PIANO STRUTTURALE INTERCOMUNALE

CAPOLONA

SUBBIANO

COMUNE DI CAPOLONA

SINDACO E ASSESSORE ALL'URBANISTICA

Mario Francesconi

COMUNE DI SUBBIANO

SINDACO

Ilaria Mattesini

ASSESSORE ALL'URBANISTICA

Marcello Ralli

RESPONSABILE UNICO DEL PROCEDIMENTO

Alessandra Sara Blanco

AUTORITA' COMPETENTE VAS

Cristina Frosini

GARANTE DELL'INFORMAZIONE E DELLA PARTECIPAZIONE

Angelo Capalbo (dal 10/03/2020 al 31/12/2020)

Simone Franci (dal 31/12/2020)

PROFESSIONALITA' ESTERNE

ASPETTI URBANISTICI

Michela Chiti (progettista coordinatore)

Sara Piancastelli (fino al 03/01/2022)

Lorenzo Bartali

ASPETTI AGRO-FORESTALI

Ilaria Scatarzi

ASPETTI GEOLOGICI E SISMICI

Geotecno - Consulenza e Servizi geologici

Luciano Lazzeri

Nicolò Sbolci

ASPETTI IDROLOGICI-IDRAULICI

Sorgente Ingegneria Studio Tecnico Associato

Leonardo Marini

Luca Rosadini

ASPETTI ARCHEOLOGICI

Francesco Trenti

ASPETTI DELLA VALUTAZIONE

Michela Chiti

Ilaria Scatarzi

Lorenzo Bartali

Emanuele Montini (dal 03/01/2022)

Sara Piancastelli (fino al 03/01/2022)

Marini
Leonardo
Ordine degli Ingegneri della Provincia di Arezzo
Ingegnere

Rosadini
Luca
Ordine degli Ingegneri della Provincia di Arezzo
Ingegnere

Adozione

Approvazione

All.IDRO.1

Allegato alla Relazione Idrologico-Idraulica

Risultati grafici e numerici della modellazione idraulica

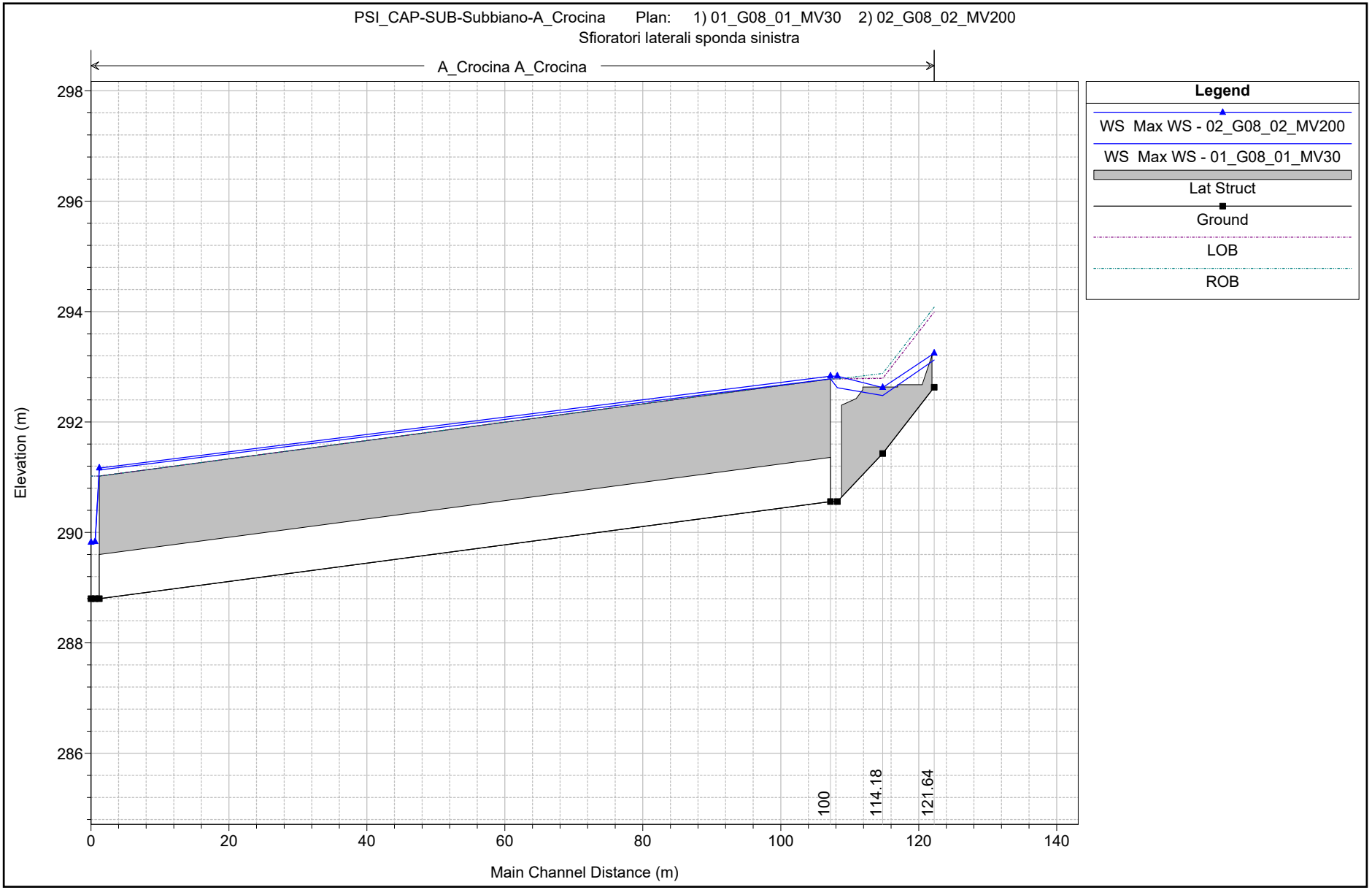
-

Marzo 2023

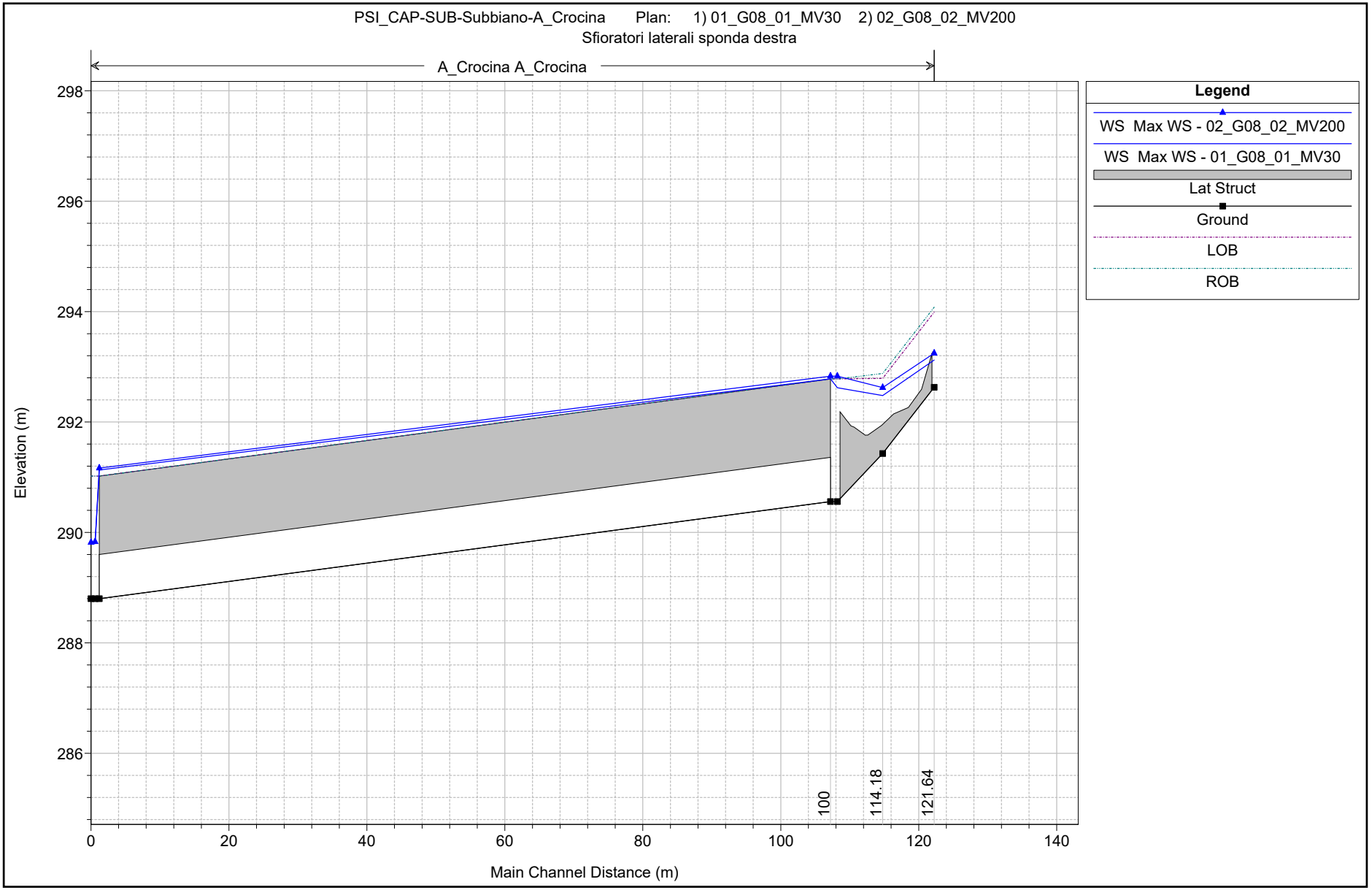
SOMMARIO

A – La Crocina

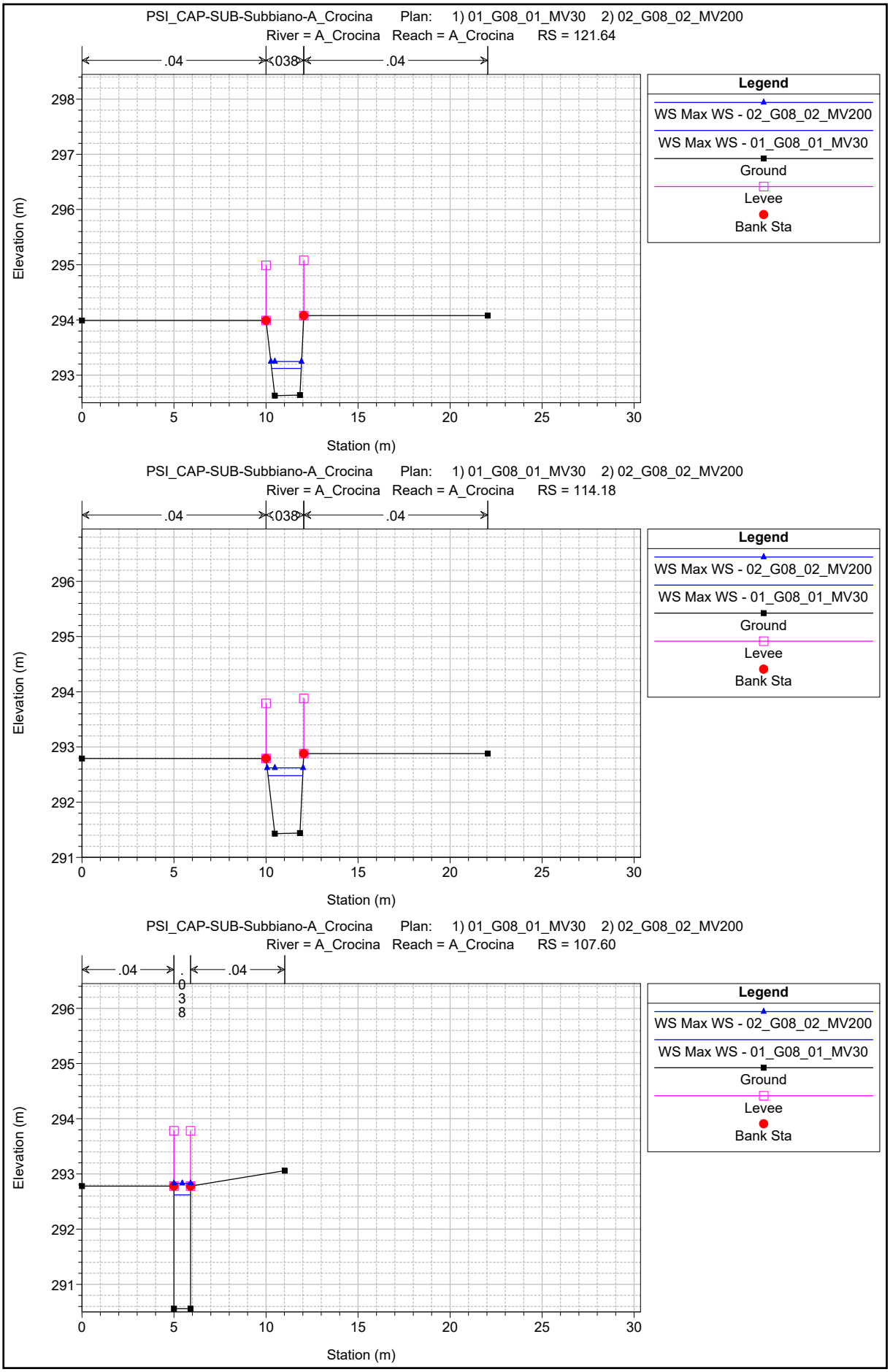
Scenario Alpha



1 cm Horiz. = 8 m 1 cm Vert. = 1 m



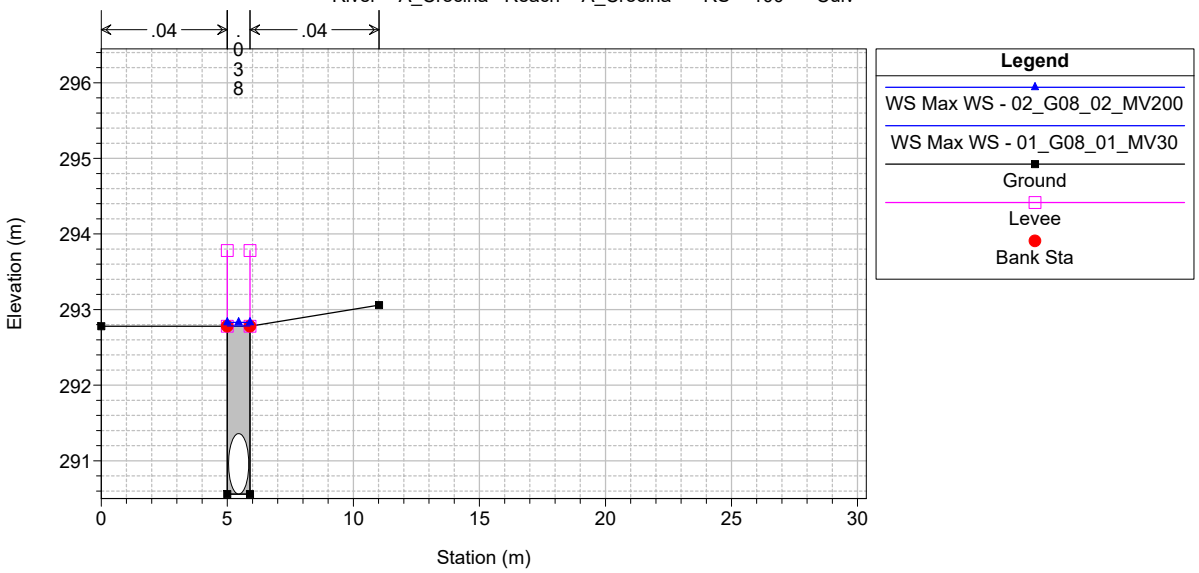
1 cm Horiz. = 8 m 1 cm Vert. = 1 m



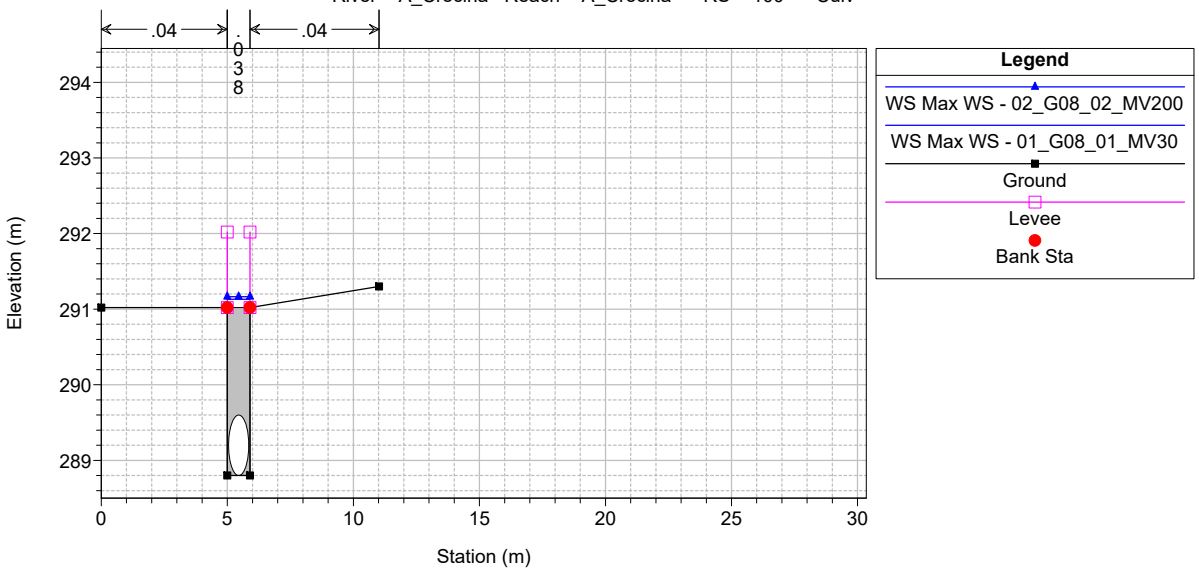
1 cm Horiz. = 3 m 1 cm Vert. = 1 m

1

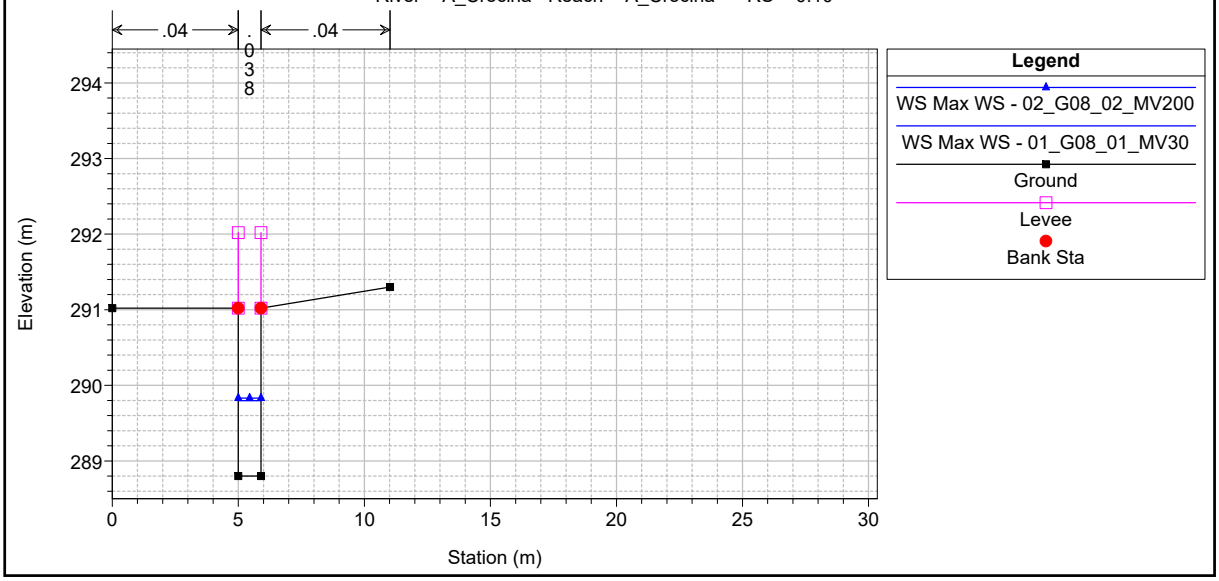
PSI_CAP-SUB-Subbiano-A_Crocina Plan: 1) 01_G08_01_MV30 2) 02_G08_02_MV200
River = A_Crocina Reach = A_Crocina RS = 100 Culv



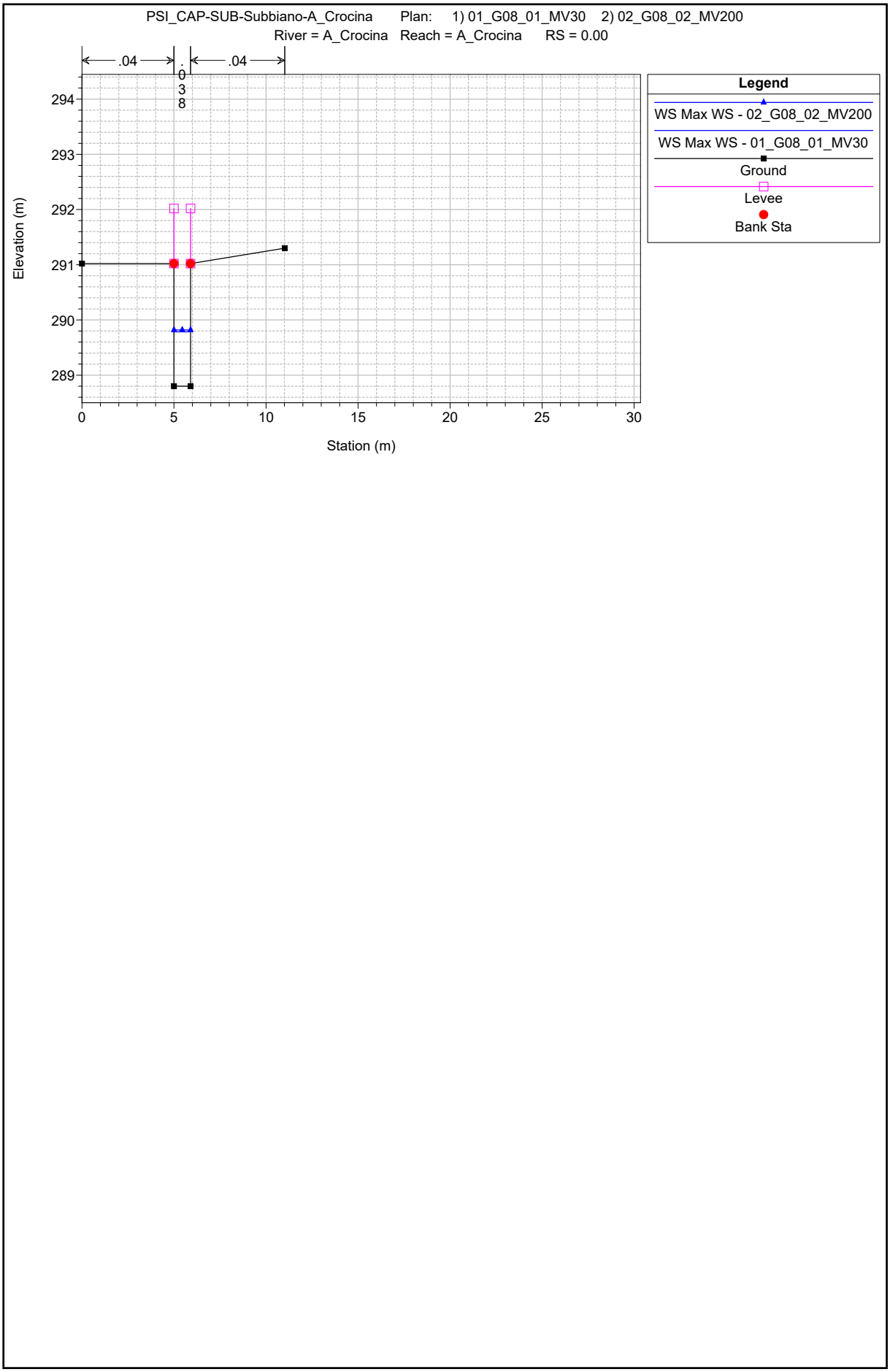
PSI_CAP-SUB-Subbiano-A_Crocina Plan: 1) 01_G08_01_MV30 2) 02_G08_02_MV200
River = A_Crocina Reach = A_Crocina RS = 100 Culv



PSI_CAP-SUB-Subbiano-A_Crocina Plan: 1) 01_G08_01_MV30 2) 02_G08_02_MV200
River = A_Crocina Reach = A_Crocina RS = 0.10



1 cm Horiz. = 3 m 1 cm Vert. = 1 m 2



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

HEC-RAS River: A_Crocina Reach: A_Crocina Profile: Max WS

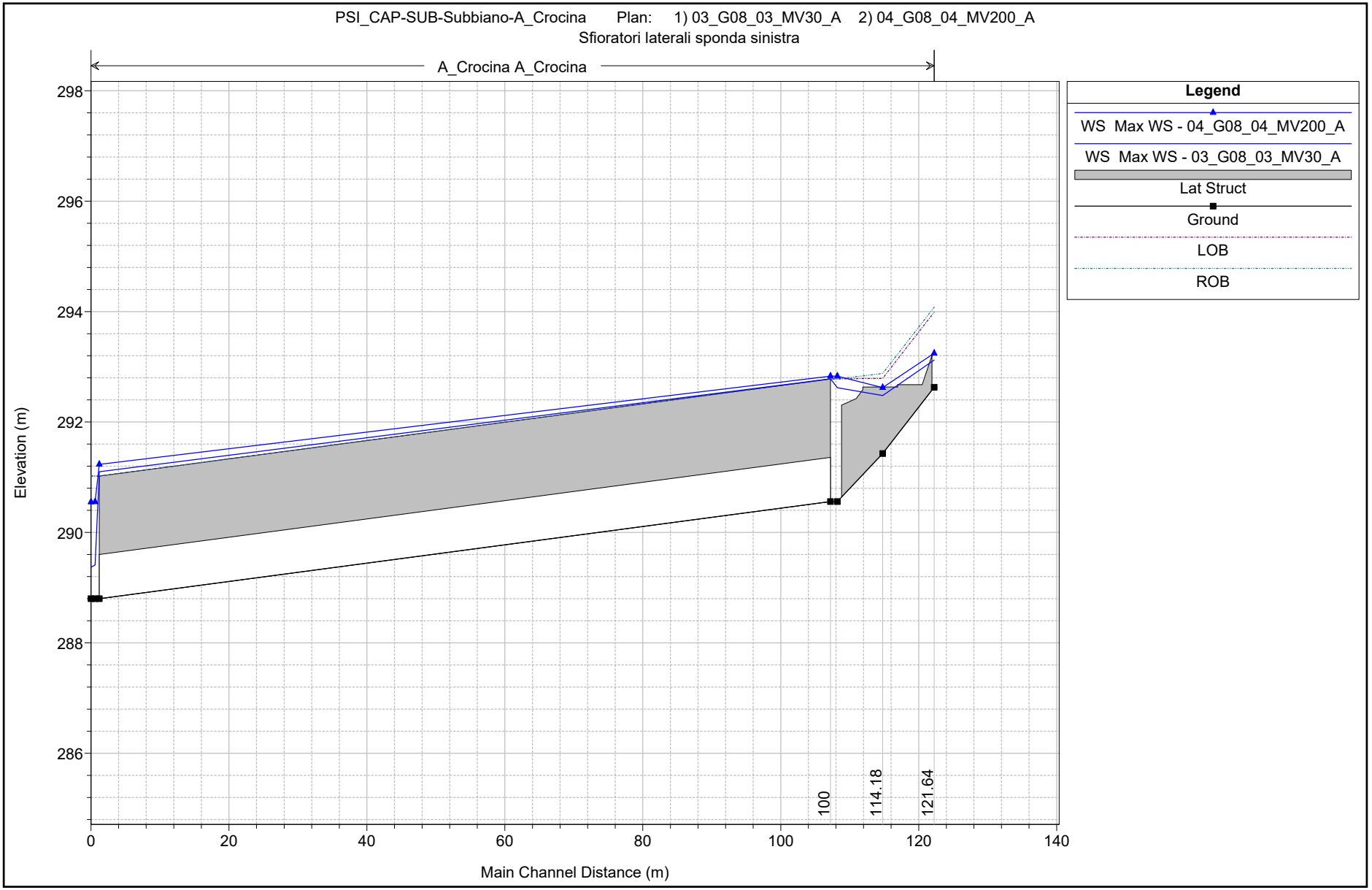
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
A_Crocina	121.64	Max WS	01_G08_01_MV30	3.48	292.63	293.12	293.46	294.30	0.162963	4.81	0.72	1.60	2.29
A_Crocina	121.64	Max WS	02_G08_02_MV200	4.81	292.63	293.25	293.65	294.62	0.156875	5.20	0.93	1.67	2.23
A_Crocina	121			Lat Struct									
A_Crocina	120			Lat Struct									
A_Crocina	114.18	Max WS	01_G08_01_MV30	2.68	291.43	292.48		292.61	0.009612	1.58	1.69	1.88	0.53
A_Crocina	114.18	Max WS	02_G08_02_MV200	3.42	291.43	292.62		292.78	0.010537	1.74	1.97	1.95	0.55
A_Crocina	107.60	Max WS	01_G08_01_MV30	1.35	290.56	292.62		292.65	0.002882	0.73	1.86	0.90	0.16
A_Crocina	107.60	Max WS	02_G08_02_MV200	1.40	290.56	292.83		292.85	0.002521	0.69	2.04	0.90	0.15
A_Crocina	100			Culvert									
A_Crocina	0.10	Max WS	01_G08_01_MV30	1.35	288.80	289.80		289.91	0.015530	1.50	0.90	0.90	0.48
A_Crocina	0.10	Max WS	02_G08_02_MV200	1.40	288.80	289.83		289.95	0.015540	1.51	0.93	0.90	0.48
A_Crocina	0.00	Max WS	01_G08_01_MV30	1.35	288.80	289.79	289.41	289.90	0.015996	1.52	0.89	0.90	0.49
A_Crocina	0.00	Max WS	02_G08_02_MV200	1.40	288.80	289.82	289.43	289.94	0.016003	1.53	0.92	0.90	0.48

HEC-RAS River: A_Crocina Reach: A_Crocina Profile: Max WS

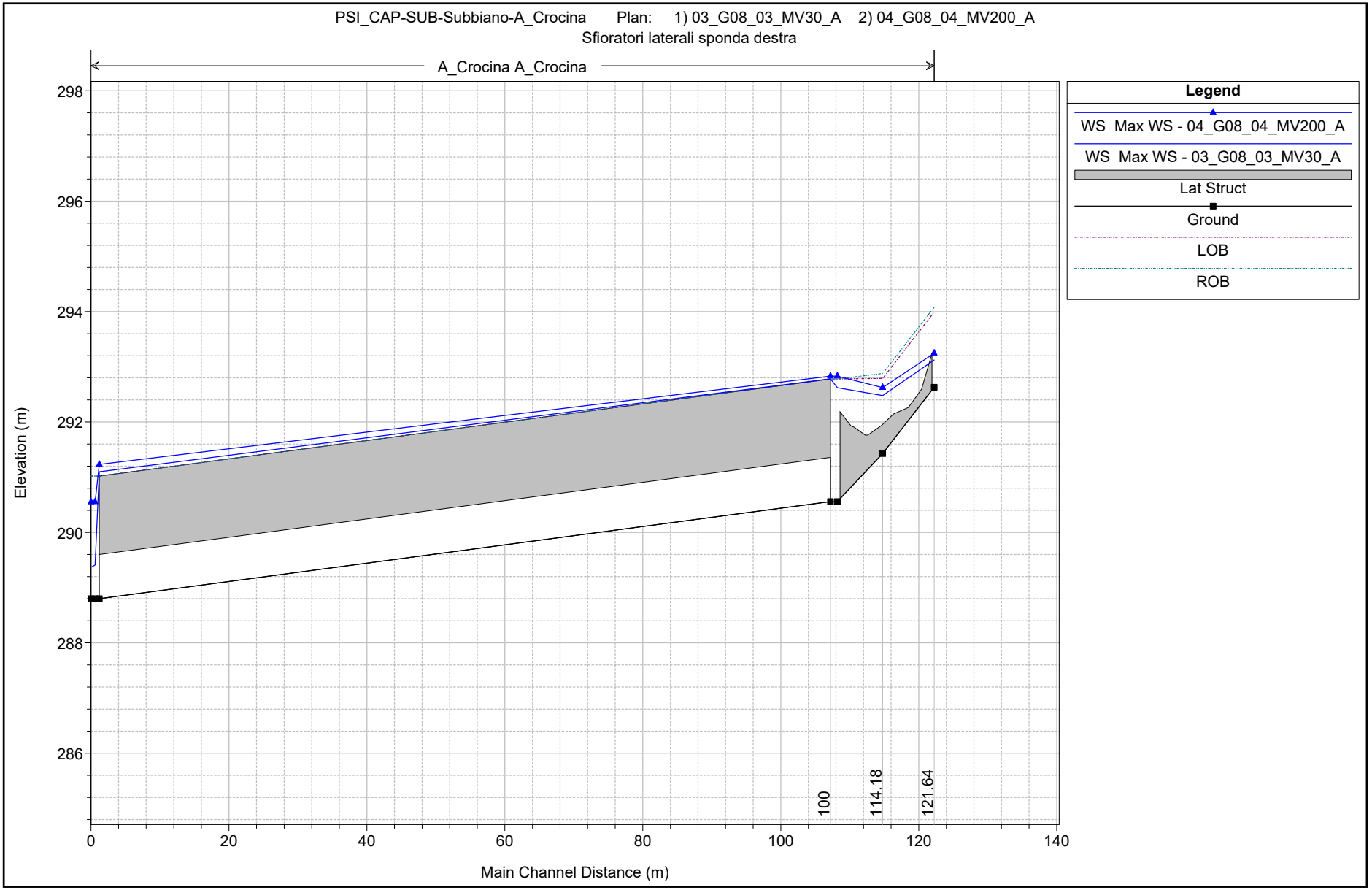
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
A_Crocina	121	Max WS	01_G08_01_MV30	3.48	-0.08	1.35	-0.08		12.41	0.30	0.16	292.31	294.23	293.10	292.64	292.61
A_Crocina	121	Max WS	02_G08_02_MV200	4.81	0.35	1.40	0.35		13.02	0.51	0.26	292.31	294.55	293.22	292.85	292.81
A_Crocina	120	Max WS	01_G08_01_MV30	3.48	2.05	1.35	2.05		12.87	0.77	0.54	291.76	294.23	293.10	292.65	292.61
A_Crocina	120	Max WS	02_G08_02_MV200	4.81	2.99	1.40	2.99		13.24	0.94	0.67	291.76	294.55	293.22	292.85	292.82

A – La Crocina

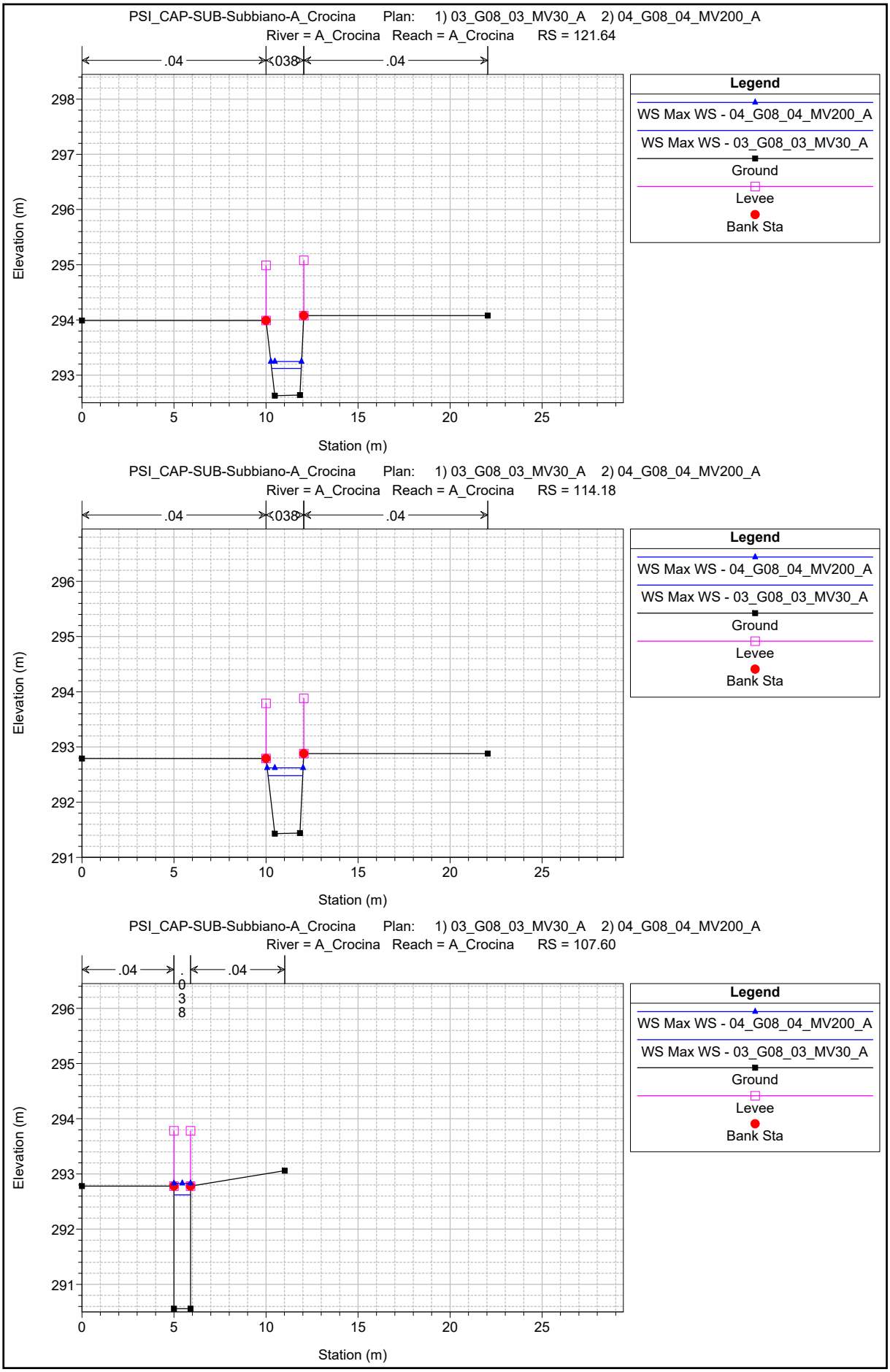
Scenario Beta



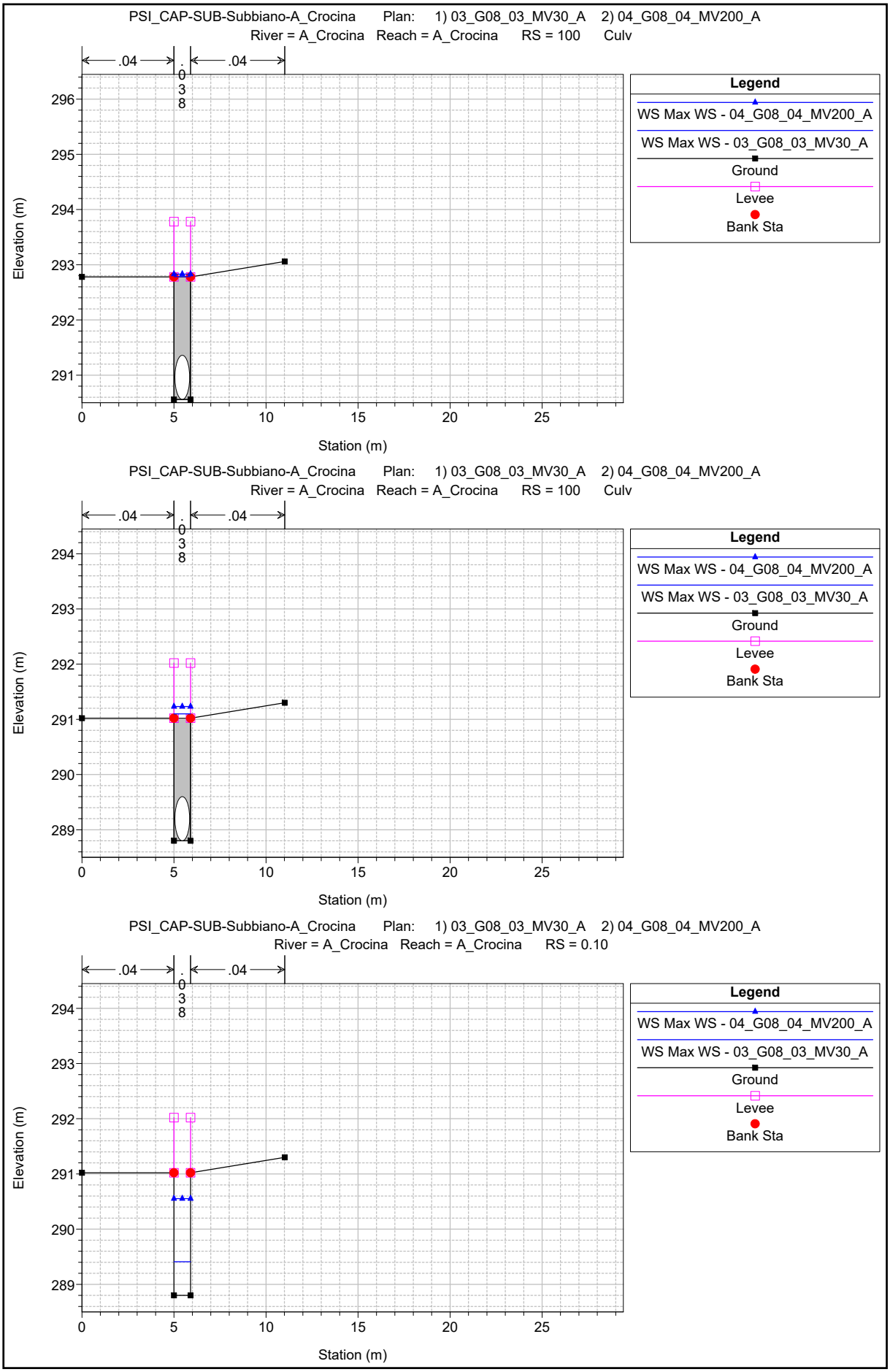
1 cm Horiz. = 8 m 1 cm Vert. = 1 m



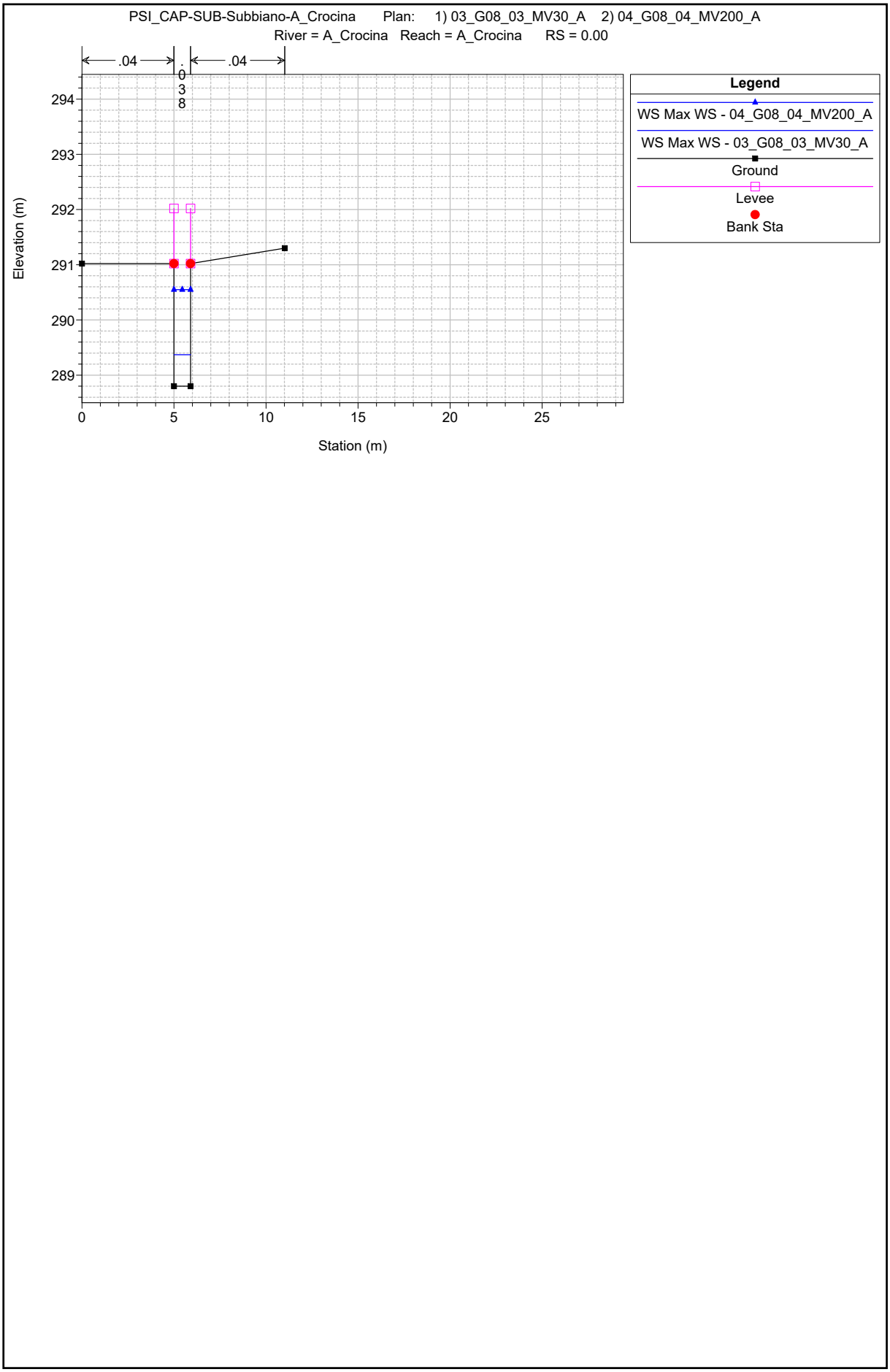
1 cm Horiz. = 8 m 1 cm Vert. = 1 m



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



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



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

HEC-RAS River: A_Crocina Reach: A_Crocina Profile: Max WS

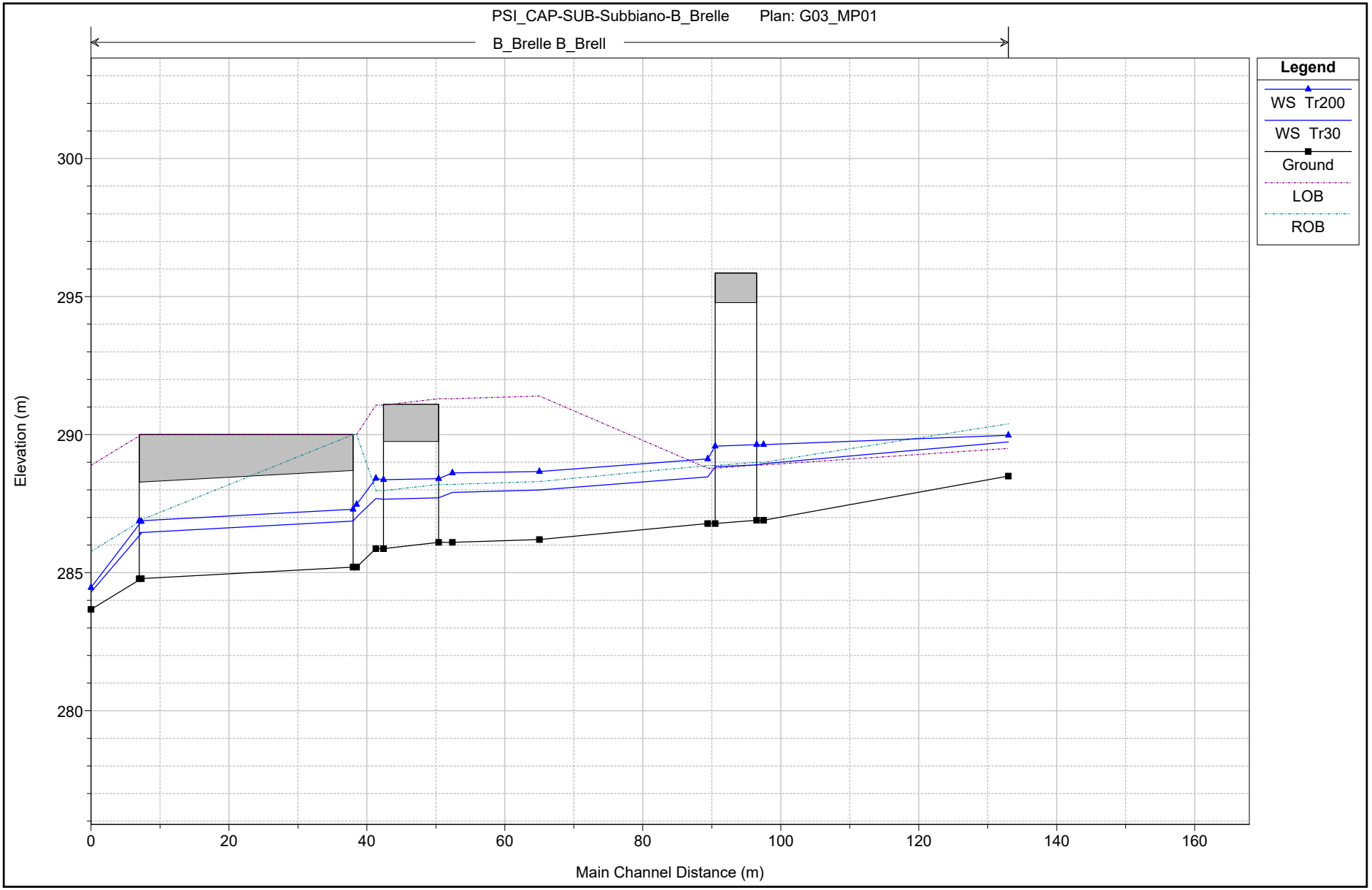
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
A_Crocina	121.64	Max WS	03_G08_03_MV30_A	3.48	292.63	293.12	293.46	294.30	0.162963	4.81	0.72	1.60	2.29
A_Crocina	121.64	Max WS	04_G08_04_MV200_A	4.81	292.63	293.25	293.65	294.62	0.156875	5.20	0.93	1.67	2.23
A_Crocina	121			Lat Struct									
A_Crocina	120			Lat Struct									
A_Crocina	114.18	Max WS	03_G08_03_MV30_A	2.68	291.43	292.48		292.61	0.009612	1.58	1.69	1.88	0.53
A_Crocina	114.18	Max WS	04_G08_04_MV200_A	3.42	291.43	292.62		292.78	0.010537	1.74	1.97	1.95	0.55
A_Crocina	107.60	Max WS	03_G08_03_MV30_A	1.35	290.56	292.62		292.65	0.002882	0.73	1.86	0.90	0.16
A_Crocina	107.60	Max WS	04_G08_04_MV200_A	1.40	290.56	292.83		292.85	0.002521	0.69	2.04	0.90	0.15
A_Crocina	100			Culvert									
A_Crocina	0.10	Max WS	03_G08_03_MV30_A	1.08	288.80	289.41		289.61	0.033855	1.97	0.55	0.90	0.80
A_Crocina	0.10	Max WS	04_G08_04_MV200_A	1.40	288.80	290.55		290.59	0.004489	0.89	1.58	0.90	0.21
A_Crocina	0.00	Max WS	03_G08_03_MV30_A	0.10	288.80	289.37	288.91	289.37	0.000346	0.19	0.51	0.90	0.08
A_Crocina	0.00	Max WS	04_G08_04_MV200_A	0.10	288.80	290.55	288.91	290.55	0.000023	0.06	1.57	0.90	0.02

HEC-RAS River: A_Crocina Reach: A_Crocina Profile: Max WS

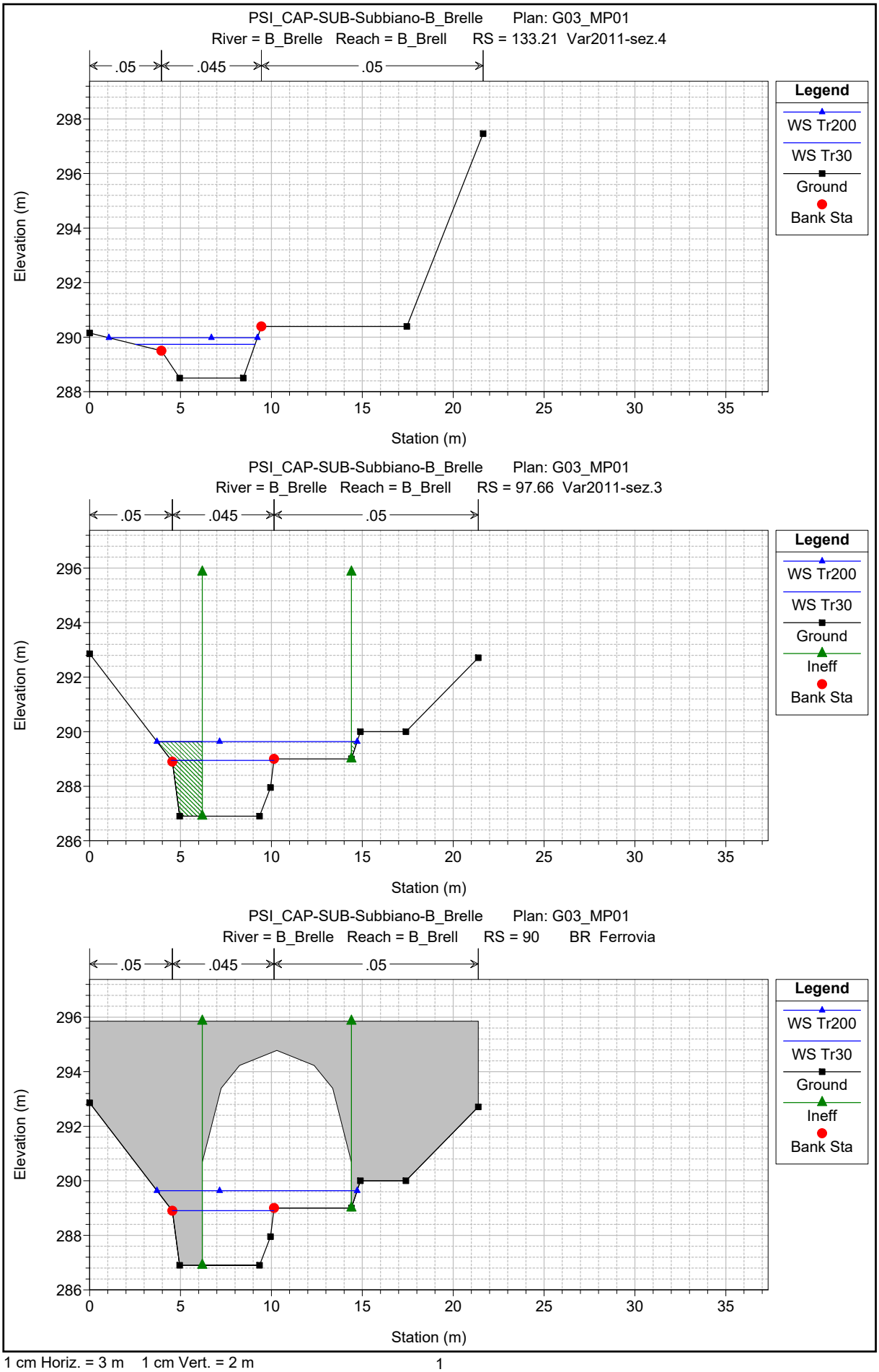
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
A_Crocina	121	Max WS	03_G08_03_MV30_A	3.48	-0.08	1.35	-0.08		12.41	0.30	0.16	292.31	294.23	293.10	292.64	292.61
A_Crocina	121	Max WS	04_G08_04_MV200_A	4.81	0.35	1.40	0.35		13.02	0.51	0.26	292.31	294.55	293.22	292.85	292.81
A_Crocina	120	Max WS	03_G08_03_MV30_A	3.48	2.05	1.35	2.05		12.87	0.77	0.54	291.76	294.23	293.10	292.65	292.61
A_Crocina	120	Max WS	04_G08_04_MV200_A	4.81	2.99	1.40	2.99		13.24	0.94	0.67	291.76	294.55	293.22	292.85	292.82

B – Brelle

Scenario Alpha

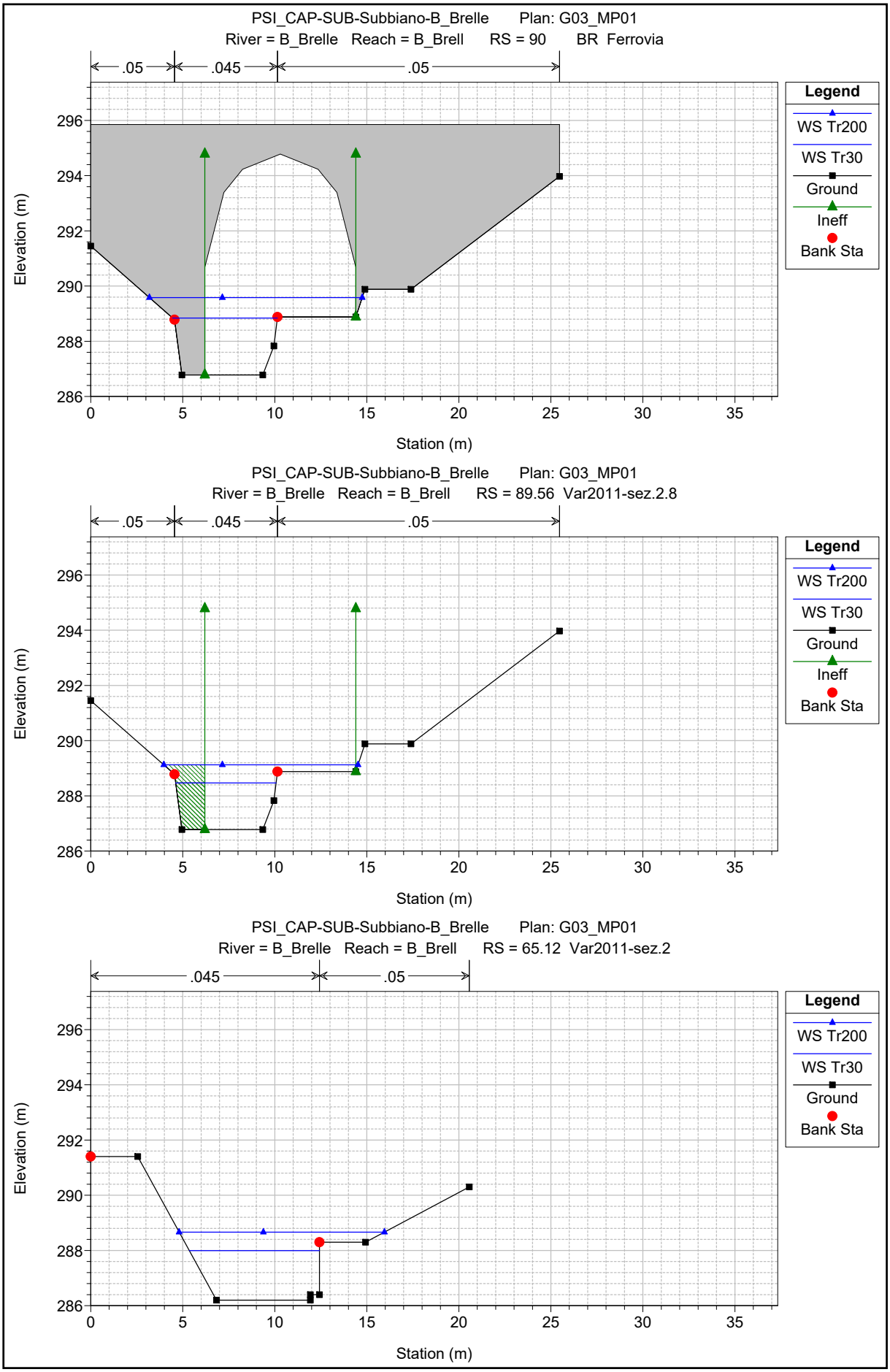


1 cm Horiz. = 8 m 1 cm Vert. = 2 m



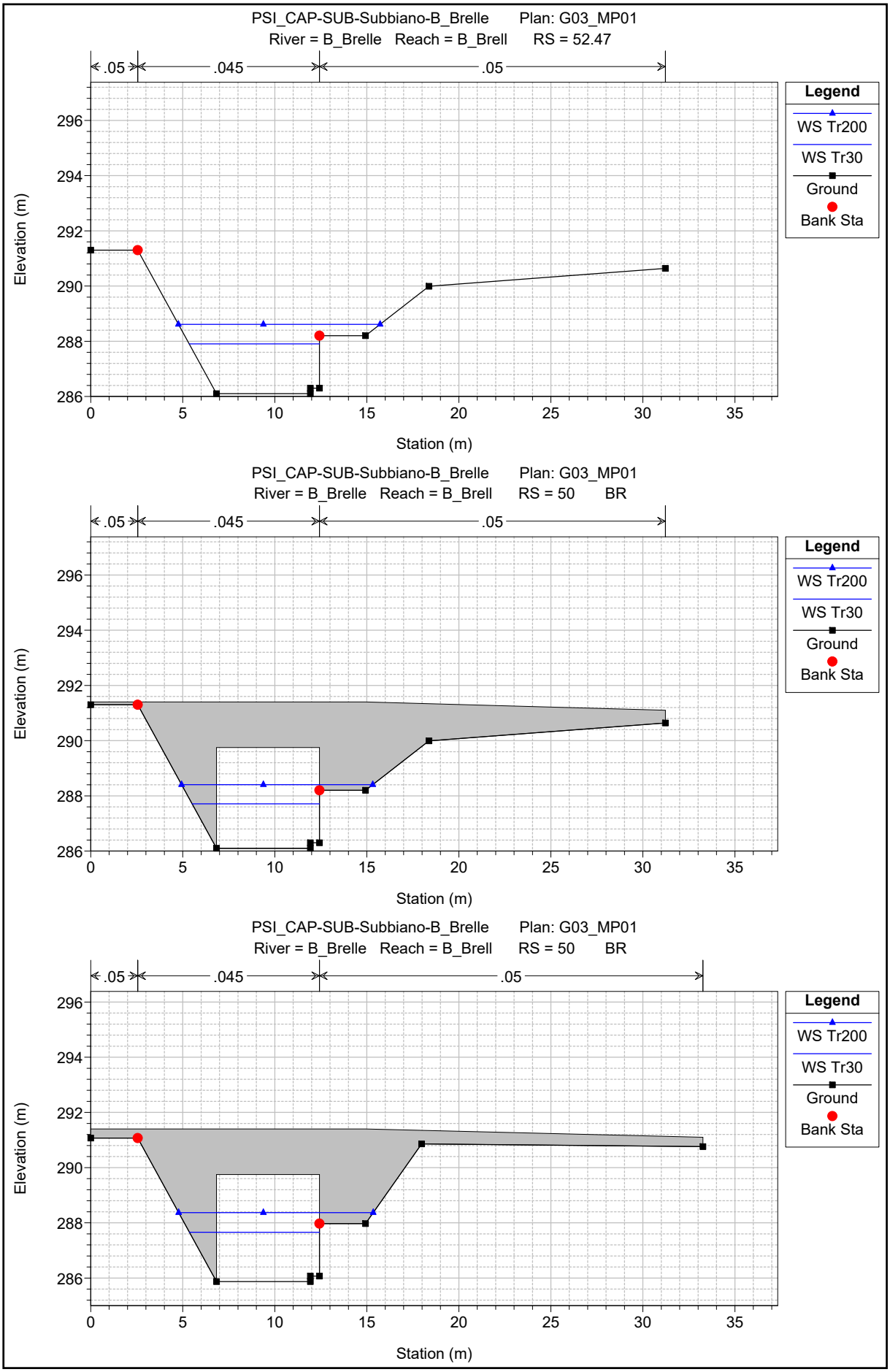
1 cm Horiz. = 3 m 1 cm Vert. = 2 m

1



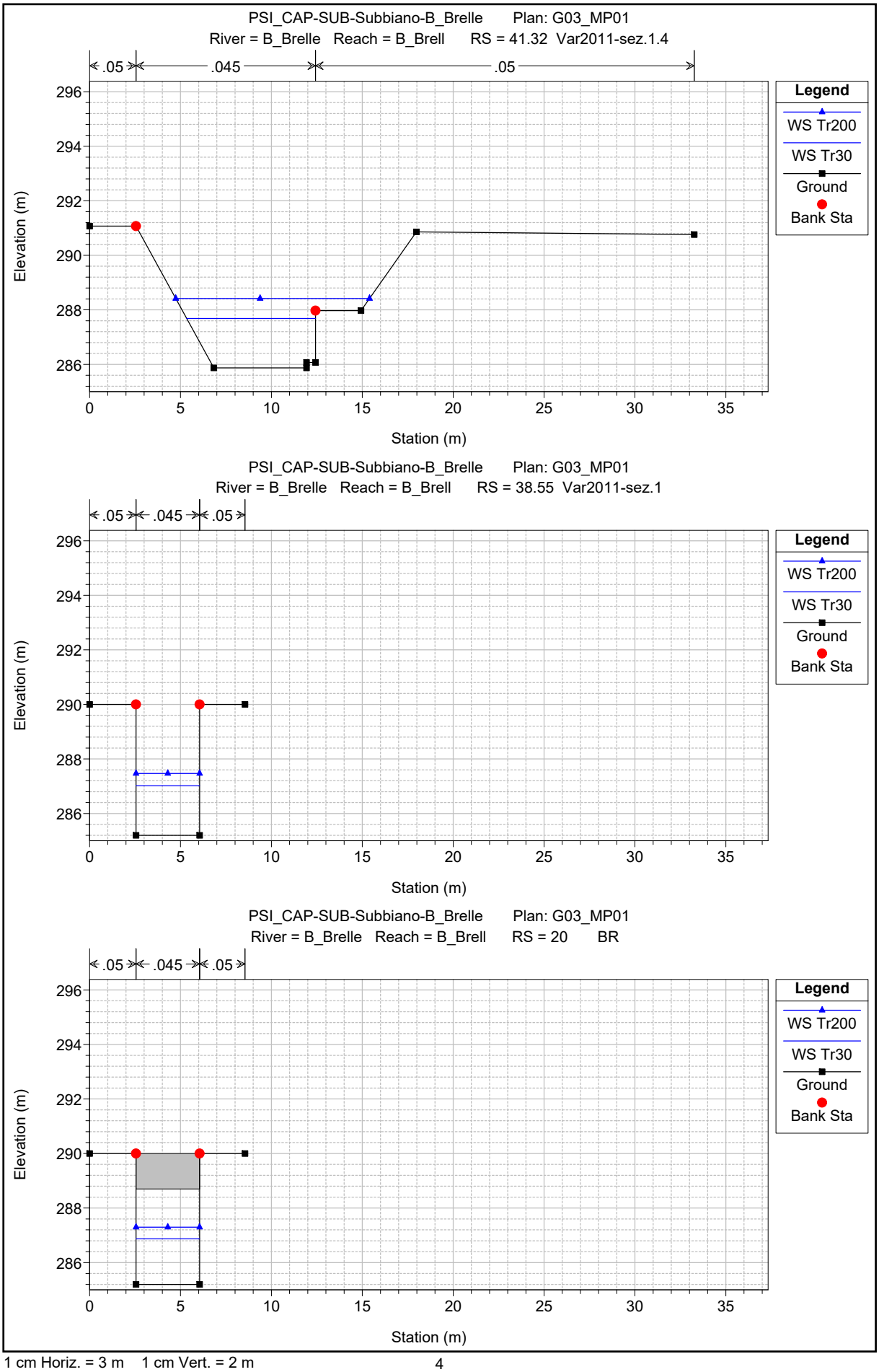
1 cm Horiz. = 3 m 1 cm Vert. = 2 m

2

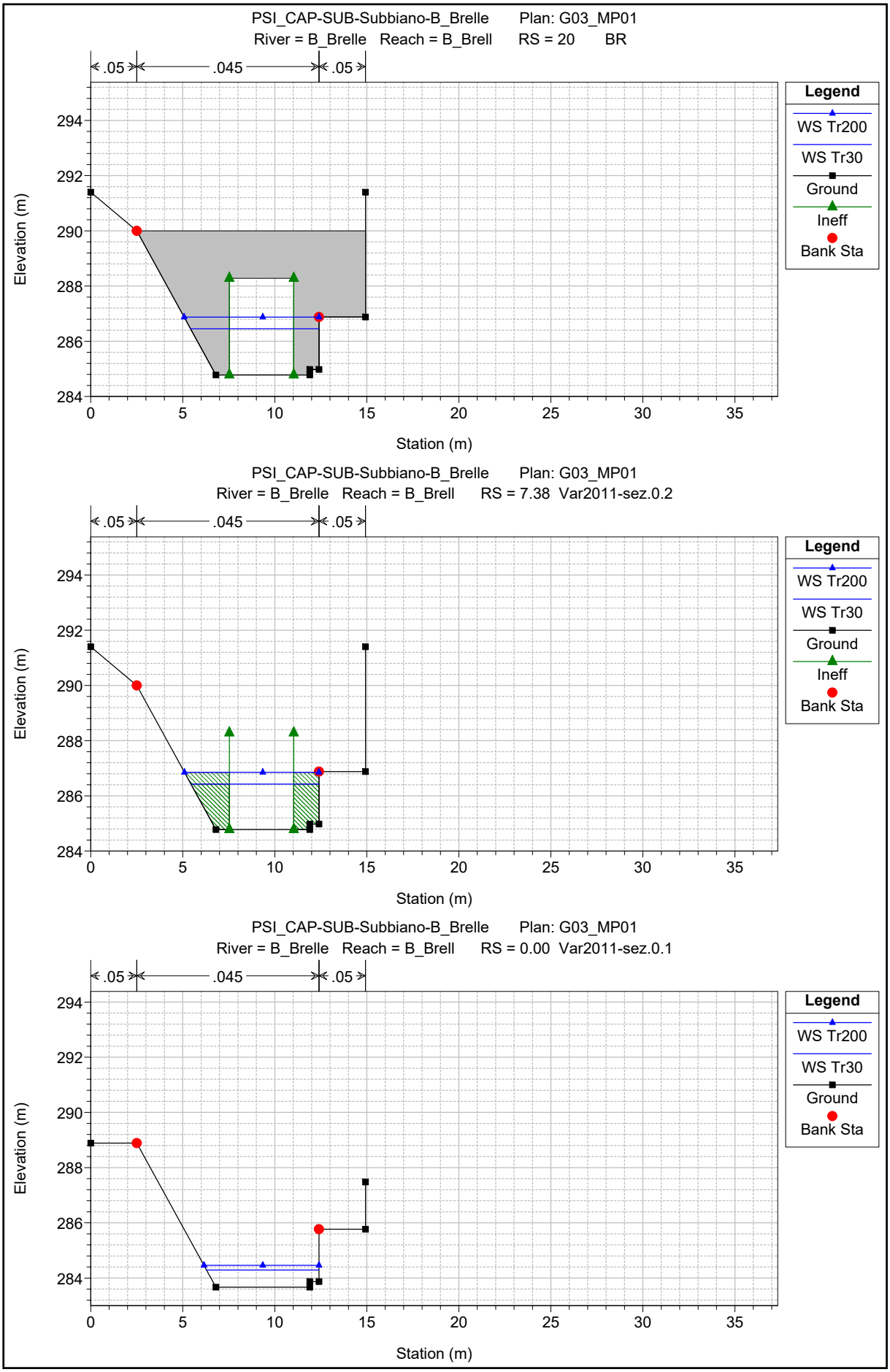


1 cm Horiz. = 3 m 1 cm Vert. = 2 m

3



1 cm Horiz. = 3 m 1 cm Vert. = 2 m 4



1 cm Horiz. = 3 m 1 cm Vert. = 2 m

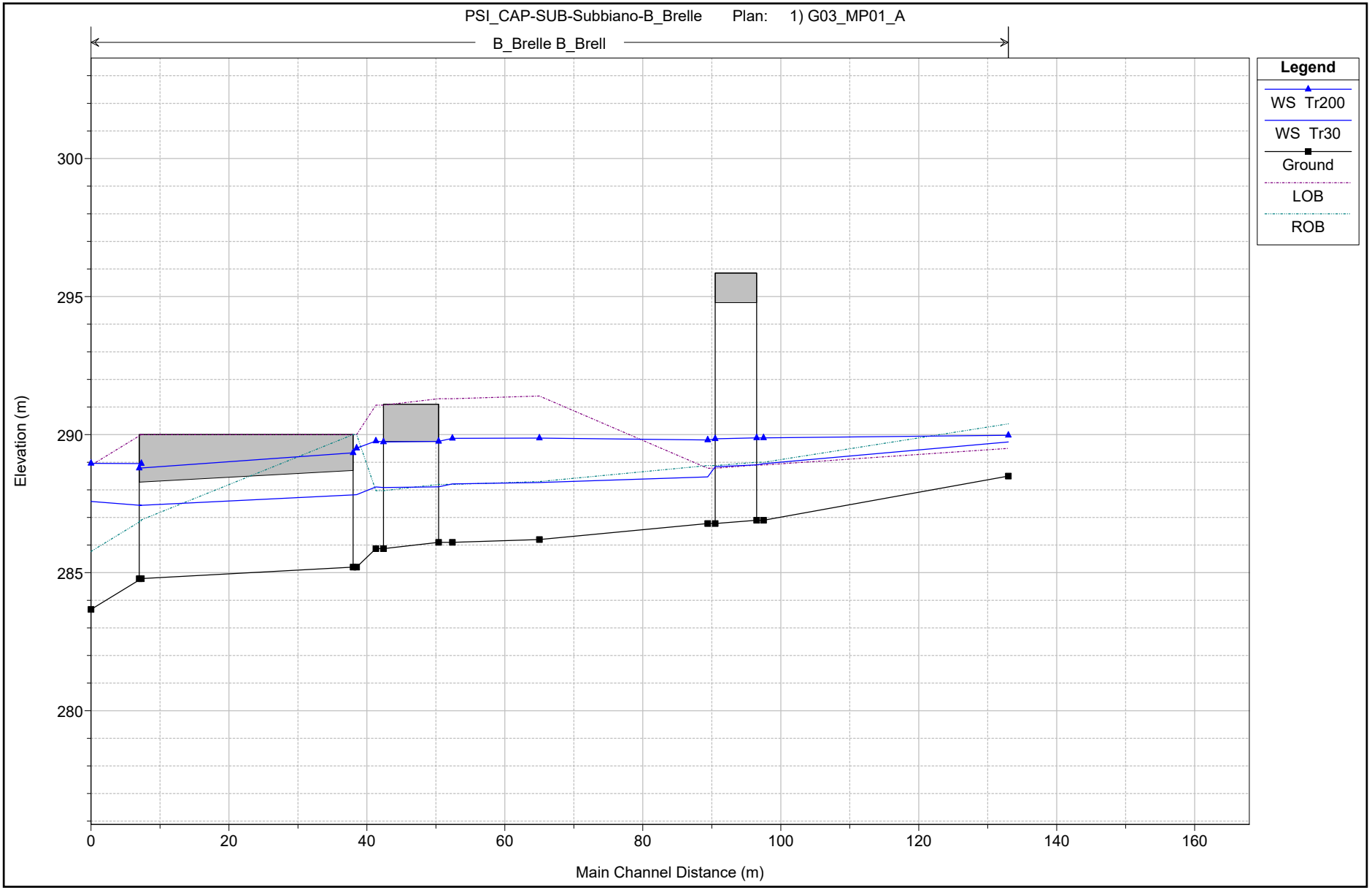
5

HEC-RAS Plan: G03_MP01 River: B_Brelle Reach: B_Brell

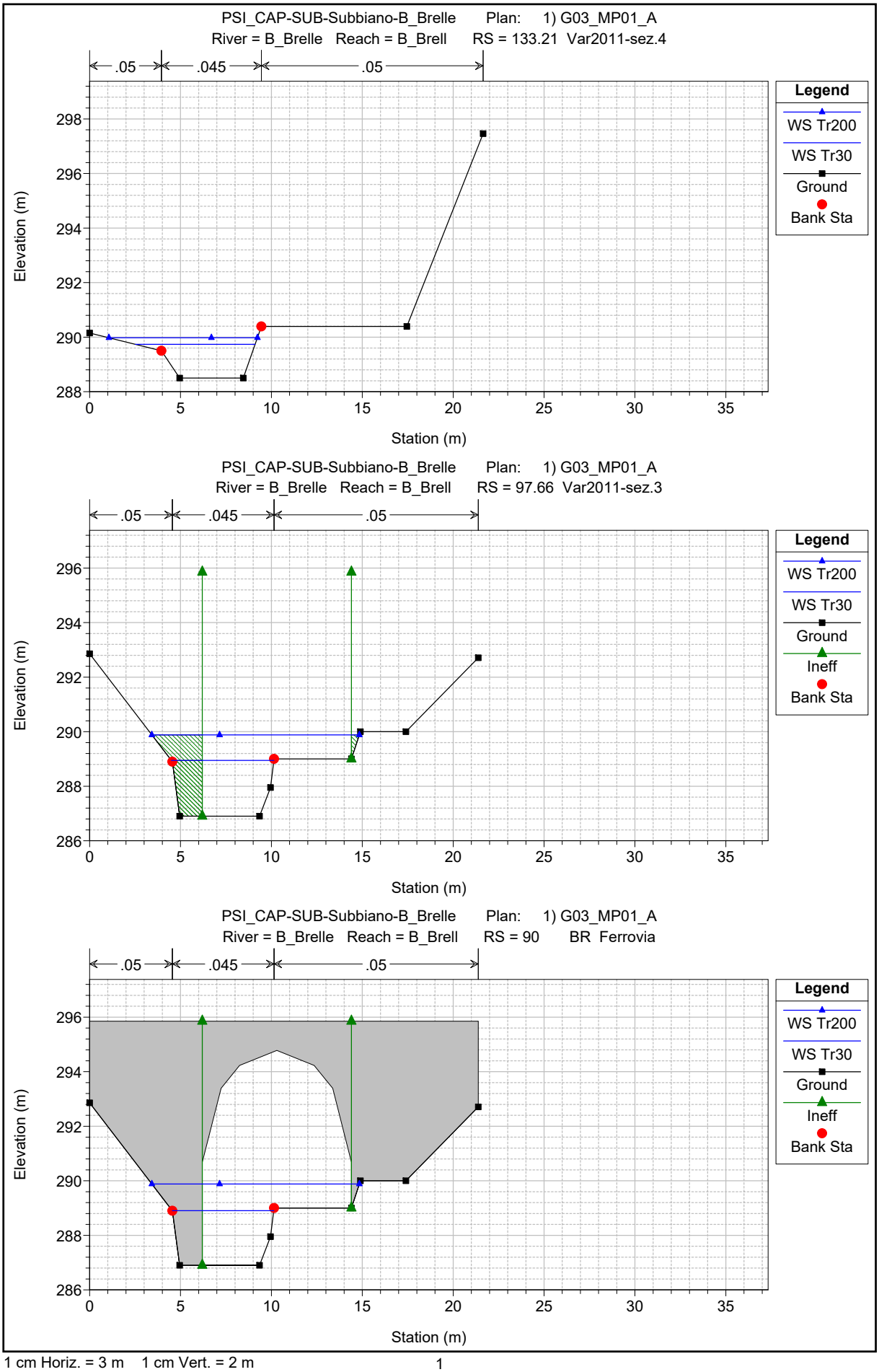
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
B_Brell	133.21	Tr30	23.61	288.50	289.74	290.03	290.67	0.045025	4.29	5.64	6.59	1.33
B_Brell	133.21	Tr200	33.22	288.50	289.98	290.34	291.11	0.045046	4.78	7.41	8.17	1.35
B_Brell	97.66	Tr30	23.61	286.90	288.95	288.59	289.46	0.013117	3.17	7.46	5.64	0.73
B_Brell	97.66	Tr200	33.22	286.90	289.64	289.25	290.04	0.007479	2.92	12.89	11.01	0.58
B_Brell	90		Bridge									
B_Brell	89.56	Tr30	23.61	286.78	288.47	288.47	289.24	0.023974	3.90	6.05	5.46	1.00
B_Brell	89.56	Tr200	33.22	286.78	289.12	289.12	289.81	0.015262	3.74	9.65	10.55	0.81
B_Brell	65.12	Tr30	23.61	286.20	287.99	287.40	288.22	0.007297	2.10	11.27	7.08	0.53
B_Brell	65.12	Tr200	33.22	286.20	288.66	287.69	288.87	0.004815	2.01	17.29	11.15	0.44
B_Brell	52.47	Tr30	23.61	286.10	287.90	287.30	288.13	0.007153	2.08	11.35	7.09	0.53
B_Brell	52.47	Tr200	33.22	286.10	288.61	287.59	288.80	0.004465	1.96	17.77	10.96	0.43
B_Brell	50		Bridge									
B_Brell	41.32	Tr30	23.61	285.87	287.68		287.90	0.007032	2.07	11.42	7.09	0.52
B_Brell	41.32	Tr200	33.22	285.87	288.42		288.60	0.004259	1.93	18.04	10.66	0.42
B_Brell	38.55	Tr30	23.61	285.20	287.02	286.86	287.72	0.032549	3.71	6.36	3.50	0.88
B_Brell	38.55	Tr200	33.22	285.20	287.47	287.29	288.36	0.036011	4.18	7.94	3.50	0.89
B_Brell	20		Bridge									
B_Brell	7.38	Tr30	23.61	284.78	286.43	286.45	287.28	0.017474	4.10	5.76	6.96	1.02
B_Brell	7.38	Tr200	33.22	284.78	286.85	286.88	287.92	0.016081	4.58	7.25	7.31	1.02
B_Brell	0.00	Tr30	23.61	283.67	284.29	284.87	286.55	0.223214	6.66	3.55	6.11	2.79
B_Brell	0.00	Tr200	33.22	283.67	284.46	285.16	287.15	0.203375	7.26	4.57	6.25	2.71

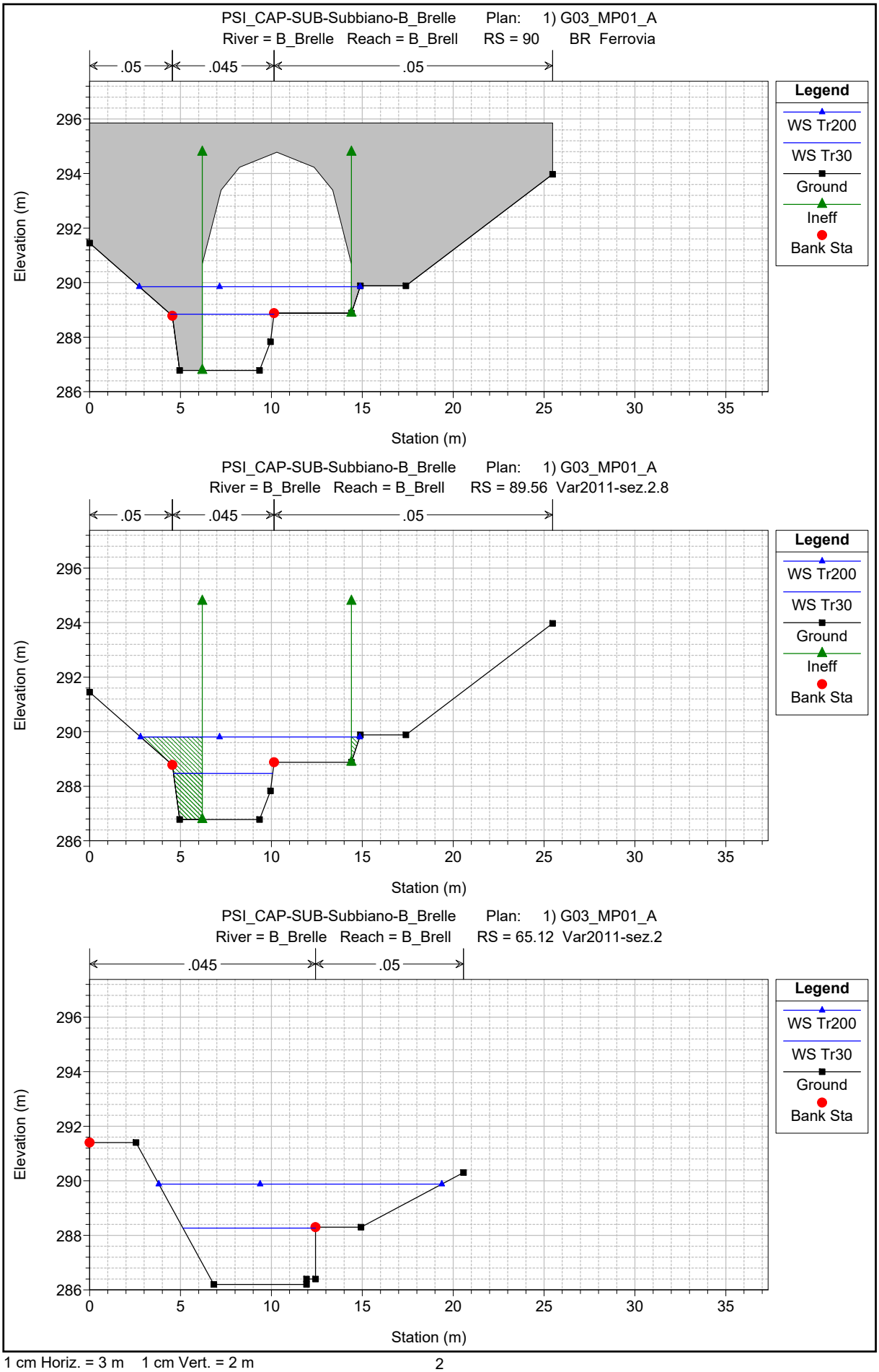
B – Brelle

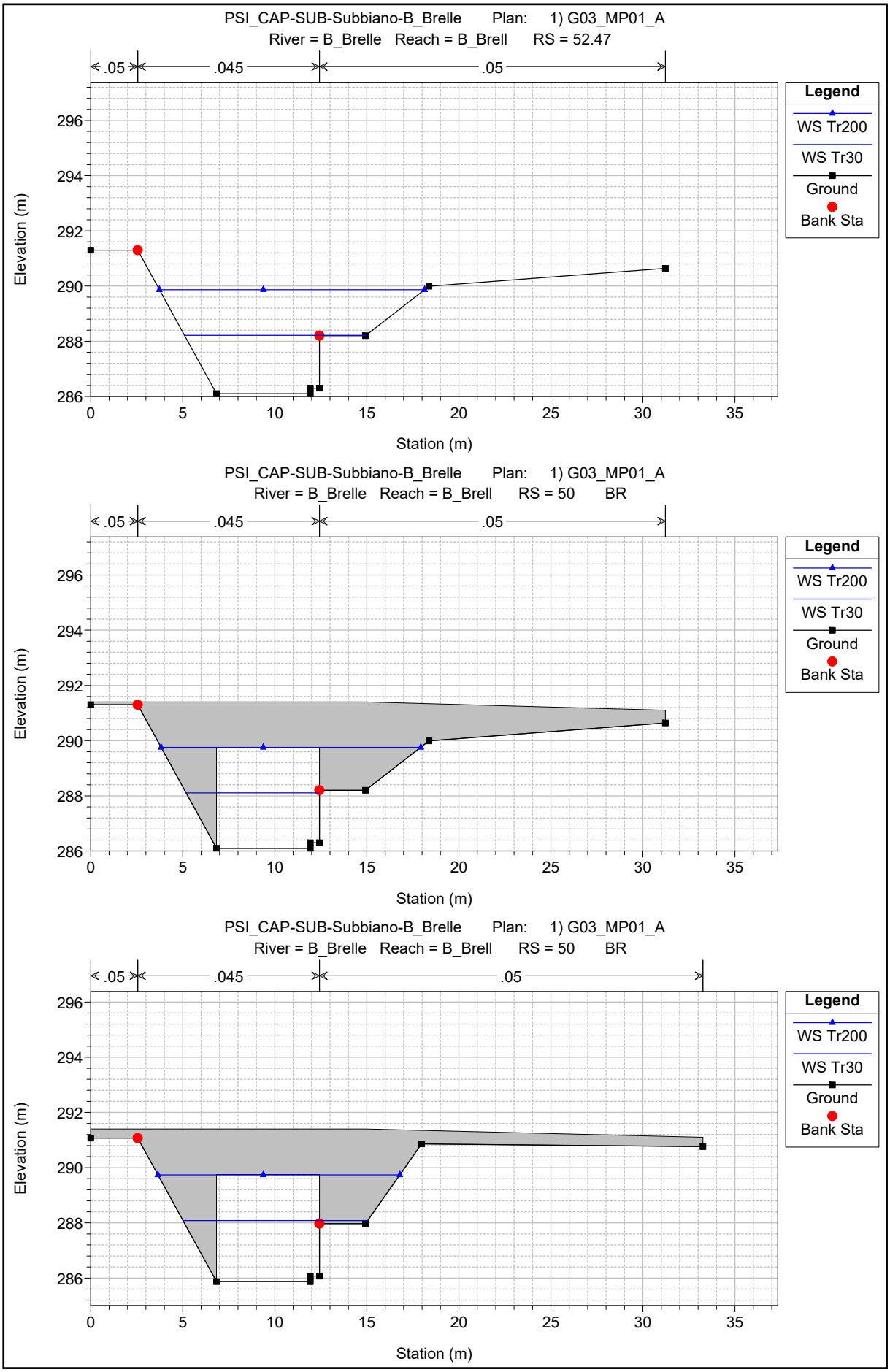
Scenario Beta



1 cm Horiz. = 8 m 1 cm Vert. = 2 m

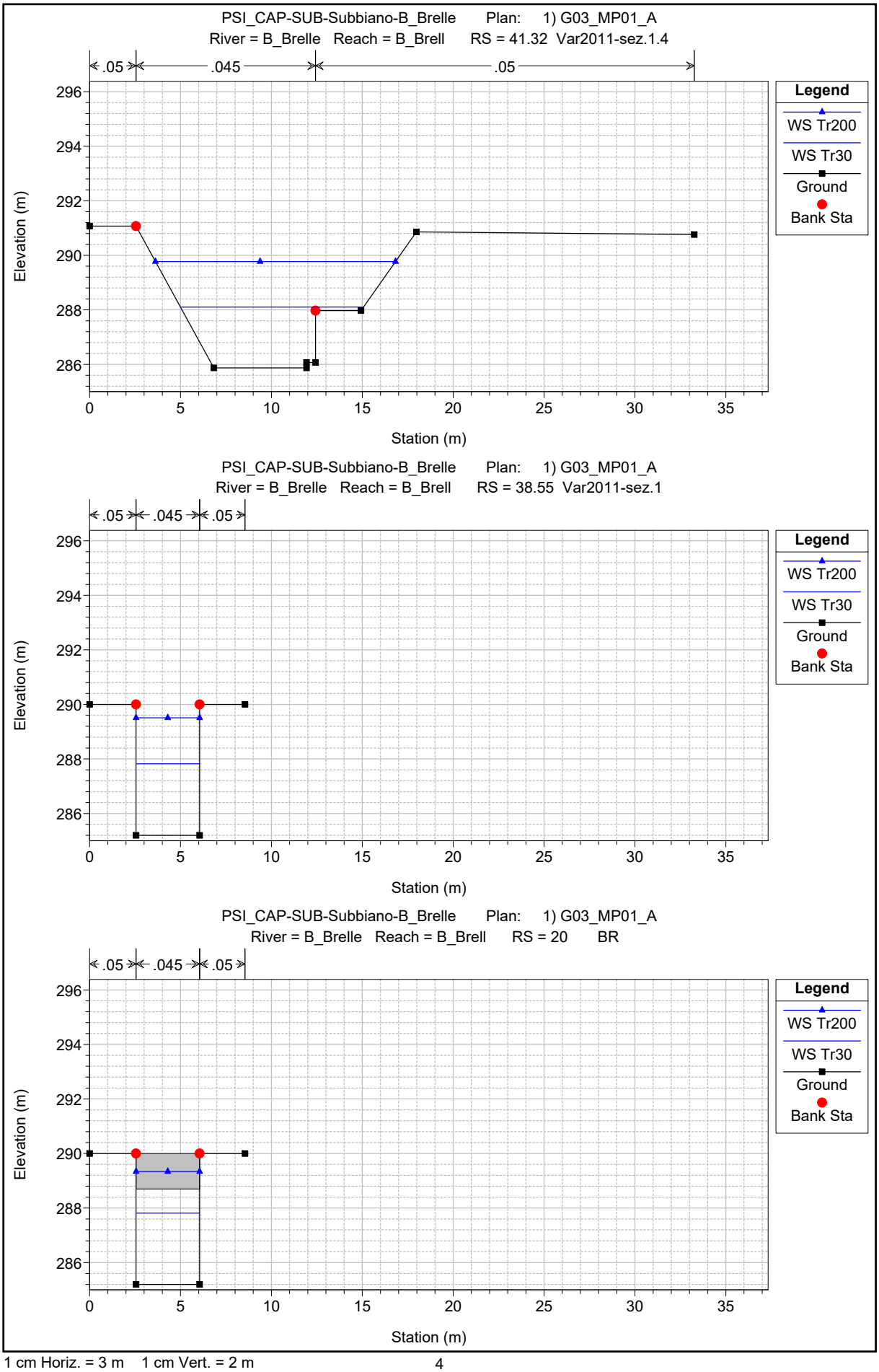

PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 133.21 Var2011-sez.4
.05
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 97.66 Var2011-sez.3
.05
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 90 BR Ferrovia
.05
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
1 cm Horiz. = 3 m 1 cm Vert. = 2 m
1


PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 90 BR Ferrovia
.05
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 89.56 Var2011-sez.2.8
.05
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-B_Brelle Plan: 1) G03_MP01_A
River = B_Brelle Reach = B_Brell RS = 65.12 Var2011-sez.2
.045
.05
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
1 cm Horiz. = 3 m 1 cm Vert. = 2 m
2

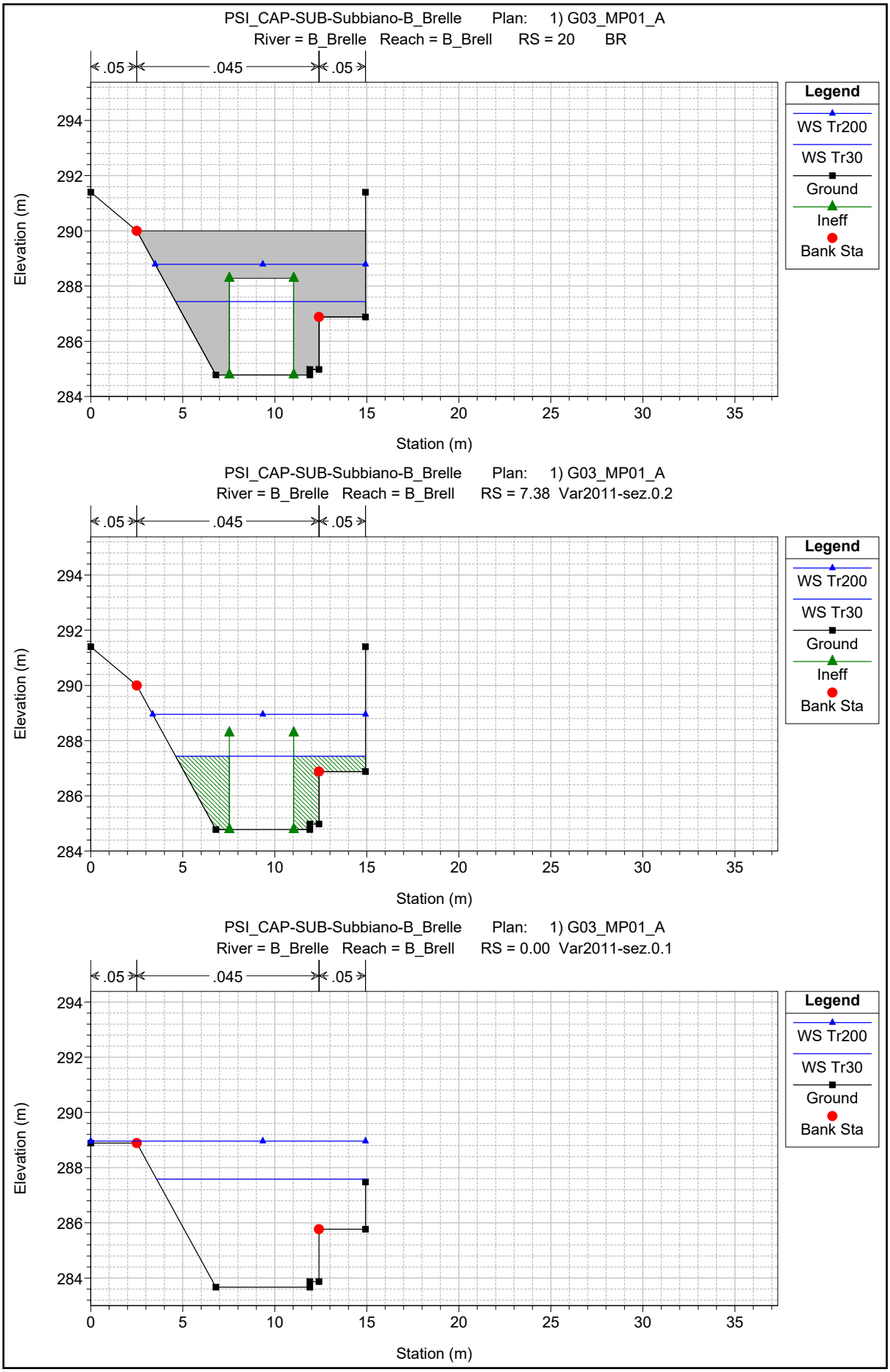


1 cm Horiz. = 3 m 1 cm Vert. = 2 m

3



1 cm Horiz. = 3 m 1 cm Vert. = 2 m 4



1 cm Horiz. = 3 m 1 cm Vert. = 2 m

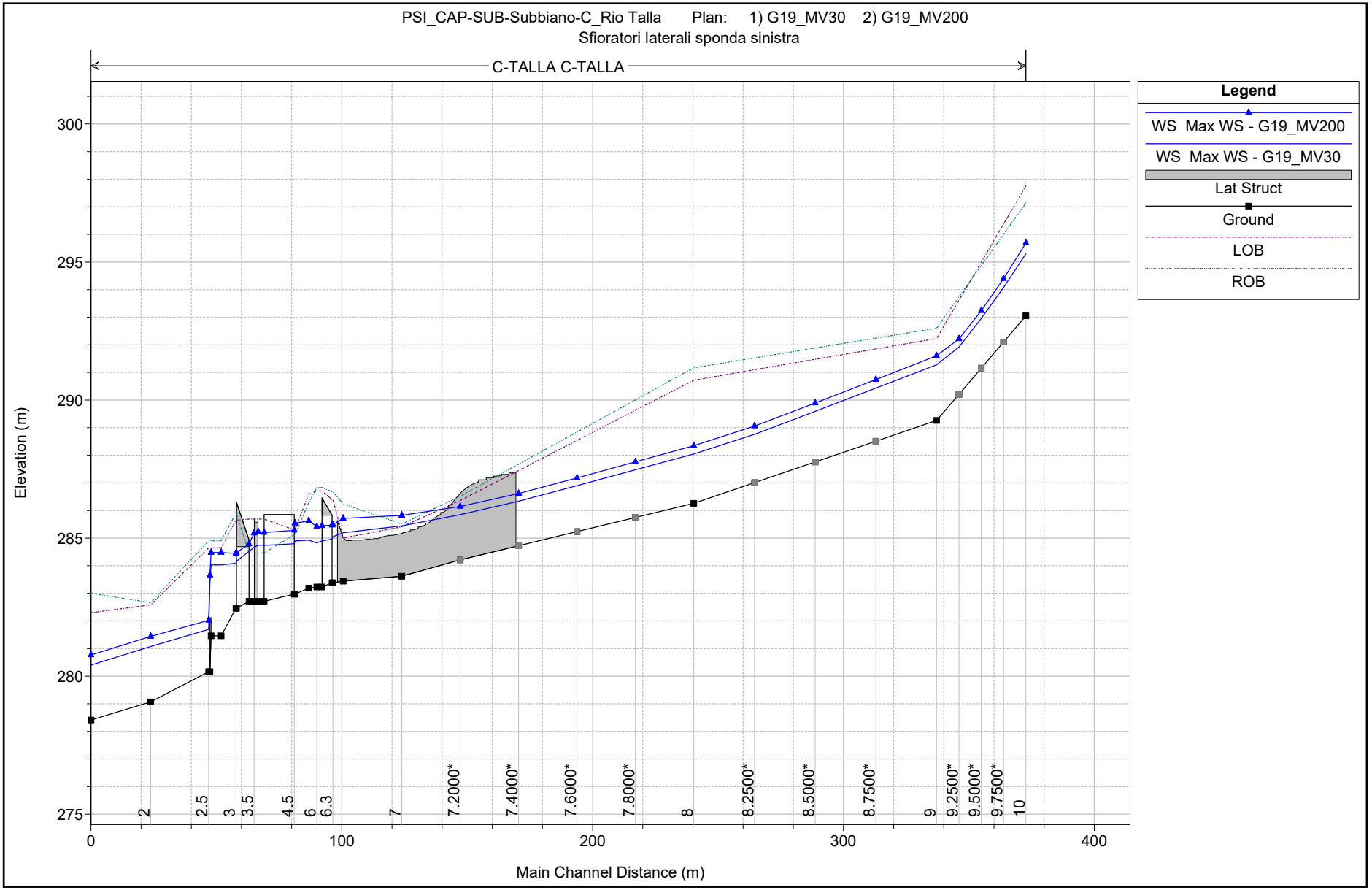
5

HEC-RAS Plan: G03_MP01_A River: B_Brelle Reach: B_Brell

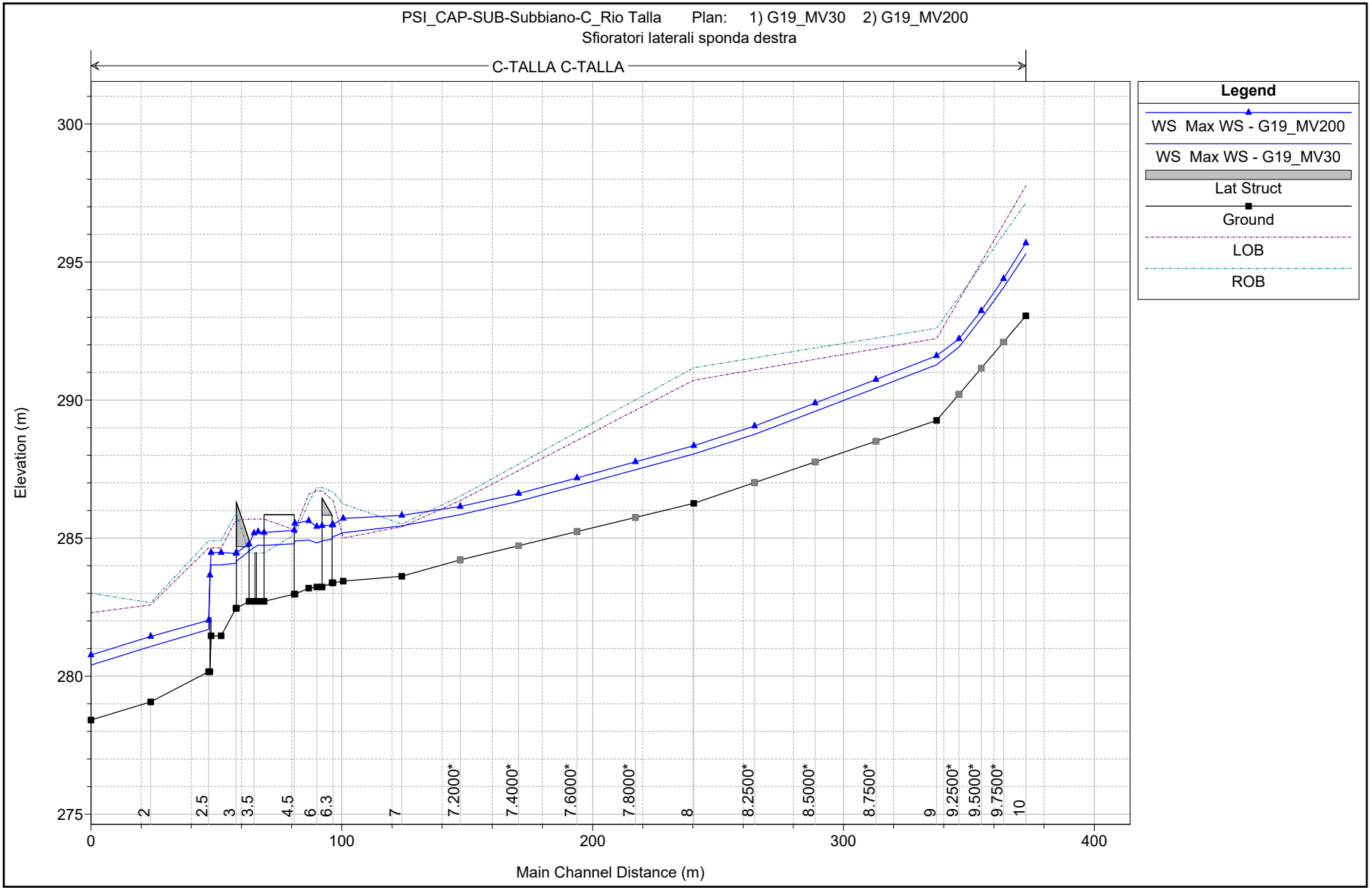
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
B_Brell	133.21	Tr30	23.61	288.50	289.74	290.03	290.67	0.045025	4.29	5.64	6.59	1.33
B_Brell	133.21	Tr200	33.22	288.50	289.98	290.34	291.11	0.045046	4.78	7.41	8.17	1.35
B_Brell	97.66	Tr30	23.61	286.90	288.95	288.59	289.46	0.013117	3.17	7.46	5.64	0.73
B_Brell	97.66	Tr200	33.22	286.90	289.88	289.25	290.18	0.005012	2.54	14.90	11.42	0.48
B_Brell	90		Bridge									
B_Brell	89.56	Tr30	23.61	286.78	288.47	288.47	289.24	0.023974	3.90	6.05	5.46	1.00
B_Brell	89.56	Tr200	33.22	286.78	289.81	289.12	290.09	0.004667	2.48	15.27	12.07	0.47
B_Brell	65.12	Tr30	23.61	286.20	288.26	287.40	288.43	0.004658	1.79	13.22	7.30	0.42
B_Brell	65.12	Tr200	33.22	286.20	289.88		289.93	0.000915	1.10	33.49	15.57	0.20
B_Brell	52.47	Tr30	23.61	286.10	288.21	287.29	288.37	0.004309	1.74	13.62	9.87	0.41
B_Brell	52.47	Tr200	33.22	286.10	289.87	287.59	289.92	0.000856	1.08	33.67	14.41	0.20
B_Brell	50		Bridge									
B_Brell	41.32	Tr30	23.61	285.87	288.10		288.24	0.003528	1.62	14.81	10.08	0.37
B_Brell	41.32	Tr200	33.22	285.87	289.77		289.82	0.000776	1.05	34.21	13.21	0.19
B_Brell	38.55	Tr30	23.61	285.20	287.82	286.86	288.16	0.012550	2.57	9.18	3.50	0.51
B_Brell	38.55	Tr200	33.22	285.20	289.51	287.29	289.76	0.007334	2.20	15.09	3.50	0.34
B_Brell	20		Bridge									
B_Brell	7.38	Tr30	23.61	284.78	287.44	286.45	287.77	0.003548	2.54	9.30	10.32	0.50
B_Brell	7.38	Tr200	33.22	284.78	288.95	286.88	289.00	0.000653	1.00	35.67	11.57	0.17
B_Brell	0.00	Tr30	23.61	283.67	287.58	284.87	287.61	0.000421	0.77	32.67	11.35	0.14
B_Brell	0.00	Tr200	33.22	283.67	288.96	285.16	288.99	0.000267	0.73	49.29	14.93	0.11

