

ST AQ/RST ABR-MS

Rif. Nota CTVA n. 0009652 del 29-08-2023

Prot. ANAS CDG-674809 del 30-08-2023

## **Allegato documentale in risposta alle richieste di integrazione del MASE**

### **Allegato 01 – rif. §5.1 Elenco floristico**

<b>n.</b>	<b>Specie</b>	<b>Famiglia</b>
1	<i>Sambucus nigra</i> L.	Adoxaceae
2	<i>Crocus</i> sp.	Amaryllidaceae
3	<i>Galanthus nivalis</i> L.	Amaryllidaceae
4	<i>Anthriscus sylvestris</i> (L.) Hoffm.	Apiaceae
5	<i>Daucus carota</i> L.	Apiaceae
6	<i>Hedera elix</i> L.	Araliaceae
7	<i>Achillea millefolium</i> L. SL	Asteraceae
8	<i>Adenostiles</i> sp.	Asteraceae
9	<i>Arctium minus</i> (Hill) Bernh.	Asteraceae
10	<i>Bellis perennis</i> L.	Asteraceae
11	<i>Chondrilla juncea</i> L.	Asteraceae
12	<i>Cichorium intybus</i> L.	Asteraceae
13	<i>Cirsium</i> sp.	Asteraceae
14	<i>Crisantemum</i> sp.	Asteraceae
15	<i>Helminthotheca echioides</i> (L.) Holub	Asteraceae
16	<i>Inula</i> sp.	Asteraceae
17	<i>Pilosella cymosa</i> L.	Asteraceae
18	<i>Pilosellum officinarum</i> Vaill	Asteraceae
19	<i>Senecio</i> sp.	Asteraceae
20	<i>Sonchus oleraceus</i> L.	Asteraceae
21	<i>Taraxacum levigatum</i> Auct.	Asteraceae
22	<i>Tussilago farfara</i> L.	Asteraceae
23	<i>Ostrya carpinifolia</i> Scop.	Betulaceae
24	<i>Buglossoides purpureocaerulea</i> (L.) I.M. Johnst	Borraginaceae
25	<i>Echium vulgare</i> L.	Borraginaceae
26	<i>Myosotis</i> sp.	Borraginaceae
27	<i>Symphytum bulbosum</i> K.F.Schimp	Borraginaceae
28	<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande	Brassicaceae
29	<i>Capsella bursa-pastoris</i> (L.) Medik	Brassicaceae
30	<i>Cardamine</i> sp.	Brassicaceae
31	<i>Sixalix atropurpurea</i> L.	Caprifoliaceae
32	<i>Cerastium glomeratum</i> Thuill.	Caryophyllaceae
33	<i>Stellaria media</i> (L.) Vill.	Caryophyllaceae
34	<i>Valerianella</i> sp.	Caryophyllaceae
35	<i>Colvolvolus arvensis</i> L.	Convolvulaceae
36	<i>Cornus sanguinea</i> L	Cornaceae
37	<i>Carpinus betulus</i> L.	Corylaceae
38	<i>Corylus avellana</i> L.	Corylaceae
39	<i>Sedum</i> sp.	Crassulaceae

n.	Specie	Famiglia
40	<i>Juniperus sp.</i>	Cupressaceae
41	<i>Pteridium aquilinum (L.) Kuhn</i>	Dennstaedtiaceae
42	<i>Equisetum sp.</i>	Equisetaceae
43	<i>Euphorbia helioscopia L.</i>	Euphorbiaceae
44	<i>Medicago sativa L.</i>	Fabaceae
45	<i>Anthyllis sp.</i>	Fabaceae
46	<i>Galega officinalis L.</i>	Fabaceae
47	<i>Lotus corniculatus L.</i>	Fabaceae
48	<i>Medicago lupulina L.</i>	Fabaceae
49	<i>Melilotus altissimus (Thuill.) Coulot &amp; Rabaute</i>	Fabaceae
50	<i>Robinia pseudoacacia L.</i>	Fabaceae
51	<i>Trifolium pratense L.</i>	Fabaceae
52	<i>Trifolium repens L.</i>	Fabaceae
53	<i>Cytisus scoparius L. &amp; Link</i>	Fabaceae
54	<i>Trifolium campestre Schreb.</i>	Fabaceae
55	<i>Quercus cerris L.</i>	Fagaceae
56	<i>Quercus pubescens Wild</i>	Fagaceae
57	<i>Erodium sp</i>	Geraniaceae
58	<i>Geranium sp</i>	Geraniaceae
59	<i>Hypericum perforatum L.</i>	Hypericaceae
60	<i>Juglans regia L.</i>	Juglandaceae
61	<i>Juncus sp</i>	Juncea
62	<i>Clinopodium vulgare L.</i>	Lamiaceae
63	<i>Galeopsis angustifolia Ehrh.</i>	Lamiaceae
64	<i>Lamium purpureum L.,</i>	Lamiaceae
65	<i>Lycopus europeus L.</i>	Lamiaceae
66	<i>Teucrium sp.</i>	Lamiaceae
67	<i>Thymus sp.</i>	Lamiaceae
68	<i>Fraxinus excelsior L.</i>	Oleaceae
69	<i>Fraxinus ornus L.</i>	Oleaceae
70	<i>Lathraea squamaria L</i>	Orobanchaceae
71	<i>Chelidonium majus L.</i>	Papaveraceae
72	<i>Papaver rhoeas L.</i>	Papaveraceae
73	<i>Plantago lanceolata L.</i>	Plantaginaceae
74	<i>Plantago major L.</i>	Plantaginaceae
75	<i>Veronica arvensis L.</i>	Plantaginaceae
76	<i>Veronica hederifolia L.</i>	Plantaginaceae
77	<i>Veronica sp.</i>	Plantaginaceae
78	<i>Agrostis sp.</i>	Poaceae
79	<i>Bromus hordeaceus L.</i>	Poaceae
80	<i>Cynodon dactylon (L.) Pers.</i>	Poaceae
81	<i>Festuca arundinacea Schreb.</i>	Poaceae
82	<i>Festuca sp.</i>	Poaceae
83	<i>Hordeum sp.</i>	Poaceae
84	<i>Lolium perenne L.</i>	Poaceae
85	<i>Phleum sp.</i>	Poaceae
86	<i>Poa sp.</i>	Poaceae
87	<i>Vulpia sp.</i>	Poaceae

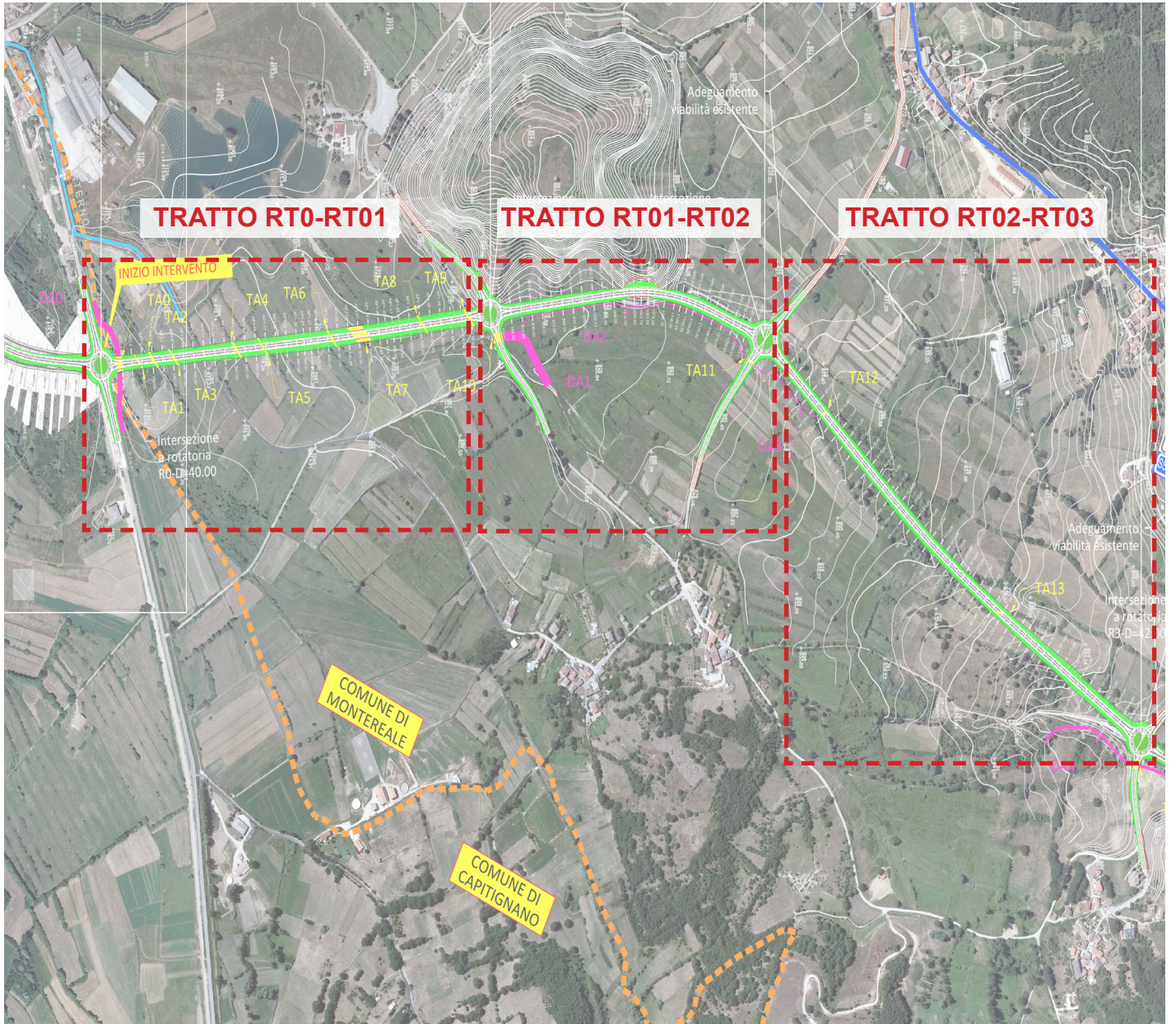
n.	Specie	Famiglia
88	<i>Portulaca oleracea L.</i>	Portulacaceae
89	<i>Lysimachia arvensis (L.) U. Manns &amp; Anderb.</i>	Primulaceae
90	<i>Clematis vitalba L.</i>	Ranunculaceae
91	<i>Ranunculus sp. spp.</i>	Ranunculaceae
92	<i>Thalictrum L.</i>	Ranunculaceae
93	<i>Crataegus monogyna Jacq</i>	Rosaceae
94	<i>Fragaria vesca L.</i>	Rosaceae
95	<i>Potentilla repens L</i>	Rosaceae
96	<i>Rubus ulmifolium Schott</i>	Rosaceae
97	<i>Prunus avium L.</i>	Rosaceae
98	<i>Rosa sp.</i>	Rosaceae
99	<i>Sanguisorba minor L.</i>	Rosaceae
100	<i>Prunus spinosa L.</i>	Rosaceae
101	<i>Pyrus communis subsp. pyraster (L.) Ehrh.</i>	Rosaceae
102	<i>Gallium odoratum Scop.</i>	Rubiaceae
103	<i>Sherardia arvensis L.</i>	Rubiaceae
104	<i>Gallium aparine L.</i>	Rubiaceae
105	<i>Populus deltoides W. Bartram ex Marshall</i>	Salicaceae
106	<i>Populus tremula L.</i>	Salicaceae
107	<i>Salix alba L.</i>	Salicaceae
108	<i>Salix caprea L.</i>	Salicaceae
109	<i>Salix cinerea L.</i>	Salicaceae
110	<i>Salix purpurea L.</i>	Salicaceae
111	<i>Salix triandra L.</i>	Salicaceae
112	<i>Acer obtusatum (Waldst. &amp; Kit. ex Willd.) Gams</i>	Sapindaceae
113	<i>Acer pseudoplatanus L.</i>	Sapindaceae
114	<i>Acer campestre L.</i>	Sapindaceae
115	<i>Rhinanthus minor L.</i>	Scrophulariaceae
116	<i>Verbascum tapsus L.</i>	Scrophulariaceae
117	<i>Typha latifolia L</i>	Typhaceae
118	<i>Ulmus minor Mill.</i>	Ulmaceae
119	<i>Parietaria officinalis L.</i>	Urticaceae
120	<i>Urtica dioica L.</i>	Urticaceae
121	<i>Viola sp.</i>	Violaceae

**Allegato 02 - rif. §5.2 Planimetria di inquadramento Mitigazioni Ambientali**



# Planimetria di inquadramento Mitigazioni Ambientali

## Primo tratto



### TABELLA RIEPILOGATIVA

- Tratto RT00-RT01 : Sezione stradale tipo in rilevato con terra rinforzata
- Tratto RT01-RT02: Sezione stradale tipo stradale - *ambiente dei coltivi e dei pascoli cespugliati in ambito con vegetazione igrofila*
- Tratto RT02-RT03: Sezione stradale tipo in rilevato ambito 2 – *ambiente dei coltivi e dei pascoli in aree aperte*

Elaborato grafico di riferimento: Interventi di mitigazione ambientale - Sezioni tipo sistemazioni stradali | Codice elaborato: T00PS00AMBST00



