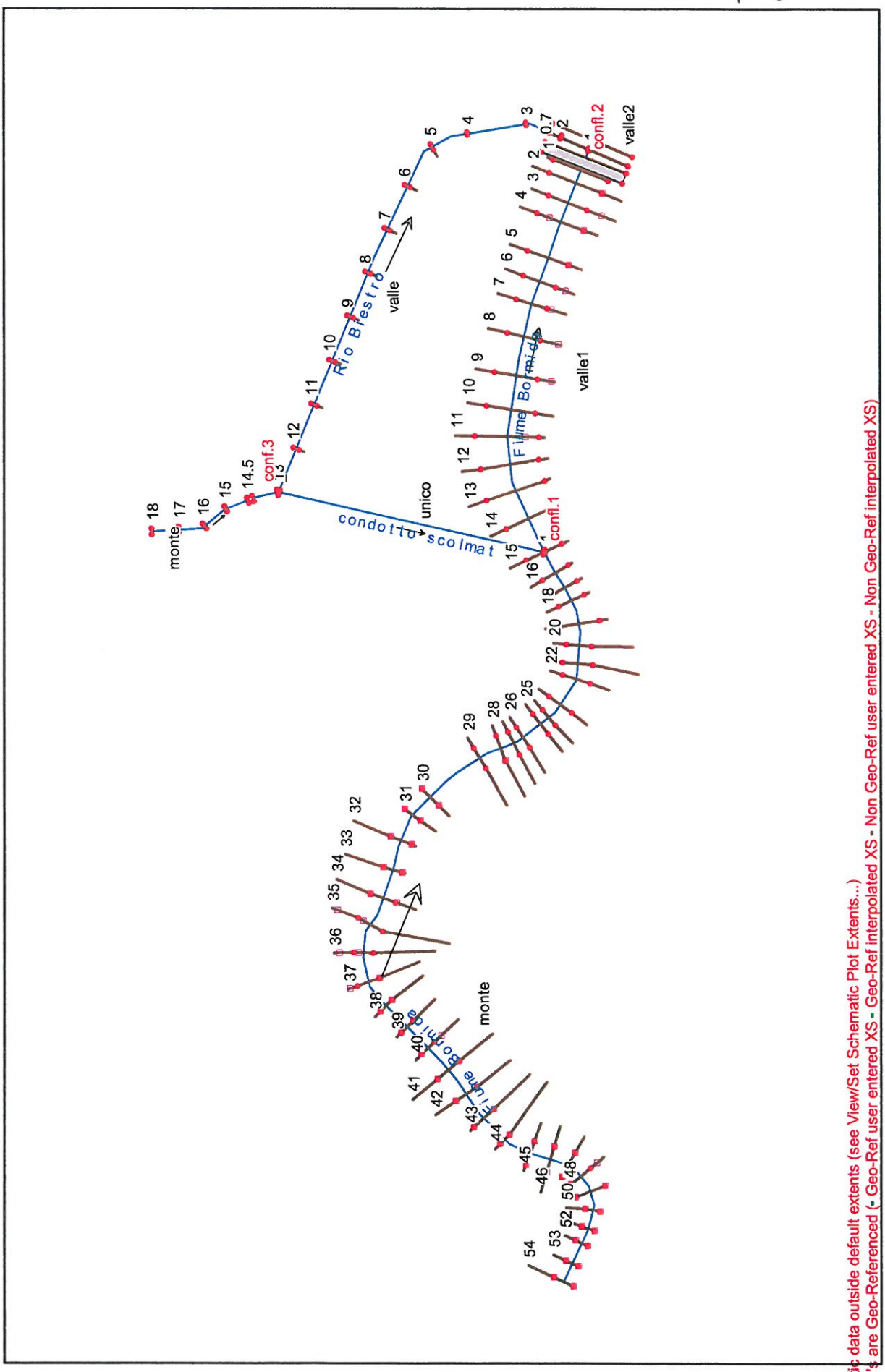
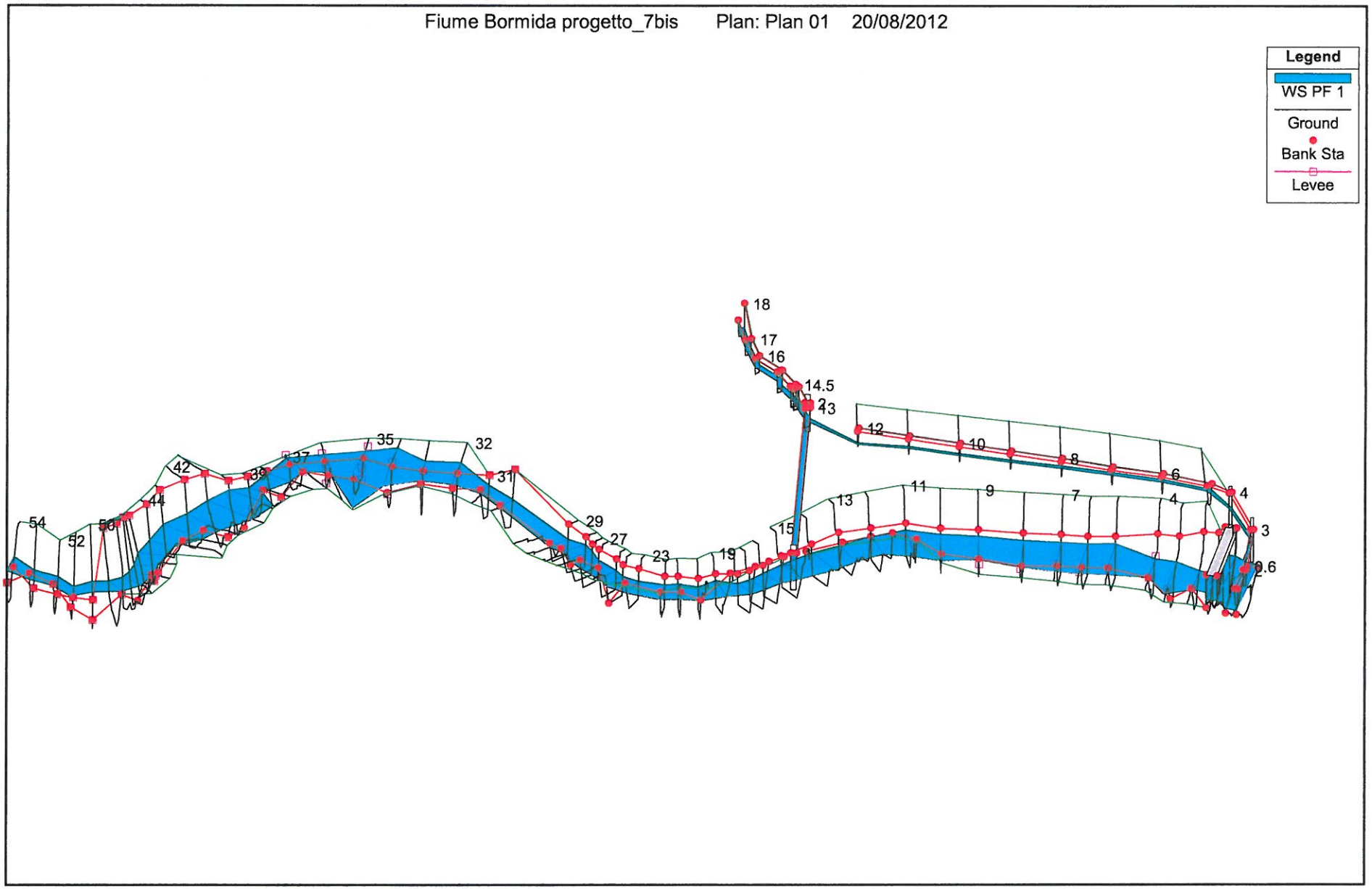
ALLEGATO D - Tabulati di calcolo di progetto

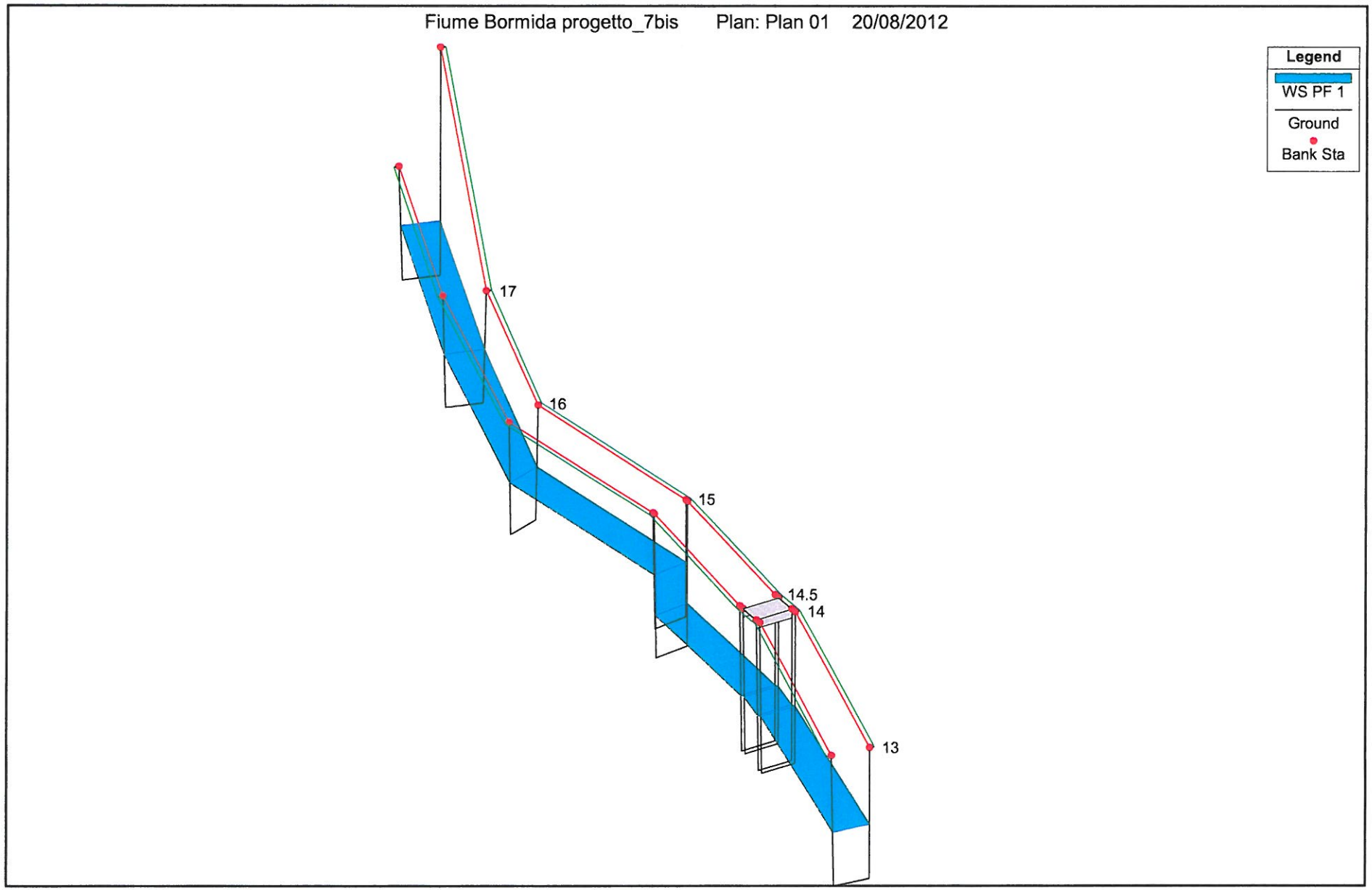


Some schematic data outside default extents (see View/Set Schematic Plot Extents...)
None of the XS's are Geo-Referenced (- Geo-Ref user entered XS - Geo-Ref interpolated XS - Non Geo-Ref user entered XS - Non Geo-Ref interpolated XS)

All.01



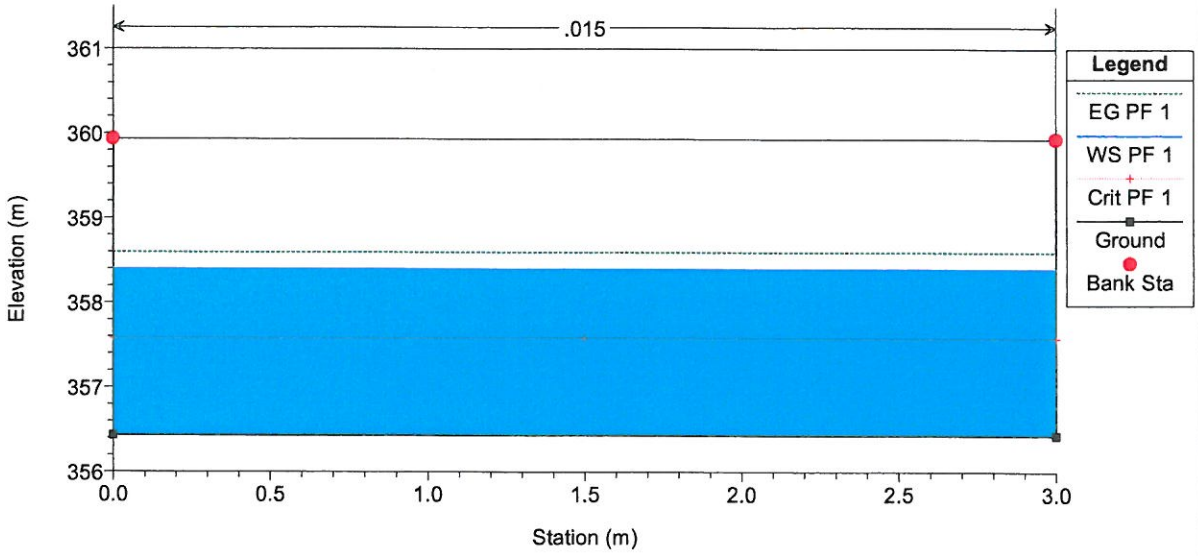
All. 02 Generale



All.02 Rio Biestro
tratto a monte

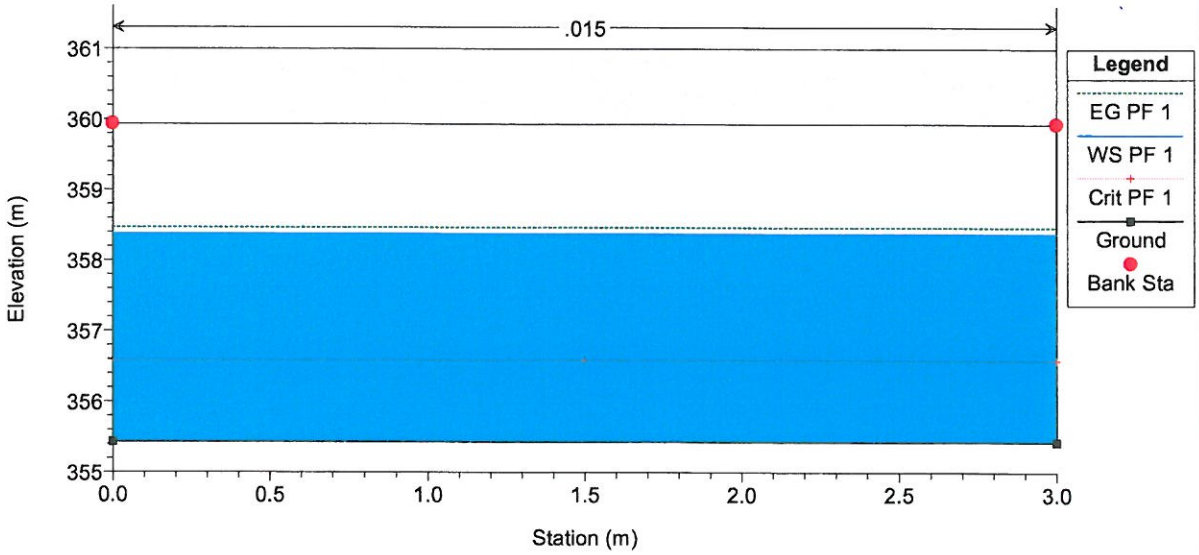
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.2



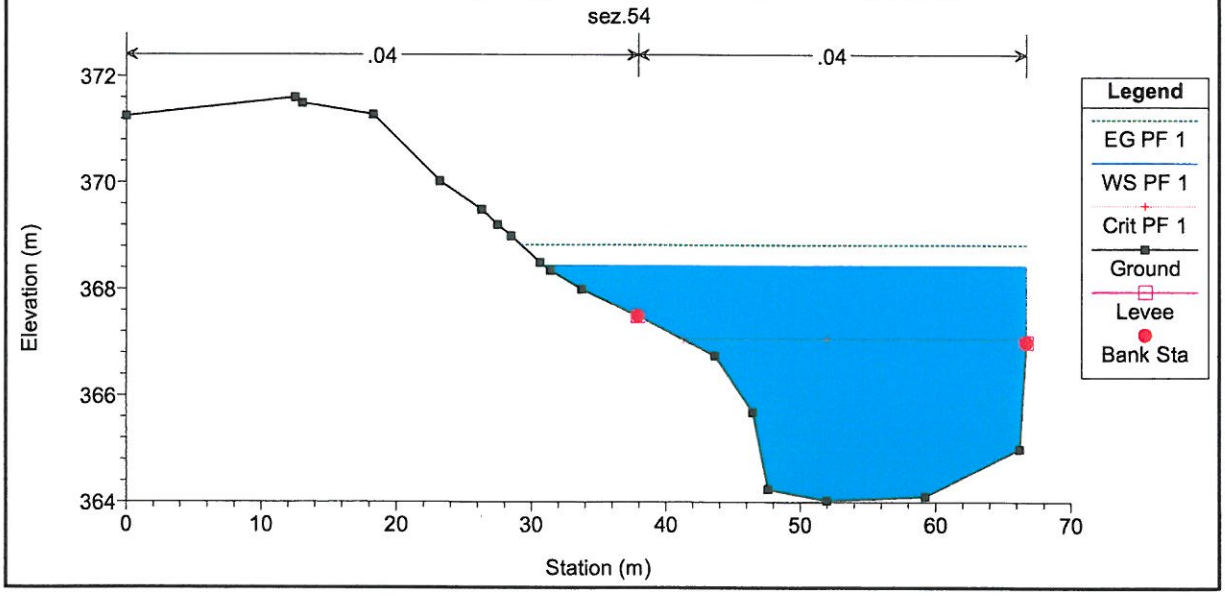
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.1



Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

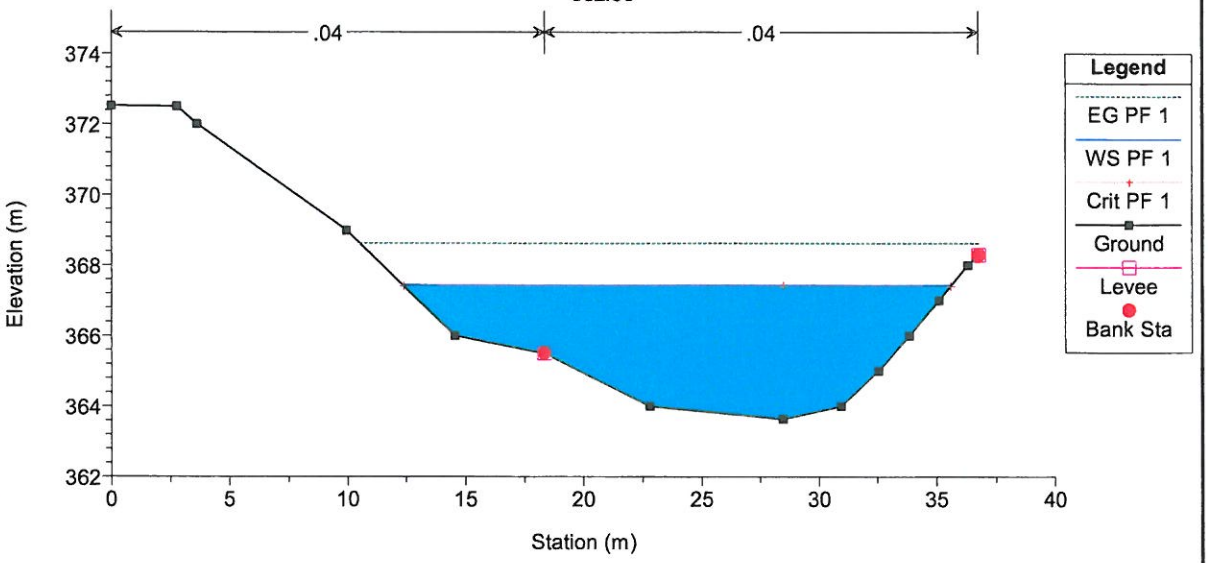
sez.54



All.03

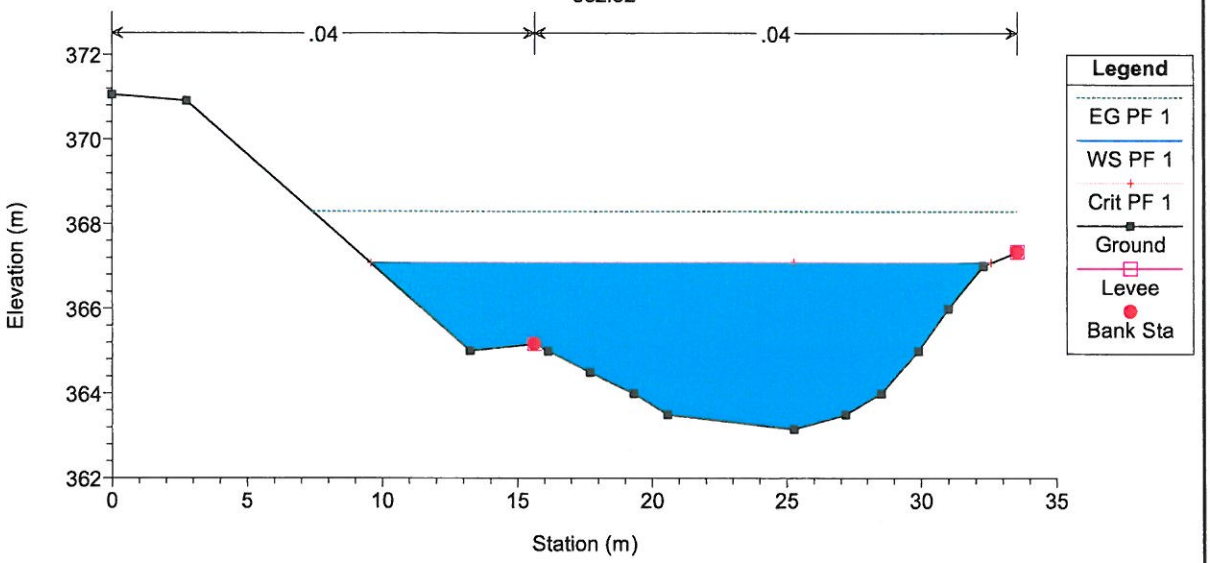
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.53



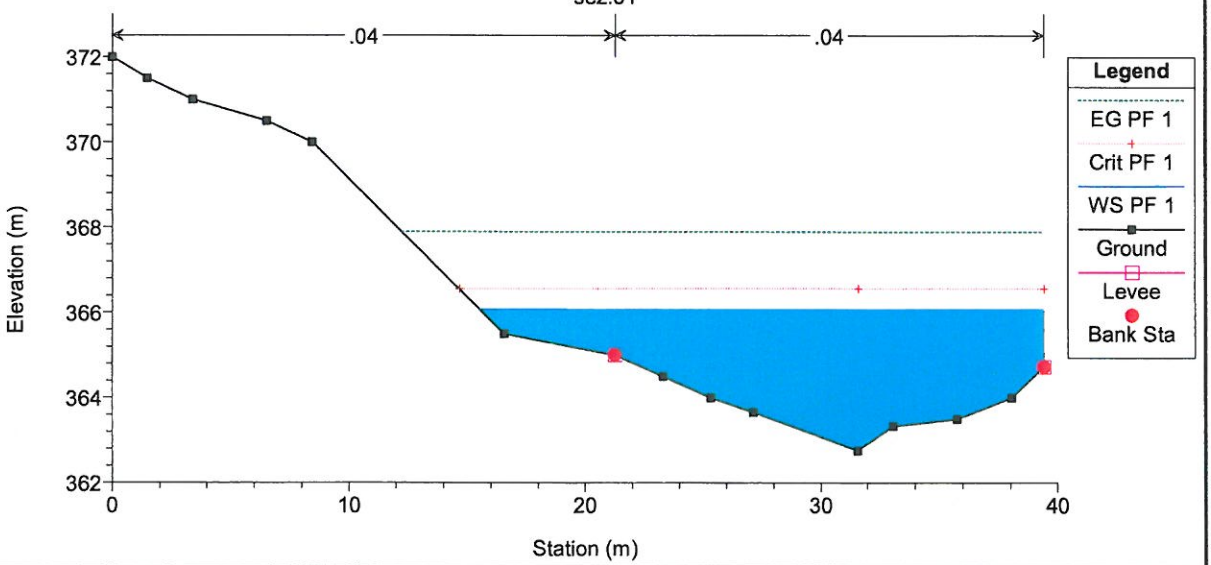
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

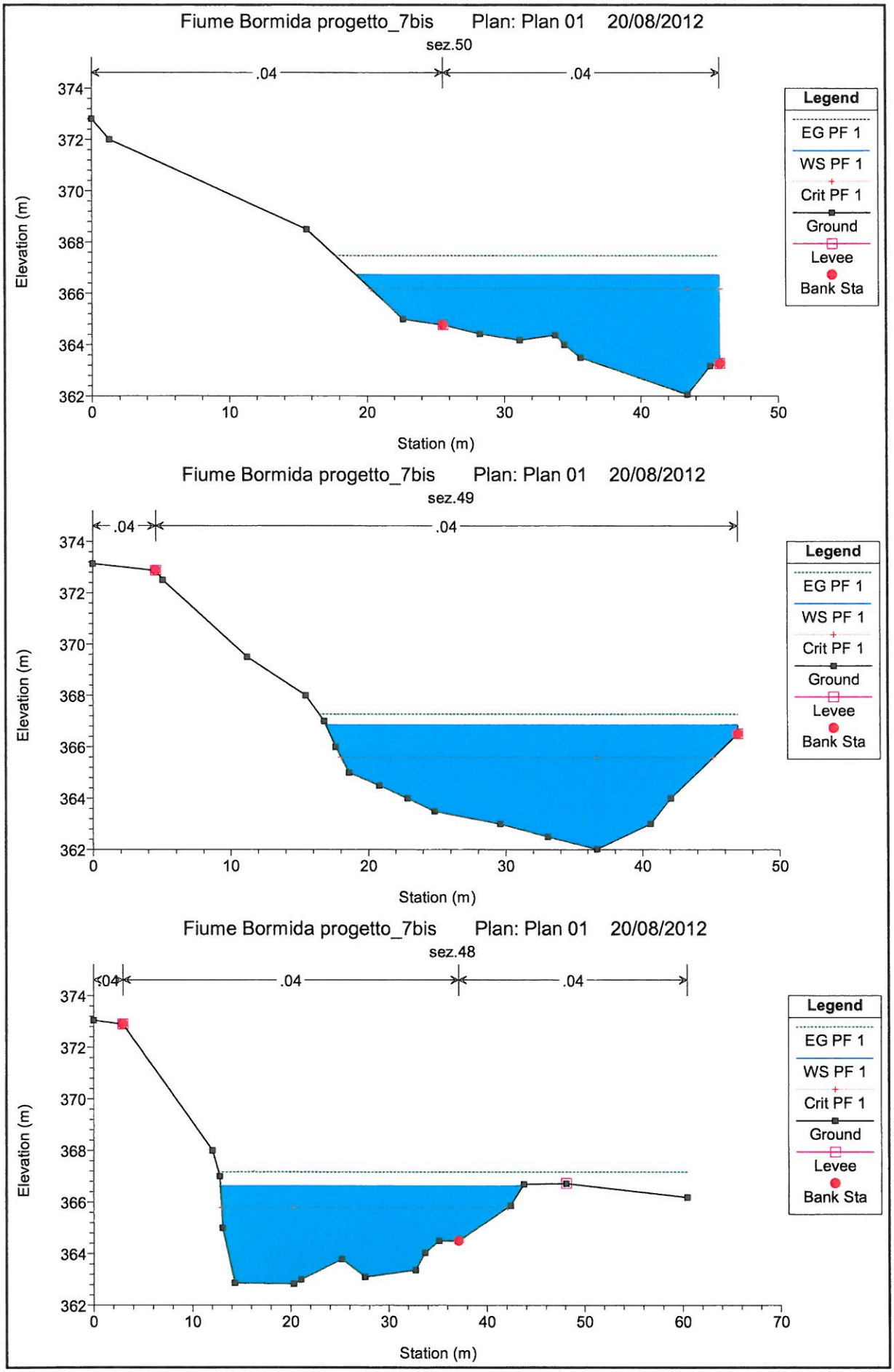
sez.52



Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

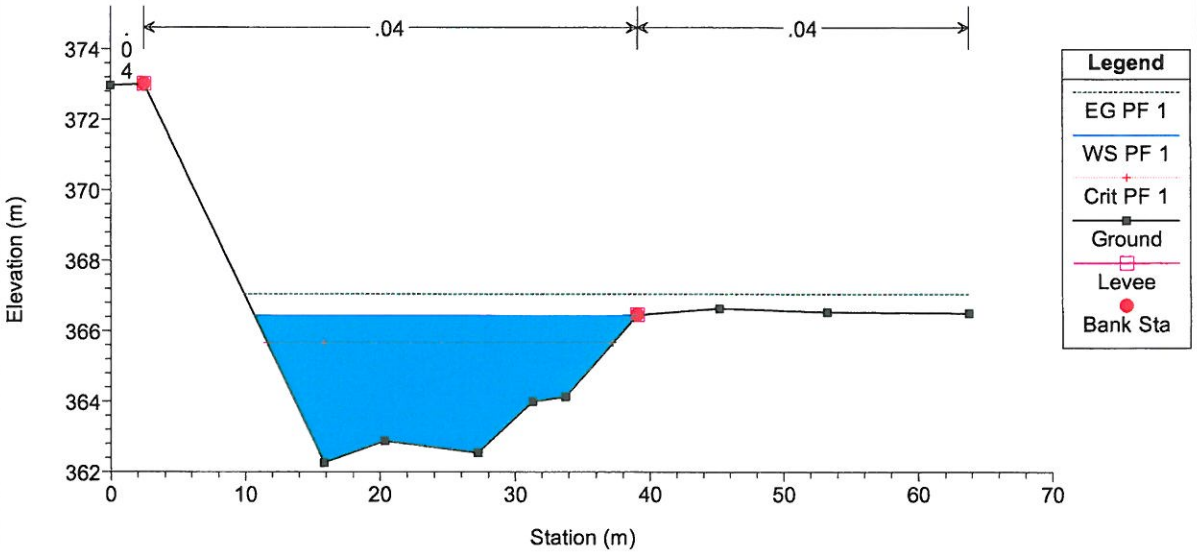
sez.51




Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.50
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.49
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.48
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta

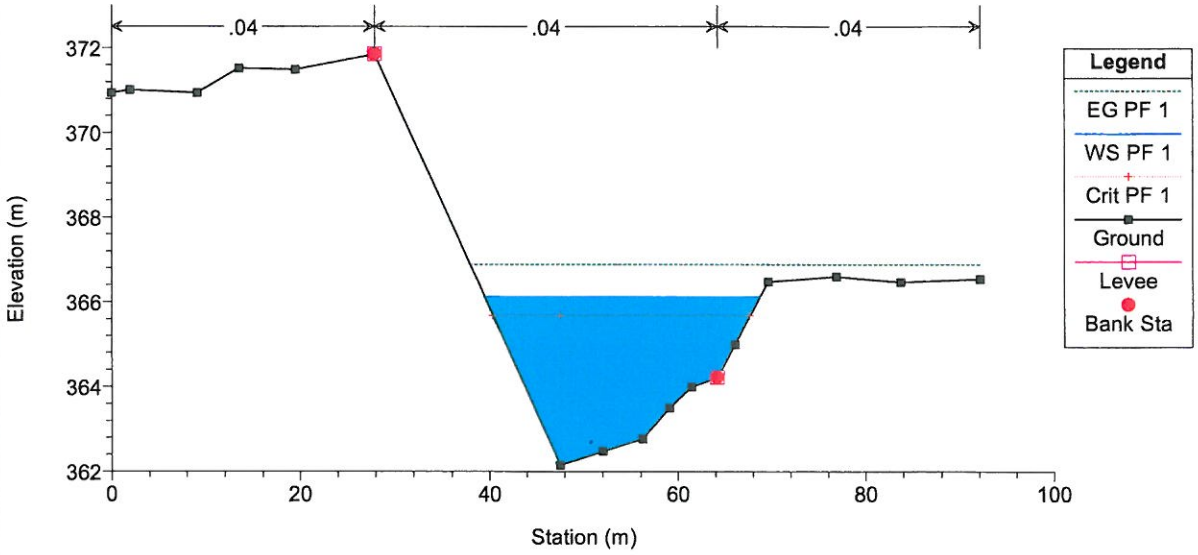
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.47