C – Talla

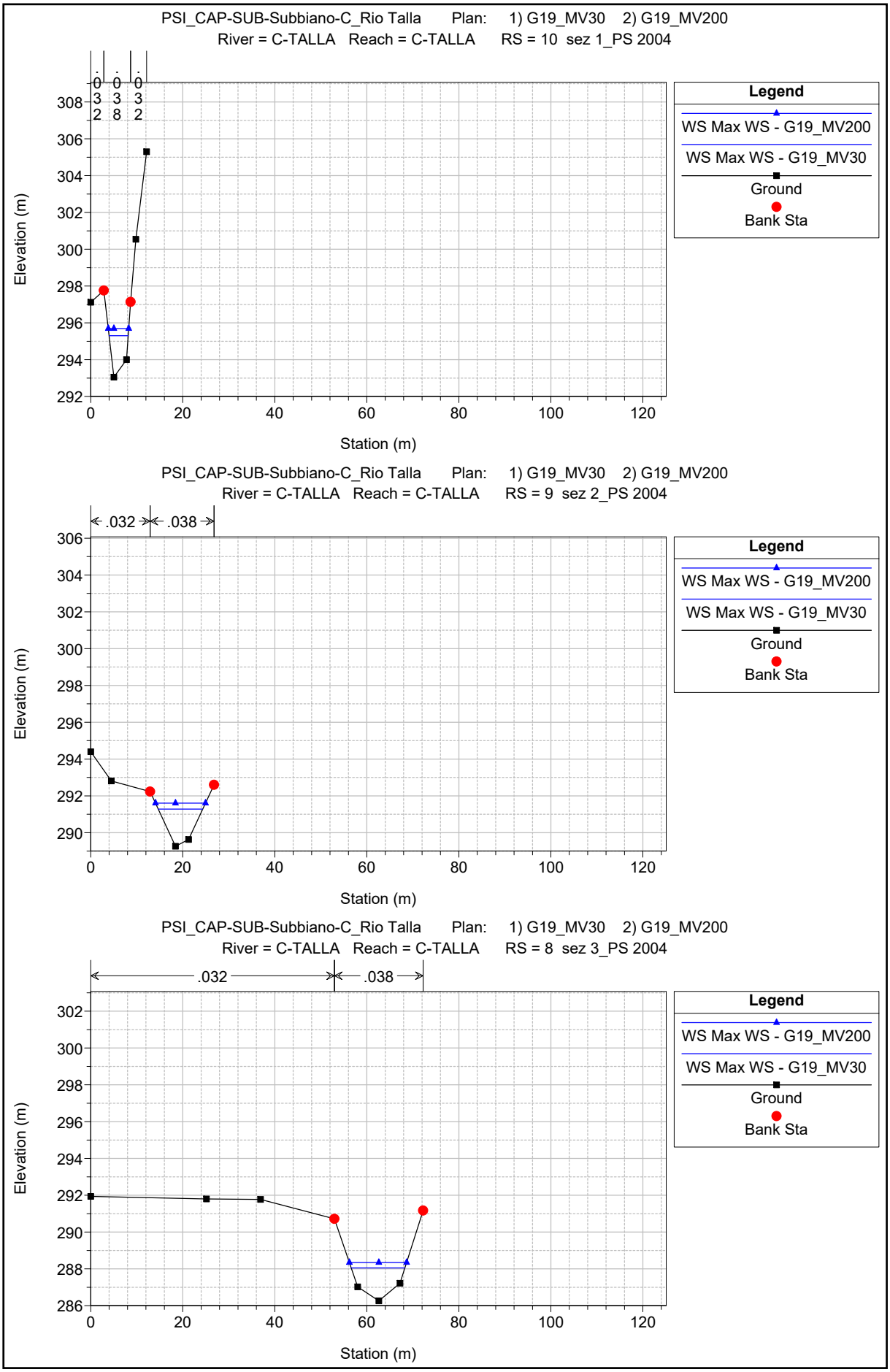
Scenario Alpha



1 cm Horiz. = 22 m 1 cm Vert. = 2 m

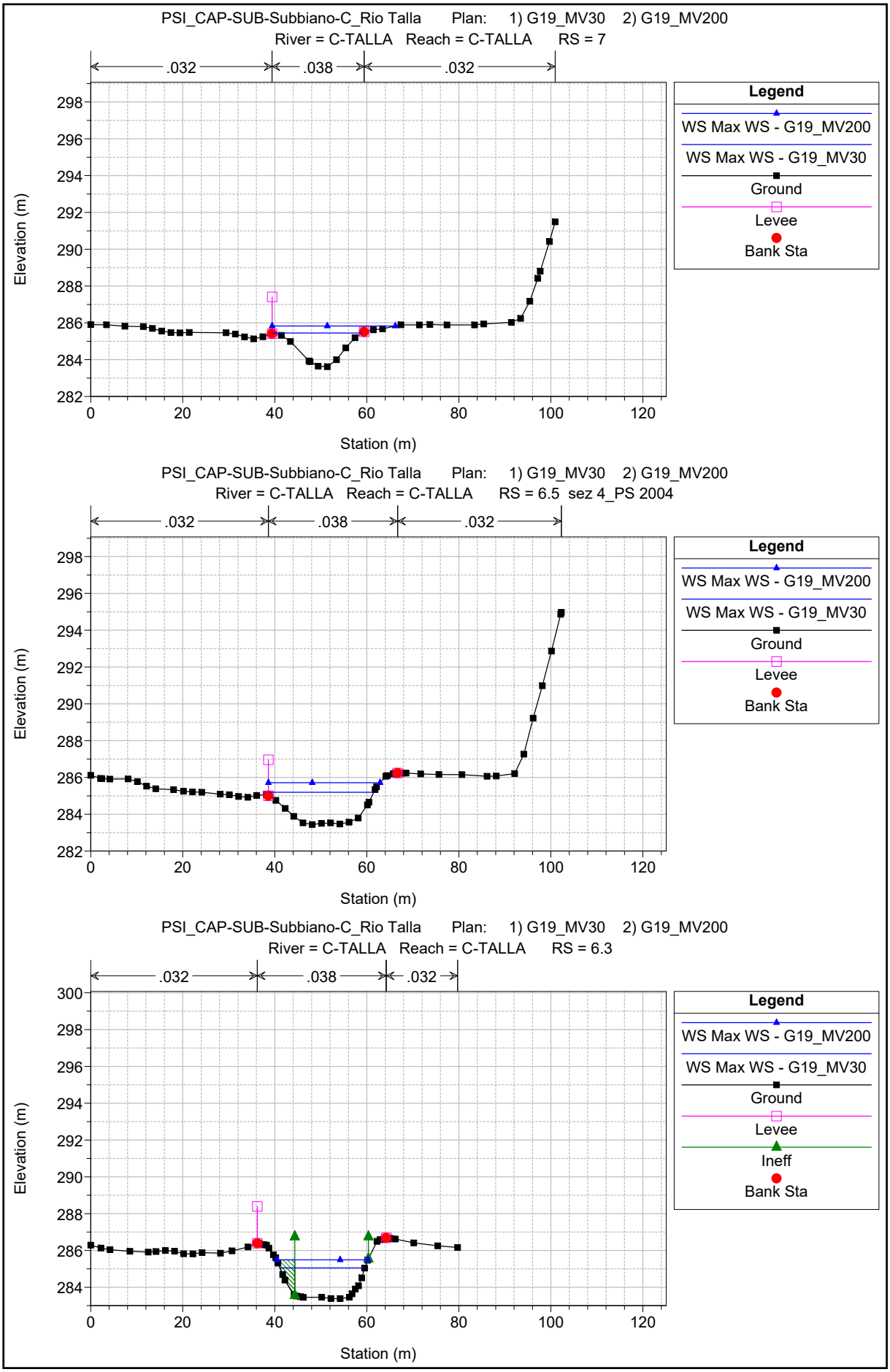


1 cm Horiz. = 22 m 1 cm Vert. = 2 m

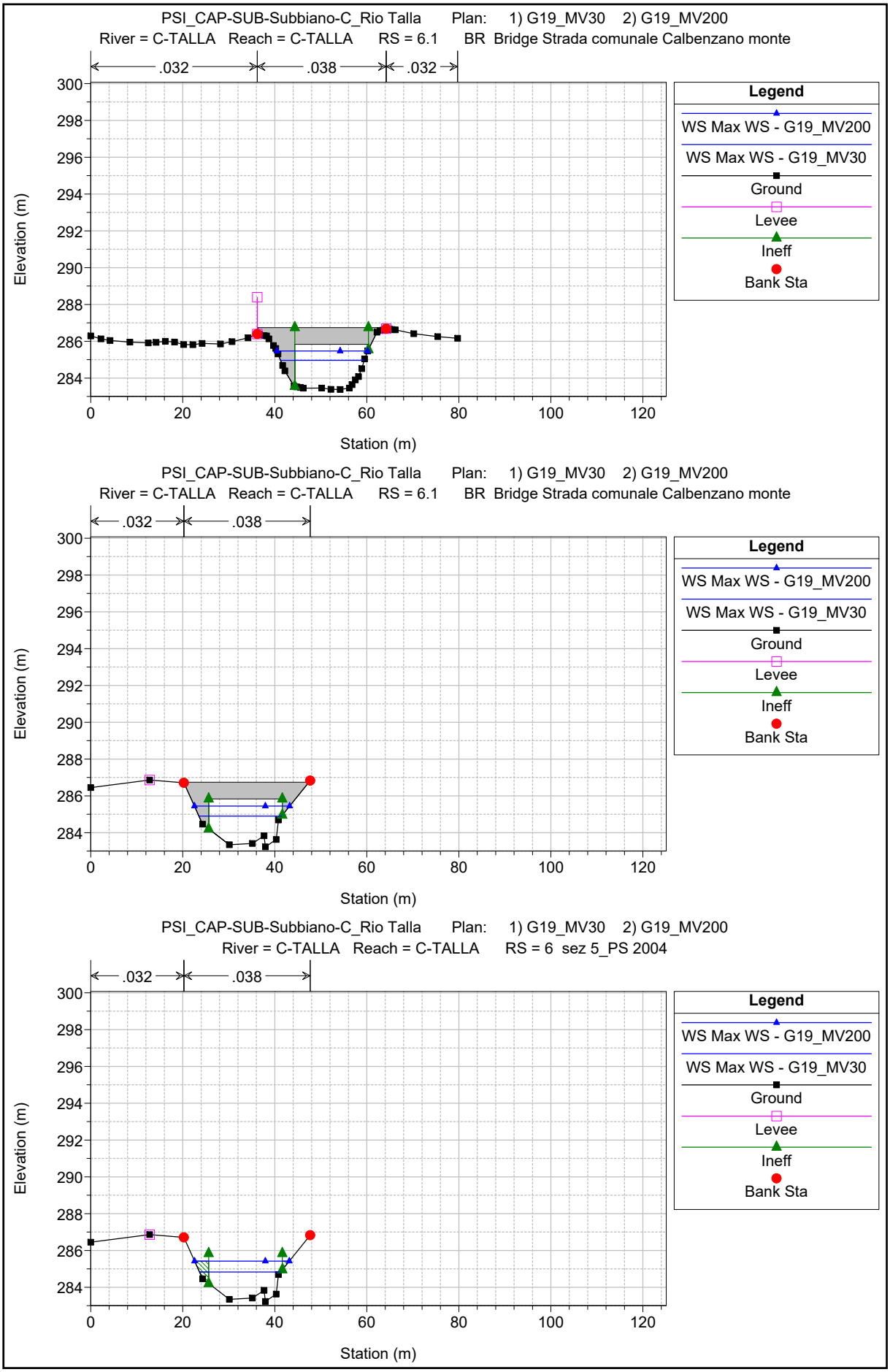


1 cm Horiz. = 12 m 1 cm Vert. = 3 m

1

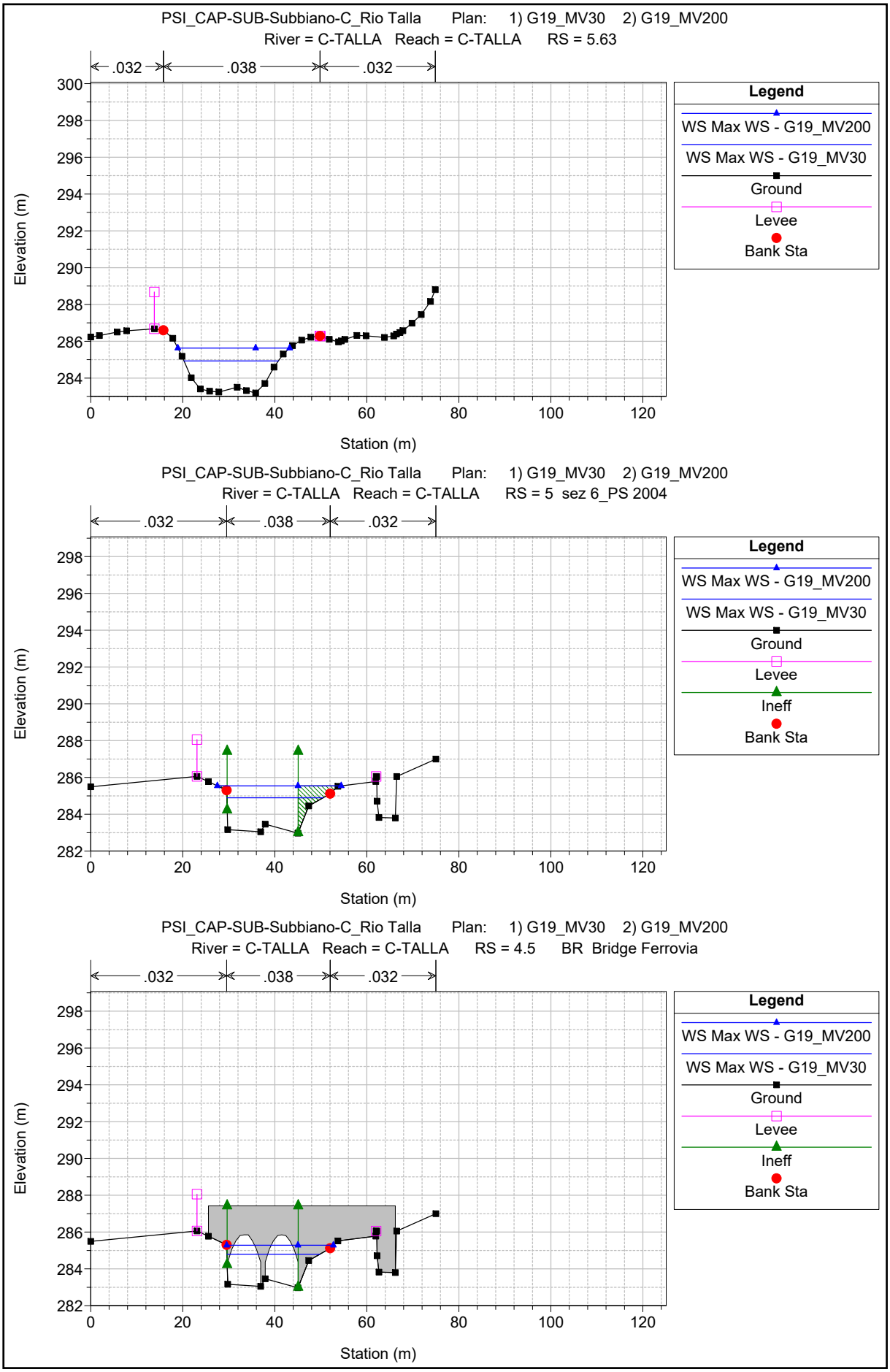


1 cm Horiz. = 12 m 1 cm Vert. = 3 m 2

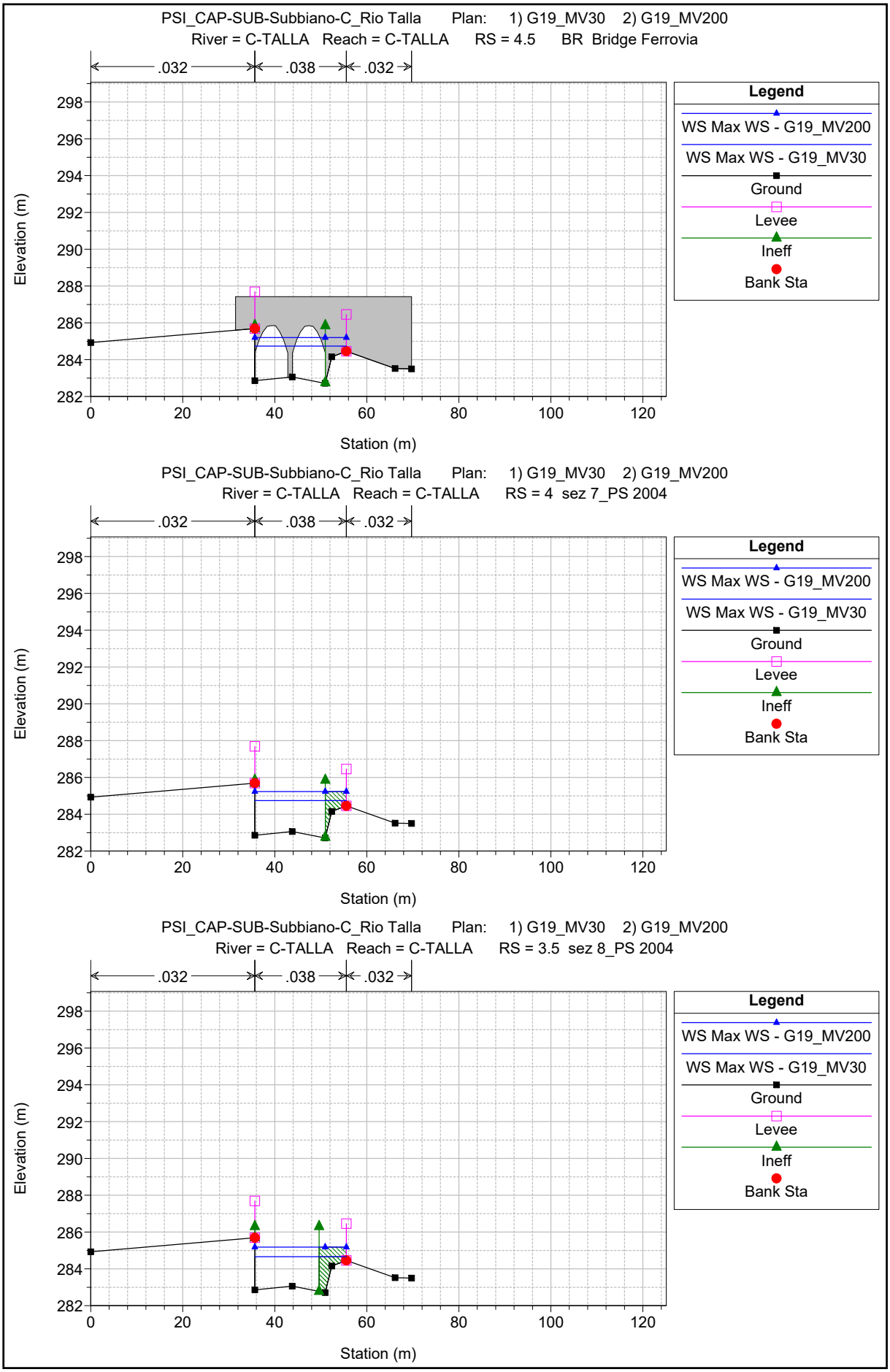


1 cm Horiz. = 12 m 1 cm Vert. = 3 m

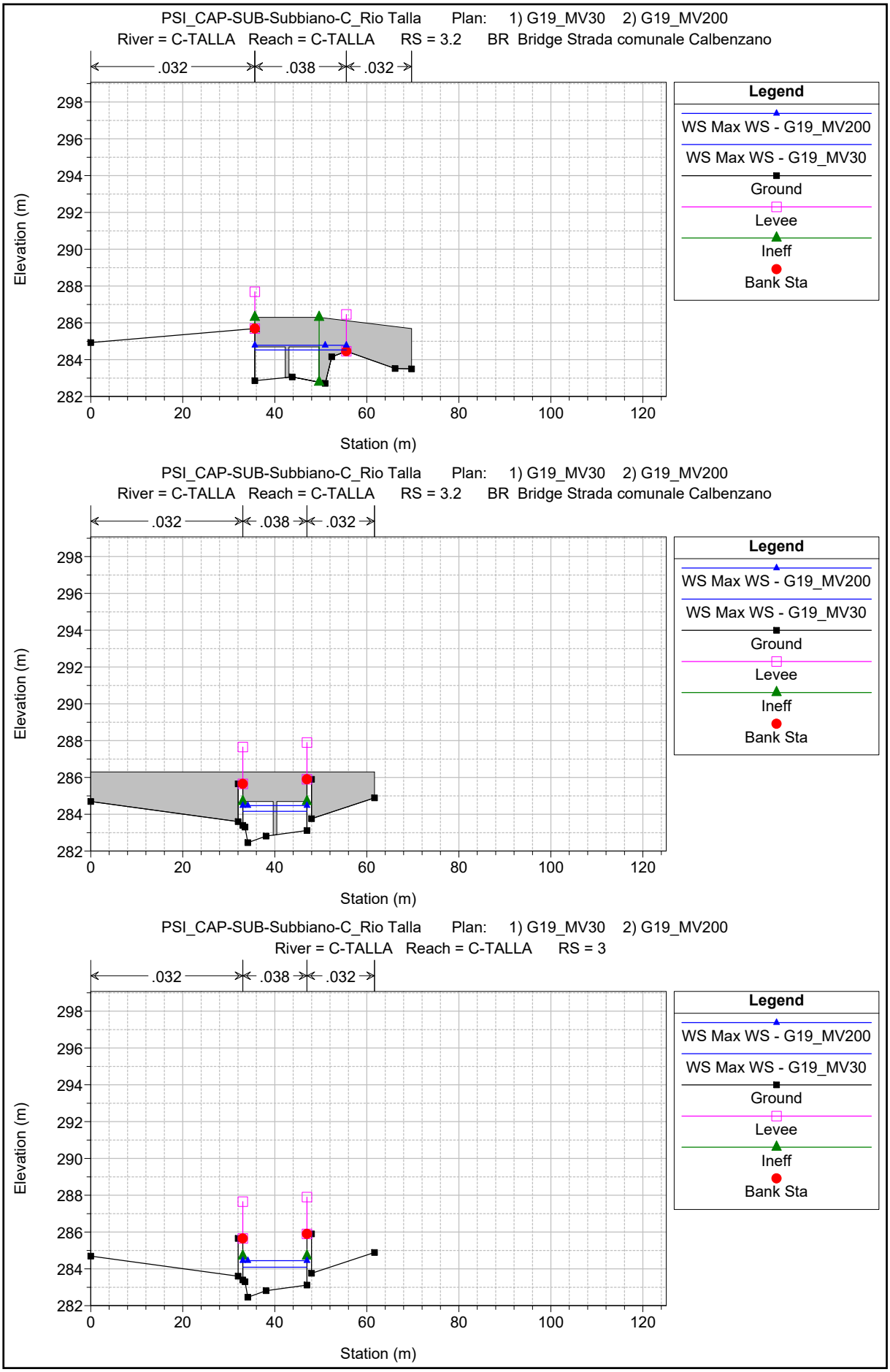
3



1 cm Horiz. = 12 m 1 cm Vert. = 3 m 4



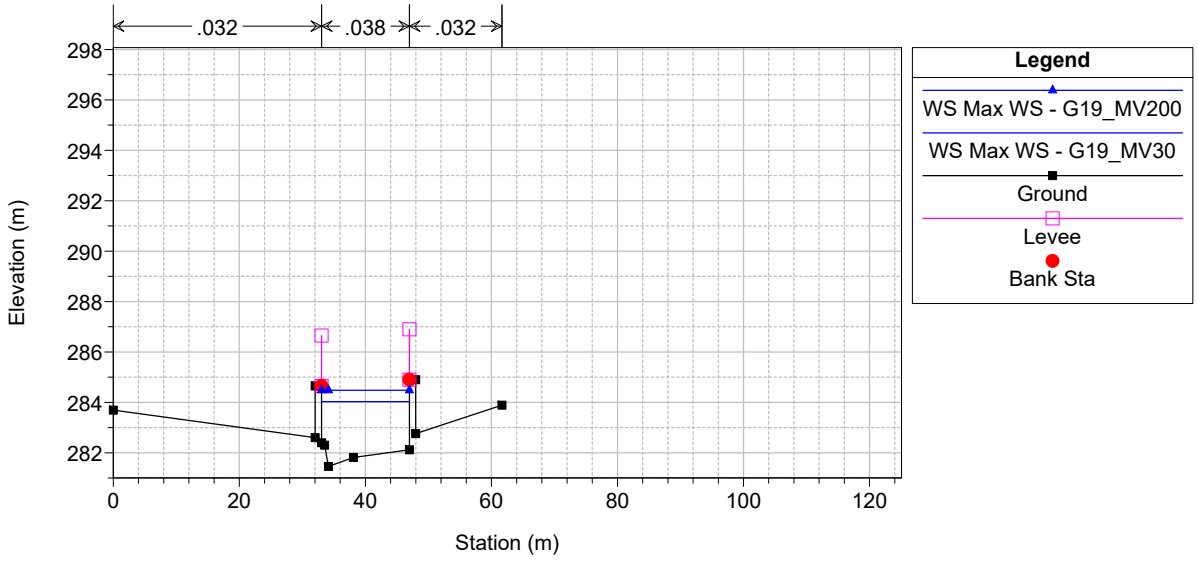
1 cm Horiz. = 12 m 1 cm Vert. = 3 m



1 cm Horiz. = 12 m 1 cm Vert. = 3 m

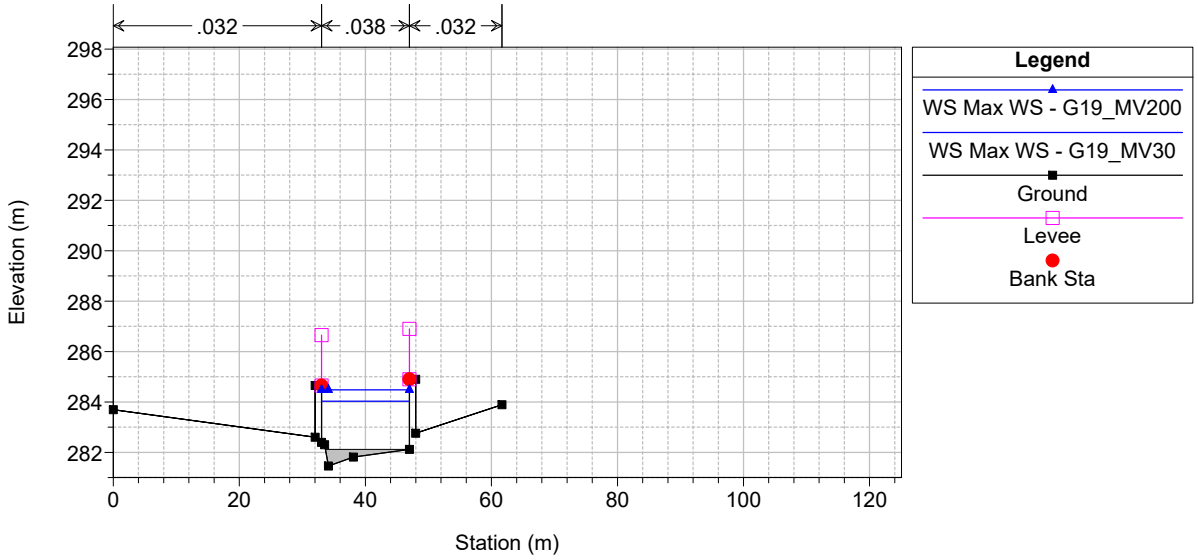
PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV30 2) G19_MV200

River = C-TALLA Reach = C-TALLA RS = 2.9 sez 8_PS 2004 traslata a valle no modifica quote



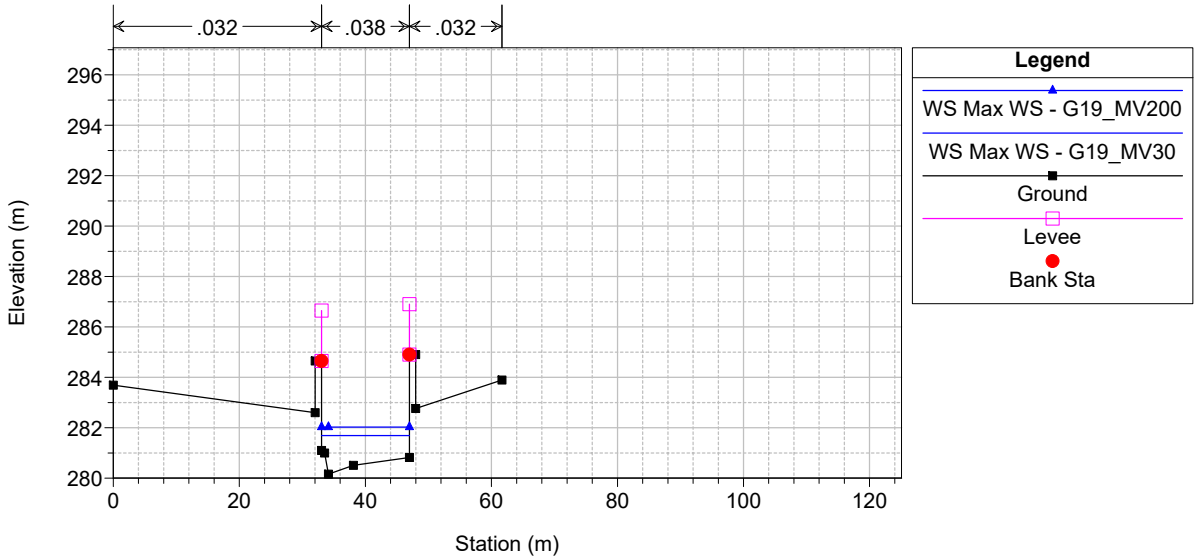
PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV30 2) G19_MV200

River = C-TALLA Reach = C-TALLA RS = 2.6 IS



PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV30 2) G19_MV200

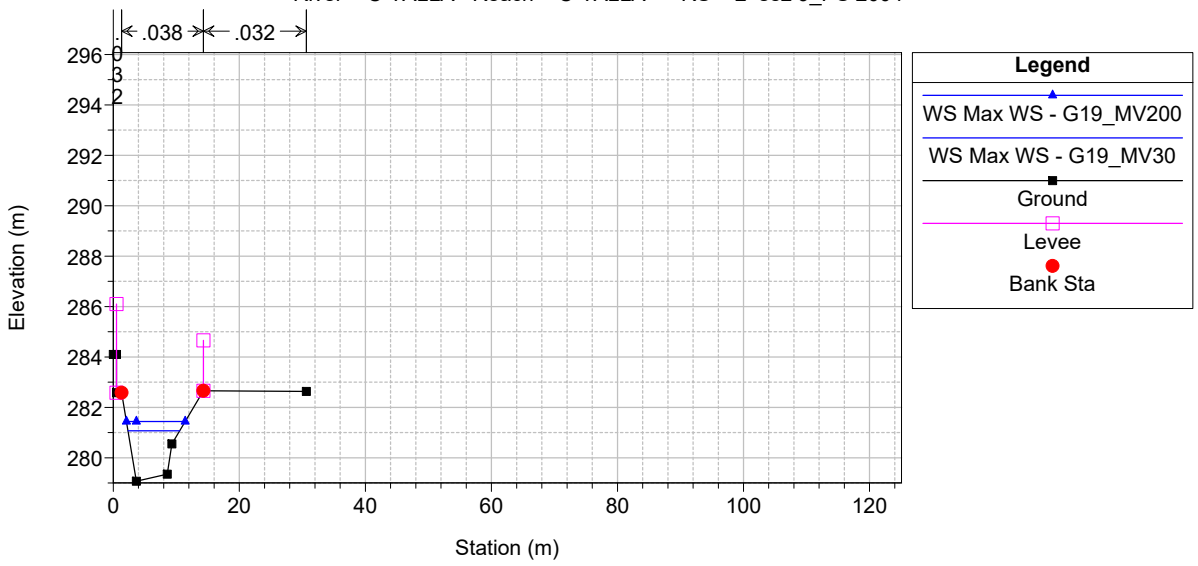
River = C-TALLA Reach = C-TALLA RS = 2.5 sez 8_PS 2004_traslata a valle con modifica di quote fondo ALVEO



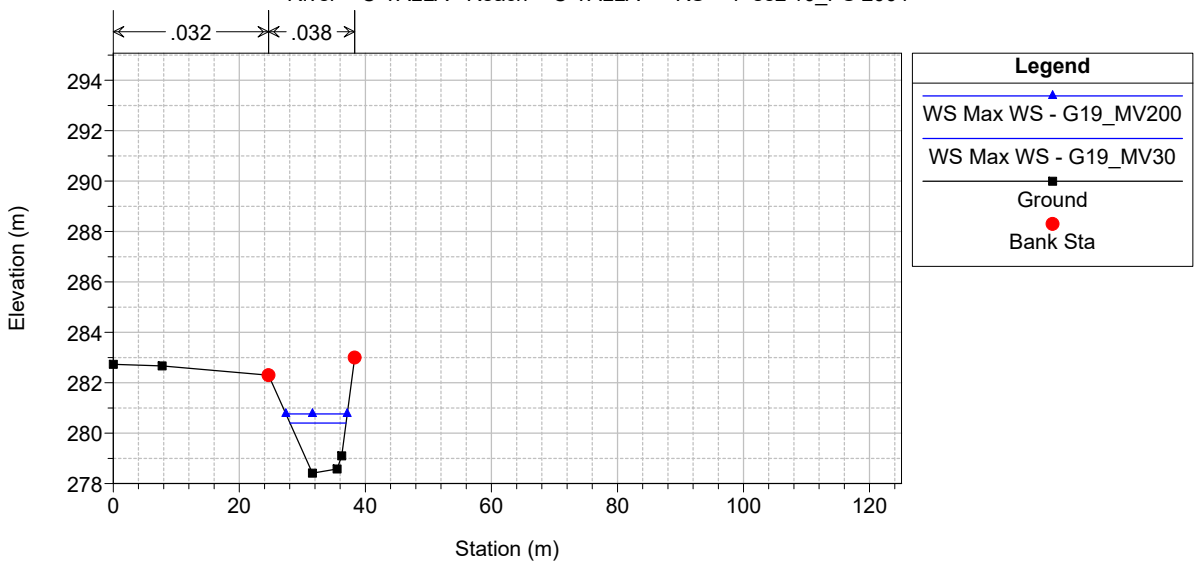
1 cm Horiz. = 12 m 1 cm Vert. = 3 m

7

PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV30 2) G19_MV200
River = C-TALLA Reach = C-TALLA RS = 2 sez 9_PS 2004



PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV30 2) G19_MV200
River = C-TALLA Reach = C-TALLA RS = 1 sez 10_PS 2004



1 cm Horiz. = 12 m 1 cm Vert. = 3 m

HEC-RAS River: C-TALLA Reach: C-TALLA Profile: Max WS

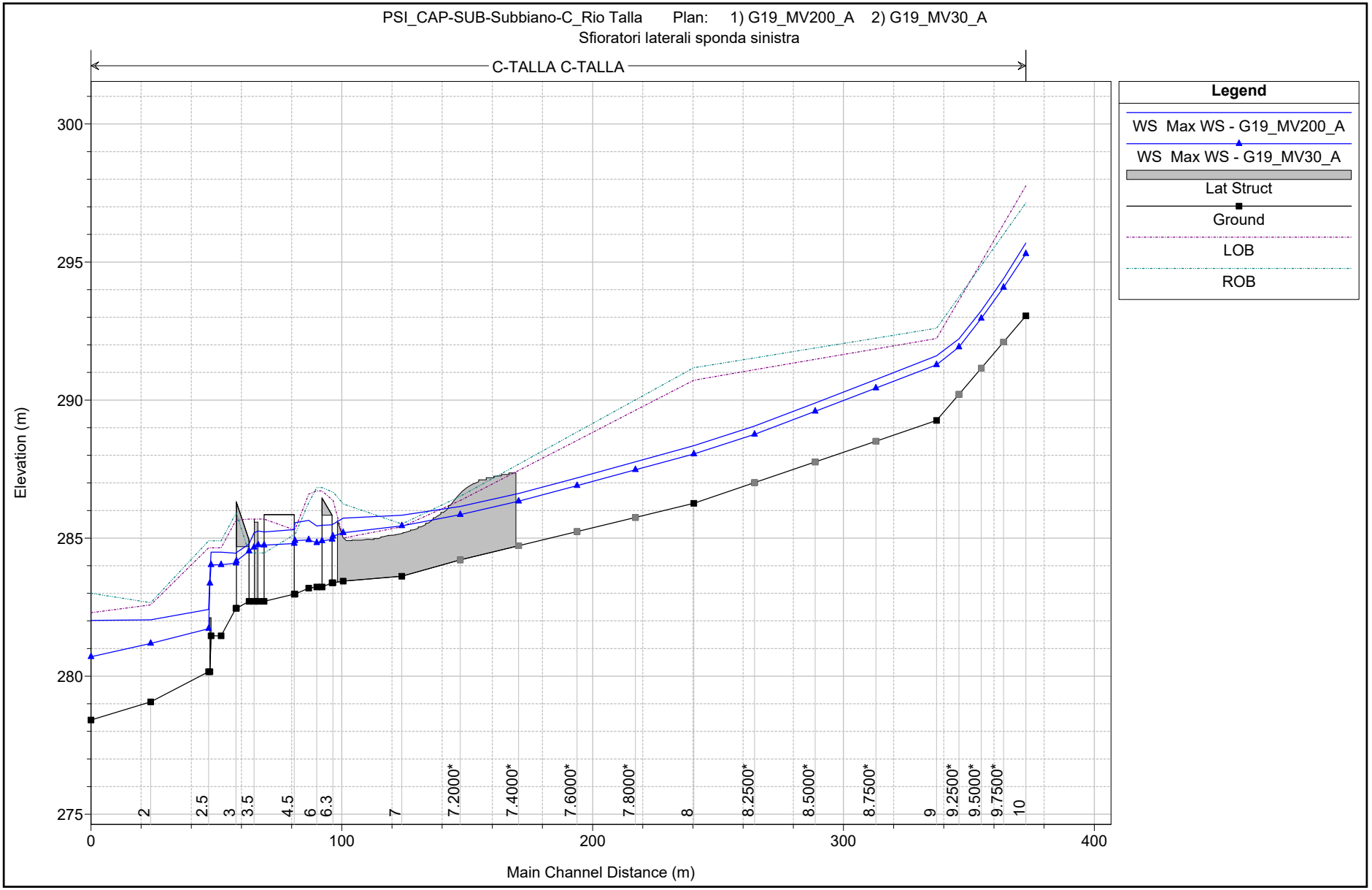
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
C-TALLA	10	Max WS	G19_MV30	60.05	293.05	295.30	296.61	300.00	0.146339	9.60	6.26	4.14	2.49
C-TALLA	10	Max WS	G19_MV200	85.02	293.05	295.69	297.36	301.56	0.156044	10.73	7.92	4.43	2.56
C-TALLA	9	Max WS	G19_MV30	60.05	289.26	291.28	291.71	292.66	0.035013	5.21	11.54	9.66	1.52
C-TALLA	9	Max WS	G19_MV200	85.02	289.26	291.60	292.13	293.27	0.035512	5.72	14.85	10.87	1.56
C-TALLA	8	Max WS	G19_MV30	60.05	286.26	288.05	288.29	289.03	0.024696	4.40	13.65	11.66	1.30
C-TALLA	8	Max WS	G19_MV200	85.01	286.26	288.35	288.67	289.59	0.025140	4.93	17.24	12.44	1.34
C-TALLA	7.3			Lat Struct									
C-TALLA	7	Max WS	G19_MV30	59.66	283.62	285.44	285.49	285.98	0.016946	3.24	18.42	19.57	1.07
C-TALLA	7	Max WS	G19_MV200	83.02	283.62	285.83	285.78	286.33	0.010651	3.15	27.11	26.77	0.88
C-TALLA	6.5	Max WS	G19_MV30	60.02	283.44	285.19		285.41	0.004483	2.04	29.39	22.91	0.58
C-TALLA	6.5	Max WS	G19_MV200	84.77	283.44	285.71		285.92	0.003140	2.04	41.57	24.30	0.50
C-TALLA	6.3	Max WS	G19_MV30	55.29	283.38	285.05	284.67	285.36	0.005492	2.48	22.33	18.40	0.65
C-TALLA	6.3	Max WS	G19_MV200	84.99	283.38	285.49	285.05	285.92	0.005717	2.91	29.16	19.84	0.69
C-TALLA	6.1			Bridge									
C-TALLA	6	Max WS	G19_MV30	60.03	283.23	284.83		285.33	0.012136	3.15	19.06	17.60	0.91
C-TALLA	6	Max WS	G19_MV200	84.99	283.23	285.42		285.87	0.006544	2.98	28.54	20.59	0.71
C-TALLA	5.63	Max WS	G19_MV30	60.03	283.19	284.93		285.18	0.005223	2.23	26.90	20.49	0.62
C-TALLA	5.63	Max WS	G19_MV200	84.99	283.19	285.63		285.83	0.002893	2.00	42.47	24.31	0.48
C-TALLA	5	Max WS	G19_MV30	60.03	282.97	284.90	284.33	285.16	0.003854	2.25	26.68	20.92	0.55
C-TALLA	5	Max WS	G19_MV200	84.98	282.97	285.54	284.62	285.82	0.002690	2.32	36.61	26.94	0.48
C-TALLA	4.5			Bridge									
C-TALLA	4	Max WS	G19_MV30	60.03	282.71	284.74		284.98	0.003531	2.15	27.87	19.87	0.51
C-TALLA	4	Max WS	G19_MV200	84.99	282.71	285.23		285.53	0.003318	2.40	35.37	19.87	0.50
C-TALLA	3.9			Lat Struct									
C-TALLA	3.6			Lat Struct									
C-TALLA	3.5	Max WS	G19_MV30	59.64	282.71	284.66	284.17	284.98	0.005085	2.48	24.01	19.87	0.60
C-TALLA	3.5	Max WS	G19_MV200	82.68	282.71	285.18	284.47	285.54	0.004236	2.65	31.25	19.87	0.56
C-TALLA	3.2			Bridge									
C-TALLA	3	Max WS	G19_MV30	59.64	282.46	284.09	284.11	284.73	0.017002	3.54	16.84	13.95	1.03
C-TALLA	3	Max WS	G19_MV200	82.68	282.46	284.44	284.41	285.18	0.014647	3.79	21.80	13.95	0.97
C-TALLA	2.9	Max WS	G19_MV30	59.64	281.46	284.03	283.11	284.23	0.002886	1.99	29.97	13.95	0.43
C-TALLA	2.9	Max WS	G19_MV200	82.79	281.46	284.48	283.42	284.75	0.003147	2.28	36.25	13.95	0.45
C-TALLA	2.6			Inl Struct									
C-TALLA	2.5	Max WS	G19_MV30	59.64	280.16	281.69	281.81	282.45	0.022116	3.85	15.49	13.95	1.17
C-TALLA	2.5	Max WS	G19_MV200	82.78	280.16	282.02	282.12	282.89	0.018805	4.11	20.12	13.95	1.09
C-TALLA	2	Max WS	G19_MV30	59.64	279.07	281.07	281.46	282.42	0.031453	5.13	11.62	8.21	1.38
C-TALLA	2	Max WS	G19_MV200	82.70	279.07	281.44	281.91	283.02	0.031752	5.57	14.84	9.33	1.41
C-TALLA	1	Max WS	G19_MV30	59.64	278.41	280.40	280.67	281.55	0.025009	4.74	12.59	8.89	1.27
C-TALLA	1	Max WS	G19_MV200	82.69	278.41	280.77	281.10	282.13	0.025004	5.17	15.98	9.74	1.29

HEC-RAS River: C-TALLA Reach: C-TALLA Profile: Max WS

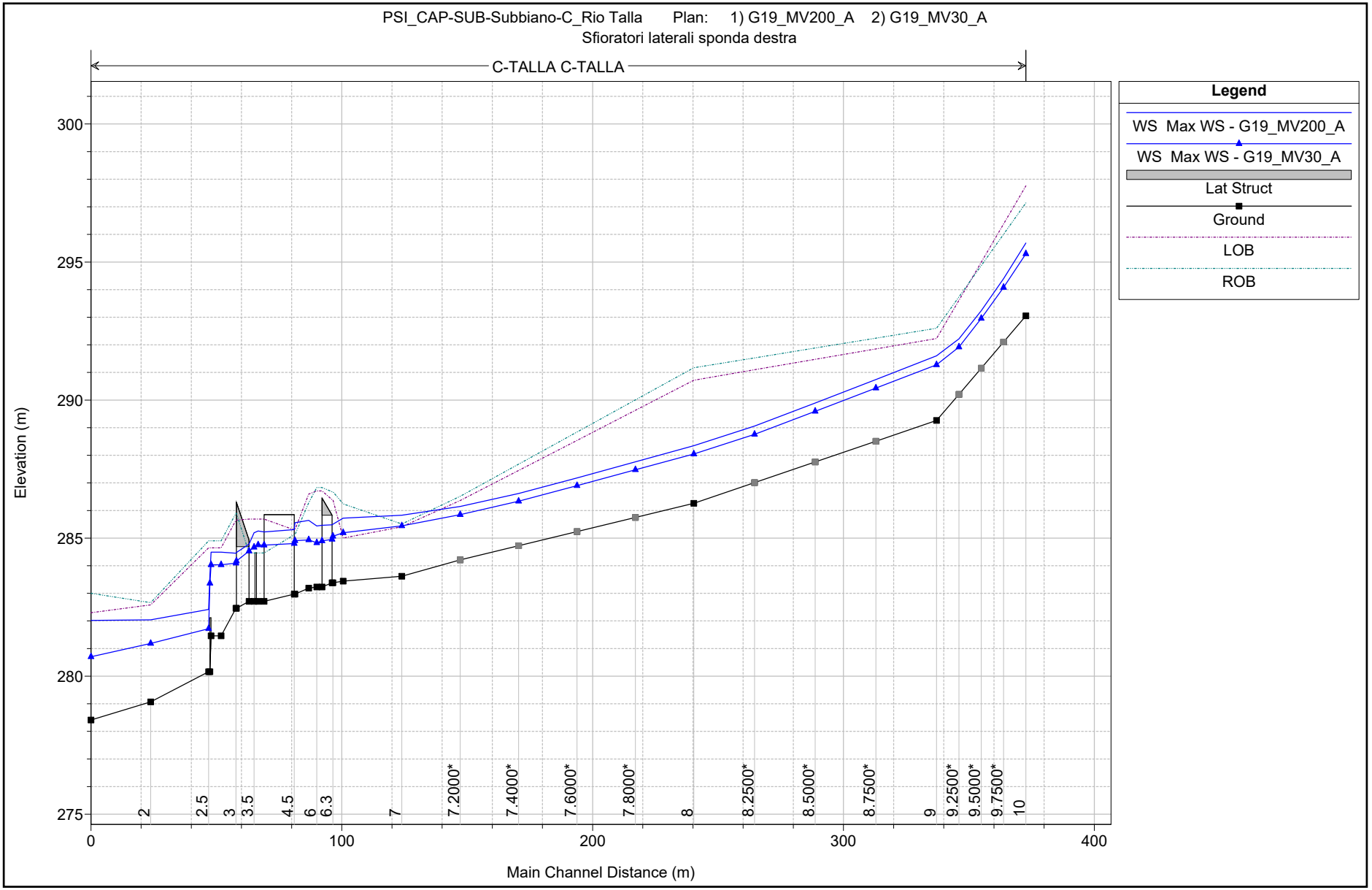
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
C-TALLA	7.3	Max WS	G19_MV30	60.04	0.02	55.29	0.02		37.08	0.39	0.28	284.91	287.13	286.31	285.38	285.11
C-TALLA	7.3	Max WS	G19_MV200	85.01	0.17	84.99	0.17		44.11	0.86	0.62	284.91	287.59	286.59	285.92	285.59
C-TALLA	3.9	Max WS	G19_MV30	60.03	0.00	59.64	0.00					285.58	284.98	284.74	284.98	284.67
C-TALLA	3.9	Max WS	G19_MV200	84.99	0.00	82.68	0.00					285.58	285.53	285.23	285.54	285.19
C-TALLA	3.6	Max WS	G19_MV30	60.03	0.39	59.64	0.39		3.34	0.24	0.22	284.47	284.98	284.71	284.98	284.68
C-TALLA	3.6	Max WS	G19_MV200	84.99	2.30	82.68	2.30		3.34	0.74	0.73	284.47	285.53	285.21	285.54	285.19

C – Talla

Scenario Beta

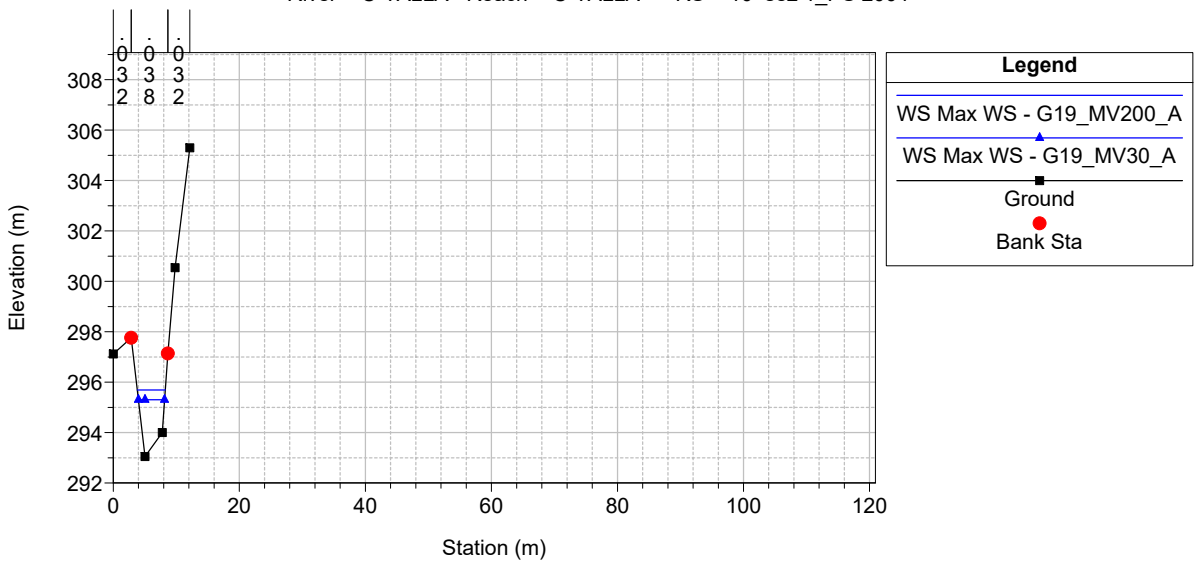


1 cm Horiz. = 22 m 1 cm Vert. = 2 m

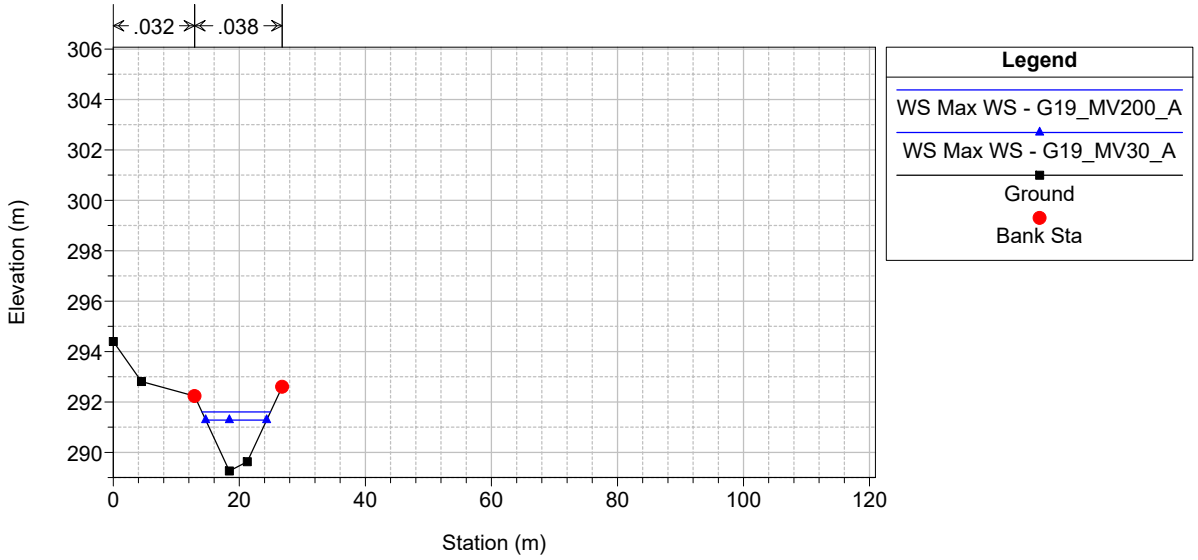


1 cm Horiz. = 22 m 1 cm Vert. = 2 m

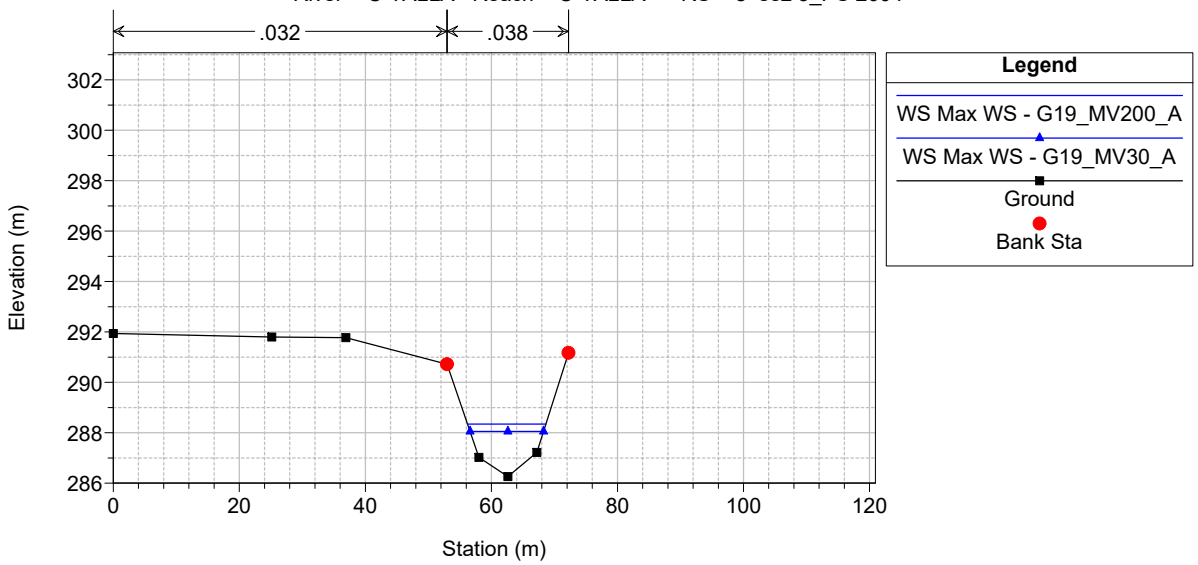
PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV200_A 2) G19_MV30_A
River = C-TALLA Reach = C-TALLA RS = 10 sez 1_PS 2004



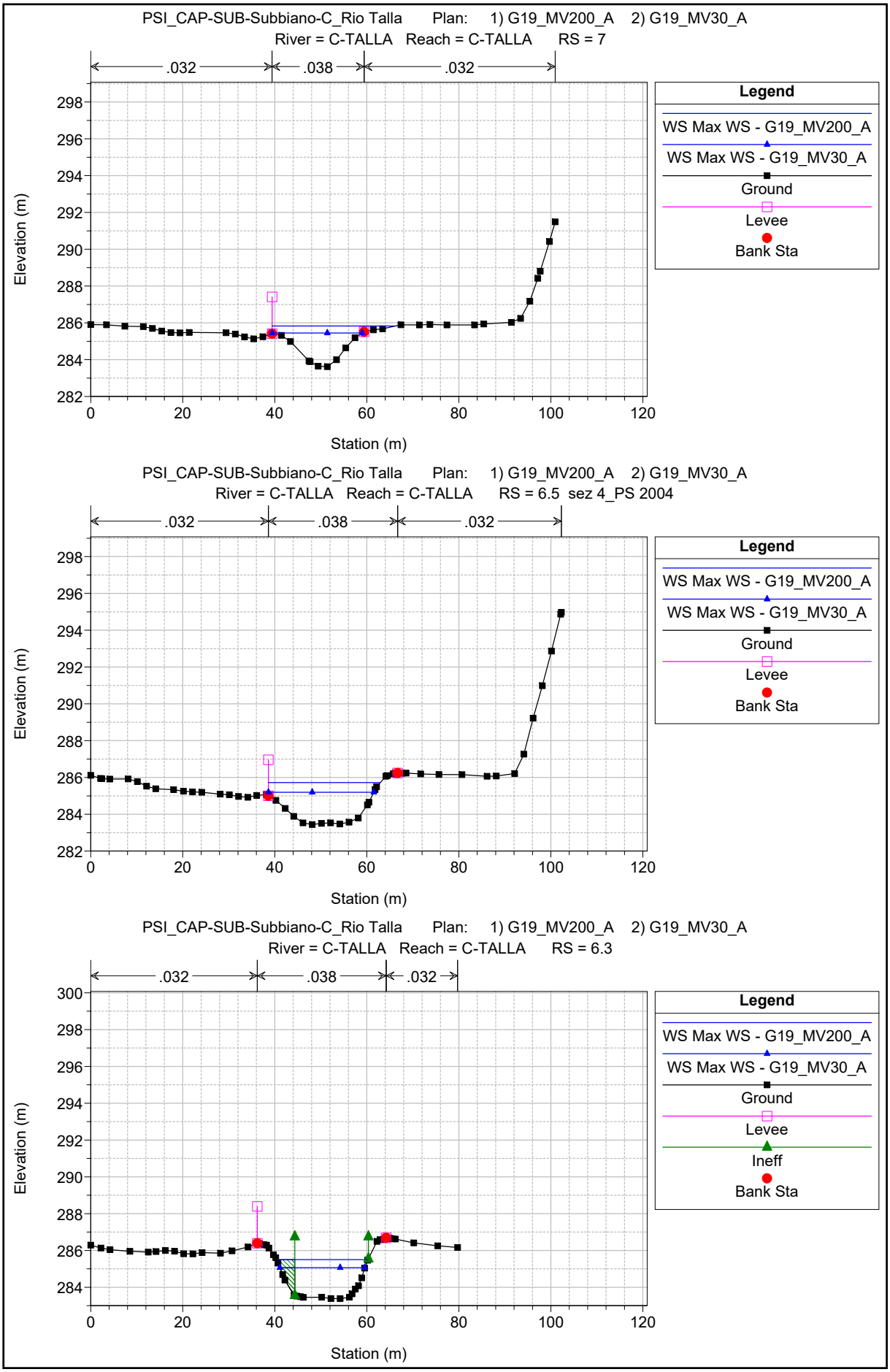
PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV200_A 2) G19_MV30_A
River = C-TALLA Reach = C-TALLA RS = 9 sez 2_PS 2004



PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV200_A 2) G19_MV30_A
River = C-TALLA Reach = C-TALLA RS = 8 sez 3_PS 2004

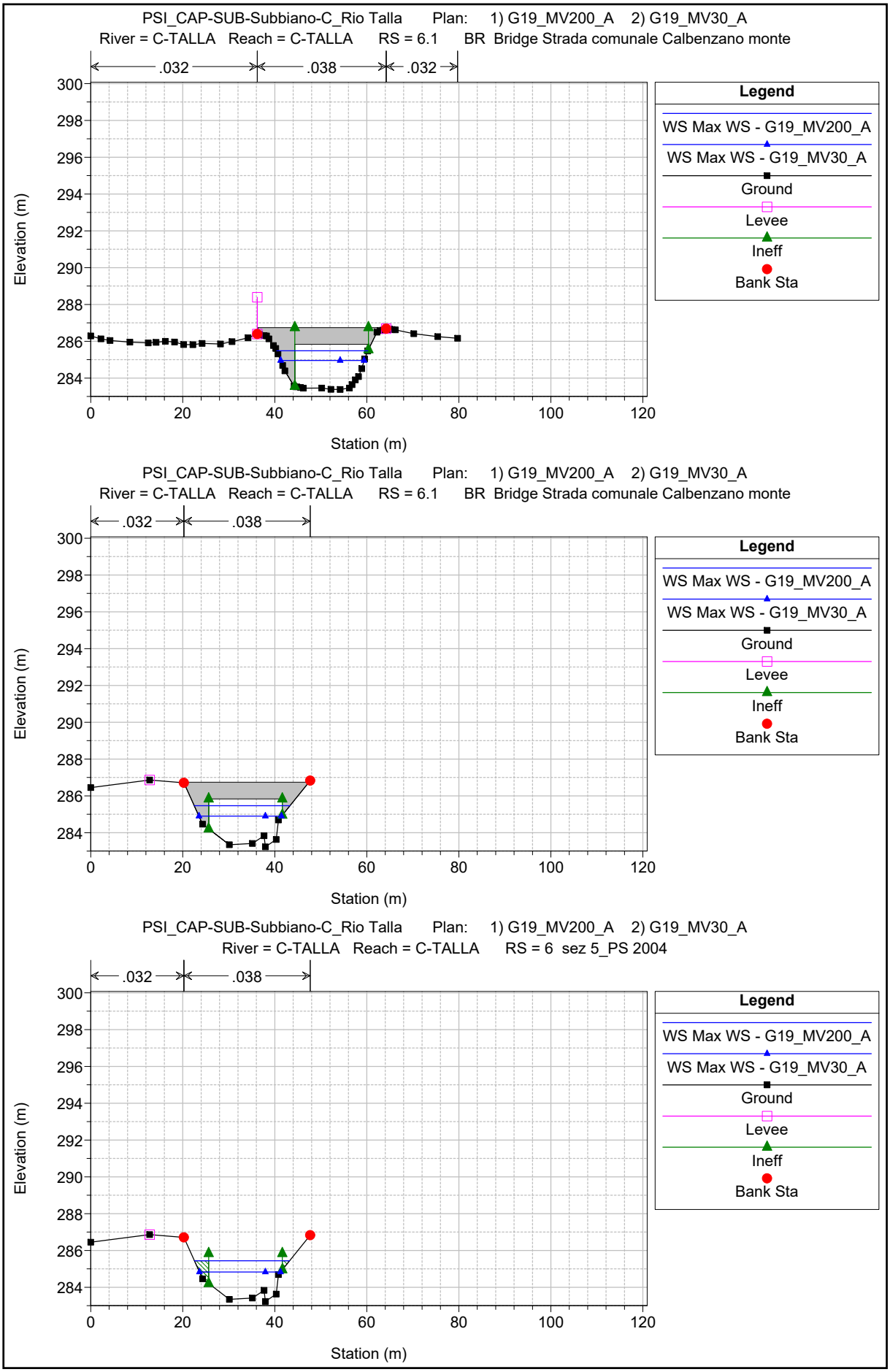


1 cm Horiz. = 12 m 1 cm Vert. = 3 m

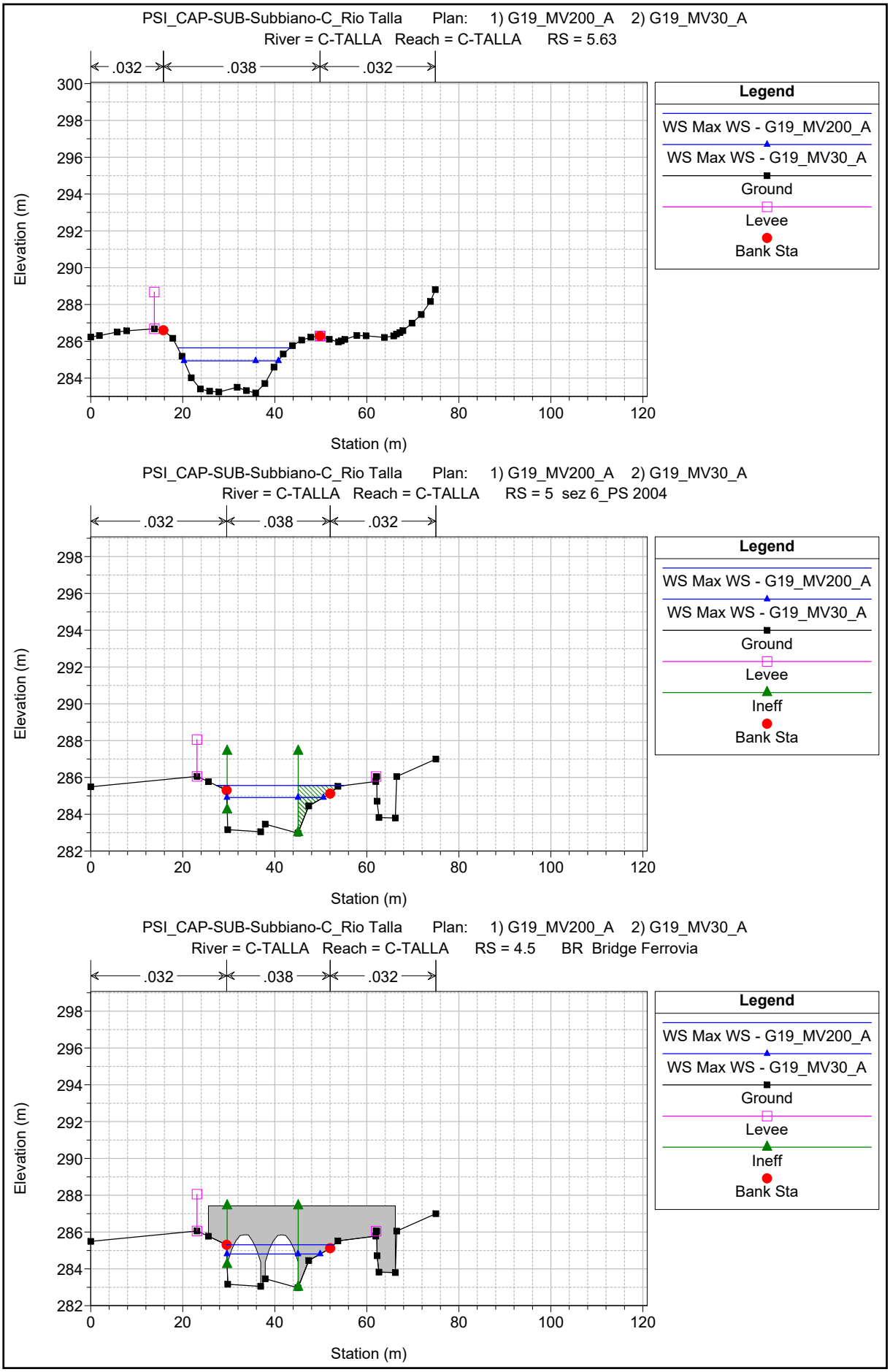


1 cm Horiz. = 12 m 1 cm Vert. = 3 m

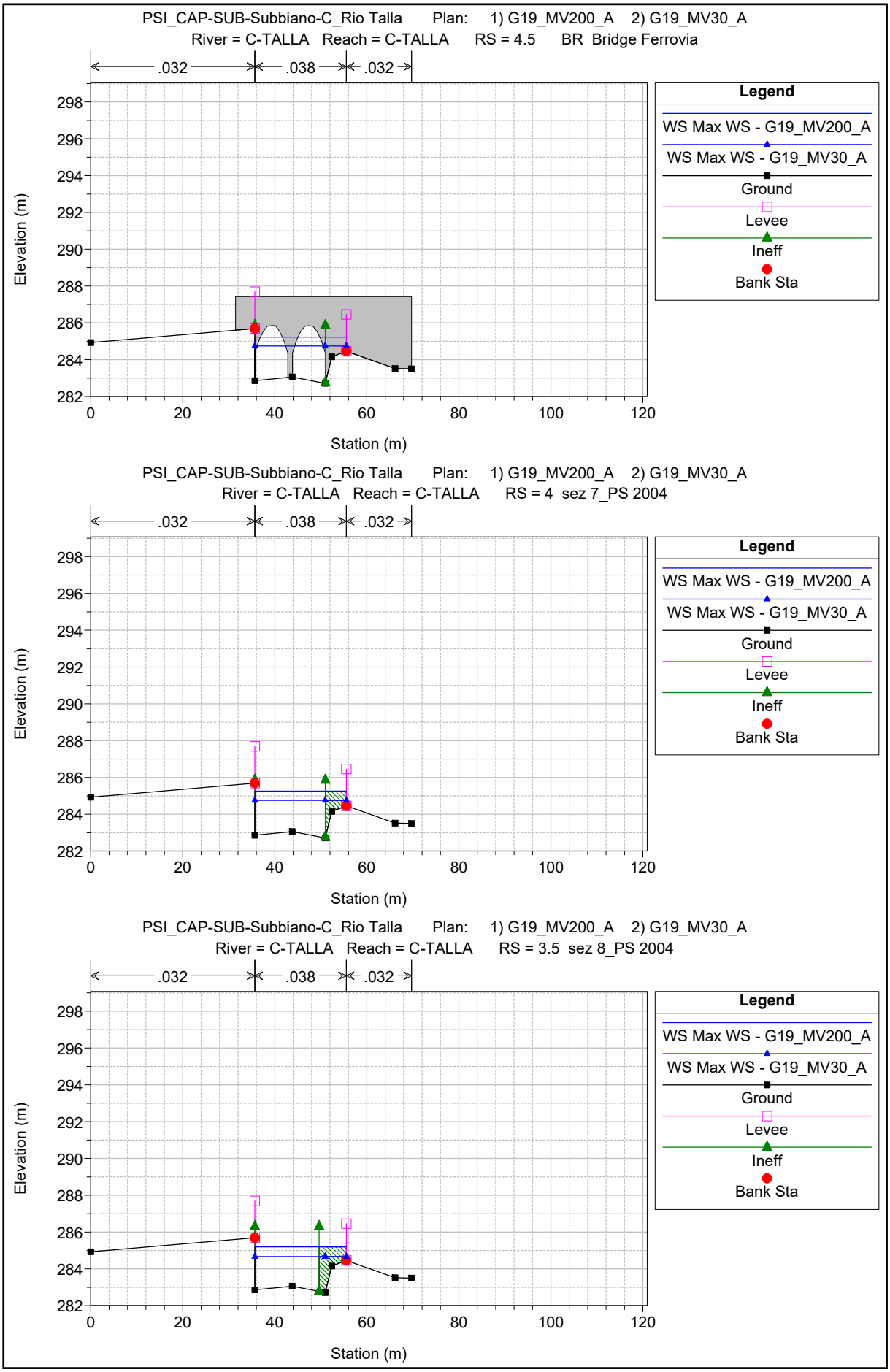
2



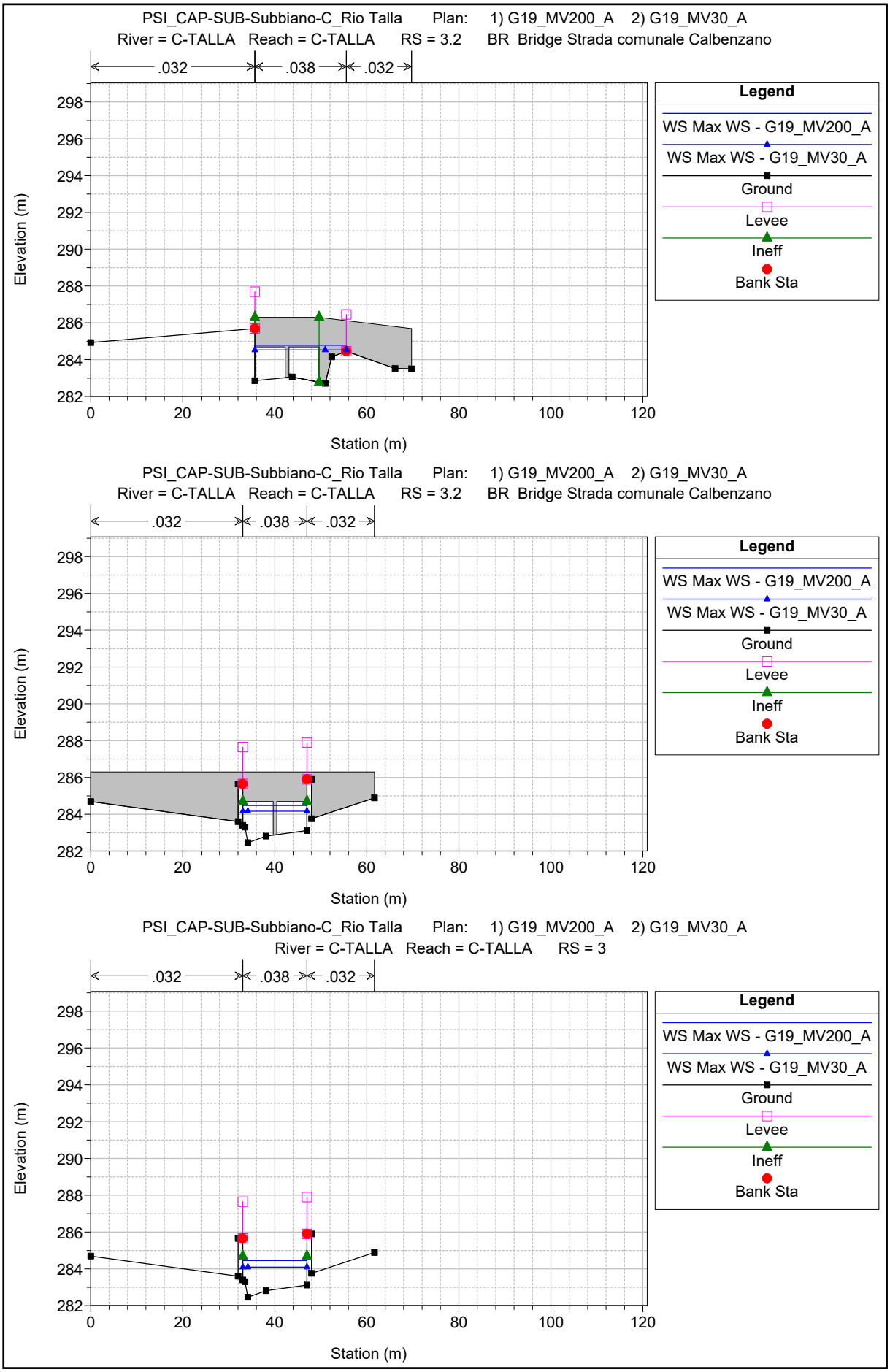
1 cm Horiz. = 12 m 1 cm Vert. = 3 m



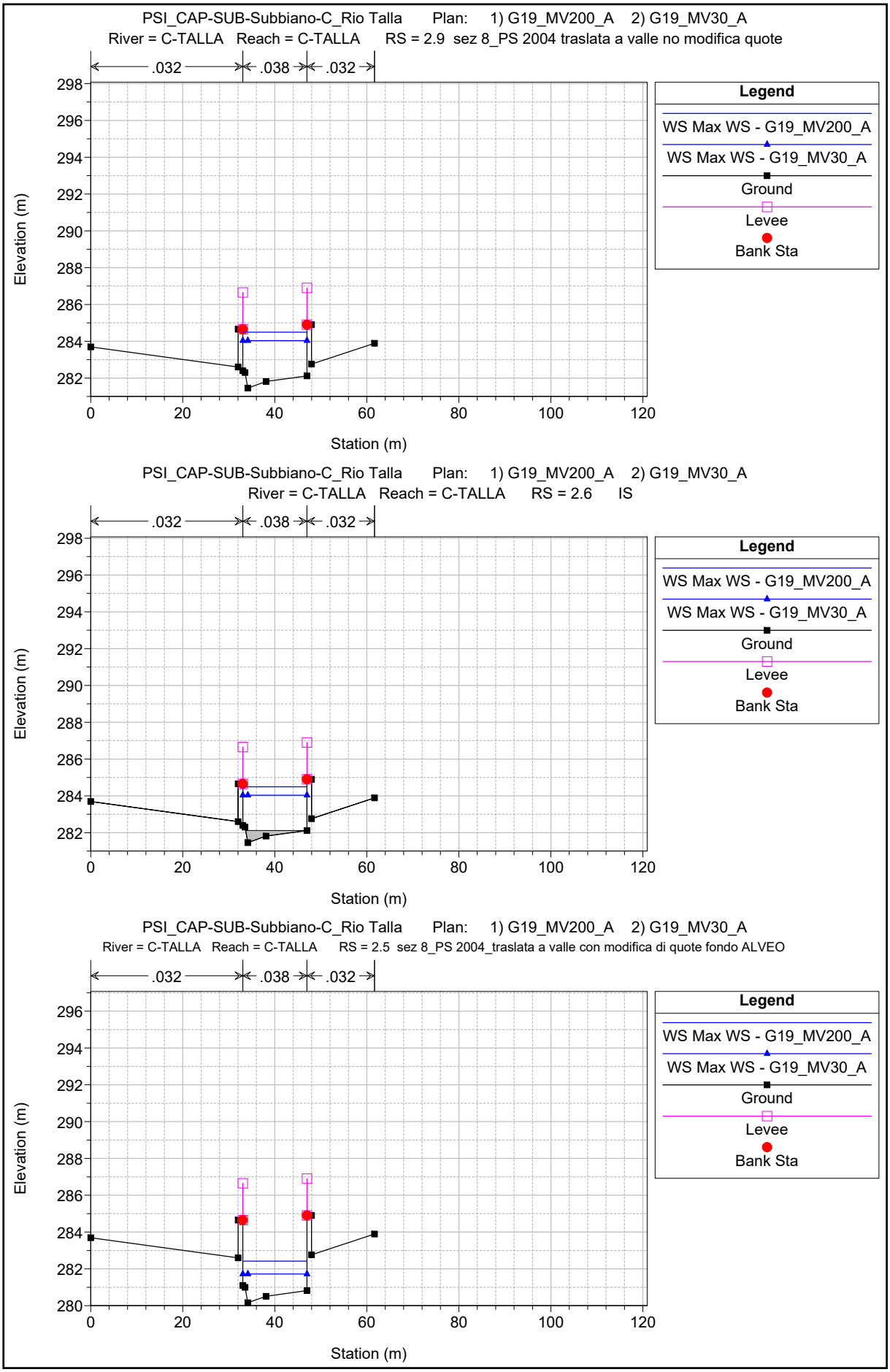
1 cm Horiz. = 12 m 1 cm Vert. = 3 m 4



1 cm Horiz. = 12 m 1 cm Vert. = 3 m



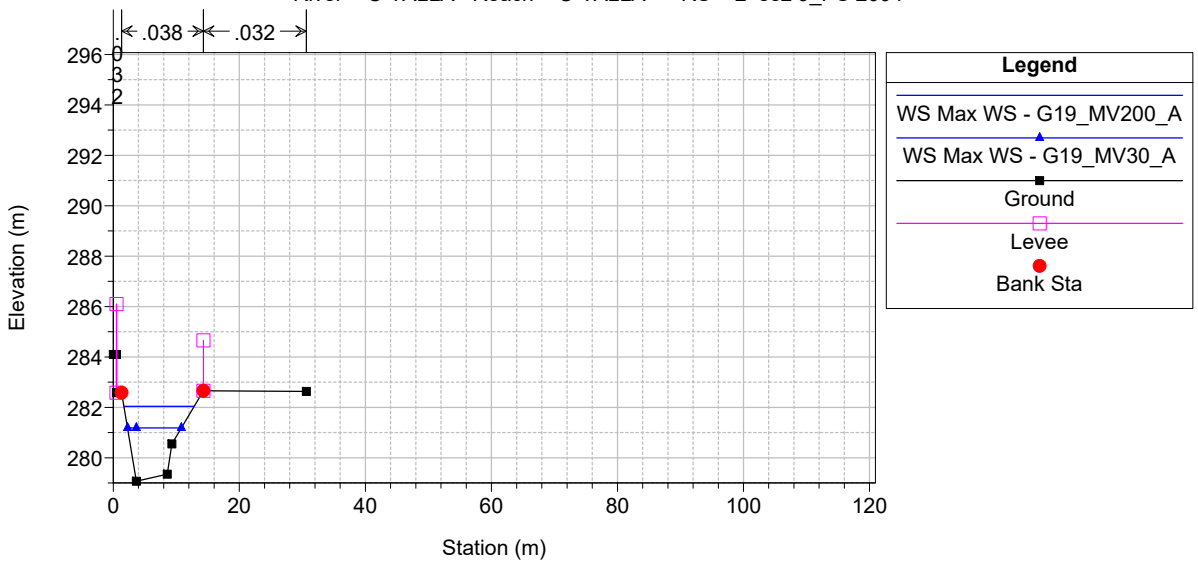
1 cm Horiz. = 12 m 1 cm Vert. = 3 m



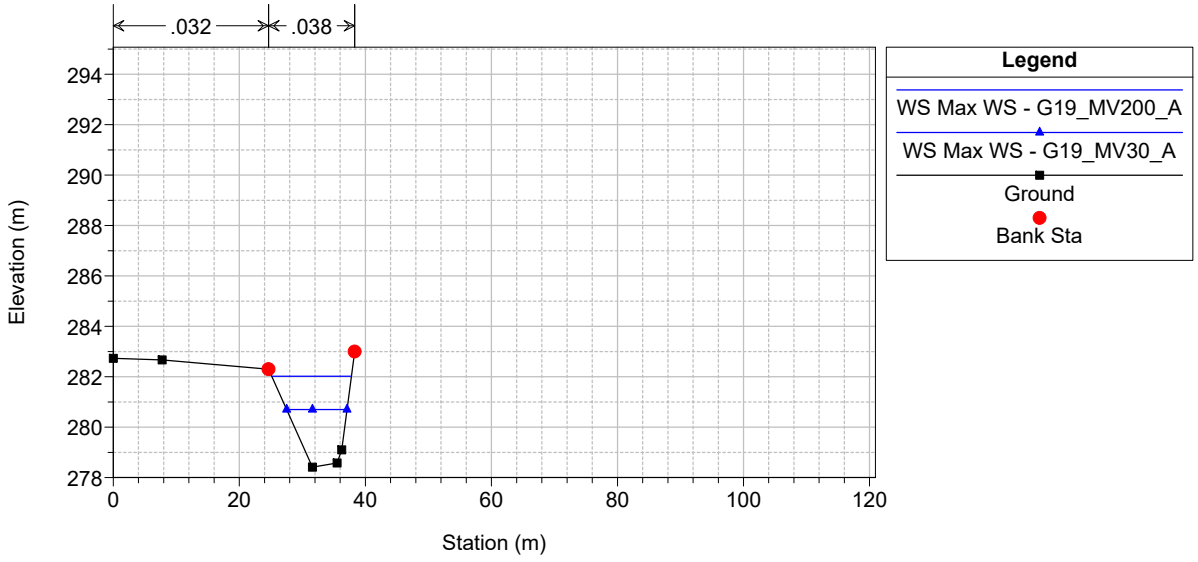
1 cm Horiz. = 12 m 1 cm Vert. = 3 m

7

PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV200_A 2) G19_MV30_A
River = C-TALLA Reach = C-TALLA RS = 2 sez 9_PS 2004



PSI_CAP-SUB-Subbiano-C_Rio Talla Plan: 1) G19_MV200_A 2) G19_MV30_A
River = C-TALLA Reach = C-TALLA RS = 1 sez 10_PS 2004



1 cm Horiz. = 12 m 1 cm Vert. = 3 m

HEC-RAS River: C-TALLA Reach: C-TALLA Profile: Max WS

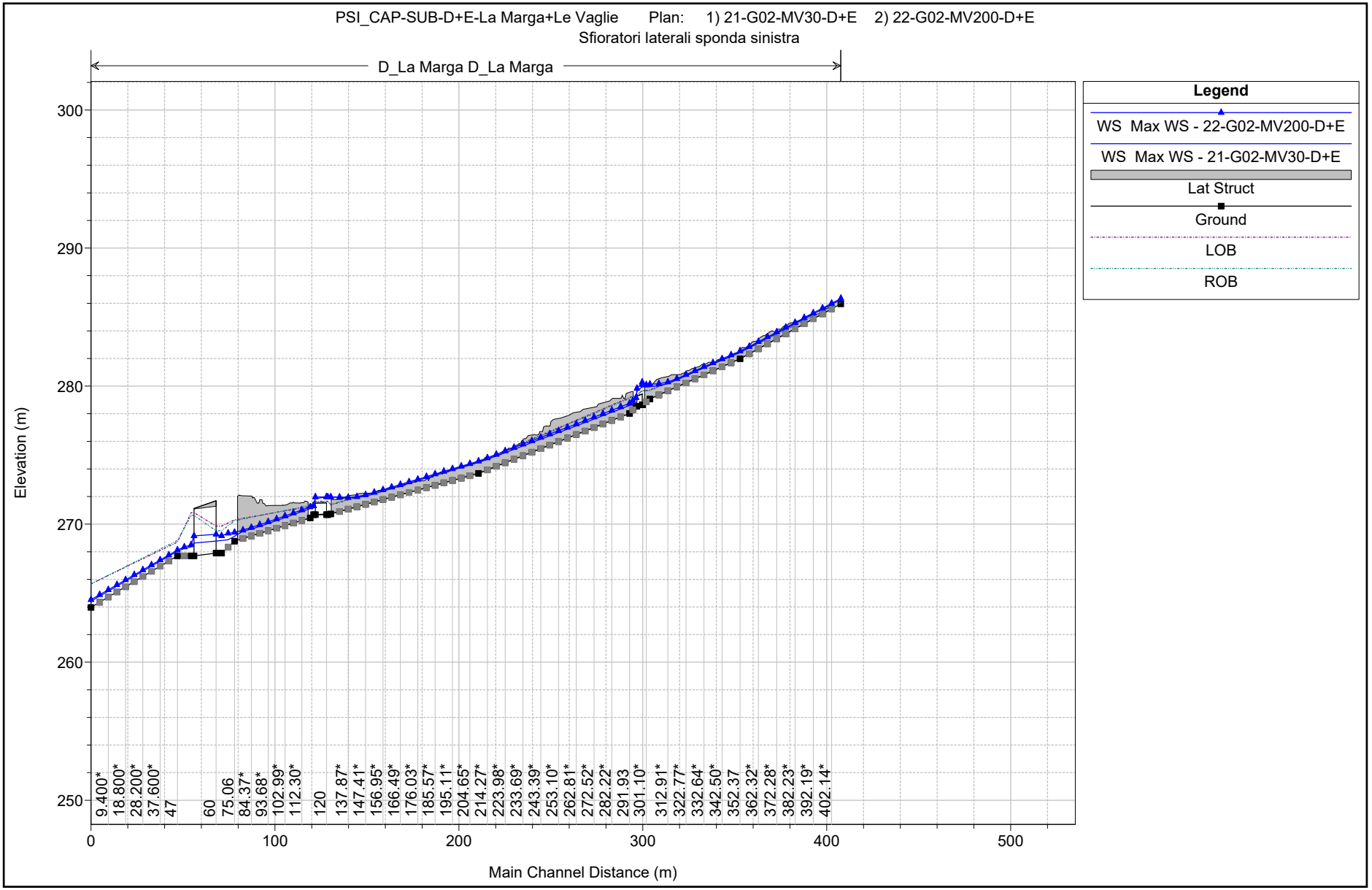
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
C-TALLA	10	Max WS	G19_MV200_A	85.02	293.05	295.69	297.36	301.56	0.156044	10.73	7.92	4.43	2.56
C-TALLA	10	Max WS	G19_MV30_A	60.05	293.05	295.30	296.61	300.00	0.146339	9.60	6.26	4.14	2.49
C-TALLA	9	Max WS	G19_MV200_A	85.02	289.26	291.60	292.13	293.27	0.035512	5.72	14.85	10.87	1.56
C-TALLA	9	Max WS	G19_MV30_A	60.05	289.26	291.28	291.71	292.66	0.035013	5.21	11.54	9.66	1.52
C-TALLA	8	Max WS	G19_MV200_A	85.01	286.26	288.35	288.67	289.59	0.025140	4.93	17.24	12.44	1.34
C-TALLA	8	Max WS	G19_MV30_A	60.05	286.26	288.05	288.29	289.03	0.024696	4.40	13.65	11.66	1.30
C-TALLA	7.3			Lat Struct									
C-TALLA	7	Max WS	G19_MV200_A	83.02	283.62	285.83	285.78	286.33	0.010590	3.15	27.17	26.81	0.88
C-TALLA	7	Max WS	G19_MV30_A	59.66	283.62	285.44	285.49	285.98	0.016947	3.24	18.42	19.57	1.07
C-TALLA	6.5	Max WS	G19_MV200_A	84.77	283.44	285.72		285.93	0.003091	2.03	41.79	24.34	0.49
C-TALLA	6.5	Max WS	G19_MV30_A	60.02	283.44	285.19		285.41	0.004483	2.04	29.39	22.91	0.58
C-TALLA	6.3	Max WS	G19_MV200_A	84.99	283.38	285.50	285.05	285.93	0.005610	2.90	29.34	19.88	0.68
C-TALLA	6.3	Max WS	G19_MV30_A	54.53	283.38	285.06	284.66	285.36	0.005175	2.42	22.56	18.44	0.63
C-TALLA	6.1			Bridge									
C-TALLA	6	Max WS	G19_MV200_A	84.98	283.23	285.44		285.88	0.006314	2.95	28.85	20.68	0.70
C-TALLA	6	Max WS	G19_MV30_A	60.03	283.23	284.83		285.33	0.012027	3.14	19.12	17.62	0.91
C-TALLA	5.63	Max WS	G19_MV200_A	84.99	283.19	285.64		285.84	0.002821	1.98	42.87	24.42	0.48
C-TALLA	5.63	Max WS	G19_MV30_A	60.02	283.19	284.94		285.19	0.005134	2.22	27.06	20.53	0.62
C-TALLA	5	Max WS	G19_MV200_A	84.99	282.97	285.56	284.63	285.83	0.002626	2.30	36.88	27.62	0.48
C-TALLA	5	Max WS	G19_MV30_A	59.94	282.97	284.91	284.33	285.16	0.003777	2.24	26.82	20.98	0.54
C-TALLA	4.5			Bridge									
C-TALLA	4	Max WS	G19_MV200_A	84.99	282.71	285.26		285.55	0.003212	2.38	35.73	19.87	0.50
C-TALLA	4	Max WS	G19_MV30_A	59.94	282.71	284.75		284.99	0.003449	2.14	28.04	19.87	0.50
C-TALLA	3.9			Lat Struct									
C-TALLA	3.6			Lat Struct									
C-TALLA	3.5	Max WS	G19_MV200_A	83.28	282.71	285.19	284.48	285.55	0.004226	2.65	31.42	19.87	0.56
C-TALLA	3.5	Max WS	G19_MV30_A	59.95	282.71	284.67	284.17	284.99	0.005080	2.49	24.09	19.87	0.60
C-TALLA	3.2			Bridge									
C-TALLA	3	Max WS	G19_MV200_A	83.28	282.46	284.45	284.42	285.19	0.014619	3.80	21.91	13.95	0.97
C-TALLA	3	Max WS	G19_MV30_A	59.95	282.46	284.09	284.12	284.73	0.016950	3.54	16.91	13.95	1.03
C-TALLA	2.9	Max WS	G19_MV200_A	83.39	281.46	284.49	283.42	284.76	0.003153	2.29	36.41	13.95	0.45
C-TALLA	2.9	Max WS	G19_MV30_A	59.90	281.46	284.03	283.12	284.24	0.002889	1.99	30.05	13.95	0.43
C-TALLA	2.6			Inl Struct									
C-TALLA	2.5	Max WS	G19_MV200_A	83.38	280.16	282.42		282.96	0.009069	3.25	25.62	13.95	0.77
C-TALLA	2.5	Max WS	G19_MV30_A	59.90	280.16	281.72	281.82	282.44	0.020593	3.77	15.89	13.95	1.13
C-TALLA	2	Max WS	G19_MV200_A	83.34	279.07	282.04		282.84	0.012913	3.97	20.99	11.15	0.92
C-TALLA	2	Max WS	G19_MV30_A	59.89	279.07	281.18	281.47	282.35	0.025951	4.78	12.54	8.55	1.26
C-TALLA	1	Max WS	G19_MV200_A	2.00	278.41	282.02	278.78	282.02	0.000003	0.07	30.02	12.65	0.01
C-TALLA	1	Max WS	G19_MV30_A	1.00	278.41	280.70	278.67	280.70	0.000004	0.07	15.35	9.59	0.02

HEC-RAS River: C-TALLA Reach: C-TALLA Profile: Max WS

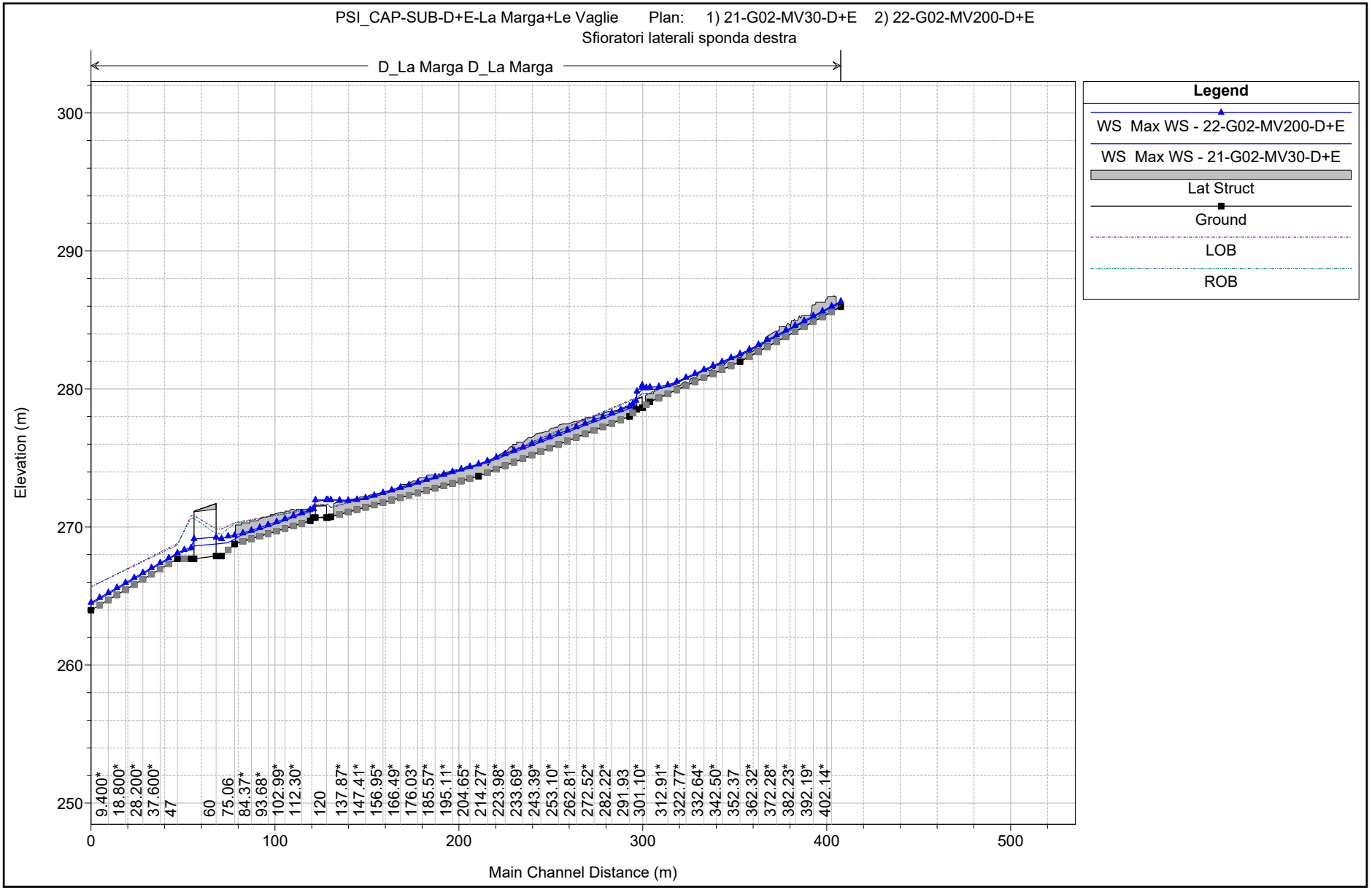
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
C-TALLA	7.3	Max WS	G19_MV200_A	85.01	0.17	84.99	0.17		44.12	0.87	0.62	284.91	287.59	286.59	285.93	285.60
C-TALLA	7.3	Max WS	G19_MV30_A	60.04	0.03	54.53	0.03		37.08	0.39	0.28	284.91	287.13	286.31	285.38	285.12
C-TALLA	3.9	Max WS	G19_MV200_A	84.99	0.00	83.28	0.00					285.58	285.55	285.25	285.55	285.20
C-TALLA	3.9	Max WS	G19_MV30_A	59.94	0.00	59.95	0.00					285.58	284.99	284.75	284.99	284.67
C-TALLA	3.6	Max WS	G19_MV200_A	84.99	1.72	83.28	1.72		3.34	0.76	0.75	284.47	285.55	285.23	285.55	285.21
C-TALLA	3.6	Max WS	G19_MV30_A	59.94	-0.11	59.95	-0.11		3.34	0.25	0.24	284.47	284.99	284.72	284.99	284.69

D+E – La Marga + Le Vaglie

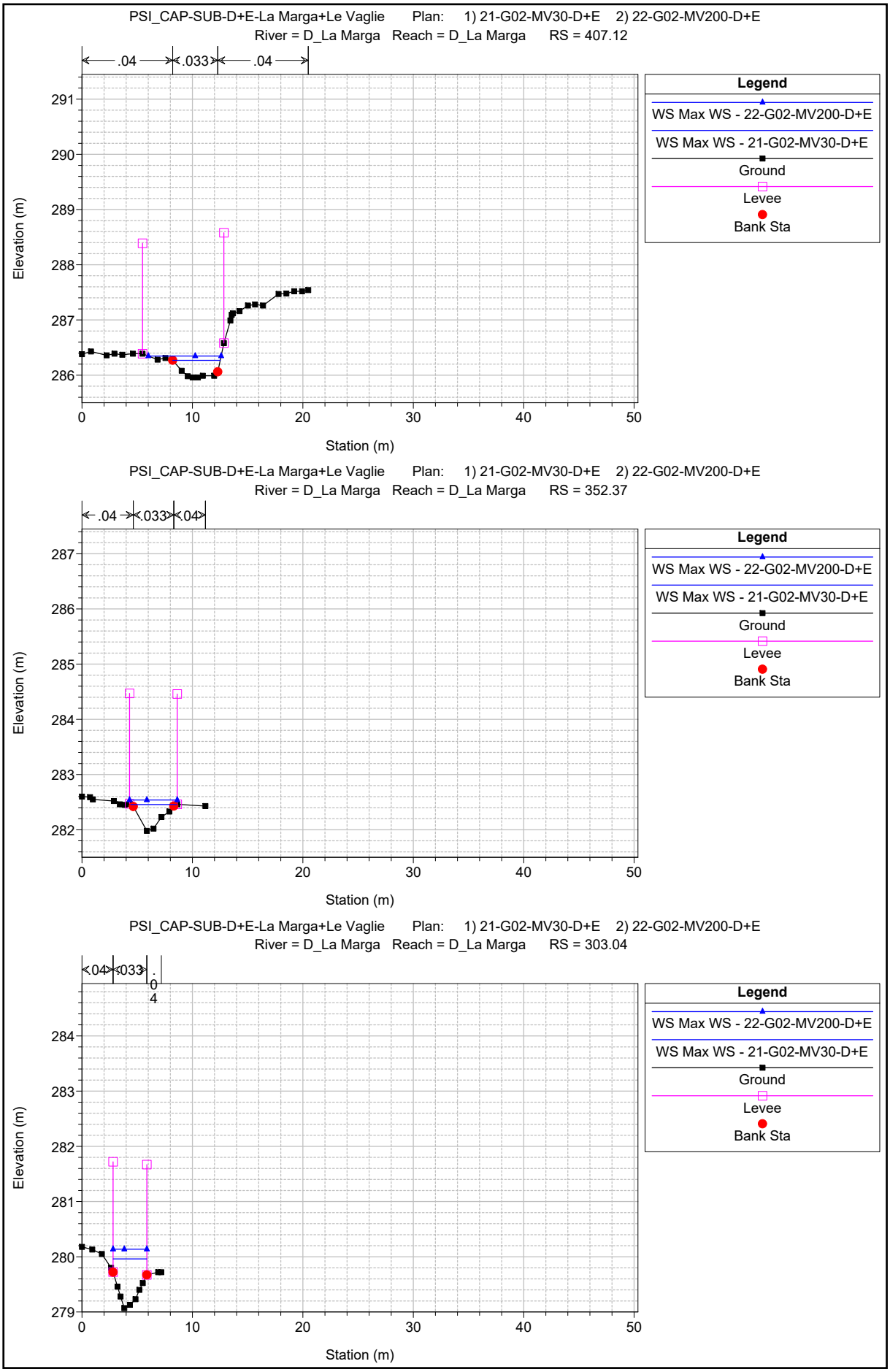
Scenario Alpha



1 cm Horiz. = 30 m 1 cm Vert. = 4 m

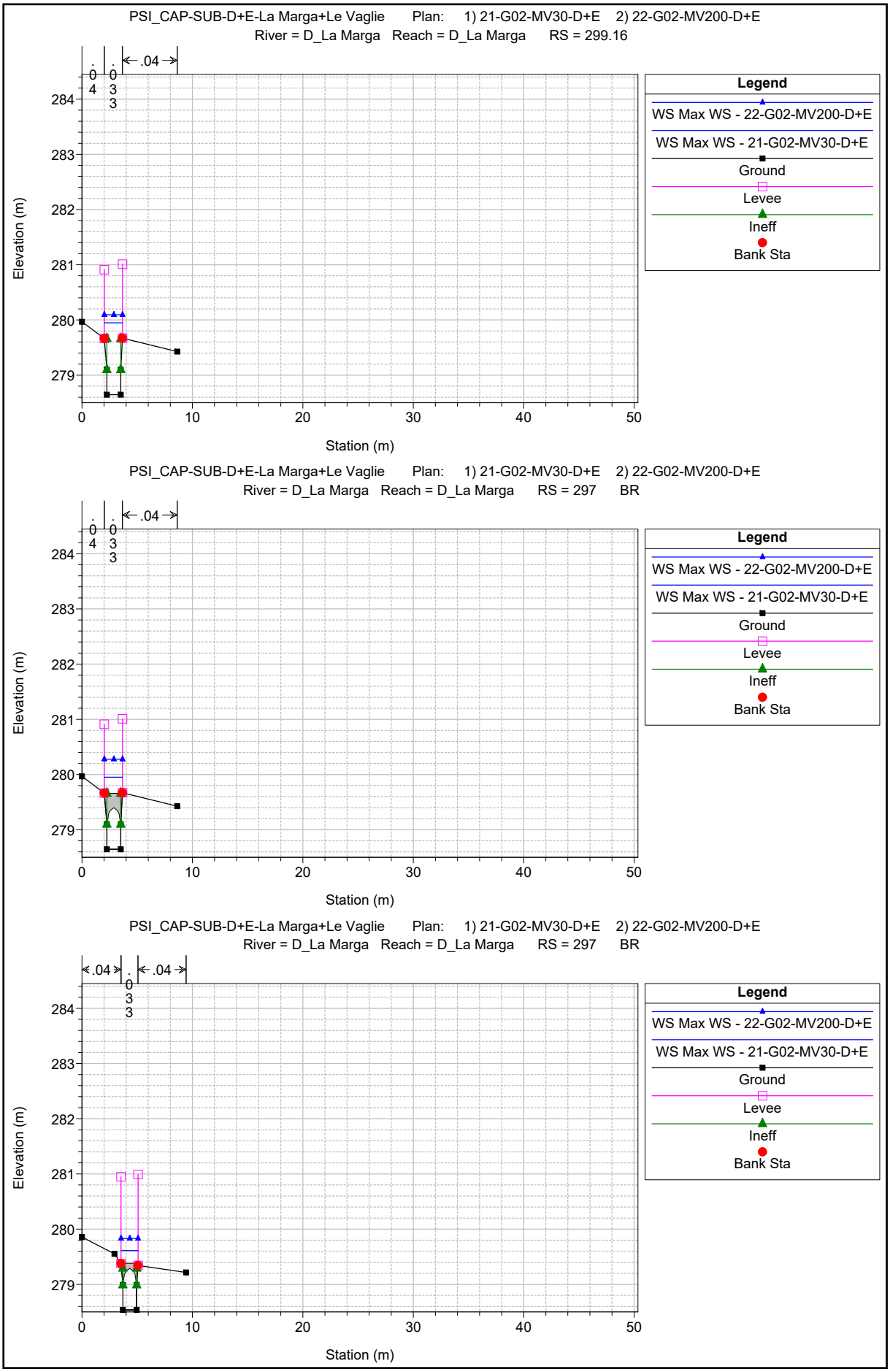


1 cm Horiz. = 30 m 1 cm Vert. = 4 m



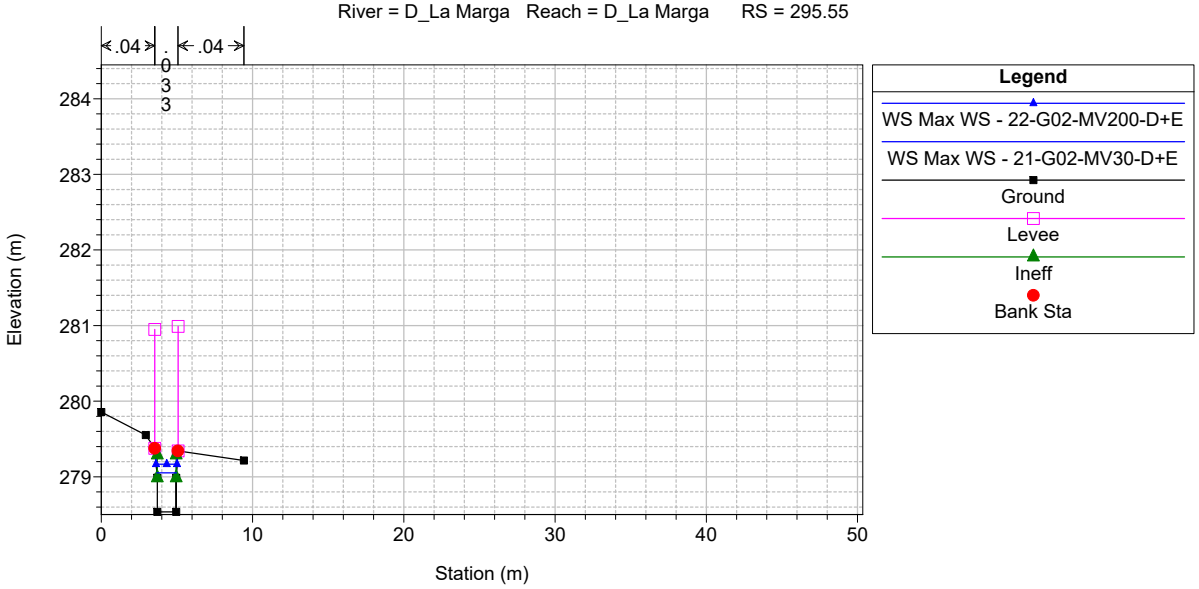
1 cm Horiz. = 5 m 1 cm Vert. = 1 m

1

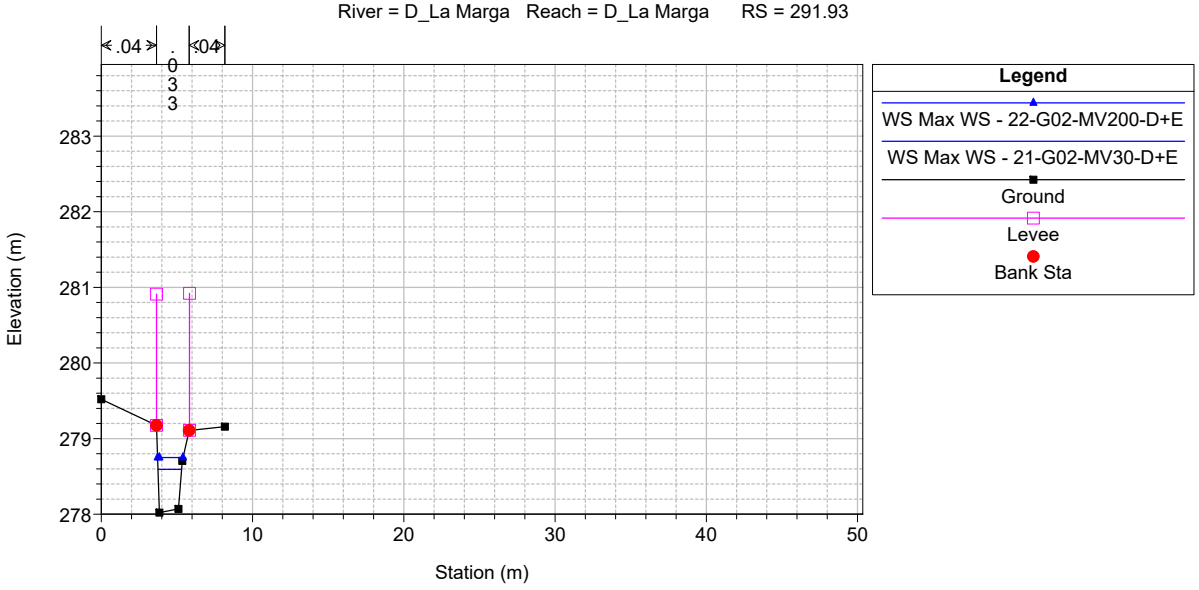


1 cm Horiz. = 5 m 1 cm Vert. = 1 m 2

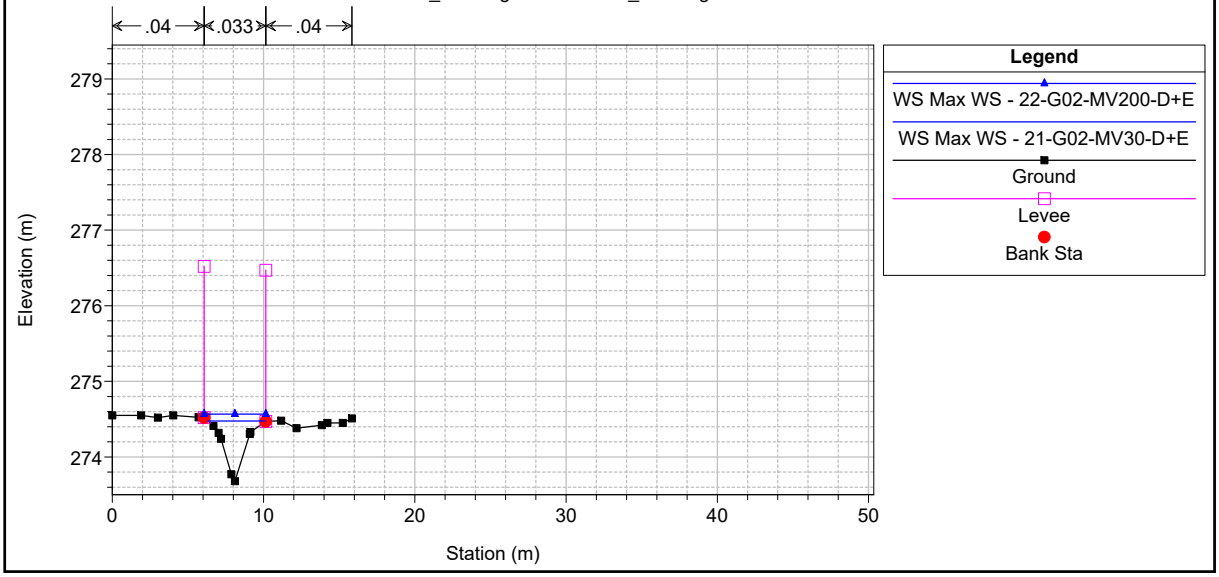
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 295.55



PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 291.93

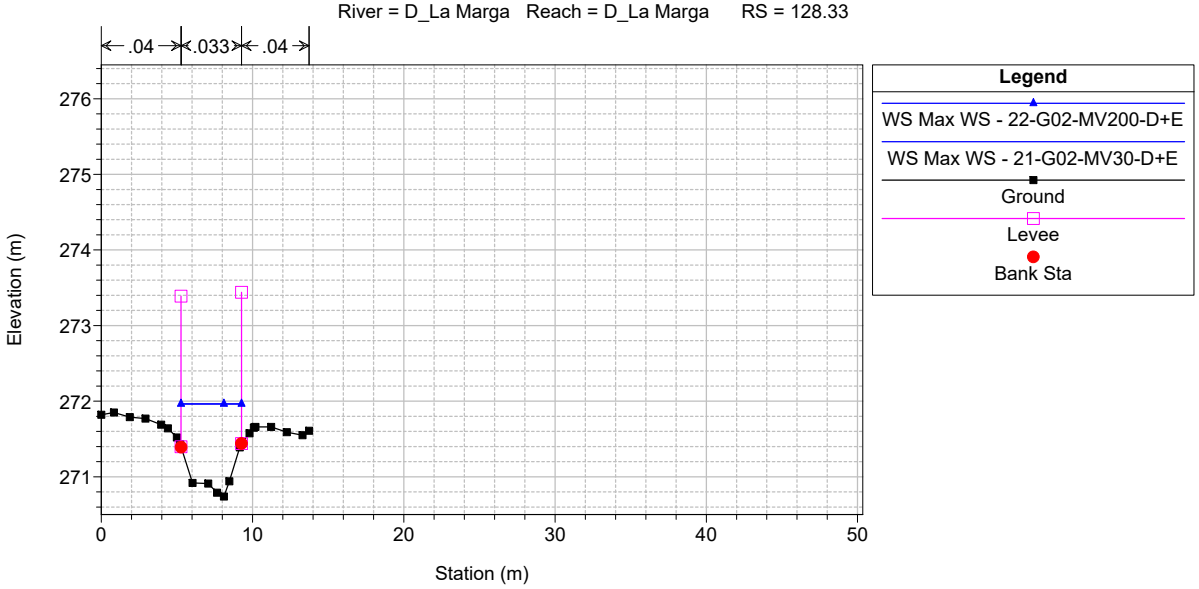


PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 209.42

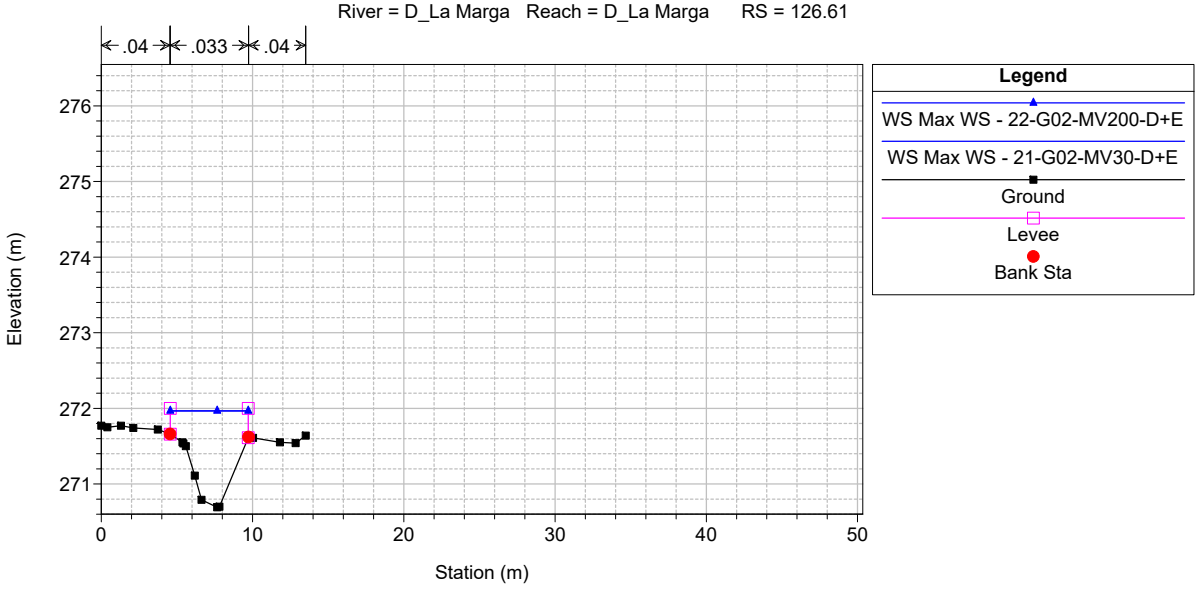


1 cm Horiz. = 5 m 1 cm Vert. = 1 m

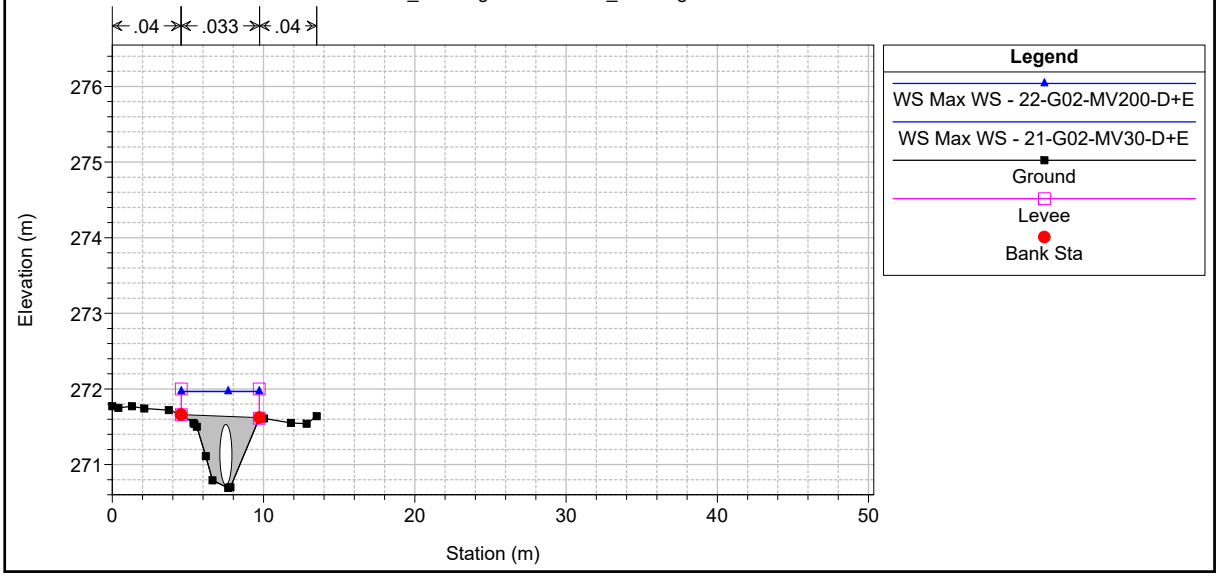
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 128.33



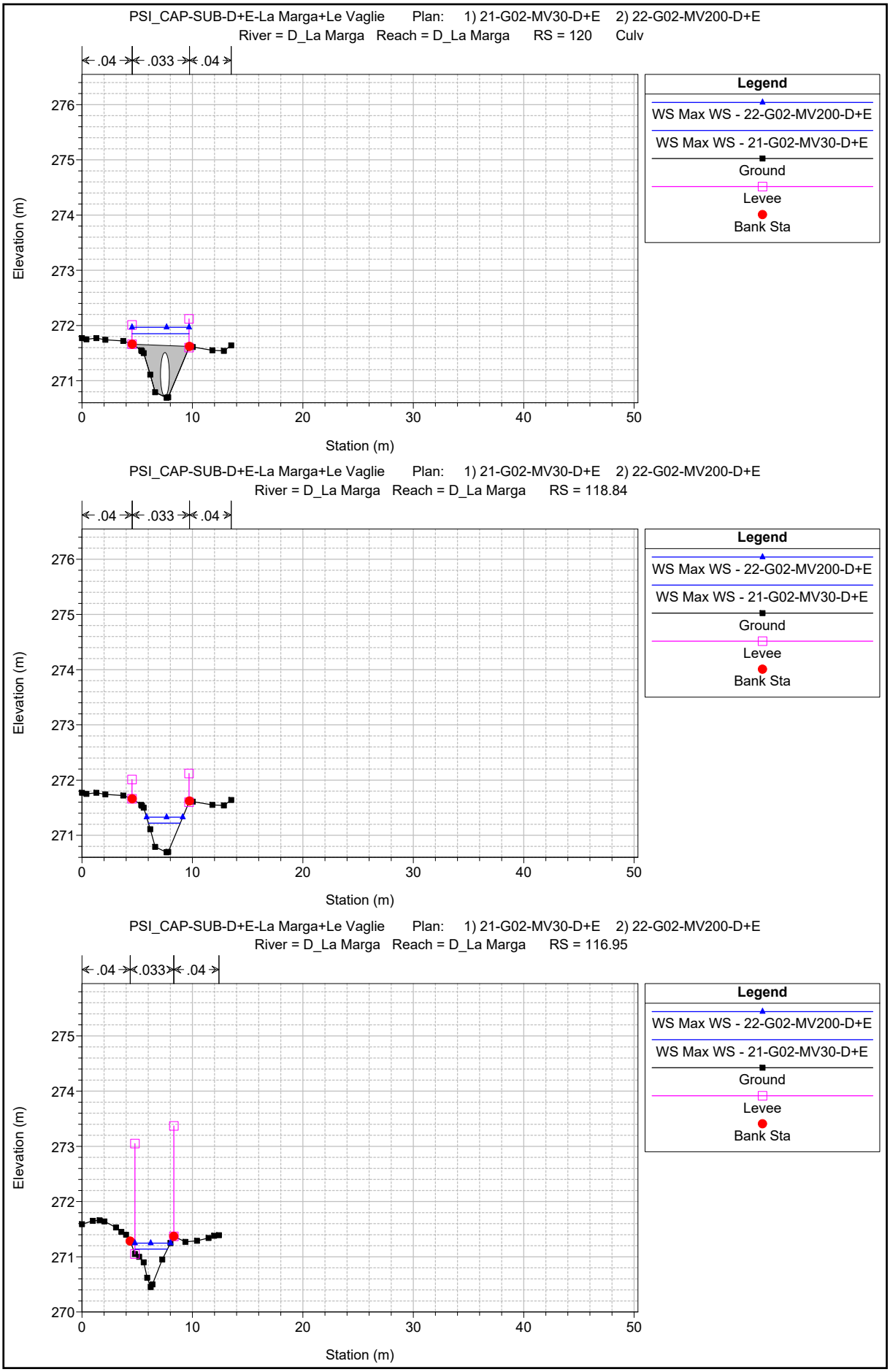
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 126.61



PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 21-G02-MV30-D+E 2) 22-G02-MV200-D+E
River = D_La Marga Reach = D_La Marga RS = 120 Culv

