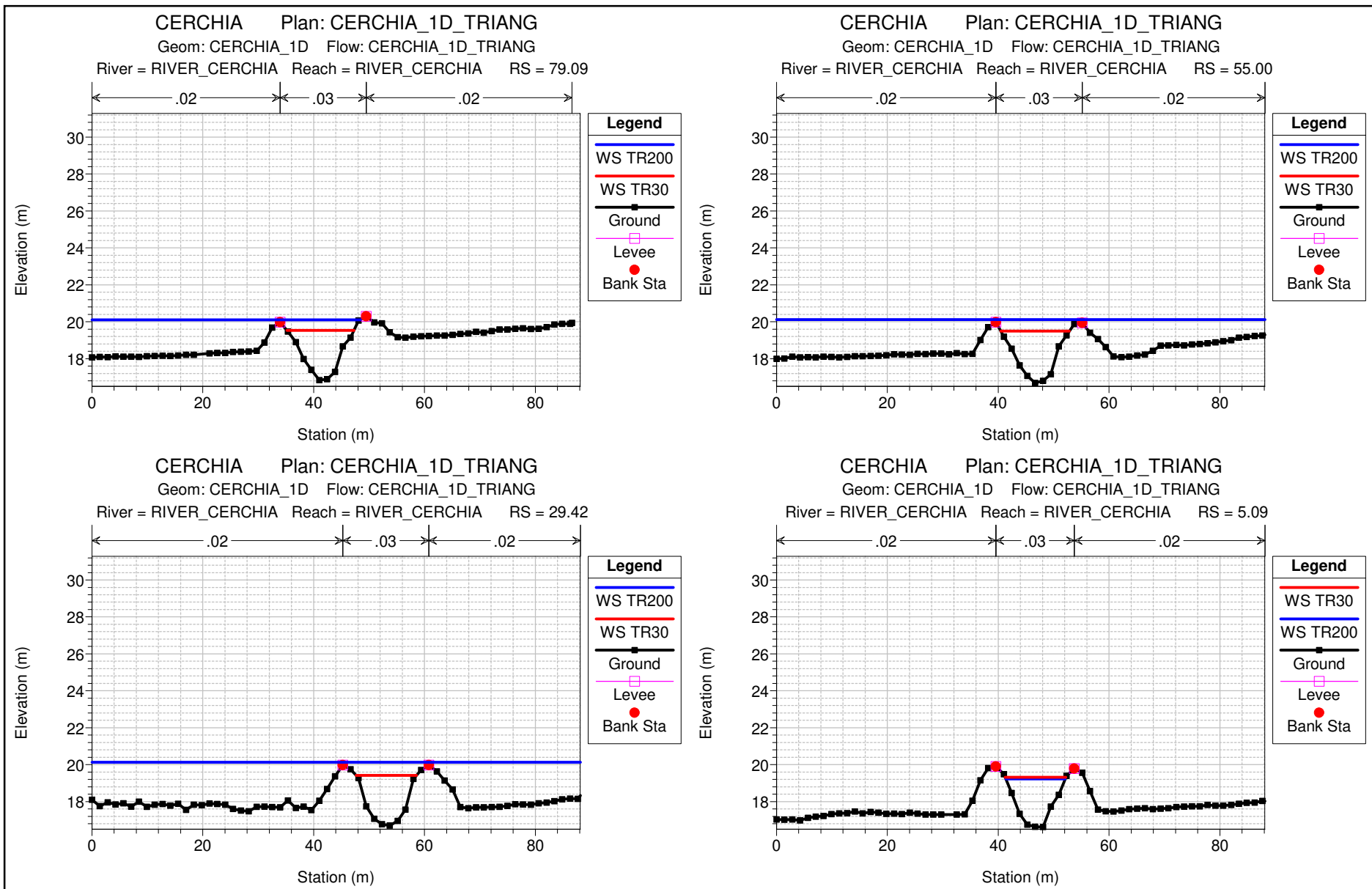
1 cm Horiz. = 10 m 1 cm Vert. = 3 m







1 cm Horiz. = 10 m 1 cm Vert. = 3 m



1 cm Horiz. = 10 m 1 cm Vert. = 3 m

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Max Chl Dpth (m)	LOB Elev (m)	ROB Elev (m)	L. Freeboard (m)	R. Freeboard (m)	Vel Chnl (m/s)	Froude # Chl	Length Chnl (m)
RIVER_CERCHIA	1821.26	TR200	71.05	37.07	39.59	2.52	40.32	40.54	0.73	0.95	3.95	1.03	8.37
RIVER_CERCHIA	1821.26	TR30	43.45	37.07	39.13	2.06	40.32	40.54	1.19	1.41	3.42	1.00	8.37
RIVER_CERCHIA	1796.15	TR200	71.05	36.44	38.80	2.36	40.39	39.78	1.59	0.98	4.85	1.38	8.14
RIVER_CERCHIA	1796.15	TR30	43.45	36.44	38.23	1.79	40.39	39.78	2.16	1.55	4.66	1.39	8.14
RIVER_CERCHIA	1771.73	TR200	71.05	36.05	37.85	1.80	38.98	38.18	1.13	0.33	5.35	1.88	9.17
RIVER_CERCHIA	1771.73	TR30	43.45	36.05	37.60	1.54	38.98	38.18	1.39	0.59	4.67	1.92	9.17
RIVER_CERCHIA	1744.23	TR200	71.05	35.79	37.59	1.80	38.34	39.64	0.75	2.05	4.41	1.47	8.13
RIVER_CERCHIA	1744.23	TR30	43.45	35.79	37.76	1.97	38.34	39.64	0.58	1.88	2.24	0.71	8.13
RIVER_CERCHIA	1719.85	TR200	71.05	35.71	37.78	2.07	38.08	38.20	0.30	0.42	3.37	1.00	8.18
RIVER_CERCHIA	1719.85	TR30	43.45	35.71	37.41	1.70	38.08	38.20	0.67	0.79	2.97	1.00	8.18
RIVER_CERCHIA	1695.30	TR200	71.05	35.37	37.27	1.90	37.49	37.56	0.22	0.29	3.89	1.26	7.55
RIVER_CERCHIA	1695.30	TR30	43.45	35.37	36.99	1.62	37.49	37.56	0.50	0.57	3.28	1.21	7.55
RIVER_CERCHIA	1672.63	TR200	71.05	34.73	36.58	1.85	36.74	36.71	0.16	0.13	4.52	1.72	6.78
RIVER_CERCHIA	1672.63	TR30	43.45	34.73	36.33	1.60	36.74	36.71	0.41	0.38	3.95	1.59	6.78
RIVER_CERCHIA	1652.29	TR200	71.05	34.27	35.74	1.47	36.01	36.65	0.27	0.91	5.14	1.81	7.44
RIVER_CERCHIA	1652.29	TR30	43.45	34.27	35.43	1.16	36.01	36.65	0.58	1.22	4.78	1.82	7.44
RIVER_CERCHIA	1629.96	TR200	71.05	32.48	34.25	1.77	35.70	36.12	1.45	1.87	6.30	1.86	9.88
RIVER_CERCHIA	1629.96	TR30	43.45	32.48	33.79	1.31	35.70	36.12	1.92	2.33	6.07	2.06	9.88
RIVER_CERCHIA	1610.18	TR200	71.05	31.87	33.68	1.81	35.49	34.60	1.81	0.93	6.19	1.80	8.07