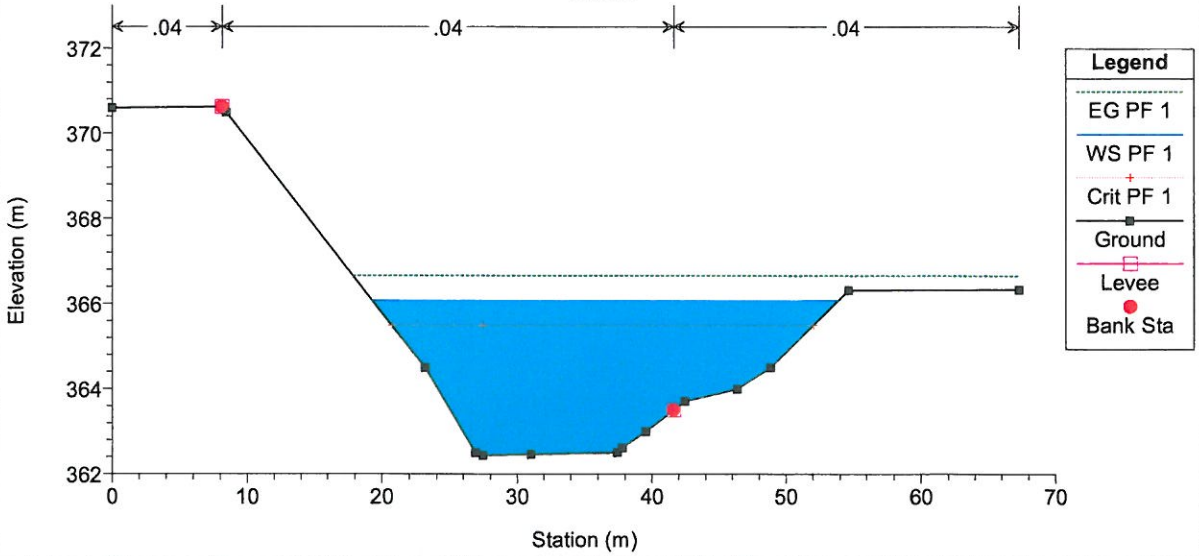
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

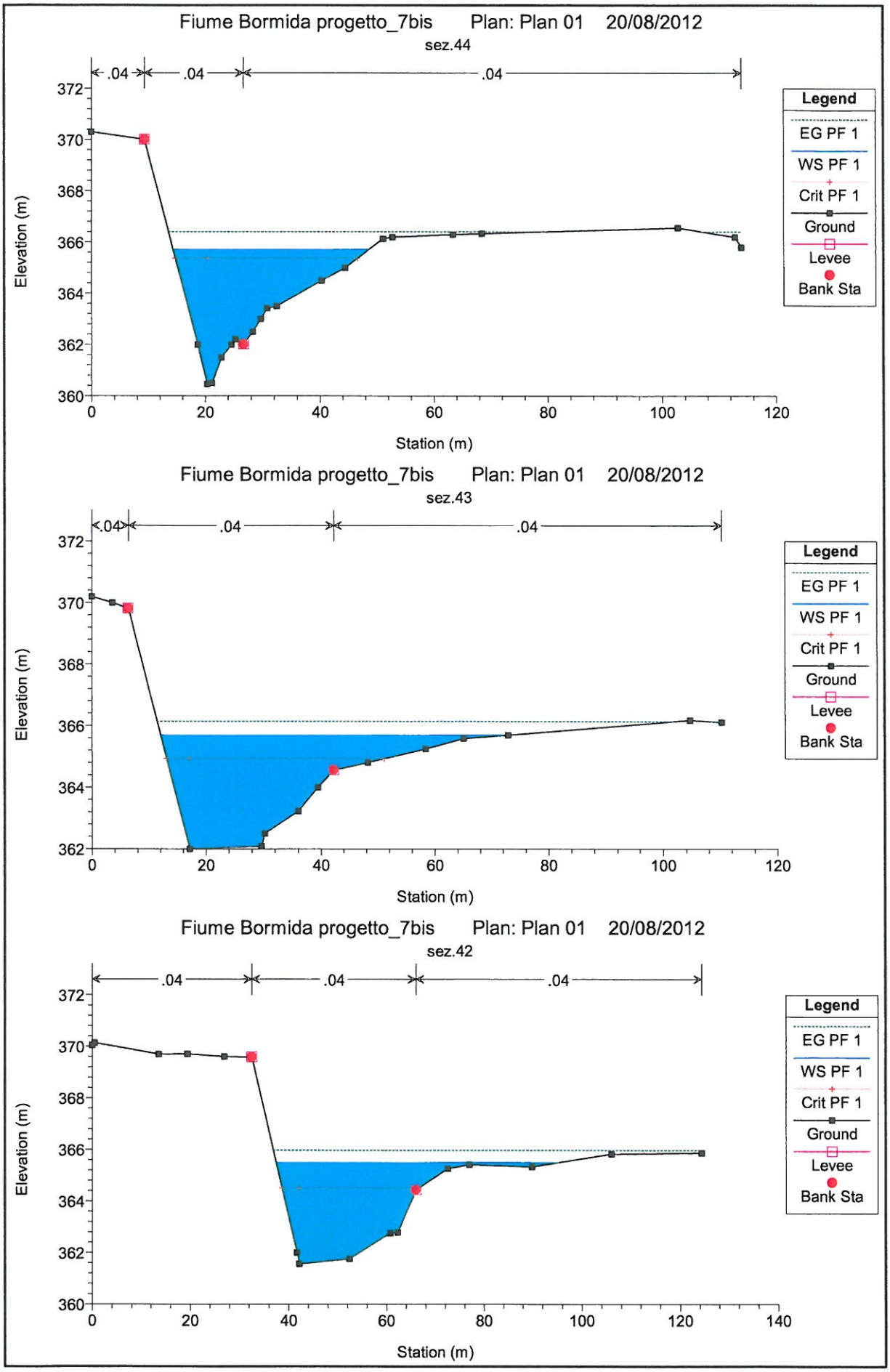
sez.46

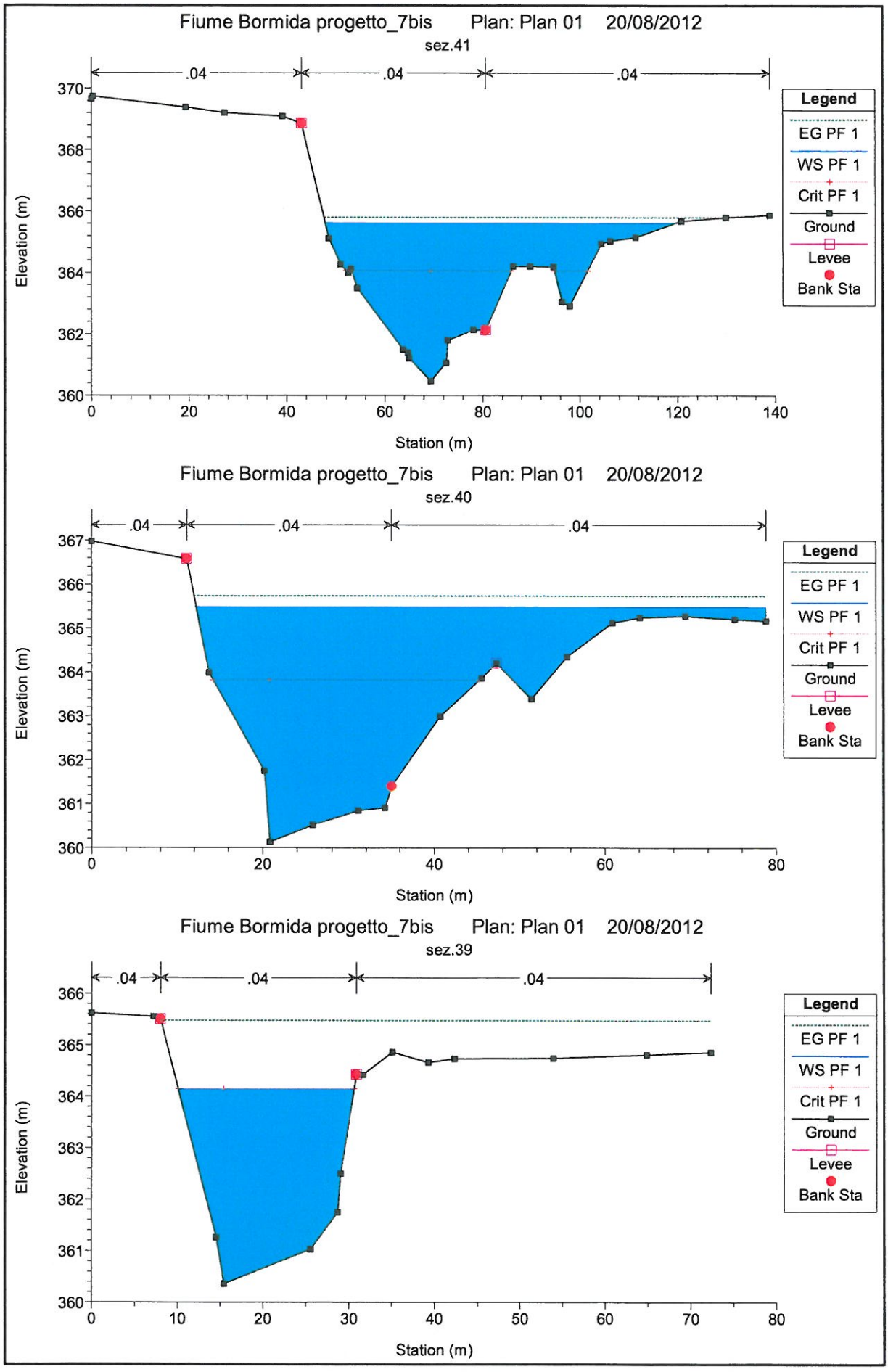


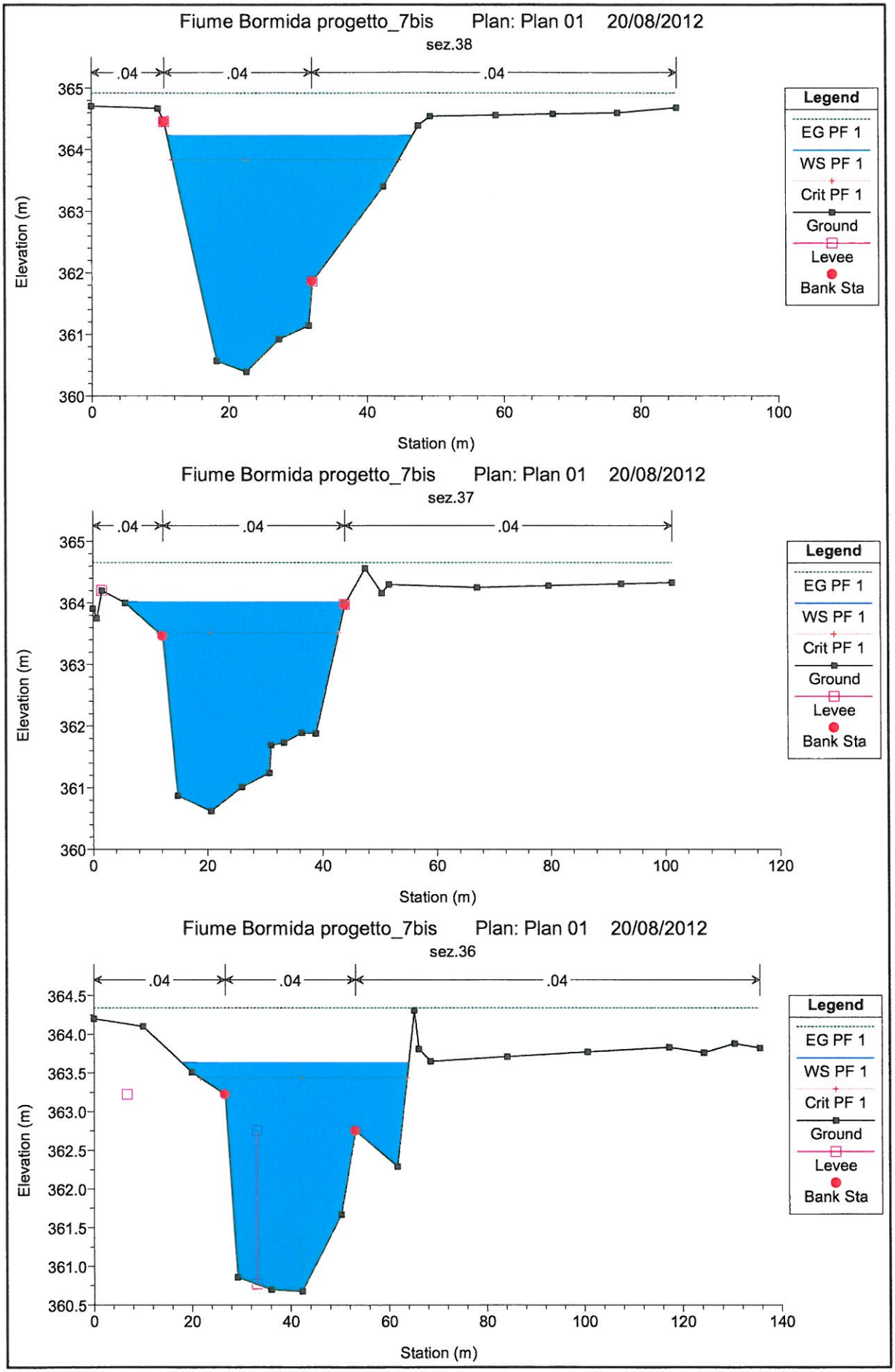
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.45



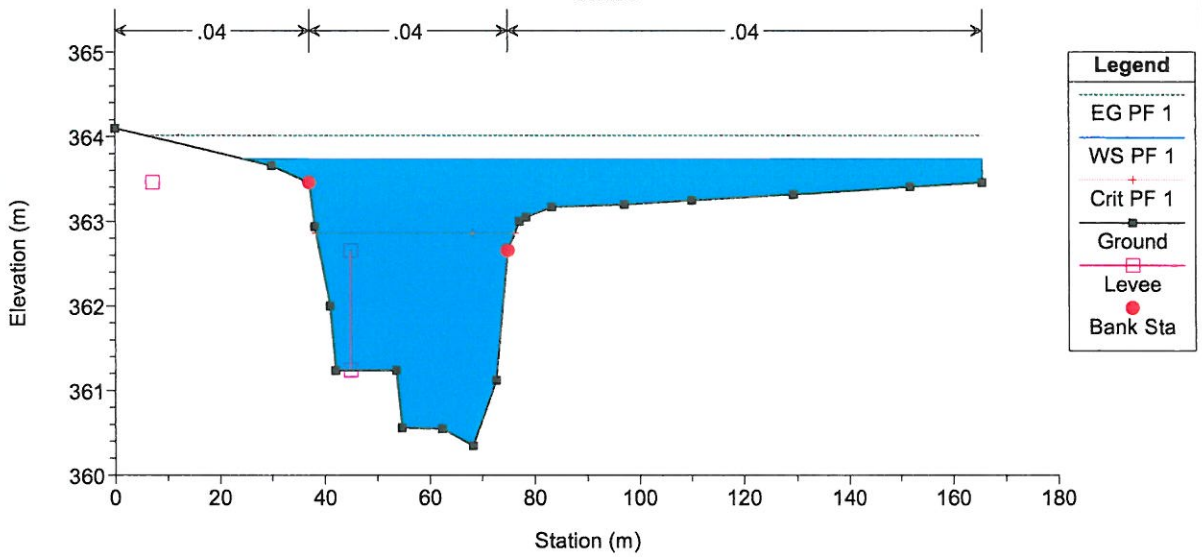

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.44
.04
.04
.04
372
370
368
366
364
362
360
Elevation (m)
0
20
40
60
80
100
120
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.43
.04
.04
.04
372
370
368
366
364
362
Elevation (m)
0
20
40
60
80
100
120
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.42
.04
.04
.04
372
370
368
366
364
362
360
Elevation (m)
0
20
40
60
80
100
120
140
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.41
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.40
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.39
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.38
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.37
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.36
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta

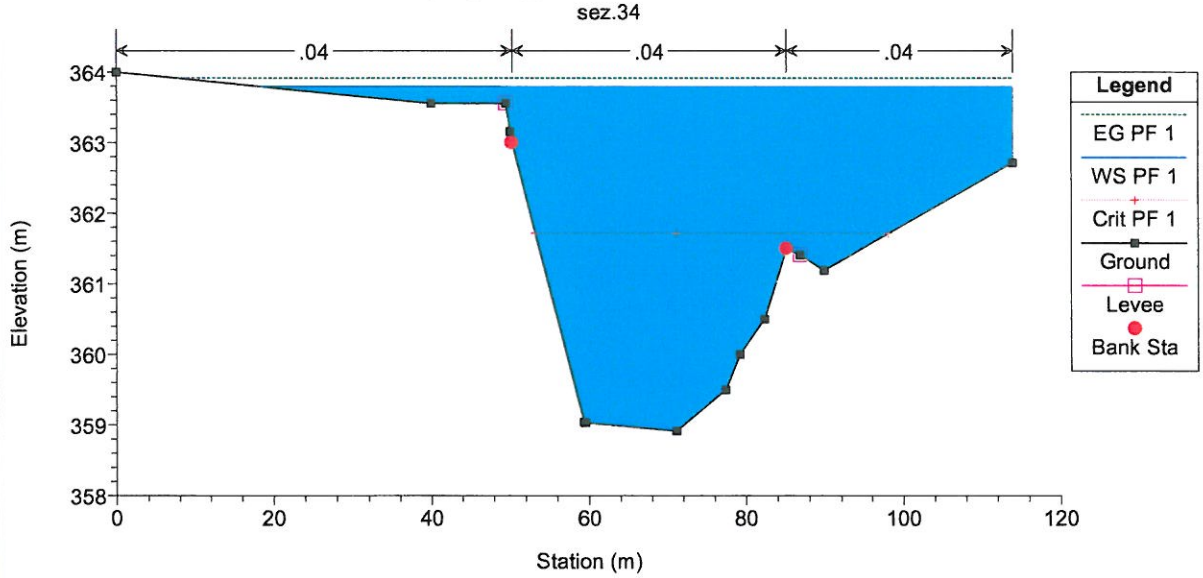
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.35



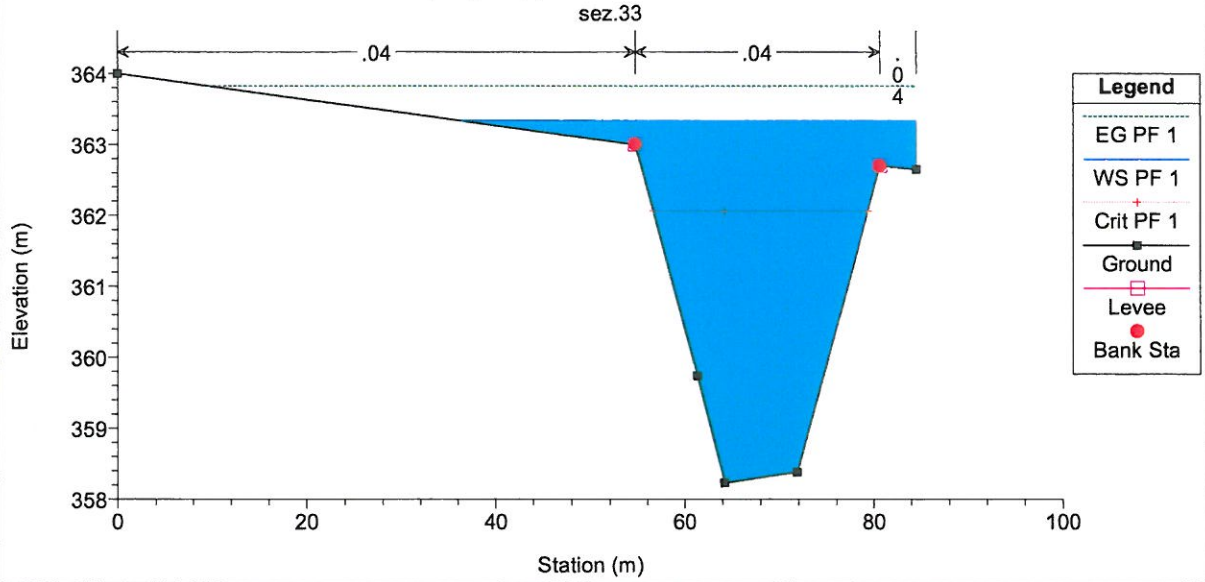
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

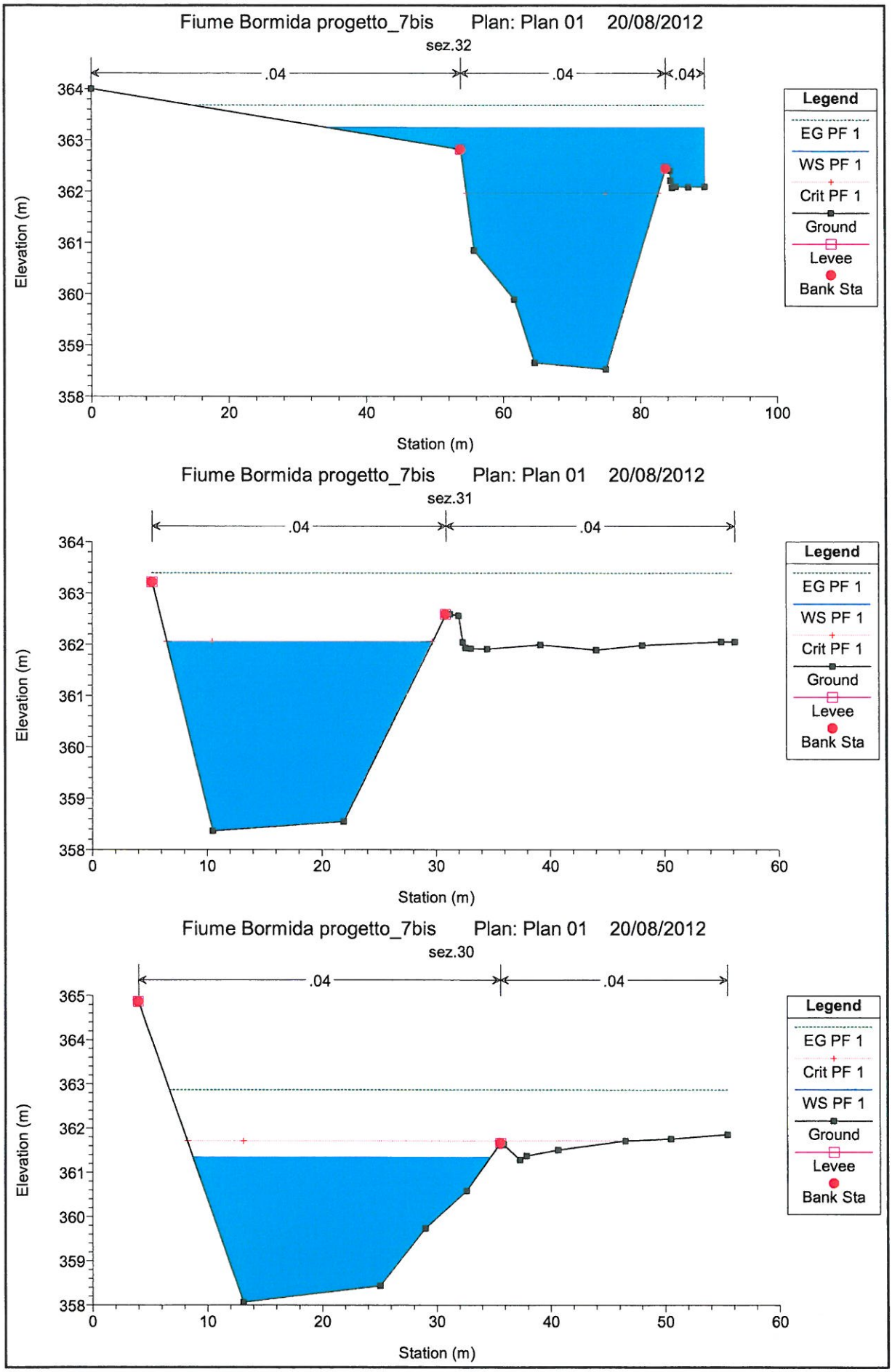
sez.34

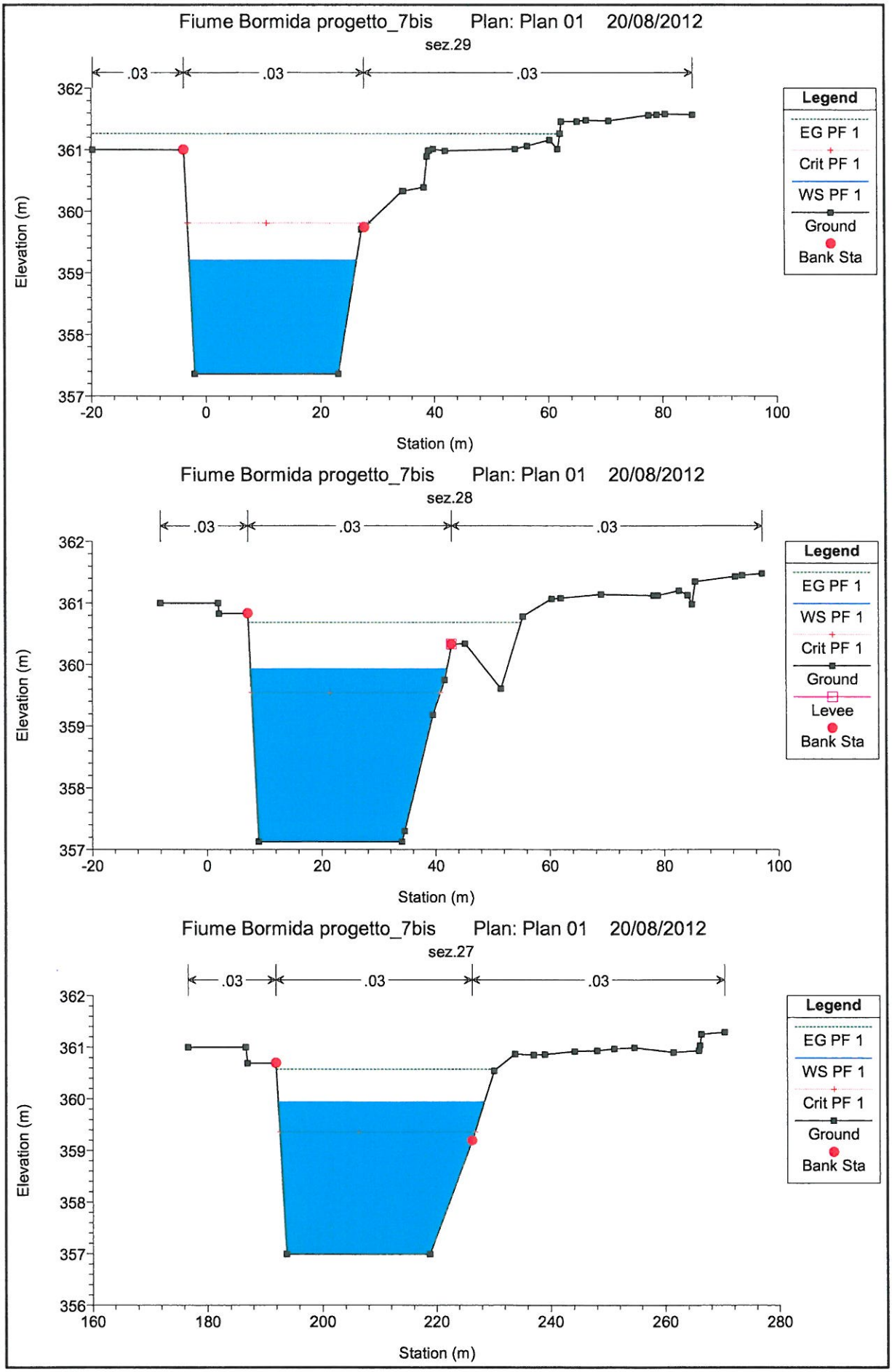


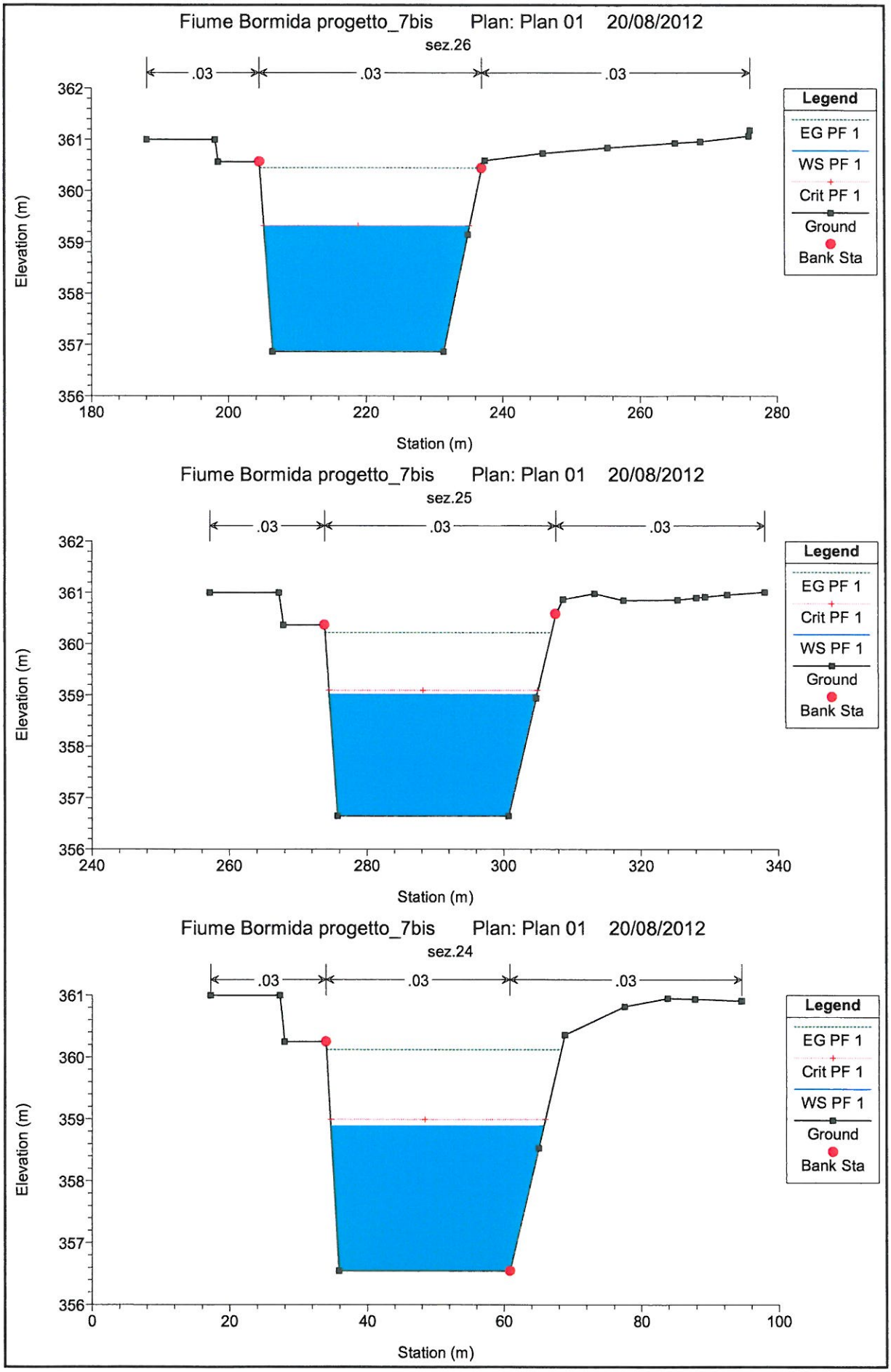
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

