

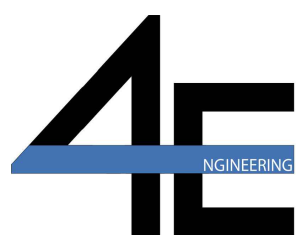
COMUNE DI TULA
PROVINCIA DI SASSARI

Interventi per il superamento delle problematiche idrauliche del canale coperto 20IR139/G1- " Rio Tula"

PROGETTO DI FATTIBILITÀ TECNICO-ECONOMICA

ALLEGATO :						
SIMULAZIONI IN MOTO PERMANENTE						
REVISIONI				ALLEGATO <div>D</div>	SCALA	
n°	MODIFICA	DATA	CTRL		CODICE	
01	Consegna	Dic. 2021				
					NOTE	

Il Progettista:



Studio Associato
4E-INGEGNERIA

Dott. Ing. Fabio Cambula

Il Responsabile del Procedimento:

Dott. Agr. Marco Spano

Il Sindaco:

Dott. Andrea Becca

COMUNE DI TULA (SS)

INTERVENTI DI MESSA IN SICUREZZA IDRAULICA DEL CENTRO ABITATO

Progetto di fattibilità tecnico-economica

Galleria idraulica e sistemazione alvei settore OVEST

SIMULAZIONI IN MOTO PERMANENTE

Corso d'acqua: Rio Tula

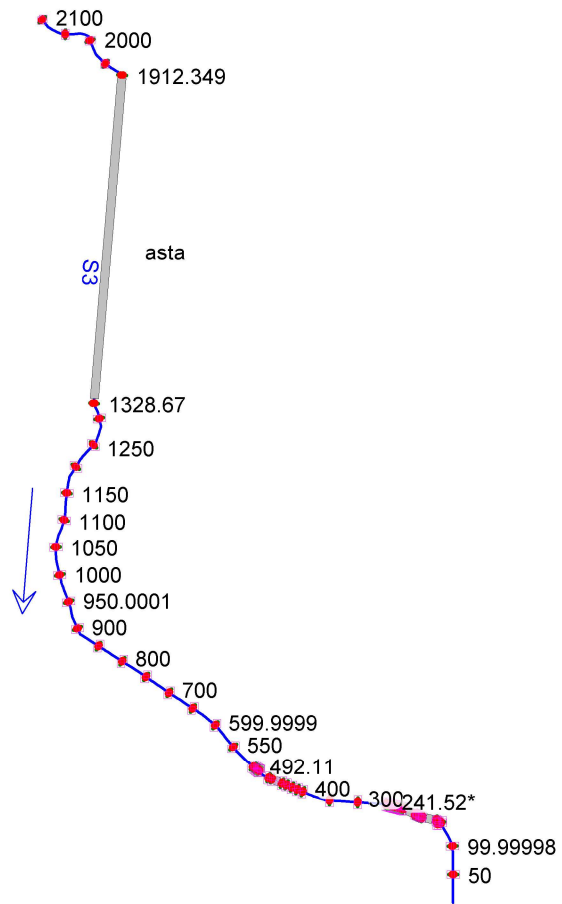
Condizione POST OPERAM

- Schemi planimetrici del modello matematico
- Profili longitudinali tiranti idrici per le portate con tempi di ritorno di 50-100-200-500 anni
- Sezioni trasversali tiranti idrici per le portate con tempi di ritorno di 50-100-200-500 anni
- Tabulati numerici per le portate con tempi di ritorno di 50-100-200-500 anni

PORTATE E CONDIZIONI AL CONTORNO

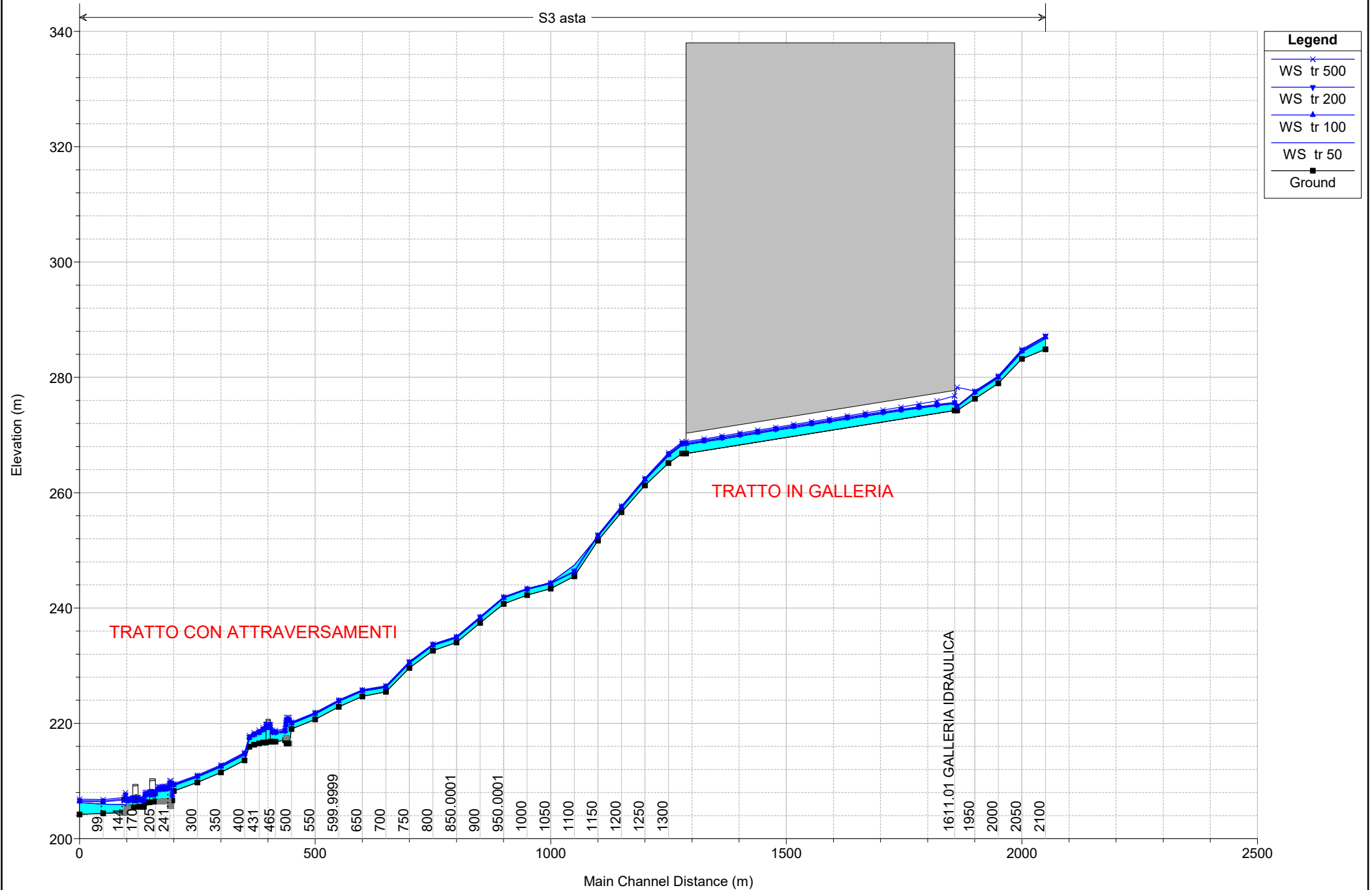
River	Reach	RS	PORTATE mc/s			
			tr 50	tr 100	tr 200	tr 500
S3	asta	2100	21.735	25.917	30.213	36.162
S3	asta	1300	29.885	35.169	40.597	48.157

Reach	Profile	CONDIZIONI AL CONTORNO	
		Upstream	Downstream
asta	Tutti	Critical depth	Normal depth $S=0.002$



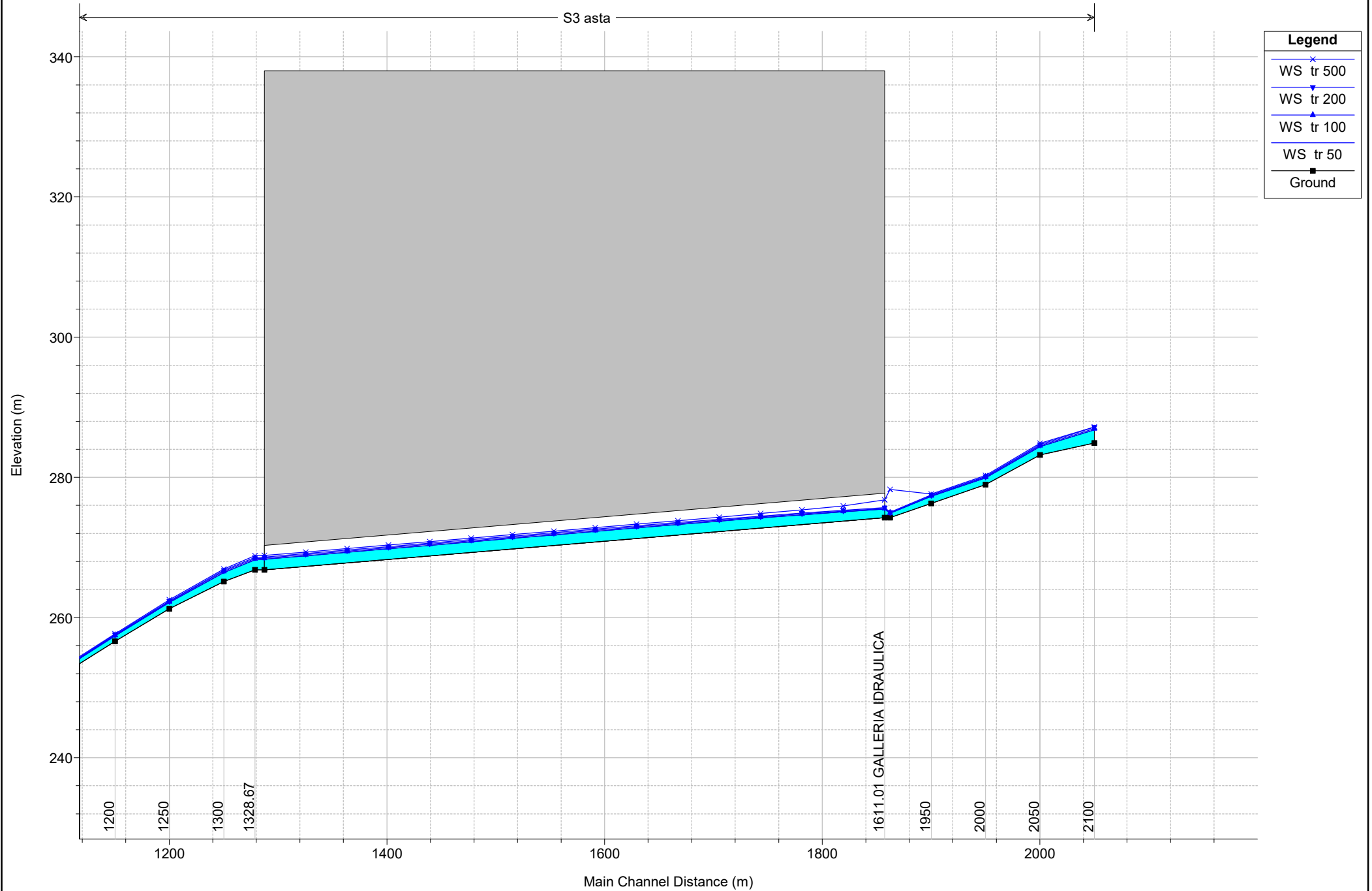
s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



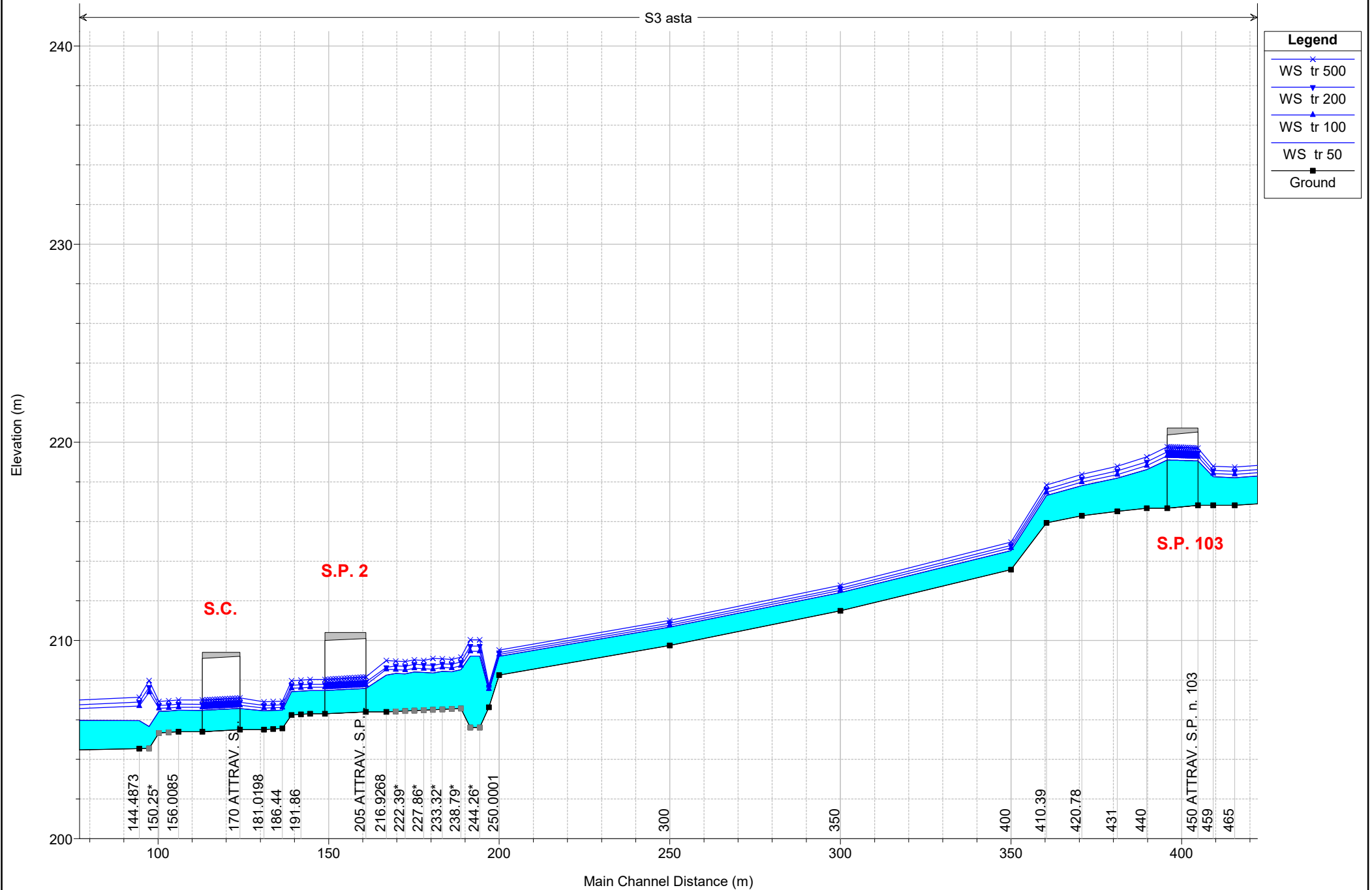
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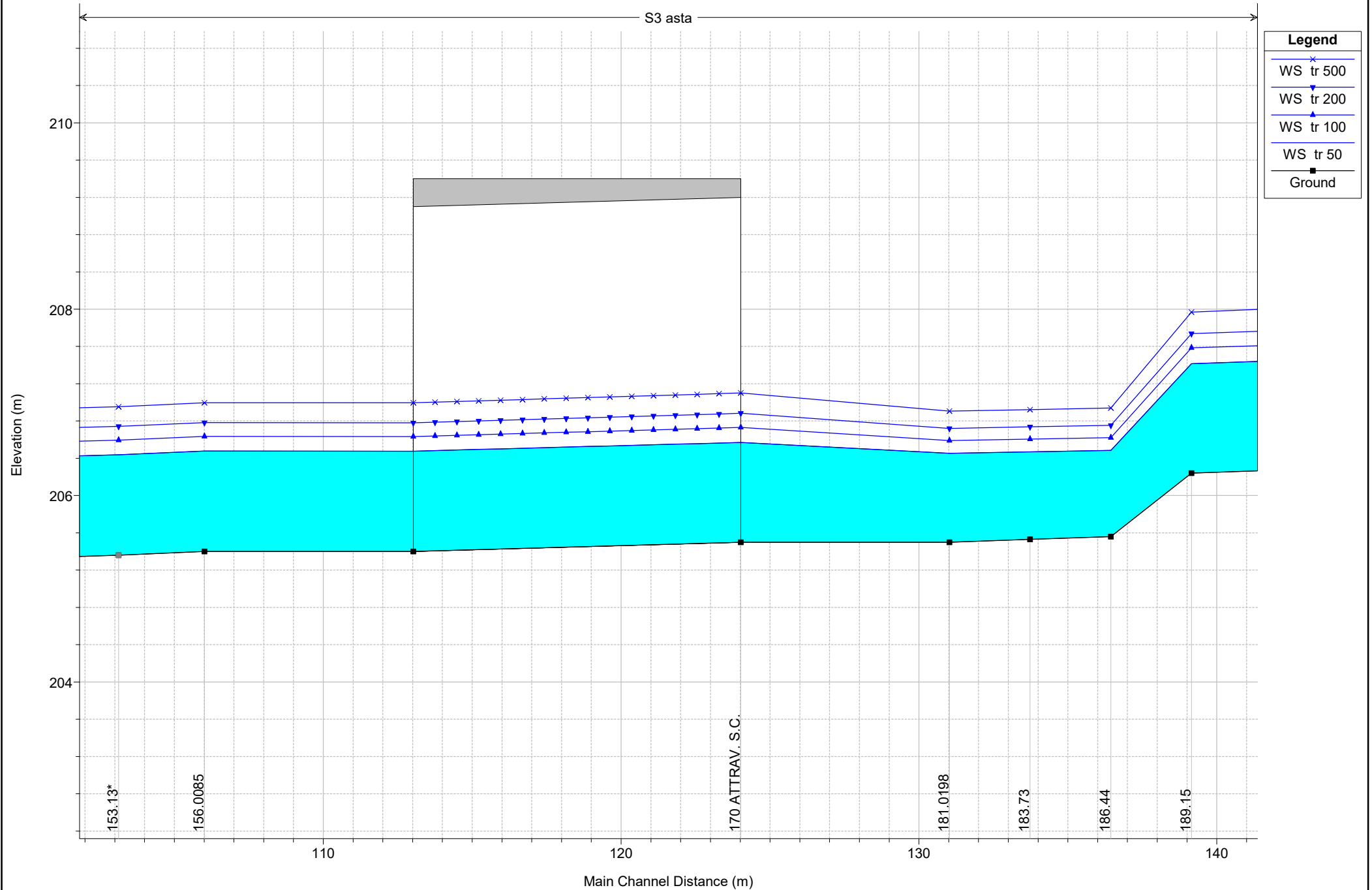
Geom: s3_17122021 Flow: s306092017 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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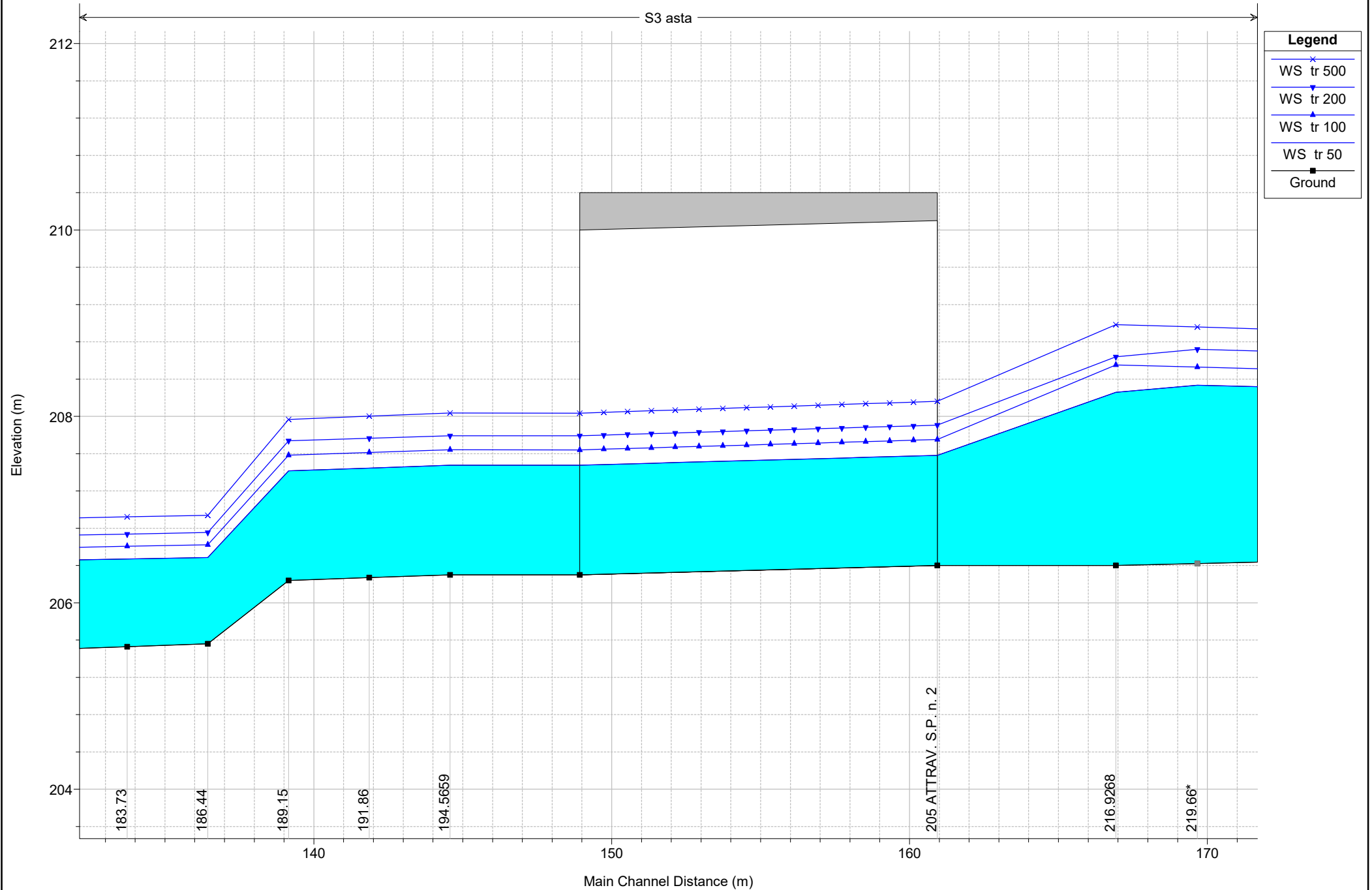
Geom: s3_17122021 Flow: s306092017 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA





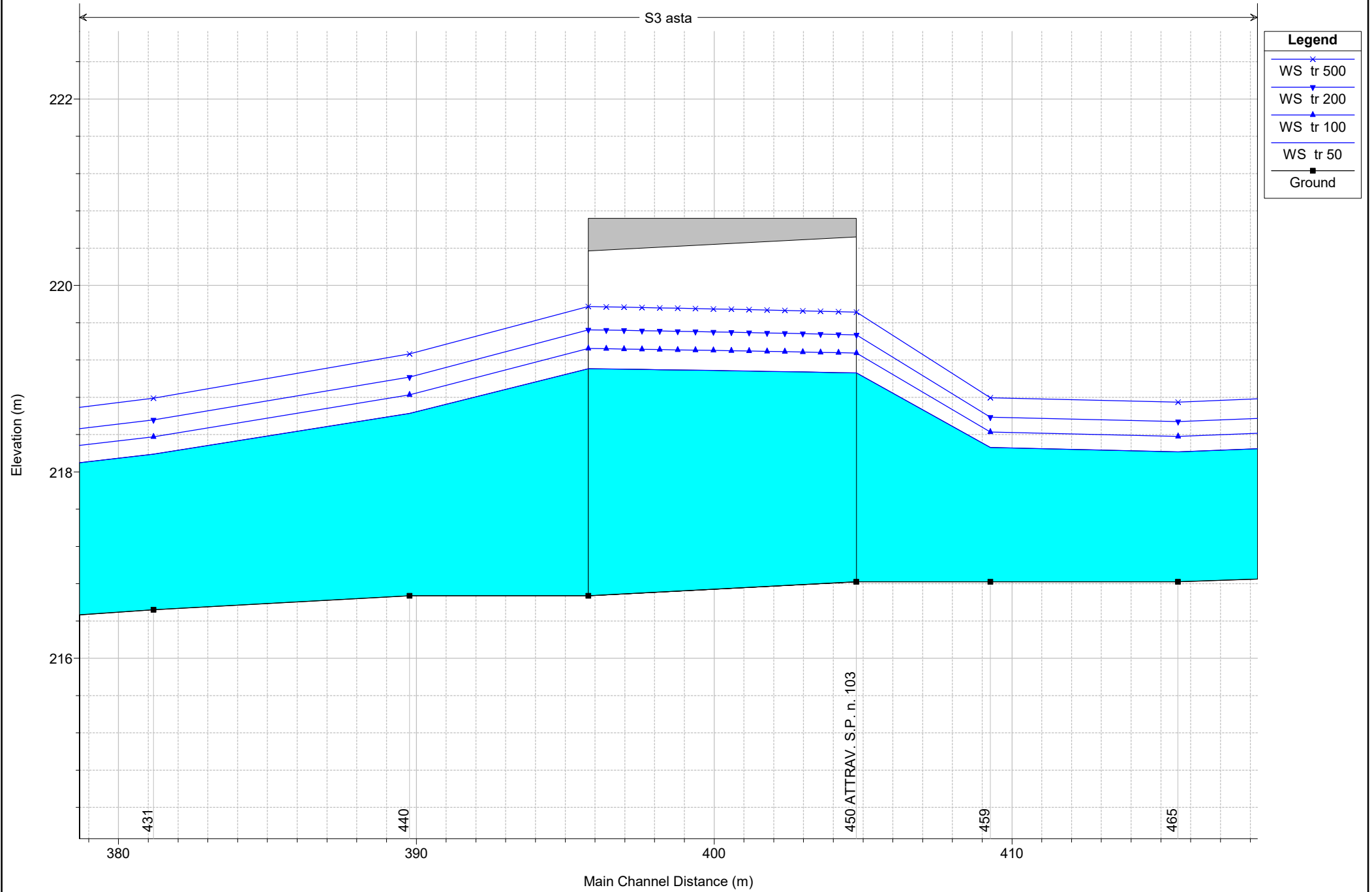
s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

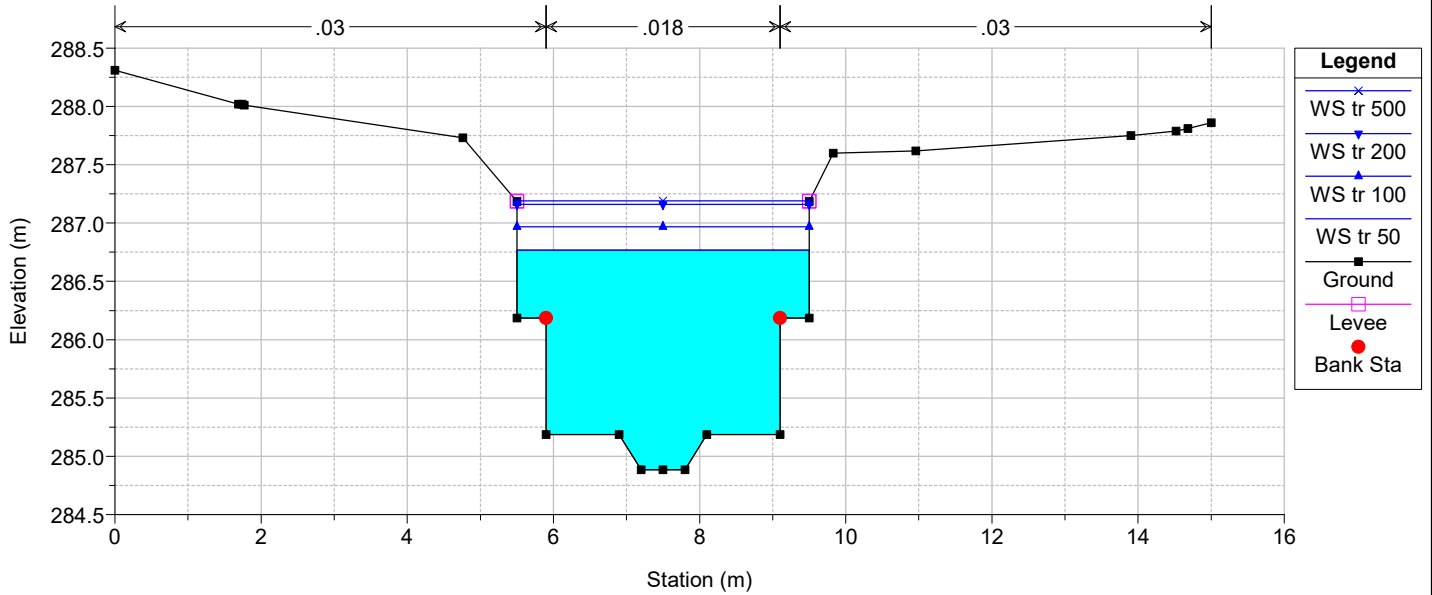
Geom: s3_17122021 Flow: s306092017 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

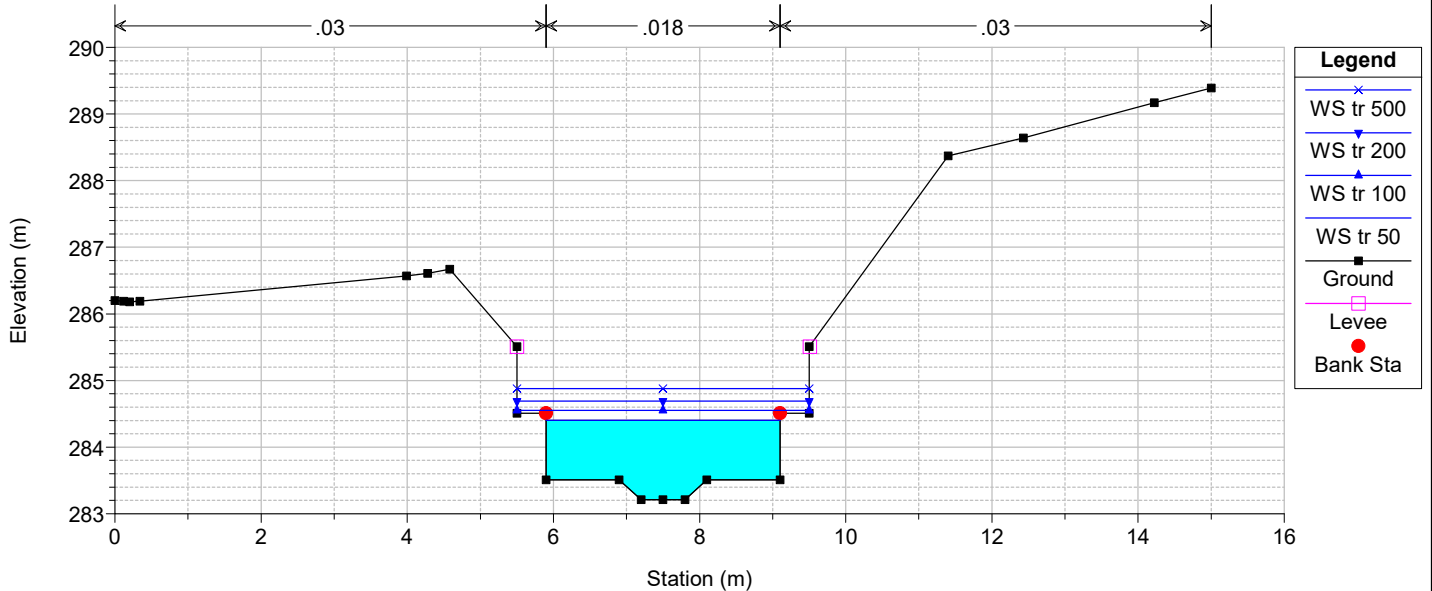
River = S3 Reach = asta RS = 2100 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

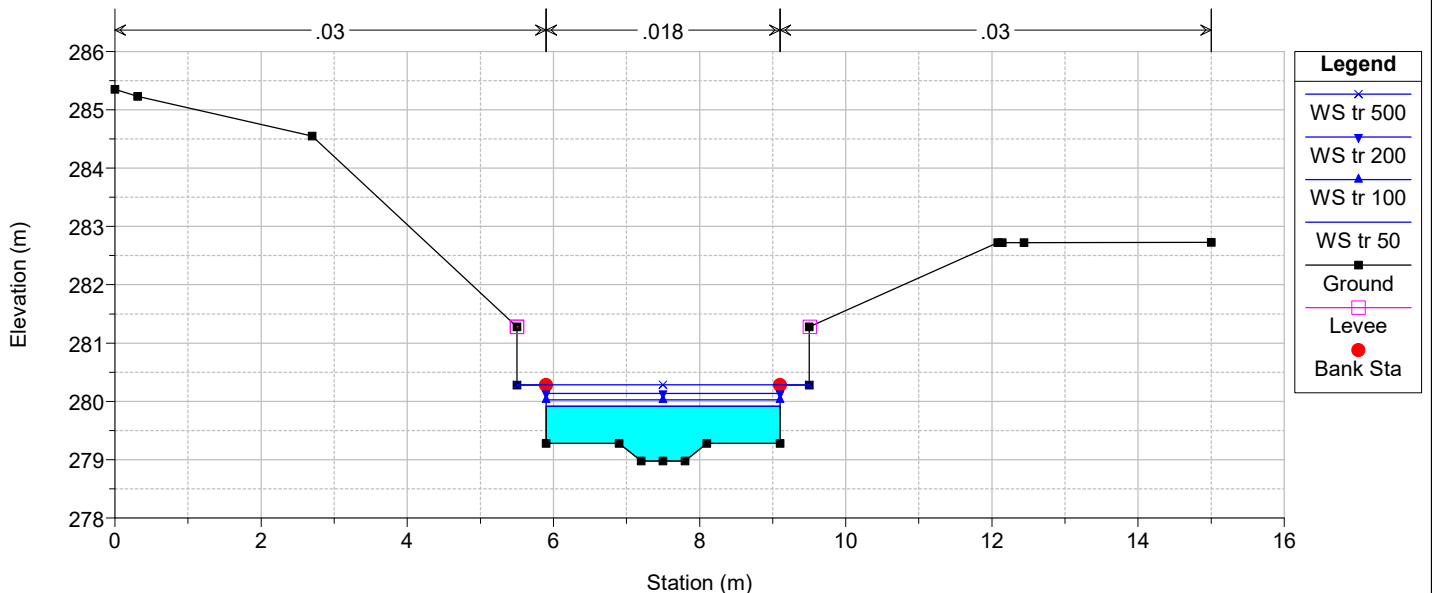
River = S3 Reach = asta RS = 2050 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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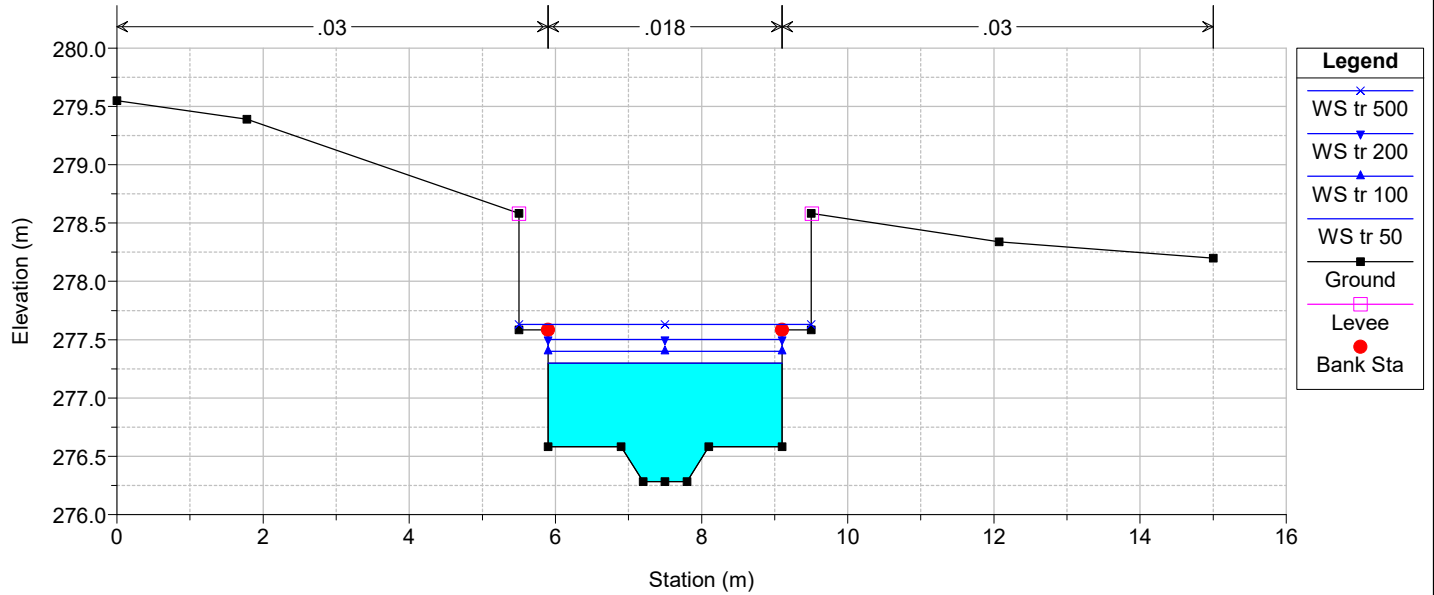
River = S3 Reach = asta RS = 2000 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

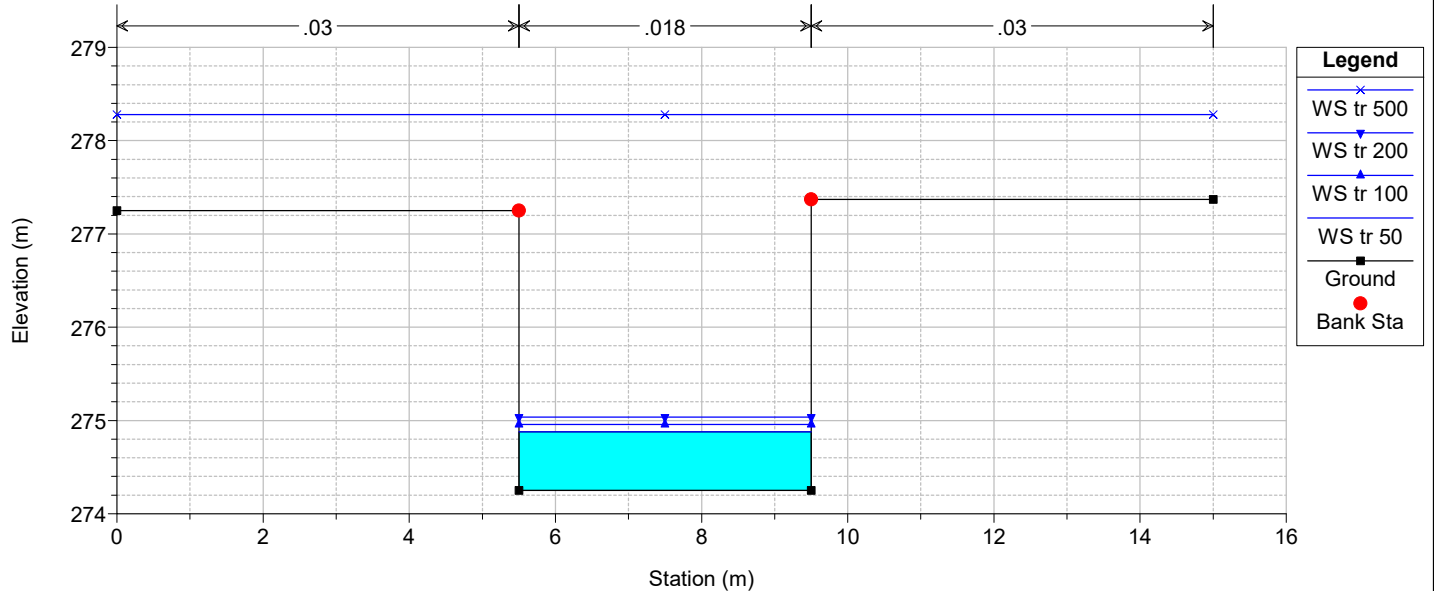
River = S3 Reach = asta RS = 1950 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

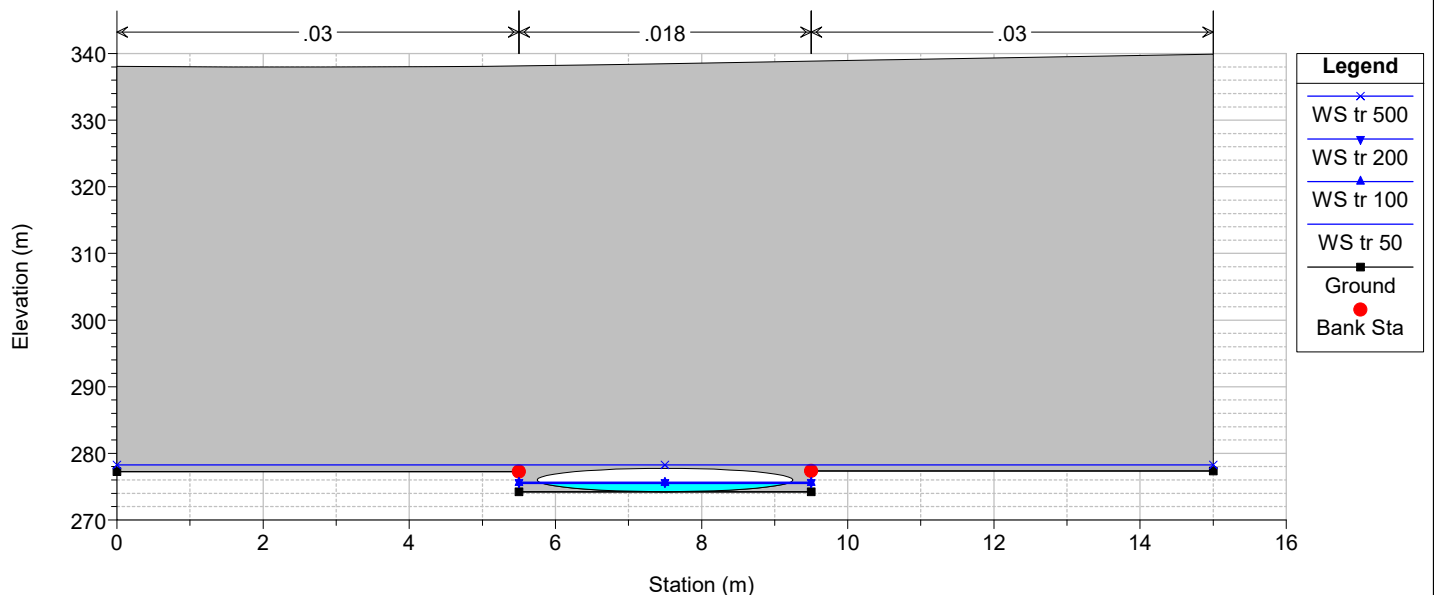
River = S3 Reach = asta RS = 1912.349 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

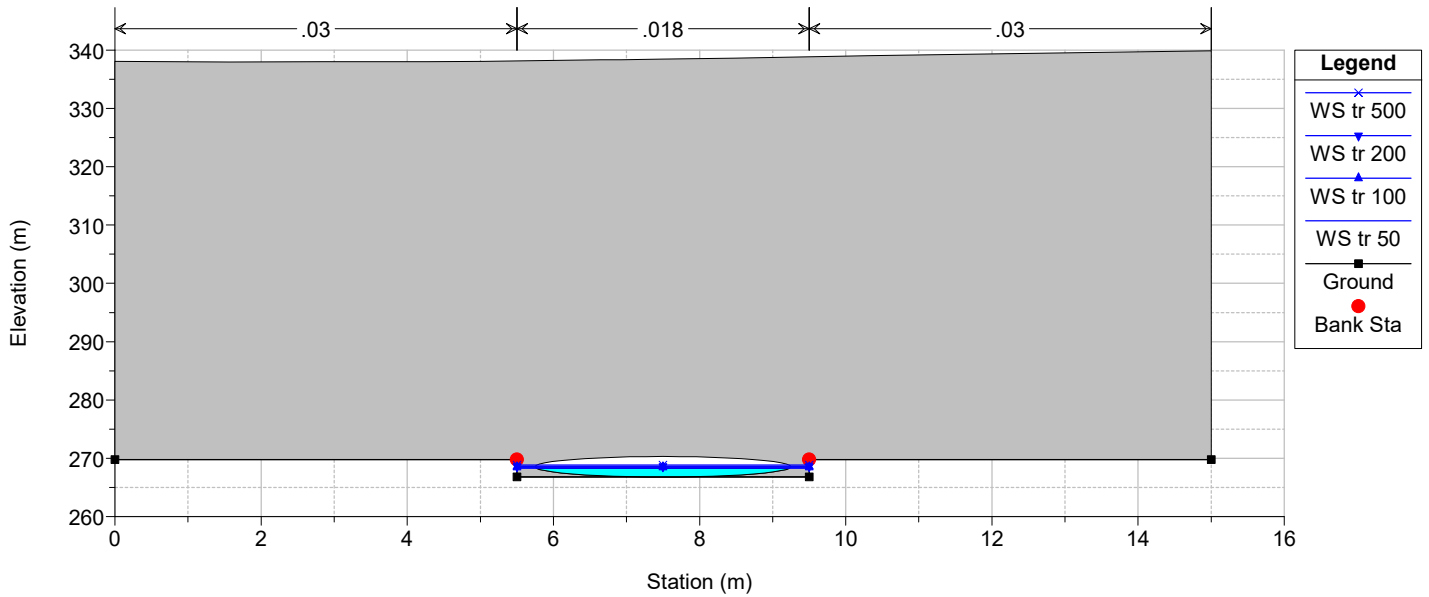
River = S3 Reach = asta RS = 1611.01 Culv GALLERIA IDRAULICA COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

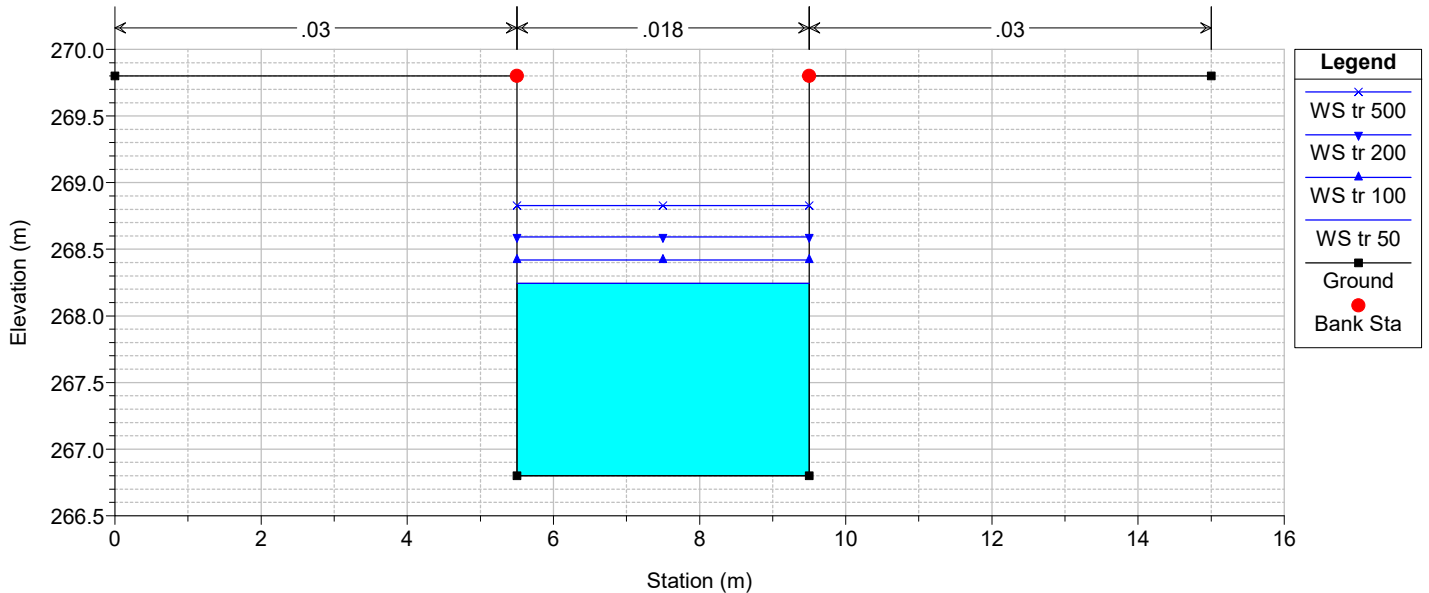
River = S3 Reach = asta RS = 1611.01 Culv GALLERIA IDRAULICA COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

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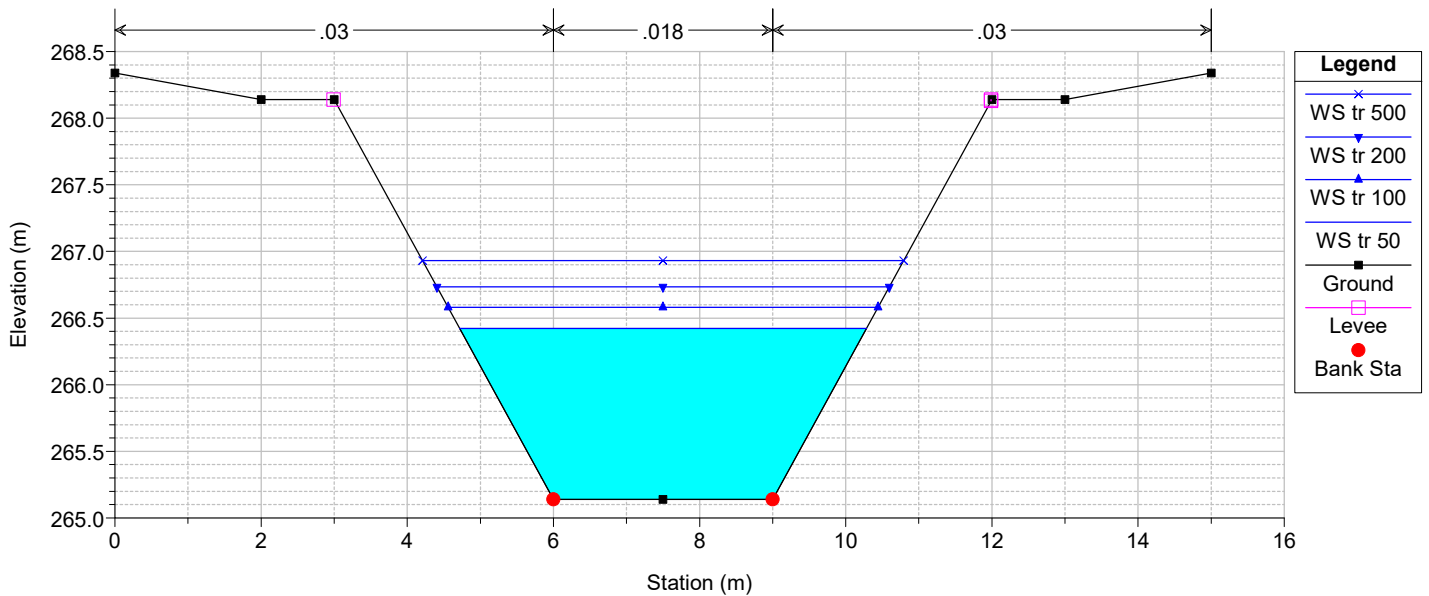
River = S3 Reach = asta RS = 1328.67 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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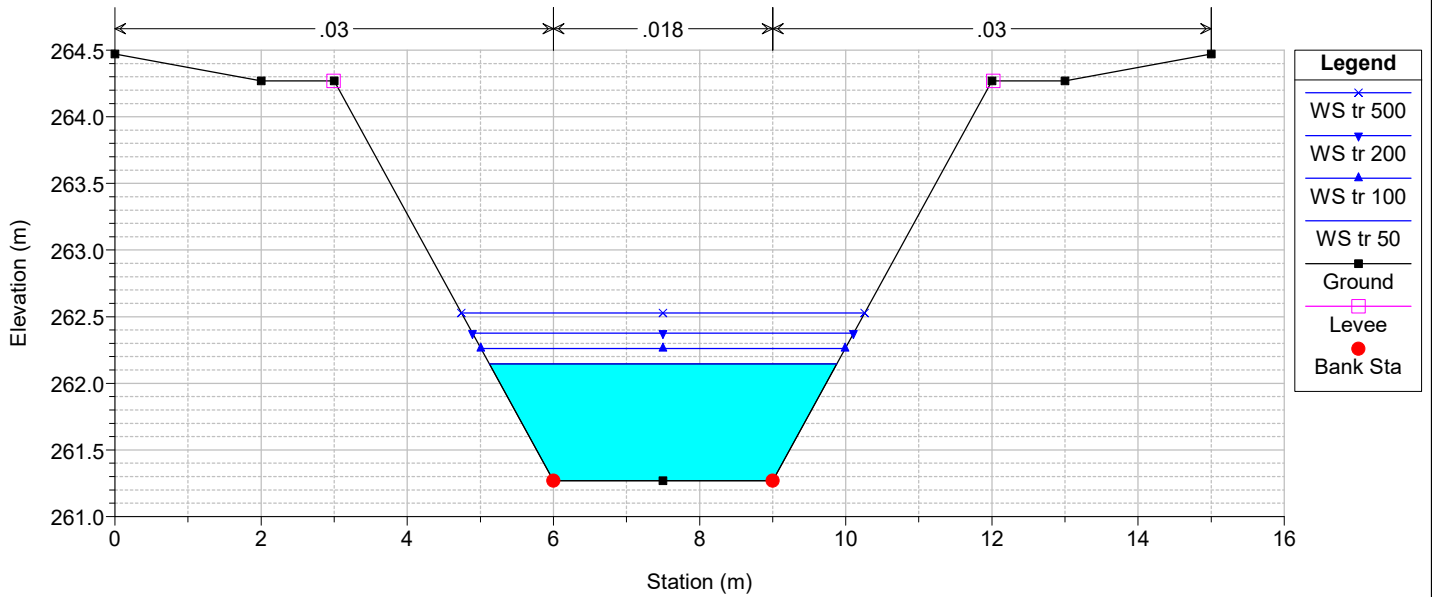
River = S3 Reach = asta RS = 1300 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