# Planimetria di inquadramento Mitigazioni Ambientali

## Secondo tratto



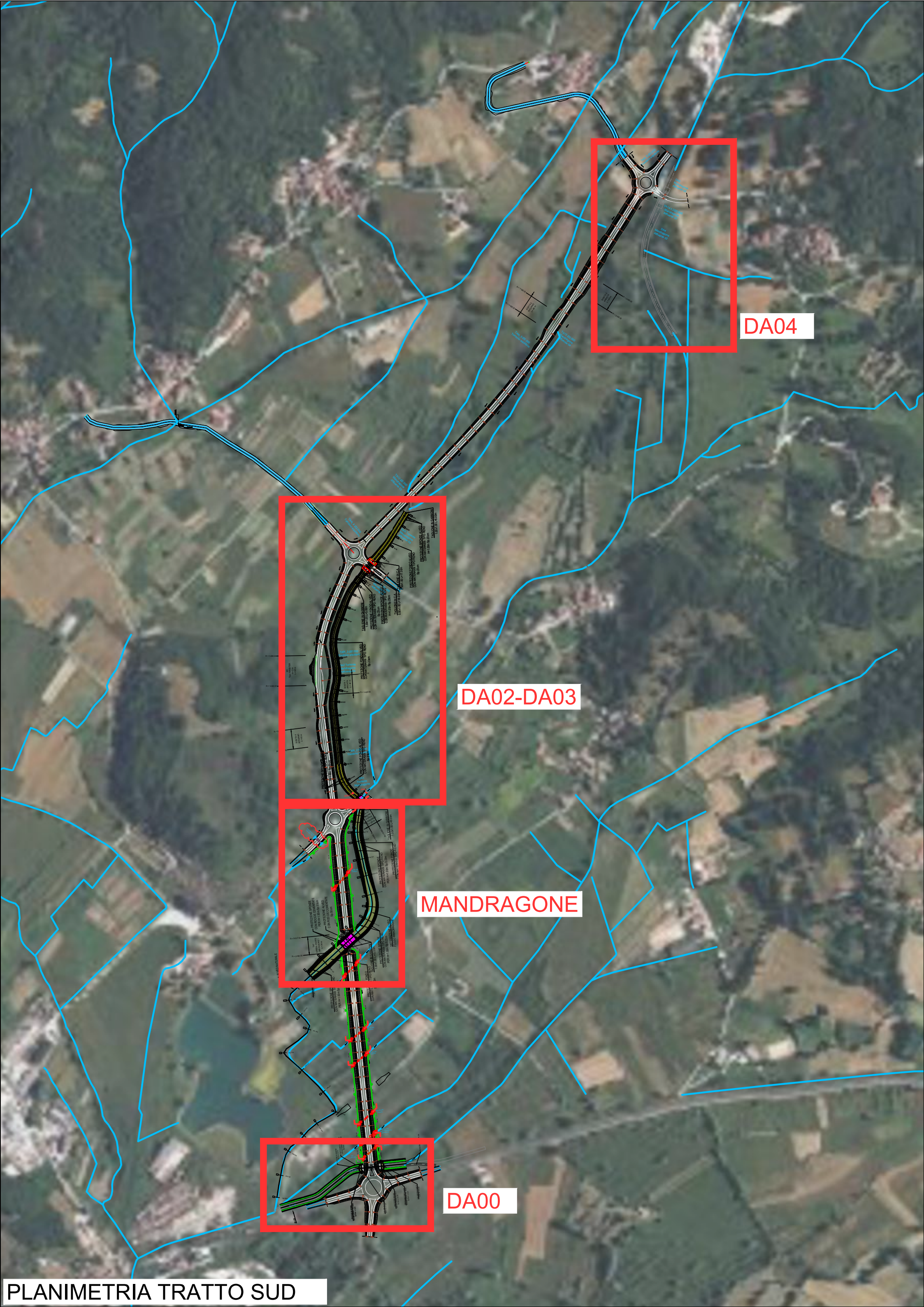
### TABELLA RIEPILOGATIVA

- Tratto 1: sezione tipo a mezza costa con paratia a monte ambito 2- *ambiente dei coltivi e dei pascoli in aree aperte*
- Tratto 2: sezione tipo a mezza costa con terra rinforzata e gabbioni ambito 3- *ambiente con vegetazione forestale (boschi e boscaglie)*
- Tratto 3: *sezione tipo in rilevato con terra rinforzata*
- Tratto 4: sezione tipo a mezza costa con muro in c.a. ambito 1 – *ambiente dei coltivi e dei pascoli cespugliati*
- Tratto 5: sezione tipo in rilevato ambito 1- *ambiente dei coltivi e dei pascoli cespugliati*
- Tratto 6: sezione tipo a mezza costa con muro in c.a. ambito 1 – *ambiente dei coltivi e dei pascoli cespugliati*
- Tratto 7: sezione tipo in rilevato ambito 1- *ambiente dei coltivi e dei pascoli cespugliati*
- Tratto 8: sezione tipo a mezza costa con muro in c.a. ambito 1 – *ambiente dei coltivi e dei pascoli cespugliati*
- Tratto 9: sezione tipo in rilevato ambito 1- *ambiente dei coltivi e dei pascoli cespugliati*