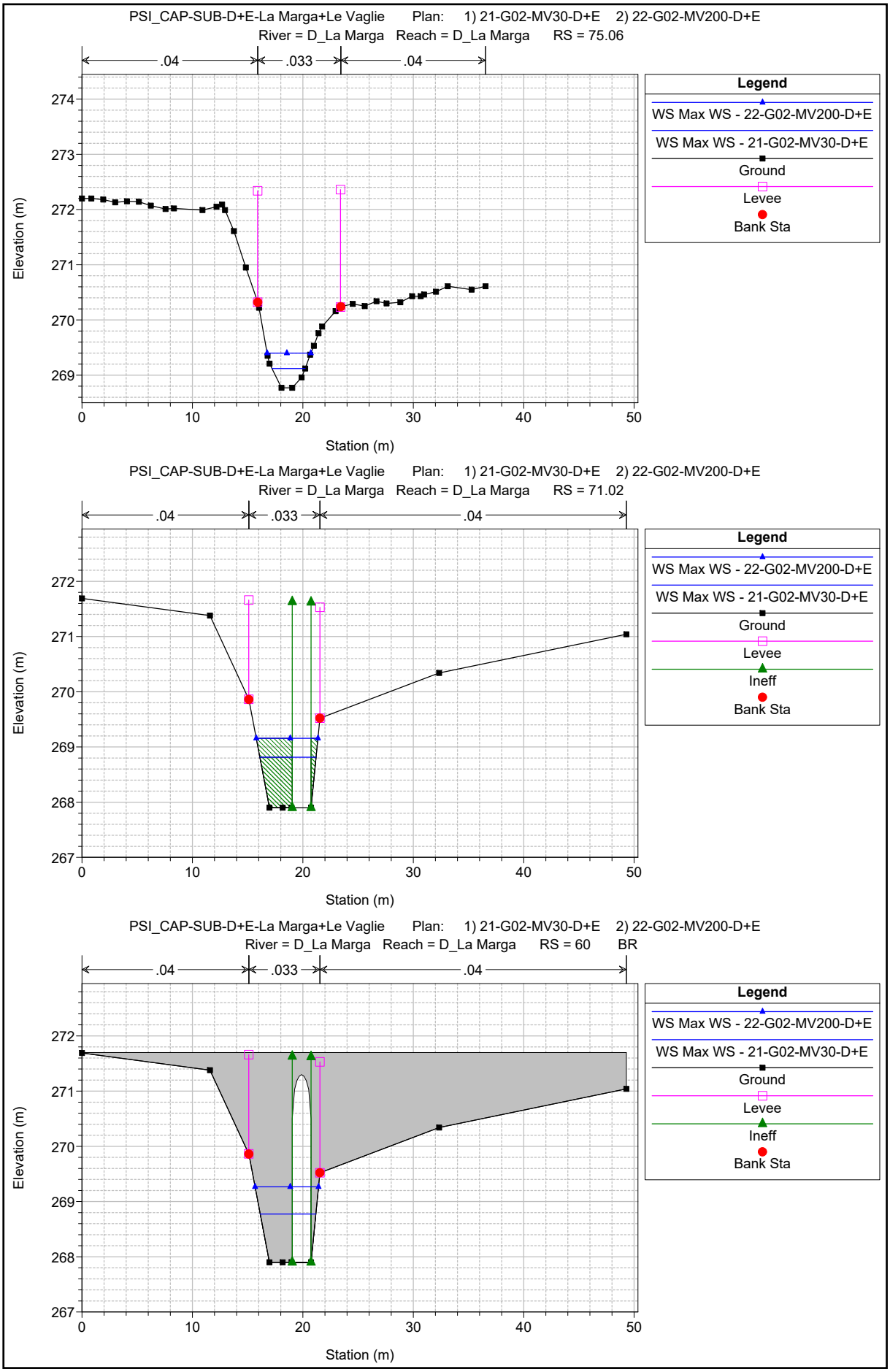


1 cm Horiz. = 5 m 1 cm Vert. = 1 m 4

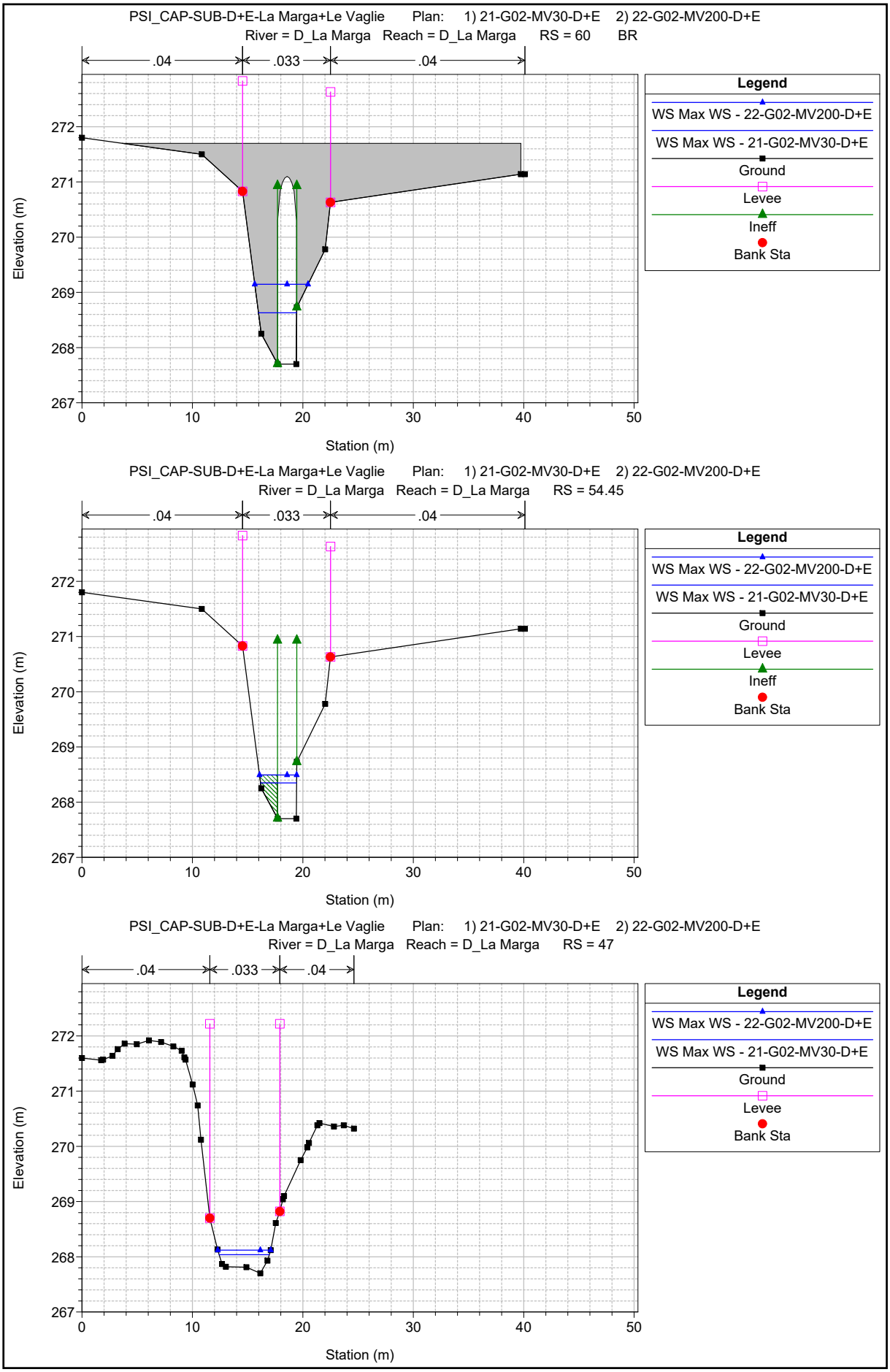


1 cm Horiz. = 5 m 1 cm Vert. = 1 m

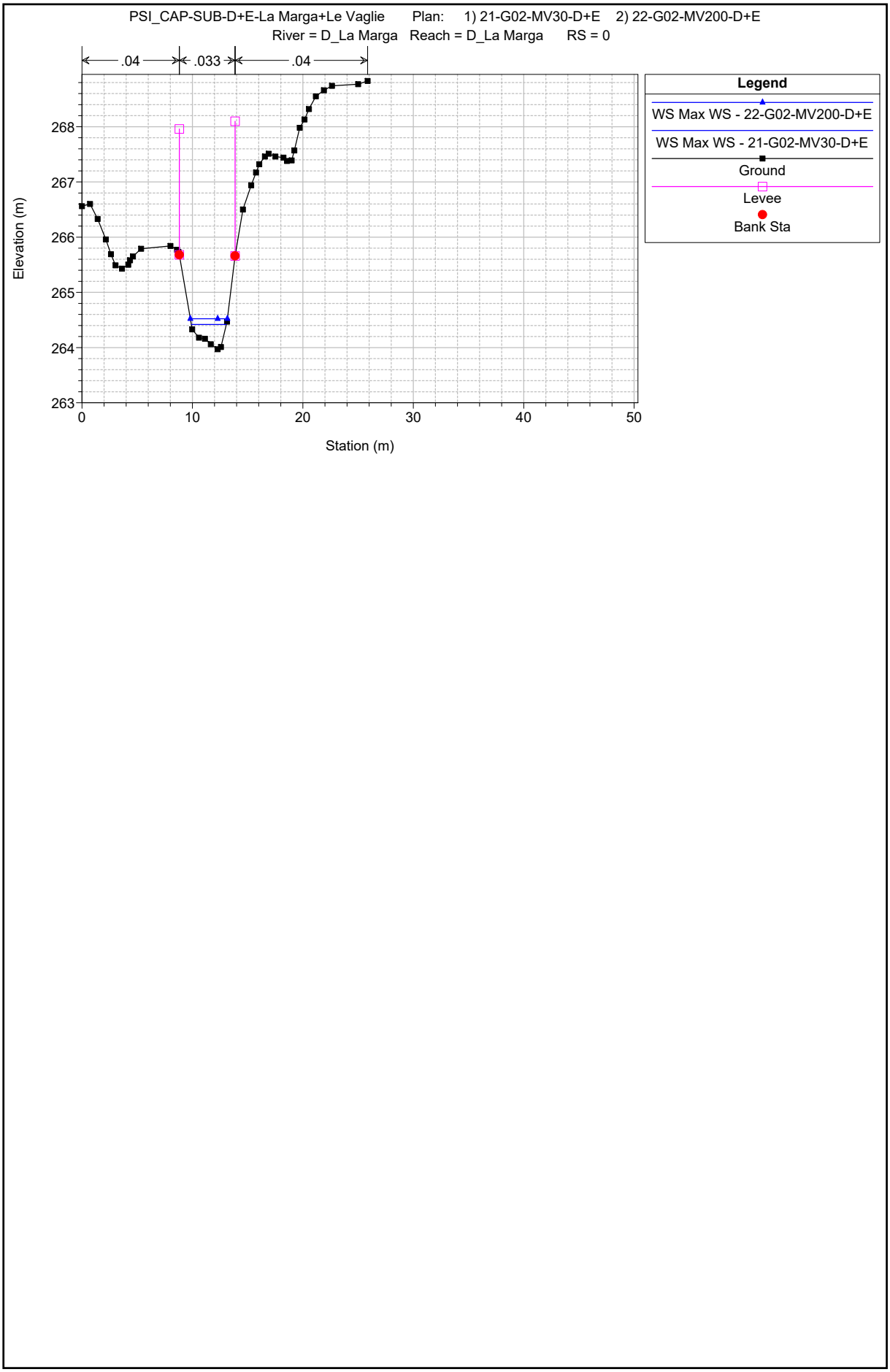
5



1 cm Horiz. = 5 m 1 cm Vert. = 1 m



1 cm Horiz. = 5 m 1 cm Vert. = 1 m



1 cm Horiz. = 5 m 1 cm Vert. = 1 m

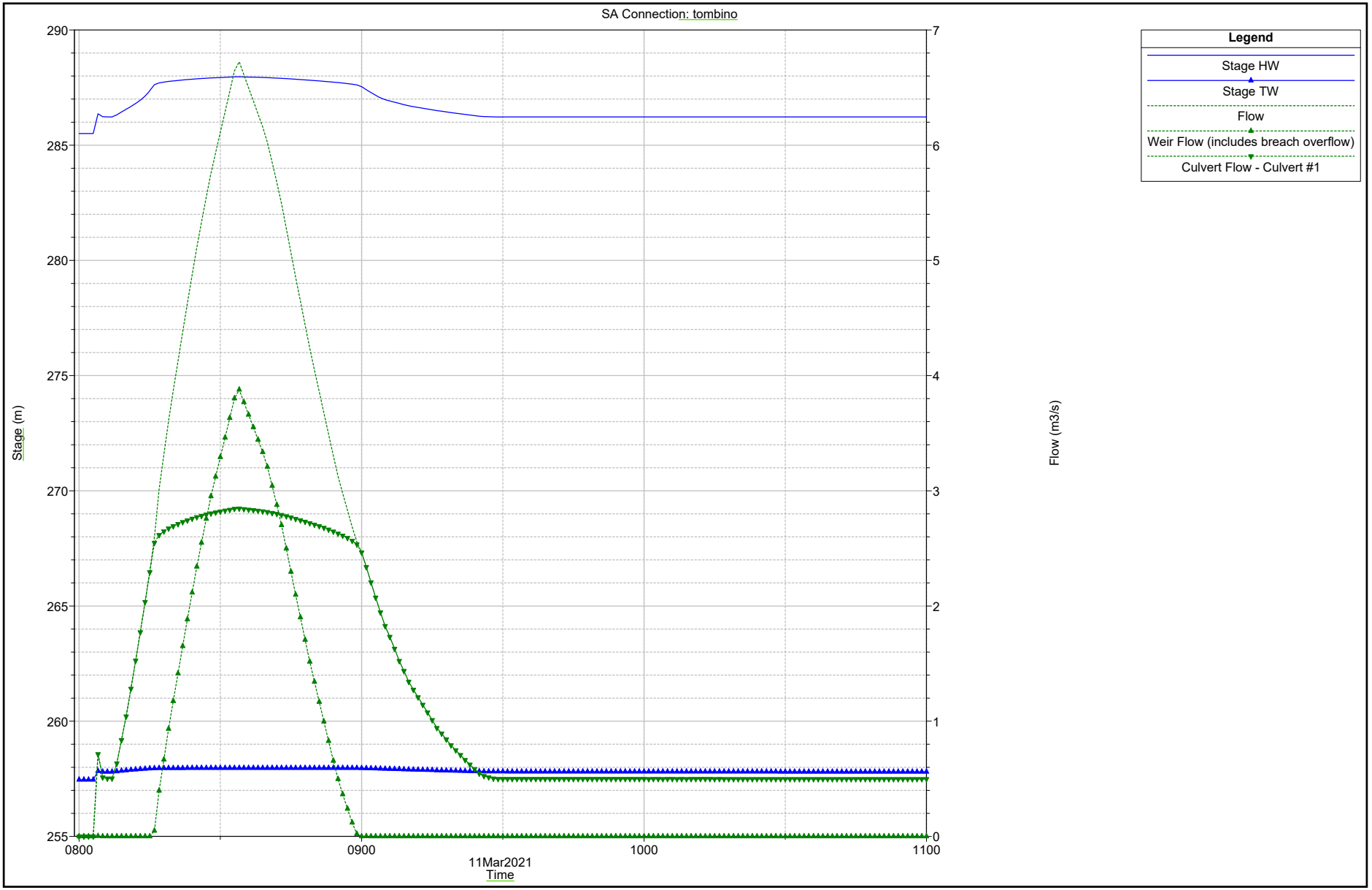
HEC-RAS River: D_La Marga Reach: D_La Marga Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
D_La Marga	407.12	Max WS	21-G02-MV30-D+E	3.11	285.96	286.27	286.43	286.76	0.071478	3.12	1.01	4.31	2.03
D_La Marga	407.12	Max WS	22-G02-MV200-D+E	5.03	285.96	286.35	286.54	287.04	0.070317	3.73	1.45	6.59	2.11
D_La Marga	405			Lat Struct									
D_La Marga	400			Lat Struct									
D_La Marga	352.37	Max WS	21-G02-MV30-D+E	2.94	281.98	282.46	282.59	282.91	0.057788	2.97	1.00	4.19	1.83
D_La Marga	352.37	Max WS	22-G02-MV200-D+E	4.65	281.98	282.54	282.72	283.17	0.057757	3.55	1.35	4.32	1.91
D_La Marga	303.04	Max WS	21-G02-MV30-D+E	2.55	279.07	279.96	279.74	280.05	0.004482	1.33	1.93	3.06	0.53
D_La Marga	303.04	Max WS	22-G02-MV200-D+E	3.80	279.07	280.14	279.87	280.26	0.004642	1.54	2.47	3.06	0.55
D_La Marga	299.16	Max WS	21-G02-MV30-D+E	2.39	278.65	279.95	279.37	280.03	0.004054	1.29	1.85	1.65	0.39
D_La Marga	299.16	Max WS	22-G02-MV200-D+E	3.63	278.65	280.09	279.60	280.25	0.006210	1.74	2.09	1.65	0.49
D_La Marga	297			Bridge									
D_La Marga	295.55	Max WS	21-G02-MV30-D+E	2.46	278.54	279.05	279.29	279.80	0.079799	3.83	0.64	1.30	1.70
D_La Marga	295.55	Max WS	22-G02-MV200-D+E	3.63	278.54	279.17	279.49	280.25	0.088124	4.60	0.79	1.39	1.85
D_La Marga	294.5			Lat Struct									
D_La Marga	294			Lat Struct									
D_La Marga	291.93	Max WS	21-G02-MV30-D+E	2.46	278.02	278.59	278.74	279.11	0.050603	3.19	0.77	1.56	1.45
D_La Marga	291.93	Max WS	22-G02-MV200-D+E	3.63	278.02	278.75	278.95	279.39	0.051463	3.55	1.02	1.68	1.45
D_La Marga	209.42	Max WS	21-G02-MV30-D+E	2.89	273.68	274.48	274.57	274.80	0.040198	2.54	1.14	3.84	1.48
D_La Marga	209.42	Max WS	22-G02-MV200-D+E	4.39	273.68	274.57	274.69	275.00	0.039848	2.92	1.50	4.08	1.54
D_La Marga	128.33	Max WS	21-G02-MV30-D+E	2.74	270.74	271.96	271.34	271.99	0.000721	0.70	3.91	4.00	0.23
D_La Marga	128.33	Max WS	22-G02-MV200-D+E	3.29	270.74	271.96	271.39	272.00	0.001035	0.84	3.91	4.00	0.27
D_La Marga	126.61	Max WS	21-G02-MV30-D+E	2.74	270.69	271.97		271.99	0.000768	0.65	4.24	5.16	0.23
D_La Marga	126.61	Max WS	22-G02-MV200-D+E	3.30	270.69	271.97		272.00	0.001103	0.78	4.25	5.16	0.27
D_La Marga	120			Culvert									
D_La Marga	118.84	Max WS	21-G02-MV30-D+E	2.75	270.69	271.22	271.34	271.61	0.039244	2.78	0.99	2.89	1.51
D_La Marga	118.84	Max WS	22-G02-MV200-D+E	4.17	270.69	271.33	271.49	271.84	0.041166	3.16	1.32	3.28	1.59
D_La Marga	116.95	Max WS	21-G02-MV30-D+E	2.75	270.45	271.14	271.27	271.56	0.048281	2.88	0.95	2.95	1.62
D_La Marga	116.95	Max WS	22-G02-MV200-D+E	4.17	270.45	271.25	271.41	271.79	0.048307	3.26	1.28	3.22	1.65
D_La Marga	116.5			Lat Struct									
D_La Marga	116			Lat Struct									
D_La Marga	75.06	Max WS	21-G02-MV30-D+E	3.06	268.77	269.12	269.35	270.01	0.132577	4.19	0.73	3.01	2.71
D_La Marga	75.06	Max WS	22-G02-MV200-D+E	4.99	268.77	269.40	269.52	269.83	0.030668	2.90	1.72	3.96	1.41
D_La Marga	71.02	Max WS	21-G02-MV30-D+E	3.06	267.90	268.81	268.59	269.01	0.004769	1.97	1.55	5.09	0.66
D_La Marga	71.02	Max WS	22-G02-MV200-D+E	4.99	267.90	269.16	268.86	269.43	0.004377	2.33	2.14	5.59	0.67
D_La Marga	60			Bridge									
D_La Marga	54.45	Max WS	21-G02-MV30-D+E	3.06	267.70	268.35	268.39	268.74	0.022452	2.76	1.11	3.27	1.10
D_La Marga	54.45	Max WS	22-G02-MV200-D+E	4.99	267.70	268.49	268.66	269.18	0.032937	3.67	1.36	3.37	1.32
D_La Marga	47	Max WS	21-G02-MV30-D+E	3.06	267.70	268.04	268.18	268.50	0.076421	3.02	1.01	4.54	2.04
D_La Marga	47	Max WS	22-G02-MV200-D+E	4.99	267.70	268.12	268.31	268.77	0.076194	3.58	1.39	4.80	2.12
D_La Marga	0	Max WS	21-G02-MV30-D+E	3.06	263.97	264.42	264.60	265.04	0.080236	3.49	0.88	3.17	2.11
D_La Marga	0	Max WS	22-G02-MV200-D+E	4.99	263.97	264.52	264.78	265.38	0.080177	4.11	1.21	3.35	2.18

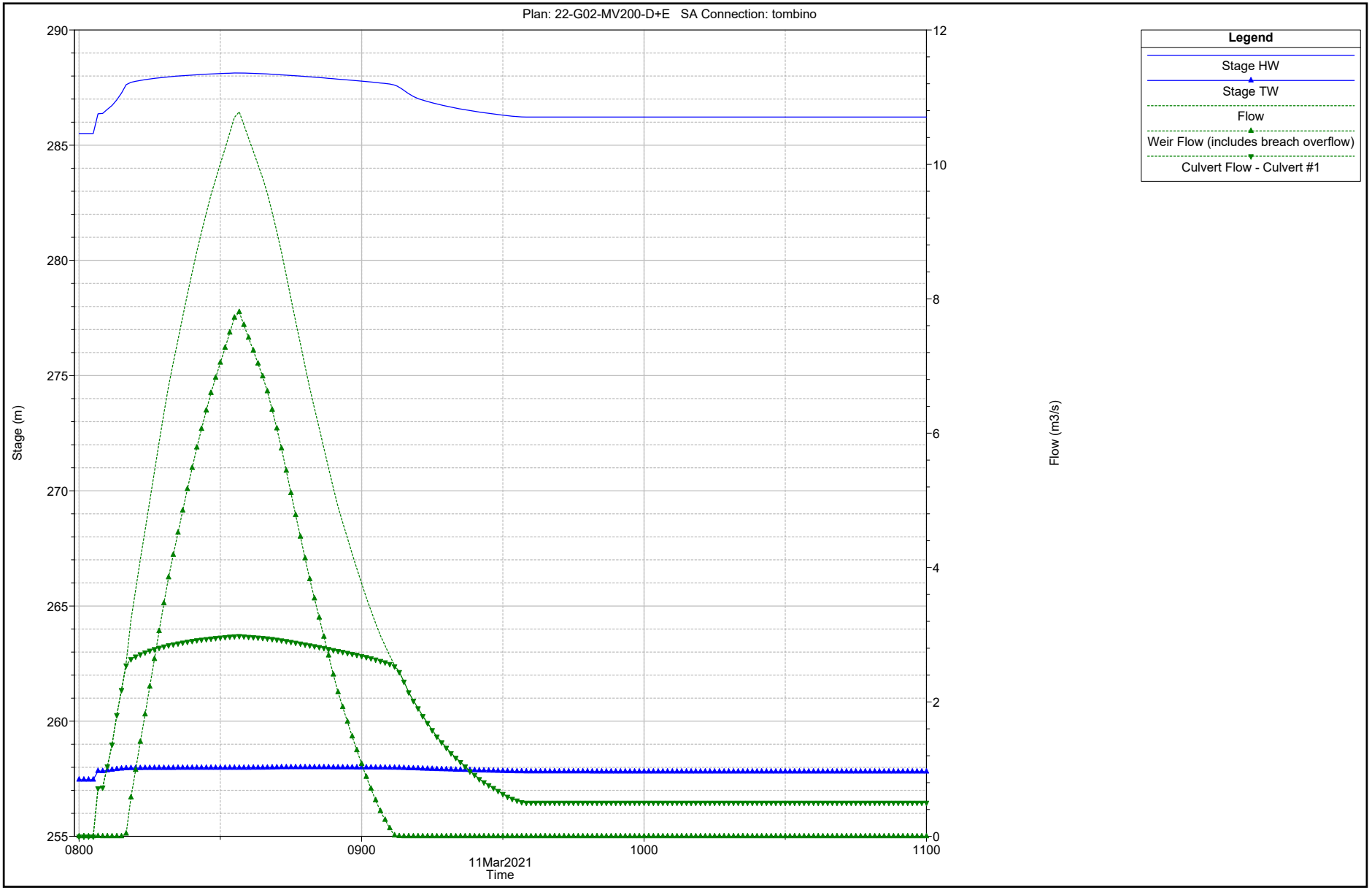
HEC-RAS River: D_La Marga Reach: D_La Marga Profile: Max WS

Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
D_La Marga	405	Max WS	21-G02-MV30-D+E	3.11	0.53	2.39	0.53		52.73	0.40	0.15	279.54	286.59	286.09	280.04	279.94
D_La Marga	405	Max WS	22-G02-MV200-D+E	5.03	1.27	3.63	1.27		63.92	0.56	0.21	279.54	286.87	286.17	280.26	280.09
D_La Marga	400	Max WS	21-G02-MV30-D+E	3.11	0.00	2.39	0.00		39.93	0.21	0.06	280.00	286.42	285.92	280.04	279.94
D_La Marga	400	Max WS	22-G02-MV200-D+E	5.03	0.08	3.63	0.08		58.82	0.29	0.09	280.00	286.70	286.00	280.25	280.09
D_La Marga	294.5	Max WS	21-G02-MV30-D+E	2.46	0.10	2.74	0.10		47.95	0.23	0.06	271.79	280.00	278.84	271.99	271.96
D_La Marga	294.5	Max WS	22-G02-MV200-D+E	3.63	0.23	3.29	0.23		103.85	0.32	0.08	271.79	280.30	278.97	272.00	271.96
D_La Marga	294	Max WS	21-G02-MV30-D+E	2.46	-0.46	2.74	-0.46		102.28	0.27	0.09	271.69	279.91	278.93	271.99	271.96
D_La Marga	294	Max WS	22-G02-MV200-D+E	3.63	-0.96	3.29	-0.96		127.52	0.34	0.12	271.69	280.28	279.06	272.00	271.96
D_La Marga	116.5	Max WS	21-G02-MV30-D+E	2.75	-0.17	3.06	-0.17		21.67	0.18	0.11	271.33	271.51	271.08	269.92	269.26
D_La Marga	116.5	Max WS	22-G02-MV200-D+E	4.17	-0.73	4.99	-0.73		25.26	0.40	0.26	271.33	271.73	271.19	269.92	269.46
D_La Marga	116	Max WS	21-G02-MV30-D+E	2.75	-0.22	3.06	-0.22		33.10	0.23	0.10	270.16	271.56	271.14	269.99	269.16
D_La Marga	116	Max WS	22-G02-MV200-D+E	4.17	-0.47	4.99	-0.47		41.58	0.37	0.13	270.16	271.79	271.25	269.85	269.42

E_Le Vaglie - Scenario Alpha Tr30 - Tombino di Monte

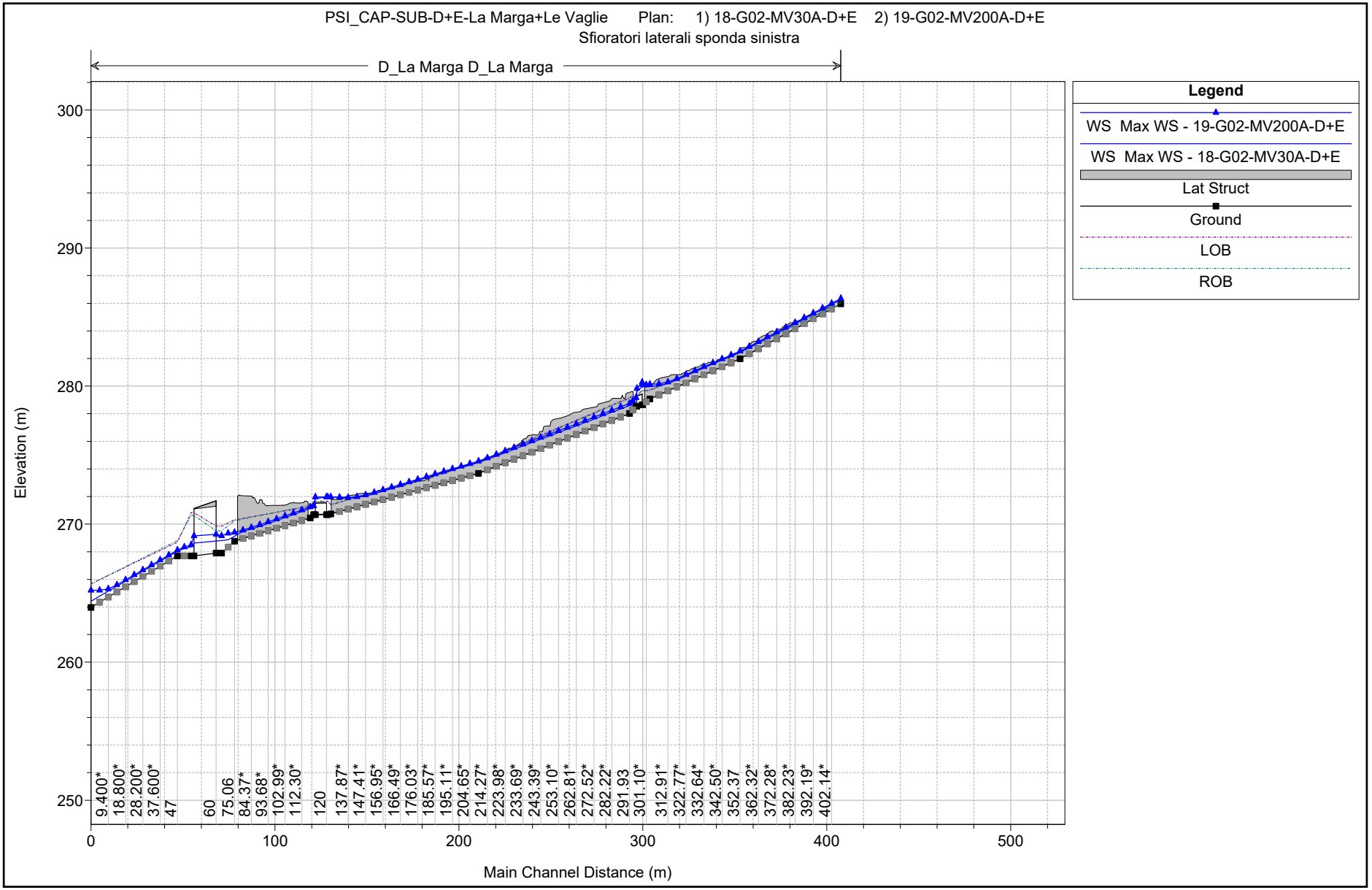


E_Le Vaglie - Scenario Alpha Tr200 - Tombino di Monte

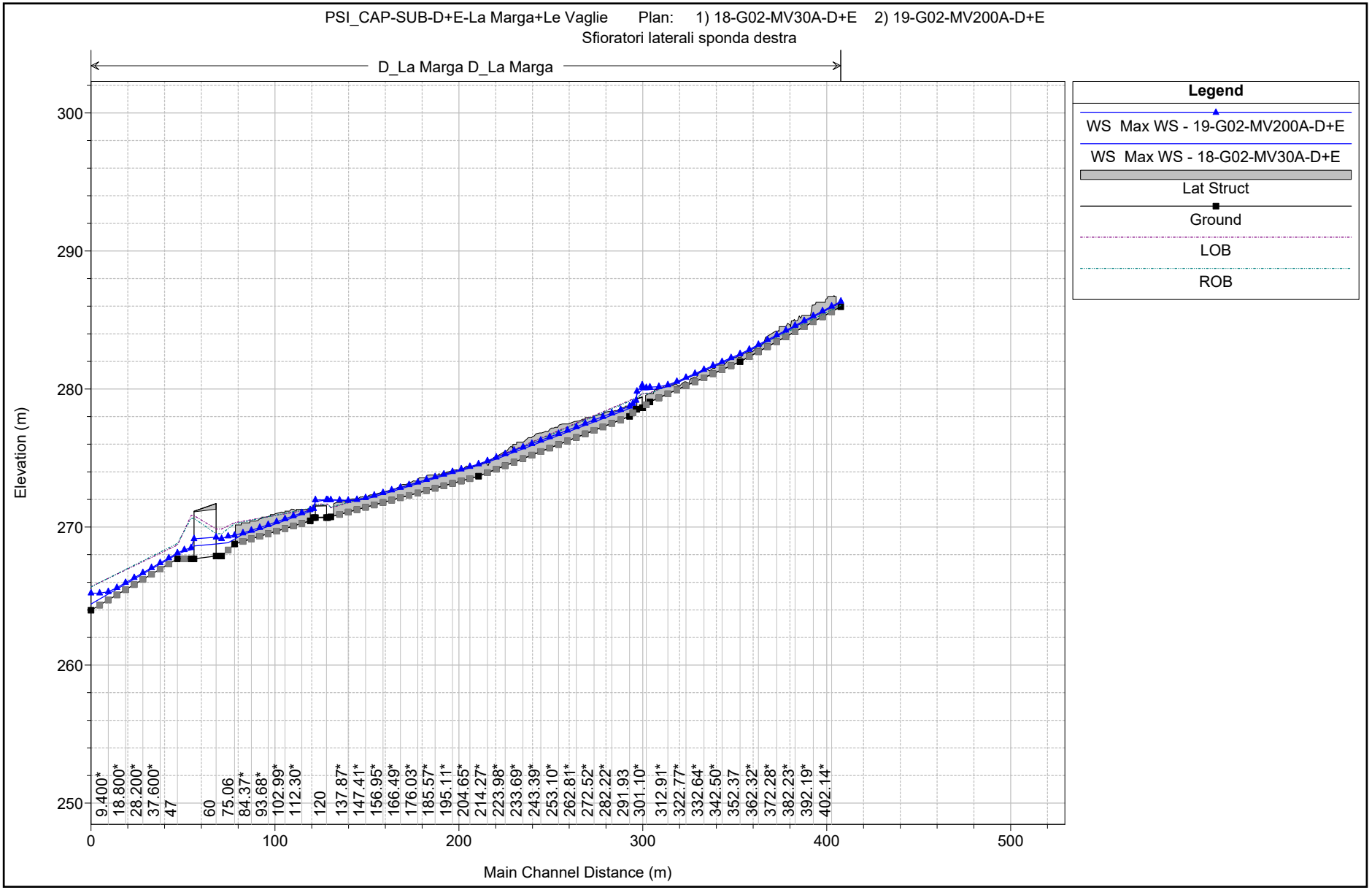


D+E – La Marga + Le Vaglie

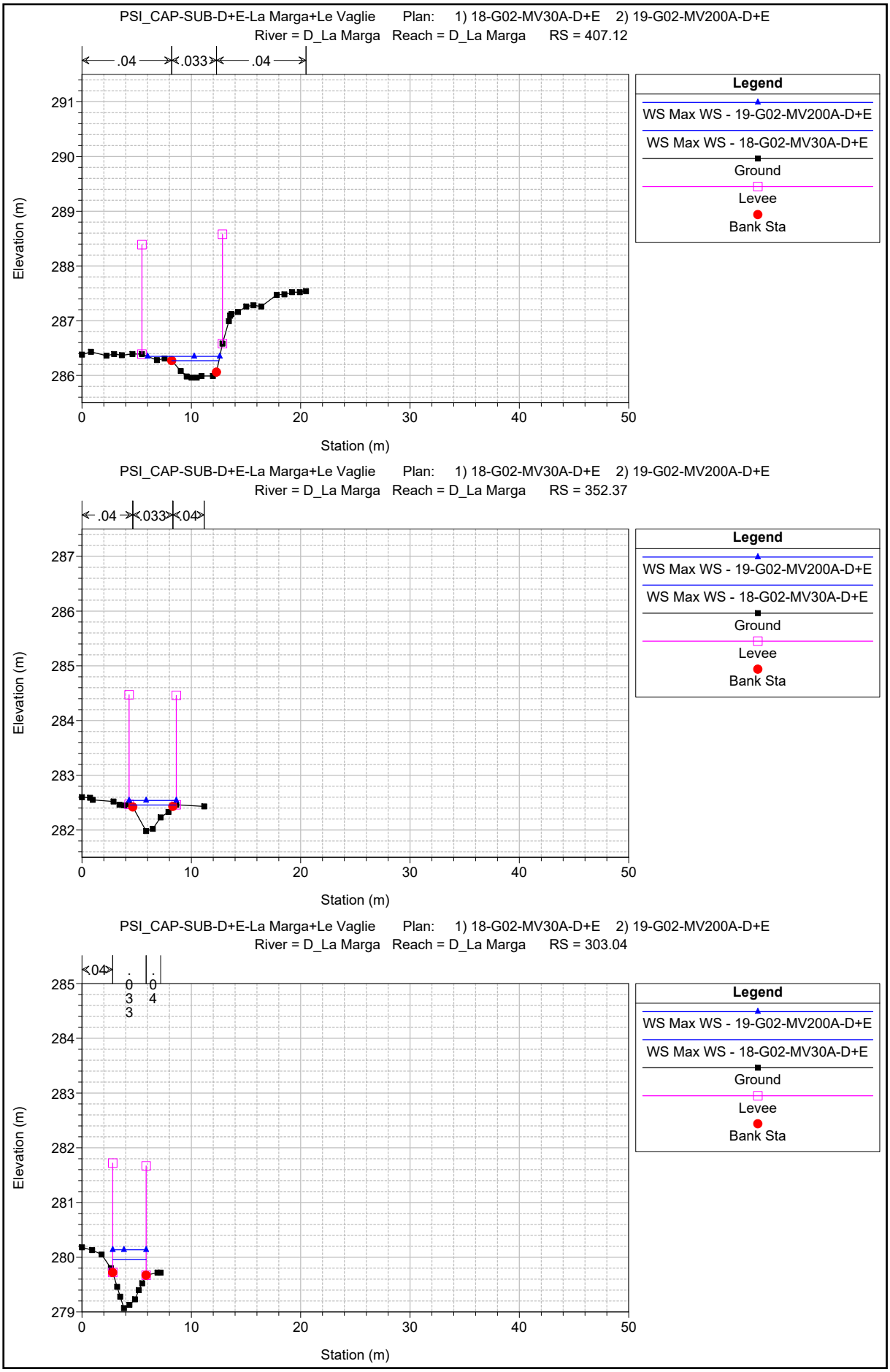
Scenario Beta



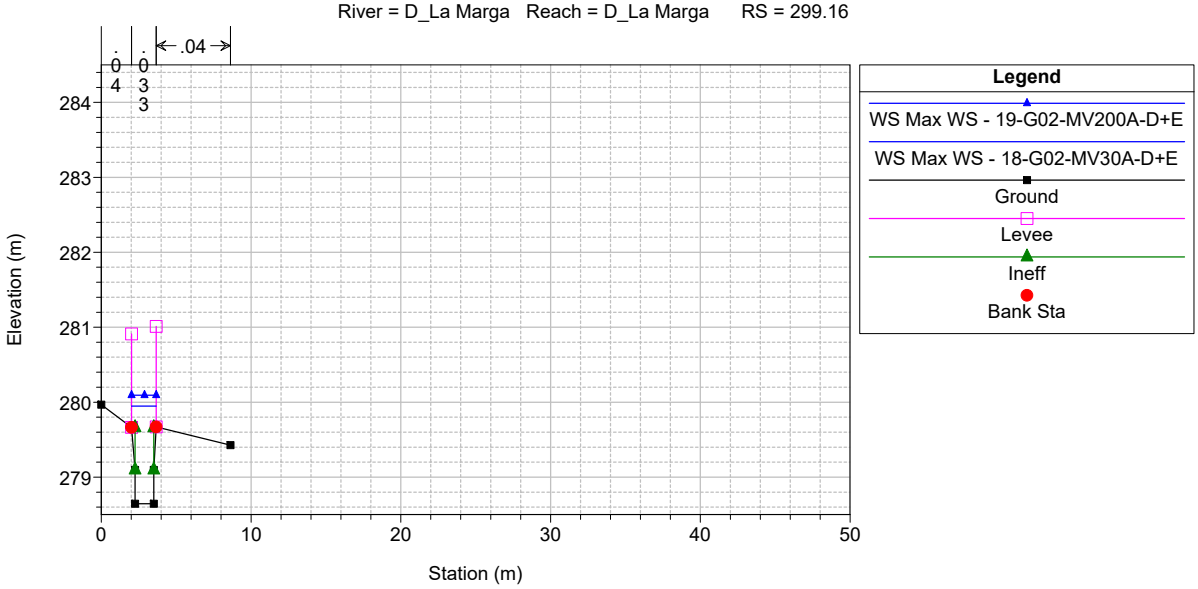
1 cm Horiz. = 30 m 1 cm Vert. = 4 m



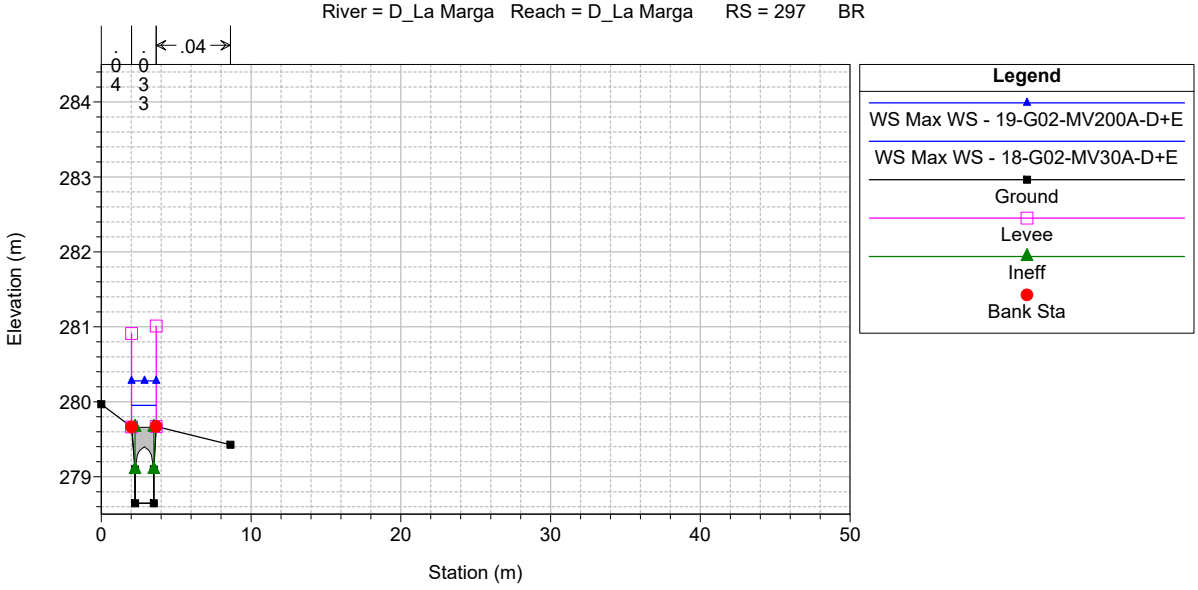
1 cm Horiz. = 30 m 1 cm Vert. = 4 m


PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 407.12
.04
.033
.04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 352.37
.04
.033
.04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 303.04
.04
.033
.04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m
1

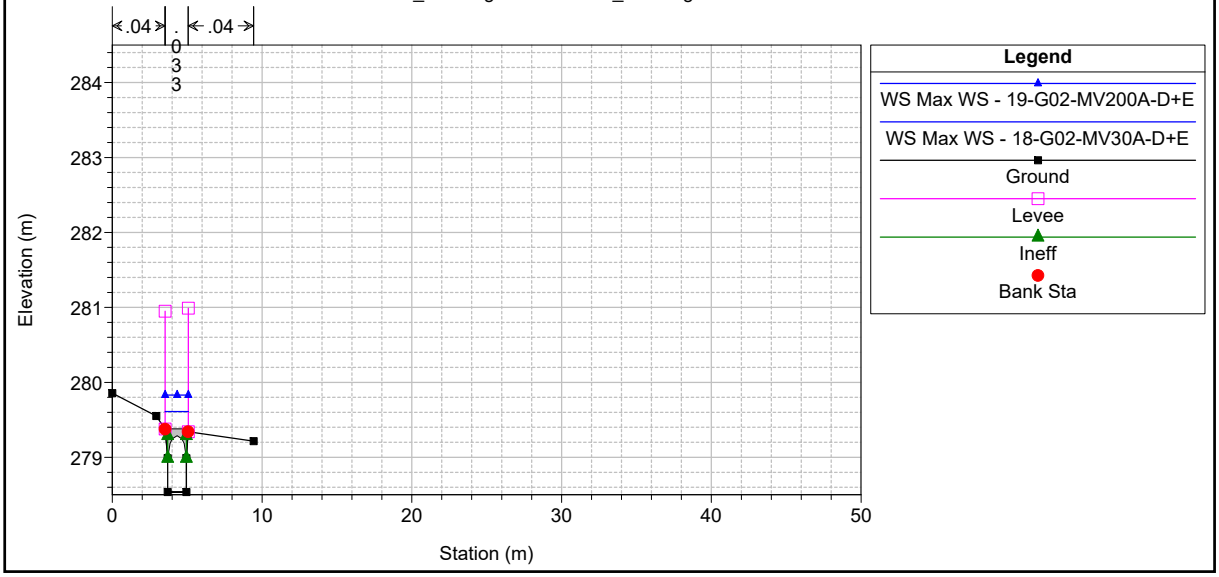
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 299.16



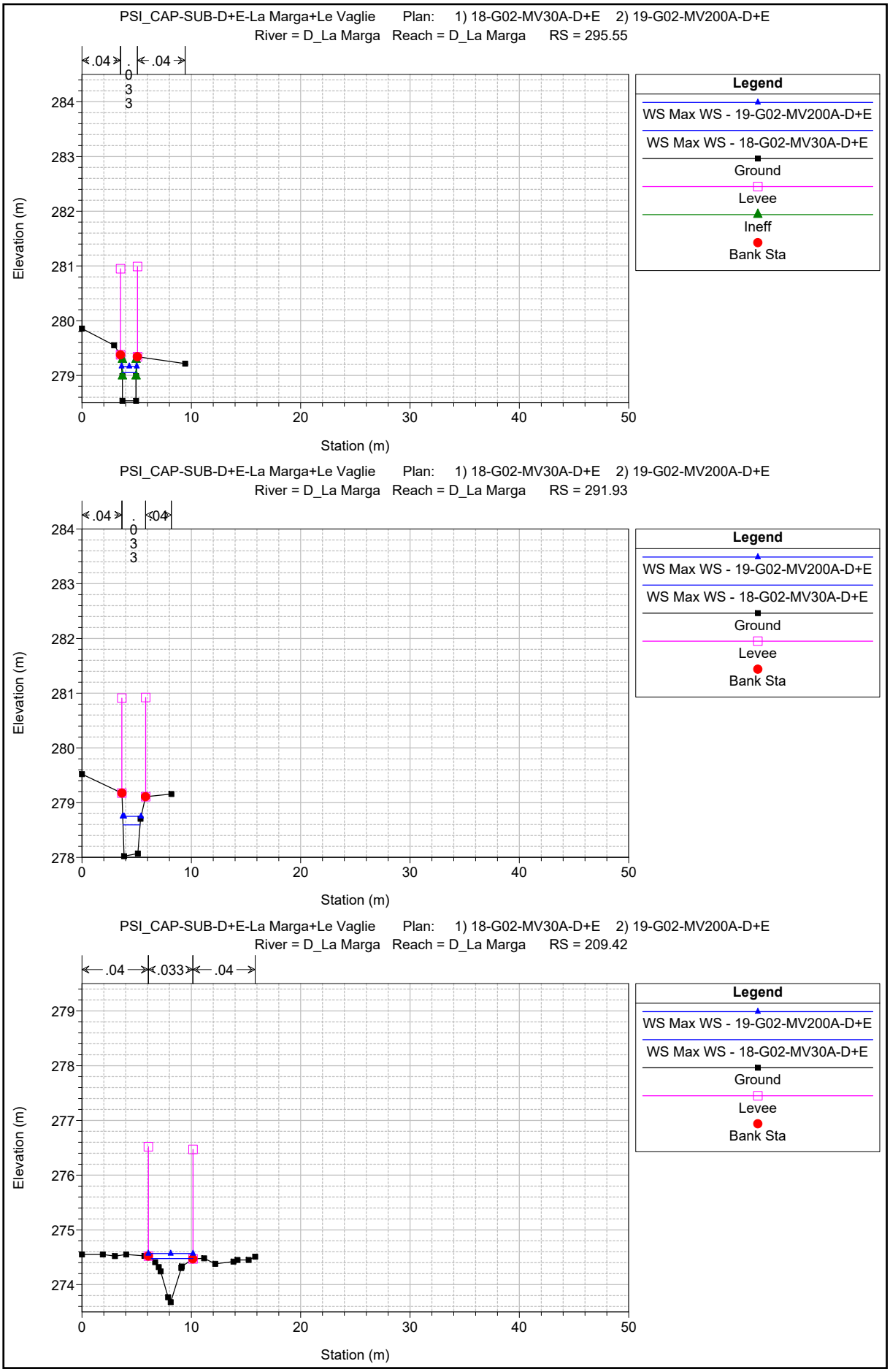
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 297 BR



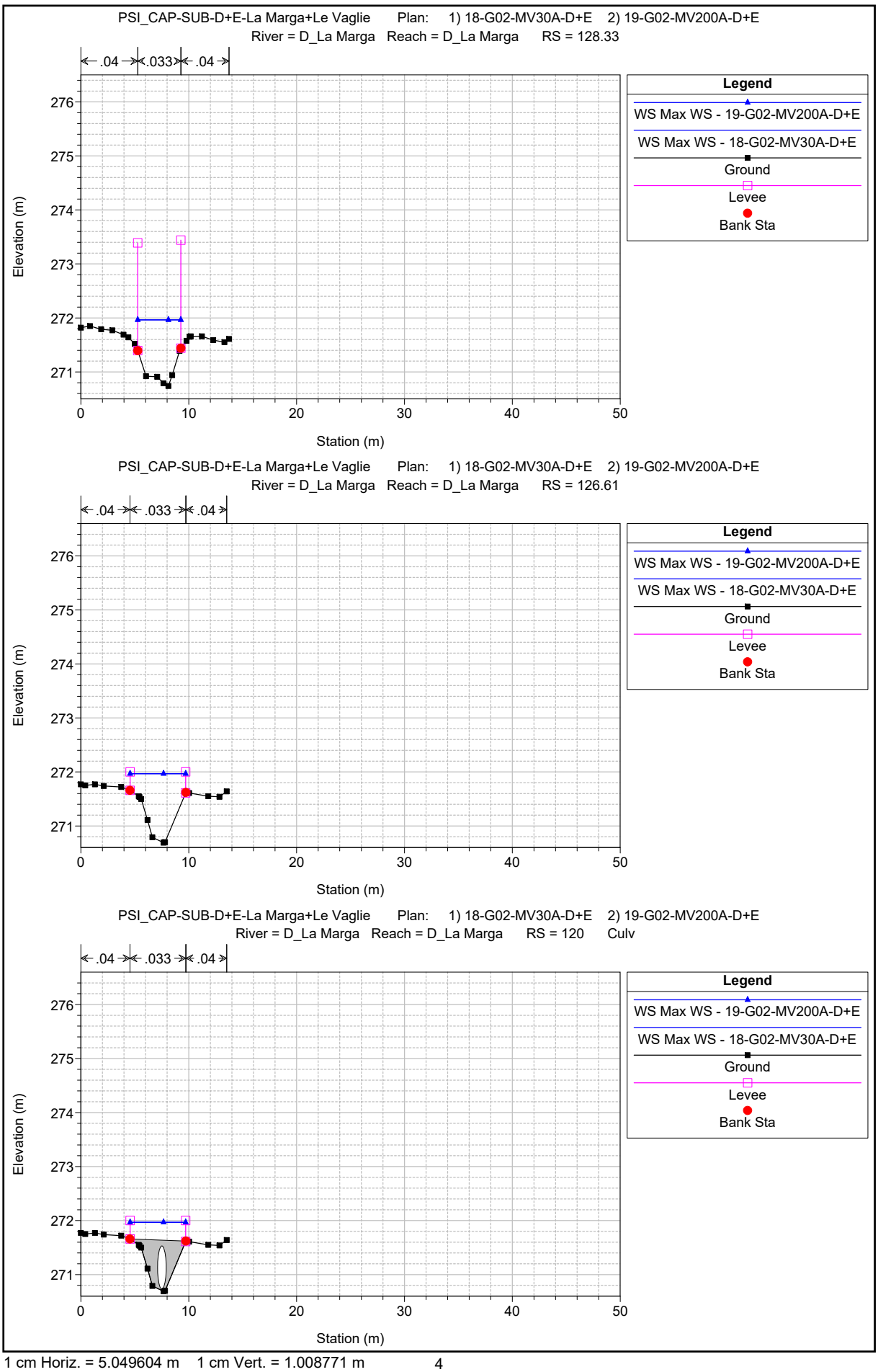
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 297 BR



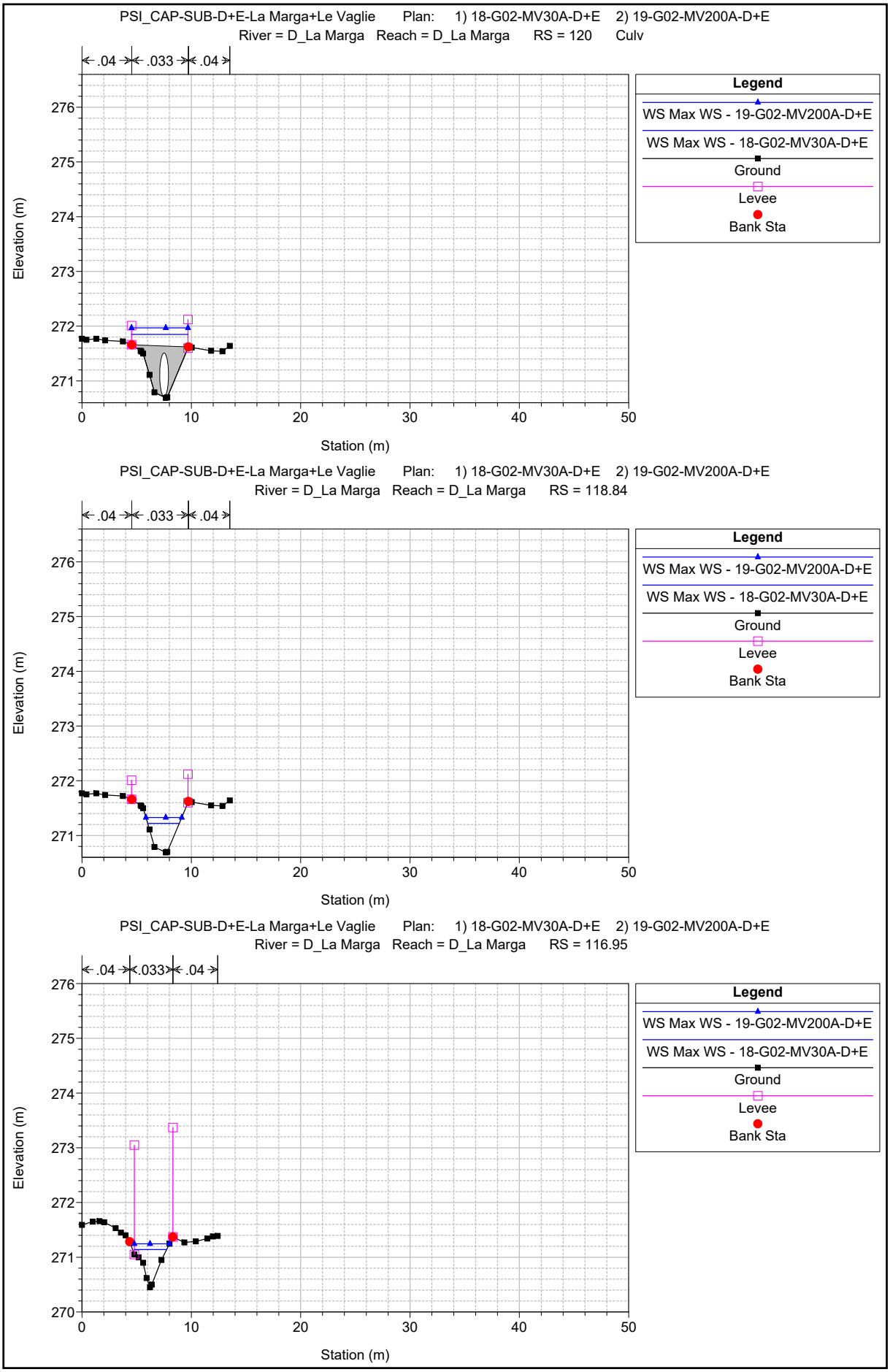
1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 2

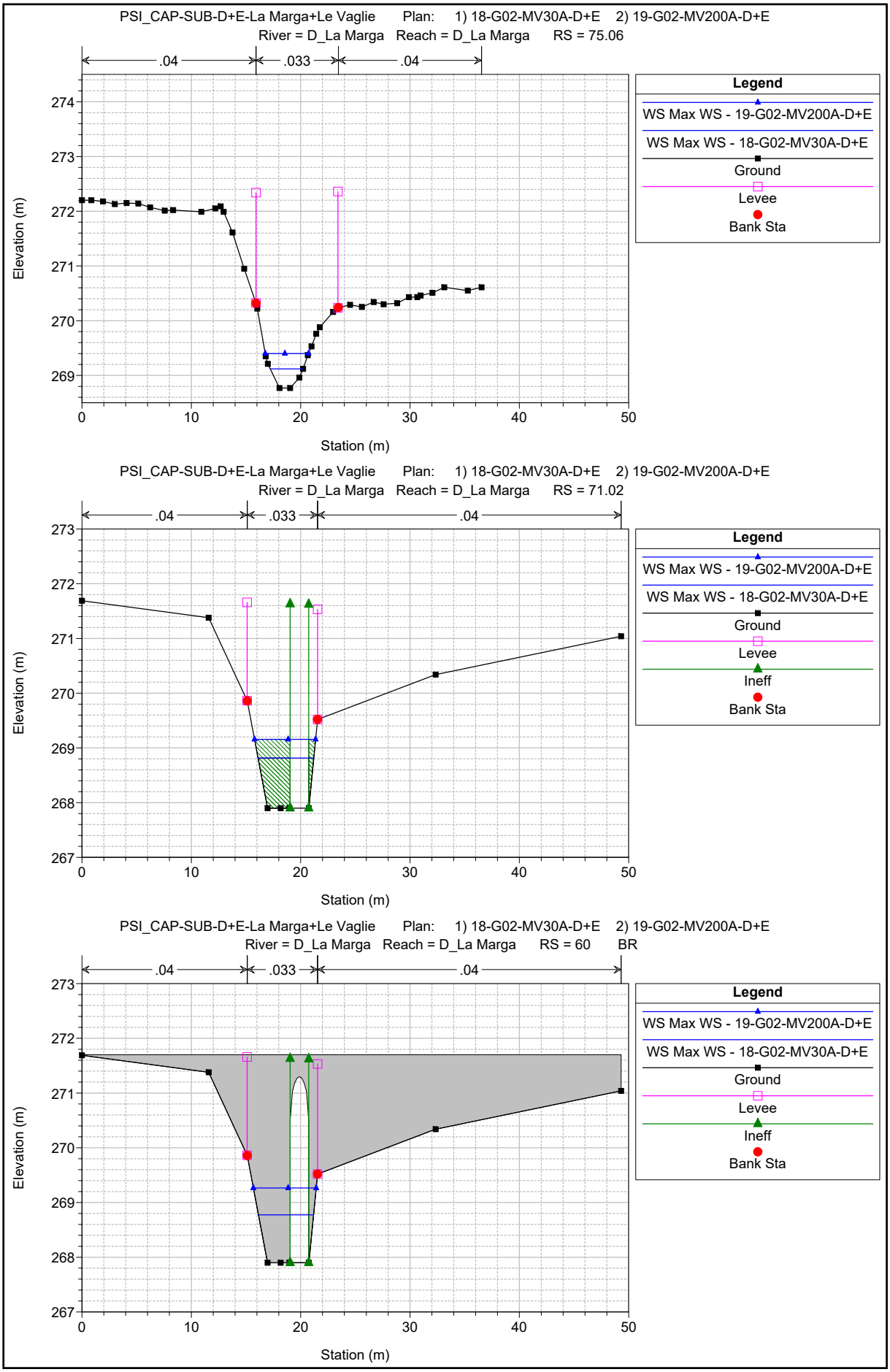


1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 3

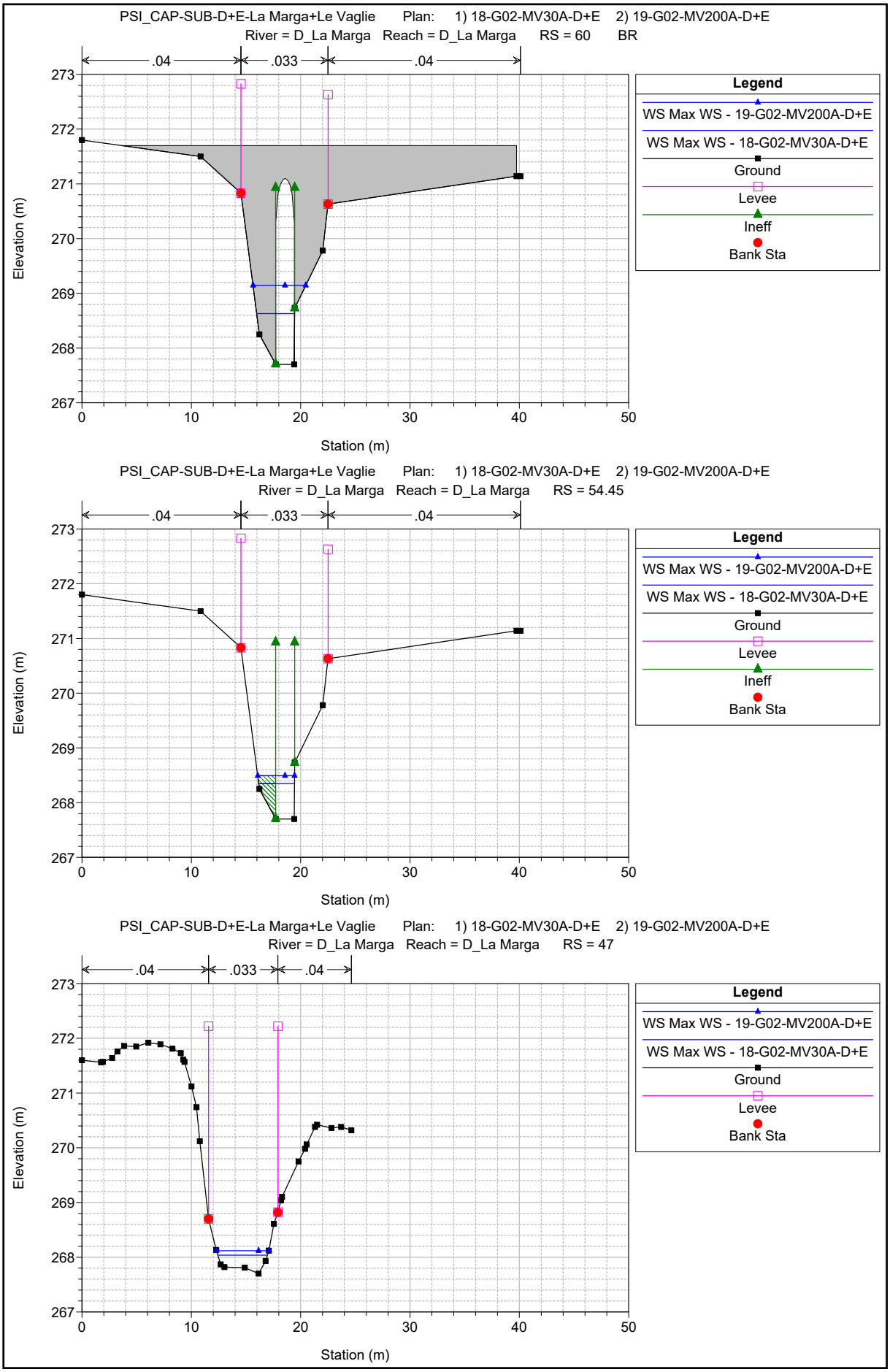


1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 4

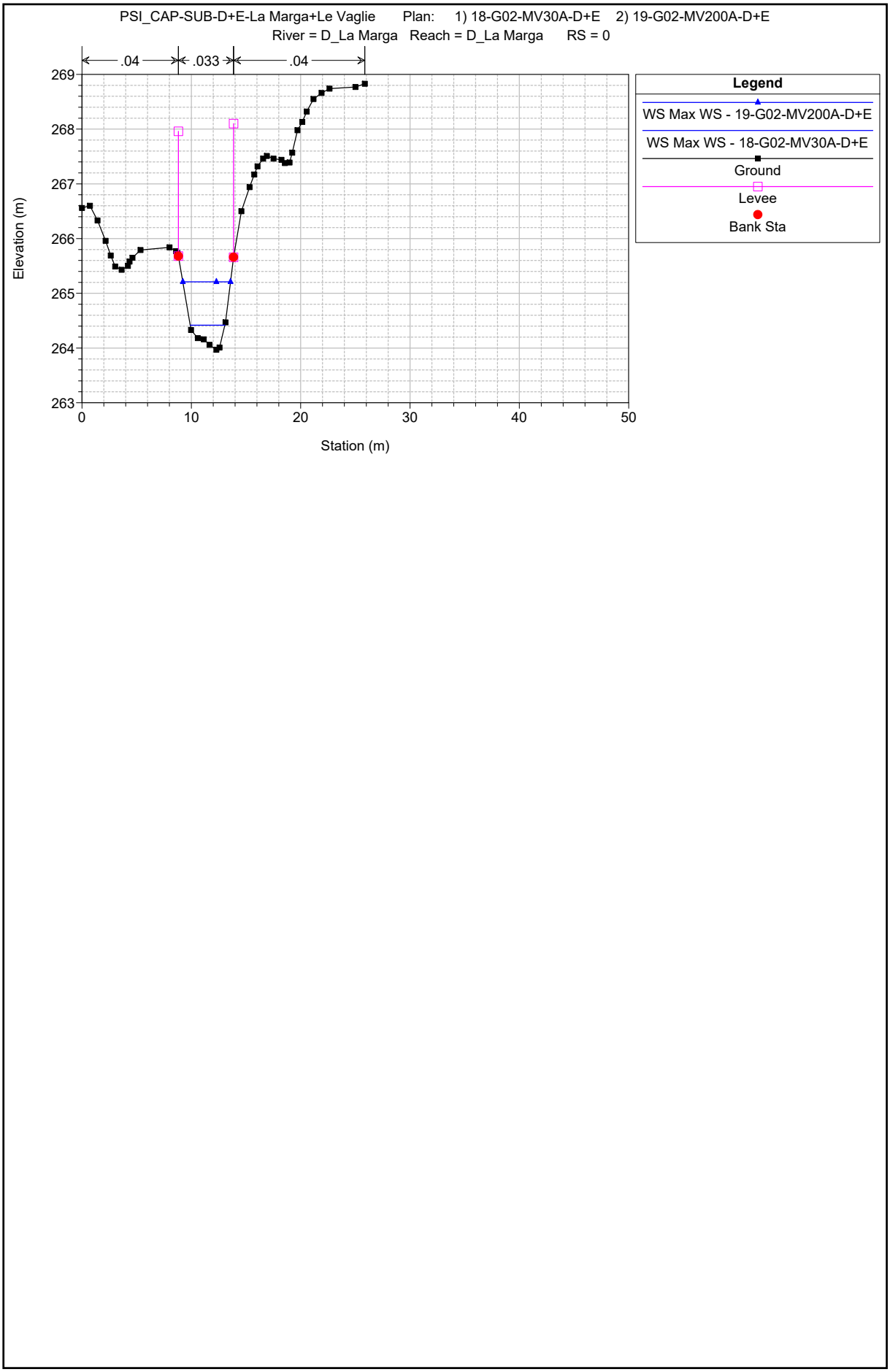

PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 120 Culv
.04 .033 .04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 118.84
.04 .033 .04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
PSI_CAP-SUB-D+E-La Marga+Le Vaglie Plan: 1) 18-G02-MV30A-D+E 2) 19-G02-MV200A-D+E
River = D_La Marga Reach = D_La Marga RS = 116.95
.04 .033 .04
Elevation (m)
Station (m)
Legend
WS Max WS - 19-G02-MV200A-D+E
WS Max WS - 18-G02-MV30A-D+E
Ground
Levee
Bank Sta
1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m
5



1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 6



1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 7



1 cm Horiz. = 5.049604 m 1 cm Vert. = 1.008771 m 8

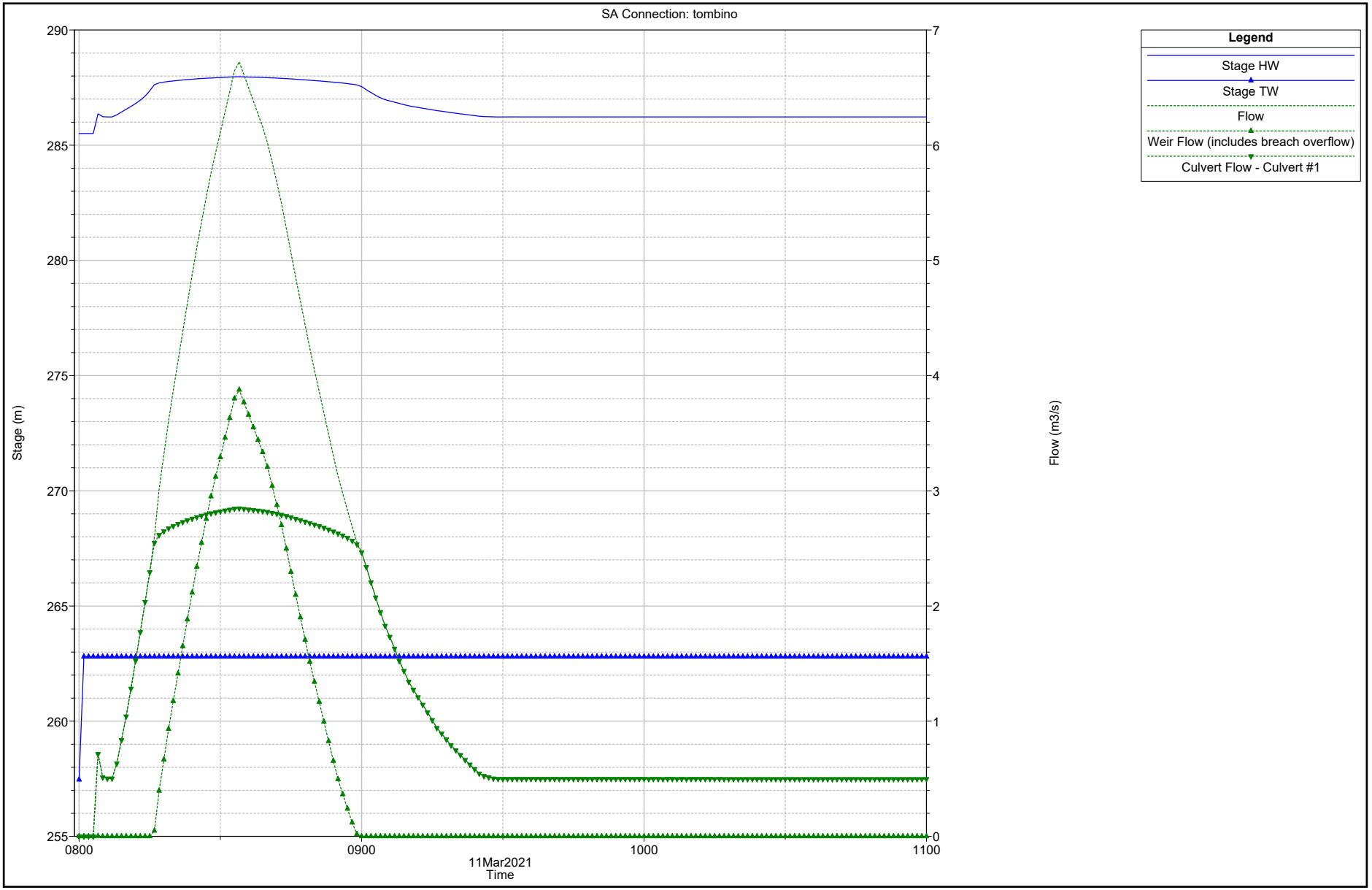
HEC-RAS River: D_La Marga Reach: D_La Marga Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
D_La Marga	407.12	Max WS	18-G02-MV30A-D+E	3.11	285.96	286.27	286.43	286.76	0.071478	3.12	1.01	4.31	2.03
D_La Marga	407.12	Max WS	19-G02-MV200A-D+E	5.03	285.96	286.35	286.54	287.04	0.070325	3.73	1.45	6.59	2.11
D_La Marga	405			Lat Struct									
D_La Marga	400			Lat Struct									
D_La Marga	352.37	Max WS	18-G02-MV30A-D+E	2.93	281.98	282.46	282.59	282.91	0.057779	2.97	1.00	4.19	1.83
D_La Marga	352.37	Max WS	19-G02-MV200A-D+E	4.65	281.98	282.54	282.73	283.17	0.057754	3.55	1.35	4.32	1.91
D_La Marga	303.04	Max WS	18-G02-MV30A-D+E	2.55	279.07	279.96	279.75	280.05	0.004480	1.33	1.93	3.06	0.53
D_La Marga	303.04	Max WS	19-G02-MV200A-D+E	3.80	279.07	280.14	279.87	280.26	0.004642	1.54	2.47	3.06	0.55
D_La Marga	299.16	Max WS	18-G02-MV30A-D+E	2.39	278.65	279.95	279.37	280.03	0.004054	1.29	1.85	1.65	0.39
D_La Marga	299.16	Max WS	19-G02-MV200A-D+E	3.63	278.65	280.09	279.60	280.25	0.006210	1.74	2.09	1.65	0.49
D_La Marga	297			Bridge									
D_La Marga	295.55	Max WS	18-G02-MV30A-D+E	2.46	278.54	279.05	279.29	279.80	0.079799	3.83	0.64	1.30	1.70
D_La Marga	295.55	Max WS	19-G02-MV200A-D+E	3.63	278.54	279.17	279.48	280.25	0.088117	4.60	0.79	1.39	1.85
D_La Marga	294.5			Lat Struct									
D_La Marga	294			Lat Struct									
D_La Marga	291.93	Max WS	18-G02-MV30A-D+E	2.46	278.02	278.59	278.74	279.11	0.050602	3.19	0.77	1.56	1.45
D_La Marga	291.93	Max WS	19-G02-MV200A-D+E	3.63	278.02	278.75	278.95	279.39	0.051461	3.55	1.02	1.68	1.45
D_La Marga	209.42	Max WS	18-G02-MV30A-D+E	2.89	273.68	274.48	274.57	274.80	0.040198	2.54	1.14	3.84	1.48
D_La Marga	209.42	Max WS	19-G02-MV200A-D+E	4.39	273.68	274.57	274.69	275.00	0.039848	2.92	1.50	4.08	1.54
D_La Marga	128.33	Max WS	18-G02-MV30A-D+E	2.74	270.74	271.96	271.34	271.99	0.000721	0.70	3.91	4.00	0.23
D_La Marga	128.33	Max WS	19-G02-MV200A-D+E	3.29	270.74	271.96	271.39	272.00	0.001036	0.84	3.91	4.00	0.27
D_La Marga	126.61	Max WS	18-G02-MV30A-D+E	2.74	270.69	271.97		271.99	0.000770	0.65	4.24	5.16	0.23
D_La Marga	126.61	Max WS	19-G02-MV200A-D+E	3.29	270.69	271.97		272.00	0.001100	0.78	4.25	5.16	0.27
D_La Marga	120			Culvert									
D_La Marga	118.84	Max WS	18-G02-MV30A-D+E	2.74	270.69	271.22	271.34	271.61	0.039242	2.78	0.99	2.89	1.51
D_La Marga	118.84	Max WS	19-G02-MV200A-D+E	4.17	270.69	271.33	271.49	271.84	0.041166	3.16	1.32	3.28	1.59
D_La Marga	116.95	Max WS	18-G02-MV30A-D+E	2.75	270.45	271.14	271.27	271.56	0.048282	2.88	0.95	2.95	1.62
D_La Marga	116.95	Max WS	19-G02-MV200A-D+E	4.17	270.45	271.25	271.41	271.79	0.048307	3.26	1.28	3.22	1.65
D_La Marga	116.5			Lat Struct									
D_La Marga	116			Lat Struct									
D_La Marga	75.06	Max WS	18-G02-MV30A-D+E	3.06	268.77	269.12	269.36	270.01	0.132586	4.19	0.73	3.01	2.71
D_La Marga	75.06	Max WS	19-G02-MV200A-D+E	4.99	268.77	269.40	269.52	269.83	0.030666	2.90	1.72	3.96	1.41
D_La Marga	71.02	Max WS	18-G02-MV30A-D+E	3.06	267.90	268.81	268.59	269.01	0.004769	1.97	1.55	5.09	0.66
D_La Marga	71.02	Max WS	19-G02-MV200A-D+E	4.99	267.90	269.16	268.86	269.43	0.004377	2.33	2.14	5.59	0.67
D_La Marga	60			Bridge									
D_La Marga	54.45	Max WS	18-G02-MV30A-D+E	3.06	267.70	268.35	268.39	268.74	0.022453	2.76	1.11	3.27	1.10
D_La Marga	54.45	Max WS	19-G02-MV200A-D+E	4.99	267.70	268.49	268.65	269.18	0.032933	3.67	1.36	3.37	1.32
D_La Marga	47	Max WS	18-G02-MV30A-D+E	3.06	267.70	268.04	268.18	268.50	0.076423	3.02	1.01	4.54	2.04
D_La Marga	47	Max WS	19-G02-MV200A-D+E	4.99	267.70	268.12	268.31	268.77	0.076188	3.58	1.39	4.80	2.12
D_La Marga	0	Max WS	18-G02-MV30A-D+E	3.06	263.97	264.42	264.60	265.04	0.080236	3.49	0.88	3.17	2.11
D_La Marga	0	Max WS	19-G02-MV200A-D+E	0.50	263.97	265.21	264.26	265.21	0.000028	0.13	3.87	4.36	0.04

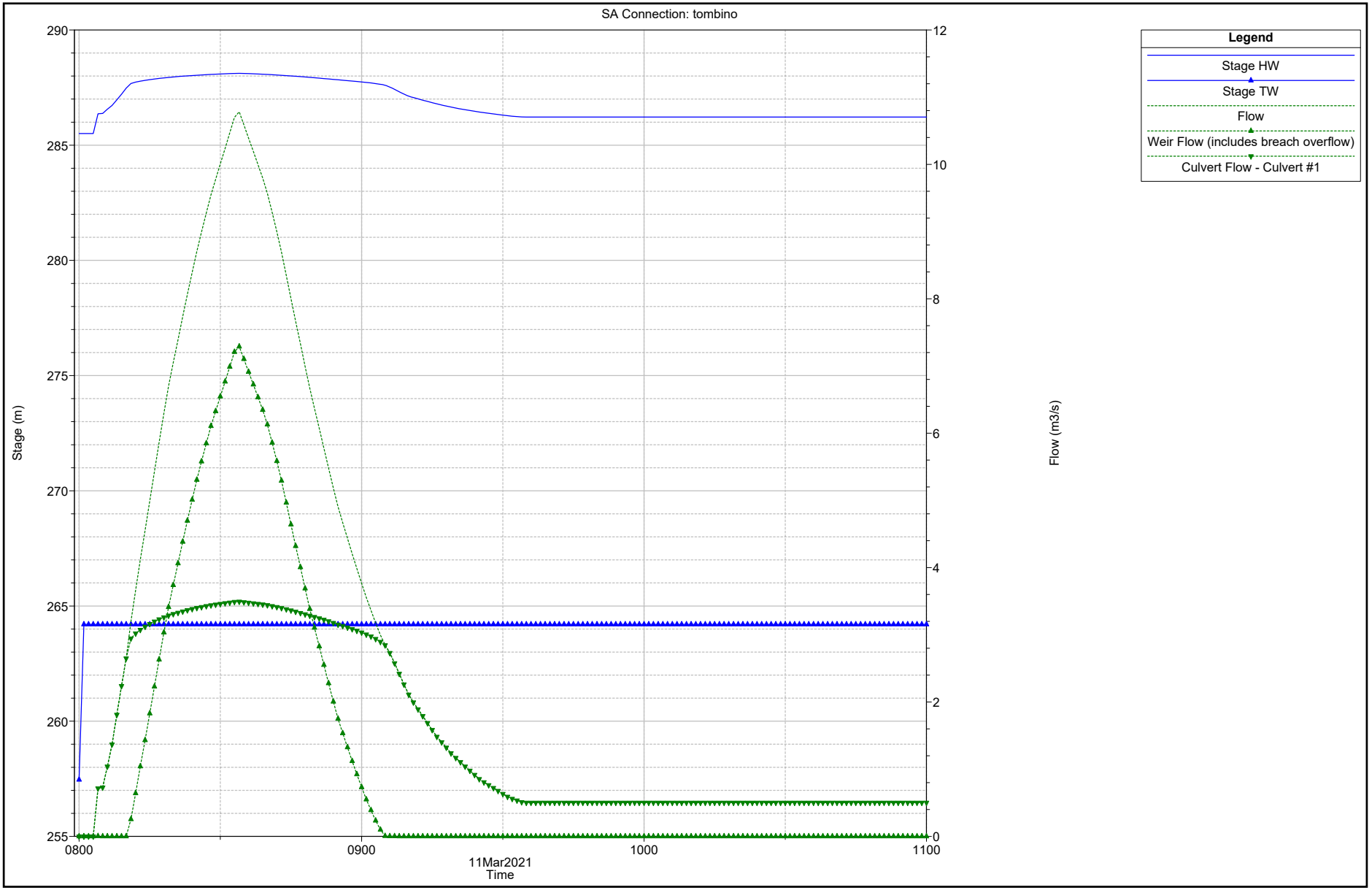
HEC-RAS River: D_La Marga Reach: D_La Marga Profile: Max WS

Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
D_La Marga	405	Max WS	18-G02-MV30A-D+E	3.11	0.53	2.39	0.53		52.73	0.40	0.15	279.54	286.59	286.09	280.04	279.94
D_La Marga	405	Max WS	19-G02-MV200A-D+E	5.03	1.27	3.63	1.27		63.92	0.56	0.21	279.54	286.87	286.17	280.26	280.09
D_La Marga	400	Max WS	18-G02-MV30A-D+E	3.11	0.00	2.39	0.00		39.93	0.21	0.06	280.00	286.42	285.92	280.04	279.94
D_La Marga	400	Max WS	19-G02-MV200A-D+E	5.03	0.08	3.63	0.08		58.81	0.29	0.09	280.00	286.70	286.00	280.25	280.09
D_La Marga	294.5	Max WS	18-G02-MV30A-D+E	2.46	0.10	2.74	0.10		47.95	0.23	0.06	271.79	280.00	278.84	271.99	271.96
D_La Marga	294.5	Max WS	19-G02-MV200A-D+E	3.63	0.23	3.29	0.23		103.84	0.32	0.08	271.79	280.30	278.97	272.00	271.96
D_La Marga	294	Max WS	18-G02-MV30A-D+E	2.46	-0.46	2.74	-0.46		102.28	0.27	0.09	271.69	279.91	278.93	271.99	271.96
D_La Marga	294	Max WS	19-G02-MV200A-D+E	3.63	-0.96	3.29	-0.96		127.52	0.34	0.12	271.69	280.28	279.06	272.00	271.96
D_La Marga	116.5	Max WS	18-G02-MV30A-D+E	2.75	-0.17	3.06	-0.17		21.67	0.18	0.11	271.33	271.51	271.08	269.92	269.26
D_La Marga	116.5	Max WS	19-G02-MV200A-D+E	4.17	-0.68	4.99	-0.68		25.20	0.39	0.25	271.33	271.73	271.19	269.92	269.46
D_La Marga	116	Max WS	18-G02-MV30A-D+E	2.75	-0.22	3.06	-0.22		33.10	0.23	0.10	270.16	271.56	271.14	269.99	269.16
D_La Marga	116	Max WS	19-G02-MV200A-D+E	4.17	-0.47	4.99	-0.47		41.58	0.37	0.13	270.16	271.79	271.25	269.85	269.42

E_Le Vaglie - Scenario Beta Tr30 - Tombino di Monte

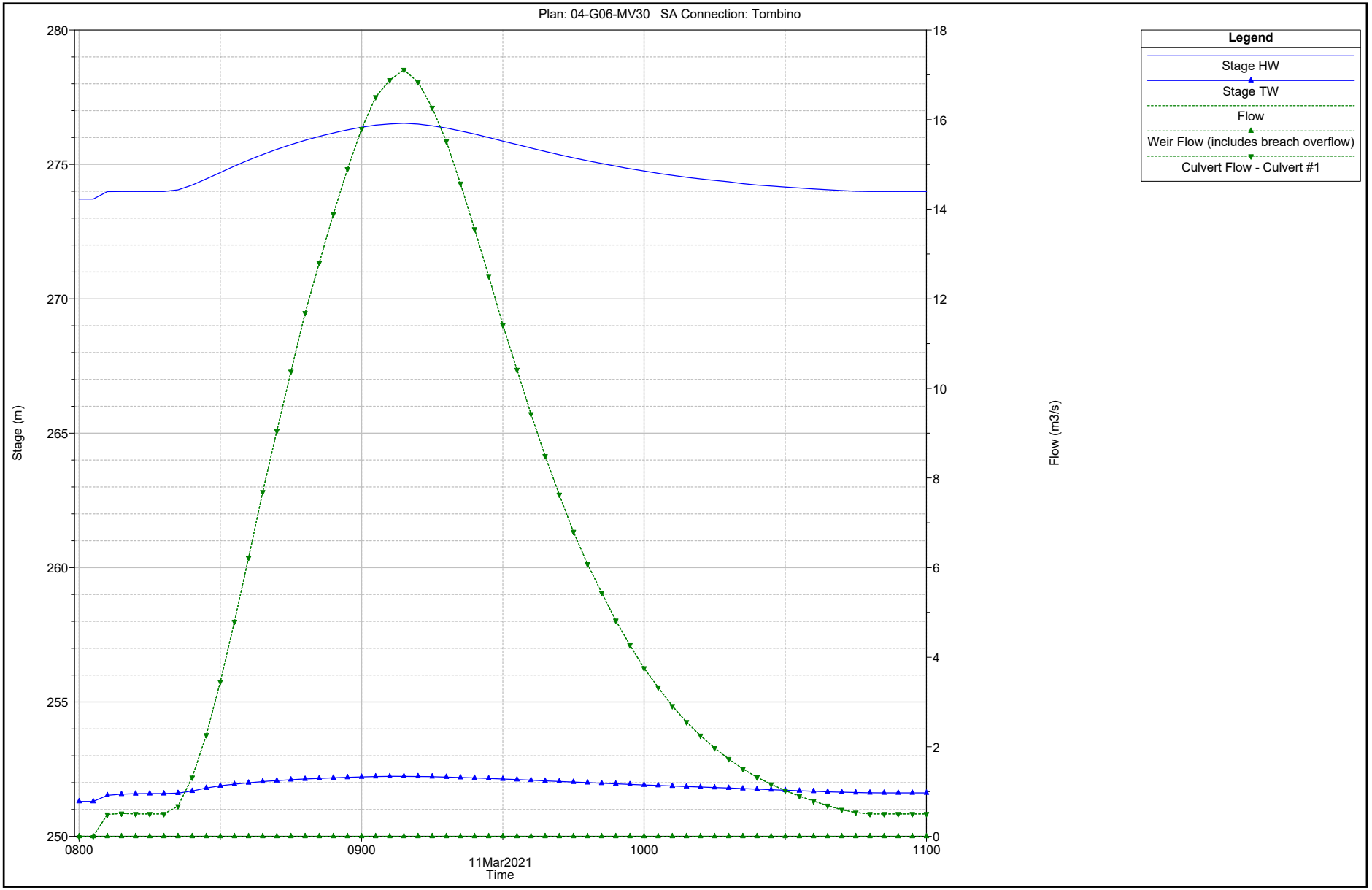


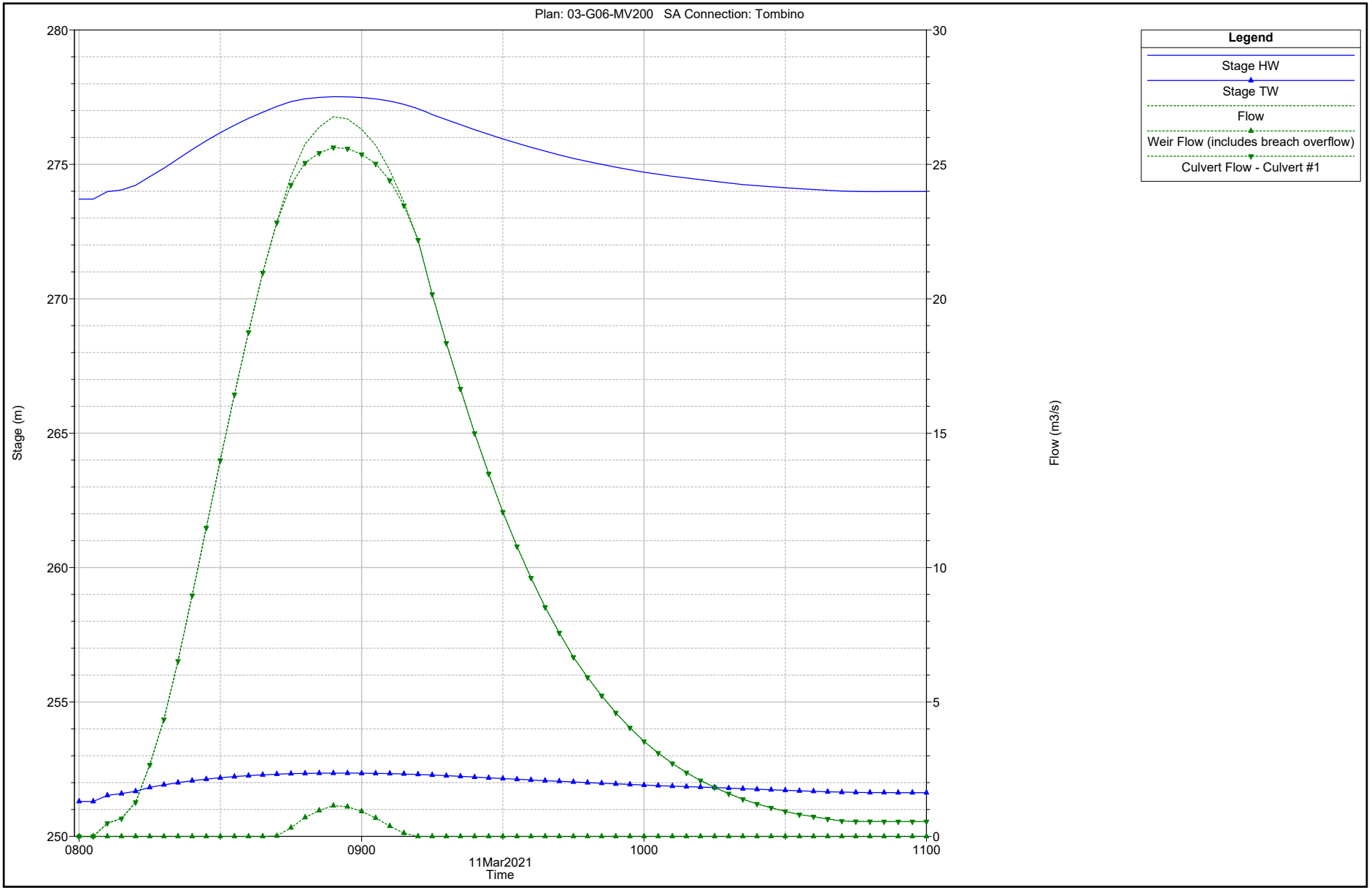
E_Le Vaglie - Scenario Beta Tr200 - Tombino di Monte



F – La Lastra

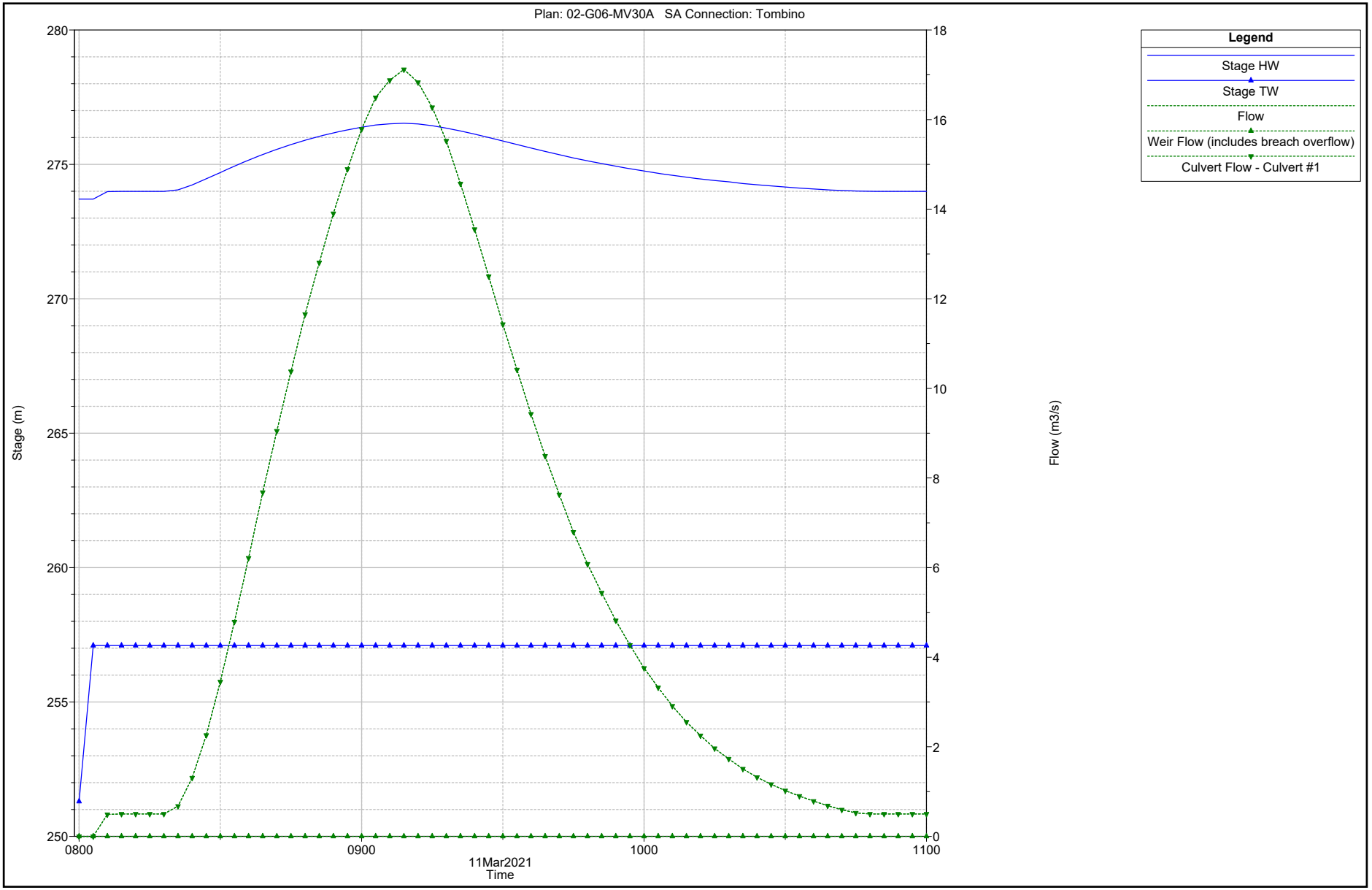
Scenario Alpha

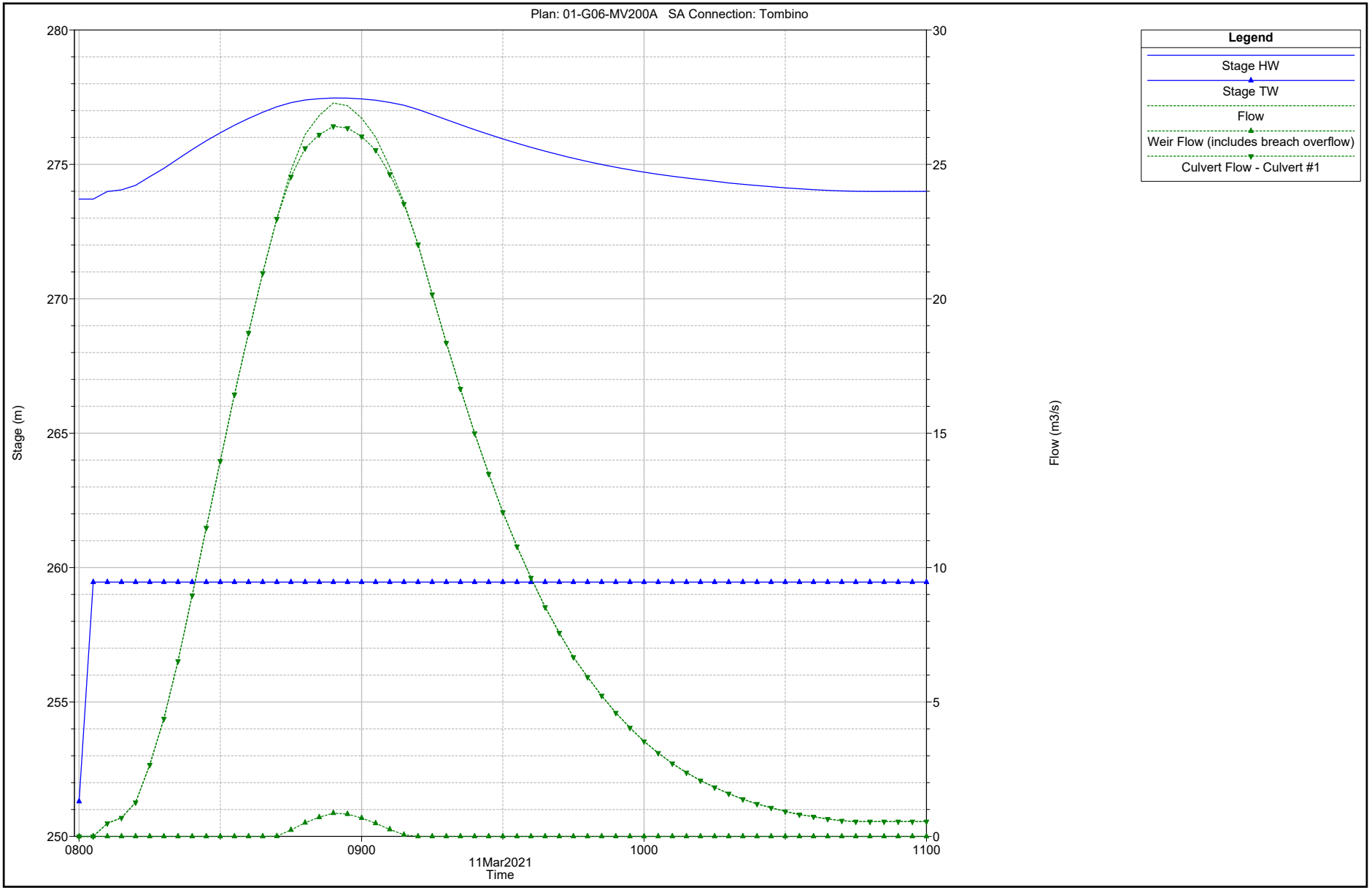

Plan: 04-G06-MV30 SA Connection: Tombino
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
280
275
270
265
260
255
250
18
16
14
12
10
8
6
4
2
0
0800
0900
1000
1100
11Mar2021
Time


Plan: 03-G06-MV200 SA Connection: Tombino
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
280
275
270
265
260
255
250
30
25
20
15
10
5
0
0800
0900
1000
1100
11Mar2021
Time

F – La Lastra

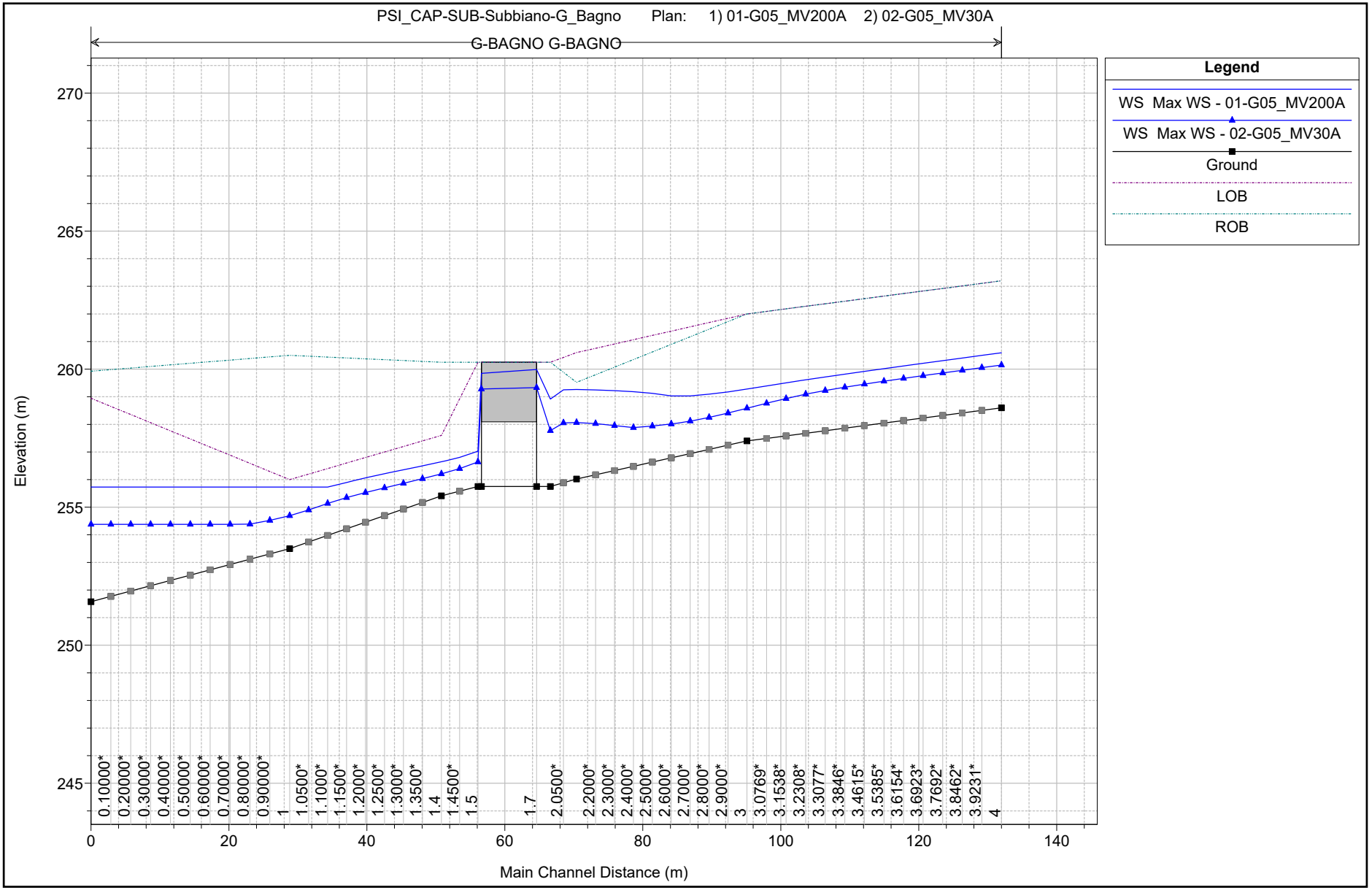
Scenario Beta


Plan: 02-G06-MV30A SA Connection: Tombino
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
280
275
270
265
260
255
250
18
16
14
12
10
8
6
4
2
0
0800
0900
1000
1100
11Mar2021
Time

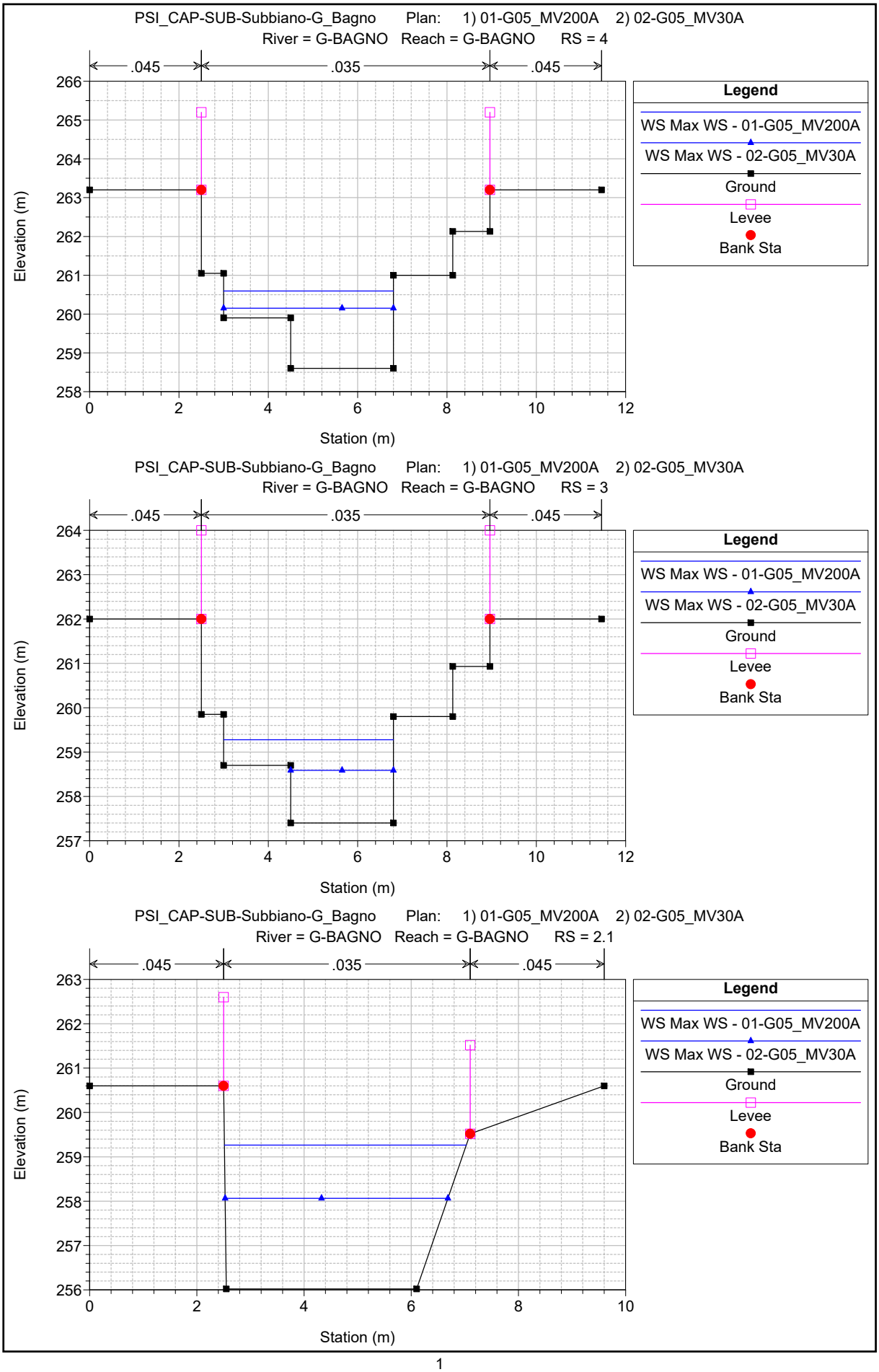

Plan: 01-G06-MV200A SA Connection: Tombino
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
280
275
270
265
260
255
250
30
25
20
15
10
5
0
0800
0900
1000
1100
11Mar2021
Time

G – Bagno

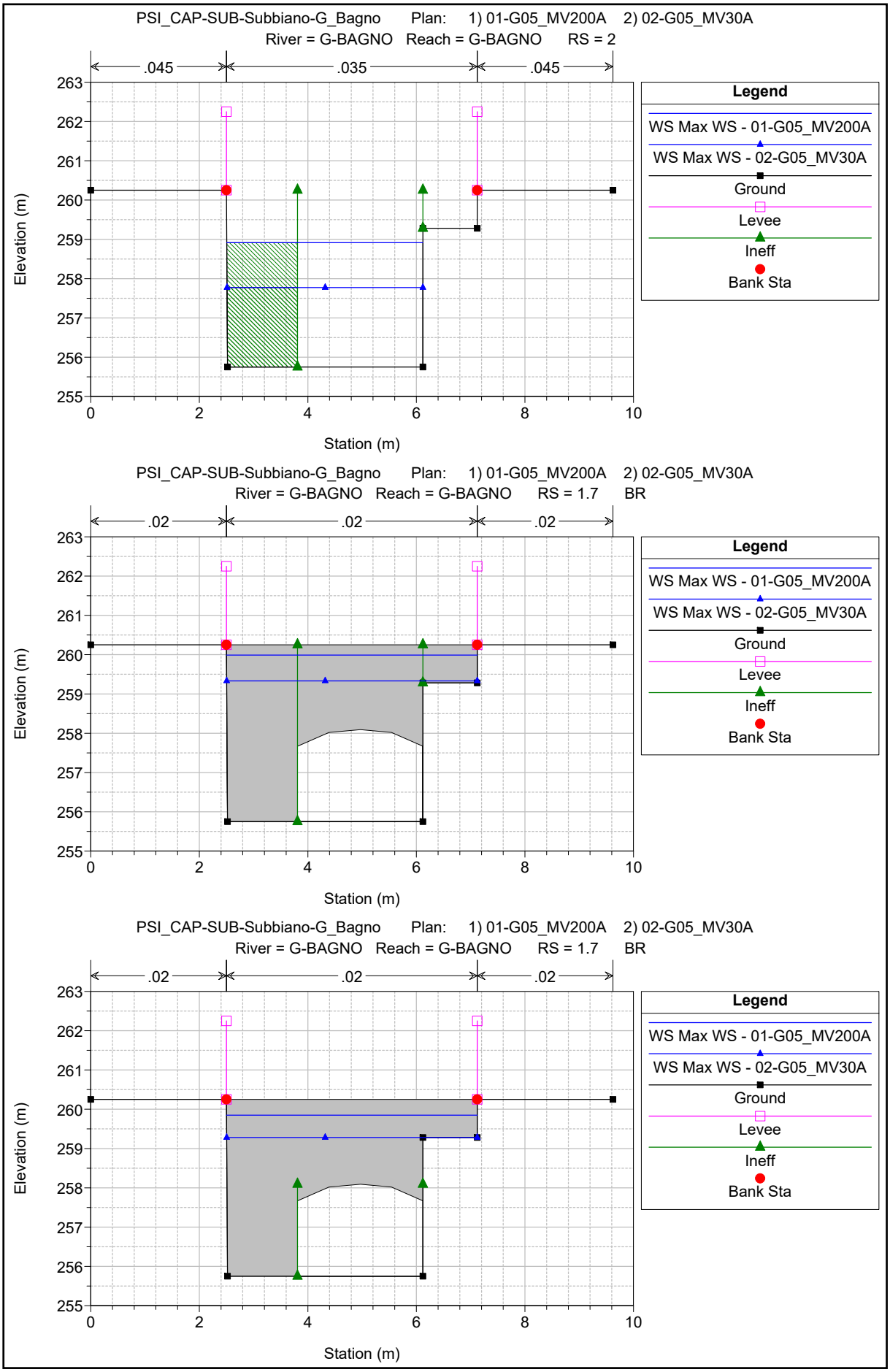
Scenario Alpha

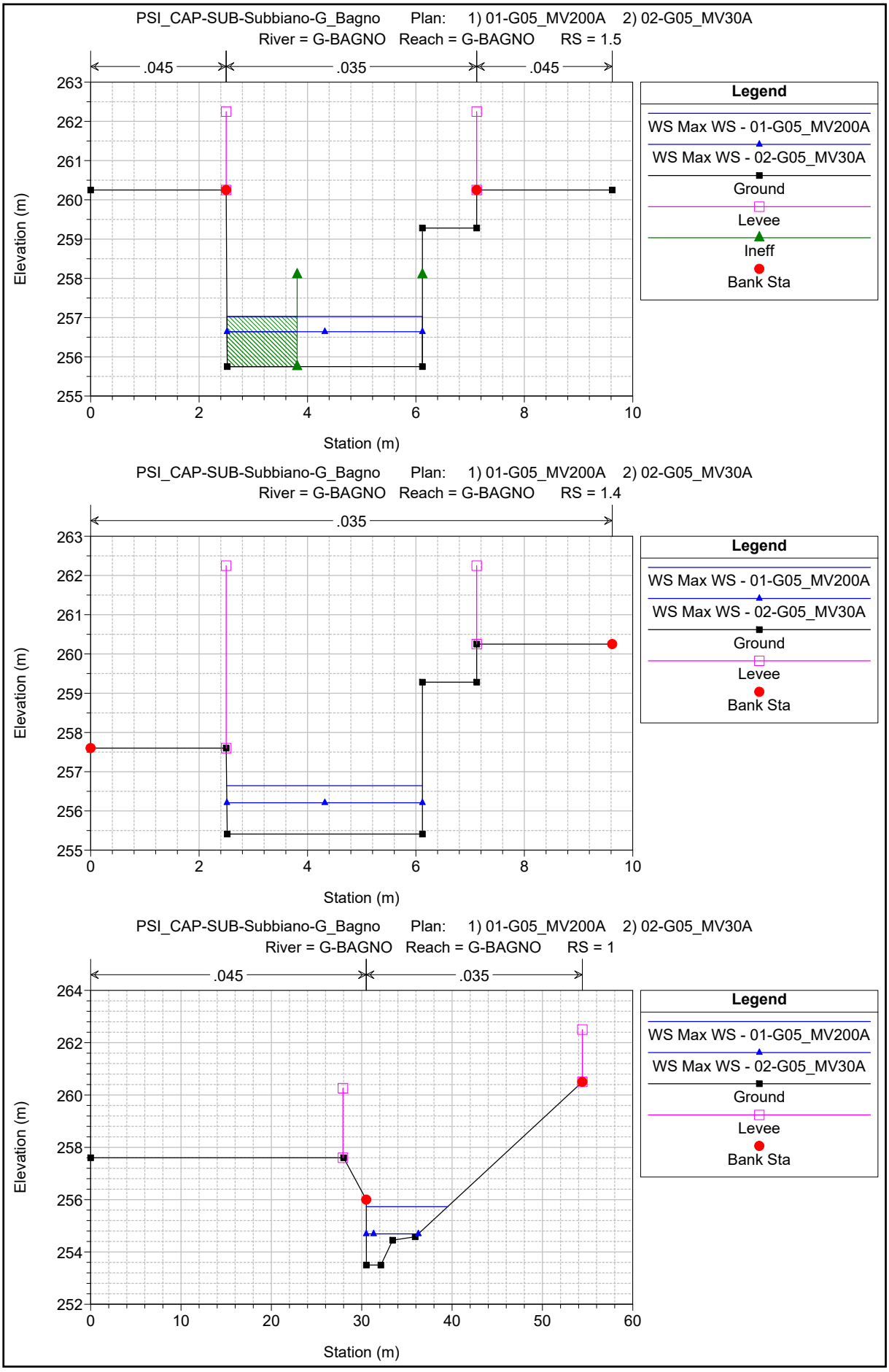


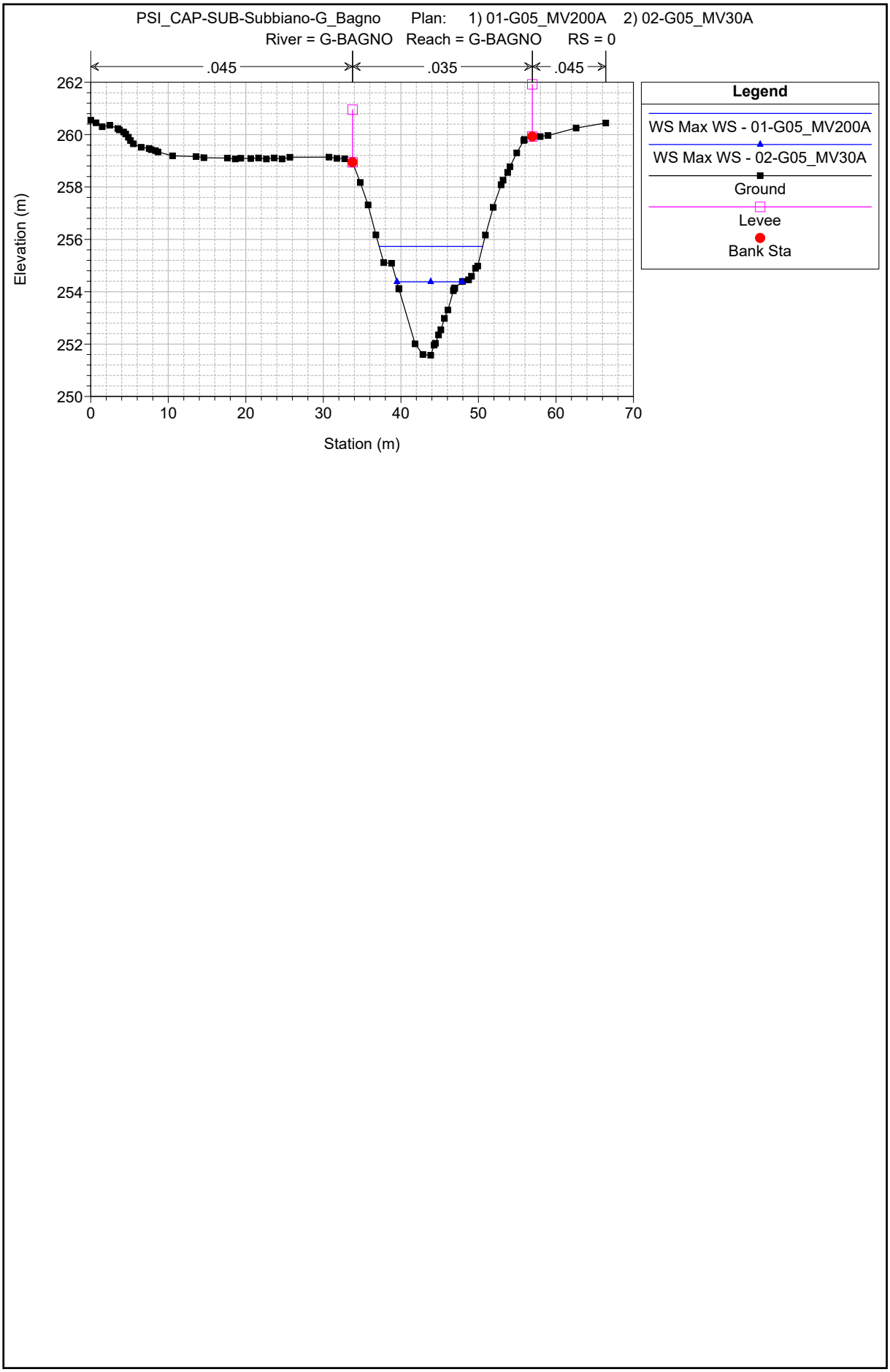
1 cm Horiz. = 8 m 1 cm Vert. = 2 m


PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 4
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 3
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 2.1
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