RIVER_CERCHIA	1610.18	TR30	43.45	31.87	33.27	1.40	35.49	34.60	2.22	1.33	5.55	1.84	8.07
RIVER_CERCHIA	1585.97	TR200	71.05	30.78	32.75	1.97	34.51	34.98	1.76	2.23	6.40	1.88	9.38
RIVER_CERCHIA	1585.97	TR30	43.45	30.78	32.37	1.59	34.51	34.98	2.14	2.61	5.65	1.87	9.38
RIVER_CERCHIA	1567.21	TR200	71.05	30.72	33.41	2.70	34.34	34.16	0.93	0.75	3.87	1.00	7.41
RIVER_CERCHIA	1567.21	TR30	43.45	30.72	32.92	2.20	34.34	34.16	1.42	1.24	3.42	1.00	7.41
RIVER_CERCHIA	1552.39	TR200	71.05	30.52	32.95	2.43	34.43	33.95	1.49	1.00	4.52	1.18	7.50
RIVER_CERCHIA	1552.39	TR30	43.45	30.52	32.96	2.44	34.43	33.95	1.48	0.99	2.74	0.72	7.50
RIVER_CERCHIA	1529.89	TR200	71.05	30.43	33.05	2.62	33.14	33.95	0.09	0.89	3.83	1.00	9.46
RIVER_CERCHIA	1529.89	TR30	43.45	30.43	32.87	2.43	33.14	33.95	0.27	1.08	2.66	0.71	9.46
RIVER_CERCHIA	1510.96	TR200	71.05	30.37	33.18	2.82	33.28	33.58	0.10	0.39	2.37	0.76	7.52
RIVER_CERCHIA	1510.96	TR30	43.45	30.37	32.92	2.55	33.28	33.58	0.36	0.66	1.91	0.63	7.52
RIVER_CERCHIA	1488.40	TR200	71.05	29.91	33.00	3.09	32.86	33.15	-0.14	0.15	2.85	0.72	9.22
RIVER_CERCHIA	1488.40	TR30	43.45	29.91	32.32	2.41	32.86	33.15	0.54	0.84	3.59	1.00	9.22
RIVER_CERCHIA	1460.73	TR200	71.05	29.56	31.70	2.14	32.32	32.55	0.62	0.85	4.96	1.41	9.90
RIVER_CERCHIA	1460.73	TR30	43.45	29.56	31.14	1.59	32.32	32.55	1.18	1.40	4.95	1.57	9.90
RIVER_CERCHIA	1440.95	TR200	71.05	29.35	31.20	1.84	31.75	31.87	0.56	0.67	5.17	1.52	8.19
RIVER_CERCHIA	1440.95	TR30	43.45	29.35	30.80	1.45	31.75	31.87	0.95	1.07	4.62	1.54	8.19
RIVER_CERCHIA	1416.38	TR200	71.05	28.93	31.67	2.74	31.87	31.74	0.20	0.07	2.89	0.78	9.60
RIVER_CERCHIA	1416.38	TR30	43.45	28.93	31.09	2.16	31.87	31.74	0.78	0.65	2.78	0.80	9.60
RIVER_CERCHIA	1397.18	TR200	71.05	28.73	31.68	2.95	31.80	31.88	0.12	0.20	2.37	0.66	7.20
RIVER_CERCHIA	1397.18	TR30	43.45	28.73	31.01	2.28	31.80	31.88	0.80	0.88	2.60	0.84	7.20
RIVER_CERCHIA	1375.57	TR200	71.05	28.41	31.17	2.76	31.43	31.36	0.26	0.19	3.62	1.00	7.14
RIVER_CERCHIA	1375.57	TR30	43.45	28.41	30.51	2.10	31.43	31.36	0.91	0.85	3.62	1.00	7.14