**Allegato 03 – rif. §7.2 Inalveazioni Sud**





DA04

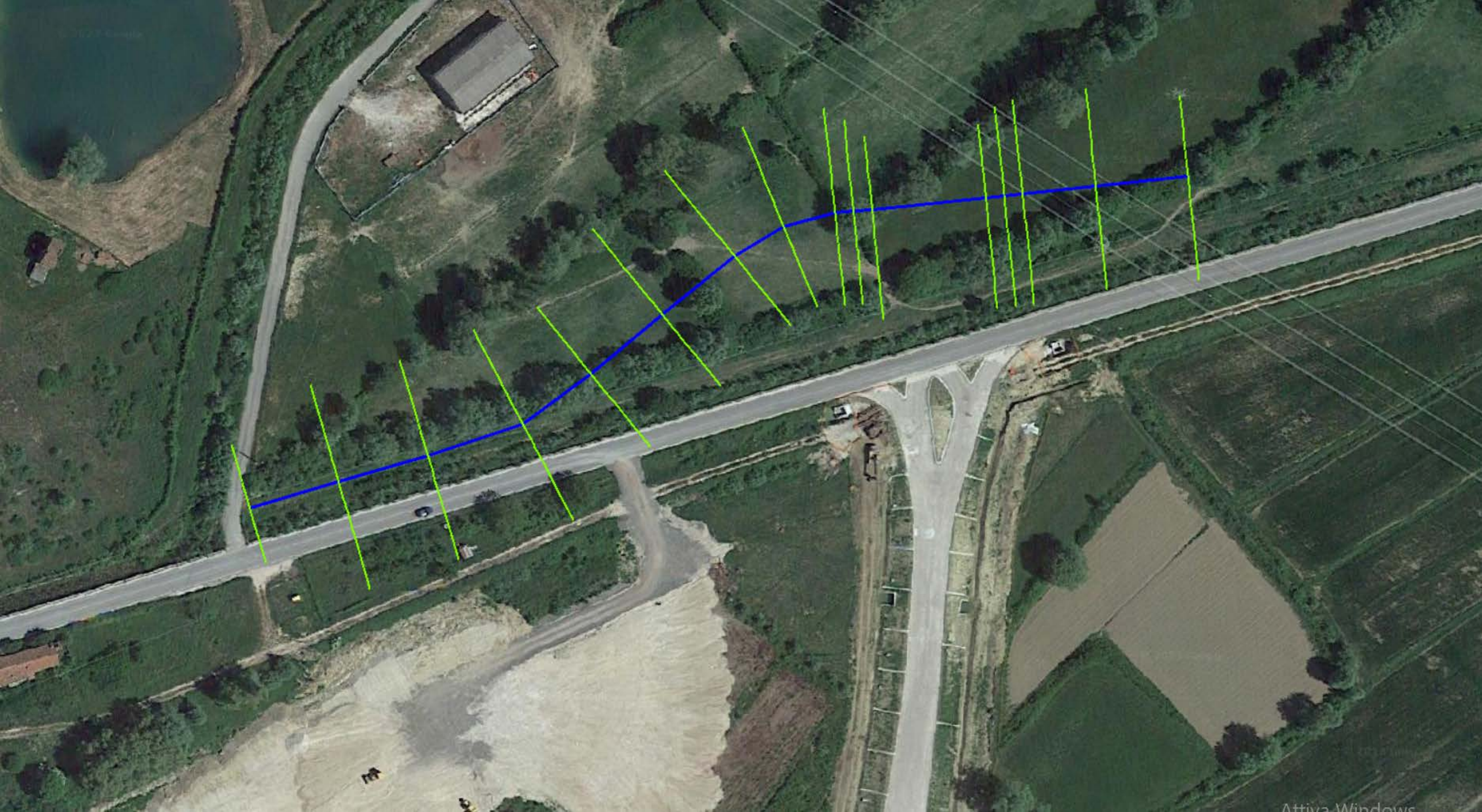
DA02-DA03

MANDRAGONE

DA00

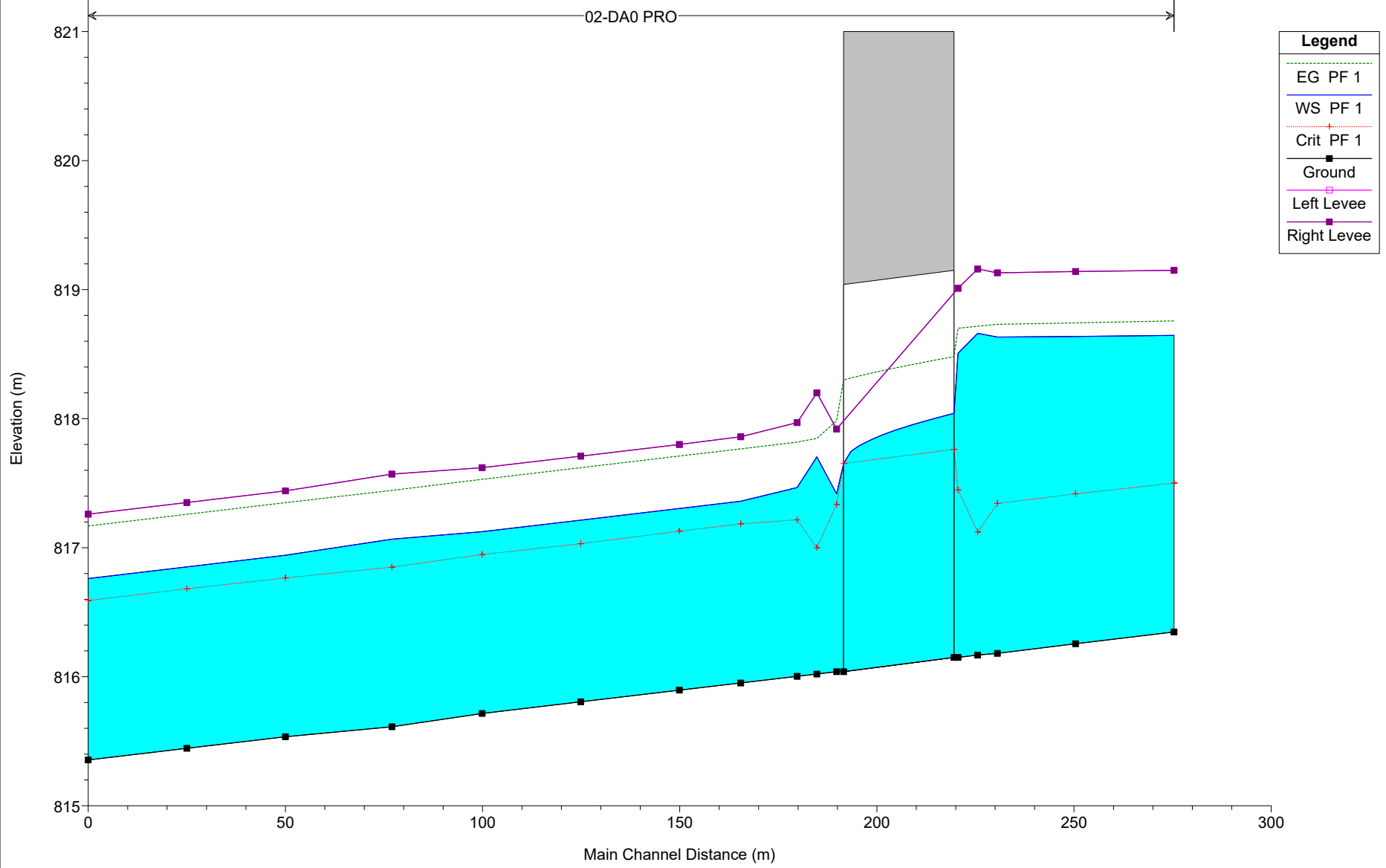
PLANIMETRIA TRATTO SUD



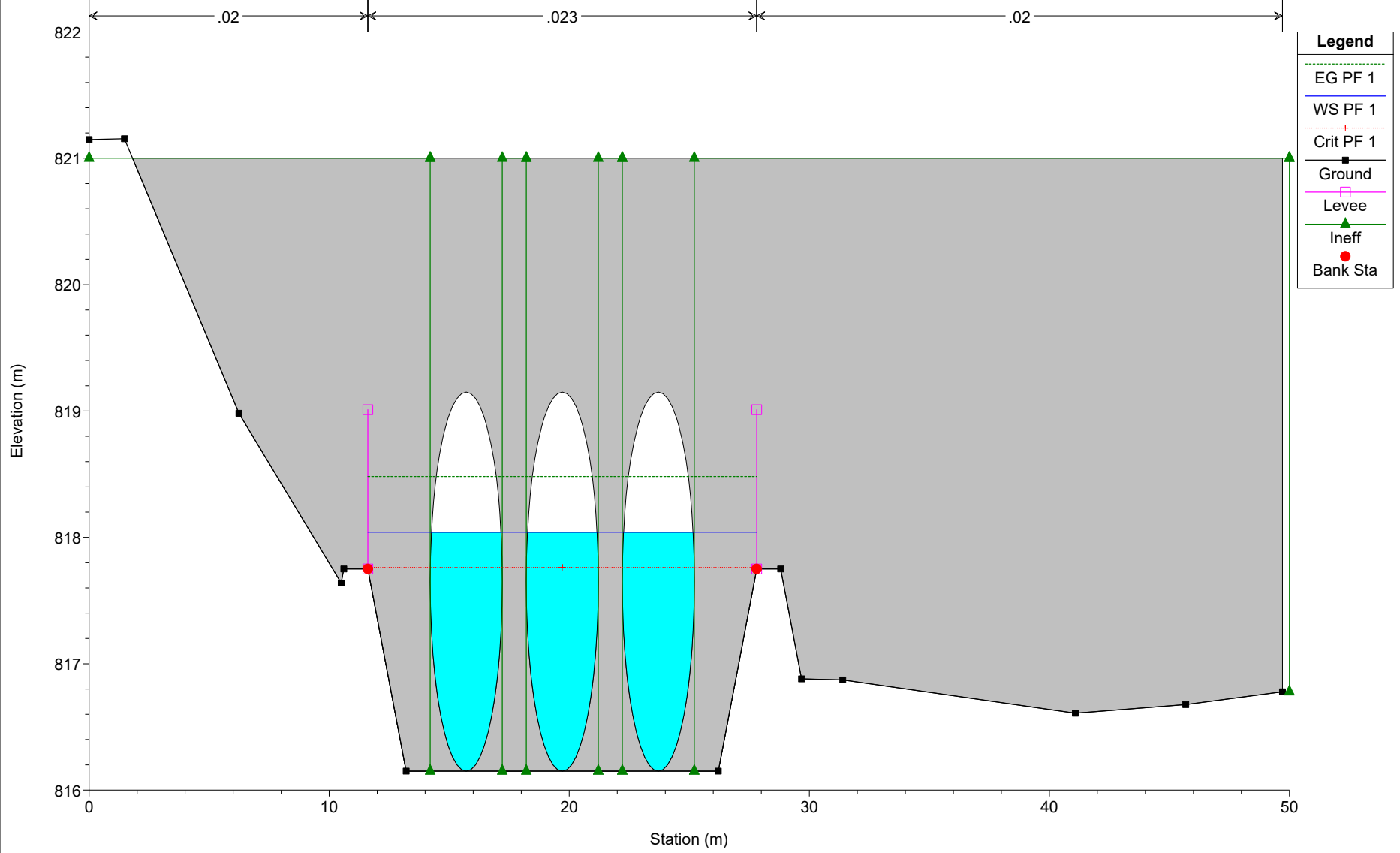




02-DA0 PRO

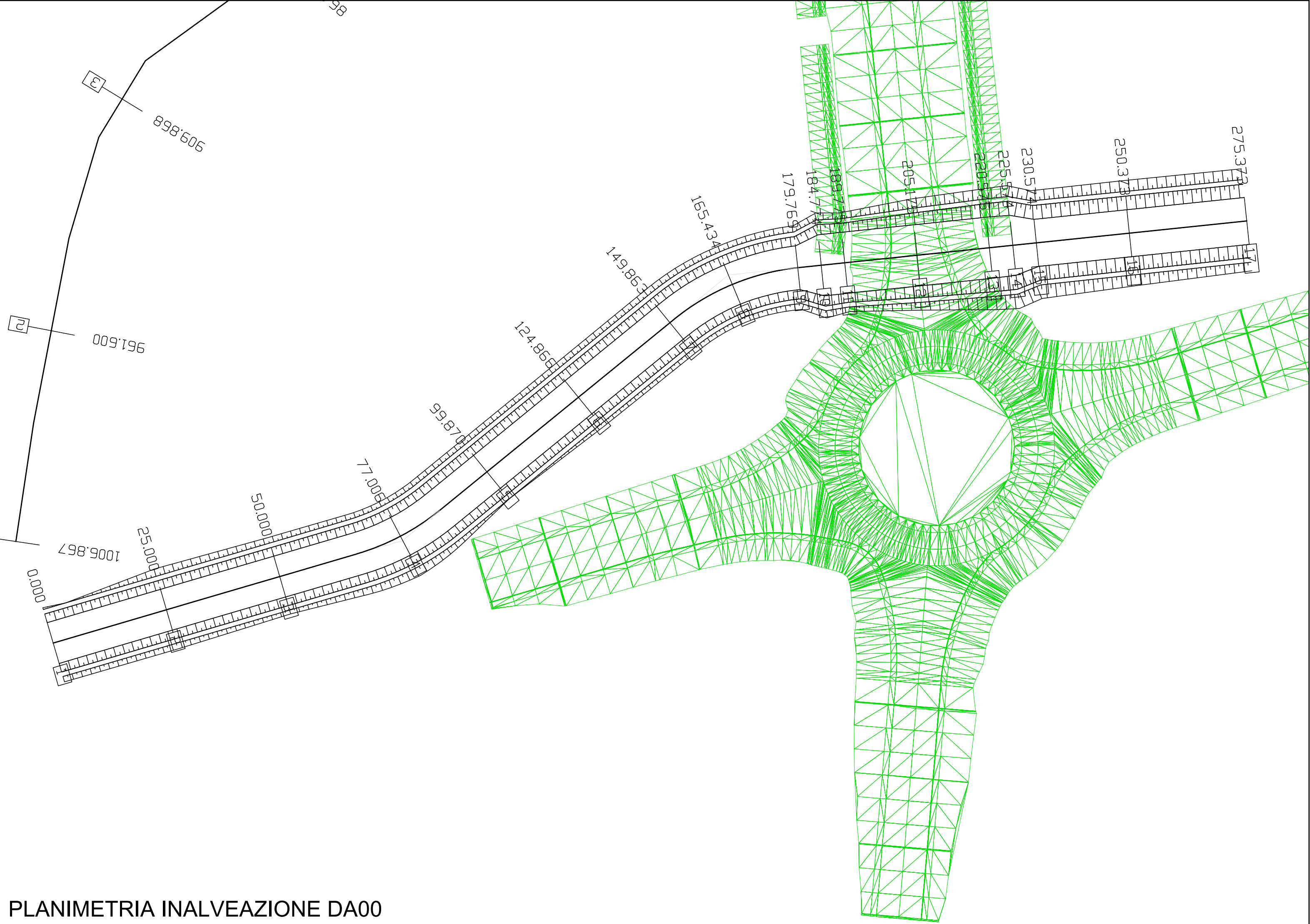


02-DA0-PRO Plan: 02-DA0-PLAN 15/07/2023  
3CULVERT3000



- EG PF 1
- WS PF 1
- Crit PF 1
- Ground
- Levee
- Ineff
- Bank Sta

PLANIMETRIA INALVEAZIONE DA00





LIVELLETTE

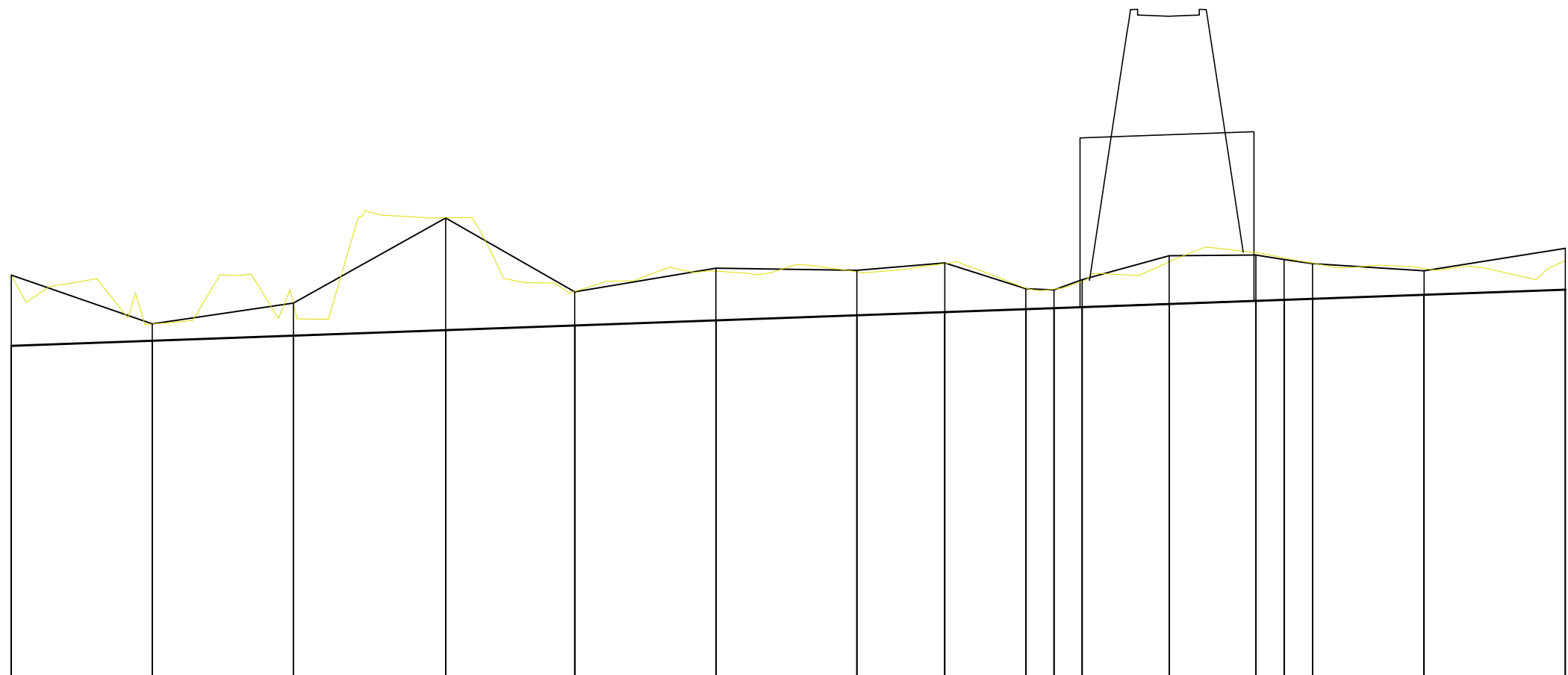
DIFF. DI QUOTA  
DISTANZA  
PENDENZA

h = 0.993  
L = 275.373  
i = 0.36%

# PROFILO INALVEAZIONE DA00

SCALA QUOTE 1:100  
SCALA DISTANZE 1:1000

QT.RIF. 809.500



NUMERO SEZIONI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
DISTANZE PARZIALI		25.00	25.00	27.01	22.86	25.00	25.00	15.57	14.33	5.01	5.00	15.40	15.40	5.00	5.00	19.80	25.00
QUOTE TERRENO	816.61	815.74	816.11	817.62	816.31	816.73	816.69	816.82	816.36	816.35	816.53	816.95	816.96	816.88	816.81	816.68	817.08
QUOTE PROGETTO	815.35	815.45	815.54	815.63	815.72	815.81	815.90	815.95	816.00	816.02	816.04	816.09	816.15	816.17	816.19	816.26	816.35
ANDAMENTO PLANIMETRICO	L= 28.137		L= 0.791		L= 12.796		L= 13.901		Sv= 29.000 a=36.9235 R= 50.000			L= 63.993			L= 95.416		
			Sv= 19.928 a=25.3725						3								