1


PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 2
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.7 BR
.02
.02
.02
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.7 BR
.02
.02
.02
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta


PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.5
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.4
.035
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1
.045
.035
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

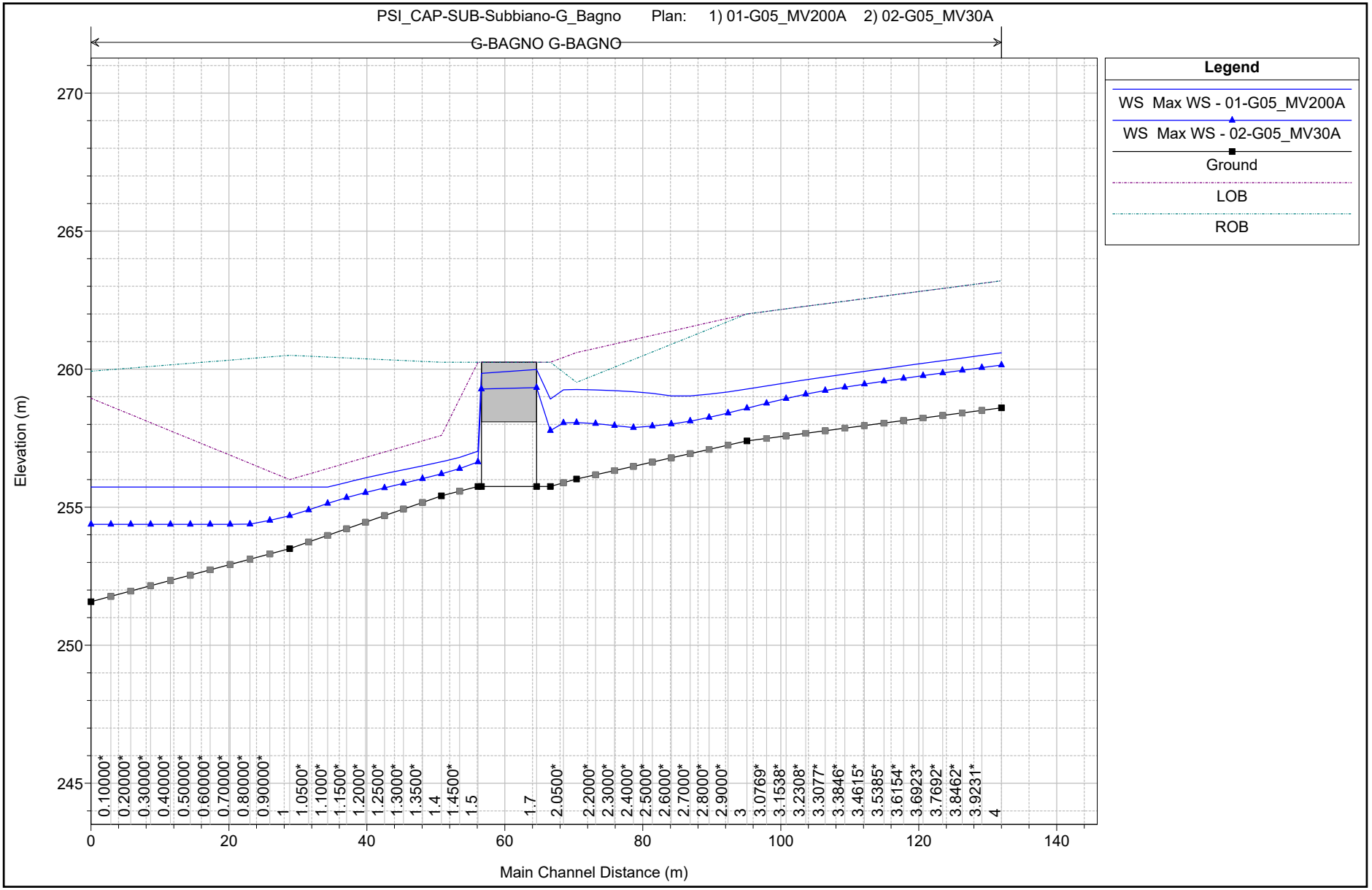

PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 0
.045
.035
.045
Elevation (m)
Station (m)
262
260
258
256
254
252
250
0
10
20
30
40
50
60
70
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

HEC-RAS River: G-BAGNO Reach: G-BAGNO Profile: Max WS

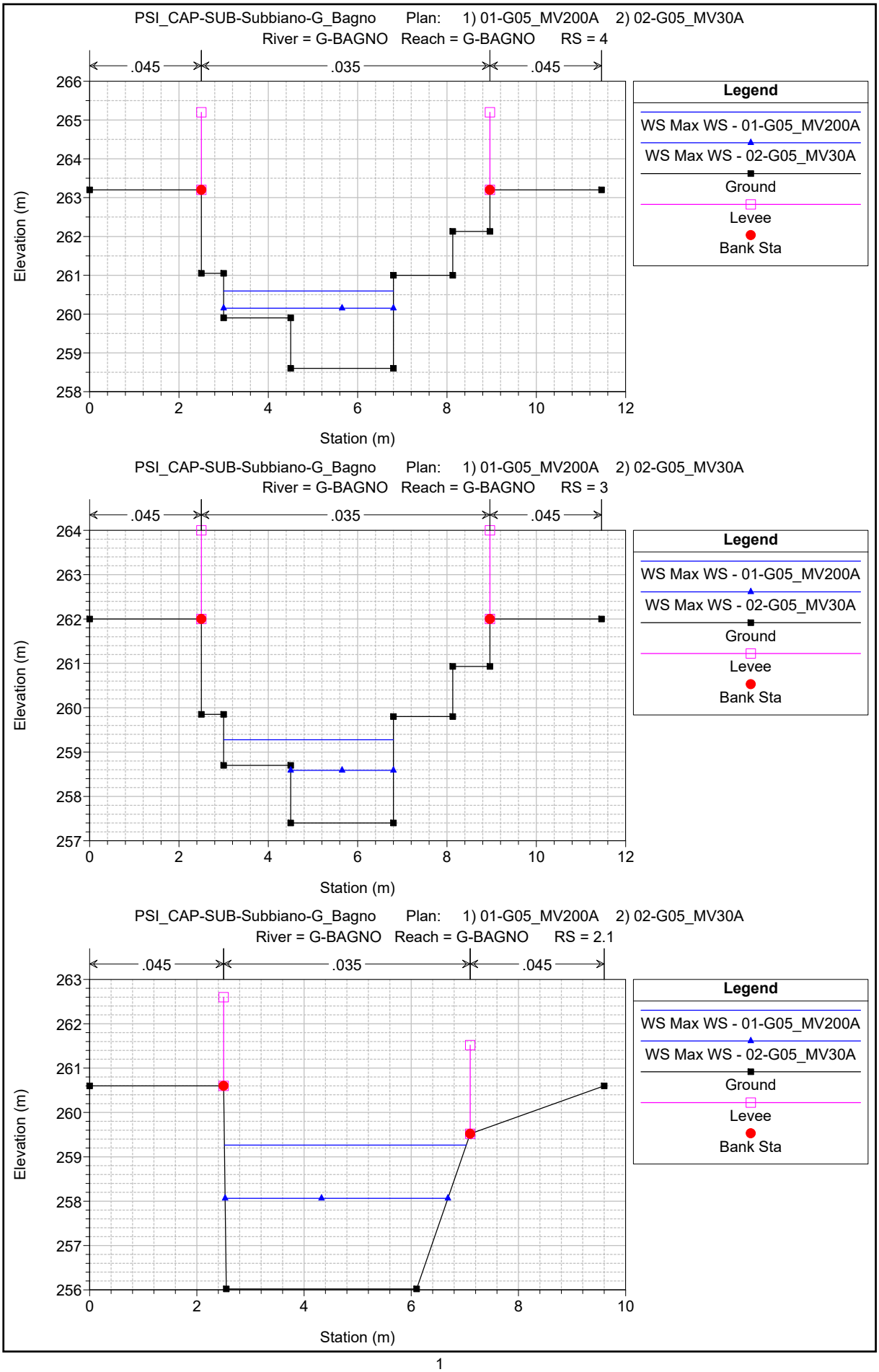
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
G-BAGNO	4	Max WS	01-G05_MV200A	23.60	258.60	260.59	260.69	261.49	0.033247	4.19	5.63	3.80	1.10
G-BAGNO	4	Max WS	02-G05_MV30A	14.13	258.60	260.15	260.23	260.81	0.033274	3.59	3.94	3.80	1.12
G-BAGNO	3	Max WS	01-G05_MV200A	23.56	257.40	259.28	259.49	260.33	0.041764	4.54	5.19	3.80	1.24
G-BAGNO	3	Max WS	02-G05_MV30A	14.13	257.40	258.59	259.04	259.95	0.067244	5.18	2.73	2.30	1.52
G-BAGNO	2.1	Max WS	01-G05_MV200A	23.55	256.02	259.26	257.63	259.43	0.002839	1.80	13.08	4.51	0.34
G-BAGNO	2.1	Max WS	02-G05_MV30A	14.12	256.02	258.07	257.17	258.23	0.003830	1.79	7.88	4.16	0.42
G-BAGNO	2	Max WS	01-G05_MV200A	23.54	255.75	258.91	257.94	259.44	0.008640	3.22	7.31	3.61	0.58
G-BAGNO	2	Max WS	02-G05_MV30A	14.12	255.75	257.77	257.31	258.24	0.010096	3.02	4.68	3.61	0.68
G-BAGNO	1.7			Bridge									
G-BAGNO	1.5	Max WS	01-G05_MV200A	23.54	255.75	257.03	257.95	260.27	0.100972	7.97	2.95	3.61	2.25
G-BAGNO	1.5	Max WS	02-G05_MV30A	14.12	255.75	256.64	257.31	259.04	0.104124	6.87	2.06	3.60	2.32
G-BAGNO	1.4	Max WS	01-G05_MV200A	23.54	255.41	256.64	257.04	258.08	0.052215	5.30	4.44	3.61	1.53
G-BAGNO	1.4	Max WS	02-G05_MV30A	14.12	255.41	256.21	256.57	257.44	0.065225	4.92	2.87	3.61	1.76
G-BAGNO	1	Max WS	01-G05_MV200A	0.84	253.50	255.73	253.79	255.73	0.000008	0.08	10.98	9.02	0.02
G-BAGNO	1	Max WS	02-G05_MV30A	14.12	253.50	254.69	254.99	255.63	0.064487	4.28	3.30	5.75	1.81
G-BAGNO	0	Max WS	01-G05_MV200A	0.20	251.58	255.73	251.74	255.73	0.000000	0.01	28.53	13.34	0.00
G-BAGNO	0	Max WS	02-G05_MV30A	1.50	251.58	254.38	252.05	254.38	0.000012	0.11	13.16	8.40	0.03

G – Bagno

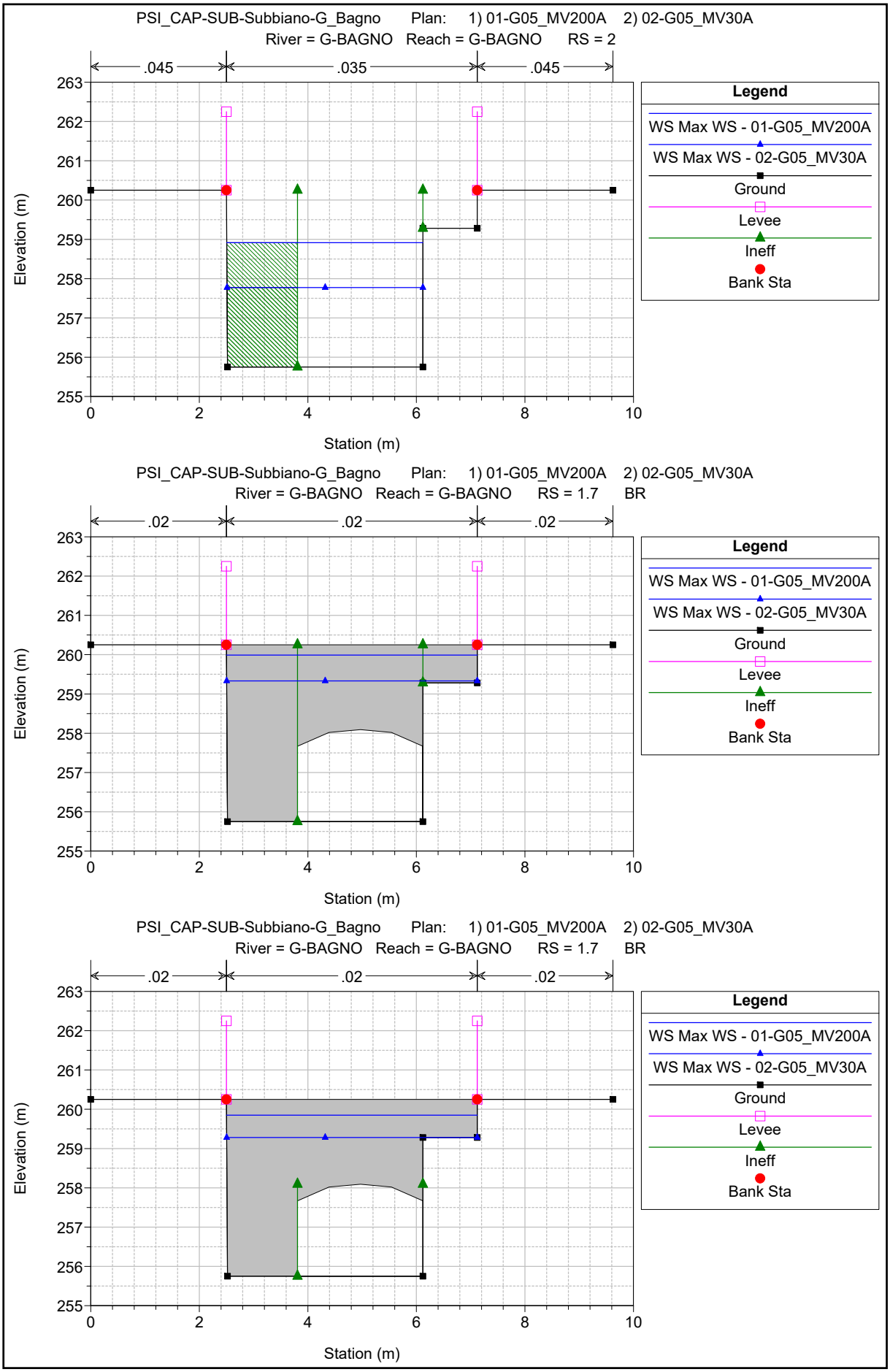
Scenario Beta



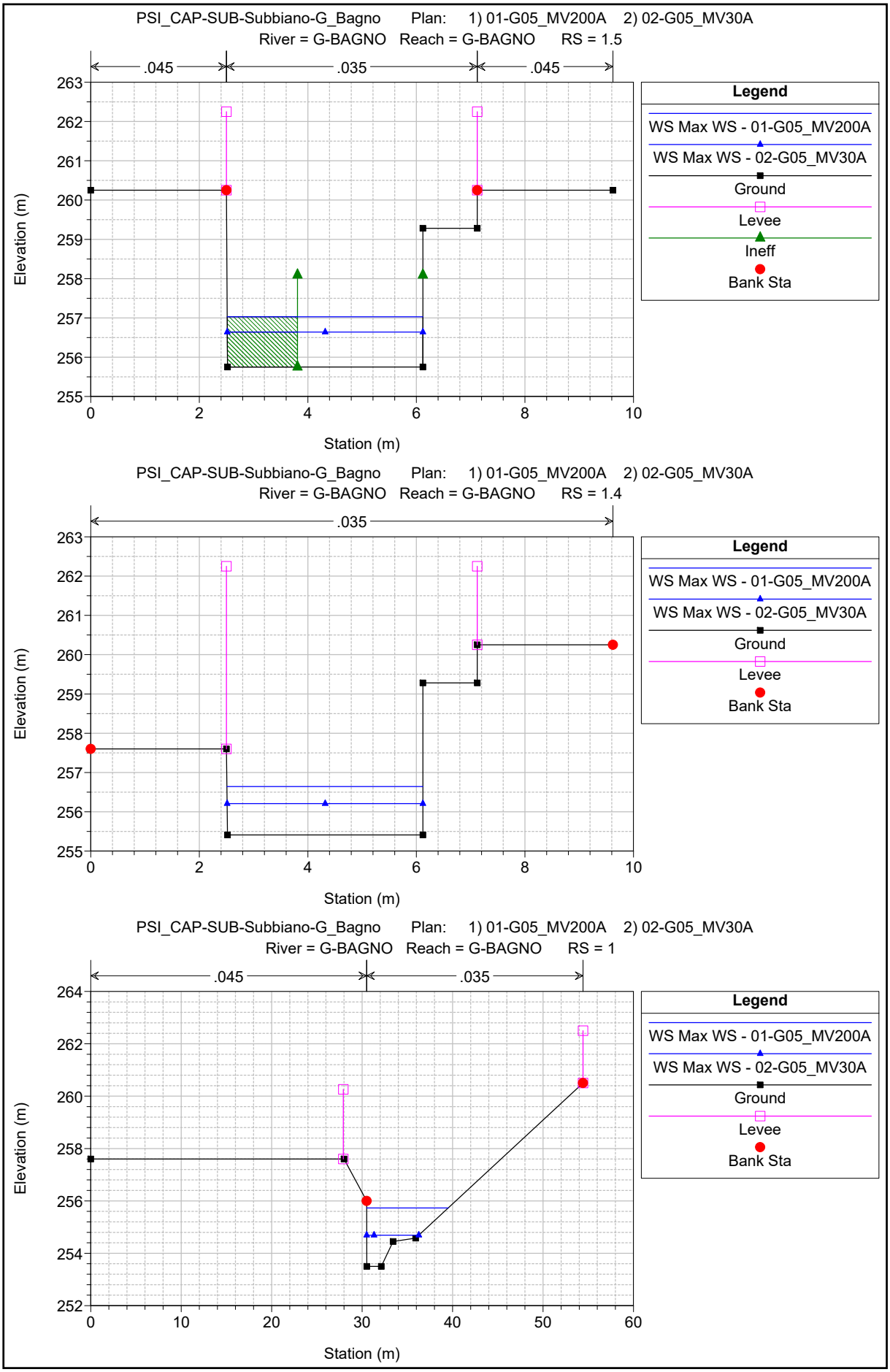
1 cm Horiz. = 8 m 1 cm Vert. = 2 m

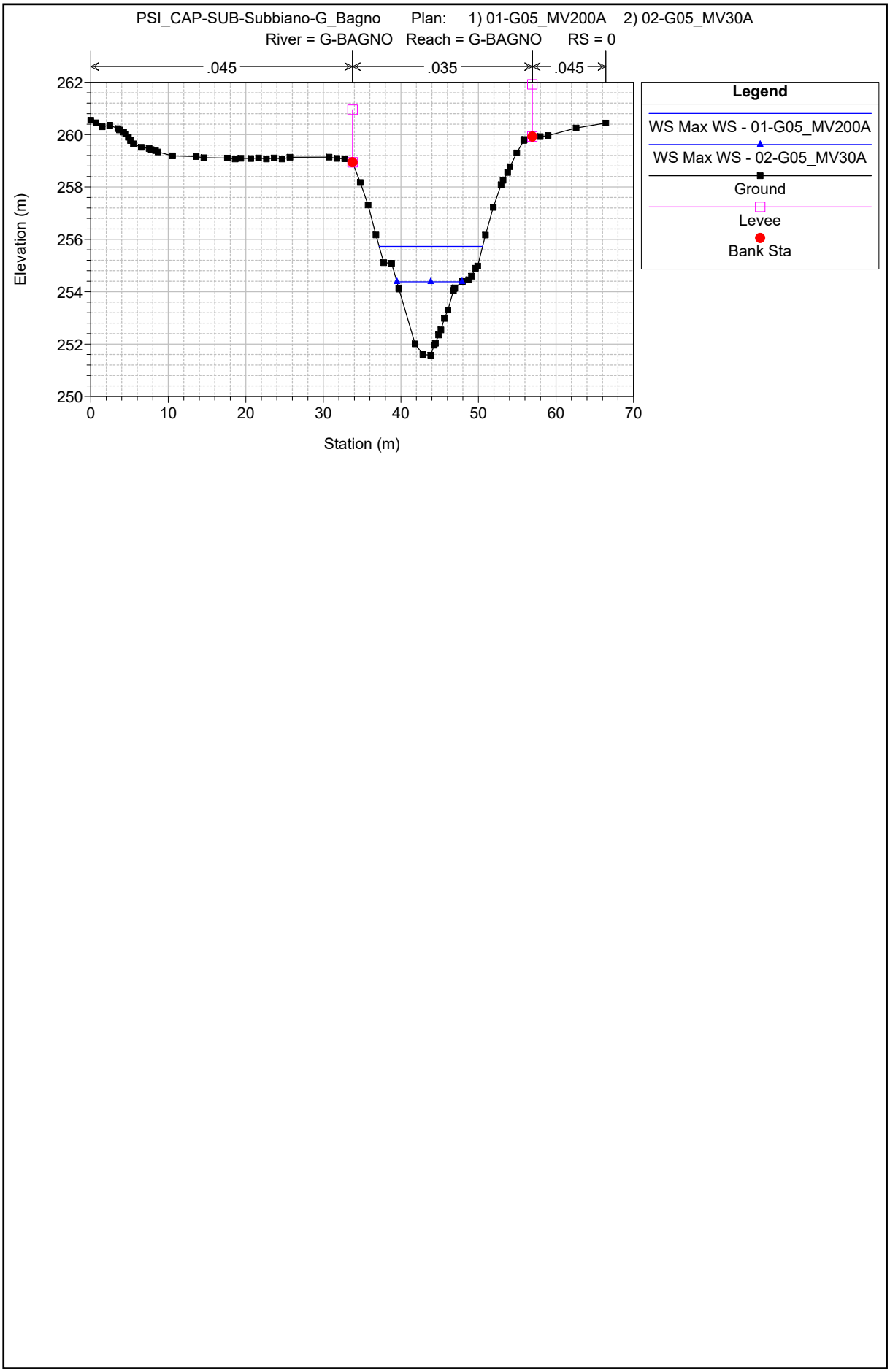

PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 4
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 3
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 2.1
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

1


PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 2
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.7 BR
.02
.02
.02
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.7 BR
.02
.02
.02
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta

2


PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.5
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1.4
.035
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 1
.045
.035
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

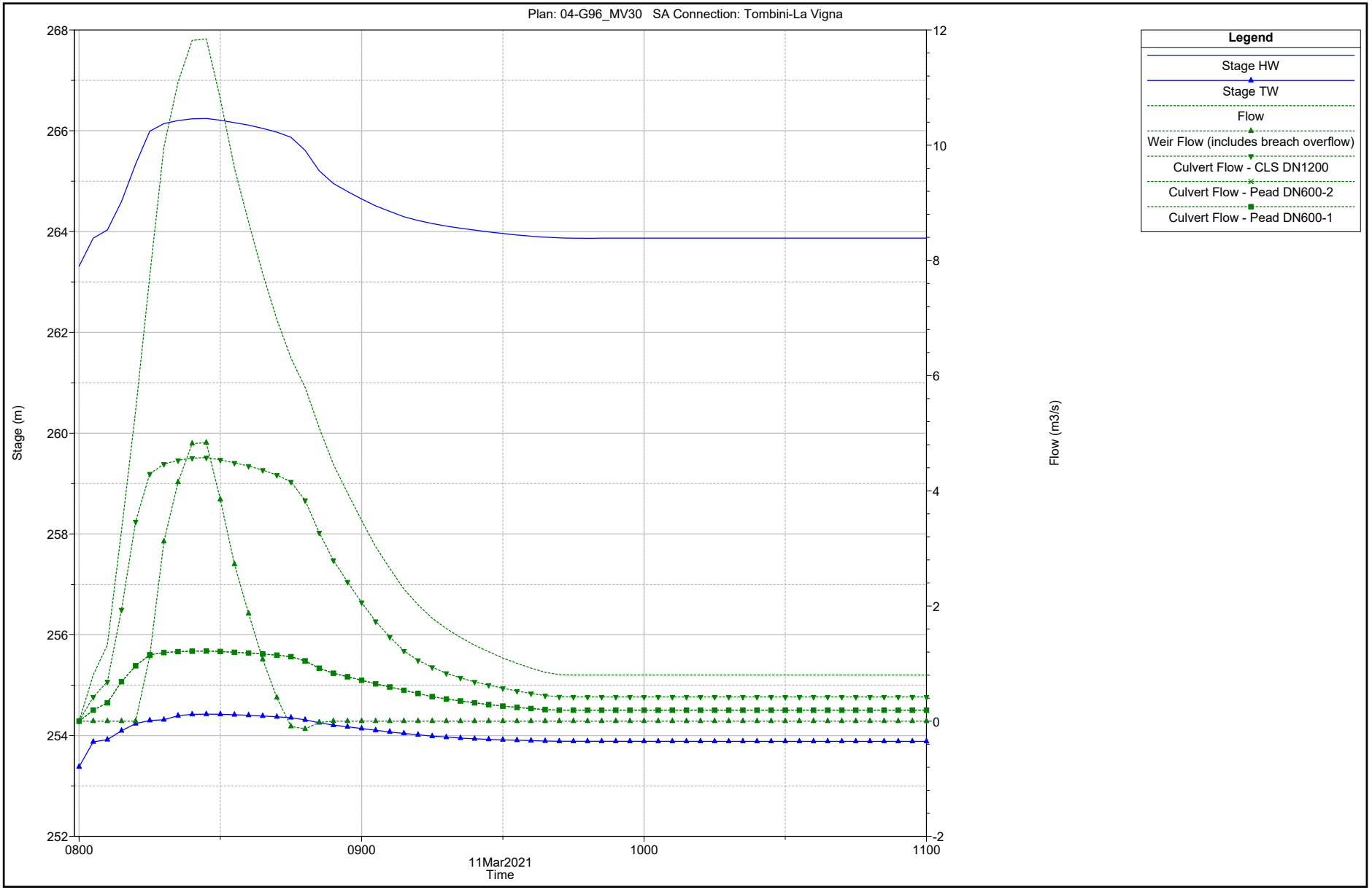

PSI_CAP-SUB-Subbiano-G_Bagno Plan: 1) 01-G05_MV200A 2) 02-G05_MV30A
River = G-BAGNO Reach = G-BAGNO RS = 0
.045
.035
.045
Elevation (m)
Station (m)
Legend
WS Max WS - 01-G05_MV200A
WS Max WS - 02-G05_MV30A
Ground
Levee
Bank Sta

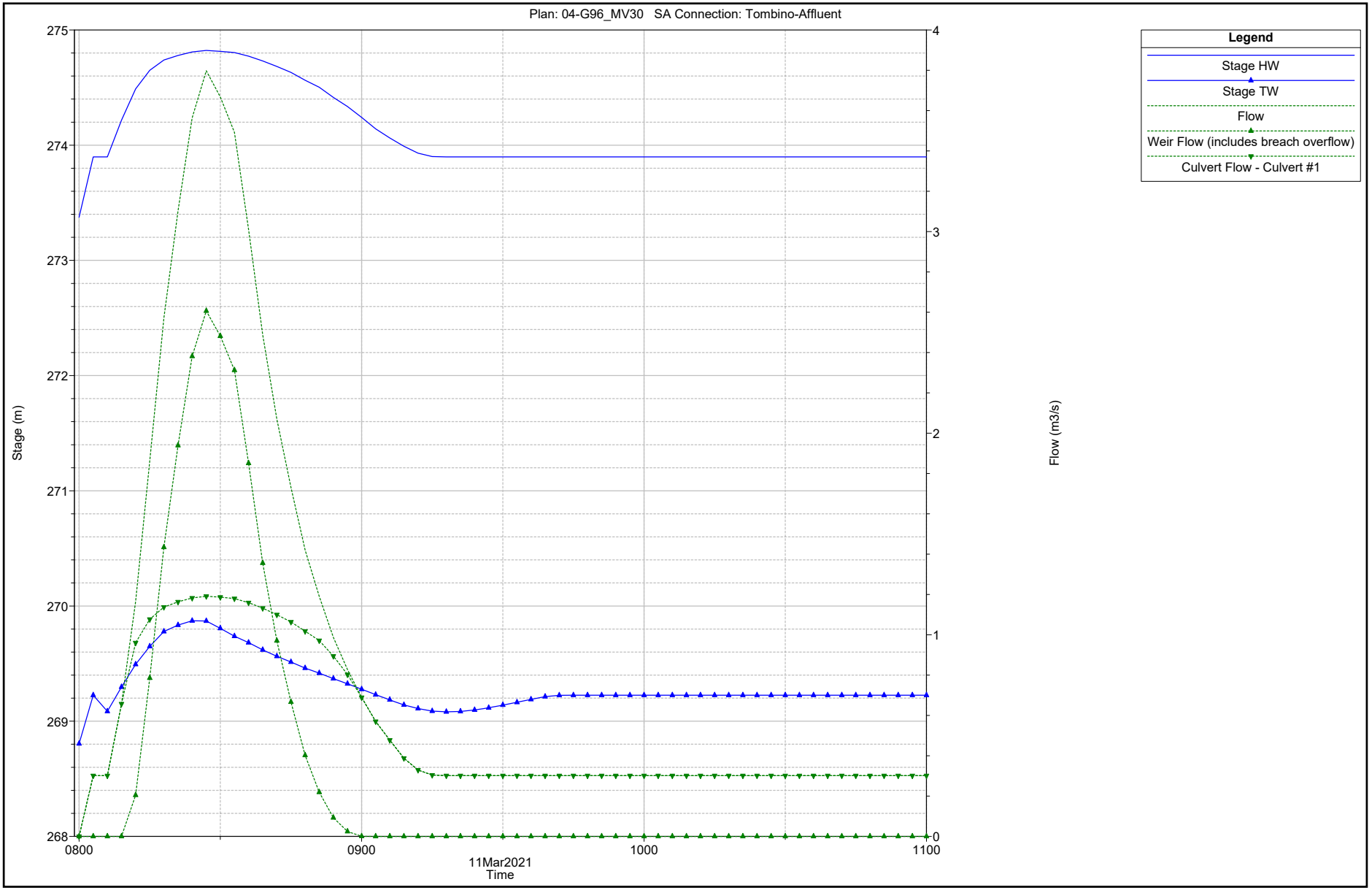
HEC-RAS River: G-BAGNO Reach: G-BAGNO Profile: Max WS

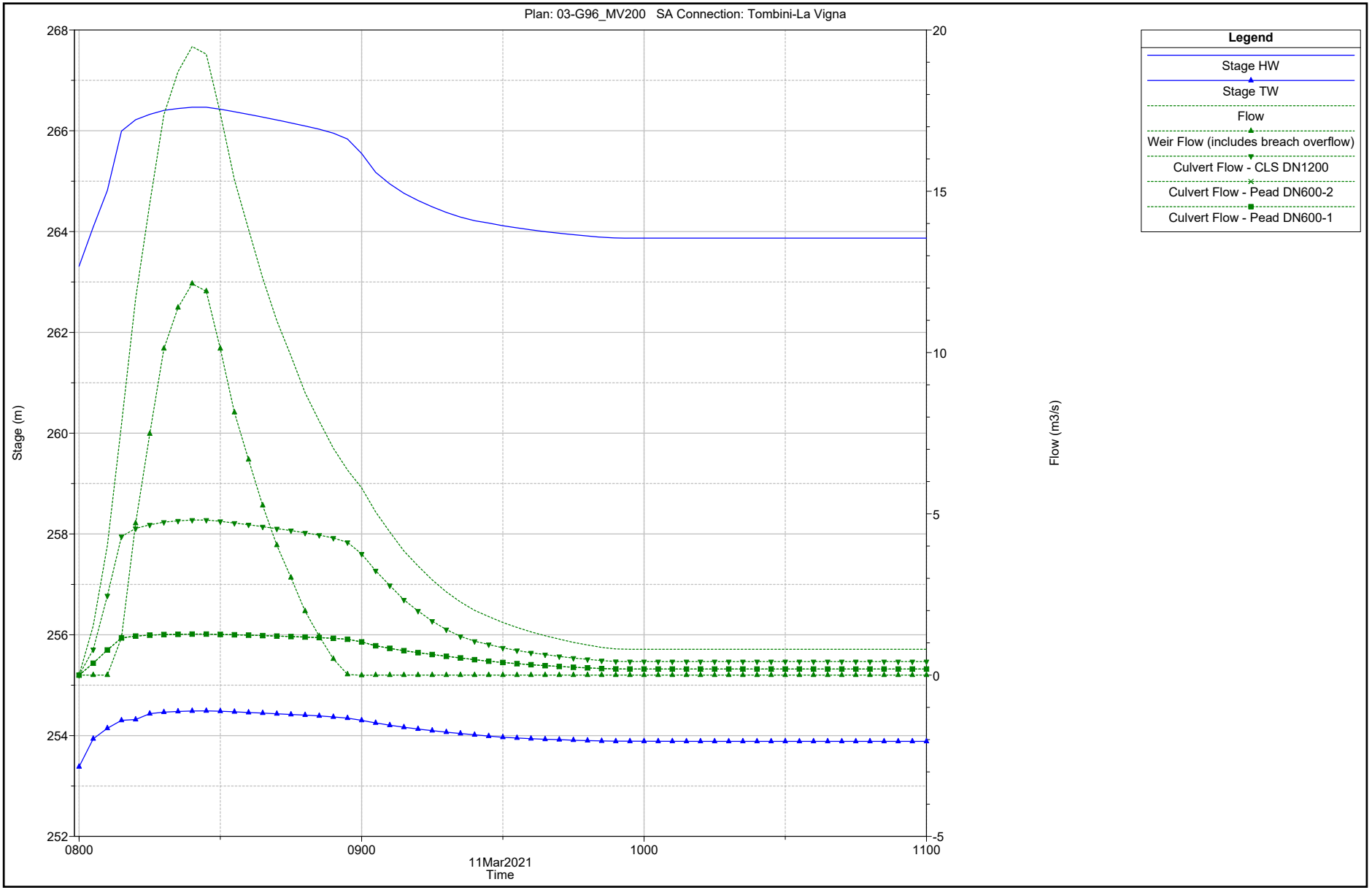
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
G-BAGNO	4	Max WS	01-G05_MV200A	23.60	258.60	260.59	260.69	261.49	0.033247	4.19	5.63	3.80	1.10
G-BAGNO	4	Max WS	02-G05_MV30A	14.13	258.60	260.15	260.23	260.81	0.033274	3.59	3.94	3.80	1.12
G-BAGNO	3	Max WS	01-G05_MV200A	23.56	257.40	259.28	259.49	260.33	0.041764	4.54	5.19	3.80	1.24
G-BAGNO	3	Max WS	02-G05_MV30A	14.13	257.40	258.59	259.04	259.95	0.067244	5.18	2.73	2.30	1.52
G-BAGNO	2.1	Max WS	01-G05_MV200A	23.55	256.02	259.26	257.63	259.43	0.002839	1.80	13.08	4.51	0.34
G-BAGNO	2.1	Max WS	02-G05_MV30A	14.12	256.02	258.07	257.17	258.23	0.003830	1.79	7.88	4.16	0.42
G-BAGNO	2	Max WS	01-G05_MV200A	23.54	255.75	258.91	257.94	259.44	0.008640	3.22	7.31	3.61	0.58
G-BAGNO	2	Max WS	02-G05_MV30A	14.12	255.75	257.77	257.31	258.24	0.010096	3.02	4.68	3.61	0.68
G-BAGNO	1.7			Bridge									
G-BAGNO	1.5	Max WS	01-G05_MV200A	23.54	255.75	257.03	257.95	260.27	0.100972	7.97	2.95	3.61	2.25
G-BAGNO	1.5	Max WS	02-G05_MV30A	14.12	255.75	256.64	257.31	259.04	0.104124	6.87	2.06	3.60	2.32
G-BAGNO	1.4	Max WS	01-G05_MV200A	23.54	255.41	256.64	257.04	258.08	0.052215	5.30	4.44	3.61	1.53
G-BAGNO	1.4	Max WS	02-G05_MV30A	14.12	255.41	256.21	256.57	257.44	0.065225	4.92	2.87	3.61	1.76
G-BAGNO	1	Max WS	01-G05_MV200A	0.84	253.50	255.73	253.79	255.73	0.000008	0.08	10.98	9.02	0.02
G-BAGNO	1	Max WS	02-G05_MV30A	14.12	253.50	254.69	254.99	255.63	0.064487	4.28	3.30	5.75	1.81
G-BAGNO	0	Max WS	01-G05_MV200A	0.20	251.58	255.73	251.74	255.73	0.000000	0.01	28.53	13.34	0.00
G-BAGNO	0	Max WS	02-G05_MV30A	1.50	251.58	254.38	252.05	254.38	0.000012	0.11	13.16	8.40	0.03

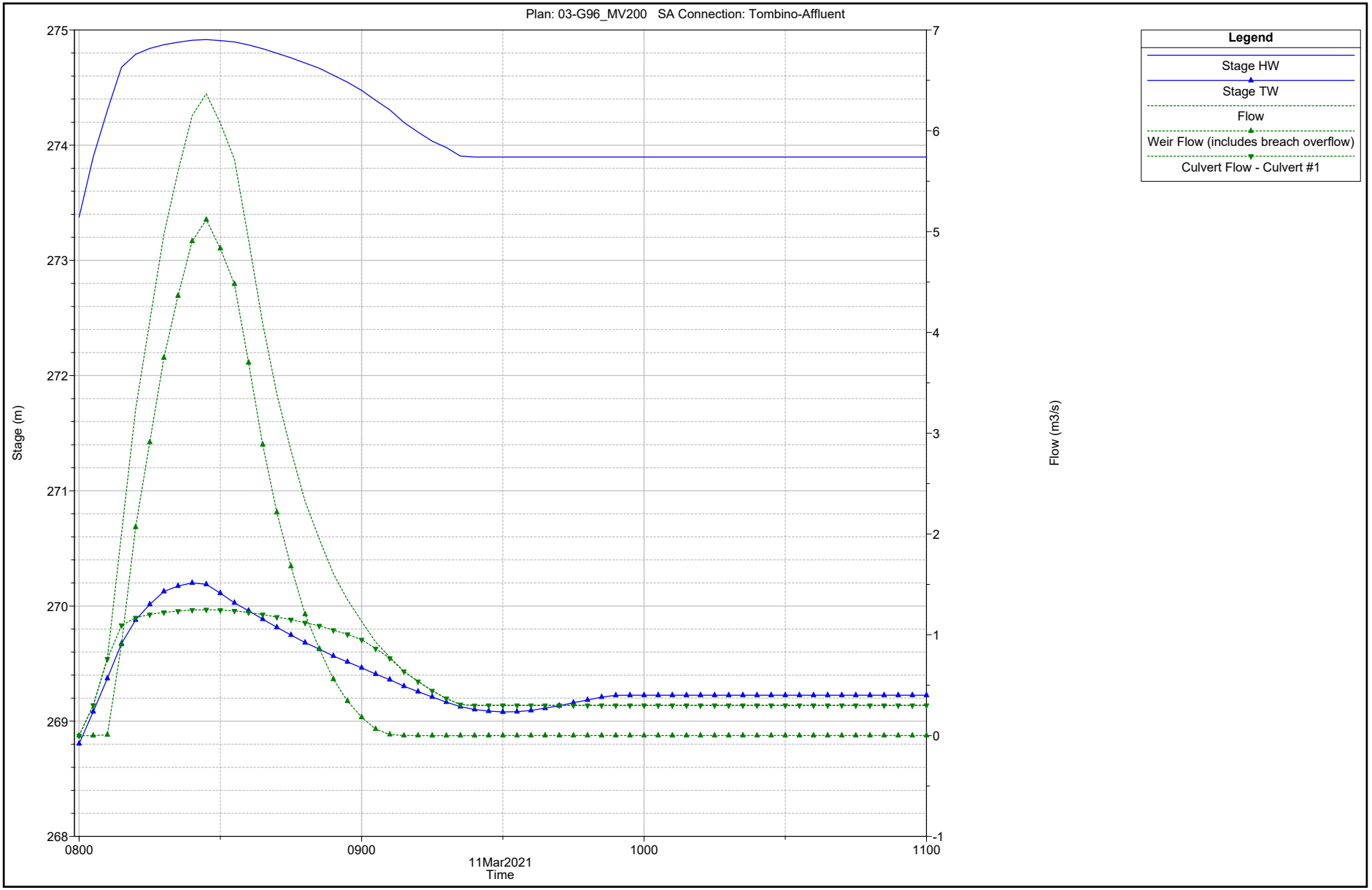
H – La Vigna

Scenario Alpha


Plan: 04-G96_MV30 SA Connection: Tombini-La Vigna
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - CLS DN1200
Culvert Flow - Pead DN600-2
Culvert Flow - Pead DN600-1
Stage (m)
Flow (m3/s)
268
266
264
262
260
258
256
254
252
12
10
8
6
4
2
0
-2
0800
0900
1000
1100
11Mar2021
Time

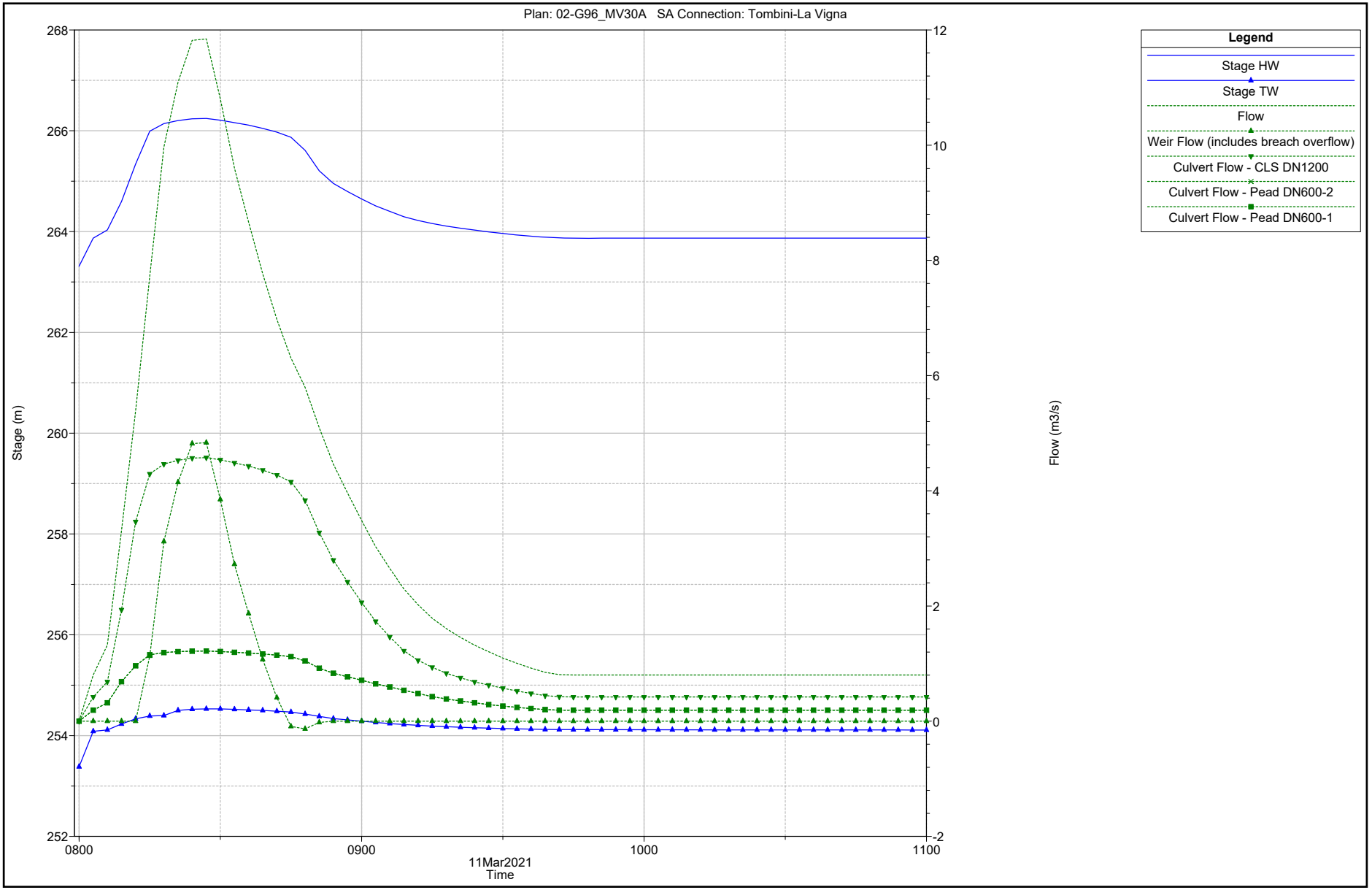

Plan: 04-G96_MV30 SA Connection: Tombino-Affluent
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
275
274
273
272
271
270
269
268
4
3
2
1
0
0800
0900
1000
1100
11Mar2021
Time

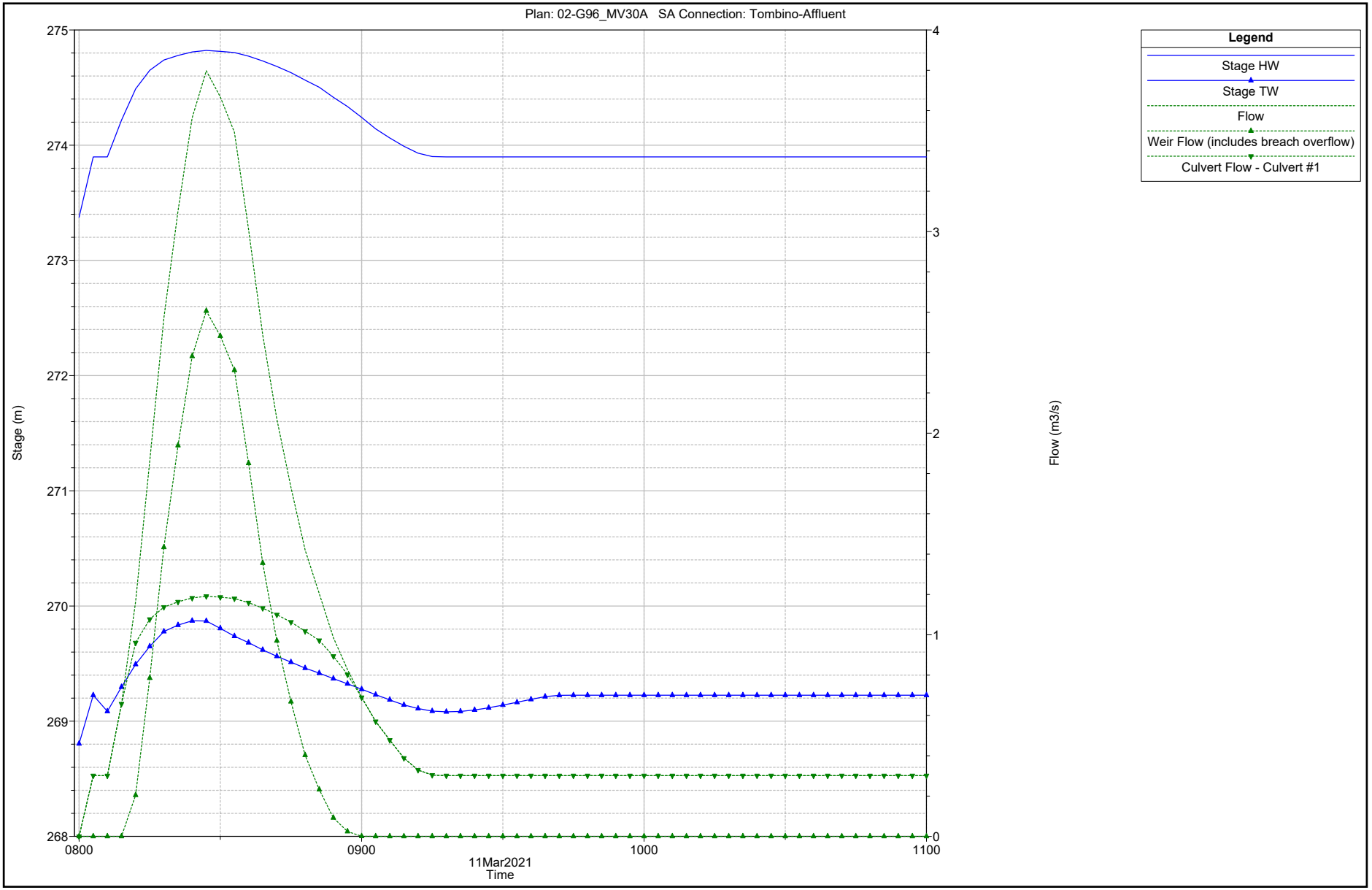

Plan: 03-G96_MV200 SA Connection: Tombini-La Vigna
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - CLS DN1200
Culvert Flow - Pead DN600-2
Culvert Flow - Pead DN600-1
Stage (m)
Flow (m3/s)
268
266
264
262
260
258
256
254
252
20
15
10
5
0
-5
0800
0900
1000
1100
11Mar2021
Time

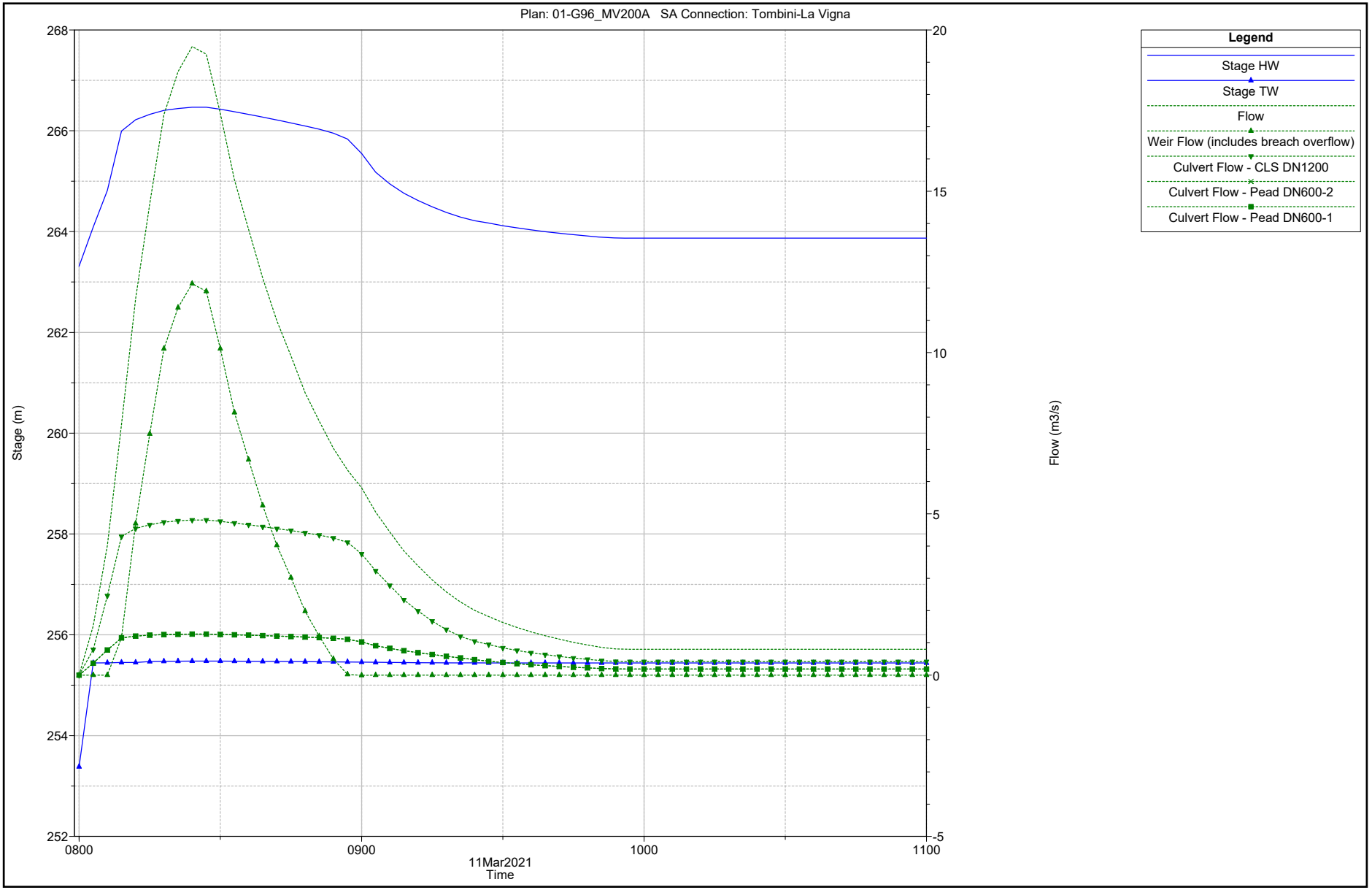

Plan: 03-G96_MV200 SA Connection: Tombino-Affluent
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
275
274
273
272
271
270
269
268
7
6
5
4
3
2
1
0
-1
0800
0900
1000
1100
11Mar2021
Time

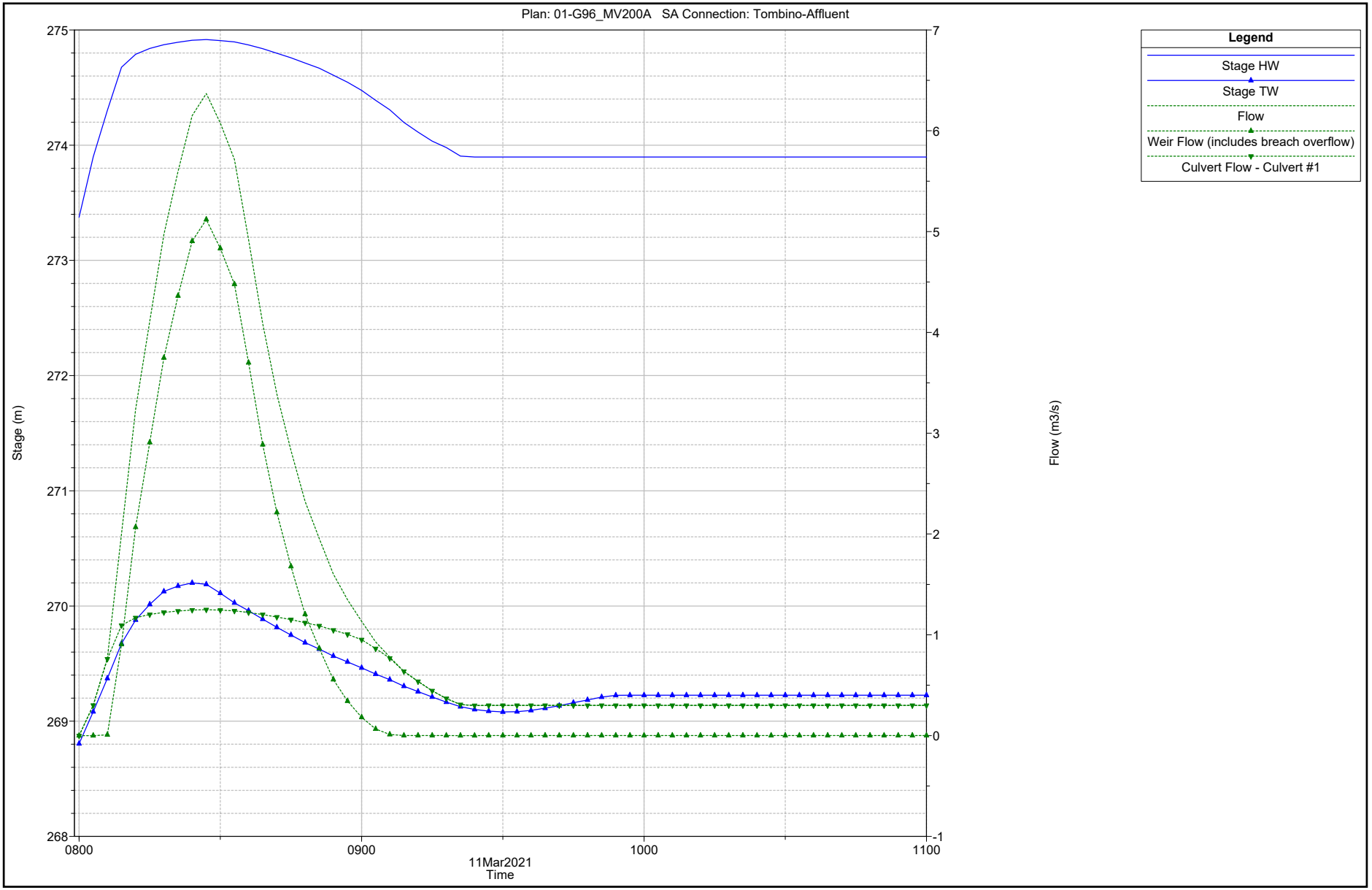
H – La Vigna

Scenario Beta


Plan: 02-G96_MV30A SA Connection: Tombini-La Vigna
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - CLS DN1200
Culvert Flow - Pead DN600-2
Culvert Flow - Pead DN600-1
Stage (m)
Flow (m3/s)
268
266
264
262
260
258
256
254
252
12
10
8
6
4
2
0
-2
0800
0900
1000
1100
11Mar2021
Time

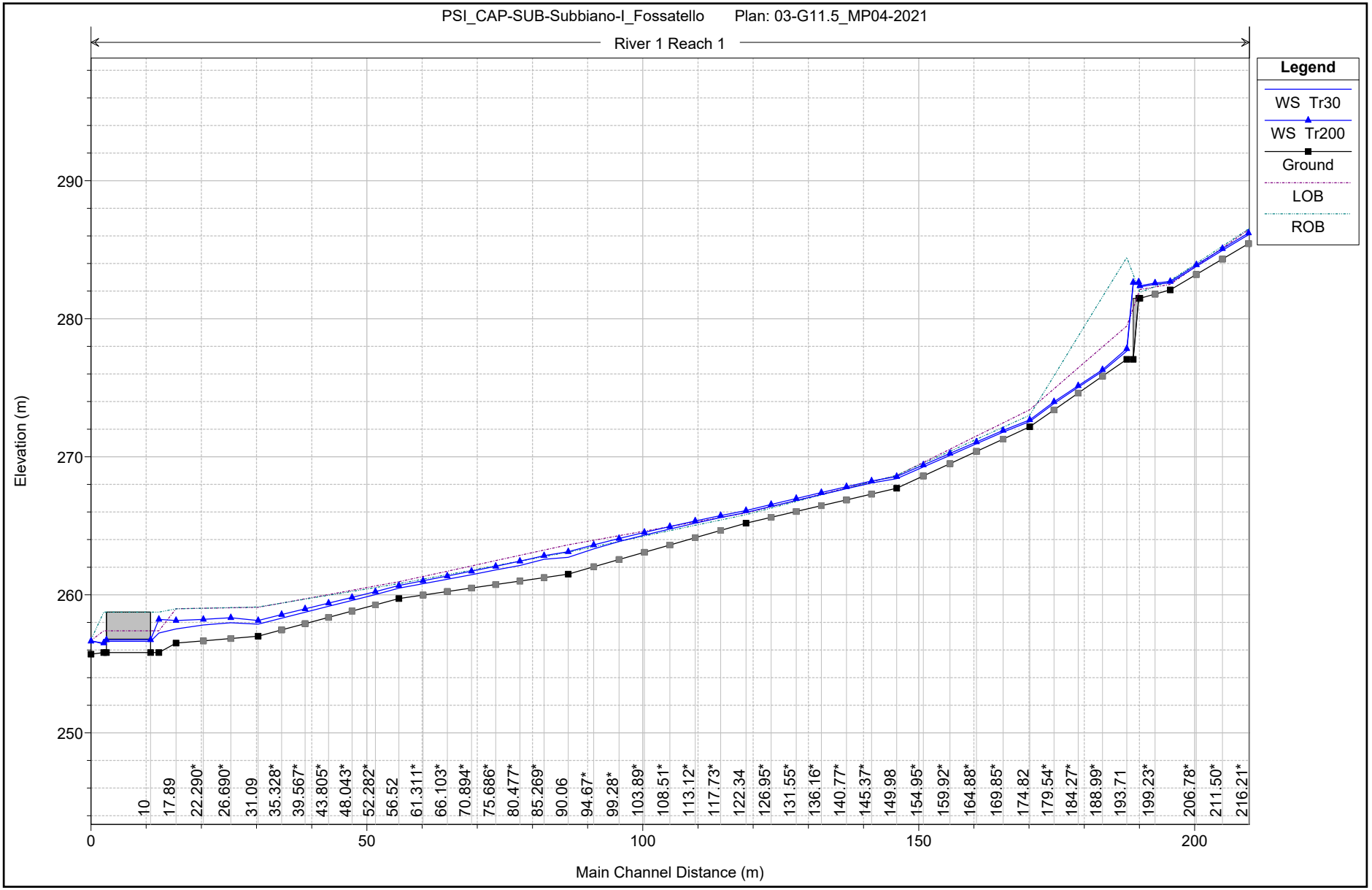

Plan: 02-G96_MV30A SA Connection: Tombino-Affluent
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
275
274
273
272
271
270
269
268
4
3
2
1
0
0800
0900
1000
1100
11Mar2021
Time


Plan: 01-G96_MV200A SA Connection: Tombini-La Vigna
Stage (m)
Flow (m3/s)
Time
11Mar2021
0800
0900
1000
1100
268
266
264
262
260
258
256
254
252
20
15
10
5
0
-5
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - CLS DN1200
Culvert Flow - Pead DN600-2
Culvert Flow - Pead DN600-1


Plan: 01-G96_MV200A SA Connection: Tombino-Affluent
Legend
Stage HW
Stage TW
Flow
Weir Flow (includes breach overflow)
Culvert Flow - Culvert #1
Stage (m)
Flow (m3/s)
275
274
273
272
271
270
269
268
7
6
5
4
3
2
1
0
-1
0800
0900
1000
1100
11Mar2021
Time

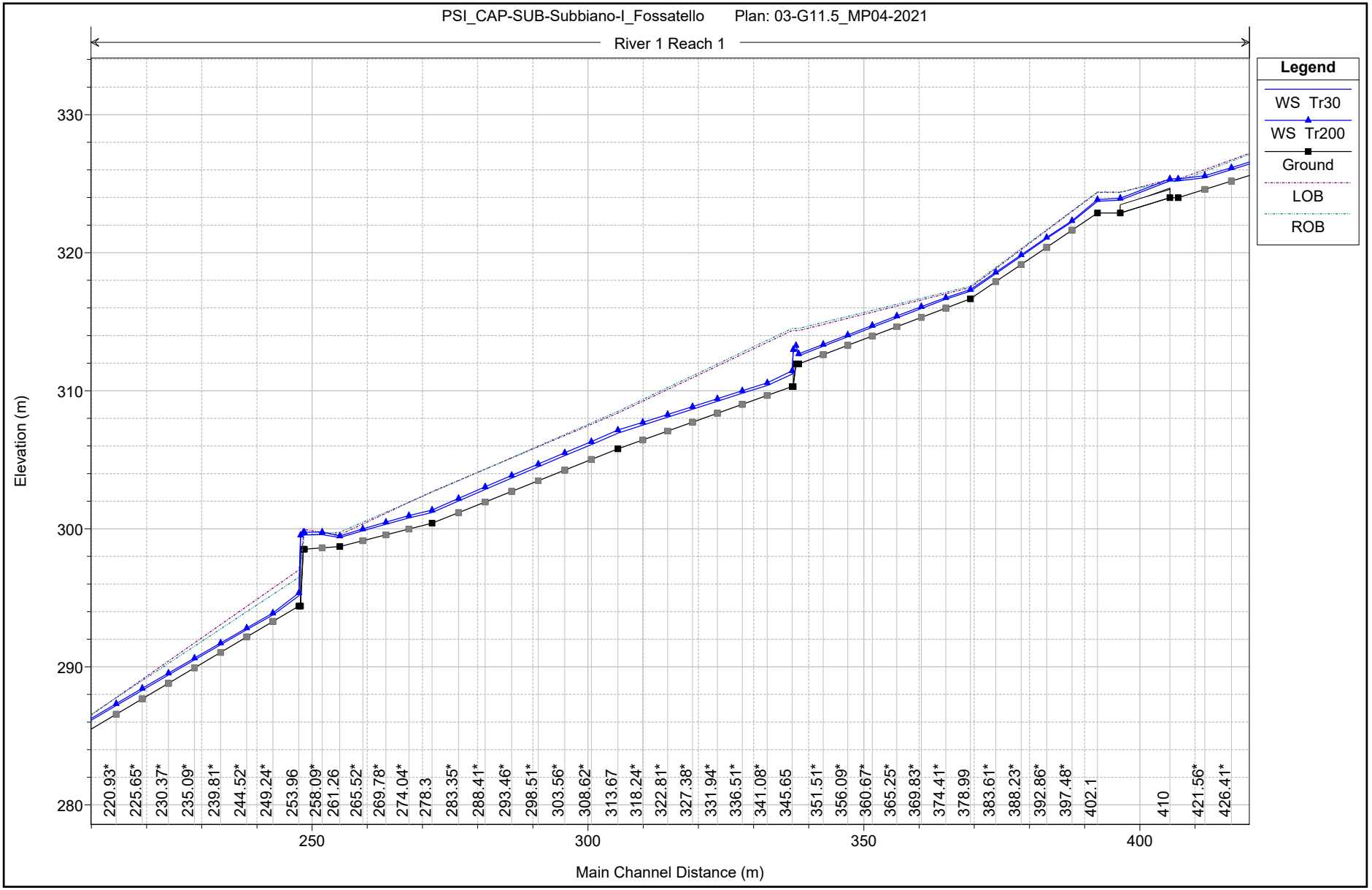
I – Fossatello

Scenario Alpha



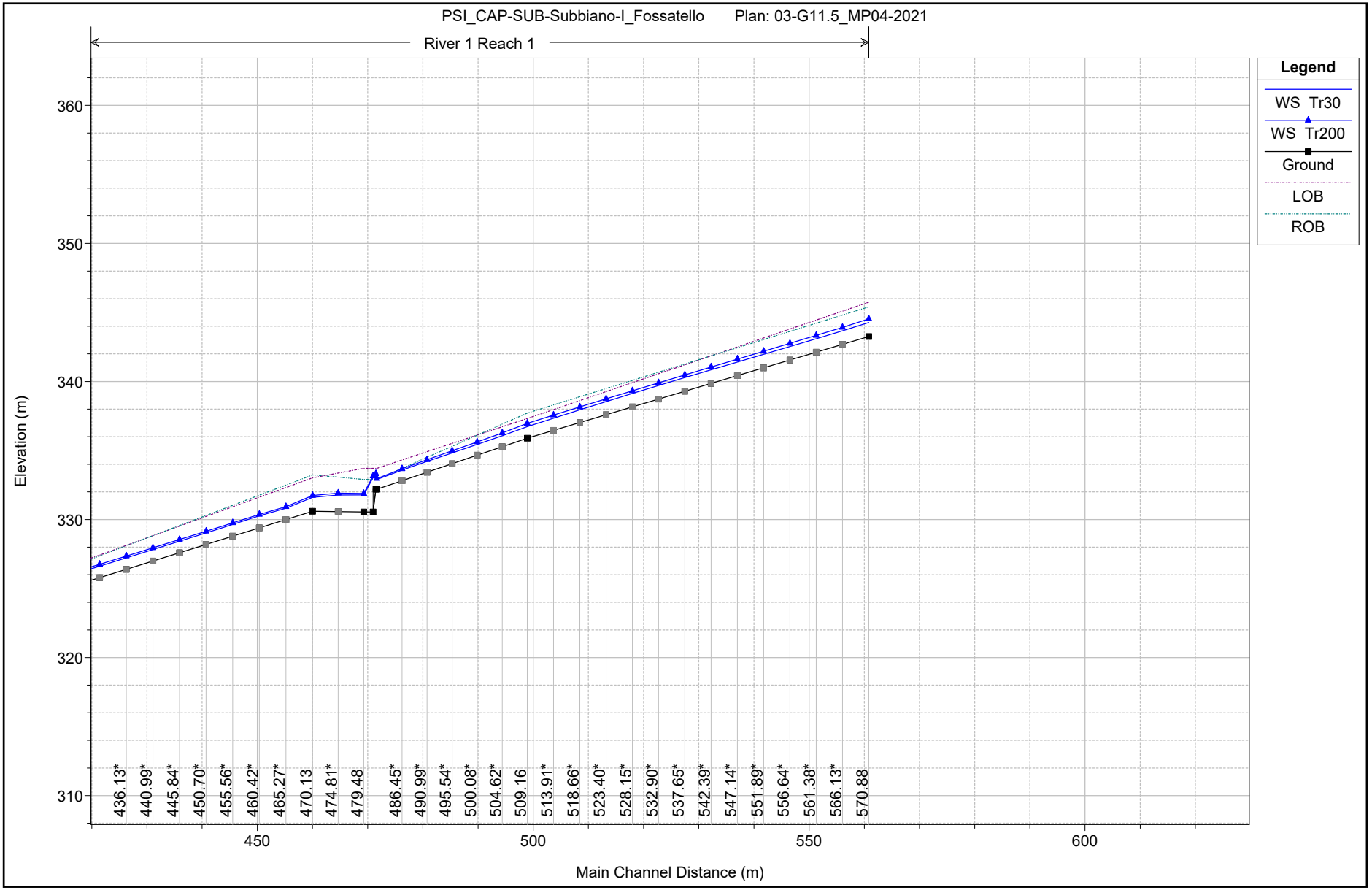
1 cm Horiz. = 10 m 1 cm Vert. = 4 m

1



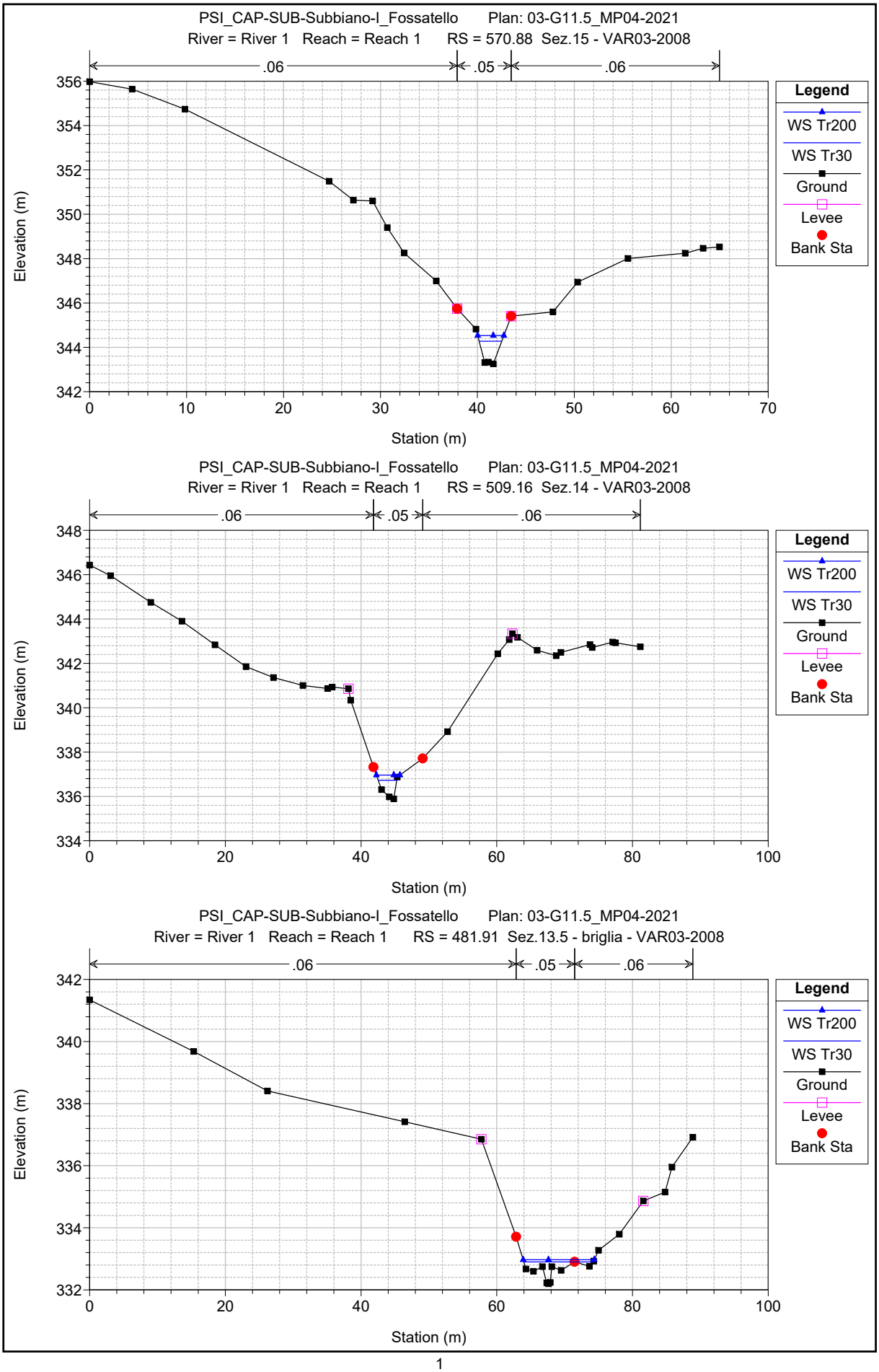
1 cm Horiz. = 10 m 1 cm Vert. = 4 m

2

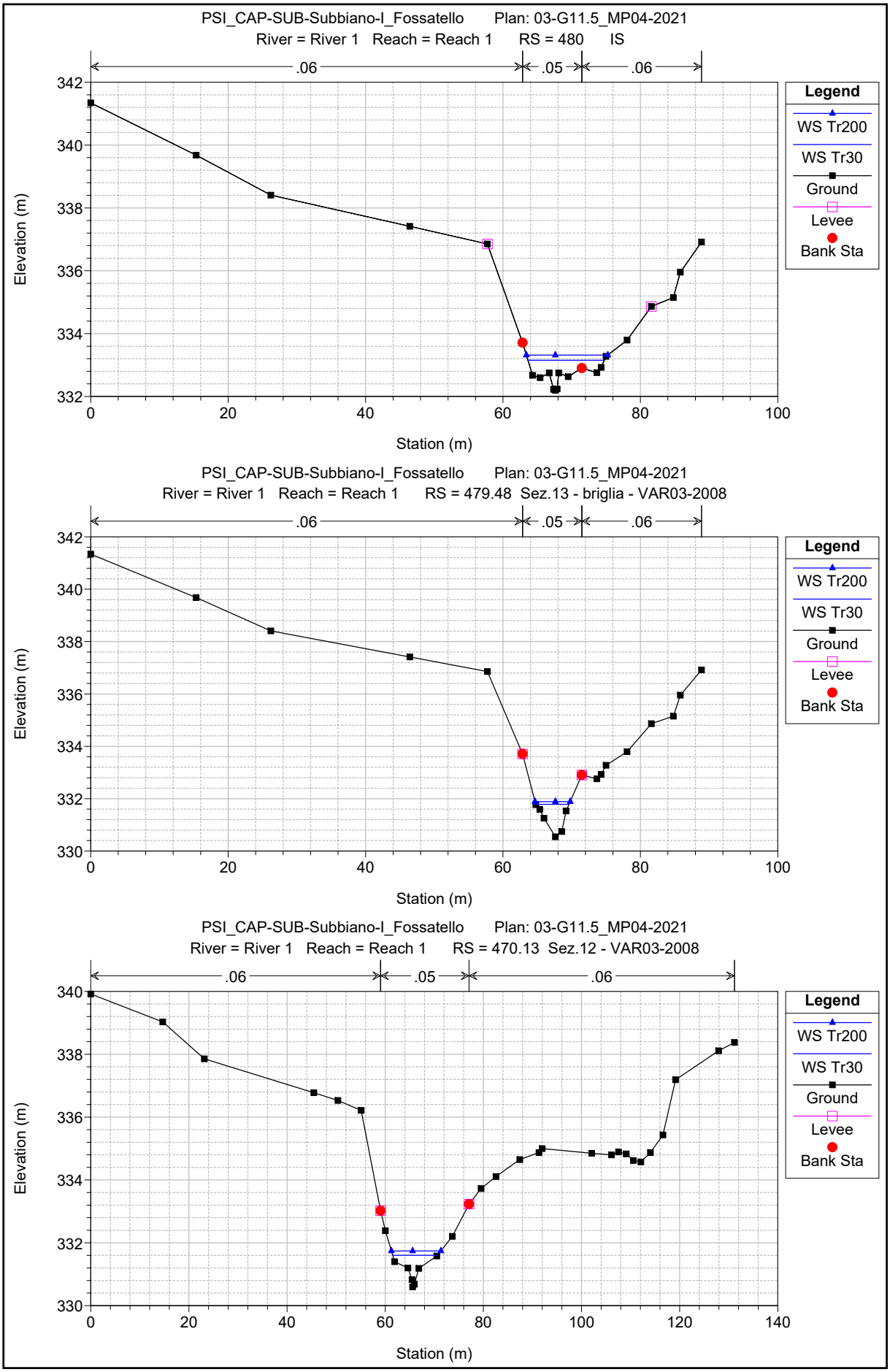


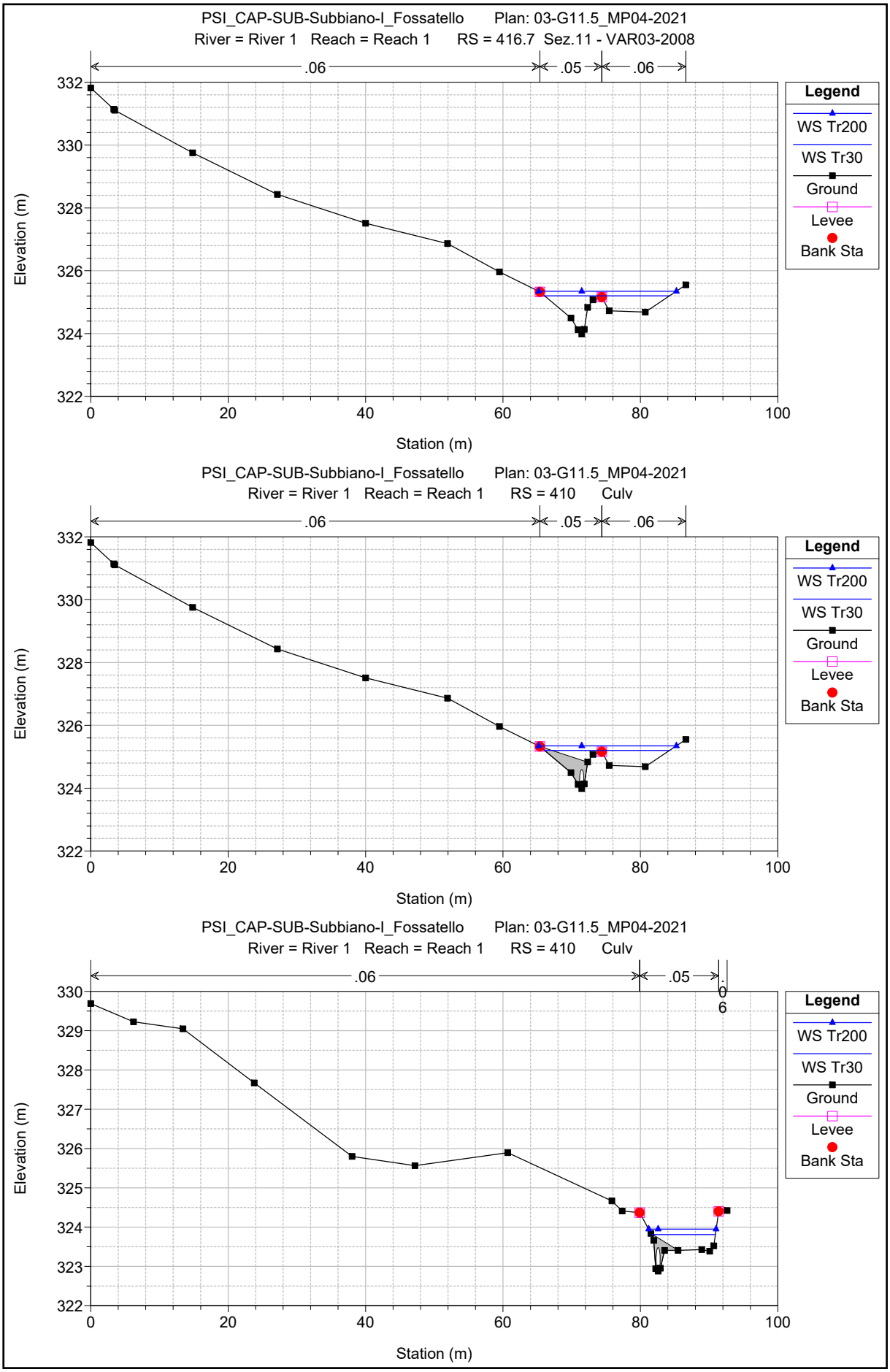
1 cm Horiz. = 10 m 1 cm Vert. = 4 m

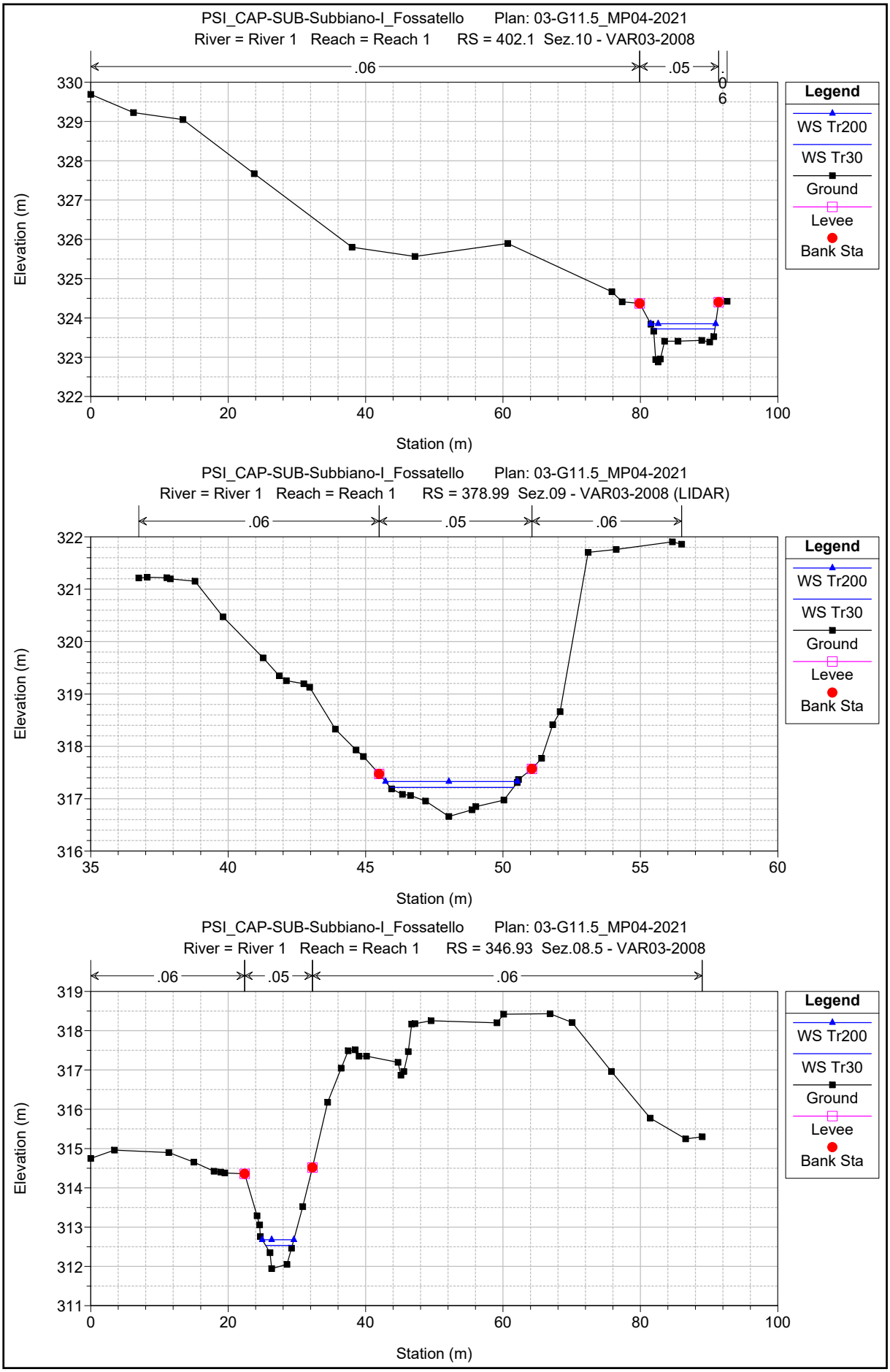
3

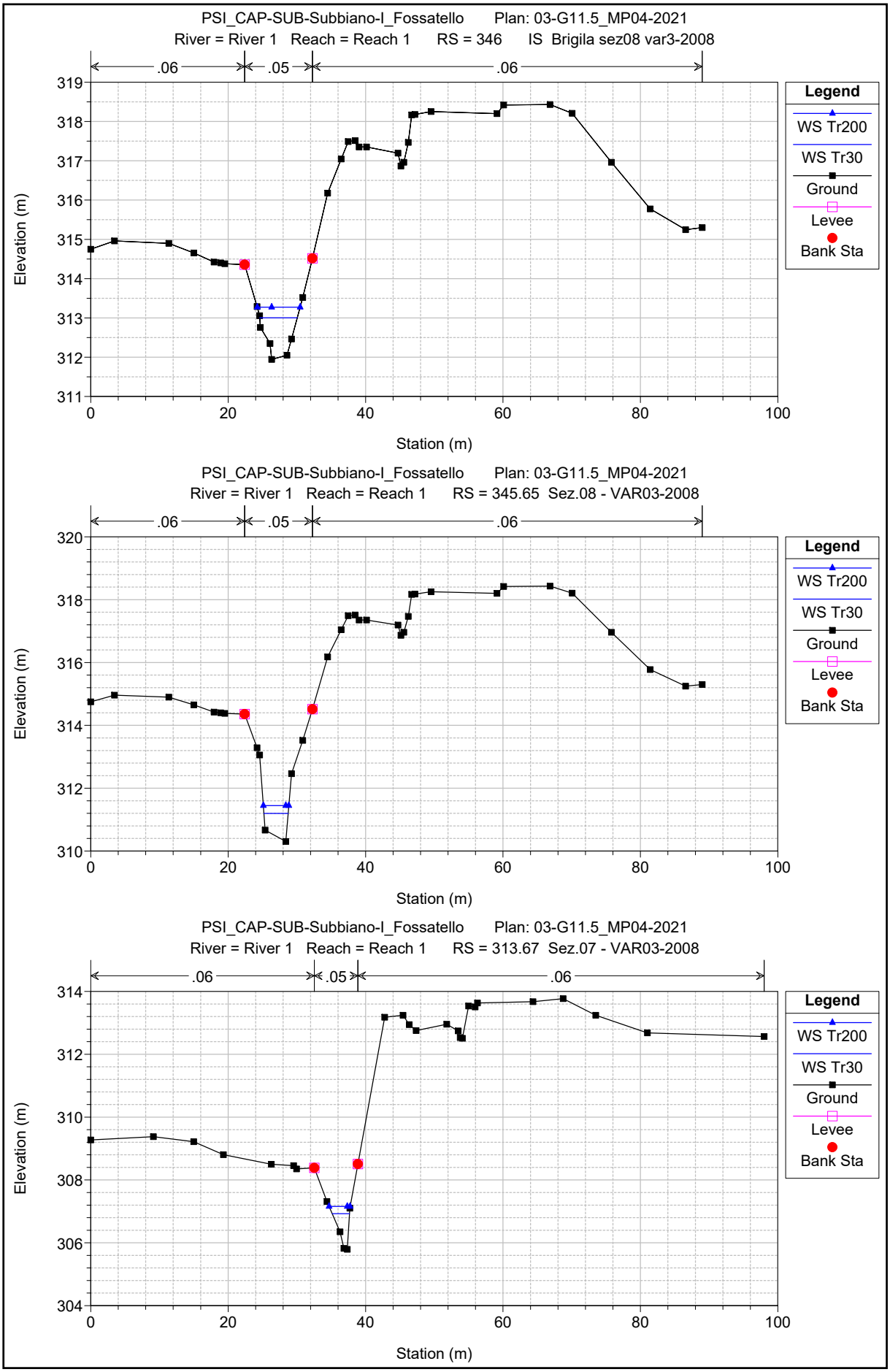

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 570.88 Sez.15 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 509.16 Sez.14 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 481.91 Sez.13.5 - briglia - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

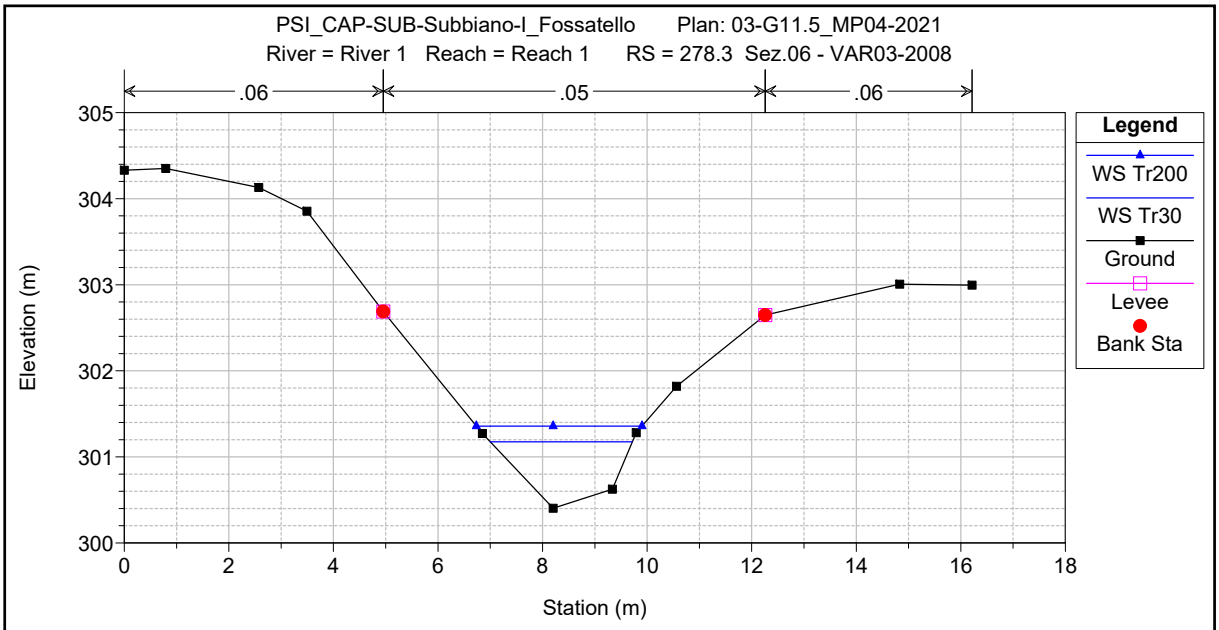
1

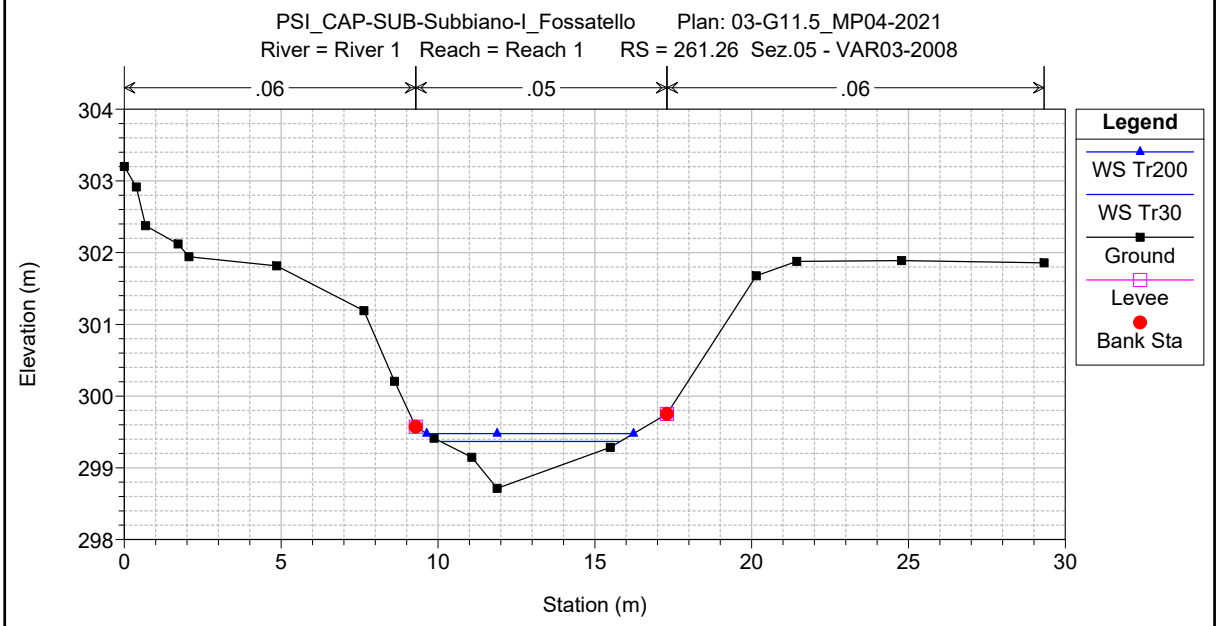

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 480 IS
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 479.48 Sez.13 - briglia - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 470.13 Sez.12 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

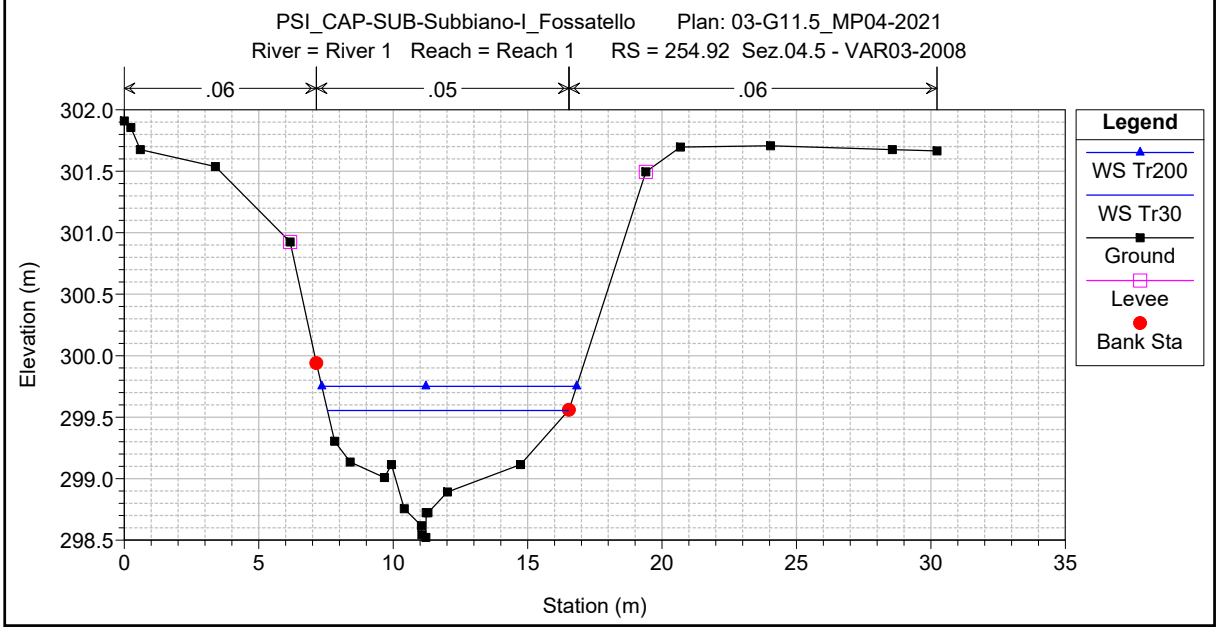

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 416.7 Sez.11 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 410 Culv
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 410 Culv
.06
.05
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

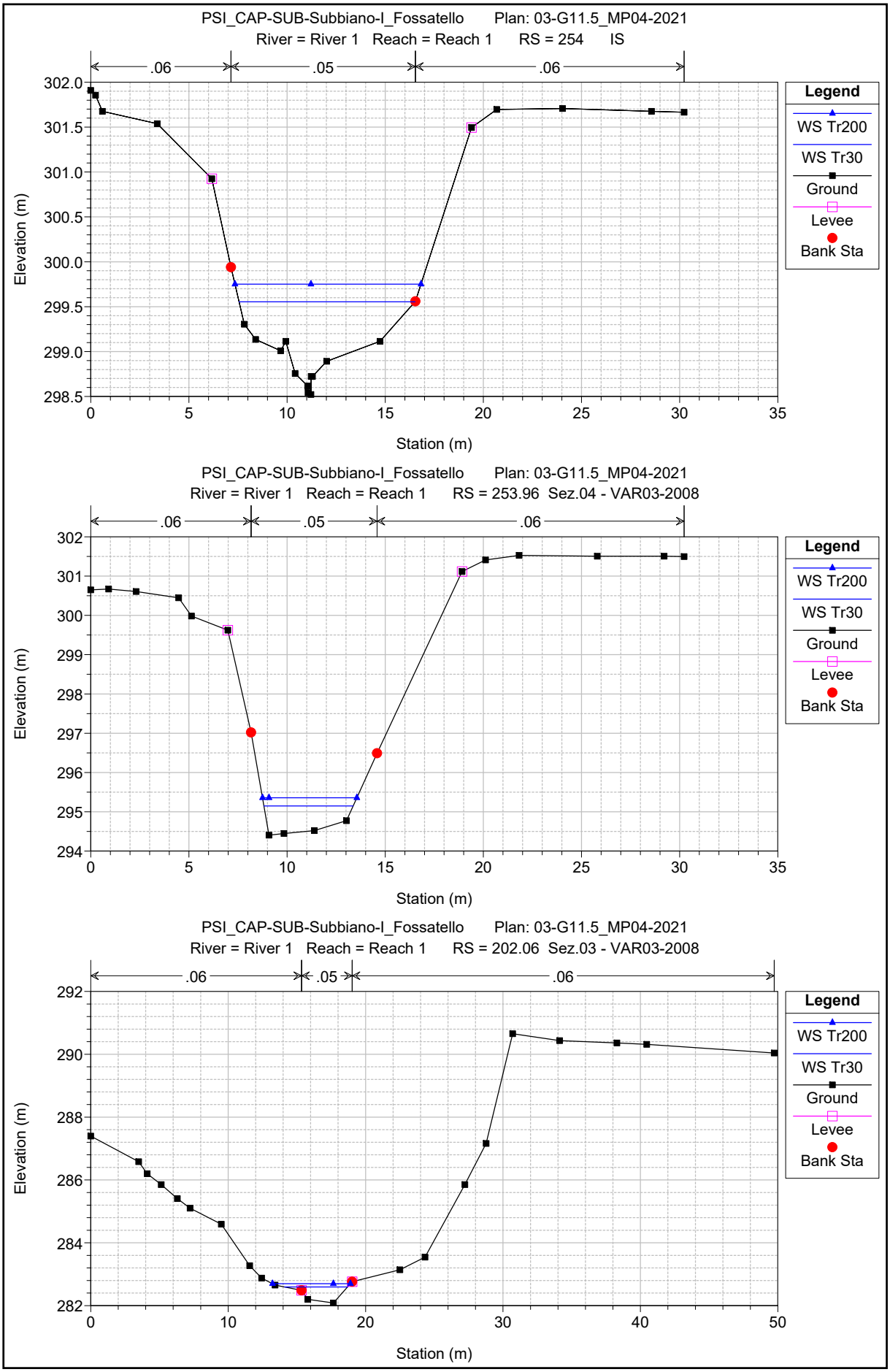

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 402.1 Sez.10 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 378.99 Sez.09 - VAR03-2008 (LIDAR)
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 346.93 Sez.08.5 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

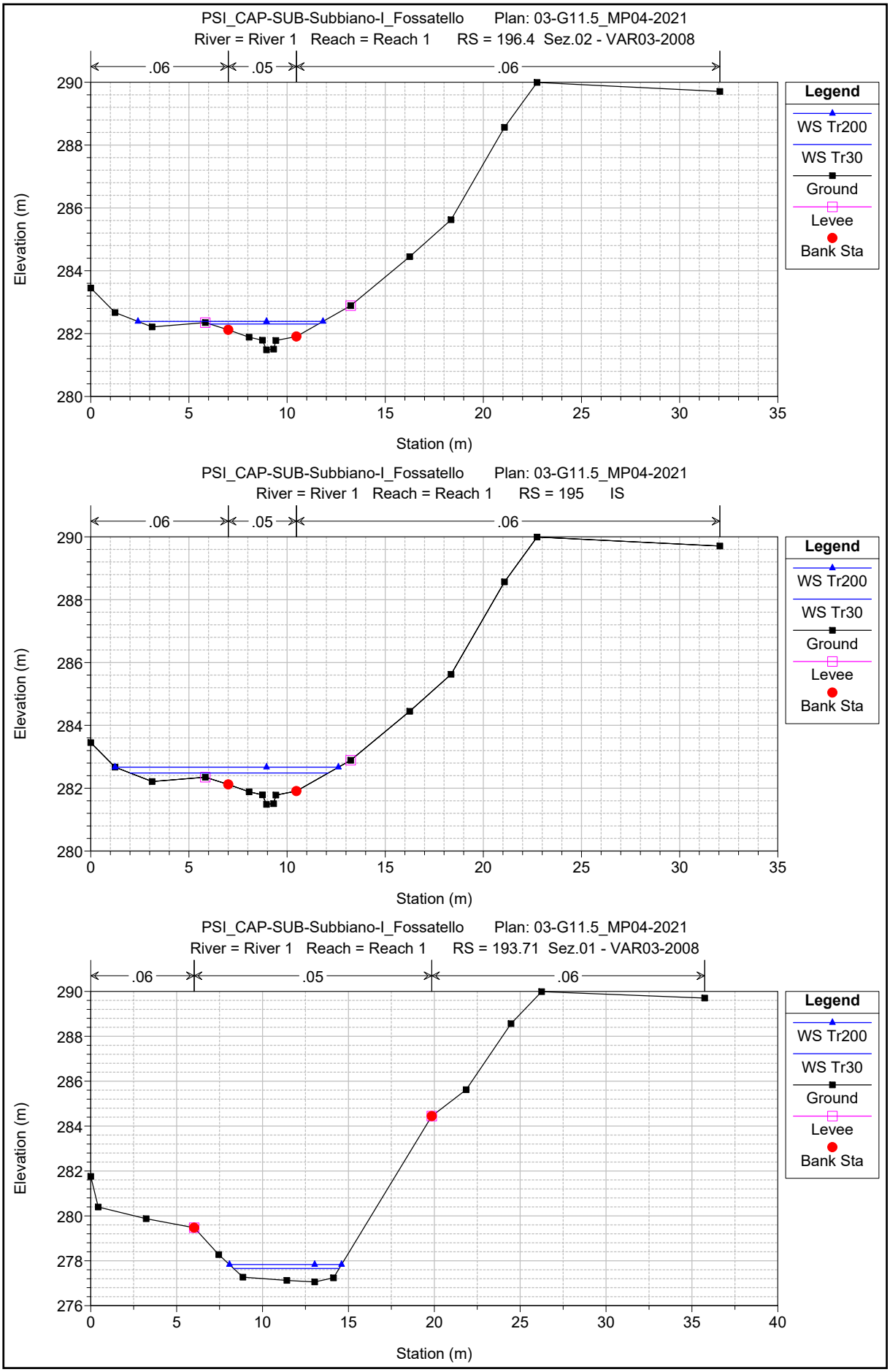

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 346 IS Brigila sez08 var3-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 345.65 Sez.08 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 313.67 Sez.07 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

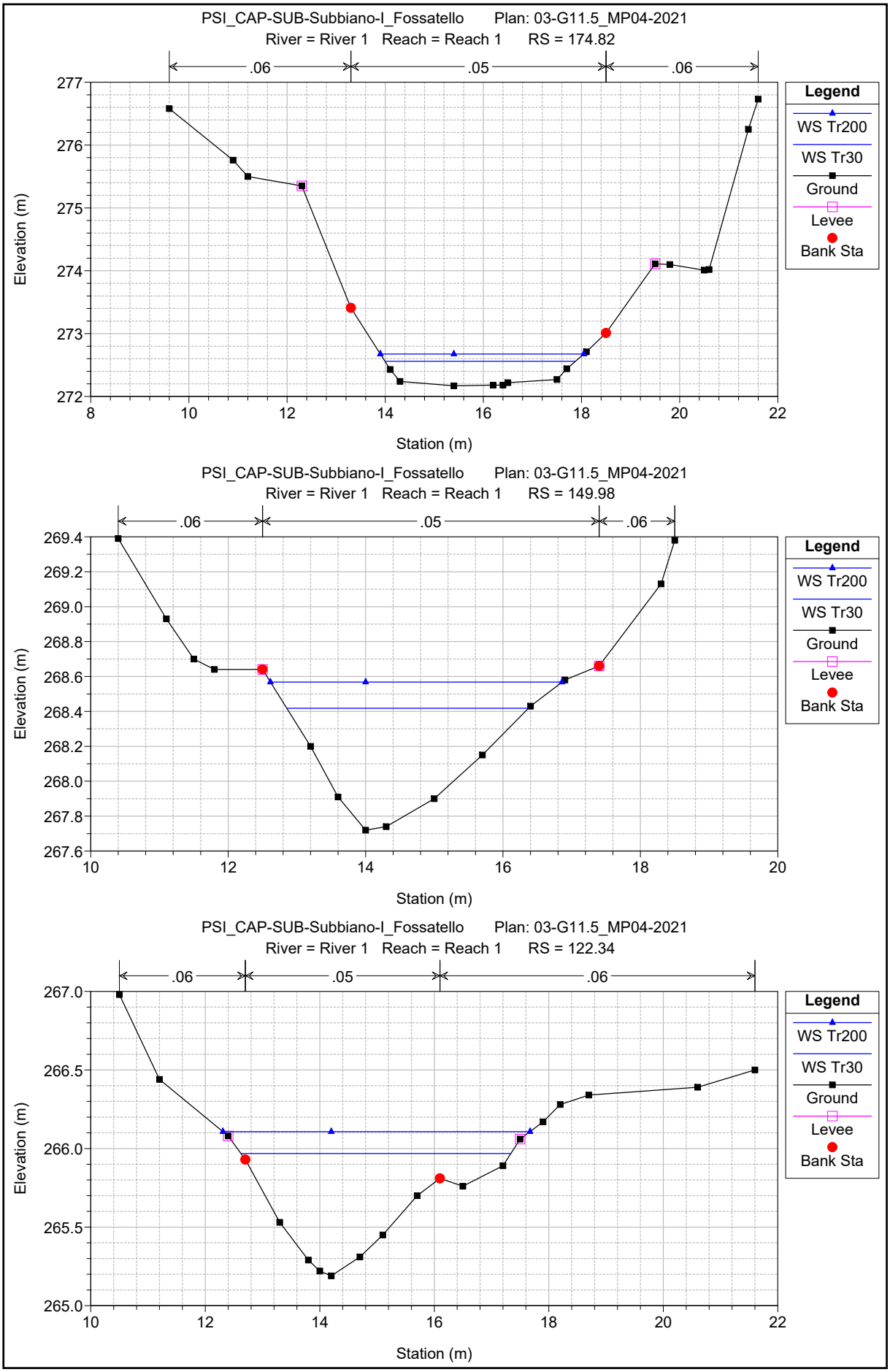

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 278.3 Sez.06 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

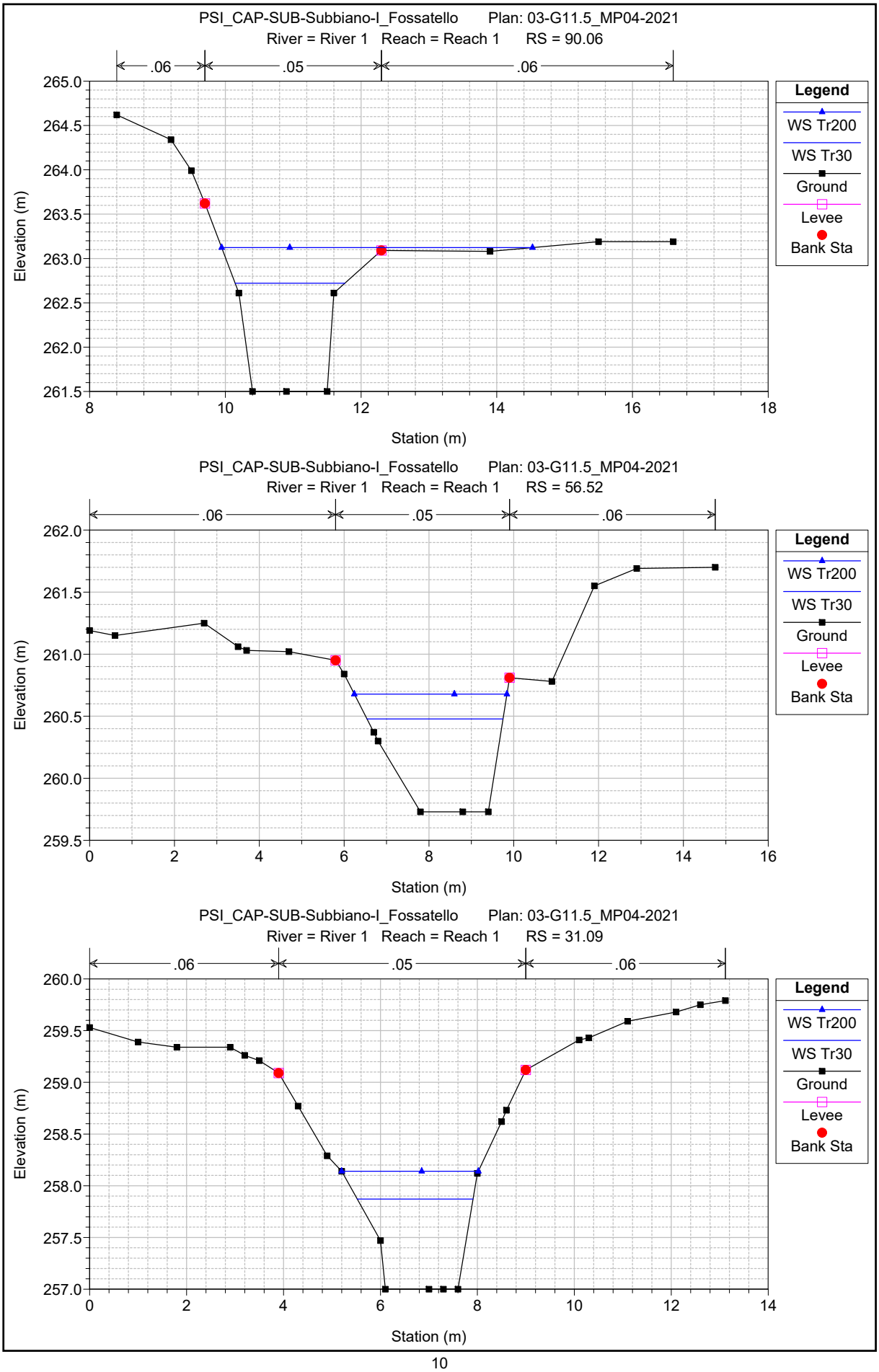

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 261.26 Sez.05 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta


PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 254.92 Sez.04.5 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