RIVER_CERCHIA	1354.14	TR200	71.05	28.15	30.28	2.13	31.04	31.02	0.76	0.74	4.87	1.33	8.40
RIVER_CERCHIA	1354.14	TR30	43.45	28.15	29.75	1.60	31.04	31.02	1.28	1.26	4.57	1.41	8.40
RIVER_CERCHIA	1337.34	TR200	71.05	27.97	30.50	2.53	30.61	30.83	0.11	0.33	3.65	1.11	7.48
RIVER_CERCHIA	1337.34	TR30	43.45	27.97	30.20	2.23	30.61	30.83	0.41	0.63	3.02	1.00	7.48
RIVER_CERCHIA	1314.90	TR200	71.05	27.89	29.83	1.94	29.91	30.31	0.09	0.48	4.38	1.38	9.77
RIVER_CERCHIA	1314.90	TR30	43.45	27.89	29.42	1.54	29.91	30.31	0.49	0.88	4.14	1.34	9.77
RIVER_CERCHIA	1295.35	TR200	71.05	27.70	29.68	1.98	29.57	30.22	-0.11	0.54	3.94	1.15	9.43
RIVER_CERCHIA	1295.35	TR30	43.45	27.70	29.19	1.48	29.57	30.22	0.38	1.03	3.83	1.25	9.43
RIVER_CERCHIA	1267.05	TR200	71.05	27.35	29.15	1.80	29.28	29.04	0.13	-0.11	4.13	1.51	7.90
RIVER_CERCHIA	1267.05	TR30	43.45	27.35	29.01	1.67	29.28	29.04	0.27	0.03	3.07	1.14	7.90
RIVER_CERCHIA	1243.34	TR200	71.05	26.86	29.26	2.41	30.17	28.82	0.90	-0.44	2.71	0.75	6.82
RIVER_CERCHIA	1243.34	TR30	43.45	26.86	28.49	1.63	30.17	28.82	1.68	0.33	3.65	1.18	6.82
RIVER_CERCHIA	1222.87	TR200	71.05	26.47	29.00	2.53	29.29	29.27	0.29	0.26	2.82	0.84	7.15
RIVER_CERCHIA	1222.87	TR30	43.45	26.47	28.73	2.25	29.29	29.27	0.56	0.54	2.12	0.57	7.15
RIVER_CERCHIA	1201.42	TR200	71.05	26.29	28.79	2.51	28.91	28.79	0.12	0.00	2.91	0.99	7.08
RIVER_CERCHIA	1201.42	TR30	43.45	26.29	28.43	2.15	28.91	28.79	0.48	0.36	2.74	1.00	7.08
RIVER_CERCHIA	1180.19	TR200	71.05	26.03	27.93	1.90	28.70	27.84	0.76	-0.10	4.36	1.52	9.33
RIVER_CERCHIA	1180.19	TR30	43.45	26.03	27.79	1.76	28.70	27.84	0.91	0.05	3.62	1.36	9.33
RIVER_CERCHIA	1161.53	TR200	71.05	25.72	27.80	2.08	28.10	27.64	0.30	-0.17	3.57	1.21	9.69
RIVER_CERCHIA	1161.53	TR30	43.45	25.72	27.31	1.58	28.10	27.64	0.80	0.33	4.04	1.32	9.69
RIVER_CERCHIA	1142.16	TR200	71.05	25.54	27.94	2.40	27.43	28.07	-0.51	0.14	2.07	0.67	9.49
RIVER_CERCHIA	1142.16	TR30	43.45	25.54	27.67	2.14	27.43	28.07	-0.24	0.40	1.82	0.68	9.49
RIVER_CERCHIA	1113.68	TR200	71.05	25.30	27.57	2.27	27.29	27.96	-0.28	0.39	3.00	0.87	7.52