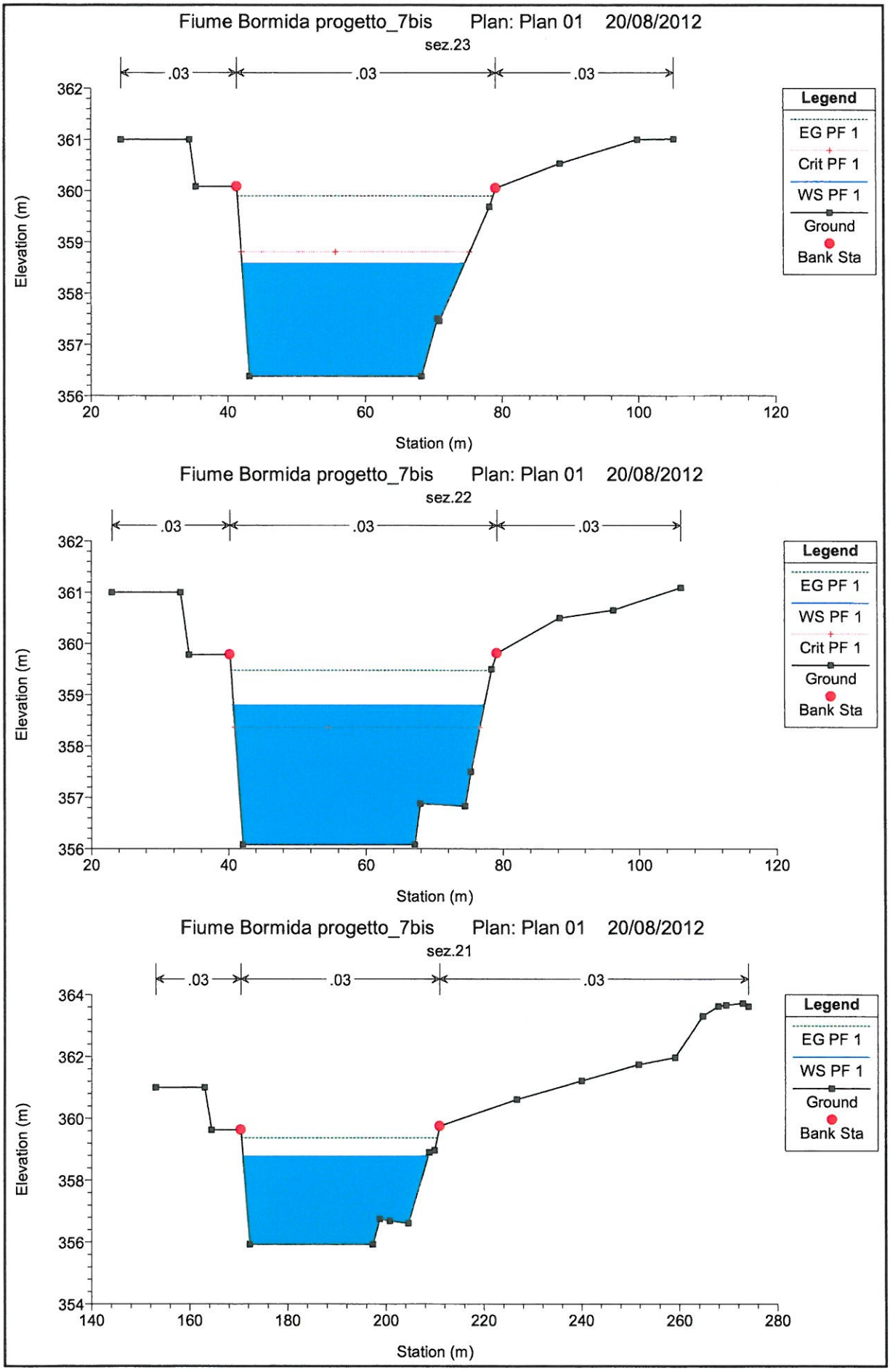
sez.33

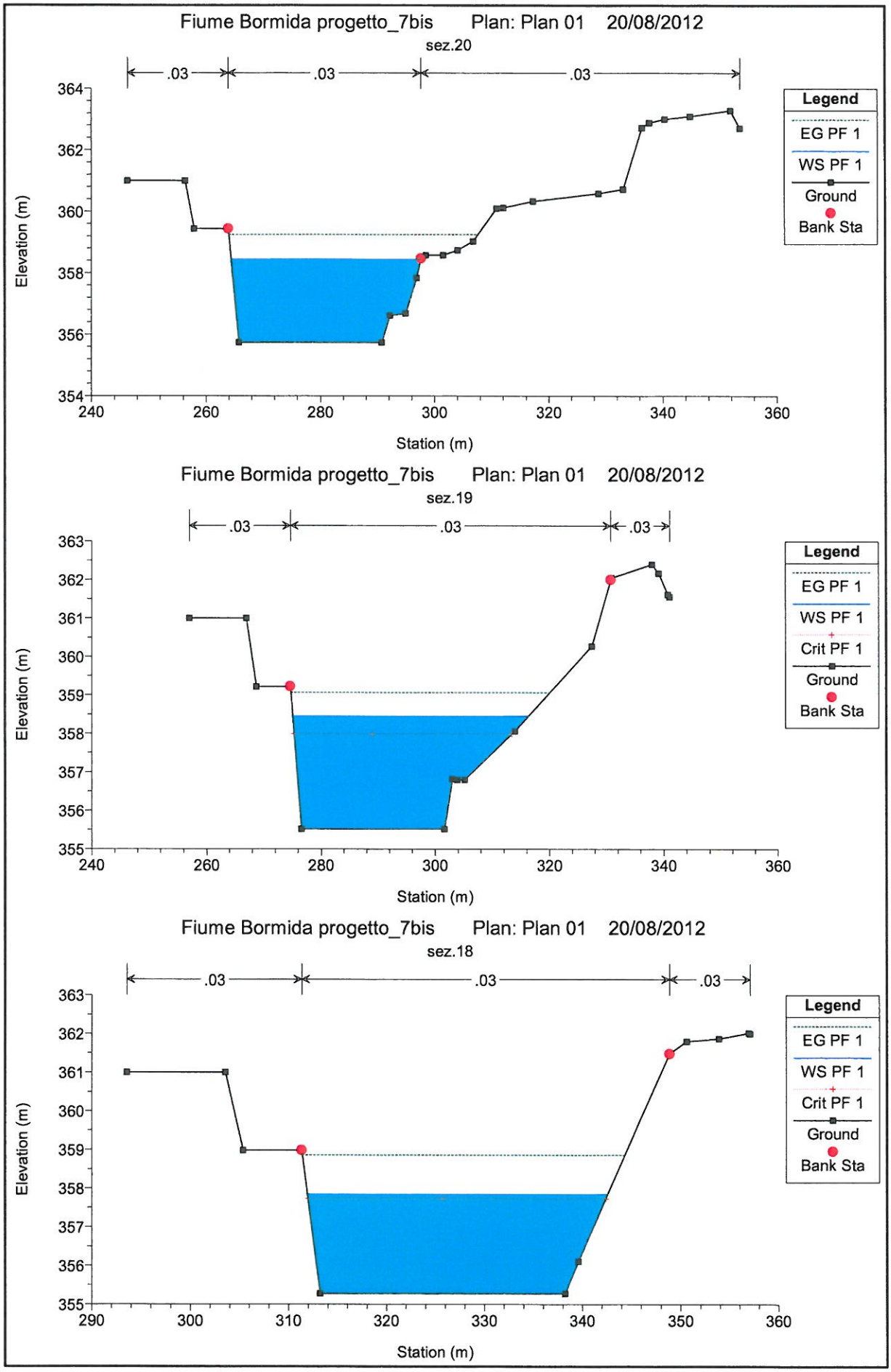


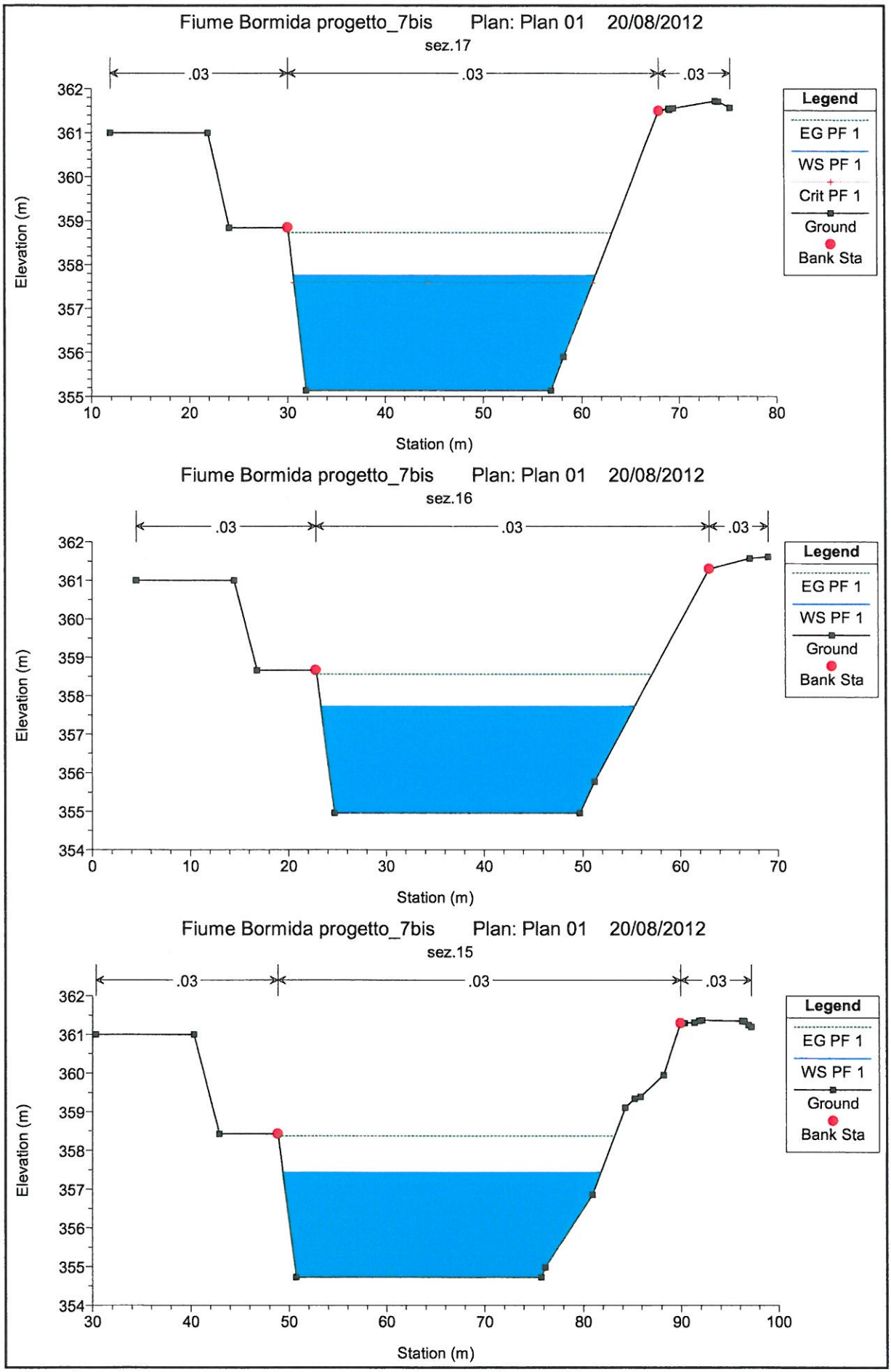

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.32
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.31
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.30
.04
.04
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta

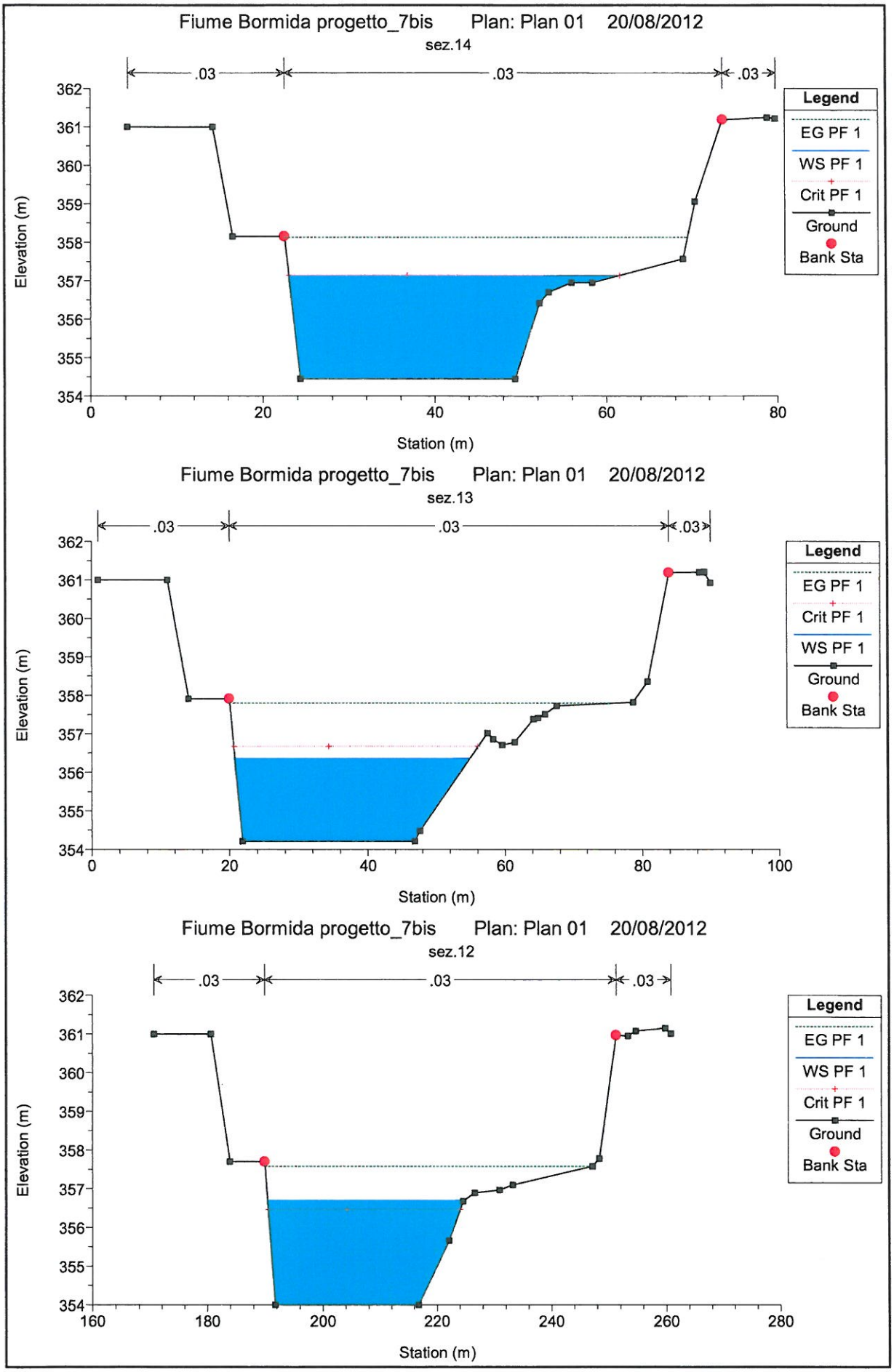

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.29
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.28
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.27
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

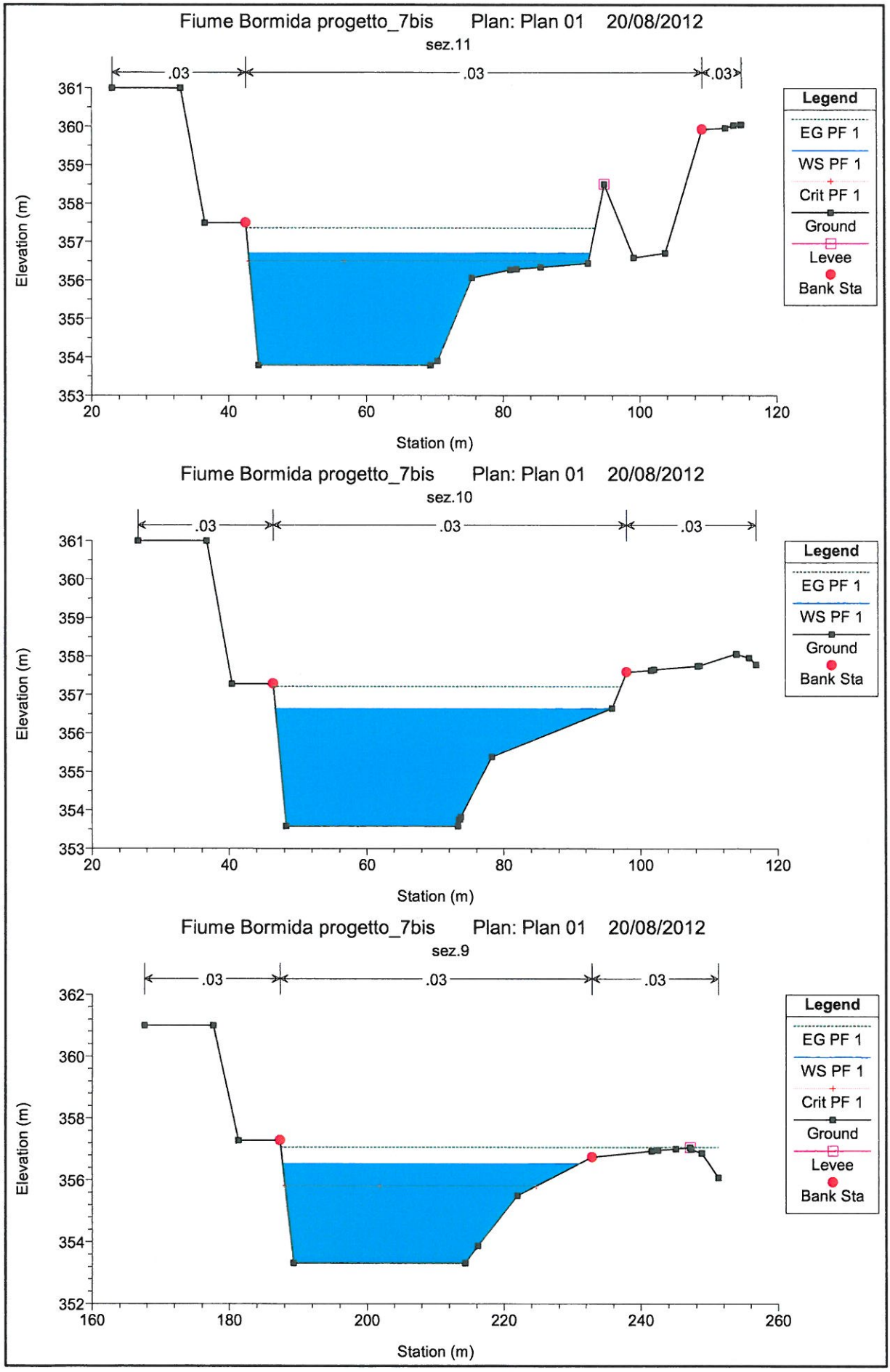

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.26
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.25
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.24
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta

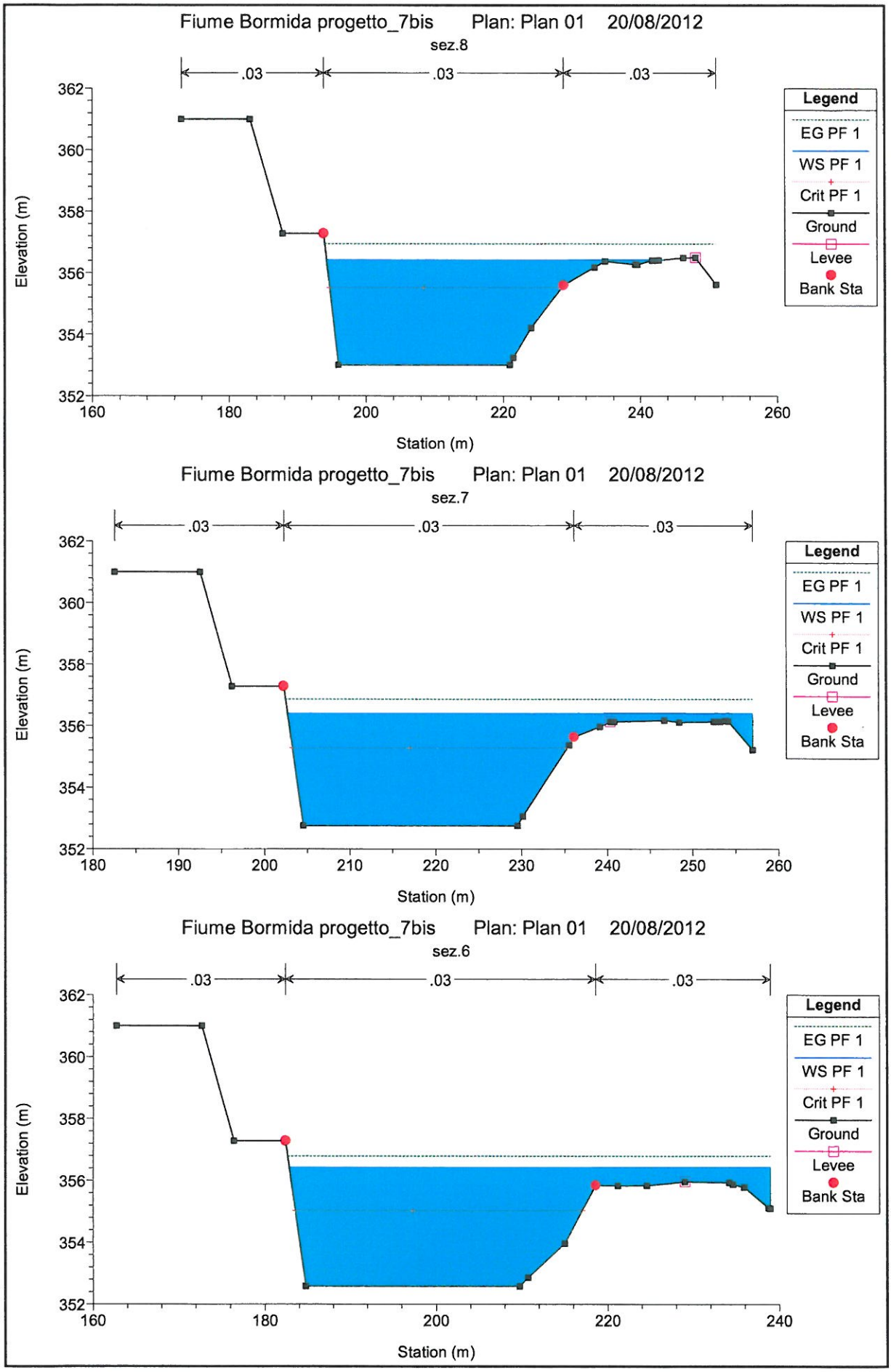

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.23
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.22
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.21
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.20
.03
.03
.03
Elevation (m)
364
362
360
358
356
354
240
260
280
300
320
340
360
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.19
.03
.03
.03
Elevation (m)
363
362
361
360
359
358
357
356
355
240
260
280
300
320
340
360
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.18
.03
.03
.03
Elevation (m)
363
362
361
360
359
358
357
356
355
290
300
310
320
330
340
350
360
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.17
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.16
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.15
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

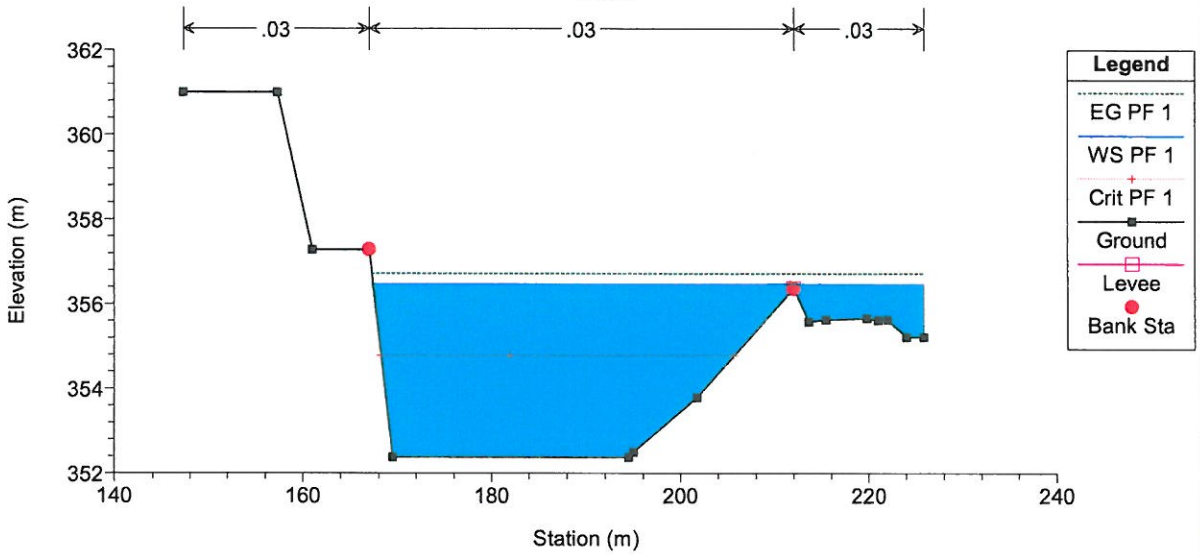

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.14
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.13
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.12
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.11
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.10
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.9
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.8
.03
.03
.03
Elevation (m)
362
360
358
356
354
352
160
180
200
220
240
260
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.7
.03
.03
.03
Elevation (m)
362
360
358
356
354
352
180
190
200
210
220
230
240
250
260
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.6
.03
.03
.03
Elevation (m)
362
360
358
356
354
352
160
180
200
220
240
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta

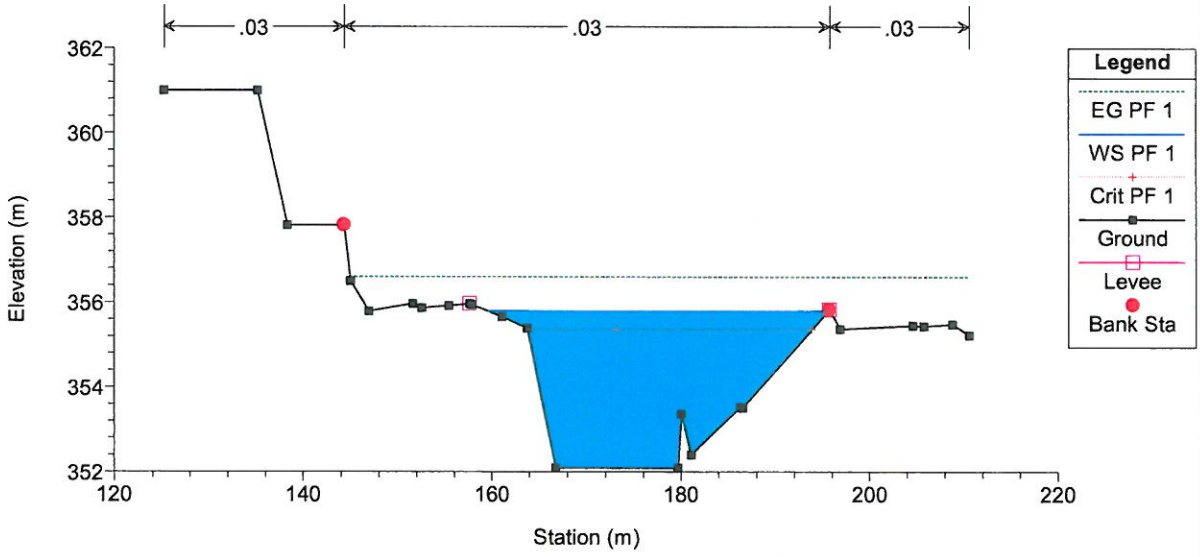
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.5



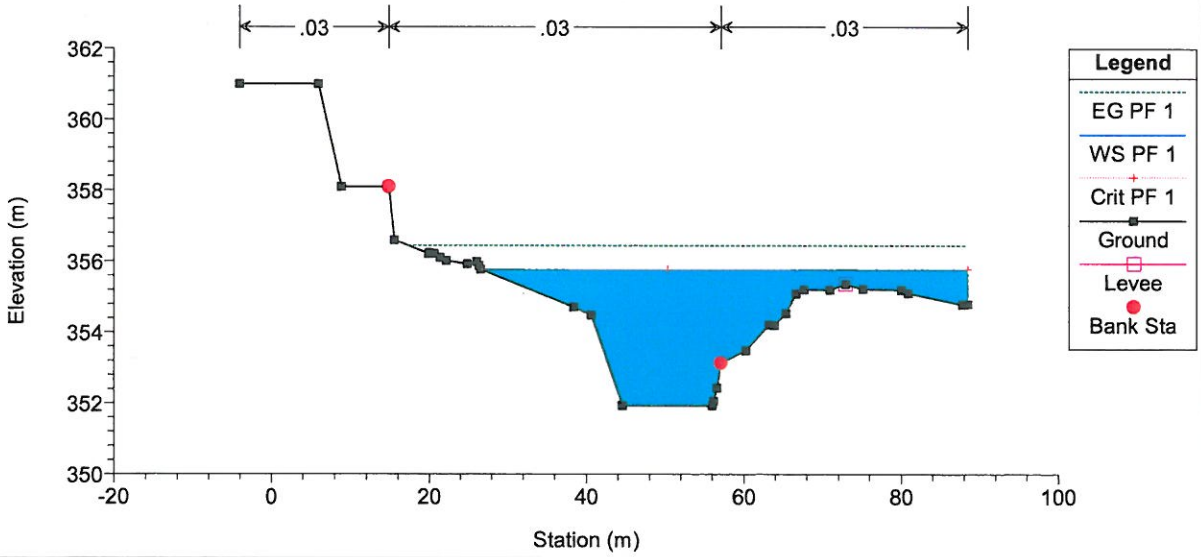
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