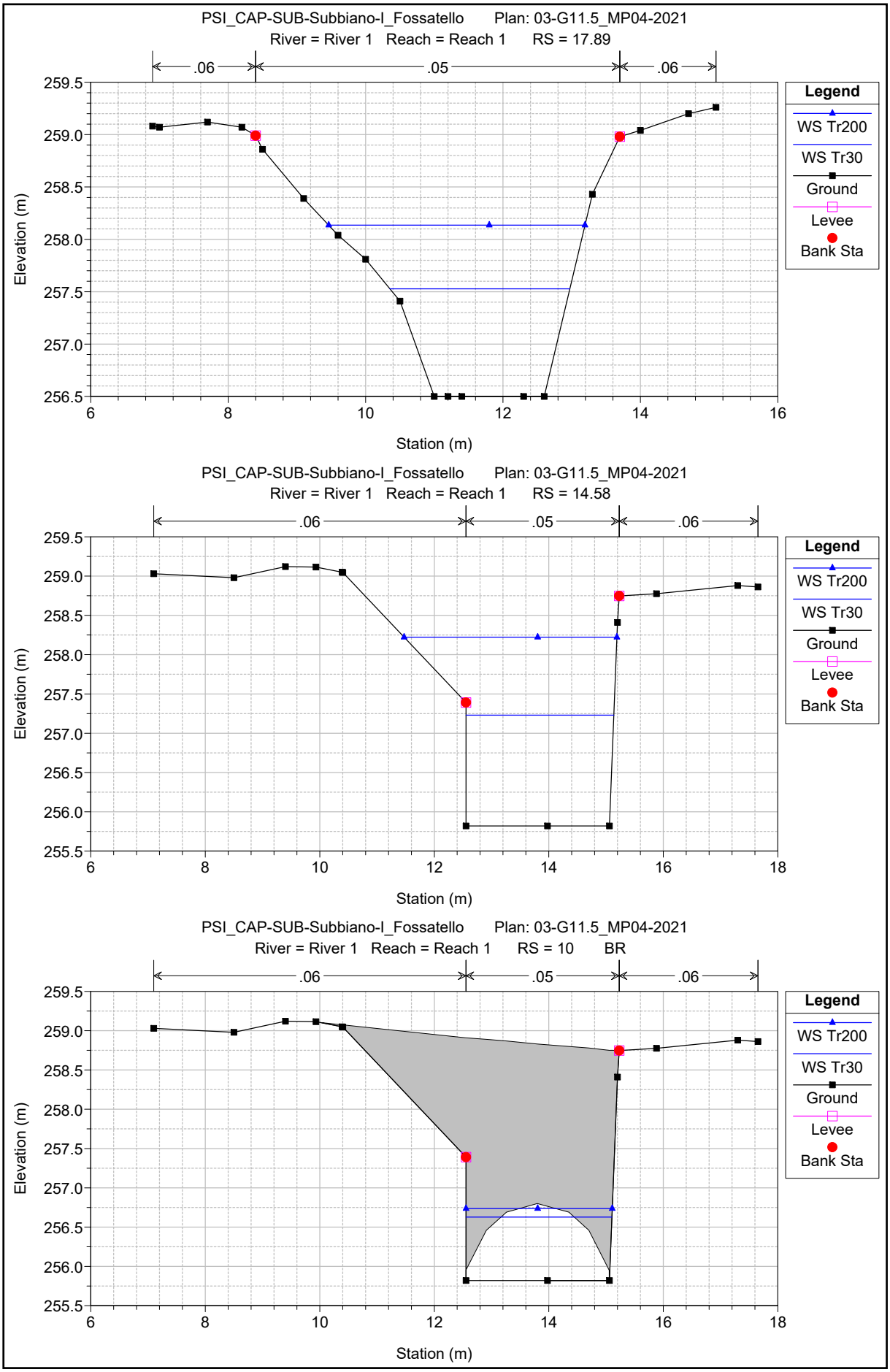

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 254 IS
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 253.96 Sez.04 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 202.06 Sez.03 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

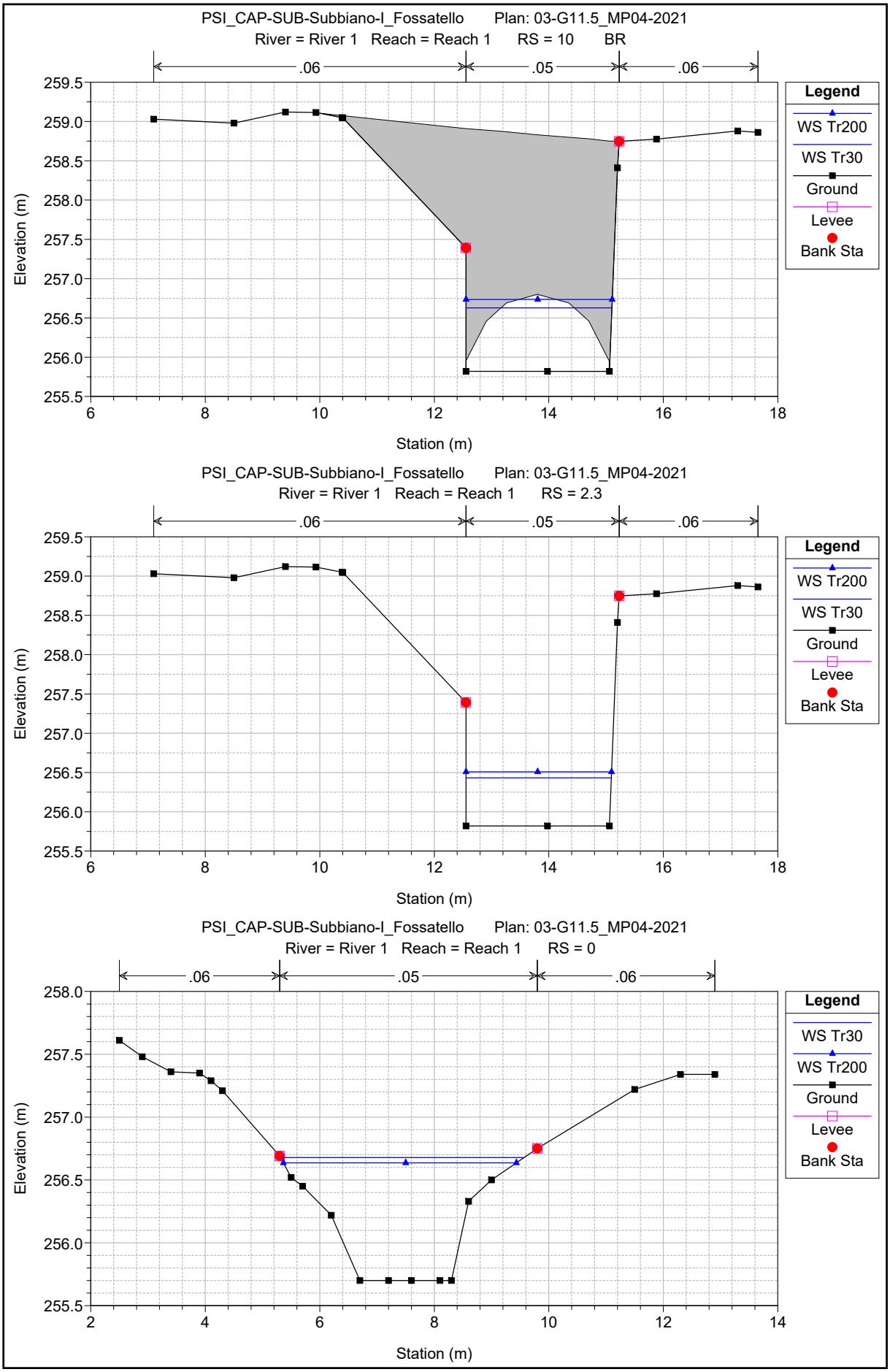

PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 196.4 Sez.02 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 195 IS
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 193.71 Sez.01 - VAR03-2008
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta


PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 174.82
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 149.98
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 122.34
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta


PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 90.06
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 56.52
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 31.09
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta

10


PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 17.89
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 14.58
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 10 BR
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta


PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 10 BR
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 2.3
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-I_Fossatello Plan: 03-G11.5_MP04-2021
River = River 1 Reach = Reach 1 RS = 0
.06
.05
.06
Elevation (m)
Station (m)
Legend
WS Tr30
WS Tr200
Ground
Levee
Bank Sta

12

HEC-RAS Plan: 03-G11.5_MP04-2021 River: River 1 Reach: Reach 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1	570.88	Tr30	6.00	343.26	344.27	344.50	345.02	0.100043	3.82	1.57	2.33	1.49
Reach 1	570.88	Tr200	9.51	343.26	344.53	344.82	345.47	0.100062	4.28	2.22	2.70	1.51
Reach 1	509.16	Tr30	6.00	335.89	336.73	337.02	337.56	0.125153	4.03	1.49	2.74	1.75
Reach 1	509.16	Tr200	9.51	335.89	336.96	337.30	337.92	0.118336	4.34	2.19	3.48	1.74
Reach 1	481.91	Tr30	6.00	332.20	332.90	333.04	333.37	0.164420	3.07	2.07	10.04	1.95
Reach 1	481.91	Tr200	9.51	332.20	332.97	333.16	333.61	0.171573	3.65	2.80	10.47	2.07
Reach 1	480		Inl Struct									
Reach 1	479.48	Tr30	6.00	330.54	331.79	331.60	331.96	0.017119	1.83	3.27	4.85	0.71
Reach 1	479.48	Tr200	9.51	330.54	331.89	331.85	332.21	0.028554	2.51	3.79	5.13	0.93
Reach 1	470.13	Tr30	6.00	330.60	331.60	331.60	331.78	0.036855	1.86	3.22	9.12	1.00
Reach 1	470.13	Tr200	9.51	330.60	331.74	331.74	331.97	0.033608	2.09	4.55	10.08	0.99
Reach 1	416.7	Tr30	6.00	323.99	325.20	325.04	325.24	0.005634	0.88	7.79	18.19	0.41
Reach 1	416.7	Tr200	9.51	323.99	325.35	325.16	325.39	0.005819	1.02	10.56	20.03	0.43
Reach 1	410		Culvert									
Reach 1	402.1	Tr30	6.00	322.88	323.72	323.72	323.90	0.038962	1.87	3.20	9.03	1.00
Reach 1	402.1	Tr200	9.51	322.88	323.85	323.85	324.09	0.036225	2.16	4.40	9.44	1.01
Reach 1	378.99	Tr30	6.00	316.66	317.22	317.49	318.21	0.253874	4.42	1.36	4.48	2.57
Reach 1	378.99	Tr200	9.51	316.66	317.33	317.68	318.63	0.239503	5.06	1.88	4.81	2.58
Reach 1	346.93	Tr30	6.00	311.94	312.53	312.78	313.32	0.152830	3.94	1.52	3.87	2.00
Reach 1	346.93	Tr200	9.51	311.94	312.68	312.98	313.68	0.153086	4.42	2.15	4.61	2.07
Reach 1	346		Inl Struct									
Reach 1	345.65	Tr30	6.00	310.30	311.20	311.20	311.53	0.038921	2.54	2.36	3.54	0.99
Reach 1	345.65	Tr200	9.51	310.30	311.44	311.44	311.88	0.038826	2.93	3.25	3.72	1.00
Reach 1	313.67	Tr30	6.00	305.79	306.93	307.19	307.71	0.125534	3.92	1.53	2.52	1.60
Reach 1	313.67	Tr200	9.51	305.79	307.16	307.48	308.14	0.127525	4.39	2.16	3.06	1.67
Reach 1	278.3	Tr30	6.00	300.40	301.17	301.50	302.23	0.173253	4.56	1.32	2.72	2.09
Reach 1	278.3	Tr200	9.51	300.40	301.36	301.78	302.70	0.173130	5.12	1.86	3.17	2.14
Reach 1	261.26	Tr30	6.00	298.72	299.37	299.55	299.93	0.136035	3.33	1.80	5.73	1.90
Reach 1	261.26	Tr200	9.51	298.72	299.48	299.71	300.23	0.142802	3.85	2.47	6.59	2.01
Reach 1	254.92	Tr30	6.00	298.52	299.55	299.39	299.65	0.012338	1.34	4.48	8.97	0.60
Reach 1	254.92	Tr200	9.51	298.52	299.75	299.54	299.87	0.010546	1.52	6.30	9.48	0.59
Reach 1	254		Inl Struct									
Reach 1	253.96	Tr30	6.00	294.41	295.15	295.15	295.43	0.035922	2.34	2.56	4.55	1.00
Reach 1	253.96	Tr200	9.51	294.41	295.36	295.36	295.73	0.034832	2.69	3.53	4.81	1.00
Reach 1	202.06	Tr30	6.00	282.09	282.60	282.91	283.78	0.243421	4.84	1.29	4.59	2.56
Reach 1	202.06	Tr200	9.51	282.09	282.70	283.09	284.28	0.260702	5.70	1.83	5.68	2.73
Reach 1	196.4	Tr30	6.00	281.48	282.31	282.49	282.86	0.090718	3.40	1.94	5.54	1.58
Reach 1	196.4	Tr200	9.51	281.48	282.39	282.63	283.20	0.114525	4.25	2.77	9.42	1.83
Reach 1	195		Inl Struct									
Reach 1	193.71	Tr30	6.00	277.06	277.66	277.66	277.89	0.034129	2.12	2.83	6.14	1.00
Reach 1	193.71	Tr200	9.51	277.06	277.83	277.83	278.13	0.031653	2.42	3.93	6.53	1.00
Reach 1	174.82	Tr30	6.00	272.17	272.56	272.87	273.78	0.303159	4.90	1.22	3.88	2.78
Reach 1	174.82	Tr200	9.51	272.17	272.67	273.09	274.29	0.292343	5.64	1.69	4.15	2.82
Reach 1	149.98	Tr30	6.00	267.72	268.42	268.71	269.34	0.170179	4.25	1.41	3.52	2.14
Reach 1	149.98	Tr200	9.51	267.72	268.57	268.91	269.73	0.174061	4.77	2.00	4.25	2.22
Reach 1	122.34	Tr30	6.00	265.19	265.97	266.16	266.58	0.091903	3.52	1.82	4.72	1.62
Reach 1	122.34	Tr200	9.51	265.19	266.11	266.34	266.94	0.091901	4.17	2.51	5.37	1.69
Reach 1	90.06	Tr30	6.00	261.50	262.72	262.94	263.48	0.116784	3.86	1.55	1.62	1.26
Reach 1	90.06	Tr200	9.51	261.50	263.12	263.42	263.94	0.102381	4.01	2.44	4.58	1.28
Reach 1	56.52	Tr30	6.00	259.73	260.48	260.64	261.04	0.075876	3.31	1.81	3.21	1.41
Reach 1	56.52	Tr200	9.51	259.73	260.68	260.93	261.42	0.079383	3.82	2.49	3.60	1.46
Reach 1	31.09	Tr30	6.00	257.00	257.87	258.09	258.59	0.100461	3.74	1.60	2.39	1.46
Reach 1	31.09	Tr200	9.51	257.00	258.14	258.42	259.01	0.096443	4.13	2.30	2.82	1.46
Reach 1	17.89	Tr30	6.00	256.50	257.53	257.53	257.93	0.044744	2.82	2.13	2.62	1.00
Reach 1	17.89	Tr200	9.51	256.50	258.14	257.85	258.42	0.021554	2.35	4.05	3.73	0.72
Reach 1	14.58	Tr30	6.00	255.82	257.23	256.66	257.37	0.011877	1.67	3.58	2.58	0.45
Reach 1	14.58	Tr200	9.51	255.82	258.22	256.95	258.33	0.005963	1.50	6.62	3.72	0.31

HEC-RAS Plan: 03-G11.5_MP04-2021 River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1	10		Bridge									
Reach 1	2.3	Tr30	6.00	255.82	256.43	256.66	257.21	0.123540	3.90	1.54	2.54	1.60
Reach 1	2.3	Tr200	9.51	255.82	256.51	256.95	258.04	0.219171	5.48	1.74	2.54	2.12
Reach 1	0	Tr30	6.00	255.70	256.68	256.68	256.97	0.036737	2.40	2.50	4.25	1.00
Reach 1	0	Tr200	9.51	255.70	256.64	256.91	257.49	0.111081	4.09	2.33	4.07	1.73

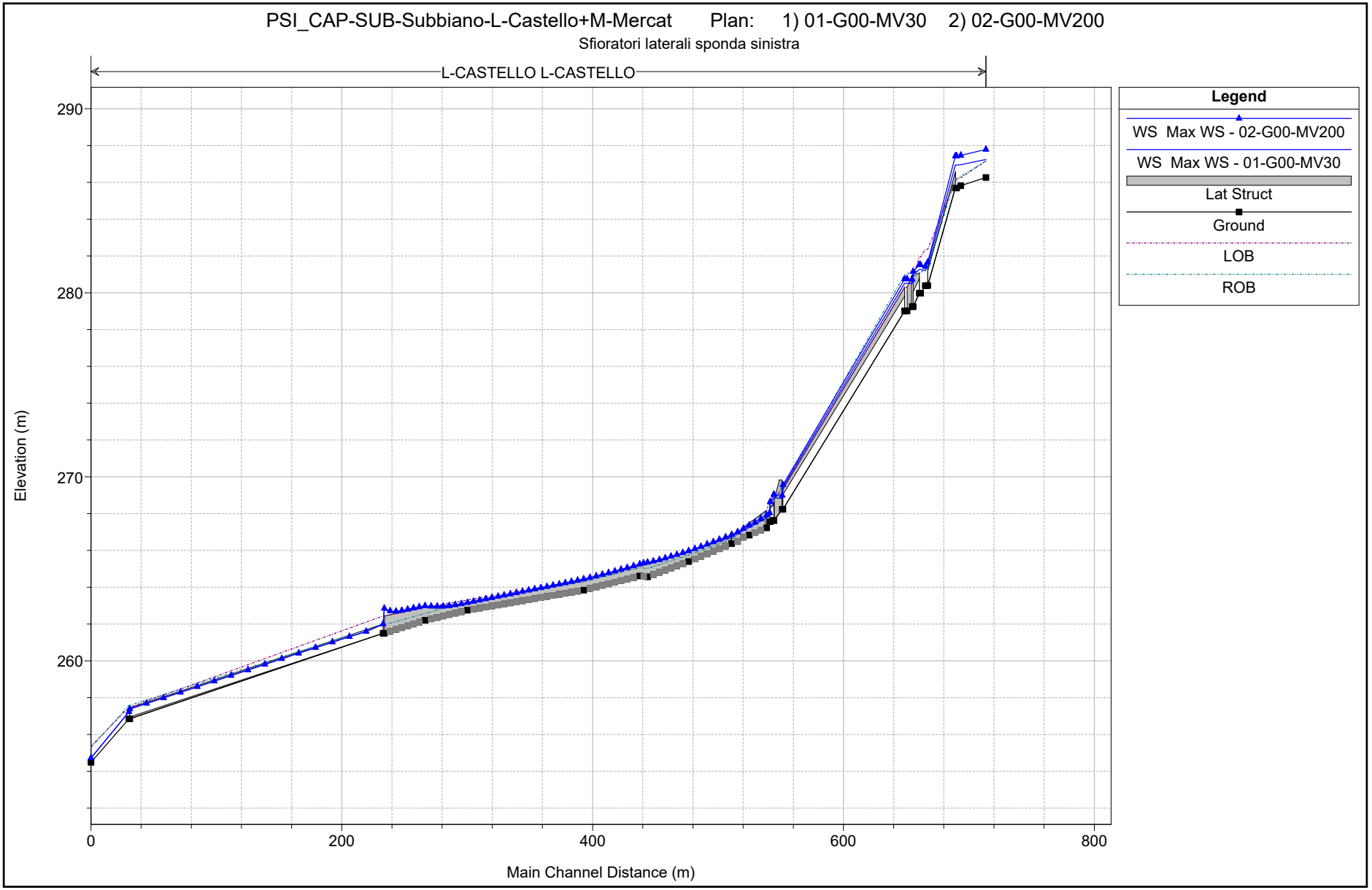
L + M – Castello + Mercato (Liena)

Scenario Alpha

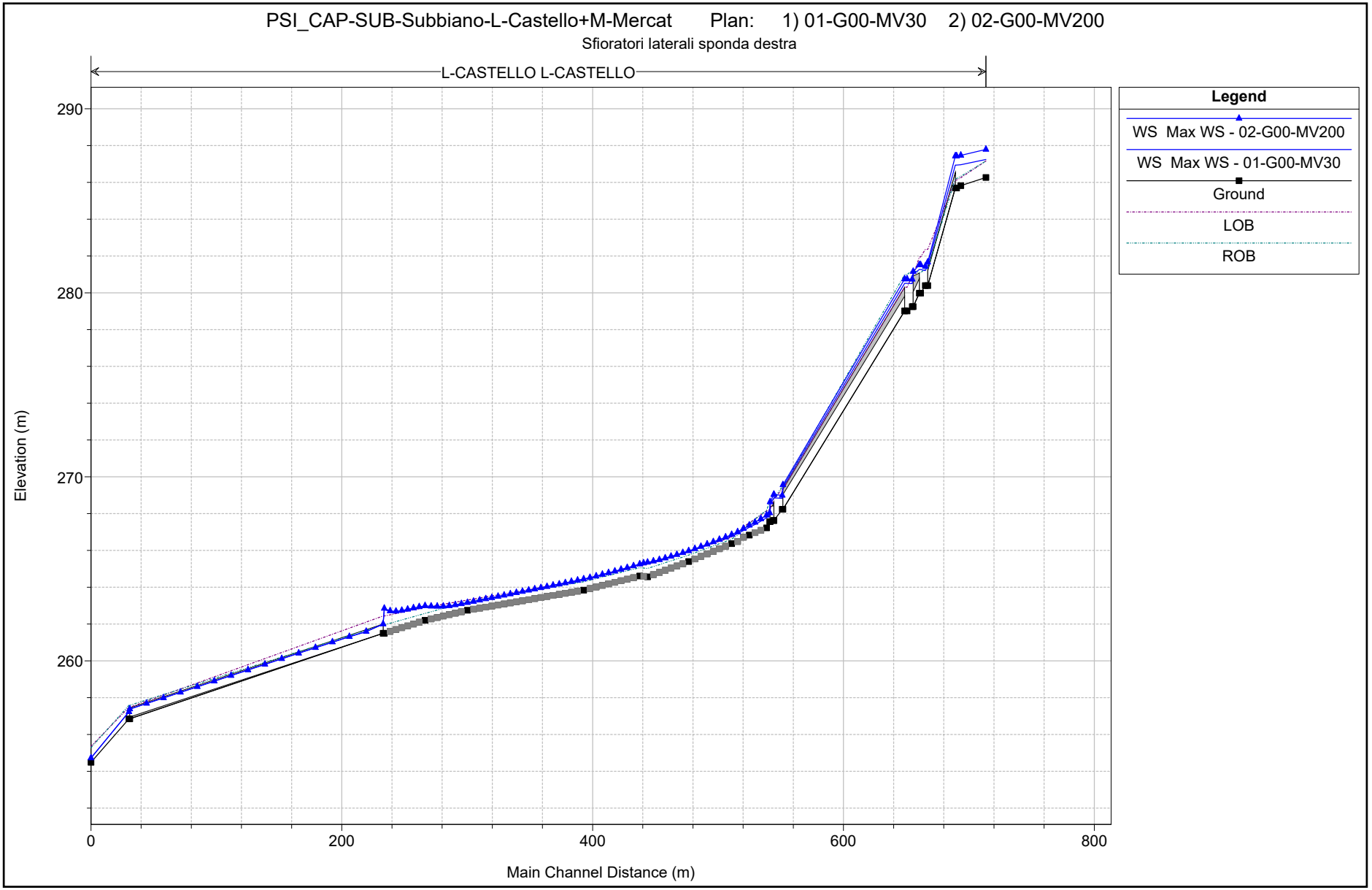
L + M – Castello + Mercato (Liena)

L - Castello

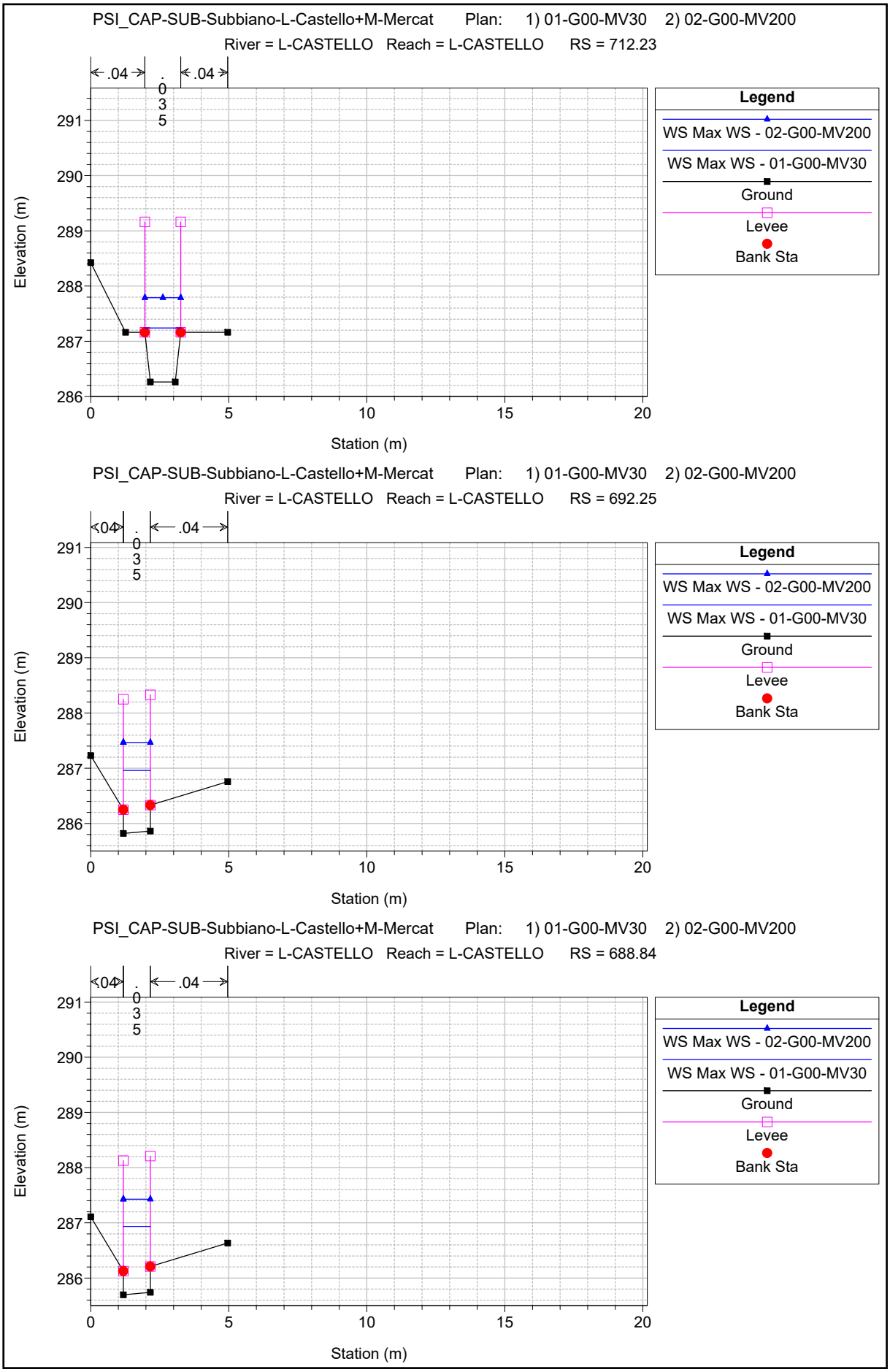
Scenario Alpha



1 cm Horiz. = 44 m 1 cm Vert. = 3 m

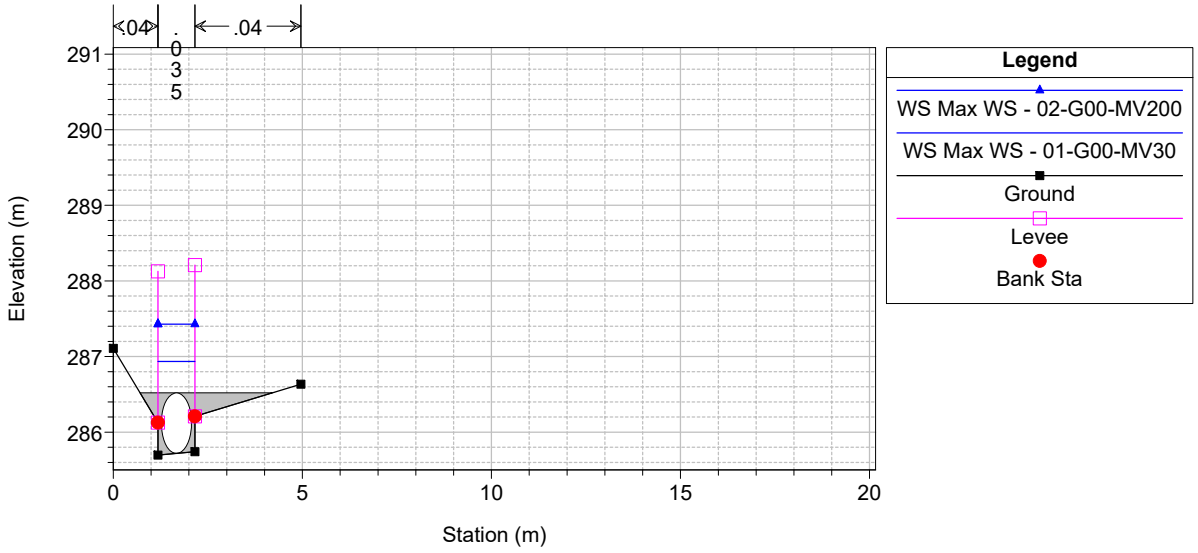


1 cm Horiz. = 44 m 1 cm Vert. = 3 m


PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = L-CASTELLO Reach = L-CASTELLO RS = 712.23
.04
.035
.04
Elevation (m)
291
290
289
288
287
286
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = L-CASTELLO Reach = L-CASTELLO RS = 692.25
.04
.035
.04
Elevation (m)
291
290
289
288
287
286
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Levee
Bank Sta
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = L-CASTELLO Reach = L-CASTELLO RS = 688.84
.04
.035
.04
Elevation (m)
291
290
289
288
287
286
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Levee
Bank Sta
1 cm Horiz. = 2 m 1 cm Vert. = 1 m
1

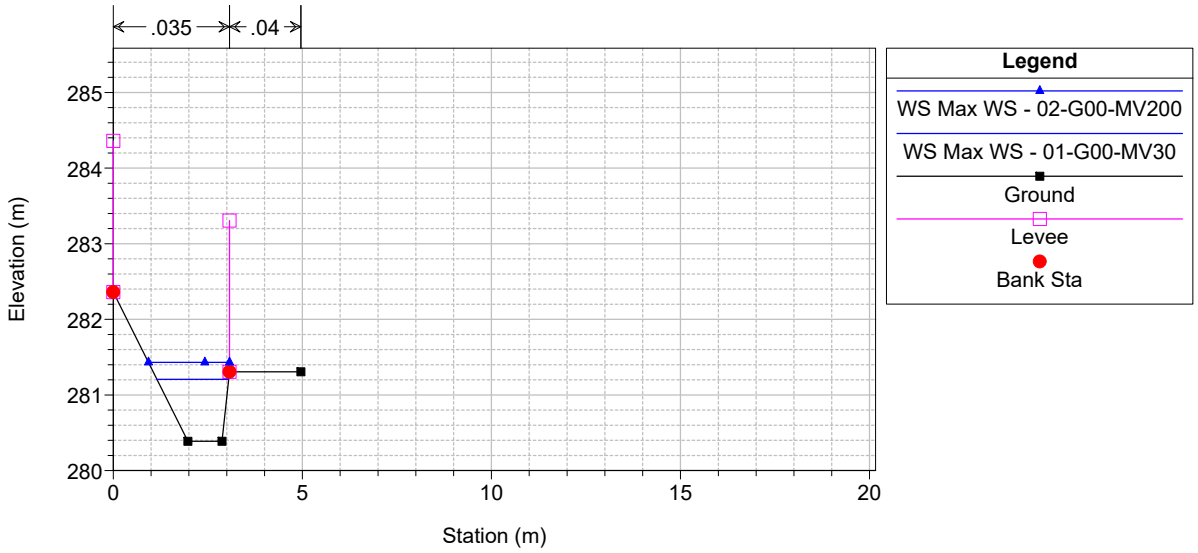
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 675 Culv



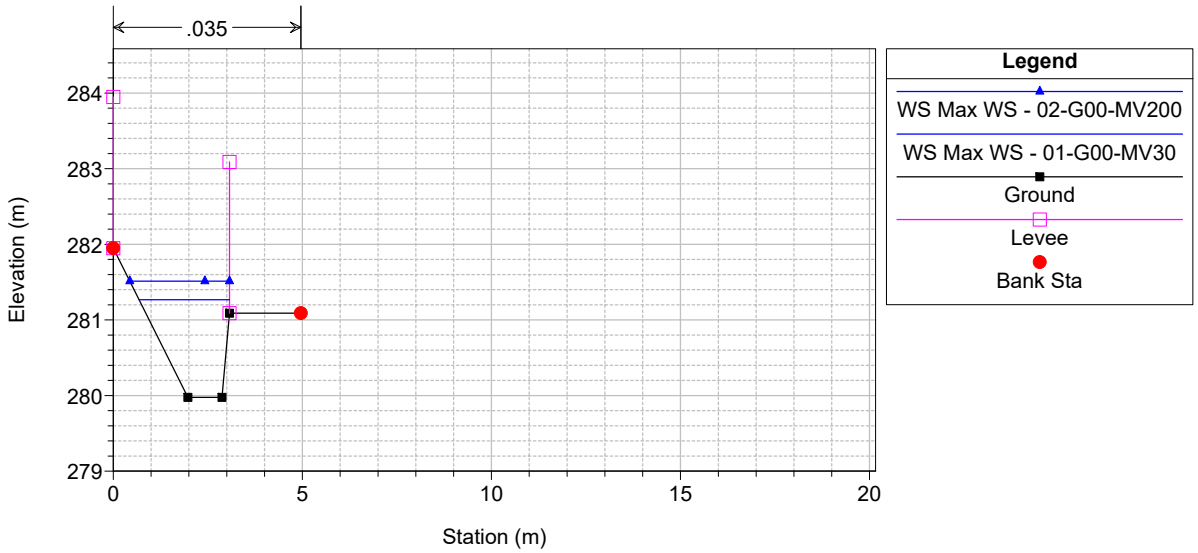
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 663.41



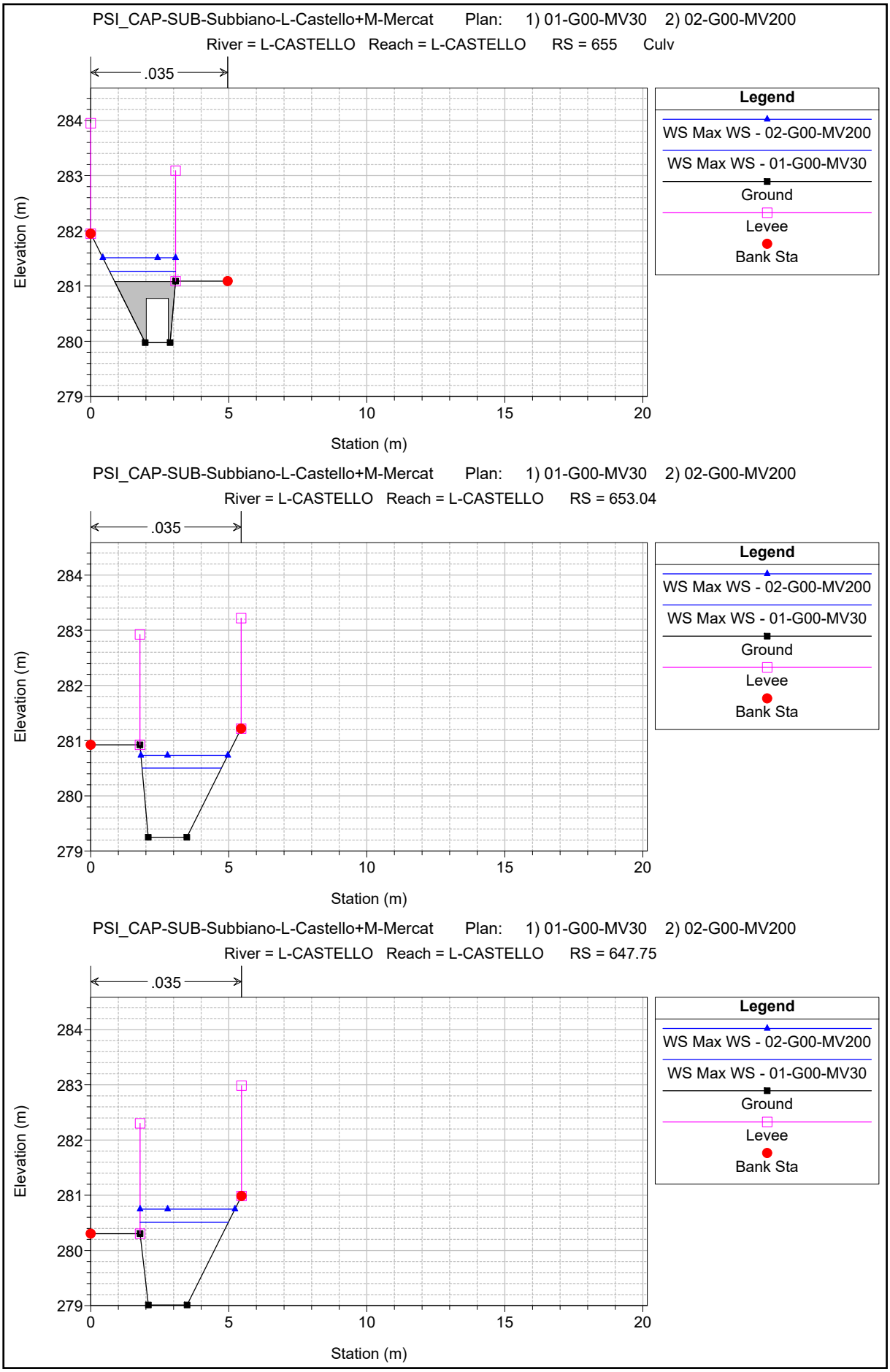
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 659.71



1 cm Horiz. = 2 m 1 cm Vert. = 1 m

2

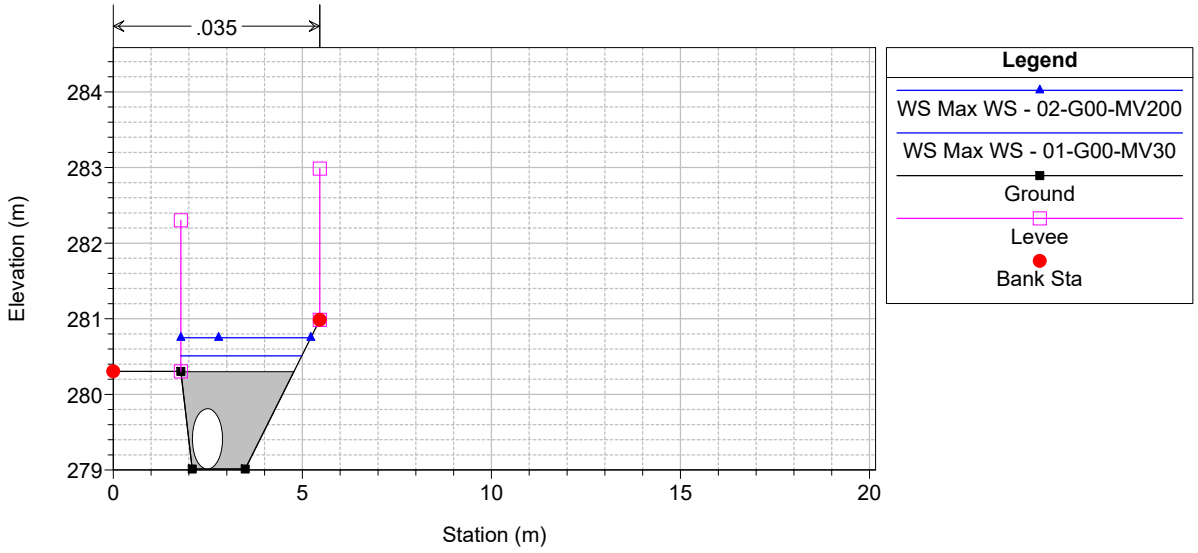


1 cm Horiz. = 2 m 1 cm Vert. = 1 m

3

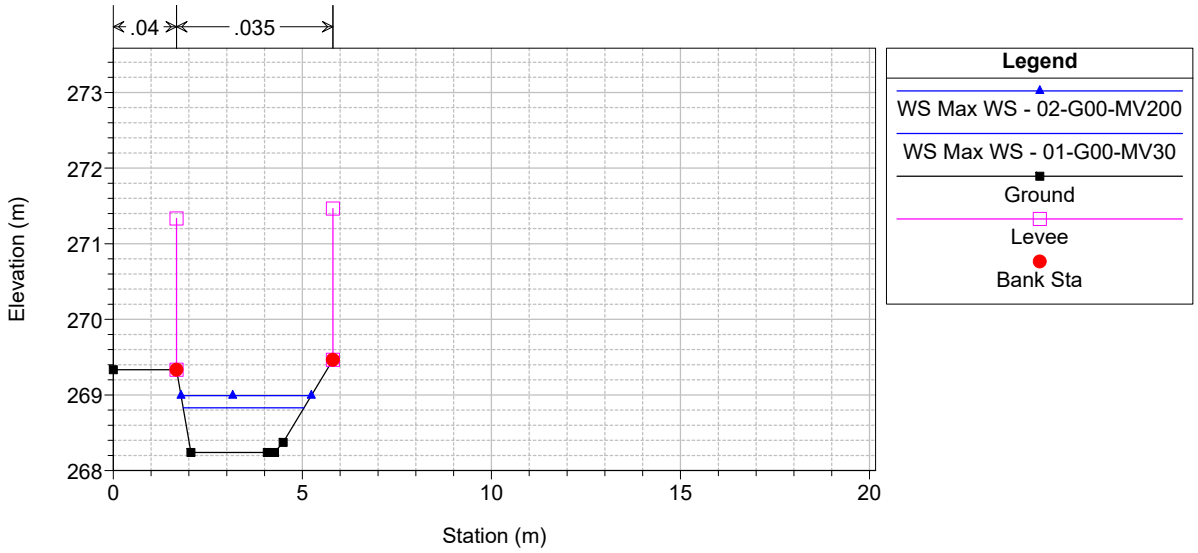
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 600 Culv



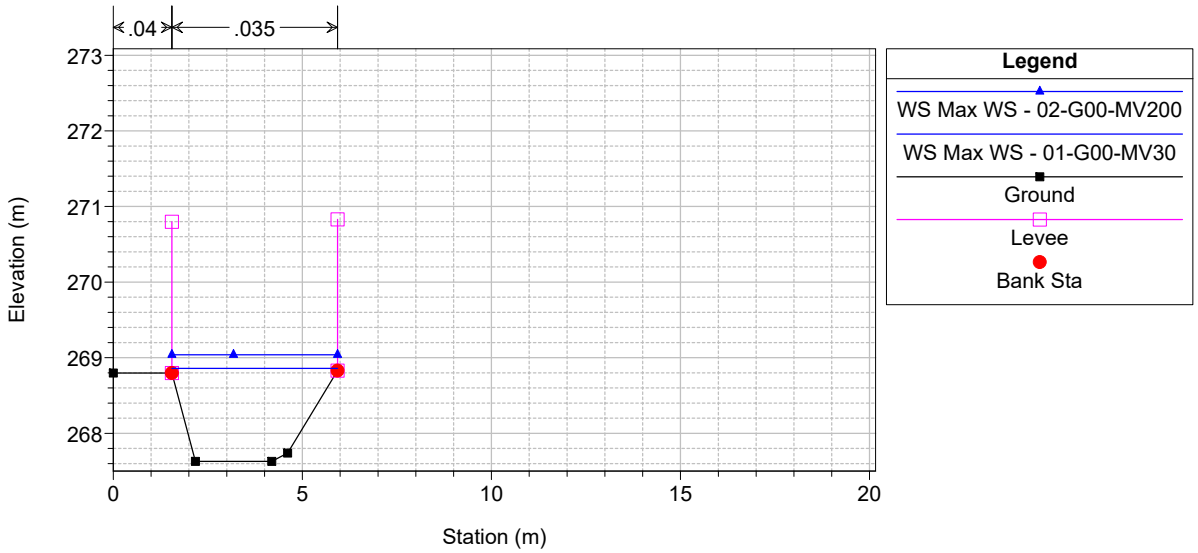
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 560.8 Sez.09



PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

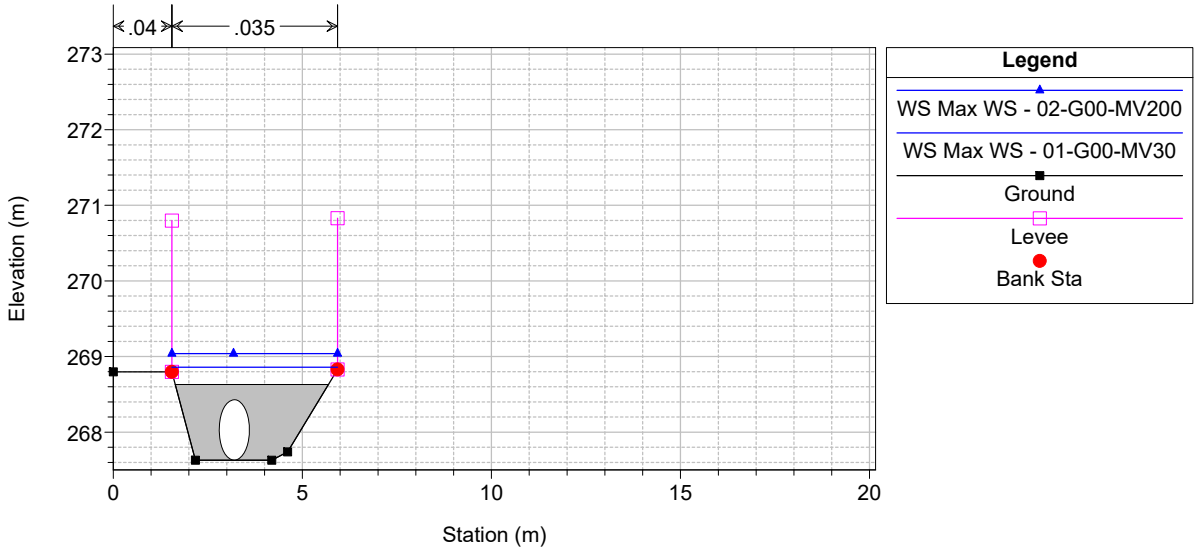
River = L-CASTELLO Reach = L-CASTELLO RS = 551.69 Sez.11



1 cm Horiz. = 2 m 1 cm Vert. = 1 m

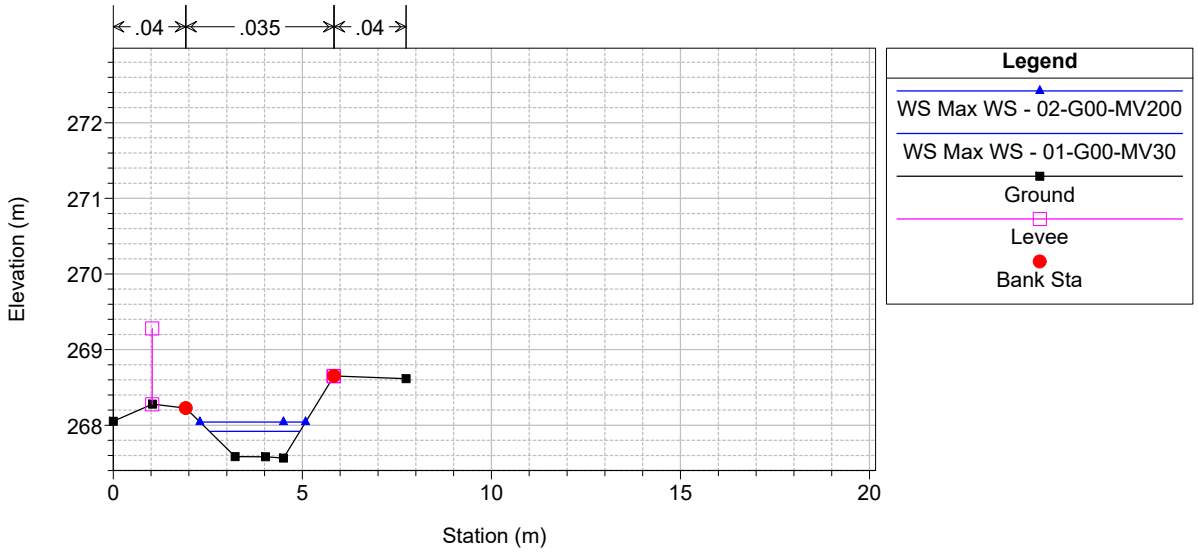
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 550 Culv



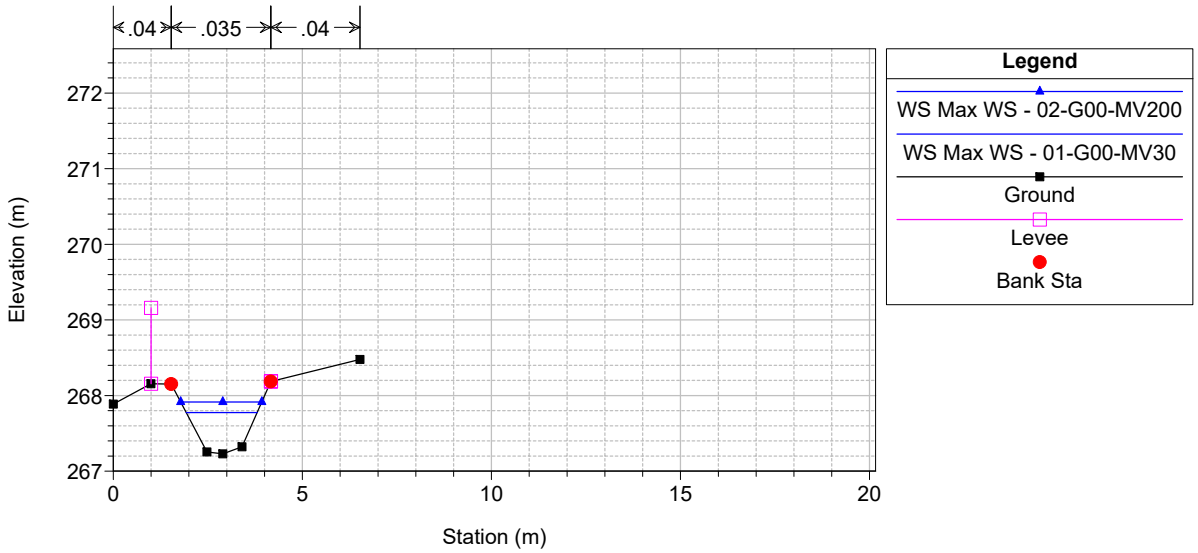
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

River = L-CASTELLO Reach = L-CASTELLO RS = 545.14

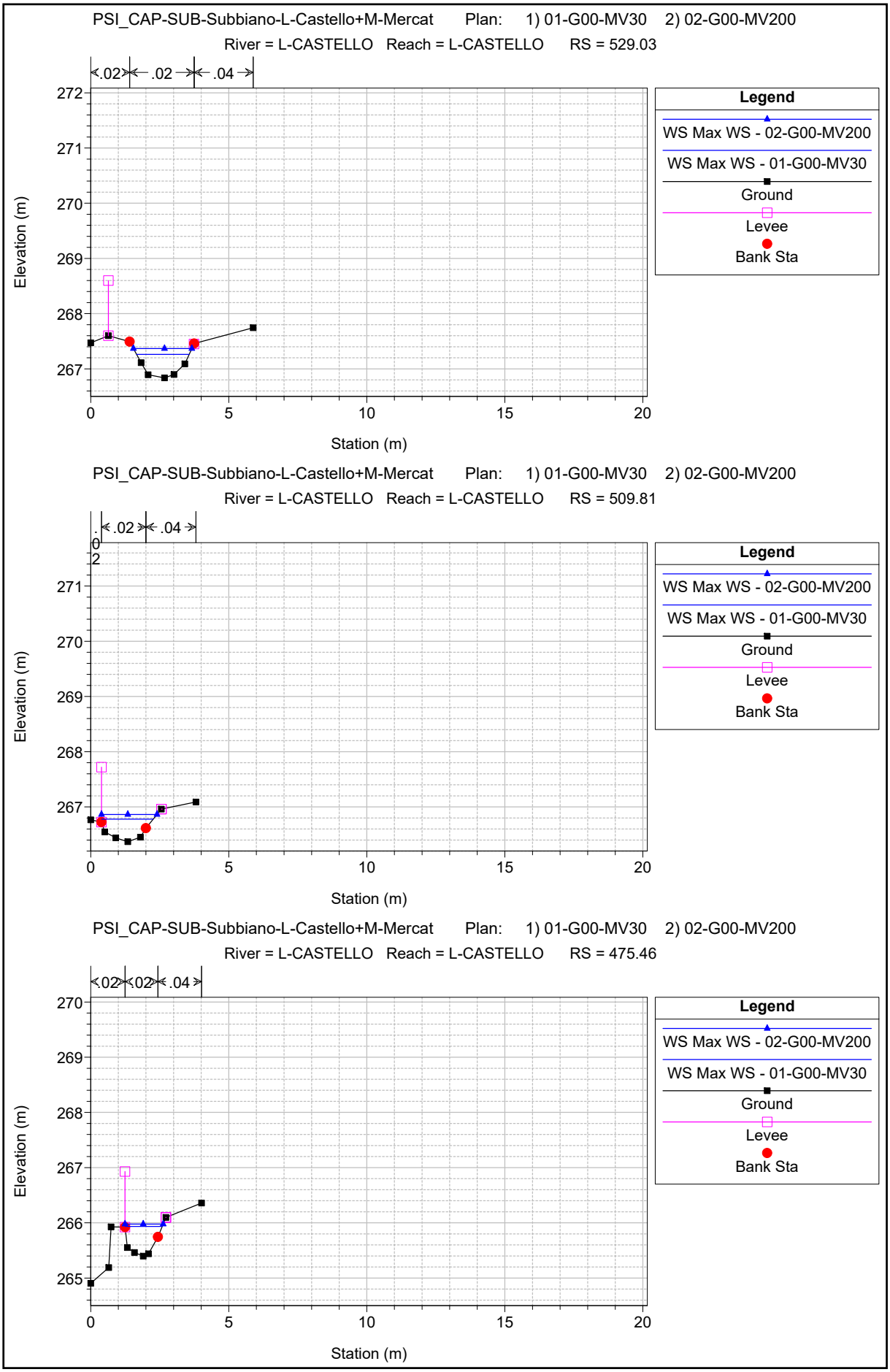


PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200

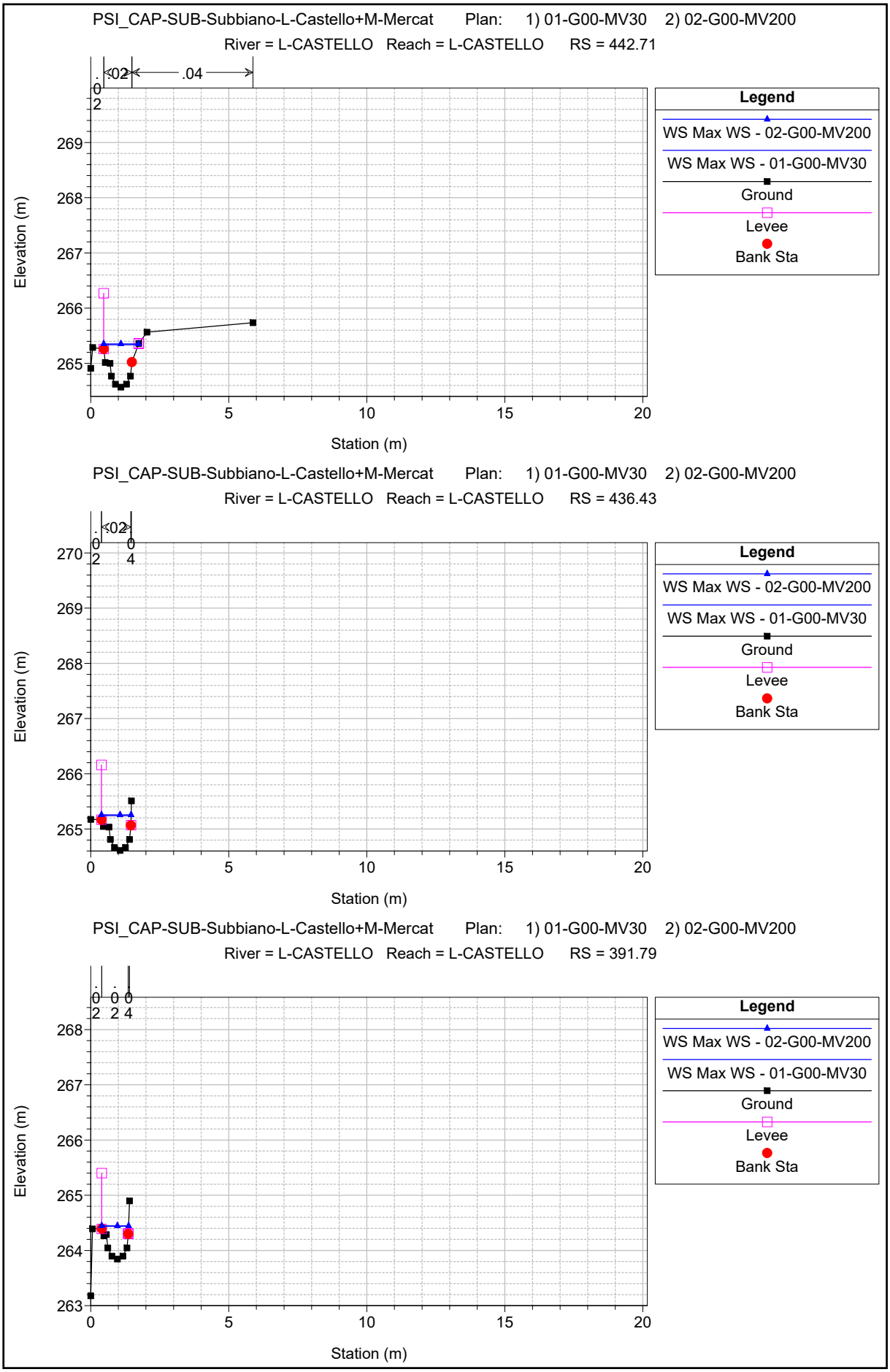
River = L-CASTELLO Reach = L-CASTELLO RS = 542.96



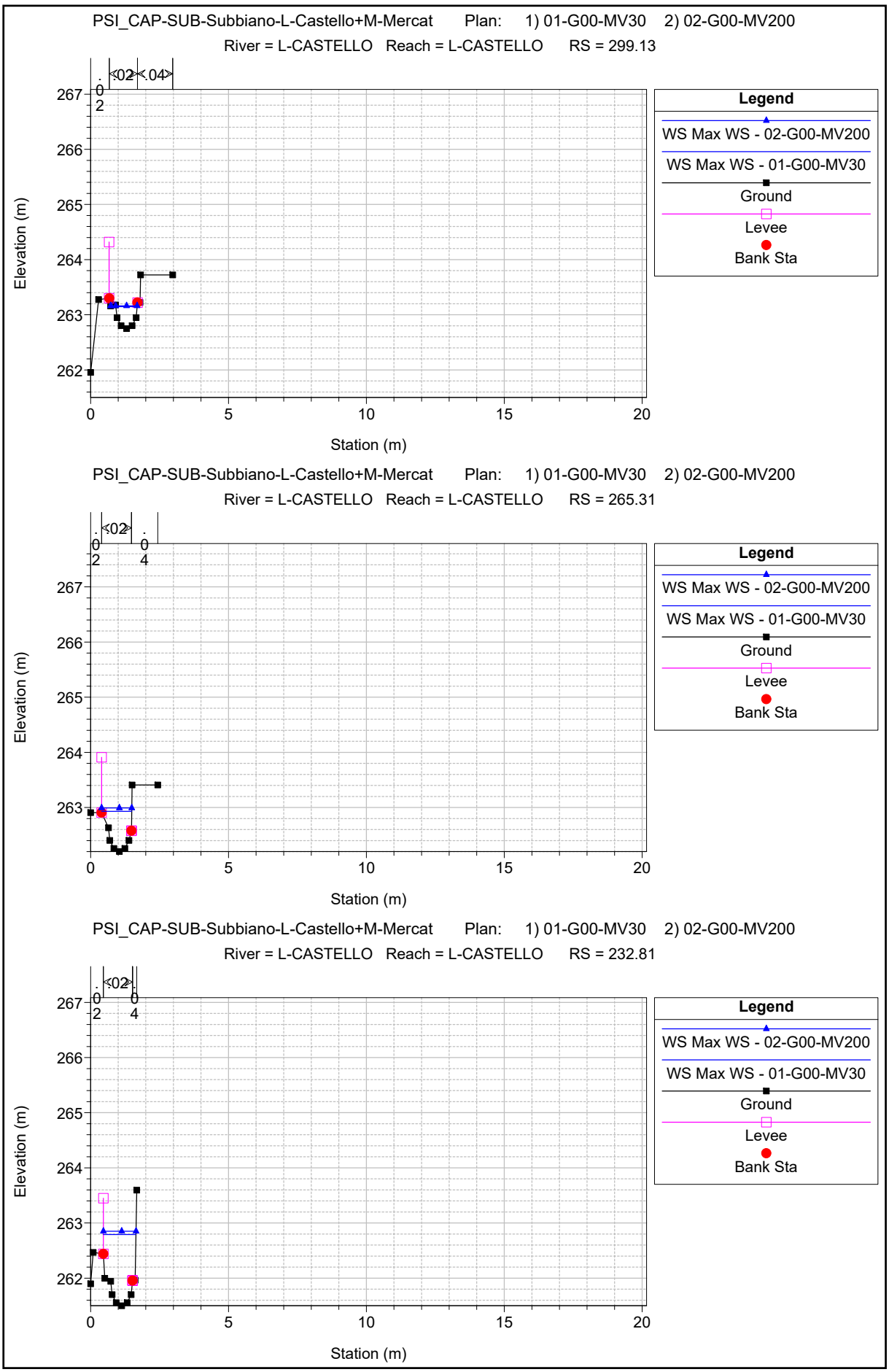
1 cm Horiz. = 2 m 1 cm Vert. = 1 m



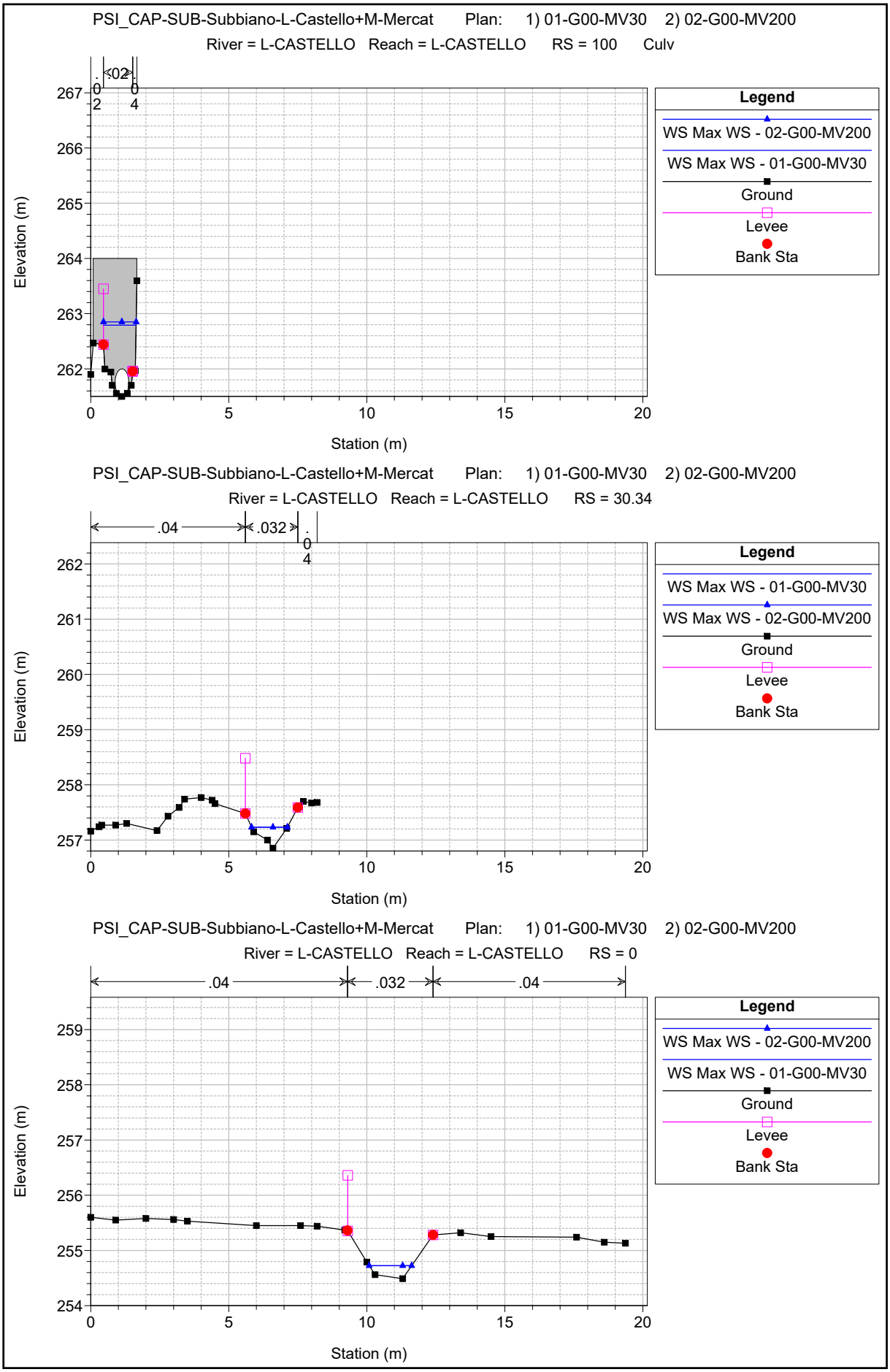
1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m 8



1 cm Horiz. = 2 m 1 cm Vert. = 1 m

HEC-RAS River: L-CASTELLO Reach: L-CASTELLO Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
L-CASTELLO	712.23	Max WS	01-G00-MV30	1.88	286.26	287.24		287.39	0.013278	1.72	1.09	1.30	0.60
L-CASTELLO	712.23	Max WS	02-G00-MV200	3.13	286.26	287.79		287.94	0.010636	1.73	1.81	1.30	0.47
L-CASTELLO	692.25	Max WS	01-G00-MV30	1.88	285.82	286.96		287.11	0.015077	1.71	1.10	0.98	0.52
L-CASTELLO	692.25	Max WS	02-G00-MV200	3.13	285.82	287.47		287.66	0.017470	1.97	1.59	0.98	0.49
L-CASTELLO	688.84	Max WS	01-G00-MV30	1.88	285.70	286.94		287.06	0.012344	1.57	1.19	0.98	0.46
L-CASTELLO	688.84	Max WS	02-G00-MV200	3.13	285.70	287.43		287.61	0.015571	1.87	1.67	0.98	0.46
L-CASTELLO	675			Culvert									
L-CASTELLO	663.41	Max WS	01-G00-MV30	1.87	280.39	281.21		281.34	0.011323	1.64	1.14	1.90	0.67
L-CASTELLO	663.41	Max WS	02-G00-MV200	3.13	280.39	281.43		281.63	0.013068	1.96	1.60	2.14	0.72
L-CASTELLO	659.71	Max WS	01-G00-MV30	1.88	279.97	281.27		281.31	0.002181	0.88	2.14	2.39	0.30
L-CASTELLO	659.71	Max WS	02-G00-MV200	3.13	279.97	281.51		281.58	0.003143	1.13	2.76	2.64	0.35
L-CASTELLO	655			Culvert									
L-CASTELLO	653.04	Max WS	01-G00-MV30	1.87	279.25	280.50		280.53	0.001183	0.70	2.67	2.87	0.23
L-CASTELLO	653.04	Max WS	02-G00-MV200	3.13	279.25	280.73		280.78	0.001787	0.93	3.37	3.15	0.29
L-CASTELLO	650			Lat Struct									
L-CASTELLO	647.75	Max WS	01-G00-MV30	1.86	279.01	280.51		280.52	0.000578	0.54	3.47	3.20	0.16
L-CASTELLO	647.75	Max WS	02-G00-MV200	3.03	279.01	280.75		280.77	0.000892	0.71	4.27	3.44	0.20
L-CASTELLO	600			Culvert									
L-CASTELLO	560.8	Max WS	01-G00-MV30	1.86	268.24	268.83		268.90	0.005125	1.15	1.61	3.20	0.52
L-CASTELLO	560.8	Max WS	02-G00-MV200	3.03	268.24	268.99		269.09	0.006048	1.41	2.15	3.45	0.57
L-CASTELLO	555			Lat Struct									
L-CASTELLO	551.69	Max WS	01-G00-MV30	1.86	267.63	268.86		268.87	0.000369	0.45	4.13	4.38	0.15
L-CASTELLO	551.69	Max WS	02-G00-MV200	3.00	267.63	269.04		269.06	0.000585	0.61	4.92	4.38	0.18
L-CASTELLO	550			Culvert									
L-CASTELLO	545.14	Max WS	01-G00-MV30	1.86	267.57	267.92	268.06	268.37	0.073560	2.99	0.62	2.39	1.87
L-CASTELLO	545.14	Max WS	02-G00-MV200	3.00	267.57	268.04	268.21	268.56	0.059743	3.18	0.94	2.79	1.75
L-CASTELLO	542.96	Max WS	01-G00-MV30	1.86	267.23	267.78	267.87	268.12	0.039637	2.60	0.71	1.88	1.35
L-CASTELLO	542.96	Max WS	02-G00-MV200	3.00	267.23	267.91	268.05	268.38	0.042475	3.03	0.99	2.15	1.42
L-CASTELLO	540			Lat Struct									
L-CASTELLO	529.03	Max WS	01-G00-MV30	1.87	266.84	267.26	267.44	267.81	0.025663	3.28	0.57	1.91	1.92
L-CASTELLO	529.03	Max WS	02-G00-MV200	3.05	266.84	267.37	267.64	268.14	0.028023	3.89	0.78	2.12	2.04
L-CASTELLO	509.81	Max WS	01-G00-MV30	1.85	266.37	266.78	266.96	267.43	0.028612	3.59	0.53	1.87	2.04
L-CASTELLO	509.81	Max WS	02-G00-MV200	2.81	266.37	266.86	267.16	267.78	0.031619	4.29	0.69	2.01	2.16
L-CASTELLO	475.46	Max WS	01-G00-MV30	1.70	265.40	265.94	266.10	266.50	0.021470	3.35	0.52	1.35	1.64
L-CASTELLO	475.46	Max WS	02-G00-MV200	2.02	265.40	265.98	266.19	266.64	0.022344	3.63	0.57	1.38	1.70
L-CASTELLO	442.71	Max WS	01-G00-MV30	1.58	264.57	265.34	265.38	265.68	0.011671	2.63	0.63	1.25	1.10
L-CASTELLO	442.71	Max WS	02-G00-MV200	1.70	264.57	265.35	265.42	265.73	0.012299	2.75	0.65	1.27	1.13
L-CASTELLO	436.43	Max WS	01-G00-MV30	1.44	264.61	265.24	265.37	265.71	0.019815	3.04	0.47	1.07	1.46
L-CASTELLO	436.43	Max WS	02-G00-MV200	1.53	264.61	265.26	265.39	265.76	0.020178	3.14	0.49	1.07	1.48
L-CASTELLO	391.79	Max WS	01-G00-MV30	1.00	263.84	264.44	264.49	264.74	0.014645	2.42	0.41	0.97	1.18
L-CASTELLO	391.79	Max WS	02-G00-MV200	1.03	263.84	264.45	264.50	264.75	0.014800	2.45	0.42	0.97	1.18
L-CASTELLO	299.13	Max WS	01-G00-MV30	0.49	262.75	263.15	263.20	263.36	0.015268	2.05	0.24	0.77	1.18
L-CASTELLO	299.13	Max WS	02-G00-MV200	0.48	262.75	263.16	263.20	263.35	0.013445	1.94	0.25	0.79	1.11
L-CASTELLO	265.31	Max WS	01-G00-MV30	0.49	262.20	262.93		262.97	0.001335	0.88	0.56	1.09	0.39
L-CASTELLO	265.31	Max WS	02-G00-MV200	0.51	262.20	262.99		263.03	0.001057	0.82	0.62	1.09	0.35
L-CASTELLO	232.81	Max WS	01-G00-MV30	0.51	261.50	262.79		262.80	0.000200	0.44	1.24	1.18	0.13
L-CASTELLO	232.81	Max WS	02-G00-MV200	0.51	261.50	262.85		262.86	0.000175	0.42	1.31	1.19	0.12
L-CASTELLO	100			Culvert									
L-CASTELLO	30.34	Max WS	01-G00-MV30	0.25	256.85	257.23		257.29	0.012320	1.02	0.25	1.30	0.75
L-CASTELLO	30.34	Max WS	02-G00-MV200	0.33	256.85	257.23	257.23	257.33	0.021921	1.36	0.24	1.30	1.00
L-CASTELLO	0	Max WS	01-G00-MV30	0.51	254.49	254.72	254.79	254.93	0.050287	2.00	0.26	1.54	1.57
L-CASTELLO	0	Max WS	02-G00-MV200	0.51	254.49	254.72	254.79	254.93	0.050460	2.00	0.26	1.54	1.57

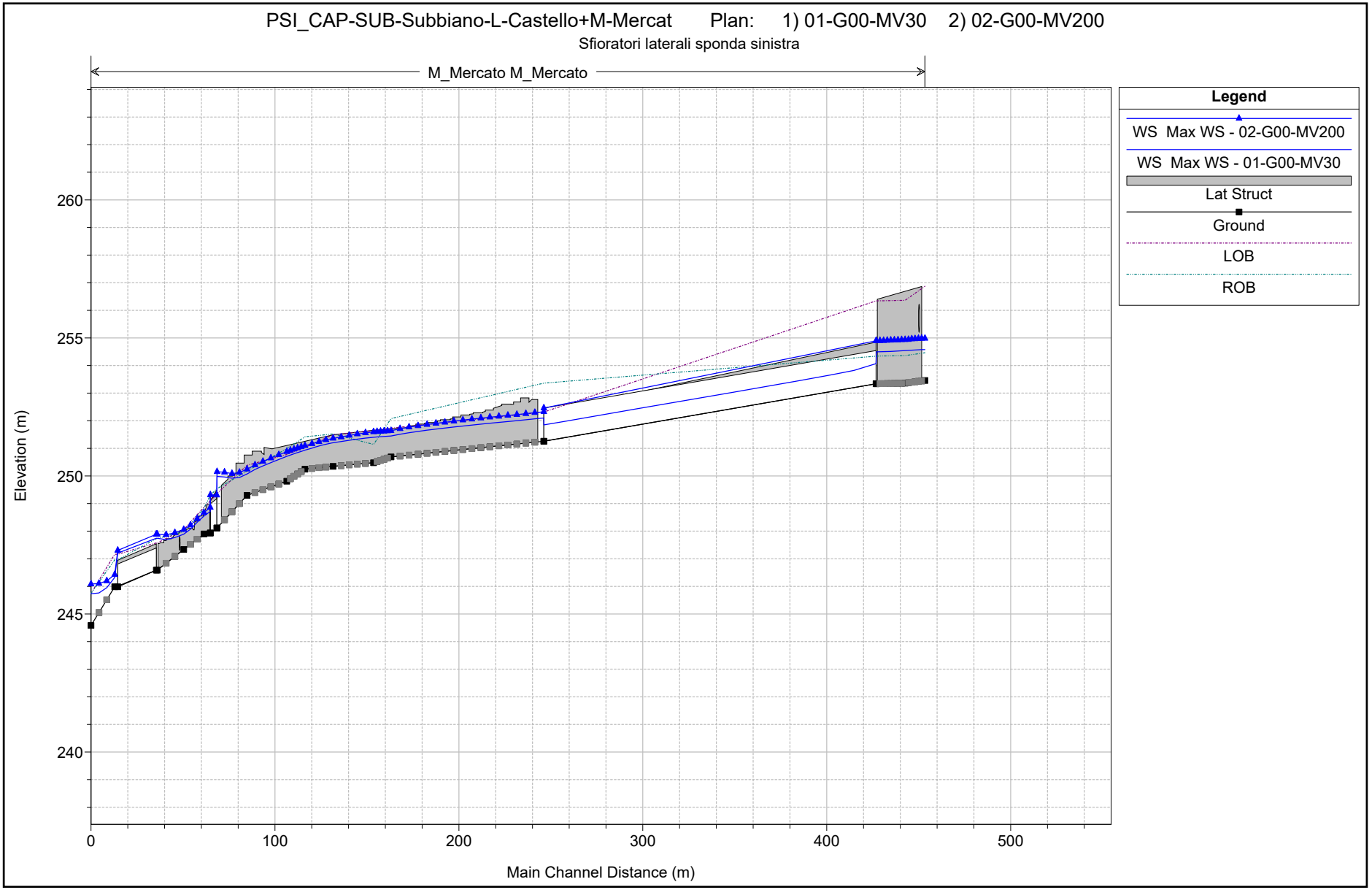
HEC-RAS River: L-CASTELLO Reach: L-CASTELLO Profile: Max WS

Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
L-CASTELLO	650	Max WS	01-G00-MV30	1.87	0.02	1.86	0.02		1.01	0.21	0.10	280.30	280.53	280.50	280.52	280.51
L-CASTELLO	650	Max WS	02-G00-MV200	3.13	0.10	3.03	0.10		2.14	0.45	0.22	280.30	280.78	280.74	280.77	280.75
L-CASTELLO	555	Max WS	01-G00-MV30	1.86	0.00	1.86	0.00		0.29	0.06	0.03	268.80	268.90	268.83	268.87	268.86
L-CASTELLO	555	Max WS	02-G00-MV200	3.03	-0.03	3.00	-0.03		4.26	0.24	0.11	268.80	269.09	268.99	269.06	269.04
L-CASTELLO	540	Max WS	01-G00-MV30	1.86	2.77	0.51	2.77		252.59	0.35	0.04	262.44	268.10	267.74	262.80	262.79
L-CASTELLO	540	Max WS	02-G00-MV200	3.00	5.36	0.51	5.36		265.19	0.41	0.06	262.44	268.37	267.87	262.86	262.85

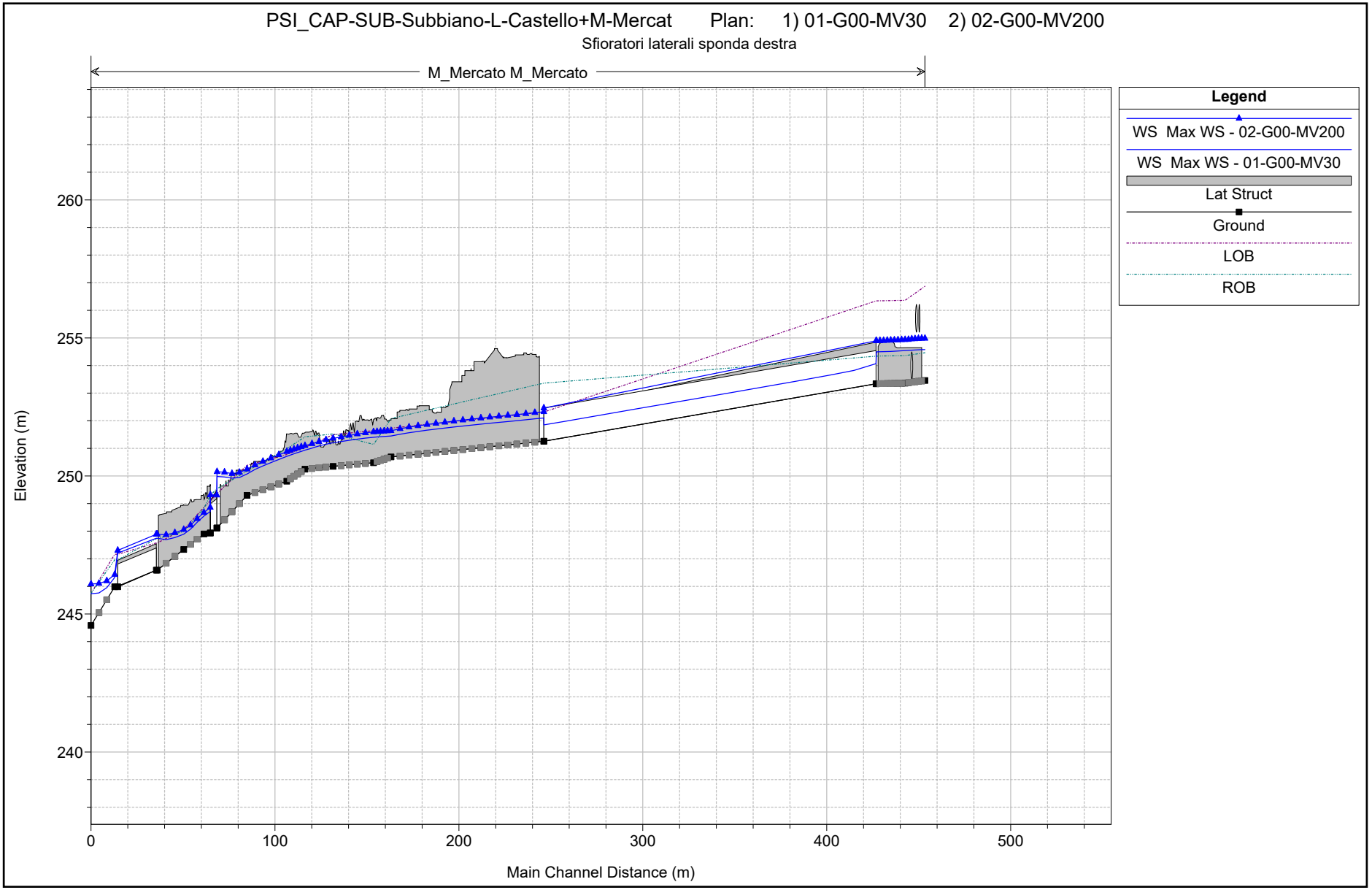
L + M – Castello + Mercato (Liena)

M-Mercato (Liena)

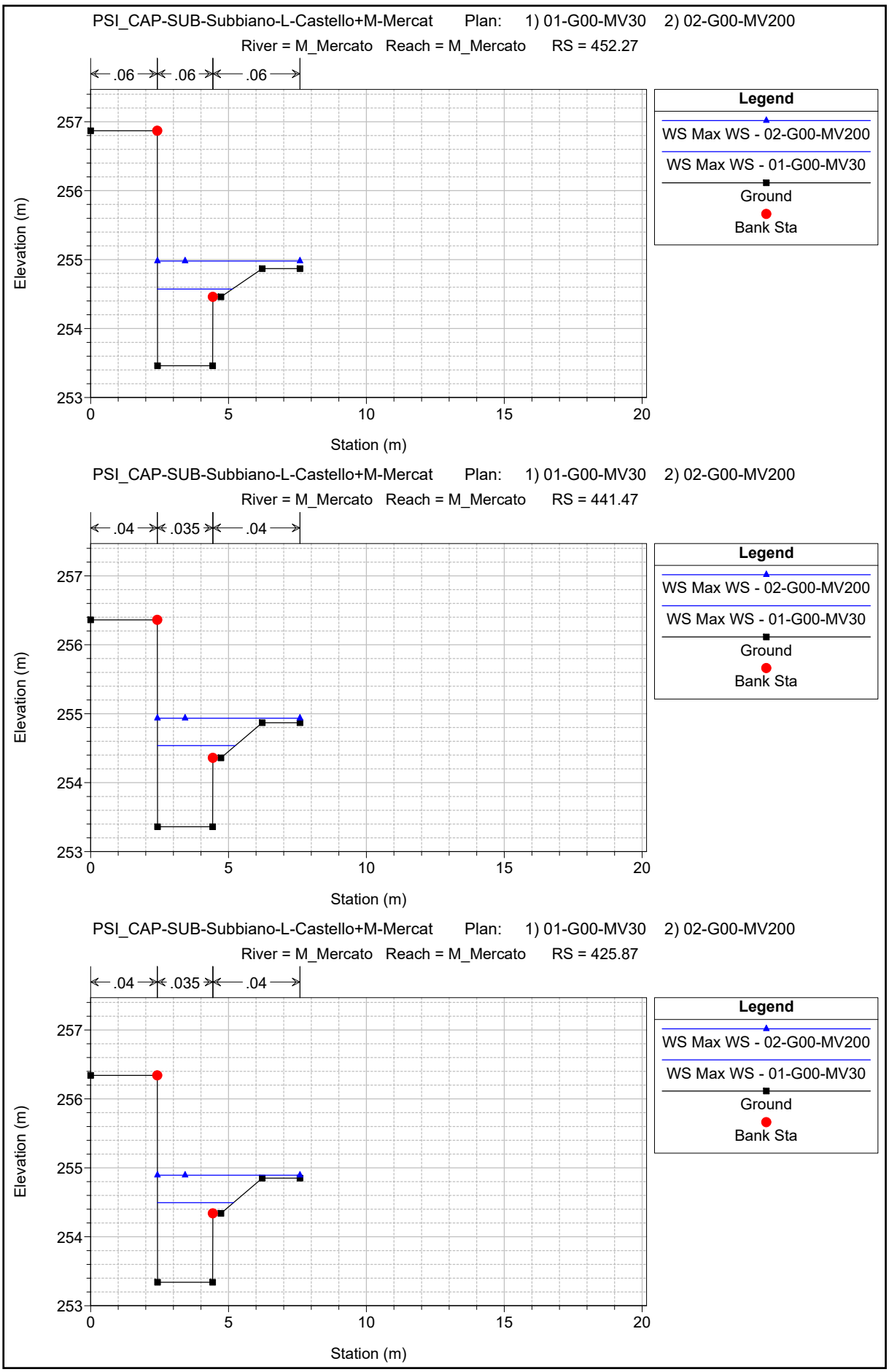
Scenario Alpha

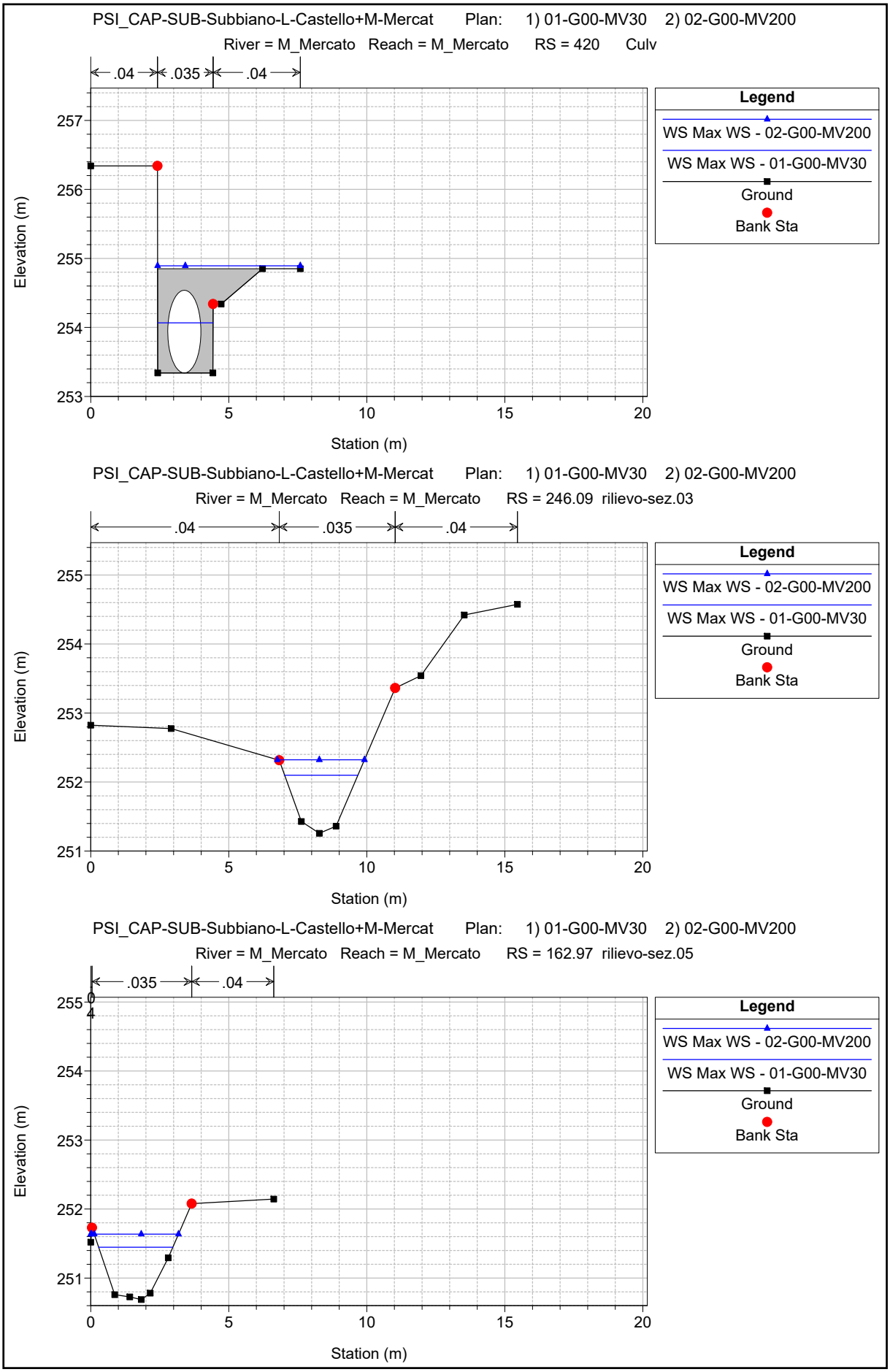


1 cm Horiz. = 30 m 1 cm Vert. = 2 m



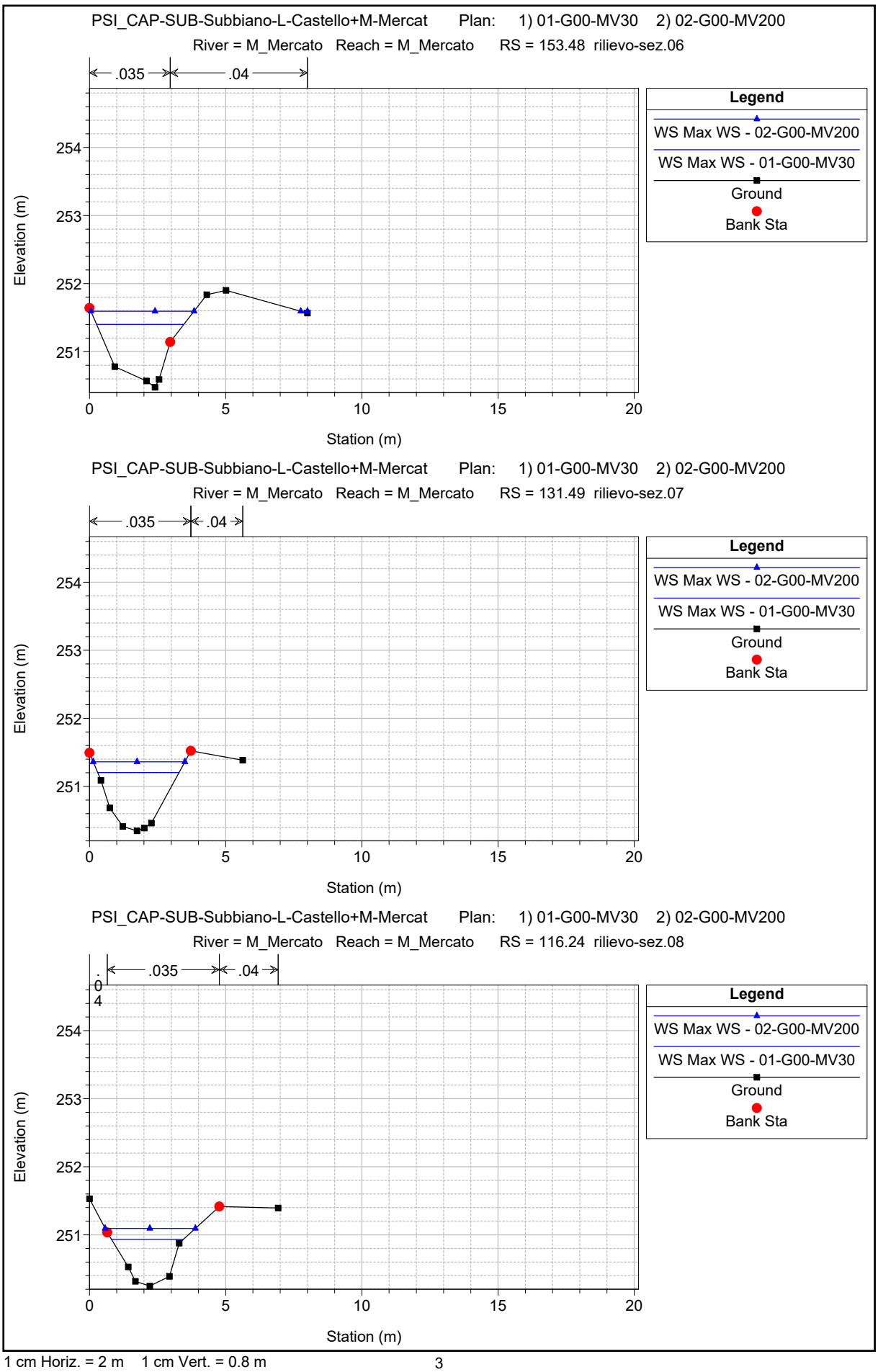
1 cm Horiz. = 30 m 1 cm Vert. = 2 m


PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = M_Mercato Reach = M_Mercato RS = 452.27
.06
.06
.06
Elevation (m)
257
256
255
254
253
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Bank Sta
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = M_Mercato Reach = M_Mercato RS = 441.47
.04
.035
.04
Elevation (m)
257
256
255
254
253
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Bank Sta
PSI_CAP-SUB-Subbiano-L-Castello+M-Mercat Plan: 1) 01-G00-MV30 2) 02-G00-MV200
River = M_Mercato Reach = M_Mercato RS = 425.87
.04
.035
.04
Elevation (m)
257
256
255
254
253
0
5
10
15
20
Station (m)
Legend
WS Max WS - 02-G00-MV200
WS Max WS - 01-G00-MV30
Ground
Bank Sta
1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m
1

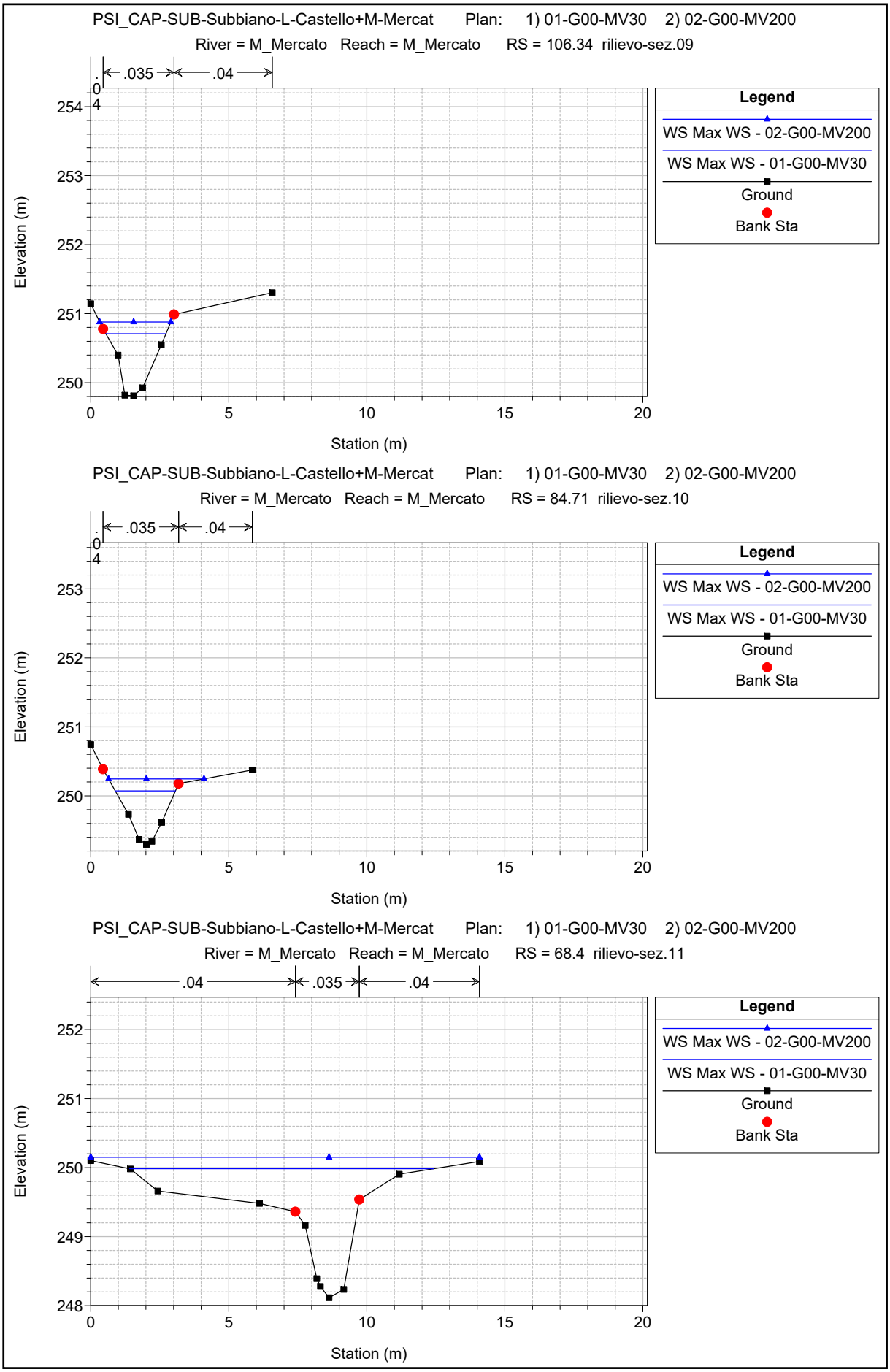


1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m

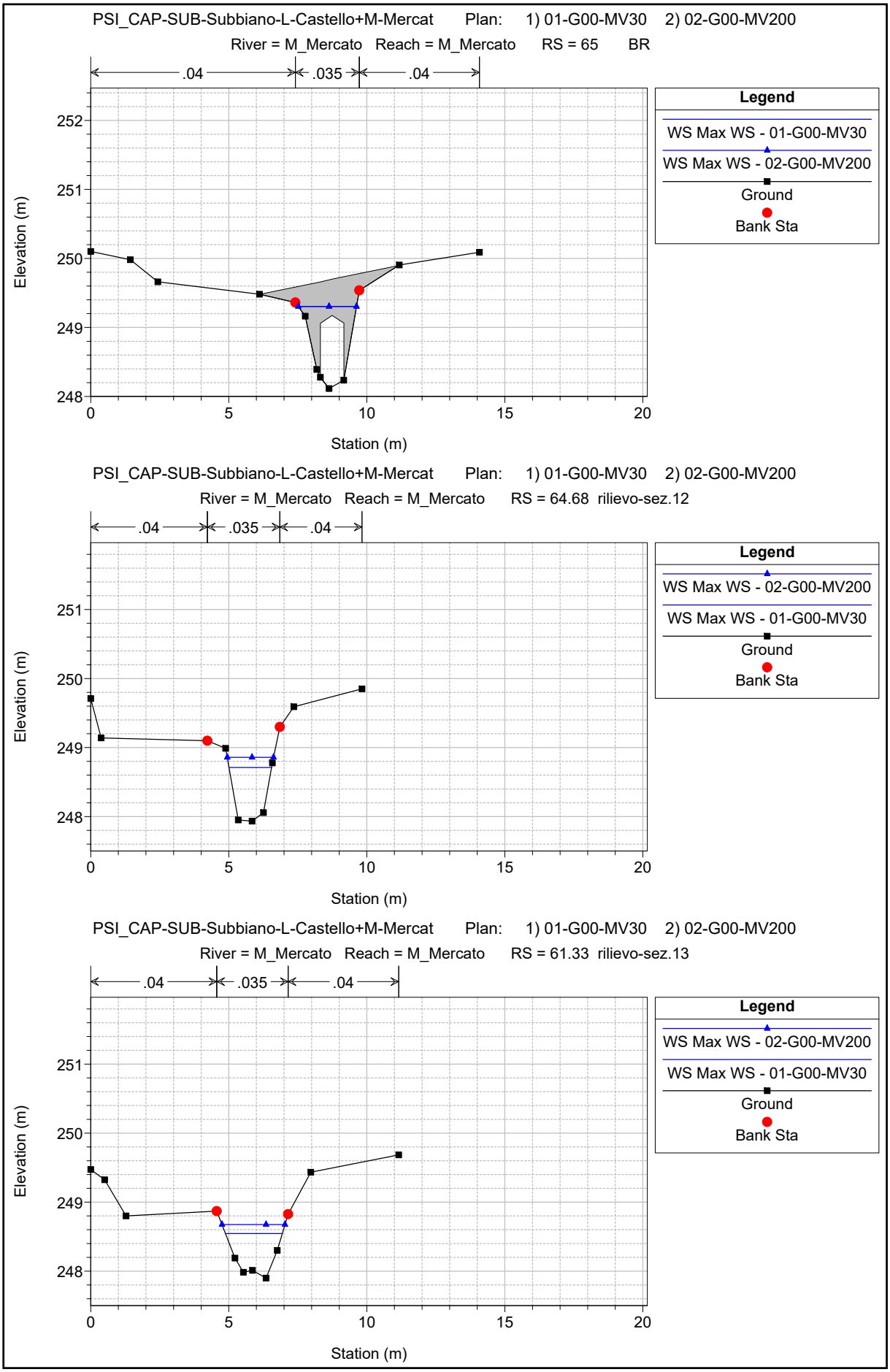
2



1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m

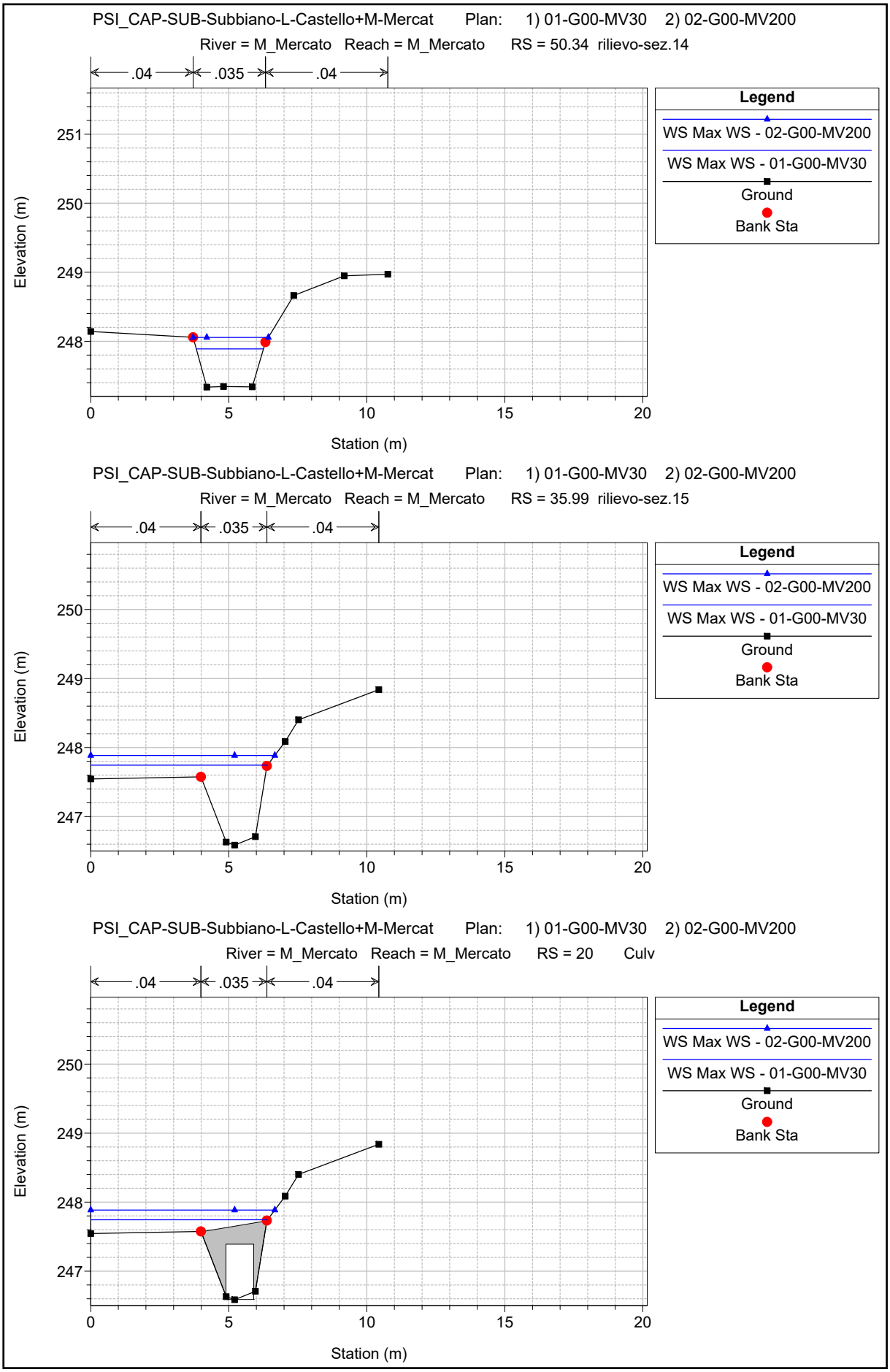


1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m 4

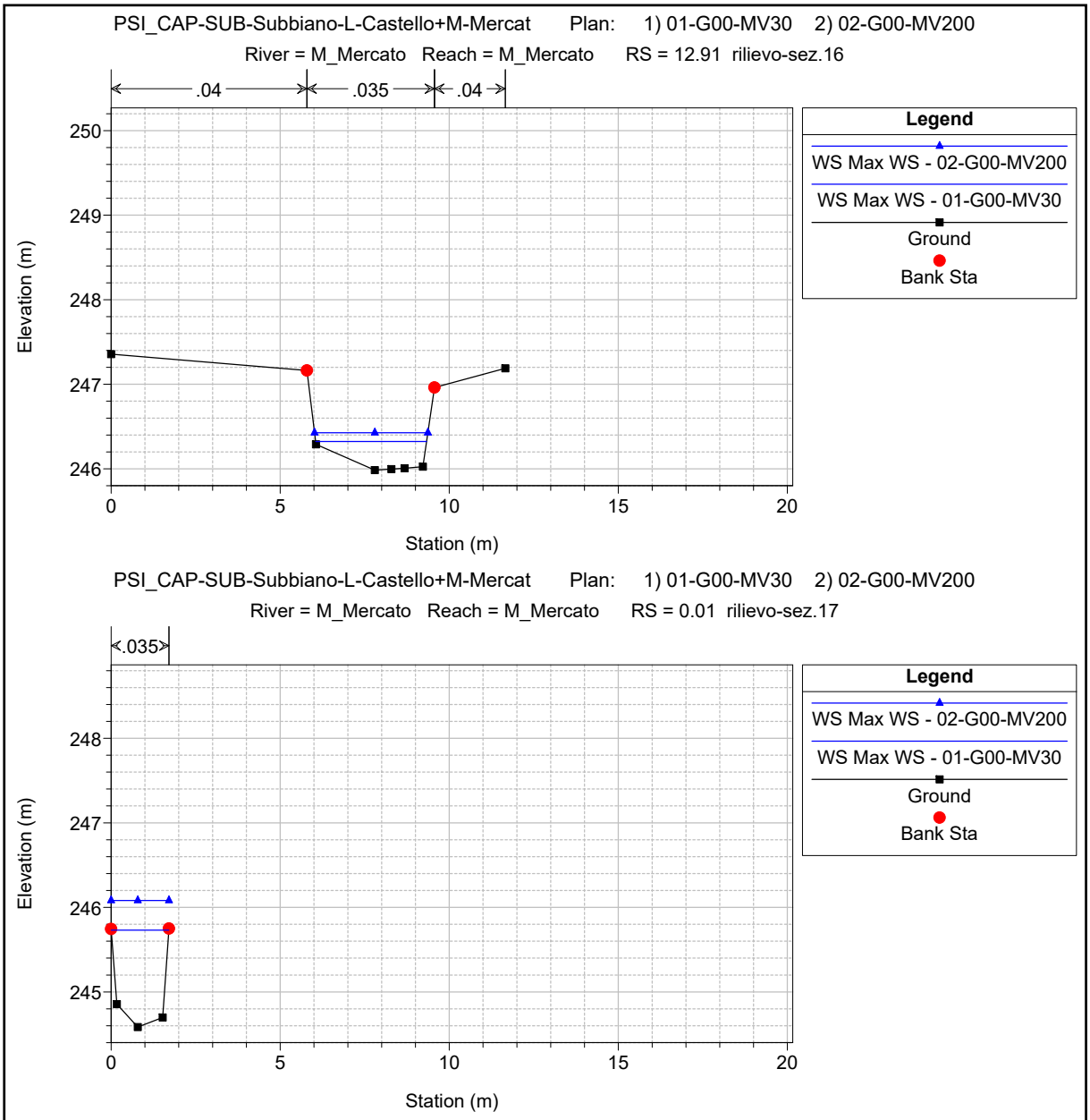


1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m

5



1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m



1 cm Horiz. = 2 m 1 cm Vert. = 0.8 m

HEC-RAS River: M_Mercato Reach: M_Mercato Profile: Max WS

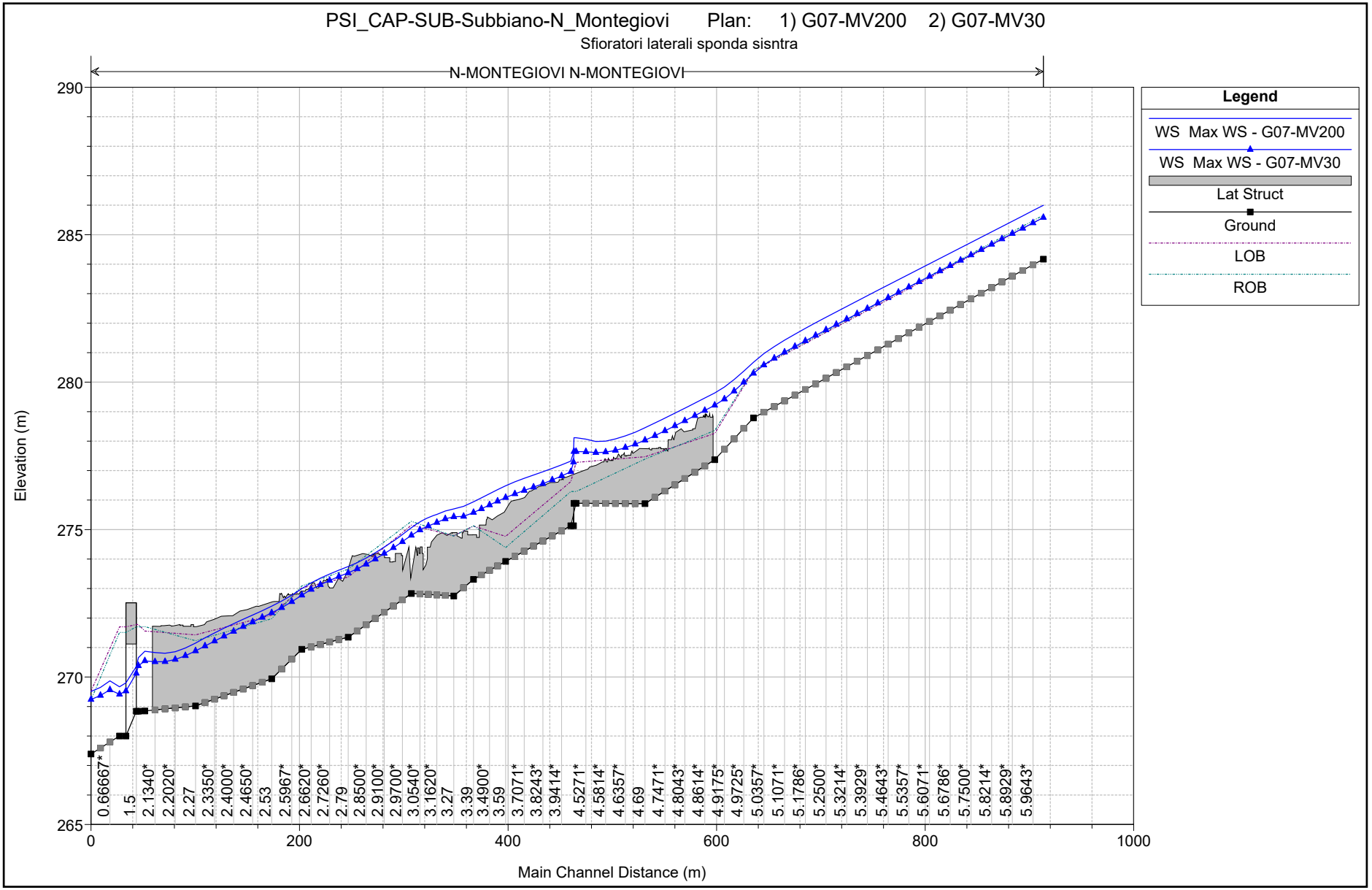
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
M_Mercato	452.27	Max WS	01-G00-MV30	0.05	253.46	254.57		254.57	0.000004	0.02	2.29	2.72	0.01
M_Mercato	452.27	Max WS	02-G00-MV200	0.08	253.46	254.98		254.98	0.000004	0.02	3.83	5.17	0.01
M_Mercato	450.3			Lat Struct									
M_Mercato	450			Lat Struct									
M_Mercato	441.47	Max WS	01-G00-MV30	1.35	253.36	254.54		254.55	0.000827	0.56	2.46	2.83	0.17
M_Mercato	441.47	Max WS	02-G00-MV200	2.34	253.36	254.94		254.96	0.000908	0.67	3.91	5.17	0.17
M_Mercato	425.87	Max WS	01-G00-MV30	1.75	253.34	254.50		254.52	0.001491	0.75	2.40	2.76	0.22
M_Mercato	425.87	Max WS	02-G00-MV200	2.91	253.34	254.89		254.93	0.001501	0.86	3.79	5.17	0.22
M_Mercato	420			Culvert									
M_Mercato	246.09	Max WS	01-G00-MV30	1.75	251.26	252.10		252.17	0.005134	1.20	1.46	2.65	0.51
M_Mercato	246.09	Max WS	02-G00-MV200	2.91	251.26	252.32		252.42	0.005272	1.38	2.11	3.16	0.53
M_Mercato	243			Lat Struct									
M_Mercato	242			Lat Struct									
M_Mercato	162.97	Max WS	01-G00-MV30	2.35	250.69	251.45		251.59	0.010589	1.68	1.40	2.68	0.74
M_Mercato	162.97	Max WS	02-G00-MV200	3.73	250.69	251.64		251.82	0.010856	1.91	1.95	3.08	0.76
M_Mercato	153.48	Max WS	01-G00-MV30	2.39	250.48	251.40		251.50	0.005956	1.41	1.74	3.21	0.57
M_Mercato	153.48	Max WS	02-G00-MV200	3.79	250.48	251.59		251.73	0.006284	1.65	2.42	4.03	0.60
M_Mercato	131.49	Max WS	01-G00-MV30	2.47	250.35	251.20		251.32	0.007571	1.49	1.66	2.98	0.64
M_Mercato	131.49	Max WS	02-G00-MV200	3.87	250.35	251.36		251.53	0.009107	1.79	2.16	3.37	0.71
M_Mercato	116.24	Max WS	01-G00-MV30	2.52	250.25	250.93	250.95	251.17	0.021702	2.18	1.16	2.64	1.05
M_Mercato	116.24	Max WS	02-G00-MV200	3.91	250.25	251.09	251.12	251.39	0.021257	2.39	1.64	3.31	1.07
M_Mercato	106.34	Max WS	01-G00-MV30	2.64	249.81	250.71	250.73	251.00	0.026145	2.38	1.11	2.18	1.07
M_Mercato	106.34	Max WS	02-G00-MV200	4.08	249.81	250.88	250.93	251.25	0.026171	2.71	1.51	2.58	1.11
M_Mercato	84.71	Max WS	01-G00-MV30	2.82	249.30	250.07	250.21	250.52	0.043429	2.96	0.95	2.18	1.43
M_Mercato	84.71	Max WS	02-G00-MV200	4.37	249.30	250.25	250.43	250.76	0.038550	3.19	1.39	3.46	1.39
M_Mercato	68.4	Max WS	01-G00-MV30	2.76	248.12	249.98	249.05	250.00	0.000583	0.61	5.97	11.02	0.17
M_Mercato	68.4	Max WS	02-G00-MV200	2.97	248.12	250.15	249.09	250.16	0.000345	0.50	8.14	14.08	0.13
M_Mercato	65			Bridge									
M_Mercato	64.68	Max WS	01-G00-MV30	2.76	247.93	248.71	248.82	249.19	0.043922	3.05	0.90	1.54	1.27
M_Mercato	64.68	Max WS	02-G00-MV200	4.09	247.93	248.86	249.21	249.51	0.052179	3.58	1.14	1.68	1.39
M_Mercato	63			Lat Struct									
M_Mercato	62			Lat Struct									
M_Mercato	61.33	Max WS	01-G00-MV30	2.81	247.90	248.55	248.71	249.07	0.053260	3.21	0.88	2.06	1.57
M_Mercato	61.33	Max WS	02-G00-MV200	4.21	247.90	248.68	248.97	249.35	0.055547	3.63	1.16	2.29	1.63
M_Mercato	50.34	Max WS	01-G00-MV30	2.92	247.34	247.89	247.96	248.24	0.031013	2.61	1.12	2.43	1.23
M_Mercato	50.34	Max WS	02-G00-MV200	4.41	247.34	248.05	248.22	248.47	0.027946	2.86	1.55	2.72	1.19
M_Mercato	35.99	Max WS	01-G00-MV30	2.74	246.59	247.74		247.81	0.003813	1.21	2.71	6.40	0.42
M_Mercato	35.99	Max WS	02-G00-MV200	4.10	246.59	247.89		247.97	0.004009	1.37	3.63	6.67	0.45
M_Mercato	20			Culvert									
M_Mercato	12.91	Max WS	01-G00-MV30	2.74	245.98	246.32	246.50	246.92	0.105084	3.43	0.80	3.28	2.22
M_Mercato	12.91	Max WS	02-G00-MV200	4.10	245.98	246.43	246.62	247.09	0.078442	3.61	1.14	3.35	1.98
M_Mercato	0.01	Max WS	01-G00-MV30	2.77	244.58	245.73	245.41	245.88	0.010001	1.74	1.60	1.70	0.57
M_Mercato	0.01	Max WS	02-G00-MV200	4.16	244.58	246.08	245.63	246.26	0.009999	1.90	2.19	1.71	0.53