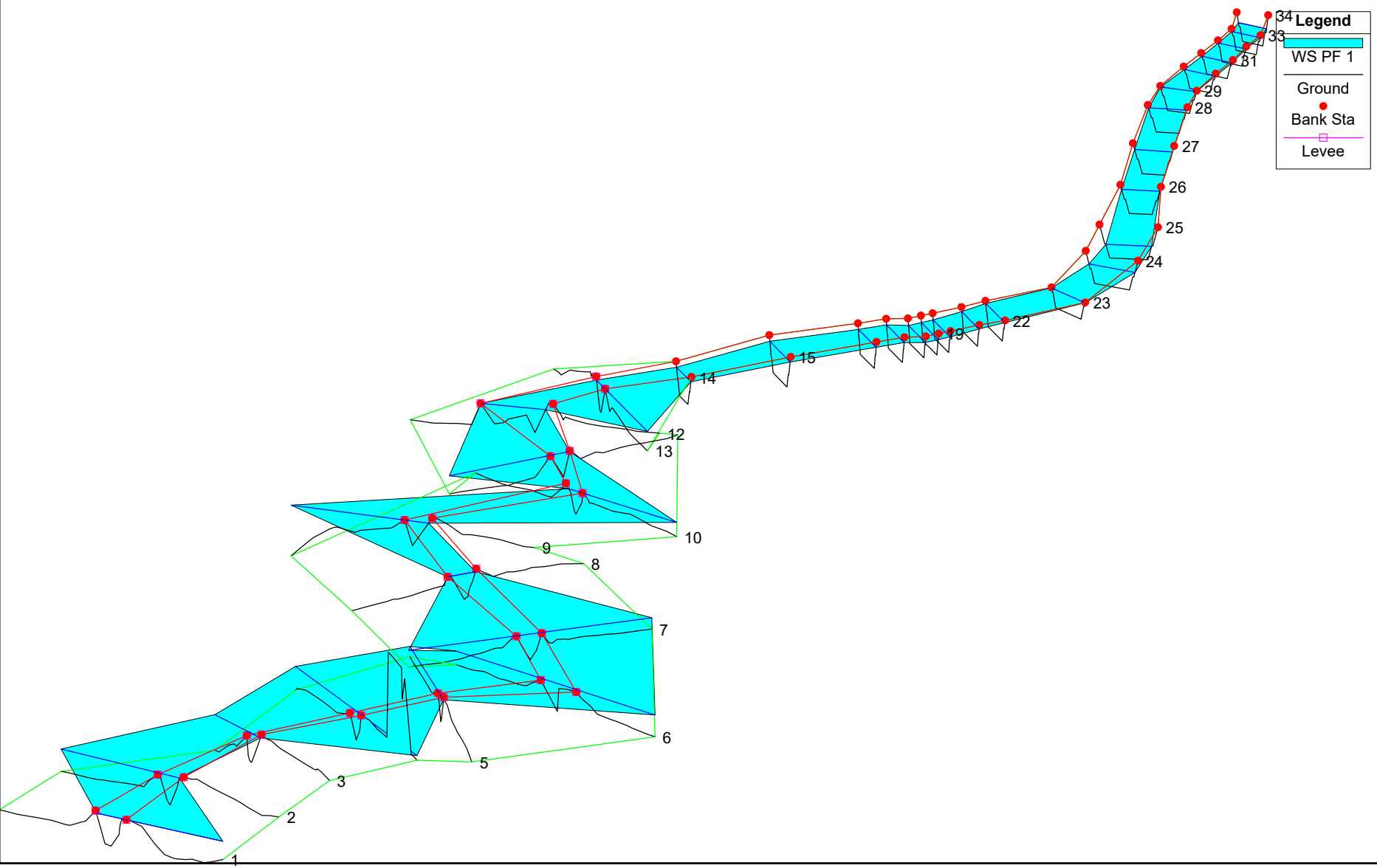






06-MONDR-NAT+PRO

Plan: 06-MONDR-NAT+PRO-PLAN

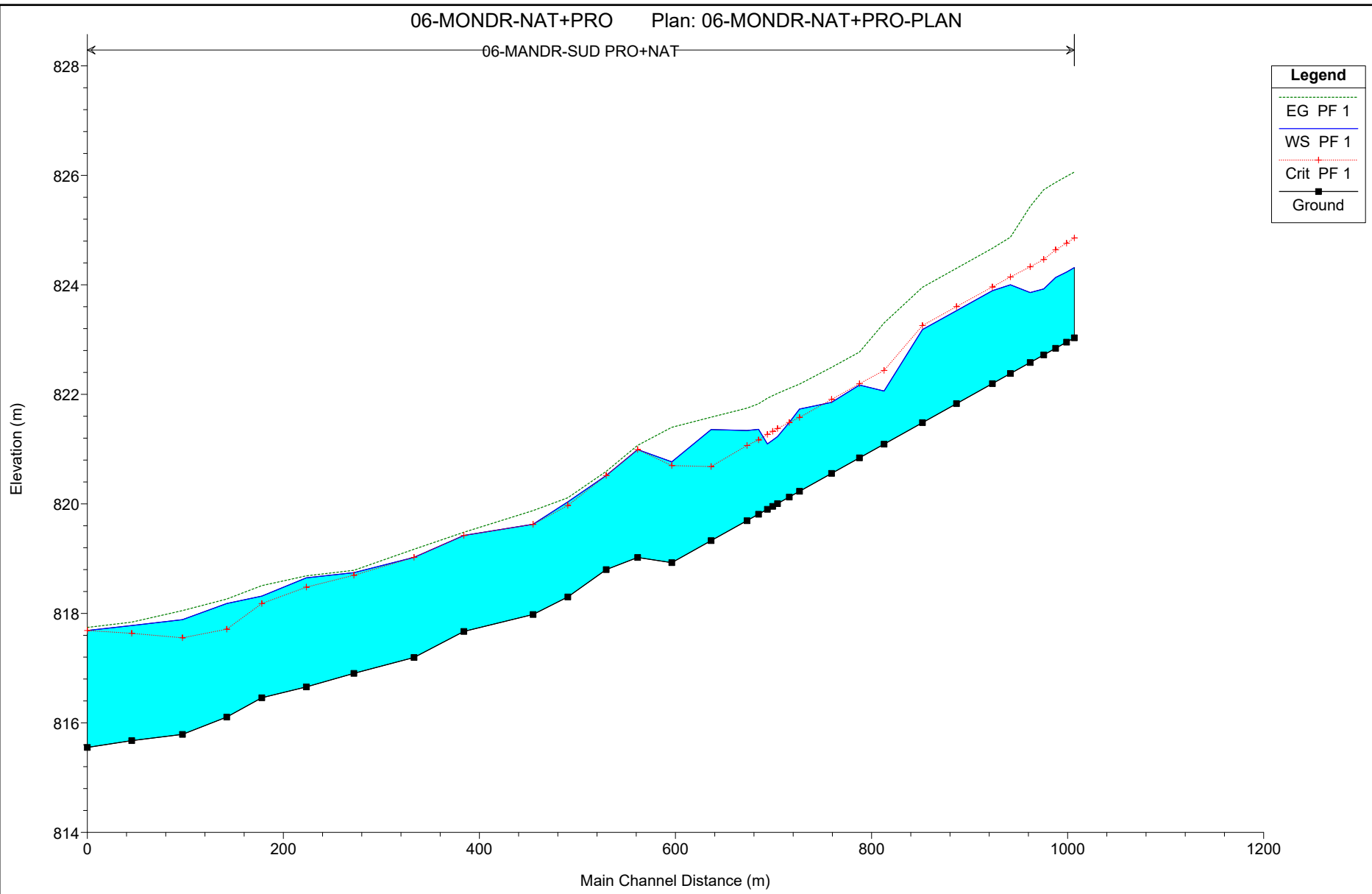


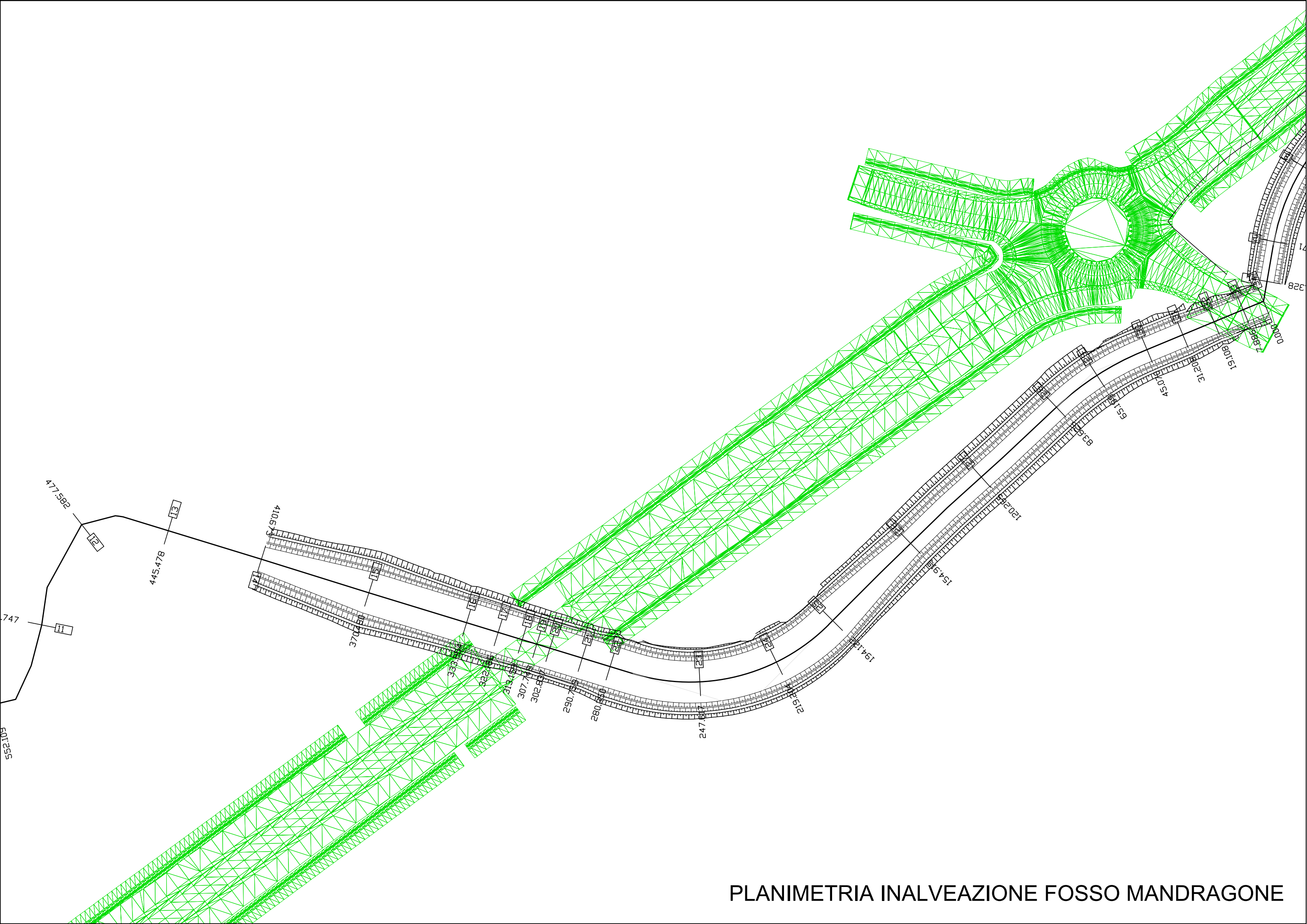
**Legend**

- WS PF 1
- Ground
- Bank Sta
- Levee

06-MONDR-NAT+PRO Plan: 06-MONDR-NAT+PRO-PLAN

06-MANDR-SUD PRO+NAT

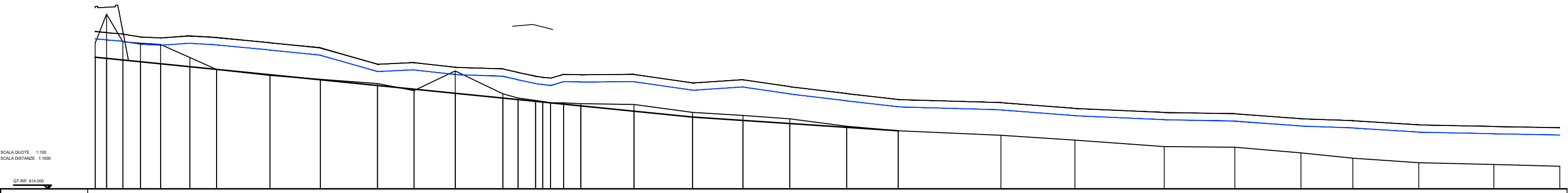




PLANIMETRIA INALVEAZIONE FOSSO MANDRAGONE

# PROFILO INALVEAZIONE FOSSO MANDRAGONE

LIVELLETTE	DIFF. DI QUOTA DISTANZA PENDENZA	h = -4.107 L = 410.873 i = -1.00%	h = -0.946 L = 141.438 i = -0.67%
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SCALA QUOTE 1:100  
SCALA DISTANZE 1:1000

QT. RIF. 814.000

NUMERO SEZIONI	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																
DISTANZE PARZIALI	7.89	11.22	12.10	13.86	20.13	18.43	36.64	34.65	39.21	25.08	28.41	32.73	10.41	12.08	4.4	9.03	11.77	36.53	40.19	34.81	32.10	39.16	35.36	70.67	50.80	61.38	46.55	45.40	35.73	45.22	51.73	45.27																																		
DISTANZE PROGRESSIVE	0.00	7.89	19.11	31.21	51.34	71.77	108.41	143.06	182.27	207.35	235.76	268.49	278.90	290.98	295.38	304.41	316.18	352.71	392.90	327.71	359.81	391.91	427.27	462.63	513.50	574.88	636.26	682.71	728.11	763.51	799.24	844.46	889.69	934.92																																
QUOTE TERRENO	824.00	823.00	824.10	824.00	823.92	823.02	822.20	821.79	821.52	821.24	821.10	820.96	820.53	820.24	820.07	819.80	819.46	819.25	819.04	818.80	818.46	818.22	818.30	818.00	817.98	817.98	817.74	817.48	816.90	816.51	816.47	816.05	815.68	815.55																																
QUOTE PROGETTO	823.00	822.98	822.84	822.72	822.58	822.38	822.20	821.80	821.48	821.08	820.78	820.53	820.22	820.12	820.00	819.75	819.40	819.25	819.04	818.80	818.46	818.22	818.30	818.00	817.98	817.98	817.74	817.48	816.90	816.51	816.47	816.05	815.68	815.55																																
QUOTA IDRICA HEC	823.00	822.98	822.84	822.72	822.58	822.38	822.20	821.80	821.48	821.08	820.78	820.53	820.22	820.12	820.00	819.75	819.40	819.25	819.04	818.80	818.46	818.22	818.30	818.00	817.98	817.98	817.74	817.48	816.90	816.51	816.47	816.05	815.68	815.55																																
ANDAMENTO PLANIMETRICO	L=47.097		L=26.616		L=26.792		L=33.366		L=26.050		L=75.788		L=40.196		L=51.707		L=12.431		L=25.609		L=13.556		L=15.019		L=13.257		L=14.173		L=26.873		L=28.255		L=9.499		L=8.288		L=32.914		L=24.034		L=32.903		L=27.584		L=22.755		L=11.809		L=7.349		L=38.051		L=22.805		L=25.859		L=22.803		L=18.975		L=22.355		L=39.780		L=25.377	








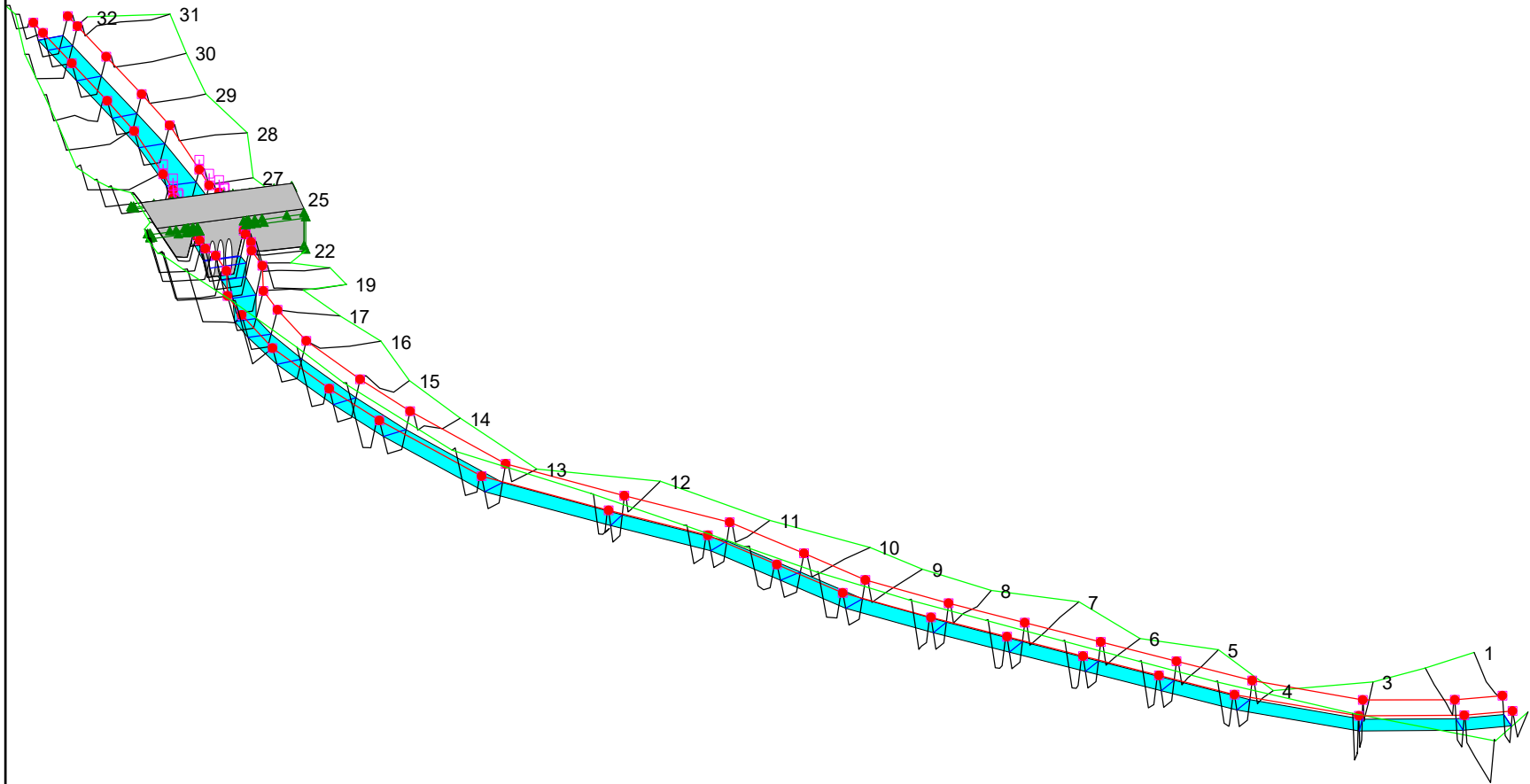


Features



02-DA02-PRO Plan: 02-DA02-PRO-PLAN

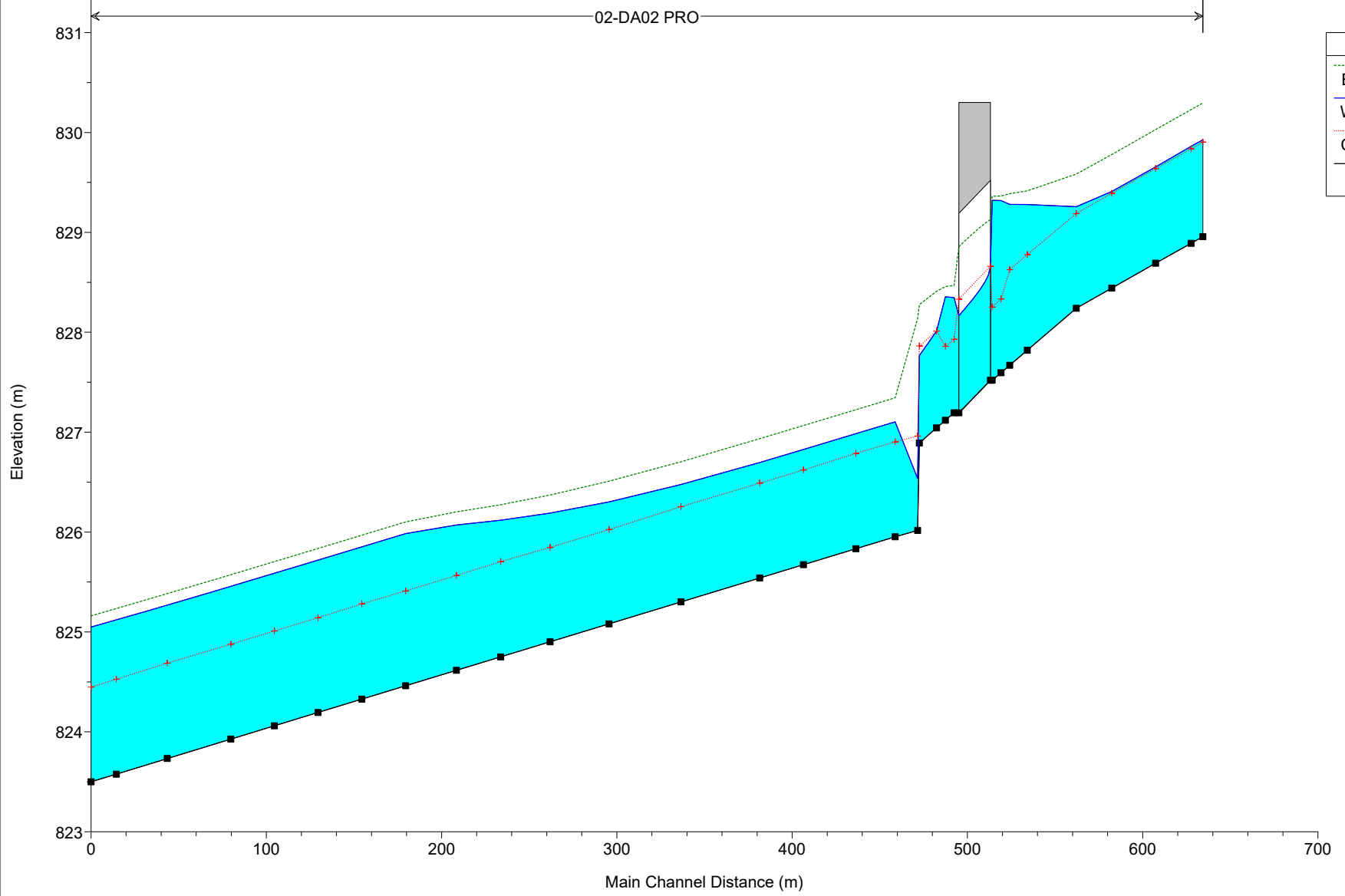
Legend	
	WS PF 1
	Ground
	Levee
	Bank Sta
	Ineff