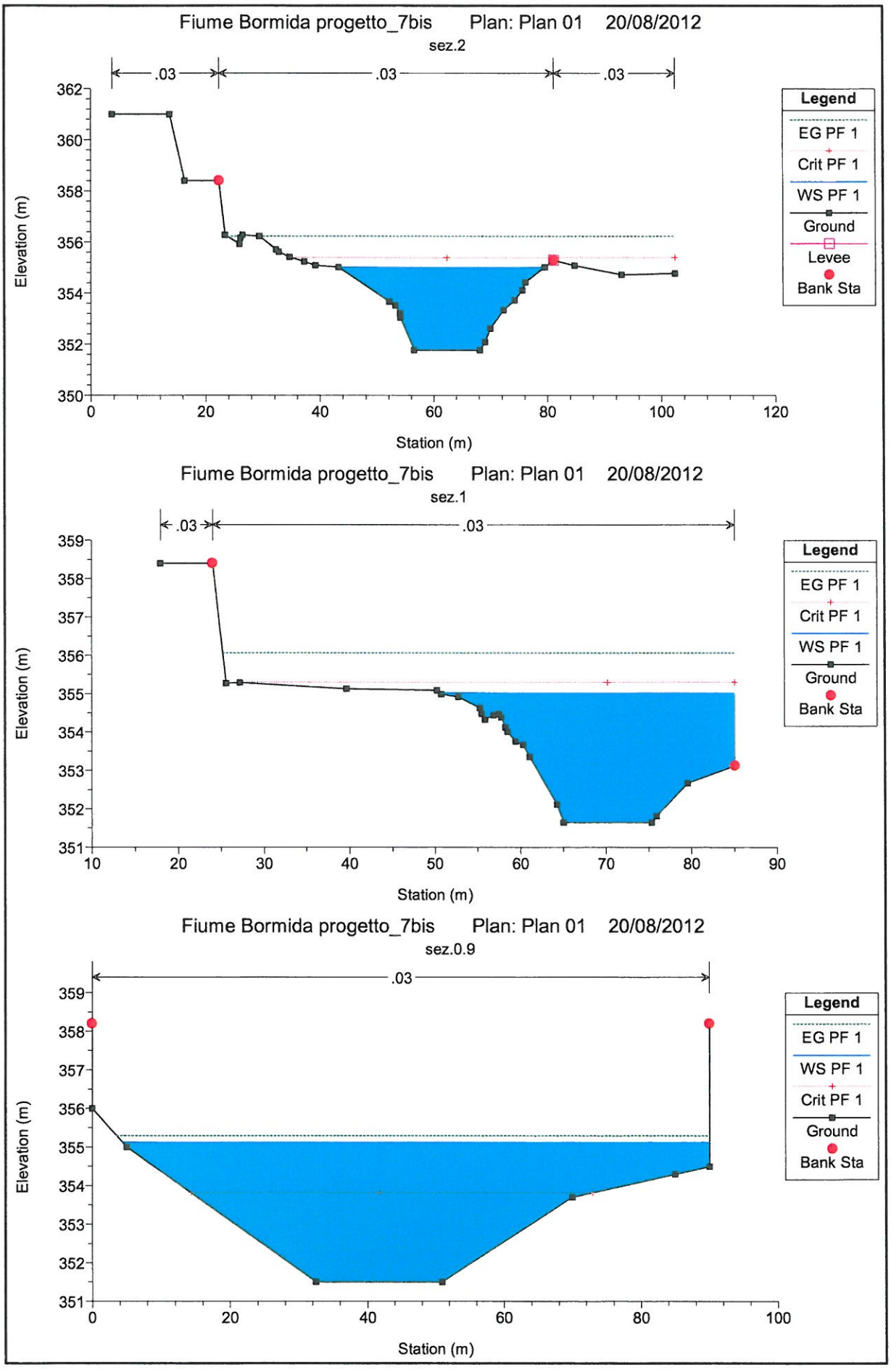
sez.4

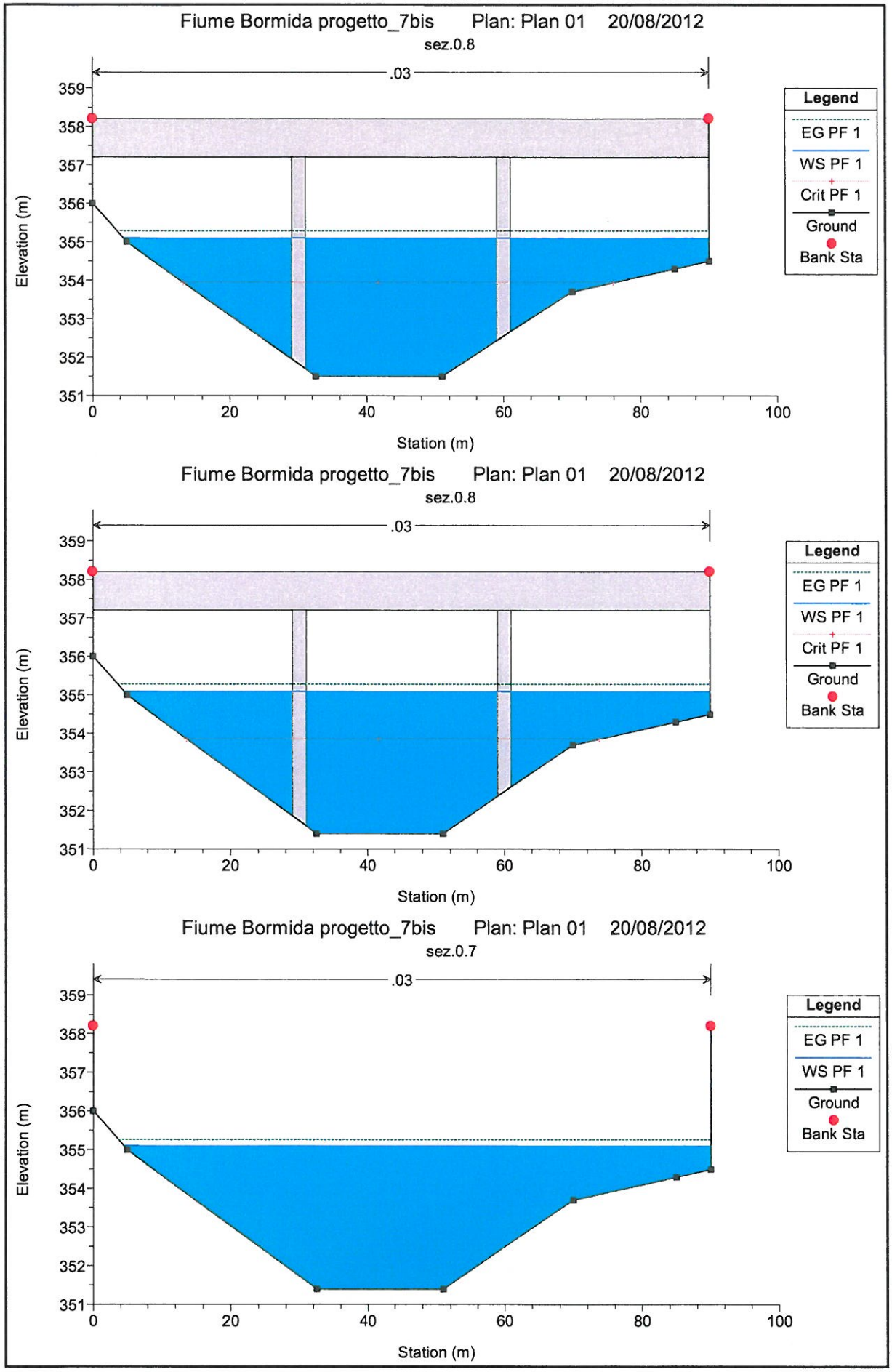


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.3

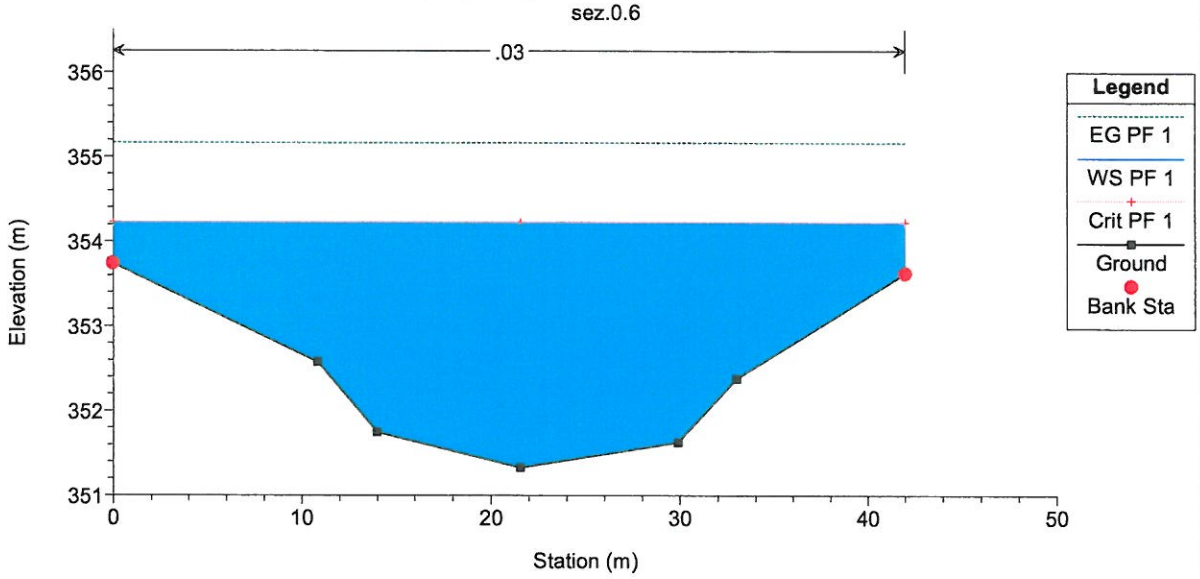



Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.2
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.1
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.0.9
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.0.8
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.0.8
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.0.7
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

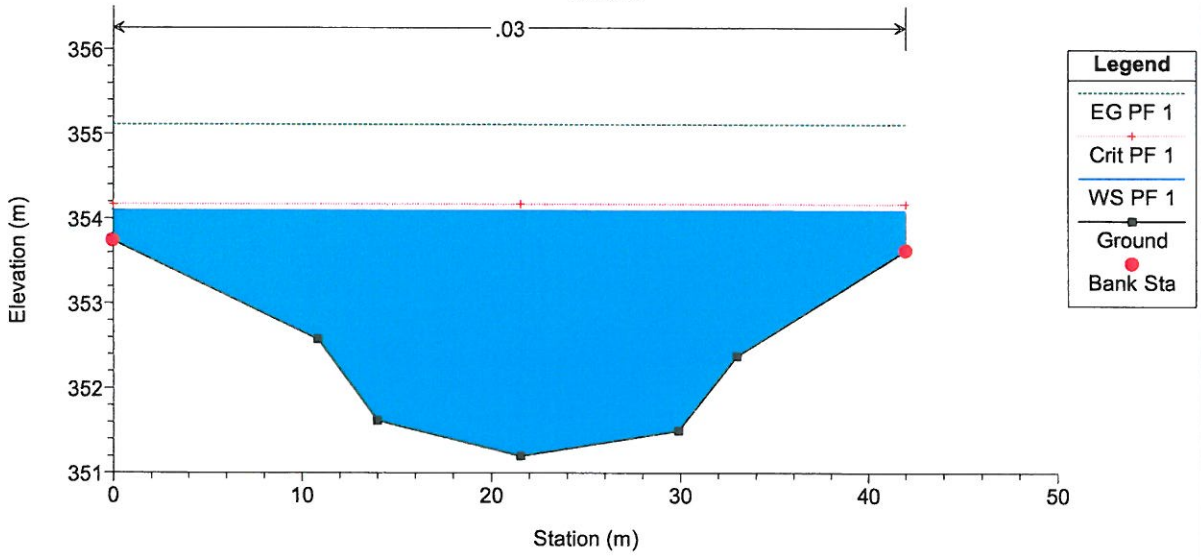
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.0.6



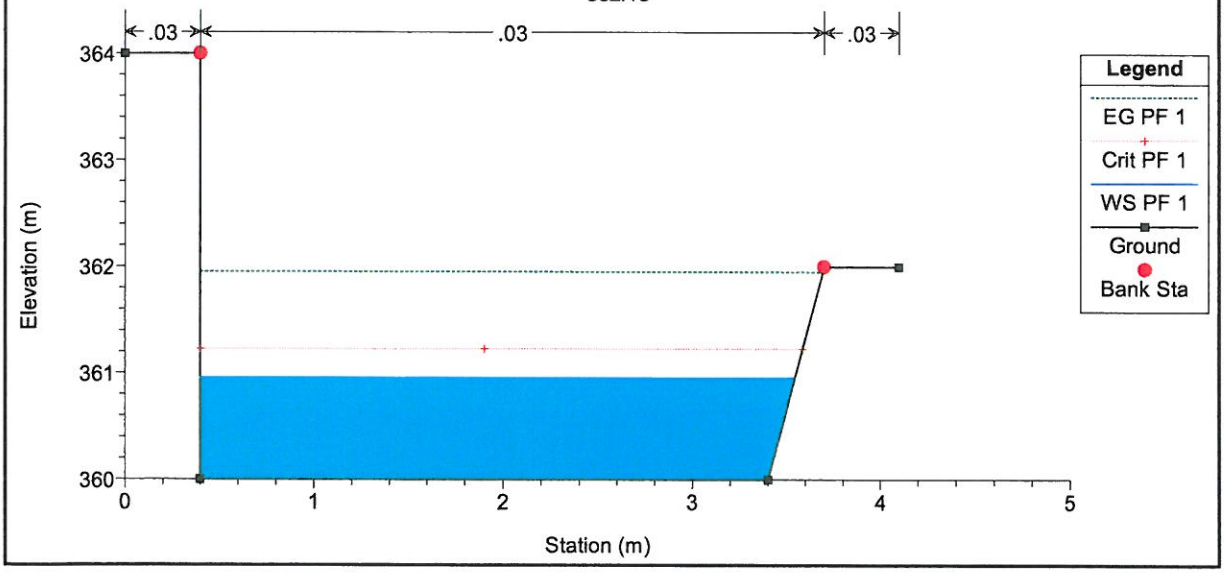
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.0.5



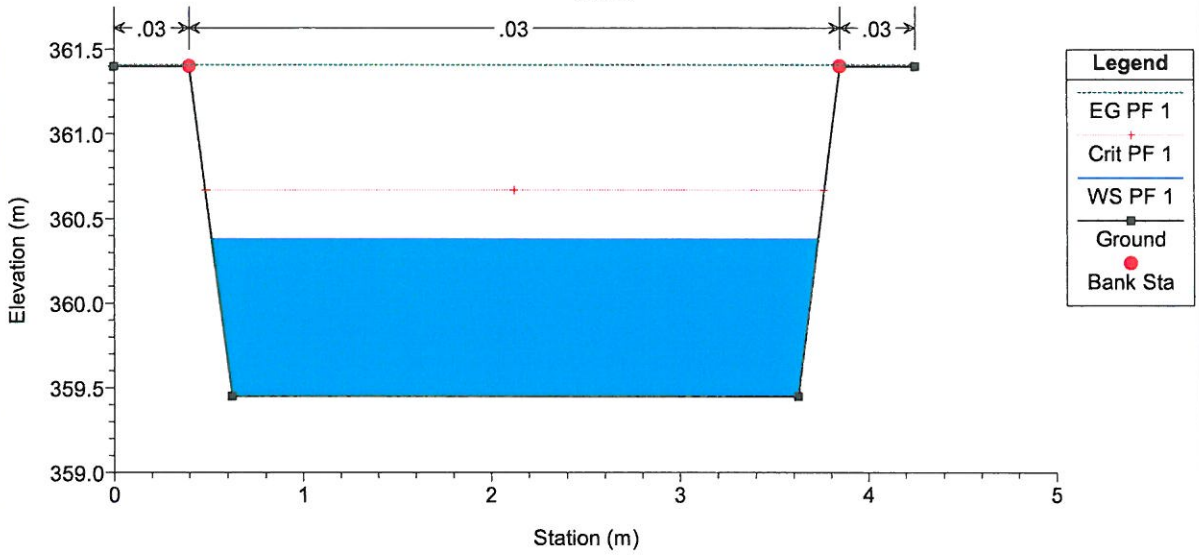
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.18



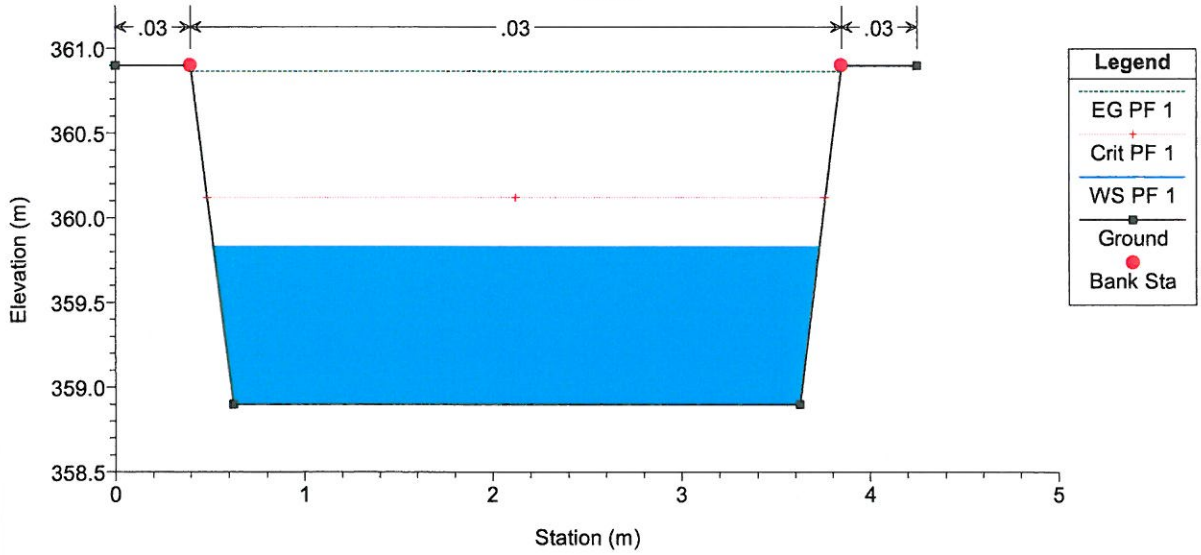
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.17



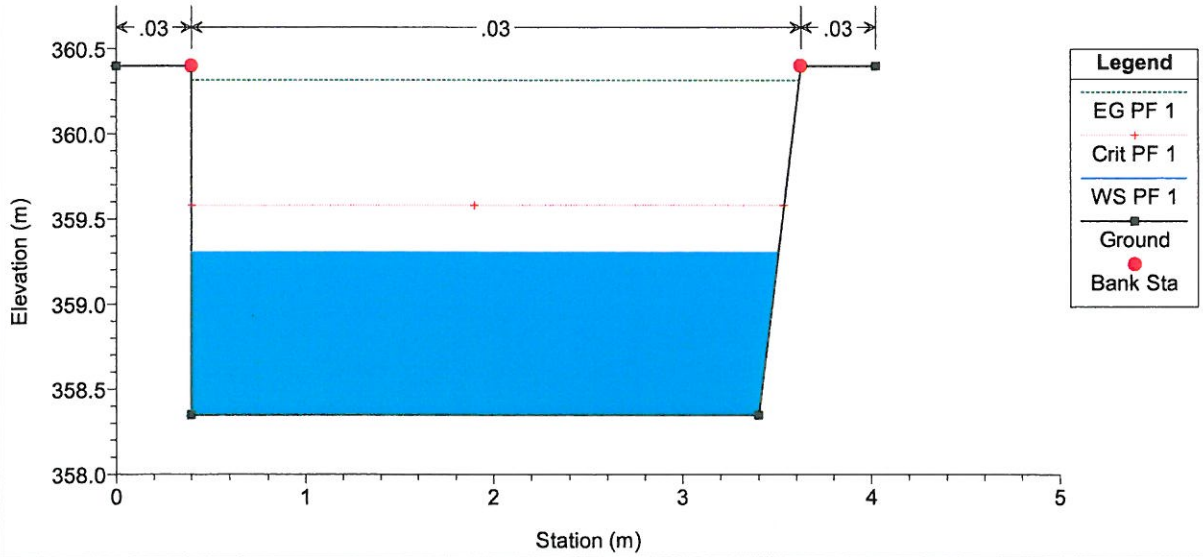
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.16



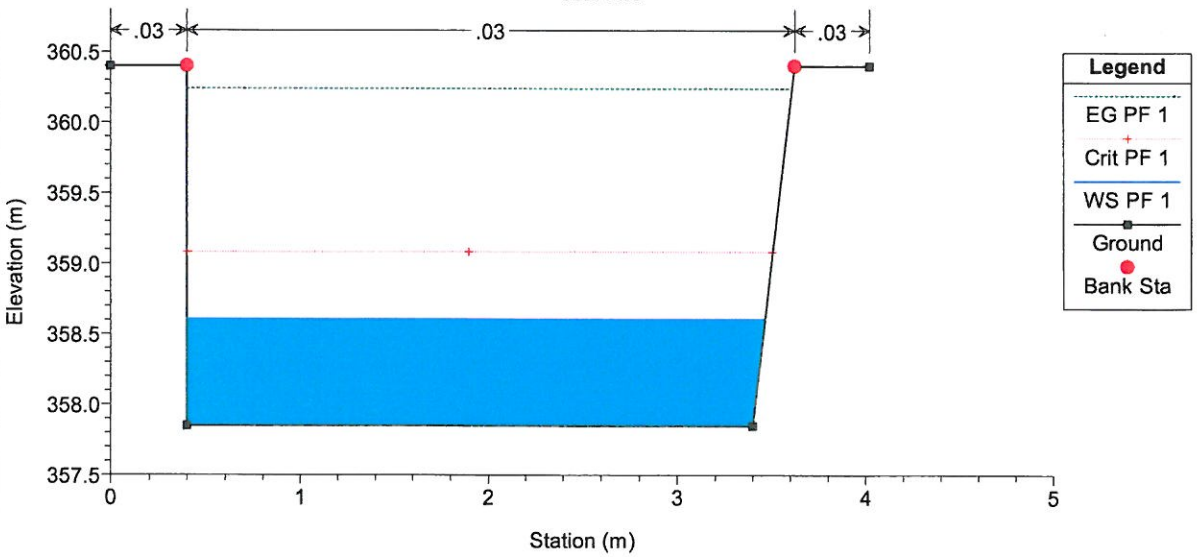
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.15



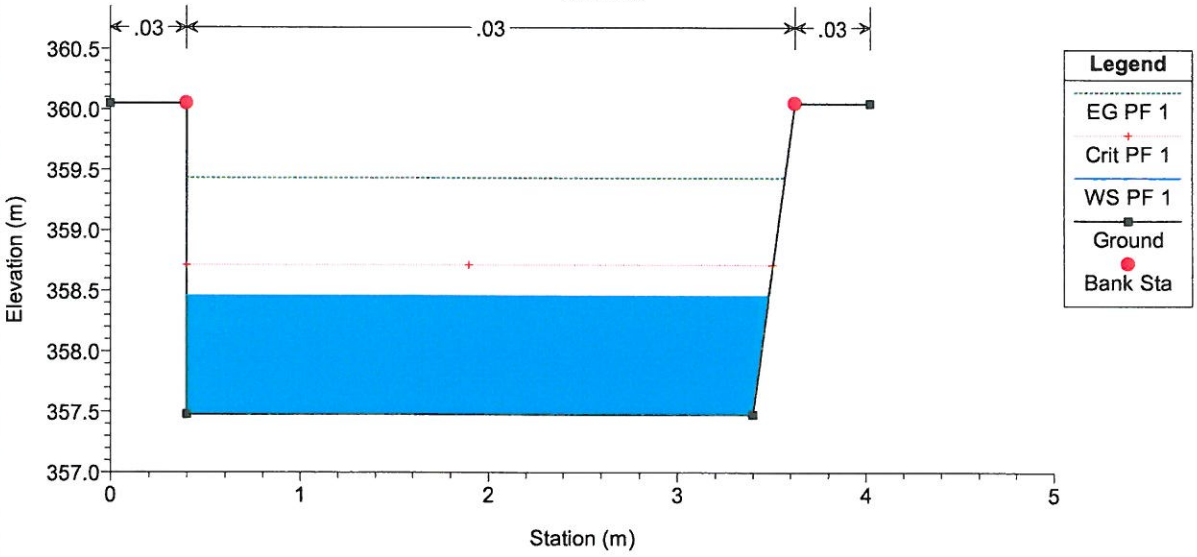
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

sez.14.9

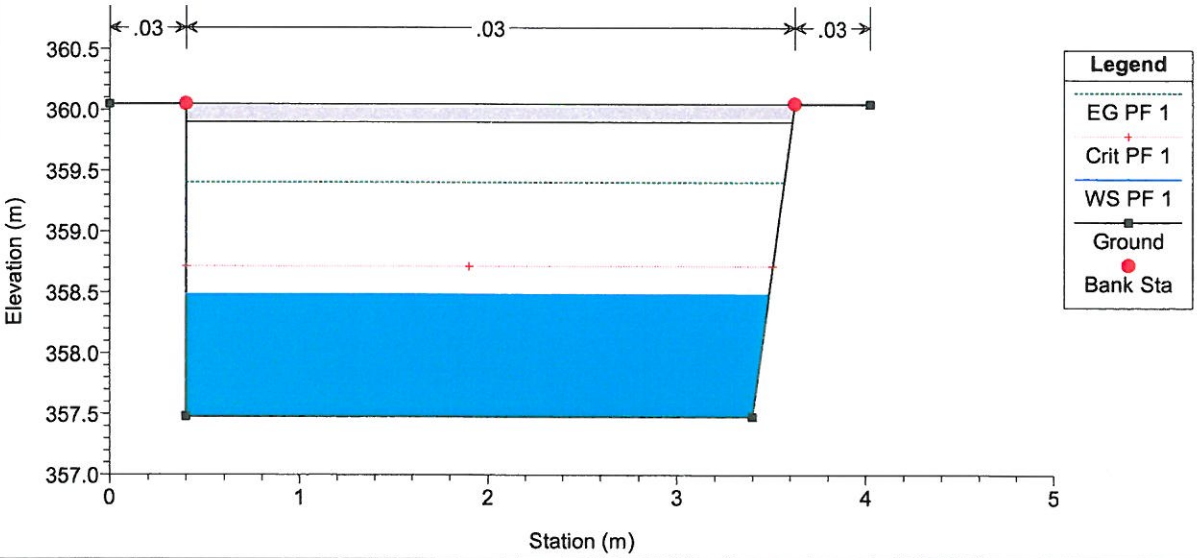


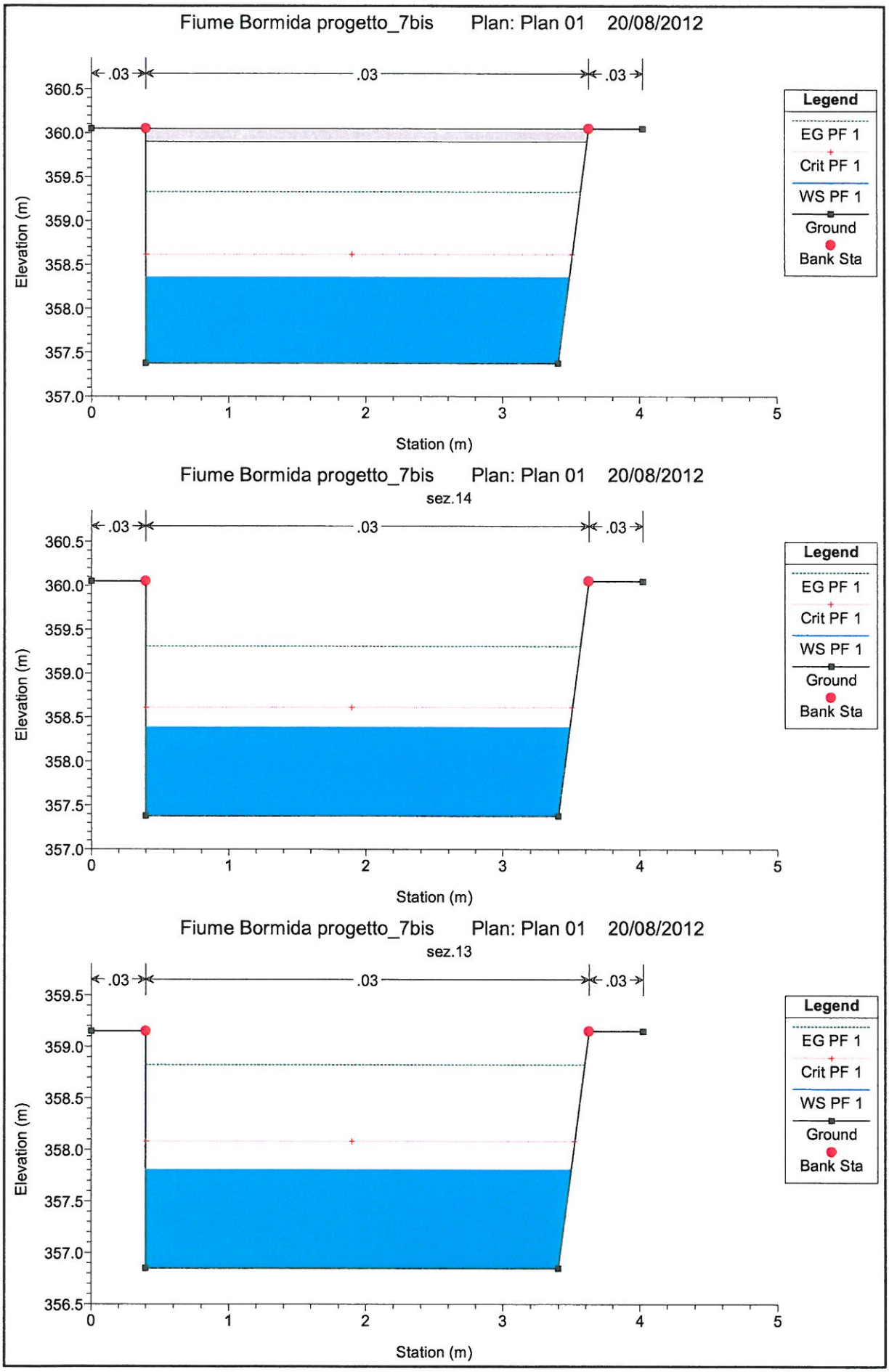
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