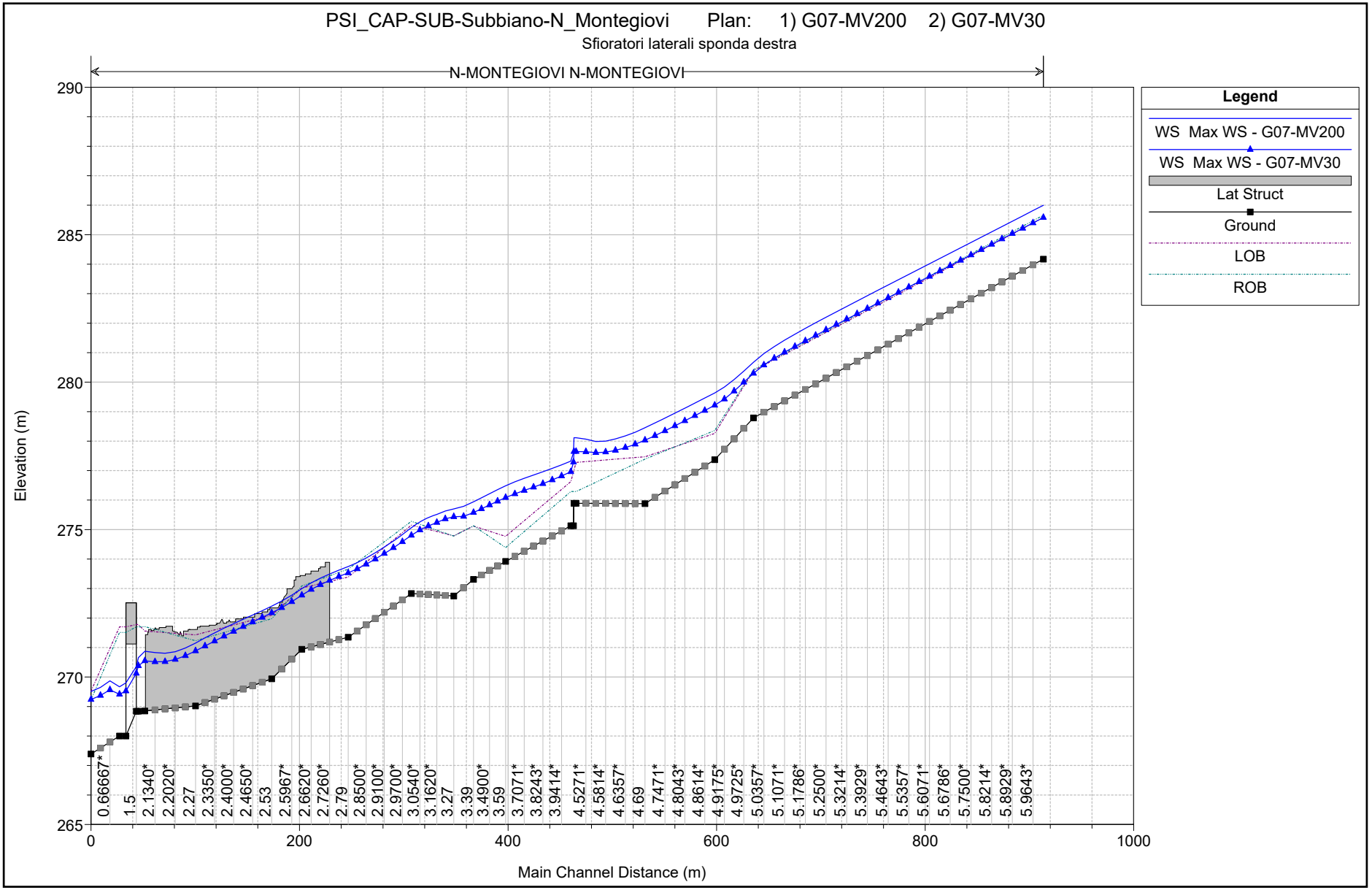
HEC-RAS River: M_Mercato Reach: M_Mercato Profile: Max WS

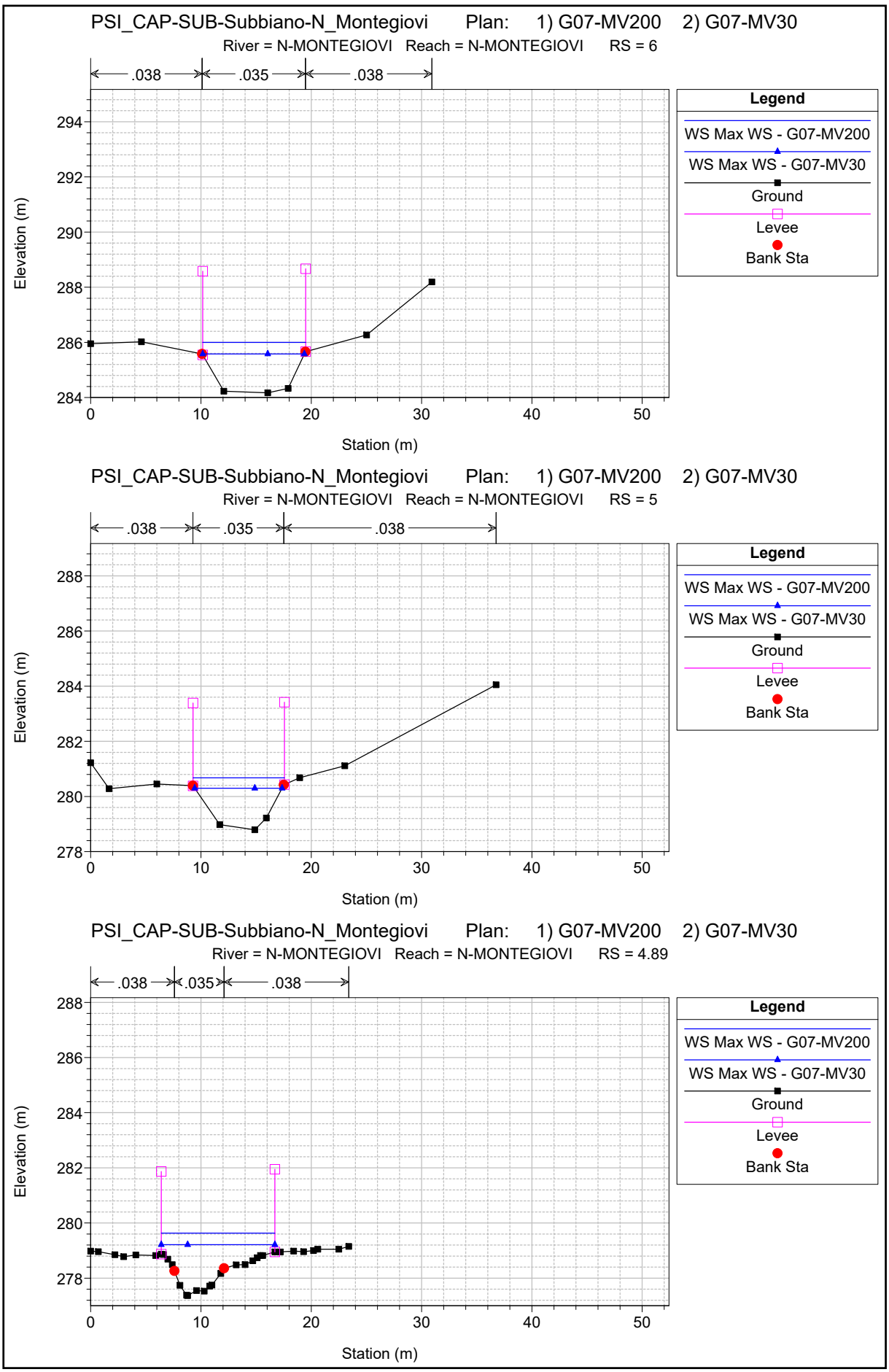
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
M_Mercato	450.3	Max WS	01-G00-MV30	0.05	0.00	1.75	0.00					256.40	254.57	254.57	254.52	254.50
M_Mercato	450.3	Max WS	02-G00-MV200	0.08	0.00	2.91	0.00					256.40	254.98	254.98	254.93	254.89
M_Mercato	450	Max WS	01-G00-MV30	0.05	-0.83	1.75	-0.83		24.51	0.38	0.30	254.64	254.57	254.57	254.53	254.50
M_Mercato	450	Max WS	02-G00-MV200	0.08	-1.08	2.91	-1.08		24.51	0.44	0.36	254.64	254.98	254.98	254.93	254.90
M_Mercato	243	Max WS	01-G00-MV30	1.75	0.02	2.76	0.02		20.26	0.34	0.11	249.64	252.16	252.08	250.00	249.97
M_Mercato	243	Max WS	02-G00-MV200	2.91	0.36	2.97	0.36		39.85	0.51	0.14	249.64	252.41	252.31	250.16	250.14
M_Mercato	242	Max WS	01-G00-MV30	1.75	-0.42	2.76	-0.42		111.34	0.31	0.08	249.66	252.15	252.08	250.00	249.97
M_Mercato	242	Max WS	02-G00-MV200	2.91	-0.32	2.97	-0.32		121.35	0.48	0.09	249.66	252.40	252.30	250.16	250.14
M_Mercato	63	Max WS	01-G00-MV30	2.76	-0.12	2.74	-0.05		14.27	0.29	0.12	247.55	249.18	248.70	247.82	247.74
M_Mercato	63	Max WS	02-G00-MV200	4.09	0.21	4.10	0.08		28.52	0.38	0.16	247.55	249.50	248.85	247.97	247.88
M_Mercato	62	Max WS	01-G00-MV30	2.76	-0.05	2.74	-0.05		17.67	0.21	0.05	248.58	249.19	248.71	247.82	247.74
M_Mercato	62	Max WS	02-G00-MV200	4.09	-0.21	4.10	-0.21		22.90	0.28	0.12	248.58	249.51	248.86	247.98	247.88

N – Montegiovi

Scenario Alpha

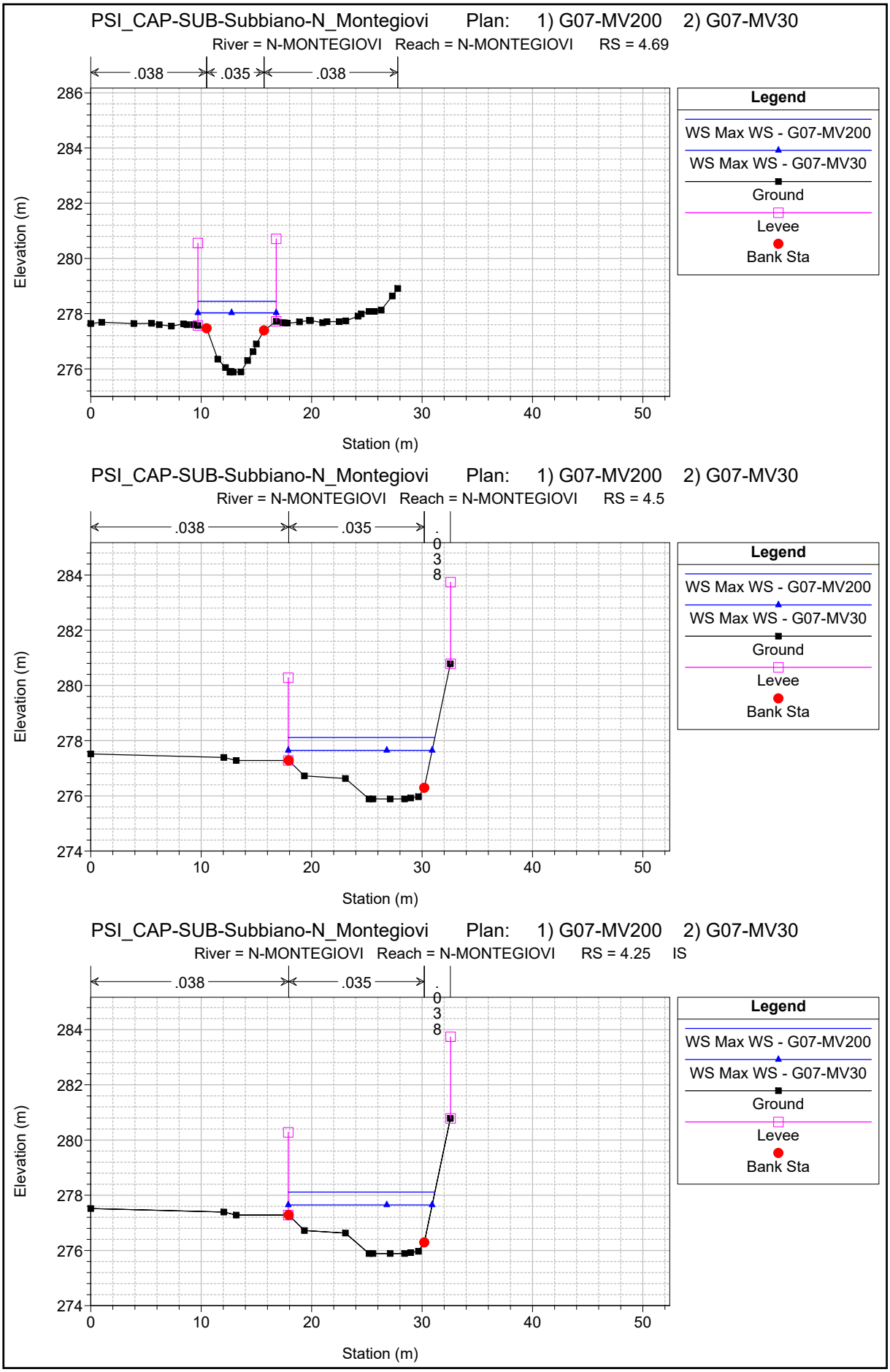

PSI_CAP-SUB-Subbiano-N_Montegiovi Plan: 1) G07-MV200 2) G07-MV30
Sfioratori laterali sponda sisntra
N-MONTEGIOVI N-MONTEGIOVI
Legend
WS Max WS - G07-MV200
WS Max WS - G07-MV30
Lat Struct
Ground
LOB
ROB
Elevation (m)
Main Channel Distance (m)
290
285
280
275
270
265
0
200
400
600
800
1000
0.66667*
1.5
2.1340*
2.2020*
2.27
2.3350*
2.4000*
2.4650*
2.53
2.5967*
2.6620*
2.7260*
2.79
2.8500*
2.9100*
2.9700*
3.0540*
3.1620*
3.27
3.39
3.4900*
3.59
3.7071*
3.8243*
3.9414*
4.5271*
4.5814*
4.6357*
4.69
4.7471*
4.8043*
4.8614*
4.9175*
4.9725*
5.0357*
5.1071*
5.1786*
5.2500*
5.3214*
5.3929*
5.4643*
5.5357*
5.6071*
5.6786*
5.7500*
5.8214*
5.8929*
5.9643*


PSI_CAP-SUB-Subbiano-N_Montegiovi Plan: 1) G07-MV200 2) G07-MV30
Sfioratori laterali sponda destra
N-MONTEGIOVI N-MONTEGIOVI
Legend
WS Max WS - G07-MV200
WS Max WS - G07-MV30
Lat Struct
Ground
LOB
ROB
Elevation (m)
Main Channel Distance (m)
290
285
280
275
270
265
0
200
400
600
800
1000
0.66667*
1.5
2.1340*
2.2020*
2.27
2.3350*
2.4000*
2.4650*
2.53
2.5967*
2.6620*
2.7260*
2.79
2.8500*
2.9100*
2.9700*
3.0540*
3.1620*
3.27
3.39
3.4900*
3.59
3.7071*
3.8243*
3.9414*
4.5271*
4.5814*
4.6357*
4.69
4.7471*
4.8043*
4.8614*
4.9175*
4.9725*
5.0357*
5.1071*
5.1786*
5.2500*
5.3214*
5.3929*
5.4643*
5.5357*
5.6071*
5.6786*
5.7500*
5.8214*
5.8929*
5.9643*



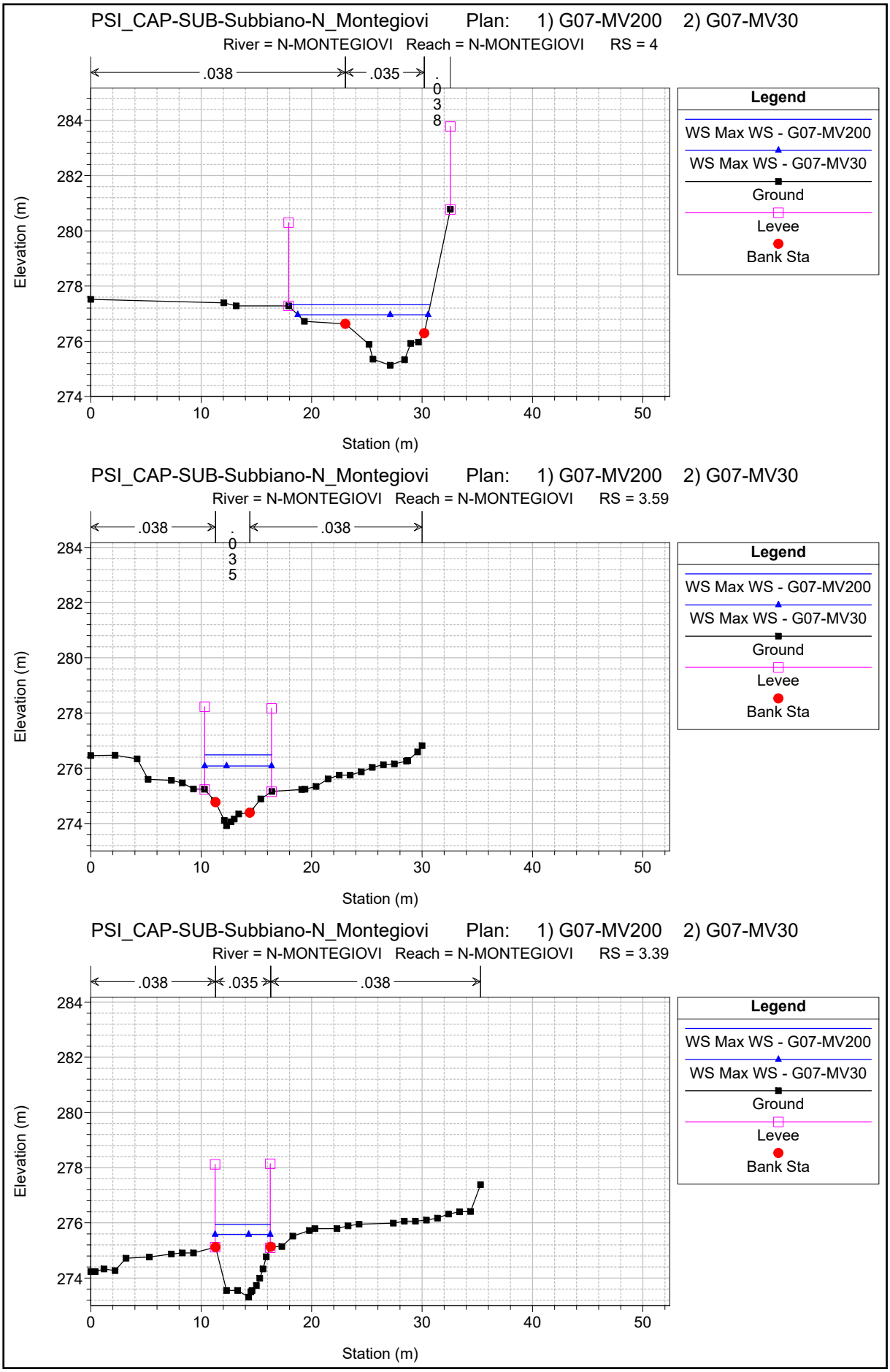
1 cm Horiz. = 5 m 1 cm Vert. = 2 m

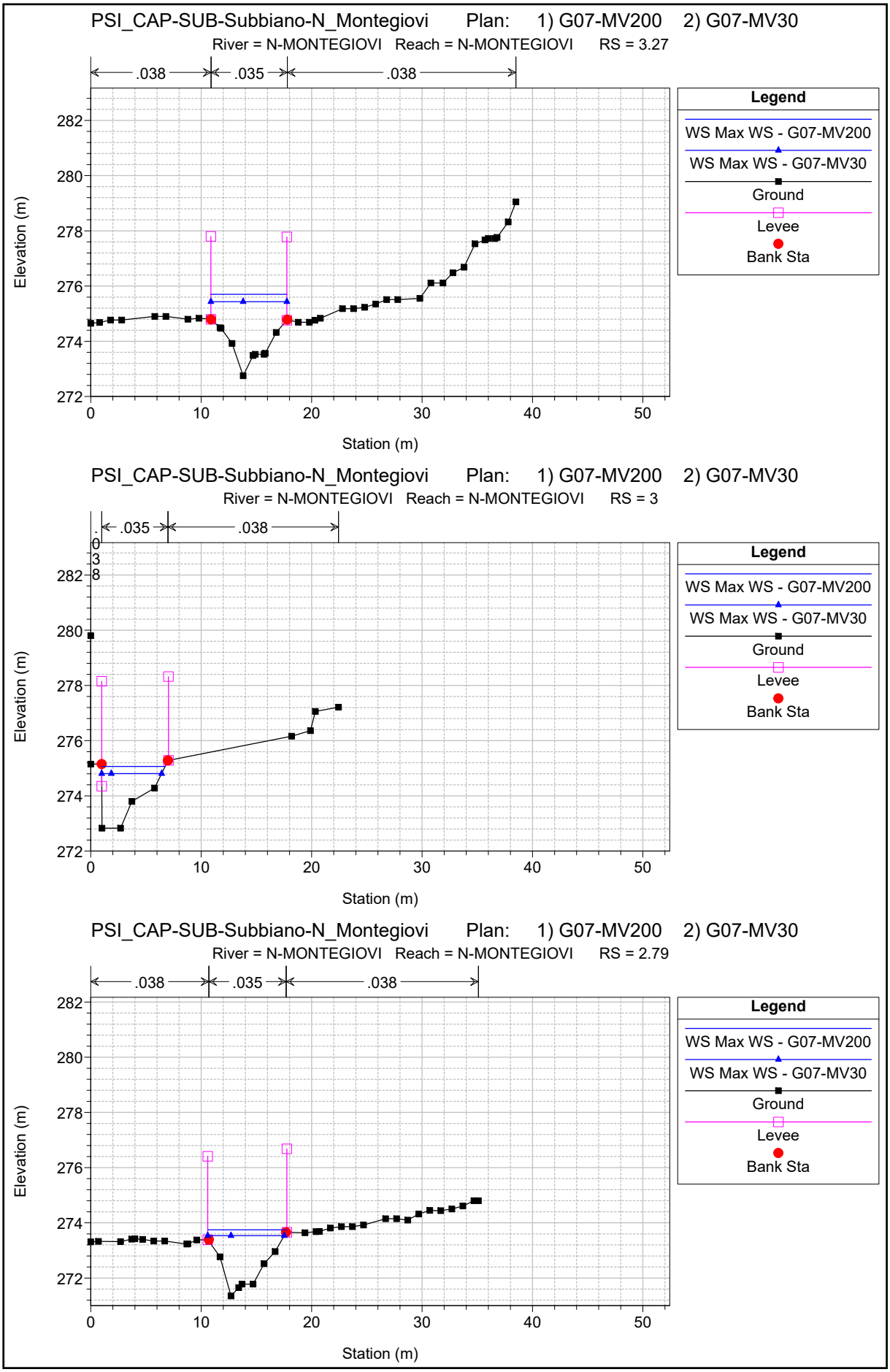
1



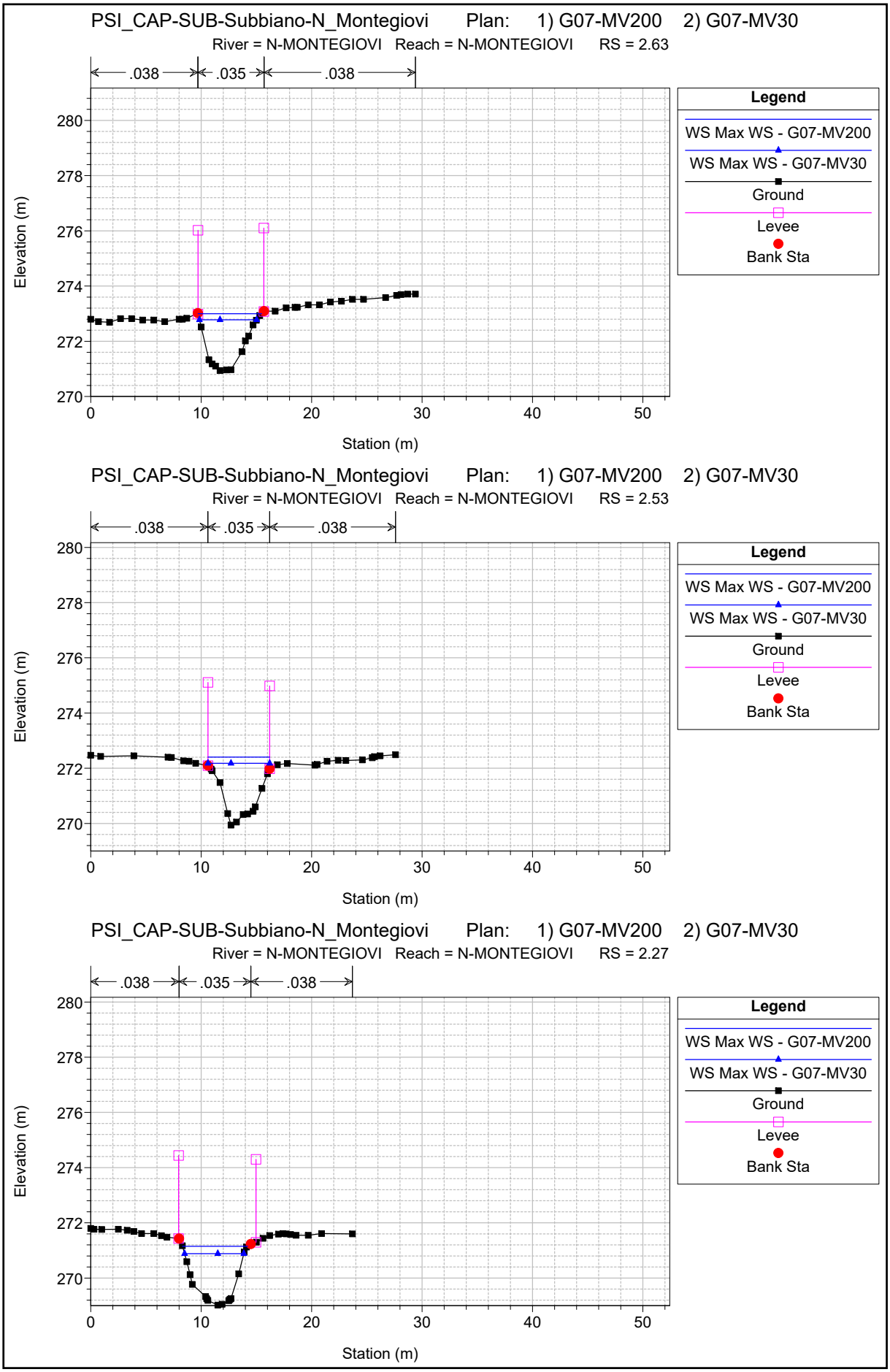
1 cm Horiz. = 5 m 1 cm Vert. = 2 m

2


PSI_CAP-SUB-Subbiano-N_Montegiovi Plan: 1) G07-MV200 2) G07-MV30
River = N-MONTEGIOVI Reach = N-MONTEGIOVI RS = 4
.038
.035
.038
Legend
WS Max WS - G07-MV200
WS Max WS - G07-MV30
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-N_Montegiovi Plan: 1) G07-MV200 2) G07-MV30
River = N-MONTEGIOVI Reach = N-MONTEGIOVI RS = 3.59
.038
.035
.038
Legend
WS Max WS - G07-MV200
WS Max WS - G07-MV30
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-N_Montegiovi Plan: 1) G07-MV200 2) G07-MV30
River = N-MONTEGIOVI Reach = N-MONTEGIOVI RS = 3.39
.038
.035
.038
Legend
WS Max WS - G07-MV200
WS Max WS - G07-MV30
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
1 cm Horiz. = 5 m 1 cm Vert. = 2 m
3

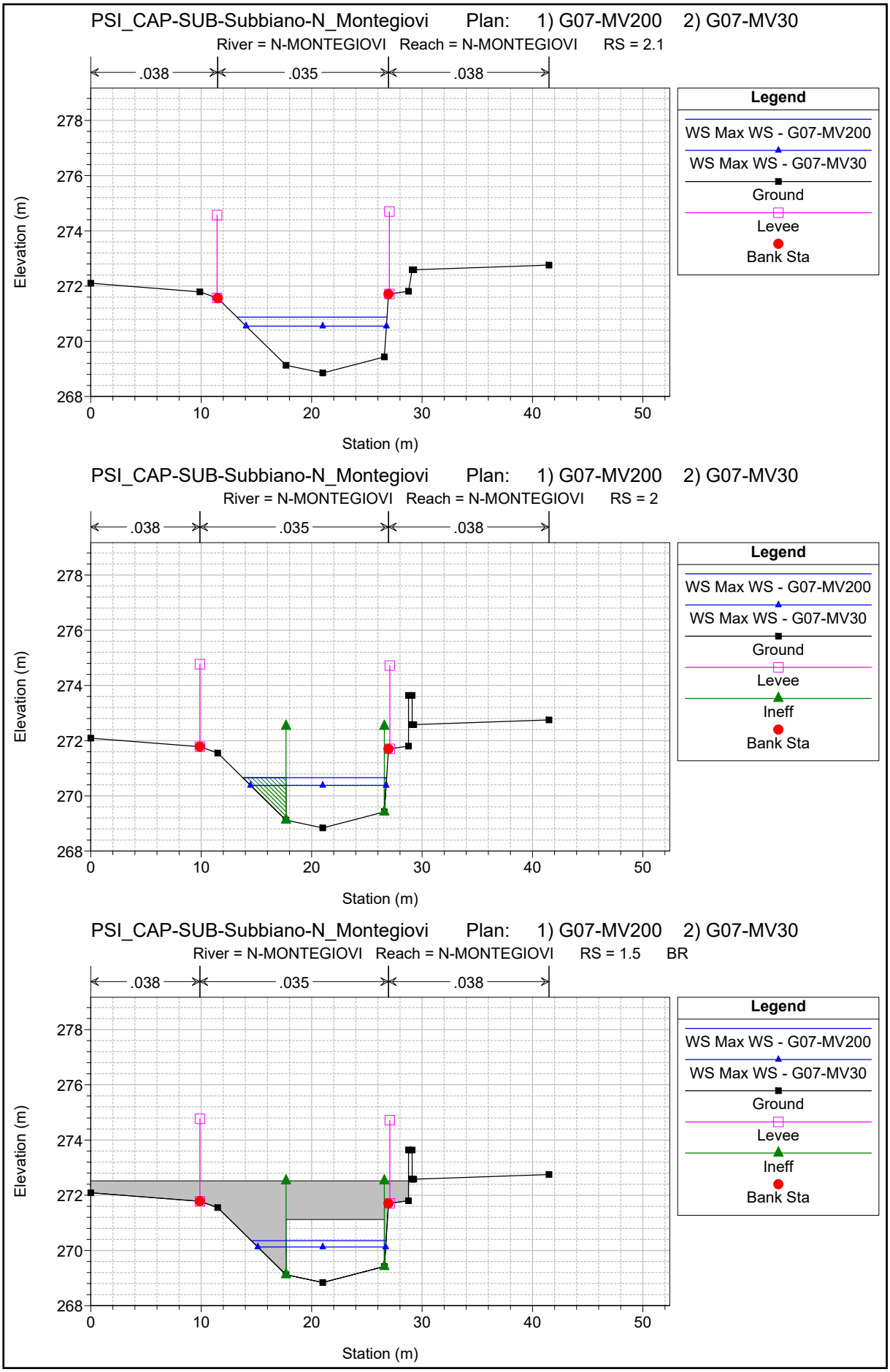


1 cm Horiz. = 5 m 1 cm Vert. = 2 m

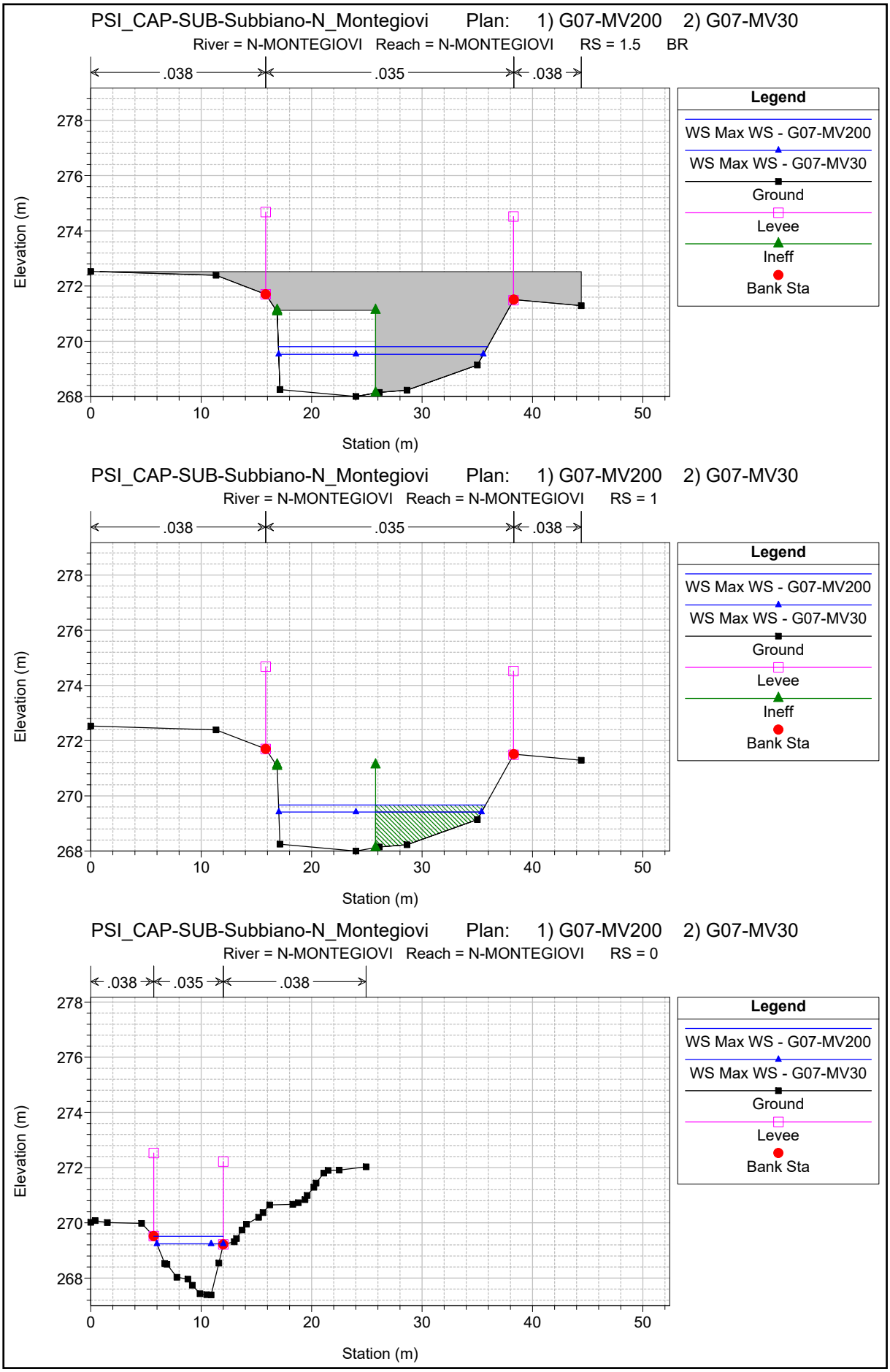


1 cm Horiz. = 5 m 1 cm Vert. = 2 m

5



1 cm Horiz. = 5 m 1 cm Vert. = 2 m



1 cm Horiz. = 5 m 1 cm Vert. = 2 m

HEC-RAS River: N-MONTEGIOVI Reach: N-MONTEGIOVI Profile: Max WS

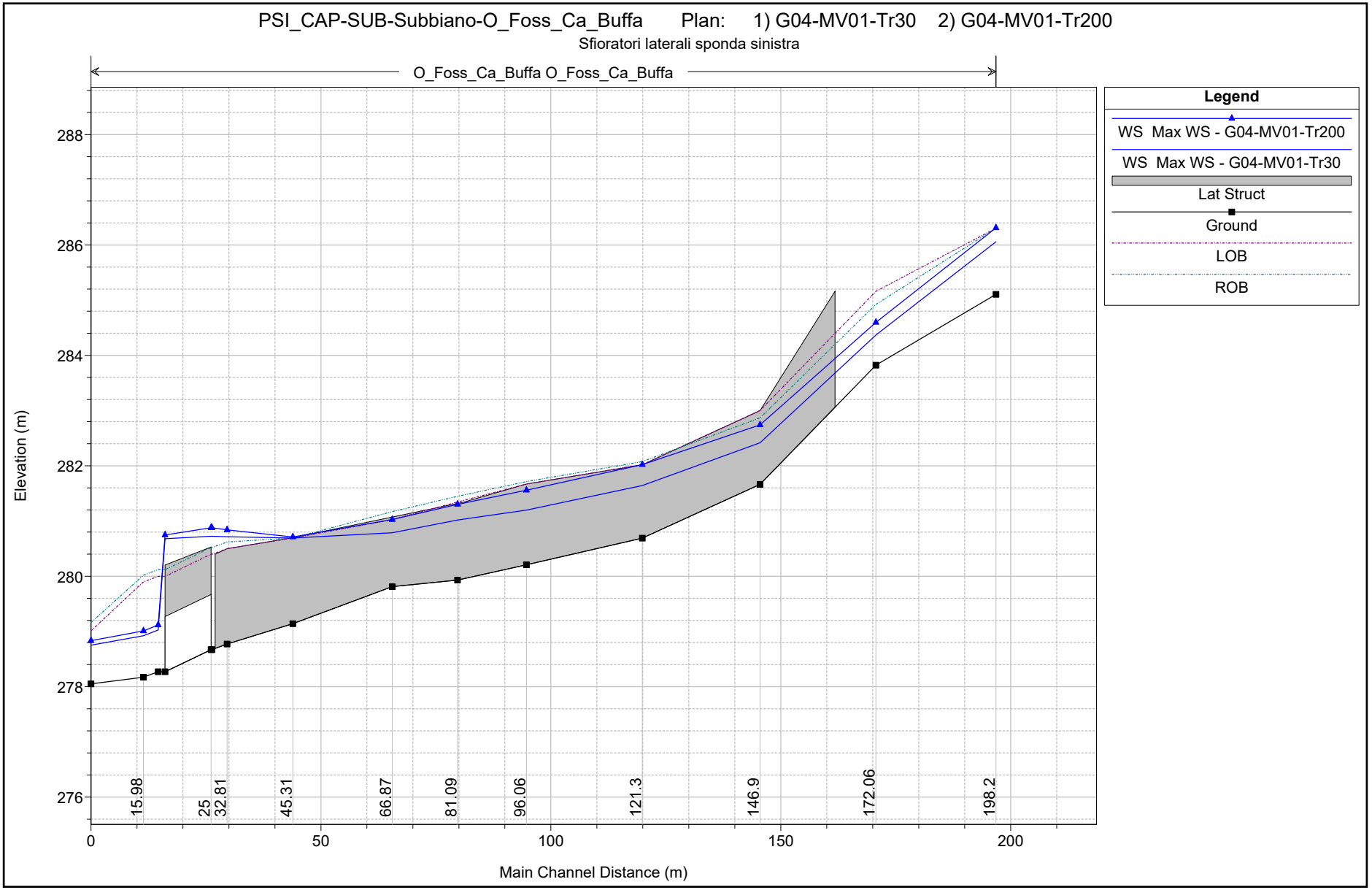
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
N-MONTEGIOVI	6	Max WS	G07-MV200	65.41	284.17	286.00	286.20	287.10	0.018193	4.64	14.10	9.33	1.20
N-MONTEGIOVI	6	Max WS	G07-MV30	39.61	284.17	285.58	285.71	286.35	0.018270	3.88	10.21	9.22	1.18
N-MONTEGIOVI	5	Max WS	G07-MV200	65.40	278.79	280.67	281.18	282.41	0.033072	5.84	11.21	8.29	1.60
N-MONTEGIOVI	5	Max WS	G07-MV30	39.61	278.79	280.30	280.65	281.51	0.032102	4.88	8.12	7.93	1.54
N-MONTEGIOVI	4.89	Max WS	G07-MV200	65.40	277.37	279.63	279.94	280.90	0.018249	5.53	14.42	10.30	1.27
N-MONTEGIOVI	4.89	Max WS	G07-MV30	39.61	277.37	279.22	279.47	280.18	0.018512	4.72	10.11	10.30	1.23
N-MONTEGIOVI	4.88			Lat Struct									
N-MONTEGIOVI	4.69	Max WS	G07-MV200	59.82	275.88	278.45	278.71	279.83	0.017581	5.33	12.24	7.10	1.20
N-MONTEGIOVI	4.69	Max WS	G07-MV30	37.80	275.88	278.03	278.18	278.97	0.016006	4.36	9.26	7.10	1.10
N-MONTEGIOVI	4.5	Max WS	G07-MV200	55.92	275.89	278.11	277.61	278.43	0.003748	2.52	22.75	13.27	0.60
N-MONTEGIOVI	4.5	Max WS	G07-MV30	35.95	275.89	277.65	277.29	277.89	0.004285	2.20	16.63	13.03	0.61
N-MONTEGIOVI	4.25			Inl Struct									
N-MONTEGIOVI	4	Max WS	G07-MV200	55.92	275.13	277.32	277.51	278.20	0.014340	4.35	14.53	12.83	1.10
N-MONTEGIOVI	4	Max WS	G07-MV30	35.95	275.13	276.96	277.14	277.70	0.016112	3.89	10.07	11.82	1.12
N-MONTEGIOVI	3.59	Max WS	G07-MV200	53.75	273.92	276.49	276.68	277.86	0.016571	5.77	11.57	6.05	1.24
N-MONTEGIOVI	3.59	Max WS	G07-MV30	36.30	273.92	276.08	276.19	277.06	0.015150	4.82	9.14	6.05	1.14
N-MONTEGIOVI	3.39	Max WS	G07-MV200	48.00	273.31	275.94	276.02	277.09	0.018271	4.74	10.15	5.00	1.06
N-MONTEGIOVI	3.39	Max WS	G07-MV30	33.44	273.31	275.58	275.56	276.40	0.015880	4.02	8.34	5.00	0.99
N-MONTEGIOVI	3.27	Max WS	G07-MV200	44.92	272.75	275.70		276.37	0.010657	3.62	12.44	6.88	0.86
N-MONTEGIOVI	3.27	Max WS	G07-MV30	31.85	272.75	275.43		275.89	0.008740	3.00	10.62	6.88	0.77
N-MONTEGIOVI	3	Max WS	G07-MV200	37.02	272.83	275.06	275.30	276.14	0.028456	4.59	8.06	5.74	1.24
N-MONTEGIOVI	3	Max WS	G07-MV30	27.08	272.83	274.81	274.96	275.66	0.026461	4.09	6.62	5.42	1.18
N-MONTEGIOVI	2.79	Max WS	G07-MV200	34.38	271.35	273.75	273.73	274.40	0.013683	3.59	9.61	7.17	0.98
N-MONTEGIOVI	2.79	Max WS	G07-MV30	26.51	271.35	273.53	273.50	274.08	0.013715	3.27	8.11	6.93	0.96
N-MONTEGIOVI	2.7			Lat Struct									
N-MONTEGIOVI	2.63	Max WS	G07-MV200	33.16	270.94	273.00	273.21	274.01	0.024393	4.45	7.45	5.75	1.25
N-MONTEGIOVI	2.63	Max WS	G07-MV30	26.22	270.94	272.78	272.98	273.68	0.023939	4.20	6.24	5.18	1.22
N-MONTEGIOVI	2.53	Max WS	G07-MV200	33.16	269.94	272.40	272.41	273.17	0.017197	3.89	8.52	5.59	1.01
N-MONTEGIOVI	2.53	Max WS	G07-MV30	26.23	269.94	272.18	272.19	272.84	0.016904	3.61	7.27	5.59	1.01
N-MONTEGIOVI	2.27	Max WS	G07-MV200	36.58	269.02	271.15	271.33	272.09	0.019885	4.29	8.53	5.90	1.14
N-MONTEGIOVI	2.27	Max WS	G07-MV30	27.59	269.02	270.88	270.97	271.67	0.018679	3.92	7.04	5.37	1.09
N-MONTEGIOVI	2.1	Max WS	G07-MV200	40.46	268.85	270.87		271.08	0.003476	2.02	20.00	13.59	0.53
N-MONTEGIOVI	2.1	Max WS	G07-MV30	29.97	268.85	270.55		270.73	0.003807	1.91	15.72	12.71	0.55
N-MONTEGIOVI	2	Max WS	G07-MV200	40.46	268.84	270.66	270.35	271.08	0.005482	2.87	14.12	13.04	0.73
N-MONTEGIOVI	2	Max WS	G07-MV30	29.97	268.84	270.38	270.13	270.72	0.005716	2.57	11.64	12.28	0.72
N-MONTEGIOVI	1.5			Bridge									
N-MONTEGIOVI	1	Max WS	G07-MV200	40.46	268.00	269.67		270.12	0.007324	2.98	13.58	18.74	0.77
N-MONTEGIOVI	1	Max WS	G07-MV30	29.97	268.00	269.41		269.77	0.007078	2.64	11.34	18.37	0.74
N-MONTEGIOVI	0	Max WS	G07-MV200	40.46	267.39	269.51	269.73	270.59	0.024005	4.61	8.78	6.29	1.25
N-MONTEGIOVI	0	Max WS	G07-MV30	29.97	267.39	269.24	269.44	270.15	0.024013	4.23	7.09	6.01	1.24

HEC-RAS River: N-MONTEGIOVI Reach: N-MONTEGIOVI Profile: Max WS

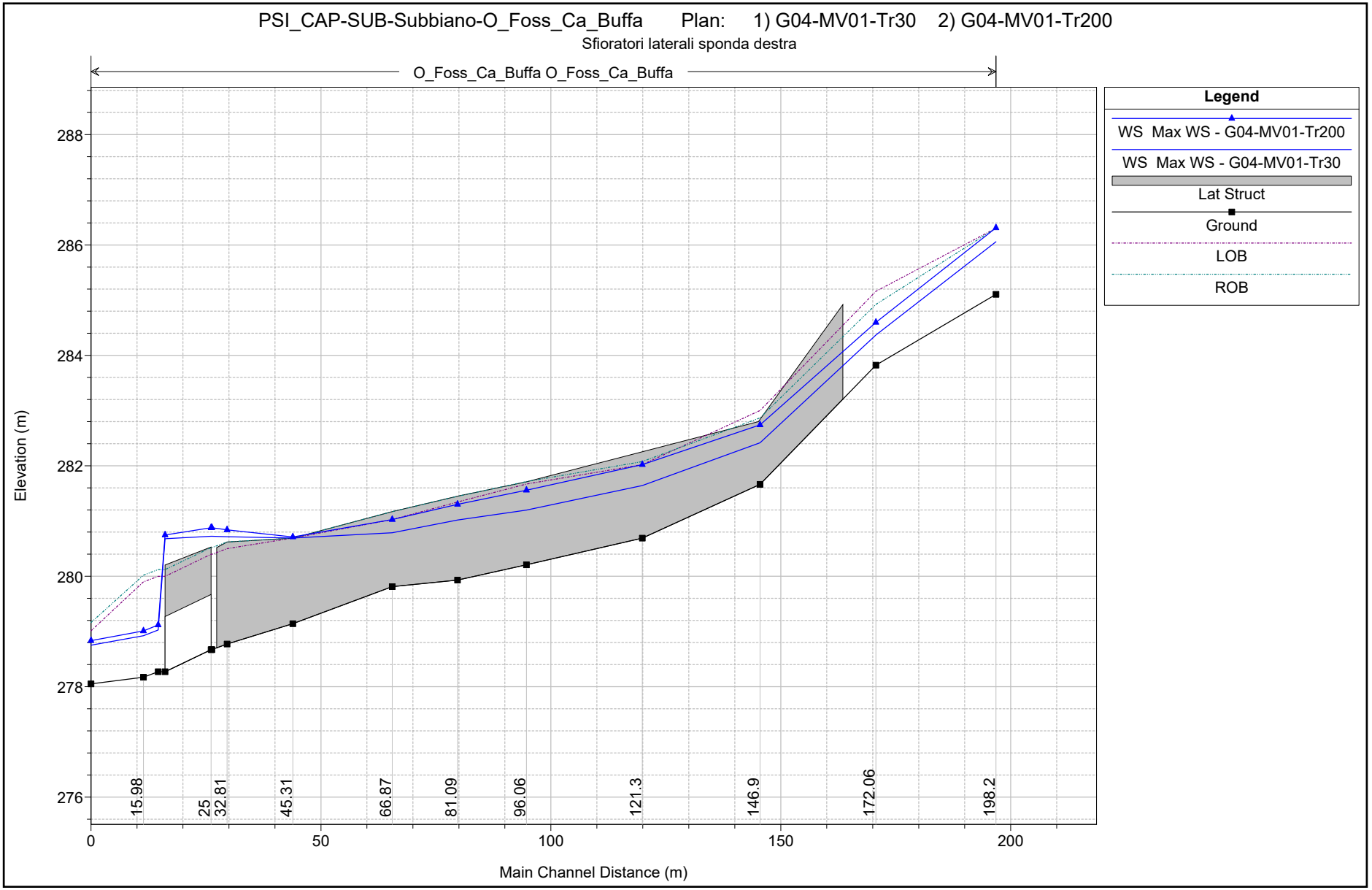
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
N-MONTEGIOVI	4.88	Max WS	G07-MV200	65.40	24.80	40.46	24.80		523.44	1.70	0.60	271.71	280.87	279.60	271.12	270.84
N-MONTEGIOVI	4.88	Max WS	G07-MV30	39.61	9.57	29.97	9.57		467.23	1.44	0.36	271.71	280.15	279.18	270.78	270.52
N-MONTEGIOVI	2.7	Max WS	G07-MV200	33.54	0.04	40.46	0.04		71.85	0.16	0.04	271.40	274.21	273.49	271.09	270.87
N-MONTEGIOVI	2.7	Max WS	G07-MV30	26.26	0.00	29.97	0.00					271.40	273.89	273.28	270.74	270.55

O – Cà di buffa

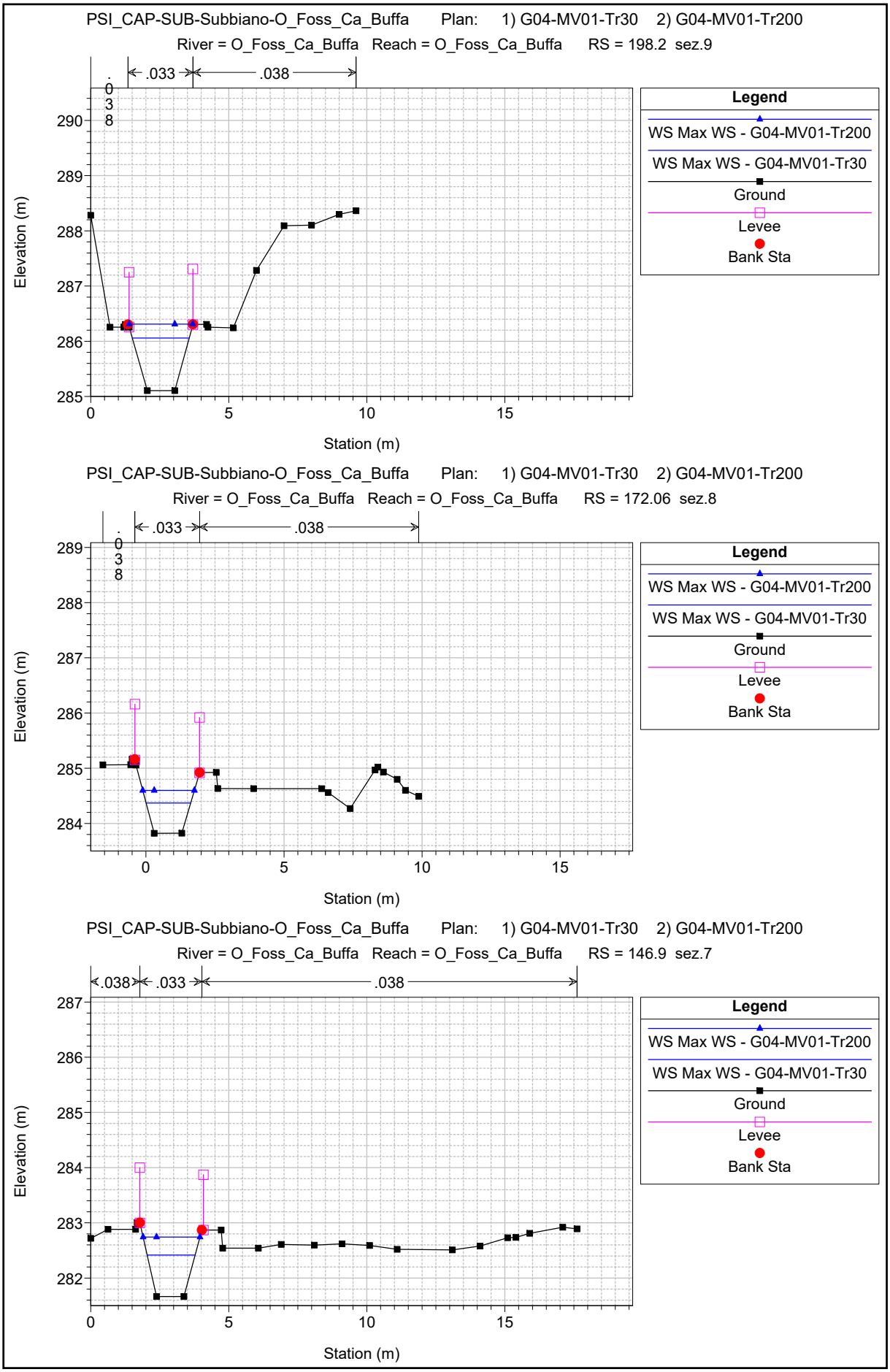
Scenario Alpha



1 cm Horiz. = 12 m 1 cm Vert. = 1 m

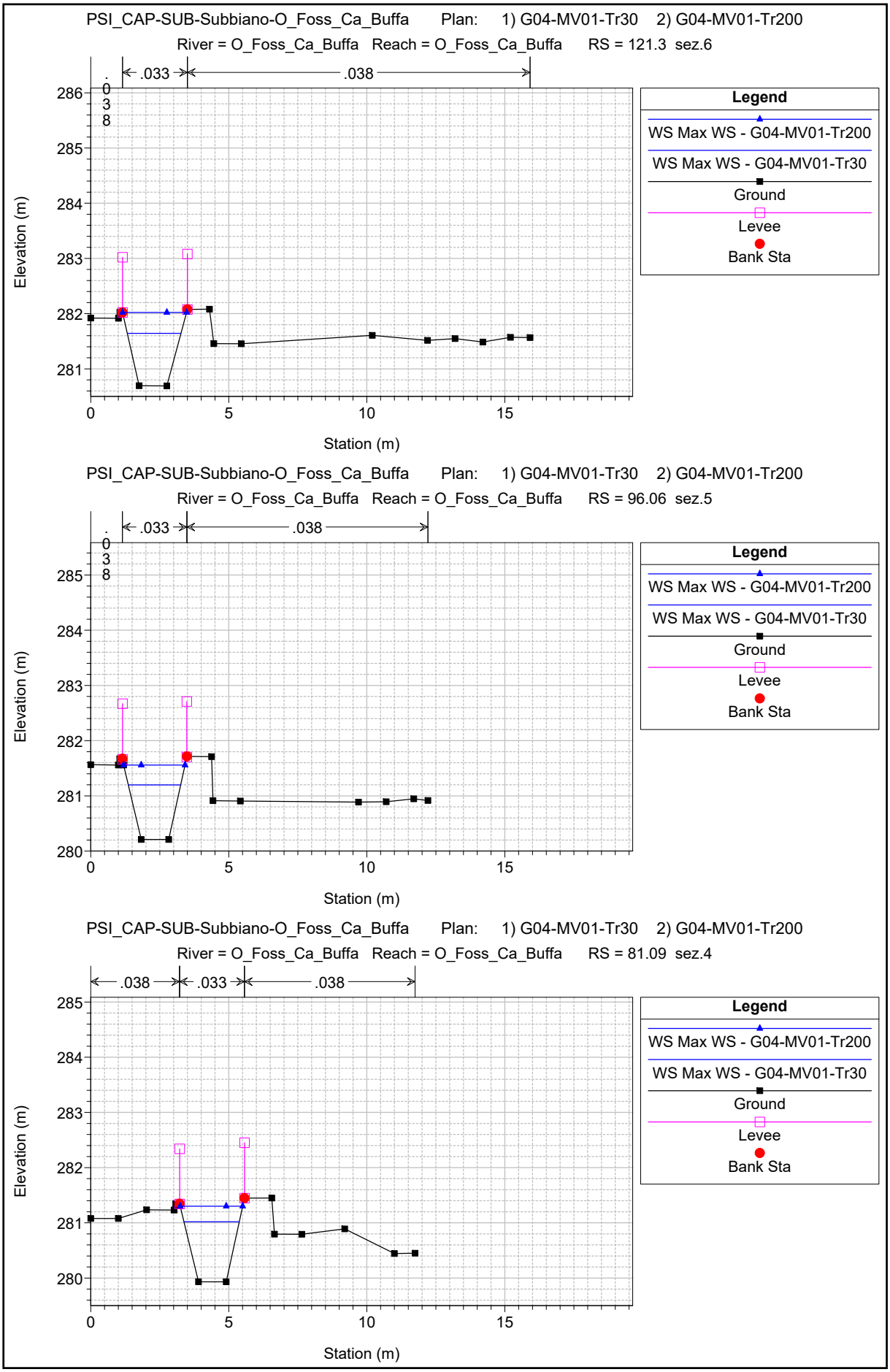


1 cm Horiz. = 12 m 1 cm Vert. = 1 m



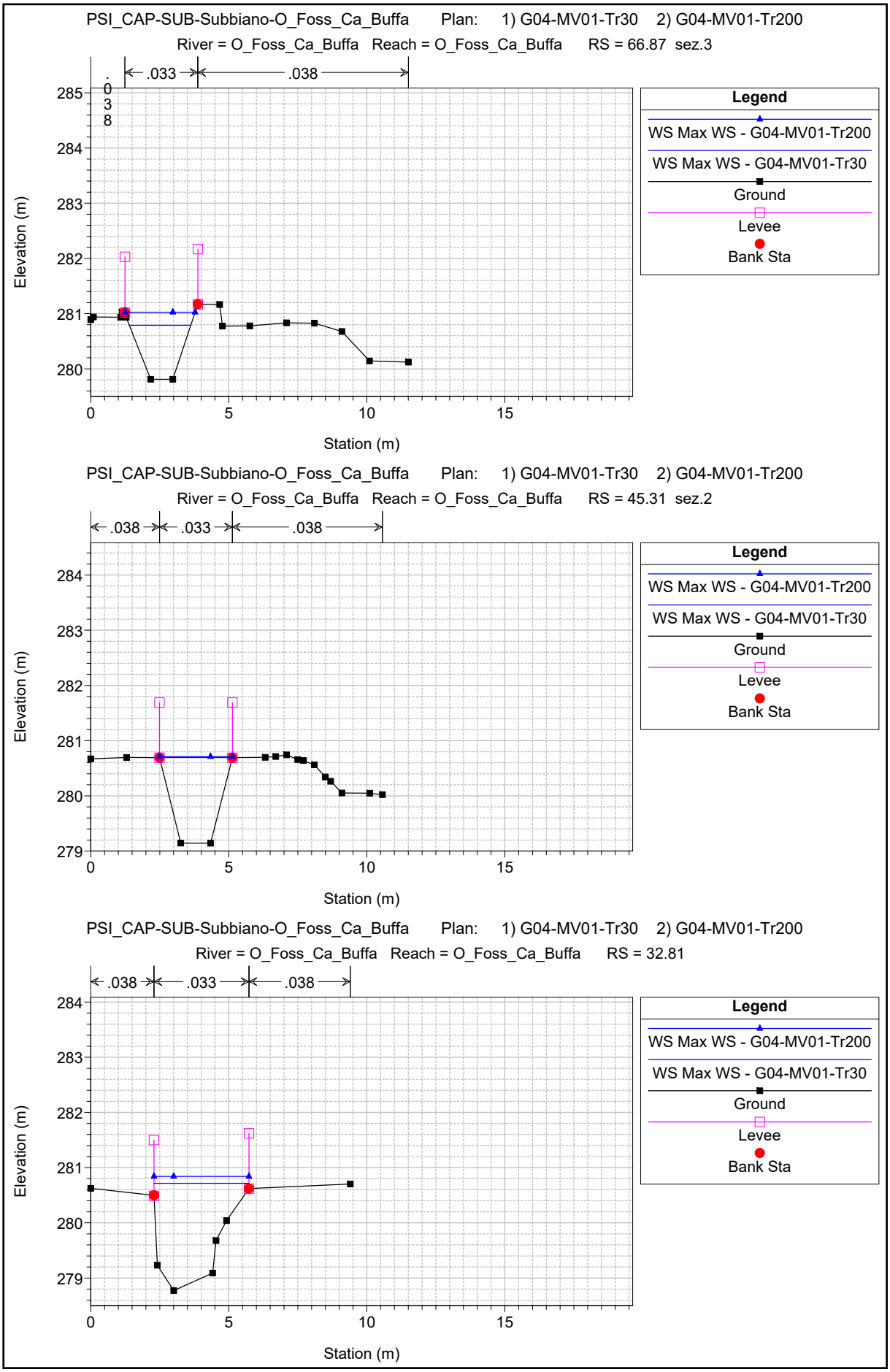
1 cm Horiz. = 2 m 1 cm Vert. = 1 m

1

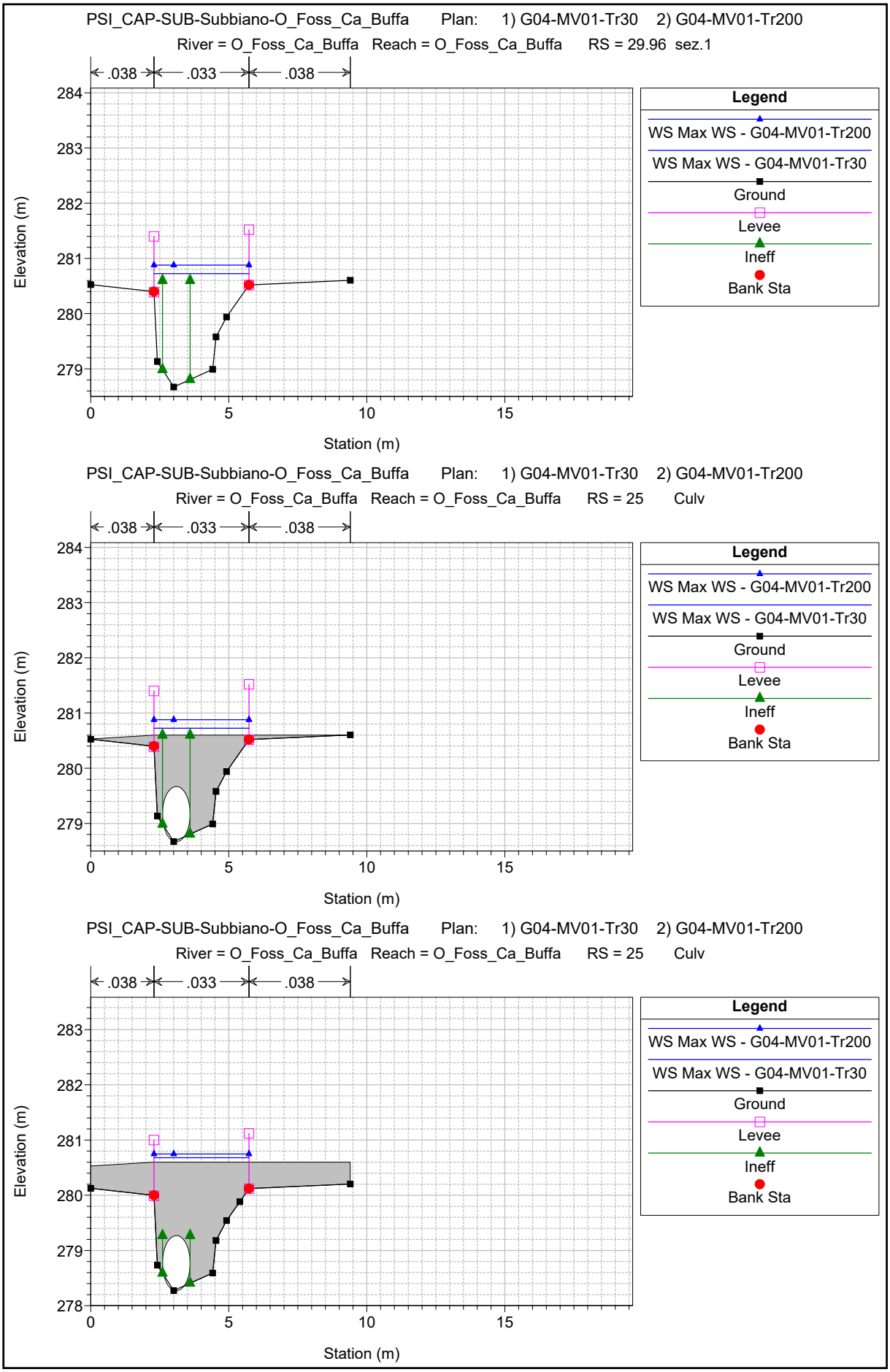


1 cm Horiz. = 2 m 1 cm Vert. = 1 m

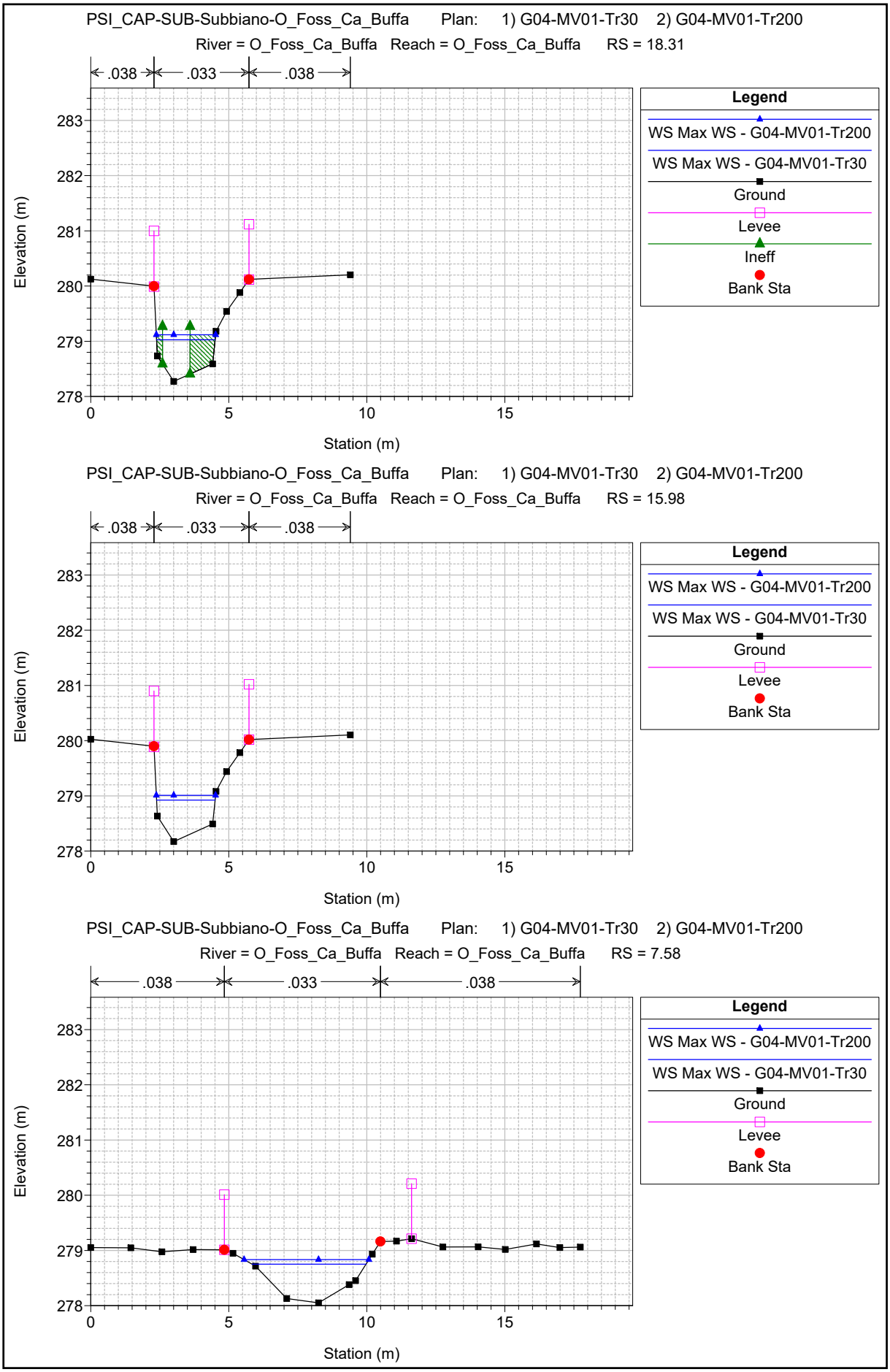
2



1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m 4



1 cm Horiz. = 2 m 1 cm Vert. = 1 m

5

HEC-RAS River: O_Foss_Ca_Buffa Reach: O_Foss_Ca_Buffa Profile: Max WS

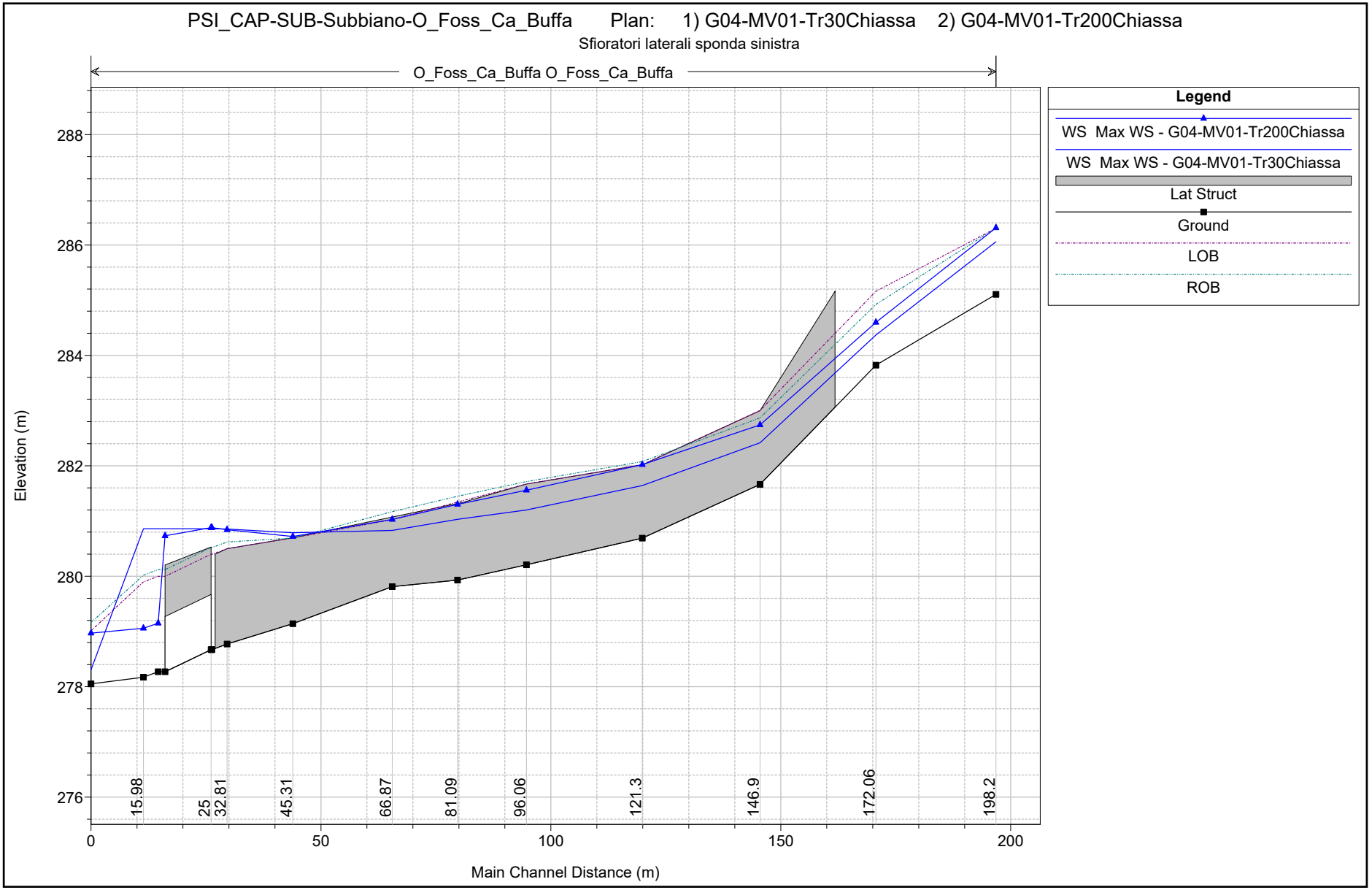
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
O_Foss_Ca_Buffa	198.2	Max WS	G04-MV01-Tr30	3.38	285.11	286.06		286.33	0.016602	2.32	1.46	2.06	0.88
O_Foss_Ca_Buffa	198.2	Max WS	G04-MV01-Tr200	6.04	285.11	286.31	286.33	286.77	0.022532	3.00	2.01	2.31	1.03
O_Foss_Ca_Buffa	172.06	Max WS	G04-MV01-Tr30	3.38	283.82	284.37	284.70	285.51	0.113026	4.73	0.71	1.61	2.27
O_Foss_Ca_Buffa	172.06	Max WS	G04-MV01-Tr200	6.04	283.82	284.60	285.04	286.10	0.108809	5.43	1.11	1.87	2.25
O_Foss_Ca_Buffa	155			Lat Struct									
O_Foss_Ca_Buffa	150			Lat Struct									
O_Foss_Ca_Buffa	146.9	Max WS	G04-MV01-Tr30	3.38	281.67	282.42	282.57	282.97	0.042174	3.29	1.03	1.74	1.37
O_Foss_Ca_Buffa	146.9	Max WS	G04-MV01-Tr200	6.03	281.67	282.74	282.92	283.43	0.038625	3.67	1.64	2.06	1.31
O_Foss_Ca_Buffa	121.3	Max WS	G04-MV01-Tr30	3.38	280.69	281.64		281.94	0.018384	2.41	1.40	1.94	0.91
O_Foss_Ca_Buffa	121.3	Max WS	G04-MV01-Tr200	6.03	280.69	282.02		282.40	0.017723	2.73	2.21	2.32	0.89
O_Foss_Ca_Buffa	96.06	Max WS	G04-MV01-Tr30	3.37	280.21	281.20		281.48	0.017461	2.36	1.43	1.90	0.87
O_Foss_Ca_Buffa	96.06	Max WS	G04-MV01-Tr200	6.03	280.21	281.56		281.95	0.018604	2.77	2.17	2.23	0.90
O_Foss_Ca_Buffa	81.09	Max WS	G04-MV01-Tr30	3.37	279.93	281.02		281.24	0.012352	2.07	1.63	2.00	0.73
O_Foss_Ca_Buffa	81.09	Max WS	G04-MV01-Tr200	6.02	279.93	281.30		281.67	0.017268	2.69	2.24	2.26	0.87
O_Foss_Ca_Buffa	66.87	Max WS	G04-MV01-Tr30	3.36	279.81	280.79		281.05	0.015993	2.28	1.47	2.22	0.89
O_Foss_Ca_Buffa	66.87	Max WS	G04-MV01-Tr200	6.02	279.81	281.03	281.05	281.47	0.021479	2.94	2.05	2.54	1.05
O_Foss_Ca_Buffa	45.31	Max WS	G04-MV01-Tr30	3.30	279.14	280.69		280.76	0.002627	1.15	2.88	2.64	0.35
O_Foss_Ca_Buffa	45.31	Max WS	G04-MV01-Tr200	4.58	279.14	280.71		280.84	0.004804	1.56	2.93	2.64	0.47
O_Foss_Ca_Buffa	32.81	Max WS	G04-MV01-Tr30	3.14	278.77	280.72		280.74	0.000798	0.71	4.44	3.44	0.20
O_Foss_Ca_Buffa	32.81	Max WS	G04-MV01-Tr200	4.66	278.77	280.84		280.89	0.001362	0.96	4.87	3.44	0.26
O_Foss_Ca_Buffa	29.96	Max WS	G04-MV01-Tr30	2.84	278.67	280.72		280.74	0.000524	0.59	4.81	3.44	0.16
O_Foss_Ca_Buffa	29.96	Max WS	G04-MV01-Tr200	3.57	278.67	280.88		280.90	0.000622	0.67	5.34	3.44	0.17
O_Foss_Ca_Buffa	25			Culvert									
O_Foss_Ca_Buffa	18.31	Max WS	G04-MV01-Tr30	2.84	278.27	279.03	279.27	280.00	0.043070	4.37	0.65	2.12	1.73
O_Foss_Ca_Buffa	18.31	Max WS	G04-MV01-Tr200	3.57	278.27	279.12	279.27	280.30	0.043988	4.82	0.74	2.15	1.79
O_Foss_Ca_Buffa	15.98	Max WS	G04-MV01-Tr30	2.84	278.17	278.92	278.94	279.23	0.022150	2.44	1.16	2.12	1.05
O_Foss_Ca_Buffa	15.98	Max WS	G04-MV01-Tr200	3.57	278.17	279.01	279.04	279.37	0.023006	2.64	1.35	2.15	1.06
O_Foss_Ca_Buffa	7.58	Max WS	G04-MV01-Tr30	2.83	278.05	278.75	278.65	278.87	0.008021	1.52	1.86	4.13	0.72
O_Foss_Ca_Buffa	7.58	Max WS	G04-MV01-Tr200	3.56	278.05	278.83	278.72	278.96	0.008014	1.61	2.22	4.52	0.73

HEC-RAS River: O_Foss_Ca_Buffa Reach: O_Foss_Ca_Buffa Profile: Max WS

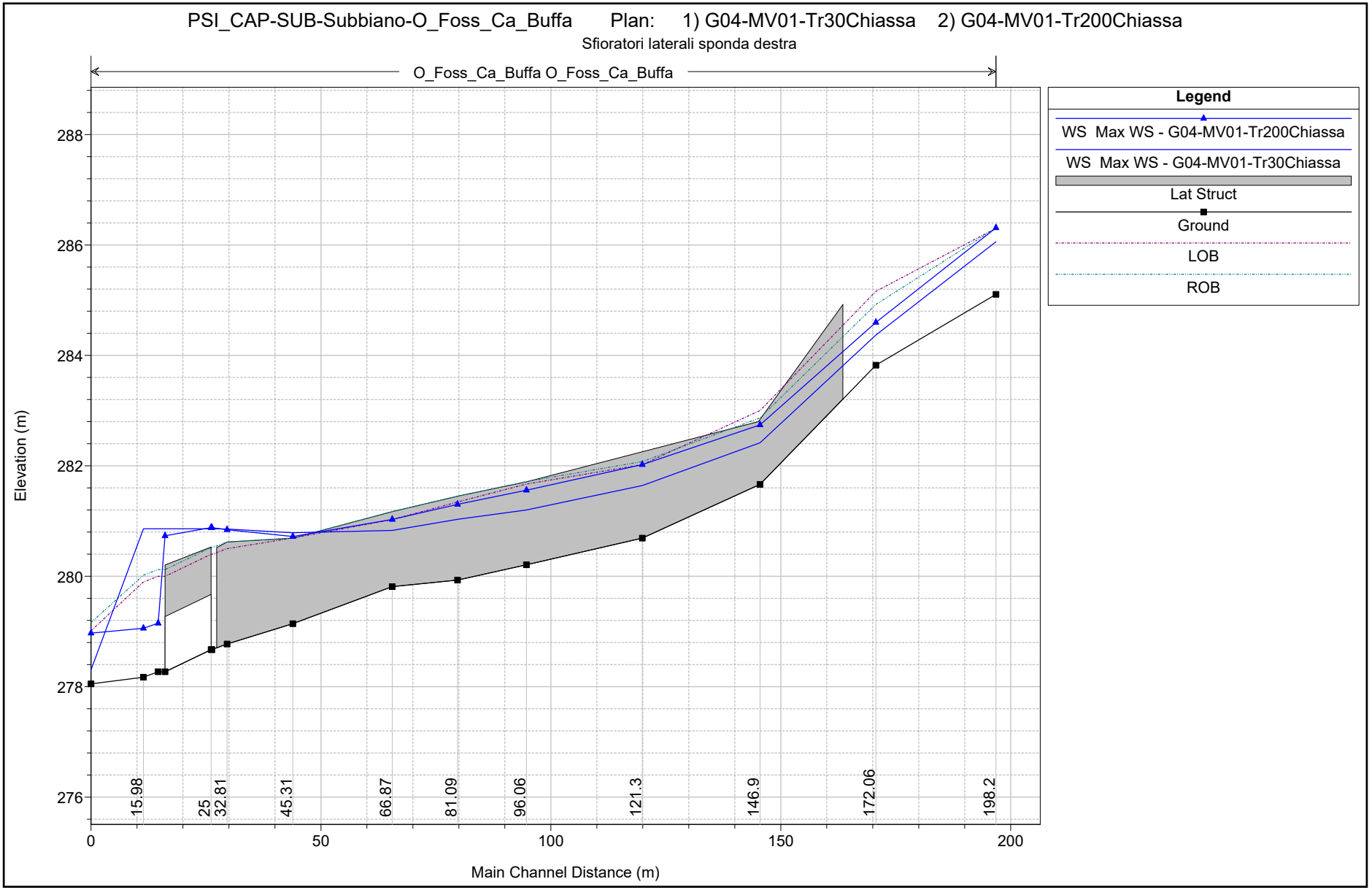
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Width	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
O_Foss_Ca_Buffa	155	Max WS	G04-MV01-Tr30	3.38	0.82	2.84	0.82		16.16	0.32	0.13	280.40	284.61	283.68	280.74	280.72
O_Foss_Ca_Buffa	155	Max WS	G04-MV01-Tr200	6.04	1.78	3.57	1.78		22.30	0.47	0.16	280.40	285.16	283.94	280.90	280.87
O_Foss_Ca_Buffa	150	Max WS	G04-MV01-Tr30	3.38	0.34	2.84	0.34		17.54	0.20	0.06	280.52	284.79	283.81	280.74	280.72
O_Foss_Ca_Buffa	150	Max WS	G04-MV01-Tr200	6.04	1.14	3.57	1.14		20.15	0.35	0.12	280.52	285.34	284.07	280.90	280.87

O – Cà di buffa

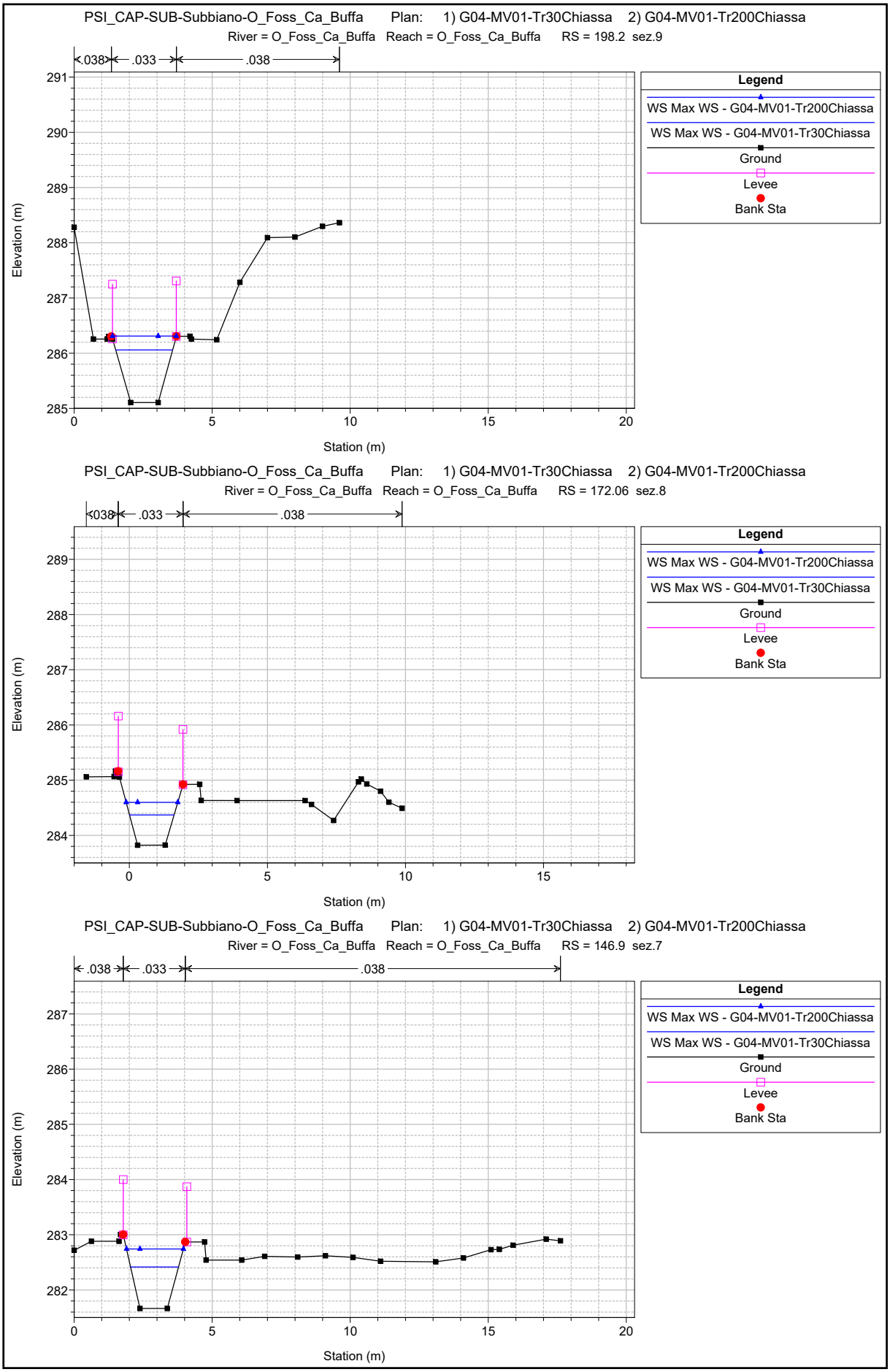
Scenario Beta



1 cm Horiz. = 12 m 1 cm Vert. = 1 m

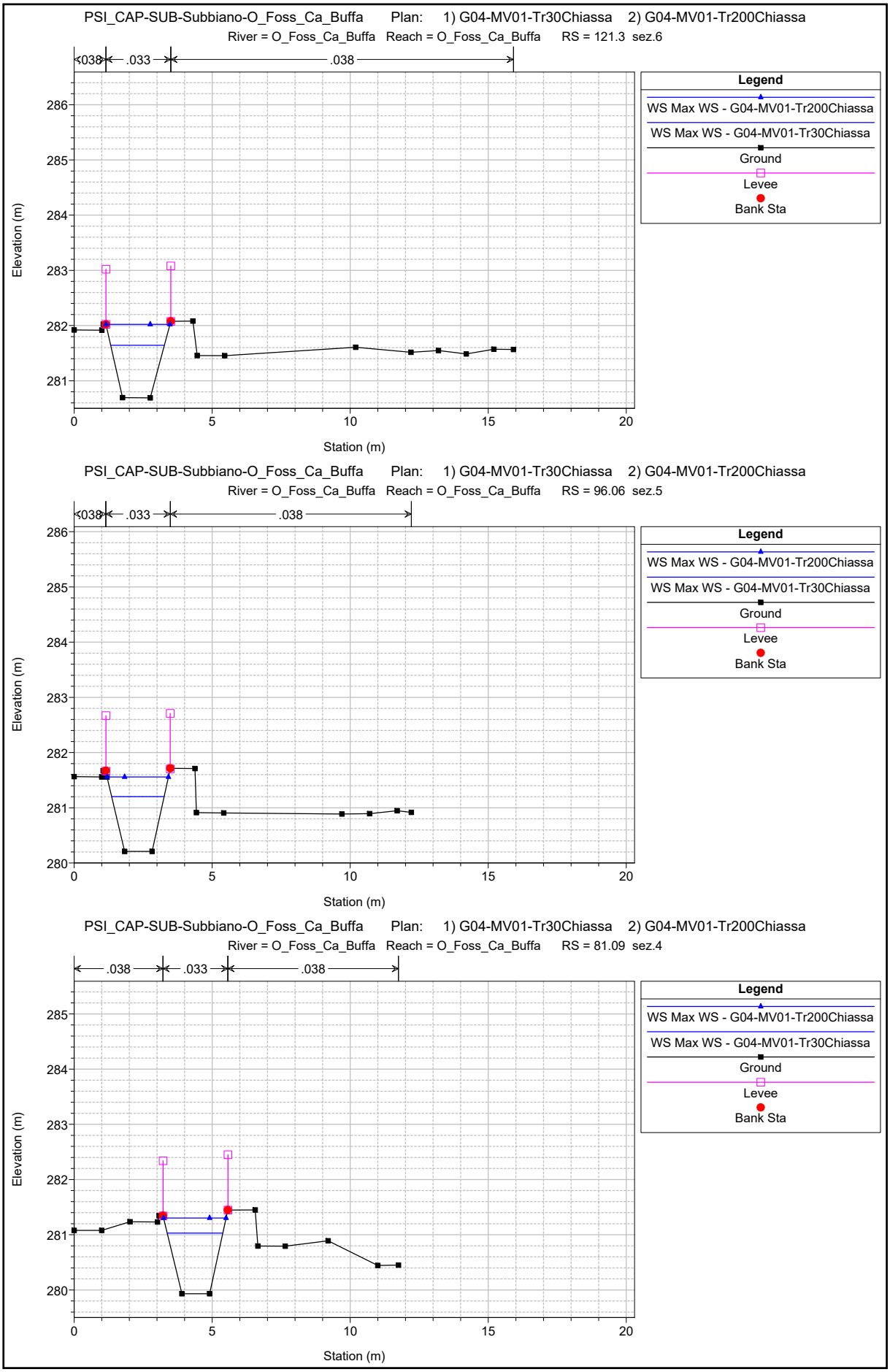


1 cm Horiz. = 12 m 1 cm Vert. = 1 m

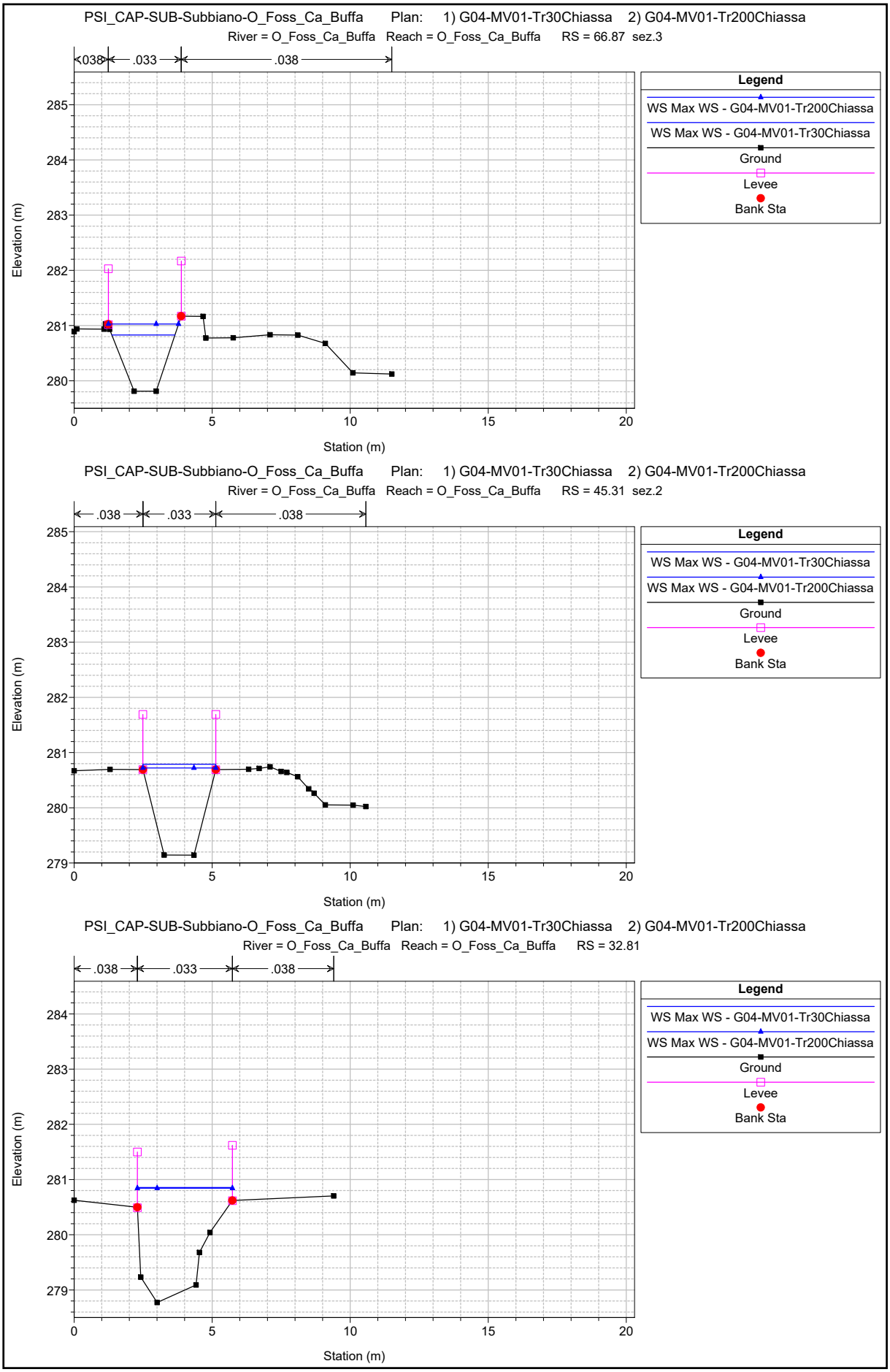


1 cm Horiz. = 2 m 1 cm Vert. = 1 m

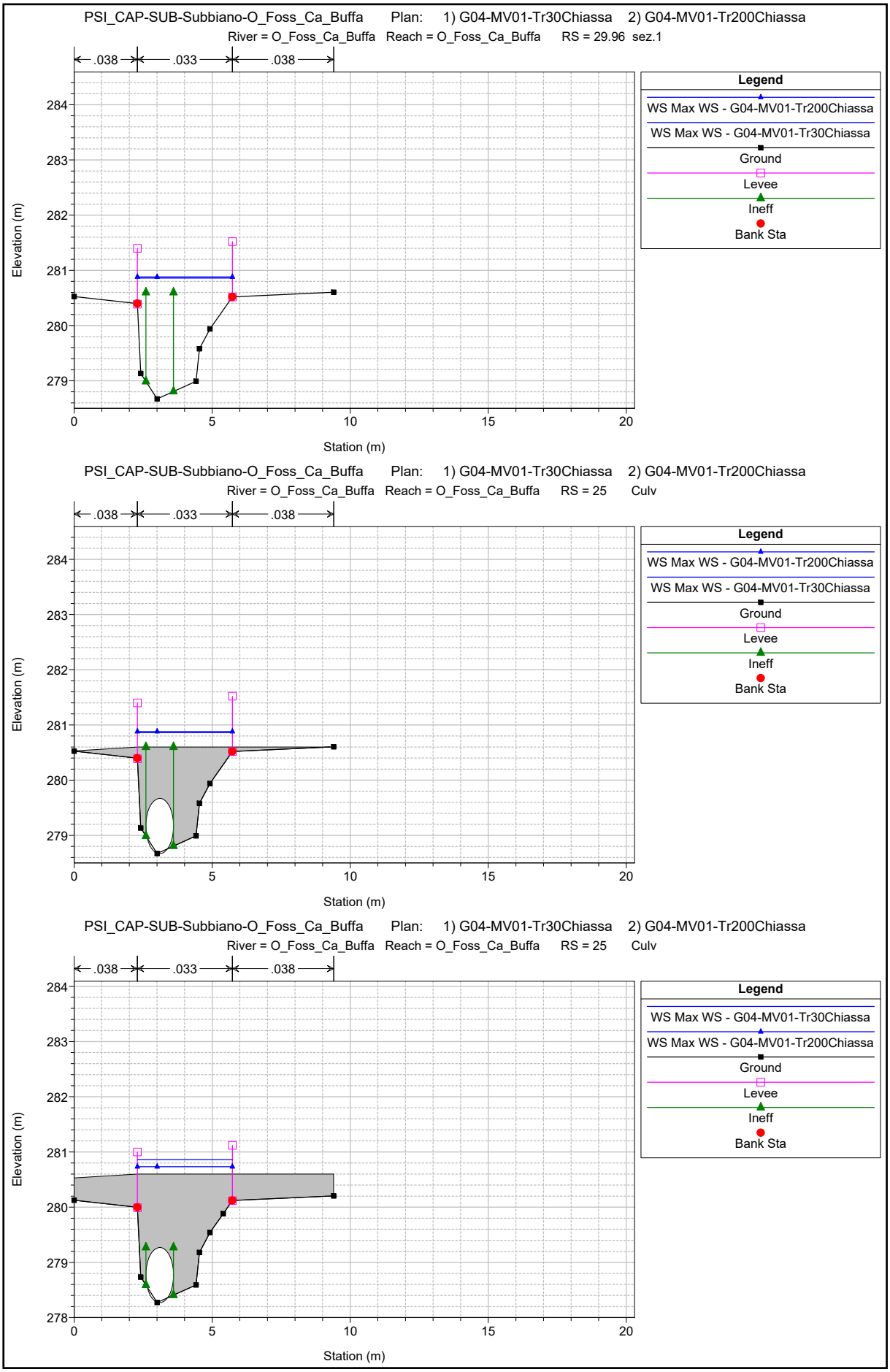
1



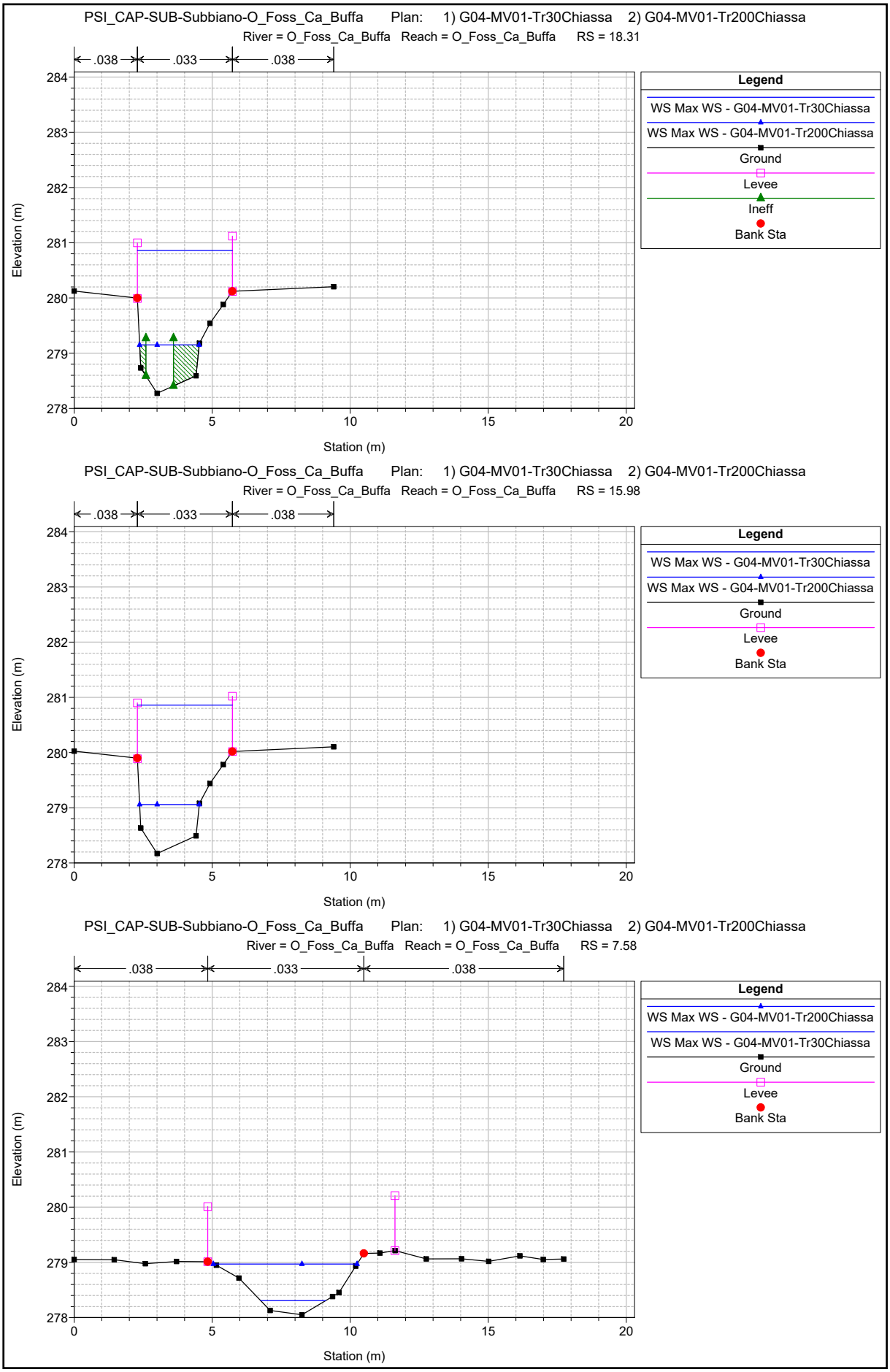
1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m



1 cm Horiz. = 2 m 1 cm Vert. = 1 m

5

HEC-RAS River: O_Foss_Ca_Buffa Reach: O_Foss_Ca_Buffa Profile: Max WS

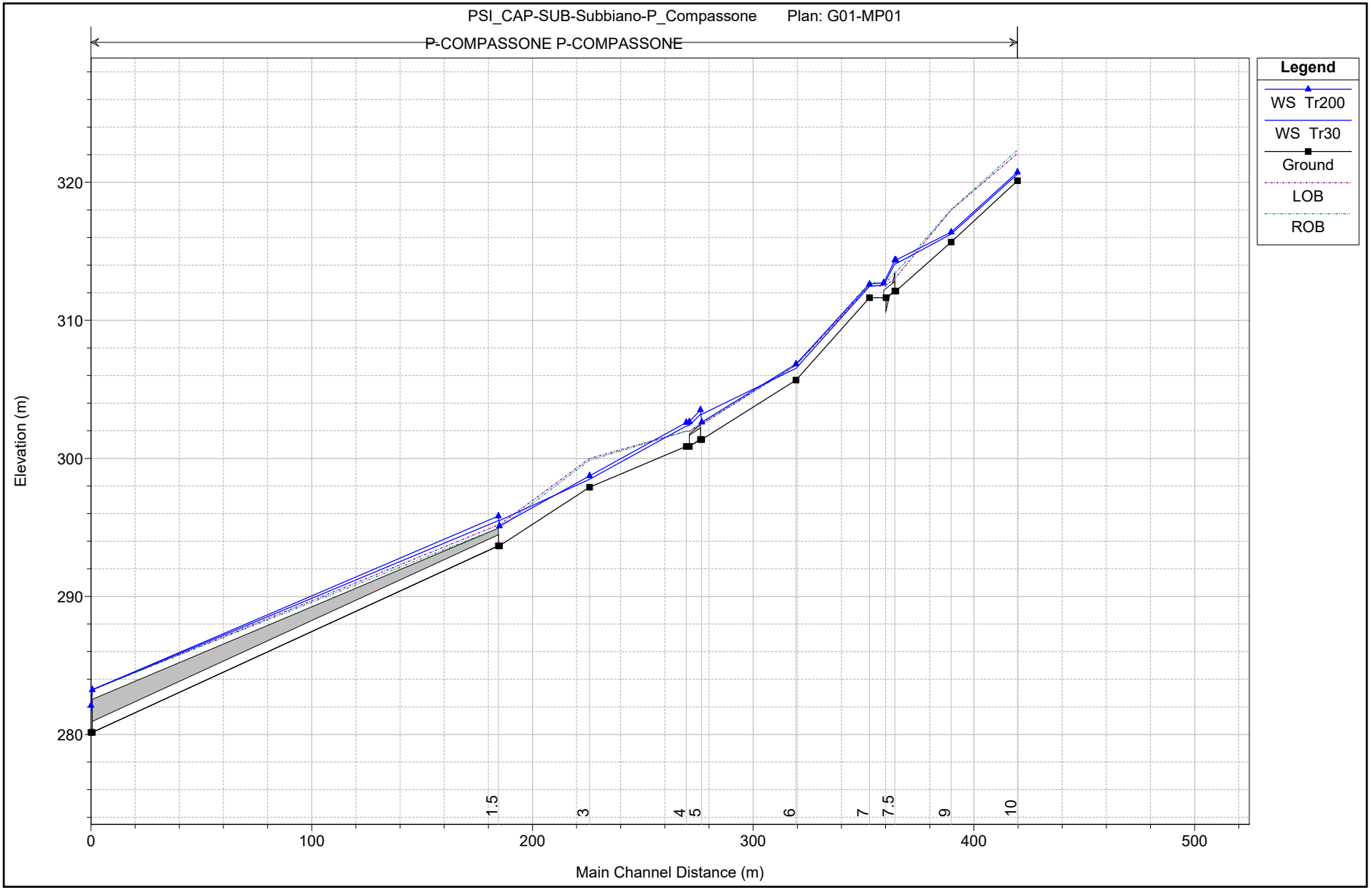
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
O_Foss_Ca_Buffa	198.2	Max WS	G04-MV01-Tr30Chiassa	3.38	285.11	286.06		286.33	0.016603	2.32	1.46	2.06	0.88
O_Foss_Ca_Buffa	198.2	Max WS	G04-MV01-Tr200Chiassa	6.04	285.11	286.31	286.33	286.77	0.022532	3.00	2.01	2.31	1.03
O_Foss_Ca_Buffa	172.06	Max WS	G04-MV01-Tr30Chiassa	3.38	283.82	284.37	284.70	285.51	0.113039	4.73	0.71	1.61	2.27
O_Foss_Ca_Buffa	172.06	Max WS	G04-MV01-Tr200Chiassa	6.04	283.82	284.60	285.04	286.10	0.108809	5.43	1.11	1.87	2.25
O_Foss_Ca_Buffa	155			Lat Struct									
O_Foss_Ca_Buffa	150			Lat Struct									
O_Foss_Ca_Buffa	146.9	Max WS	G04-MV01-Tr30Chiassa	3.38	281.67	282.42	282.57	282.97	0.042184	3.29	1.03	1.74	1.37
O_Foss_Ca_Buffa	146.9	Max WS	G04-MV01-Tr200Chiassa	6.03	281.67	282.74	282.91	283.43	0.038625	3.67	1.64	2.06	1.31
O_Foss_Ca_Buffa	121.3	Max WS	G04-MV01-Tr30Chiassa	3.38	280.69	281.64		281.94	0.018423	2.41	1.40	1.94	0.91
O_Foss_Ca_Buffa	121.3	Max WS	G04-MV01-Tr200Chiassa	6.03	280.69	282.02		282.40	0.017722	2.73	2.21	2.32	0.89
O_Foss_Ca_Buffa	96.06	Max WS	G04-MV01-Tr30Chiassa	3.38	280.21	281.20		281.48	0.017276	2.35	1.44	1.90	0.86
O_Foss_Ca_Buffa	96.06	Max WS	G04-MV01-Tr200Chiassa	6.03	280.21	281.56		281.95	0.018606	2.77	2.17	2.23	0.90
O_Foss_Ca_Buffa	81.09	Max WS	G04-MV01-Tr30Chiassa	3.38	279.93	281.03		281.24	0.011916	2.04	1.66	2.01	0.72
O_Foss_Ca_Buffa	81.09	Max WS	G04-MV01-Tr200Chiassa	6.02	279.93	281.30		281.67	0.017257	2.69	2.24	2.26	0.86
O_Foss_Ca_Buffa	66.87	Max WS	G04-MV01-Tr30Chiassa	3.37	279.81	280.83		281.07	0.013647	2.15	1.57	2.28	0.83
O_Foss_Ca_Buffa	66.87	Max WS	G04-MV01-Tr200Chiassa	5.99	279.81	281.03	281.05	281.46	0.021074	2.92	2.05	2.54	1.04
O_Foss_Ca_Buffa	45.31	Max WS	G04-MV01-Tr30Chiassa	3.29	279.14	280.79		280.84	0.002022	1.05	3.14	2.64	0.31
O_Foss_Ca_Buffa	45.31	Max WS	G04-MV01-Tr200Chiassa	5.49	279.14	280.72		280.90	0.006717	1.86	2.96	2.64	0.56
O_Foss_Ca_Buffa	32.81	Max WS	G04-MV01-Tr30Chiassa	1.02	278.77	280.86		280.86	0.000064	0.21	4.92	3.44	0.06
O_Foss_Ca_Buffa	32.81	Max WS	G04-MV01-Tr200Chiassa	4.69	278.77	280.84		280.89	0.001371	0.96	4.88	3.44	0.26
O_Foss_Ca_Buffa	29.96	Max WS	G04-MV01-Tr30Chiassa	-0.01	278.67	280.86		280.86	0.000000	0.00	5.28	3.44	0.00
O_Foss_Ca_Buffa	29.96	Max WS	G04-MV01-Tr200Chiassa	3.58	278.67	280.88		280.90	0.000624	0.67	5.35	3.44	0.17
O_Foss_Ca_Buffa	25			Culvert									
O_Foss_Ca_Buffa	18.31	Max WS	G04-MV01-Tr30Chiassa	0.00	278.27	280.86		280.86	0.000000	0.00	6.65	3.44	0.00
O_Foss_Ca_Buffa	18.31	Max WS	G04-MV01-Tr200Chiassa	3.56	278.27	279.15	279.27	280.23	0.037977	4.60	0.77	2.16	1.67
O_Foss_Ca_Buffa	15.98	Max WS	G04-MV01-Tr30Chiassa	0.00	278.17	280.86		280.86	0.000000	0.00	7.00	3.44	0.00
O_Foss_Ca_Buffa	15.98	Max WS	G04-MV01-Tr200Chiassa	3.55	278.17	279.06	279.03	279.36	0.018498	2.44	1.46	2.16	0.95
O_Foss_Ca_Buffa	7.58	Max WS	G04-MV01-Tr30Chiassa	0.50	278.05	278.31	278.31	278.39	0.020856	1.29	0.39	2.35	1.01
O_Foss_Ca_Buffa	7.58	Max WS	G04-MV01-Tr200Chiassa	0.50	278.05	278.97	278.31	278.97	0.000080	0.17	2.88	5.21	0.07

HEC-RAS River: O_Foss_Ca_Buffa Reach: O_Foss_Ca_Buffa Profile: Max WS

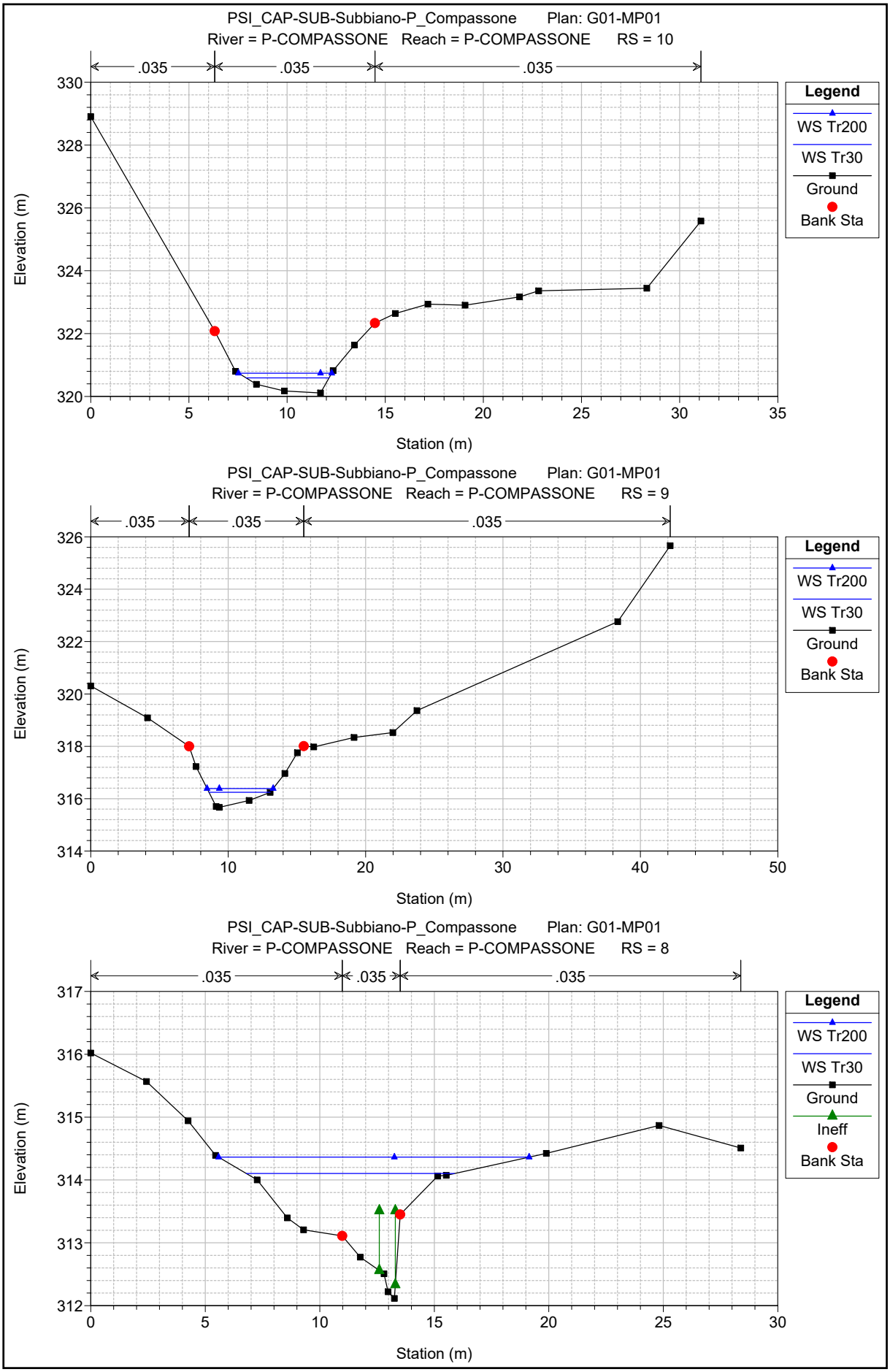
Reach	River Sta	Profile	Plan	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Wdth	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
O_Foss_Ca_Buffa	155	Max WS	G04-MV01-Tr30Chiassa	3.38	1.95	-0.01	1.95		22.41	0.46	0.20	280.40	284.61	283.68	280.86	280.86
O_Foss_Ca_Buffa	155	Max WS	G04-MV01-Tr200Chiassa	6.04	1.49	3.58	1.49		25.02	0.47	0.15	280.40	285.16	283.94	280.90	280.87
O_Foss_Ca_Buffa	150	Max WS	G04-MV01-Tr30Chiassa	3.38	1.61	-0.01	1.61		22.22	0.34	0.15	280.52	284.79	283.81	280.86	280.86
O_Foss_Ca_Buffa	150	Max WS	G04-MV01-Tr200Chiassa	6.04	1.20	3.58	1.20		21.28	0.35	0.12	280.52	285.34	284.07	280.90	280.87