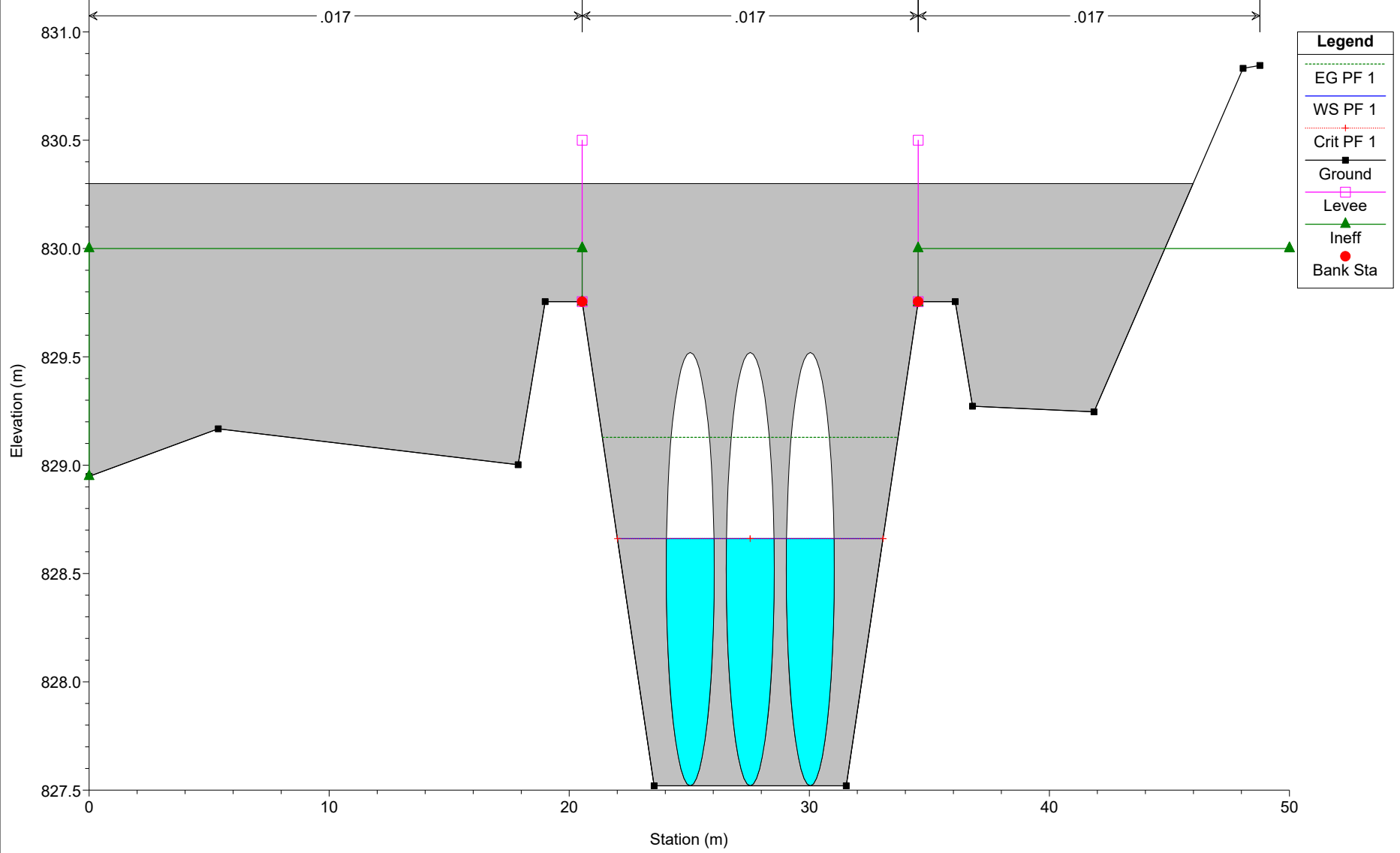
02-DA02-PRO Plan: 02-DA02-PRO-PLAN

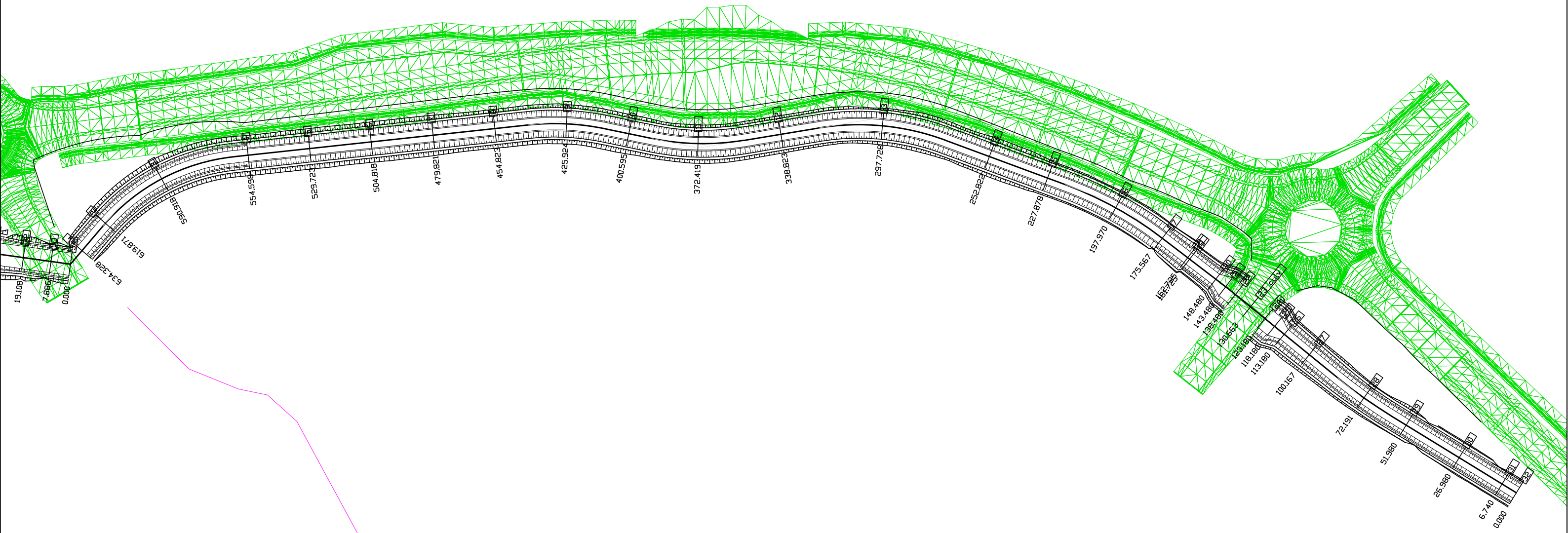
02-DA02 PRO



02-DA02-PRO Plan: 02-DA02-PRO-PLAN

RS = 23 Culv

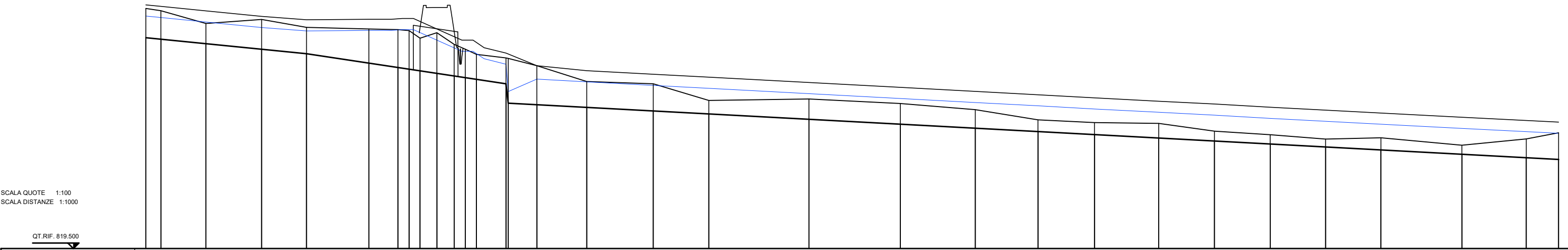




PLANIMETRIA INALVEAZIONE DA02-DA03

# PROFILO INALVEAZIONE DA02

LIVELLETTA	DIFF. DI QUOTA DISTANZA PENDENZIA	h = -0.722 L = 72.191 i = -1.00%	h = -1.343 L = 89.534 i = -1.50%	h = -1.875 L = 1000 i = -0.1875%	h = -2.519 L = 471.603 i = -0.53%
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NUMERO SEZIONI	32	31	30	29	28	27	26	25	24	23	culv	22	21	20	19	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
DISTANZE PARZIALI	6.74	20.24	25.00	20.21	27.98	13.01	5.00	5.00	7.48	7.82	5.00	5.00	13.24	12.84	22.40	29.91	24.94	44.91	41.09	33.60	28.18	25.33	28.90	25.00	25.00	24.90	24.88	36.32	28.95	14.46		
DISTANZE PROGRESSIVE	0.00	6.74	26.98	51.98	72.19	100.17	113.18	118.18	123.18	130.66	138.48	143.48	146.46	161.72	175.57	197.97	227.88	252.82	297.73	338.82	372.42	400.59	425.92	454.82	479.82	504.82	529.72	554.60	590.92	619.87	634.33	
QUOTE TERRENO	830.27	830.17	829.59	829.78	829.42	829.35	829.32	829.28	828.93	829.18	828.66	828.44	828.21	828.05	827.70	826.89	826.89	826.14	825.82	826.01	825.73	825.27	825.15	825.11	824.77	824.00	824.41	824.47	824.13	824.42	824.69	
QUOTE PROGETTO	828.96	828.89	828.69	828.44	828.24	827.82	827.62	827.55	827.47	827.36	827.24	827.17	827.09	826.89	826.89	826.83	825.67	825.54	825.30	825.08	824.90	824.75	824.61	824.46	824.32	824.19	824.06	823.92	823.73	823.58	823.50	
QUOTA IDRICA HEC	829.93	829.86	829.66	829.41	829.26	829.28	829.28	829.32	829.32	828.85	828.35	828.44	828.35	828.01	827.77	826.98	826.82	826.69	826.45	826.23	826.05	825.90	825.76	825.61	825.48	825.34	825.21	825.08	824.89	824.74	824.67	
ANDAMENTO PLANIMETRICO	L= 58.892		Sv= 26.598 a=8.4664 R= 200.000		L= 56.442		L= 33.635		Sv= 44.806 a=19.0162 R= 150.000		L= 51.409		Sv= 51.892 a=33.0357 R= 100.000		L= 30.296		Sv= 36.897 a=23.4894 R= 100.000		L= 19.454		Sv= 31.204 a=19.8653 R= 100.000		L= 119.006		Sv= 60.622 a=48.2413 R= 80.000							