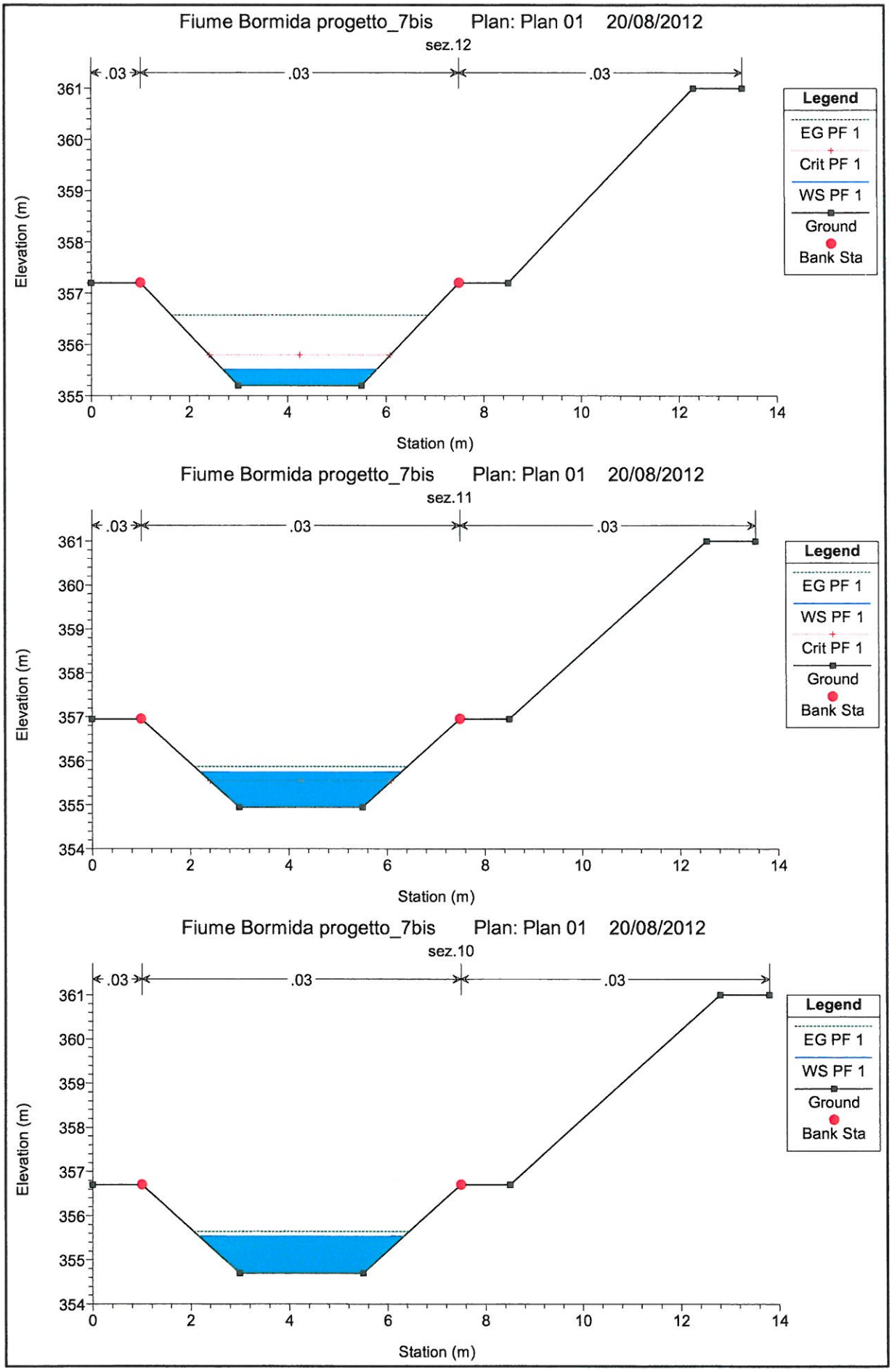
sez.14.5

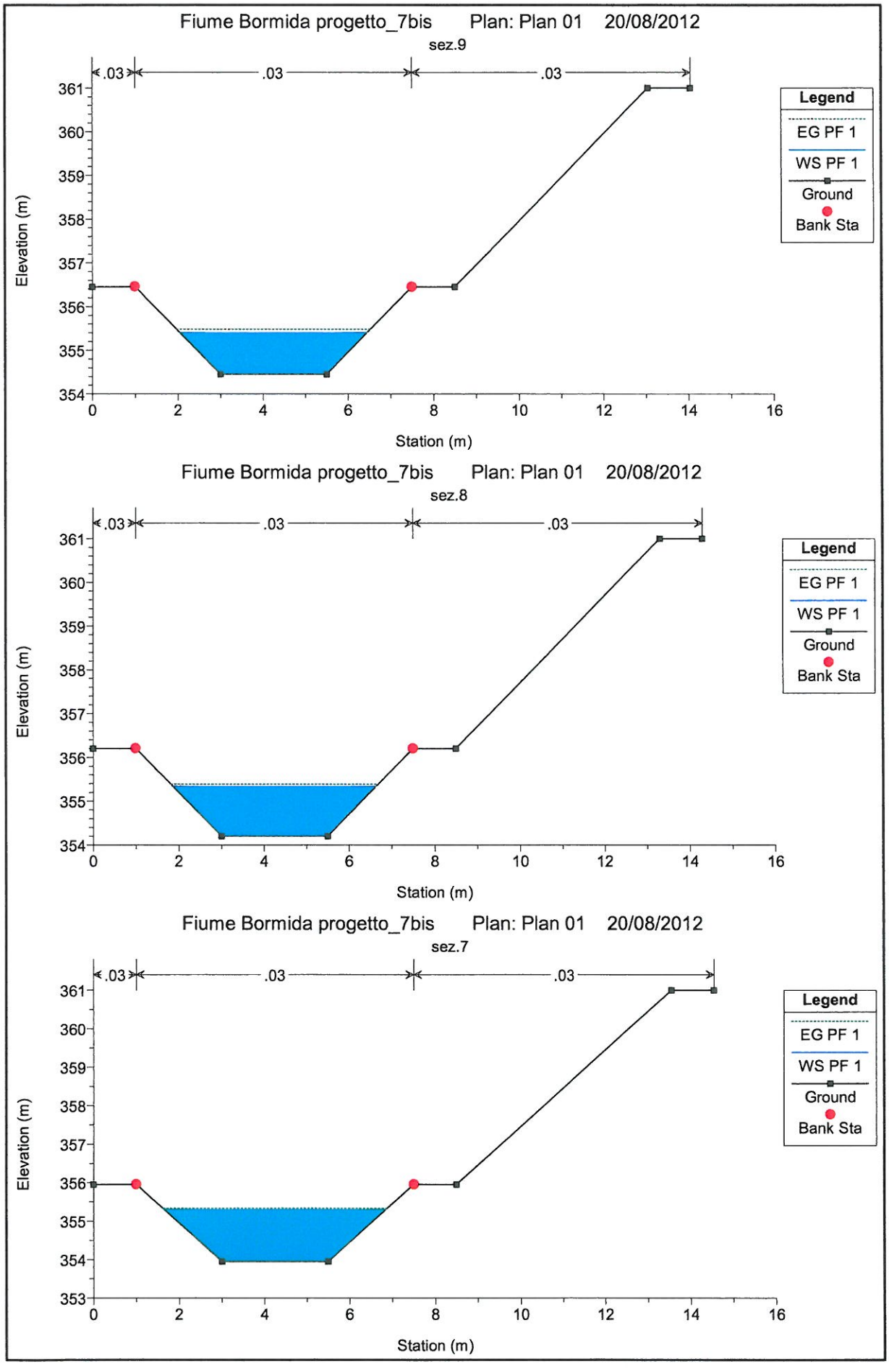


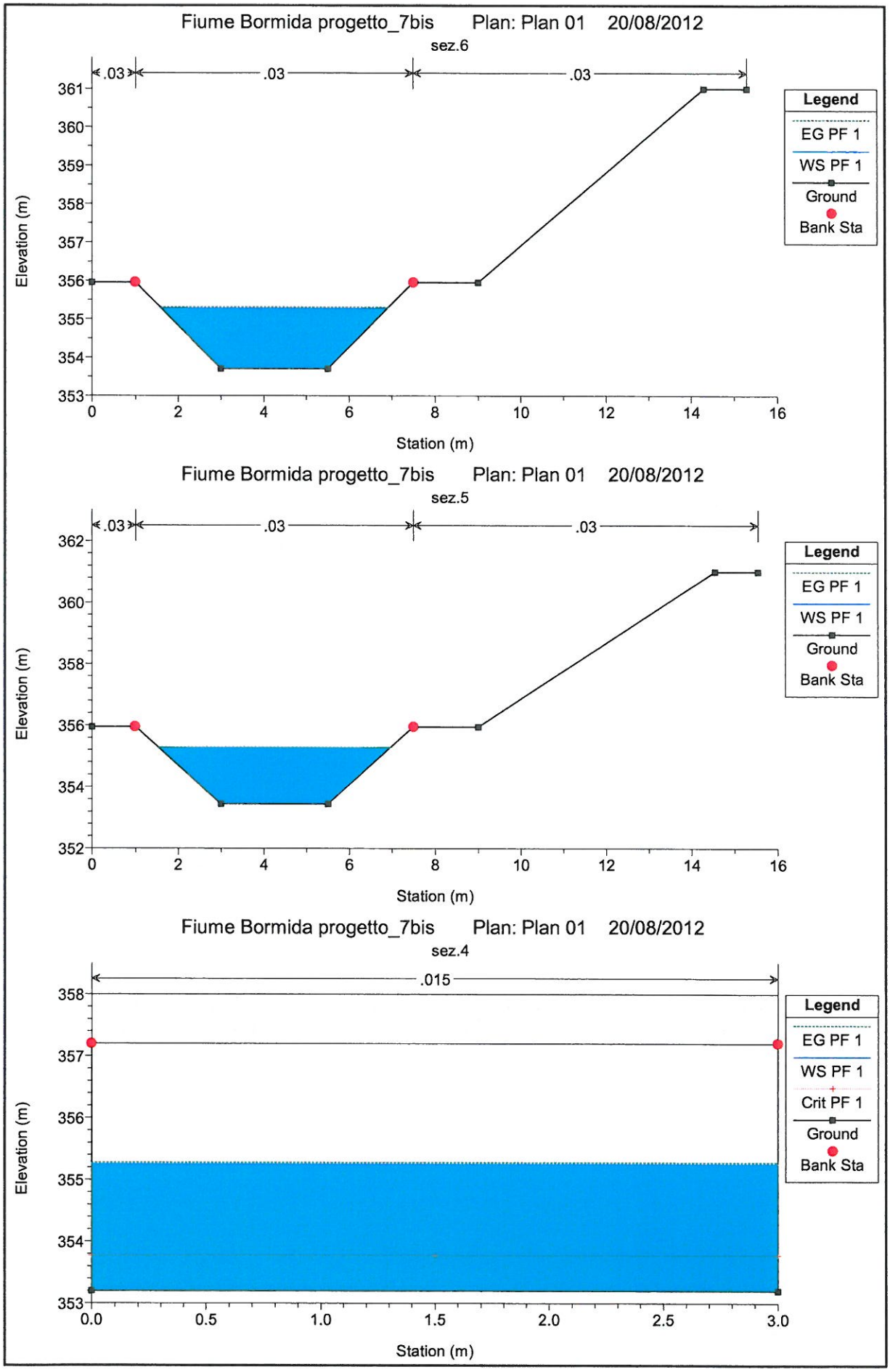
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012

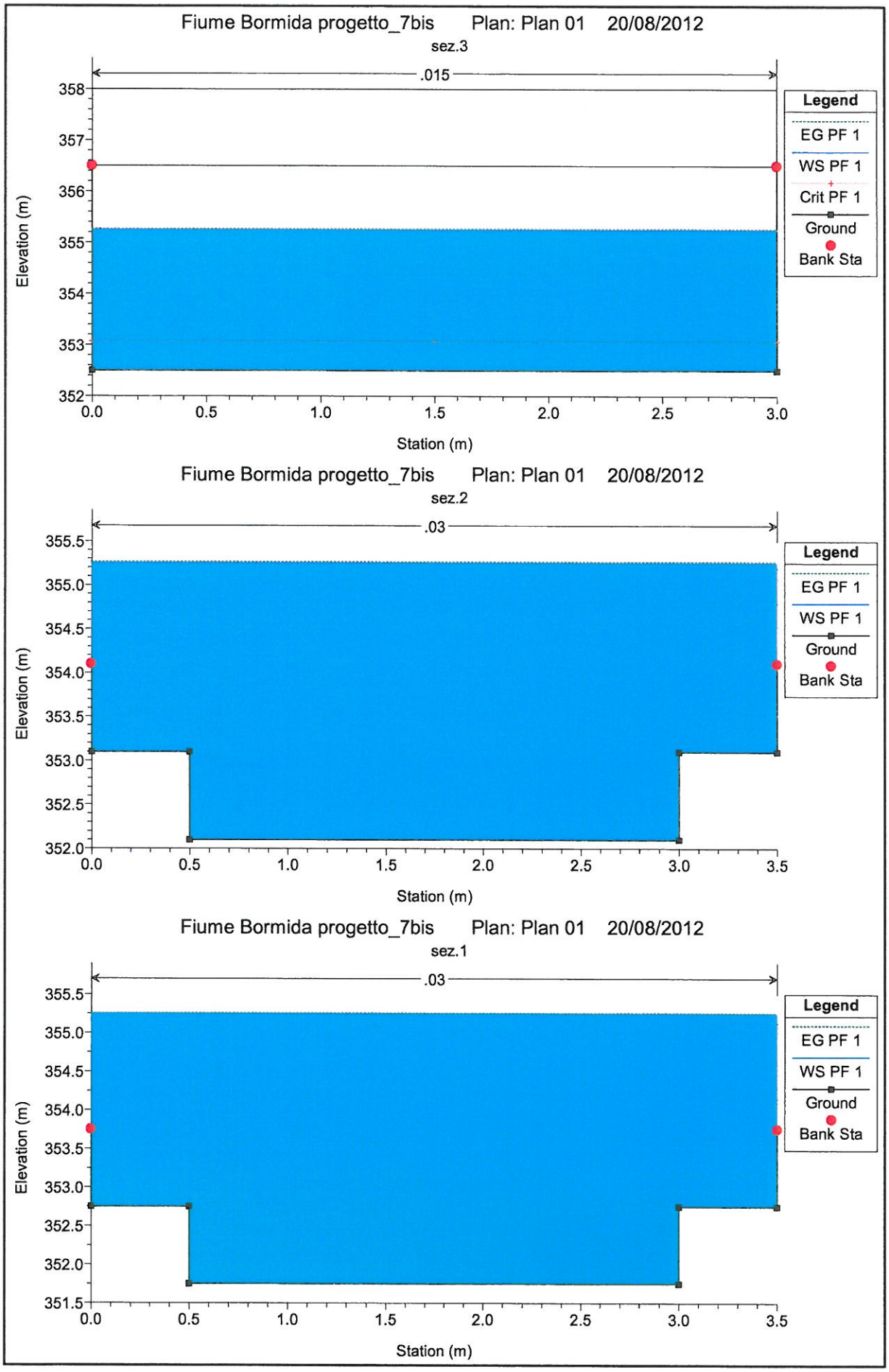


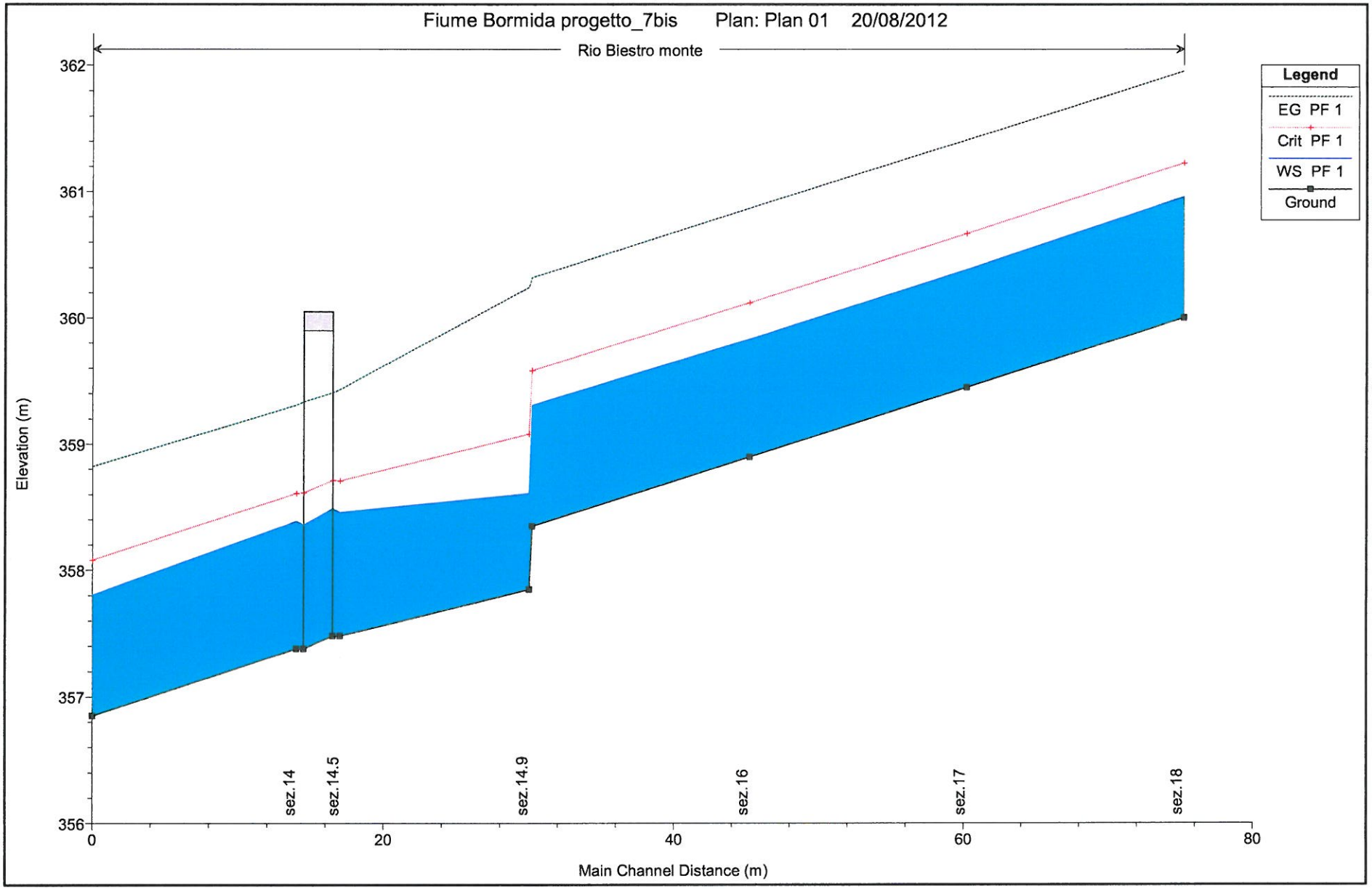

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.14
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.13


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.12
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.11
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.10
.03
.03
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

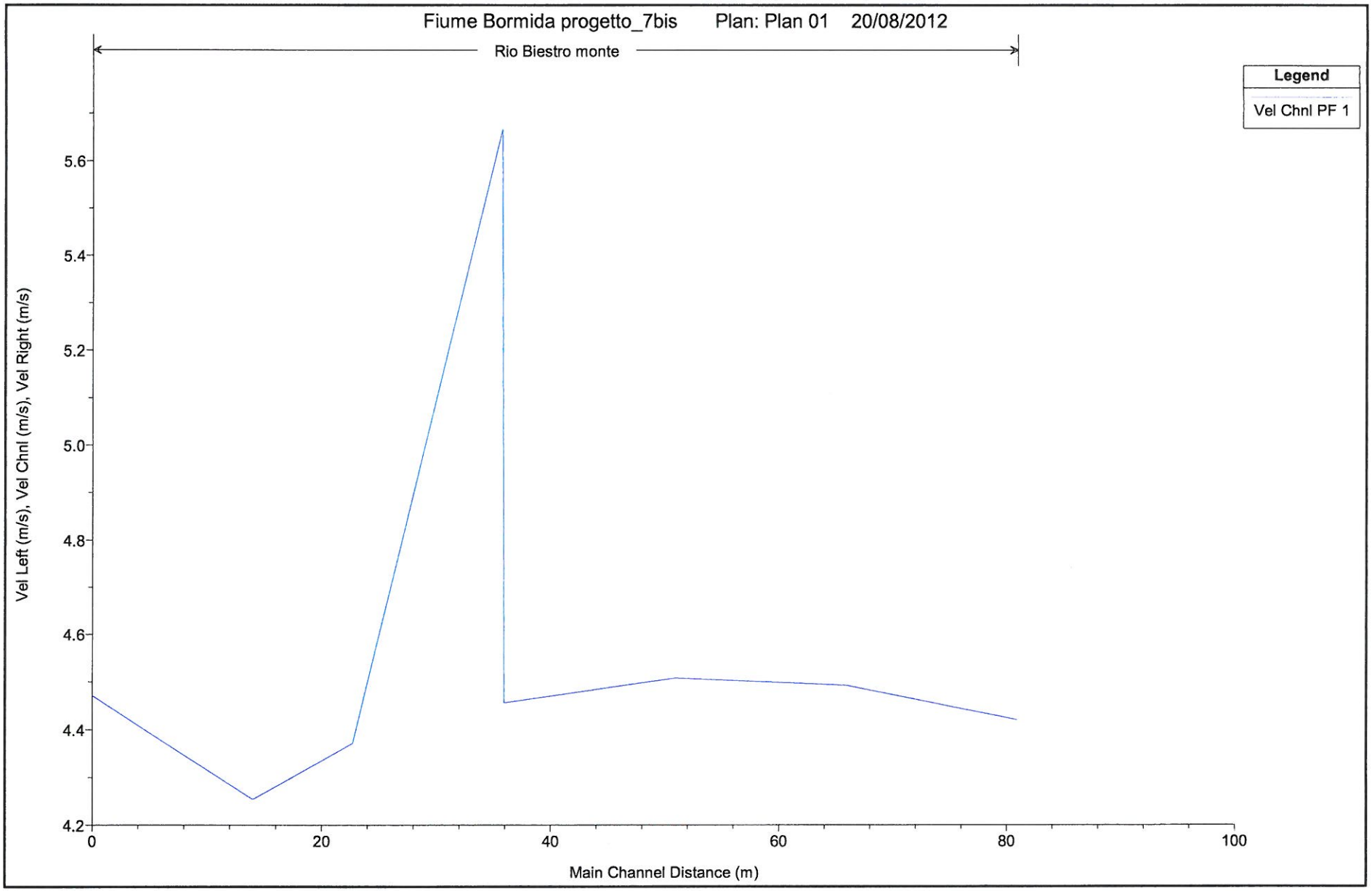

Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.9
.03
.03
.03
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.8
.03
.03
.03
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.7
.03
.03
.03
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.6
.03
.03
.03
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.5
.03
.03
.03
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.4
.015
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (m)
Station (m)


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.3
.015
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.2
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
sez.1
.03
Elevation (m)
Station (m)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
Rio Biestro monte
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Elevation (m)
362
361
360
359
358
357
356
sez.14
sez.14.5
sez.14.9
sez.16
sez.17
sez.18
0
20
40
60
80
Main Channel Distance (m)

All. 04


Fiume Bormida progetto_7bis Plan: Plan 01 20/08/2012
Rio Biestro monte
Legend
Vel Chnl PF 1
Vel Left (m/s), Vel Chnl (m/s), Vel Right (m/s)
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
0
20
40
60
80
100
Main Channel Distance (m)

All. 05

Plan: Plan 01 condotto scolmat unico RS: 2 Profile: PF 1

E.G. Elev (m)	358.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.19	Wt. n-Val.		0.015	
W.S. Elev (m)	358.40	Reach Len. (m)	163.00	163.00	163.00
Crit W.S. (m)	357.57	Flow Area (m2)		5.91	
E.G. Slope (m/m)	0.001063	Area (m2)		5.91	
Q Total (m3/s)	11.54	Flow (m3/s)		11.54	
Top Width (m)	3.00	Top Width (m)		3.00	
Vel Total (m/s)	1.95	Avg. Vel. (m/s)		1.95	
Max Chl Dpth (m)	1.97	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	354.0	Conv. (m3/s)		354.0	
Length Wtd. (m)	163.00	Wetted Per. (m)		6.94	
Min Ch El (m)	356.43	Shear (N/m2)		8.88	
Alpha	1.00	Stream Power (N/m s)	143.64	0.00	0.00
Frctn Loss (m)	0.10	Cum Volume (1000 m3)		1.20	
C & E Loss (m)	0.03	Cum SA (1000 m2)		0.49	

Plan: Plan 01 condotto scolmat unico RS: 1 Profile: PF 1

E.G. Elev (m)	358.46	Element	Left OB	Channel	Right OB
Vel Head (m)	0.09	Wt. n-Val.		0.015	
W.S. Elev (m)	358.38	Reach Len. (m)	0.00	0.00	0.00
Crit W.S. (m)	356.58	Flow Area (m2)		8.84	
E.G. Slope (m/m)	0.000386	Area (m2)		8.84	
Q Total (m3/s)	11.54	Flow (m3/s)		11.54	
Top Width (m)	3.00	Top Width (m)		3.00	
Vel Total (m/s)	1.31	Avg. Vel. (m/s)		1.31	
Max Chl Dpth (m)	2.95	Hydr. Depth (m)		2.95	
Conv. Total (m3/s)	587.1	Conv. (m3/s)		587.1	
Length Wtd. (m)	0.00	Wetted Per. (m)		8.89	
Min Ch El (m)	355.43	Shear (N/m2)		3.77	
Alpha	1.00	Stream Power (N/m s)	143.64	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			
C & E Loss (m)	0.09	Cum SA (1000 m2)			

Plan: Plan 01 Fiume Bormida monte RS: 54 Profile: PF 1

E.G. Elev (m)	368.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.39	Wt. n-Val.	0.040	0.040	
W.S. Elev (m)	368.45	Reach Len. (m)	27.00	27.00	27.00
Crit W.S. (m)	367.06	Flow Area (m2)	3.57	96.65	
E.G. Slope (m/m)	0.002907	Area (m2)	3.57	96.65	
Q Total (m3/s)	271.00	Flow (m3/s)	3.05	267.95	
Top Width (m)	35.75	Top Width (m)	7.02	28.73	
Vel Total (m/s)	2.70	Avg. Vel. (m/s)	0.85	2.77	
Max Chl Dpth (m)	4.42	Hydr. Depth (m)	0.51	3.36	
Conv. Total (m3/s)	5026.0	Conv. (m3/s)	56.5	4969.5	
Length Wtd. (m)	27.00	Wetted Per. (m)	7.09	32.77	
Min Ch El (m)	364.03	Shear (N/m2)	14.36	84.09	
Alpha	1.04	Stream Power (N/m s)	3192.97	1817.45	3192.97
Frctn Loss (m)	0.14	Cum Volume (1000 m3)	1.48	95.80	12.87
C & E Loss (m)	0.08	Cum SA (1000 m2)	4.63	34.33	13.52

Plan: Plan 01 Fiume Bormida monte RS: 53 Profile: PF 1

E.G. Elev (m)	368.62	Element	Left OB	Channel	Right OB
Vel Head (m)	1.18	Wt. n-Val.	0.040	0.040	
W.S. Elev (m)	367.44	Reach Len. (m)	30.00	30.00	30.00
Crit W.S. (m)	367.40	Flow Area (m2)	8.00	49.90	
E.G. Slope (m/m)	0.010605	Area (m2)	8.00	49.90	
Q Total (m3/s)	271.00	Flow (m3/s)	23.74	247.26	

All.06

Plan: Plan 01 Fiume Bormida monte RS: 53 Profile: PF 1 (Continued)

Top Width (m)	23.28	Top Width (m)	6.01	17.27	
Vel Total (m/s)	4.68	Avg. Vel. (m/s)	2.97	4.96	
Max Chl Dpth (m)	3.80	Hydr. Depth (m)	1.33	2.89	
Conv. Total (m3/s)	2631.5	Conv. (m3/s)	230.5	2401.0	
Length Wtd. (m)	30.00	Wetted Per. (m)	6.47	18.68	
Min Ch El (m)	363.64	Shear (N/m2)	128.60	277.72	
Alpha	1.06	Stream Power (N/m s)	1759.51	879.03	1759.51
Frctn Loss (m)	0.33	Cum Volume (1000 m3)	1.33	93.82	12.87
C & E Loss (m)	0.00	Cum SA (1000 m2)	4.45	33.71	13.52

Plan: Plan 01 Fiume Bormida monte RS: 52 Profile: PF 1

E.G. Elev (m)	368.29	Element	Left OB	Channel	Right OB
Vel Head (m)	1.21	Wt. n-Val.	0.040	0.040	
W.S. Elev (m)	367.07	Reach Len. (m)	18.70	21.40	23.00
Crit W.S. (m)	367.07	Flow Area (m2)	8.54	48.53	
E.G. Slope (m/m)	0.011113	Area (m2)	8.54	48.53	
Q Total (m3/s)	271.00	Flow (m3/s)	26.70	244.30	
Top Width (m)	22.98	Top Width (m)	6.07	16.91	
Vel Total (m/s)	4.75	Avg. Vel. (m/s)	3.13	5.03	
Max Chl Dpth (m)	3.91	Hydr. Depth (m)	1.41	2.87	
Conv. Total (m3/s)	2570.7	Conv. (m3/s)	253.3	2317.5	
Length Wtd. (m)	21.21	Wetted Per. (m)	6.62	18.38	
Min Ch El (m)	363.16	Shear (N/m2)	140.73	287.70	
Alpha	1.06	Stream Power (N/m s)	1606.30	749.77	1606.30
Frctn Loss (m)	0.21	Cum Volume (1000 m3)	1.08	92.35	12.87
C & E Loss (m)	0.07	Cum SA (1000 m2)	4.27	33.20	13.52

Plan: Plan 01 Fiume Bormida monte RS: 51 Profile: PF 1

E.G. Elev (m)	367.90	Element	Left OB	Channel	Right OB
Vel Head (m)	1.82	Wt. n-Val.	0.040	0.040	
W.S. Elev (m)	366.08	Reach Len. (m)	23.40	25.50	28.00
Crit W.S. (m)	366.55	Flow Area (m2)	4.19	42.54	
E.G. Slope (m/m)	0.021742	Area (m2)	4.19	42.54	
Q Total (m3/s)	271.00	Flow (m3/s)	12.27	258.73	
Top Width (m)	23.87	Top Width (m)	5.74	18.13	
Vel Total (m/s)	5.80	Avg. Vel. (m/s)	2.93	6.08	
Max Chl Dpth (m)	3.32	Hydr. Depth (m)	0.73	2.35	
Conv. Total (m3/s)	1837.9	Conv. (m3/s)	83.2	1754.7	
Length Wtd. (m)	25.34	Wetted Per. (m)	5.92	20.08	
Min Ch El (m)	362.76	Shear (N/m2)	150.92	451.82	
Alpha	1.06	Stream Power (N/m s)	1886.87	1018.84	1886.87
Frctn Loss (m)	0.32	Cum Volume (1000 m3)	0.96	91.37	12.87
C & E Loss (m)	0.06	Cum SA (1000 m2)	4.16	32.82	13.52

Plan: Plan 01 Fiume Bormida monte RS: 50 Profile: PF 1

E.G. Elev (m)	367.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.74	Wt. n-Val.	0.040	0.040	
W.S. Elev (m)	366.73	Reach Len. (m)	23.50	25.80	27.60
Crit W.S. (m)	366.17	Flow Area (m2)	8.43	64.41	
E.G. Slope (m/m)	0.006650	Area (m2)	8.43	64.41	
Q Total (m3/s)	271.00	Flow (m3/s)	19.79	251.21	
Top Width (m)	26.55	Top Width (m)	6.40	20.15	
Vel Total (m/s)	3.72	Avg. Vel. (m/s)	2.35	3.90	
Max Chl Dpth (m)	4.67	Hydr. Depth (m)	1.32	3.20	
Conv. Total (m3/s)	3323.3	Conv. (m3/s)	242.7	3080.6	
Length Wtd. (m)	25.72	Wetted Per. (m)	6.82	24.34	
Min Ch El (m)	362.06	Shear (N/m2)	80.61	172.55	

Plan: Plan 01 Fiume Bormida monte RS: 50 Profile: PF 1 (Continued)

Alpha	1.05	Stream Power (N/m s)	2189.46	1224.72	2189.46
Frctn Loss (m)	0.11	Cum Volume (1000 m3)	0.81	90.01	12.87
C & E Loss (m)	0.10	Cum SA (1000 m2)	4.02	32.34	13.52

Plan: Plan 01 Fiume Bormida monte RS: 49 Profile: PF 1

E.G. Elev (m)	367.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.41	Wt. n-Val.		0.040	
W.S. Elev (m)	366.85	Reach Len. (m)	23.60	24.70	27.00
Crit W.S. (m)	365.58	Flow Area (m2)		95.39	
E.G. Slope (m/m)	0.003073	Area (m2)		95.39	
Q Total (m3/s)	271.00	Flow (m3/s)		271.00	
Top Width (m)	30.02	Top Width (m)		30.02	
Vel Total (m/s)	2.84	Avg. Vel. (m/s)		2.84	
Max Chl Dpth (m)	4.83	Hydr. Depth (m)		3.18	
Conv. Total (m3/s)	4888.7	Conv. (m3/s)		4888.7	
Length Wtd. (m)	24.76	Wetted Per. (m)		32.50	
Min Ch El (m)	362.02	Shear (N/m2)		88.45	
Alpha	1.00	Stream Power (N/m s)	2247.86	217.85	2247.86
Frctn Loss (m)	0.09	Cum Volume (1000 m3)	0.71	87.95	12.87
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.95	31.69	13.52

Plan: Plan 01 Fiume Bormida monte RS: 48 Profile: PF 1

E.G. Elev (m)	367.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.53	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	366.63	Reach Len. (m)	23.30	23.00	23.20
Crit W.S. (m)	365.78	Flow Area (m2)		78.09	8.09
E.G. Slope (m/m)	0.004275	Area (m2)		78.09	8.09
Q Total (m3/s)	271.00	Flow (m3/s)		256.28	14.72
Top Width (m)	30.82	Top Width (m)		24.33	6.50
Vel Total (m/s)	3.14	Avg. Vel. (m/s)		3.28	1.82
Max Chl Dpth (m)	3.79	Hydr. Depth (m)		3.21	1.25
Conv. Total (m3/s)	4144.7	Conv. (m3/s)		3919.6	225.1
Length Wtd. (m)	23.01	Wetted Per. (m)		27.45	6.89
Min Ch El (m)	362.84	Shear (N/m2)		119.26	49.23
Alpha	1.05	Stream Power (N/m s)	2895.65	141.23	2302.92
Frctn Loss (m)	0.11	Cum Volume (1000 m3)	0.71	85.80	12.76
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.95	31.02	13.43