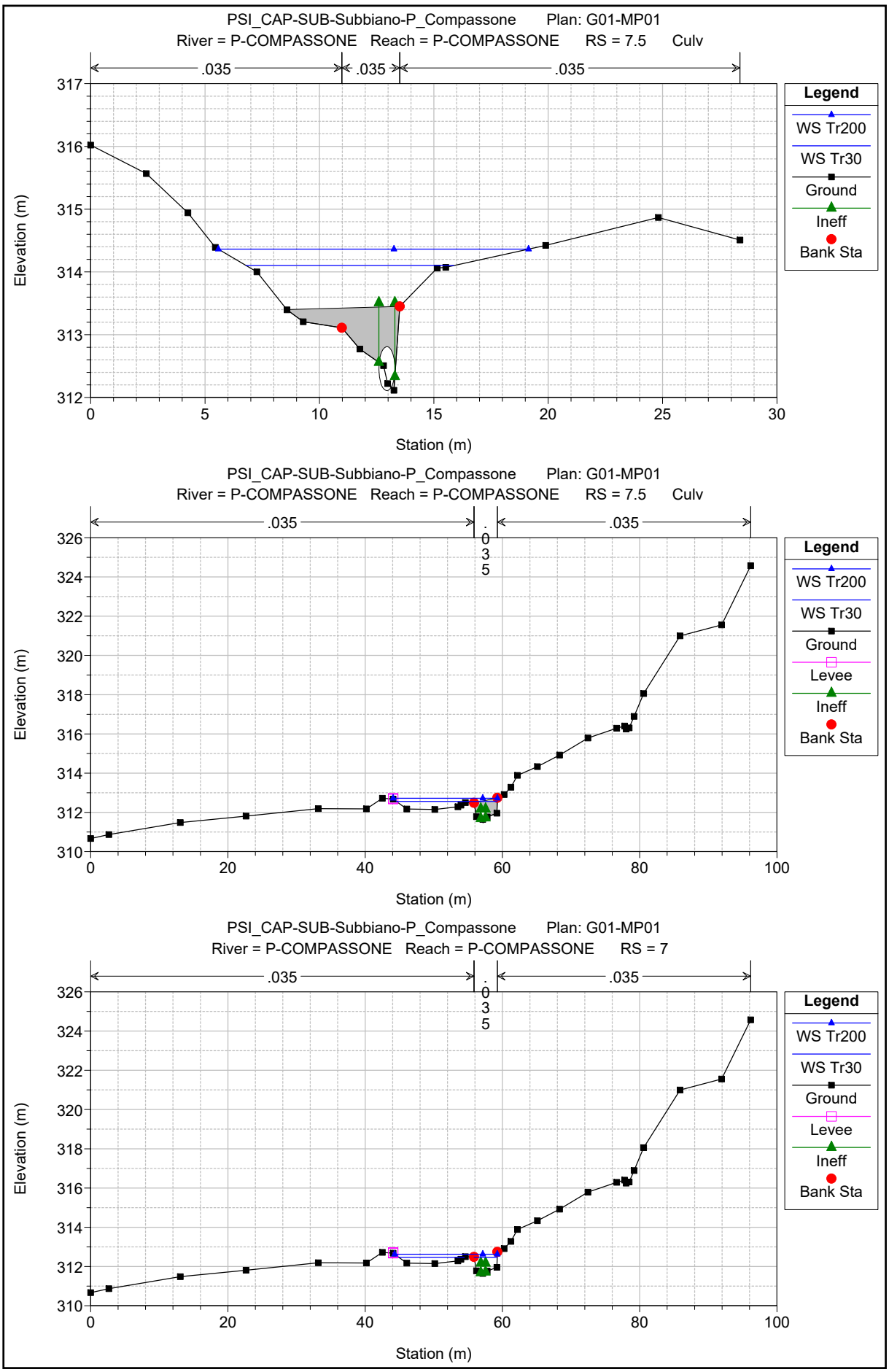
P – Compassone

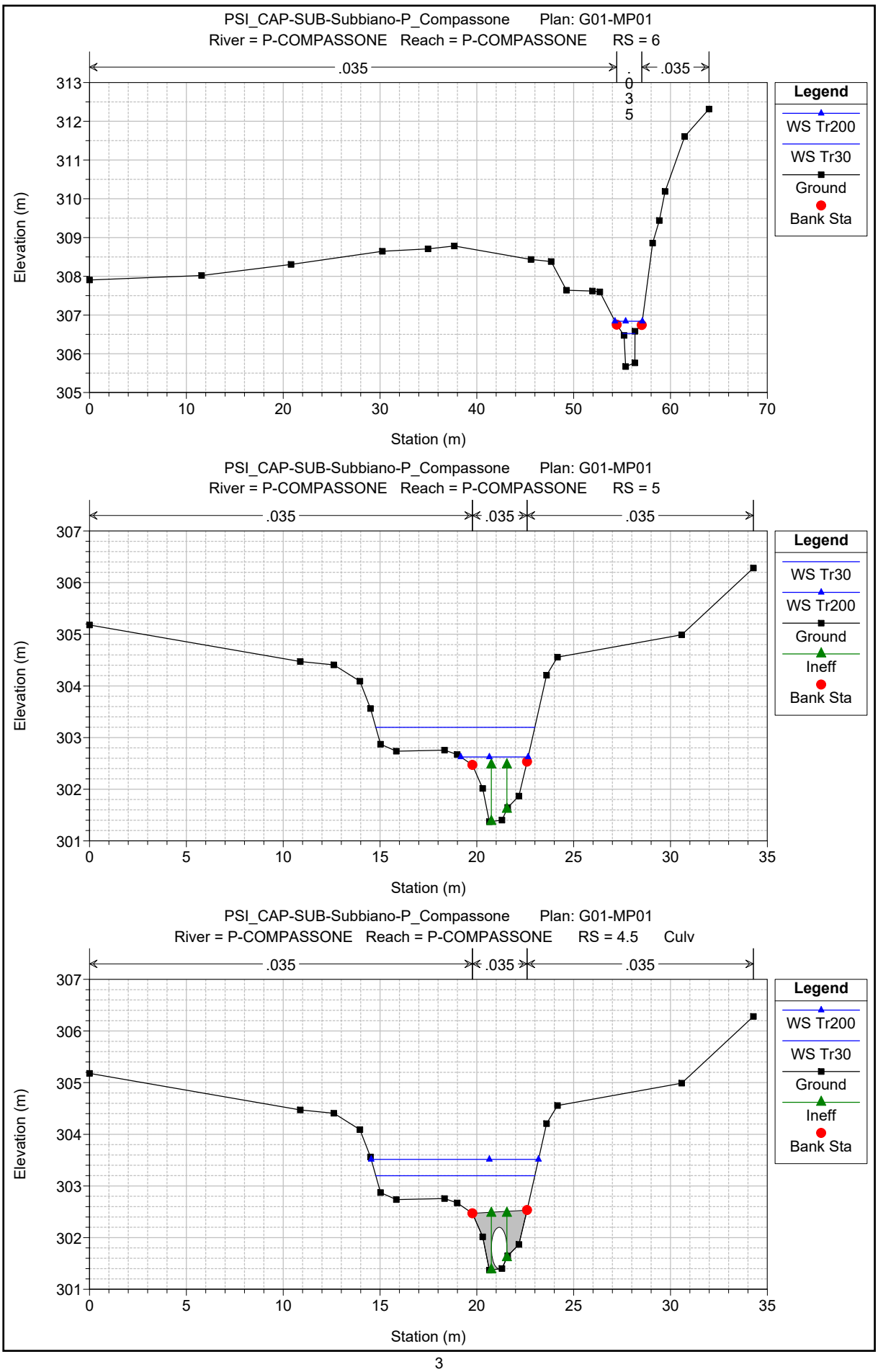
Scenario Alpha

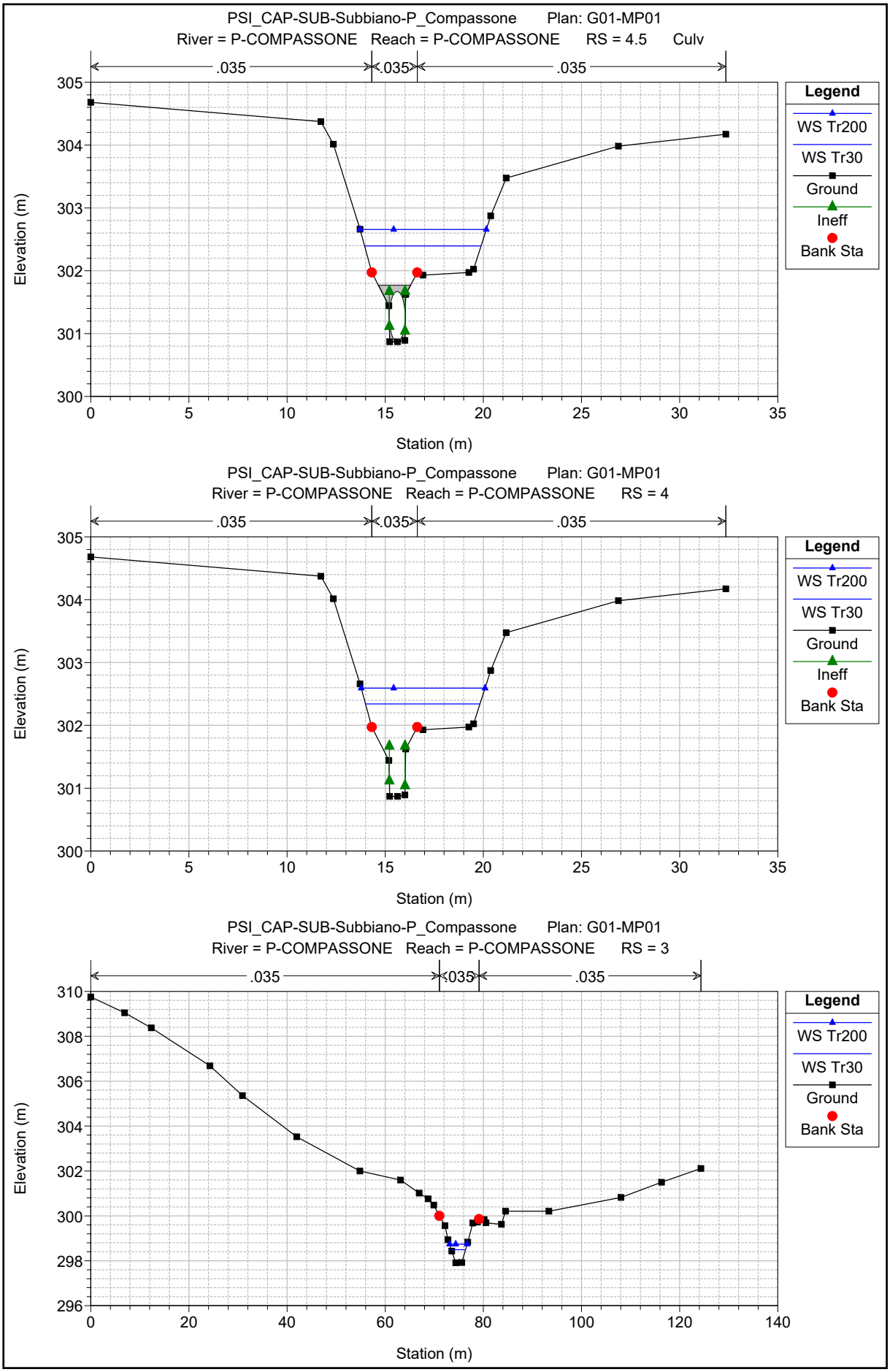


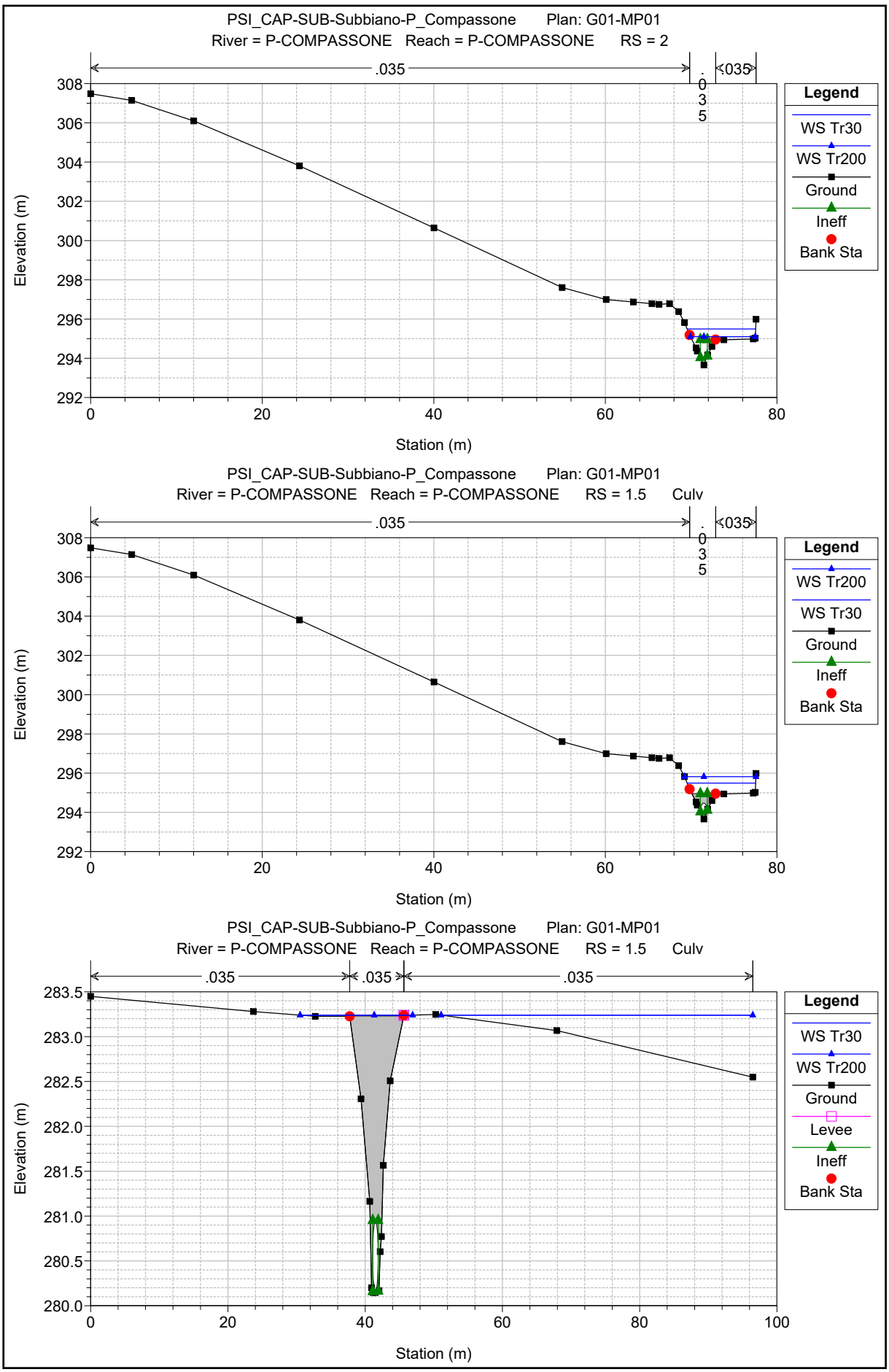
1 cm Horiz. = 25 m 1 cm Vert. = 4 m

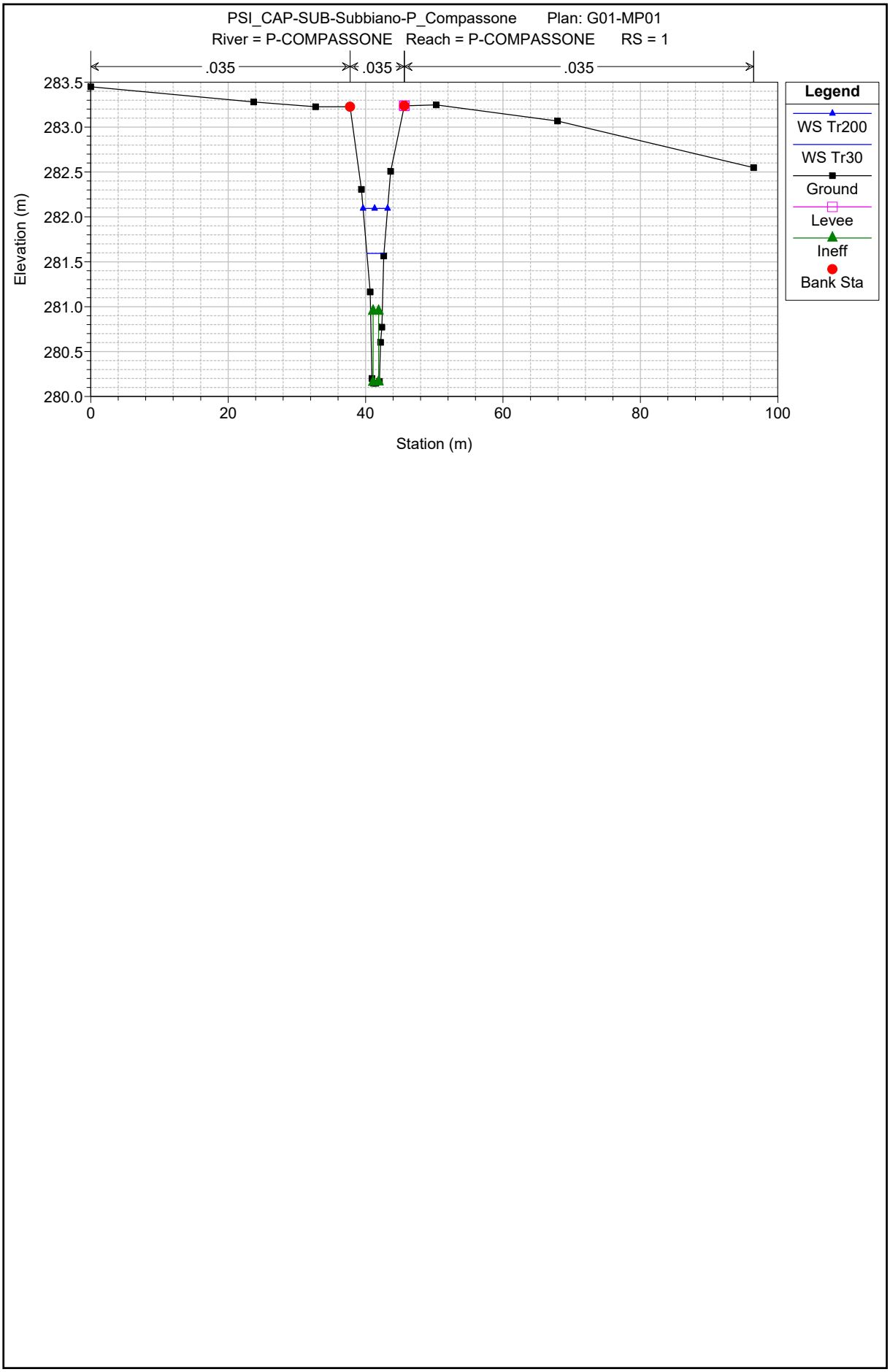

PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 10
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 9
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 8
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 6
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 5
.035
.035
.035
Legend
WS Tr30
WS Tr200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4.5 Culv
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 3
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Bank Sta


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 2
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr30
WS Tr200
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr30
WS Tr200
Ground
Levee
Ineff
Bank Sta

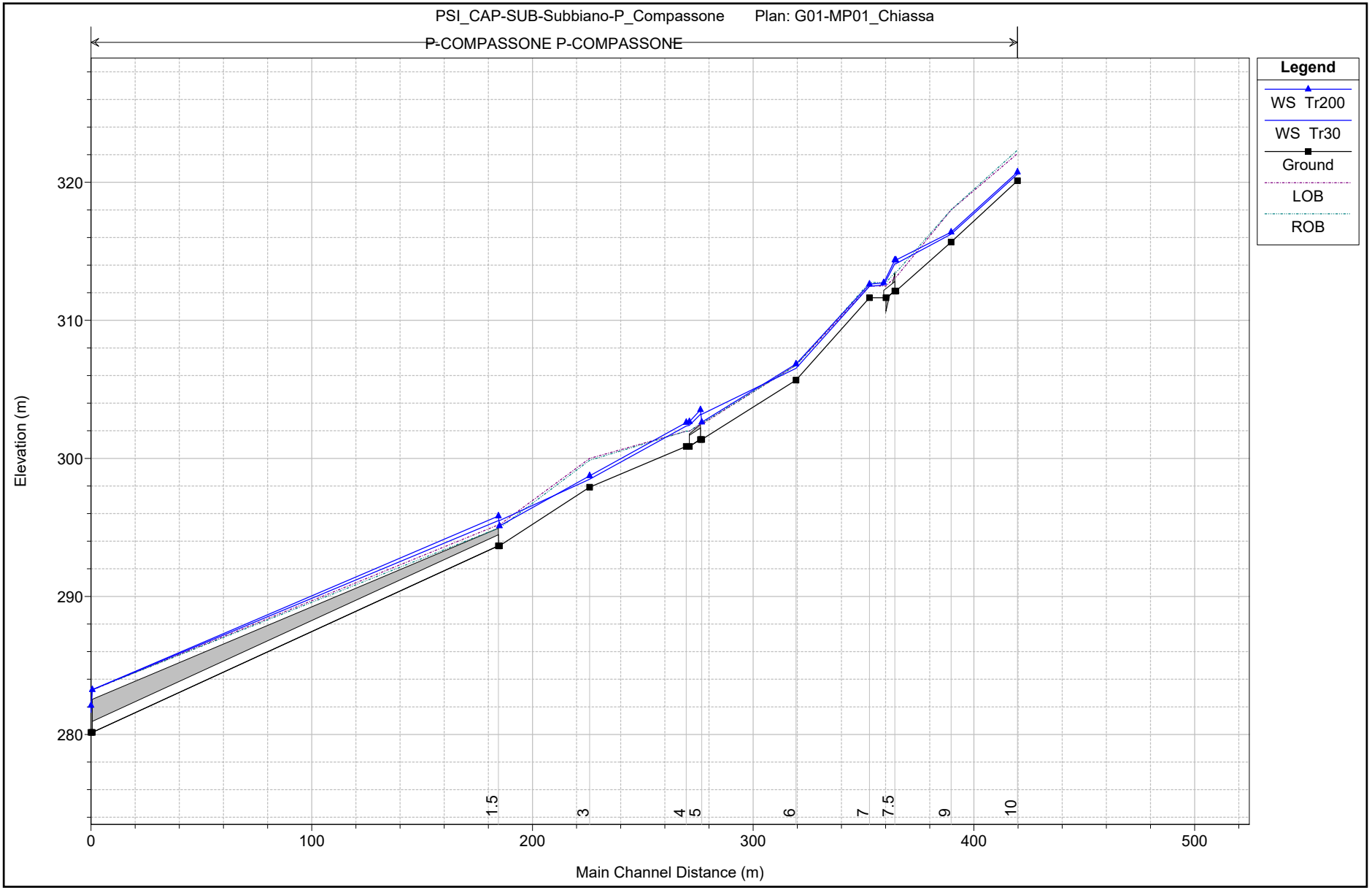

PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1
.035
.035
.035
Elevation (m)
283.5
283.0
282.5
282.0
281.5
281.0
280.5
280.0
0
20
40
60
80
100
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta

HEC-RAS Plan: G01-MP01 River: P-COMPASSONE Reach: P-COMPASSONE

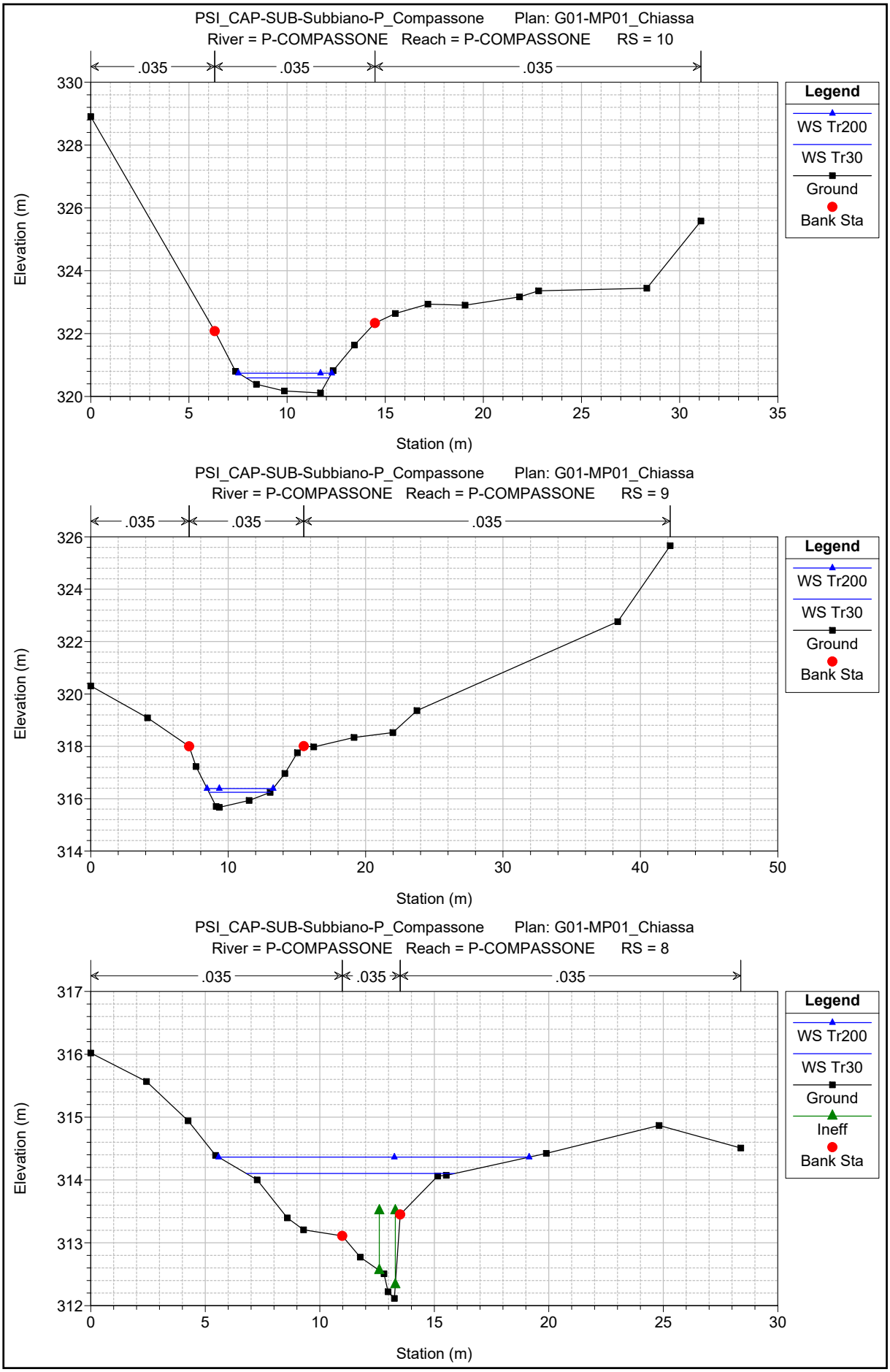
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
P-COMPASSONE	10	Tr30	7.32	320.11	320.59	320.93	321.94	0.150125	5.14	1.42	4.23	2.83
P-COMPASSONE	10	Tr200	12.81	320.11	320.74	321.21	322.65	0.150155	6.11	2.10	4.75	2.94
P-COMPASSONE	9	Tr30	7.32	315.67	316.24	316.57	317.50	0.143710	4.97	1.47	4.46	2.76
P-COMPASSONE	9	Tr200	12.81	315.67	316.39	316.85	318.22	0.143550	5.99	2.14	4.81	2.87
P-COMPASSONE	8	Tr30	7.32	312.12	314.10	313.57	314.17	0.002078	1.23	6.91	9.08	0.33
P-COMPASSONE	8	Tr200	12.81	312.12	314.36	313.86	314.47	0.002869	1.62	9.86	13.56	0.40
P-COMPASSONE	7.5		Culvert									
P-COMPASSONE	7	Tr30	7.32	311.64	312.47	312.47	312.62	0.012241	2.01	4.55	12.92	0.80
P-COMPASSONE	7	Tr200	12.81	311.64	312.62	312.62	312.82	0.012906	2.32	6.77	14.95	0.83
P-COMPASSONE	6	Tr30	7.32	305.67	306.52	307.21	310.33	0.425637	8.65	0.85	1.26	3.36
P-COMPASSONE	6	Tr200	12.81	305.67	306.84	307.57	310.56	0.346656	8.55	1.51	2.83	3.59
P-COMPASSONE	5	Tr30	7.32	301.37	303.20	302.71	303.28	0.002254	1.38	6.39	8.21	0.37
P-COMPASSONE	5	Tr200	12.81	301.37	302.62	303.10	304.13	0.071302	5.45	2.39	3.48	1.91
P-COMPASSONE	4.5		Culvert									
P-COMPASSONE	4	Tr30	7.32	300.87	302.34	302.34	302.61	0.016396	2.47	3.31	5.83	0.83
P-COMPASSONE	4	Tr200	12.81	300.87	302.59	302.59	302.97	0.016341	2.90	4.84	6.31	0.86
P-COMPASSONE	3	Tr30	7.32	297.91	298.49	298.96	300.42	0.177342	6.15	1.19	2.89	3.06
P-COMPASSONE	3	Tr200	12.81	297.91	298.74	299.29	300.87	0.134840	6.46	1.98	3.58	2.77
P-COMPASSONE	2	Tr30	7.32	293.66	295.49	295.23	295.58	0.003414	1.44	5.82	7.98	0.44
P-COMPASSONE	2	Tr200	12.81	293.66	295.10	295.43	296.42	0.081100	5.34	2.78	7.55	2.00
P-COMPASSONE	1.5		Culvert									
P-COMPASSONE	1	Tr30	7.32	280.15	281.59	281.59	282.07	0.025337	3.06	2.39	2.49	1.00
P-COMPASSONE	1	Tr200	12.81	280.15	282.09	282.09	282.64	0.022242	3.27	3.92	3.58	1.00

P – Compassone

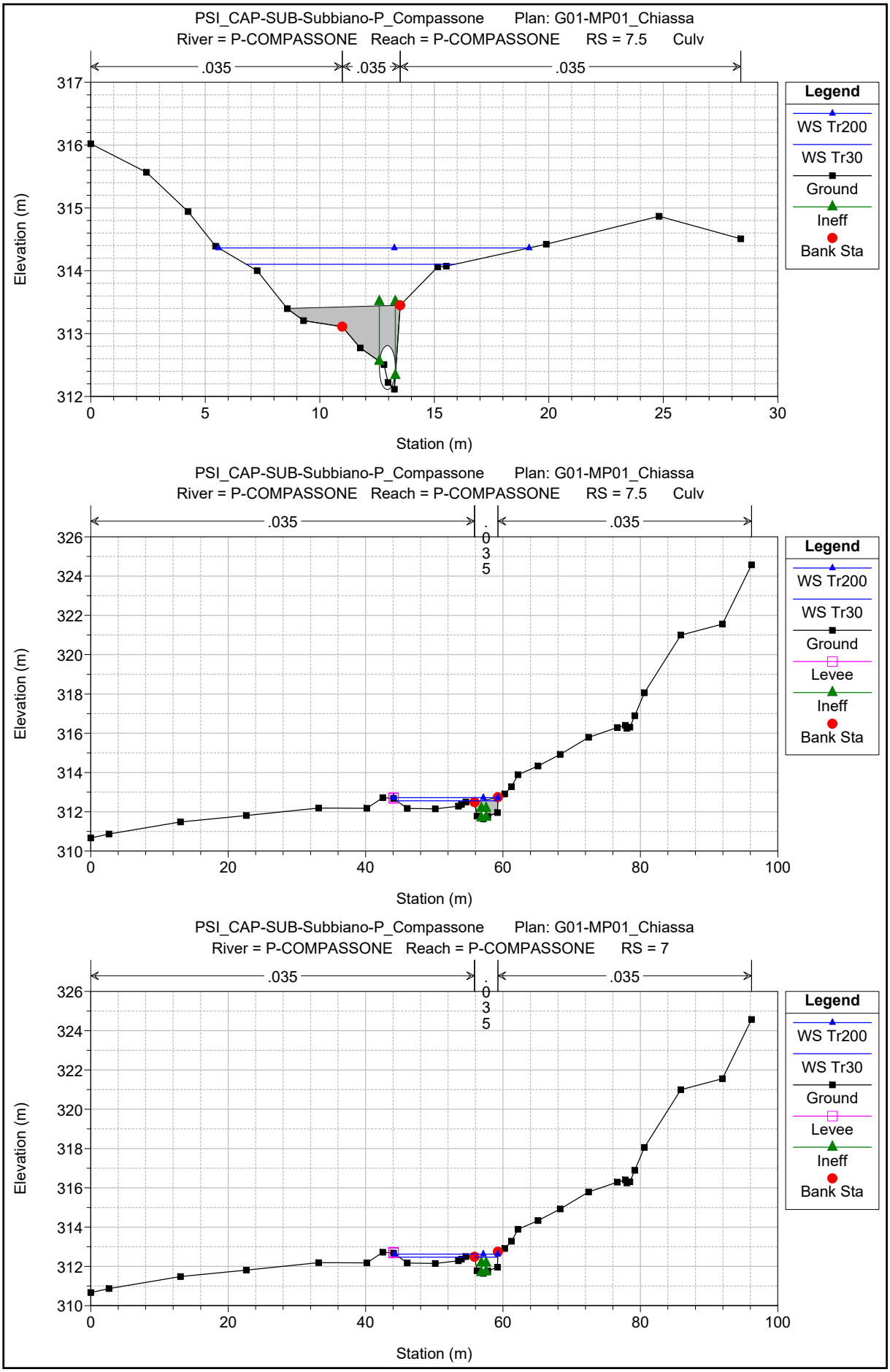
Scenario Beta

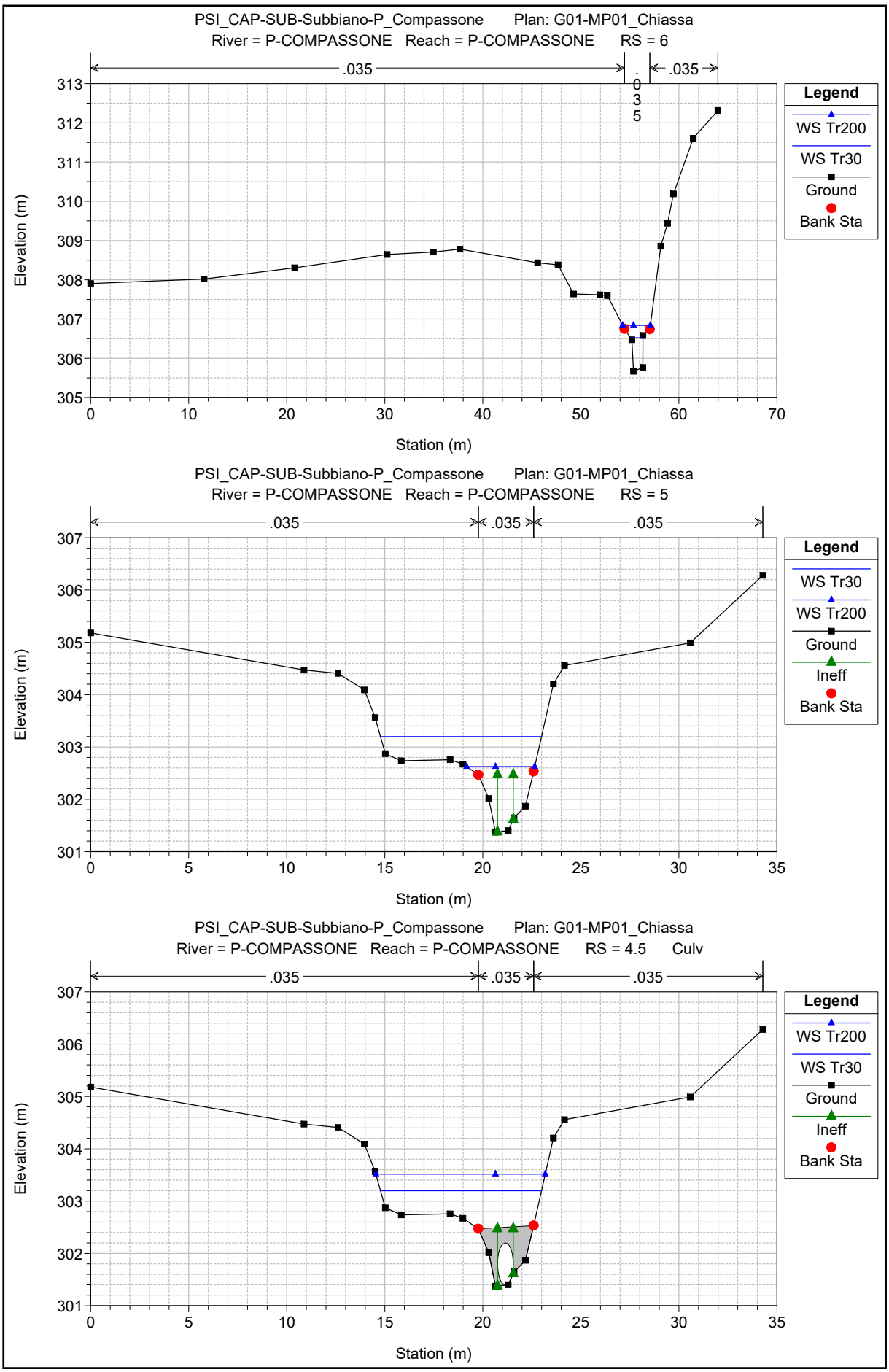


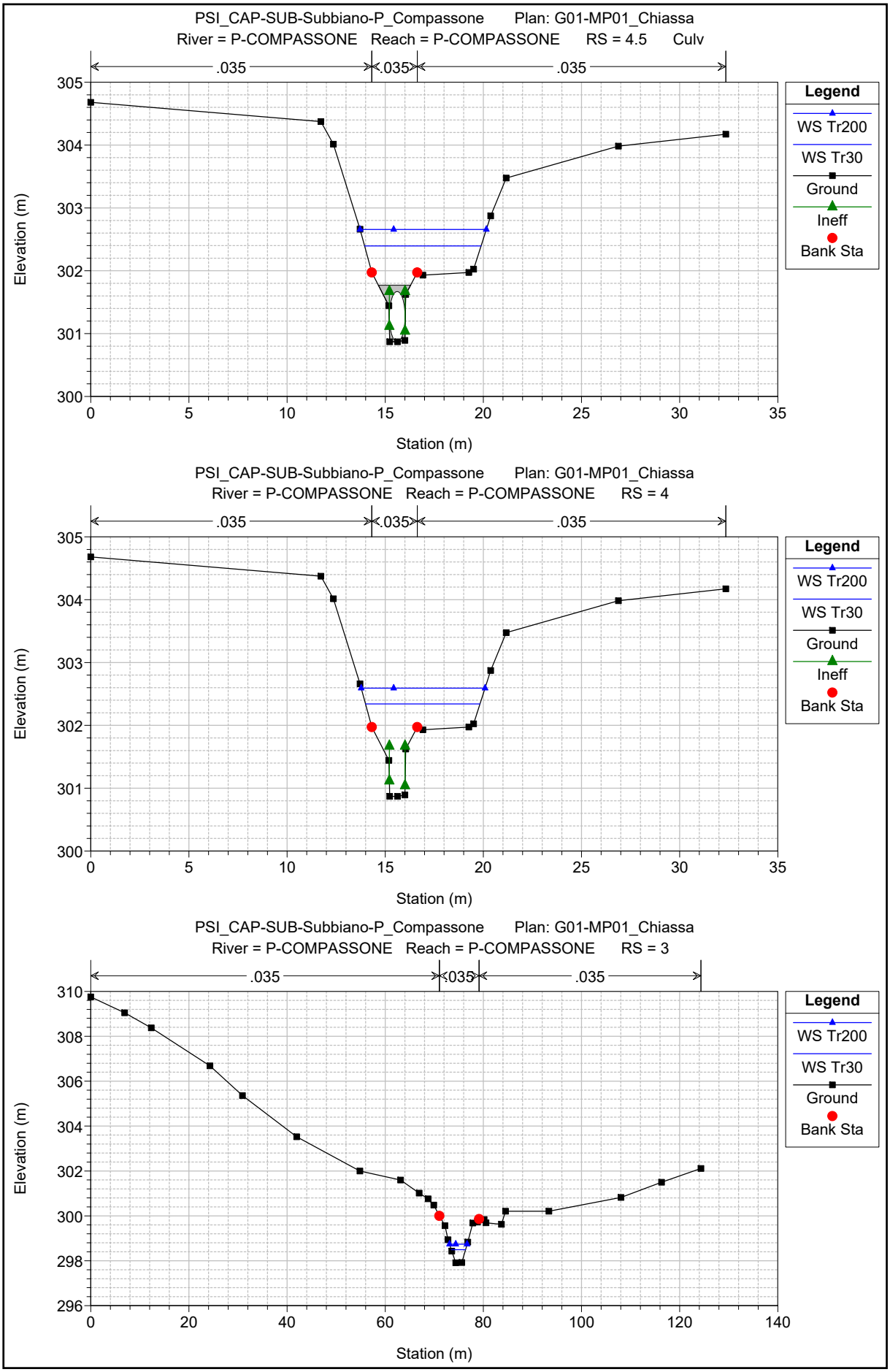
1 cm Horiz. = 25 m 1 cm Vert. = 4 m

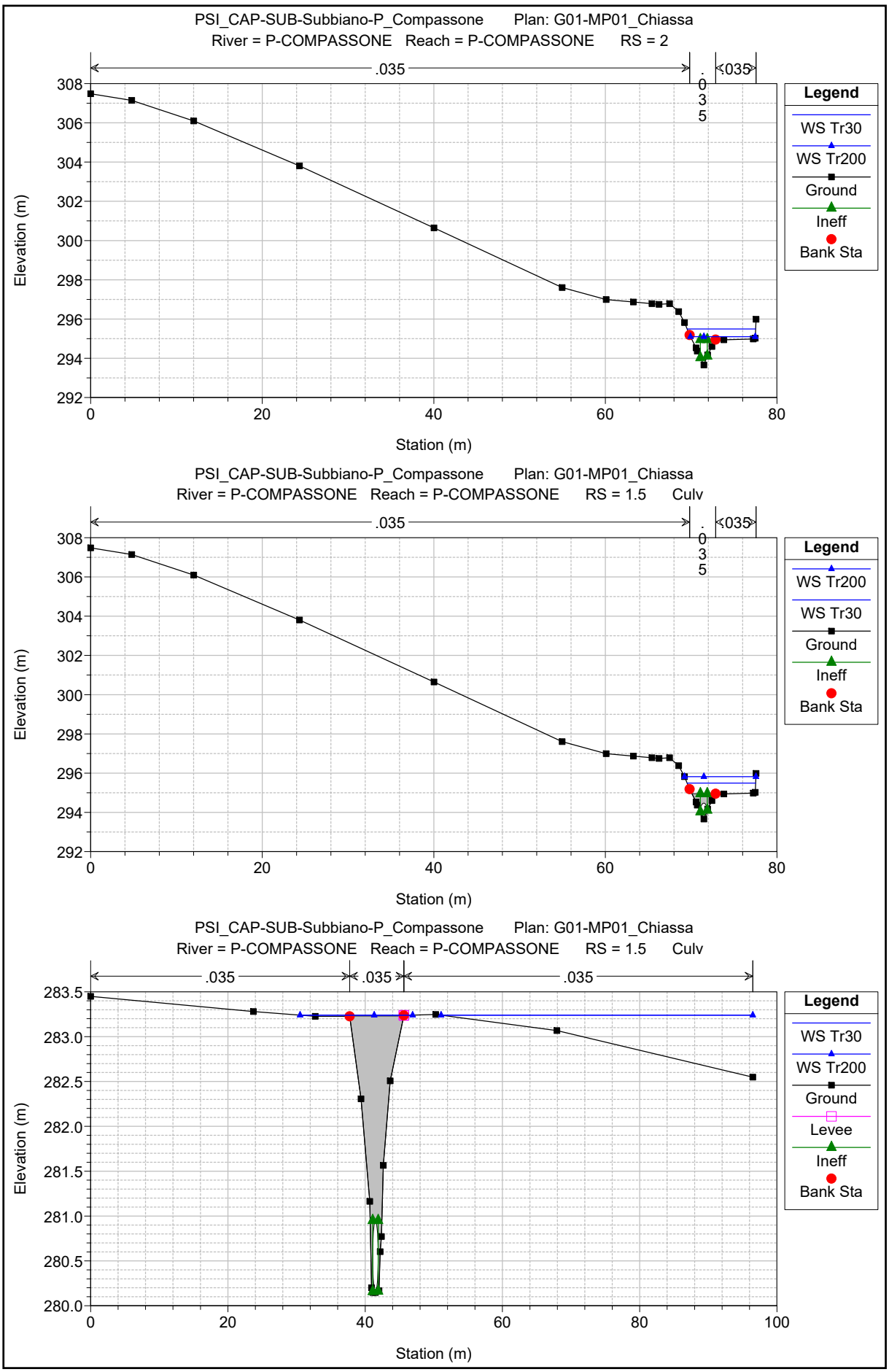

PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 10
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 9
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 8
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

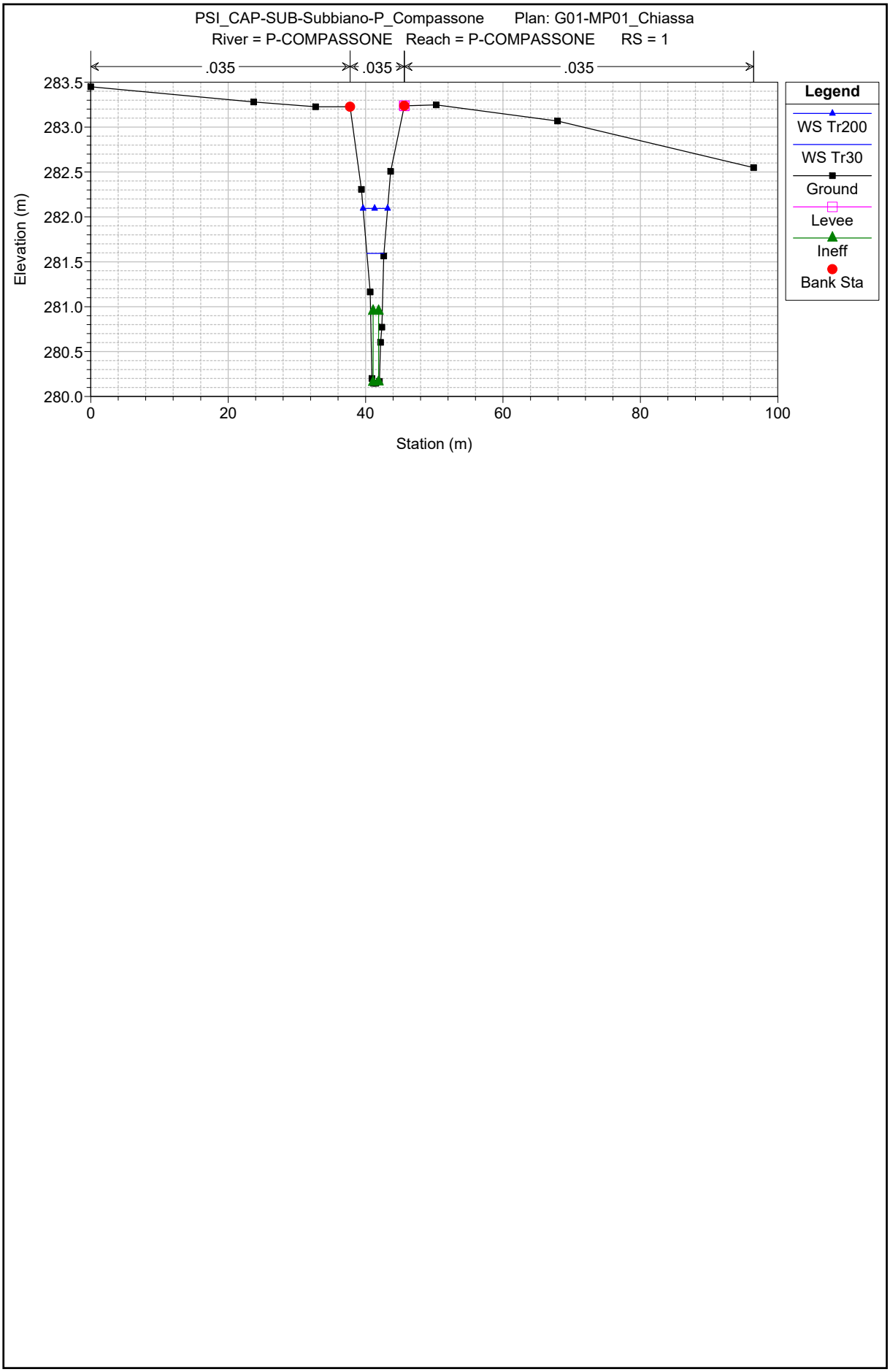
1


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 7
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 6
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 5
.035
.035
.035
Legend
WS Tr30
WS Tr200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4.5 Culv
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4.5 Culv
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 4
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 3
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Bank Sta


PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 2
.035
.035
.035
Legend
WS Tr30
WS Tr200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1.5 Culv
.035
.035
.035
Legend
WS Tr200
WS Tr30
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1.5 Culv
.035
.035
.035
Legend
WS Tr30
WS Tr200
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)

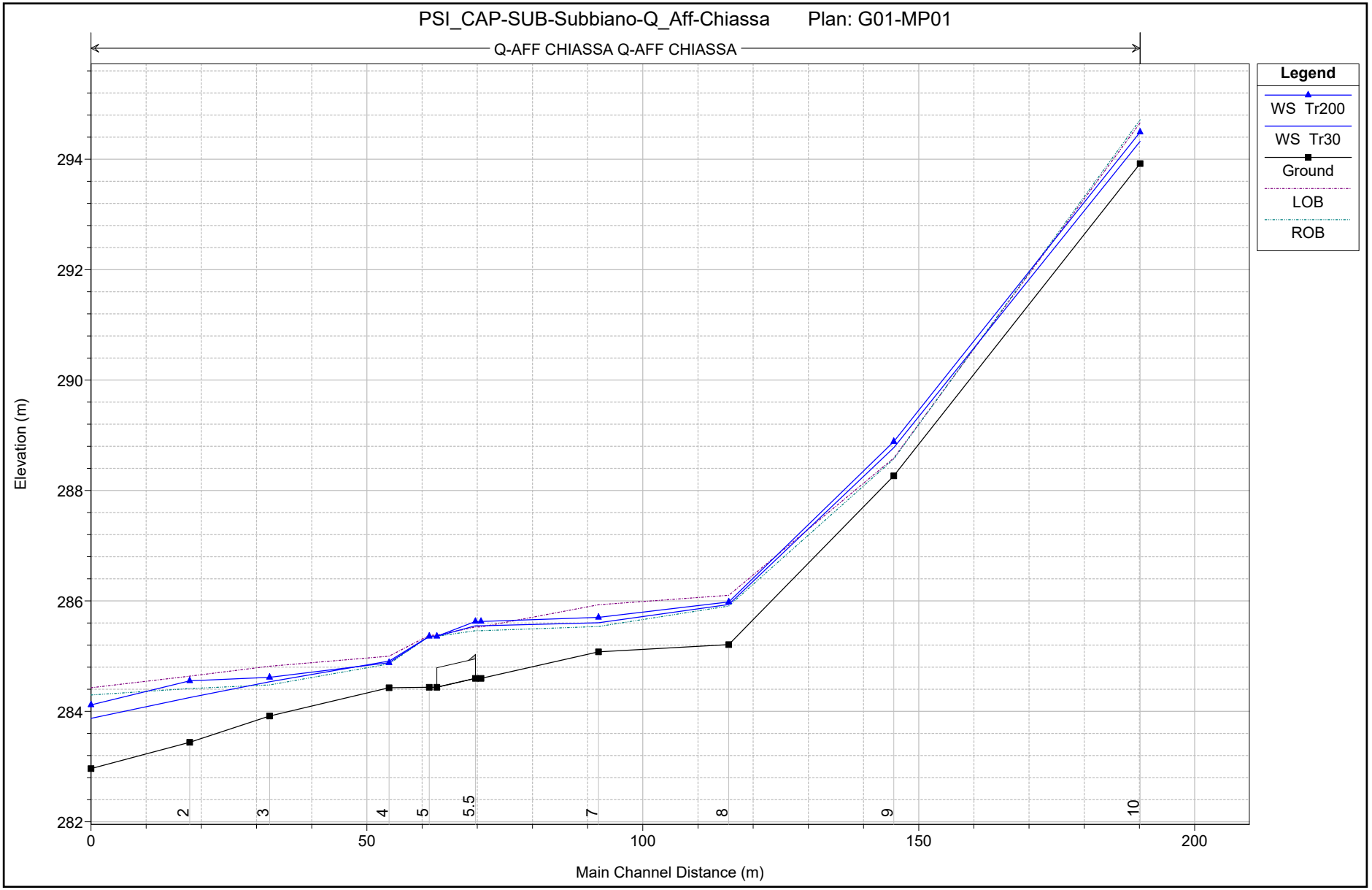

PSI_CAP-SUB-Subbiano-P_Compassone Plan: G01-MP01_Chiassa
River = P-COMPASSONE Reach = P-COMPASSONE RS = 1
.035
.035
.035
Elevation (m)
283.5
283.0
282.5
282.0
281.5
281.0
280.5
280.0
0
20
40
60
80
100
Station (m)
Legend
WS Tr200
WS Tr30
Ground
Levee
Ineff
Bank Sta

HEC-RAS Plan: G01-MP01_Chiassa River: P-COMPASSONE Reach: P-COMPASSONE

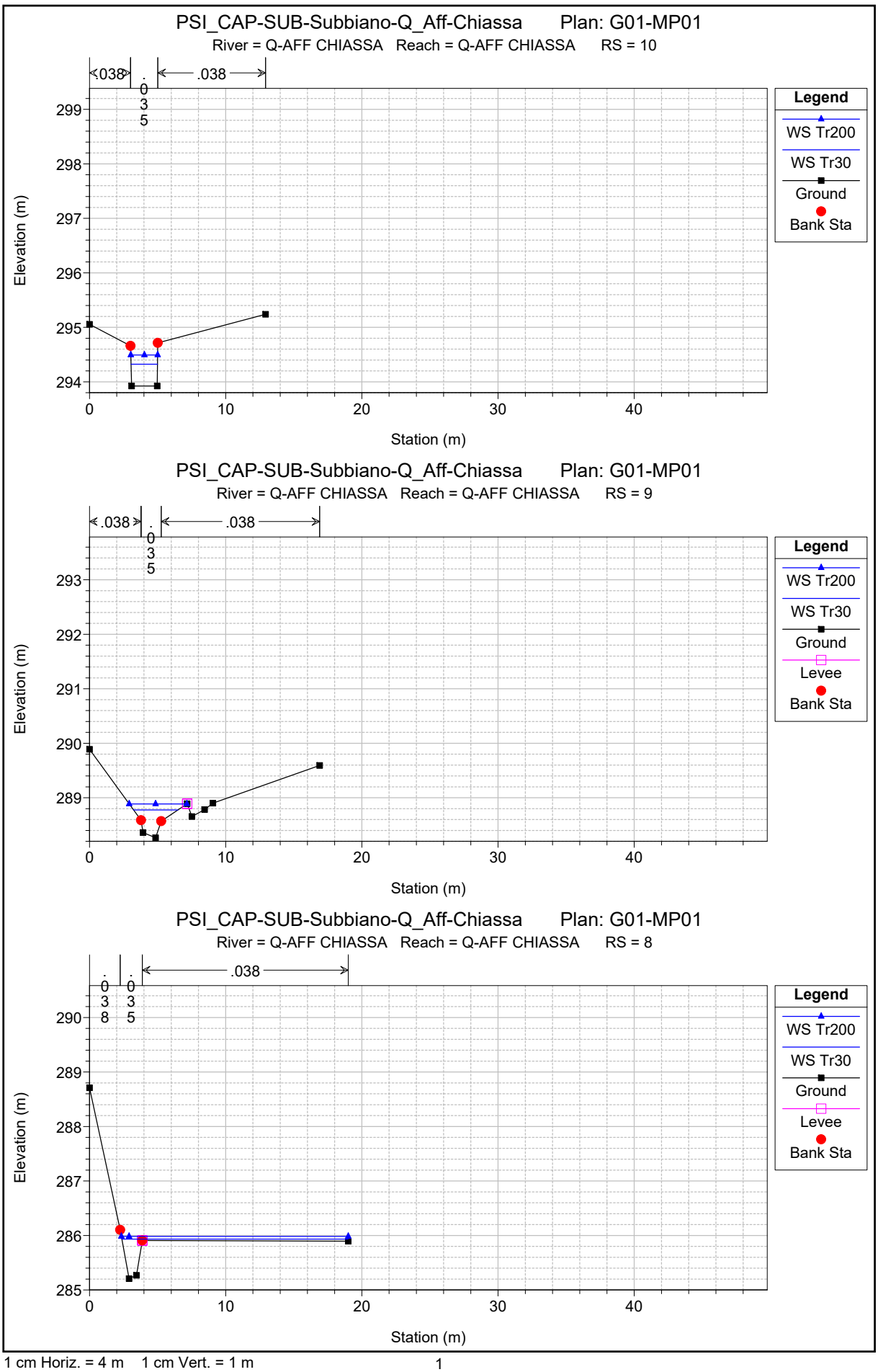
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
P-COMPASSONE	10	Tr30	7.32	320.11	320.59	320.93	321.94	0.150125	5.14	1.42	4.23	2.83
P-COMPASSONE	10	Tr200	12.81	320.11	320.74	321.21	322.65	0.150155	6.11	2.10	4.75	2.94
P-COMPASSONE	9	Tr30	7.32	315.67	316.24	316.57	317.50	0.143710	4.97	1.47	4.46	2.76
P-COMPASSONE	9	Tr200	12.81	315.67	316.39	316.85	318.22	0.143550	5.99	2.14	4.81	2.87
P-COMPASSONE	8	Tr30	7.32	312.12	314.10	313.57	314.17	0.002078	1.23	6.91	9.08	0.33
P-COMPASSONE	8	Tr200	12.81	312.12	314.36	313.86	314.47	0.002869	1.62	9.86	13.56	0.40
P-COMPASSONE	7.5		Culvert									
P-COMPASSONE	7	Tr30	7.32	311.64	312.47	312.47	312.62	0.012241	2.01	4.55	12.92	0.80
P-COMPASSONE	7	Tr200	12.81	311.64	312.62	312.62	312.82	0.012906	2.32	6.77	14.95	0.83
P-COMPASSONE	6	Tr30	7.32	305.67	306.52	307.21	310.33	0.425637	8.65	0.85	1.26	3.36
P-COMPASSONE	6	Tr200	12.81	305.67	306.84	307.57	310.56	0.346656	8.55	1.51	2.83	3.59
P-COMPASSONE	5	Tr30	7.32	301.37	303.20	302.71	303.28	0.002254	1.38	6.39	8.21	0.37
P-COMPASSONE	5	Tr200	12.81	301.37	302.62	303.10	304.13	0.071302	5.45	2.39	3.48	1.91
P-COMPASSONE	4.5		Culvert									
P-COMPASSONE	4	Tr30	7.32	300.87	302.34	302.34	302.61	0.016396	2.47	3.31	5.83	0.83
P-COMPASSONE	4	Tr200	12.81	300.87	302.59	302.59	302.97	0.016341	2.90	4.84	6.31	0.86
P-COMPASSONE	3	Tr30	7.32	297.91	298.49	298.96	300.42	0.177342	6.15	1.19	2.89	3.06
P-COMPASSONE	3	Tr200	12.81	297.91	298.74	299.29	300.87	0.134840	6.46	1.98	3.58	2.77
P-COMPASSONE	2	Tr30	7.32	293.66	295.49	295.23	295.58	0.003414	1.44	5.82	7.98	0.44
P-COMPASSONE	2	Tr200	12.81	293.66	295.10	295.43	296.42	0.081100	5.34	2.78	7.55	2.00
P-COMPASSONE	1.5		Culvert									
P-COMPASSONE	1	Tr30	7.32	280.15	281.59	281.59	282.07	0.025337	3.06	2.39	2.49	1.00
P-COMPASSONE	1	Tr200	12.81	280.15	282.09	282.09	282.64	0.022242	3.27	3.92	3.58	1.00

Q – Aff. Chiassa (AV14296)

Scenario Alpha

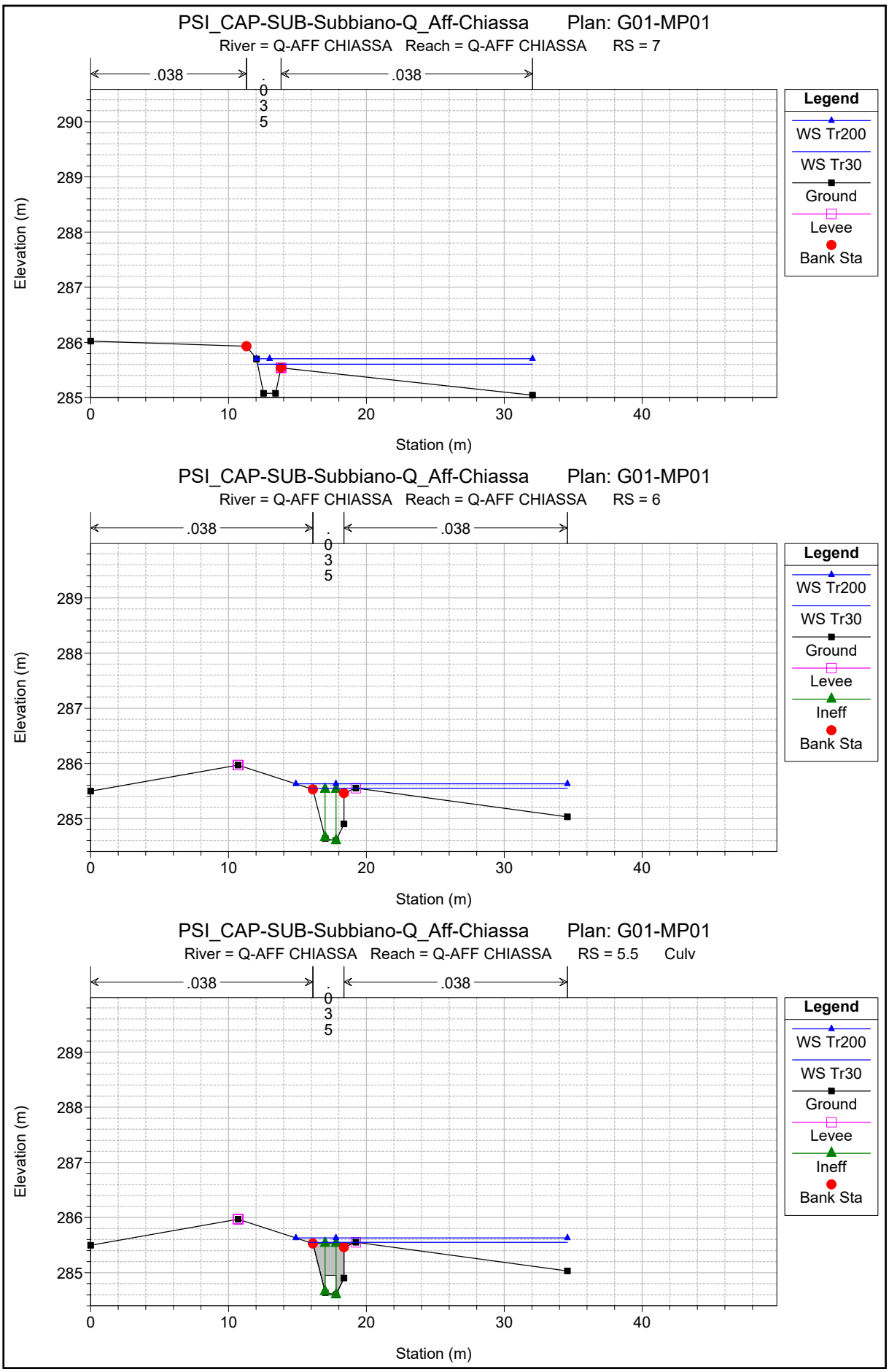


1 cm Horiz. = 10 m 1 cm Vert. = 1 m



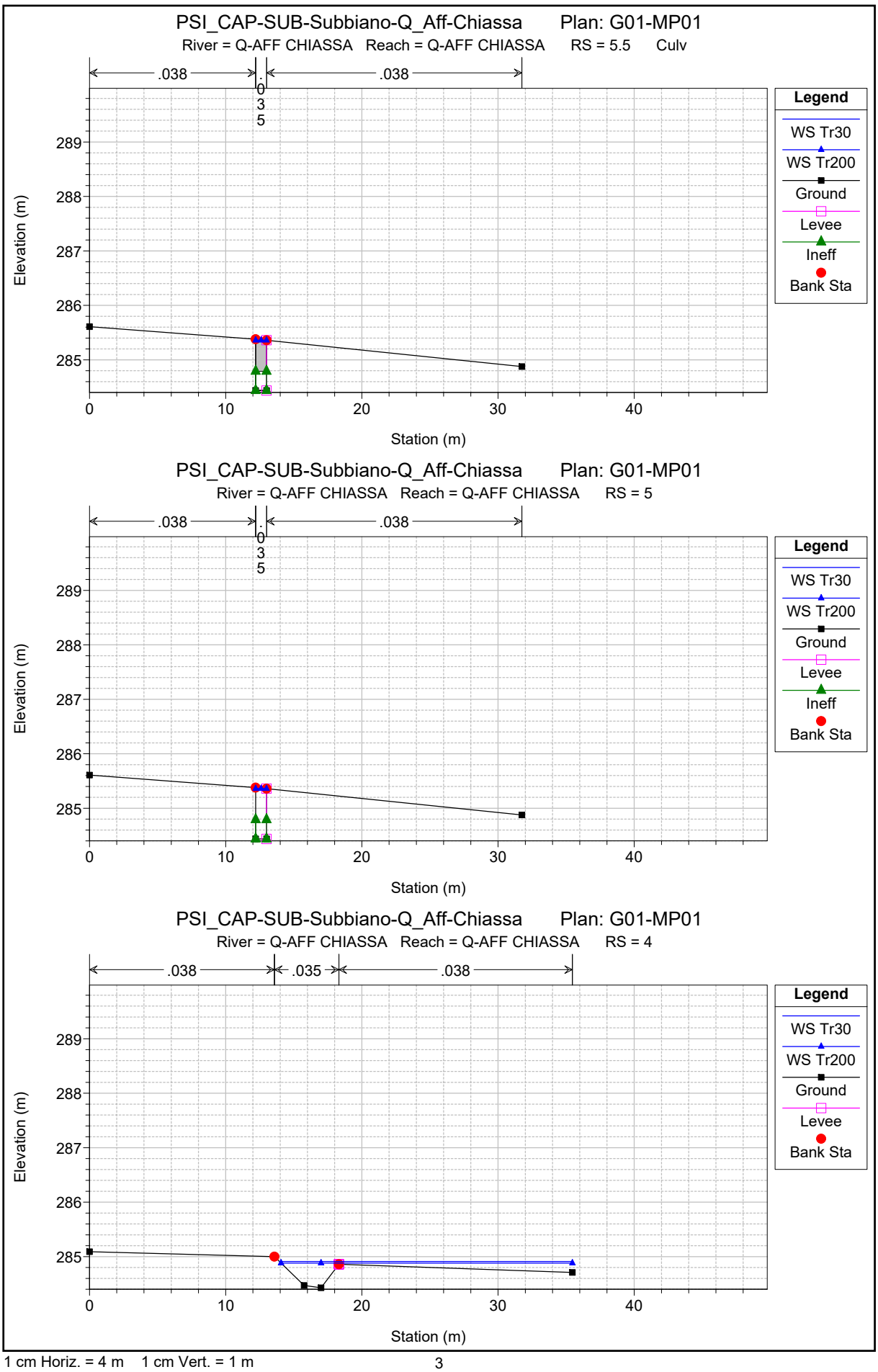
1 cm Horiz. = 4 m 1 cm Vert. = 1 m

1



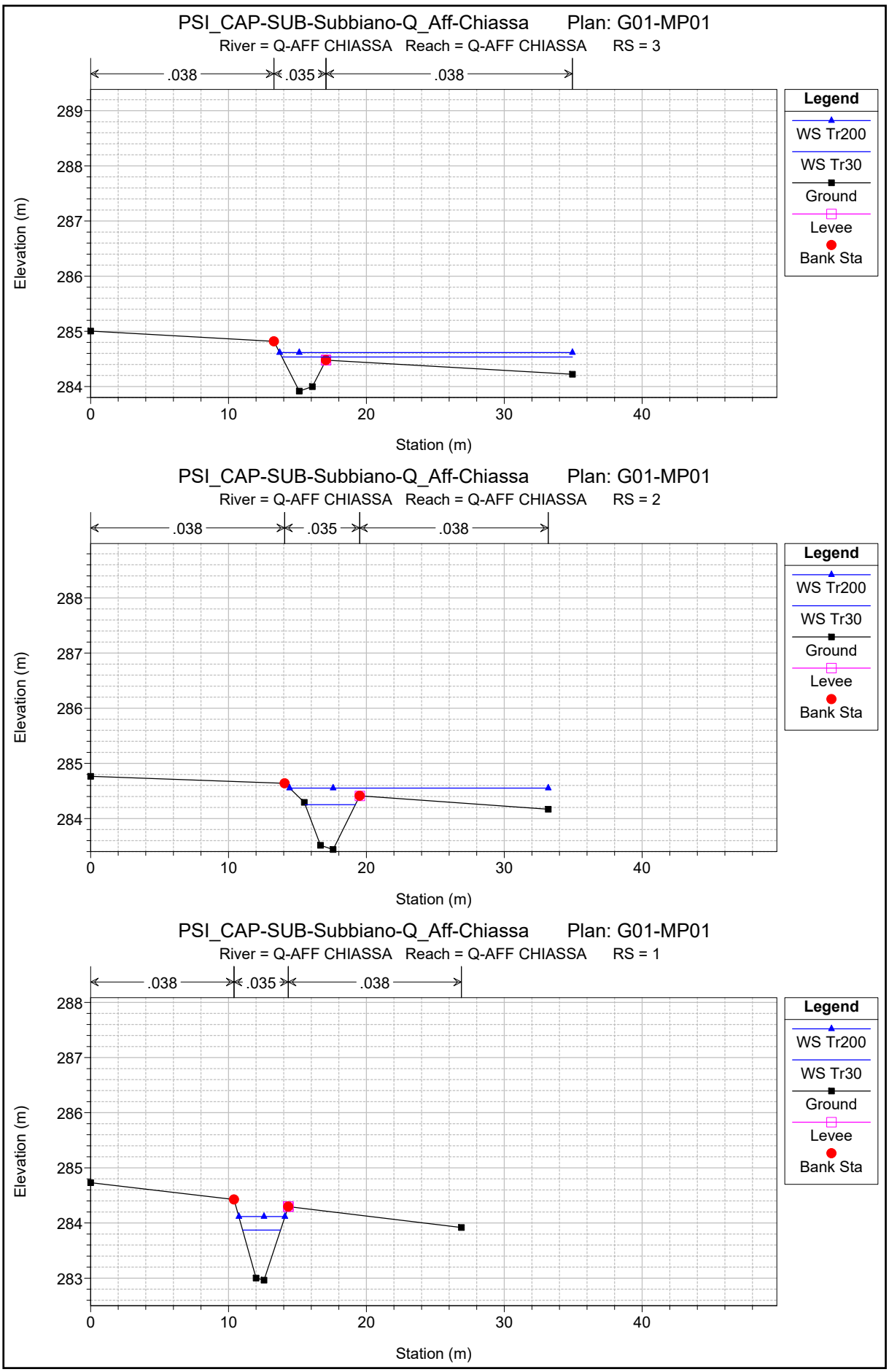
1 cm Horiz. = 4 m 1 cm Vert. = 1 m

2



1 cm Horiz. = 4 m 1 cm Vert. = 1 m

3



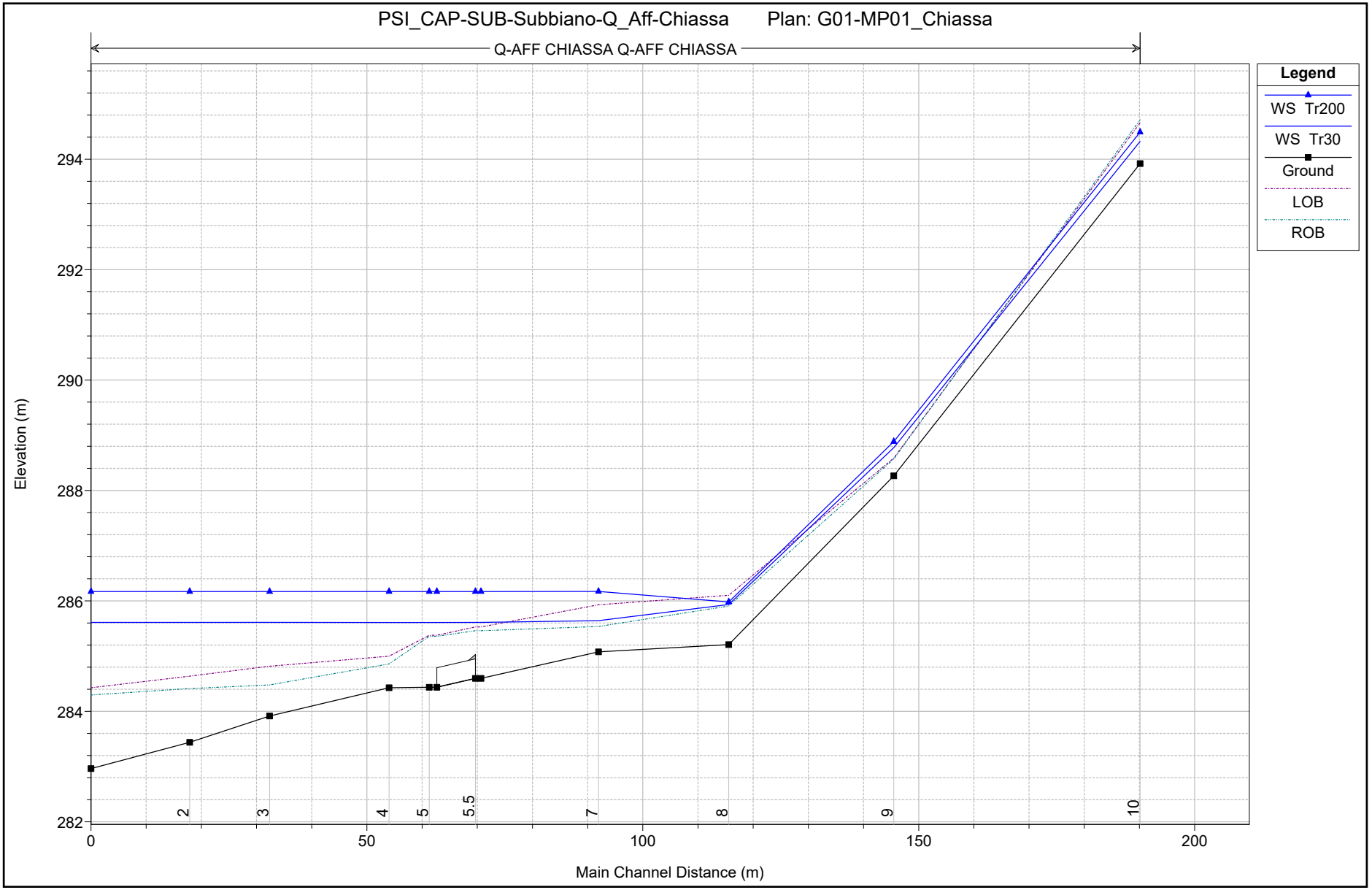
1 cm Horiz. = 4 m 1 cm Vert. = 1 m 4

HEC-RAS Plan: G01-MP01 River: Q-AFF CHIASSA Reach: Q-AFF CHIASSA

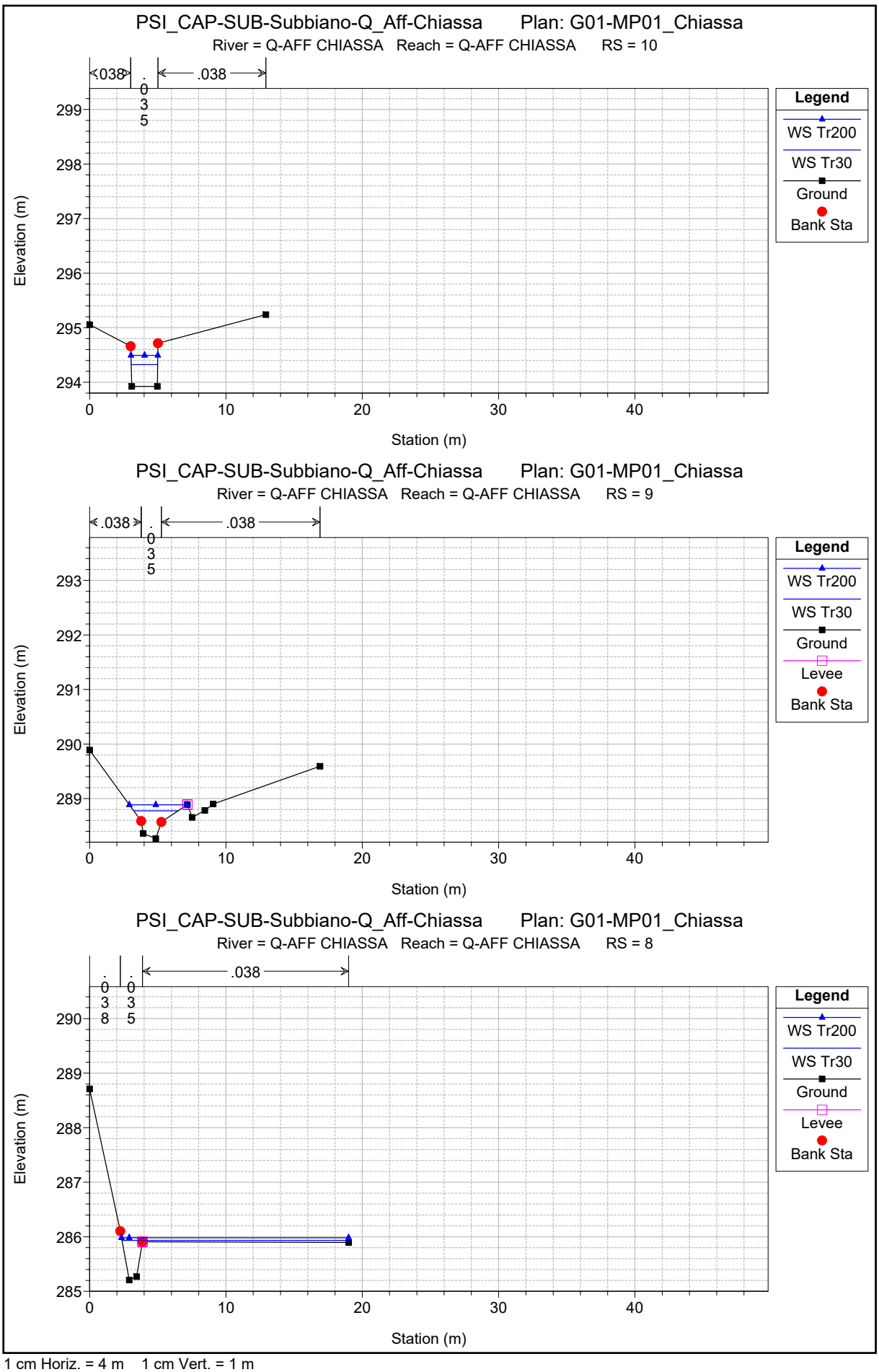
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Q-AFF CHIASSA	10	Tr30	3.39	293.92	294.32	294.60	295.32	0.127083	4.42	0.77	1.95	2.25
Q-AFF CHIASSA	10	Tr200	5.69	293.92	294.49	295.03	295.86	0.127151	5.18	1.10	1.97	2.22
Q-AFF CHIASSA	9	Tr30	3.39	288.26	288.78	289.03	289.91	0.115106	4.92	0.80	3.26	2.43
Q-AFF CHIASSA	9	Tr200	5.69	288.26	288.89	289.16	290.36	0.119024	5.85	1.21	4.23	2.57
Q-AFF CHIASSA	8	Tr30	3.39	285.21	285.93	286.06	286.70	0.093650	4.13	1.22	16.63	1.90
Q-AFF CHIASSA	8	Tr200	5.69	285.21	285.98	286.12	286.75	0.108643	4.66	2.02	16.66	2.07
Q-AFF CHIASSA	7	Tr30	3.39	285.08	285.60	285.54	285.62	0.001913	0.58	6.42	19.94	0.29
Q-AFF CHIASSA	7	Tr200	5.69	285.08	285.70	285.54	285.73	0.002255	0.71	8.38	20.03	0.32
Q-AFF CHIASSA	6	Tr30	3.39	284.60	285.55	285.55	285.57	0.002316	0.86	5.63	18.70	0.32
Q-AFF CHIASSA	6	Tr200	5.69	284.60	285.63	285.55	285.67	0.003314	1.10	7.14	19.70	0.40
Q-AFF CHIASSA	5.5		Culvert									
Q-AFF CHIASSA	5	Tr30	3.39	284.44	285.36	285.36	285.38	0.004221	0.56	5.29	19.55	0.19
Q-AFF CHIASSA	5	Tr200	5.69	284.44	285.36	285.36	285.42	0.011890	0.94	5.29	19.55	0.31
Q-AFF CHIASSA	4	Tr30	3.39	284.43	284.91	284.91	284.98	0.011964	1.39	3.49	21.52	0.80
Q-AFF CHIASSA	4	Tr200	5.69	284.43	284.88	284.96	285.18	0.058537	2.92	2.85	21.39	1.75
Q-AFF CHIASSA	3	Tr30	3.39	283.92	284.54	284.49	284.57	0.005524	1.07	4.54	21.07	0.55
Q-AFF CHIASSA	3	Tr200	5.69	283.92	284.62	284.54	284.66	0.005813	1.21	6.25	21.23	0.58
Q-AFF CHIASSA	2	Tr30	3.39	283.44	284.25	284.20	284.44	0.013501	1.91	1.77	3.64	0.87
Q-AFF CHIASSA	2	Tr200	5.69	283.44	284.55	284.44	284.60	0.003395	1.12	6.68	18.76	0.46
Q-AFF CHIASSA	1	Tr30	3.39	282.96	283.87	283.87	284.14	0.019487	2.29	1.48	2.75	1.00
Q-AFF CHIASSA	1	Tr200	5.69	282.96	284.12	284.12	284.45	0.018575	2.56	2.22	3.34	1.00

Q – Aff. Chiassa (AV14296)

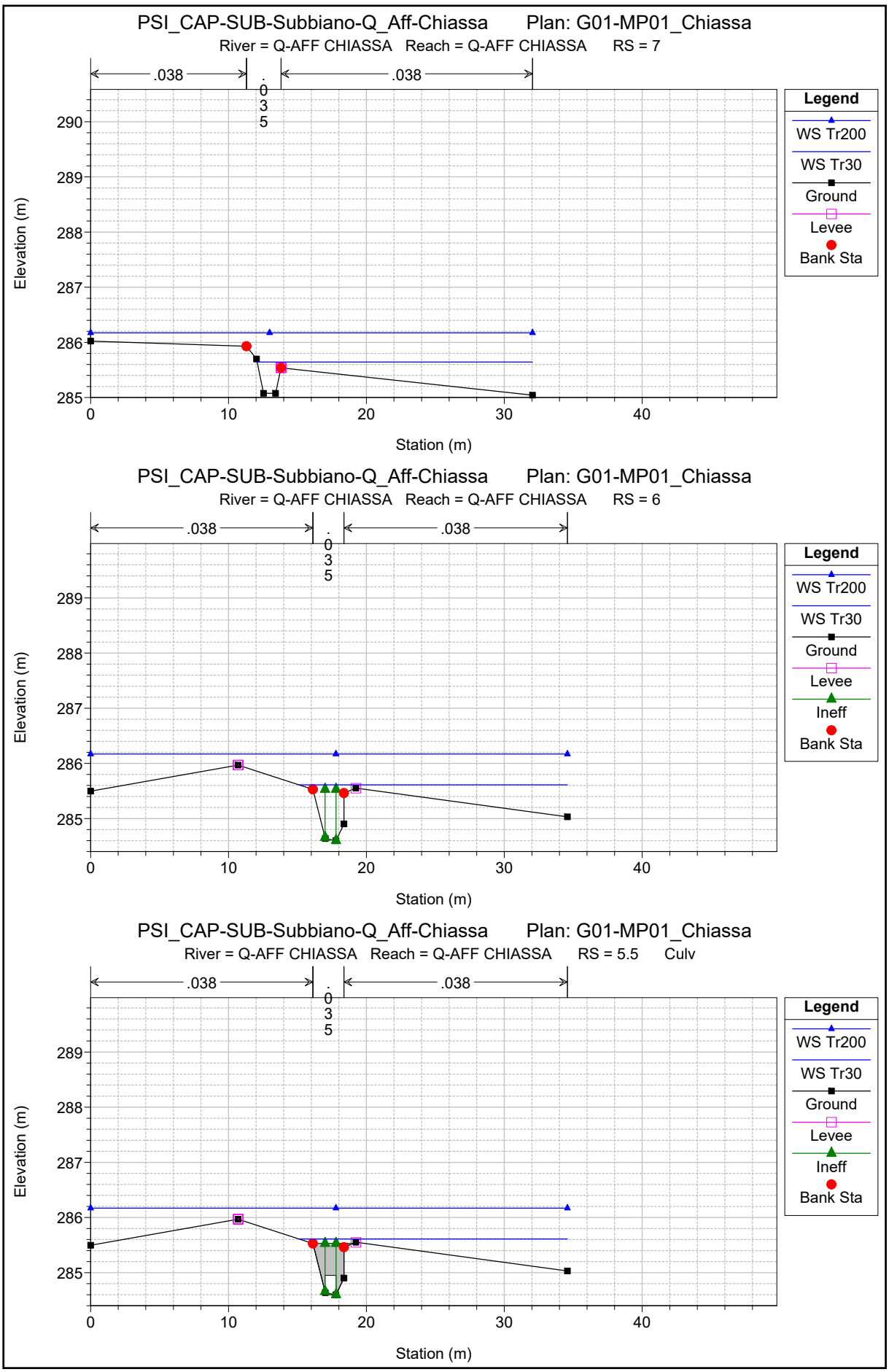
Scenario Beta



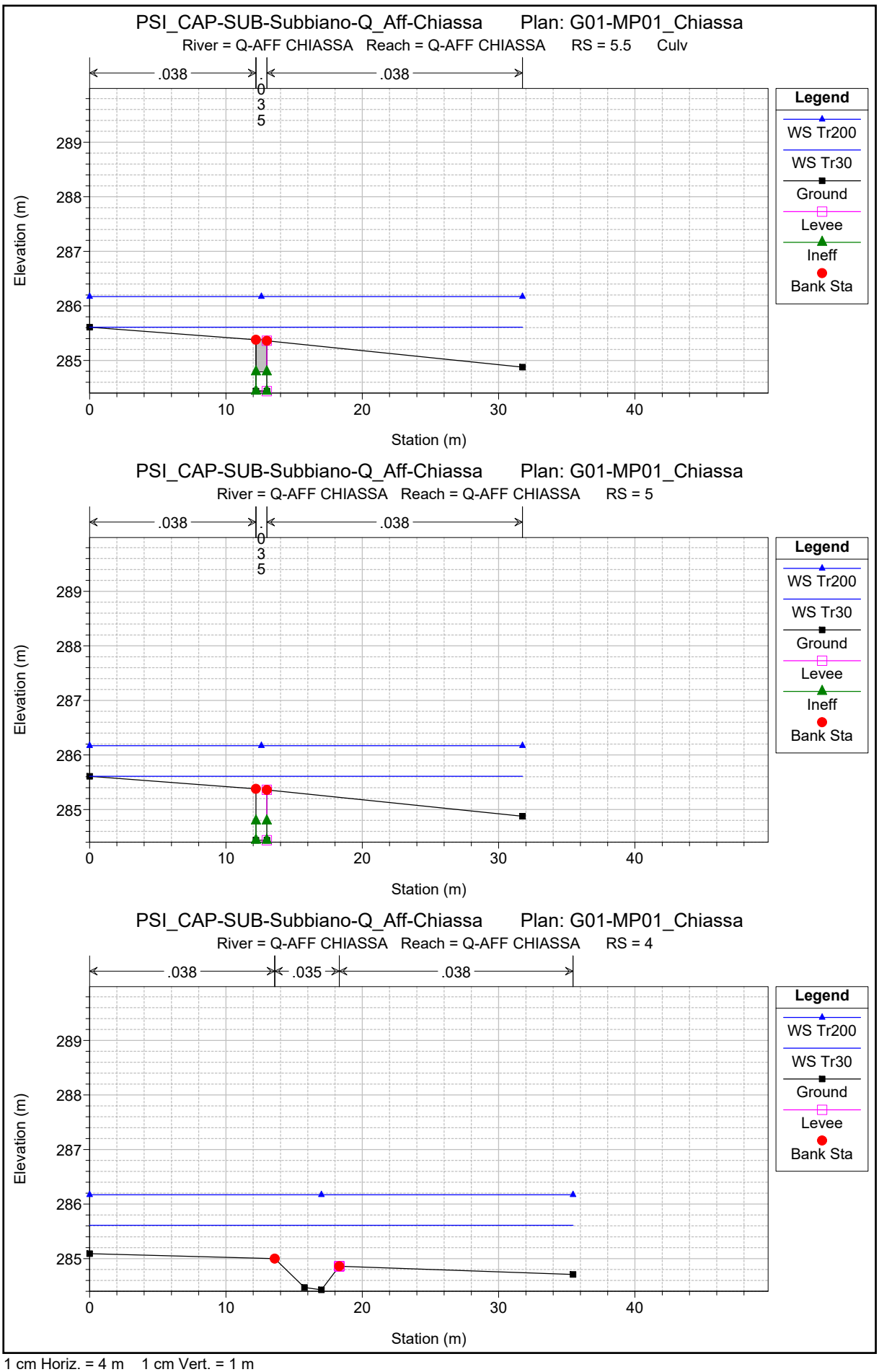
1 cm Horiz. = 10 m 1 cm Vert. = 1 m



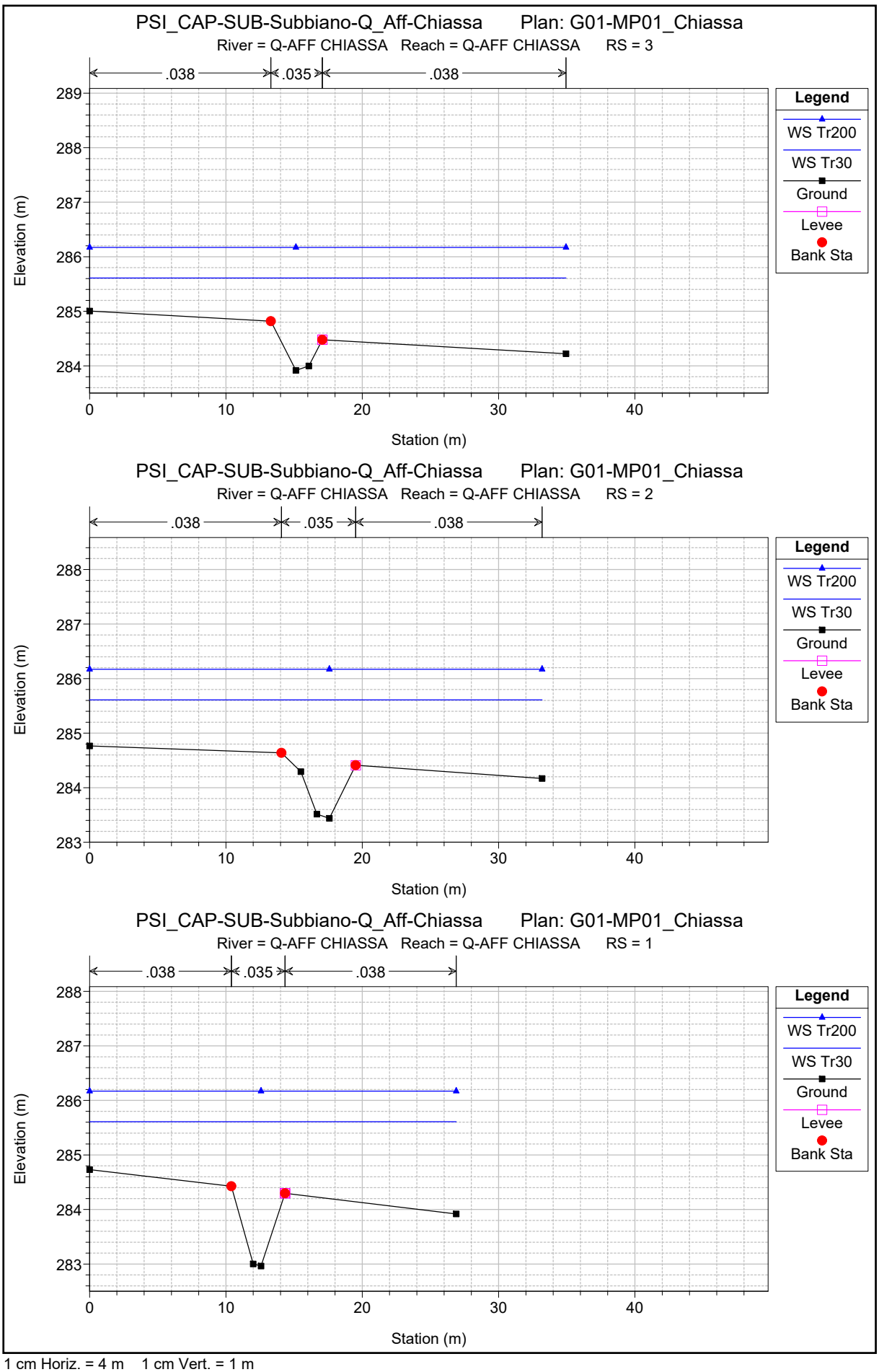
1 cm Horiz. = 4 m 1 cm Vert. = 1 m



1 cm Horiz. = 4 m 1 cm Vert. = 1 m



1 cm Horiz. = 4 m 1 cm Vert. = 1 m



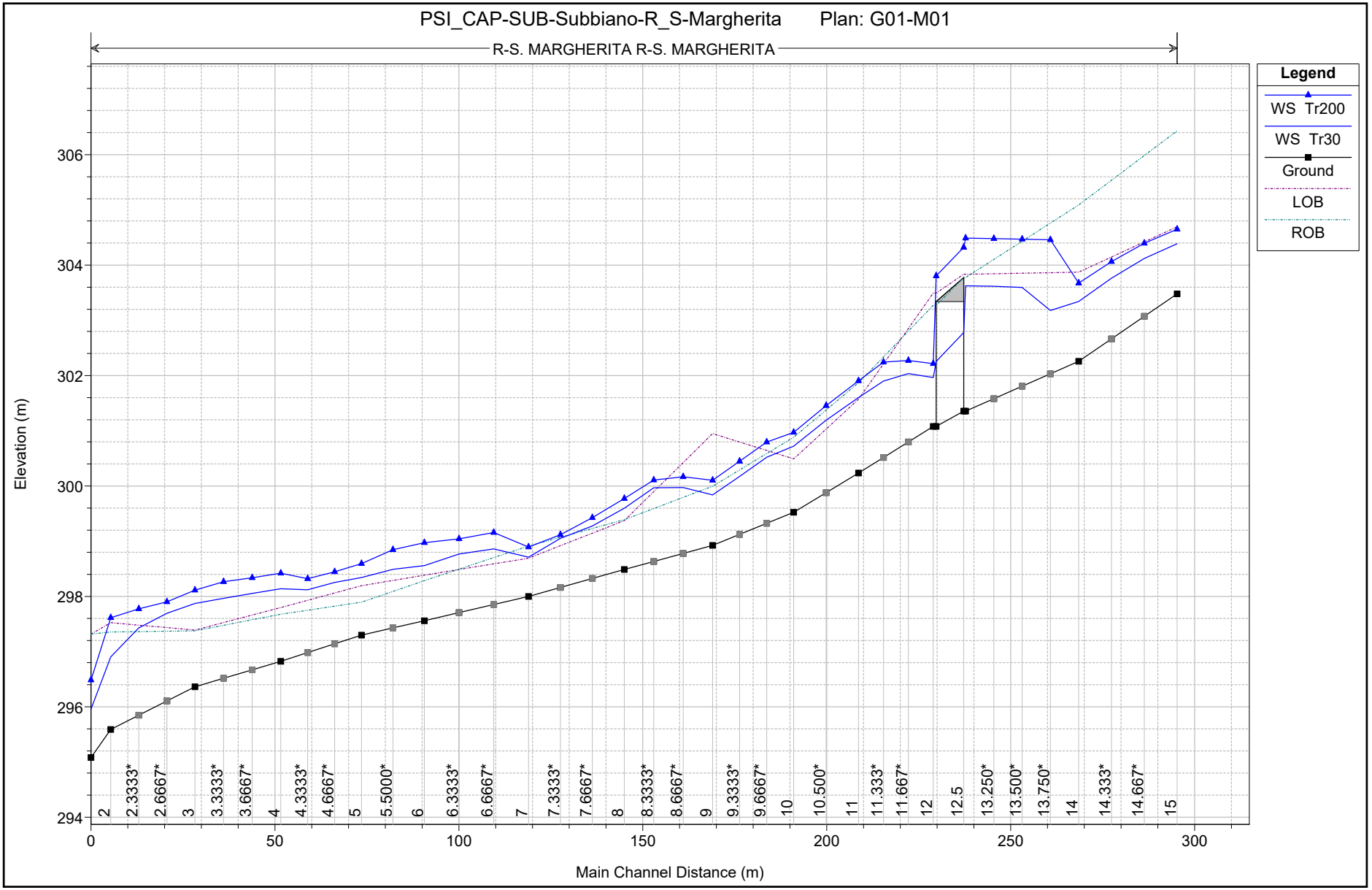
1 cm Horiz. = 4 m 1 cm Vert. = 1 m

HEC-RAS Plan: G01-MP01_Chiassa River: Q-AFF CHIASSA Reach: Q-AFF CHIASSA

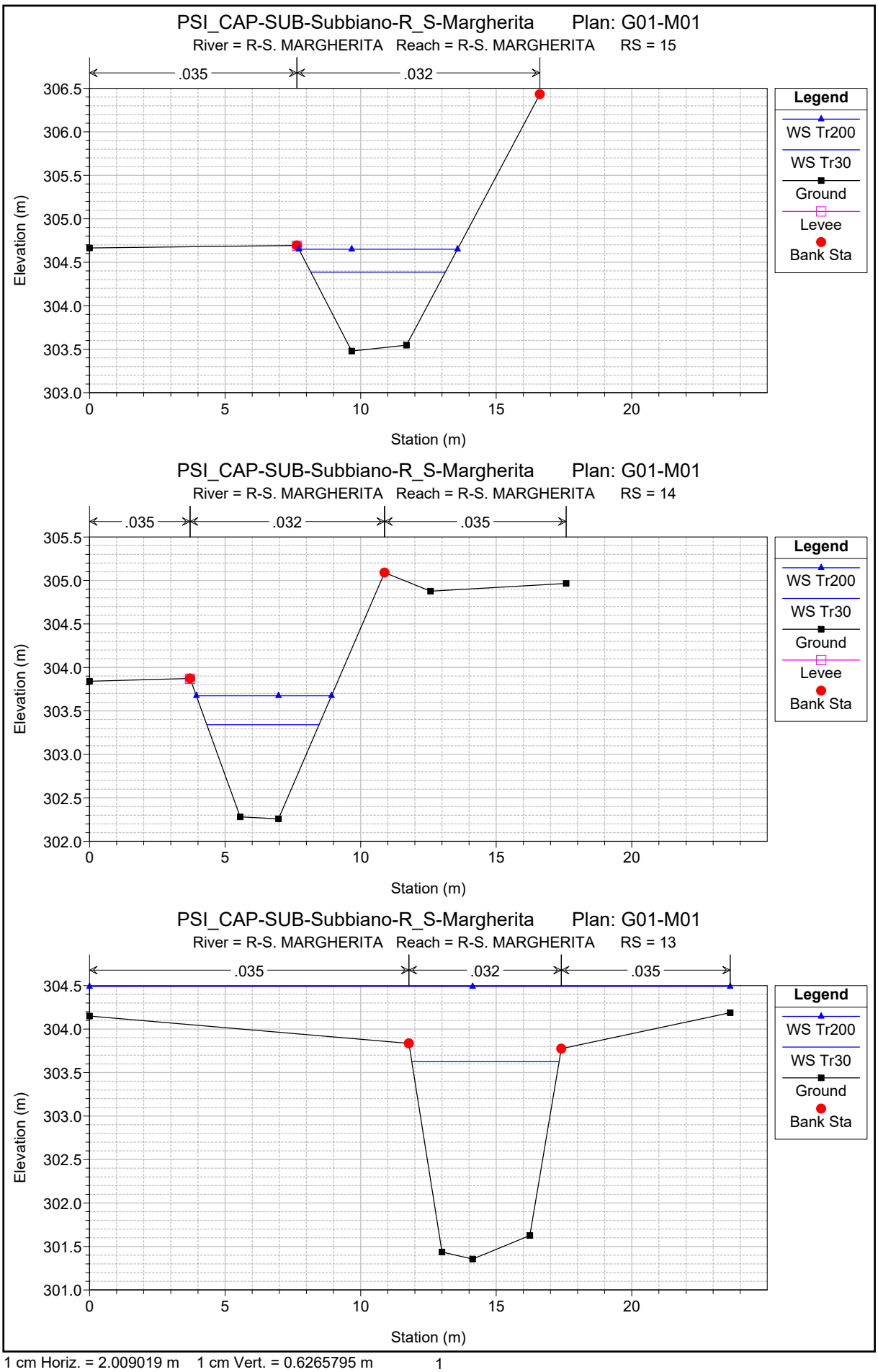
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Q-AFF CHIASSA	10	Tr30	3.39	293.92	294.32	294.60	295.32	0.127083	4.42	0.77	1.95	2.25
Q-AFF CHIASSA	10	Tr200	5.69	293.92	294.49	295.03	295.86	0.127151	5.18	1.10	1.97	2.22
Q-AFF CHIASSA	9	Tr30	3.39	288.26	288.78	289.03	289.91	0.115106	4.92	0.80	3.26	2.43
Q-AFF CHIASSA	9	Tr200	5.69	288.26	288.89	289.16	290.36	0.119024	5.85	1.21	4.23	2.57
Q-AFF CHIASSA	8	Tr30	3.39	285.21	285.93	286.06	286.70	0.093650	4.13	1.22	16.63	1.90
Q-AFF CHIASSA	8	Tr200	5.69	285.21	285.98	286.12	286.75	0.108643	4.66	2.02	16.66	2.07
Q-AFF CHIASSA	7	Tr30	3.39	285.08	285.64	285.54	285.65	0.001315	0.51	7.20	19.97	0.24
Q-AFF CHIASSA	7	Tr200	5.69	285.08	286.17	285.54	286.18	0.000170	0.28	20.28	32.05	0.10
Q-AFF CHIASSA	6	Tr30	3.39	284.60	285.61	285.55	285.63	0.001373	0.70	6.78	19.47	0.25
Q-AFF CHIASSA	6	Tr200	5.69	284.60	286.17	285.55	286.17	0.000127	0.30	24.06	34.58	0.08
Q-AFF CHIASSA	5.5		Culvert									
Q-AFF CHIASSA	5	Tr30	3.39	284.44	285.61	285.36	285.61	0.000419	0.21	11.58	31.75	0.06
Q-AFF CHIASSA	5	Tr200	5.69	284.44	286.17	285.36	286.17	0.000067	0.11	29.39	31.75	0.03
Q-AFF CHIASSA	4	Tr30	3.39	284.43	285.61	284.91	285.61	0.000034	0.16	26.47	35.46	0.05
Q-AFF CHIASSA	4	Tr200	5.69	284.43	286.17	284.96	286.17	0.000016	0.15	46.32	35.46	0.04
Q-AFF CHIASSA	3	Tr30	3.39	283.92	285.61	284.49	285.61	0.000011	0.11	37.03	34.94	0.03
Q-AFF CHIASSA	3	Tr200	5.69	283.92	286.17	284.54	286.17	0.000008	0.12	56.60	34.94	0.03
Q-AFF CHIASSA	2	Tr30	3.39	283.44	285.61	284.20	285.61	0.000008	0.11	39.67	33.19	0.03
Q-AFF CHIASSA	2	Tr200	5.69	283.44	286.17	284.44	286.17	0.000007	0.12	58.25	33.19	0.03
Q-AFF CHIASSA	1	Tr30	3.39	282.96	285.61	283.87	285.61	0.000008	0.11	37.61	26.89	0.03
Q-AFF CHIASSA	1	Tr200	5.69	282.96	286.17	284.12	286.17	0.000008	0.13	52.67	26.89	0.03

R – S. Margherita

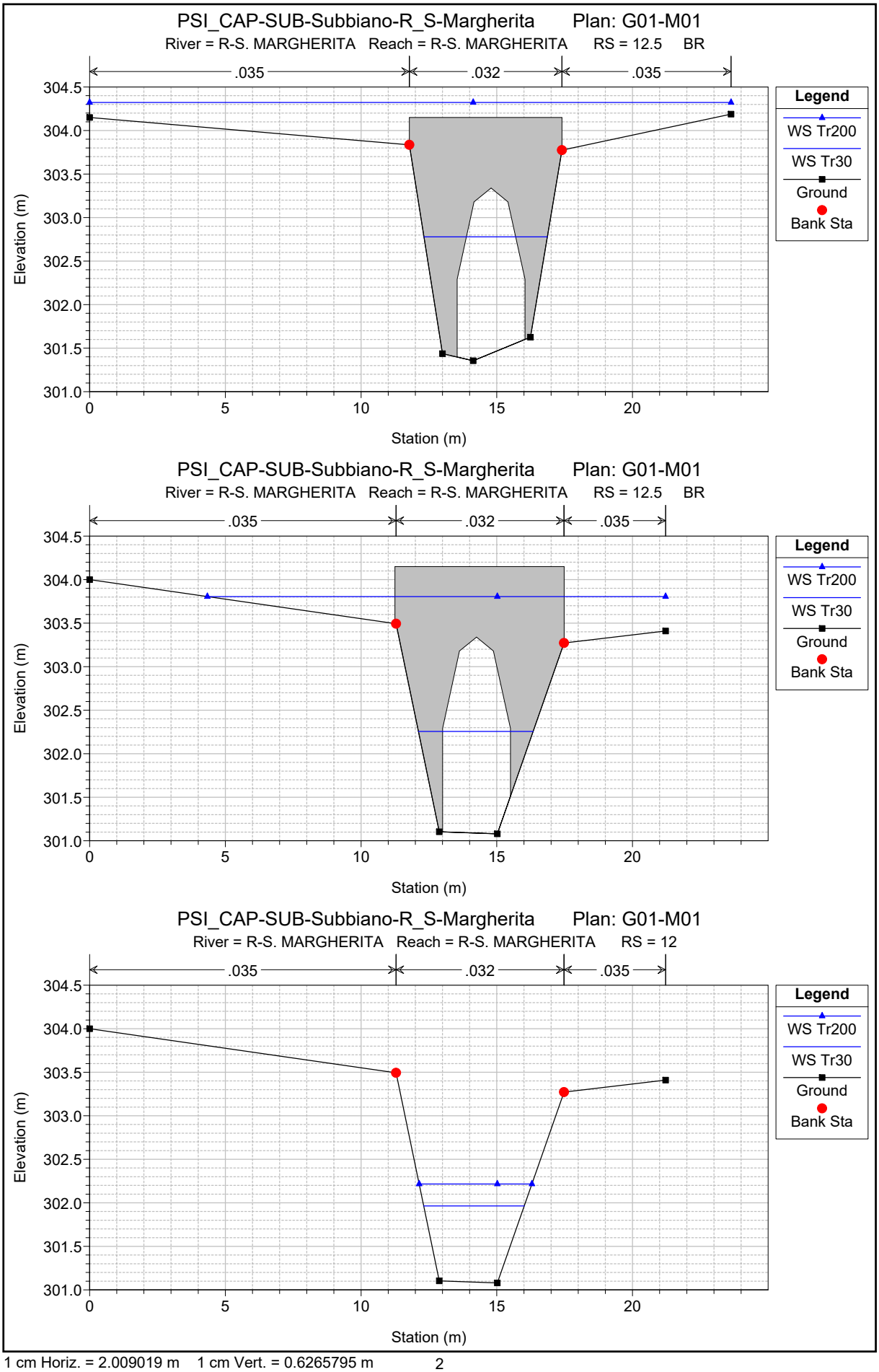
Scenario Alpha



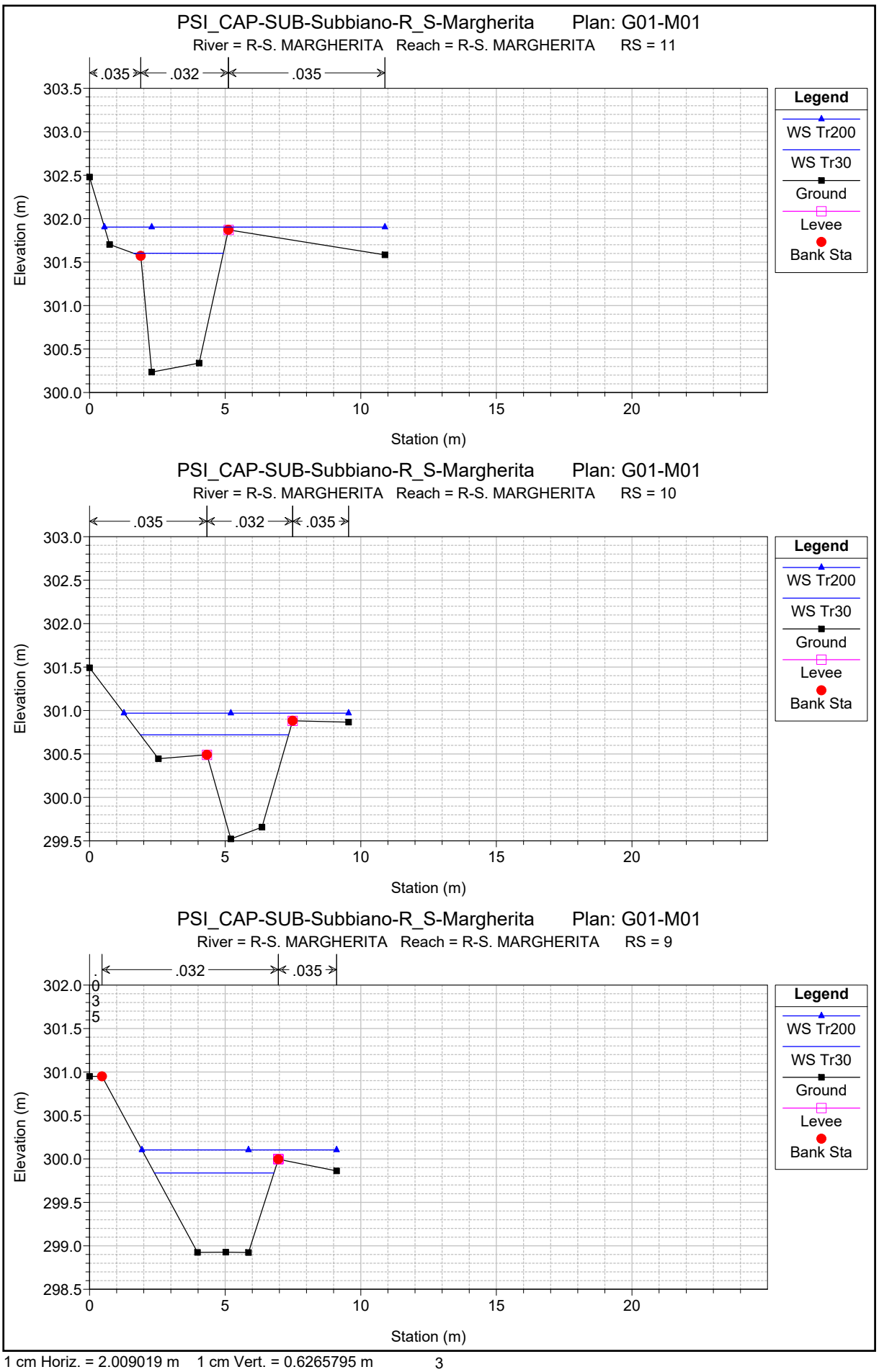
1 cm Horiz. = 15 m 1 cm Vert. = 1 m



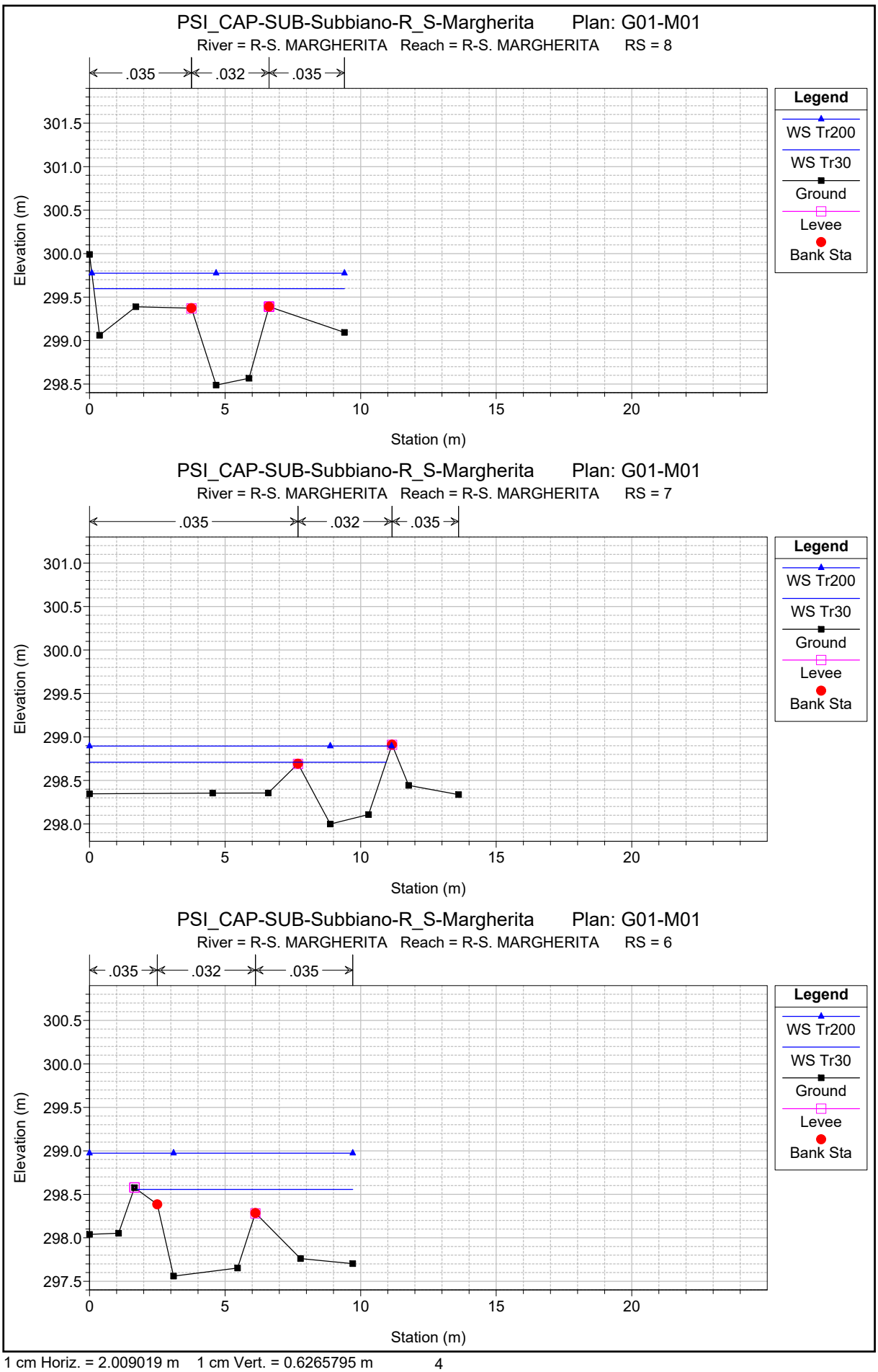
1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 1