HEC-RAS Plan: CERCHIA_1D_TRIANG River: RIVER_CERCHIA Reach: RIVER_CERCHIA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Max Chl Dpth (m)	LOB Elev (m)	ROB Elev (m)	L. Freeboard (m)	R. Freeboard (m)	Vel Chnl (m/s)	Froude # Chl	Length Chnl (m)
RIVER_CERCHIA	1113.68	TR30	43.45	25.30	26.96	1.67	27.29	27.96	0.33	1.00	3.38	1.03	7.52
RIVER_CERCHIA	1083.60	TR200	71.05	24.75	27.18	2.43	27.27	27.97	0.10	0.79	3.21	0.87	7.82
RIVER_CERCHIA	1083.60	TR30	43.45	24.75	26.81	2.06	27.27	27.97	0.46	1.16	2.59	0.74	7.82
RIVER_CERCHIA	1060.14	TR200	71.05	24.60	26.93	2.33	27.03	27.22	0.10	0.29	3.40	1.00	7.44
RIVER_CERCHIA	1060.14	TR30	43.45	24.60	26.53	1.93	27.03	27.22	0.50	0.70	3.04	1.00	7.44
RIVER_CERCHIA	1037.82	TR200	71.05	24.21	26.58	2.37	26.78	26.77	0.20	0.19	3.56	1.15	8.05
RIVER_CERCHIA	1037.82	TR30	43.45	24.21	26.45	2.24	26.78	26.77	0.33	0.33	2.52	0.85	8.05
RIVER_CERCHIA	1013.67	TR200	71.05	23.84	26.58	2.74	26.55	26.36	-0.03	-0.23	2.87	0.83	8.62
RIVER_CERCHIA	1013.67	TR30	43.45	23.84	26.00	2.16	26.55	26.36	0.55	0.35	3.39	1.00	8.62
RIVER_CERCHIA	970.58	TR200	71.05	23.62	25.80	2.17	25.55	25.66	-0.24	-0.13	3.83	1.14	6.75
RIVER_CERCHIA	970.58	TR30	43.45	23.62	25.71	2.09	25.55	25.66	-0.16	-0.05	2.58	0.80	6.75
RIVER_CERCHIA	950.32	TR200	71.05	23.33	25.67	2.34	25.31	25.91	-0.35	0.24	3.66	1.03	8.77
RIVER_CERCHIA	950.32	TR30	43.45	23.33	25.49	2.16	25.31	25.91	-0.18	0.42	2.92	0.85	8.77
RIVER_CERCHIA	906.48	TR200	71.05	22.77	24.93	2.16	24.70	25.71	-0.23	0.78	4.12	1.24	7.32
RIVER_CERCHIA	906.48	TR30	43.45	22.77	25.18	2.40	24.70	25.71	-0.48	0.54	1.73	0.50	7.32
RIVER_CERCHIA	884.51	TR200	71.05	22.55	24.76	2.21	24.75	25.14	-0.01	0.37	3.46	1.03	6.97
RIVER_CERCHIA	884.51	TR30	43.45	22.55	24.62	2.07	24.75	25.14	0.13	0.51	2.08	1.00	6.97
RIVER_CERCHIA	863.59	TR200	71.05	21.97	25.15	3.18	24.64	25.44	-0.51	0.29	1.24	0.28	6.77
RIVER_CERCHIA	863.59	TR30	43.45	21.97	24.57	2.60	24.64	25.44	0.07	0.86	1.05	0.26	6.77
RIVER_CERCHIA	843.27	TR200	71.05	21.72	24.86	3.13	28.04	24.82	3.18	-0.04	2.47	0.65	9.34
RIVER_CERCHIA	843.27	TR30	43.45	21.72	24.33	2.61	28.04	24.82	3.71	0.49	2.21	0.61	9.34
RIVER_CERCHIA	824.59	TR200	71.05	21.53	24.85	3.31	26.55	26.05	1.70	1.20	2.18	0.61	9.37
RIVER_CERCHIA	824.59	TR30	43.45	21.53	24.29	2.76	26.55	26.05	2.26	1.76	2.07	0.58	9.37
RIVER_CERCHIA	805.84	TR200	71.05	21.24	24.85	3.62	25.26	24.90	0.40	0.05	1.76	0.48	7.05
RIVER_CERCHIA	805.84	TR30	43.45	21.24	24.28	3.04	25.26	24.90	0.98	0.62	1.76	0.57	7.05
RIVER_CERCHIA	791.75	TR200	71.05	21.45	24.36	2.91	25.01	24.73	0.65	0.37	3.30	1.00	5.55
RIVER_CERCHIA	791.75	TR30	43.45	21.45	23.84	2.39	25.01	24.73	1.17	0.89	3.14	0.91	5.55
RIVER_CERCHIA	780.65	TR200	71.05	20.77	24.53	3.76	23.67	24.00	-0.86	-0.53	1.88	0.48	0.65
RIVER_CERCHIA	780.65	TR30	43.45	20.77	24.03	3.26	23.67	24.00	-0.36	-0.03	1.72	0.53	0.65
RIVER_CERCHIA	780		Bridge										
RIVER_CERCHIA	771	TR200	71.05	20.77	24.03	3.26	23.67	24.00	-0.36	-0.03	2.82	0.86	5.16