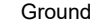




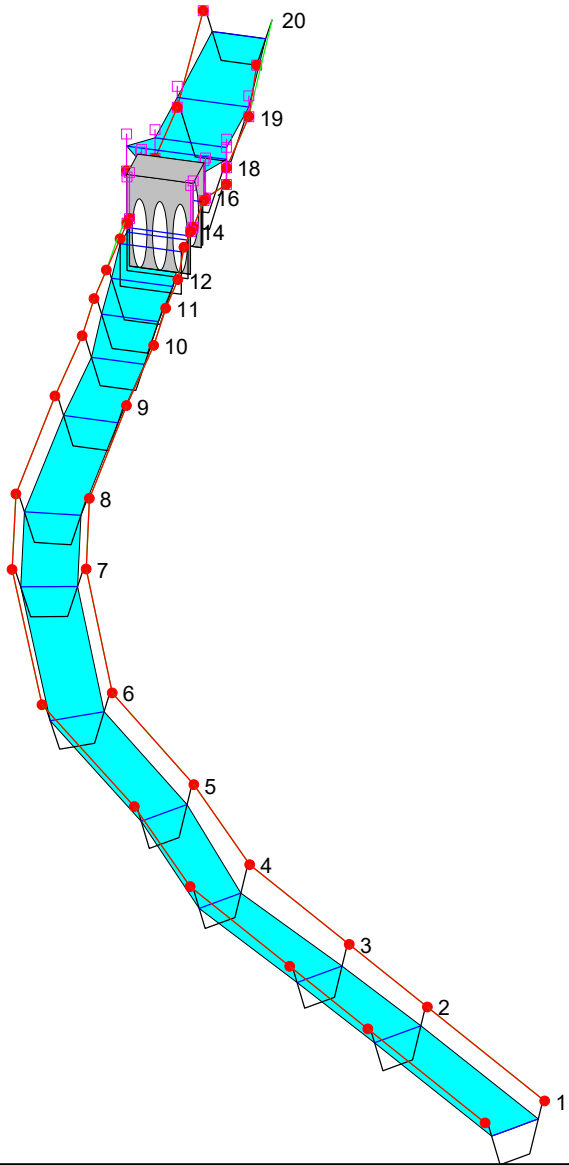
Features





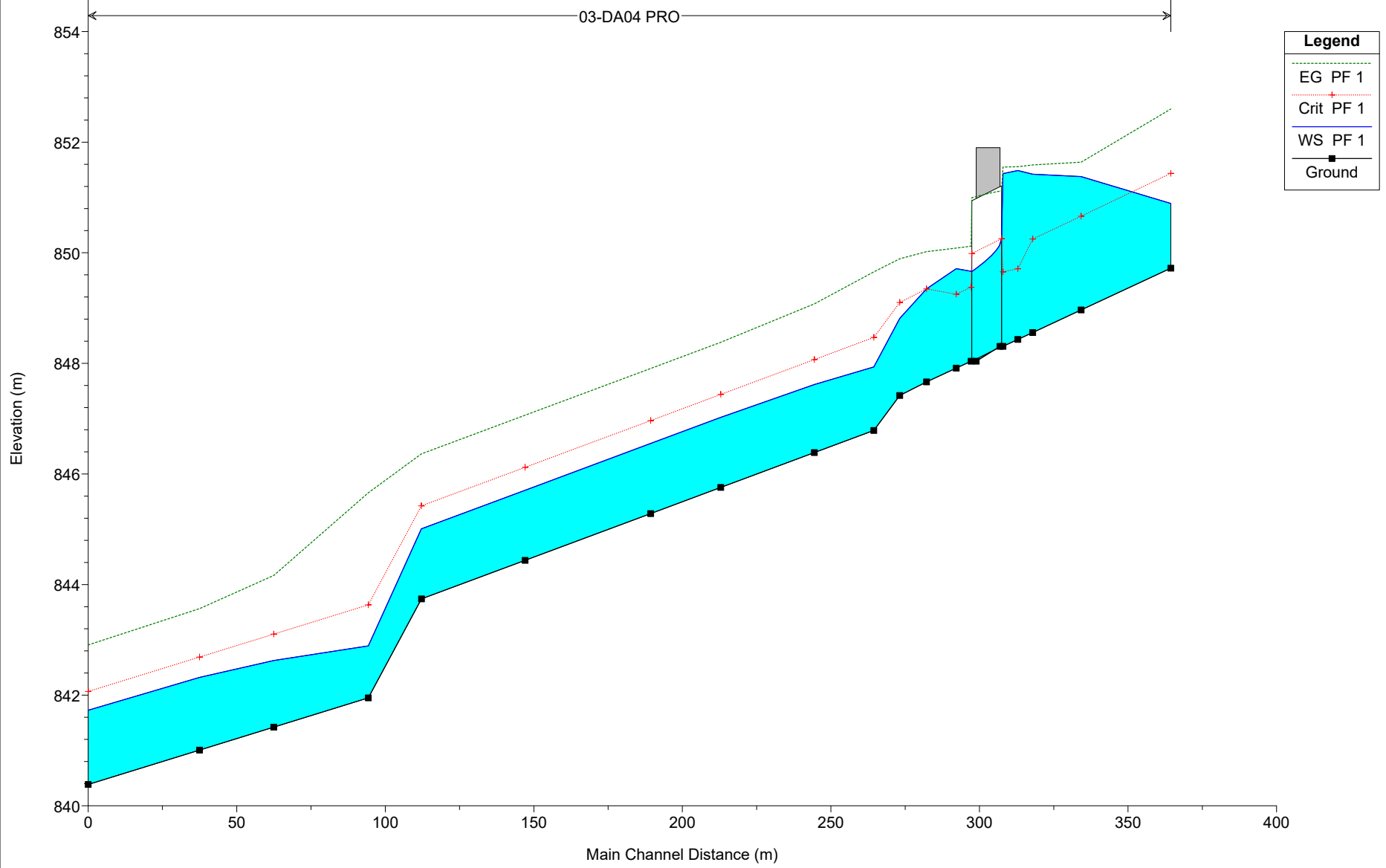
03-DA04-PRO Plan: 03-DA04-PRO-PLAN

Legend	
	WS PF 1
	Ground
	Levee
	Bank Sta



03-DA04-PRO Plan: 03-DA04-PRO-PLAN

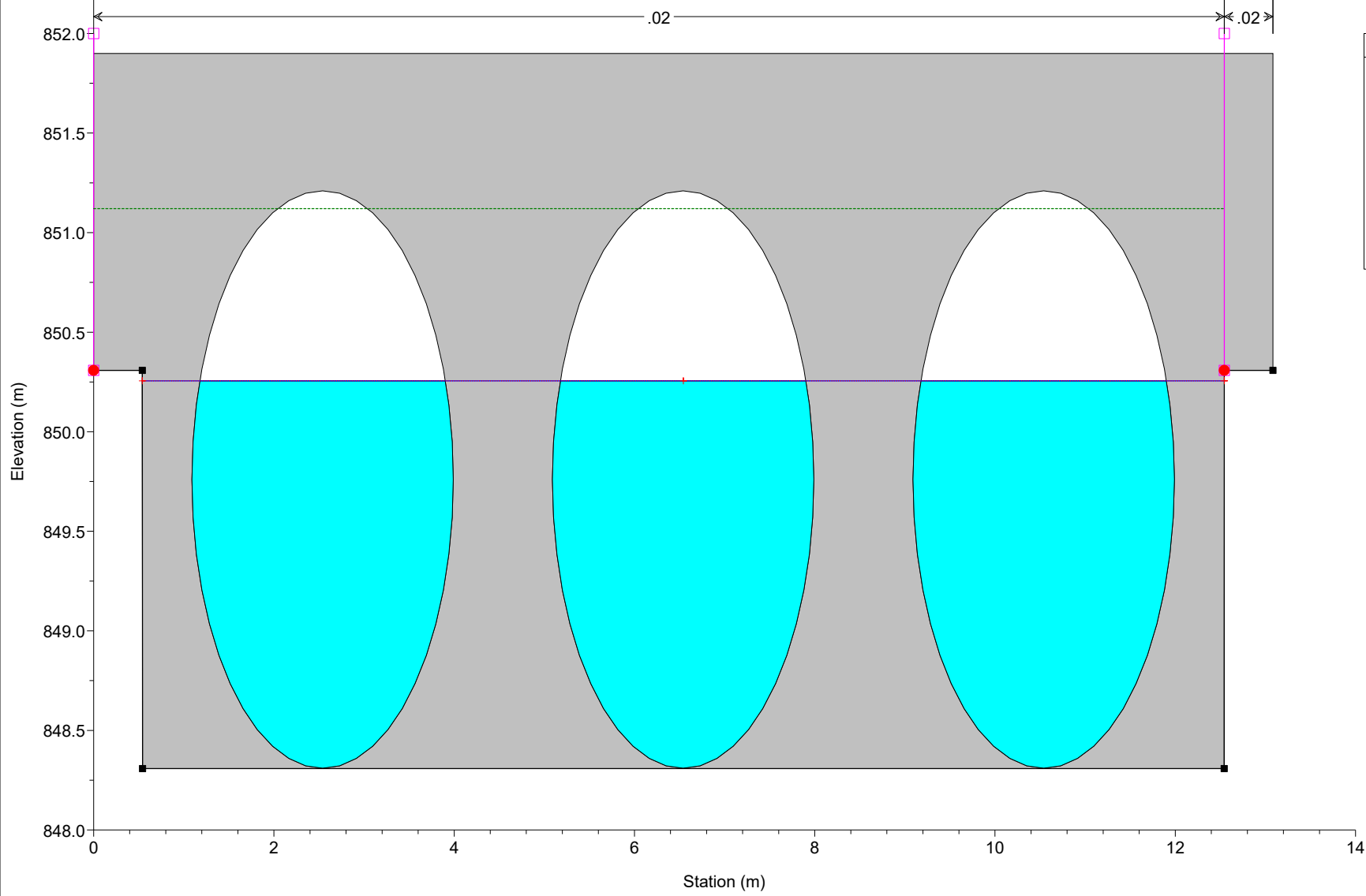
03-DA04 PRO



Legend	
EG PF 1	(Green dashed line)
Crit PF 1	(Red dotted line with '+' markers)
WS PF 1	(Blue solid line)
Ground	(Black solid line with square markers)

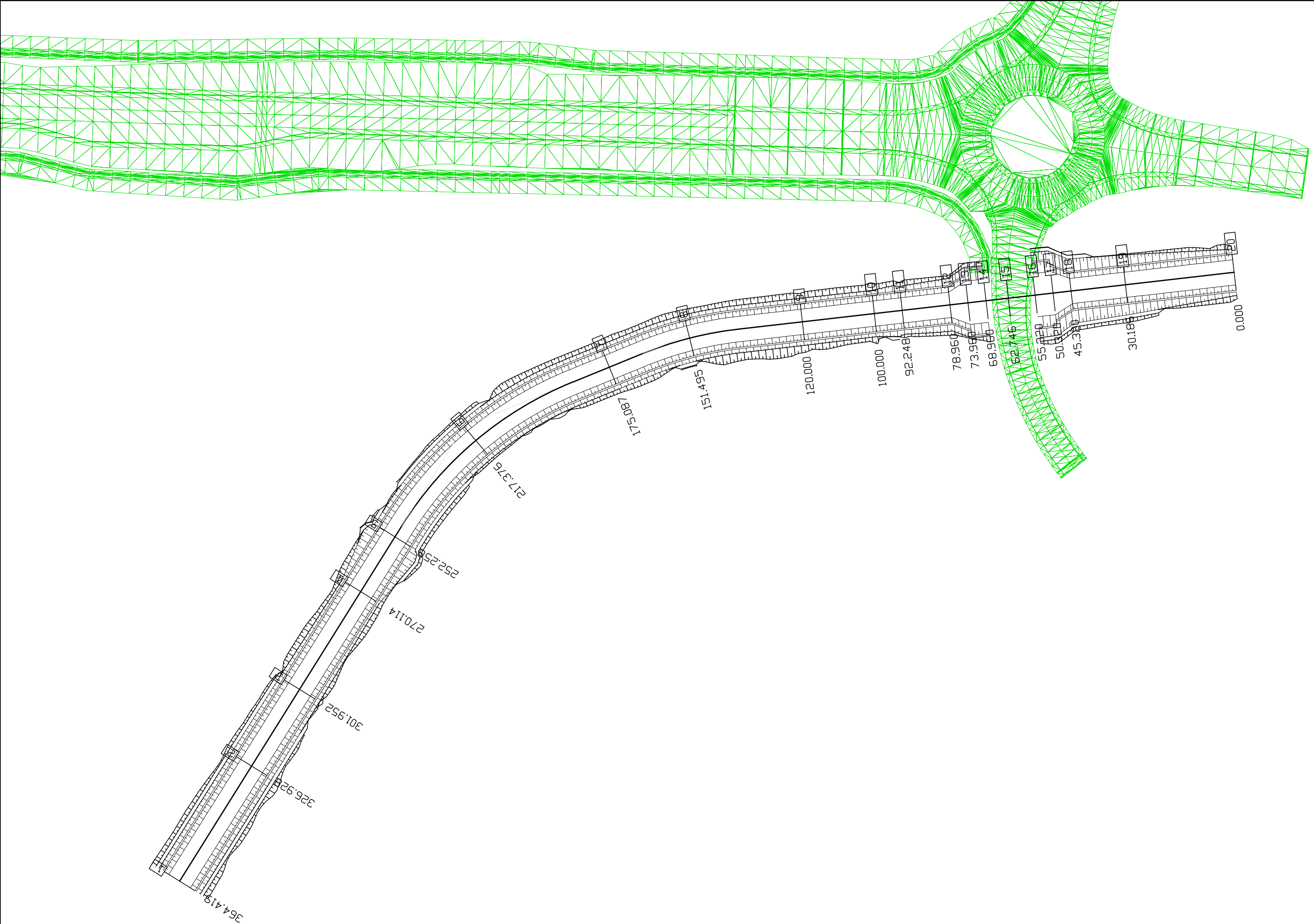
03-DA04-PRO Plan: 03-DA04-PRO-PLAN

RS = 15 Culv



Legend	
EG PF 1	— (dashed green line)
WS PF 1	— (solid blue line)
Crit PF 1	— (dashed red line with cross)
Ground	■ (black square)
Levee	□ (pink square)
Bank Sta	● (red circle)





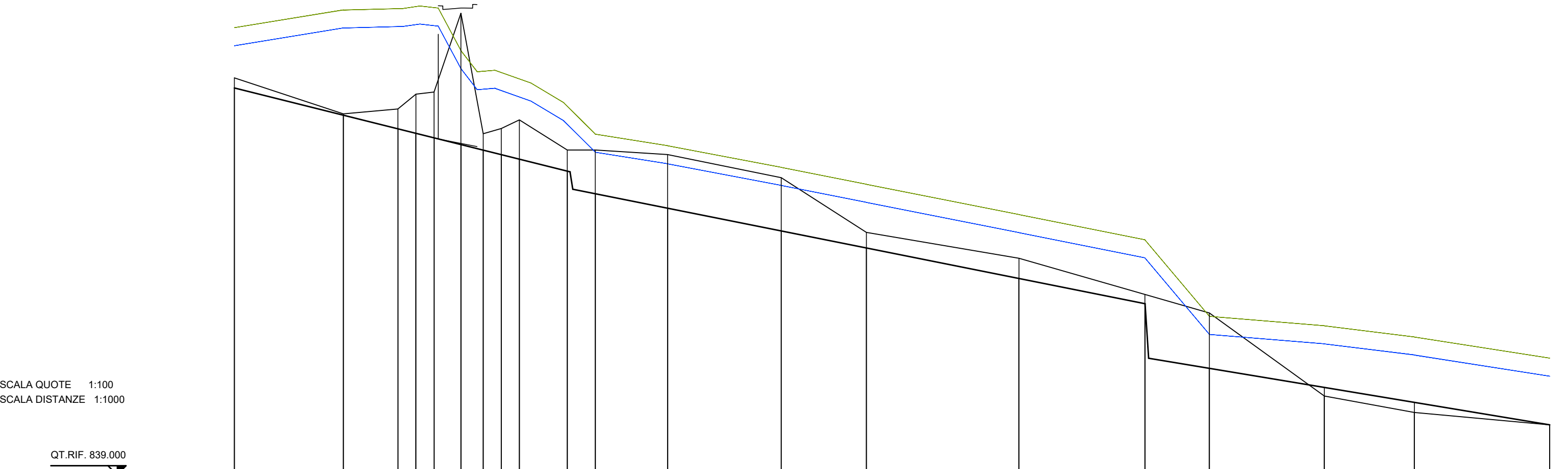
PLANIMETRIA INALVEAZIONE DA04

LIVELLETTE	DIFF. DI QUOTA DISTANZA PENDENZA	h = -2.325 L = 92.995 i = -2.50%	h = -0.484 L = 0.753 i = -64.23%	h = -3.172 L = 158.542 i = -2.00%	h = -1.509 L = 1.010 i = -149.38%	h = -1.847 L = 111.151 i = -1.66%
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# PROFILO INALVEAZIONE DA04