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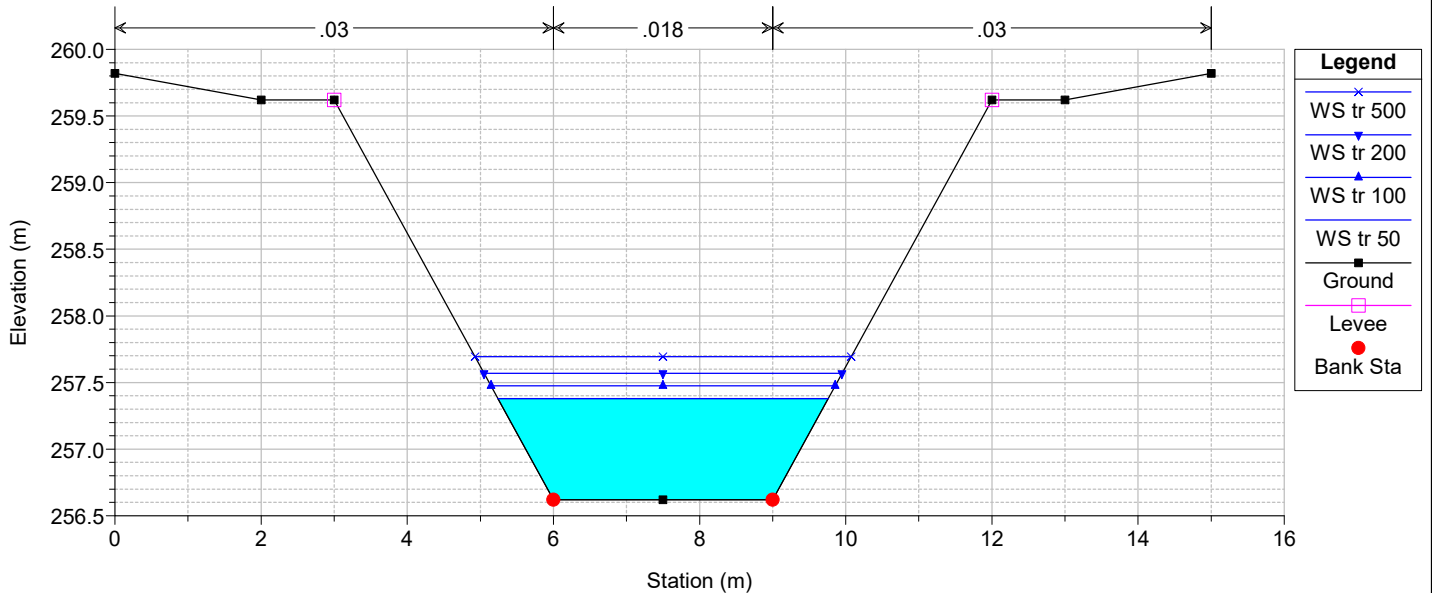
River = S3 Reach = asta RS = 1250 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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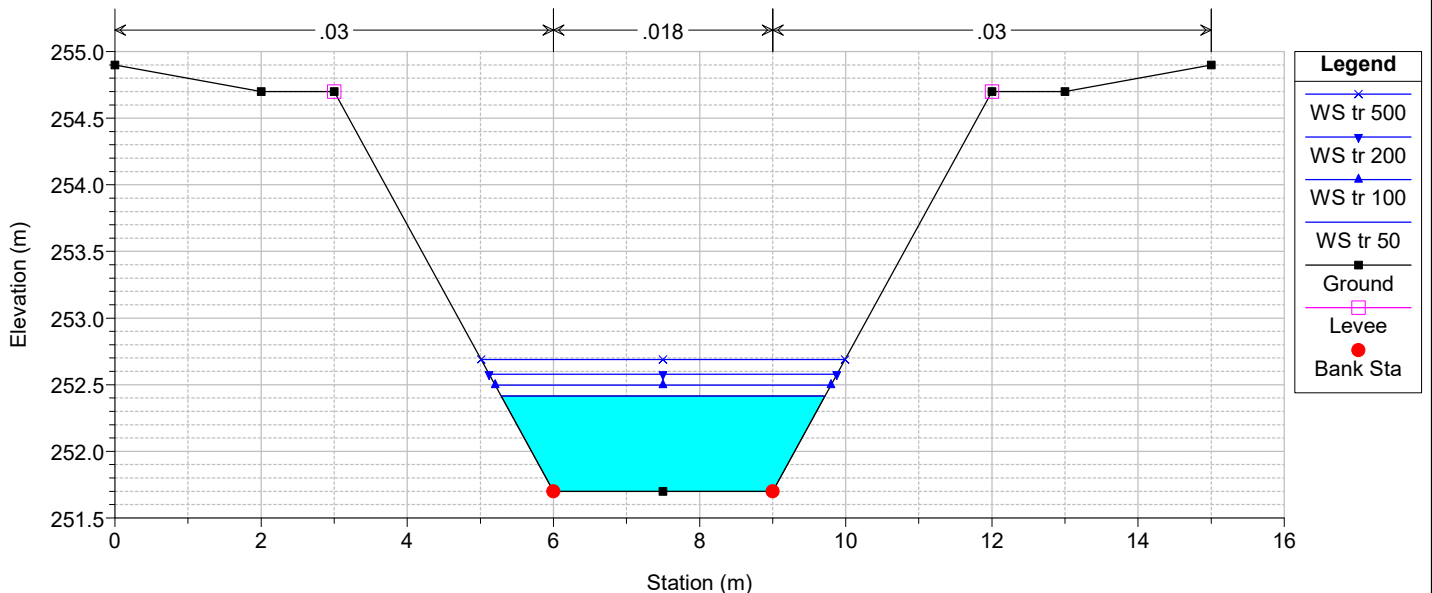
River = S3 Reach = asta RS = 1200 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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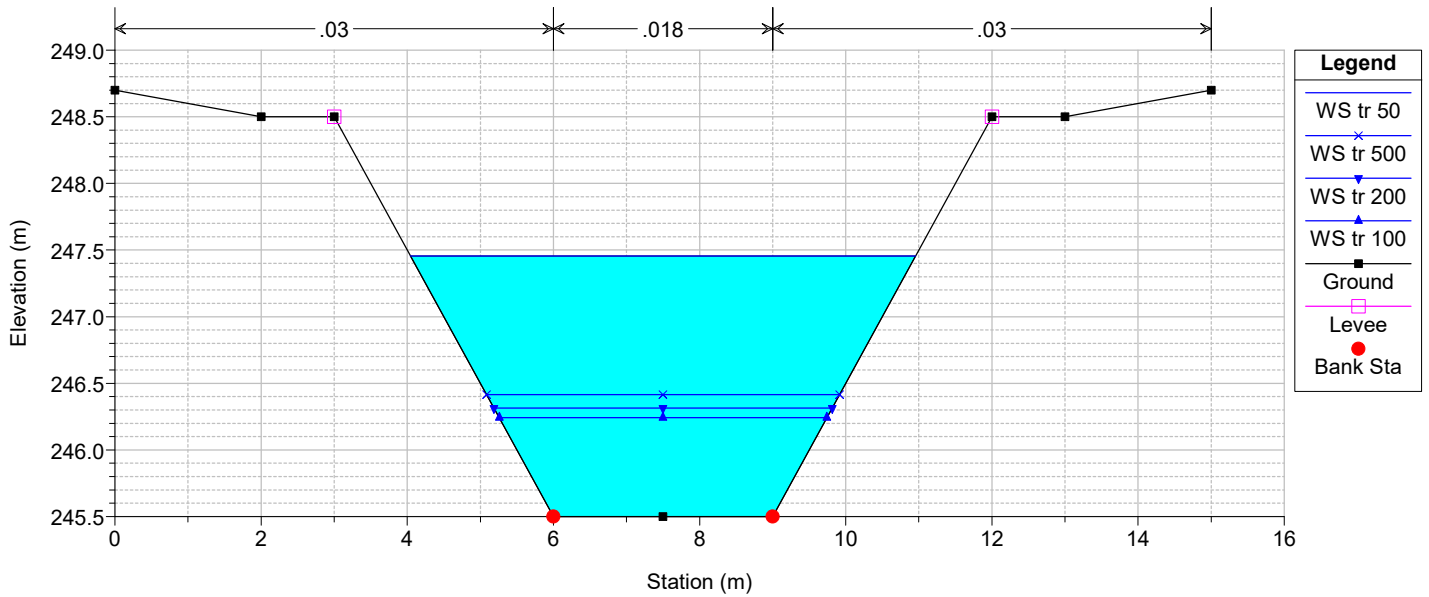
River = S3 Reach = asta RS = 1150 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

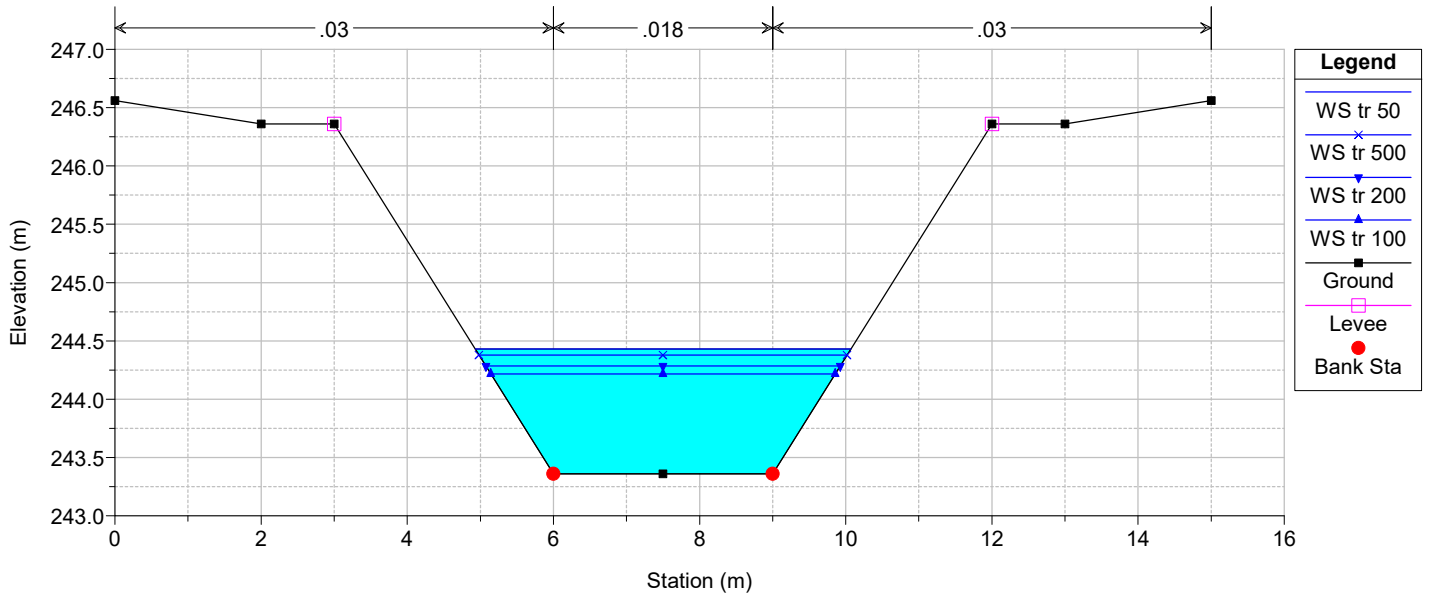
River = S3 Reach = asta RS = 1100 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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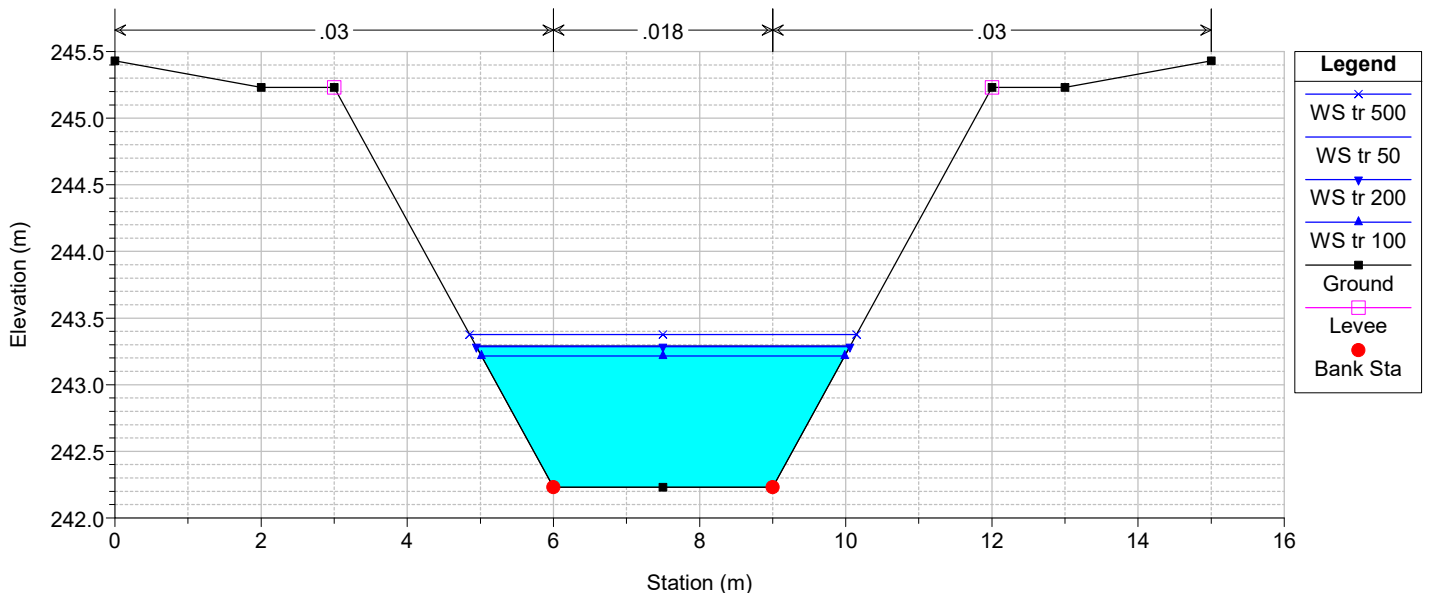
River = S3 Reach = asta RS = 1050 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

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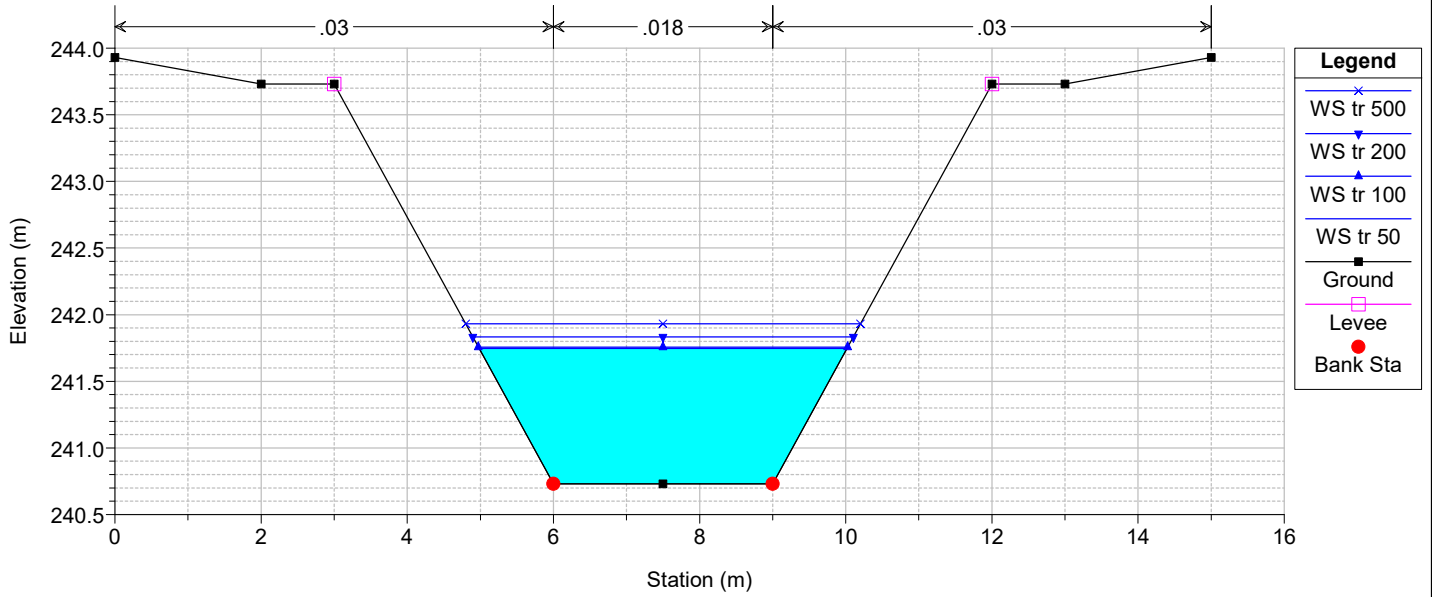
River = S3 Reach = asta RS = 1000 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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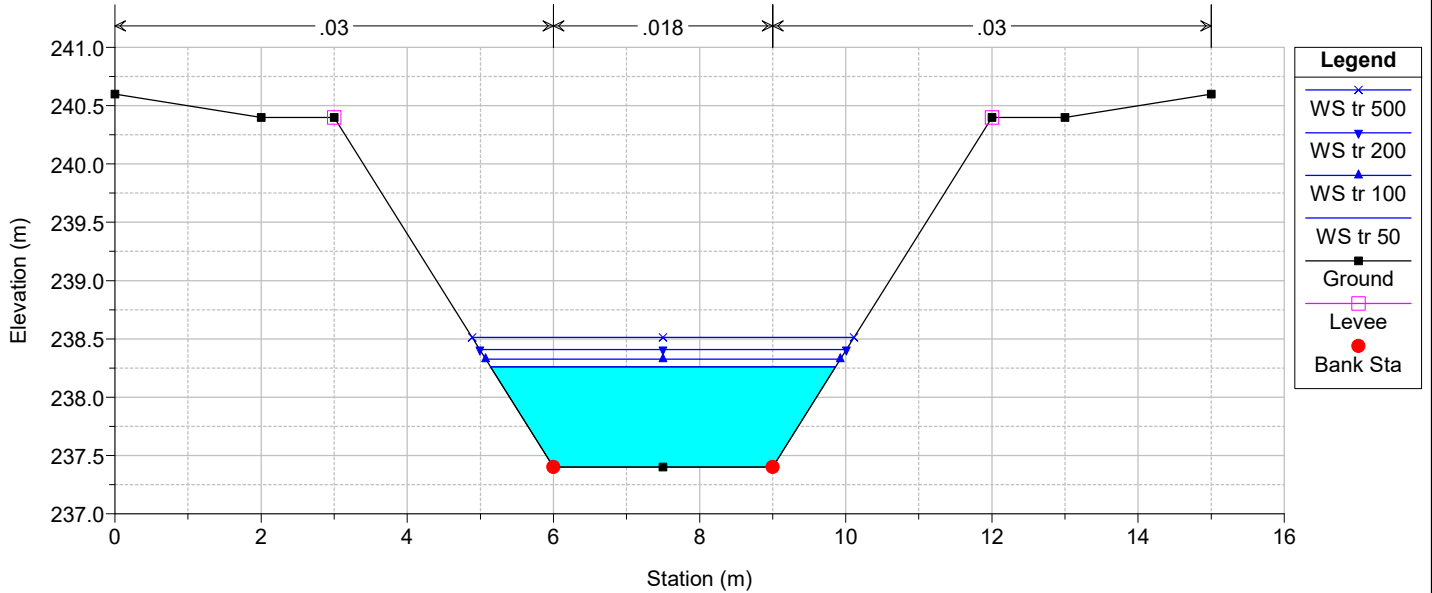
River = S3 Reach = asta RS = 950.0001 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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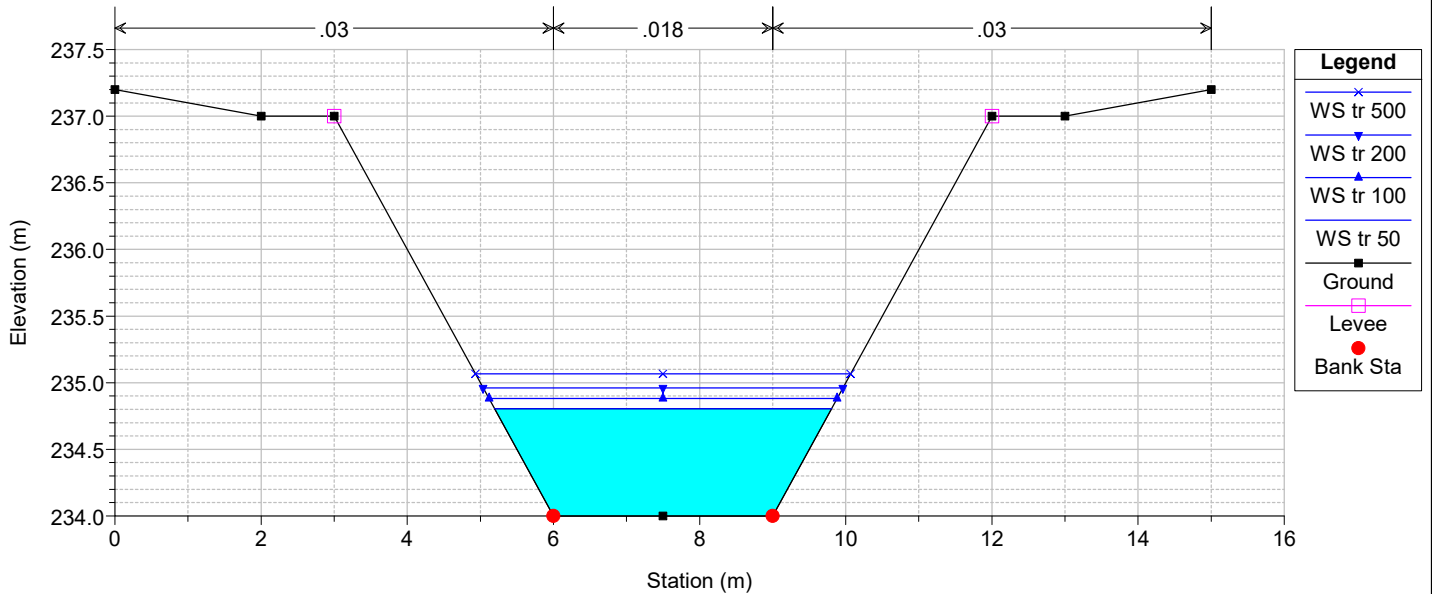
River = S3 Reach = asta RS = 900 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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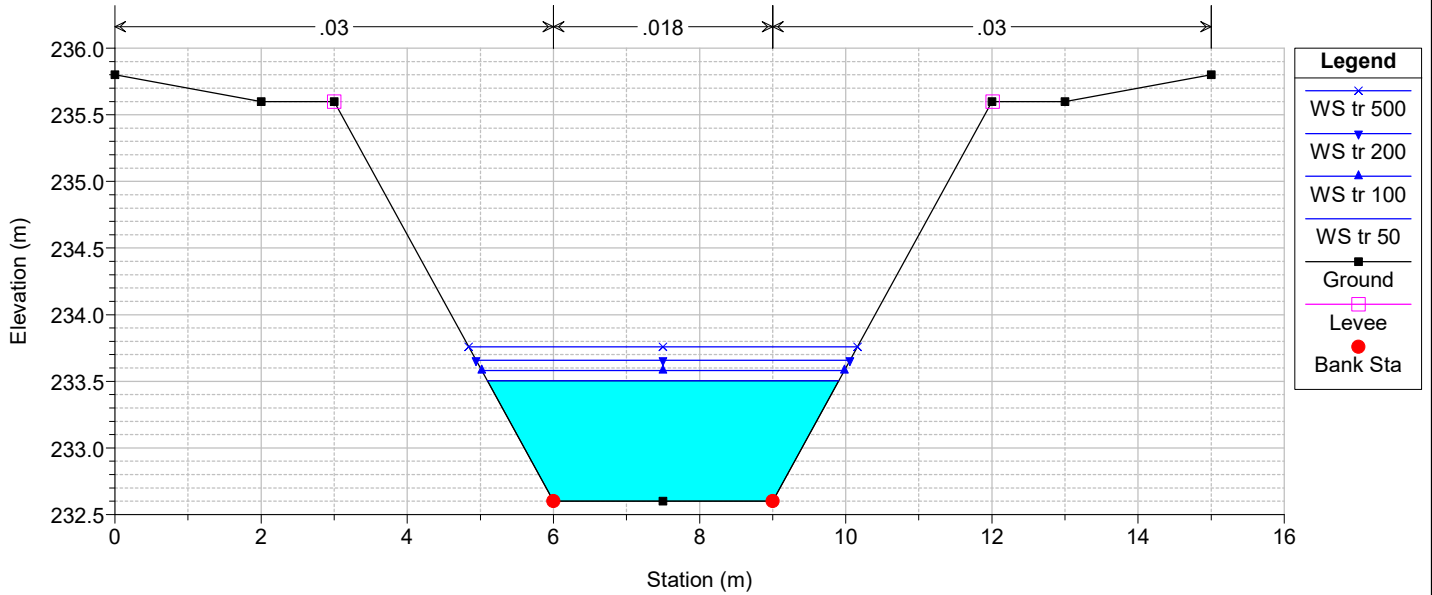
River = S3 Reach = asta RS = 850.0001 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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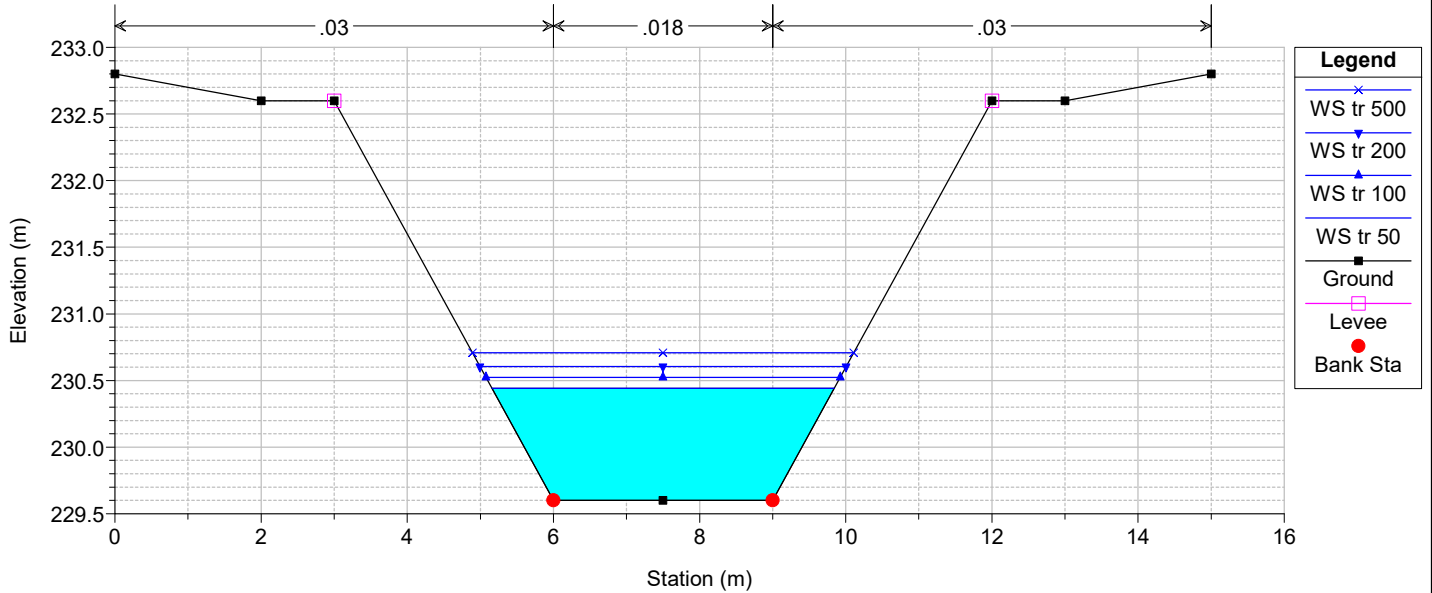
River = S3 Reach = asta RS = 800 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

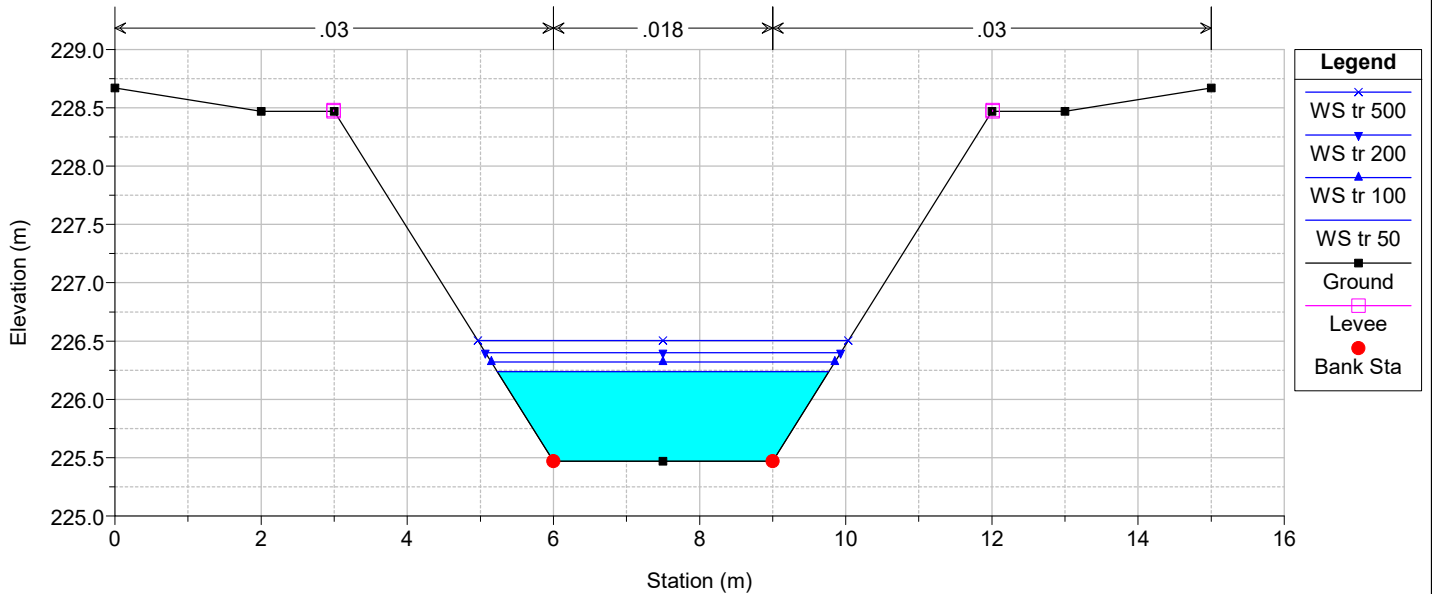
River = S3 Reach = asta RS = 750 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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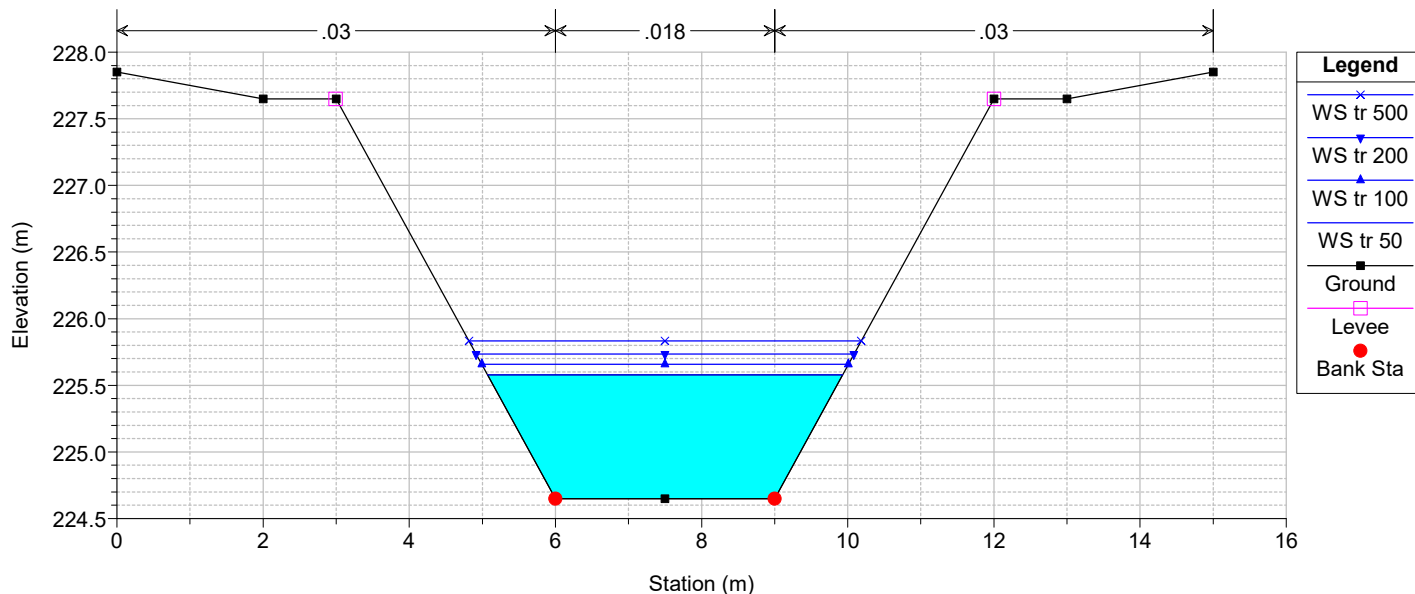
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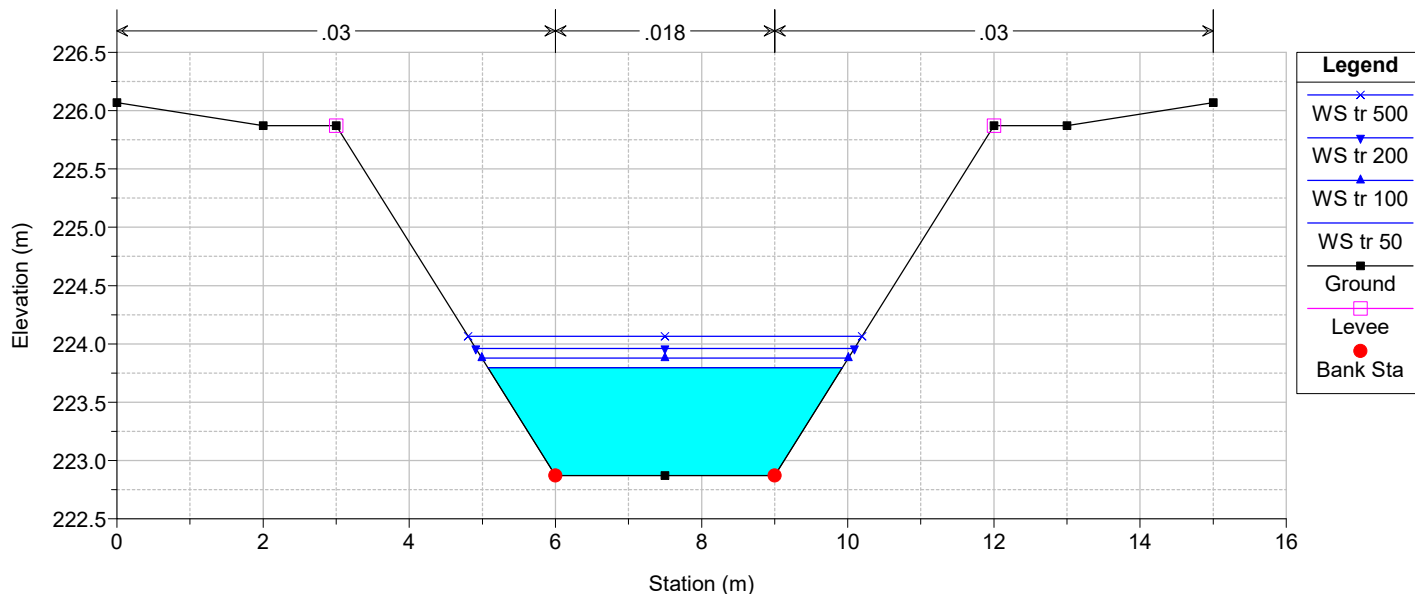
River = S3 Reach = asta RS = 650 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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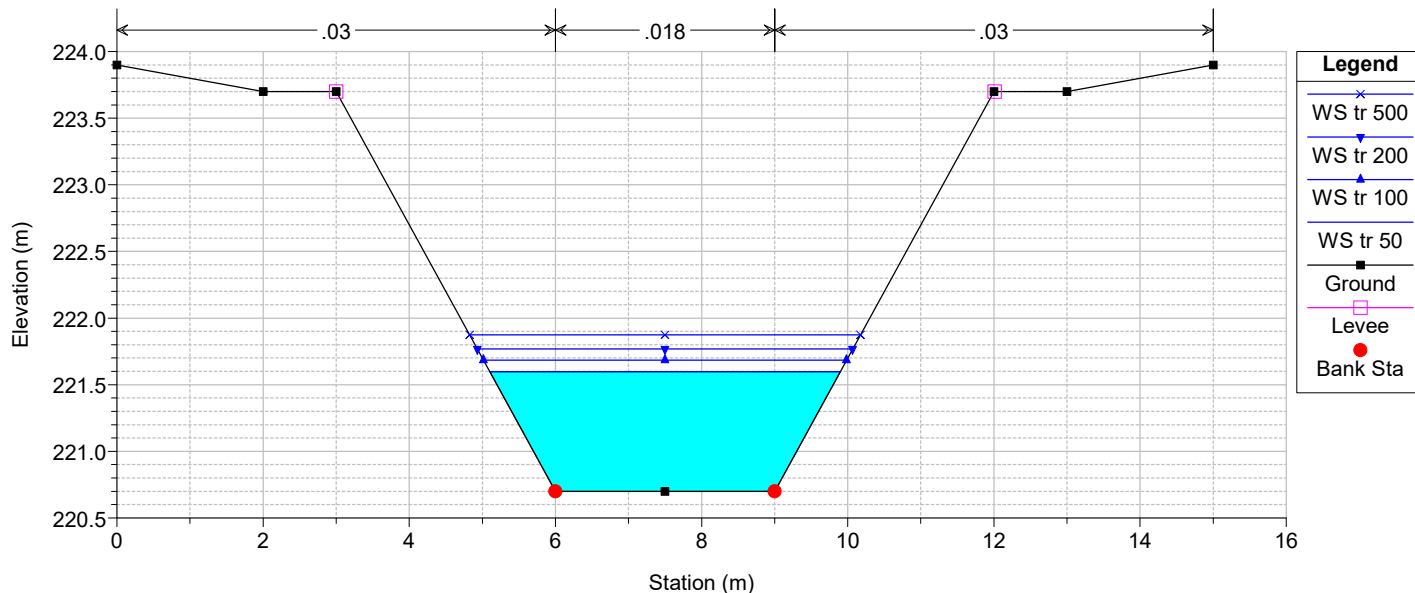
River = S3 Reach = asta RS = 599.9999 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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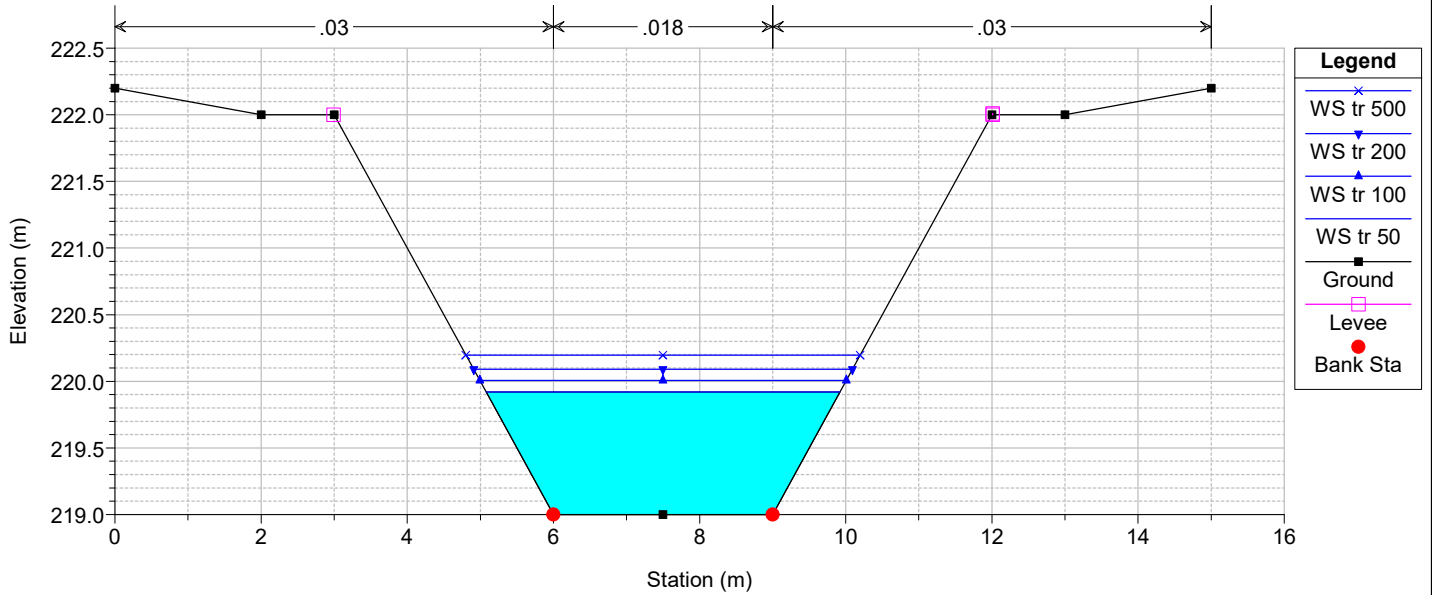
River = S3 Reach = asta RS = 550 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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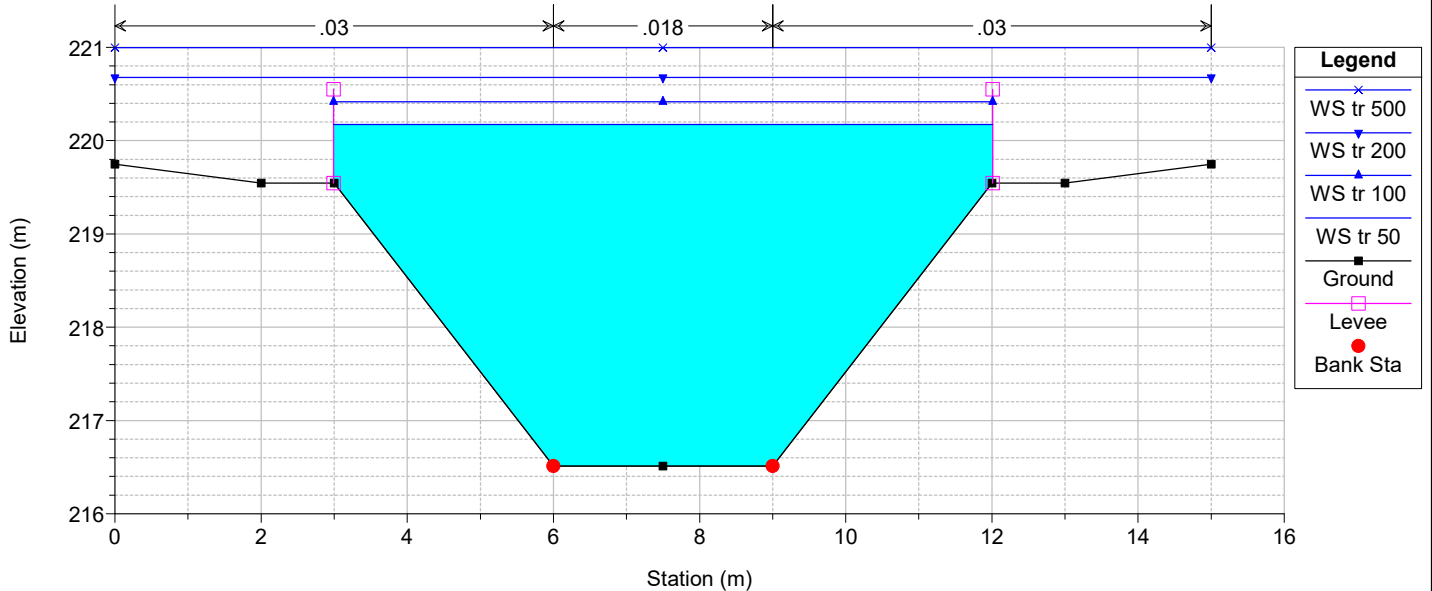
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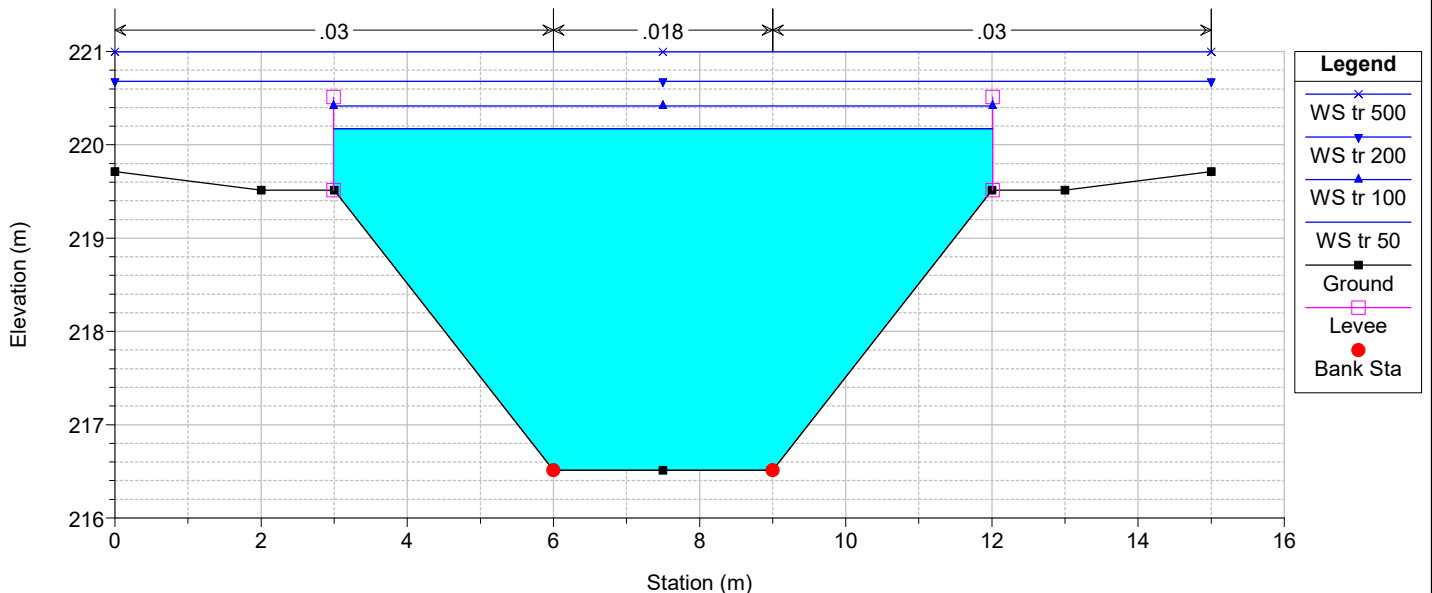
River = S3 Reach = asta RS = 495.07 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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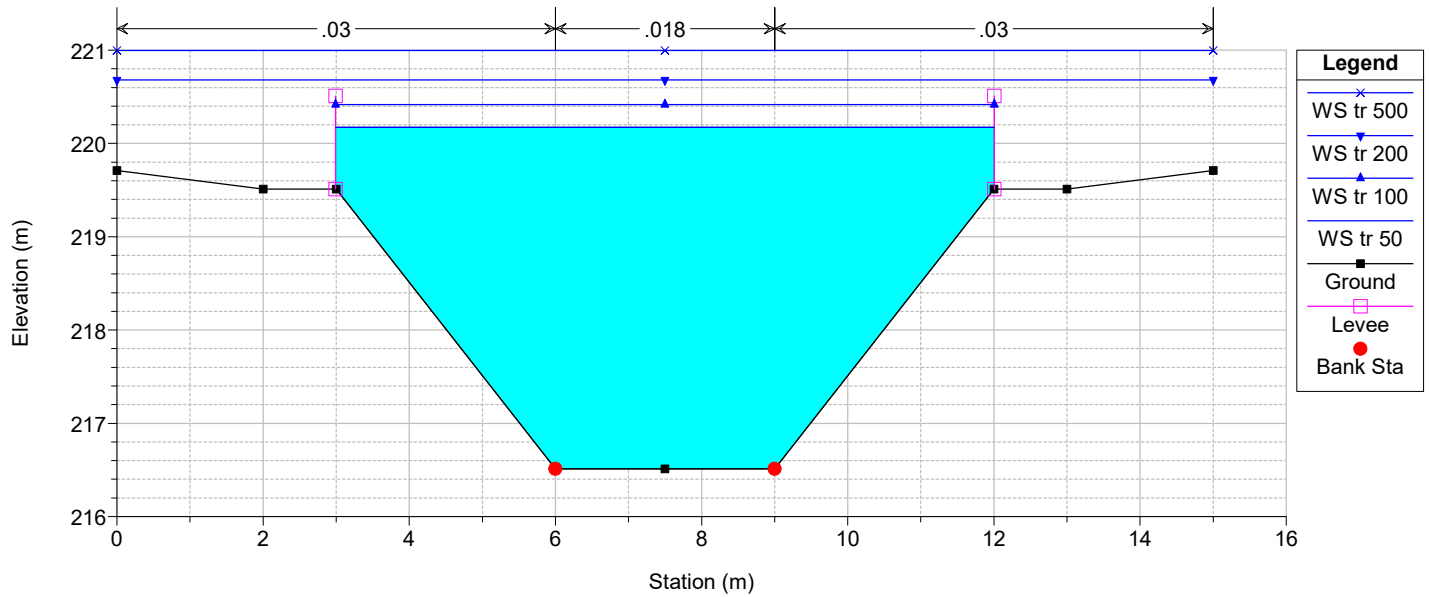
River = S3 Reach = asta RS = 492.11 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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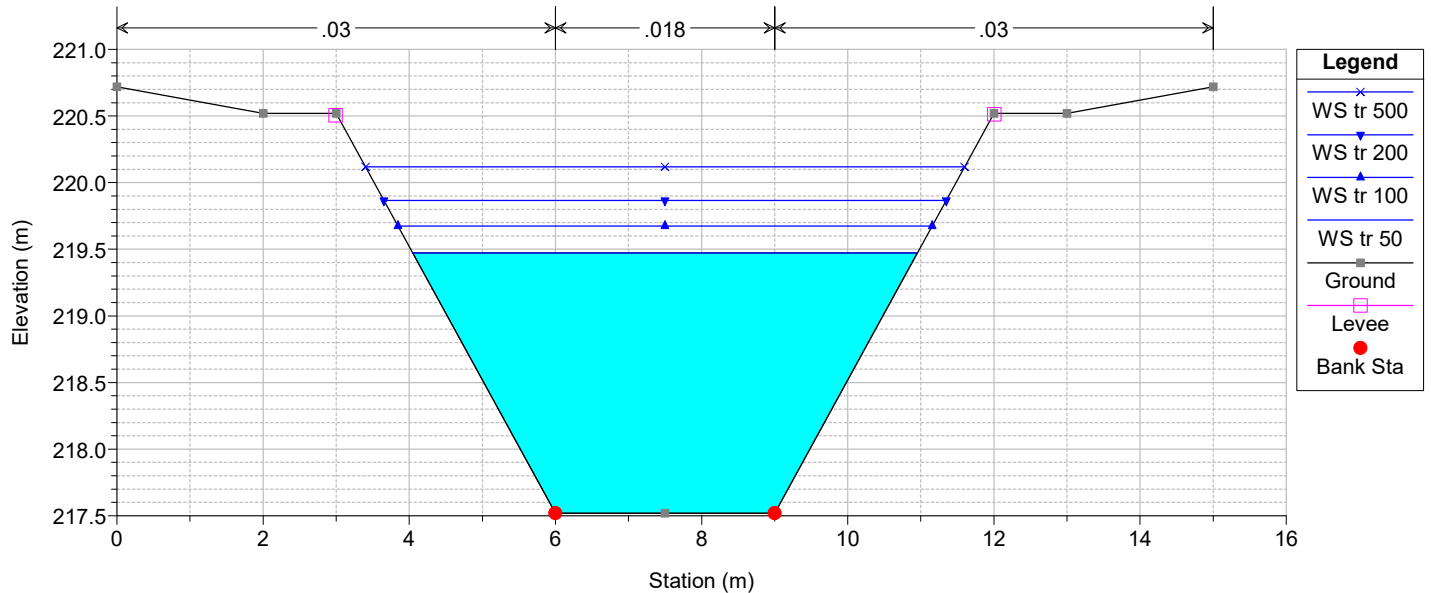
River = S3 Reach = asta RS = 489.15 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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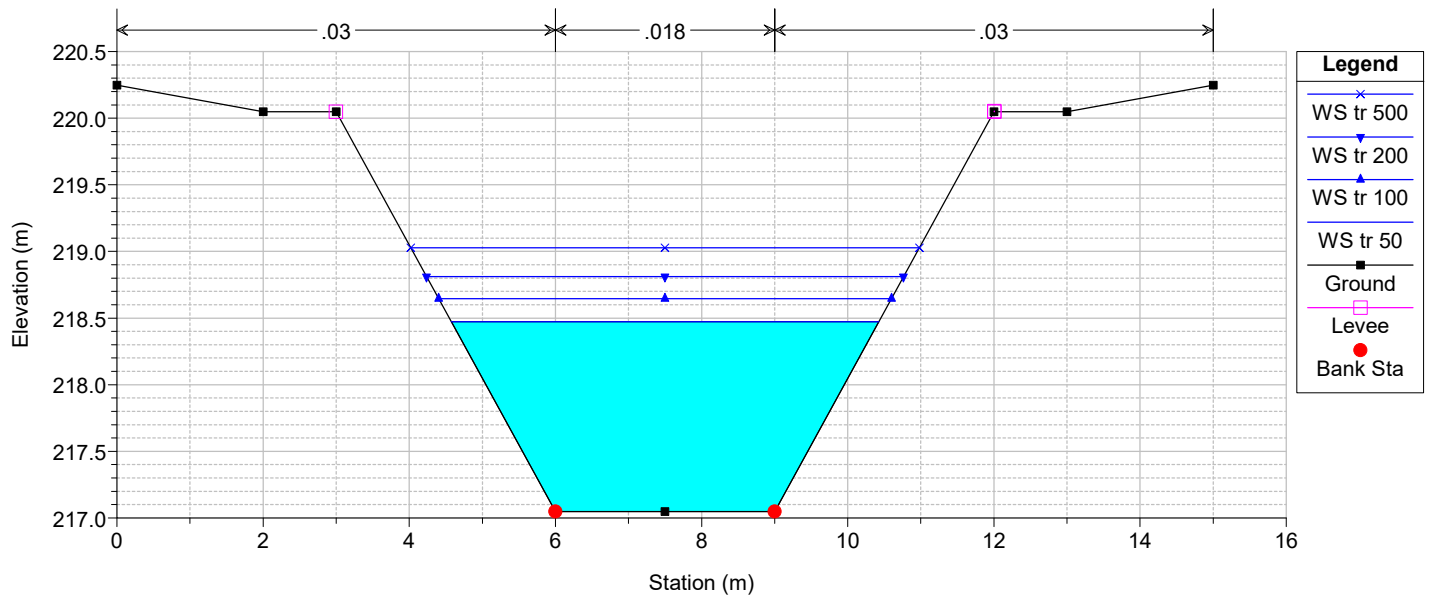
River = S3 Reach = asta RS = 487.67* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