RIVER_CERCHIA	771	TR30	43.45	20.77	23.53	2.76	23.67	24.00	0.14	0.47	2.92	0.62	5.16
RIVER_CERCHIA	770.32	TR200	71.05	20.48	24.00	3.52	23.40	24.73	-0.60	0.73	2.83	0.70	9.86
RIVER_CERCHIA	770.32	TR30	43.45	20.48	23.60	3.12	23.40	24.73	-0.20	1.13	2.32	0.53	9.86
RIVER_CERCHIA	750.60	TR200	71.05	20.95	23.56	2.61	24.18	24.74	0.63	1.18	3.63	0.98	8.66
RIVER_CERCHIA	750.60	TR30	43.45	20.95	23.52	2.57	24.18	24.74	0.67	1.22	2.28	0.62	8.66
RIVER_CERCHIA	733.30	TR200	71.05	20.75	23.73	2.98	23.86	23.55	0.13	-0.17	2.45	0.87	8.89
RIVER_CERCHIA	733.30	TR30	43.45	20.75	23.50	2.75	23.86	23.55	0.36	0.05	2.13	0.67	8.89
RIVER_CERCHIA	715.52	TR200	71.05	20.76	23.40	2.64	23.83	23.26	0.42	-0.14	2.99	1.21	9.11
RIVER_CERCHIA	715.52	TR30	43.45	20.76	22.95	2.19	23.83	23.26	0.88	0.31	3.52	1.00	9.11
RIVER_CERCHIA	697.30	TR200	71.05	20.64	23.52	2.89	23.59	23.19	0.06	-0.33	1.66	0.59	10.00
RIVER_CERCHIA	697.30	TR30	43.45	20.64	22.54	1.90	23.59	23.19	1.05	0.65	3.95	1.20	10.00
RIVER_CERCHIA	677.30	TR200	71.05	20.55	23.54	2.99	22.65	22.85	-0.90	-0.70	1.13	0.29	8.77
RIVER_CERCHIA	677.30	TR30	43.45	20.55	23.07	2.52	22.65	22.85	-0.43	-0.23	1.38	0.42	8.77
RIVER_CERCHIA	659.75	TR200	71.05	20.54	23.55	3.01	22.62	22.76	-0.93	-0.80	0.93	0.22	7.76
RIVER_CERCHIA	659.75	TR30	43.45	20.54	23.08	2.54	22.62	22.76	-0.46	-0.33	1.02	0.27	7.76
RIVER_CERCHIA	644.24	TR200	71.05	20.54	23.55	3.01	22.48	22.73	-1.07	-0.82	0.78	0.18	8.27
RIVER_CERCHIA	644.24	TR30	43.45	20.54	23.09	2.55	22.48	22.73	-0.61	-0.36	0.72	0.20	8.27
RIVER_CERCHIA	619.43	TR200	71.05	20.16	23.22	3.06	25.03	23.80	1.81	0.58	2.45	0.65	8.01
RIVER_CERCHIA	619.43	TR30	43.45	20.16	22.87	2.71	25.03	23.80	2.16	0.93	1.95	0.57	8.01
RIVER_CERCHIA	603.42	TR200	71.05	20.11	22.90	2.79	22.49	22.27	-0.41	-0.63	3.31	0.79	7.95
RIVER_CERCHIA	603.42	TR30	43.45	20.11	22.52	2.41	22.49	22.27	-0.03	-0.25	3.01	0.81	7.95
RIVER_CERCHIA	587.50	TR200	71.05	20.00	23.06	3.06	22.25	22.37	-0.81	-0.70	2.06	0.46	9.61
RIVER_CERCHIA	587.50	TR30	43.45	20.00	22.62	2.62	22.25	22.37	-0.36	-0.25	1.99	0.51	9.61
RIVER_CERCHIA	558.66	TR200	71.05	20.03	22.84	2.82	22.18	22.72	-0.66	-0.12	2.46	0.59	7.01
RIVER_CERCHIA	558.66	TR30	43.45	20.03	22.02	1.99	22.18	22.72	0.16	0.70	3.40	1.00	7.01
RIVER_CERCHIA	544.63	TR200	71.05	20.03	22.83	2.80	22.08	22.81	-0.76	-0.03	2.22	0.53	7.83
RIVER_CERCHIA	544.63	TR30	43.45	20.03	21.72	1.69	22.08	22.81	0.36	1.09	3.77	1.12	7.83
RIVER_CERCHIA	528.96	TR200	71.05	19.88	21.62	1.74	23.82	22.60	2.20	0.98	4.90	1.39	7.72
RIVER_CERCHIA	528.96	TR30	43.45	19.88	21.17	1.29	23.82	22.60	2.65	1.43	4.49	1.44	7.72
RIVER_CERCHIA	513.53	TR200	71.05	19.77	22.21	2.43	23.57	22.73	1.36	0.52	2.68	0.69	6.48
RIVER_CERCHIA	513.53	TR30	43.45	19.77	21.65	1.88	23.57	22.73	1.91	1.08	2.35	0.62	6.48
RIVER_CERCHIA	500.57	TR200	71.05	19.61	22.33	2.73	21.44	22.58	-0.89	0.24	1.72	0.39	7.78
RIVER_CERCHIA	500.57	TR30	43.45	19.61	21.67	2.07	21.44	22.58	-0.23	0.90	2.01	0.54	7.78