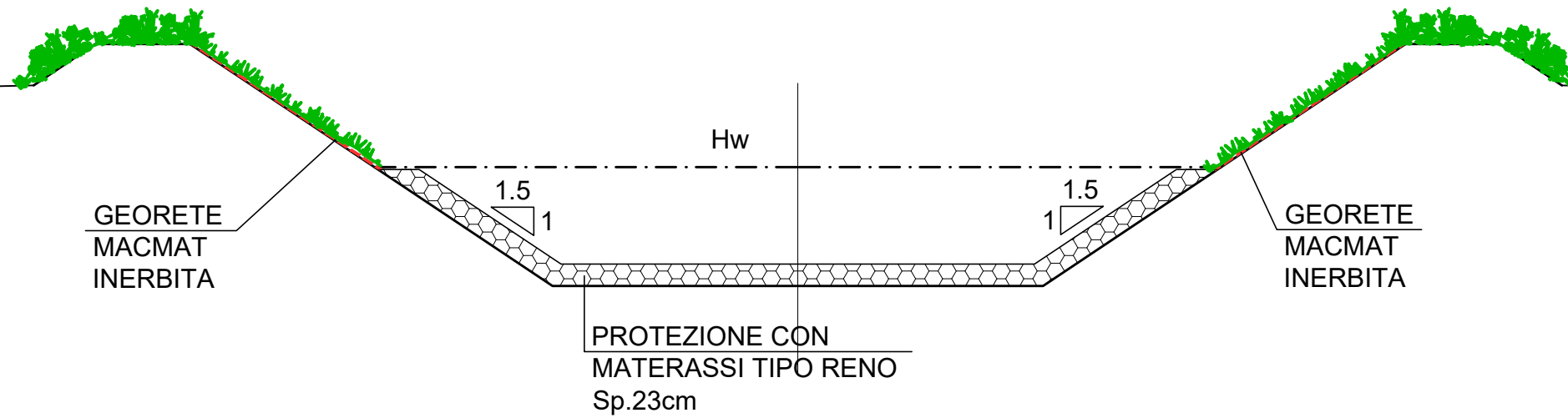
SCALA QUOTE 1:100  
SCALA DISTANZE 1:1000

QT.RIF. 839.000

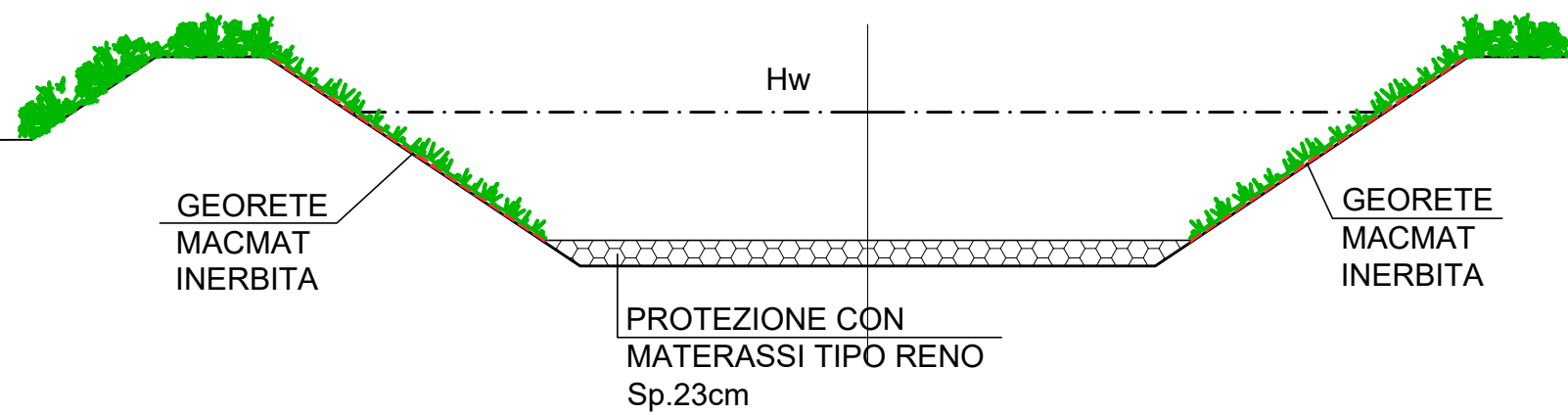


NUMERO SEZIONI	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
DISTANZE PARZIALI		30.19	15.13	5.00	5.00	7.43	6.21	5.00	5.00	13.29	7.75	20.00	31.49	23.59	42.29	34.88	17.86	31.84	24.98	37.49
DISTANZE PROGRESSIVE	0.00	30.19	45.32	50.32	55.32	62.75	68.96	73.96	78.96	92.25	100.00	120.00	151.49	175.09	217.38	252.26	270.11	301.95	326.93	364.42
QUOTE TERRENO	850.00	849.00	849.14	849.55	849.61	851.79	848.45	848.60	848.83	848.00	848.00	847.87	847.23	845.72	845.00	844.00	843.49	841.18	840.73	840.38
QUOTE PROGETTO	849.72	848.97	848.59	848.46	848.34	848.15	848.00	847.87	847.75	847.41	846.79	846.39	845.76	845.28	844.44	843.74	841.95	841.42	841.01	840.38
QUOTA IDRICA HEC	850.89	851.38	851.42	851.49	851.43	850.26	849.67	849.71	849.35	848.81	847.94	847.62	847.02	846.55	845.71	845.01	842.89	842.63	842.32	841.73
ANDAMENTO PLANIMETRICO	L = 137.845										2 Sv = 27.299 a = 17.3793 R = 100.000		L = 20.986		3 Sv = 62.490 a = 39.7823 R = 100.000		L = 47.205		L = 68.593	