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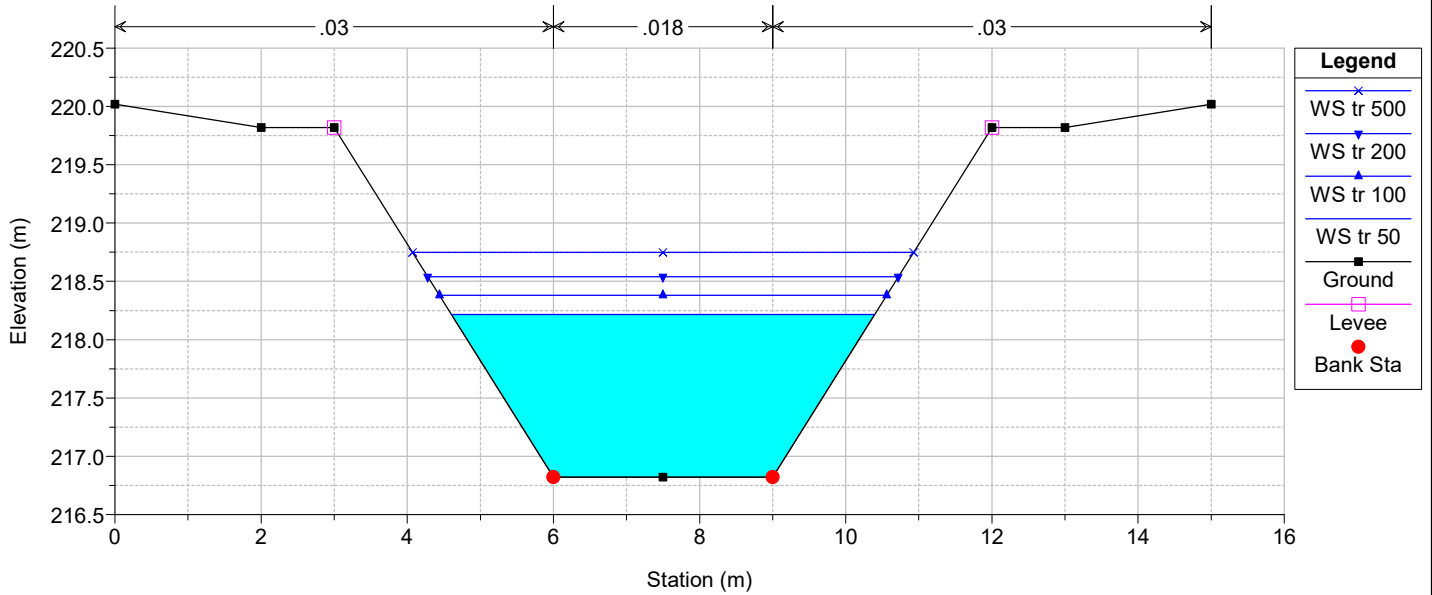
River = S3 Reach = asta RS = 486.19 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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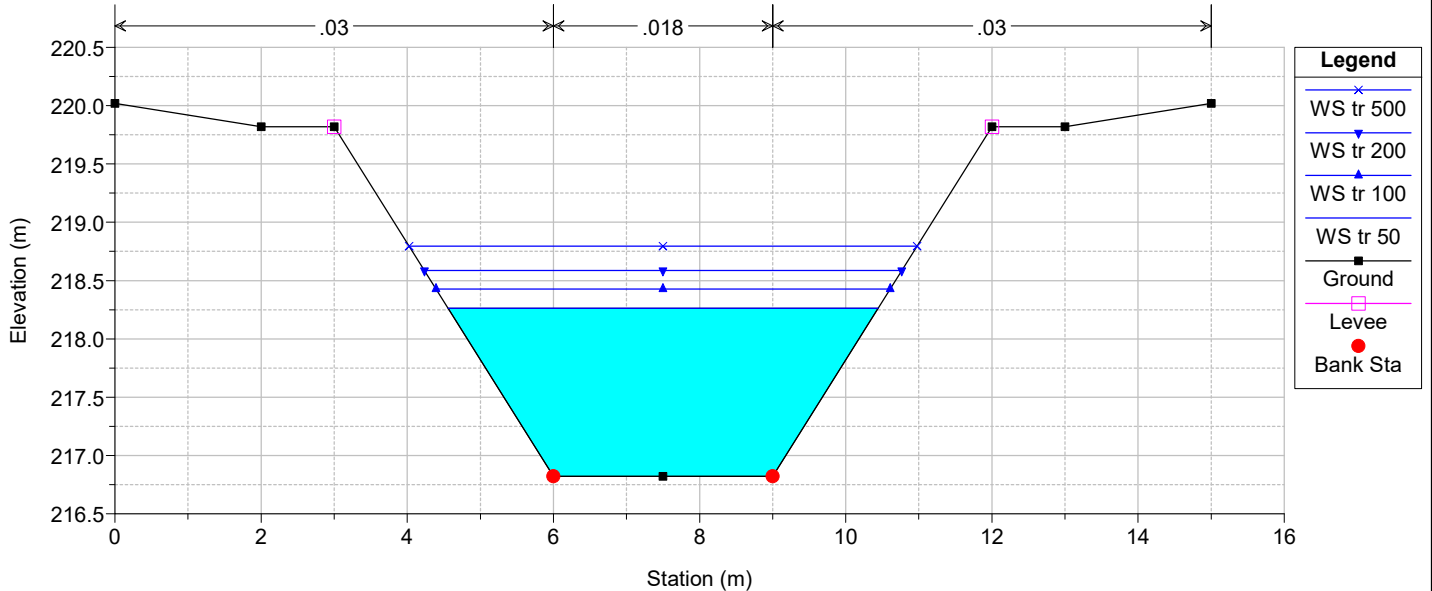
River = S3 Reach = asta RS = 465 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

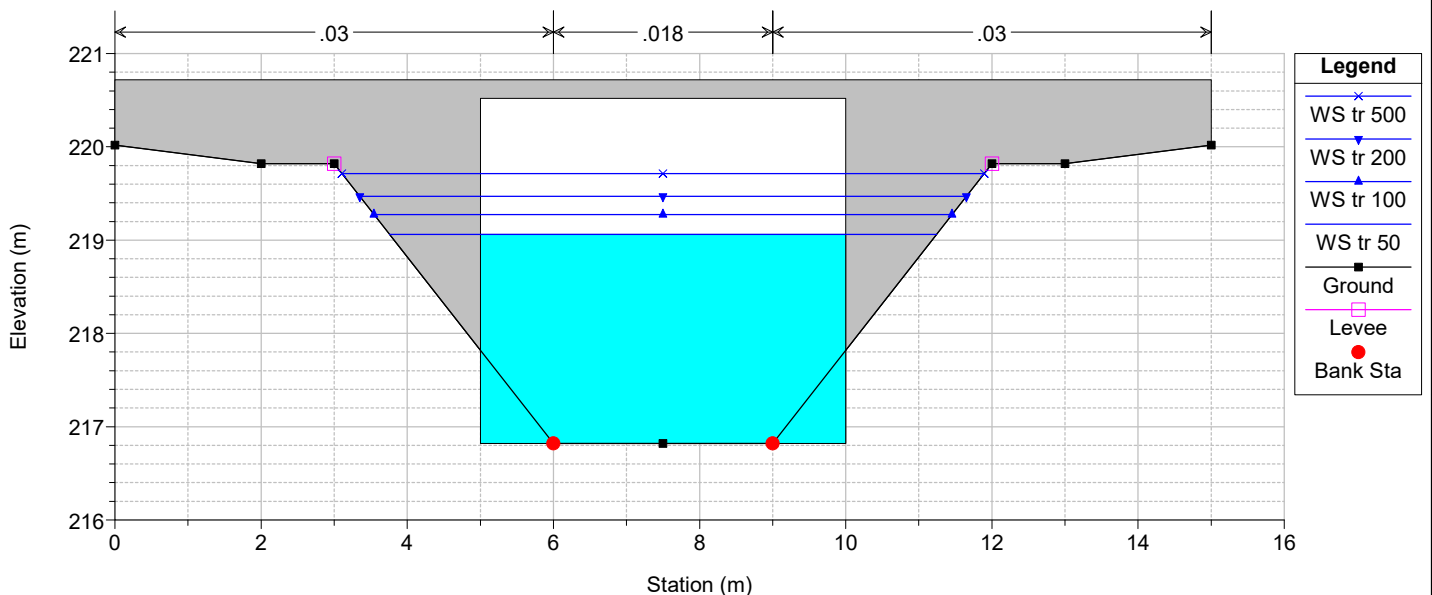
River = S3 Reach = asta RS = 459 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

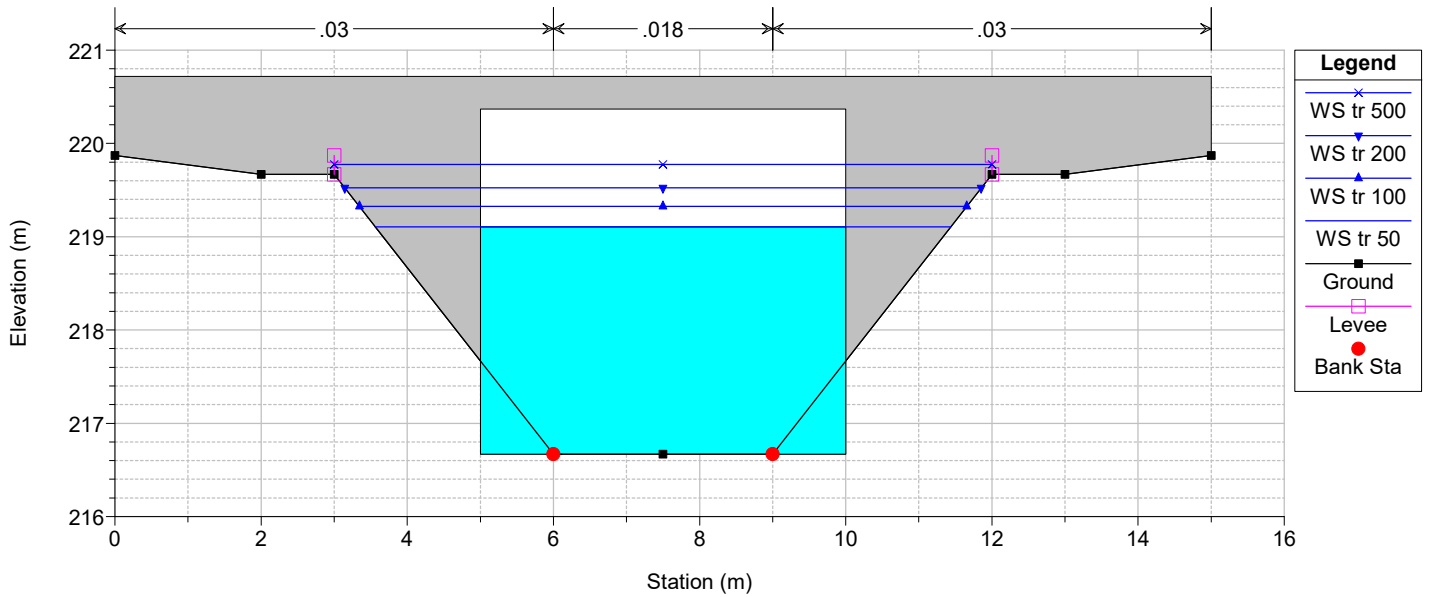
River = S3 Reach = asta RS = 450 Culv. ATTRAV. S.P. n. 103 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

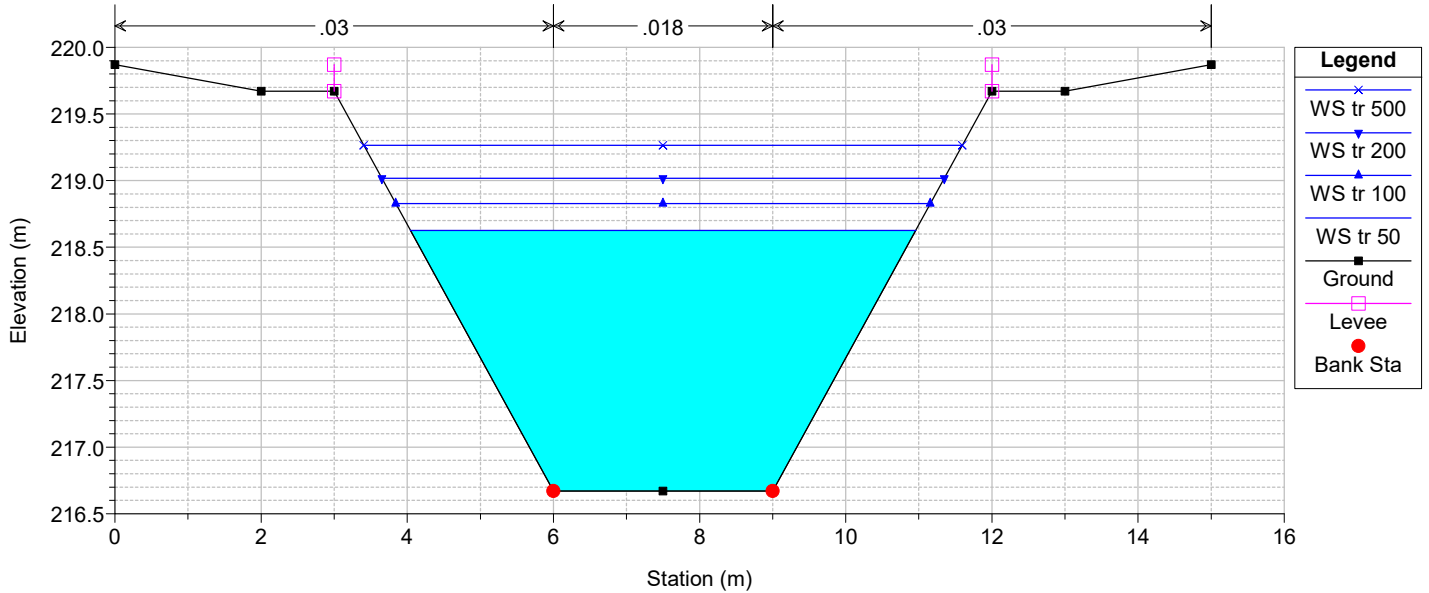
River = S3 Reach = asta RS = 450 Culv. ATTRAV. S.P. n. 103 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

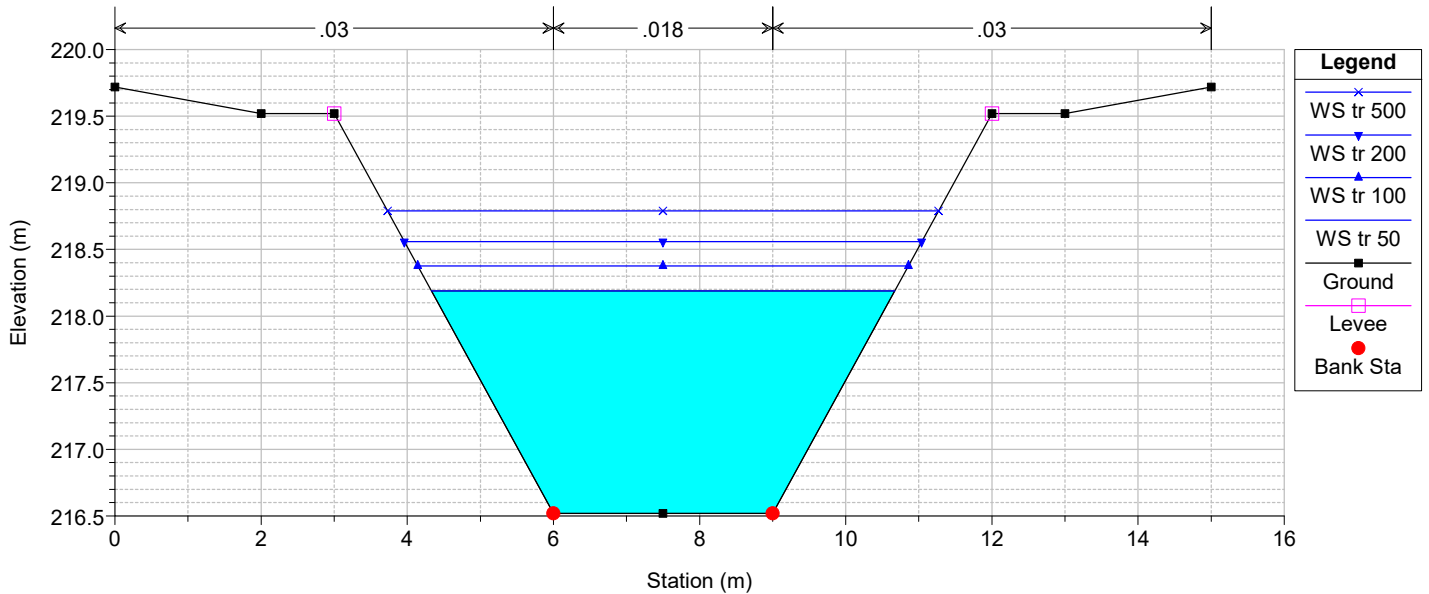
River = S3 Reach = asta RS = 440 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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Geom: s3_17122021 Flow: s306092017

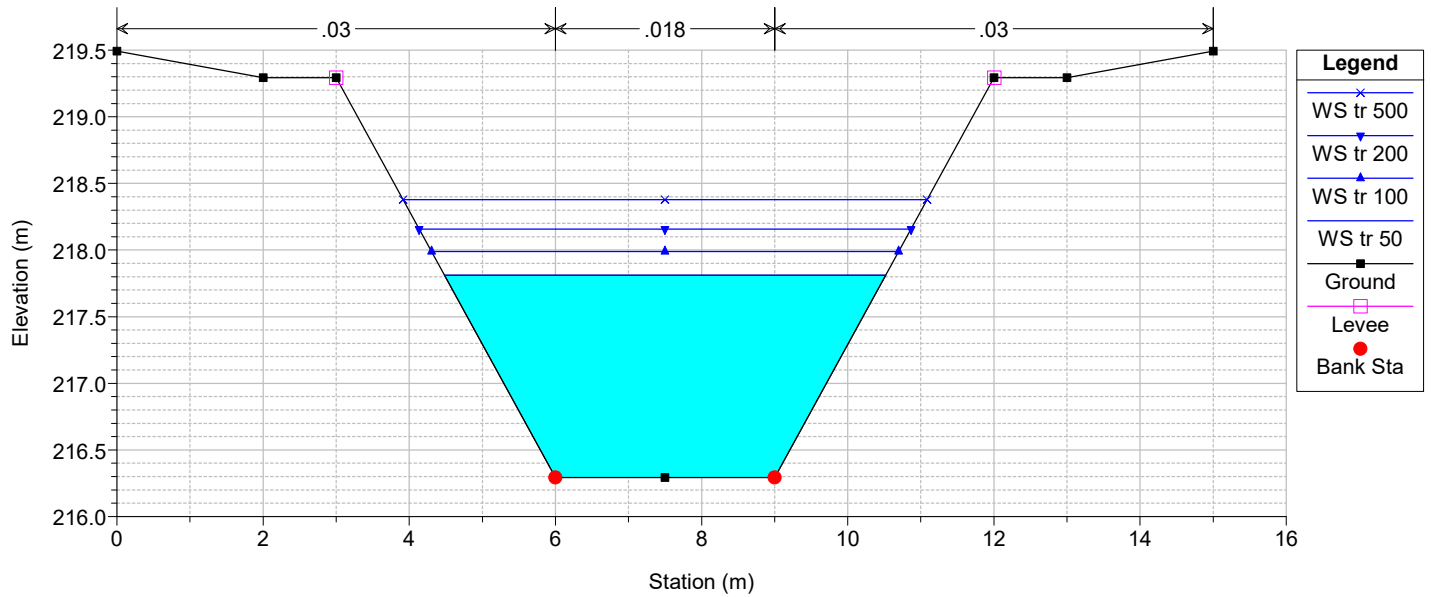
River = S3 Reach = asta RS = 431 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

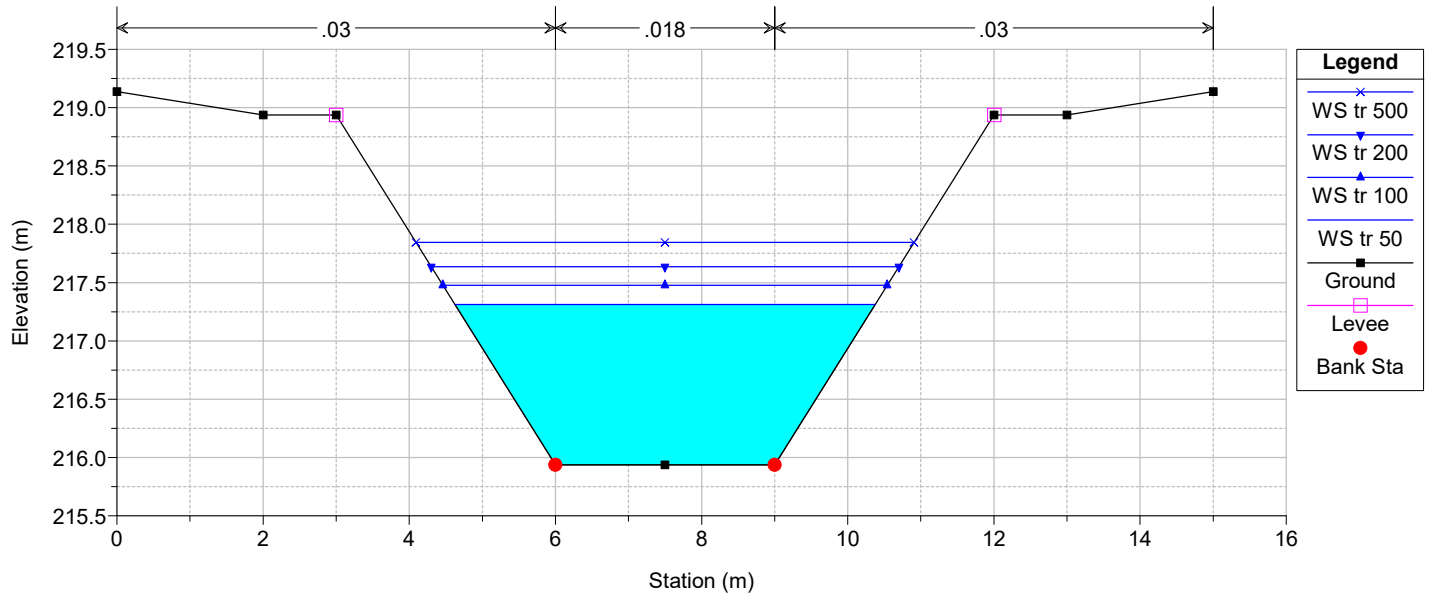
River = S3 Reach = asta RS = 420.78 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

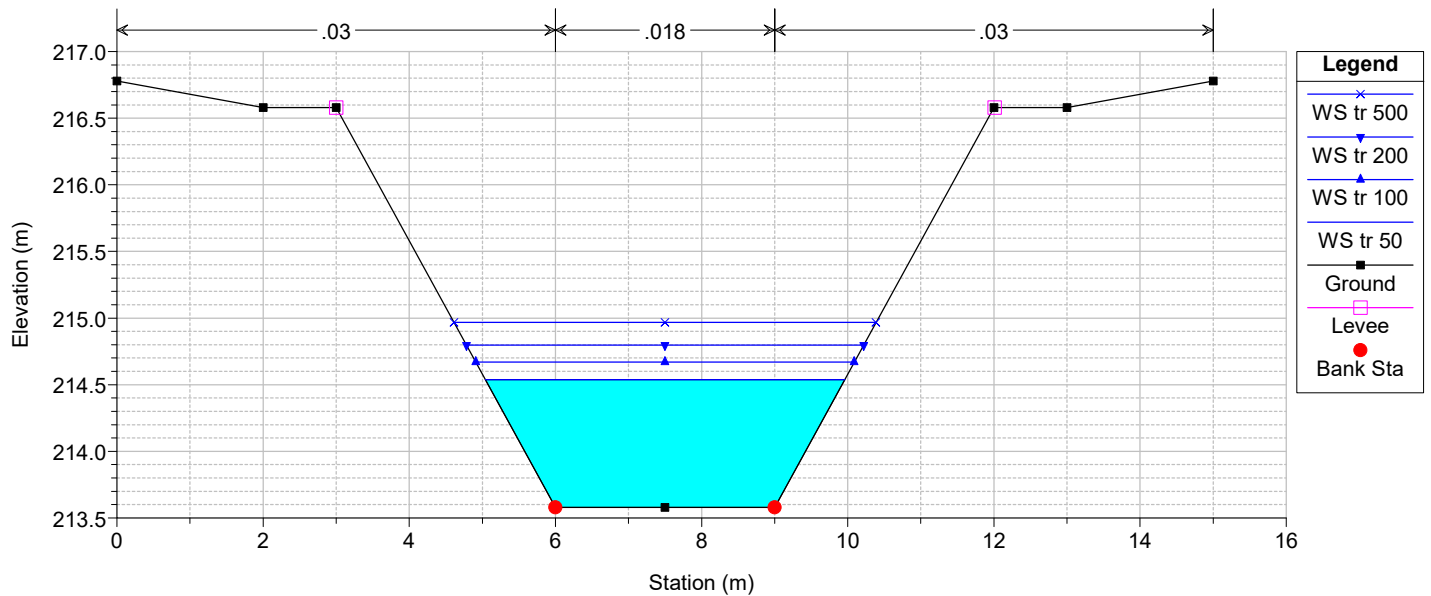
River = S3 Reach = asta RS = 410.39 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

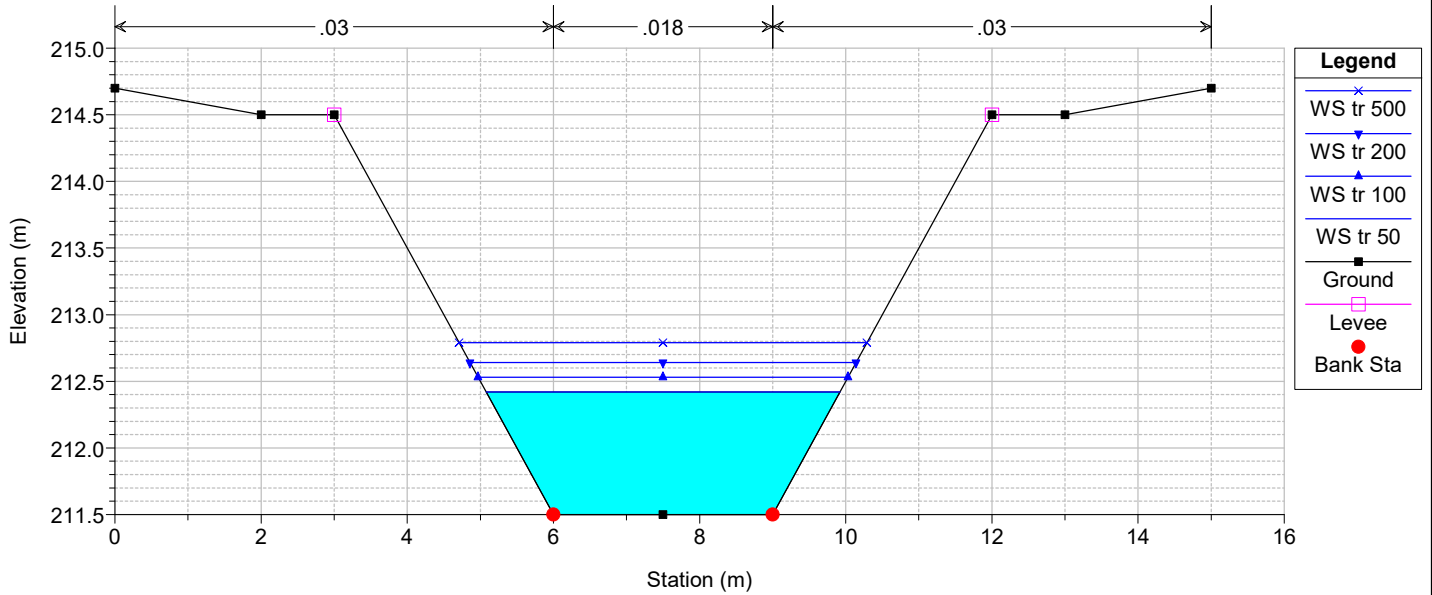
River = S3 Reach = asta RS = 400 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

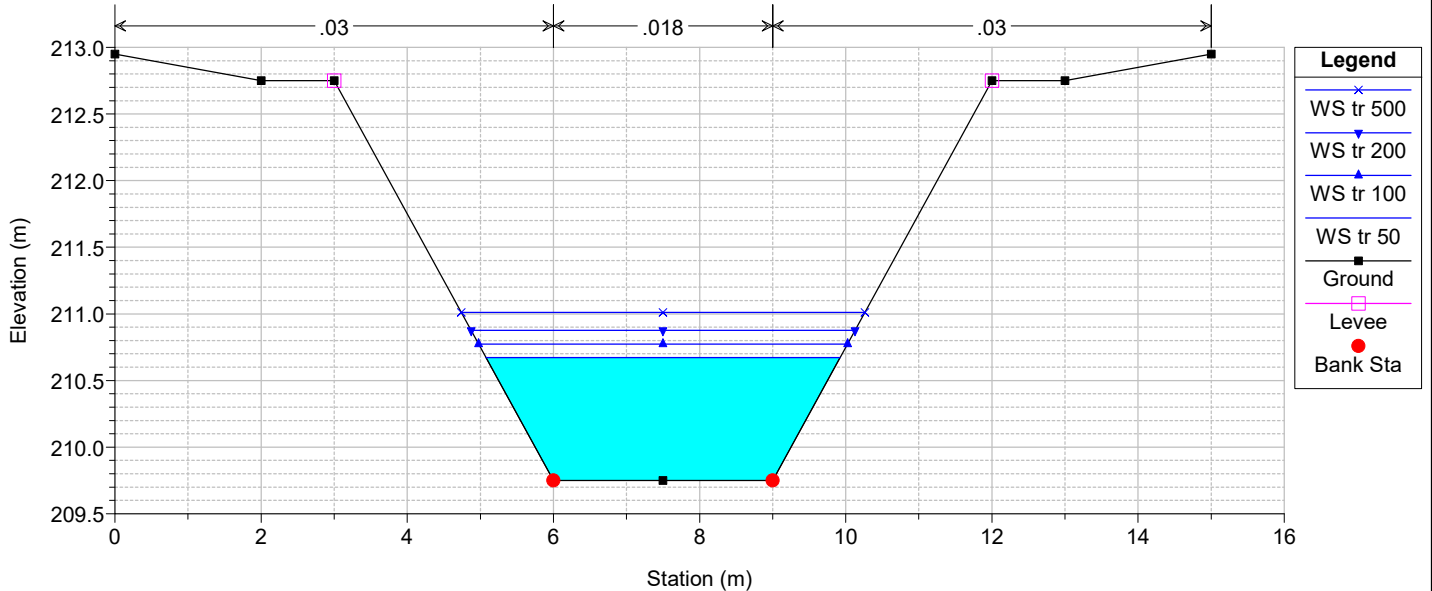
River = S3 Reach = asta RS = 350 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

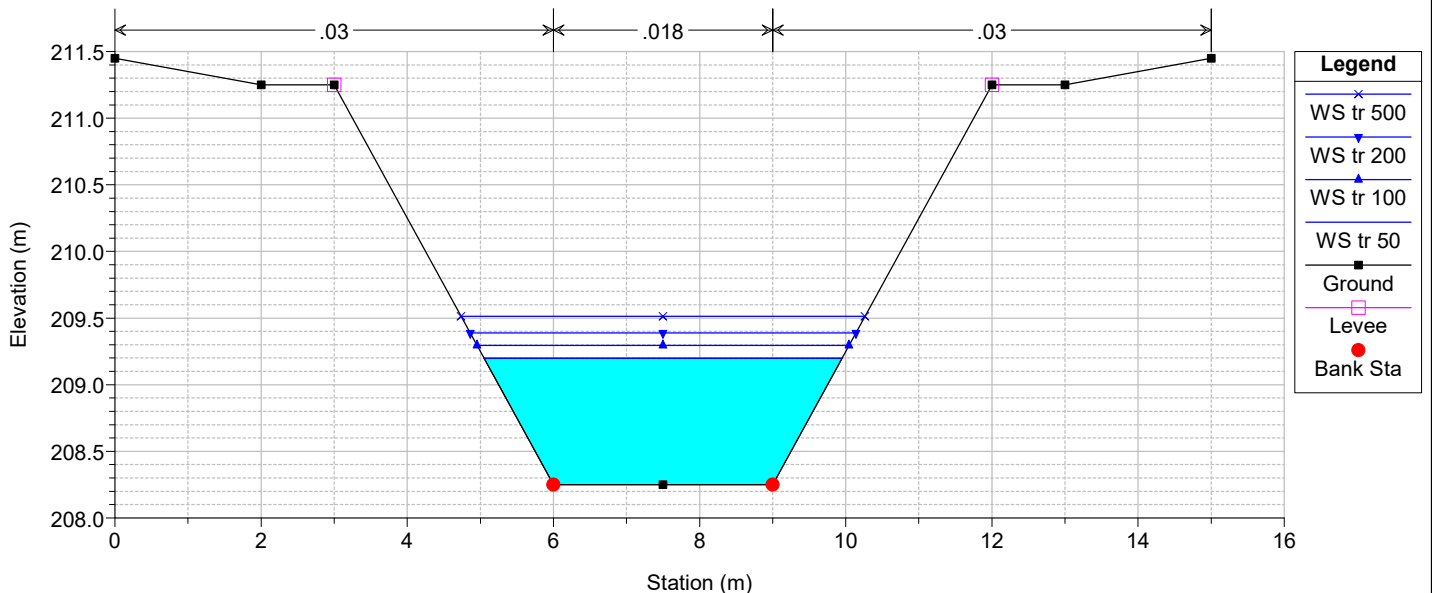
River = S3 Reach = asta RS = 300 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

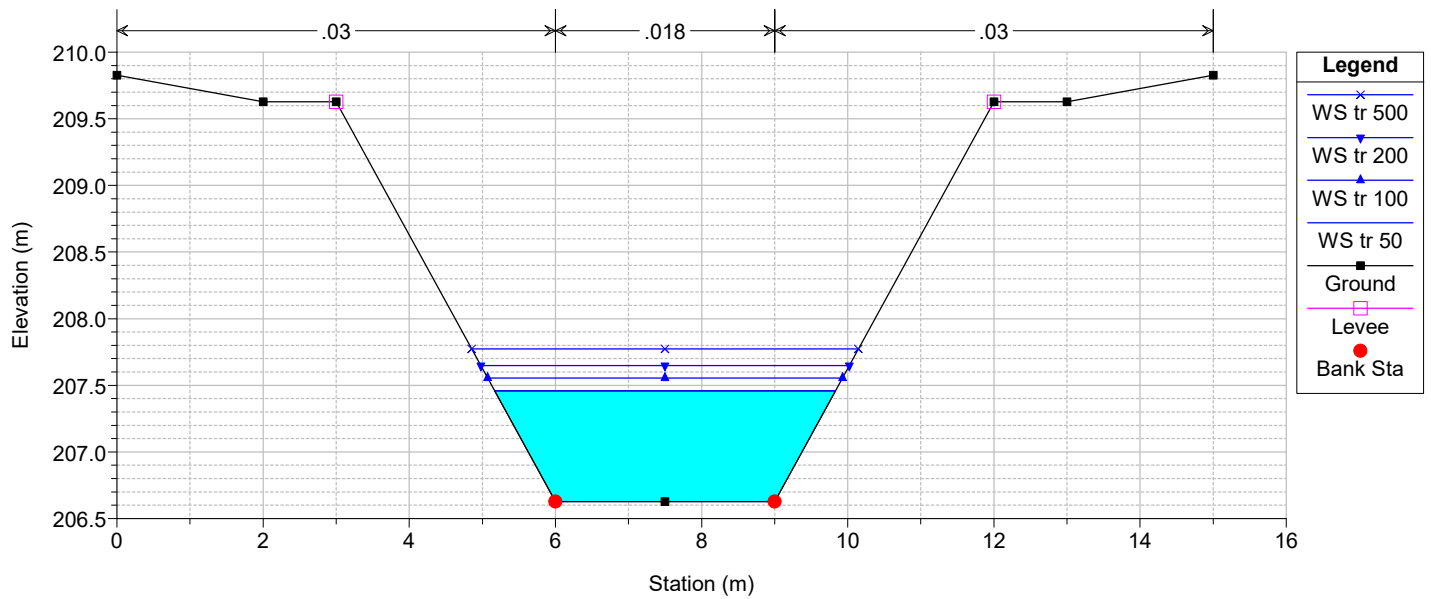
River = S3 Reach = asta RS = 250.0001 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

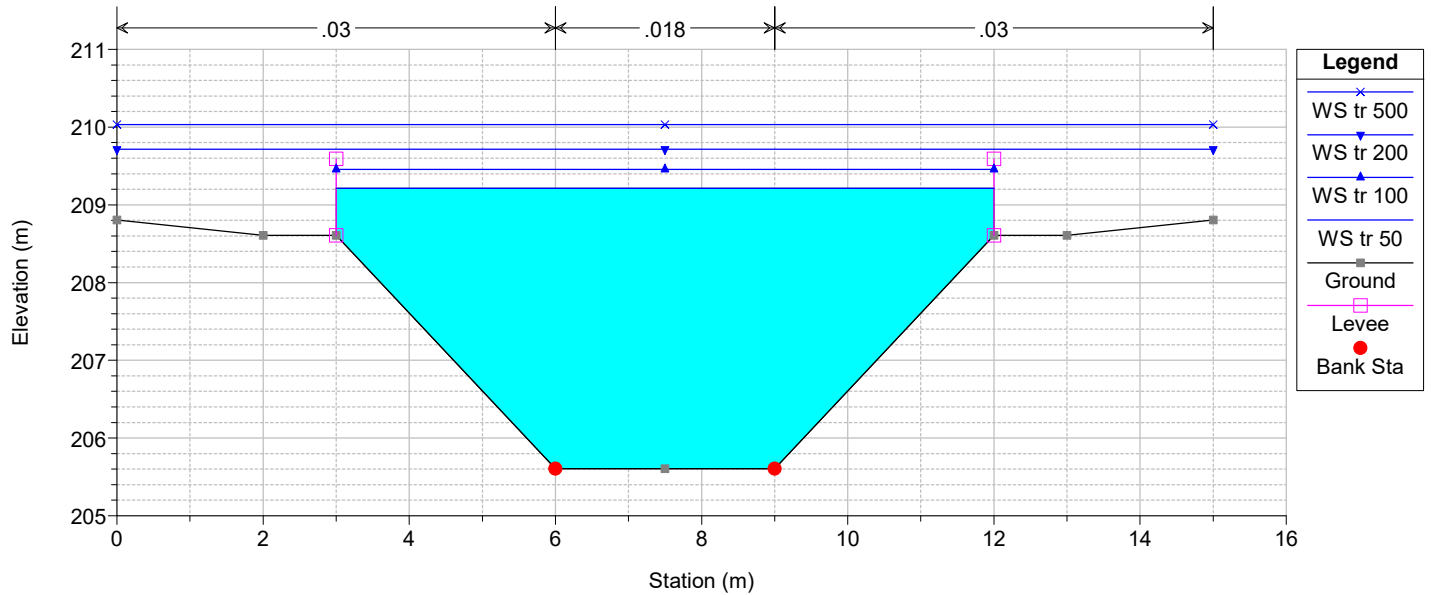
River = S3 Reach = asta RS = 246.99 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

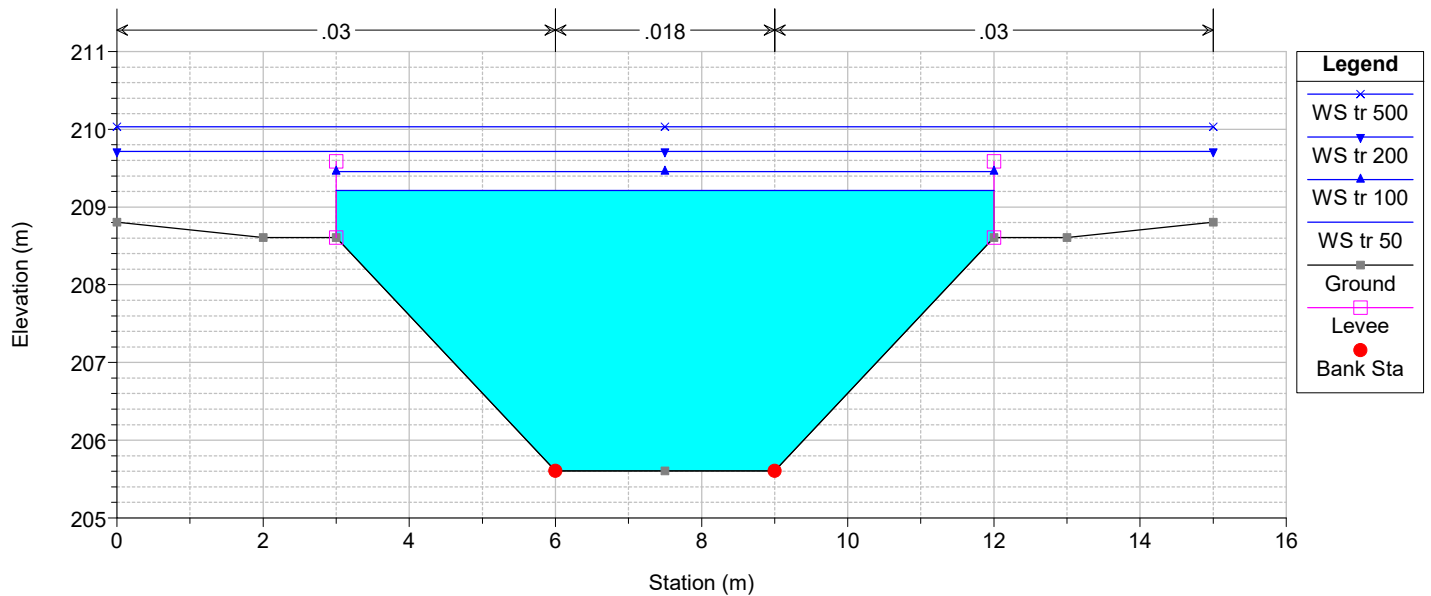
River = S3 Reach = asta RS = 244.26* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

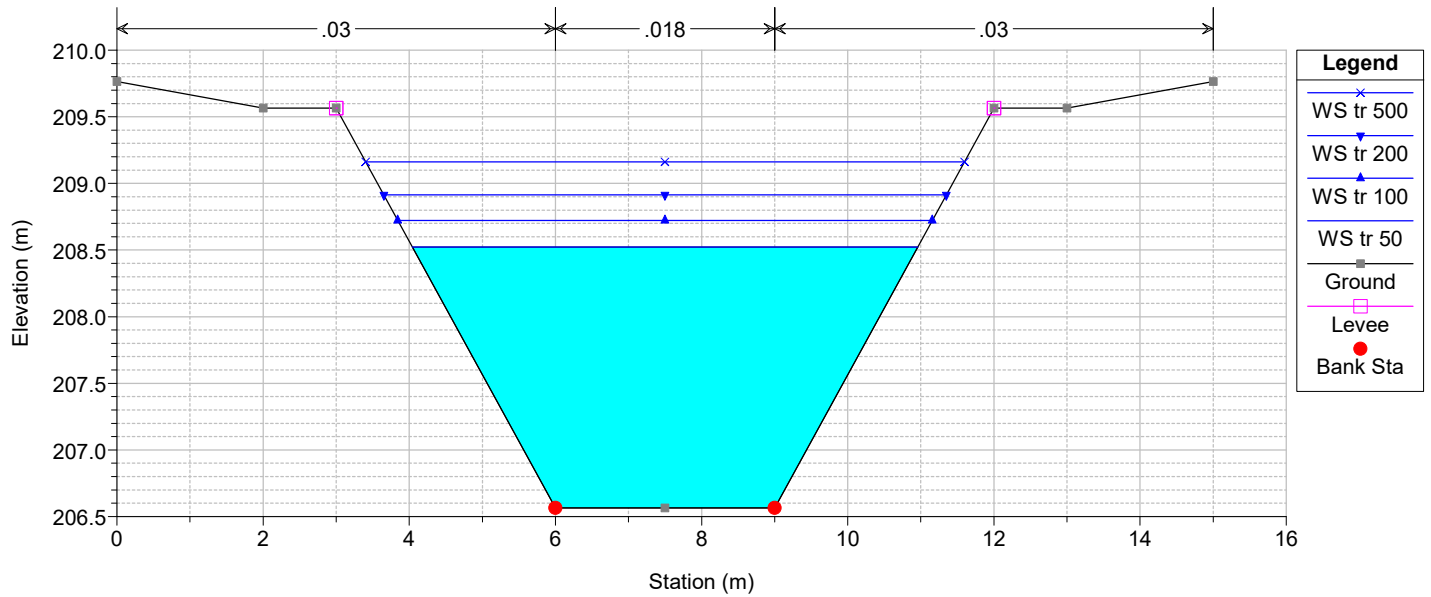
River = S3 Reach = asta RS = 241.52* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

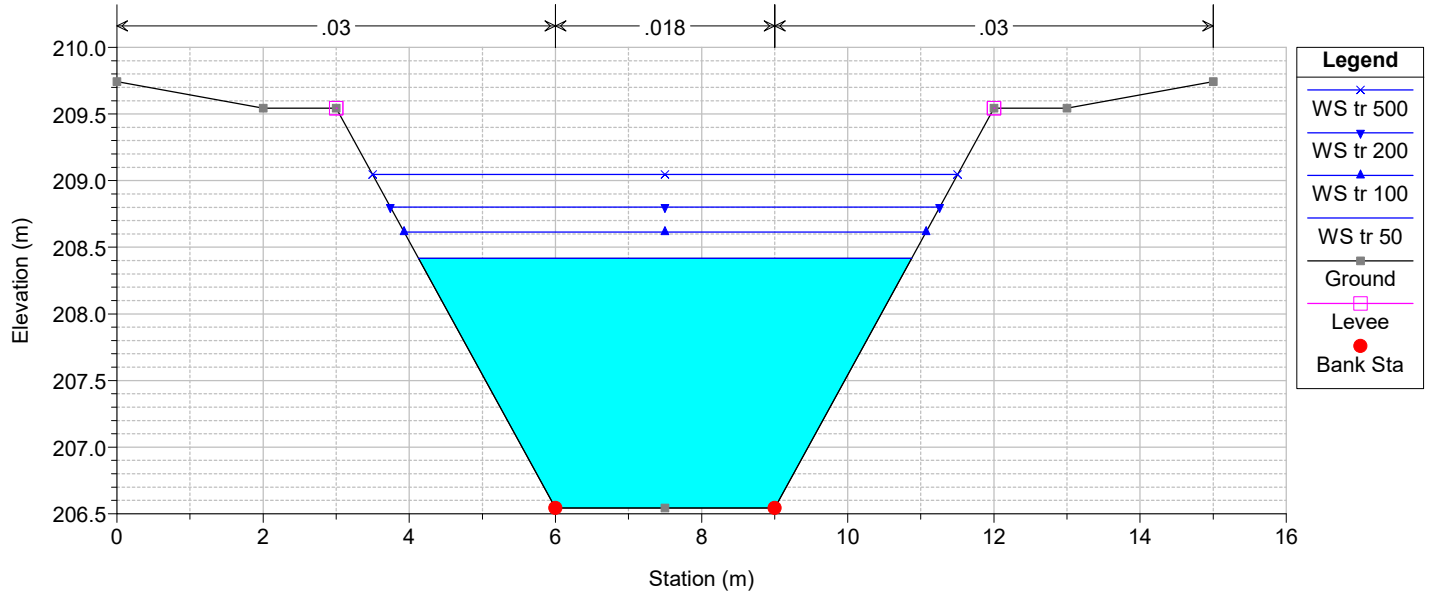
River = S3 Reach = asta RS = 238.79* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

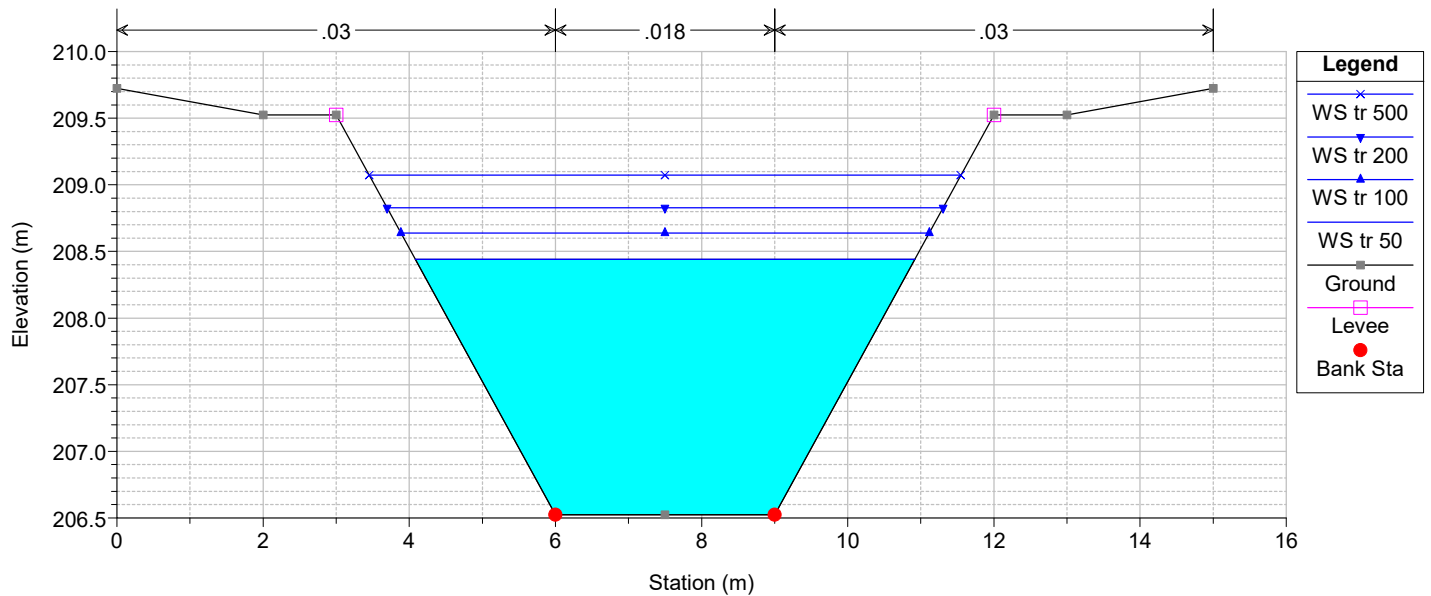
River = S3 Reach = asta RS = 236.06* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