HEC-RAS Plan: CERCHIA_1D_TRIANG River: RIVER_CERCHIA Reach: RIVER_CERCHIA (Continued)

Reach	River Sta	Profile	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Max Chl Dpth (m)	LOB Elev (m)	ROB Elev (m)	L. Freeboard (m)	R. Freeboard (m)	Vel Chnl (m/s)	Froude # Chl	Length Chnl (m)
RIVER_CERCHIA	485.01	TR200	71.05	19.54	22.38	2.84	21.50	22.29	-0.88	-0.09	1.06	0.24	8.05
RIVER_CERCHIA	485.01	TR30	43.45	19.54	21.63	2.09	21.50	22.29	-0.13	0.66	1.91	0.51	8.05
RIVER_CERCHIA	468.90	TR200	71.05	19.46	22.38	2.92	21.27	22.05	-1.11	-0.33	0.98	0.21	7.72
RIVER_CERCHIA	468.90	TR30	43.45	19.46	21.62	2.16	21.27	22.05	-0.35	0.43	1.74	0.45	7.72
RIVER_CERCHIA	453.47	TR200	71.05	18.90	22.06	3.16	21.06	22.05	-1.00	-0.01	2.54	0.48	8.19
RIVER_CERCHIA	453.47	TR30	43.45	18.90	21.51	2.61	21.06	22.05	-0.45	0.54	2.13	0.45	8.19
RIVER_CERCHIA	420.70	TR200	71.05	18.78	22.07	3.29	22.23	22.15	0.16	0.08	1.94	0.38	9.10
RIVER_CERCHIA	420.70	TR30	43.45	18.78	21.52	2.74	22.23	22.15	0.71	0.63	1.50	0.33	9.10
RIVER_CERCHIA	412.7	TR200	71.05	18.58	22.05	3.47	22.03	21.95	-0.02	-0.10	1.83	0.31	9.93
RIVER_CERCHIA	412.7	TR30	43.45	18.58	21.52	2.94	22.03	21.95	0.51	0.43	1.37	0.29	9.93
RIVER_CERCHIA	380.98	TR200	71.05	18.63	21.72	3.09	21.91	28.31	0.20	6.59	2.48	0.63	9.14
RIVER_CERCHIA	380.98	TR30	43.45	18.63	21.29	2.66	21.91	28.31	0.62	7.02	2.01	0.51	9.14
RIVER_CERCHIA	353.56	TR200	71.05	18.53	21.29	2.76	21.69	28.05	0.40	6.76	3.35	1.00	7.55
RIVER_CERCHIA	353.56	TR30	43.45	18.53	20.87	2.33	21.69	28.05	0.83	7.18	3.08	1.00	7.55
RIVER_CERCHIA	330.91	TR200	71.05	18.59	20.61	2.02	21.47	24.98	0.86	4.37	4.05	1.65	8.20
RIVER_CERCHIA	330.91	TR30	43.45	18.59	20.37	1.78	21.47	24.98	1.10	4.61	3.58	1.20	8.20
RIVER_CERCHIA	306.32	TR200	71.05	18.50	21.10	2.61	21.40	23.11	0.30	2.00	1.75	0.49	9.80
RIVER_CERCHIA	306.32	TR30	43.45	18.50	20.62	2.12	21.40	23.11	0.79	2.49	1.69	0.58	9.80
RIVER_CERCHIA	286.73	TR200	71.05	18.30	21.09	2.79	21.27	23.02	0.18	1.93	1.55	0.46	6.78
RIVER_CERCHIA	286.73	TR30	43.45	18.30	20.56	2.26	21.27	23.02	0.70	2.45	1.63	0.58	6.78
RIVER_CERCHIA	266.40	TR200	71.05	18.22	20.84	2.61	21.15	23.74	0.31	2.90	2.45	0.63	7.76
RIVER_CERCHIA	266.40	TR30	43.45	18.22	20.42	2.20	21.15	23.74	0.73	3.32	2.03	0.59	7.76
RIVER_CERCHIA	243.14	TR200	71.05	18.16	20.74	2.58	21.09	24.88	0.35	4.14	2.45	0.73	9.75
RIVER_CERCHIA	243.14	TR30	43.45	18.16	20.26	2.10	21.09	24.88	0.83	4.62	2.33	0.76	9.75
RIVER_CERCHIA	223.63	TR200	71.05	18.08	20.56	2.49	20.99	22.54	0.42	1.97	2.70	0.81	8.26
RIVER_CERCHIA	223.63	TR30	43.45	18.08	20.11	2.04	20.99	22.54	0.87	2.43	2.40	0.69	8.26
RIVER_CERCHIA	198.86	TR200	71.05	17.99	20.48	2.48	20.74	22.25	0.26	1.78	2.39	0.77	8.06
RIVER_CERCHIA	198.86	TR30	43.45	17.99	19.95	1.95	20.74	22.25	0.79	2.31	2.48	0.80	8.06
RIVER_CERCHIA	182.74	TR200	71.05	17.93	20.38	2.46	20.67	22.91	0.29	2.52	2.42	0.74	6.72
RIVER_CERCHIA	182.74	TR30	43.45	17.93	19.88	1.96	20.67	22.91	0.79	3.02	2.33	0.71	6.72
RIVER_CERCHIA	162.57	TR200	71.05	17.74	20.28	2.55	20.58	24.84	0.30	4.56	2.44	0.67	7.52
RIVER_CERCHIA	162.57	TR30	43.45	17.74	19.84	2.10	20.58	24.84	0.74	5.00	2.12	0.63	7.52
RIVER_CERCHIA	132.48	TR200	71.05	17.13	20.03	2.90	20.60	22.62	0.57	2.60	2.85	0.67	9.16
RIVER_CERCHIA	132.48	TR30	43.45	17.13	19.75	2.62	20.60	22.62	0.85	2.87	2.04	0.50	9.16
RIVER_CERCHIA	105.00	TR200	71.05	16.97	19.80	2.84	20.17	20.65	0.37	0.85	3.10	0.76	8.64
RIVER_CERCHIA	105.00	TR30	43.45	16.97	19.68	2.71	20.17	20.65	0.50	0.97	2.04	0.51	8.64
RIVER_CERCHIA	79.09	TR200	71.05	16.84	20.11	3.27	19.98	20.29	-0.13	0.18	0.61	0.14	8.03
RIVER_CERCHIA	79.09	TR30	43.45	16.84	19.53	2.69	19.98	20.29	0.45	0.76	2.35	0.61	8.03
RIVER_CERCHIA	55.00	TR200	71.05	16.70	20.12	3.43	19.97	19.95	-0.15	-0.18	0.36	0.08	8.52
RIVER_CERCHIA	55.00	TR30	43.45	16.70	19.49	2.80	19.97	19.95	0.48	0.45	2.16	0.54	8.52
RIVER_CERCHIA	29.42	TR200	71.05	16.70	20.13	3.43	19.98	19.98	-0.15	-0.14	0.24	0.06	8.11
RIVER_CERCHIA	29.42	TR30	43.45	16.70	19.42	2.72	19.98	19.98	0.56	0.57	2.21	0.53	8.11
RIVER_CERCHIA	5.09	TR200	71.05	16.63	19.23	2.60	19.90	19.79	0.67	0.56	4.02	1.00	
RIVER_CERCHIA	5.09	TR30	43.45	16.63	19.32	2.69	19.90	19.79	0.58	0.47	2.33	0.57	