Plan: Plan 01 Fiume Bormida monte RS: 47 Profile: PF 1

E.G. Elev (m)	367.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.60	Wt. n-Val.		0.040	
W.S. Elev (m)	366.45	Reach Len. (m)	26.30	25.50	24.80
Crit W.S. (m)	365.66	Flow Area (m2)		78.99	
E.G. Slope (m/m)	0.005345	Area (m2)		78.99	
Q Total (m3/s)	271.00	Flow (m3/s)		271.00	
Top Width (m)	28.45	Top Width (m)		28.45	
Vel Total (m/s)	3.43	Avg. Vel. (m/s)		3.43	
Max Chl Dpth (m)	4.19	Hydr. Depth (m)		2.78	
Conv. Total (m3/s)	3706.9	Conv. (m3/s)		3706.9	
Length Wtd. (m)	25.49	Wetted Per. (m)		30.71	
Min Ch El (m)	362.26	Shear (N/m2)		134.81	
Alpha	1.00	Stream Power (N/m s)	3055.56	119.69	1872.51
Frctn Loss (m)	0.15	Cum Volume (1000 m3)	0.71	84.00	12.67
C & E Loss (m)	0.02	Cum SA (1000 m2)	3.95	30.41	13.35

Plan: Plan 01 Fiume Bormida monte RS: 46 Profile: PF 1

E.G. Elev (m)	366.88	Element	Left OB	Channel	Right OB
Vel Head (m)	0.75	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	366.12	Reach Len. (m)	29.60	28.50	27.80
Crit W.S. (m)	365.68	Flow Area (m2)		67.54	4.35
E.G. Slope (m/m)	0.006721	Area (m2)		67.54	4.35
Q Total (m3/s)	271.00	Flow (m3/s)		262.80	8.20
Top Width (m)	29.28	Top Width (m)		24.72	4.56
Vel Total (m/s)	3.77	Avg. Vel. (m/s)		3.89	1.88
Max Chl Dpth (m)	3.97	Hydr. Depth (m)		2.73	0.95
Conv. Total (m3/s)	3305.6	Conv. (m3/s)		3205.6	100.0
Length Wtd. (m)	28.43	Wetted Per. (m)		25.82	4.94
Min Ch El (m)	362.15	Shear (N/m2)		172.40	58.05
Alpha	1.04	Stream Power (N/m s)	4412.42	1338.18	3075.19
Frctn Loss (m)	0.17	Cum Volume (1000 m3)	0.71	82.13	12.62
C & E Loss (m)	0.05	Cum SA (1000 m2)	3.95	29.73	13.30

Plan: Plan 01 Fiume Bormida monte RS: 45 Profile: PF 1

E.G. Elev (m)	366.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.58	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	366.08	Reach Len. (m)	42.00	40.00	38.00
Crit W.S. (m)	365.49	Flow Area (m2)		63.46	19.22
E.G. Slope (m/m)	0.005263	Area (m2)		63.46	19.22
Q Total (m3/s)	271.00	Flow (m3/s)		224.80	46.20
Top Width (m)	34.58	Top Width (m)		22.32	12.27
Vel Total (m/s)	3.28	Avg. Vel. (m/s)		3.54	2.40
Max Chl Dpth (m)	3.64	Hydr. Depth (m)		2.84	1.57
Conv. Total (m3/s)	3735.4	Conv. (m3/s)		3098.5	636.9
Length Wtd. (m)	39.47	Wetted Per. (m)		23.25	12.59
Min Ch El (m)	362.44	Shear (N/m2)		140.88	78.77
Alpha	1.06	Stream Power (N/m s)	3222.19	390.21	1994.11
Frctn Loss (m)	0.23	Cum Volume (1000 m3)	0.71	80.26	12.29
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.95	29.06	13.06

Plan: Plan 01 Fiume Bormida monte RS: 44 Profile: PF 1

E.G. Elev (m)	366.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.69	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	365.72	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	365.36	Flow Area (m2)		42.32	35.05
E.G. Slope (m/m)	0.006660	Area (m2)		42.32	35.05
Q Total (m3/s)	271.00	Flow (m3/s)		174.38	96.62
Top Width (m)	34.31	Top Width (m)		12.38	21.93
Vel Total (m/s)	3.50	Avg. Vel. (m/s)		4.12	2.76
Max Chl Dpth (m)	5.26	Hydr. Depth (m)		3.42	1.60
Conv. Total (m3/s)	3320.8	Conv. (m3/s)		2136.8	1184.0
Length Wtd. (m)	40.00	Wetted Per. (m)		14.75	22.32
Min Ch El (m)	360.46	Shear (N/m2)		187.44	102.56
Alpha	1.11	Stream Power (N/m s)	5454.24	446.70	1279.78
Frctn Loss (m)	0.20	Cum Volume (1000 m3)	0.71	78.15	11.26
C & E Loss (m)	0.07	Cum SA (1000 m2)	3.95	28.37	12.41

Plan: Plan 01 Fiume Bormida monte RS: 43 Profile: PF 1

E.G. Elev (m)	366.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.45	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	365.69	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	364.93	Flow Area (m2)		84.42	14.81
E.G. Slope (m/m)	0.004002	Area (m2)		84.42	14.81
Q Total (m3/s)	271.00	Flow (m3/s)		256.29	14.71

Plan: Plan 01 Fiume Bormida monte RS: 43 Profile: PF 1 (Continued)

Top Width (m)	59.97	Top Width (m)		30.23	29.74
Vel Total (m/s)	2.73	Avg. Vel. (m/s)		3.04	0.99
Max Chl Dpth (m)	3.69	Hydr. Depth (m)		2.79	0.50
Conv. Total (m3/s)	4283.7	Conv. (m3/s)		4051.2	232.5
Length Wtd. (m)	40.00	Wetted Per. (m)		31.74	29.76
Min Ch El (m)	362.00	Shear (N/m2)		104.38	19.53
Alpha	1.18	Stream Power (N/m s)	5280.45	304.50	2024.28
Frctn Loss (m)	0.15	Cum Volume (1000 m3)	0.71	75.61	10.26
C & E Loss (m)	0.00	Cum SA (1000 m2)	3.95	27.52	11.38

Plan: Plan 01 Fiume Bormida monte RS: 42 Profile: PF 1

E.G. Elev (m)	365.98	Element	Left OB	Channel	Right OB
Vel Head (m)	0.47	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	365.50	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	364.50	Flow Area (m2)		86.88	6.98
E.G. Slope (m/m)	0.003721	Area (m2)		86.88	6.98
Q Total (m3/s)	271.00	Flow (m3/s)		266.90	4.10
Top Width (m)	57.70	Top Width (m)		28.55	29.15
Vel Total (m/s)	2.89	Avg. Vel. (m/s)		3.07	0.59
Max Chl Dpth (m)	3.94	Hydr. Depth (m)		3.04	0.24
Conv. Total (m3/s)	4442.5	Conv. (m3/s)		4375.3	67.2
Length Wtd. (m)	40.00	Wetted Per. (m)		30.39	29.21
Min Ch El (m)	361.56	Shear (N/m2)		104.33	8.72
Alpha	1.12	Stream Power (N/m s)	5955.53	1559.87	3161.86
Frctn Loss (m)	0.09	Cum Volume (1000 m3)	0.71	72.19	9.82
C & E Loss (m)	0.09	Cum SA (1000 m2)	3.95	26.34	10.20

Plan: Plan 01 Fiume Bormida monte RS: 41 Profile: PF 1

E.G. Elev (m)	365.80	Element	Left OB	Channel	Right OB
Vel Head (m)	0.18	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	365.62	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	364.06	Flow Area (m2)		107.92	50.12
E.G. Slope (m/m)	0.001390	Area (m2)		107.92	50.12
Q Total (m3/s)	271.00	Flow (m3/s)		216.78	54.22
Top Width (m)	71.79	Top Width (m)		32.75	39.04
Vel Total (m/s)	1.71	Avg. Vel. (m/s)		2.01	1.08
Max Chl Dpth (m)	5.15	Hydr. Depth (m)		3.30	1.28
Conv. Total (m3/s)	7268.7	Conv. (m3/s)		5814.5	1454.2
Length Wtd. (m)	40.00	Wetted Per. (m)		34.11	40.08
Min Ch El (m)	360.47	Shear (N/m2)		43.13	17.05
Alpha	1.18	Stream Power (N/m s)	6651.19	2062.10	3858.00
Frctn Loss (m)	0.06	Cum Volume (1000 m3)	0.71	68.29	8.68
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.95	25.11	8.84

Plan: Plan 01 Fiume Bormida monte RS: 40 Profile: PF 1

E.G. Elev (m)	365.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.25	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	365.48	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	363.81	Flow Area (m2)		89.65	53.27
E.G. Slope (m/m)	0.001722	Area (m2)		89.65	53.27
Q Total (m3/s)	279.68	Flow (m3/s)		217.57	62.11
Top Width (m)	66.62	Top Width (m)		22.79	43.82
Vel Total (m/s)	1.96	Avg. Vel. (m/s)		2.43	1.17
Max Chl Dpth (m)	5.35	Hydr. Depth (m)		3.93	1.22
Conv. Total (m3/s)	6740.5	Conv. (m3/s)		5243.7	1496.8
Length Wtd. (m)	40.00	Wetted Per. (m)		25.05	44.71
Min Ch El (m)	360.13	Shear (N/m2)		60.42	20.12

Plan: Plan 01 Fiume Bormida monte RS: 40 Profile: PF 1 (Continued)

Alpha	1.28	Stream Power (N/m s)	3776.13	533.37	2263.18
Frctn Loss (m)	0.15	Cum Volume (1000 m3)	0.71	64.34	6.61
C & E Loss (m)	0.11	Cum SA (1000 m2)	3.95	24.00	7.18

Plan: Plan 01 Fiume Bormida monte RS: 39 Profile: PF 1

E.G. Elev (m)	365.47	Element	Left OB	Channel	Right OB
Vel Head (m)	1.33	Wt. n-Val.		0.040	
W.S. Elev (m)	364.14	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	364.14	Flow Area (m2)		54.65	
E.G. Slope (m/m)	0.013178	Area (m2)		54.65	
Q Total (m3/s)	279.68	Flow (m3/s)		279.68	
Top Width (m)	20.43	Top Width (m)		20.43	
Vel Total (m/s)	5.12	Avg. Vel. (m/s)		5.12	
Max Chl Dpth (m)	3.78	Hydr. Depth (m)		2.67	
Conv. Total (m3/s)	2436.3	Conv. (m3/s)		2436.3	
Length Wtd. (m)	40.00	Wetted Per. (m)		22.95	
Min Ch El (m)	360.36	Shear (N/m2)		307.71	
Alpha	1.00	Stream Power (N/m s)	3464.45	385.90	1477.03
Frctn Loss (m)	0.35	Cum Volume (1000 m3)	0.71	61.45	5.55
C & E Loss (m)	0.19	Cum SA (1000 m2)	3.95	23.14	6.31

Plan: Plan 01 Fiume Bormida monte RS: 38 Profile: PF 1

E.G. Elev (m)	364.92	Element	Left OB	Channel	Right OB
Vel Head (m)	0.69	Wt. n-Val.		0.040	0.040
W.S. Elev (m)	364.23	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	363.83	Flow Area (m2)		61.58	18.36
E.G. Slope (m/m)	0.006202	Area (m2)		61.58	18.36
Q Total (m3/s)	279.68	Flow (m3/s)		238.02	41.66
Top Width (m)	35.76	Top Width (m)		21.11	14.65
Vel Total (m/s)	3.50	Avg. Vel. (m/s)		3.87	2.27
Max Chl Dpth (m)	3.84	Hydr. Depth (m)		2.92	1.25
Conv. Total (m3/s)	3551.4	Conv. (m3/s)		3022.4	529.0
Length Wtd. (m)	40.00	Wetted Per. (m)		22.38	14.84
Min Ch El (m)	360.39	Shear (N/m2)		167.31	75.25
Alpha	1.10	Stream Power (N/m s)	4084.46	506.06	1537.36
Frctn Loss (m)	0.25	Cum Volume (1000 m3)	0.71	59.13	5.18
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.95	22.31	6.01

Plan: Plan 01 Fiume Bormida monte RS: 37 Profile: PF 1

E.G. Elev (m)	364.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.64	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	364.01	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	363.51	Flow Area (m2)	1.87	78.26	0.01
E.G. Slope (m/m)	0.006519	Area (m2)	1.87	78.26	0.01
Q Total (m3/s)	279.68	Flow (m3/s)	1.58	278.10	0.00
Top Width (m)	38.83	Top Width (m)	6.86	31.73	0.24
Vel Total (m/s)	3.49	Avg. Vel. (m/s)	0.85	3.55	0.15
Max Chl Dpth (m)	3.39	Hydr. Depth (m)	0.27	2.47	0.02
Conv. Total (m3/s)	3464.0	Conv. (m3/s)	19.6	3444.5	0.0
Length Wtd. (m)	40.00	Wetted Per. (m)	6.88	33.50	0.25
Min Ch El (m)	360.62	Shear (N/m2)	17.34	149.34	1.29
Alpha	1.03	Stream Power (N/m s)	4849.55	76.13	2105.66
Frctn Loss (m)	0.30	Cum Volume (1000 m3)	0.68	56.33	4.81
C & E Loss (m)	0.01	Cum SA (1000 m2)	3.81	21.25	5.72

Plan: Plan 01 Fiume Bormida monte RS: 36 Profile: PF 1

E.G. Elev (m)	364.34	Element	Left OB	Channel	Right OB
Vel Head (m)	0.71	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	363.63	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	363.43	Flow Area (m2)	1.91	65.41	10.99
E.G. Slope (m/m)	0.009017	Area (m2)	1.91	65.41	10.99
Q Total (m3/s)	279.68	Flow (m3/s)	1.64	252.28	25.77
Top Width (m)	46.05	Top Width (m)	8.79	26.43	10.82
Vel Total (m/s)	3.57	Avg. Vel. (m/s)	0.86	3.86	2.34
Max Chl Dpth (m)	2.95	Hydr. Depth (m)	0.22	2.47	1.02
Conv. Total (m3/s)	2945.3	Conv. (m3/s)	17.2	2656.8	271.4
Length Wtd. (m)	40.00	Wetted Per. (m)	8.80	31.58	11.20
Min Ch El (m)	360.68	Shear (N/m2)	19.18	183.12	86.79
Alpha	1.09	Stream Power (N/m s)	6492.24	324.13	1589.55
Frctn Loss (m)	0.19	Cum Volume (1000 m3)	0.60	53.46	4.59
C & E Loss (m)	0.13	Cum SA (1000 m2)	3.50	20.09	5.49

Plan: Plan 01 Fiume Bormida monte RS: 35 Profile: PF 1

E.G. Elev (m)	364.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.27	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	363.74	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	362.86	Flow Area (m2)	1.50	99.75	41.73
E.G. Slope (m/m)	0.003039	Area (m2)	1.50	99.75	41.73
Q Total (m3/s)	279.68	Flow (m3/s)	0.50	244.95	34.23
Top Width (m)	141.04	Top Width (m)	12.59	37.86	90.59
Vel Total (m/s)	1.96	Avg. Vel. (m/s)	0.33	2.46	0.82
Max Chl Dpth (m)	3.39	Hydr. Depth (m)	0.12	2.63	0.46
Conv. Total (m3/s)	5073.5	Conv. (m3/s)	9.1	4443.5	620.9
Length Wtd. (m)	40.00	Wetted Per. (m)	12.59	41.94	90.90
Min Ch El (m)	360.35	Shear (N/m2)	3.56	70.88	13.68
Alpha	1.40	Stream Power (N/m s)	7926.66	340.42	2153.06
Frctn Loss (m)	0.05	Cum Volume (1000 m3)	0.53	50.15	3.54
C & E Loss (m)	0.05	Cum SA (1000 m2)	3.07	18.80	3.47

Plan: Plan 01 Fiume Bormida monte RS: 34 Profile: PF 1

E.G. Elev (m)	363.91	Element	Left OB	Channel	Right OB
Vel Head (m)	0.12	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	363.80	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	361.71	Flow Area (m2)	5.26	136.71	55.98
E.G. Slope (m/m)	0.000710	Area (m2)	5.26	136.71	55.98
Q Total (m3/s)	279.68	Flow (m3/s)	1.05	222.05	56.58
Top Width (m)	95.57	Top Width (m)	31.96	34.78	28.83
Vel Total (m/s)	1.41	Avg. Vel. (m/s)	0.20	1.62	1.01
Max Chl Dpth (m)	4.88	Hydr. Depth (m)	0.16	3.93	1.94
Conv. Total (m3/s)	10493.6	Conv. (m3/s)	39.3	8331.4	2122.9
Length Wtd. (m)	40.00	Wetted Per. (m)	32.14	35.92	29.97
Min Ch El (m)	358.92	Shear (N/m2)	1.14	26.51	13.01
Alpha	1.15	Stream Power (N/m s)	5456.17	2373.30	4158.19
Frctn Loss (m)	0.05	Cum Volume (1000 m3)	0.40	45.43	1.59
C & E Loss (m)	0.04	Cum SA (1000 m2)	2.18	17.35	1.08

Plan: Plan 01 Fiume Bormida monte RS: 33 Profile: PF 1

E.G. Elev (m)	363.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.49	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	363.34	Reach Len. (m)	41.00	41.00	41.00
Crit W.S. (m)	362.06	Flow Area (m2)	3.07	88.41	2.57
E.G. Slope (m/m)	0.003369	Area (m2)	3.07	88.41	2.57
Q Total (m3/s)	279.68	Flow (m3/s)	1.35	275.79	2.53

Plan: Plan 01 Fiume Bormida monte RS: 33 Profile: PF 1 (Continued)

Top Width (m)	48.15	Top Width (m)	18.35	25.91	3.89
Vel Total (m/s)	2.97	Avg. Vel. (m/s)	0.44	3.12	0.99
Max Chl Dpth (m)	5.11	Hydr. Depth (m)	0.17	3.41	0.66
Conv. Total (m3/s)	4818.5	Conv. (m3/s)	23.3	4751.5	43.7
Length Wtd. (m)	41.00	Wetted Per. (m)	18.35	28.05	4.58
Min Ch El (m)	358.23	Shear (N/m2)	5.53	104.14	18.54
Alpha	1.09	Stream Power (N/m s)	4049.04	2622.28	3862.78
Frctn Loss (m)	0.13	Cum Volume (1000 m3)	0.23	40.92	0.41
C & E Loss (m)	0.02	Cum SA (1000 m2)	1.17	16.14	0.42

Plan: Plan 01 Fiume Bormida monte RS: 32 Profile: PF 1

E.G. Elev (m)	363.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.44	Wt. n-Val.	0.040	0.040	0.040
W.S. Elev (m)	363.25	Reach Len. (m)	41.00	38.00	34.50
Crit W.S. (m)	361.96	Flow Area (m2)	4.12	103.86	6.38
E.G. Slope (m/m)	0.002913	Area (m2)	4.12	103.86	6.38
Q Total (m3/s)	317.85	Flow (m3/s)	1.98	307.79	8.08
Top Width (m)	55.03	Top Width (m)	19.39	29.93	5.71
Vel Total (m/s)	2.78	Avg. Vel. (m/s)	0.48	2.96	1.27
Max Chl Dpth (m)	4.71	Hydr. Depth (m)	0.21	3.47	1.12
Conv. Total (m3/s)	5889.1	Conv. (m3/s)	36.7	5702.7	149.7
Length Wtd. (m)	37.96	Wetted Per. (m)	19.39	31.91	7.02
Min Ch El (m)	358.53	Shear (N/m2)	6.07	92.98	25.97
Alpha	1.11	Stream Power (N/m s)	4283.16	2576.79	4009.77
Frctn Loss (m)	0.20	Cum Volume (1000 m3)	0.08	36.98	0.23
C & E Loss (m)	0.09	Cum SA (1000 m2)	0.40	14.99	0.23

Plan: Plan 01 Fiume Bormida monte RS: 31 Profile: PF 1

E.G. Elev (m)	363.39	Element	Left OB	Channel	Right OB
Vel Head (m)	1.34	Wt. n-Val.		0.040	
W.S. Elev (m)	362.05	Reach Len. (m)	35.00	33.75	32.00
Crit W.S. (m)	362.05	Flow Area (m2)		61.99	
E.G. Slope (m/m)	0.012799	Area (m2)		61.99	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	23.21	Top Width (m)		23.21	
Vel Total (m/s)	5.13	Avg. Vel. (m/s)		5.13	
Max Chl Dpth (m)	3.68	Hydr. Depth (m)		2.67	
Conv. Total (m3/s)	2809.6	Conv. (m3/s)		2809.6	
Length Wtd. (m)	33.75	Wetted Per. (m)		25.40	
Min Ch El (m)	358.37	Shear (N/m2)		306.37	
Alpha	1.00	Stream Power (N/m s)	2690.25	250.89	1478.95
Frctn Loss (m)	0.40	Cum Volume (1000 m3)		33.83	0.12
C & E Loss (m)	0.07	Cum SA (1000 m2)		13.98	0.13

Plan: Plan 01 Fiume Bormida monte RS: 30 Profile: PF 1

E.G. Elev (m)	362.87	Element	Left OB	Channel	Right OB
Vel Head (m)	1.52	Wt. n-Val.		0.040	
W.S. Elev (m)	361.35	Reach Len. (m)	86.00	85.00	83.50
Crit W.S. (m)	361.71	Flow Area (m2)		58.14	
E.G. Slope (m/m)	0.017665	Area (m2)		58.14	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	26.02	Top Width (m)		26.02	
Vel Total (m/s)	5.47	Avg. Vel. (m/s)		5.47	
Max Chl Dpth (m)	3.28	Hydr. Depth (m)		2.23	
Conv. Total (m3/s)	2391.4	Conv. (m3/s)		2391.4	
Length Wtd. (m)	85.00	Wetted Per. (m)		27.55	
Min Ch El (m)	358.07	Shear (N/m2)		365.59	

Plan: Plan 01 Fiume Bormida monte RS: 30 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	2654.83	191.51	1704.45
Frctn Loss (m)	0.50	Cum Volume (1000 m3)		31.80	0.12
C & E Loss (m)	0.02	Cum SA (1000 m2)		13.15	0.13

Plan: Plan 01 Fiume Bormida monte RS: 29 Profile: PF 1

E.G. Elev (m)	361.26	Element	Left OB	Channel	Right OB
Vel Head (m)	2.05	Wt. n-Val.		0.030	
W.S. Elev (m)	359.21	Reach Len. (m)	32.50	31.25	30.50
Crit W.S. (m)	359.81	Flow Area (m2)		50.10	
E.G. Slope (m/m)	0.018940	Area (m2)		50.10	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	29.17	Top Width (m)		29.17	
Vel Total (m/s)	6.34	Avg. Vel. (m/s)		6.34	
Max Chl Dpth (m)	1.85	Hydr. Depth (m)		1.72	
Conv. Total (m3/s)	2309.6	Conv. (m3/s)		2309.6	
Length Wtd. (m)	31.25	Wetted Per. (m)		30.80	
Min Ch El (m)	357.36	Shear (N/m2)		302.09	
Alpha	1.00	Stream Power (N/m s)	4083.03	0.00	0.00
Frctn Loss (m)	1.55	Cum Volume (1000 m3)		27.20	0.12
C & E Loss (m)	0.05	Cum SA (1000 m2)		10.80	0.13

Plan: Plan 01 Fiume Bormida monte RS: 28 Profile: PF 1

E.G. Elev (m)	360.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.75	Wt. n-Val.		0.030	
W.S. Elev (m)	359.93	Reach Len. (m)	19.00	19.00	19.00
Crit W.S. (m)	359.54	Flow Area (m2)		82.73	
E.G. Slope (m/m)	0.004477	Area (m2)		82.73	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	34.38	Top Width (m)		34.38	
Vel Total (m/s)	3.84	Avg. Vel. (m/s)		3.84	
Max Chl Dpth (m)	2.80	Hydr. Depth (m)		2.41	
Conv. Total (m3/s)	4750.5	Conv. (m3/s)		4750.5	
Length Wtd. (m)	19.00	Wetted Per. (m)		36.59	
Min Ch El (m)	357.13	Shear (N/m2)		99.26	
Alpha	1.00	Stream Power (N/m s)	4652.77	0.00	2052.53
Frctn Loss (m)	0.07	Cum Volume (1000 m3)		25.13	0.12
C & E Loss (m)	0.03	Cum SA (1000 m2)		9.81	0.13

Plan: Plan 01 Fiume Bormida monte RS: 27 Profile: PF 1

E.G. Elev (m)	360.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.64	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	359.94	Reach Len. (m)	15.50	15.00	14.75
Crit W.S. (m)	359.36	Flow Area (m2)		89.64	0.80
E.G. Slope (m/m)	0.003350	Area (m2)		89.64	0.80
Q Total (m3/s)	317.85	Flow (m3/s)		317.08	0.77
Top Width (m)	36.11	Top Width (m)		33.96	2.14
Vel Total (m/s)	3.51	Avg. Vel. (m/s)		3.54	0.96
Max Chl Dpth (m)	2.95	Hydr. Depth (m)		2.64	0.37
Conv. Total (m3/s)	5491.9	Conv. (m3/s)		5478.7	13.3
Length Wtd. (m)	15.00	Wetted Per. (m)		36.10	2.27
Min Ch El (m)	356.99	Shear (N/m2)		81.56	11.57
Alpha	1.01	Stream Power (N/m s)	12942.82	0.00	0.00
Frctn Loss (m)	0.07	Cum Volume (1000 m3)		23.49	0.11
C & E Loss (m)	0.05	Cum SA (1000 m2)		9.16	0.11

Plan: Plan 01 Fiume Bormida monte RS: 26 Profile: PF 1

E.G. Elev (m)	360.45	Element	Left OB	Channel	Right OB
Vel Head (m)	1.13	Wt. n-Val.		0.030	
W.S. Elev (m)	359.32	Reach Len. (m)	30.50	29.75	28.75
Crit W.S. (m)	359.32	Flow Area (m2)		67.49	
E.G. Slope (m/m)	0.007477	Area (m2)		67.49	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	30.09	Top Width (m)		30.09	
Vel Total (m/s)	4.71	Avg. Vel. (m/s)		4.71	
Max Chl Dpth (m)	2.45	Hydr. Depth (m)		2.24	
Conv. Total (m3/s)	3675.8	Conv. (m3/s)		3675.8	
Length Wtd. (m)	29.75	Wetted Per. (m)		32.32	
Min Ch El (m)	356.87	Shear (N/m2)		153.13	
Alpha	1.00	Stream Power (N/m s)	13217.65	0.00	0.00
Frctn Loss (m)	0.22	Cum Volume (1000 m3)		22.31	0.11
C & E Loss (m)	0.01	Cum SA (1000 m2)		8.68	0.09

Plan: Plan 01 Fiume Bormida monte RS: 25 Profile: PF 1

E.G. Elev (m)	360.22	Element	Left OB	Channel	Right OB
Vel Head (m)	1.21	Wt. n-Val.		0.030	
W.S. Elev (m)	359.01	Reach Len. (m)	15.00	14.50	14.00
Crit W.S. (m)	359.09	Flow Area (m2)		65.34	
E.G. Slope (m/m)	0.008366	Area (m2)		65.34	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	30.34	Top Width (m)		30.34	
Vel Total (m/s)	4.86	Avg. Vel. (m/s)		4.86	
Max Chl Dpth (m)	2.36	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	3475.0	Conv. (m3/s)		3475.0	
Length Wtd. (m)	14.49	Wetted Per. (m)		32.43	
Min Ch El (m)	356.65	Shear (N/m2)		165.33	
Alpha	1.00	Stream Power (N/m s)	16185.60	0.00	0.00
Frctn Loss (m)	0.24	Cum Volume (1000 m3)		20.34	0.11
C & E Loss (m)	0.01	Cum SA (1000 m2)		7.78	0.09

Plan: Plan 01 Fiume Bormida monte RS: 24 Profile: PF 1

E.G. Elev (m)	360.12	Element	Left OB	Channel	Right OB
Vel Head (m)	1.23	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	358.89	Reach Len. (m)	24.25	23.50	22.75
Crit W.S. (m)	358.99	Flow Area (m2)		59.92	5.83
E.G. Slope (m/m)	0.008018	Area (m2)		59.92	5.83
Q Total (m3/s)	317.85	Flow (m3/s)		299.74	18.11
Top Width (m)	31.13	Top Width (m)		26.17	4.96
Vel Total (m/s)	4.83	Avg. Vel. (m/s)		5.00	3.11
Max Chl Dpth (m)	2.34	Hydr. Depth (m)		2.29	1.17
Conv. Total (m3/s)	3549.7	Conv. (m3/s)		3347.5	202.2
Length Wtd. (m)	23.48	Wetted Per. (m)		27.62	5.49
Min Ch El (m)	356.55	Shear (N/m2)		170.59	83.51
Alpha	1.03	Stream Power (N/m s)	4527.33	0.00	0.00
Frctn Loss (m)	0.11	Cum Volume (1000 m3)		19.43	0.07
C & E Loss (m)	0.03	Cum SA (1000 m2)		7.37	0.06

Plan: Plan 01 Fiume Bormida monte RS: 23 Profile: PF 1

E.G. Elev (m)	359.90	Element	Left OB	Channel	Right OB
Vel Head (m)	1.31	Wt. n-Val.		0.030	
W.S. Elev (m)	358.58	Reach Len. (m)	37.50	40.50	44.00
Crit W.S. (m)	358.80	Flow Area (m2)		62.58	
E.G. Slope (m/m)	0.010394	Area (m2)		62.58	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	

Plan: Plan 01 Fiume Bormida monte RS: 23 Profile: PF 1 (Continued)

Top Width (m)	32.45	Top Width (m)		32.45	
Vel Total (m/s)	5.08	Avg. Vel. (m/s)		5.08	
Max Chl Dpth (m)	2.20	Hydr. Depth (m)		1.93	
Conv. Total (m3/s)	3117.6	Conv. (m3/s)		3117.6	
Length Wtd. (m)	40.50	Wetted Per. (m)		34.25	
Min Ch El (m)	356.38	Shear (N/m2)		186.26	
Alpha	1.00	Stream Power (N/m s)	5035.80	0.00	0.00
Frctn Loss (m)	0.21	Cum Volume (1000 m3)		17.99	
C & E Loss (m)	0.01	Cum SA (1000 m2)		6.68	

Plan: Plan 01 Fiume Bormida monte RS: 22 Profile: PF 1

E.G. Elev (m)	359.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.68	Wt. n-Val.		0.030	
W.S. Elev (m)	358.79	Reach Len. (m)	18.75	21.00	23.00
Crit W.S. (m)	358.36	Flow Area (m2)		86.92	
E.G. Slope (m/m)	0.004156	Area (m2)		86.92	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	36.54	Top Width (m)		36.54	
Vel Total (m/s)	3.66	Avg. Vel. (m/s)		3.66	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.38	
Conv. Total (m3/s)	4930.4	Conv. (m3/s)		4930.4	
Length Wtd. (m)	21.00	Wetted Per. (m)		39.15	
Min Ch El (m)	356.08	Shear (N/m2)		90.48	
Alpha	1.00	Stream Power (N/m s)	5077.93	0.00	0.00
Frctn Loss (m)	0.08	Cum Volume (1000 m3)		14.96	
C & E Loss (m)	0.03	Cum SA (1000 m2)		5.29	

Plan: Plan 01 Fiume Bormida monte RS: 21 Profile: PF 1

E.G. Elev (m)	359.37	Element	Left OB	Channel	Right OB
Vel Head (m)	0.59	Wt. n-Val.		0.030	
W.S. Elev (m)	358.78	Reach Len. (m)	23.00	24.75	26.00
Crit W.S. (m)		Flow Area (m2)		93.48	
E.G. Slope (m/m)	0.003389	Area (m2)		93.48	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	37.78	Top Width (m)		37.78	
Vel Total (m/s)	3.40	Avg. Vel. (m/s)		3.40	
Max Chl Dpth (m)	2.85	Hydr. Depth (m)		2.47	
Conv. Total (m3/s)	5460.2	Conv. (m3/s)		5460.2	
Length Wtd. (m)	24.75	Wetted Per. (m)		40.30	
Min Ch El (m)	355.93	Shear (N/m2)		77.08	
Alpha	1.00	Stream Power (N/m s)	13123.32	0.00	0.00
Frctn Loss (m)	0.10	Cum Volume (1000 m3)		13.07	
C & E Loss (m)	0.02	Cum SA (1000 m2)		4.51	