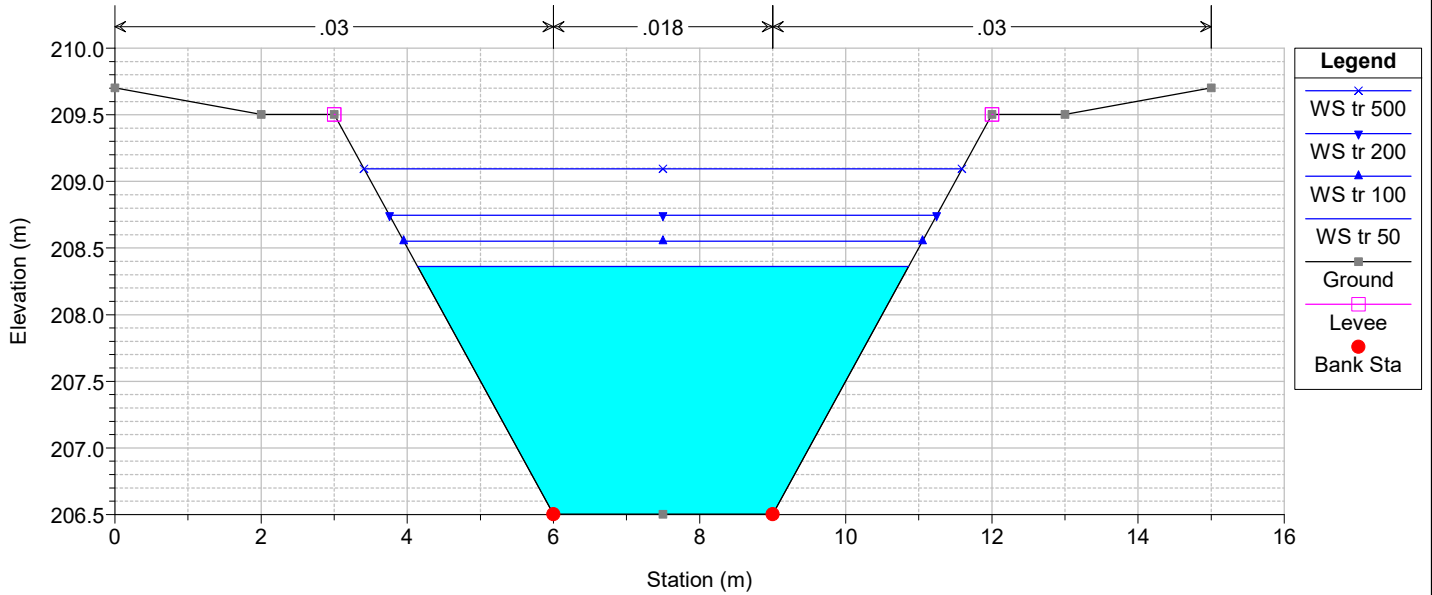
River = S3 Reach = asta RS = 233.32* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

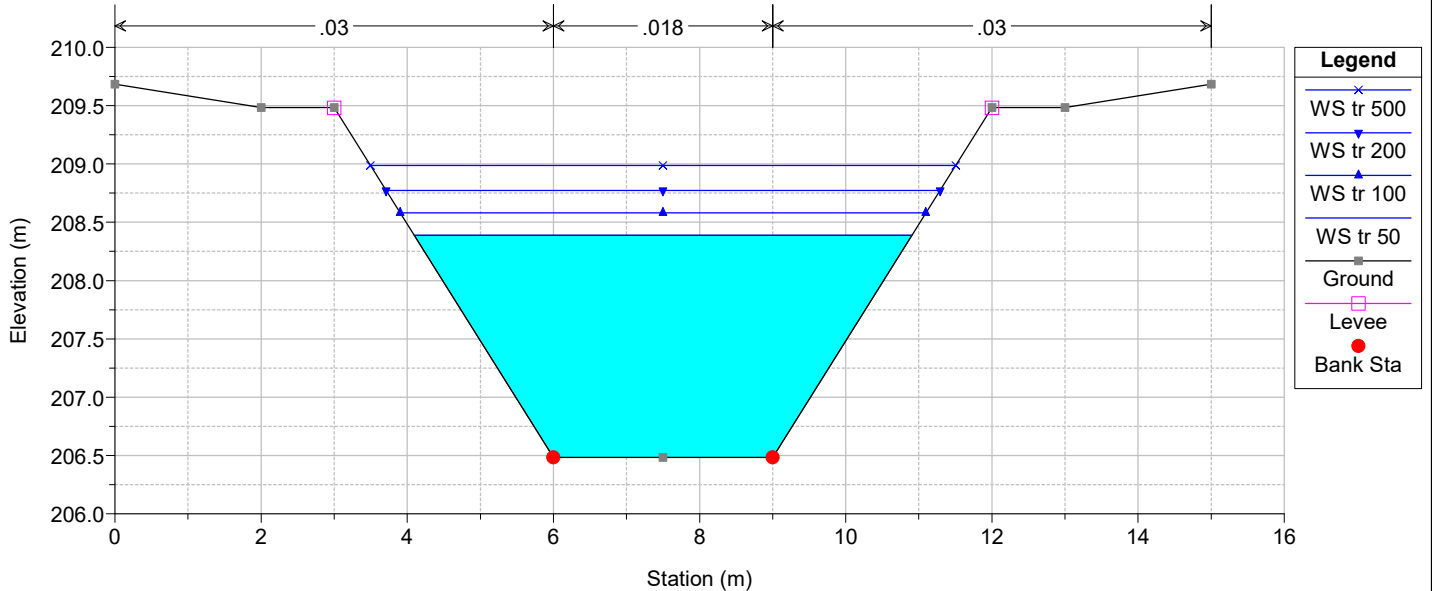
River = S3 Reach = asta RS = 230.59* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

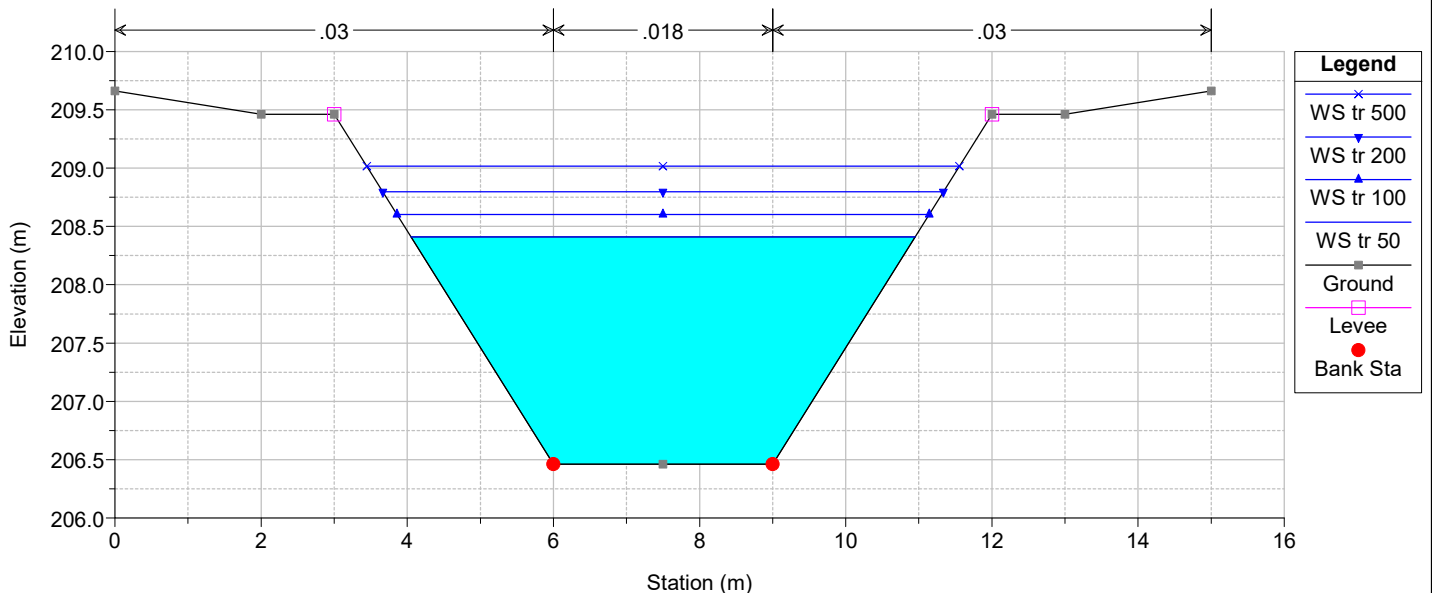
River = S3 Reach = asta RS = 227.86* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

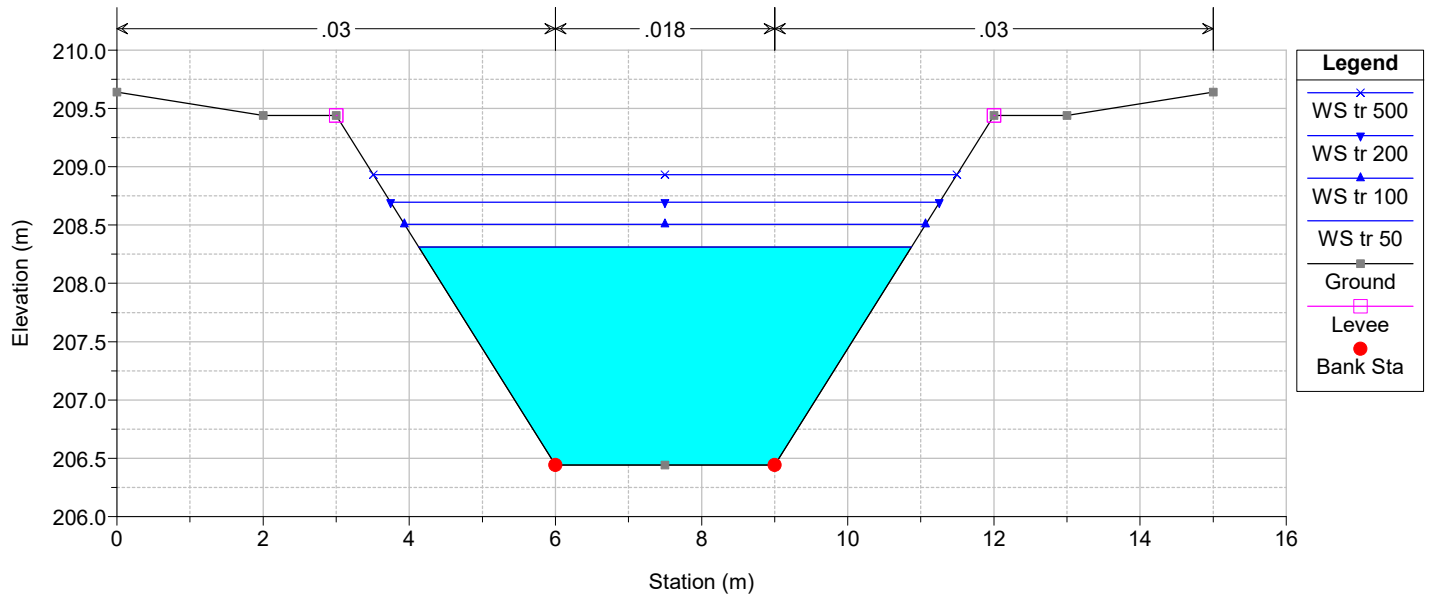
River = S3 Reach = asta RS = 225.13* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

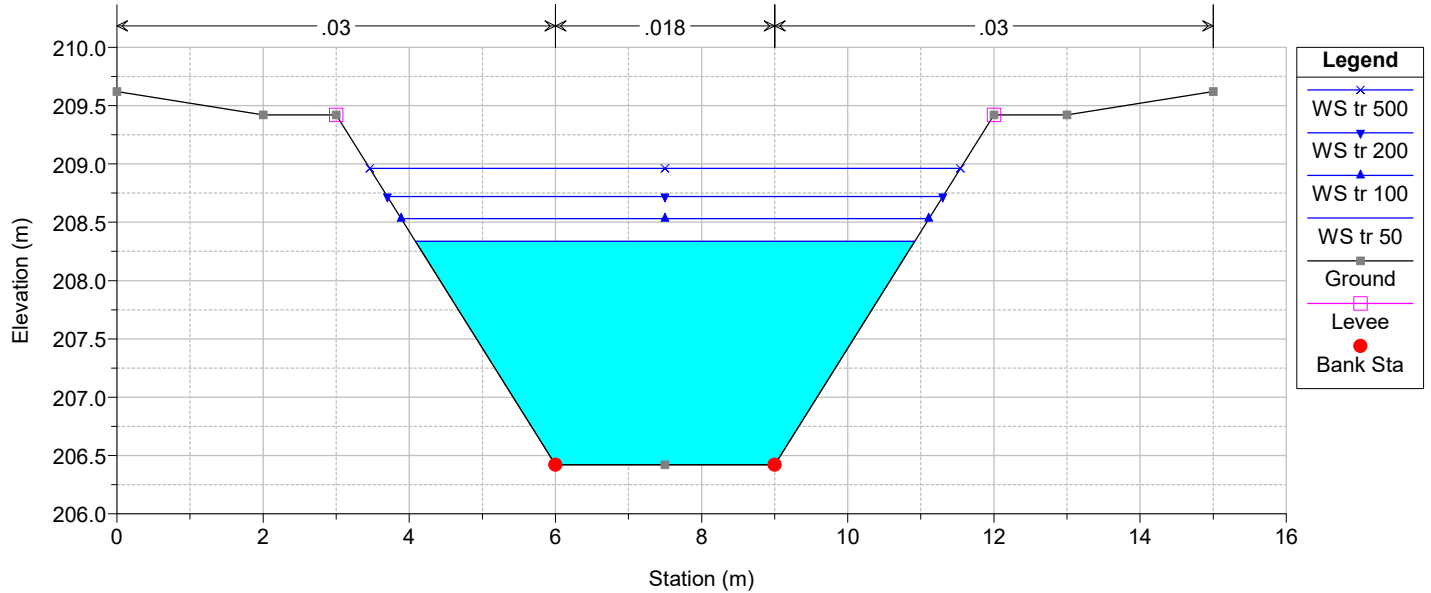
River = S3 Reach = asta RS = 222.39* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

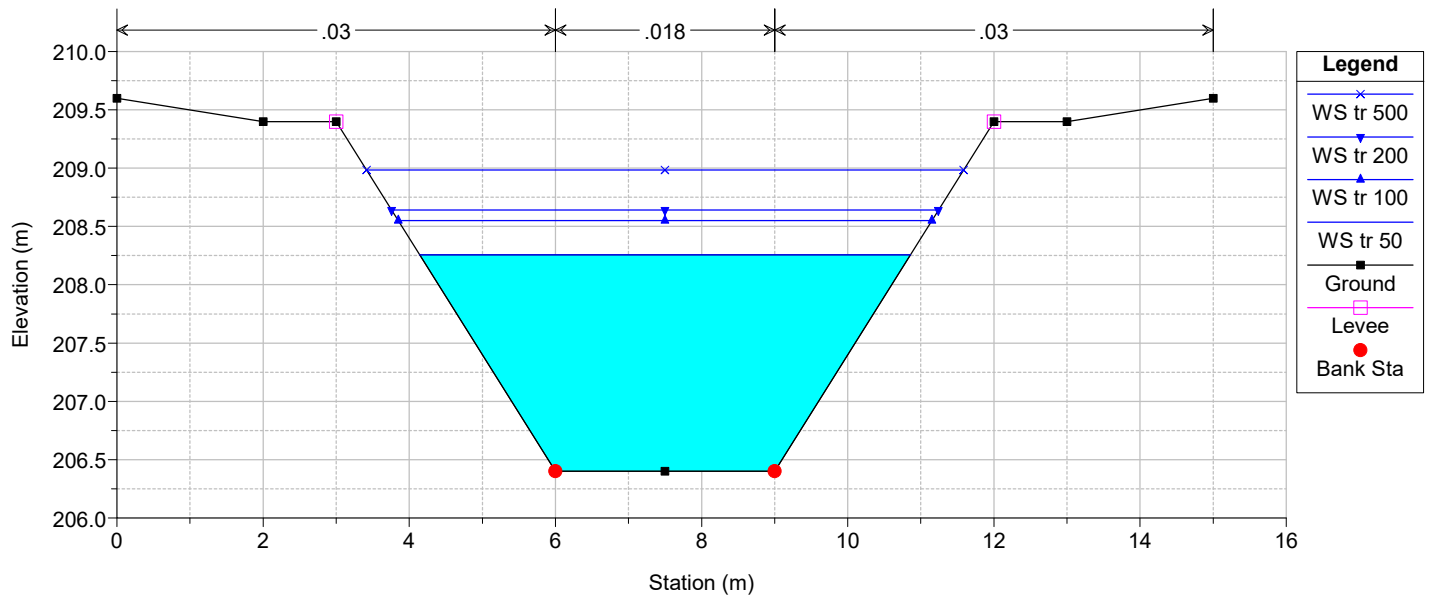
River = S3 Reach = asta RS = 219.66* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

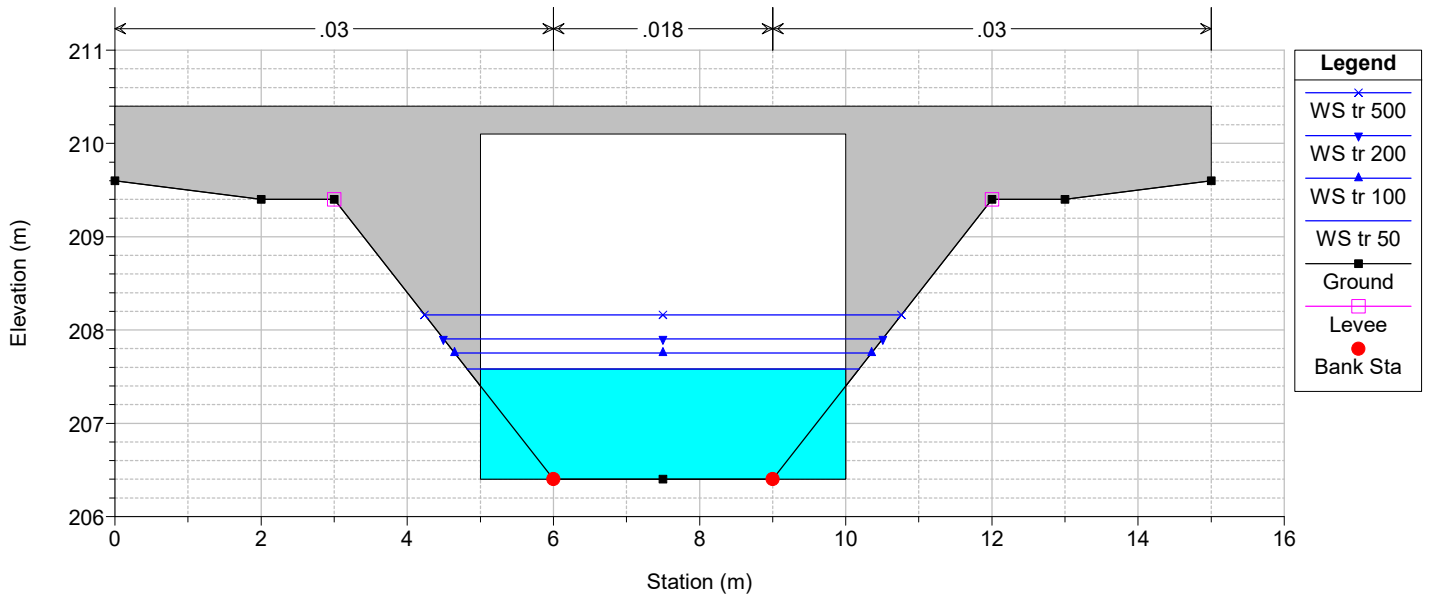
River = S3 Reach = asta RS = 216.9268 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

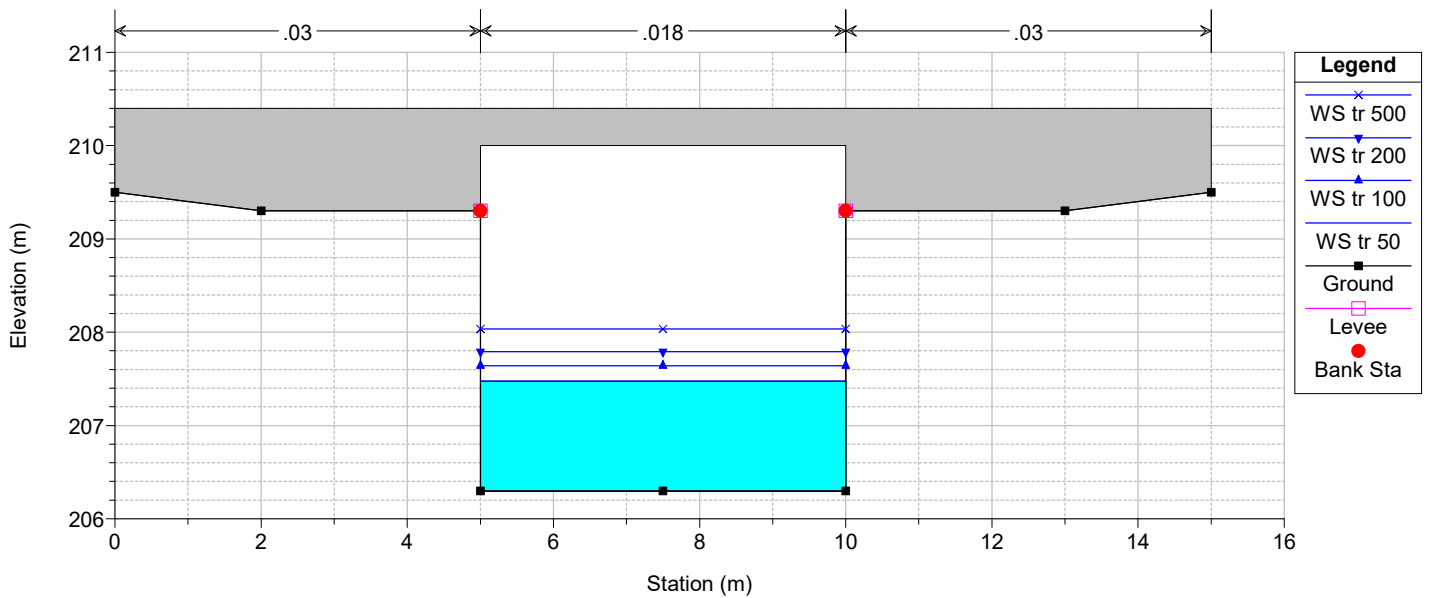
River = S3 Reach = asta RS = 205 Culv ATTRA V. S.P. n. 2 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

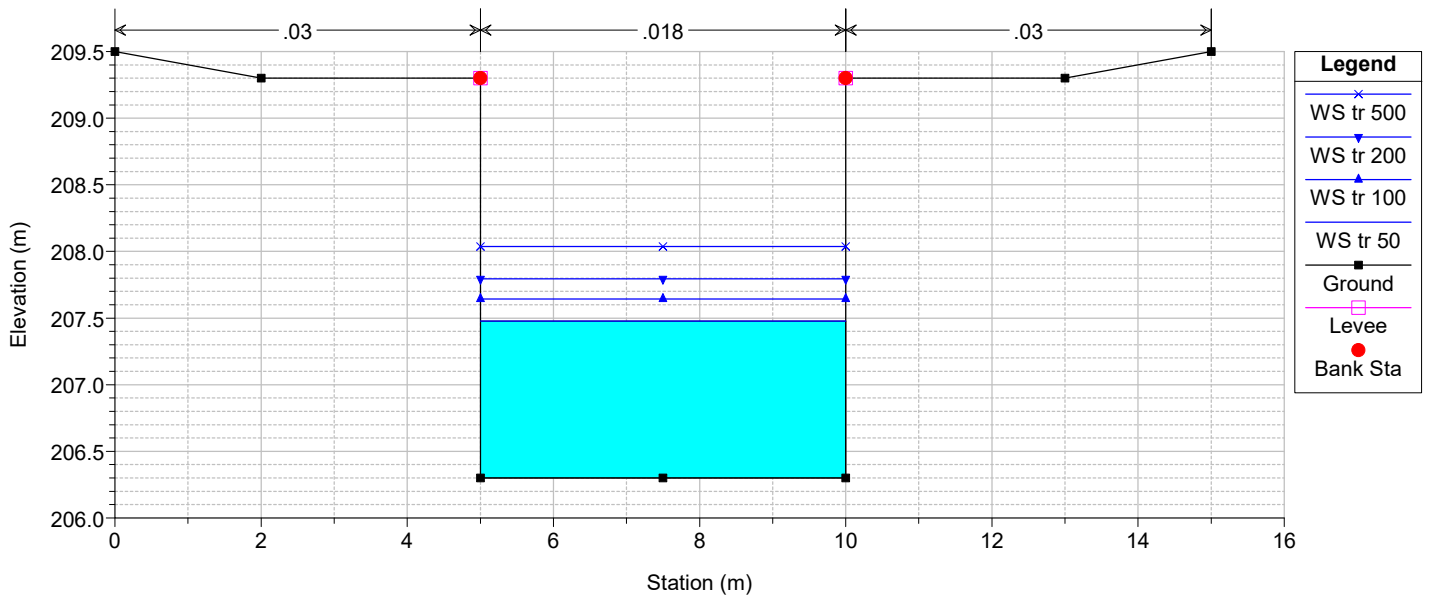
River = S3 Reach = asta RS = 205 Culv ATTRA V. S.P. n. 2 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

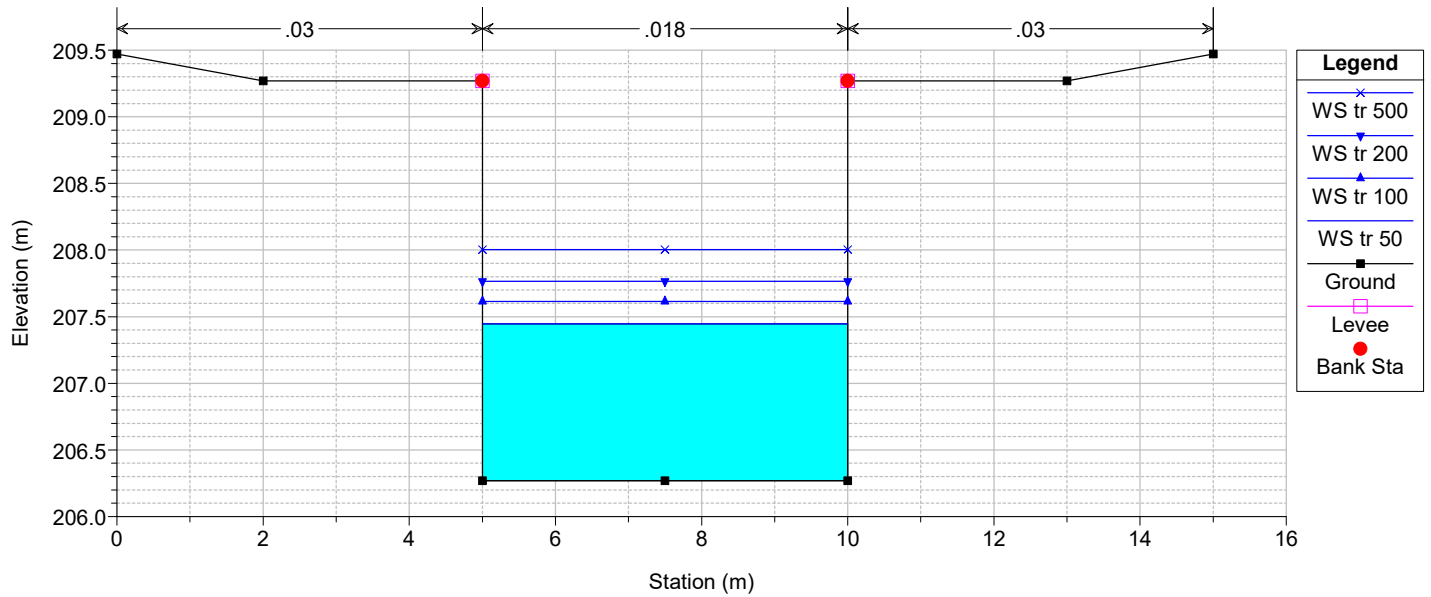
River = S3 Reach = asta RS = 194.5659 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

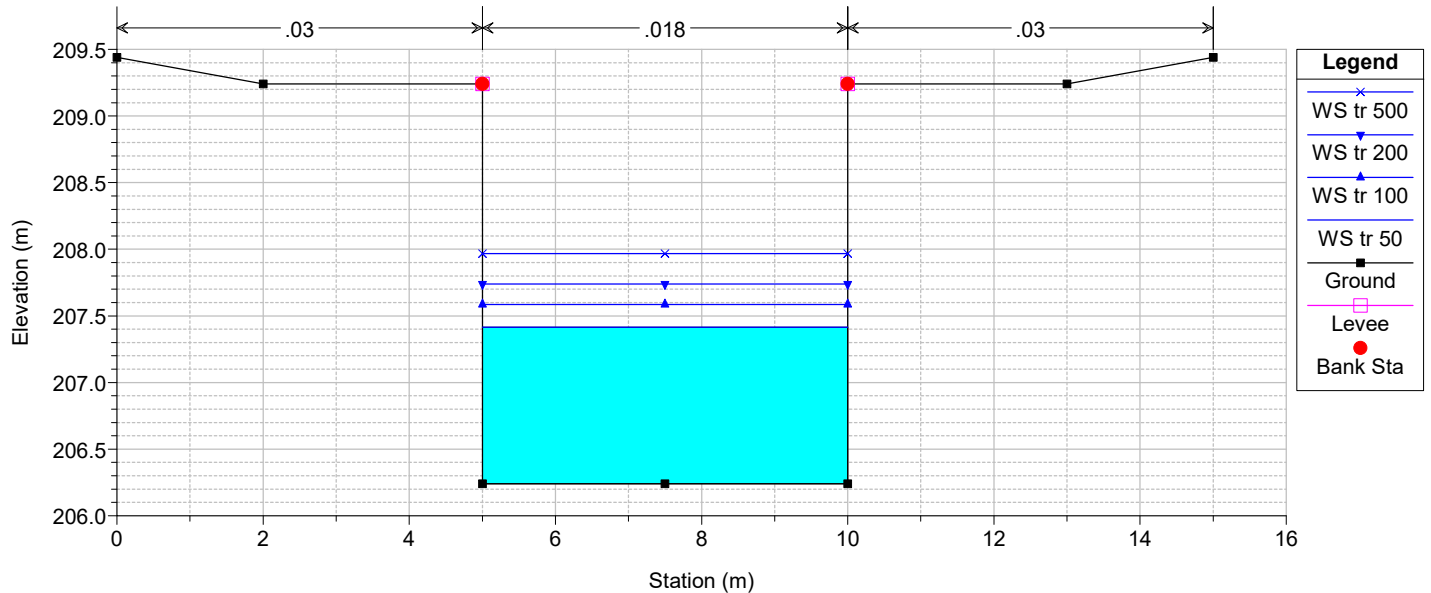
River = S3 Reach = asta RS = 191.86 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

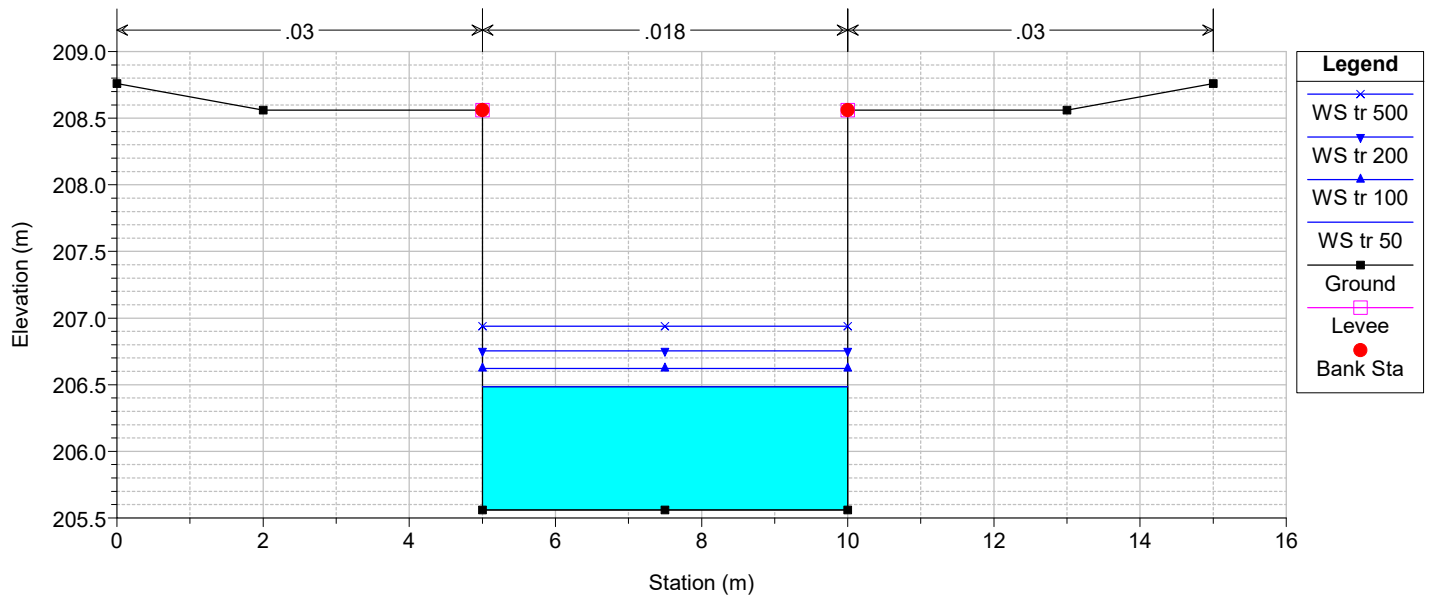
River = S3 Reach = asta RS = 189.15 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

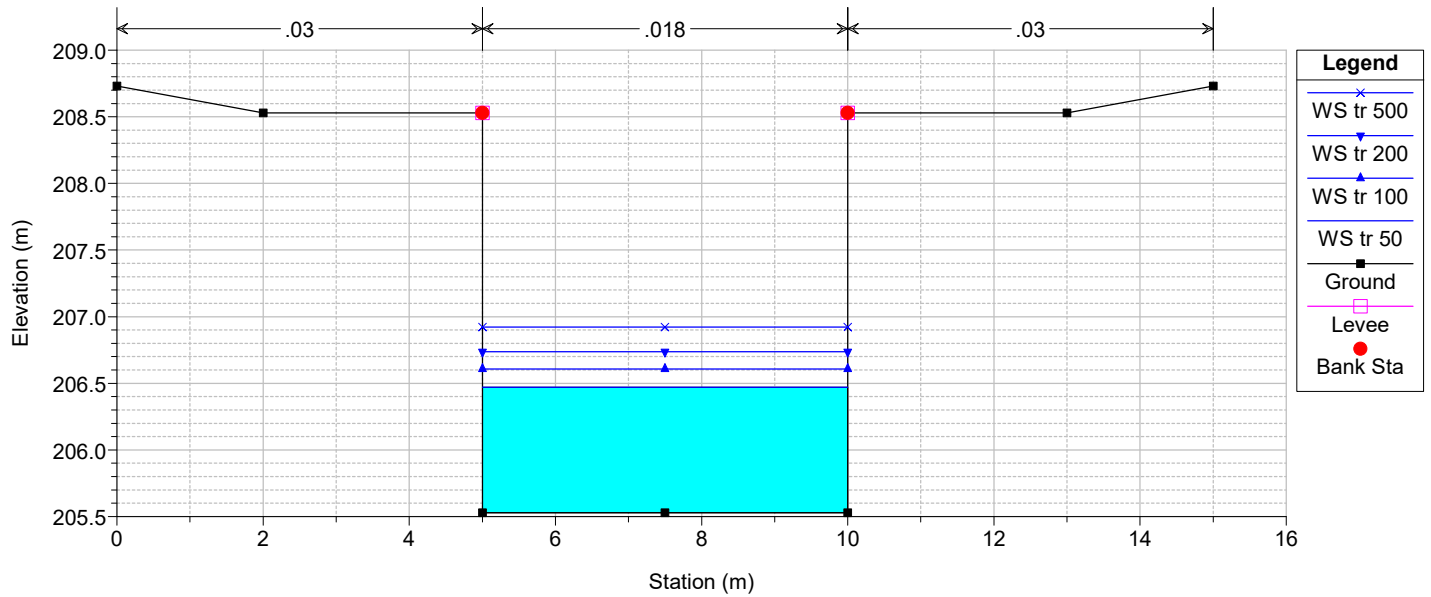
River = S3 Reach = asta RS = 186.44 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

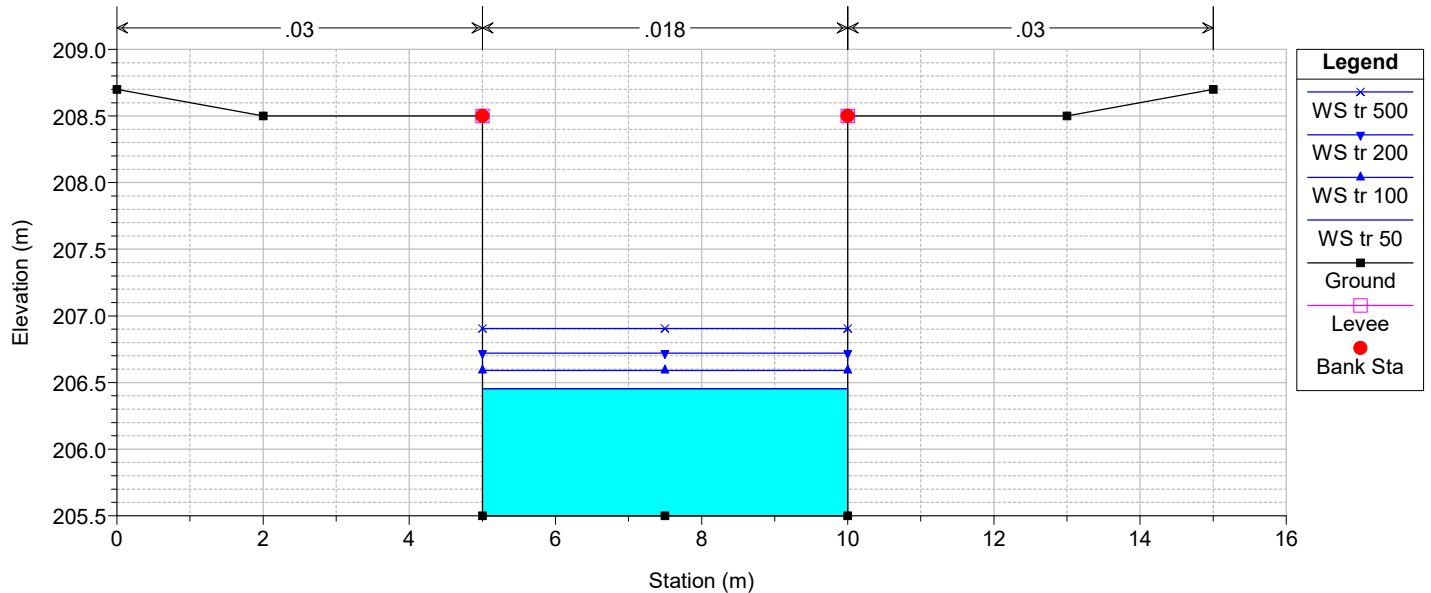
River = S3 Reach = asta RS = 183.73 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

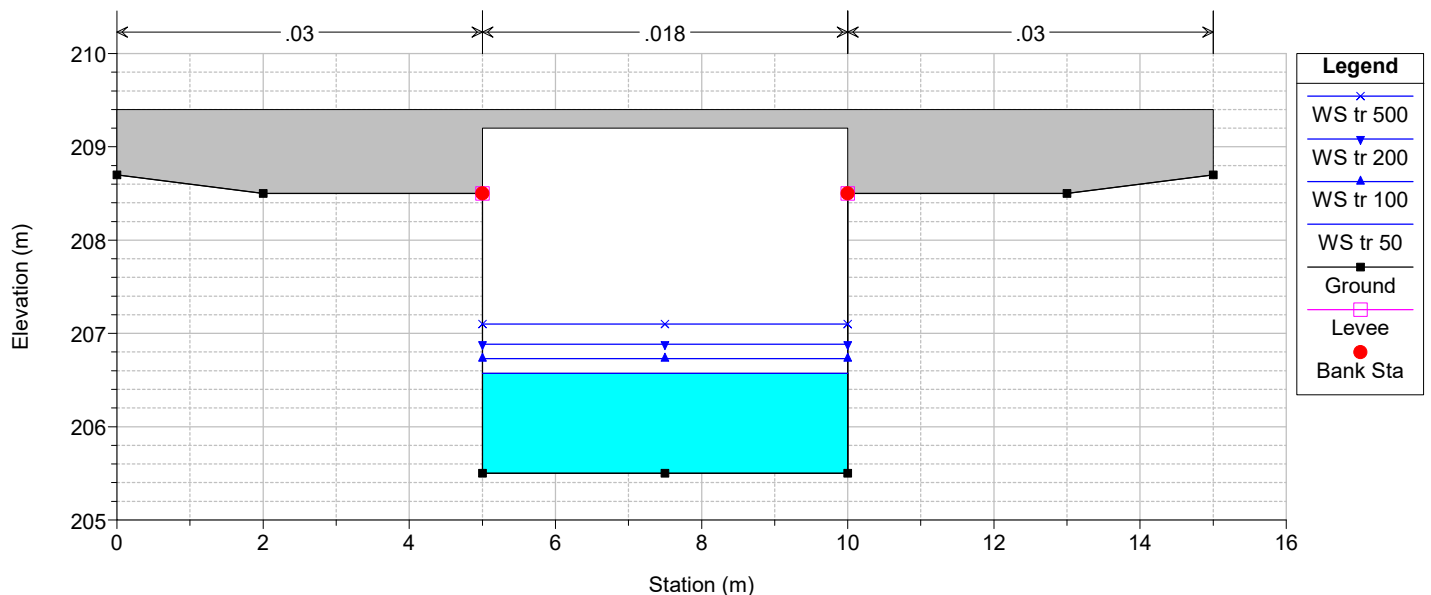
River = S3 Reach = asta RS = 181.0198 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

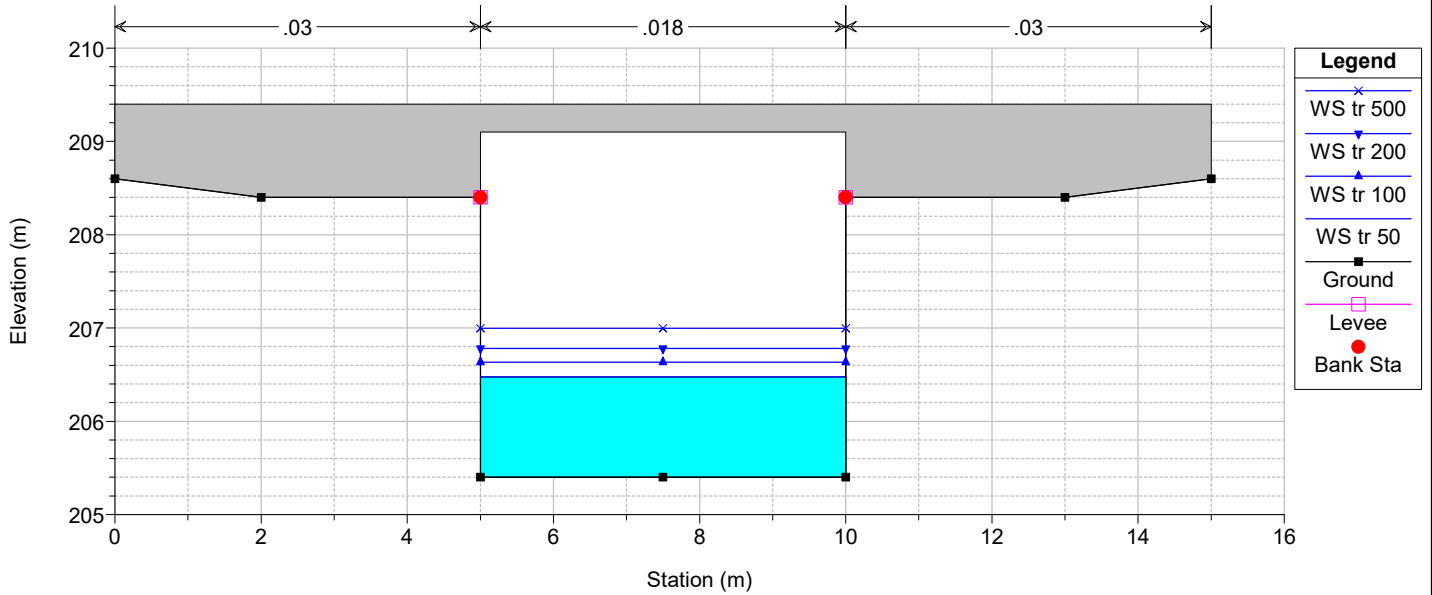
River = S3 Reach = asta RS = 170 Culv. ATTRAV. S.C. COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

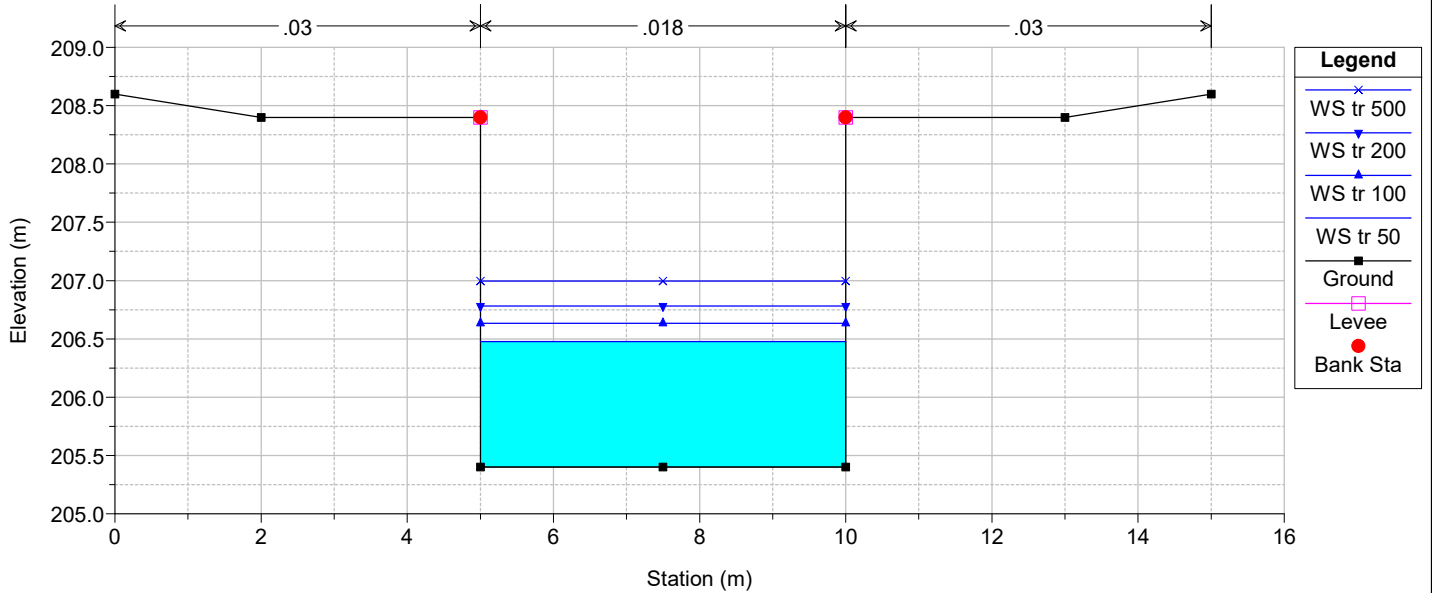
River = S3 Reach = asta RS = 170 Culv ATTRAVER. S.C. COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

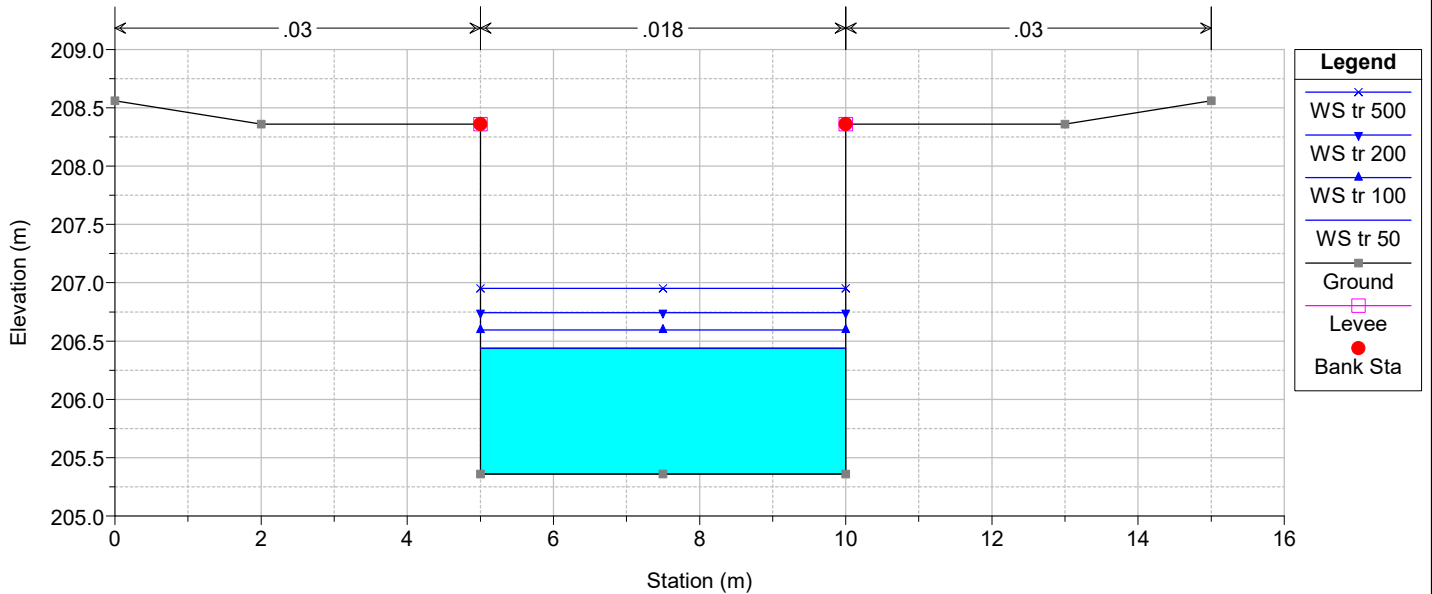
River = S3 Reach = asta RS = 156.0085 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

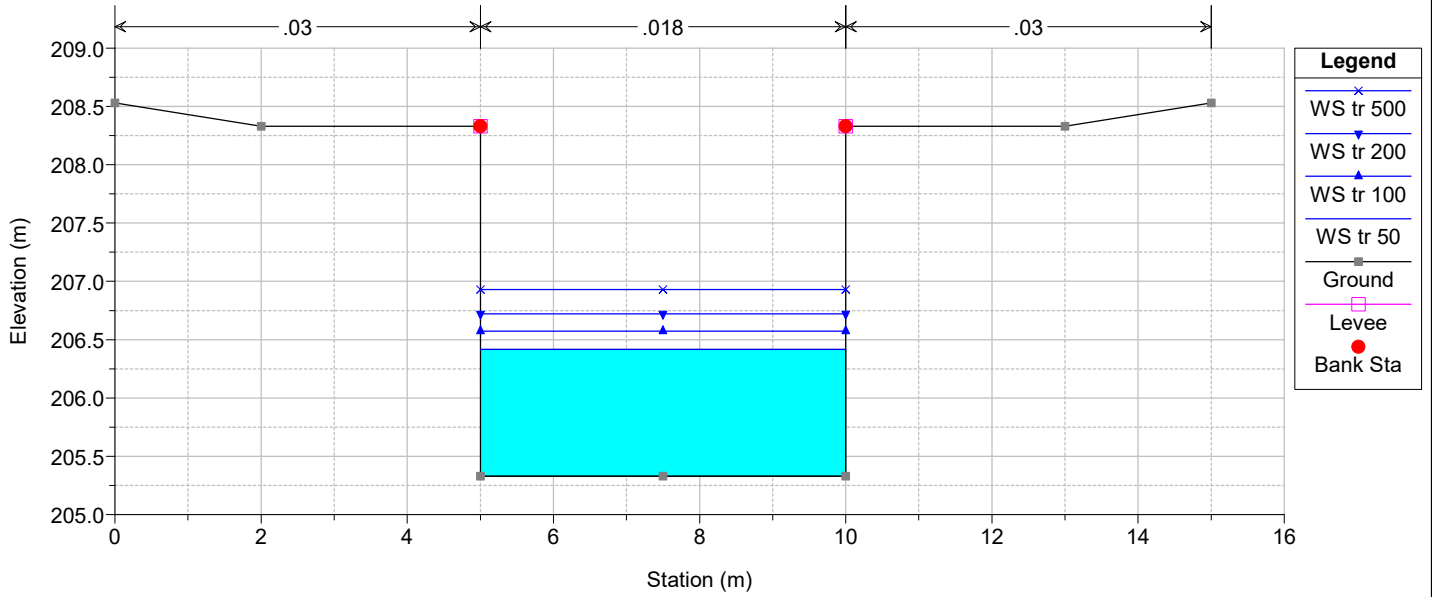
River = S3 Reach = asta RS = 153.13* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

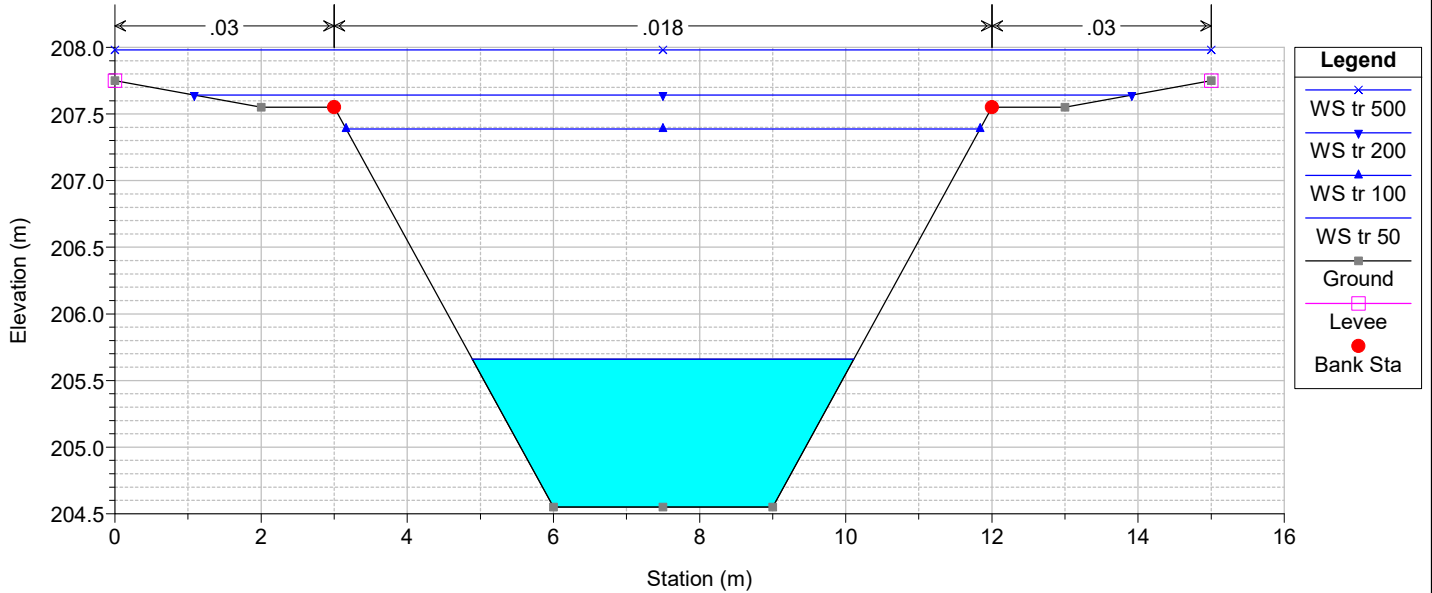
River = S3 Reach = asta RS = 150.25* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