MODELLI IDRAULICI BIDIMENSIONALI

Si riportano gli output forniti dal codice di calcolo Hec-Ras 5.0.6 relativi alle esondazioni. Si allegano:

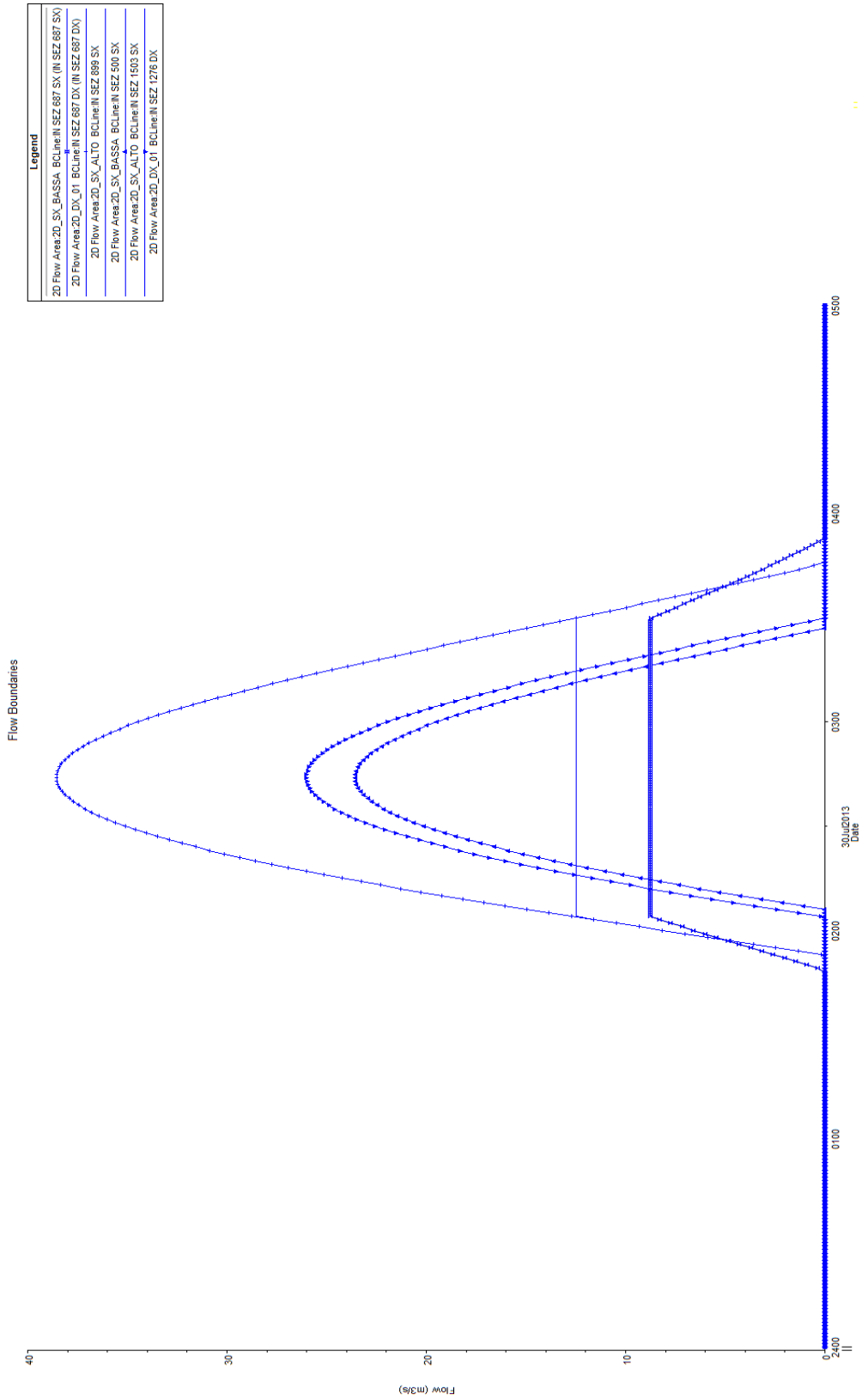
- Gli idrogrammi di ingresso nel modello;
- La planimetria dello schema di modello;
- Alcune sezioni indicative per la dinamica di esondazione;

Si fa presente che i risultati in termini di massimo battente idraulico e di massima velocità del flusso di corrente sono riportati negli appositi elaborati grafici (QG 12, Qg 12a, QG 13 e QG 13a).

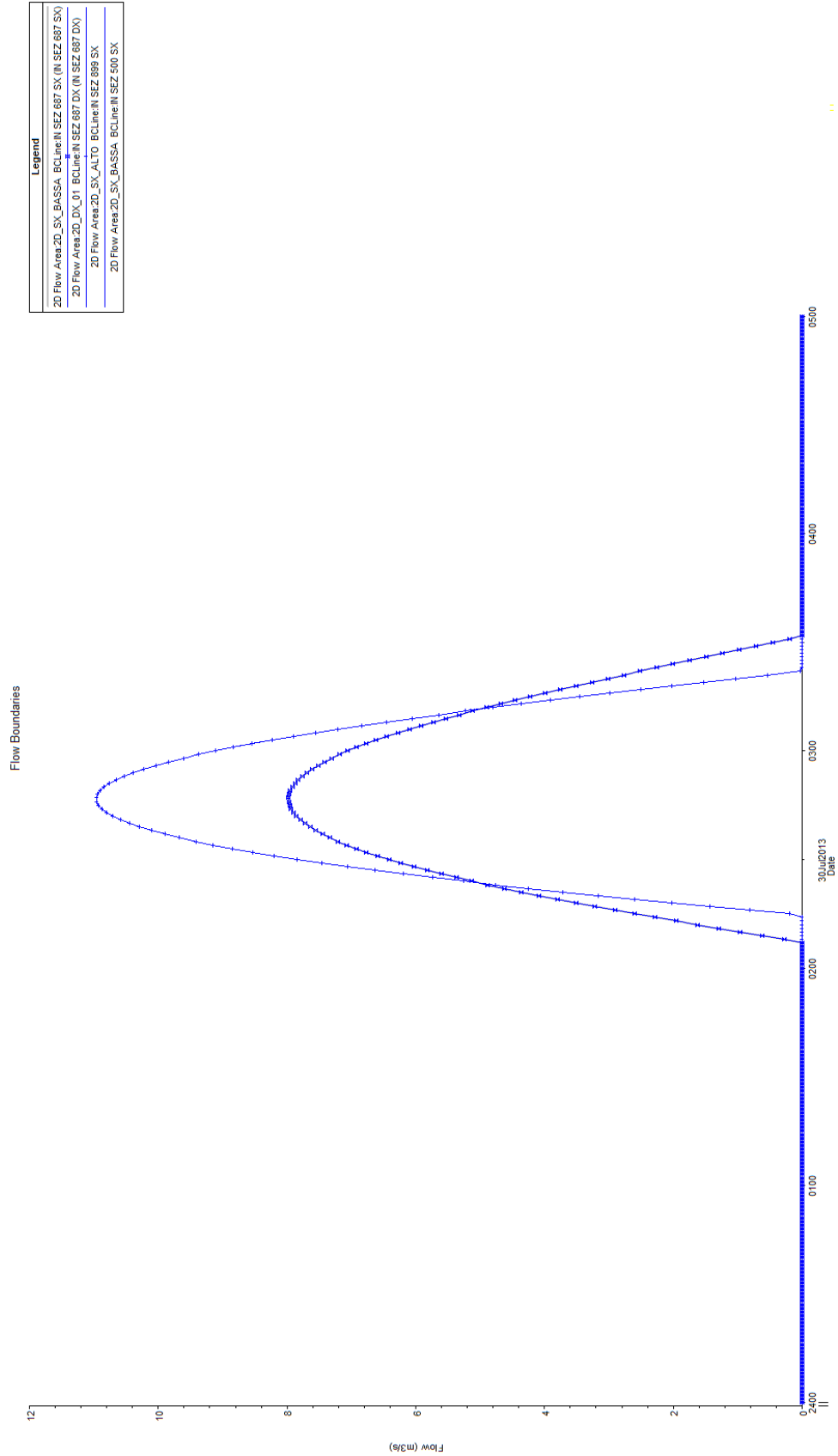
I fenomeni del presente allegato sono quelli indicati come quelli di massima portata all'interno della relazione idraulica (quelli maggiormente critici). Gli output dei fenomeni di massimo volume sono comunque inclusi all'interno della copia digitale consegnata unitamente al presente elaborato.