Plan: Plan 01 Fiume Bormida monte RS: 20 Profile: PF 1

E.G. Elev (m)	359.25	Element	Left OB	Channel	Right OB
Vel Head (m)	0.80	Wt. n-Val.		0.030	
W.S. Elev (m)	358.45	Reach Len. (m)	28.25	29.50	31.00
Crit W.S. (m)		Flow Area (m2)		80.46	
E.G. Slope (m/m)	0.004759	Area (m2)		80.46	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	33.28	Top Width (m)		33.28	
Vel Total (m/s)	3.95	Avg. Vel. (m/s)		3.95	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.42	
Conv. Total (m3/s)	4607.5	Conv. (m3/s)		4607.5	
Length Wtd. (m)	29.50	Wetted Per. (m)		35.73	
Min Ch El (m)	355.74	Shear (N/m2)		105.08	

Plan: Plan 01 Fiume Bormida monte RS: 20 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	16927.22	0.00	0.00
Frctn Loss (m)	0.13	Cum Volume (1000 m3)		10.91	
C & E Loss (m)	0.05	Cum SA (1000 m2)		3.63	

Plan: Plan 01 Fiume Bormida monte RS: 19 Profile: PF 1

E.G. Elev (m)	359.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.62	Wt. n-Val.		0.030	
W.S. Elev (m)	358.45	Reach Len. (m)	28.50	33.00	37.50
Crit W.S. (m)	357.98	Flow Area (m2)		91.37	
E.G. Slope (m/m)	0.004060	Area (m2)		91.37	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	41.15	Top Width (m)		41.15	
Vel Total (m/s)	3.48	Avg. Vel. (m/s)		3.48	
Max Chl Dpth (m)	2.93	Hydr. Depth (m)		2.22	
Conv. Total (m3/s)	4988.2	Conv. (m3/s)		4988.2	
Length Wtd. (m)	33.00	Wetted Per. (m)		43.59	
Min Ch El (m)	355.52	Shear (N/m2)		83.46	
Alpha	1.00	Stream Power (N/m s)	16330.19	0.00	0.00
Frctn Loss (m)	0.17	Cum Volume (1000 m3)		8.38	
C & E Loss (m)	0.04	Cum SA (1000 m2)		2.53	

Plan: Plan 01 Fiume Bormida monte RS: 18 Profile: PF 1

E.G. Elev (m)	358.86	Element	Left OB	Channel	Right OB
Vel Head (m)	1.01	Wt. n-Val.		0.030	
W.S. Elev (m)	357.85	Reach Len. (m)	17.00	19.50	22.50
Crit W.S. (m)	357.73	Flow Area (m2)		71.44	
E.G. Slope (m/m)	0.006347	Area (m2)		71.44	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	30.66	Top Width (m)		30.66	
Vel Total (m/s)	4.45	Avg. Vel. (m/s)		4.45	
Max Chl Dpth (m)	2.57	Hydr. Depth (m)		2.33	
Conv. Total (m3/s)	3989.6	Conv. (m3/s)		3989.6	
Length Wtd. (m)	19.50	Wetted Per. (m)		32.94	
Min Ch El (m)	355.28	Shear (N/m2)		134.98	
Alpha	1.00	Stream Power (N/m s)	17098.15	0.00	0.00
Frctn Loss (m)	0.12	Cum Volume (1000 m3)		5.69	
C & E Loss (m)	0.01	Cum SA (1000 m2)		1.35	

Plan: Plan 01 Fiume Bormida monte RS: 17 Profile: PF 1

E.G. Elev (m)	358.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.97	Wt. n-Val.		0.030	
W.S. Elev (m)	357.76	Reach Len. (m)	23.50	23.75	24.50
Crit W.S. (m)	357.58	Flow Area (m2)		72.96	
E.G. Slope (m/m)	0.005959	Area (m2)		72.96	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	30.79	Top Width (m)		30.79	
Vel Total (m/s)	4.36	Avg. Vel. (m/s)		4.36	
Max Chl Dpth (m)	2.62	Hydr. Depth (m)		2.37	
Conv. Total (m3/s)	4117.6	Conv. (m3/s)		4117.6	
Length Wtd. (m)	23.75	Wetted Per. (m)		33.12	
Min Ch El (m)	355.14	Shear (N/m2)		128.73	
Alpha	1.00	Stream Power (N/m s)	3601.86	0.00	0.00
Frctn Loss (m)	0.13	Cum Volume (1000 m3)		4.29	
C & E Loss (m)	0.04	Cum SA (1000 m2)		0.75	

Plan: Plan 01 Fiume Bormida monte RS: 16 Profile: PF 1

E.G. Elev (m)	358.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.83	Wt. n-Val.		0.030	
W.S. Elev (m)	357.72	Reach Len. (m)	31.75	31.75	31.75
Crit W.S. (m)		Flow Area (m2)		78.53	
E.G. Slope (m/m)	0.004903	Area (m2)		78.53	
Q Total (m3/s)	317.85	Flow (m3/s)		317.85	
Top Width (m)	32.04	Top Width (m)		32.04	
Vel Total (m/s)	4.05	Avg. Vel. (m/s)		4.05	
Max Chl Dpth (m)	2.76	Hydr. Depth (m)		2.45	
Conv. Total (m3/s)	4539.5	Conv. (m3/s)		4539.5	
Length Wtd. (m)	31.75	Wetted Per. (m)		34.38	
Min Ch El (m)	354.96	Shear (N/m2)		109.80	
Alpha	1.00	Stream Power (N/m s)	3305.49	0.00	0.00
Frctn Loss (m)	0.17	Cum Volume (1000 m3)		2.49	
C & E Loss (m)	0.01	Cum SA (1000 m2)			

Plan: Plan 01 Fiume Bormida valle1 RS: 15 Profile: PF 1

E.G. Elev (m)	358.38	Element	Left OB	Channel	Right OB
Vel Head (m)	0.94	Wt. n-Val.		0.030	
W.S. Elev (m)	357.44	Reach Len. (m)	37.50	38.25	39.75
Crit W.S. (m)		Flow Area (m2)		78.09	
E.G. Slope (m/m)	0.005622	Area (m2)		78.09	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	32.39	Top Width (m)		32.39	
Vel Total (m/s)	4.29	Avg. Vel. (m/s)		4.29	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.41	
Conv. Total (m3/s)	4472.7	Conv. (m3/s)		4472.7	
Length Wtd. (m)	38.25	Wetted Per. (m)		34.67	
Min Ch El (m)	354.73	Shear (N/m2)		124.17	
Alpha	1.00	Stream Power (N/m s)	4653.25	0.00	0.00
Frctn Loss (m)	0.25	Cum Volume (1000 m3)		42.50	1.76
C & E Loss (m)	0.01	Cum SA (1000 m2)		17.00	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 14 Profile: PF 1

E.G. Elev (m)	358.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.99	Wt. n-Val.		0.030	
W.S. Elev (m)	357.13	Reach Len. (m)	33.00	31.75	30.75
Crit W.S. (m)	357.13	Flow Area (m2)		75.90	
E.G. Slope (m/m)	0.007683	Area (m2)		75.90	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	38.47	Top Width (m)		38.47	
Vel Total (m/s)	4.42	Avg. Vel. (m/s)		4.42	
Max Chl Dpth (m)	2.68	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	3826.0	Conv. (m3/s)		3826.0	
Length Wtd. (m)	31.75	Wetted Per. (m)		40.82	
Min Ch El (m)	354.45	Shear (N/m2)		140.10	
Alpha	1.00	Stream Power (N/m s)	3821.14	0.00	0.00
Frctn Loss (m)	0.21	Cum Volume (1000 m3)		39.56	1.76
C & E Loss (m)	0.05	Cum SA (1000 m2)		15.65	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 13 Profile: PF 1

E.G. Elev (m)	357.79	Element	Left OB	Channel	Right OB
Vel Head (m)	1.43	Wt. n-Val.		0.030	
W.S. Elev (m)	356.36	Reach Len. (m)	28.50	28.00	27.50
Crit W.S. (m)	356.66	Flow Area (m2)		63.21	
E.G. Slope (m/m)	0.011841	Area (m2)		63.21	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	

Plan: Plan 01 Fiume Bormida valle1 RS: 13 Profile: PF 1 (Continued)

Top Width (m)	34.12	Top Width (m)		34.12	
Vel Total (m/s)	5.31	Avg. Vel. (m/s)		5.31	
Max Chl Dpth (m)	2.15	Hydr. Depth (m)		1.85	
Conv. Total (m3/s)	3081.8	Conv. (m3/s)		3081.8	
Length Wtd. (m)	28.00	Wetted Per. (m)		35.73	
Min Ch El (m)	354.21	Shear (N/m2)		205.41	
Alpha	1.00	Stream Power (N/m s)	4309.48	0.00	0.00
Frctn Loss (m)	0.30	Cum Volume (1000 m3)		37.35	1.76
C & E Loss (m)	0.04	Cum SA (1000 m2)		14.49	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 12 Profile: PF 1

E.G. Elev (m)	357.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.88	Wt. n-Val.		0.030	
W.S. Elev (m)	356.70	Reach Len. (m)	29.00	29.00	28.75
Crit W.S. (m)	356.46	Flow Area (m2)		80.67	
E.G. Slope (m/m)	0.005392	Area (m2)		80.67	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	34.32	Top Width (m)		34.32	
Vel Total (m/s)	4.16	Avg. Vel. (m/s)		4.16	
Max Chl Dpth (m)	2.70	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	4566.9	Conv. (m3/s)		4566.9	
Length Wtd. (m)	29.00	Wetted Per. (m)		36.45	
Min Ch El (m)	354.00	Shear (N/m2)		117.03	
Alpha	1.00	Stream Power (N/m s)	12487.98	0.00	0.00
Frctn Loss (m)	0.15	Cum Volume (1000 m3)		35.34	1.76
C & E Loss (m)	0.07	Cum SA (1000 m2)		13.54	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 11 Profile: PF 1

E.G. Elev (m)	357.36	Element	Left OB	Channel	Right OB
Vel Head (m)	0.65	Wt. n-Val.		0.030	
W.S. Elev (m)	356.71	Reach Len. (m)	28.50	28.25	28.25
Crit W.S. (m)	356.49	Flow Area (m2)		93.82	
E.G. Slope (m/m)	0.005263	Area (m2)		93.82	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	49.85	Top Width (m)		49.85	
Vel Total (m/s)	3.57	Avg. Vel. (m/s)		3.57	
Max Chl Dpth (m)	2.92	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	4622.6	Conv. (m3/s)		4622.6	
Length Wtd. (m)	28.25	Wetted Per. (m)		52.20	
Min Ch El (m)	353.79	Shear (N/m2)		92.75	
Alpha	1.00	Stream Power (N/m s)	5501.18	0.00	4541.69
Frctn Loss (m)	0.13	Cum Volume (1000 m3)		32.81	1.76
C & E Loss (m)	0.02	Cum SA (1000 m2)		12.31	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 10 Profile: PF 1

E.G. Elev (m)	357.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.57	Wt. n-Val.		0.030	
W.S. Elev (m)	356.63	Reach Len. (m)	35.50	35.50	35.50
Crit W.S. (m)		Flow Area (m2)		99.97	
E.G. Slope (m/m)	0.004155	Area (m2)		99.97	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	48.96	Top Width (m)		48.96	
Vel Total (m/s)	3.35	Avg. Vel. (m/s)		3.35	
Max Chl Dpth (m)	3.05	Hydr. Depth (m)		2.04	
Conv. Total (m3/s)	5202.7	Conv. (m3/s)		5202.7	
Length Wtd. (m)	35.50	Wetted Per. (m)		51.24	
Min Ch El (m)	353.58	Shear (N/m2)		79.48	

Plan: Plan 01 Fiume Bormida valle1 RS: 10 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	5595.01	0.00	0.00
Frctn Loss (m)	0.13	Cum Volume (1000 m3)		30.07	1.76
C & E Loss (m)	0.01	Cum SA (1000 m2)		10.92	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 9 Profile: PF 1

E.G. Elev (m)	357.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.53	Wt. n-Val.		0.030	
W.S. Elev (m)	356.53	Reach Len. (m)	41.50	41.25	41.00
Crit W.S. (m)	355.81	Flow Area (m2)		103.51	
E.G. Slope (m/m)	0.003169	Area (m2)		103.51	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	43.28	Top Width (m)		43.28	
Vel Total (m/s)	3.24	Avg. Vel. (m/s)		3.24	
Max Chl Dpth (m)	3.21	Hydr. Depth (m)		2.39	
Conv. Total (m3/s)	5956.7	Conv. (m3/s)		5956.7	
Length Wtd. (m)	41.25	Wetted Per. (m)		45.63	
Min Ch El (m)	353.32	Shear (N/m2)		70.50	
Alpha	1.00	Stream Power (N/m s)	12028.83	0.00	11829.18
Frctn Loss (m)	0.11	Cum Volume (1000 m3)		26.46	1.76
C & E Loss (m)	0.01	Cum SA (1000 m2)		9.28	2.80

Plan: Plan 01 Fiume Bormida valle1 RS: 8 Profile: PF 1

E.G. Elev (m)	356.95	Element	Left OB	Channel	Right OB
Vel Head (m)	0.51	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	356.43	Reach Len. (m)	35.00	34.75	34.00
Crit W.S. (m)	355.51	Flow Area (m2)		104.57	3.41
E.G. Slope (m/m)	0.002298	Area (m2)		104.57	3.41
Q Total (m3/s)	335.35	Flow (m3/s)		333.29	2.06
Top Width (m)	49.18	Top Width (m)		34.59	14.60
Vel Total (m/s)	3.11	Avg. Vel. (m/s)		3.19	0.60
Max Chl Dpth (m)	3.42	Hydr. Depth (m)		3.02	0.23
Conv. Total (m3/s)	6995.5	Conv. (m3/s)		6952.6	42.9
Length Wtd. (m)	34.74	Wetted Per. (m)		37.12	14.65
Min Ch El (m)	353.01	Shear (N/m2)		63.48	5.24
Alpha	1.05	Stream Power (N/m s)	12023.57	0.00	11878.98
Frctn Loss (m)	0.07	Cum Volume (1000 m3)		22.17	1.69
C & E Loss (m)	0.02	Cum SA (1000 m2)		7.68	2.50

Plan: Plan 01 Fiume Bormida valle1 RS: 7 Profile: PF 1

E.G. Elev (m)	356.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.46	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	356.40	Reach Len. (m)	25.00	24.50	23.50
Crit W.S. (m)	355.27	Flow Area (m2)		108.77	7.73
E.G. Slope (m/m)	0.001914	Area (m2)		108.77	7.73
Q Total (m3/s)	335.35	Flow (m3/s)		329.77	5.58
Top Width (m)	54.30	Top Width (m)		33.44	20.86
Vel Total (m/s)	2.88	Avg. Vel. (m/s)		3.03	0.72
Max Chl Dpth (m)	3.64	Hydr. Depth (m)		3.25	0.37
Conv. Total (m3/s)	7664.6	Conv. (m3/s)		7537.1	127.5
Length Wtd. (m)	24.48	Wetted Per. (m)		36.29	22.22
Min Ch El (m)	352.76	Shear (N/m2)		56.27	6.53
Alpha	1.09	Stream Power (N/m s)	12305.56	0.00	11507.93
Frctn Loss (m)	0.04	Cum Volume (1000 m3)		18.46	1.50
C & E Loss (m)	0.03	Cum SA (1000 m2)		6.49	1.90

Plan: Plan 01 Fiume Bormida valle1 RS: 6 Profile: PF 1

E.G. Elev (m)	356.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.35	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	356.44	Reach Len. (m)	26.50	26.00	25.50
Crit W.S. (m)	355.02	Flow Area (m2)		122.02	12.53
E.G. Slope (m/m)	0.001381	Area (m2)		122.02	12.53
Q Total (m3/s)	335.35	Flow (m3/s)		324.63	10.72
Top Width (m)	56.12	Top Width (m)		35.73	20.39
Vel Total (m/s)	2.49	Avg. Vel. (m/s)		2.66	0.86
Max Chl Dpth (m)	3.86	Hydr. Depth (m)		3.42	0.61
Conv. Total (m3/s)	9025.3	Conv. (m3/s)		8736.8	288.5
Length Wtd. (m)	25.98	Wetted Per. (m)		38.76	21.82
Min Ch El (m)	352.58	Shear (N/m2)		42.62	7.77
Alpha	1.11	Stream Power (N/m s)	11440.90	0.00	10964.99
Frctn Loss (m)	0.03	Cum Volume (1000 m3)		15.63	1.26
C & E Loss (m)	0.03	Cum SA (1000 m2)		5.65	1.41

Plan: Plan 01 Fiume Bormida valle1 RS: 5 Profile: PF 1

E.G. Elev (m)	356.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.25	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	356.48	Reach Len. (m)	39.75	39.50	39.00
Crit W.S. (m)	354.78	Flow Area (m2)		145.66	12.33
E.G. Slope (m/m)	0.001002	Area (m2)		145.66	12.33
Q Total (m3/s)	335.35	Flow (m3/s)		324.11	11.24
Top Width (m)	58.45	Top Width (m)		44.57	13.88
Vel Total (m/s)	2.12	Avg. Vel. (m/s)		2.23	0.91
Max Chl Dpth (m)	4.10	Hydr. Depth (m)		3.27	0.89
Conv. Total (m3/s)	10595.7	Conv. (m3/s)		10240.5	355.2
Length Wtd. (m)	39.49	Wetted Per. (m)		47.56	15.36
Min Ch El (m)	352.38	Shear (N/m2)		30.09	7.89
Alpha	1.07	Stream Power (N/m s)	10815.13	0.00	10150.59
Frctn Loss (m)	0.08	Cum Volume (1000 m3)		12.15	0.95
C & E Loss (m)	0.06	Cum SA (1000 m2)		4.60	0.98

Plan: Plan 01 Fiume Bormida valle1 RS: 4 Profile: PF 1

E.G. Elev (m)	356.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.80	Wt. n-Val.		0.030	
W.S. Elev (m)	355.79	Reach Len. (m)	20.00	21.00	22.00
Crit W.S. (m)	355.35	Flow Area (m2)		84.40	
E.G. Slope (m/m)	0.005112	Area (m2)		84.40	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	36.00	Top Width (m)		36.00	
Vel Total (m/s)	3.97	Avg. Vel. (m/s)		3.97	
Max Chl Dpth (m)	3.70	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	4690.2	Conv. (m3/s)		4690.2	
Length Wtd. (m)	21.11	Wetted Per. (m)		39.21	
Min Ch El (m)	352.09	Shear (N/m2)		107.91	
Alpha	1.00	Stream Power (N/m s)	10083.56	7548.42	9374.48
Frctn Loss (m)	0.11	Cum Volume (1000 m3)		7.61	0.71
C & E Loss (m)	0.04	Cum SA (1000 m2)		3.01	0.71

Plan: Plan 01 Fiume Bormida valle1 RS: 3 Profile: PF 1

E.G. Elev (m)	356.44	Element	Left OB	Channel	Right OB
Vel Head (m)	0.68	Wt. n-Val.		0.030	0.030
W.S. Elev (m)	355.76	Reach Len. (m)	21.00	22.00	23.00
Crit W.S. (m)	355.76	Flow Area (m2)		66.00	31.40
E.G. Slope (m/m)	0.005294	Area (m2)		66.00	31.40
Q Total (m3/s)	335.35	Flow (m3/s)		261.05	74.30

Plan: Plan 01 Fiume Bormida valle1 RS: 3 Profile: PF 1 (Continued)

Top Width (m)	61.69	Top Width (m)		30.35	31.34
Vel Total (m/s)	3.44	Avg. Vel. (m/s)		3.96	2.37
Max Chl Dpth (m)	3.82	Hydr. Depth (m)		2.18	1.00
Conv. Total (m3/s)	4609.0	Conv. (m3/s)		3587.9	1021.1
Length Wtd. (m)	22.11	Wetted Per. (m)		31.69	32.59
Min Ch El (m)	351.94	Shear (N/m2)		108.12	50.02
Alpha	1.13	Stream Power (N/m s)	4236.24	0.00	3492.69
Frctn Loss (m)	0.09	Cum Volume (1000 m3)		6.03	0.36
C & E Loss (m)	0.07	Cum SA (1000 m2)		2.31	0.36

Plan: Plan 01 Fiume Bormida valle1 RS: 2 Profile: PF 1

E.G. Elev (m)	356.23	Element	Left OB	Channel	Right OB
Vel Head (m)	1.21	Wt. n-Val.		0.030	
W.S. Elev (m)	355.02	Reach Len. (m)	14.25	14.25	14.25
Crit W.S. (m)	355.38	Flow Area (m2)		68.81	
E.G. Slope (m/m)	0.009487	Area (m2)		68.81	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	36.26	Top Width (m)		36.26	
Vel Total (m/s)	4.87	Avg. Vel. (m/s)		4.87	
Max Chl Dpth (m)	3.25	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3443.0	Conv. (m3/s)		3443.0	
Length Wtd. (m)	14.25	Wetted Per. (m)		37.41	
Min Ch El (m)	351.77	Shear (N/m2)		171.11	
Alpha	1.00	Stream Power (N/m s)	4904.13	0.00	3883.86
Frctn Loss (m)	0.15	Cum Volume (1000 m3)		4.55	
C & E Loss (m)	0.05	Cum SA (1000 m2)		1.58	

Plan: Plan 01 Fiume Bormida valle1 RS: 1 Profile: PF 1

E.G. Elev (m)	356.06	Element	Left OB	Channel	Right OB
Vel Head (m)	1.04	Wt. n-Val.		0.030	
W.S. Elev (m)	355.02	Reach Len. (m)	3.00	3.00	3.00
Crit W.S. (m)	355.29	Flow Area (m2)		74.16	
E.G. Slope (m/m)	0.007317	Area (m2)		74.16	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	34.42	Top Width (m)		34.42	
Vel Total (m/s)	4.52	Avg. Vel. (m/s)		4.52	
Max Chl Dpth (m)	3.37	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	3920.5	Conv. (m3/s)		3920.5	
Length Wtd. (m)	3.00	Wetted Per. (m)		37.13	
Min Ch El (m)	351.65	Shear (N/m2)		143.31	
Alpha	1.00	Stream Power (N/m s)	4072.97	0.00	0.00
Frctn Loss (m)	0.12	Cum Volume (1000 m3)		3.53	
C & E Loss (m)	0.05	Cum SA (1000 m2)		1.08	

Plan: Plan 01 Fiume Bormida valle1 RS: 0.9 Profile: PF 1

E.G. Elev (m)	355.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.16	Wt. n-Val.		0.030	
W.S. Elev (m)	355.13	Reach Len. (m)	0.50	0.50	0.50
Crit W.S. (m)	353.82	Flow Area (m2)		187.33	
E.G. Slope (m/m)	0.001032	Area (m2)		187.33	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	85.64	Top Width (m)		85.64	
Vel Total (m/s)	1.79	Avg. Vel. (m/s)		1.79	
Max Chl Dpth (m)	3.63	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	10441.4	Conv. (m3/s)		10441.4	
Length Wtd. (m)	0.50	Wetted Per. (m)		86.64	
Min Ch El (m)	351.50	Shear (N/m2)		21.87	

Plan: Plan 01 Fiume Bormida valle1 RS: 0.9 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	4309.02	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		3.13	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.90	

Plan: Plan 01 Fiume Bormida valle1 RS: 0.8 BR U Profile: PF 1

E.G. Elev (m)	355.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.19	Wt. n-Val.		0.030	
W.S. Elev (m)	355.10	Reach Len. (m)	10.00	10.00	10.00
Crit W.S. (m)	353.94	Flow Area (m2)		172.96	
E.G. Slope (m/m)	0.001502	Area (m2)		172.96	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	81.48	Top Width (m)		81.48	
Vel Total (m/s)	1.94	Avg. Vel. (m/s)		1.94	
Max Chl Dpth (m)	3.60	Hydr. Depth (m)		2.12	
Conv. Total (m3/s)	8652.2	Conv. (m3/s)		8652.2	
Length Wtd. (m)	10.00	Wetted Per. (m)		94.08	
Min Ch El (m)	351.50	Shear (N/m2)		27.08	
Alpha	1.00	Stream Power (N/m s)	4309.02	0.00	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		3.04	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.86	

Plan: Plan 01 Fiume Bormida valle1 RS: 0.8 BR D Profile: PF 1

E.G. Elev (m)	355.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.18	Wt. n-Val.		0.030	
W.S. Elev (m)	355.09	Reach Len. (m)	0.50	0.50	0.50
Crit W.S. (m)	353.85	Flow Area (m2)		176.06	
E.G. Slope (m/m)	0.001420	Area (m2)		176.06	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	81.43	Top Width (m)		81.43	
Vel Total (m/s)	1.90	Avg. Vel. (m/s)		1.90	
Max Chl Dpth (m)	3.69	Hydr. Depth (m)		2.16	
Conv. Total (m3/s)	8898.7	Conv. (m3/s)		8898.7	
Length Wtd. (m)	0.50	Wetted Per. (m)		94.29	
Min Ch El (m)	351.40	Shear (N/m2)		26.00	
Alpha	1.00	Stream Power (N/m s)	4309.02	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		1.30	
C & E Loss (m)	0.01	Cum SA (1000 m2)		0.04	

Plan: Plan 01 Fiume Bormida valle1 RS: 0.7 Profile: PF 1

E.G. Elev (m)	355.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.16	Wt. n-Val.		0.030	
W.S. Elev (m)	355.10	Reach Len. (m)	9.00	9.00	9.00
Crit W.S. (m)		Flow Area (m2)		189.36	
E.G. Slope (m/m)	0.000993	Area (m2)		189.36	
Q Total (m3/s)	335.35	Flow (m3/s)		335.35	
Top Width (m)	85.51	Top Width (m)		85.51	
Vel Total (m/s)	1.77	Avg. Vel. (m/s)		1.77	
Max Chl Dpth (m)	3.70	Hydr. Depth (m)		2.21	
Conv. Total (m3/s)	10640.7	Conv. (m3/s)		10640.7	
Length Wtd. (m)	9.00	Wetted Per. (m)		86.51	
Min Ch El (m)	351.40	Shear (N/m2)		21.32	
Alpha	1.00	Stream Power (N/m s)	4309.02	0.00	0.00
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		1.21	
C & E Loss (m)	0.08	Cum SA (1000 m2)			

Plan: Plan 01 Fiume Bormida valle2 RS: 0.6 Profile: PF 1

E.G. Elev (m)	355.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.94	Wt. n-Val.		0.030	
W.S. Elev (m)	354.22	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	354.22	Flow Area (m2)		79.13	
E.G. Slope (m/m)	0.007472	Area (m2)		79.13	
Q Total (m3/s)	340.00	Flow (m3/s)		340.00	
Top Width (m)	42.00	Top Width (m)		42.00	
Vel Total (m/s)	4.30	Avg. Vel. (m/s)		4.30	
Max Chl Dpth (m)	2.89	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3933.5	Conv. (m3/s)		3933.5	
Length Wtd. (m)	5.00	Wetted Per. (m)		43.45	
Min Ch El (m)	351.33	Shear (N/m2)		133.43	
Alpha	1.00	Stream Power (N/m s)	2010.87	0.00	0.00
Frctn Loss (m)	0.04	Cum Volume (1000 m3)		0.39	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.21	

Plan: Plan 01 Fiume Bormida valle2 RS: 0.5 Profile: PF 1

E.G. Elev (m)	355.11	Element	Left OB	Channel	Right OB
Vel Head (m)	1.02	Wt. n-Val.		0.030	
W.S. Elev (m)	354.09	Reach Len. (m)			
Crit W.S. (m)	354.17	Flow Area (m2)		76.15	
E.G. Slope (m/m)	0.008442	Area (m2)		76.15	
Q Total (m3/s)	340.00	Flow (m3/s)		340.00	
Top Width (m)	42.00	Top Width (m)		42.00	
Vel Total (m/s)	4.47	Avg. Vel. (m/s)		4.47	
Max Chl Dpth (m)	2.89	Hydr. Depth (m)		1.81	
Conv. Total (m3/s)	3700.5	Conv. (m3/s)		3700.5	
Length Wtd. (m)		Wetted Per. (m)		43.26	
Min Ch El (m)	351.20	Shear (N/m2)		145.73	
Alpha	1.00	Stream Power (N/m s)	2010.87	0.00	0.00
Frctn Loss (m)	0.04	Cum Volume (1000 m3)			
C & E Loss (m)	0.01	Cum SA (1000 m2)			

Plan: Plan 01 Rio Biestro monte RS: 18 Profile: PF 1

E.G. Elev (m)	361.95	Element	Left OB	Channel	Right OB
Vel Head (m)	1.00	Wt. n-Val.		0.030	
W.S. Elev (m)	360.96	Reach Len. (m)	15.00	15.00	15.00
Crit W.S. (m)	361.22	Flow Area (m2)		2.94	
E.G. Slope (m/m)	0.035004	Area (m2)		2.94	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.14	Top Width (m)		3.14	
Vel Total (m/s)	4.42	Avg. Vel. (m/s)		4.42	
Max Chl Dpth (m)	0.96	Hydr. Depth (m)		0.93	
Conv. Total (m3/s)	69.4	Conv. (m3/s)		69.4	
Length Wtd. (m)	15.00	Wetted Per. (m)		4.92	
Min Ch El (m)	360.00	Shear (N/m2)		204.85	
Alpha	1.00	Stream Power (N/m s)	196.29	0.00	0.00
Frctn Loss (m)		Cum Volume (1000 m3)		0.26	
C & E Loss (m)		Cum SA (1000 m2)		0.23	

Plan: Plan 01 Rio Biestro monte RS: 17 Profile: PF 1

E.G. Elev (m)	361.41	Element	Left OB	Channel	Right OB
Vel Head (m)	1.03	Wt. n-Val.		0.030	
W.S. Elev (m)	360.38	Reach Len. (m)	15.00	15.00	15.00
Crit W.S. (m)	360.67	Flow Area (m2)		2.89	
E.G. Slope (m/m)	0.036438	Area (m2)		2.89	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	

Plan: Plan 01 Rio Biestro monte RS: 17 Profile: PF 1 (Continued)

Top Width (m)	3.21	Top Width (m)		3.21	
Vel Total (m/s)	4.49	Avg. Vel. (m/s)		4.49	
Max Chl Dpth (m)	0.93	Hydr. Depth (m)		0.90	
Conv. Total (m3/s)	68.1	Conv. (m3/s)		68.1	
Length Wtd. (m)	15.00	Wetted Per. (m)		4.87	
Min Ch El (m)	359.45	Shear (N/m2)		212.01	
Alpha	1.00	Stream Power (N/m s)	203.49	0.00	0.00
Frctn Loss (m)	0.54	Cum Volume (1000 m3)		0.21	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.18	

Plan: Plan 01 Rio Biestro monte RS: 16 Profile: PF 1

E.G. Elev (m)	360.86	Element	Left OB	Channel	Right OB
Vel Head (m)	1.04	Wt. n-Val.		0.030	
W.S. Elev (m)	359.83	Reach Len. (m)	15.00	15.00	15.00
Crit W.S. (m)	360.12	Flow Area (m2)		2.88	
E.G. Slope (m/m)	0.036796	Area (m2)		2.88	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.21	Top Width (m)		3.21	
Vel Total (m/s)	4.51	Avg. Vel. (m/s)		4.51	
Max Chl Dpth (m)	0.93	Hydr. Depth (m)		0.90	
Conv. Total (m3/s)	67.7	Conv. (m3/s)		67.7	
Length Wtd. (m)	15.00	Wetted Per. (m)		4.87	
Min Ch El (m)	358.90	Shear (N/m2)		213.60	
Alpha	1.00	Stream Power (N/m s)	203.49	0.00	0.00
Frctn Loss (m)	0.55	Cum Volume (1000 m3)		0.17	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.13	

Plan: Plan 01 Rio Biestro monte RS: 15 Profile: PF 1

E.G. Elev (m)	360.32	Element	Left OB	Channel	Right OB
Vel Head (m)	1.01	Wt. n-Val.		0.030	
W.S. Elev (m)	359.30	Reach Len. (m)	0.20	0.20	0.20
Crit W.S. (m)	359.58	Flow Area (m2)		2.91	
E.G. Slope (m/m)	0.035877	Area (m2)		2.91	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.10	Top Width (m)		3.10	
Vel Total (m/s)	4.46	Avg. Vel. (m/s)		4.46	
Max Chl Dpth (m)	0.95	Hydr. Depth (m)		0.94	
Conv. Total (m3/s)	68.6	Conv. (m3/s)		68.6	
Length Wtd. (m)	0.20	Wetted Per. (m)		4.92	
Min Ch El (m)	358.35	Shear (N/m2)		208.63	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.54	Cum Volume (1000 m3)		0.13	
C & E Loss (m)	0.01	Cum SA (1000 m2)		0.09	