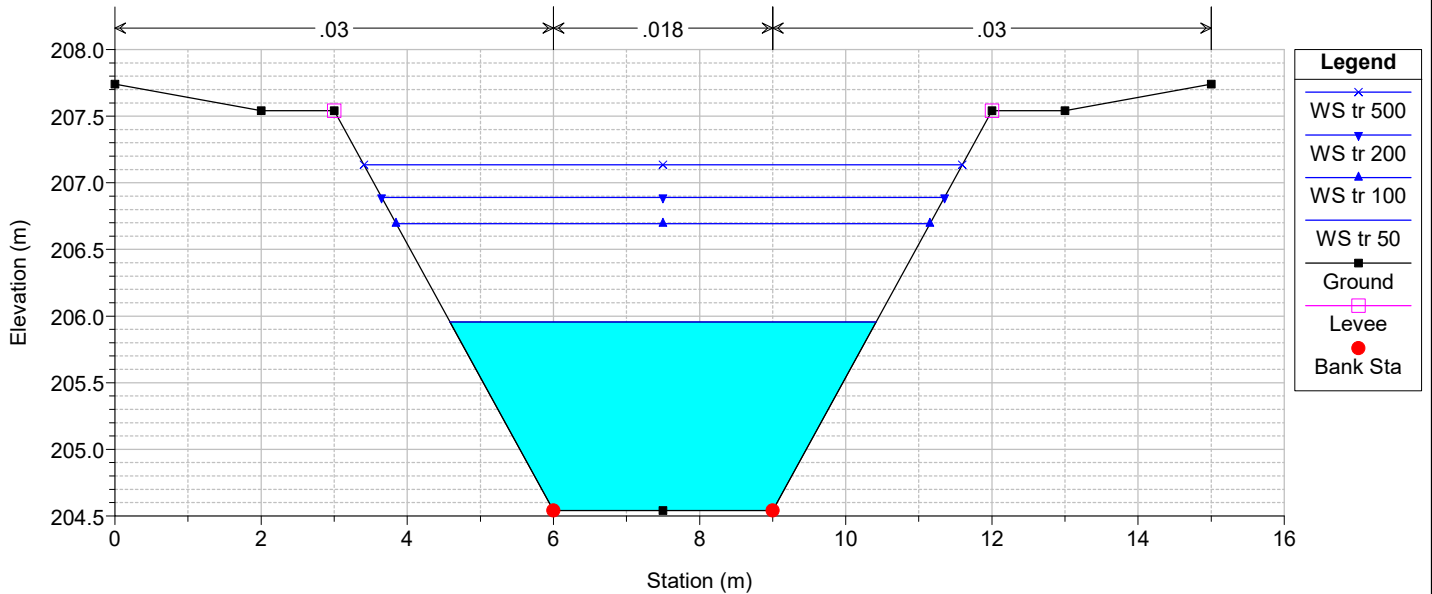
River = S3 Reach = asta RS = 147.37* COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

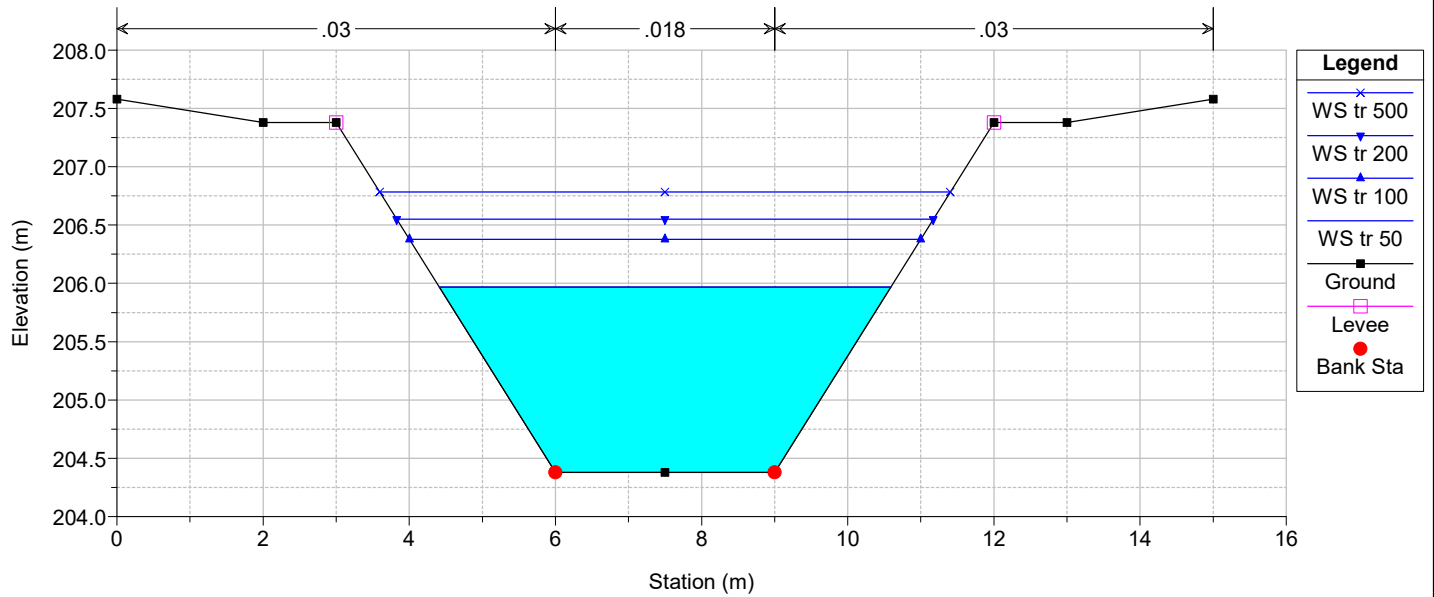
River = S3 Reach = asta RS = 144.4873 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

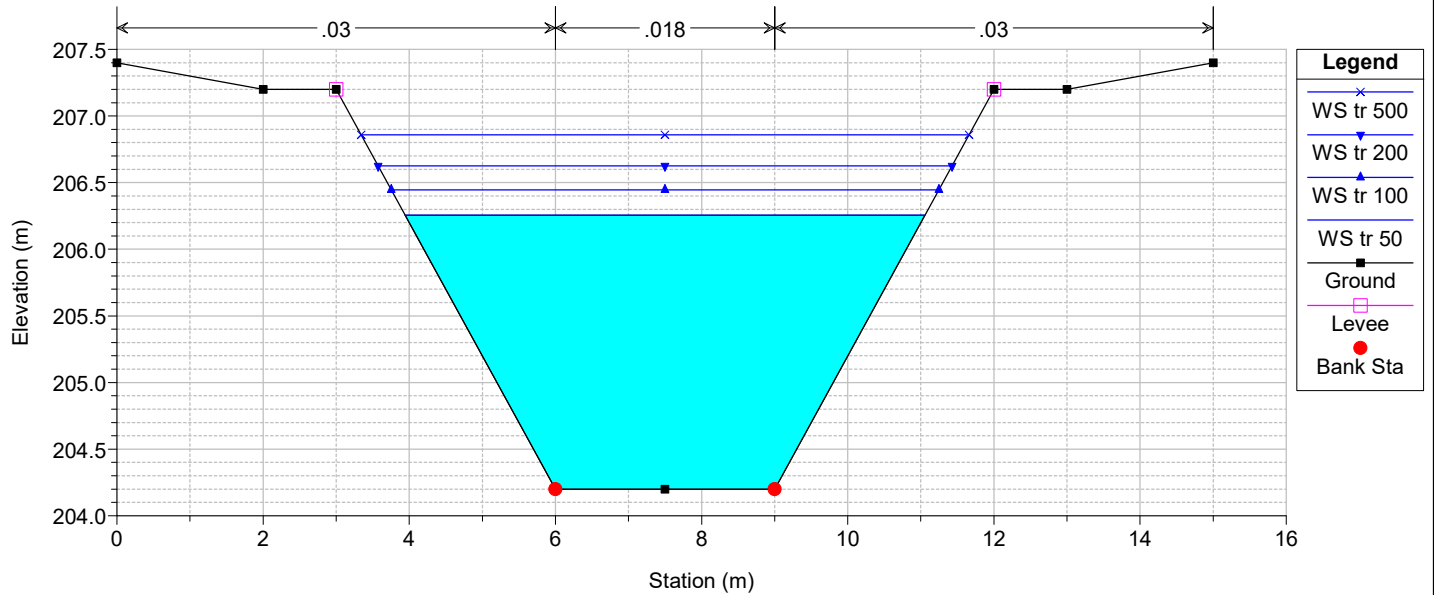
River = S3 Reach = asta RS = 99.99998 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



s3_06092017 Plan: 17122021 12/20/2021 9:41:00 AM

Geom: s3_17122021 Flow: s306092017

River = S3 Reach = asta RS = 50 COMUNE DI TULA - INTERVENTI SUPERAM. PROBLEM. IDRAULICHE CANALE COPERTO RIO TULA



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)	
asta	2100	tr 50	21.74	284.89	286.77	286.77	287.57	0.005315	3.99	5.80	4.00	0.99
asta	2100	tr 100	25.92	284.89	286.97	286.97	287.86	0.005130	4.23	6.60	4.00	0.99
asta	2100	tr 200	30.21	284.89	287.16	287.16	288.15	0.005018	4.47	7.37	4.00	0.99
asta	2100	tr 500	36.16	284.89	287.19	287.19	288.57	0.006836	5.26	7.49	4.00	1.16
asta	2050	tr 50	21.74	283.21	284.40	285.10	286.86	0.031068	6.95	3.13	3.20	2.24
asta	2050	tr 100	25.92	283.21	284.55	285.30	287.18	0.028973	7.18	3.64	4.00	2.16
asta	2050	tr 200	30.21	283.21	284.69	285.48	287.48	0.026604	7.43	4.19	4.00	2.11
asta	2050	tr 500	36.16	283.21	284.88	285.76	287.84	0.023500	7.67	4.95	4.00	2.03
asta	2000	tr 50	21.74	278.98	279.92	280.87	284.39	0.073344	9.36	2.32	3.20	3.51
asta	2000	tr 100	25.92	278.98	280.03	281.06	284.82	0.069359	9.70	2.67	3.20	3.39
asta	2000	tr 200	30.21	278.98	280.13	281.25	285.25	0.066642	10.02	3.02	3.20	3.30
asta	2000	tr 500	36.16	278.98	280.28	281.55	285.77	0.063284	10.38	3.49	4.00	3.17
asta	1950	tr 50	21.74	276.28	277.30	278.17	280.98	0.055376	8.50	2.56	3.20	3.04
asta	1950	tr 100	25.92	276.28	277.40	278.37	281.52	0.055779	8.99	2.88	3.20	3.03
asta	1950	tr 200	30.21	276.28	277.50	278.80	282.03	0.055985	9.42	3.21	3.20	3.01
asta	1950	tr 500	36.16	276.28	277.63	279.00	282.69	0.055306	9.96	3.67	4.00	2.99
asta	1912.349	tr 50	21.74	274.25	274.88	275.69	278.71	0.065250	8.67	2.51	4.00	3.50
asta	1912.349	tr 100	25.92	274.25	274.96	275.87	279.24	0.064810	9.17	2.83	4.00	3.48
asta	1912.349	tr 200	30.21	274.25	275.04	276.04	279.75	0.064333	9.62	3.14	4.00	3.47
asta	1912.349	tr 500	36.16	274.25	278.28	276.27	278.41	0.000555	1.79	26.79	15.00	0.28
asta	1611.01		Culvert									
asta	1328.67	tr 50	21.74	266.80	268.24	268.24	268.97	0.005802	3.76	5.78	4.00	1.00
asta	1328.67	tr 100	25.92	266.80	268.42	268.42	269.24	0.006026	4.00	6.47	4.00	1.01
asta	1328.67	tr 200	30.21	266.80	268.59	268.59	269.50	0.006196	4.21	7.17	4.00	1.00
asta	1328.67	tr 500	36.16	266.80	268.83	268.83	269.84	0.006388	4.46	8.11	4.00	1.00
asta	1300	tr 50	29.89	265.14	266.42	267.09	268.59	0.010998	6.88	5.50	5.57	1.94
asta	1300	tr 100	35.17	265.14	266.58	267.30	268.86	0.010047	7.11	6.40	5.88	1.89
asta	1300	tr 200	40.60	265.14	266.73	267.49	269.13	0.009335	7.32	7.32	6.19	1.85
asta	1300	tr 500	48.16	265.14	266.93	267.74	269.47	0.008619	7.60	8.58	6.58	1.81
asta	1250	tr 50	29.89	261.27	262.15	263.23	267.32	0.042388	10.47	3.39	4.75	3.57
asta	1250	tr 100	35.17	261.27	262.26	263.42	267.67	0.037873	10.75	3.96	4.98	3.45
asta	1250	tr 200	40.60	261.27	262.38	263.62	268.00	0.034316	11.01	4.54	5.21	3.34
asta	1250	tr 500	48.16	261.27	262.53	263.86	268.40	0.030572	11.33	5.36	5.52	3.22
asta	1200	tr 50	29.89	256.62	257.38	258.58	264.46	0.069332	12.18	2.86	4.52	4.46
asta	1200	tr 100	35.17	256.62	257.47	258.78	265.04	0.063885	12.64	3.29	4.71	4.37
asta	1200	tr 200	40.60	256.62	257.57	258.97	265.55	0.059114	13.04	3.74	4.90	4.28
asta	1200	tr 500	48.16	256.62	257.69	259.22	266.16	0.053629	13.49	4.38	5.15	4.16
asta	1150	tr 50	29.89	251.70	252.41	253.66	260.52	0.085738	13.01	2.66	4.43	4.91
asta	1150	tr 100	35.17	251.70	252.50	253.85	261.32	0.081345	13.62	3.03	4.59	4.87
asta	1150	tr 200	40.60	251.70	252.58	254.05	262.04	0.077099	14.15	3.41	4.76	4.82
asta	1150	tr 500	48.16	251.70	252.69	254.29	262.90	0.071718	14.77	3.95	4.98	4.74
asta	1100	tr 50	29.89	245.50	247.46	247.46	248.24	0.002406	4.26	9.69	6.91	0.97
asta	1100	tr 100	35.17	245.50	246.24	247.65	256.58	0.104402	14.71	2.78	4.48	5.45
asta	1100	tr 200	40.60	245.50	246.32	247.85	257.49	0.100119	15.34	3.11	4.63	5.43
asta	1100	tr 500	48.16	245.50	246.41	248.09	258.60	0.094510	16.09	3.58	4.83	5.37
asta	1050	tr 50	29.89	243.36	244.43	245.32	247.72	0.020983	8.42	4.35	5.14	2.60
asta	1050	tr 100	35.17	243.36	244.22	245.51	251.74	0.063267	12.60	3.30	4.71	4.35
asta	1050	tr 200	40.60	243.36	244.29	245.71	252.71	0.064262	13.38	3.63	4.85	4.44
asta	1050	tr 500	48.16	243.36	244.38	245.95	253.94	0.064785	14.31	4.09	5.04	4.53
asta	1000	tr 50	29.89	242.23	243.29	244.18	246.65	0.021627	8.49	4.30	5.12	2.63
asta	1000	tr 100	35.17	242.23	243.22	244.39	248.69	0.038574	10.81	3.93	4.97	3.48
asta	1000	tr 200	40.60	242.23	243.29	244.58	249.54	0.040505	11.59	4.28	5.11	3.60
asta	1000	tr 500	48.16	242.23	243.38	244.83	250.66	0.042562	12.56	4.76	5.29	3.74
asta	950.0001	tr 50	29.89	240.73	241.75	242.68	245.45	0.025168	8.90	4.08	5.03	2.82
asta	950.0001	tr 100	35.17	240.73	241.76	242.89	246.75	0.033471	10.35	4.14	5.05	3.26
asta	950.0001	tr 200	40.60	240.73	241.83	243.08	247.49	0.034666	11.05	4.53	5.21	3.36
asta	950.0001	tr 500	48.16	240.73	241.93	243.33	248.48	0.036152	11.93	5.04	5.40	3.48
asta	900	tr 50	29.89	237.40	238.26	239.36	243.64	0.044971	10.66	3.32	4.72	3.67
asta	900	tr 100	35.17	237.40	238.33	239.55	244.63	0.048091	11.58	3.64	4.85	3.84
asta	900	tr 200	40.60	237.40	238.41	239.75	245.35	0.047551	12.19	4.04	5.02	3.87
asta	900	tr 500	48.16	237.40	238.51	239.99	246.30	0.047171	12.97	4.58	5.23	3.92
asta	850.0001	tr 50	29.89	234.00	234.81	235.96	241.03	0.056656	11.45	3.06	4.61	4.07
asta	850.0001	tr 100	35.17	234.00	234.88	236.16	241.94	0.057302	12.22	3.42	4.76	4.16
asta	850.0001	tr 200	40.60	234.00	234.96	236.35	242.69	0.056198	12.83	3.81	4.92	4.18
asta	850.0001	tr 500	48.16	234.00	235.07	236.60	243.68	0.055063	13.61	4.34	5.13	4.21
asta	800	tr 50	29.89	232.60	233.50	234.56	238.32	0.037851	10.11	3.53	4.81	3.39

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
asta	800	tr 100	35.17	232.60	233.58	234.75	239.13	0.039420	10.89	3.90	4.96	3.51
asta	800	tr 200	40.60	232.60	233.66	234.95	239.88	0.040149	11.56	4.30	5.12	3.59
asta	800	tr 500	48.16	232.60	233.76	235.19	240.86	0.040939	12.41	4.82	5.32	3.68
asta	750	tr 50	29.89	229.60	230.44	231.55	236.10	0.048685	10.92	3.23	4.68	3.80
asta	750	tr 100	35.17	229.60	230.52	231.76	236.87	0.048556	11.61	3.63	4.85	3.86
asta	750	tr 200	40.60	229.60	230.60	231.95	237.61	0.048219	12.24	4.02	5.01	3.90
asta	750	tr 500	48.16	229.60	230.71	232.20	238.58	0.047909	13.03	4.56	5.22	3.95
asta	700	tr 50	29.89	225.47	226.24	227.42	233.14	0.066611	12.03	2.90	4.54	4.38
asta	700	tr 100	35.17	225.47	226.32	227.63	233.95	0.064785	12.70	3.28	4.70	4.40
asta	700	tr 200	40.60	225.47	226.40	227.81	234.73	0.063147	13.31	3.66	4.86	4.40
asta	700	tr 500	48.16	225.47	226.50	228.07	235.74	0.061378	14.07	4.17	5.07	4.42
asta	650	tr 50	29.89	224.65	225.58	226.60	230.10	0.034320	9.80	3.65	4.86	3.25
asta	650	tr 100	35.17	224.65	225.66	226.81	230.87	0.035775	10.56	4.04	5.02	3.36
asta	650	tr 200	40.60	224.65	225.73	227.00	231.63	0.036911	11.26	4.43	5.17	3.45
asta	650	tr 500	48.16	224.65	225.83	227.25	232.62	0.038174	12.14	4.95	5.37	3.56
asta	599.9999	tr 50	29.89	222.87	223.80	224.83	228.37	0.034911	9.86	3.63	4.85	3.27
asta	599.9999	tr 100	35.17	222.87	223.88	225.03	229.09	0.035685	10.56	4.04	5.02	3.36
asta	599.9999	tr 200	40.60	222.87	223.96	225.22	229.77	0.036157	11.19	4.46	5.18	3.42
asta	599.9999	tr 500	48.16	222.87	224.06	225.47	230.70	0.036844	12.00	5.01	5.39	3.51
asta	550	tr 50	29.89	220.70	221.60	222.66	226.49	0.038863	10.19	3.50	4.79	3.43
asta	550	tr 100	35.17	220.70	221.68	222.85	227.19	0.038946	10.85	3.92	4.97	3.49
asta	550	tr 200	40.60	220.70	221.77	223.05	227.87	0.038972	11.45	4.34	5.13	3.54
asta	550	tr 500	48.16	220.70	221.87	223.29	228.77	0.039131	12.23	4.90	5.35	3.60
asta	500	tr 50	29.89	219.00	219.92	220.95	224.55	0.035669	9.92	3.60	4.84	3.30
asta	500	tr 100	35.17	219.00	220.01	221.16	225.24	0.035959	10.58	4.03	5.01	3.37
asta	500	tr 200	40.60	219.00	220.09	221.35	225.91	0.036190	11.19	4.46	5.18	3.42
asta	500	tr 500	48.16	219.00	220.20	221.60	226.79	0.036514	11.97	5.03	5.40	3.49
asta	495.07	tr 50	29.89	216.51	220.17	218.47	220.33	0.000232	2.01	23.85	9.02	0.34
asta	495.07	tr 100	35.17	216.51	220.42	218.67	220.60	0.000253	2.19	26.05	9.02	0.35
asta	495.07	tr 200	40.60	216.51	220.68	218.86	220.86	0.000247	2.26	34.78	15.00	0.35
asta	495.07	tr 500	48.16	216.51	221.00	219.11	221.20	0.000252	2.40	39.54	15.00	0.36
asta	492.11	tr 50	29.89	216.51	220.17	218.47	220.33	0.000230	2.00	23.95	9.02	0.33
asta	492.11	tr 100	35.17	216.51	220.42	218.67	220.60	0.000252	2.19	26.15	9.02	0.35
asta	492.11	tr 200	40.60	216.51	220.68	218.86	220.86	0.000243	2.24	35.11	15.00	0.35
asta	492.11	tr 500	48.16	216.51	221.00	219.11	221.20	0.000248	2.38	39.86	15.00	0.36
asta	489.15	tr 50	29.89	216.51	220.17	218.46	220.33	0.000230	2.00	23.97	9.01	0.33
asta	489.15	tr 100	35.17	216.51	220.42	218.67	220.60	0.000251	2.19	26.17	9.01	0.35
asta	489.15	tr 200	40.60	216.51	220.68	218.86	220.86	0.000242	2.24	35.14	15.00	0.35
asta	489.15	tr 500	48.16	216.51	221.00	219.11	221.19	0.000248	2.38	39.90	15.00	0.36
asta	487.67*	tr 50	29.89	217.52	219.47	219.47	220.26	0.002424	4.27	9.66	6.90	0.98
asta	487.67*	tr 100	35.17	217.52	219.67	219.67	220.53	0.002332	4.48	11.11	7.31	0.97
asta	487.67*	tr 200	40.60	217.52	219.87	219.87	220.79	0.002265	4.67	12.55	7.69	0.97
asta	487.67*	tr 500	48.16	217.52	220.12	220.12	221.11	0.002181	4.90	14.55	8.20	0.97
asta	486.19	tr 50	29.89	217.05	218.47	219.01	220.17	0.007579	6.12	6.30	5.85	1.64
asta	486.19	tr 100	35.17	217.05	218.65	219.21	220.43	0.006947	6.33	7.34	6.19	1.60
asta	486.19	tr 200	40.60	217.05	218.81	219.40	220.69	0.006473	6.52	8.40	6.53	1.57
asta	486.19	tr 500	48.16	217.05	219.03	219.64	221.01	0.005975	6.77	9.86	6.96	1.54
asta	465	tr 50	29.89	216.82	218.21	218.77	220.00	0.008173	6.27	6.13	5.79	1.70
asta	465	tr 100	35.17	216.82	218.38	218.98	220.27	0.007572	6.50	7.11	6.12	1.66
asta	465	tr 200	40.60	216.82	218.54	219.17	220.53	0.007103	6.72	8.11	6.44	1.64
asta	465	tr 500	48.16	216.82	218.75	219.42	220.87	0.006582	6.98	9.50	6.86	1.61
asta	459	tr 50	29.89	216.82	218.26	218.77	219.91	0.007241	6.04	6.41	5.89	1.60
asta	459	tr 100	35.17	216.82	218.43	218.98	220.19	0.006793	6.28	7.41	6.21	1.58
asta	459	tr 200	40.60	216.82	218.59	219.17	220.45	0.006434	6.51	8.42	6.53	1.56
asta	459	tr 500	48.16	216.82	218.80	219.42	220.79	0.006022	6.79	9.83	6.95	1.54
asta	450		Culvert									
asta	440	tr 50	29.89	216.67	218.63		219.41	0.002400	4.26	9.70	6.91	0.97
asta	440	tr 100	35.17	216.67	218.83	218.83	219.68	0.002322	4.47	11.13	7.31	0.97
asta	440	tr 200	40.60	216.67	219.02		219.94	0.002262	4.67	12.56	7.70	0.97
asta	440	tr 500	48.16	216.67	219.27	219.27	220.26	0.002190	4.91	14.52	8.19	0.97
asta	431	tr 50	29.89	216.52	218.19	218.48	219.35	0.004274	5.11	7.80	6.34	1.26
asta	431	tr 100	35.17	216.52	218.38	218.67	219.62	0.004031	5.33	9.01	6.71	1.25
asta	431	tr 200	40.60	216.52	218.56	218.87	219.87	0.003809	5.51	10.27	7.08	1.23
asta	431	tr 500	48.16	216.52	218.79	219.11	220.20	0.003604	5.76	11.97	7.54	1.22
asta	420.78	tr 50	29.89	216.29	217.81	218.25	219.27	0.006020	5.69	6.86	6.04	1.48
asta	420.78	tr 100	35.17	216.29	217.99	218.45	219.54	0.005609	5.91	7.96	6.39	1.45

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
asta	420.78	tr 200	40.60	216.29	218.16	218.64	219.79	0.005281	6.12	9.07	6.73	1.43
asta	420.78	tr 500	48.16	216.29	218.38	218.89	220.12	0.004940	6.37	10.60	7.17	1.41
asta	410.39	tr 50	29.89	215.94	217.31	217.89	219.15	0.008598	6.37	6.02	5.75	1.73
asta	410.39	tr 100	35.17	215.94	217.48	218.09	219.43	0.007930	6.60	6.99	6.08	1.70
asta	410.39	tr 200	40.60	215.94	217.64	218.29	219.69	0.007397	6.81	7.99	6.40	1.67
asta	410.39	tr 500	48.16	215.94	217.84	218.53	220.02	0.006840	7.07	9.36	6.82	1.63
asta	400	tr 50	29.89	213.58	214.54	215.54	218.76	0.030856	9.49	3.79	4.92	3.09
asta	400	tr 100	35.17	213.58	214.67	215.74	219.04	0.027241	9.71	4.45	5.18	2.97
asta	400	tr 200	40.60	213.58	214.80	215.93	219.31	0.024509	9.91	5.13	5.43	2.87
asta	400	tr 500	48.16	213.58	214.97	216.18	219.65	0.021654	10.17	6.08	5.77	2.76
asta	350	tr 50	29.89	211.50	212.42	213.45	217.06	0.035750	9.93	3.60	4.84	3.31
asta	350	tr 100	35.17	211.50	212.53	213.66	217.49	0.033050	10.31	4.16	5.06	3.24
asta	350	tr 200	40.60	211.50	212.64	213.85	217.87	0.030735	10.64	4.73	5.28	3.18
asta	350	tr 500	48.16	211.50	212.79	214.10	218.34	0.028037	11.02	5.53	5.58	3.10
asta	300	tr 50	29.89	209.75	210.67	211.71	215.27	0.035259	9.89	3.62	4.85	3.29
asta	300	tr 100	35.17	209.75	210.77	211.90	215.81	0.033833	10.38	4.12	5.05	3.28
asta	300	tr 200	40.60	209.75	210.88	212.10	216.28	0.032296	10.80	4.64	5.25	3.25
asta	300	tr 500	48.16	209.75	211.01	212.34	216.85	0.030323	11.30	5.38	5.52	3.21
asta	250.0001	tr 50	29.89	208.25	209.20	210.21	213.51	0.031877	9.58	3.75	4.90	3.14
asta	250.0001	tr 100	35.17	208.25	209.29	210.41	214.11	0.031568	10.16	4.22	5.09	3.17
asta	250.0001	tr 200	40.60	208.25	209.39	210.60	214.65	0.031037	10.67	4.71	5.28	3.19
asta	250.0001	tr 500	48.16	208.25	209.51	210.85	215.34	0.030166	11.28	5.39	5.53	3.20
asta	246.99	tr 50	29.89	206.63	207.46	208.58	213.24	0.050469	11.05	3.19	4.67	3.87
asta	246.99	tr 100	35.17	206.63	207.55	208.78	213.84	0.047845	11.56	3.64	4.86	3.83
asta	246.99	tr 200	40.60	206.63	207.65	208.97	214.39	0.045512	12.02	4.11	5.04	3.80
asta	246.99	tr 500	48.16	206.63	207.77	209.22	215.08	0.042754	12.57	4.75	5.29	3.75
asta	244.26*	tr 50	29.89	205.61	209.21	207.56	209.37	0.000243	2.04	23.45	9.00	0.34
asta	244.26*	tr 100	35.17	205.61	209.46	207.76	209.65	0.000265	2.22	25.64	9.00	0.36
asta	244.26*	tr 200	40.60	205.61	209.72	207.94	209.91	0.000258	2.29	34.25	15.00	0.36
asta	244.26*	tr 500	48.16	205.61	210.03	208.20	210.24	0.000262	2.42	39.02	15.00	0.37
asta	241.52*	tr 50	29.89	205.61	209.21	207.56	209.37	0.000244	2.04	23.44	9.00	0.34
asta	241.52*	tr 100	35.17	205.61	209.45	207.76	209.64	0.000266	2.22	25.63	9.00	0.36
asta	241.52*	tr 200	40.60	205.61	209.72	207.96	209.91	0.000258	2.29	34.24	15.00	0.36
asta	241.52*	tr 500	48.16	205.61	210.03	208.20	210.24	0.000262	2.42	39.01	15.00	0.37
asta	238.79*	tr 50	29.89	206.57	208.52	208.52	209.31	0.002398	4.26	9.70	6.91	0.97
asta	238.79*	tr 100	35.17	206.57	208.72	208.72	209.58	0.002321	4.47	11.13	7.32	0.97
asta	238.79*	tr 200	40.60	206.57	208.91	208.91	209.83	0.002260	4.67	12.56	7.70	0.97
asta	238.79*	tr 500	48.16	206.57	209.16	209.16	210.16	0.002189	4.91	14.53	8.19	0.97
asta	236.06*	tr 50	29.89	206.54	208.42	208.50	209.29	0.002811	4.48	9.13	6.75	1.04
asta	236.06*	tr 100	35.17	206.54	208.61	208.70	209.56	0.002700	4.69	10.50	7.14	1.04
asta	236.06*	tr 200	40.60	206.54	208.80	208.89	209.82	0.002613	4.89	11.88	7.52	1.04
asta	236.06*	tr 500	48.16	206.54	209.05	209.14	210.14	0.002511	5.13	13.77	8.00	1.04
asta	233.32*	tr 50	29.89	206.52	208.44	208.48	209.27	0.002584	4.36	9.43	6.83	1.01
asta	233.32*	tr 100	35.17	206.52	208.64	208.68	209.54	0.002498	4.58	10.82	7.23	1.00
asta	233.32*	tr 200	40.60	206.52	208.83	208.87	209.79	0.002429	4.78	12.21	7.61	1.00
asta	233.32*	tr 500	48.16	206.52	209.07	209.12	210.12	0.002348	5.02	14.13	8.09	1.00
asta	230.59*	tr 50	29.89	206.50	208.36	208.46	209.25	0.002901	4.52	9.02	6.72	1.06
asta	230.59*	tr 100	35.17	206.50	208.55	208.66	209.52	0.002808	4.75	10.34	7.10	1.06
asta	230.59*	tr 200	40.60	206.50	208.75	208.85	209.78	0.002678	4.93	11.76	7.49	1.05
asta	230.59*	tr 500	48.16	206.50	209.09	209.10	210.10	0.002205	4.92	14.48	8.18	0.98
asta	227.86*	tr 50	29.89	206.48	208.39	208.44	209.23	0.002651	4.39	9.34	6.81	1.02
asta	227.86*	tr 100	35.17	206.48	208.58	208.64	209.50	0.002580	4.62	10.68	7.19	1.02
asta	227.86*	tr 200	40.60	206.48	208.77	208.83	209.75	0.002478	4.81	12.12	7.58	1.01
asta	227.86*	tr 500	48.16	206.48	208.99	209.08	210.08	0.002502	5.13	13.79	8.01	1.03
asta	225.13*	tr 50	29.89	206.46	208.41	208.42	209.21	0.002439	4.28	9.64	6.90	0.98
asta	225.13*	tr 100	35.17	206.46	208.60	208.62	209.47	0.002386	4.51	11.01	7.28	0.98
asta	225.13*	tr 200	40.60	206.46	208.80	208.81	209.73	0.002305	4.70	12.47	7.67	0.98
asta	225.13*	tr 500	48.16	206.46	209.02	209.06	210.06	0.002323	5.00	14.19	8.11	1.00
asta	222.39*	tr 50	29.89	206.44	208.31	208.40	209.19	0.002827	4.48	9.11	6.74	1.05
asta	222.39*	tr 100	35.17	206.44	208.51	208.60	209.46	0.002727	4.71	10.46	7.13	1.05
asta	222.39*	tr 200	40.60	206.44	208.70	208.79	209.71	0.002631	4.90	11.84	7.51	1.04
asta	222.39*	tr 500	48.16	206.44	208.93	209.04	210.04	0.002551	5.16	13.68	7.98	1.04
asta	219.66*	tr 50	29.89	206.42	208.34	208.38	209.17	0.002598	4.37	9.41	6.83	1.01
asta	219.66*	tr 100	35.17	206.42	208.53	208.58	209.43	0.002521	4.59	10.78	7.22	1.01
asta	219.66*	tr 200	40.60	206.42	208.72	208.77	209.69	0.002445	4.79	12.18	7.60	1.01
asta	219.66*	tr 500	48.16	206.42	208.96	209.02	210.02	0.002375	5.04	14.07	8.08	1.01

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
asta	216.9268	tr 50	29.89	206.40	208.26	208.36	209.15	0.002901	4.52	9.02	6.72	1.06
asta	216.9268	tr 100	35.17	206.40	208.55	208.55	209.41	0.002344	4.48	11.09	7.30	0.98
asta	216.9268	tr 200	40.60	206.40	208.64	208.75	209.67	0.002689	4.93	11.74	7.48	1.05
asta	216.9268	tr 500	48.16	206.40	208.99	208.99	209.99	0.002221	4.93	14.44	8.17	0.98
asta	205		Culvert									
asta	194.5659	tr 50	29.89	206.30	207.48	207.84	208.79	0.011226	5.08	5.89	5.00	1.49
asta	194.5659	tr 100	35.17	206.30	207.64	208.02	209.04	0.010660	5.24	6.71	5.00	1.44
asta	194.5659	tr 200	40.60	206.30	207.79	208.19	209.30	0.010471	5.44	7.47	5.00	1.42
asta	194.5659	tr 500	48.16	206.30	208.04	208.42	209.61	0.009649	5.55	8.68	5.00	1.34
asta	191.86	tr 50	29.89	206.27	207.45	207.81	208.76	0.011268	5.08	5.88	5.00	1.50
asta	191.86	tr 100	35.17	206.27	207.61	207.99	209.01	0.010629	5.24	6.72	5.00	1.44
asta	191.86	tr 200	40.60	206.27	207.77	208.16	209.27	0.010415	5.43	7.48	5.00	1.42
asta	191.86	tr 500	48.16	206.27	208.00	208.39	209.58	0.009704	5.56	8.66	5.00	1.35
asta	189.15	tr 50	29.89	206.24	207.42	207.78	208.73	0.011268	5.08	5.88	5.00	1.50
asta	189.15	tr 100	35.17	206.24	207.58	207.96	208.98	0.010599	5.23	6.72	5.00	1.44
asta	189.15	tr 200	40.60	206.24	207.74	208.13	209.24	0.010378	5.42	7.49	5.00	1.41
asta	189.15	tr 500	48.16	206.24	207.97	208.36	209.55	0.009772	5.57	8.64	5.00	1.35
asta	186.44	tr 50	29.89	205.56	206.49	207.10	208.61	0.022758	6.45	4.63	5.00	2.14
asta	186.44	tr 100	35.17	205.56	206.62	207.28	208.86	0.020989	6.62	5.31	5.00	2.05
asta	186.44	tr 200	40.60	205.56	206.75	207.45	209.11	0.019901	6.80	5.97	5.00	1.99
asta	186.44	tr 500	48.16	205.56	206.94	207.68	209.42	0.018473	6.98	6.90	5.00	1.90
asta	183.73	tr 50	29.89	205.53	206.47	207.07	208.53	0.021777	6.36	4.70	5.00	2.09
asta	183.73	tr 100	35.17	205.53	206.61	207.25	208.78	0.020214	6.53	5.38	5.00	2.01
asta	183.73	tr 200	40.60	205.53	206.74	207.42	209.04	0.019264	6.72	6.04	5.00	1.95
asta	183.73	tr 500	48.16	205.53	206.92	207.65	209.36	0.017980	6.92	6.96	5.00	1.87
asta	181.0198	tr 50	29.89	205.50	206.45	207.04	208.46	0.020850	6.27	4.77	5.00	2.05
asta	181.0198	tr 100	35.17	205.50	206.59	207.22	208.71	0.019493	6.45	5.45	5.00	1.97
asta	181.0198	tr 200	40.60	205.50	206.72	207.39	208.98	0.018668	6.65	6.10	5.00	1.92
asta	181.0198	tr 500	48.16	205.50	206.91	207.62	209.30	0.017516	6.85	7.03	5.00	1.85
asta	170		Culvert									
asta	156.0085	tr 50	29.89	205.40	206.48	206.94	208.05	0.014560	5.55	5.39	5.00	1.71
asta	156.0085	tr 100	35.17	205.40	206.63	207.12	208.29	0.013579	5.70	6.17	5.00	1.64
asta	156.0085	tr 200	40.60	205.40	206.78	207.29	208.54	0.013044	5.87	6.91	5.00	1.59
asta	156.0085	tr 500	48.16	205.40	207.00	207.52	208.85	0.012210	6.03	7.98	5.00	1.52
asta	153.13*	tr 50	29.89	205.36	206.44	206.90	208.01	0.014560	5.55	5.39	5.00	1.71
asta	153.13*	tr 100	35.17	205.36	206.59	207.08	208.25	0.013579	5.70	6.17	5.00	1.64
asta	153.13*	tr 200	40.60	205.36	206.74	207.25	208.50	0.013044	5.87	6.91	5.00	1.59
asta	153.13*	tr 500	48.16	205.36	206.95	207.48	208.82	0.012279	6.05	7.97	5.00	1.53
asta	150.25*	tr 50	29.89	205.33	206.42	206.87	207.96	0.014219	5.50	5.43	5.00	1.69
asta	150.25*	tr 100	35.17	205.33	206.57	207.05	208.21	0.013333	5.66	6.21	5.00	1.62
asta	150.25*	tr 200	40.60	205.33	206.72	207.22	208.46	0.012850	5.84	6.95	5.00	1.58
asta	150.25*	tr 500	48.16	205.33	206.93	207.45	208.78	0.012145	6.02	8.00	5.00	1.52
asta	147.37*	tr 50	29.89	204.55	205.66	206.32	207.84	0.020603	6.54	4.57	5.22	2.23
asta	147.37*	tr 100	35.17	204.55	207.39	206.48	207.62	0.000848	2.12	16.57	8.68	0.49
asta	147.37*	tr 200	40.60	204.55	207.64	206.64	207.88	0.000778	2.15	19.09	12.83	0.48
asta	147.37*	tr 500	48.16	204.55	207.98	206.84	208.21	0.000641	2.16	24.05	15.00	0.44
asta	144.4873	tr 50	29.89	204.54	205.96	206.50	207.67	0.007730	6.16	6.26	5.83	1.65
asta	144.4873	tr 100	35.17	204.54	206.69	206.69	207.55	0.002339	4.48	11.10	7.31	0.97
asta	144.4873	tr 200	40.60	204.54	206.89	206.89	207.81	0.002251	4.66	12.58	7.70	0.97
asta	144.4873	tr 500	48.16	204.54	207.13	207.13	208.13	0.002194	4.91	14.51	8.19	0.97
asta	99.99998	tr 50	29.89	204.38	205.97	206.34	207.27	0.005110	5.41	7.29	6.18	1.37
asta	99.99998	tr 100	35.17	204.38	206.38	206.54	207.41	0.003081	4.89	9.98	7.00	1.11
asta	99.99998	tr 200	40.60	204.38	206.55	206.73	207.67	0.003027	5.12	11.22	7.34	1.11
asta	99.99998	tr 500	48.16	204.38	206.78	206.98	208.00	0.002922	5.39	12.98	7.80	1.11
asta	50	tr 50	29.89	204.20	206.26	206.15	206.95	0.002002	4.02	10.39	7.11	0.90
asta	50	tr 100	35.17	204.20	206.45	206.36	207.22	0.002002	4.26	11.78	7.49	0.91
asta	50	tr 200	40.60	204.20	206.63	206.55	207.47	0.002002	4.49	13.17	7.85	0.92
asta	50	tr 500	48.16	204.20	206.86	206.80	207.80	0.001999	4.77	15.05	8.32	0.93

Reach	River Sta	Profile	Culv Inv El Dn	Culv Inv El Up	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min El Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
			(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m ³ /s)	(m ³ /s)	(m)	(m/s)	(m/s)
asta	1611.01 Culvert #1	tr 50	266.80	274.25	278.71	274.88			337.99	21.74		6.64	7.31	5.44
asta	1611.01 Culvert #1	tr 100	266.80	274.25	279.24	274.96			337.99	25.92		6.54	7.77	5.70
asta	1611.01 Culvert #1	tr 200	266.80	274.25	279.75	275.04			337.99	30.21		6.44	8.18	5.92
asta	1611.01 Culvert #1	tr 500	266.80	274.25	278.41	278.28	278.41	278.22	337.99	36.16		9.45	4.84	6.18
asta	450 Culvert #1	tr 50	216.67	216.82	219.91	218.26	219.24	219.50	220.72	29.89		0.36	2.67	2.45
asta	450 Culvert #1	tr 100	216.67	216.82	220.19	218.43	219.53	219.78	220.72	35.17		0.40	2.87	2.65
asta	450 Culvert #1	tr 200	216.67	216.82	220.45	218.59	219.82	220.04	220.72	40.60		0.43	3.06	2.84
asta	450 Culvert #1	tr 500	216.67	216.82	220.79	218.80	220.20	220.39	220.72	48.16		0.47	3.33	3.10
asta	205 Culvert #1	tr 50	206.30	206.40	209.15	208.26			210.40	29.89		0.61	5.06	5.08
asta	205 Culvert #1	tr 100	206.30	206.40	209.41	208.55			210.40	35.17		0.74	5.20	5.24
asta	205 Culvert #1	tr 200	206.30	206.40	209.67	208.64			210.40	40.60		0.67	5.39	5.44
asta	205 Culvert #1	tr 500	206.30	206.40	209.99	208.99			210.40	48.16		0.80	5.46	5.55
asta	170 Culvert #1	tr 50	205.40	205.50	208.46	206.45			209.40	29.89		0.29	5.58	5.55
asta	170 Culvert #1	tr 100	205.40	205.50	208.71	206.59			209.40	35.17		0.31	5.71	5.70
asta	170 Culvert #1	tr 200	205.40	205.50	208.98	206.72			209.40	40.60		0.34	5.87	5.88
asta	170 Culvert #1	tr 500	205.40	205.50	209.30	206.91			209.40	48.16		0.37	6.02	6.04

Comune di Tula (SS)
 Interventi di risoluzione delle problematiche idrauliche del Rio Tula - -
 STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
 Attraversamento S.C.

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	170	TR 50 ANNI		205.5	206.45	29.89	5.58		209.2	2.75	1.59	0.95	0.848	0.058	0.950	0.903	1.111	1.111	OK	OK
	170	TR 200 ANNI		205.5	206.72	40.6	5.87		209.2	2.48	1.76	1.22	0.961	0.087	1.220	1.067	1.230	1.230	OK	OK
DOWN	170	TR 50 ANNI	205.4		206.74	29.89		5.55	209.1	2.36	1.57	1.34	1.007	0.055	1.340	1.081	1.099	1.099	OK	OK
	170	TR 200 ANNI	205.4		207.07	40.6		5.88	209.1	2.03	1.76	1.67	1.124	0.088	1.670	1.271	1.234	1.271	OK	OK

Comune di Tula (SS)
 Interventi di risoluzione delle problematiche idrauliche del Rio Tula -
 STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
 Attraversamento S.P. 2

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	205	TR 50 ANNI		206.4	208.26	29.89	5.06		210.1	1.84	1.31	1.86	1.187	0.006	1.860	1.198	0.914	1.198	OK	OK
	205	TR 200 ANNI		206.4	208.64	40.6	5.39		210.1	1.46	1.48	2.24	1.302	0.039	2.000	1.380	1.037	1.380	OK	OK
DOWN	205	TR 50 ANNI	206.3		207.65	29.89		5.08	210	2.35	1.32	1.35	1.011	0.008	1.350	1.022	0.921	1.022	OK	OK
	205	TR 200 ANNI	206.3		207.97	40.6		5.44	210	2.03	1.51	1.67	1.124	0.044	1.670	1.198	1.056	1.198	OK	OK

Comune di Tula (SS)
Interventi di risoluzione delle problematiche idrauliche del Rio Tula - -
STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
Attraversamento S.P. 103

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	450	TR 50 ANNI		216.82	218.26	29.89	2.67		220.52	2.26	0.36	1.44	1.044	0.000	1.440	1.044	0.254	1.044	OK	OK
	450	TR 200 ANNI		216.82	218.59	40.6	3.06		220.52	1.93	0.48	1.77	1.157	0.000	1.770	1.157	0.334	1.157	OK	OK
DOWN	450	TR 50 ANNI	216.67		218.63	29.89		2.45	220.37	1.74	0.31	1.96	1.218	0.000	1.960	1.218	0.214	1.218	OK	OK
	450	TR 200 ANNI	216.67		219.02	40.6		2.84	220.37	1.35	0.41	2.35	1.334	0.000	2.000	1.334	0.288	1.334	OK	OK

COMUNE DI TULA (SS)

INTERVENTI DI MESSA IN SICUREZZA IDRAULICA DEL CENTRO ABITATO

Progetto di fattibilità tecnico-economica

Deflusso nell'edificato urbano in corrispondenza del tratto tombato

SIMULAZIONI IN MOTO PERMANENTE

Corso d'acqua: Rio Tula- tratto tombato

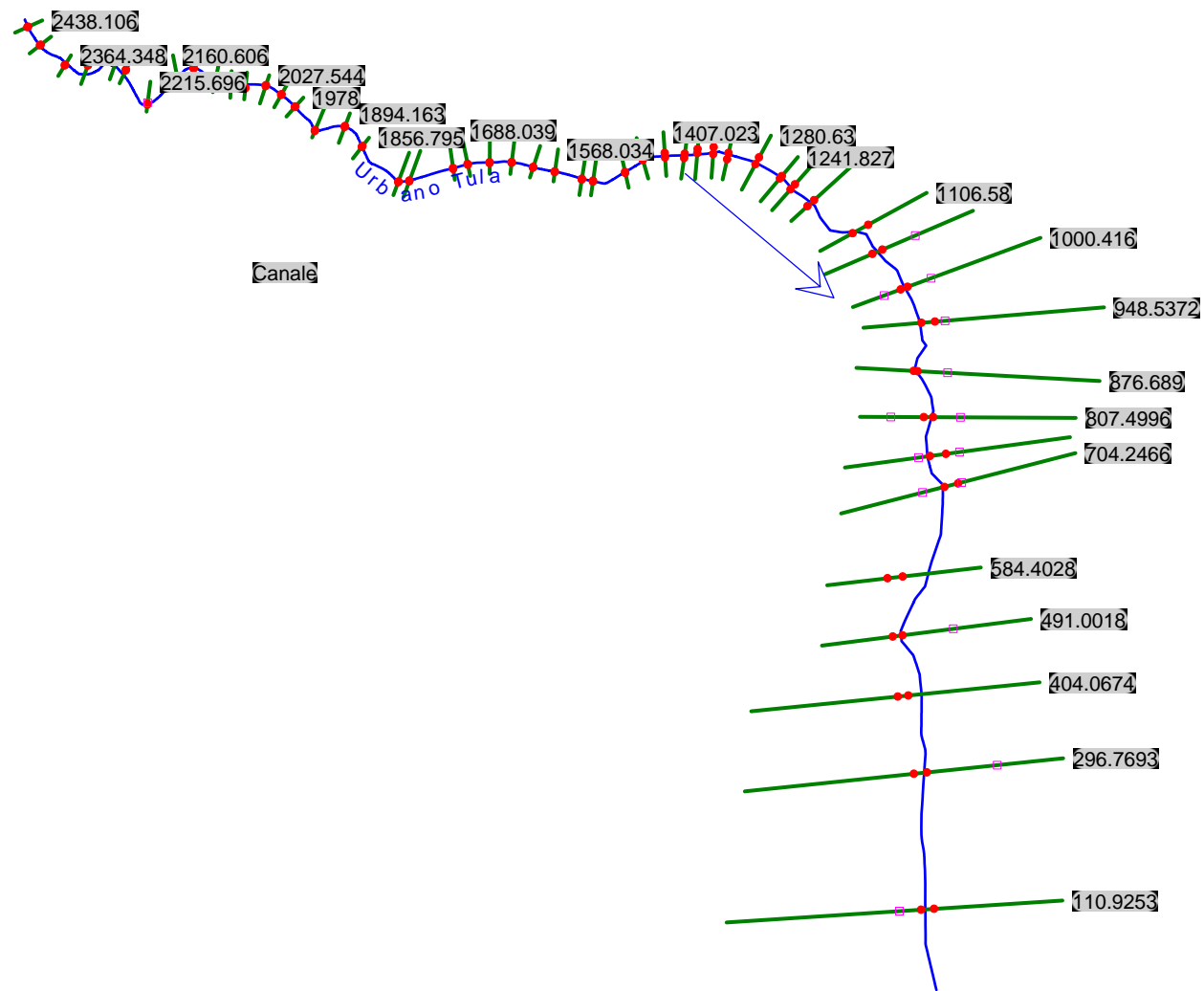
Condizione POST OPERAM

- Schemi planimetrici del modello matematico
- Profili longitudinali tiranti idrici per le portate con tempi di ritorno di 50-100-200-500 anni
- Sezioni trasversali tiranti idrici per le portate con tempi di ritorno di 50-100-200-500 anni
- Tabulati numerici per le portate con tempi di ritorno di 50-100-200-500 anni

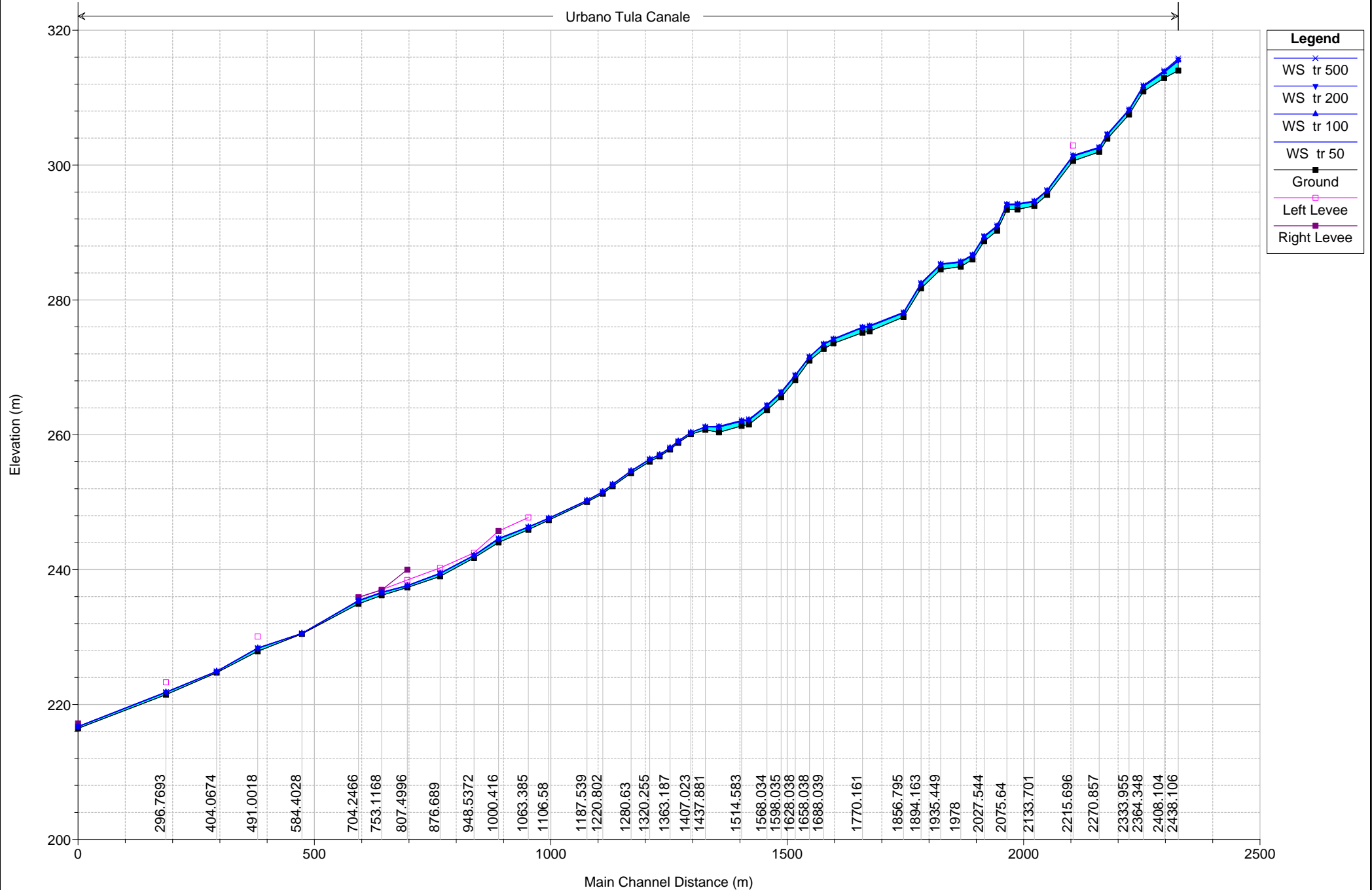
PORTATE E CONDIZIONI AL CONTORNO

River	Reach	RS	PORTATE (mc/s)			
			tr 50	tr 100	tr 200	tr 500
Urbano Tula	Canale	2438.106	11.257	12.891	14.559	16.894
Urbano Tula	Canale	1437.881	11.257	12.891	14.559	16.894