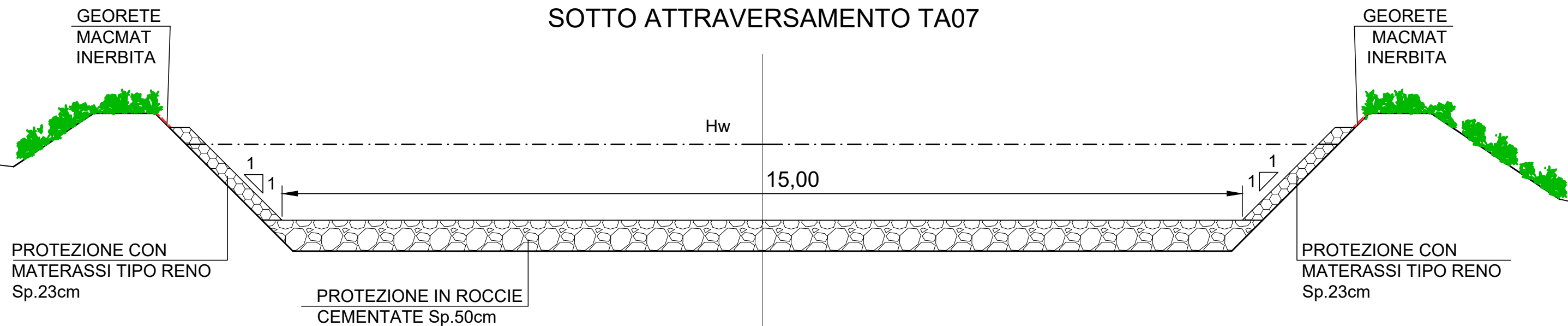
SEZIONE TIPO  
FONDO E PIEDE SPONDA IN MATERASSI  
SPONDE SUPERIORI INERBITE



SEZIONE TIPO  
SOLO RIVESTIMENTO FONDO

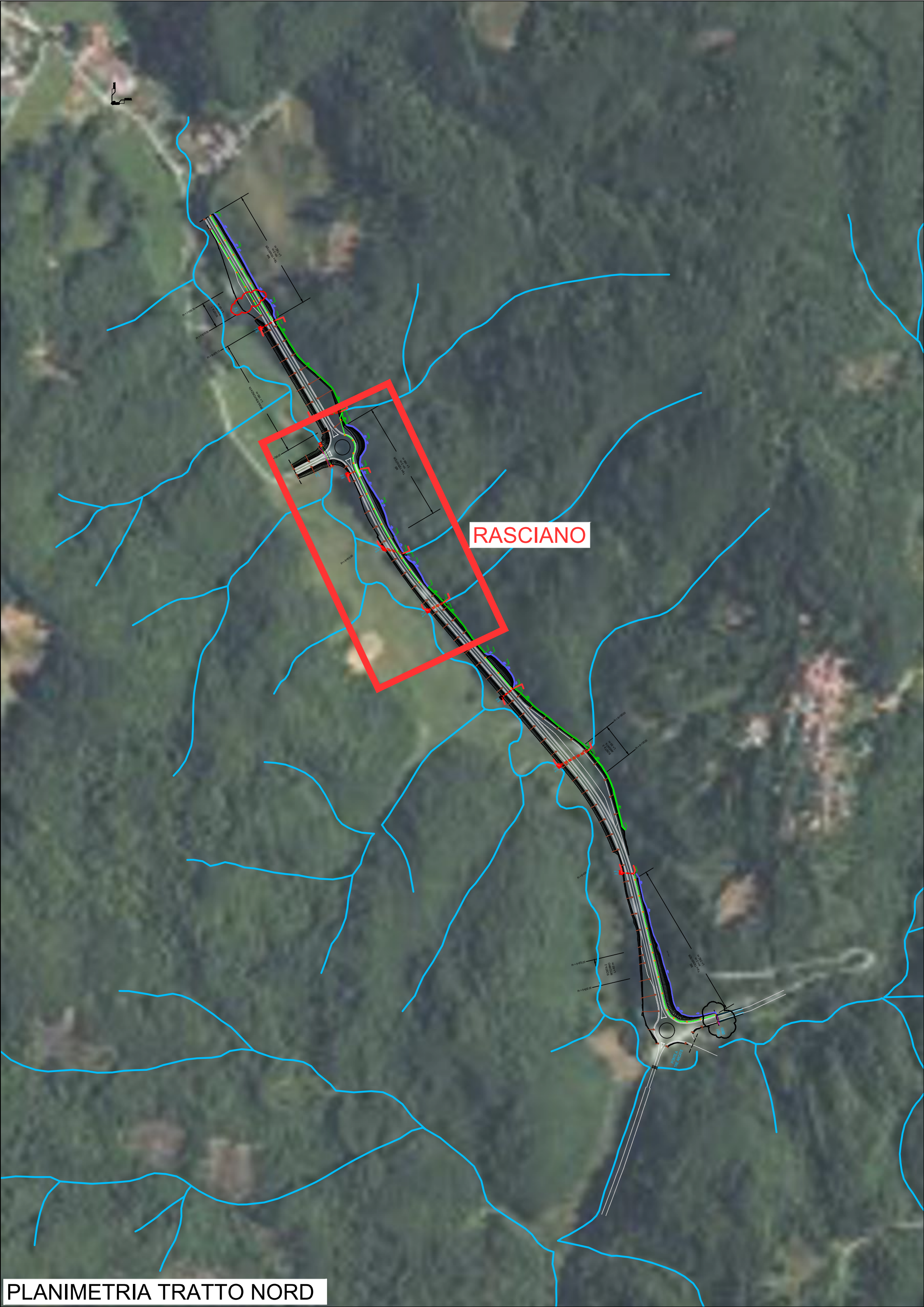


SEZIONE TIPO  
SOTTO ATTRAVERSAMENTO TA07



**Allegato 04 – rif. §7.2 Inalveazioni Nord**

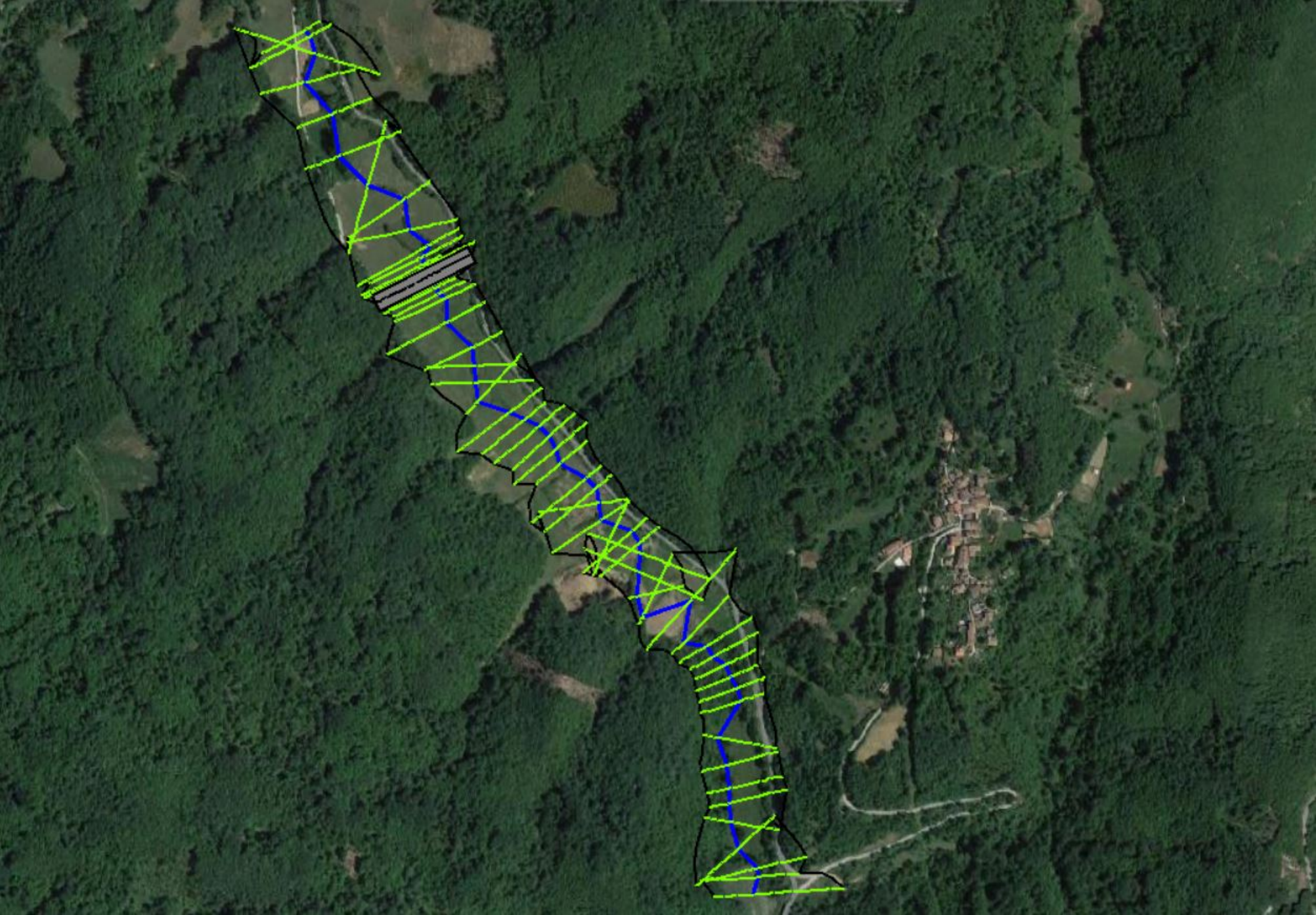







RASCIANO

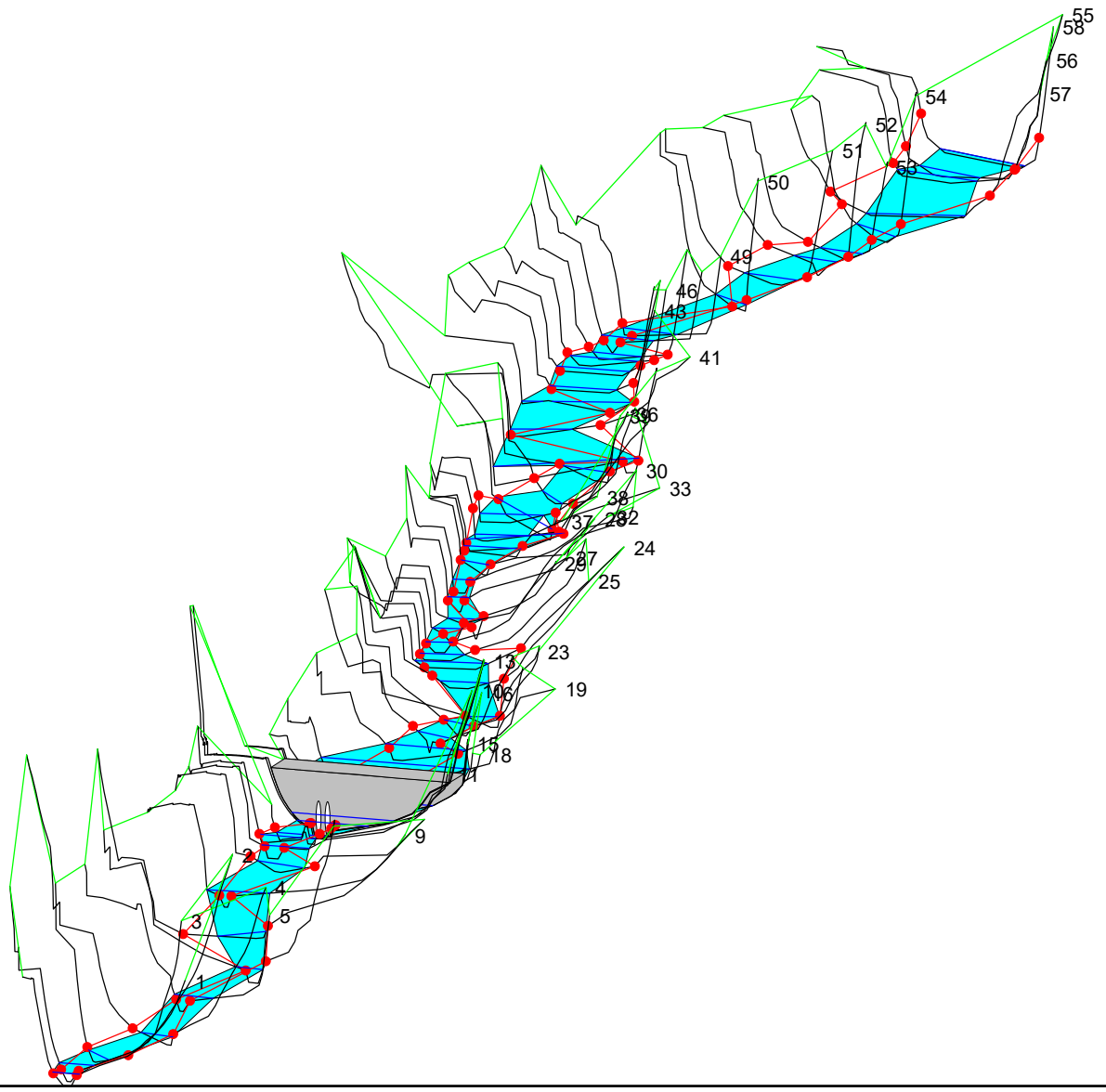
PLANIMETRIA TRATTO NORD



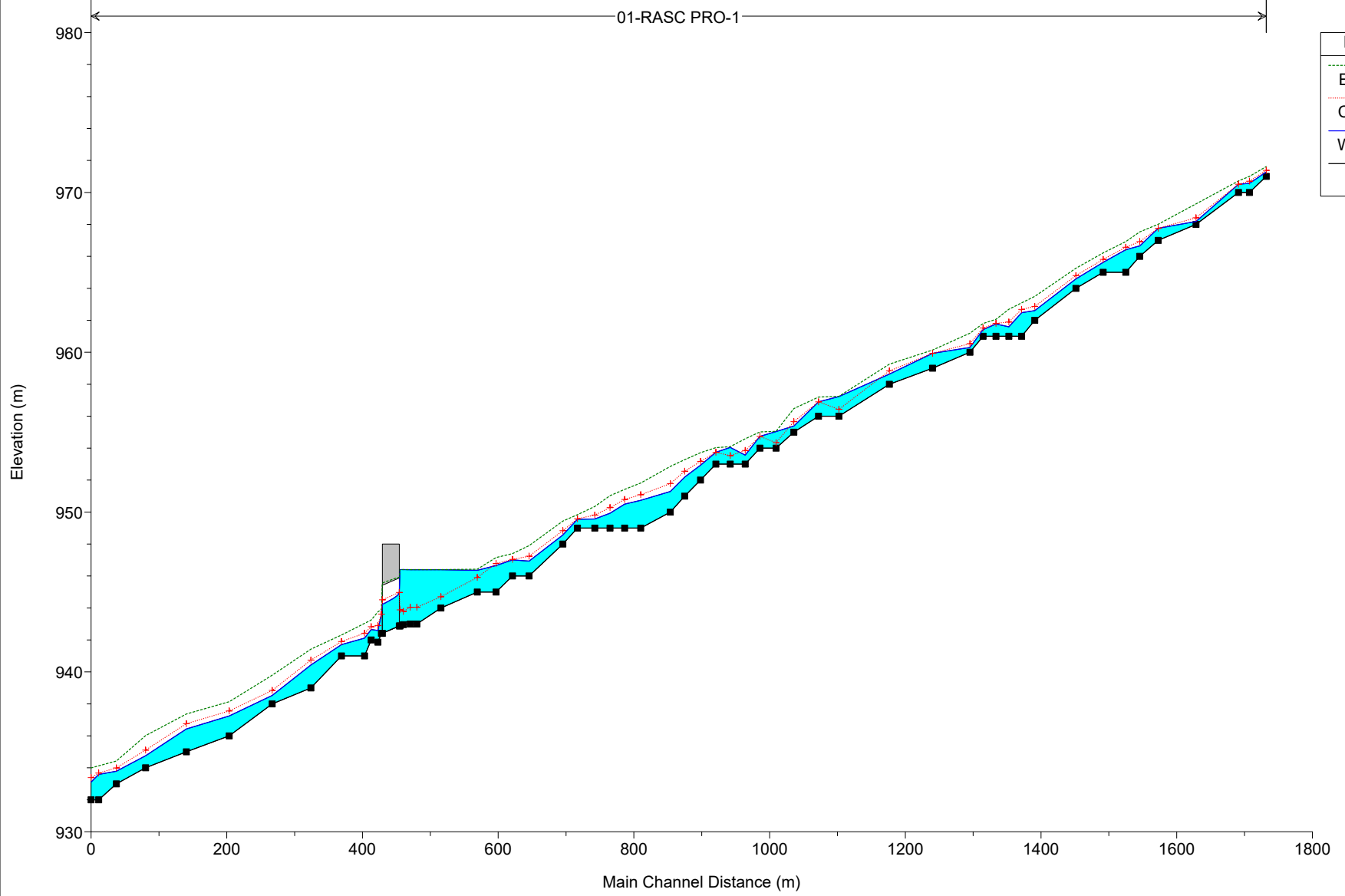


01-RASC-PRO-1 Plan: 01-RASC-PRO-1-PLAN

Legend	
	WS PF 1
	Ground
	Bank Sta



01-RASC PRO-1

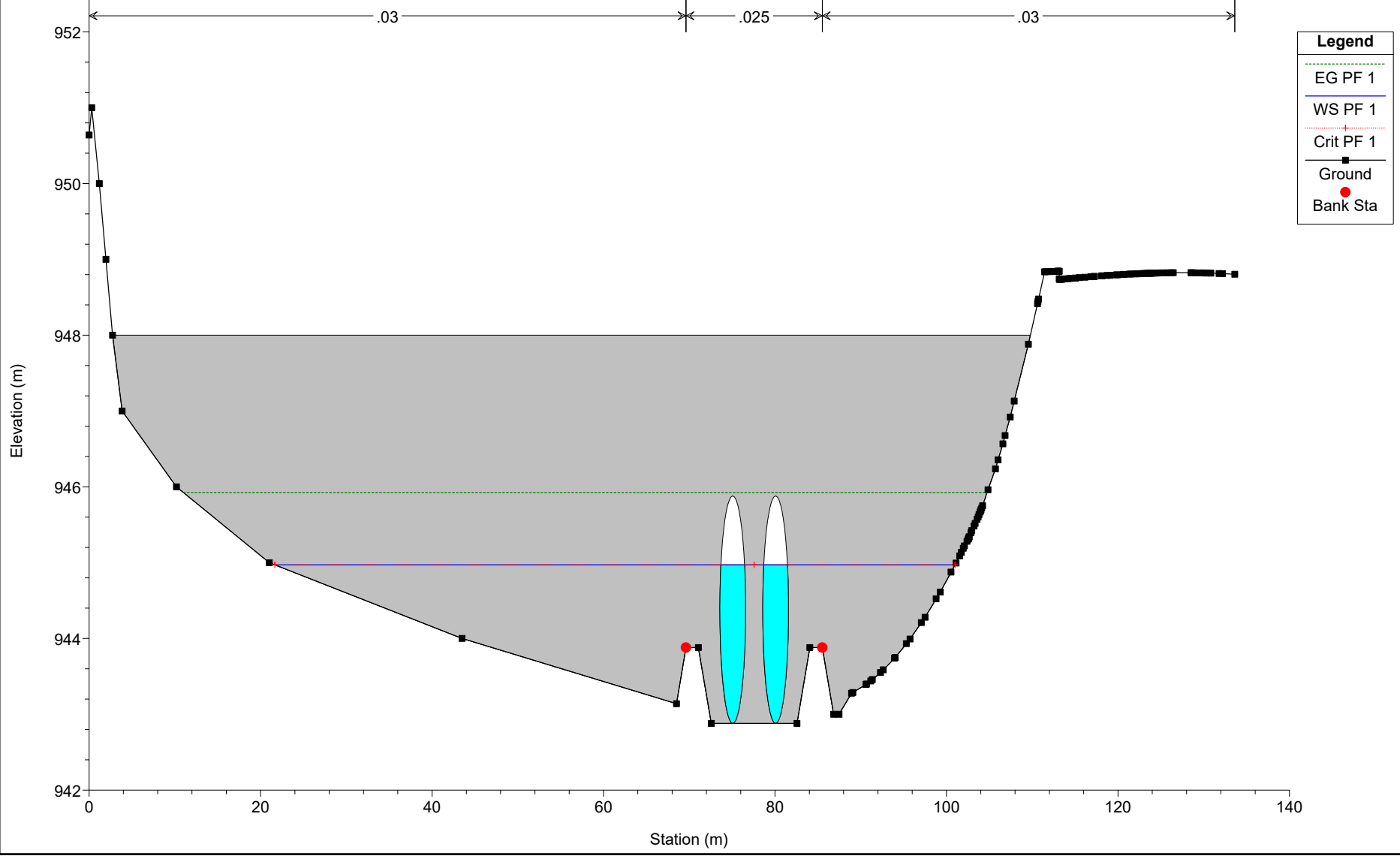


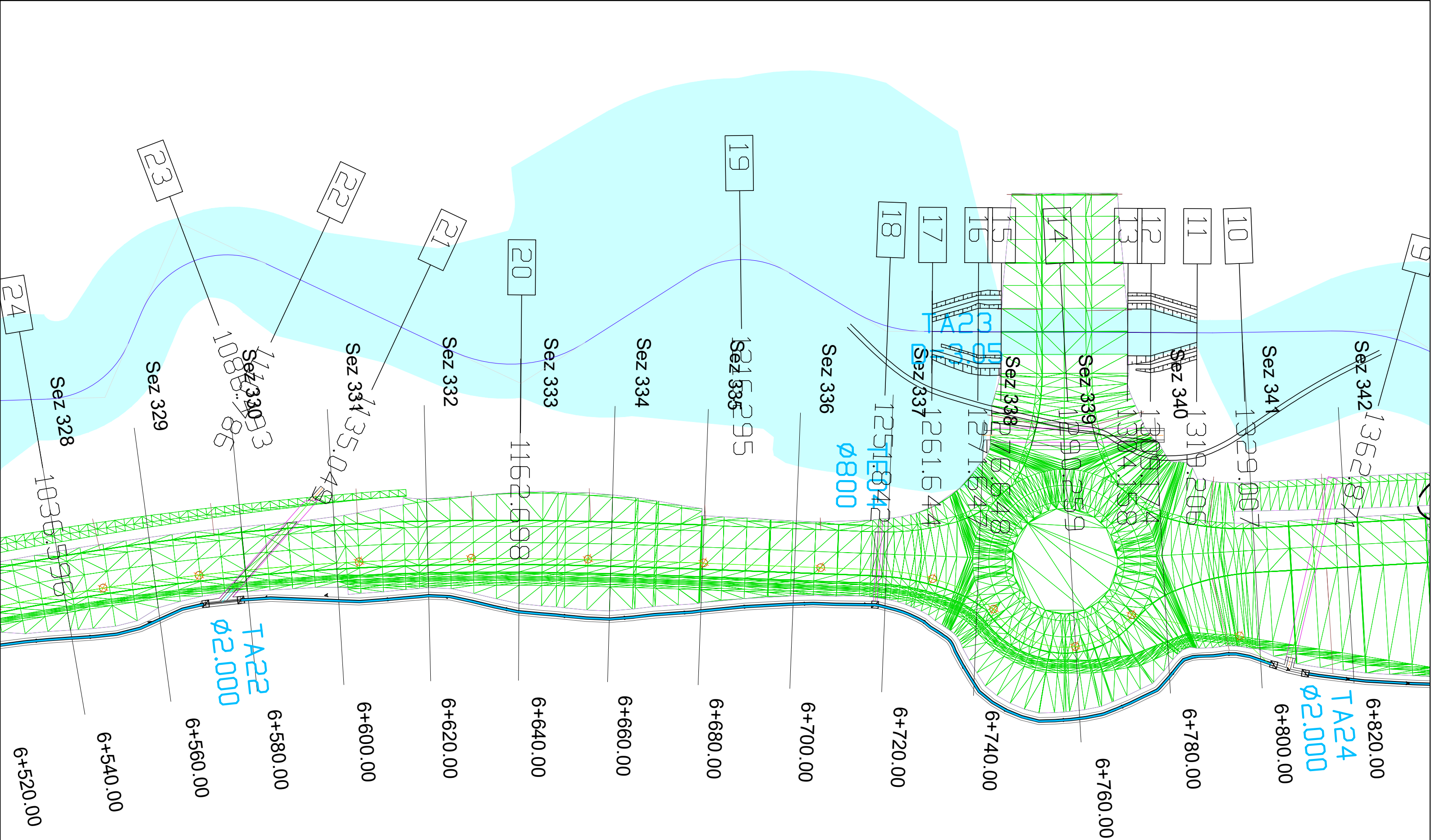
Legend	
EG PF 1	(Green dashed line)
Crit PF 1	(Red dotted line with '+' markers)
WS PF 1	(Blue solid line)
Ground	(Black solid line with square markers)



01-RASC-PRO-1 Plan: 01-RASC-PRO-1-PLAN 21/08/2023

RS = 14 Culv 2Ø3000





PLANIMETRIA INALVEAZIONE RASCIANO