Plan: Plan 01 Rio Biestro monte RS: 14.9 Profile: PF 1

E.G. Elev (m)	360.24	Element	Left OB	Channel	Right OB
Vel Head (m)	1.64	Wt. n-Val.		0.030	
W.S. Elev (m)	358.61	Reach Len. (m)	13.00	13.00	13.00
Crit W.S. (m)	359.08	Flow Area (m2)		2.29	
E.G. Slope (m/m)	0.071332	Area (m2)		2.29	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.07	Top Width (m)		3.07	
Vel Total (m/s)	5.67	Avg. Vel. (m/s)		5.67	
Max Chl Dpth (m)	0.76	Hydr. Depth (m)		0.75	
Conv. Total (m3/s)	48.6	Conv. (m3/s)		48.6	
Length Wtd. (m)	13.00	Wetted Per. (m)		4.51	
Min Ch El (m)	357.85	Shear (N/m2)		355.21	

Plan: Plan 01 Rio Biestro monte RS: 14.9 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		0.13	
C & E Loss (m)	0.06	Cum SA (1000 m2)		0.08	

Plan: Plan 01 Rio Biestro monte RS: 14.5 Profile: PF 1

E.G. Elev (m)	359.43	Element	Left OB	Channel	Right OB
Vel Head (m)	0.97	Wt. n-Val.		0.030	
W.S. Elev (m)	358.46	Reach Len. (m)	0.50	0.50	0.50
Crit W.S. (m)	358.71	Flow Area (m2)		2.97	
E.G. Slope (m/m)	0.034024	Area (m2)		2.97	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.09	Top Width (m)		3.09	
Vel Total (m/s)	4.37	Avg. Vel. (m/s)		4.37	
Max Chl Dpth (m)	0.98	Hydr. Depth (m)		0.96	
Conv. Total (m3/s)	70.4	Conv. (m3/s)		70.4	
Length Wtd. (m)	0.50	Wetted Per. (m)		4.96	
Min Ch El (m)	357.48	Shear (N/m2)		200.02	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.62	Cum Volume (1000 m3)		0.09	
C & E Loss (m)	0.20	Cum SA (1000 m2)		0.04	

Plan: Plan 01 Rio Biestro monte RS: 14.2 BR U Profile: PF 1

E.G. Elev (m)	359.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.92	Wt. n-Val.		0.030	
W.S. Elev (m)	358.48	Reach Len. (m)			
Crit W.S. (m)	358.71	Flow Area (m2)		3.06	
E.G. Slope (m/m)	0.031462	Area (m2)		3.06	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.09	Top Width (m)		3.09	
Vel Total (m/s)	4.25	Avg. Vel. (m/s)		4.25	
Max Chl Dpth (m)	1.00	Hydr. Depth (m)		0.99	
Conv. Total (m3/s)	73.2	Conv. (m3/s)		73.2	
Length Wtd. (m)		Wetted Per. (m)		5.01	
Min Ch El (m)	357.48	Shear (N/m2)		188.11	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		0.09	
C & E Loss (m)	0.02	Cum SA (1000 m2)		0.04	

Plan: Plan 01 Rio Biestro monte RS: 14.2 BR D Profile: PF 1

E.G. Elev (m)	359.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.97	Wt. n-Val.		0.030	
W.S. Elev (m)	358.36	Reach Len. (m)			
Crit W.S. (m)	358.61	Flow Area (m2)		2.97	
E.G. Slope (m/m)	0.034074	Area (m2)		2.97	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.08	Top Width (m)		3.08	
Vel Total (m/s)	4.37	Avg. Vel. (m/s)		4.37	
Max Chl Dpth (m)	0.98	Hydr. Depth (m)		0.96	
Conv. Total (m3/s)	70.4	Conv. (m3/s)		70.4	
Length Wtd. (m)		Wetted Per. (m)		4.96	
Min Ch El (m)	357.38	Shear (N/m2)		200.23	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.07	Cum Volume (1000 m3)		0.09	
C & E Loss (m)	0.01	Cum SA (1000 m2)		0.04	

Plan: Plan 01 Rio Biestro monte RS: 14 Profile: PF 1

E.G. Elev (m)	359.31	Element	Left OB	Channel	Right OB
Vel Head (m)	0.92	Wt. n-Val.		0.030	
W.S. Elev (m)	358.38	Reach Len. (m)	14.00	14.00	14.00
Crit W.S. (m)	358.61	Flow Area (m2)		3.05	
E.G. Slope (m/m)	0.031513	Area (m2)		3.05	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.08	Top Width (m)		3.08	
Vel Total (m/s)	4.25	Avg. Vel. (m/s)		4.25	
Max Chl Dpth (m)	1.00	Hydr. Depth (m)		0.99	
Conv. Total (m3/s)	73.2	Conv. (m3/s)		73.2	
Length Wtd. (m)	14.00	Wetted Per. (m)		5.01	
Min Ch El (m)	357.38	Shear (N/m2)		188.33	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		0.09	
C & E Loss (m)	0.02	Cum SA (1000 m2)		0.04	

Plan: Plan 01 Rio Biestro monte RS: 13 Profile: PF 1

E.G. Elev (m)	358.82	Element	Left OB	Channel	Right OB
Vel Head (m)	1.02	Wt. n-Val.		0.030	
W.S. Elev (m)	357.80	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)	358.08	Flow Area (m2)		2.91	
E.G. Slope (m/m)	0.036243	Area (m2)		2.91	
Q Total (m3/s)	12.99	Flow (m3/s)		12.99	
Top Width (m)	3.09	Top Width (m)		3.09	
Vel Total (m/s)	4.47	Avg. Vel. (m/s)		4.47	
Max Chl Dpth (m)	0.95	Hydr. Depth (m)		0.94	
Conv. Total (m3/s)	68.2	Conv. (m3/s)		68.2	
Length Wtd. (m)	50.00	Wetted Per. (m)		4.91	
Min Ch El (m)	356.85	Shear (N/m2)		210.22	
Alpha	1.00	Stream Power (N/m s)	192.70	0.00	0.00
Frctn Loss (m)	0.47	Cum Volume (1000 m3)		0.05	
C & E Loss (m)	0.01	Cum SA (1000 m2)			

Plan: Plan 01 Rio Biestro valle RS: 12 Profile: PF 1

E.G. Elev (m)	356.57	Element	Left OB	Channel	Right OB
Vel Head (m)	1.06	Wt. n-Val.		0.030	
W.S. Elev (m)	355.52	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)	355.79	Flow Area (m2)		0.89	
E.G. Slope (m/m)	0.111577	Area (m2)		0.89	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	3.13	Top Width (m)		3.13	
Vel Total (m/s)	4.56	Avg. Vel. (m/s)		4.56	
Max Chl Dpth (m)	0.32	Hydr. Depth (m)		0.28	
Conv. Total (m3/s)	12.1	Conv. (m3/s)		12.1	
Length Wtd. (m)	50.00	Wetted Per. (m)		3.39	
Min Ch El (m)	355.20	Shear (N/m2)		286.58	
Alpha	1.00	Stream Power (N/m s)	636.77	0.00	0.00
Frctn Loss (m)	2.25	Cum Volume (1000 m3)		2.84	
C & E Loss (m)	0.00	Cum SA (1000 m2)		2.21	

Plan: Plan 01 Rio Biestro valle RS: 11 Profile: PF 1

E.G. Elev (m)	355.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.12	Wt. n-Val.		0.030	
W.S. Elev (m)	355.74	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)	355.54	Flow Area (m2)		2.61	
E.G. Slope (m/m)	0.004802	Area (m2)		2.61	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	

Plan: Plan 01 Rio Biestro valle RS: 11 Profile: PF 1 (Continued)

Top Width (m)	4.09	Top Width (m)		4.09	
Vel Total (m/s)	1.55	Avg. Vel. (m/s)		1.55	
Max Chl Dpth (m)	0.79	Hydr. Depth (m)		0.64	
Conv. Total (m3/s)	58.4	Conv. (m3/s)		58.4	
Length Wtd. (m)	50.00	Wetted Per. (m)		4.74	
Min Ch El (m)	354.95	Shear (N/m2)		25.92	
Alpha	1.00	Stream Power (N/m s)	648.74	0.00	0.00
Frctn Loss (m)	0.22	Cum Volume (1000 m3)		2.75	
C & E Loss (m)	0.00	Cum SA (1000 m2)		2.03	

Plan: Plan 01 Rio Biestro valle RS: 10 Profile: PF 1

E.G. Elev (m)	355.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.11	Wt. n-Val.		0.030	
W.S. Elev (m)	355.54	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)		Flow Area (m2)		2.80	
E.G. Slope (m/m)	0.003939	Area (m2)		2.80	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	4.18	Top Width (m)		4.18	
Vel Total (m/s)	1.45	Avg. Vel. (m/s)		1.45	
Max Chl Dpth (m)	0.84	Hydr. Depth (m)		0.67	
Conv. Total (m3/s)	64.5	Conv. (m3/s)		64.5	
Length Wtd. (m)	50.00	Wetted Per. (m)		4.87	
Min Ch El (m)	354.70	Shear (N/m2)		22.20	
Alpha	1.00	Stream Power (N/m s)	660.72	0.00	0.00
Frctn Loss (m)	0.15	Cum Volume (1000 m3)		2.62	
C & E Loss (m)	0.01	Cum SA (1000 m2)		1.82	

Plan: Plan 01 Rio Biestro valle RS: 9 Profile: PF 1

E.G. Elev (m)	355.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.08	Wt. n-Val.		0.030	
W.S. Elev (m)	355.41	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)		Flow Area (m2)		3.30	
E.G. Slope (m/m)	0.002486	Area (m2)		3.30	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	4.41	Top Width (m)		4.41	
Vel Total (m/s)	1.23	Avg. Vel. (m/s)		1.23	
Max Chl Dpth (m)	0.96	Hydr. Depth (m)		0.75	
Conv. Total (m3/s)	81.2	Conv. (m3/s)		81.2	
Length Wtd. (m)	50.00	Wetted Per. (m)		5.20	
Min Ch El (m)	354.45	Shear (N/m2)		15.47	
Alpha	1.00	Stream Power (N/m s)	672.69	0.00	0.00
Frctn Loss (m)	0.09	Cum Volume (1000 m3)		2.47	
C & E Loss (m)	0.01	Cum SA (1000 m2)		1.61	

Plan: Plan 01 Rio Biestro valle RS: 8 Profile: PF 1

E.G. Elev (m)	355.38	Element	Left OB	Channel	Right OB
Vel Head (m)	0.05	Wt. n-Val.		0.030	
W.S. Elev (m)	355.34	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)		Flow Area (m2)		4.13	
E.G. Slope (m/m)	0.001334	Area (m2)		4.13	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	4.77	Top Width (m)		4.77	
Vel Total (m/s)	0.98	Avg. Vel. (m/s)		0.98	
Max Chl Dpth (m)	1.14	Hydr. Depth (m)		0.87	
Conv. Total (m3/s)	110.9	Conv. (m3/s)		110.9	
Length Wtd. (m)	50.00	Wetted Per. (m)		5.71	
Min Ch El (m)	354.20	Shear (N/m2)		9.45	

Plan: Plan 01 Rio Biestro valle RS: 8 Profile: PF 1 (Continued)

Alpha	1.00	Stream Power (N/m s)	684.65	0.00	0.00
Frctn Loss (m)	0.05	Cum Volume (1000 m3)		2.28	
C & E Loss (m)	0.01	Cum SA (1000 m2)		1.38	

Plan: Plan 01 Rio Biestro valle RS: 7 Profile: PF 1

E.G. Elev (m)	355.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.030	
W.S. Elev (m)	355.30	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)		Flow Area (m2)		5.20	
E.G. Slope (m/m)	0.000707	Area (m2)		5.20	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	5.20	Top Width (m)		5.20	
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78	
Max Chl Dpth (m)	1.35	Hydr. Depth (m)		1.00	
Conv. Total (m3/s)	152.4	Conv. (m3/s)		152.4	
Length Wtd. (m)	50.00	Wetted Per. (m)		6.32	
Min Ch El (m)	353.95	Shear (N/m2)		5.70	
Alpha	1.00	Stream Power (N/m s)	696.62	0.00	0.00
Frctn Loss (m)	0.03	Cum Volume (1000 m3)		2.05	
C & E Loss (m)	0.00	Cum SA (1000 m2)		1.13	

Plan: Plan 01 Rio Biestro valle RS: 6 Profile: PF 1

E.G. Elev (m)	355.30	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.030	
W.S. Elev (m)	355.28	Reach Len. (m)	50.00	50.00	50.00
Crit W.S. (m)		Flow Area (m2)		6.17	
E.G. Slope (m/m)	0.000435	Area (m2)		6.17	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	5.31	Top Width (m)		5.31	
Vel Total (m/s)	0.66	Avg. Vel. (m/s)		0.66	
Max Chl Dpth (m)	1.58	Hydr. Depth (m)		1.16	
Conv. Total (m3/s)	194.1	Conv. (m3/s)		194.1	
Length Wtd. (m)	50.00	Wetted Per. (m)		6.73	
Min Ch El (m)	353.70	Shear (N/m2)		3.91	
Alpha	1.00	Stream Power (N/m s)	732.53	0.00	0.00
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		1.76	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.87	

Plan: Plan 01 Rio Biestro valle RS: 5 Profile: PF 1

E.G. Elev (m)	355.28	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.030	
W.S. Elev (m)	355.27	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)		Flow Area (m2)		7.18	
E.G. Slope (m/m)	0.000285	Area (m2)		7.18	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	5.41	Top Width (m)		5.41	
Vel Total (m/s)	0.56	Avg. Vel. (m/s)		0.56	
Max Chl Dpth (m)	1.82	Hydr. Depth (m)		1.33	
Conv. Total (m3/s)	240.0	Conv. (m3/s)		240.0	
Length Wtd. (m)	40.00	Wetted Per. (m)		7.15	
Min Ch El (m)	353.45	Shear (N/m2)		2.80	
Alpha	1.00	Stream Power (N/m s)	744.50	0.00	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		1.43	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.60	

Plan: Plan 01 Rio Biestro valle RS: 4 Profile: PF 1

E.G. Elev (m)	355.28	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	355.25	Reach Len. (m)	63.00	63.00	63.00
Crit W.S. (m)	353.77	Flow Area (m2)		6.16	
E.G. Slope (m/m)	0.000118	Area (m2)		6.16	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	3.00	Top Width (m)		3.00	
Vel Total (m/s)	0.66	Avg. Vel. (m/s)		0.66	
Max Chl Dpth (m)	2.05	Hydr. Depth (m)		2.05	
Conv. Total (m3/s)	373.3	Conv. (m3/s)		373.3	
Length Wtd. (m)	63.00	Wetted Per. (m)		7.11	
Min Ch El (m)	353.20	Shear (N/m2)		1.00	
Alpha	1.00	Stream Power (N/m s)	143.64	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		1.16	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.43	

Plan: Plan 01 Rio Biestro valle RS: 3 Profile: PF 1

E.G. Elev (m)	355.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	355.26	Reach Len. (m)	40.00	40.00	40.00
Crit W.S. (m)	353.07	Flow Area (m2)		8.27	
E.G. Slope (m/m)	0.000056	Area (m2)		8.27	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	3.00	Top Width (m)		3.00	
Vel Total (m/s)	0.49	Avg. Vel. (m/s)		0.49	
Max Chl Dpth (m)	2.76	Hydr. Depth (m)		2.76	
Conv. Total (m3/s)	540.5	Conv. (m3/s)		540.5	
Length Wtd. (m)	40.00	Wetted Per. (m)		8.51	
Min Ch El (m)	352.50	Shear (N/m2)		0.53	
Alpha	1.00	Stream Power (N/m s)	143.64	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		0.71	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.24	

Plan: Plan 01 Rio Biestro valle RS: 2 Profile: PF 1

E.G. Elev (m)	355.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.030	
W.S. Elev (m)	355.25	Reach Len. (m)	32.00	32.00	32.00
Crit W.S. (m)		Flow Area (m2)		10.04	
E.G. Slope (m/m)	0.000142	Area (m2)		10.04	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	
Top Width (m)	3.50	Top Width (m)		3.50	
Vel Total (m/s)	0.40	Avg. Vel. (m/s)		0.40	
Max Chl Dpth (m)	3.15	Hydr. Depth (m)		2.87	
Conv. Total (m3/s)	340.0	Conv. (m3/s)		340.0	
Length Wtd. (m)	32.00	Wetted Per. (m)		9.81	
Min Ch El (m)	352.10	Shear (N/m2)		1.42	
Alpha	1.00	Stream Power (N/m s)	167.57	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		0.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.11	

Plan: Plan 01 Rio Biestro valle RS: 1 Profile: PF 1

E.G. Elev (m)	355.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.030	
W.S. Elev (m)	355.25	Reach Len. (m)	0.00	0.00	0.00
Crit W.S. (m)		Flow Area (m2)		11.26	
E.G. Slope (m/m)	0.000106	Area (m2)		11.26	
Q Total (m3/s)	4.05	Flow (m3/s)		4.05	

Plan: Plan 01 Rio Biestro valle RS: 1 Profile: PF 1 (Continued)

Top Width (m)	3.50	Top Width (m)		3.50	
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36	
Max Chl Dpth (m)	3.50	Hydr. Depth (m)		3.22	
Conv. Total (m3/s)	393.0	Conv. (m3/s)		393.0	
Length Wtd. (m)	0.00	Wetted Per. (m)		10.50	
Min Ch El (m)	351.75	Shear (N/m2)		1.12	
Alpha	1.00	Stream Power (N/m s)	167.57	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			
C & E Loss (m)	0.09	Cum SA (1000 m2)			

Plan: Plan 01 Fiume Bormida valle1 RS: 0.8 Profile: PF 1

E.G. US. (m)	355.29	Element	Inside BR US	Inside BR DS
W.S. US. (m)	355.13	E.G. Elev (m)	355.29	355.27
Q Total (m3/s)	335.35	W.S. Elev (m)	355.10	355.09
Q Bridge (m3/s)	335.35	Crit W.S. (m)	353.94	353.85
Q Weir (m3/s)		Max Chl Dpth (m)	3.60	3.69
Weir Sta Lft (m)		Vel Total (m/s)	1.94	1.90
Weir Sta Rgt (m)		Flow Area (m2)	172.96	176.06
Weir Submerg		Froude # Chl	0.42	0.41
Weir Max Depth (m)		Specif Force (m3)	302.88	312.00
Min El Weir Flow (m)	358.20	Hydr Depth (m)	2.12	2.16
Min El Prs (m)	357.20	W.P. Total (m)	94.08	94.29
Delta EG (m)	0.03	Conv. Total (m3/s)	8652.2	8898.7
Delta WS (m)	0.03	Top Width (m)	81.48	81.43
BR Open Area (m2)	351.90	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.94	C & E Loss (m)	0.00	0.01
Coef of Q		Shear Total (N/m2)	27.08	26.00
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: Plan 01 Rio Biestro monte RS: 14.2 Profile: PF 1

E.G. US. (m)	359.43	Element	Inside BR US	Inside BR DS
W.S. US. (m)	358.46	E.G. Elev (m)	359.40	359.33
Q Total (m3/s)	12.99	W.S. Elev (m)	358.48	358.36
Q Bridge (m3/s)	12.99	Crit W.S. (m)	358.71	358.61
Q Weir (m3/s)		Max Chl Dpth (m)	1.00	0.98
Weir Sta Lft (m)		Vel Total (m/s)	4.25	4.37
Weir Sta Rgt (m)		Flow Area (m2)	3.06	2.97
Weir Submerg		Froude # Chl	1.36	1.42
Weir Max Depth (m)		Specif Force (m3)	7.15	7.23
Min El Weir Flow (m)	360.05	Hydr Depth (m)	0.99	0.96
Min El Prs (m)	359.90	W.P. Total (m)	5.01	4.96
Delta EG (m)	0.12	Conv. Total (m3/s)	73.2	70.4
Delta WS (m)	0.07	Top Width (m)	3.09	3.08
BR Open Area (m2)	7.52	Frctn Loss (m)	0.02	0.07
BR Open Vel (m/s)	4.37	C & E Loss (m)	0.02	0.01
Coef of Q		Shear Total (N/m2)	188.11	200.23
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

HEC-RAS Plan: Plan 01 Profile: PF 1

River	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)	
Rio Biestro	monte	18	PF 1	12.99	360.00	360.96	361.22	361.95	0.035004	4.42	2.94	3.14	1.46
Rio Biestro	monte	17	PF 1	12.99	359.45	360.38	360.67	361.41	0.036438	4.49	2.89	3.21	1.51
Rio Biestro	monte	16	PF 1	12.99	358.90	359.83	360.12	360.86	0.036796	4.51	2.88	3.21	1.52
Rio Biestro	monte	15	PF 1	12.99	358.35	359.30	359.58	360.32	0.035877	4.46	2.91	3.10	1.47
Rio Biestro	monte	14.9	PF 1	12.99	357.85	358.61	359.08	360.24	0.071332	5.67	2.29	3.07	2.09
Rio Biestro	monte	14.5	PF 1	12.99	357.48	358.46	358.71	359.43	0.034024	4.37	2.97	3.09	1.42
Rio Biestro	monte	14.2		Bridge									
Rio Biestro	monte	14	PF 1	12.99	357.38	358.38	358.61	359.31	0.031513	4.25	3.05	3.08	1.36
Rio Biestro	monte	13	PF 1	12.99	356.85	357.80	358.08	358.82	0.036243	4.47	2.91	3.09	1.47
Rio Biestro	valle	12	PF 1	4.05	355.20	355.52	355.79	356.57	0.111577	4.56	0.89	3.13	2.73
Rio Biestro	valle	11	PF 1	4.05	354.95	355.74	355.54	355.87	0.004802	1.55	2.61	4.09	0.62
Rio Biestro	valle	10	PF 1	4.05	354.70	355.54		355.65	0.003939	1.45	2.80	4.18	0.56
Rio Biestro	valle	9	PF 1	4.05	354.45	355.41		355.48	0.002486	1.23	3.30	4.41	0.45
Rio Biestro	valle	8	PF 1	4.05	354.20	355.34		355.38	0.001334	0.98	4.13	4.77	0.34
Rio Biestro	valle	7	PF 1	4.05	353.95	355.30		355.33	0.000707	0.78	5.20	5.20	0.25
Rio Biestro	valle	6	PF 1	4.05	353.70	355.28		355.30	0.000435	0.66	6.17	5.31	0.19
Rio Biestro	valle	5	PF 1	4.05	353.45	355.27		355.28	0.000285	0.56	7.18	5.41	0.16
Rio Biestro	valle	4	PF 1	4.05	353.20	355.25	353.77	355.28	0.000118	0.66	6.16	3.00	0.15
Rio Biestro	valle	3	PF 1	4.05	352.50	355.26	353.07	355.27	0.000056	0.49	8.27	3.00	0.09
Rio Biestro	valle	2	PF 1	4.05	352.10	355.25		355.26	0.000142	0.40	10.04	3.50	0.08
Rio Biestro	valle	1	PF 1	4.05	351.75	355.25		355.26	0.000106	0.36	11.26	3.50	0.06
Fiume Bormida	monte	54	PF 1	271.00	364.03	368.45	367.06	368.83	0.002907	2.77	100.22	35.75	0.48
Fiume Bormida	monte	53	PF 1	271.00	363.64	367.44	367.40	368.62	0.010605	4.96	57.90	23.28	0.93
Fiume Bormida	monte	52	PF 1	271.00	363.16	367.07	367.07	368.29	0.011113	5.03	57.07	22.98	0.95
Fiume Bormida	monte	51	PF 1	271.00	362.76	366.08	366.55	367.90	0.021742	6.08	46.73	23.87	1.27
Fiume Bormida	monte	50	PF 1	271.00	362.06	366.73	366.17	367.47	0.006650	3.90	72.84	26.55	0.70
Fiume Bormida	monte	49	PF 1	271.00	362.02	366.85	365.58	367.26	0.003073	2.84	95.39	30.02	0.51
Fiume Bormida	monte	48	PF 1	271.00	362.84	366.63	365.78	367.16	0.004275	3.28	86.18	30.82	0.58
Fiume Bormida	monte	47	PF 1	271.00	362.26	366.45	365.66	367.05	0.005345	3.43	78.99	28.45	0.66
Fiume Bormida	monte	46	PF 1	271.00	362.15	366.12	365.68	366.88	0.006721	3.89	71.89	29.28	0.75
Fiume Bormida	monte	45	PF 1	271.00	362.44	366.08	365.49	366.66	0.005263	3.54	82.68	34.58	0.67
Fiume Bormida	monte	44	PF 1	271.00	360.46	365.72	365.36	366.41	0.006660	4.12	77.38	34.31	0.71
Fiume Bormida	monte	43	PF 1	271.00	362.00	365.69	364.93	366.13	0.004002	3.04	99.23	59.97	0.58
Fiume Bormida	monte	42	PF 1	271.00	361.56	365.50	364.50	365.98	0.003721	3.07	93.86	57.70	0.56
Fiume Bormida	monte	41	PF 1	271.00	360.47	365.62	364.06	365.80	0.001390	2.01	158.03	71.79	0.35
Fiume Bormida	monte	40	PF 1	279.68	360.13	365.48	363.81	365.73	0.001722	2.43	142.92	66.62	0.39
Fiume Bormida	monte	39	PF 1	279.68	360.36	364.14	364.14	365.47	0.013178	5.12	54.65	20.43	1.00
Fiume Bormida	monte	38	PF 1	279.68	360.39	364.23	363.83	364.92	0.006202	3.87	79.94	35.76	0.72

All. 04

HEC-RAS Plan: Plan 01 Profile: PF 1 (Continued)

River	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)	
Fiume Bormida	monte	37	PF 1	279.68	360.62	364.01	363.51	364.65	0.006519	3.55	80.13	38.83	0.72
Fiume Bormida	monte	36	PF 1	279.68	360.68	363.63	363.43	364.34	0.009017	3.86	78.31	46.05	0.78
Fiume Bormida	monte	35	PF 1	279.68	360.35	363.74	362.86	364.01	0.003039	2.46	142.99	141.04	0.48
Fiume Bormida	monte	34	PF 1	279.68	358.92	363.80	361.71	363.91	0.000710	1.62	197.95	95.57	0.26
Fiume Bormida	monte	33	PF 1	279.68	358.23	363.34	362.06	363.82	0.003369	3.12	94.05	48.15	0.54
Fiume Bormida	monte	32	PF 1	317.85	358.53	363.25	361.96	363.68	0.002913	2.96	114.37	55.03	0.51
Fiume Bormida	monte	31	PF 1	317.85	358.37	362.05	362.05	363.39	0.012799	5.13	61.99	23.21	1.00
Fiume Bormida	monte	30	PF 1	317.85	358.07	361.35	361.71	362.87	0.017665	5.47	58.14	26.02	1.17
Fiume Bormida	monte	29	PF 1	317.85	357.36	359.21	359.81	361.26	0.018940	6.34	50.10	29.17	1.55
Fiume Bormida	monte	28	PF 1	317.85	357.13	359.93	359.54	360.68	0.004477	3.84	82.73	34.38	0.79
Fiume Bormida	monte	27	PF 1	317.85	356.99	359.94	359.36	360.57	0.003350	3.54	90.43	36.11	0.70
Fiume Bormida	monte	26	PF 1	317.85	356.87	359.32	359.32	360.45	0.007477	4.71	67.49	30.09	1.00
Fiume Bormida	monte	25	PF 1	317.85	356.65	359.01	359.09	360.22	0.008366	4.86	65.34	30.34	1.06
Fiume Bormida	monte	24	PF 1	317.85	356.55	358.89	358.99	360.12	0.008018	5.00	65.75	31.13	1.06
Fiume Bormida	monte	23	PF 1	317.85	356.38	358.58	358.80	359.90	0.010394	5.08	62.58	32.45	1.17
Fiume Bormida	monte	22	PF 1	317.85	356.08	358.79	358.36	359.47	0.004156	3.66	86.92	36.54	0.76
Fiume Bormida	monte	21	PF 1	317.85	355.93	358.78		359.37	0.003389	3.40	93.48	37.78	0.69
Fiume Bormida	monte	20	PF 1	317.85	355.74	358.45		359.25	0.004759	3.95	80.46	33.28	0.81
Fiume Bormida	monte	19	PF 1	317.85	355.52	358.45	357.98	359.06	0.004060	3.48	91.37	41.15	0.75
Fiume Bormida	monte	18	PF 1	317.85	355.28	357.85	357.73	358.86	0.006347	4.45	71.44	30.66	0.93
Fiume Bormida	monte	17	PF 1	317.85	355.14	357.76	357.58	358.73	0.005959	4.36	72.96	30.79	0.90
Fiume Bormida	monte	16	PF 1	317.85	354.96	357.72		358.56	0.004903	4.05	78.53	32.04	0.83
Fiume Bormida	valle1	15	PF 1	335.35	354.73	357.44		358.38	0.005622	4.29	78.09	32.39	0.88
Fiume Bormida	valle1	14	PF 1	335.35	354.45	357.13	357.13	358.13	0.007683	4.42	75.90	38.47	1.00
Fiume Bormida	valle1	13	PF 1	335.35	354.21	356.36	356.66	357.79	0.011841	5.31	63.21	34.12	1.24
Fiume Bormida	valle1	12	PF 1	335.35	354.00	356.70	356.46	357.58	0.005392	4.16	80.67	34.32	0.87
Fiume Bormida	valle1	11	PF 1	335.35	353.79	356.71	356.49	357.36	0.005263	3.57	93.82	49.85	0.83
Fiume Bormida	valle1	10	PF 1	335.35	353.58	356.63		357.20	0.004155	3.35	99.97	48.96	0.75
Fiume Bormida	valle1	9	PF 1	335.35	353.32	356.53	355.81	357.06	0.003169	3.24	103.51	43.28	0.67
Fiume Bormida	valle1	8	PF 1	335.35	353.01	356.43	355.51	356.95	0.002298	3.19	107.98	49.18	0.59
Fiume Bormida	valle1	7	PF 1	335.35	352.76	356.40	355.27	356.86	0.001914	3.03	116.50	54.30	0.54
Fiume Bormida	valle1	6	PF 1	335.35	352.58	356.44	355.02	356.79	0.001381	2.66	134.55	56.12	0.46
Fiume Bormida	valle1	5	PF 1	335.35	352.38	356.48	354.78	356.72	0.001002	2.23	158.00	58.45	0.39
Fiume Bormida	valle1	4	PF 1	335.35	352.09	355.79	355.35	356.59	0.005112	3.97	84.40	36.00	0.83
Fiume Bormida	valle1	3	PF 1	335.35	351.94	355.76	355.76	356.44	0.005294	3.96	97.40	61.69	0.86
Fiume Bormida	valle1	2	PF 1	335.35	351.77	355.02	355.38	356.23	0.009487	4.87	68.81	36.26	1.13
Fiume Bormida	valle1	1	PF 1	335.35	351.65	355.02	355.29	356.06	0.007317	4.52	74.16	34.42	0.98
Fiume Bormida	valle1	0.9	PF 1	335.35	351.50	355.13	353.82	355.29	0.001032	1.79	187.33	85.64	0.39

HEC-RAS Plan: Plan 01 Profile: PF 1 (Continued)

River	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)	
Fiume Bormida	valle1	0.8		Bridge									
Fiume Bormida	valle1	0.7	PF 1	335.35	351.40	355.10		355.26	0.000993	1.77	189.36	85.51	0.38
Fiume Bormida	valle2	0.6	PF 1	340.00	351.33	354.22	354.22	355.17	0.007472	4.30	79.13	42.00	1.00
Fiume Bormida	valle2	0.5	PF 1	340.00	351.20	354.09	354.17	355.11	0.008442	4.47	76.15	42.00	1.06
condotto scolmat	unico	2	PF 1	11.54	356.43	358.40	357.57	358.59	0.001063	1.95	5.91	3.00	0.44
condotto scolmat	unico	1	PF 1	11.54	355.43	358.38	356.58	358.46	0.000386	1.31	8.84	3.00	0.24