River	Reach	PROFILI	condizioni al contorno	
			upstream	downstream
Urbano Tula	Canale	TUTTI	critical depth	normal depth $S=0.029326$



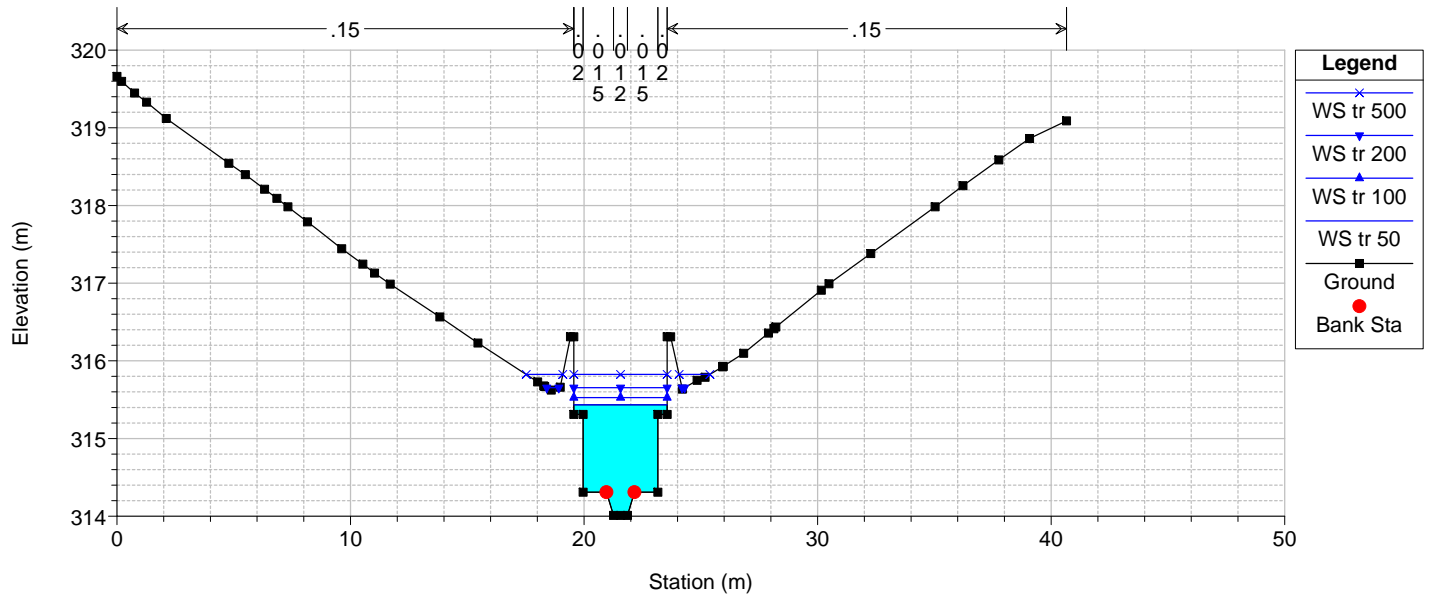
Urbano Tula Canale



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

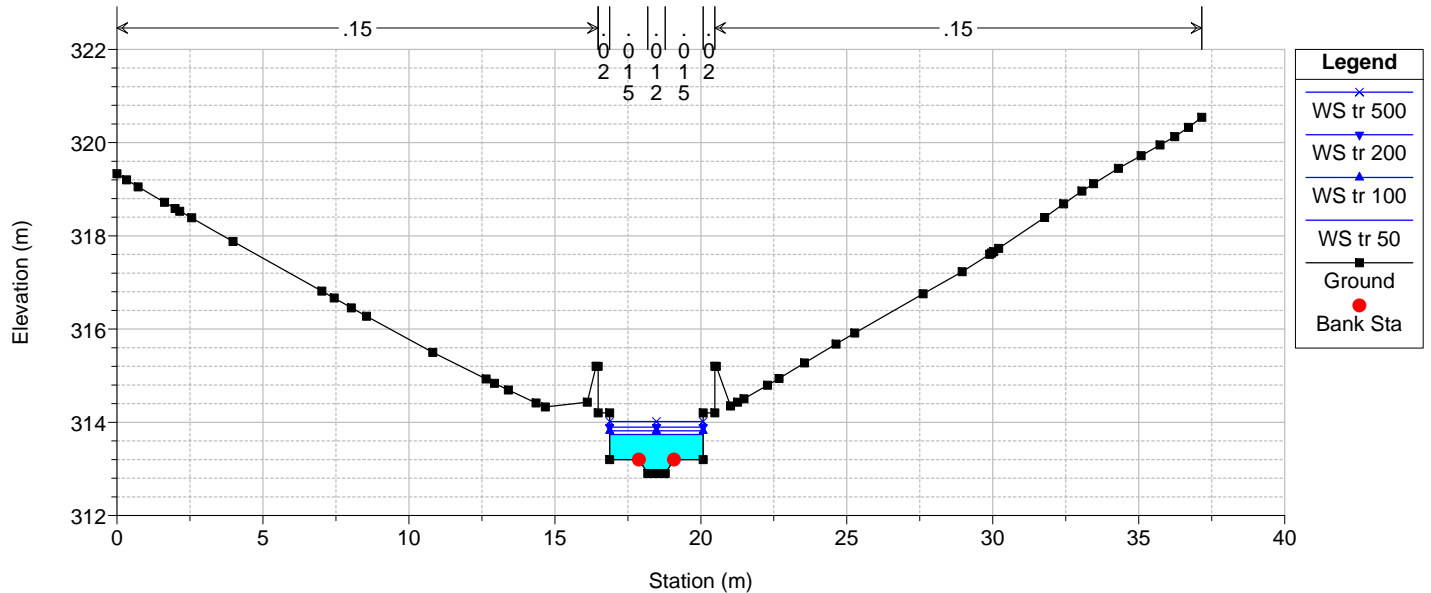
River = Urbano Tula Reach = Canale RS = 2438.106 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

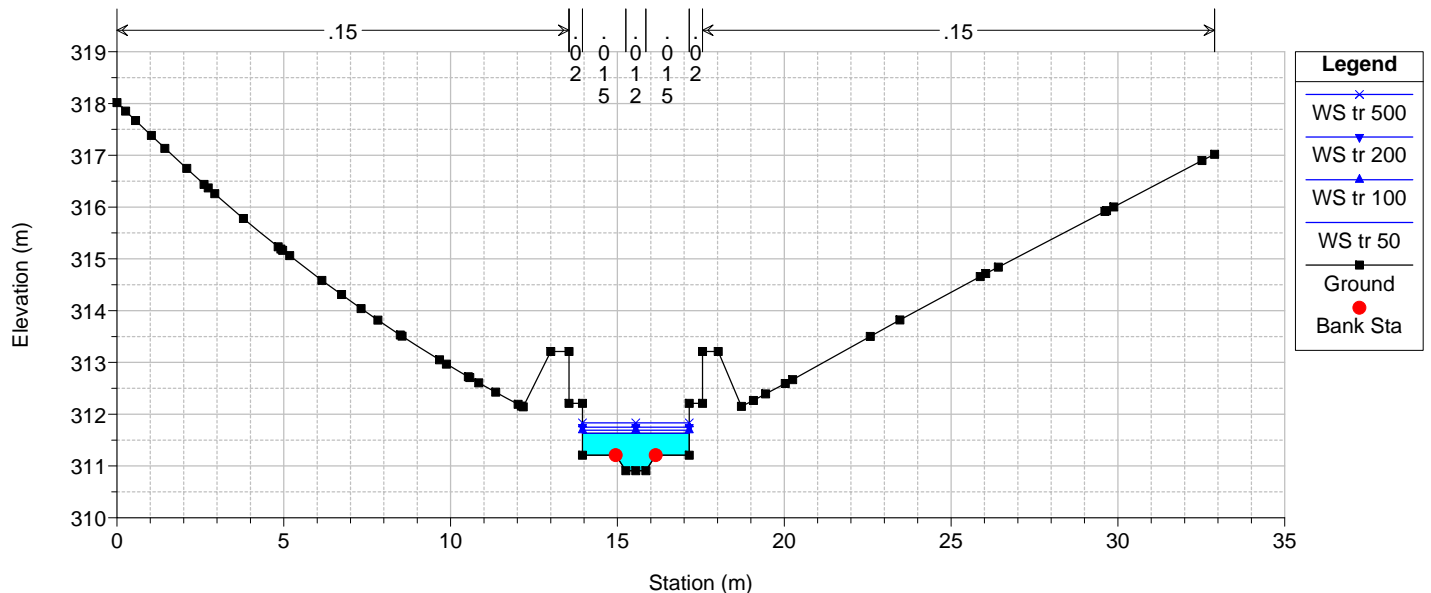
River = Urbano Tula Reach = Canale RS = 2408.104 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

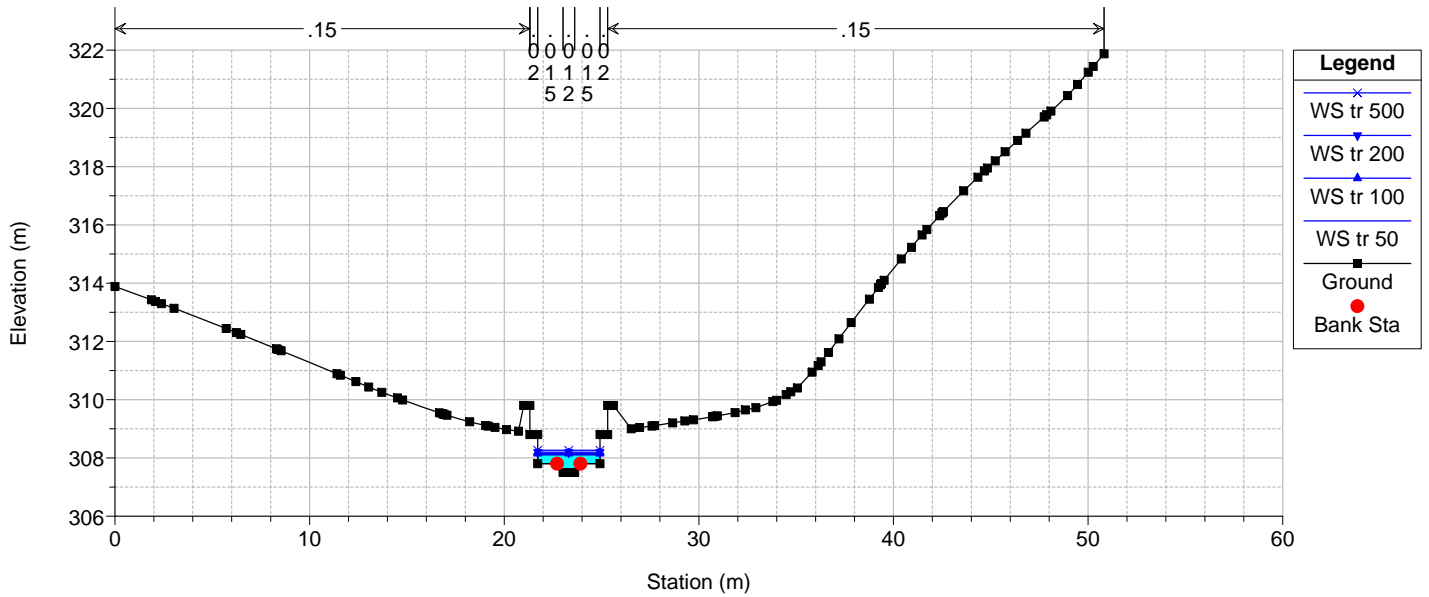
River = Urbano Tula Reach = Canale RS = 2364.348 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

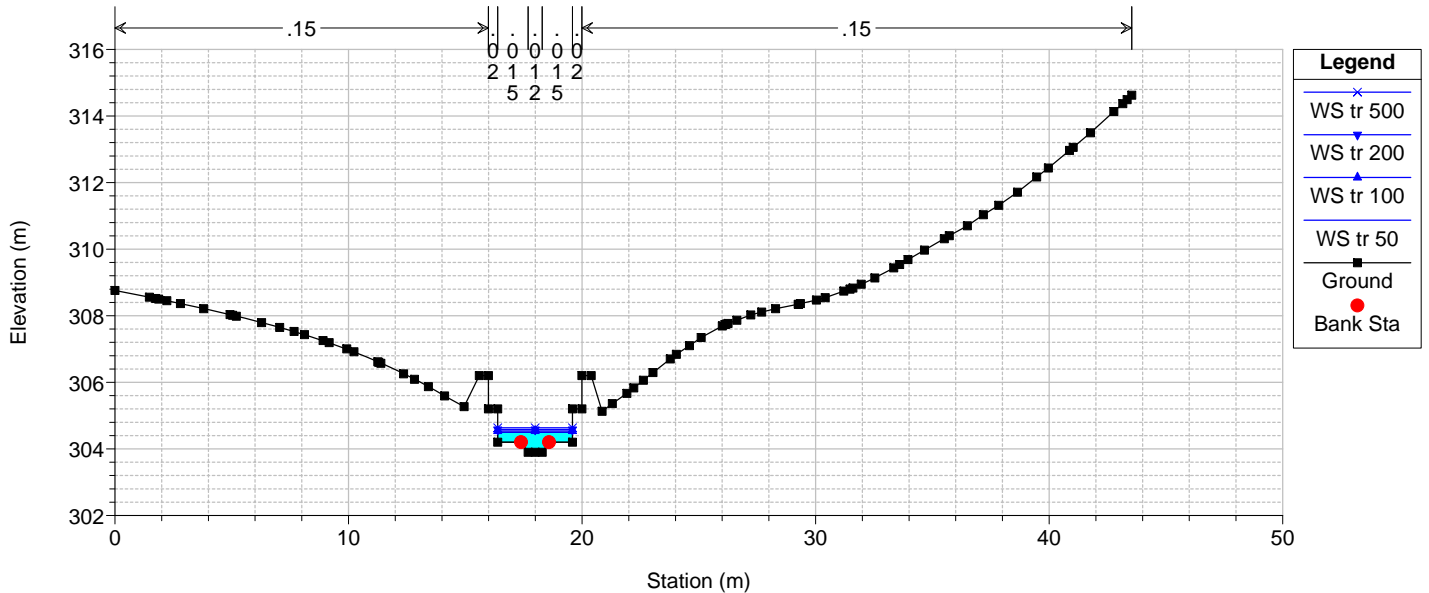
River = Urbano Tula Reach = Canale RS = 2333.955 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

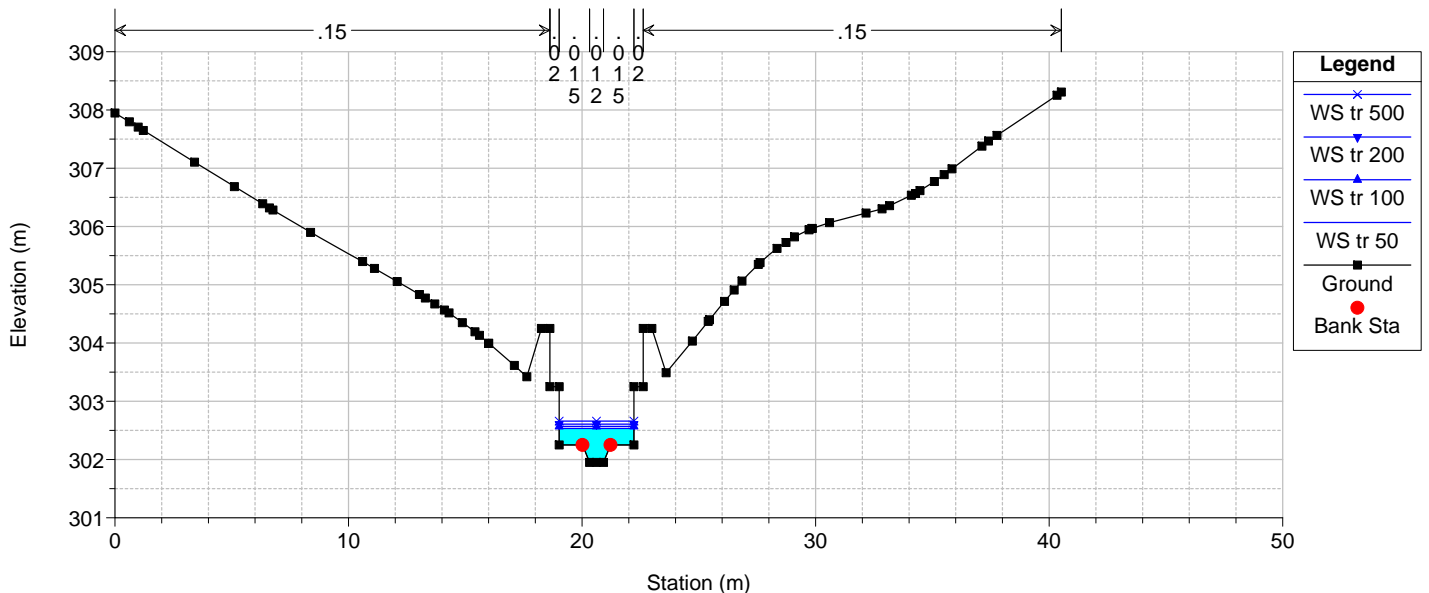
River = Urbano Tula Reach = Canale RS = 2288.085 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

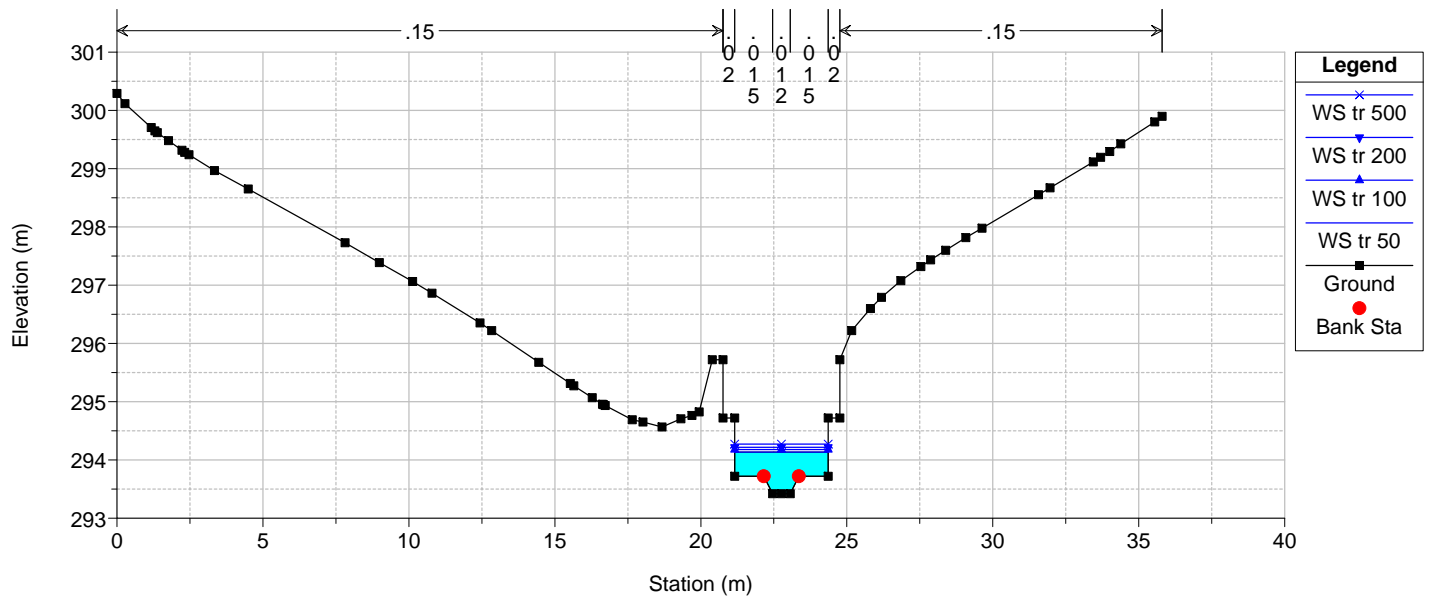
River = Urbano Tula Reach = Canale RS = 2270.857 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

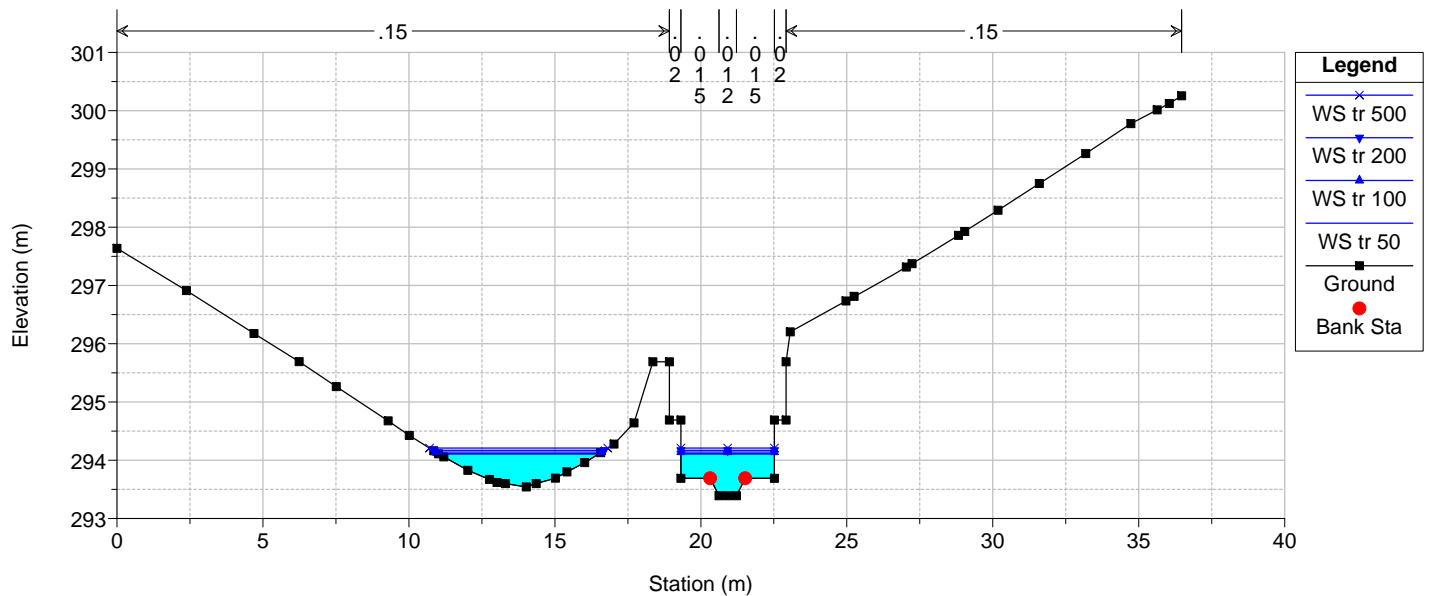
River = Urbano Tula Reach = Canale RS = 2098.058 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

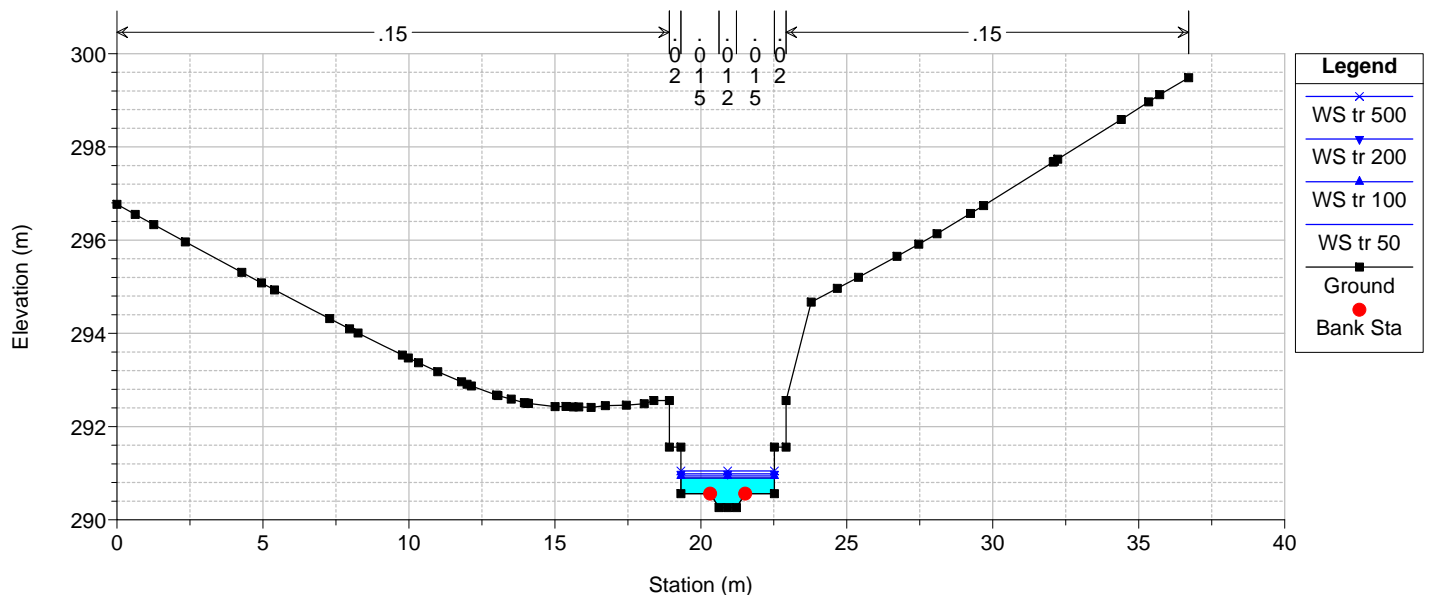
River = Urbano Tula Reach = Canale RS = 2075.64 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

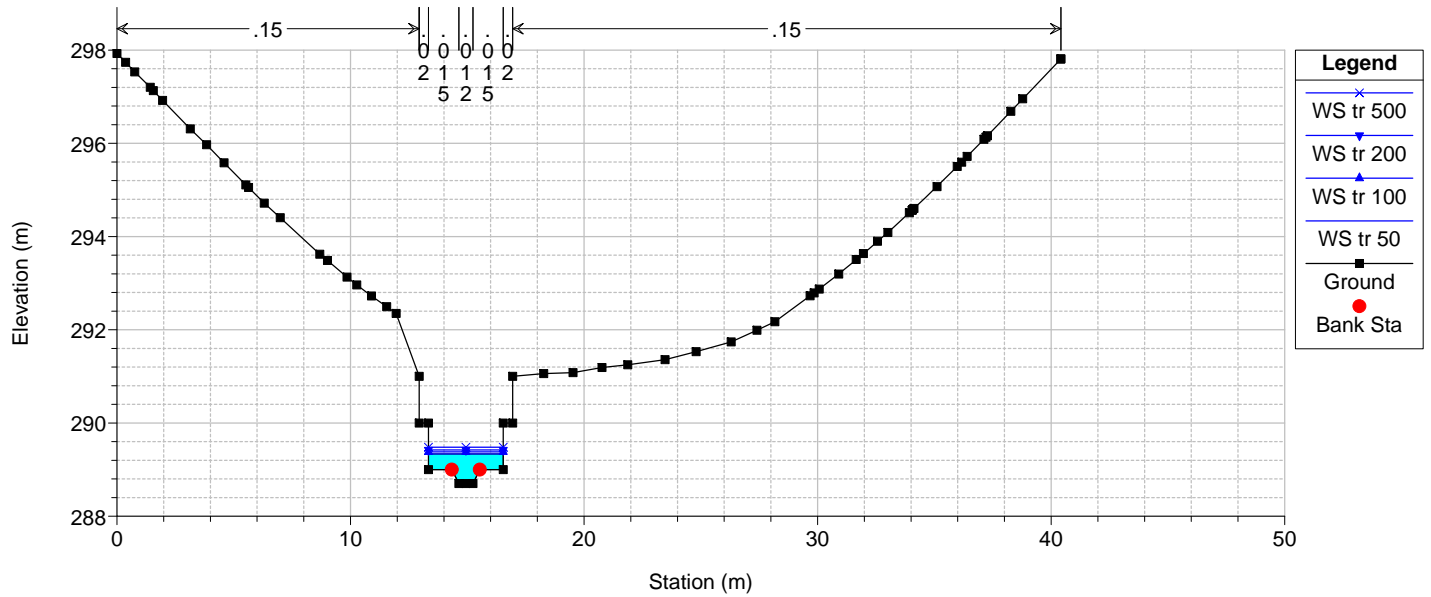
River = Urbano Tula Reach = Canale RS = 2054.935 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

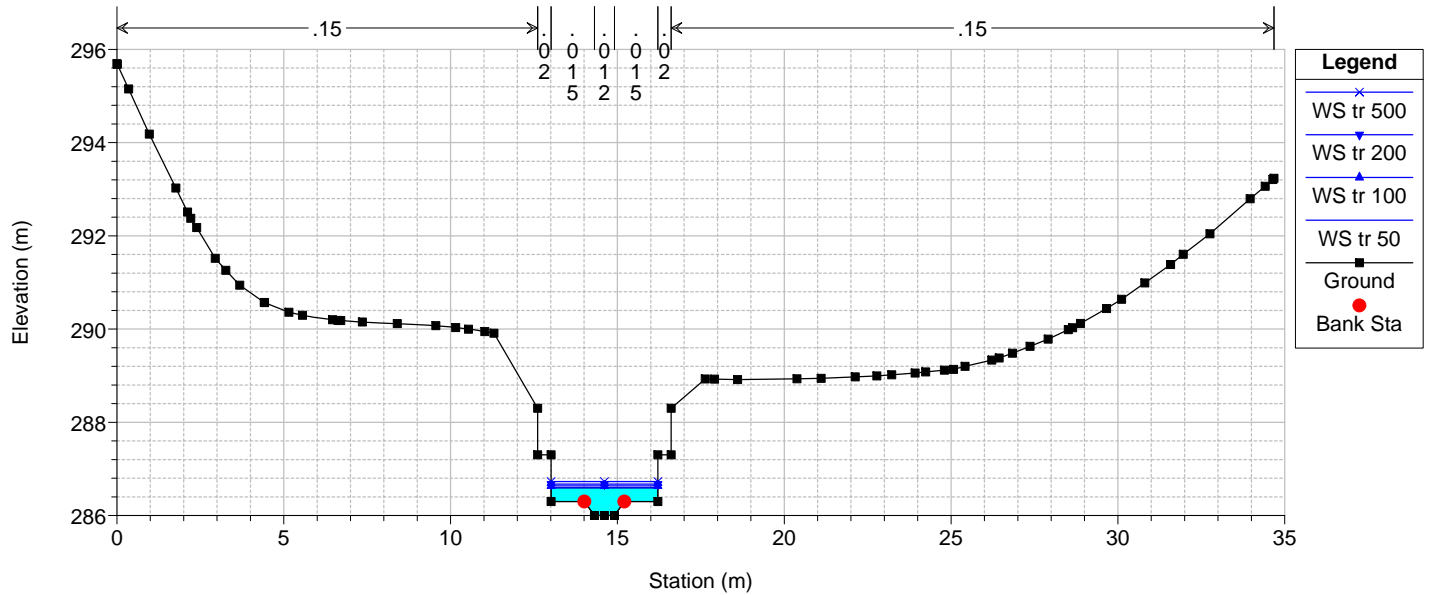
River = Urbano Tula Reach = Canale RS = 2027.544 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

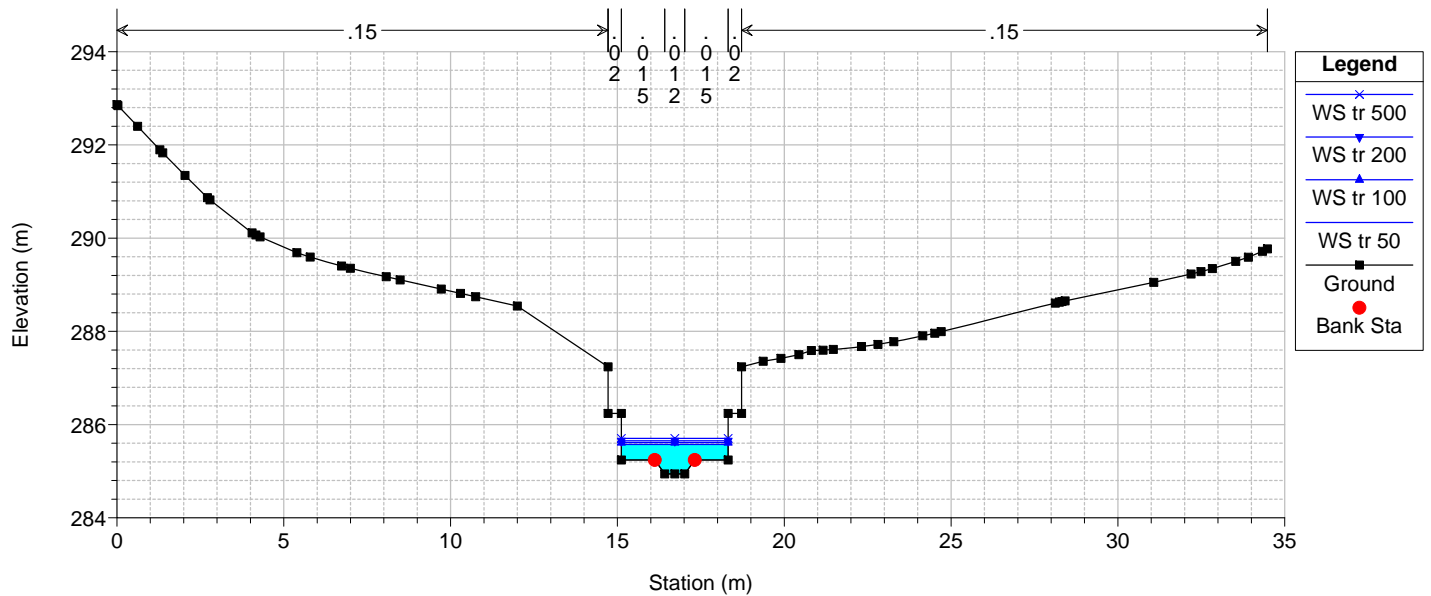
River = Urbano Tula Reach = Canale RS = 2002.969 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

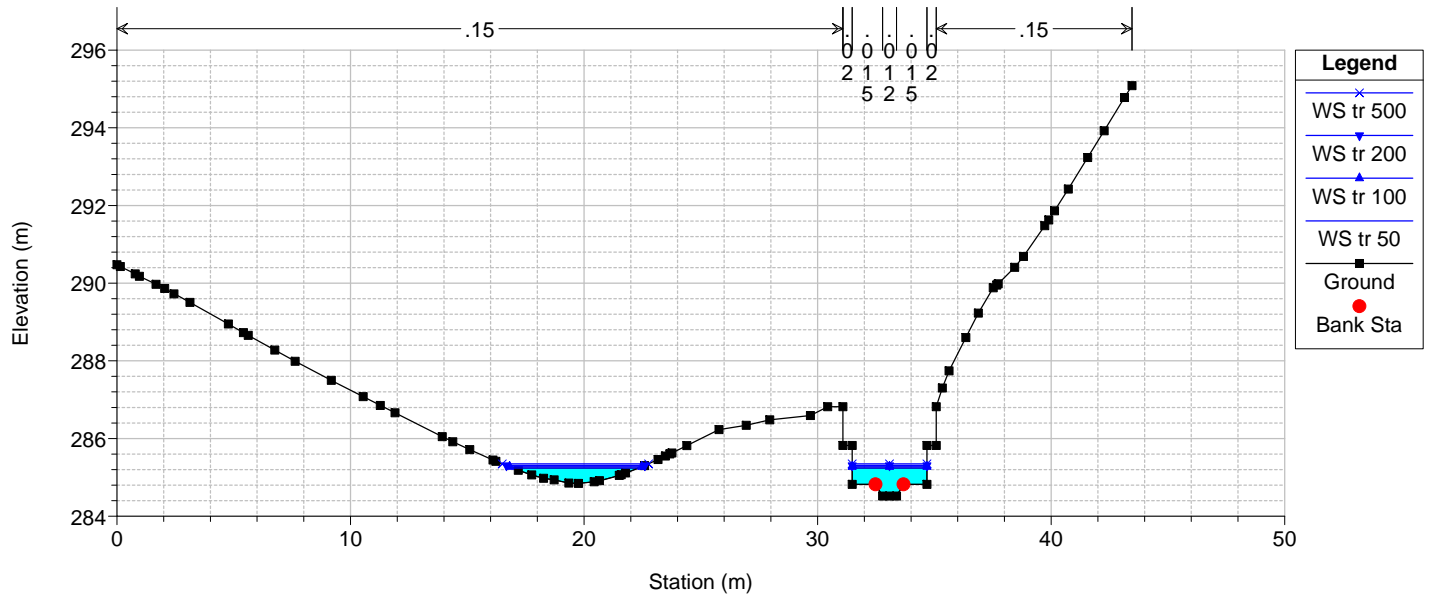
River = Urbano Tula Reach = Canale RS = 1978 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

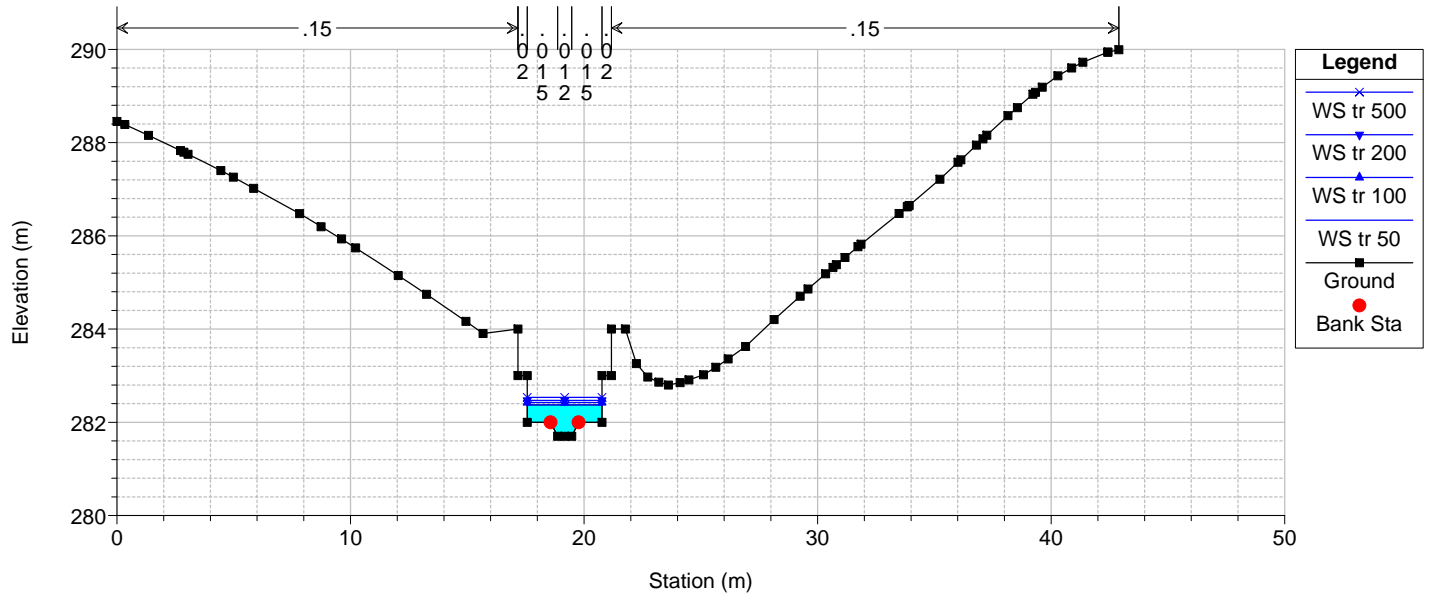
River = Urbano Tula Reach = Canale RS = 1935.449 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

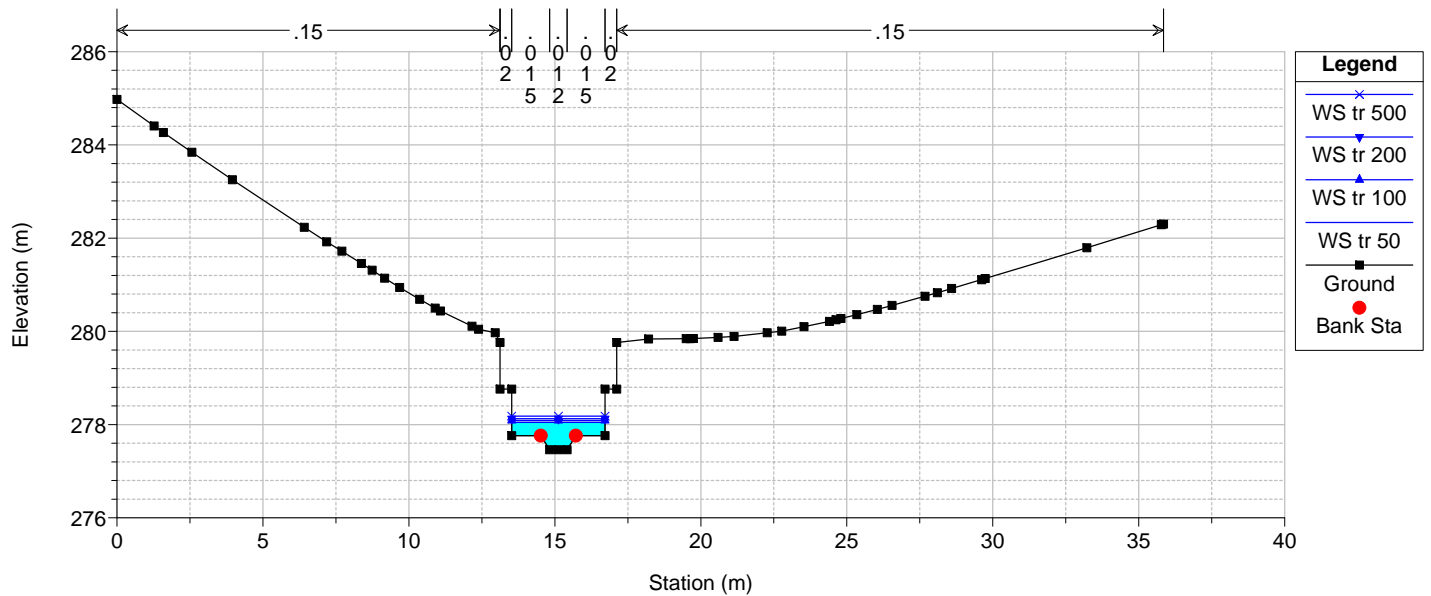
River = Urbano Tula Reach = Canale RS = 1894.163 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

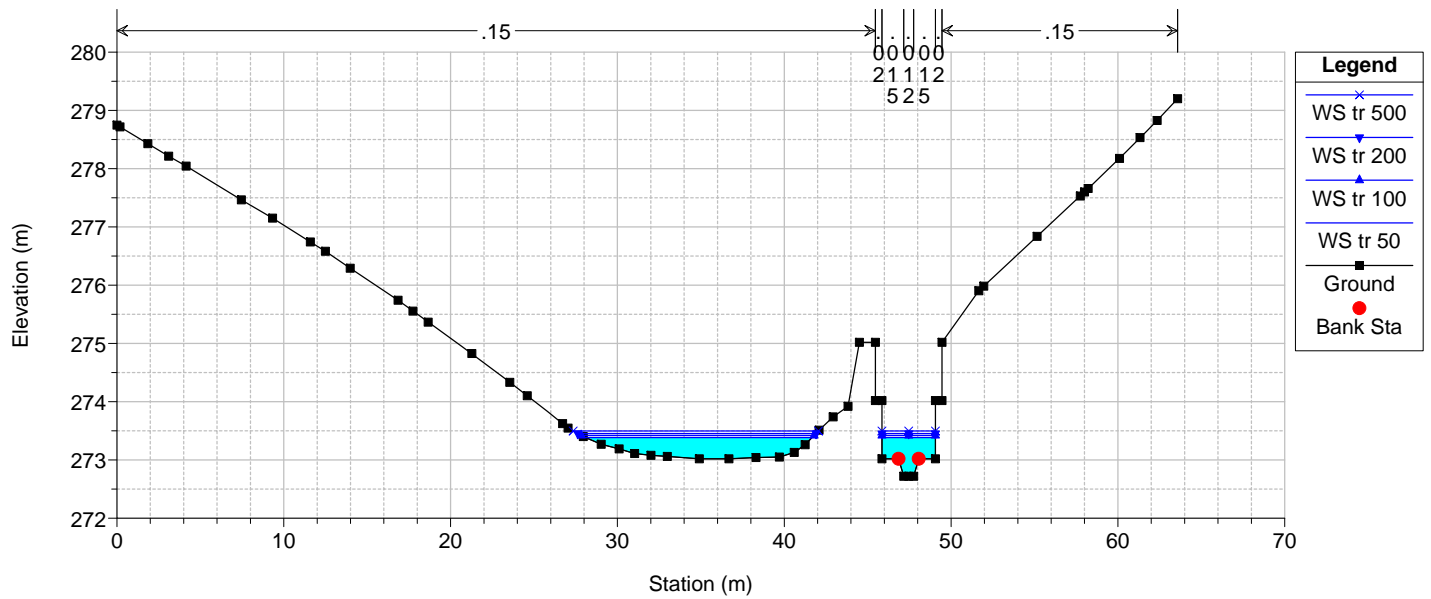
River = Urbano Tula Reach = Canale RS = 1856.795 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

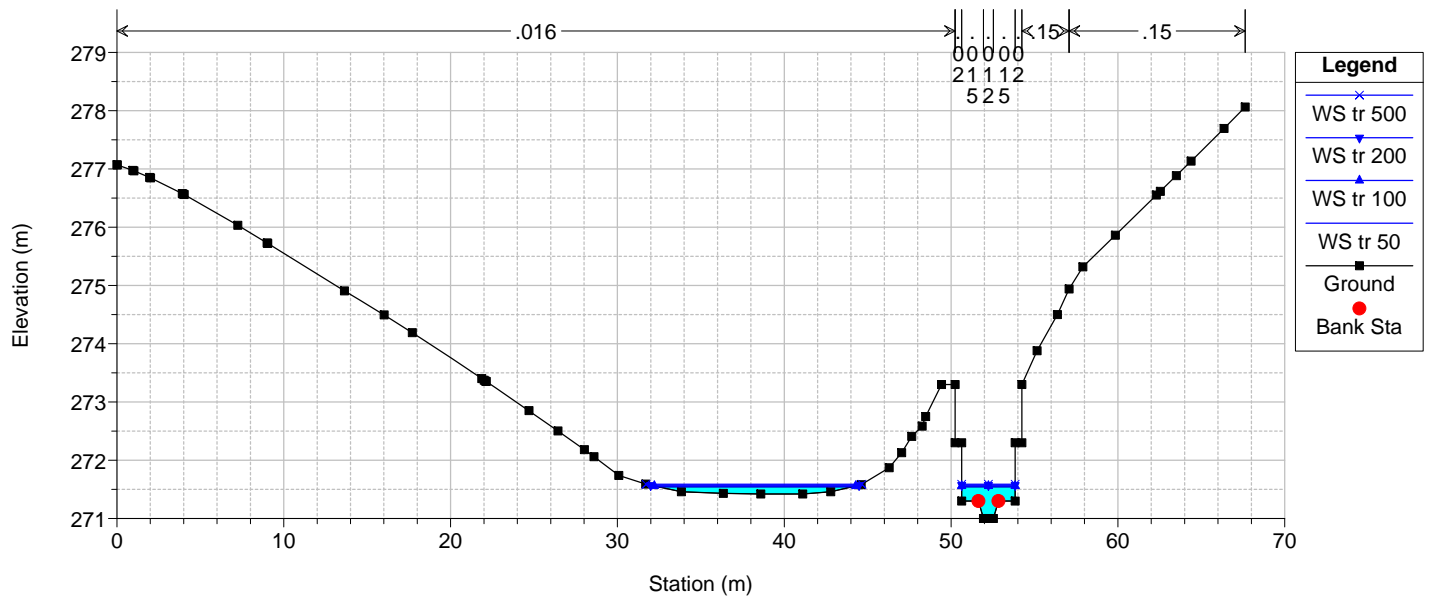
River = Urbano Tula Reach = Canale RS = 1688.039 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

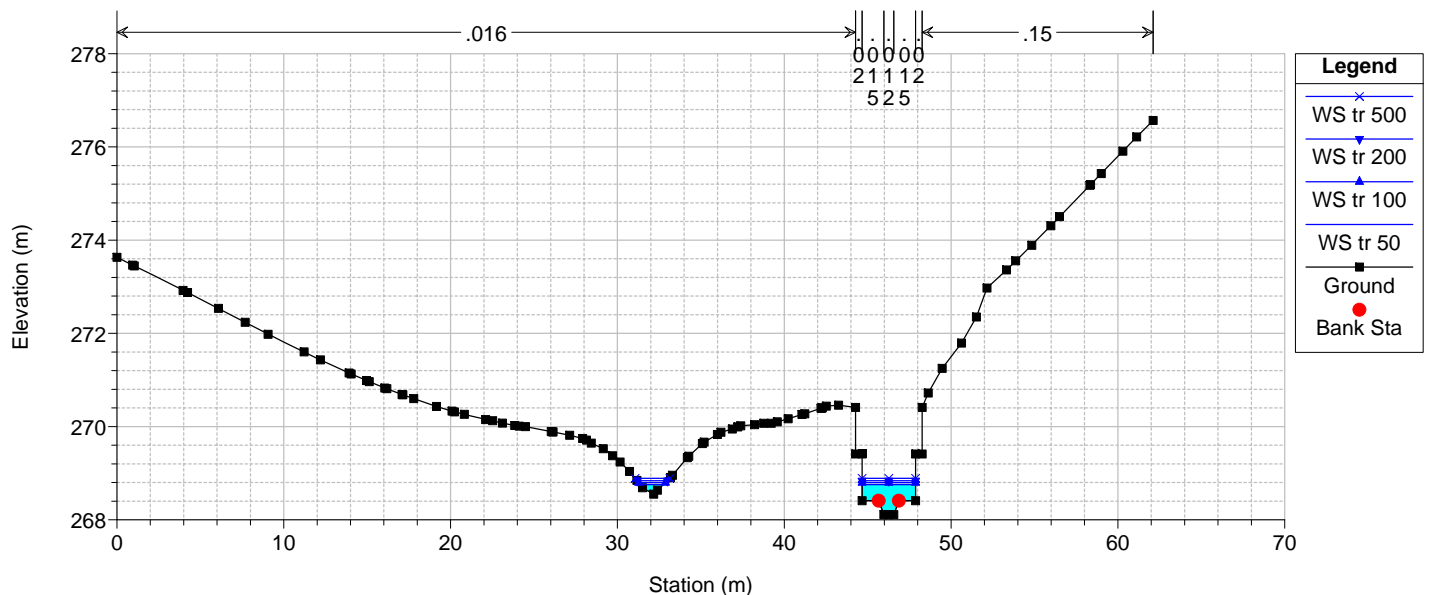
River = Urbano Tula Reach = Canale RS = 1658.038 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

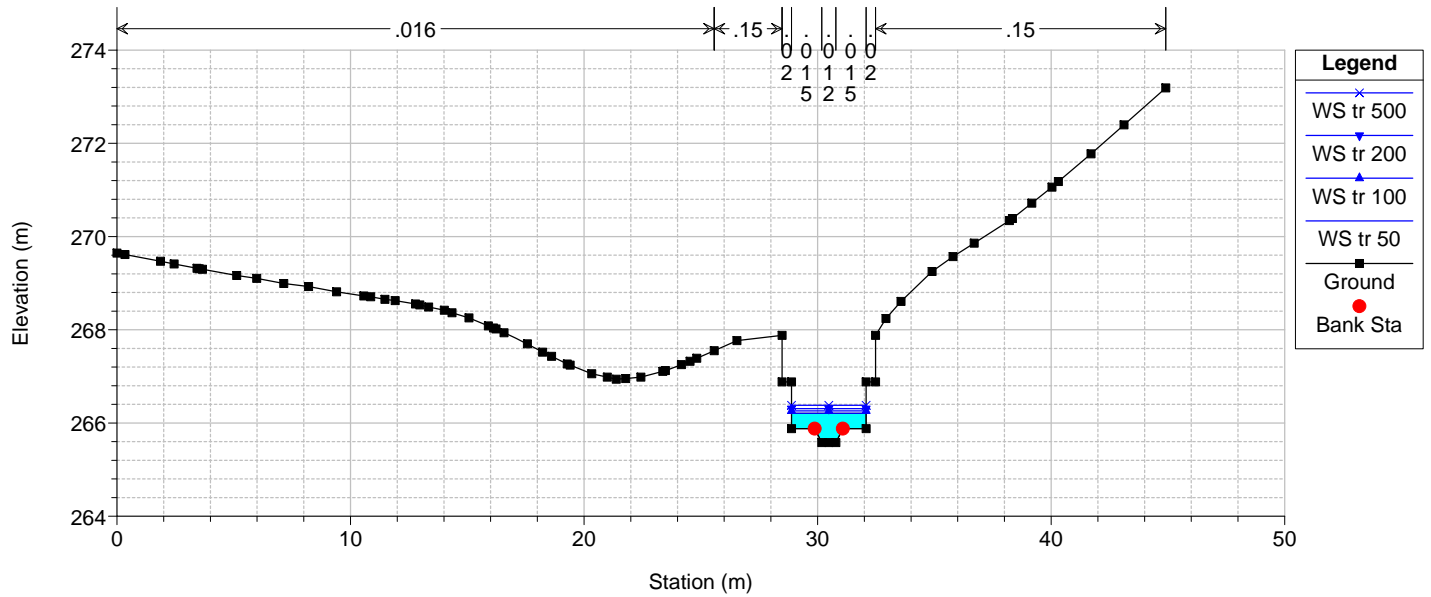
River = Urbano Tula Reach = Canale RS = 1628.038 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