IDROGRAMMI IN ENTRATA NEL MODELLO BIDIMENSIONALE

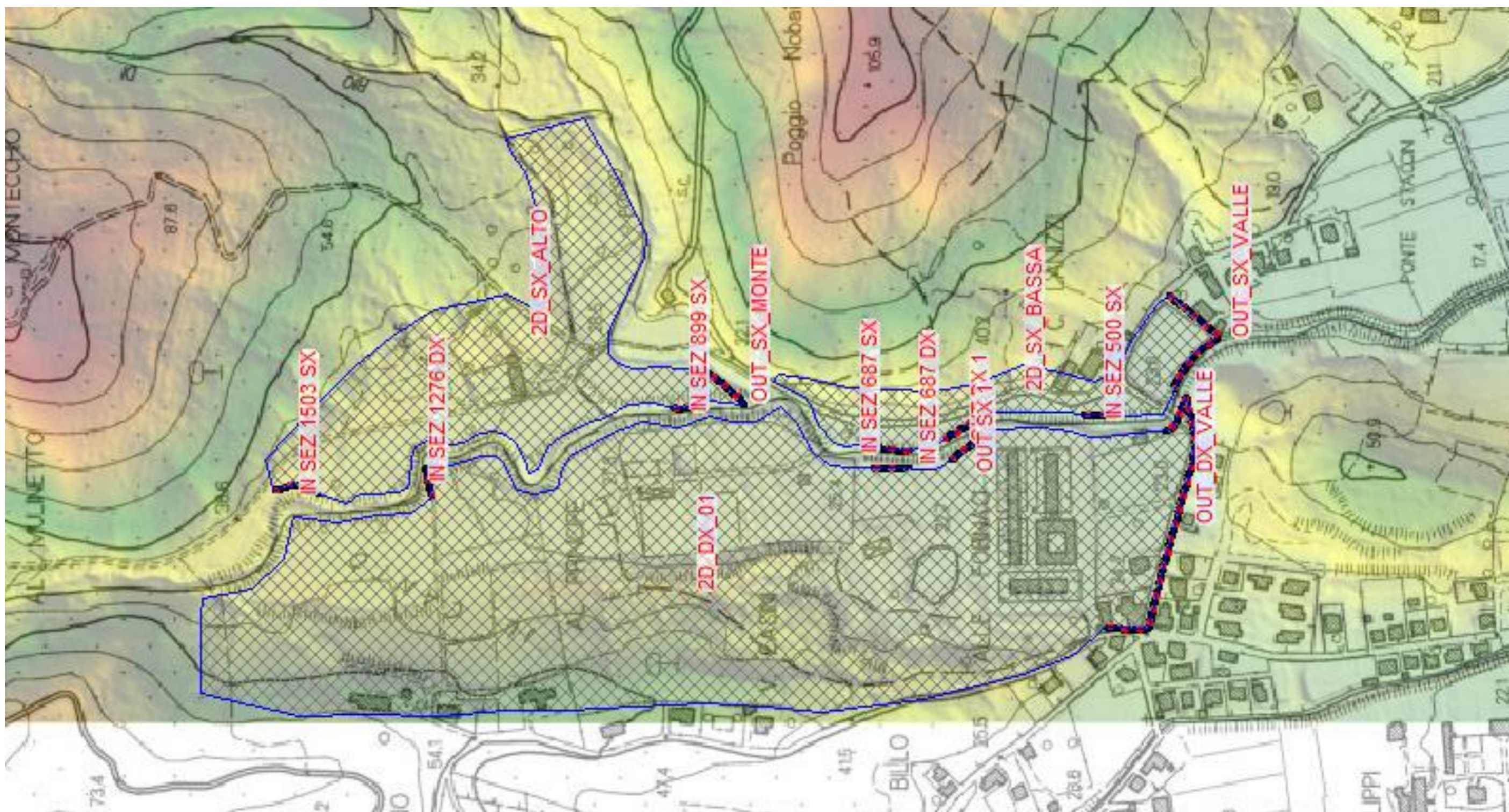
Tempi di ritorno 200 anni



Tempo di ritorno 30 anni



SCHEMA DEL MODELLO DI CALCOLO



PLANIMETRIA CON INDICAZIONE DELLE SEZIONI DI CONTROLLO



SEZIONE 1

Water Surface Elevation on 'sez 1'



SEZIONE 2

Water Surface Elevation on 'sez 2'