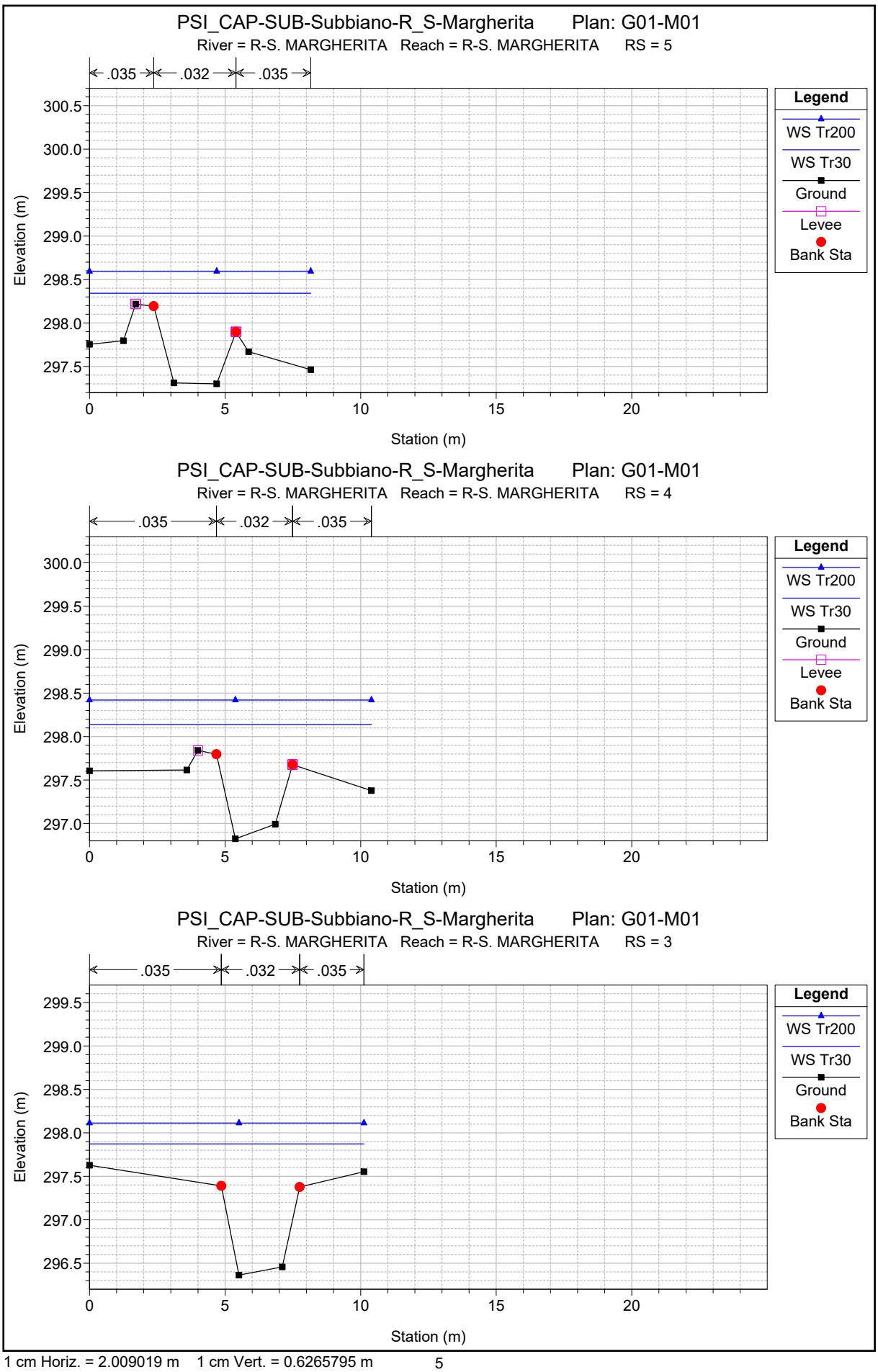
1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 2



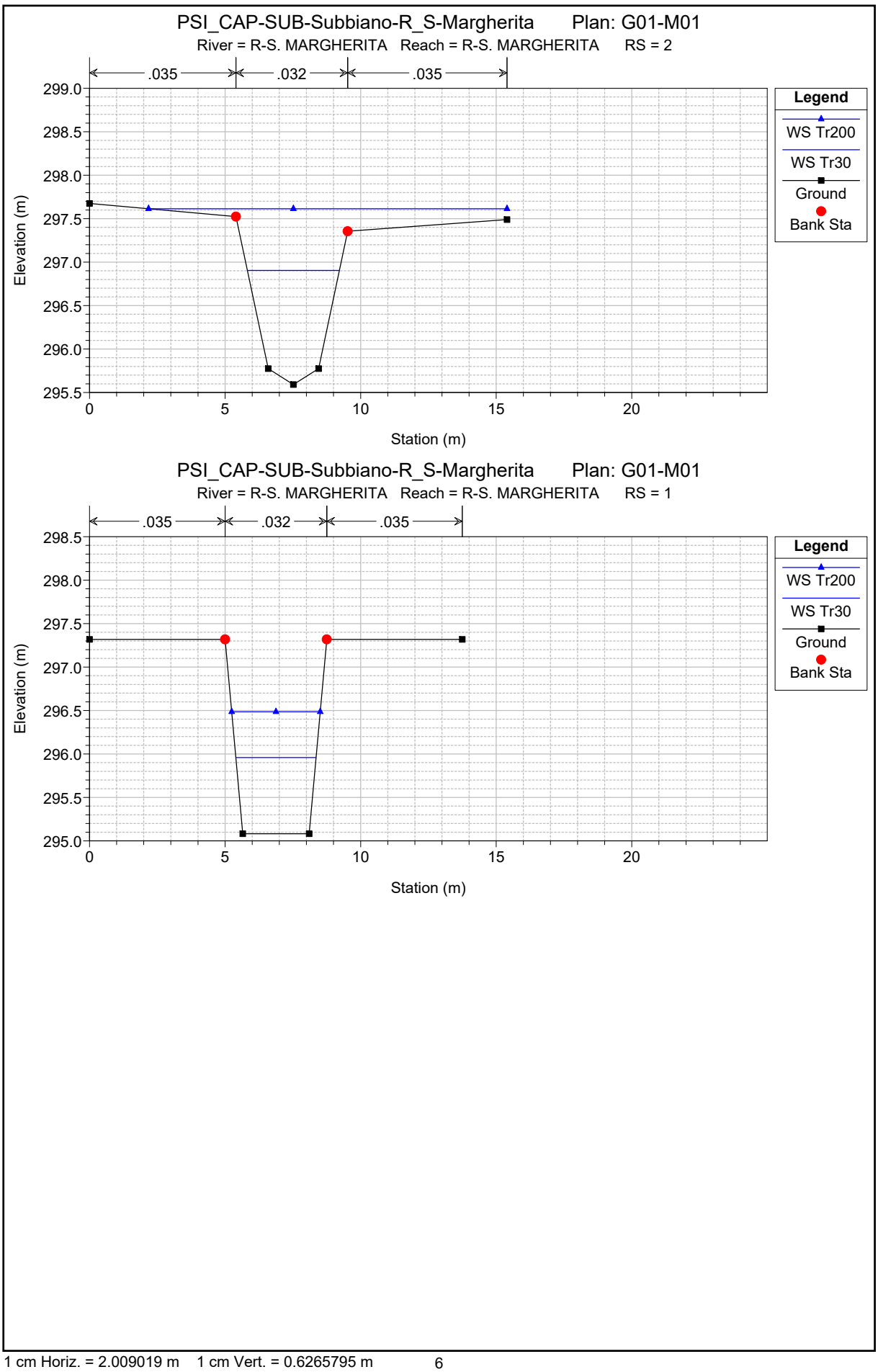
1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 3



1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 4



1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 5



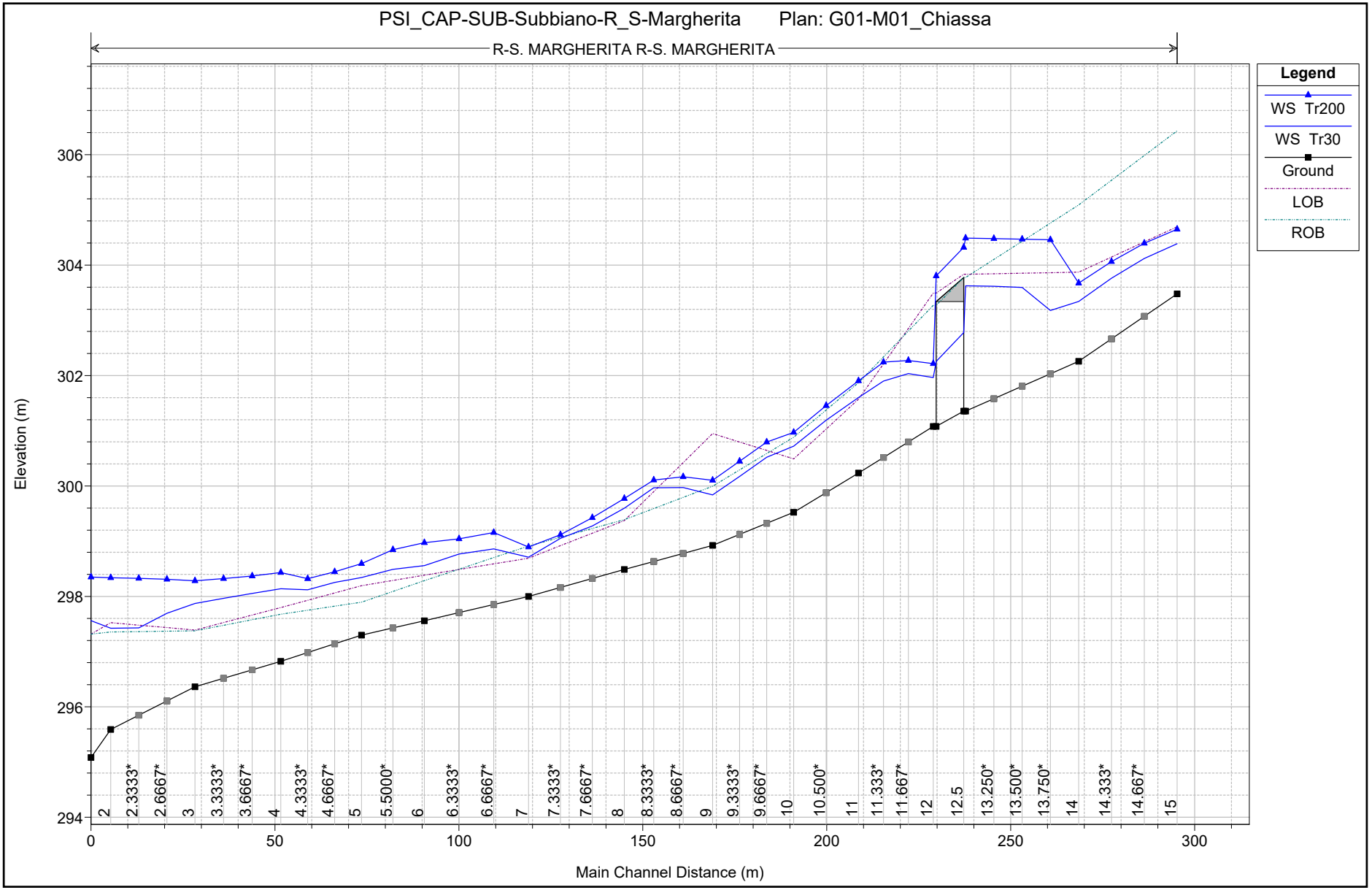
1 cm Horiz. = 2.009019 m 1 cm Vert. = 0.6265795 m 6

HEC-RAS Plan: G01-M01 River: R-S. MARGHERITA Reach: R-S. MARGHERITA

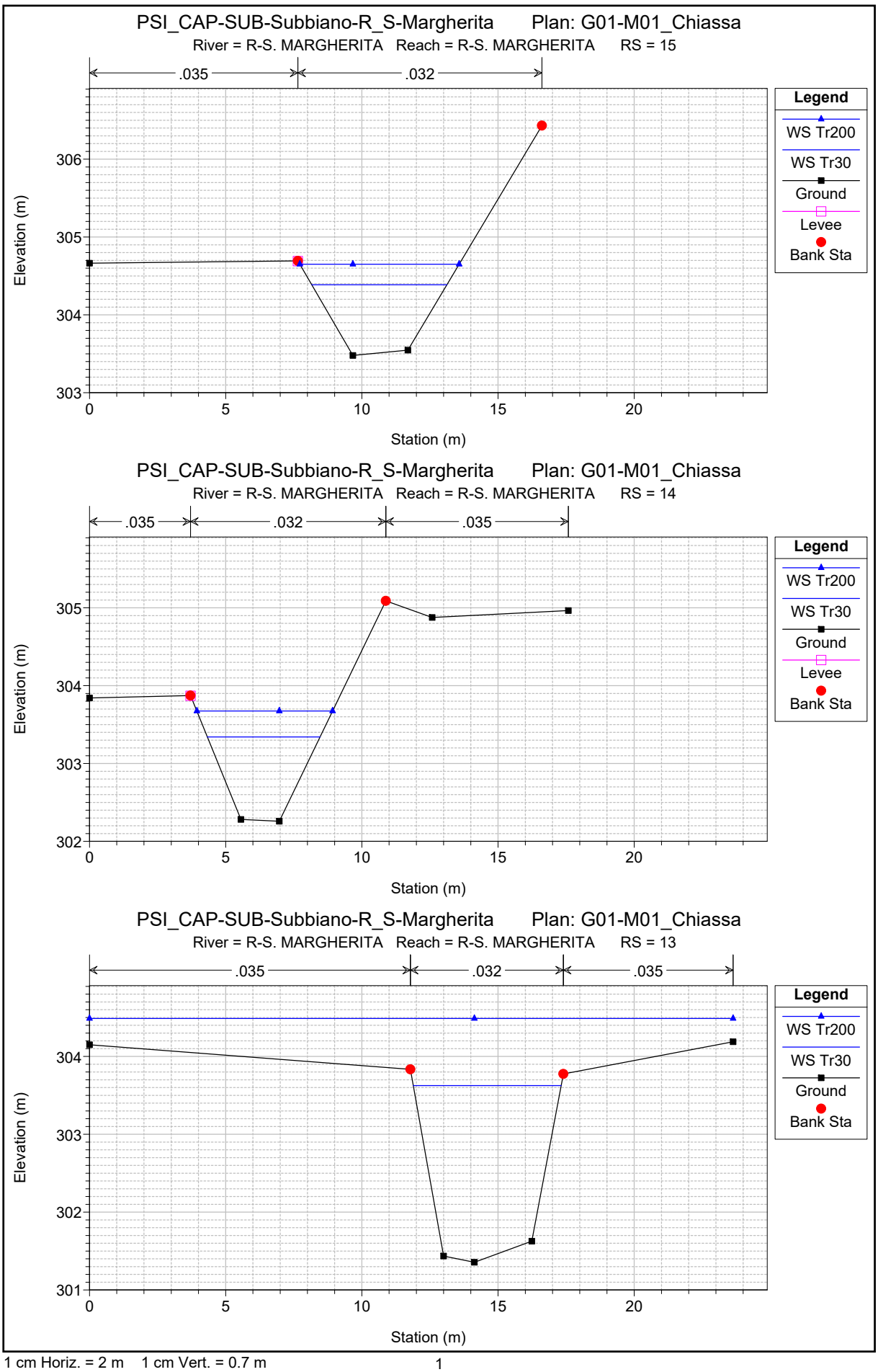
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
R-S. MARGHERITA	15	Tr30	12.96	303.48	304.39	304.79	305.31	0.040025	4.25	3.05	4.96	1.73
R-S. MARGHERITA	15	Tr200	21.89	303.48	304.65	305.04	305.87	0.040029	4.89	4.48	5.85	1.78
R-S. MARGHERITA	14	Tr30	12.96	302.26	303.34	303.65	304.31	0.037634	4.36	2.97	4.14	1.64
R-S. MARGHERITA	14	Tr200	21.89	302.26	303.67	304.13	304.89	0.035489	4.88	4.49	4.98	1.64
R-S. MARGHERITA	13	Tr30	12.96	301.36	303.63	302.58	303.72	0.001611	1.39	9.32	5.43	0.34
R-S. MARGHERITA	13	Tr200	21.89	301.36	304.49	303.00	304.55	0.000779	1.24	23.14	23.63	0.25
R-S. MARGHERITA	12.5		Bridge									
R-S. MARGHERITA	12	Tr30	12.96	301.08	301.96	302.38	303.28	0.056181	5.07	2.55	3.71	1.95
R-S. MARGHERITA	12	Tr200	21.89	301.08	302.22	302.81	304.16	0.064992	6.18	3.54	4.15	2.14
R-S. MARGHERITA	11	Tr30	12.96	300.24	301.60	301.98	302.47	0.029632	4.12	3.15	3.31	1.29
R-S. MARGHERITA	11	Tr200	21.89	300.24	301.90	302.24	302.98	0.031276	4.82	5.43	10.34	1.37
R-S. MARGHERITA	10	Tr30	12.96	299.52	300.72	301.08	301.82	0.044439	4.82	2.99	5.47	1.71
R-S. MARGHERITA	10	Tr200	21.89	299.52	300.97	301.38	302.32	0.043256	5.51	4.65	8.28	1.74
R-S. MARGHERITA	9	Tr30	12.96	298.92	299.84	300.19	300.88	0.044059	4.52	2.87	4.41	1.79
R-S. MARGHERITA	9	Tr200	21.89	298.92	300.10	300.50	301.42	0.042425	5.14	4.51	7.18	1.81
R-S. MARGHERITA	8	Tr30	12.96	298.49	299.60	299.77	300.18	0.026465	3.84	4.35	9.24	1.35
R-S. MARGHERITA	8	Tr200	21.89	298.49	299.77	300.02	300.60	0.030103	4.67	5.99	9.31	1.49
R-S. MARGHERITA	7	Tr30	12.96	298.00	298.71	298.87	299.25	0.044684	3.72	4.12	10.94	1.72
R-S. MARGHERITA	7	Tr200	21.89	298.00	298.89	299.02	299.55	0.035846	3.97	6.16	11.14	1.60
R-S. MARGHERITA	6	Tr30	12.96	297.56	298.56	298.51	298.85	0.011460	2.63	5.53	7.96	0.92
R-S. MARGHERITA	6	Tr200	21.89	297.56	298.97	298.76	299.23	0.006342	2.56	10.27	9.71	0.74
R-S. MARGHERITA	5	Tr30	12.96	297.30	298.34	298.32	298.65	0.012430	2.77	5.60	8.16	0.96
R-S. MARGHERITA	5	Tr200	21.89	297.30	298.59	298.59	299.06	0.013706	3.46	7.65	8.16	1.05
R-S. MARGHERITA	4	Tr30	12.96	296.82	298.14	298.07	298.35	0.007791	2.38	6.96	10.40	0.75
R-S. MARGHERITA	4	Tr200	21.89	296.82	298.42	298.29	298.70	0.007680	2.78	9.88	10.40	0.77
R-S. MARGHERITA	3	Tr30	12.96	296.36	297.87	297.87	298.15	0.008007	2.63	6.34	10.12	0.75
R-S. MARGHERITA	3	Tr200	21.89	296.36	298.11	298.11	298.50	0.009326	3.20	8.76	10.12	0.84
R-S. MARGHERITA	2	Tr30	12.96	295.59	296.90	297.14	297.77	0.029362	4.13	3.14	3.39	1.37
R-S. MARGHERITA	2	Tr200	21.89	295.59	297.61	297.81	298.21	0.012858	3.52	7.13	13.22	0.94
R-S. MARGHERITA	1	Tr30	12.96	295.08	295.96	296.42	297.48	0.067089	5.46	2.37	2.96	1.95
R-S. MARGHERITA	1	Tr200	21.89	295.08	296.49	296.94	298.00	0.045003	5.46	4.01	3.27	1.57

R – S. Margherita

Scenario Beta

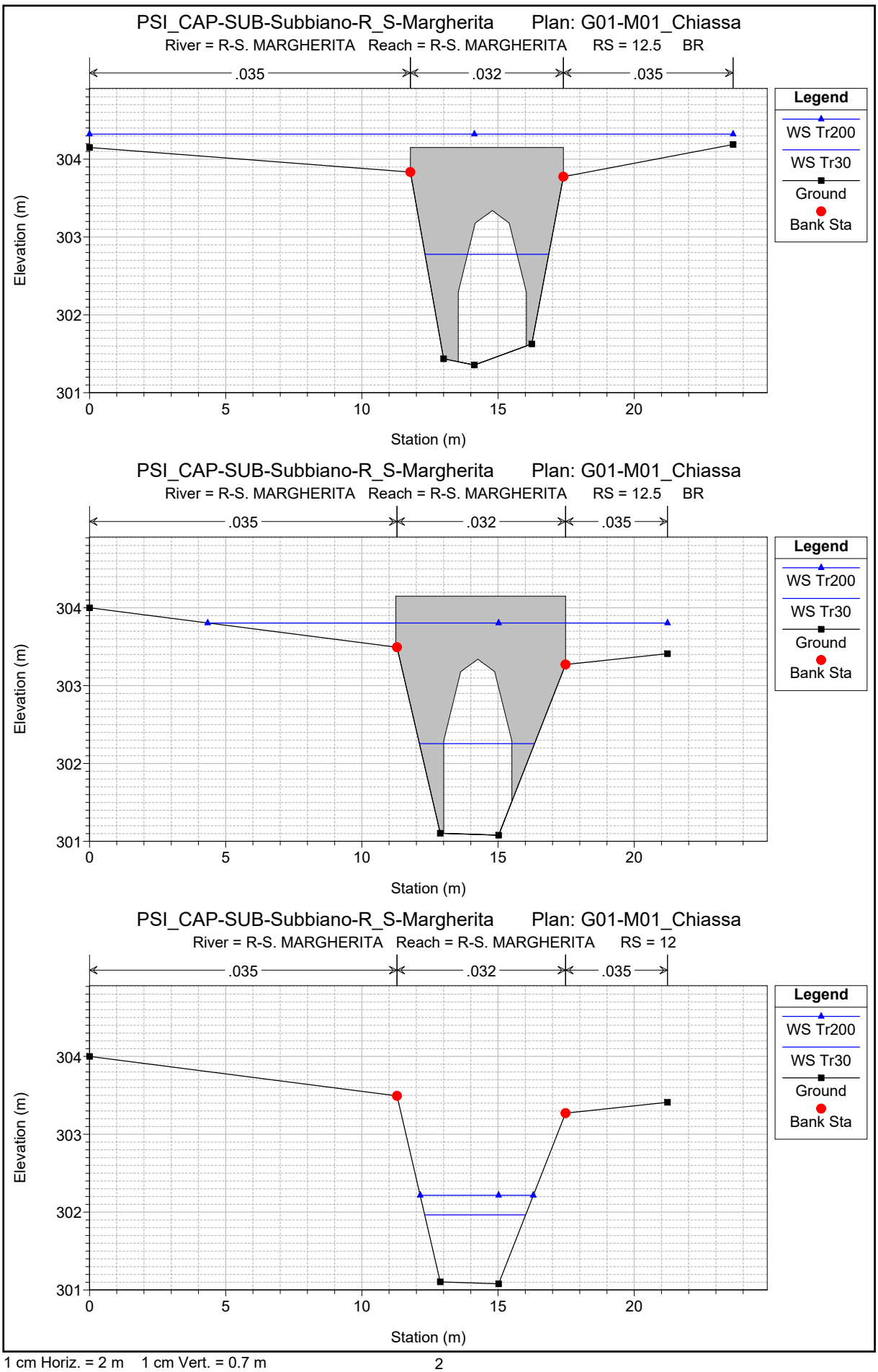


1 cm Horiz. = 15 m 1 cm Vert. = 1 m



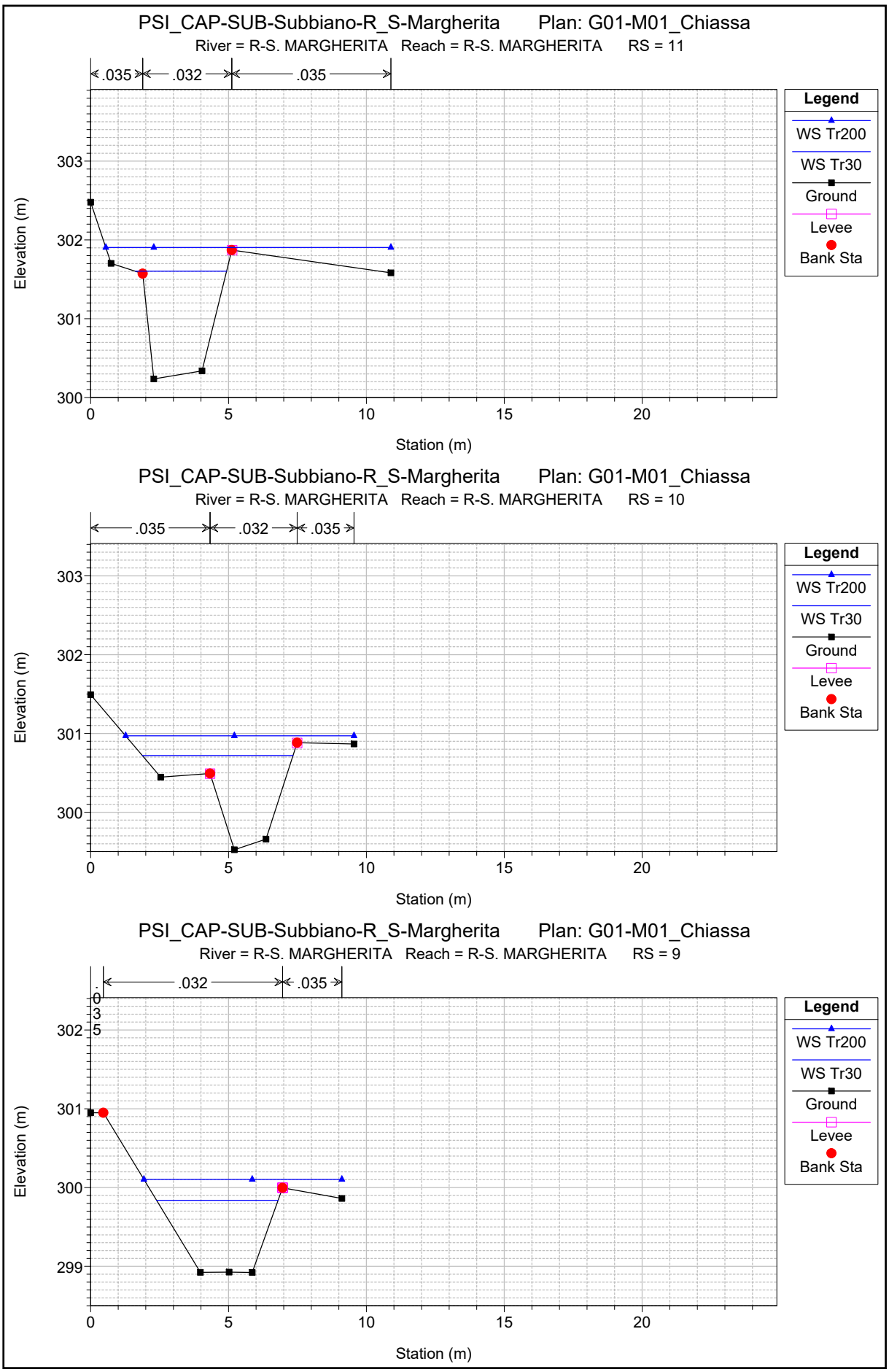
1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m

1

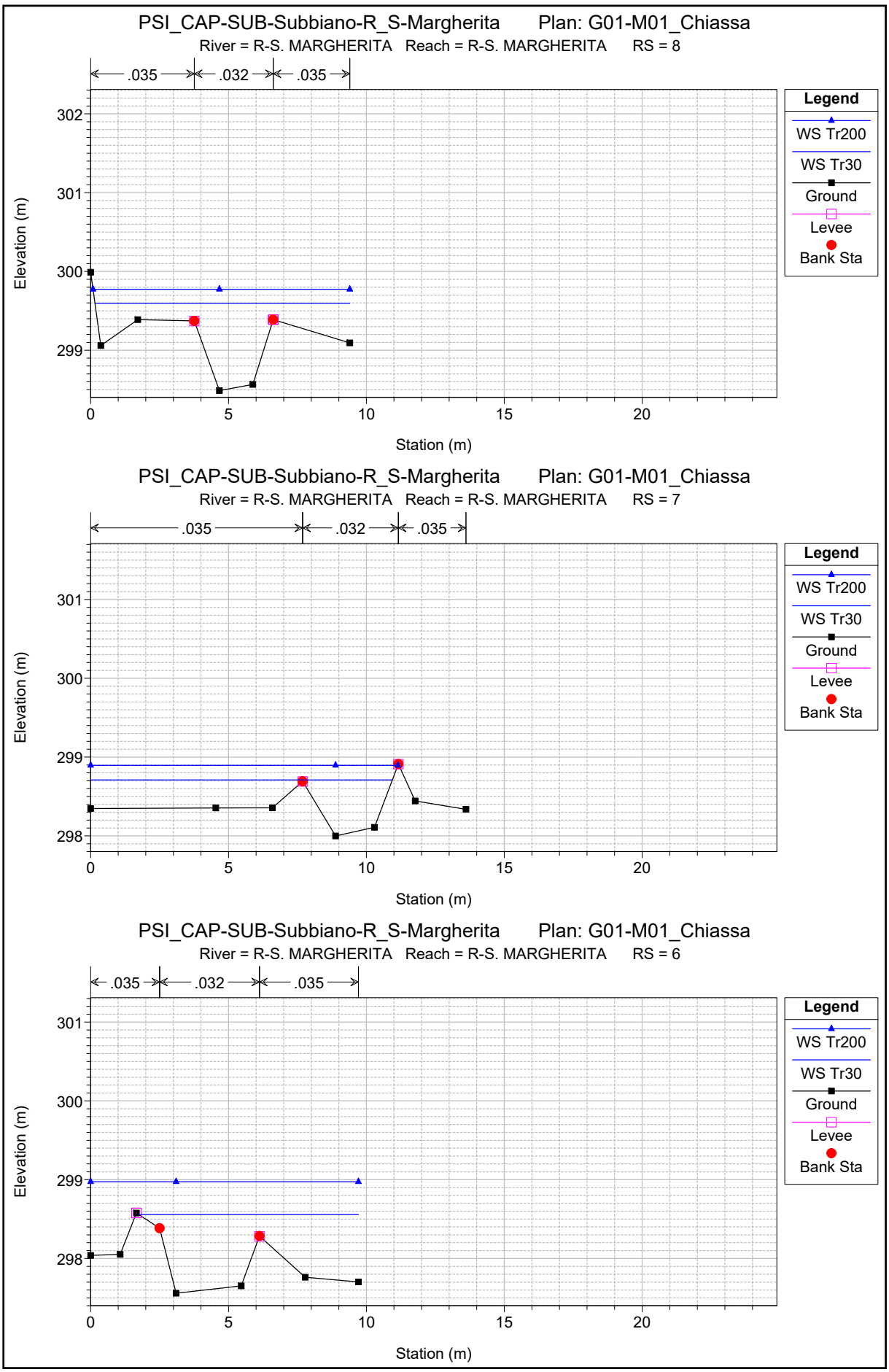


1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m

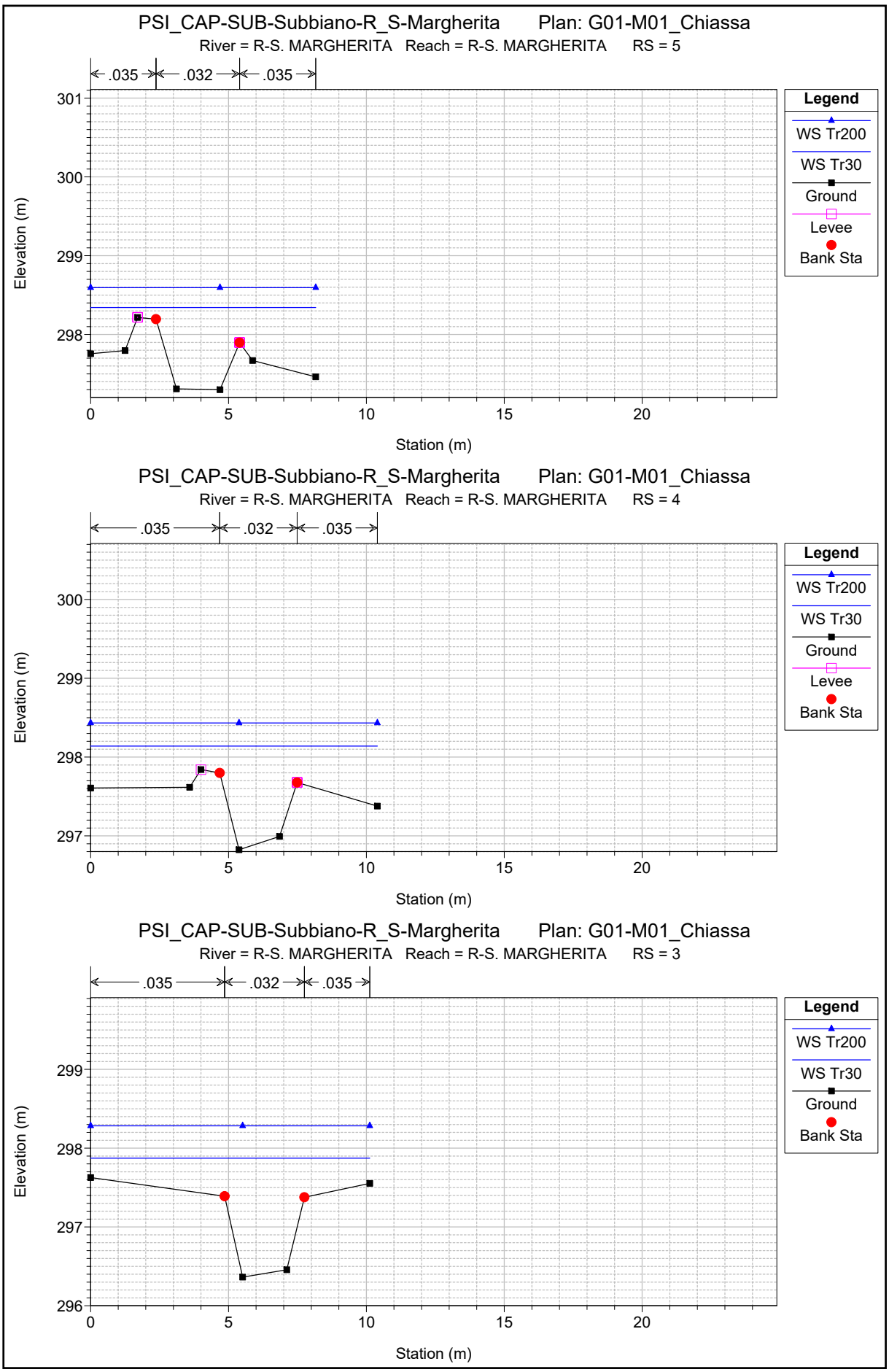
2



1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m

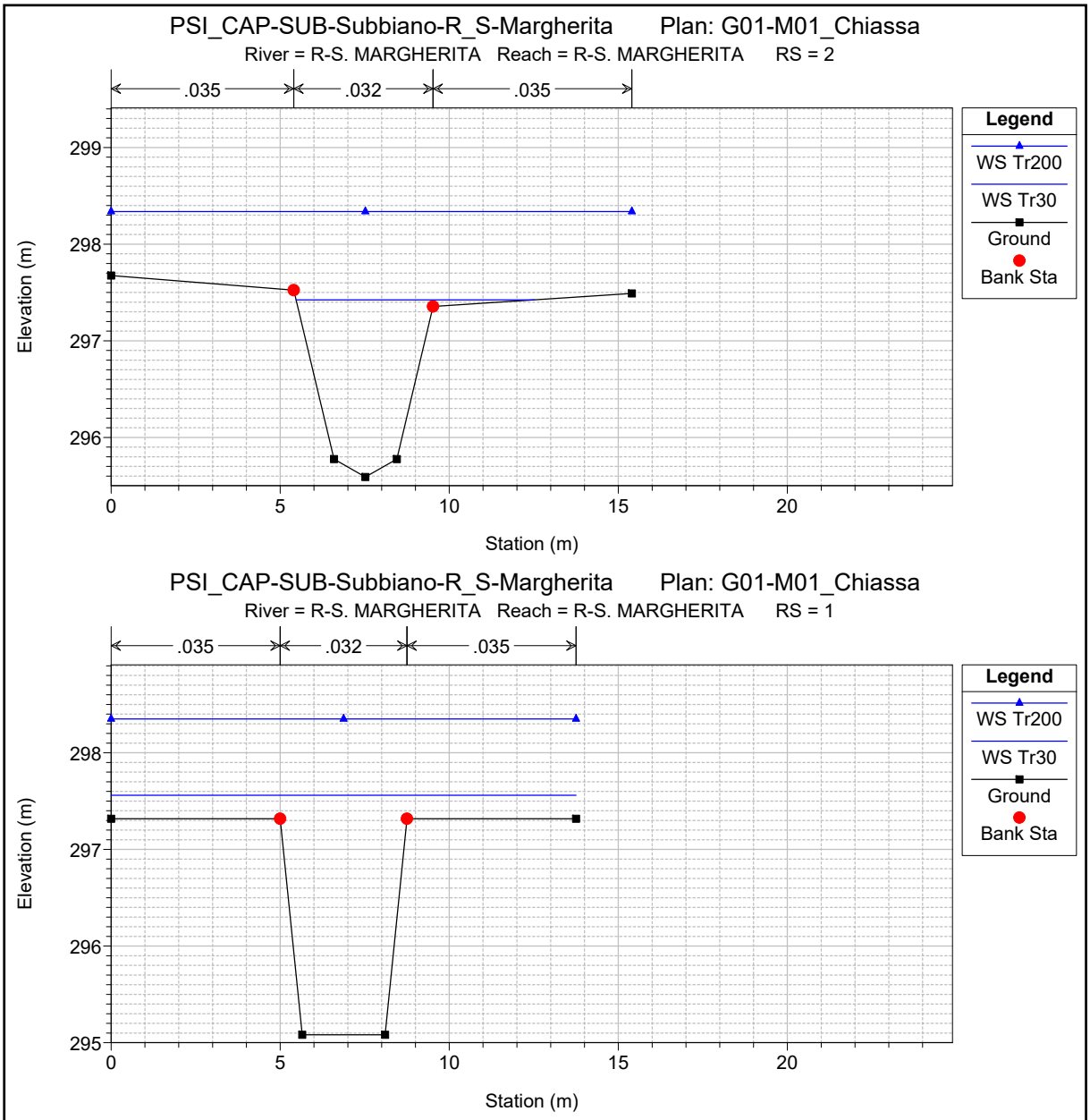


1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m



1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m

5



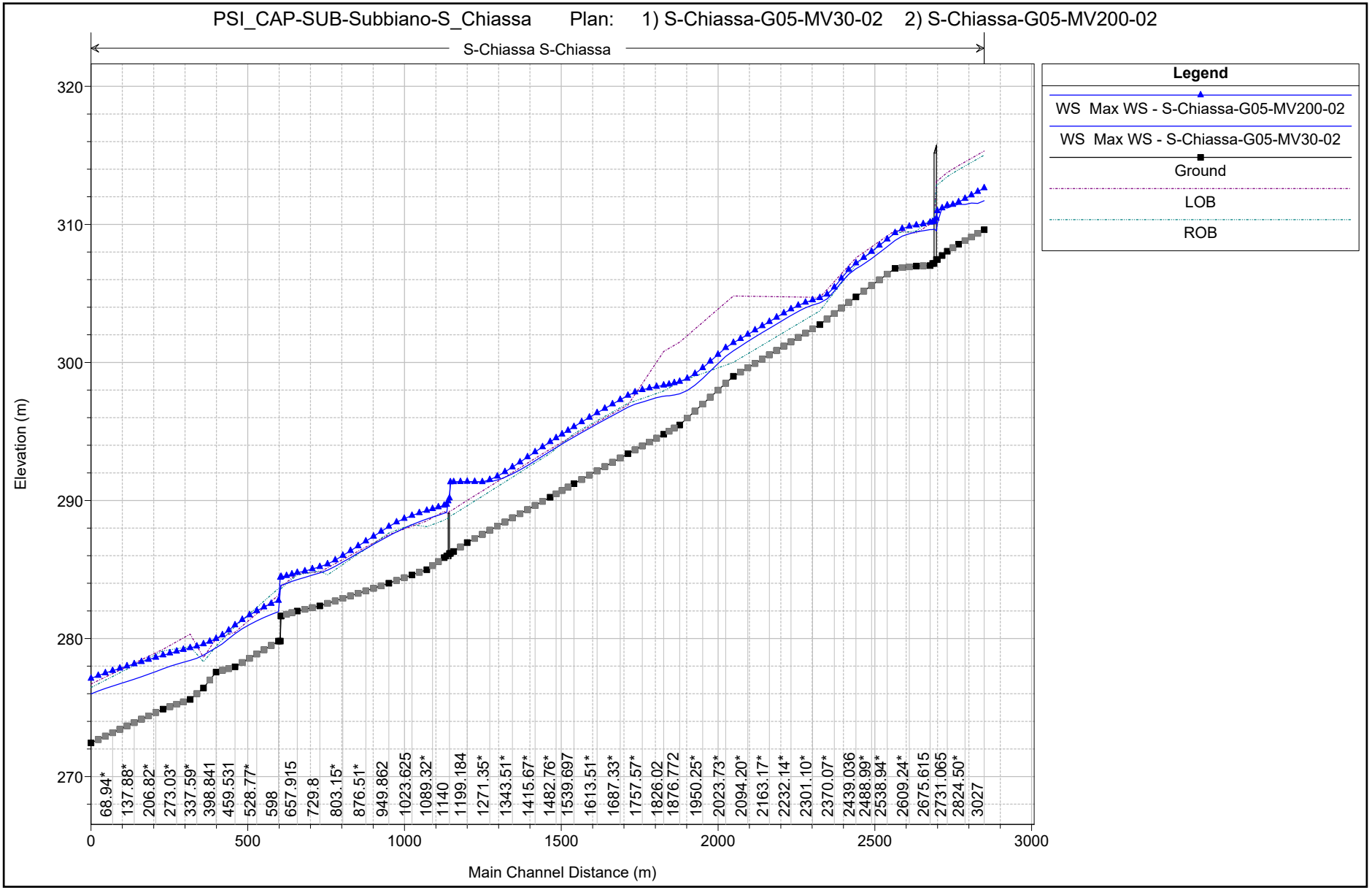
1 cm Horiz. = 2 m 1 cm Vert. = 0.7 m

HEC-RAS Plan: G01-M01_Chiassa River: R-S. MARGHERITA Reach: R-S. MARGHERITA

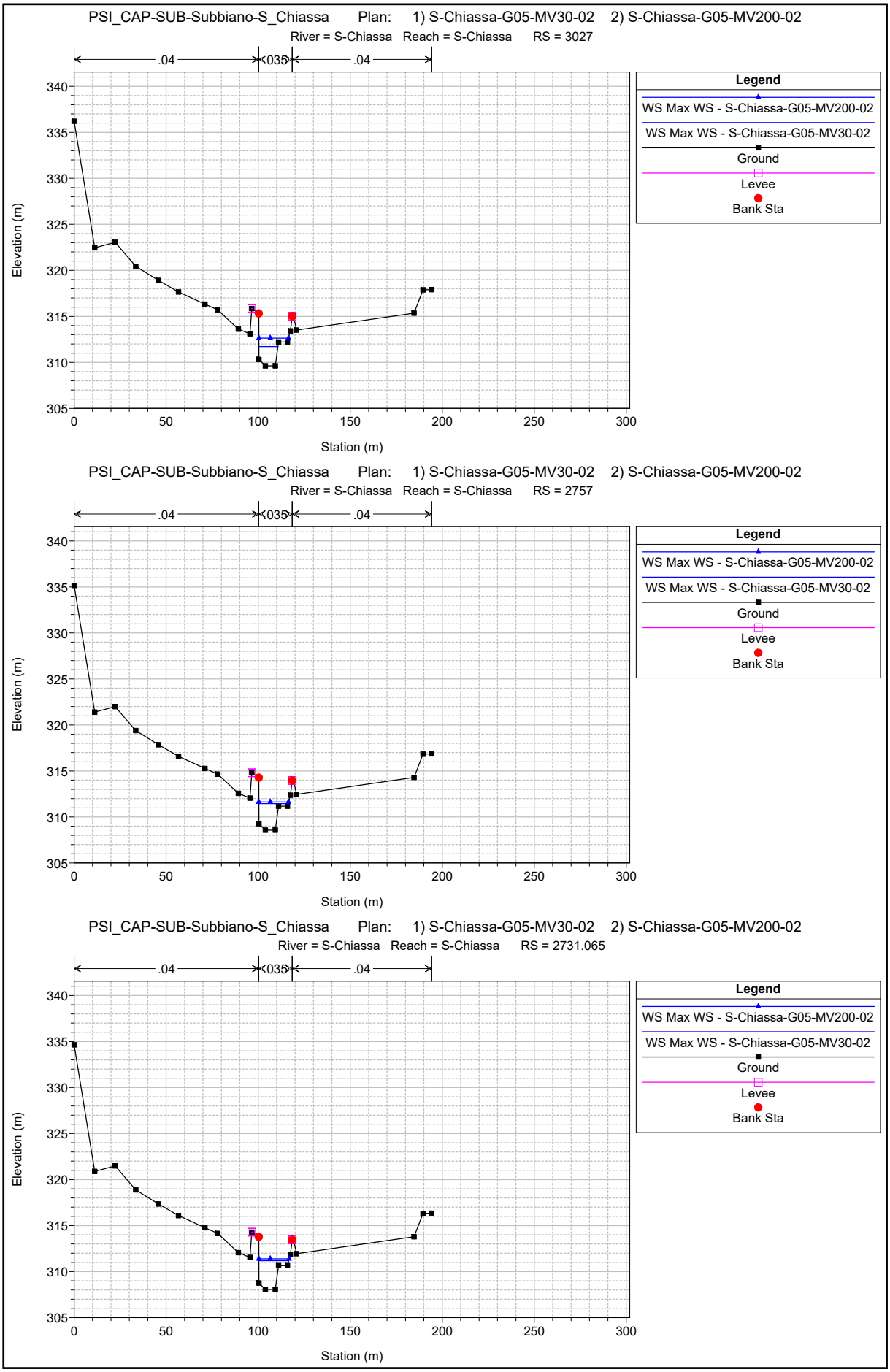
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
R-S. MARGHERITA	15	Tr30	12.96	303.48	304.39	304.79	305.31	0.040025	4.25	3.05	4.96	1.73
R-S. MARGHERITA	15	Tr200	21.89	303.48	304.65	305.04	305.87	0.040029	4.89	4.48	5.85	1.78
R-S. MARGHERITA	14	Tr30	12.96	302.26	303.34	303.65	304.31	0.037634	4.36	2.97	4.14	1.64
R-S. MARGHERITA	14	Tr200	21.89	302.26	303.67	304.13	304.89	0.035489	4.88	4.49	4.98	1.64
R-S. MARGHERITA	13	Tr30	12.96	301.36	303.63	302.58	303.72	0.001611	1.39	9.32	5.43	0.34
R-S. MARGHERITA	13	Tr200	21.89	301.36	304.49	303.00	304.55	0.000779	1.24	23.14	23.63	0.25
R-S. MARGHERITA	12.5		Bridge									
R-S. MARGHERITA	12	Tr30	12.96	301.08	301.96	302.38	303.28	0.056181	5.07	2.55	3.71	1.95
R-S. MARGHERITA	12	Tr200	21.89	301.08	302.22	302.81	304.16	0.064992	6.18	3.54	4.15	2.14
R-S. MARGHERITA	11	Tr30	12.96	300.24	301.60	301.98	302.47	0.029632	4.12	3.15	3.31	1.29
R-S. MARGHERITA	11	Tr200	21.89	300.24	301.90	302.24	302.98	0.031276	4.82	5.43	10.34	1.37
R-S. MARGHERITA	10	Tr30	12.96	299.52	300.72	301.08	301.82	0.044439	4.82	2.99	5.47	1.71
R-S. MARGHERITA	10	Tr200	21.89	299.52	300.97	301.38	302.32	0.043256	5.51	4.65	8.28	1.74
R-S. MARGHERITA	9	Tr30	12.96	298.92	299.84	300.19	300.88	0.044059	4.52	2.87	4.41	1.79
R-S. MARGHERITA	9	Tr200	21.89	298.92	300.10	300.50	301.42	0.042425	5.14	4.51	7.18	1.81
R-S. MARGHERITA	8	Tr30	12.96	298.49	299.60	299.77	300.18	0.026465	3.84	4.35	9.24	1.35
R-S. MARGHERITA	8	Tr200	21.89	298.49	299.77	300.02	300.60	0.030103	4.67	5.99	9.31	1.49
R-S. MARGHERITA	7	Tr30	12.96	298.00	298.71	298.87	299.25	0.044684	3.72	4.12	10.94	1.72
R-S. MARGHERITA	7	Tr200	21.89	298.00	298.89	299.02	299.55	0.035846	3.97	6.16	11.14	1.60
R-S. MARGHERITA	6	Tr30	12.96	297.56	298.56	298.51	298.85	0.011460	2.63	5.53	7.96	0.92
R-S. MARGHERITA	6	Tr200	21.89	297.56	298.97	298.76	299.23	0.006342	2.56	10.27	9.71	0.74
R-S. MARGHERITA	5	Tr30	12.96	297.30	298.34	298.32	298.65	0.012430	2.77	5.60	8.16	0.96
R-S. MARGHERITA	5	Tr200	21.89	297.30	298.59	298.59	299.06	0.013706	3.46	7.65	8.16	1.05
R-S. MARGHERITA	4	Tr30	12.96	296.82	298.14	298.07	298.35	0.007791	2.38	6.96	10.40	0.75
R-S. MARGHERITA	4	Tr200	21.89	296.82	298.43	298.29	298.71	0.007382	2.74	10.01	10.40	0.76
R-S. MARGHERITA	3	Tr30	12.96	296.36	297.87	297.87	298.15	0.008007	2.63	6.34	10.12	0.75
R-S. MARGHERITA	3	Tr200	21.89	296.36	298.28		298.55	0.005545	2.65	10.49	10.12	0.66
R-S. MARGHERITA	2	Tr30	12.96	295.59	297.42	297.14	297.75	0.007913	2.55	5.18	7.04	0.73
R-S. MARGHERITA	2	Tr200	21.89	295.59	298.34		298.43	0.001427	1.54	18.21	15.40	0.34
R-S. MARGHERITA	1	Tr30	12.96	295.08	297.56	296.42	297.67	0.002032	1.50	10.26	13.75	0.33
R-S. MARGHERITA	1	Tr200	21.89	295.08	298.35	296.94	298.41	0.000945	1.27	21.12	13.75	0.24

S – Chiassa

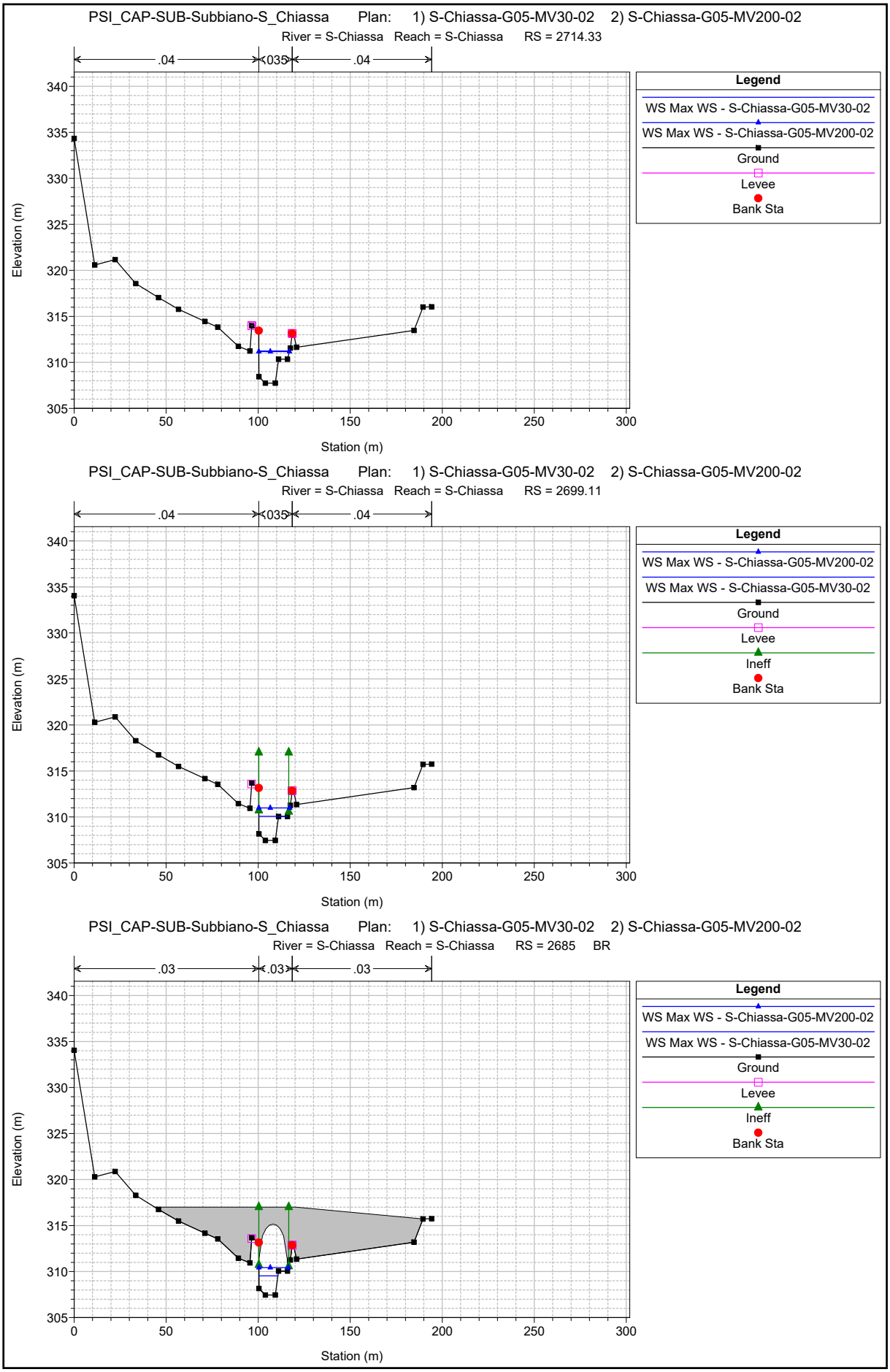
Scenario Alpha



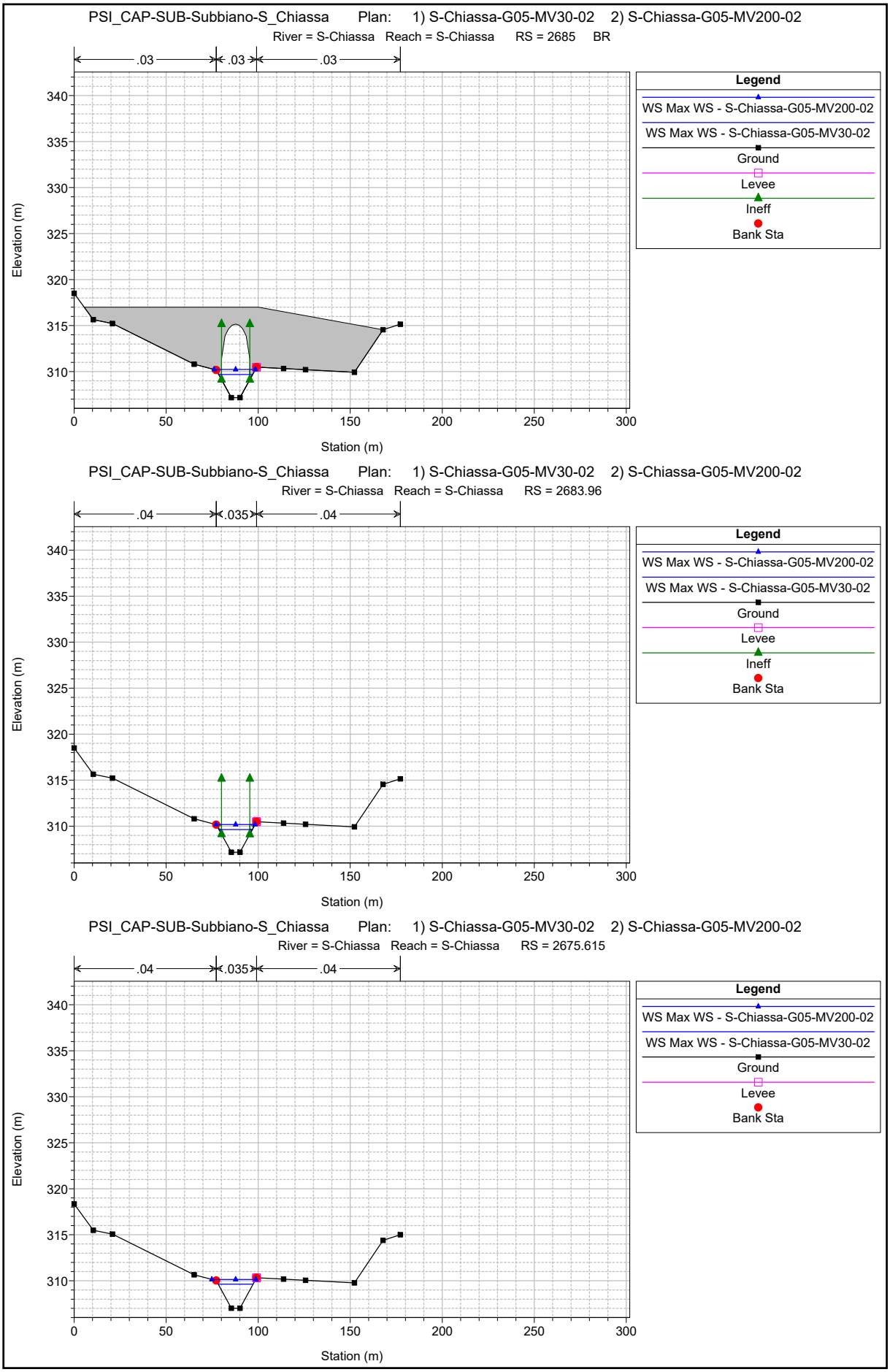
1 cm Horiz. = 176 m 1 cm Vert. = 4 m



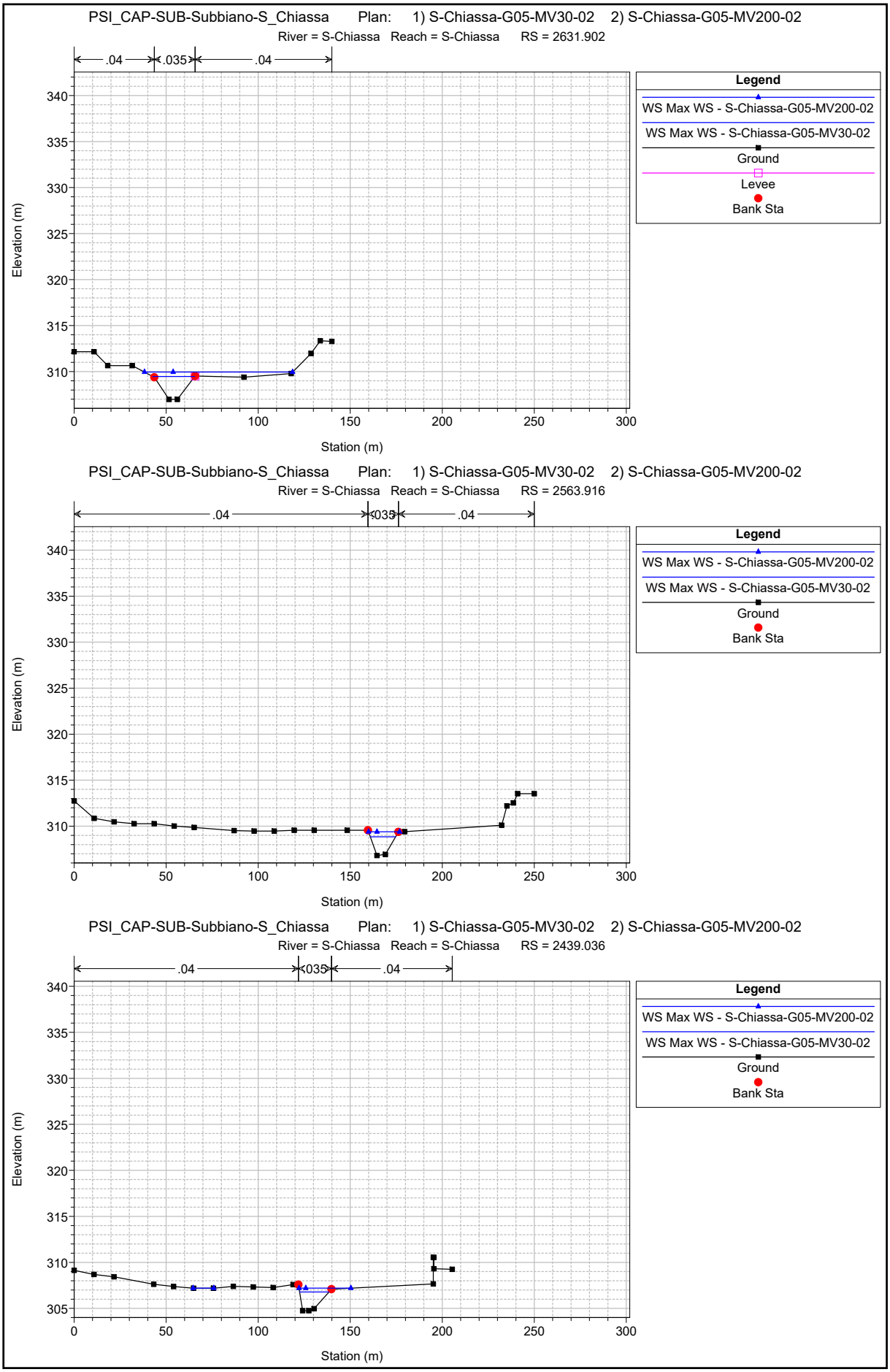
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



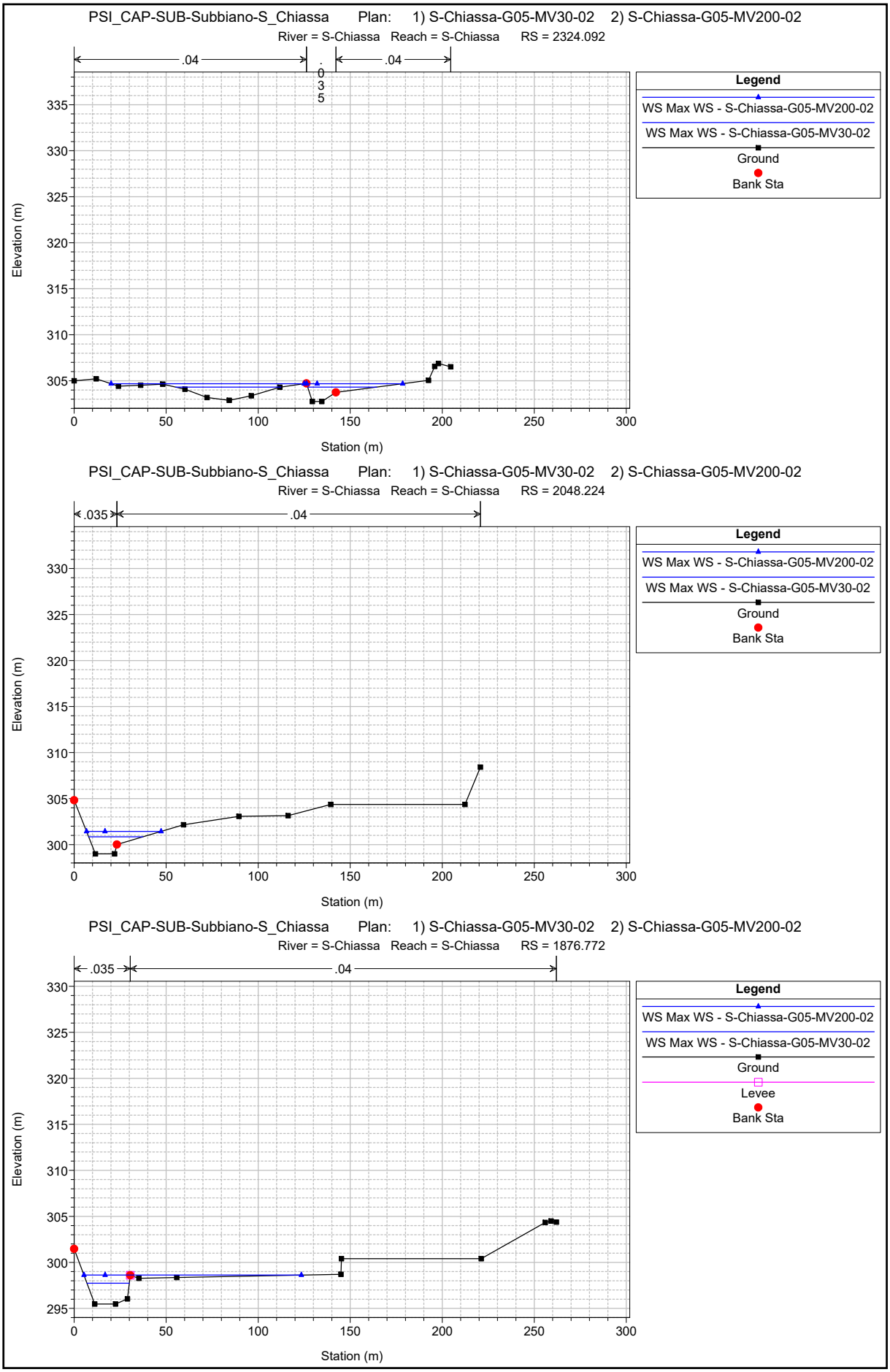
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



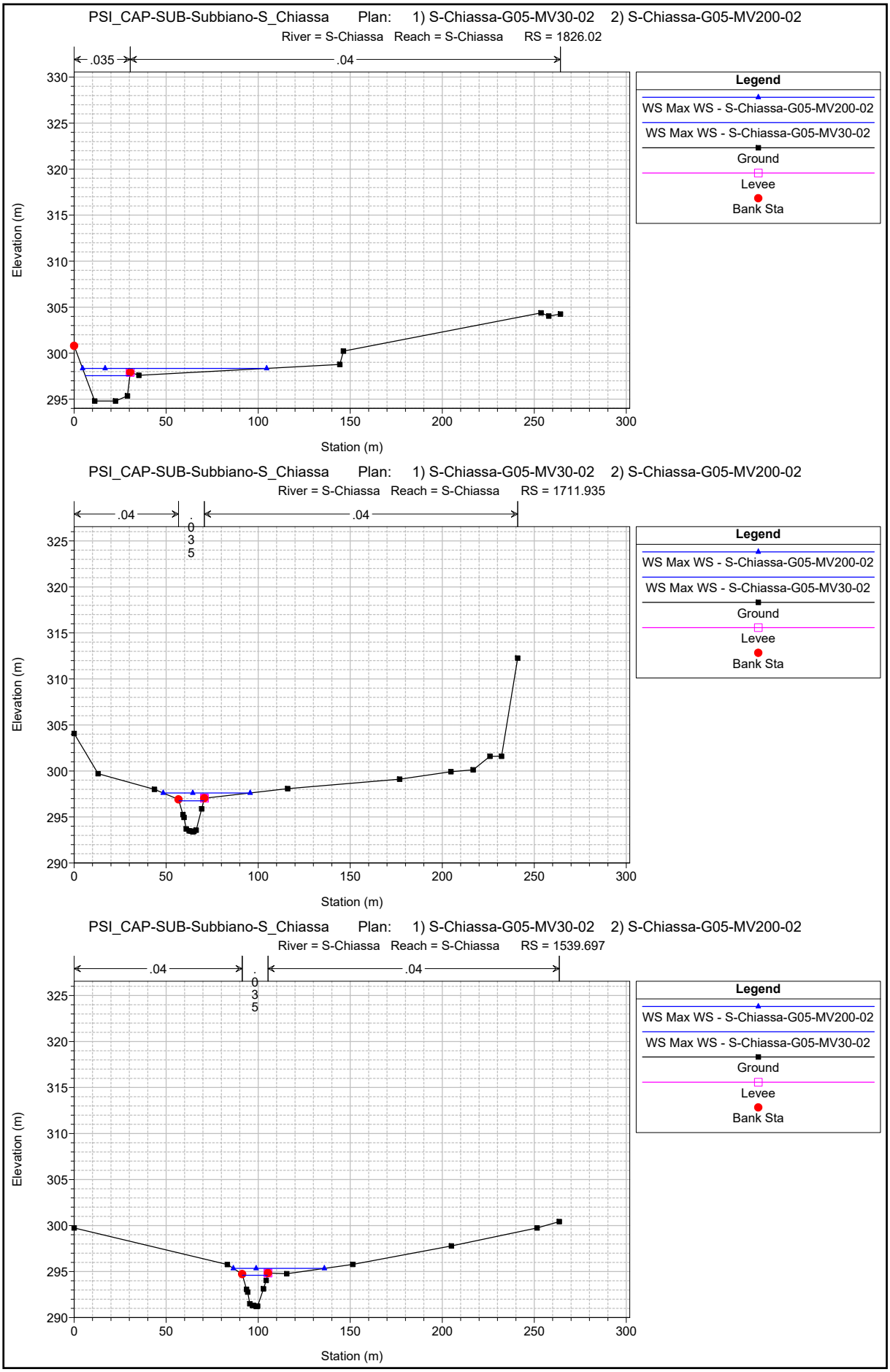
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



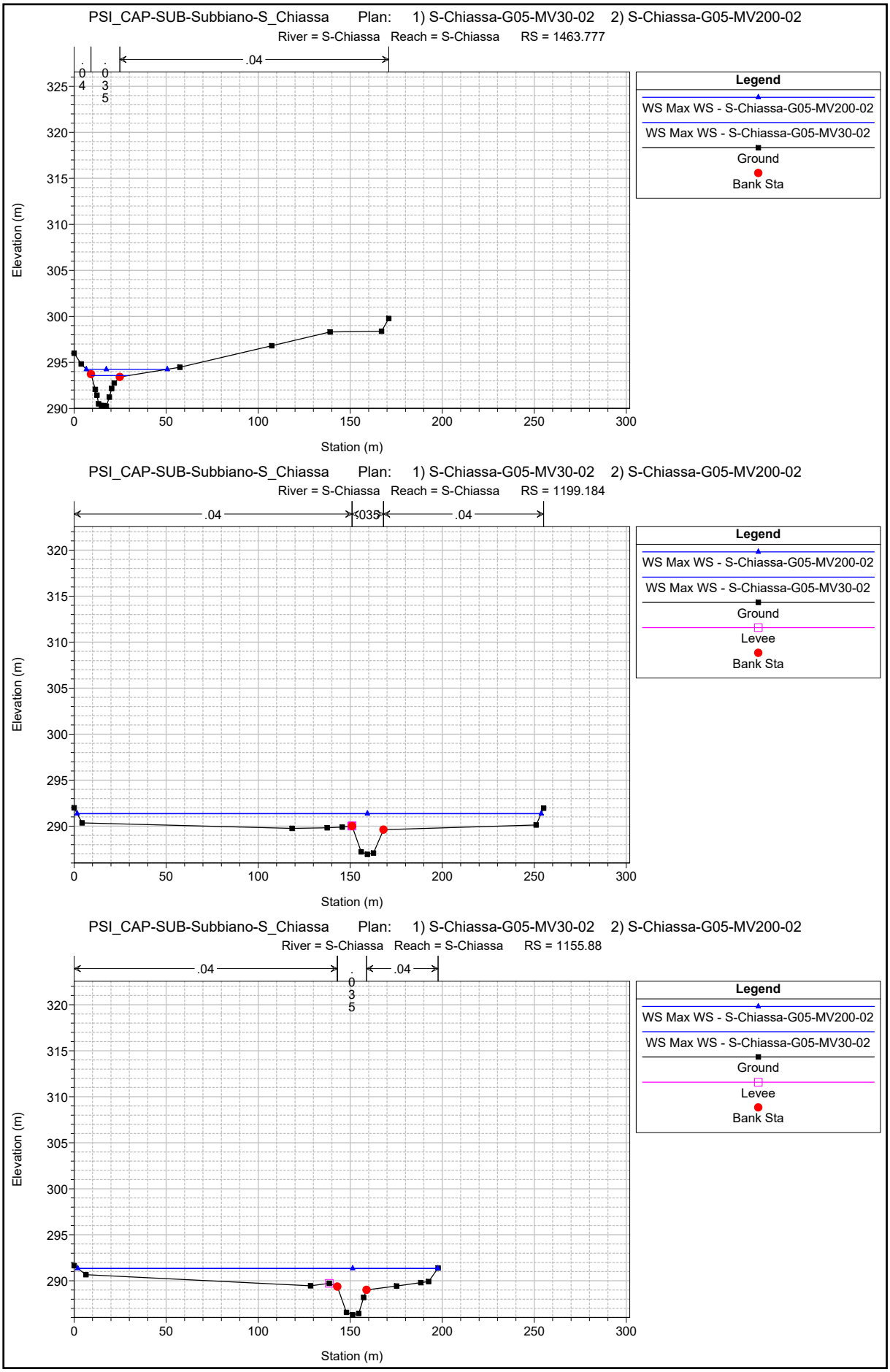
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



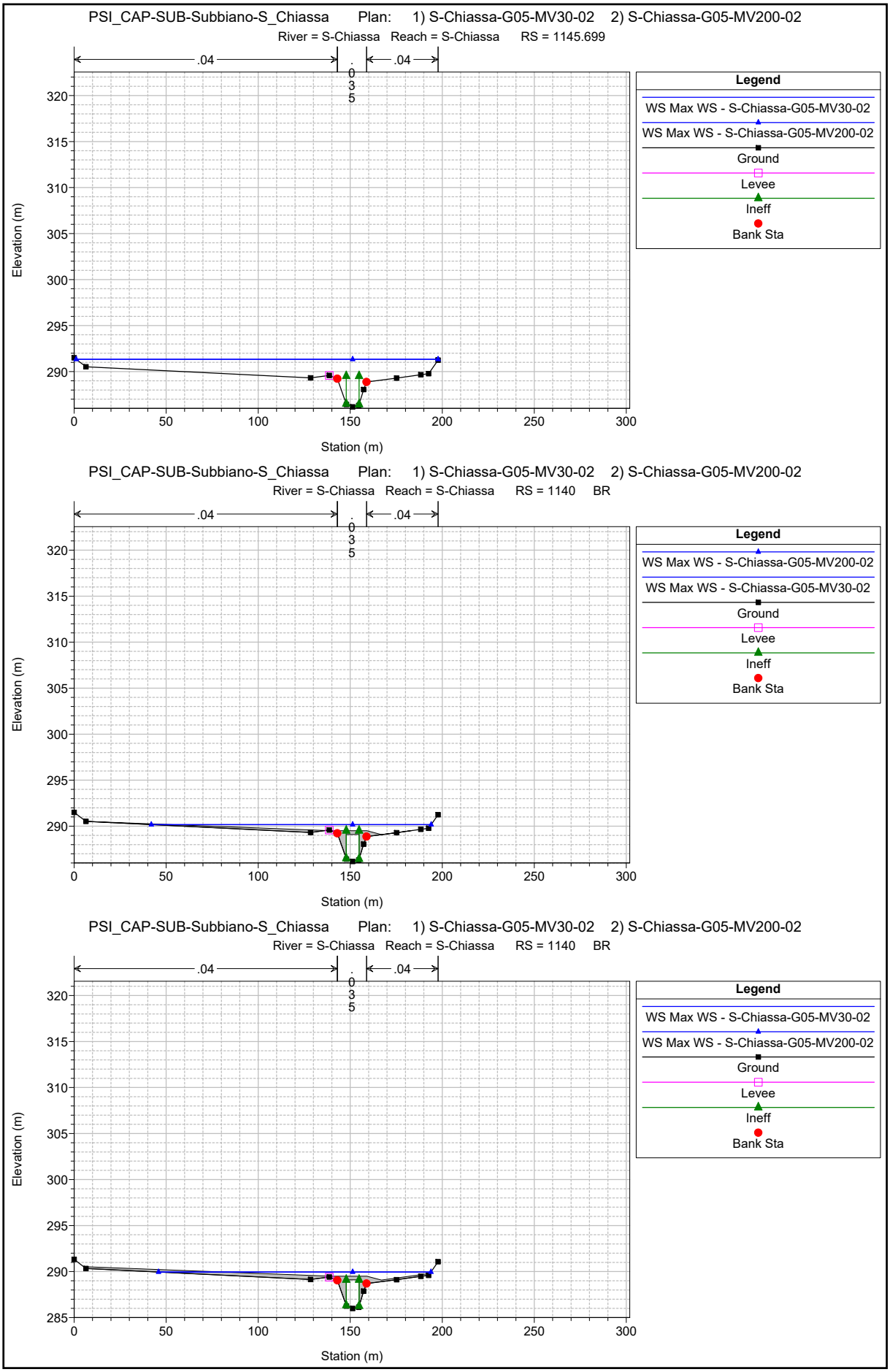
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



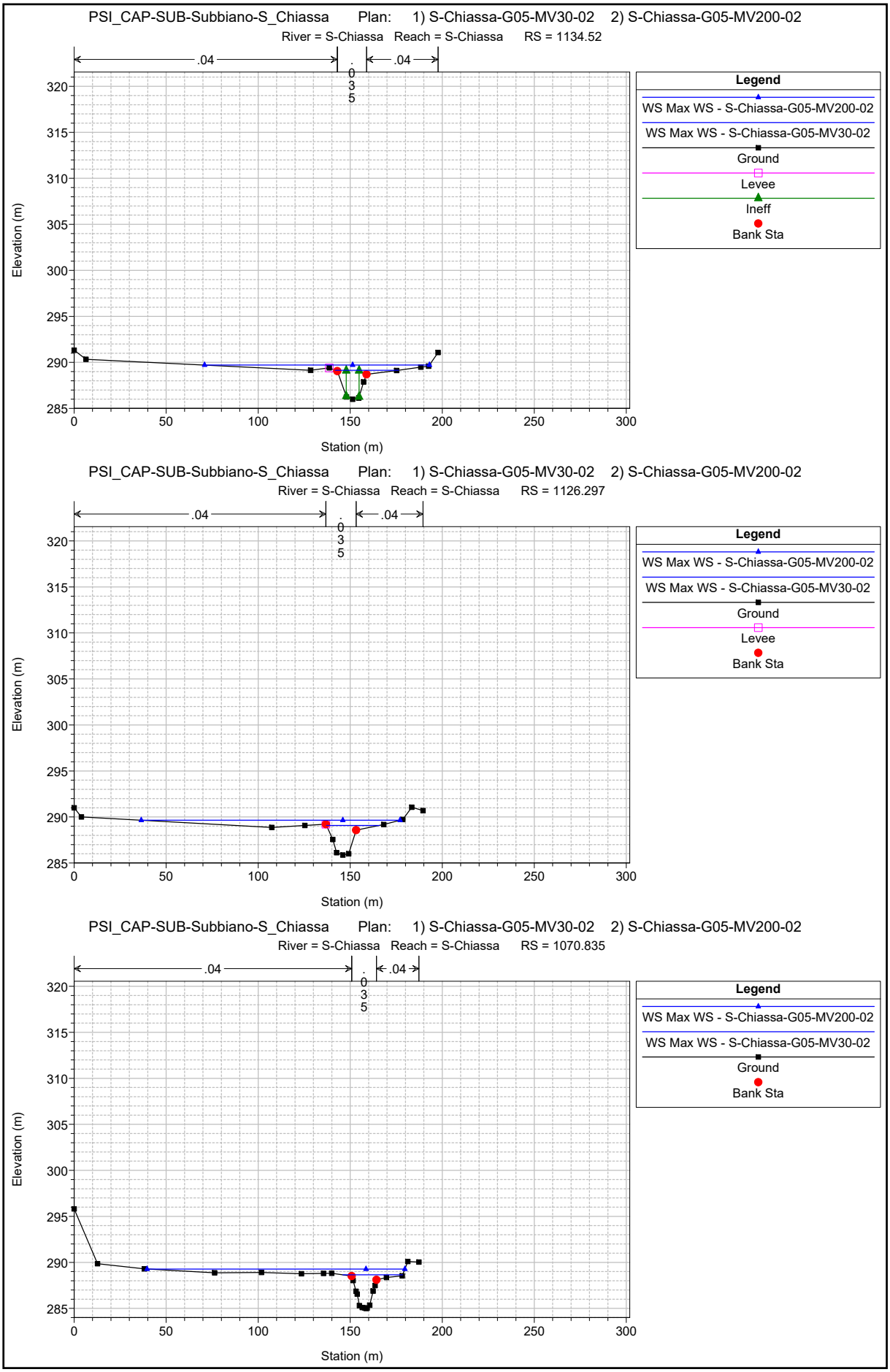
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



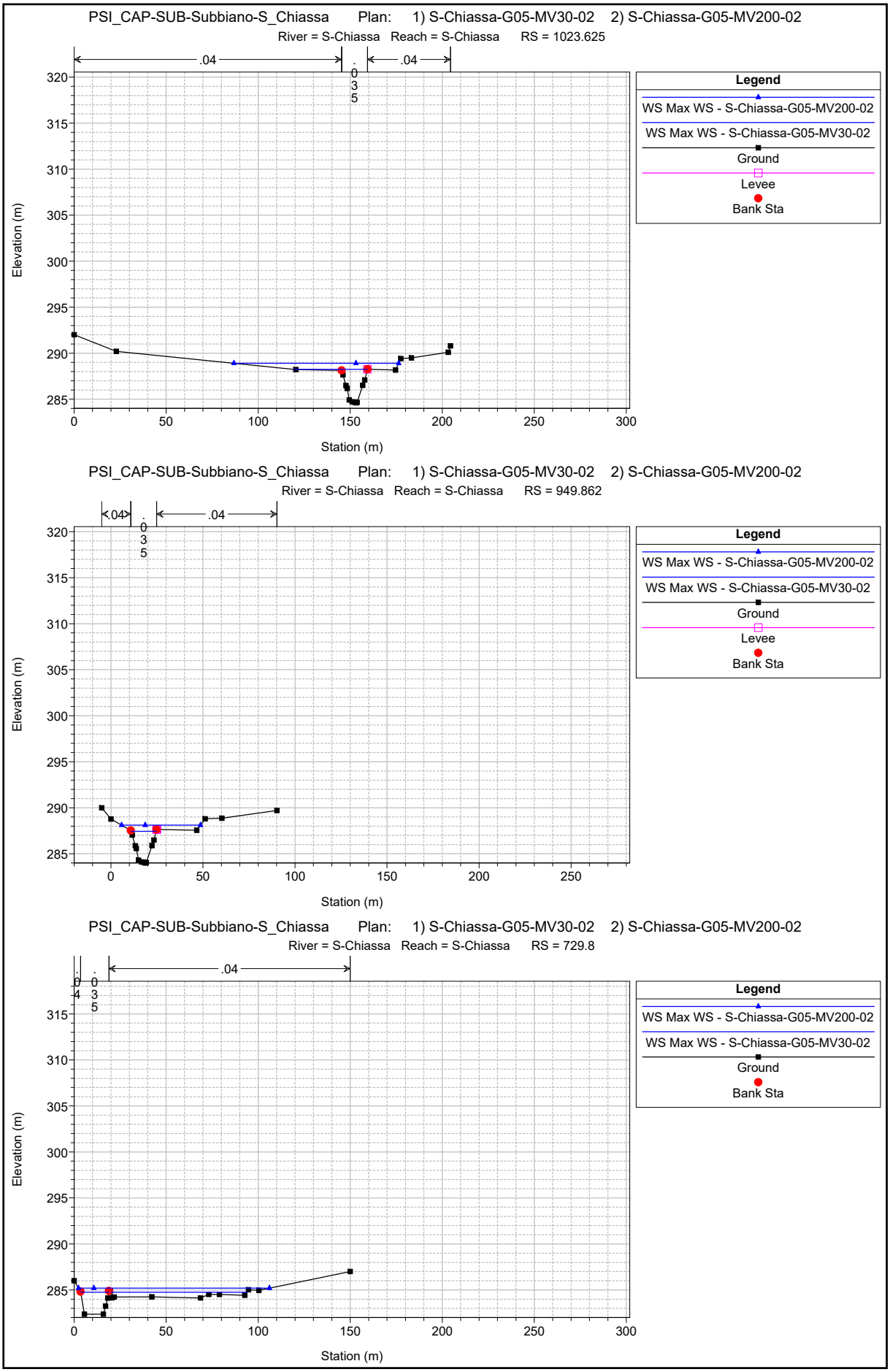
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



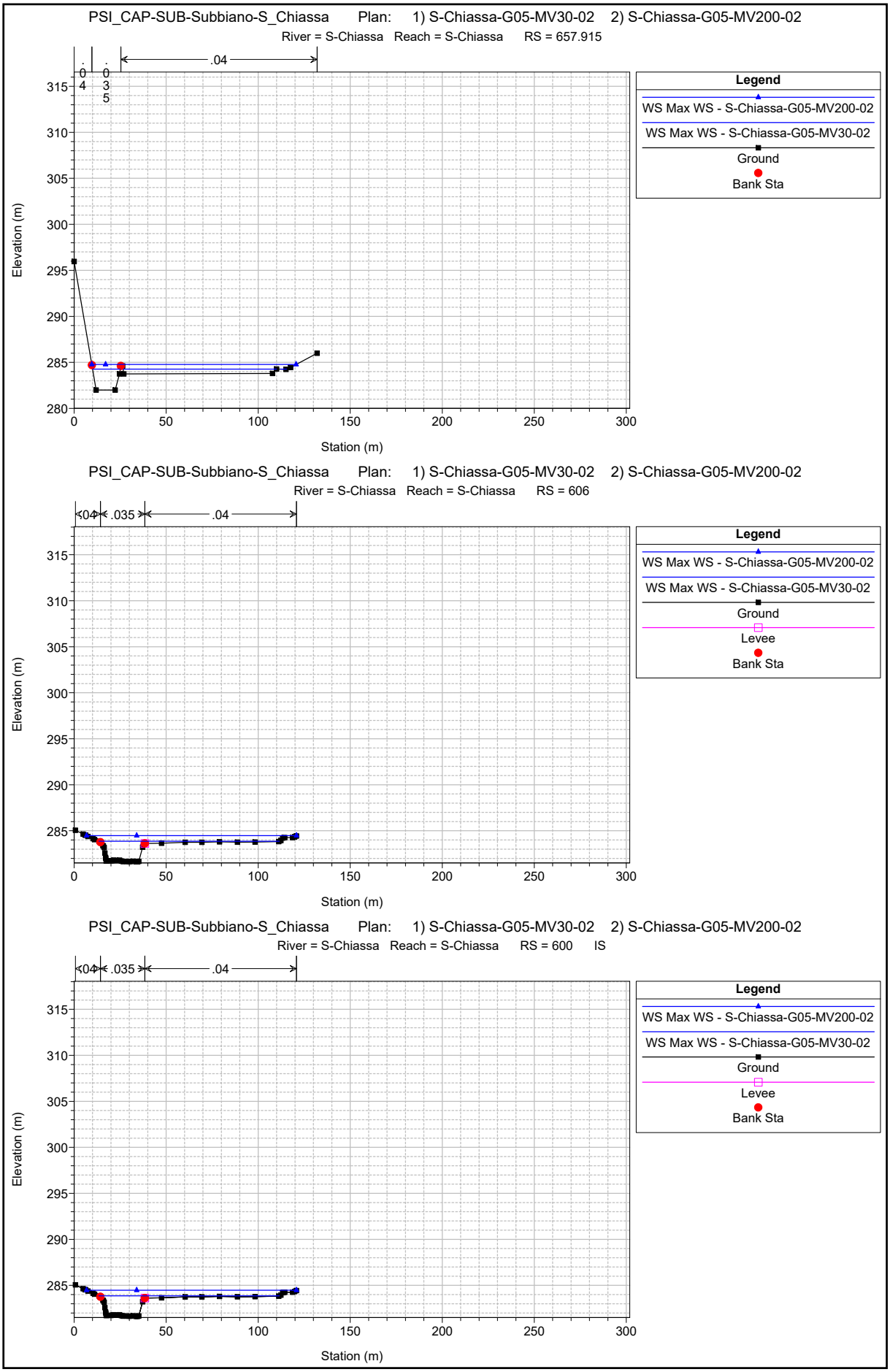
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



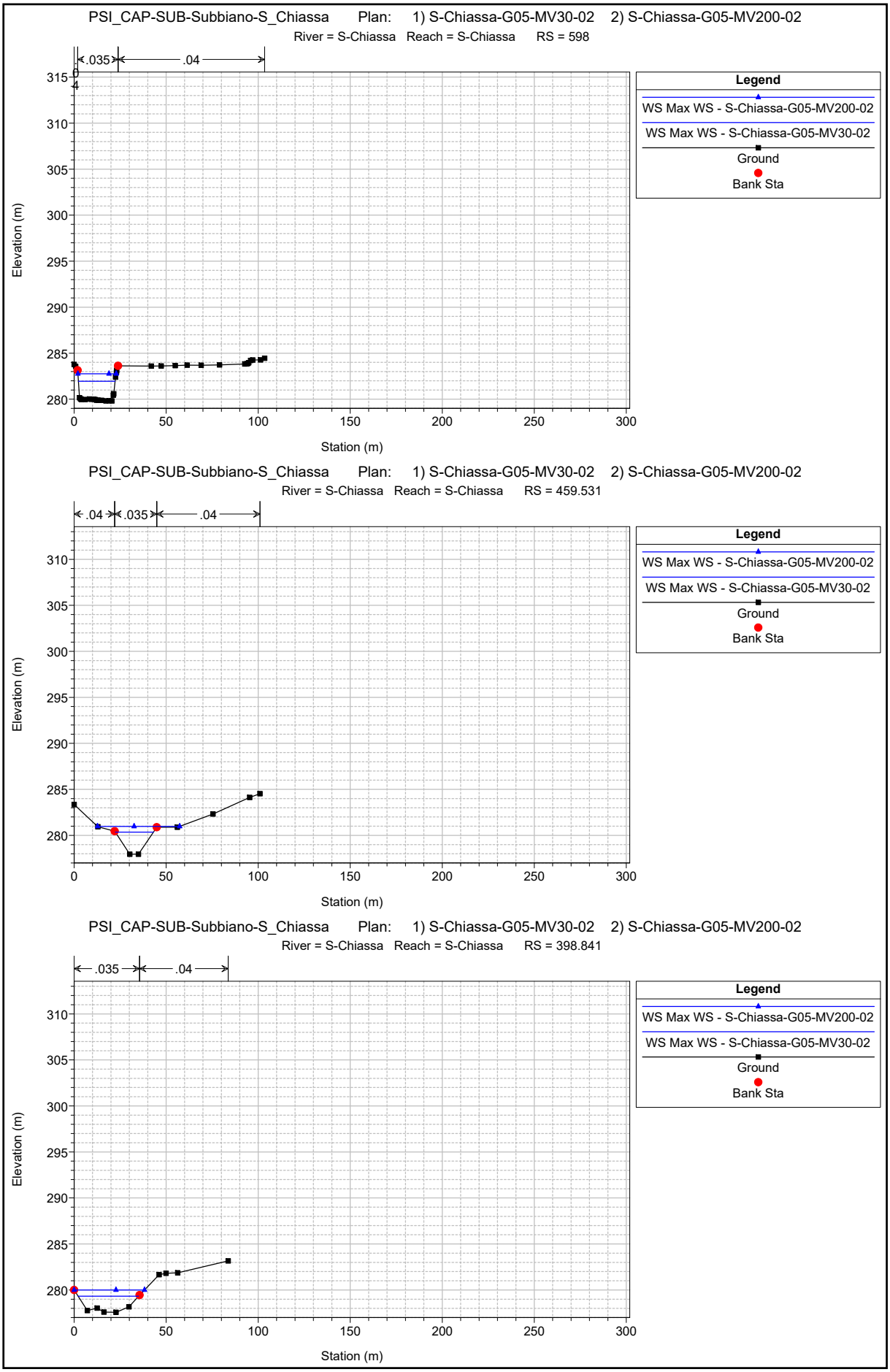
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



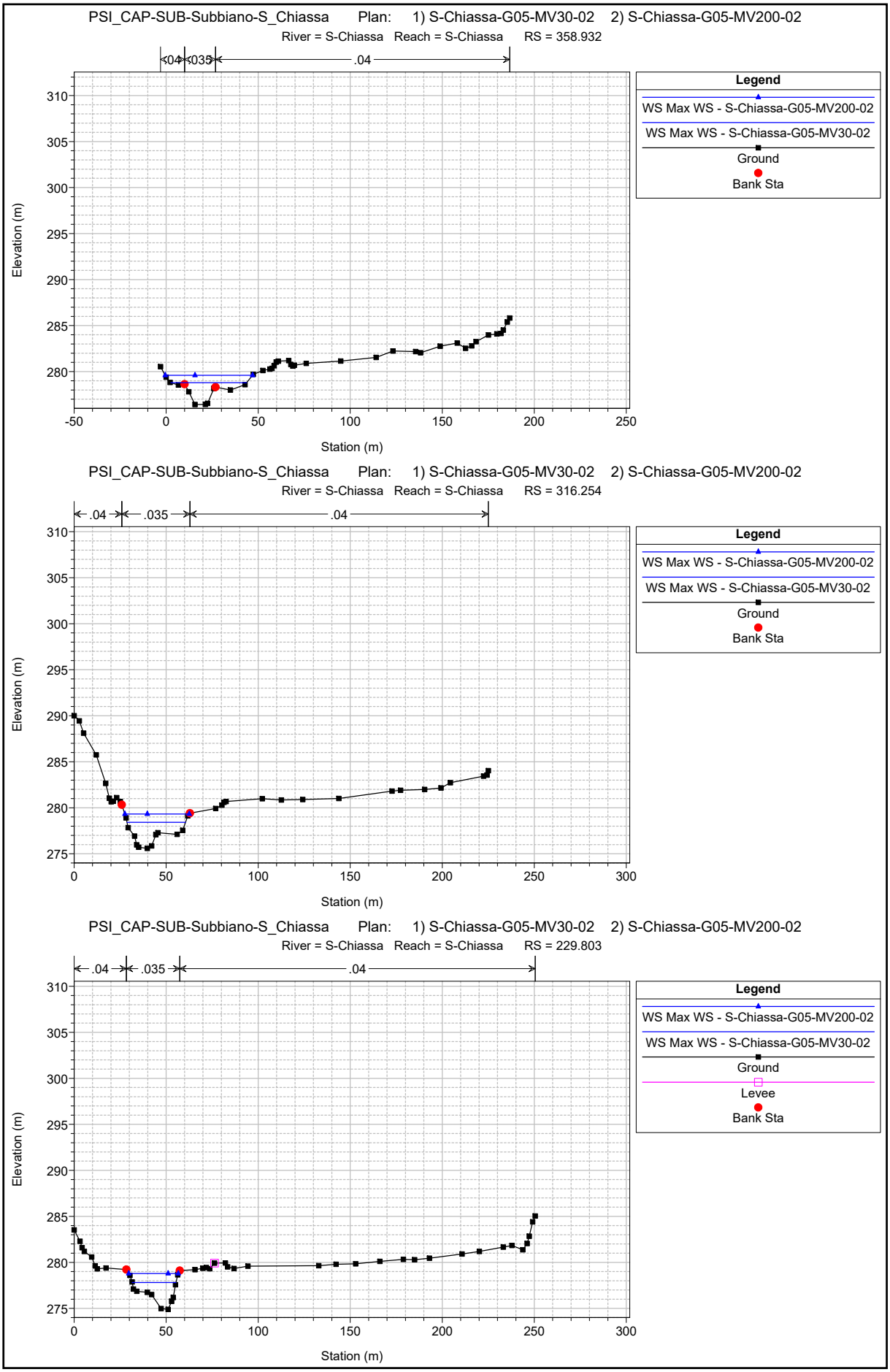
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



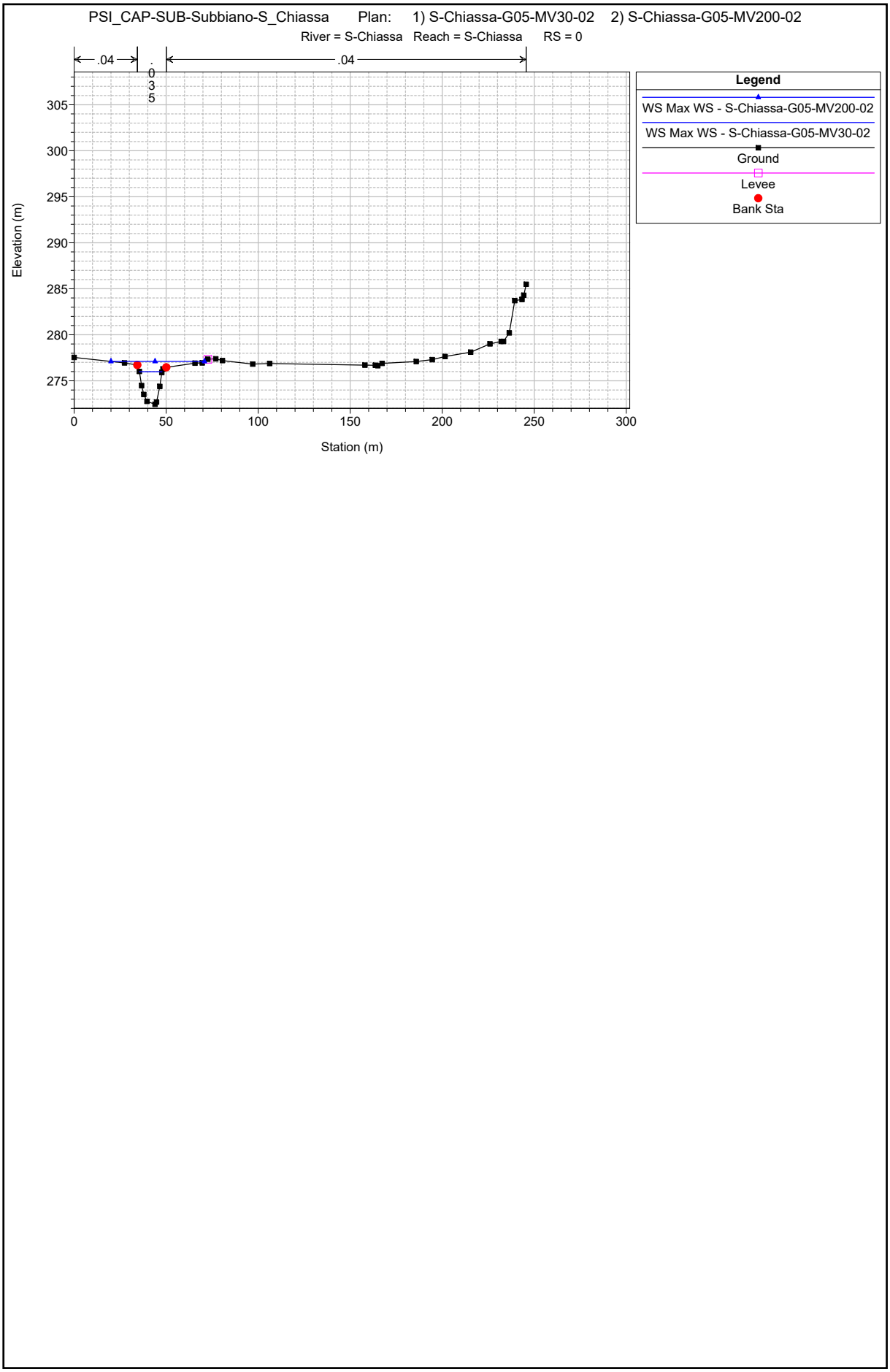
1 cm Horiz. = 30 m 1 cm Vert. = 6 m



1 cm Horiz. = 30 m 1 cm Vert. = 6 m



1 cm Horiz. = 30 m 1 cm Vert. = 6 m



1 cm Horiz. = 30 m 1 cm Vert. = 6 m

HEC-RAS River: S-Chiassa Reach: S-Chiassa Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
S-Chiassa	3027	Max WS	S-Chiassa-G05-MV30-02	78.84	309.62	311.72	311.69	312.60	0.012605	4.15	19.01	10.37	0.98
S-Chiassa	3027	Max WS	S-Chiassa-G05-MV200-02	132.54	309.62	312.63	312.62	313.57	0.012629	4.30	30.85	16.07	0.99
S-Chiassa	2757	Max WS	S-Chiassa-G05-MV30-02	-1.19	308.57	311.45		311.45	0.000001	-0.04	28.72	15.89	0.01
S-Chiassa	2757	Max WS	S-Chiassa-G05-MV200-02	132.54	308.57	311.63	311.57	312.53	0.011847	4.20	31.52	16.12	0.96
S-Chiassa	2731.065	Max WS	S-Chiassa-G05-MV30-02	7.08	308.06	311.18		311.19	0.000031	0.22	32.61	16.21	0.05
S-Chiassa	2731.065	Max WS	S-Chiassa-G05-MV200-02	-9.64	308.06	311.38		311.39	0.000043	-0.27	35.87	16.48	0.06
S-Chiassa	2714.33	Max WS	S-Chiassa-G05-MV30-02	1.03	307.75	311.23		311.23	0.000000	0.03	38.56	16.69	0.01
S-Chiassa	2714.33	Max WS	S-Chiassa-G05-MV200-02	0.99	307.75	311.18		311.18	0.000000	0.03	37.61	16.62	0.01
S-Chiassa	2699.11	Max WS	S-Chiassa-G05-MV30-02	78.82	307.46	310.06	309.53	310.60	0.009089	3.23	24.38	15.52	0.82
S-Chiassa	2699.11	Max WS	S-Chiassa-G05-MV200-02	132.53	307.46	310.98	310.46	311.57	0.005934	3.40	39.04	16.74	0.70
S-Chiassa	2685			Bridge									
S-Chiassa	2683.96	Max WS	S-Chiassa-G05-MV30-02	78.82	307.17	309.63		310.05	0.005023	2.89	27.30	18.12	0.69
S-Chiassa	2683.96	Max WS	S-Chiassa-G05-MV200-02	132.53	307.17	310.17		310.88	0.005810	3.71	35.70	21.17	0.78
S-Chiassa	2675.615	Max WS	S-Chiassa-G05-MV30-02	78.82	307.02	309.63		309.96	0.004472	2.56	30.80	18.94	0.64
S-Chiassa	2675.615	Max WS	S-Chiassa-G05-MV200-02	132.53	307.02	310.15		310.67	0.005604	3.21	41.47	23.82	0.74
S-Chiassa	2631.902	Max WS	S-Chiassa-G05-MV30-02	78.81	306.98	309.46		309.75	0.004134	2.37	33.26	22.77	0.62
S-Chiassa	2631.902	Max WS	S-Chiassa-G05-MV200-02	132.52	306.98	309.95		310.24	0.003421	2.58	67.65	80.49	0.59
S-Chiassa	2563.916	Max WS	S-Chiassa-G05-MV30-02	78.81	306.81	308.84	309.06	309.83	0.017990	4.40	17.92	13.72	1.23
S-Chiassa	2563.916	Max WS	S-Chiassa-G05-MV200-02	132.52	306.81	309.39	309.95	310.70	0.018275	5.07	26.13	16.89	1.28
S-Chiassa	2439.036	Max WS	S-Chiassa-G05-MV30-02	76.10	304.75	306.79	306.76	307.43	0.011533	3.56	21.41	15.98	0.98
S-Chiassa	2439.036	Max WS	S-Chiassa-G05-MV200-02	130.56	304.75	307.20	307.70	308.27	0.015223	4.59	28.98	39.44	1.16
S-Chiassa	2324.092	Max WS	S-Chiassa-G05-MV30-02	113.79	302.74	304.31		304.47	0.004864	2.19	70.52	94.72	0.64
S-Chiassa	2324.092	Max WS	S-Chiassa-G05-MV200-02	191.95	302.74	304.68		304.87	0.005306	2.67	116.08	157.07	0.69
S-Chiassa	2048.224	Max WS	S-Chiassa-G05-MV30-02	111.81	299.00	300.84	301.05	301.68	0.012558	4.21	30.27	29.46	1.07
S-Chiassa	2048.224	Max WS	S-Chiassa-G05-MV200-02	185.50	299.00	301.43	301.60	302.30	0.010208	4.48	50.84	40.52	1.00
S-Chiassa	1876.772	Max WS	S-Chiassa-G05-MV30-02	142.58	295.47	297.73		298.27	0.005924	3.24	43.96	22.97	0.75
S-Chiassa	1876.772	Max WS	S-Chiassa-G05-MV200-02	261.56	295.47	298.62	298.21	299.35	0.005757	3.86	81.24	118.12	0.77
S-Chiassa	1826.02	Max WS	S-Chiassa-G05-MV30-02	142.57	294.80	297.56		297.89	0.002921	2.56	55.76	24.19	0.54
S-Chiassa	1826.02	Max WS	S-Chiassa-G05-MV200-02	261.55	294.80	298.35	297.53	298.82	0.003323	3.17	104.30	100.00	0.59
S-Chiassa	1711.935	Max WS	S-Chiassa-G05-MV30-02	142.57	293.39	296.75	296.82	297.94	0.012231	4.83	29.53	13.44	1.04
S-Chiassa	1711.935	Max WS	S-Chiassa-G05-MV200-02	261.53	293.39	297.61	298.30	299.35	0.012714	5.99	51.58	47.27	1.11
S-Chiassa	1539.697	Max WS	S-Chiassa-G05-MV30-02	142.57	291.21	294.60	294.73	295.84	0.013201	4.94	28.87	13.56	1.08
S-Chiassa	1539.697	Max WS	S-Chiassa-G05-MV200-02	261.52	291.21	295.34	296.03	297.14	0.014347	6.15	52.20	49.49	1.17
S-Chiassa	1463.777	Max WS	S-Chiassa-G05-MV30-02	142.57	290.24	293.56	293.90	294.77	0.014596	4.88	29.54	20.19	1.14
S-Chiassa	1463.777	Max WS	S-Chiassa-G05-MV200-02	261.52	290.24	294.25	294.87	296.00	0.015203	6.07	51.32	44.03	1.22
S-Chiassa	1199.184	Max WS	S-Chiassa-G05-MV30-02	139.21	286.95	291.35		291.36	0.000104	0.63	382.13	252.05	0.11
S-Chiassa	1199.184	Max WS	S-Chiassa-G05-MV200-02	261.64	286.95	291.37		291.40	0.000356	1.17	386.35	252.14	0.20
S-Chiassa	1155.88	Max WS	S-Chiassa-G05-MV30-02	128.80	286.31	291.34		291.35	0.000110	0.72	314.97	195.58	0.11
S-Chiassa	1155.88	Max WS	S-Chiassa-G05-MV200-02	145.86	286.31	291.34		291.36	0.000140	0.81	315.33	195.59	0.13
S-Chiassa	1145.699	Max WS	S-Chiassa-G05-MV30-02	124.09	286.17	291.34	289.50	291.35	0.000080	0.63	342.37	196.66	0.10
S-Chiassa	1145.699	Max WS	S-Chiassa-G05-MV200-02	124.56	286.17	291.34	289.50	291.35	0.000081	0.63	342.31	196.66	0.10
S-Chiassa	1140			Bridge									
S-Chiassa	1134.52	Max WS	S-Chiassa-G05-MV30-02	142.96	285.99	289.15	289.16	289.94	0.007684	4.00	38.99	34.53	0.86
S-Chiassa	1134.52	Max WS	S-Chiassa-G05-MV200-02	261.77	285.99	289.71	290.04	290.64	0.008036	4.75	85.99	122.18	0.91
S-Chiassa	1126.297	Max WS	S-Chiassa-G05-MV30-02	142.95	285.86	289.08	289.04	289.88	0.007929	4.01	38.15	28.76	0.87
S-Chiassa	1126.297	Max WS	S-Chiassa-G05-MV200-02	261.78	285.86	289.64	289.86	290.33	0.006703	4.26	103.11	140.68	0.83
S-Chiassa	1070.835	Max WS	S-Chiassa-G05-MV30-02	142.94	284.99	288.65	289.08	289.51	0.007691	4.17	37.76	32.51	0.84
S-Chiassa	1070.835	Max WS	S-Chiassa-G05-MV200-02	261.80	284.99	289.27	289.54	290.08	0.006894	4.58	97.16	140.09	0.83
S-Chiassa	1023.625	Max WS	S-Chiassa-G05-MV30-02	142.92	284.61	288.25	288.64	289.24	0.009679	4.43	33.84	40.10	0.93
S-Chiassa	1023.625	Max WS	S-Chiassa-G05-MV200-02	261.83	284.61	288.90	289.20	289.84	0.008255	4.84	82.11	89.50	0.90
S-Chiassa	949.862	Max WS	S-Chiassa-G05-MV30-02	142.97	284.00	287.44	287.54	288.65	0.012759	4.88	29.29	13.62	1.06
S-Chiassa	949.862	Max WS	S-Chiassa-G05-MV200-02	261.89	284.00	288.11	288.70	289.89	0.014650	6.16	51.69	42.84	1.19
S-Chiassa	729.8	Max WS	S-Chiassa-G05-MV30-02	143.10	282.36	284.75	284.83	285.19	0.006406	3.37	64.23	89.20	0.76
S-Chiassa	729.8	Max WS	S-Chiassa-G05-MV200-02	262.05	282.36	285.20	285.21	285.68	0.006467	3.83	106.63	103.73	0.78
S-Chiassa	657.915	Max WS	S-Chiassa-G05-MV30-02	143.05	281.99	284.26	284.34	284.64	0.006273	3.24	69.24	101.76	0.75
S-Chiassa	657.915	Max WS	S-Chiassa-G05-MV200-02	262.10	281.99	284.77		285.09	0.004924	3.24	123.65	111.00	0.68
S-Chiassa	606	Max WS	S-Chiassa-G05-MV30-02	140.82	281.63	283.86	283.52	284.34	0.005810	3.13	52.17	97.97	0.74
S-Chiassa	606	Max WS	S-Chiassa-G05-MV200-02	262.14	281.63	284.47	284.42	284.88	0.004308	3.26	116.25	114.05	0.67
S-Chiassa	600			Inl Struct									
S-Chiassa	598	Max WS	S-Chiassa-G05-MV30-02	148.79	279.81	281.95		282.71	0.008846	3.86	38.51	19.95	0.89
S-Chiassa	598	Max WS	S-Chiassa-G05-MV200-02	262.14	279.81	282.75		283.92	0.009355	4.77	54.92	20.81	0.94
S-Chiassa	459.531	Max WS	S-Chiassa-G05-MV30-02	143.68	277.95	280.35	280.62	281.49	0.017060	4.72	30.43	20.69	1.24
S-Chiassa	459.531	Max WS	S-Chiassa-G05-MV200-02	262.24	277.95	280.97	281.55	282.69	0.018175	5.84	47.75	44.59	1.34
S-Chiassa	398.841	Max WS	S-Chiassa-G05-MV30-02	143.56	277.57	279.33	279.30	279.93	0.010605	3.43	41.89	32.89	0.97
S-Chiassa	398.841	Max WS	S-Chiassa-G05-MV200-02	262.29	277.57	279.99	279.94	280.82	0.009168	4.04	65.46	38.18	0.96

HEC-RAS River: S-Chiassa Reach: S-Chiassa Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
S-Chiassa	358.932	Max WS	S-Chiassa-G05-MV30-02	143.50	276.41	278.80	279.02	279.67	0.012314	4.38	39.14	41.24	1.07
S-Chiassa	358.932	Max WS	S-Chiassa-G05-MV200-02	262.31	276.41	279.60	279.62	280.40	0.007568	4.44	74.92	47.51	0.90
S-Chiassa	316.254	Max WS	S-Chiassa-G05-MV30-02	143.45	275.59	278.42		278.83	0.005557	2.83	50.68	31.76	0.72
S-Chiassa	316.254	Max WS	S-Chiassa-G05-MV200-02	262.34	275.59	279.32		279.86	0.004580	3.26	80.55	35.01	0.69
S-Chiassa	229.803	Max WS	S-Chiassa-G05-MV30-02	143.38	274.89	277.81		278.48	0.009045	3.64	39.36	23.79	0.90
S-Chiassa	229.803	Max WS	S-Chiassa-G05-MV200-02	262.41	274.89	278.79		279.65	0.007160	4.09	64.14	26.94	0.85
S-Chiassa	0	Max WS	S-Chiassa-G05-MV30-02	143.45	272.44	275.98	275.84	277.07	0.009994	4.62	31.03	12.33	0.93
S-Chiassa	0	Max WS	S-Chiassa-G05-MV200-02	262.46	272.44	277.10	277.49	278.47	0.009991	5.30	57.28	50.80	0.97