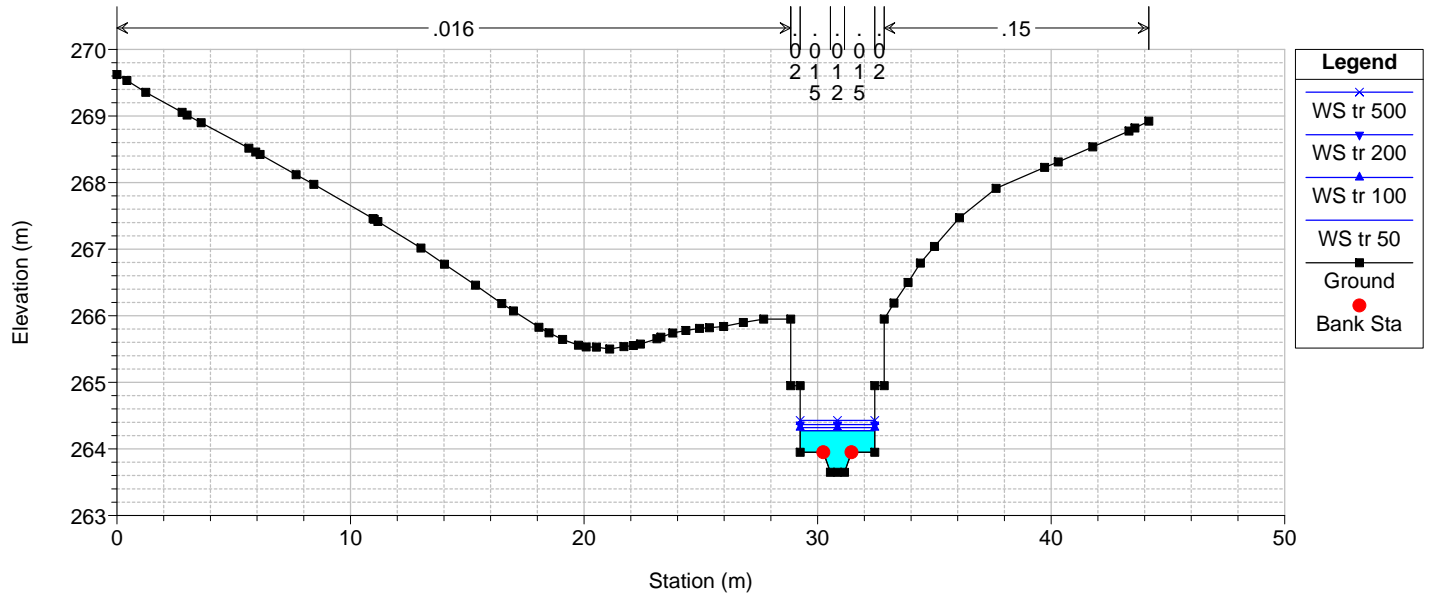
River = Urbano Tula Reach = Canale RS = 1598.035 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

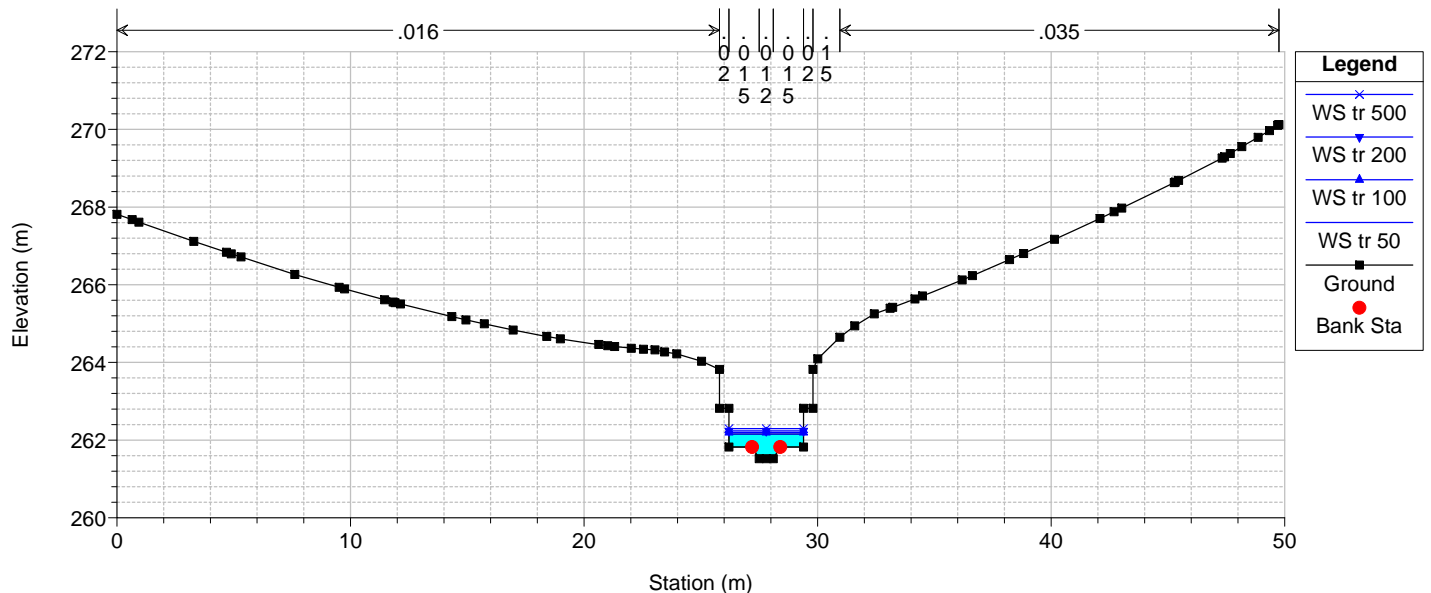
River = Urbano Tula Reach = Canale RS = 1568.034 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

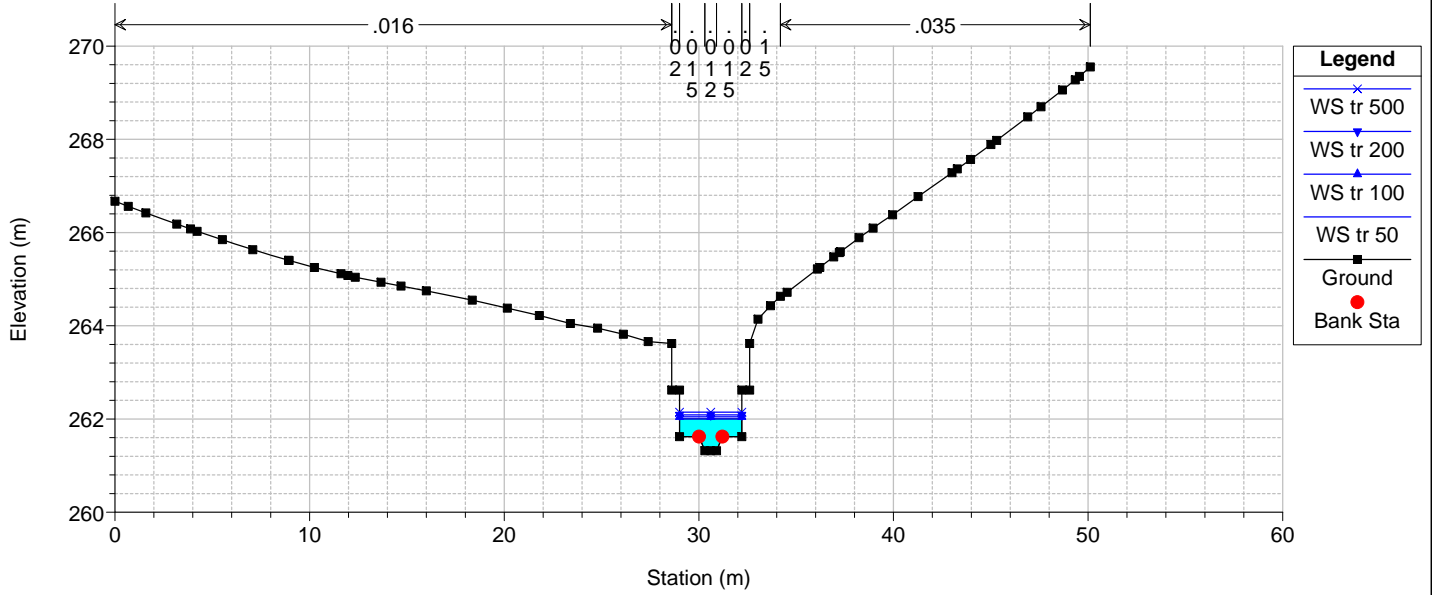
River = Urbano Tula Reach = Canale RS = 1530.065 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

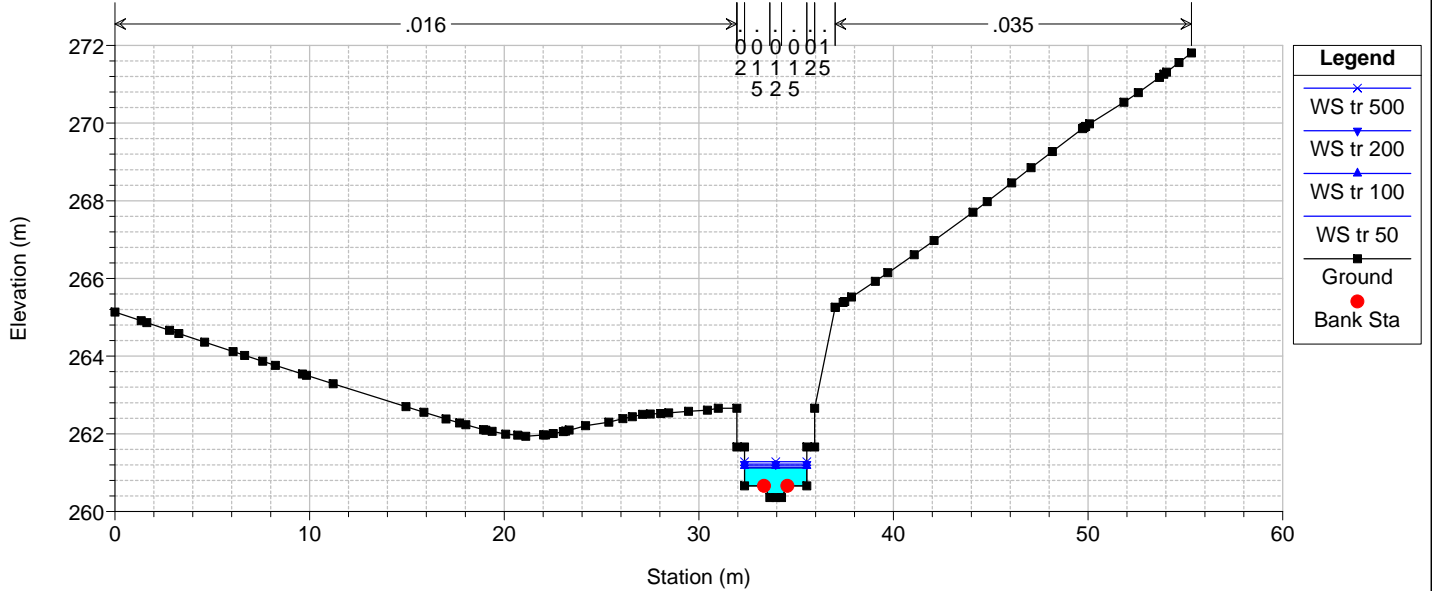
River = Urbano Tula Reach = Canale RS = 1514.583 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

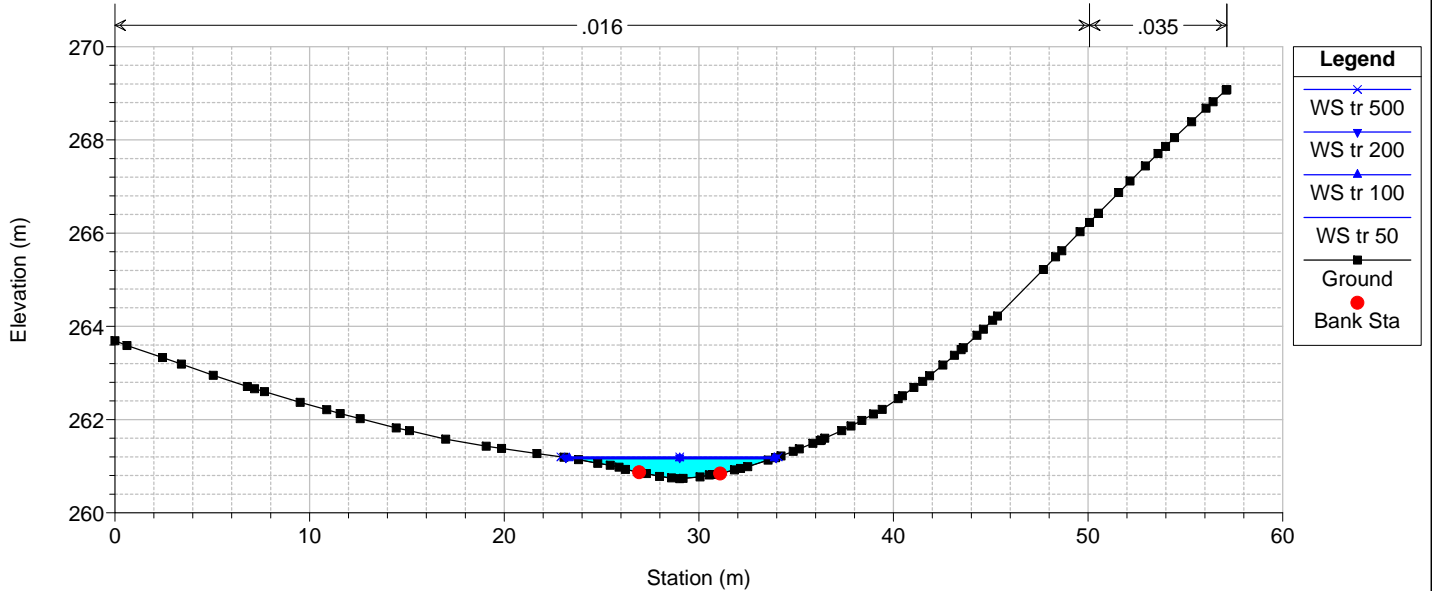
River = Urbano Tula Reach = Canale RS = 1466.586 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

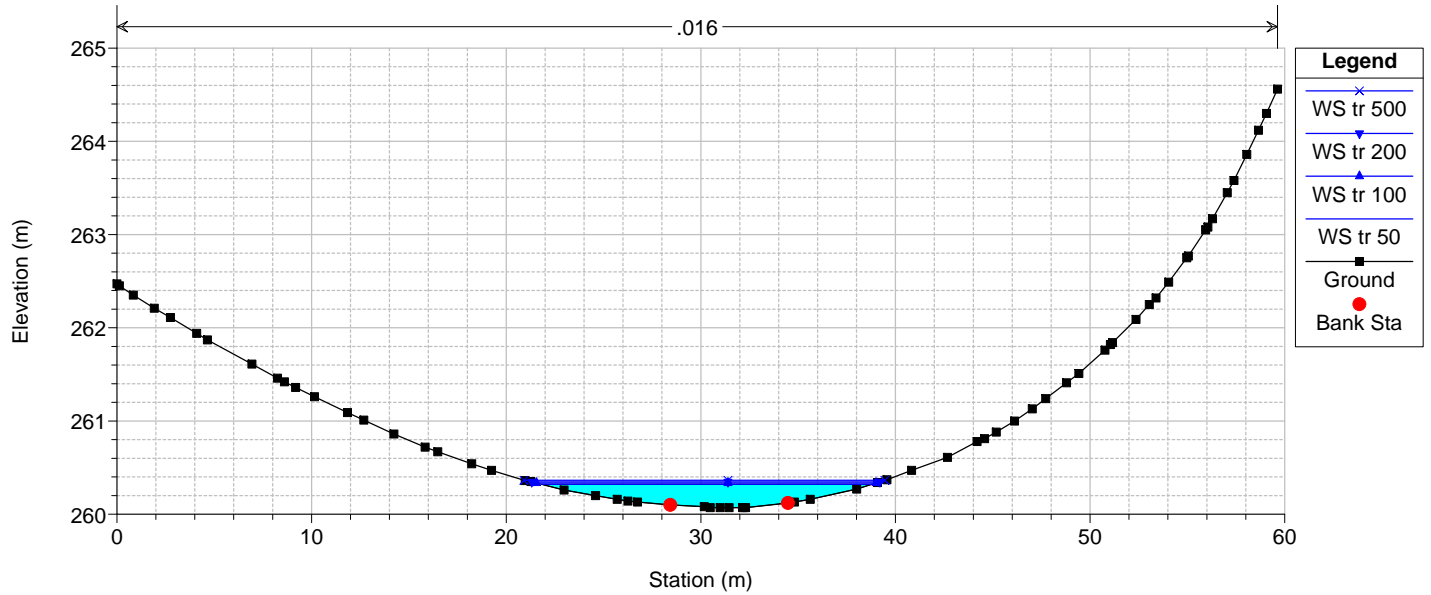
River = Urbano Tula Reach = Canale RS = 1437.881 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

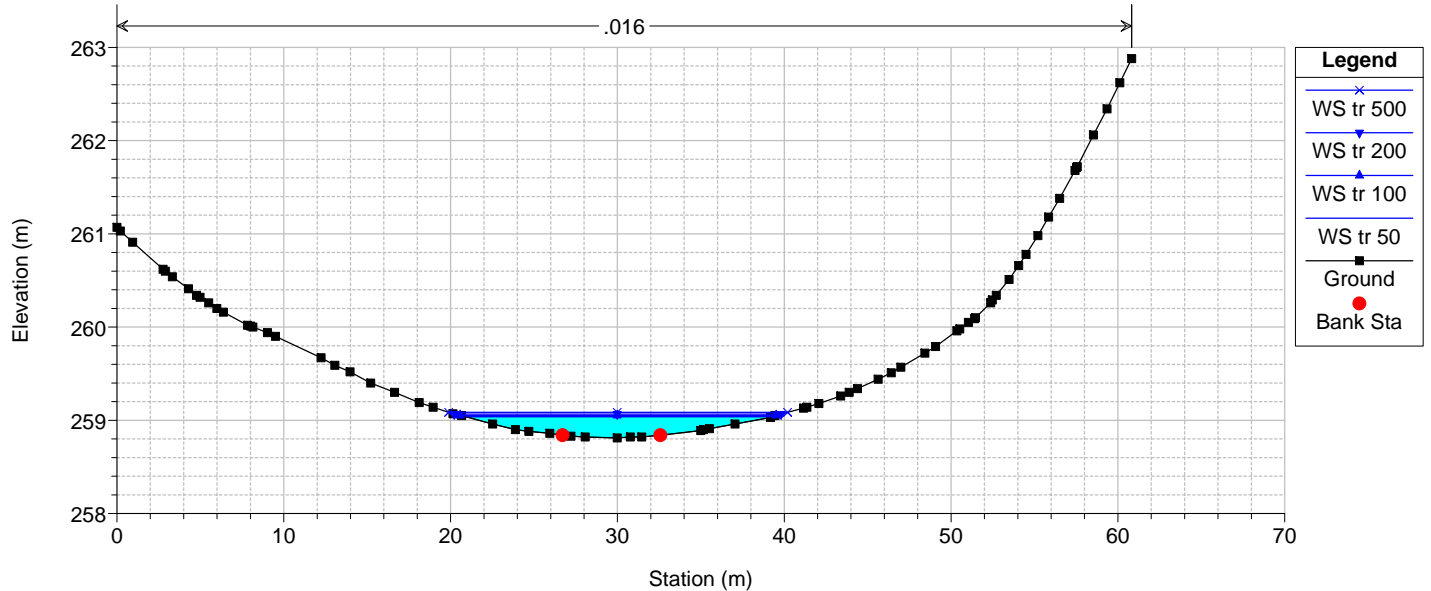
River = Urbano Tula Reach = Canale RS = 1407.023 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

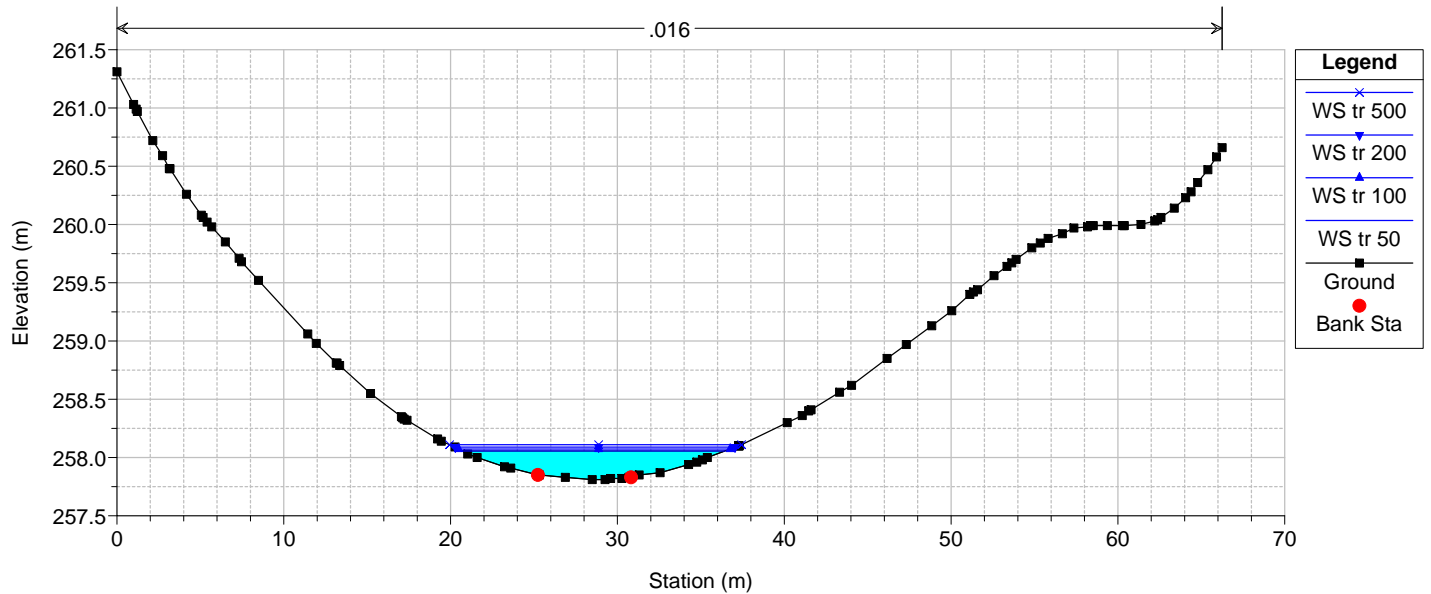
River = Urbano Tula Reach = Canale RS = 1380.431 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

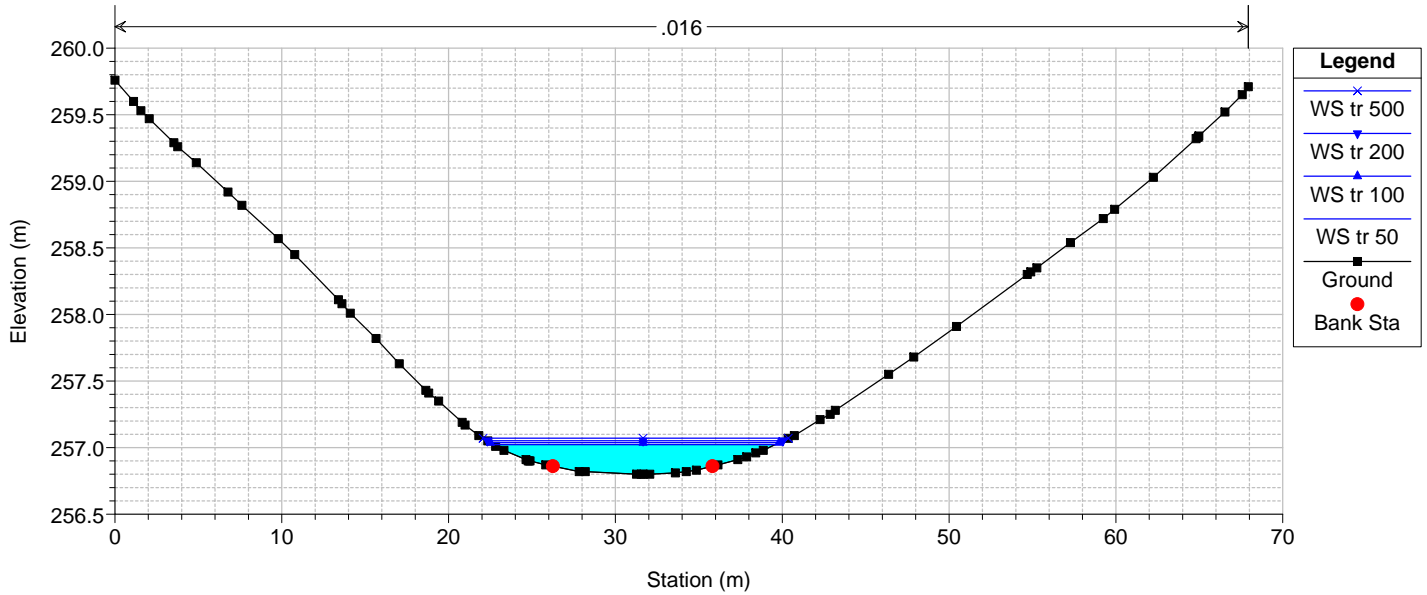
River = Urbano Tula Reach = Canale RS = 1363.187 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

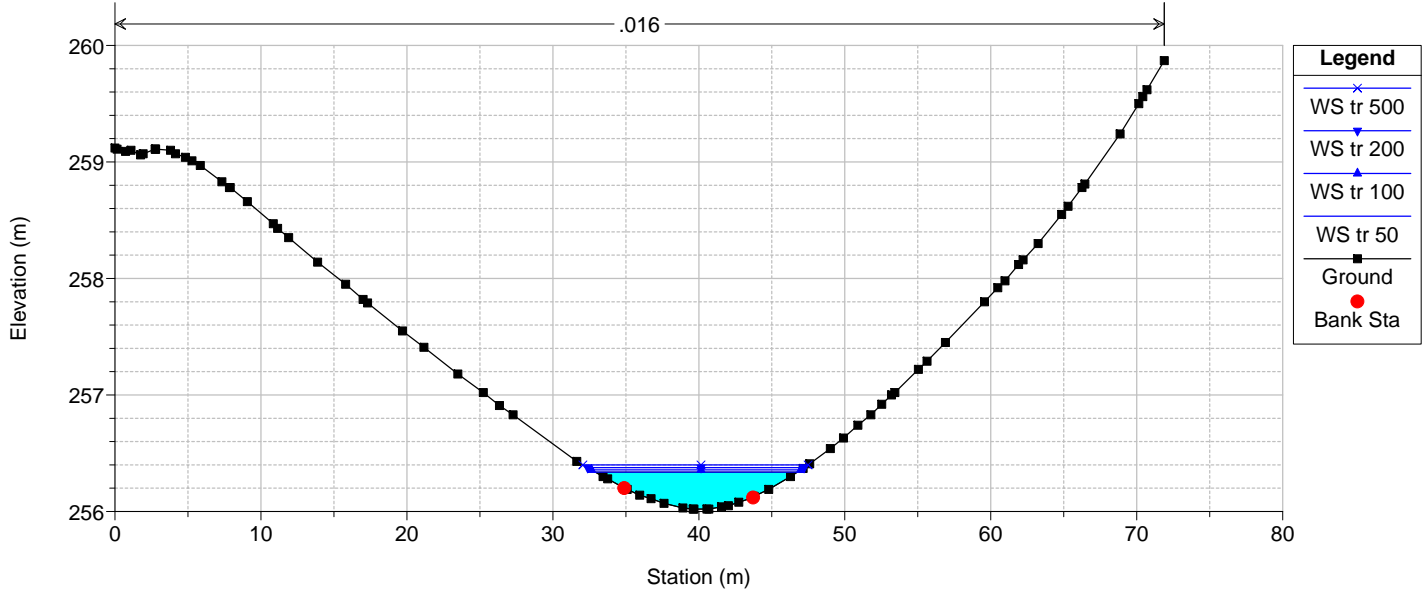
River = Urbano Tula Reach = Canale RS = 1341.176 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

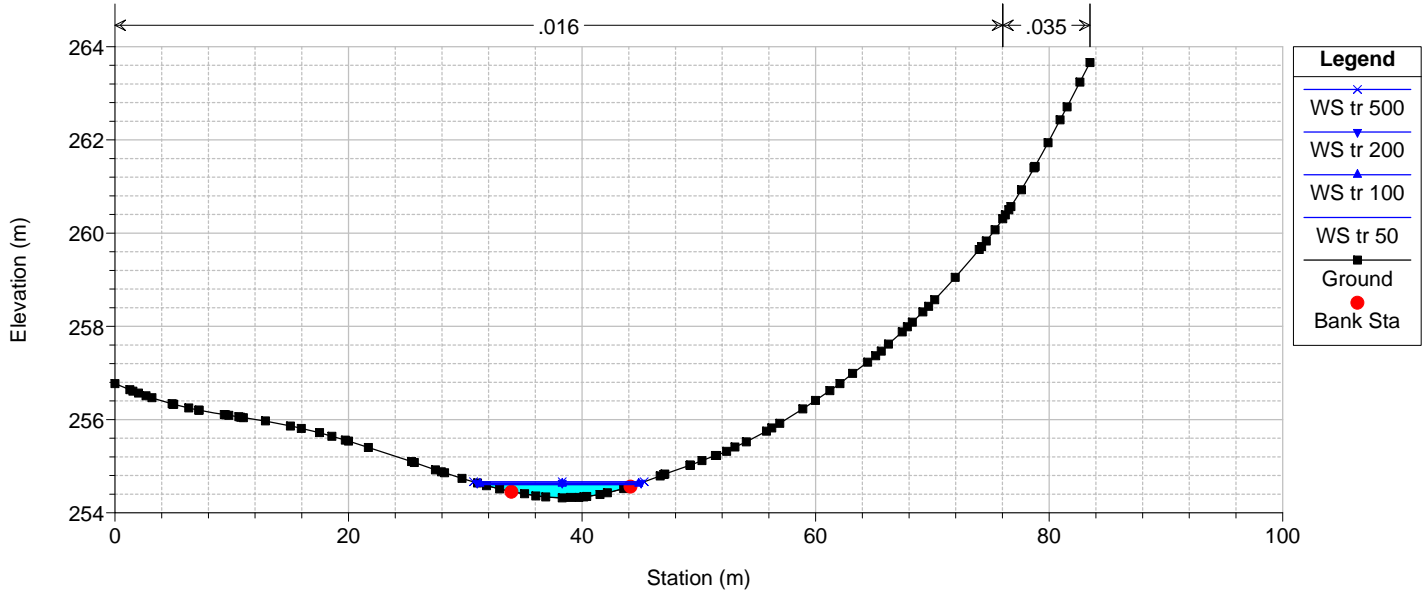
River = Urbano Tula Reach = Canale RS = 1320.255 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

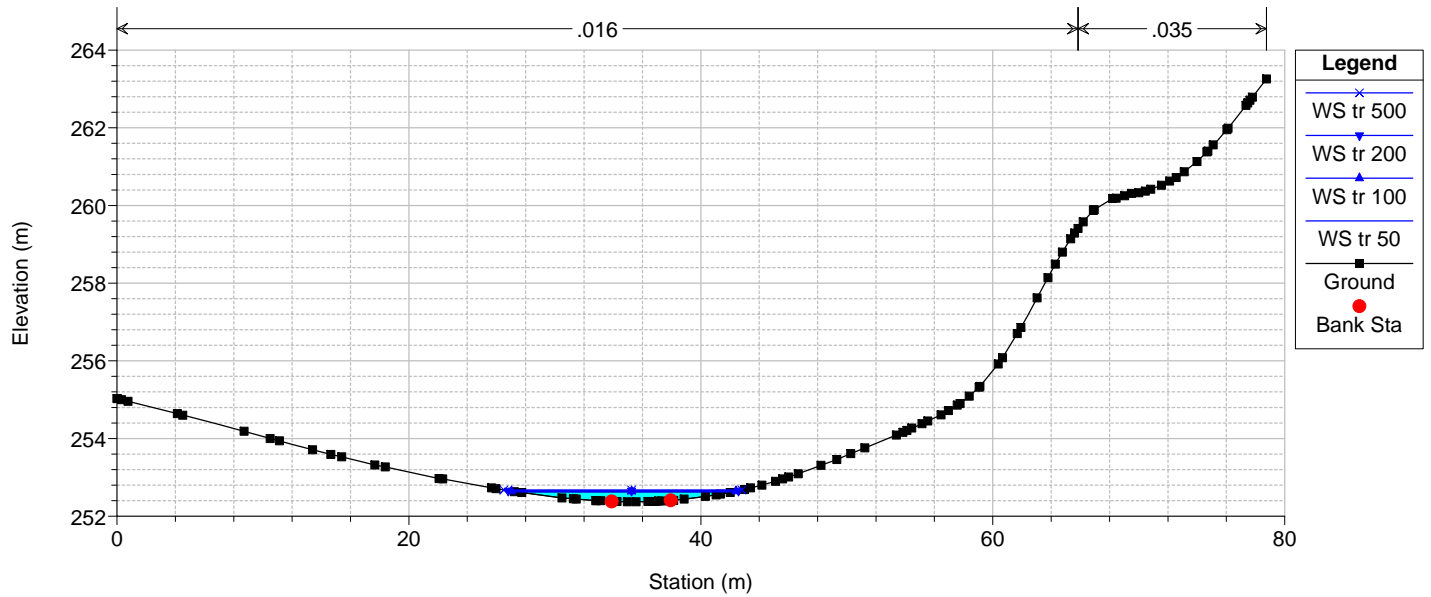
River = Urbano Tula Reach = Canale RS = 1280.63 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?2 Flow: tulaurbano_19072017

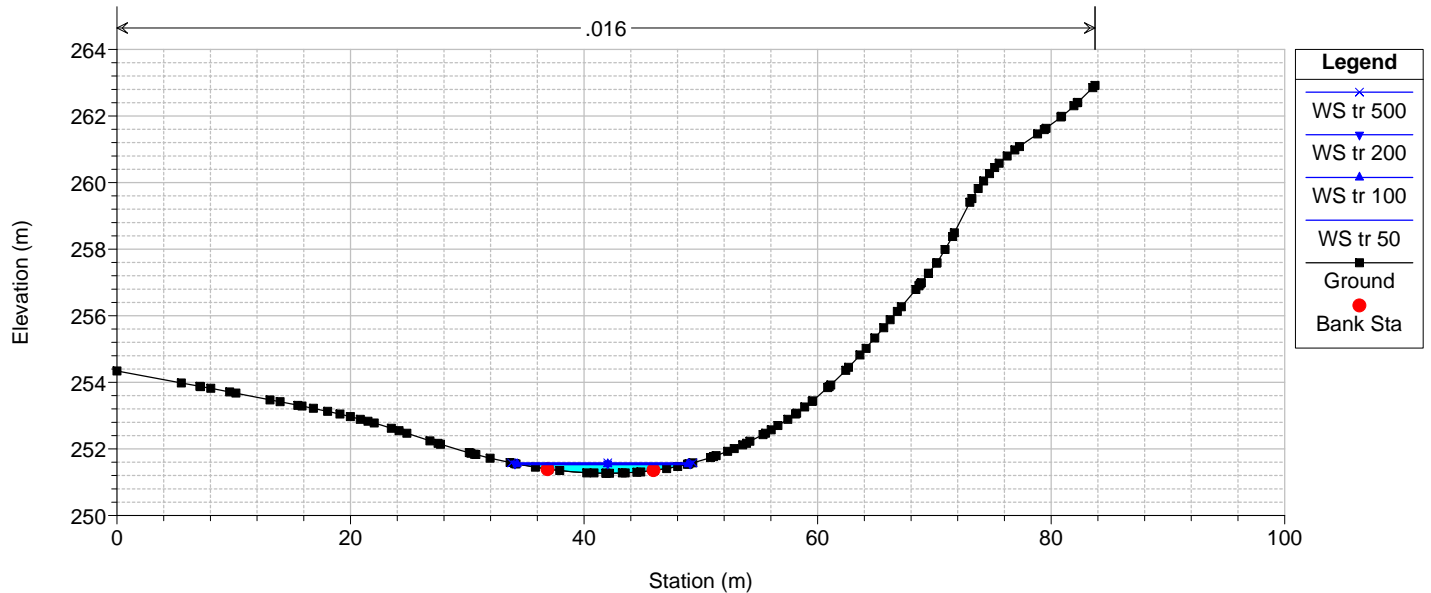
River = Urbano Tula Reach = Canale RS = 1241.827 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?2 Flow: tulaurbano_19072017

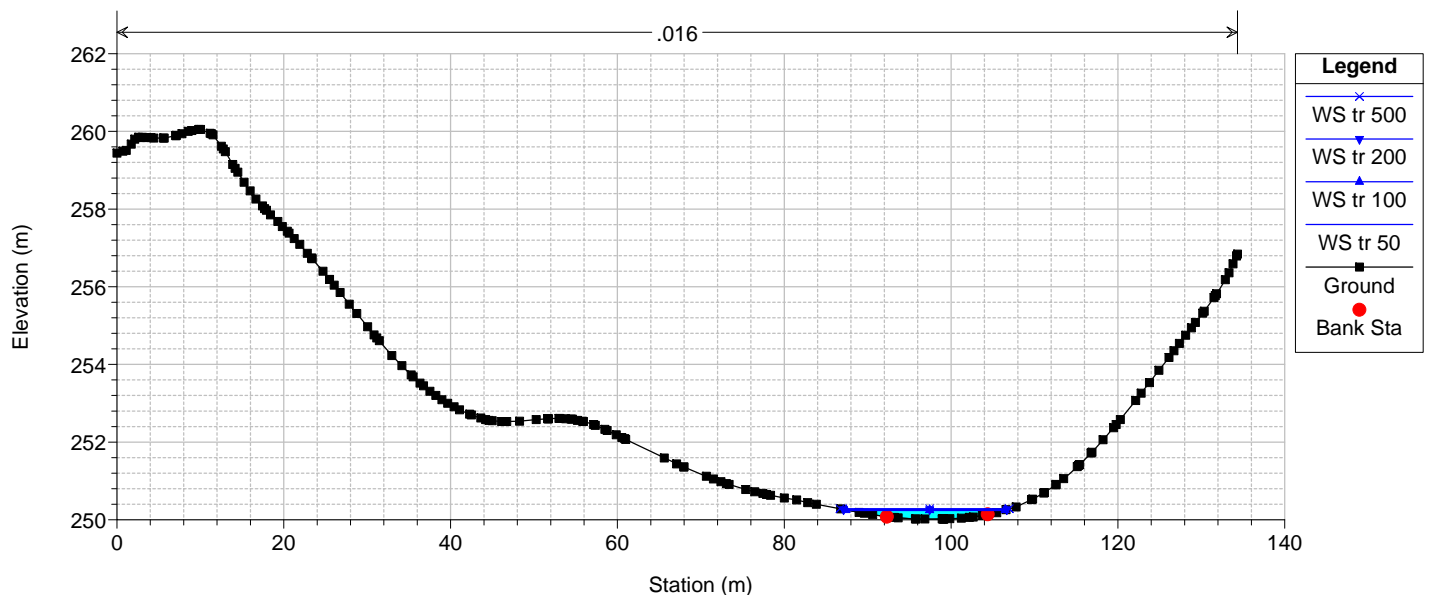
River = Urbano Tula Reach = Canale RS = 1220.802 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?2 Flow: tulaurbano_19072017

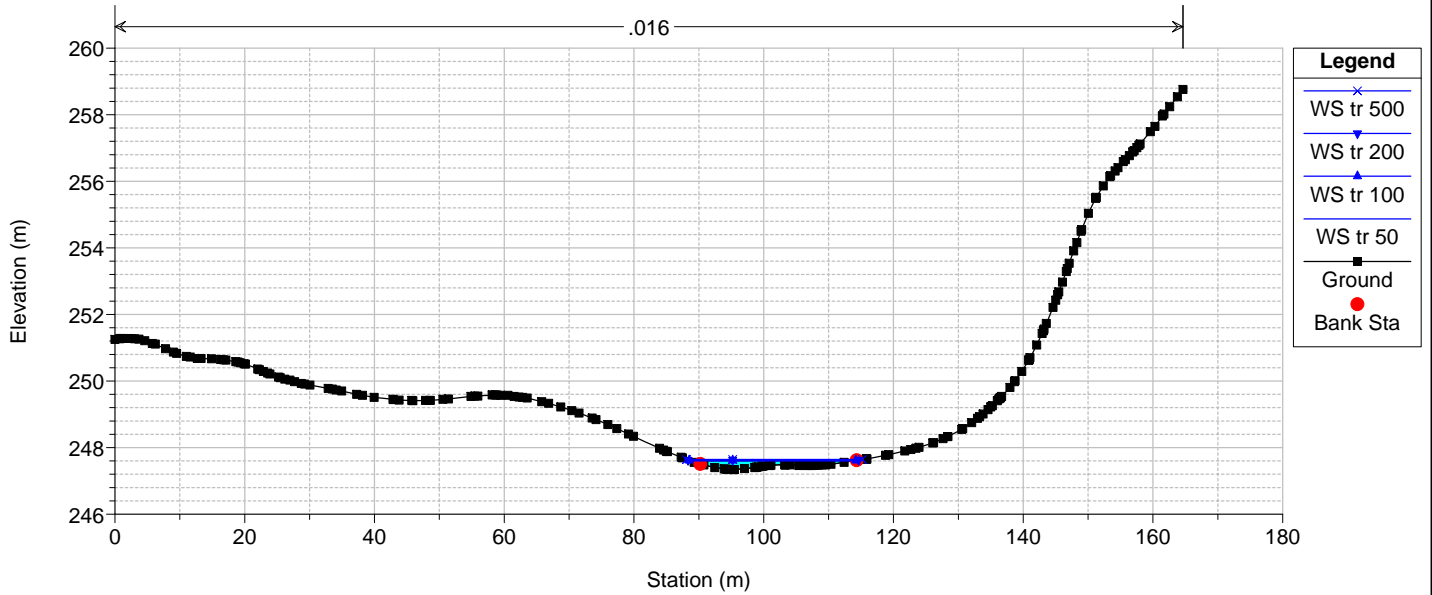
River = Urbano Tula Reach = Canale RS = 1187.539 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

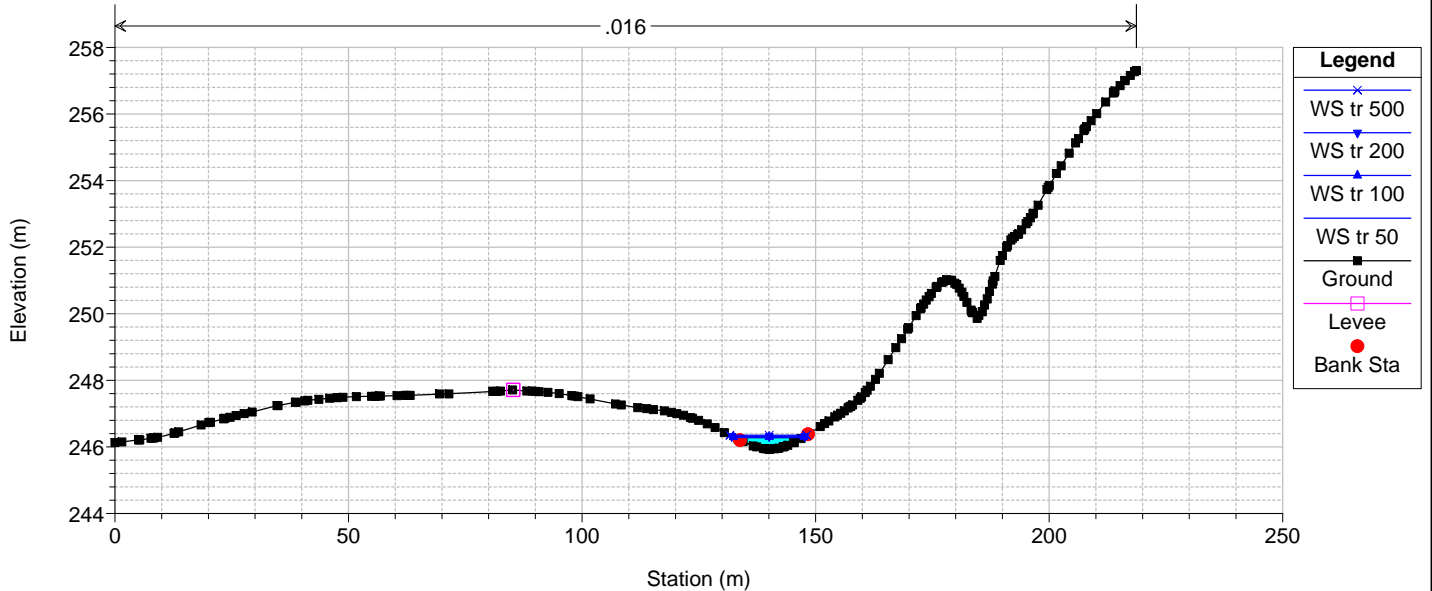
River = Urbano Tula Reach = Canale RS = 1106.58 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

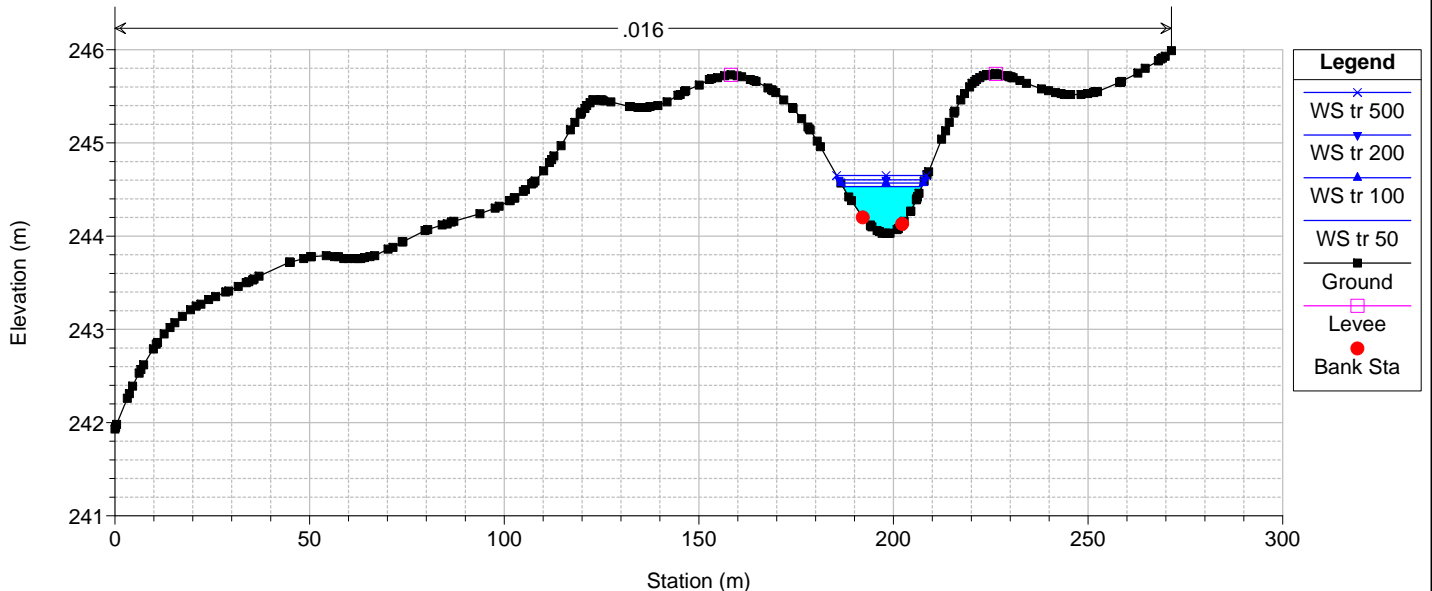
River = Urbano Tula Reach = Canale RS = 1063.385 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

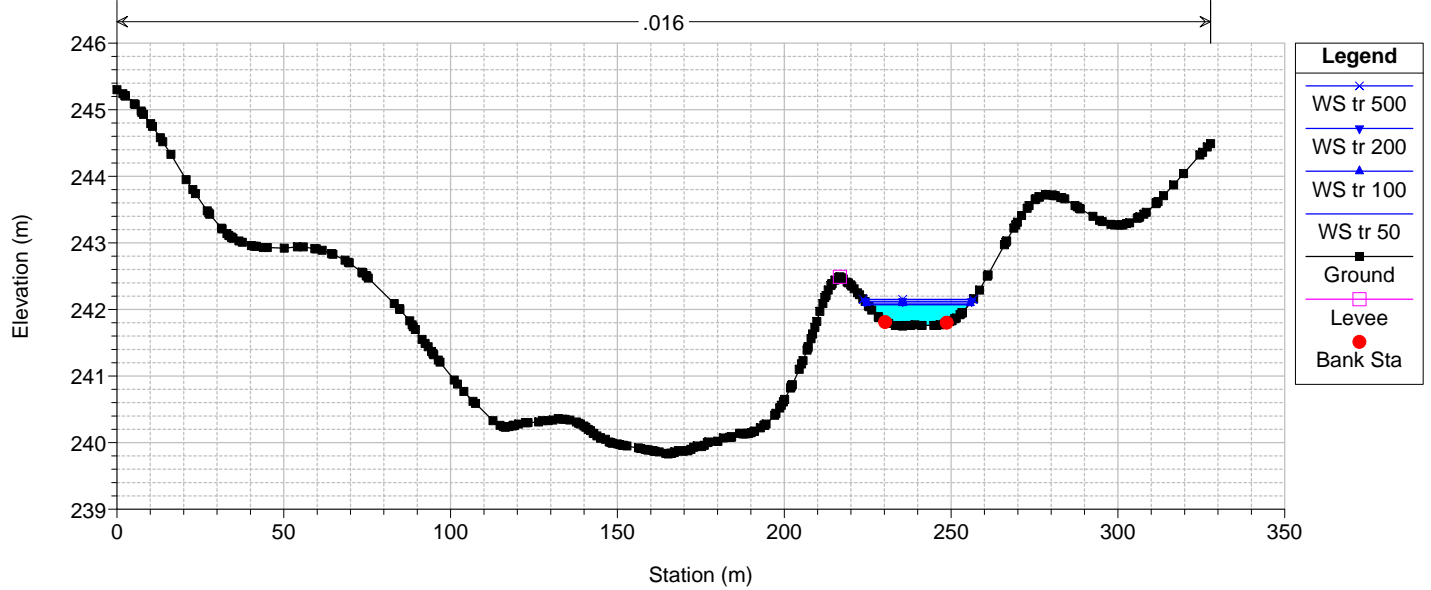
River = Urbano Tula Reach = Canale RS = 1000.416 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

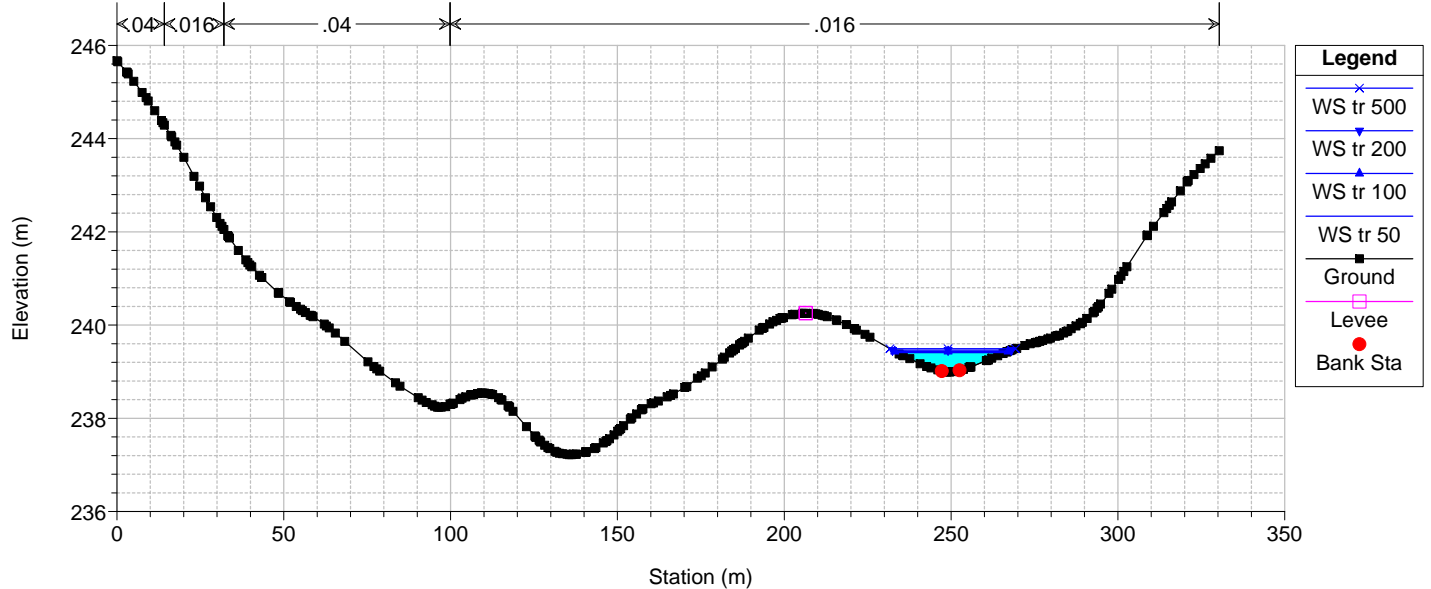
River = Urbano Tula Reach = Canale RS = 948.5372 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

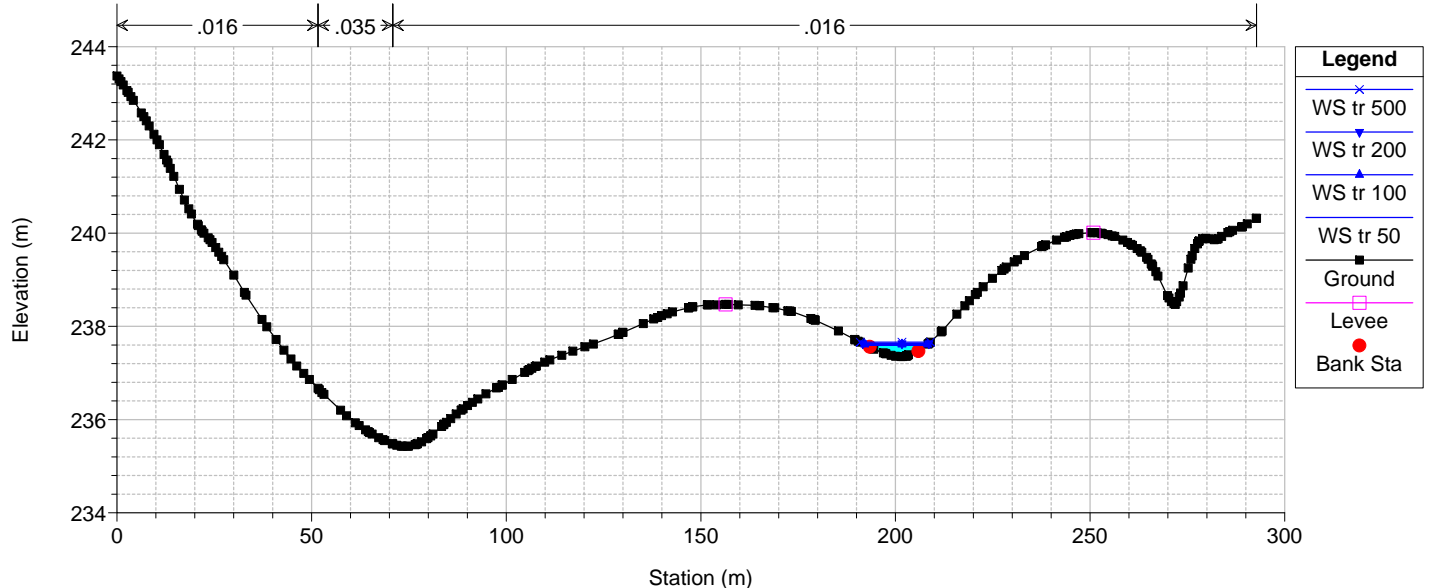
River = Urbano Tula Reach = Canale RS = 876.689 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

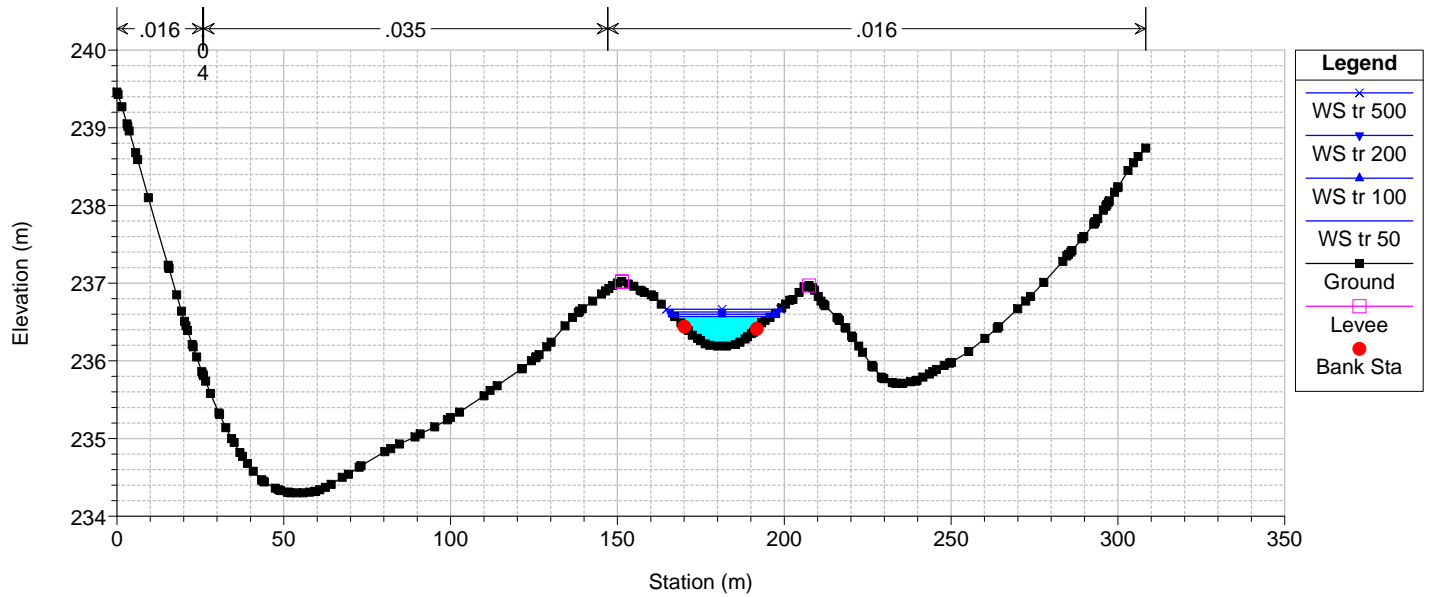
River = Urbano Tula Reach = Canale RS = 807.4996 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

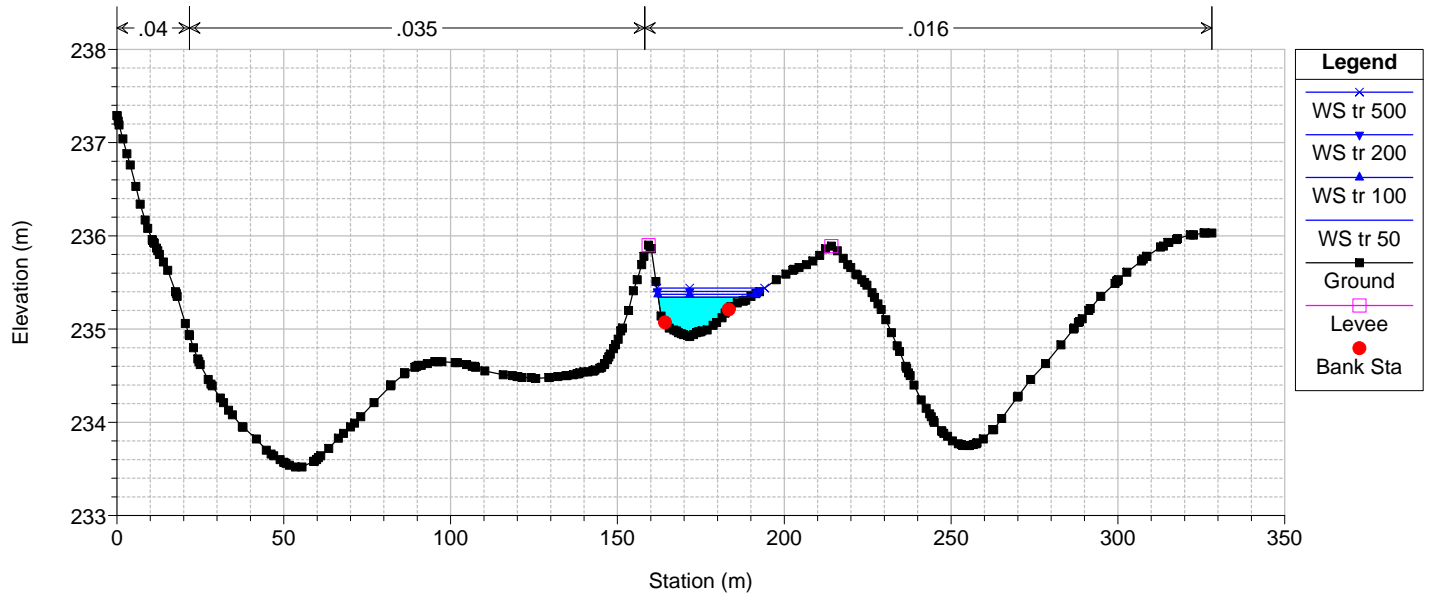
River = Urbano Tula Reach = Canale RS = 753.1168 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

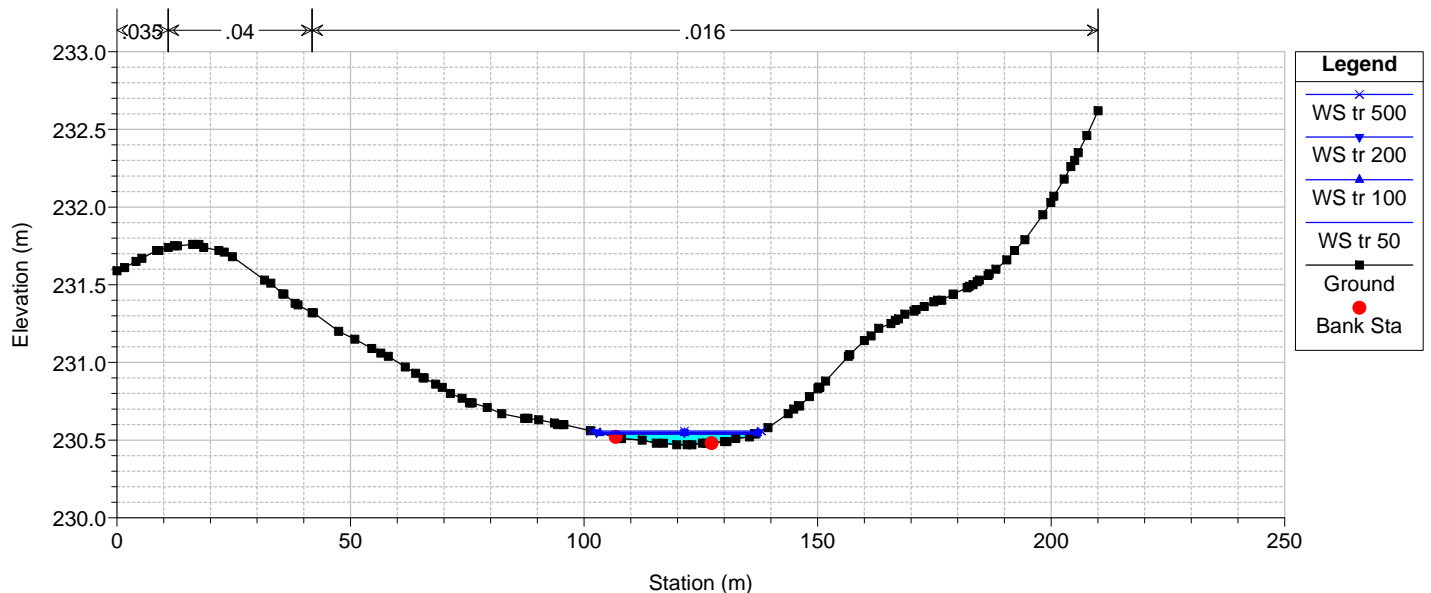
River = Urbano Tula Reach = Canale RS = 704.2466 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017?? Flow: tulaurbano_19072017

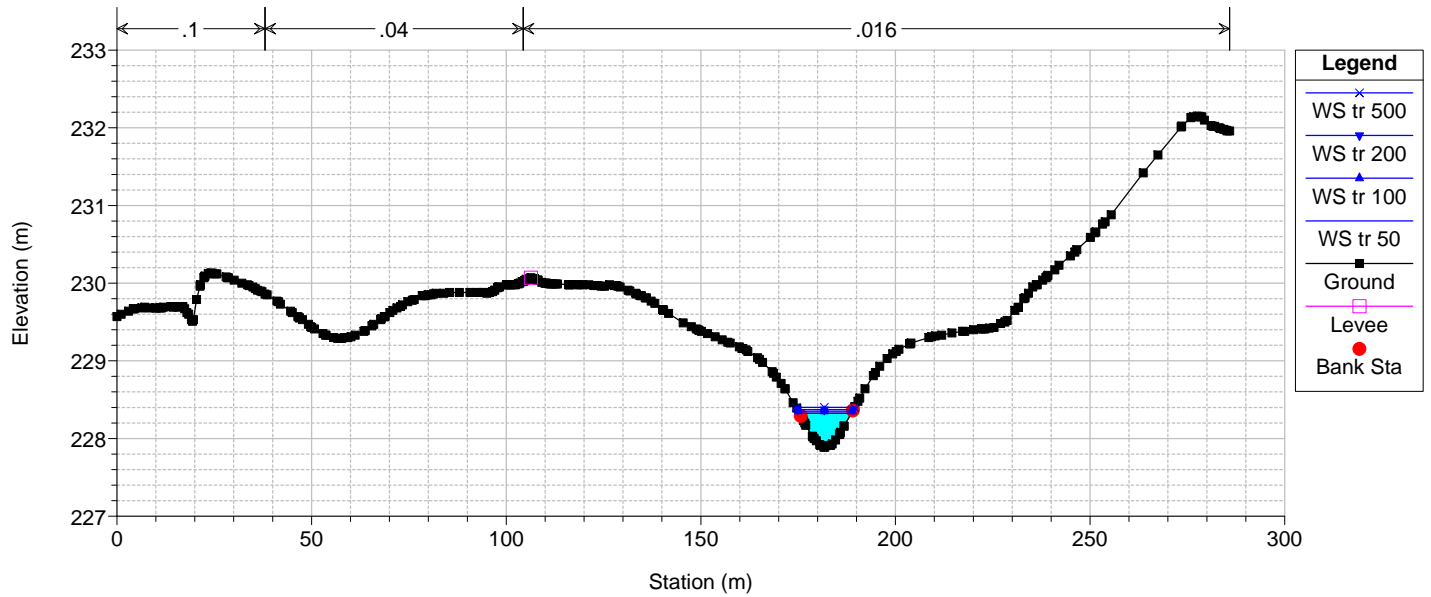
River = Urbano Tula Reach = Canale RS = 584.4028 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

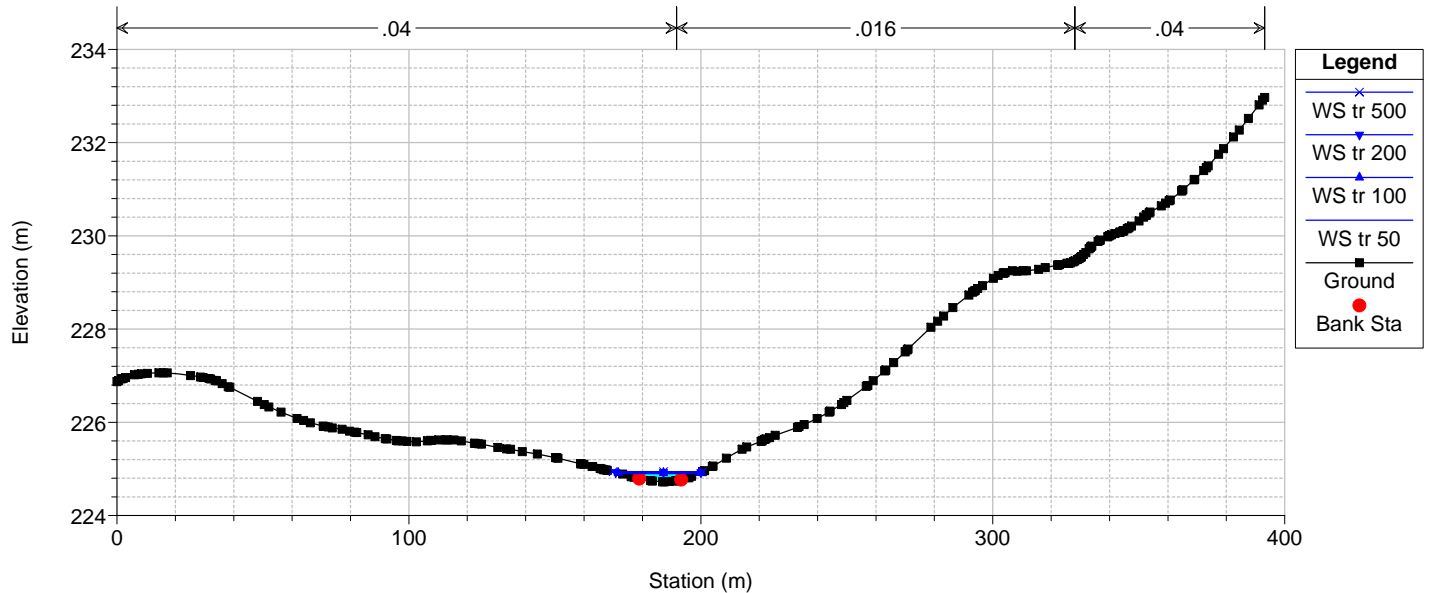
River = Urbano Tula Reach = Canale RS = 491.0018 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

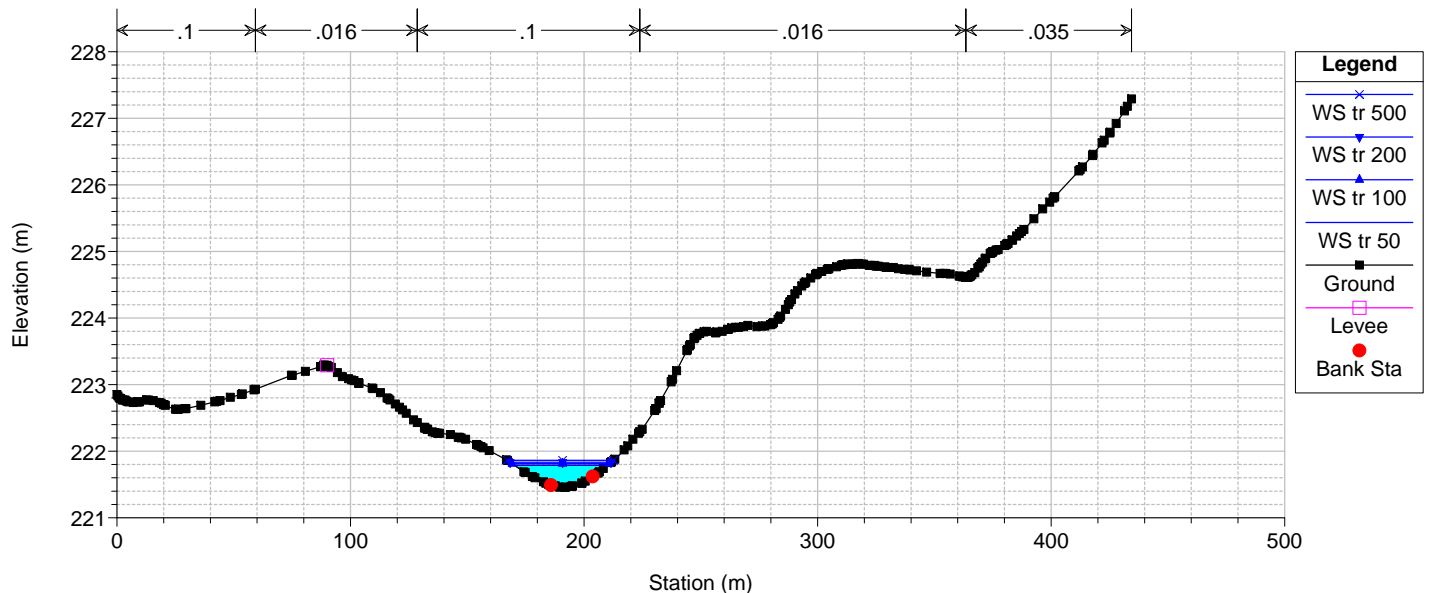
River = Urbano Tula Reach = Canale RS = 404.0674 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

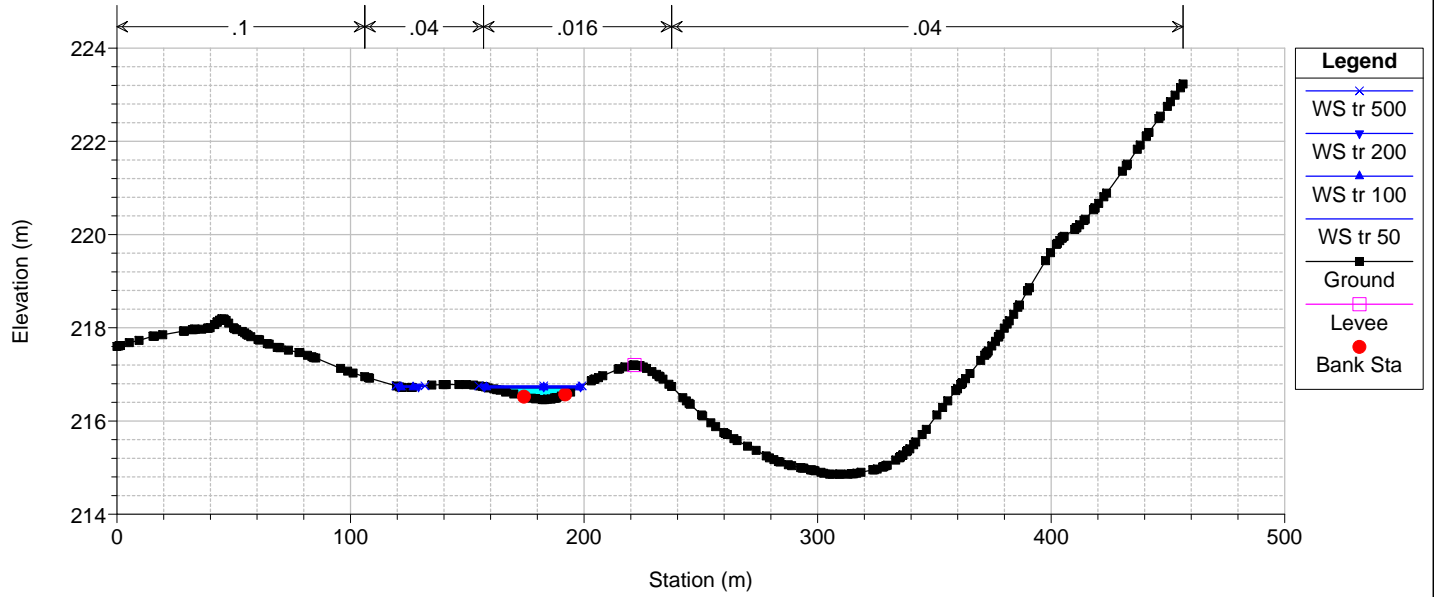
River = Urbano Tula Reach = Canale RS = 296.7693 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



tulaurbano_19072017 Plan: Plan 02 6/13/2019

Geom: tulaurbano_19072017??2 Flow: tulaurbano_19072017

River = Urbano Tula Reach = Canale RS = 110.9253 COMUNE DI TULA - INTERVENTI MESSA IN SICUREZZA CENTRO ABITATO - POST OPERAM



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)	
Canale	2438.106	tr 50	11.26	314.01	315.43	315.43	315.95	0.002414	3.83	3.96	4.00	1.05
Canale	2438.106	tr 100	12.89	314.01	315.53	315.53	316.10	0.002453	4.04	4.34	4.00	1.07
Canale	2438.106	tr 200	14.56	314.01	315.65	315.65	316.24	0.002287	4.13	4.85	4.62	1.05
Canale	2438.106	tr 500	16.89	314.01	315.82	315.82	316.42	0.002097	4.23	5.84	6.88	1.03
Canale	2408.104	tr 50	11.26	312.90	313.74	314.33	315.66	0.017907	7.13	1.99	3.20	2.61
Canale	2408.104	tr 100	12.89	312.90	313.82	314.47	315.80	0.016375	7.29	2.24	3.20	2.54
Canale	2408.104	tr 200	14.56	312.90	313.90	314.56	315.95	0.015129	7.45	2.50	3.20	2.48
Canale	2408.104	tr 500	16.89	312.90	314.02	314.68	316.13	0.013422	7.61	2.88	3.20	2.38
Canale	2364.348	tr 50	11.26	310.91	311.63	312.36	314.52	0.033002	8.68	1.62	3.20	3.45
Canale	2364.348	tr 100	12.89	310.91	311.69	312.47	314.73	0.031227	8.94	1.80	3.20	3.40
Canale	2364.348	tr 200	14.56	310.91	311.75	312.56	314.94	0.029617	9.19	1.99	3.20	3.36
Canale	2364.348	tr 500	16.89	310.91	311.83	312.68	315.19	0.027470	9.49	2.26	3.20	3.29
Canale	2333.955	tr 50	11.26	307.50	308.11	308.92	312.91	0.069440	11.09	1.26	3.20	4.85
Canale	2333.955	tr 100	12.89	307.50	308.15	309.08	313.19	0.065866	11.40	1.40	3.20	4.78
Canale	2333.955	tr 200	14.56	307.50	308.20	309.19	313.46	0.062596	11.69	1.55	3.20	4.72
Canale	2333.955	tr 500	16.89	307.50	308.26	309.31	313.80	0.058414	12.05	1.75	3.20	4.64
Canale	2288.085	tr 50	11.26	303.90	304.50	305.34	309.56	0.074702	11.36	1.23	3.20	5.01
Canale	2288.085	tr 100	12.89	303.90	304.54	305.45	309.95	0.072992	11.80	1.36	3.20	5.01
Canale	2288.085	tr 200	14.56	303.90	304.58	305.55	310.32	0.071197	12.20	1.48	3.20	5.01
Canale	2288.085	tr 500	16.89	303.90	304.63	305.67	310.80	0.068660	12.69	1.66	3.20	4.99
Canale	2270.857	tr 50	11.26	301.95	302.53	303.37	308.11	0.085999	11.92	1.17	3.20	5.35
Canale	2270.857	tr 100	12.89	301.95	302.57	303.48	308.53	0.084049	12.36	1.29	3.20	5.35
Canale	2270.857	tr 200	14.56	301.95	302.61	303.59	308.93	0.082056	12.78	1.42	3.20	5.35
Canale	2270.857	tr 500	16.89	301.95	302.66	303.73	309.46	0.079283	13.30	1.58	3.20	5.33
Canale	2215.696	tr 50	11.26	300.61	301.31	302.03	304.41	0.036554	8.97	1.56	3.20	3.61
Canale	2215.696	tr 100	12.89	300.61	301.36	302.14	304.80	0.037523	9.49	1.70	3.20	3.70
Canale	2215.696	tr 200	14.56	300.61	301.40	302.23	305.18	0.038377	9.98	1.83	3.20	3.78
Canale	2215.696	tr 500	16.89	300.61	301.45	302.36	305.70	0.039303	10.62	2.00	3.20	3.87
Canale	2160.606	tr 50	11.26	295.57	296.16	296.99	301.36	0.077747	11.52	1.21	3.20	5.10
Canale	2160.606	tr 100	12.89	295.57	296.20	297.09	301.74	0.075556	11.93	1.34	3.20	5.09
Canale	2160.606	tr 200	14.56	295.57	296.24	297.25	302.12	0.073694	12.34	1.47	3.20	5.09
Canale	2160.606	tr 500	16.89	295.57	296.30	297.36	302.64	0.071553	12.86	1.64	3.20	5.09
Canale	2133.701	tr 50	11.26	293.95	294.56	295.37	299.27	0.067405	10.98	1.27	3.20	4.78
Canale	2133.701	tr 100	12.89	293.95	294.60	295.47	299.70	0.066949	11.47	1.40	3.20	4.82
Canale	2133.701	tr 200	14.56	293.95	294.64	295.56	300.12	0.066494	11.93	1.52	3.20	4.86
Canale	2133.701	tr 500	16.89	293.95	294.69	295.69	300.69	0.065858	12.52	1.68	3.20	4.90
Canale	2098.058	tr 50	11.26	293.42	294.14	294.86	297.09	0.034036	8.77	1.60	3.20	3.50
Canale	2098.058	tr 100	12.89	293.42	294.18	294.96	297.47	0.035170	9.29	1.73	3.20	3.59
Canale	2098.058	tr 200	14.56	293.42	294.22	295.04	297.86	0.036199	9.80	1.86	3.20	3.68
Canale	2098.058	tr 500	16.89	293.42	294.27	295.16	298.39	0.037437	10.45	2.04	3.20	3.79
Canale	2075.64	tr 50	11.26	293.39	294.11	294.59	296.11	0.027782	7.94	3.48	8.69	3.16
Canale	2075.64	tr 100	12.89	293.39	294.14	294.74	296.45	0.030303	8.56	3.75	8.88	3.33
Canale	2075.64	tr 200	14.56	293.39	294.17	294.82	296.78	0.032687	9.15	4.01	9.06	3.48
Canale	2075.64	tr 500	16.89	293.39	294.21	294.93	297.24	0.035718	9.92	4.38	9.31	3.67
Canale	2054.935	tr 50	11.26	290.26	290.90	291.68	295.10	0.057215	10.40	1.34	3.20	4.43
Canale	2054.935	tr 100	12.89	290.26	290.94	291.78	295.40	0.055131	10.75	1.49	3.20	4.41
Canale	2054.935	tr 200	14.56	290.26	290.99	291.87	295.72	0.053522	11.11	1.63	3.20	4.40
Canale	2054.935	tr 500	16.89	290.26	291.05	292.00	296.15	0.051808	11.59	1.83	3.20	4.39
Canale	2027.544	tr 50	11.26	288.70	289.34	290.12	293.53	0.056997	10.38	1.35	3.20	4.43
Canale	2027.544	tr 100	12.89	288.70	289.38	290.22	293.88	0.055778	10.80	1.48	3.20	4.43
Canale	2027.544	tr 200	14.56	288.70	289.42	290.31	294.23	0.054718	11.19	1.62	3.20	4.44
Canale	2027.544	tr 500	16.89	288.70	289.48	290.44	294.70	0.053487	11.71	1.81	3.20	4.45
Canale	2002.969	tr 50	11.26	286.00	286.59	287.42	291.80	0.077870	11.52	1.21	3.20	5.11
Canale	2002.969	tr 100	12.89	286.00	286.63	287.52	292.19	0.075827	11.95	1.34	3.20	5.10
Canale	2002.969	tr 200	14.56	286.00	286.67	287.61	292.56	0.073918	12.35	1.47	3.20	5.10
Canale	2002.969	tr 500	16.89	286.00	286.73	287.74	293.07	0.071618	12.87	1.64	3.20	5.09
Canale	1978	tr 50	11.26	284.94	285.57	286.36	289.84	0.058561	10.48	1.33	3.20	4.48
Canale	1978	tr 100	12.89	284.94	285.61	286.46	290.26	0.058507	10.97	1.46	3.20	4.53
Canale	1978	tr 200	14.56	284.94	285.65	286.55	290.67	0.058359	11.43	1.59	3.20	4.57
Canale	1978	tr 500	16.89	284.94	285.70	286.68	291.22	0.058079	12.03	1.76	3.20	4.62
Canale	1935.449	tr 50	11.26	284.52	285.24	285.75	287.50	0.030088	8.27	2.92	8.56	3.29
Canale	1935.449	tr 100	12.89	284.52	285.27	285.91	287.83	0.032140	8.84	3.21	8.85	3.43
Canale	1935.449	tr 200	14.56	284.52	285.31	285.99	288.15	0.034029	9.39	3.51	9.13	3.56
Canale	1935.449	tr 500	16.89	284.52	285.35	286.09	288.60	0.036492	10.11	3.91	9.46	3.72
Canale	1894.163	tr 50	11.26	281.70	282.37	283.13	285.88	0.043961	9.53	1.47	3.20	3.93
Canale	1894.163	tr 100	12.89	281.70	282.42	283.23	286.18	0.042772	9.90	1.62	3.20	3.93
Canale	1894.163	tr 200	14.56	281.70	282.47	283.32	286.48	0.041829	10.26	1.77	3.20	3.93

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Canale	1894.163	tr 500	16.89	281.70	282.53	283.43	286.90	0.040883	10.75	1.98	3.20	3.94
Canale	1856.795	tr 50	11.26	277.46	278.05	278.88	283.48	0.082881	11.77	1.19	3.20	5.26
Canale	1856.795	tr 100	12.89	277.46	278.09	278.98	283.84	0.079914	12.16	1.32	3.20	5.23
Canale	1856.795	tr 200	14.56	277.46	278.13	279.07	284.19	0.077200	12.53	1.44	3.20	5.20
Canale	1856.795	tr 500	16.89	277.46	278.18	279.20	284.67	0.074025	13.01	1.62	3.20	5.17
Canale	1785.343	tr 50	11.26	275.35	276.06	276.79	279.07	0.035066	8.85	1.58	3.20	3.54
Canale	1785.343	tr 100	12.89	275.35	276.10	276.88	279.44	0.035798	9.35	1.72	3.20	3.62
Canale	1785.343	tr 200	14.56	275.35	276.15	276.98	279.81	0.036468	9.82	1.86	3.20	3.69
Canale	1785.343	tr 500	16.89	275.35	276.20	277.09	280.31	0.037225	10.43	2.04	3.20	3.78
Canale	1770.161	tr 50	11.26	275.15	275.87	276.47	278.42	0.032025	8.56	2.18	9.11	3.40
Canale	1770.161	tr 100	12.89	275.15	275.91	276.56	278.77	0.034103	9.14	2.51	9.76	3.54
Canale	1770.161	tr 200	14.56	275.15	275.94	276.63	279.11	0.036045	9.70	2.84	10.37	3.66
Canale	1770.161	tr 500	16.89	275.15	275.98	276.74	279.58	0.038504	10.43	3.31	11.21	3.83
Canale	1708.635	tr 50	11.26	273.54	274.14	274.55	276.02	0.040151	8.37	5.66	16.03	3.68
Canale	1708.635	tr 100	12.89	273.54	274.18	274.63	276.22	0.041178	8.82	6.18	16.28	3.76
Canale	1708.635	tr 200	14.56	273.54	274.21	274.70	276.43	0.042262	9.25	6.68	16.52	3.84
Canale	1708.635	tr 500	16.89	273.54	274.25	274.78	276.72	0.043825	9.84	7.34	16.82	3.96
Canale	1688.039	tr 50	11.26	272.72	273.38	273.80	275.28	0.032199	8.06	5.24	16.79	3.35
Canale	1688.039	tr 100	12.89	272.72	273.42	273.87	275.47	0.032942	8.48	5.83	17.15	3.43
Canale	1688.039	tr 200	14.56	272.72	273.45	273.95	275.65	0.033548	8.86	6.42	17.48	3.49
Canale	1688.039	tr 500	16.89	272.72	273.50	274.08	275.90	0.034452	9.38	7.20	17.90	3.57
Canale	1658.038	tr 50	11.26	271.00	271.54	271.82	273.96	0.056824	9.20	2.16	14.81	4.29
Canale	1658.038	tr 100	12.89	271.00	271.56	271.85	274.11	0.059564	9.61	2.38	15.27	4.41
Canale	1658.038	tr 200	14.56	271.00	271.57	271.88	274.26	0.062099	9.99	2.59	15.70	4.53
Canale	1658.038	tr 500	16.89	271.00	271.59	271.92	274.46	0.065495	10.49	2.86	16.15	4.68
Canale	1628.038	tr 50	11.26	268.11	268.75	269.33	272.27	0.049504	9.77	1.52	4.59	4.14
Canale	1628.038	tr 100	12.89	268.11	268.80	269.44	272.42	0.047308	10.02	1.72	4.80	4.09
Canale	1628.038	tr 200	14.56	268.11	268.84	269.50	272.57	0.045522	10.26	1.92	5.01	4.06
Canale	1628.038	tr 500	16.89	268.11	268.89	269.59	272.77	0.043659	10.59	2.20	5.28	4.03
Canale	1598.035	tr 50	11.26	265.58	266.21	267.10	270.55	0.059914	10.56	1.32	3.20	4.53
Canale	1598.035	tr 100	12.89	265.58	266.26	267.22	270.78	0.056151	10.82	1.48	3.20	4.45
Canale	1598.035	tr 200	14.56	265.58	266.31	267.32	271.00	0.052746	11.06	1.64	3.20	4.37
Canale	1598.035	tr 500	16.89	265.58	266.38	267.42	271.28	0.048657	11.36	1.86	3.20	4.27
Canale	1568.034	tr 50	11.26	263.65	264.27	265.07	268.71	0.061895	10.67	1.31	3.20	4.60
Canale	1568.034	tr 100	12.89	263.65	264.32	265.17	269.03	0.059576	11.03	1.45	3.20	4.57
Canale	1568.034	tr 200	14.56	263.65	264.36	265.26	269.32	0.057298	11.36	1.60	3.20	4.54
Canale	1568.034	tr 500	16.89	263.65	264.43	265.39	269.70	0.054334	11.77	1.80	3.20	4.49
Canale	1530.065	tr 50	11.26	261.52	262.15	262.94	266.38	0.057675	10.42	1.34	3.20	4.45
Canale	1530.065	tr 100	12.89	261.52	262.20	263.04	266.77	0.057158	10.88	1.47	3.20	4.48
Canale	1530.065	tr 200	14.56	261.52	262.24	263.13	267.15	0.056541	11.31	1.60	3.20	4.51
Canale	1530.065	tr 500	16.89	261.52	262.29	263.26	267.62	0.055110	11.82	1.79	3.20	4.51
Canale	1514.583	tr 50	11.26	261.32	262.00	262.74	265.37	0.041456	9.35	1.50	3.20	3.83
Canale	1514.583	tr 100	12.89	261.32	262.05	262.84	265.76	0.042020	9.84	1.63	3.20	3.90
Canale	1514.583	tr 200	14.56	261.32	262.09	262.93	266.13	0.042377	10.30	1.77	3.20	3.95
Canale	1514.583	tr 500	16.89	261.32	262.15	263.06	266.62	0.042375	10.87	1.95	3.20	4.01
Canale	1466.586	tr 50	11.26	260.36	261.13	261.78	263.56	0.025482	7.98	1.76	3.20	3.06
Canale	1466.586	tr 100	12.89	260.36	261.17	261.88	263.89	0.026275	8.46	1.91	3.20	3.15
Canale	1466.586	tr 200	14.56	260.36	261.22	262.13	264.22	0.026981	8.92	2.06	3.20	3.22
Canale	1466.586	tr 500	16.89	260.36	261.28	262.30	264.66	0.027734	9.51	2.25	3.20	3.30
Canale	1437.881	tr 50	11.26	260.73	261.16	261.45	262.43	0.028681	5.49	2.47	10.25	2.86
Canale	1437.881	tr 100	12.89	260.73	261.17	261.49	262.69	0.032869	6.00	2.60	10.53	3.08
Canale	1437.881	tr 200	14.56	260.73	261.18	261.54	262.95	0.036982	6.50	2.72	10.80	3.29
Canale	1437.881	tr 500	16.89	260.73	261.20	261.59	263.31	0.042485	7.14	2.89	11.16	3.55
Canale	1407.023	tr 50	11.26	260.07	260.32	260.53	261.27	0.042123	4.89	2.77	16.95	3.22
Canale	1407.023	tr 100	12.89	260.07	260.33	260.56	261.39	0.043315	5.16	3.02	17.44	3.30
Canale	1407.023	tr 200	14.56	260.07	260.35	260.59	261.51	0.044930	5.43	3.24	17.89	3.39
Canale	1407.023	tr 500	16.89	260.07	260.36	260.63	261.68	0.047725	5.82	3.54	18.55	3.52
Canale	1380.431	tr 50	11.26	258.81	259.04	259.24	260.04	0.050838	5.09	2.71	18.41	3.49
Canale	1380.431	tr 100	12.89	258.81	259.05	259.27	260.14	0.050910	5.32	2.98	18.94	3.53
Canale	1380.431	tr 200	14.56	258.81	259.07	259.29	260.23	0.051175	5.54	3.24	19.59	3.57
Canale	1380.431	tr 500	16.89	258.81	259.09	259.33	260.35	0.051044	5.80	3.60	20.32	3.61
Canale	1363.187	tr 50	11.26	257.81	258.06	258.28	259.16	0.049925	5.27	2.56	15.76	3.49
Canale	1363.187	tr 100	12.89	257.81	258.07	258.31	259.26	0.049388	5.49	2.83	16.28	3.52
Canale	1363.187	tr 200	14.56	257.81	258.09	258.34	259.36	0.049131	5.70	3.09	16.77	3.54
Canale	1363.187	tr 500	16.89	257.81	258.11	258.38	259.48	0.048441	5.96	3.45	17.51	3.56
Canale	1341.176	tr 50	11.26	256.80	257.02	257.23	258.05	0.048607	4.77	2.64	16.88	3.38

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)	
Canale	1341.176	tr 100	12.89	256.80	257.04	257.27	258.16	0.048610	5.00	2.89	17.31	3.42
Canale	1341.176	tr 200	14.56	256.80	257.05	257.30	258.27	0.048570	5.22	3.14	17.72	3.45
Canale	1341.176	tr 500	16.89	256.80	257.07	257.34	258.40	0.048431	5.49	3.49	18.29	3.49
Canale	1320.255	tr 50	11.26	256.02	256.34	256.56	257.25	0.028946	4.37	2.80	13.83	2.72
Canale	1320.255	tr 100	12.89	256.02	256.36	256.60	257.35	0.029013	4.59	3.08	14.34	2.75
Canale	1320.255	tr 200	14.56	256.02	256.38	256.63	257.45	0.029100	4.80	3.35	14.82	2.79
Canale	1320.255	tr 500	16.89	256.02	256.40	256.68	257.58	0.029234	5.06	3.72	15.43	2.83
Canale	1280.63	tr 50	11.26	254.32	254.61	254.85	255.78	0.047052	4.88	2.41	13.16	3.35
Canale	1280.63	tr 100	12.89	254.32	254.62	254.89	255.89	0.045936	5.09	2.66	13.61	3.36
Canale	1280.63	tr 200	14.56	254.32	254.64	254.93	256.01	0.044922	5.29	2.91	14.04	3.36
Canale	1280.63	tr 500	16.89	254.32	254.67	254.98	256.15	0.043743	5.54	3.25	14.62	3.37
Canale	1241.827	tr 50	11.26	252.37	252.63	252.86	253.83	0.053563	5.68	2.46	14.91	3.66
Canale	1241.827	tr 100	12.89	252.37	252.64	252.89	253.95	0.054394	5.96	2.70	15.37	3.72
Canale	1241.827	tr 200	14.56	252.37	252.66	252.93	254.08	0.055120	6.22	2.92	15.78	3.78
Canale	1241.827	tr 500	16.89	252.37	252.68	252.97	254.23	0.055786	6.55	3.23	16.31	3.85
Canale	1220.802	tr 50	11.26	251.27	251.53	251.77	252.74	0.049395	5.06	2.42	14.15	3.45
Canale	1220.802	tr 100	12.89	251.27	251.54	251.80	252.87	0.049153	5.31	2.67	14.63	3.48
Canale	1220.802	tr 200	14.56	251.27	251.56	251.84	252.98	0.048895	5.53	2.90	15.02	3.51
Canale	1220.802	tr 500	16.89	251.27	251.58	251.88	253.14	0.048646	5.82	3.23	15.53	3.55
Canale	1187.539	tr 50	11.26	250.02	250.24	250.44	251.12	0.042423	4.31	2.84	18.53	3.13
Canale	1187.539	tr 100	12.89	250.02	250.25	250.46	251.23	0.043249	4.55	3.09	19.06	3.19
Canale	1187.539	tr 200	14.56	250.02	250.27	250.49	251.33	0.044076	4.78	3.34	19.57	3.26
Canale	1187.539	tr 500	16.89	250.02	250.28	250.53	251.47	0.044960	5.08	3.68	20.29	3.33
Canale	1106.58	tr 50	11.26	247.34	247.60	247.73	248.10	0.030802	3.12	3.65	25.07	2.56
Canale	1106.58	tr 100	12.89	247.34	247.62	247.76	248.16	0.030925	3.27	3.99	25.69	2.59
Canale	1106.58	tr 200	14.56	247.34	247.63	247.78	248.22	0.031005	3.43	4.31	26.29	2.62
Canale	1106.58	tr 500	16.89	247.34	247.64	247.82	248.31	0.031185	3.64	4.72	27.07	2.67
Canale	1063.385	tr 50	11.26	245.93	246.28	246.46	246.93	0.023046	3.59	3.16	14.48	2.38
Canale	1063.385	tr 100	12.89	245.93	246.30	246.50	247.01	0.022530	3.73	3.50	15.09	2.38
Canale	1063.385	tr 200	14.56	245.93	246.32	246.54	247.08	0.022208	3.87	3.83	15.66	2.39
Canale	1063.385	tr 500	16.89	245.93	246.35	246.58	247.17	0.021945	4.05	4.27	16.39	2.40
Canale	1000.416	tr 50	11.26	244.03	244.53	244.53	244.70	0.002812	1.96	6.60	20.31	0.93
Canale	1000.416	tr 100	12.89	244.03	244.57	244.57	244.75	0.002701	2.02	7.38	21.20	0.92
Canale	1000.416	tr 200	14.56	244.03	244.60	244.60	244.79	0.002624	2.09	8.13	22.03	0.92
Canale	1000.416	tr 500	16.89	244.03	244.65	244.65	244.85	0.002549	2.17	9.15	23.11	0.92
Canale	948.5372	tr 50	11.26	241.75	242.07	242.07	242.20	0.003385	1.65	7.50	30.43	0.95
Canale	948.5372	tr 100	12.89	241.75	242.10	242.10	242.23	0.003313	1.72	8.27	31.18	0.95
Canale	948.5372	tr 200	14.56	241.75	242.12	242.12	242.26	0.003230	1.78	9.05	31.92	0.95
Canale	948.5372	tr 500	16.89	241.75	242.15	242.15	242.31	0.003206	1.87	10.04	32.99	0.96
Canale	876.689	tr 50	11.26	238.99	239.41	239.41	239.53	0.003193	1.93	7.85	32.52	0.97
Canale	876.689	tr 100	12.89	238.99	239.43	239.43	239.56	0.003156	2.00	8.71	33.98	0.97
Canale	876.689	tr 200	14.56	238.99	239.46	239.46	239.59	0.003040	2.05	9.66	35.59	0.97
Canale	876.689	tr 500	16.89	238.99	239.49	239.49	239.64	0.003050	2.14	10.78	37.61	0.98
Canale	807.4996	tr 50	11.26	237.35	237.59	237.83	238.83	0.064358	4.98	2.34	15.37	3.79
Canale	807.4996	tr 100	12.89	237.35	237.61	237.86	238.88	0.057261	5.05	2.66	16.21	3.64
Canale	807.4996	tr 200	14.56	237.35	237.63	237.90	238.93	0.052257	5.14	2.98	16.98	3.53
Canale	807.4996	tr 500	16.89	237.35	237.66	237.94	238.98	0.046048	5.22	3.46	18.04	3.38
Canale	753.1168	tr 50	11.26	236.19	236.57	236.57	236.70	0.003301	1.64	7.17	28.97	0.94
Canale	753.1168	tr 100	12.89	236.19	236.60	236.60	236.74	0.003118	1.69	8.05	30.72	0.93
Canale	753.1168	tr 200	14.56	236.19	236.63	236.63	236.78	0.002952	1.74	8.96	32.26	0.92
Canale	753.1168	tr 500	16.89	236.19	236.66	236.66	236.82	0.002807	1.81	10.15	34.09	0.91
Canale	704.2466	tr 50	11.26	234.92	235.34	235.34	235.48	0.003141	1.68	7.09	27.53	0.93
Canale	704.2466	tr 100	12.89	234.92	235.37	235.37	235.52	0.003008	1.74	7.93	29.05	0.92
Canale	704.2466	tr 200	14.56	234.92	235.40	235.40	235.56	0.002820	1.78	8.87	30.75	0.91
Canale	704.2466	tr 500	16.89	234.92	235.44	235.44	235.60	0.002714	1.85	10.03	32.32	0.90
Canale	584.4028	tr 50	11.26	230.47	230.54	230.71	233.83	0.906651	8.37	1.43	32.21	11.64
Canale	584.4028	tr 100	12.89	230.47	230.54	230.72	233.92	0.815290	8.52	1.63	33.73	11.23
Canale	584.4028	tr 200	14.56	230.47	230.55	230.74	234.03	0.749992	8.68	1.82	34.83	10.94
Canale	584.4028	tr 500	16.89	230.47	230.56	230.76	234.12	0.665789	8.82	2.09	36.37	10.50
Canale	491.0018	tr 50	11.26	227.89	228.33	228.49	228.83	0.014090	3.14	3.59	13.36	1.91
Canale	491.0018	tr 100	12.89	227.89	228.35	228.53	228.91	0.014299	3.30	3.92	13.89	1.94
Canale	491.0018	tr 200	14.56	227.89	228.37	228.56	228.99	0.014523	3.47	4.22	14.34	1.98
Canale	491.0018	tr 500	16.89	227.89	228.40	228.62	229.09	0.014709	3.69	4.63	14.95	2.02
Canale	404.0674	tr 50	11.26	224.72	224.90	225.07	225.71	0.210322	3.80	3.03	26.59	3.07
Canale	404.0674	tr 100	12.89	224.72	224.91	225.09	225.78	0.200704	3.92	3.38	27.90	3.04
Canale	404.0674	tr 200	14.56	224.72	224.93	225.11	225.84	0.192960	4.02	3.72	29.14	3.02
Canale	404.0674	tr 500	16.89	224.72	224.94	225.14	225.94	0.187831	4.19	4.17	30.67	3.02

HEC-RAS Plan: Plan 02 River: Urbano Tula Reach: Canale (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Canale	296.7693	tr 50	11.26	221.46	221.79	221.79	221.89	0.133069	1.58	8.21	39.67	0.95
Canale	296.7693	tr 100	12.89	221.46	221.81	221.81	221.92	0.125395	1.62	9.23	41.57	0.93
Canale	296.7693	tr 200	14.56	221.46	221.83	221.83	221.95	0.123979	1.69	10.12	43.16	0.94
Canale	296.7693	tr 500	16.89	221.46	221.86	221.86	221.99	0.119925	1.75	11.40	45.40	0.93
Canale	110.9253	tr 50	11.26	216.46	216.71	216.79	216.95	0.010978	2.36	5.58	38.28	1.62
Canale	110.9253	tr 100	12.89	216.46	216.72	216.81	216.99	0.011148	2.48	6.13	44.83	1.65
Canale	110.9253	tr 200	14.56	216.46	216.74	216.83	217.02	0.011184	2.58	6.79	49.72	1.67
Canale	110.9253	tr 500	16.89	216.46	216.75	216.85	217.06	0.011286	2.71	7.67	56.52	1.69

Comune di Tula (SS)
 Interventi di risoluzione delle problematiche idrauliche del Rio Tula - -
 STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
 Attraversamento S.C.

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	170	TR 50 ANNI		205.5	206.45	29.89	5.58		209.2	2.75	1.59	0.95	0.848	0.058	0.950	0.903	1.111	1.111	OK	OK
	170	TR 200 ANNI		205.5	206.72	40.6	5.87		209.2	2.48	1.76	1.22	0.961	0.087	1.220	1.067	1.230	1.230	OK	OK
DOWN	170	TR 50 ANNI	205.4		206.74	29.89		5.55	209.1	2.36	1.57	1.34	1.007	0.055	1.340	1.081	1.099	1.099	OK	OK
	170	TR 200 ANNI	205.4		207.07	40.6		5.88	209.1	2.03	1.76	1.67	1.124	0.088	1.670	1.271	1.234	1.271	OK	OK

Comune di Tula (SS)
Interventi di risoluzione delle problematiche idrauliche del Rio Tula -
STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
Attraversamento S.P. 2

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	205	TR 50 ANNI		206.4	208.26	29.89	5.06		210.1	1.84	1.31	1.86	1.187	0.006	1.860	1.198	0.914	1.198	OK	OK
	205	TR 200 ANNI		206.4	208.64	40.6	5.39		210.1	1.46	1.48	2.24	1.302	0.039	2.000	1.380	1.037	1.380	OK	OK
DOWN	205	TR 50 ANNI	206.3		207.65	29.89		5.08	210	2.35	1.32	1.35	1.011	0.008	1.350	1.022	0.921	1.022	OK	OK
	205	TR 200 ANNI	206.3		207.97	40.6		5.44	210	2.03	1.51	1.67	1.124	0.044	1.670	1.198	1.056	1.198	OK	OK

Comune di Tula (SS)
Interventi di risoluzione delle problematiche idrauliche del Rio Tula - -
STUDIO DI COMPATIBILITA' IDRAULICA - VERIFICHE SICUREZZA FRANCHI IDRAULICI
Attraversamento S.P. 103

	River Sta	Profile	Culv Inv El DS	Culv Inv El US	W.S.	Q Culv	Culv Vel US	Culv Vel DS	QUOTA INTRADOS SO	FRANCHI DISPONIBILI	$V^2/2g$	y	dh1	a	y'	dh2	$0.7 v^2/2g$	FRANCHI RICHIESTI	VERIFICA	Deficit
			(m slm)	(m slm)	(m slm)	(m³/s)	(m/s)	(m/s)	(m slm)	(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)		(m)
UP	450	TR 50 ANNI		216.82	218.26	29.89	2.67		220.52	2.26	0.36	1.44	1.044	0.000	1.440	1.044	0.254	1.044	OK	OK
	450	TR 200 ANNI		216.82	218.59	40.6	3.06		220.52	1.93	0.48	1.77	1.157	0.000	1.770	1.157	0.334	1.157	OK	OK
DOWN	450	TR 50 ANNI	216.67		218.63	29.89		2.45	220.37	1.74	0.31	1.96	1.218	0.000	1.960	1.218	0.214	1.218	OK	OK
	450	TR 200 ANNI	216.67		219.02	40.6		2.84	220.37	1.35	0.41	2.35	1.334	0.000	2.000	1.334	0.288	1.334	OK	OK