COMUNE DI ANDORA
Provincia di SAVONA
RIO DUOMO

ELABORATO DI VALUTAZIONE IDRAULICA
"ARGINATURA RIO DUOMO"
PROGETTO DEFINITIVO ESECUTIVO

L'elaborato è di proprietà dello studio e protetto ai sensi di legge. Ne è vietata la riproduzione

RELAZIONE IDRAULICA

COMMITTENTE: COMUNE DI ANDORA

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PREMESSA

Il presente elaborato è stato redatto per i lavori di mitigazione del rischio idraulico Torrente Molino ad Andora attraverso l'allargamento della sezione del rio e la realizzazione di nuove arginature in sponda destra e sinistra che consenta il deflusso della portata duecentennale con adeguato franco di sicurezza.

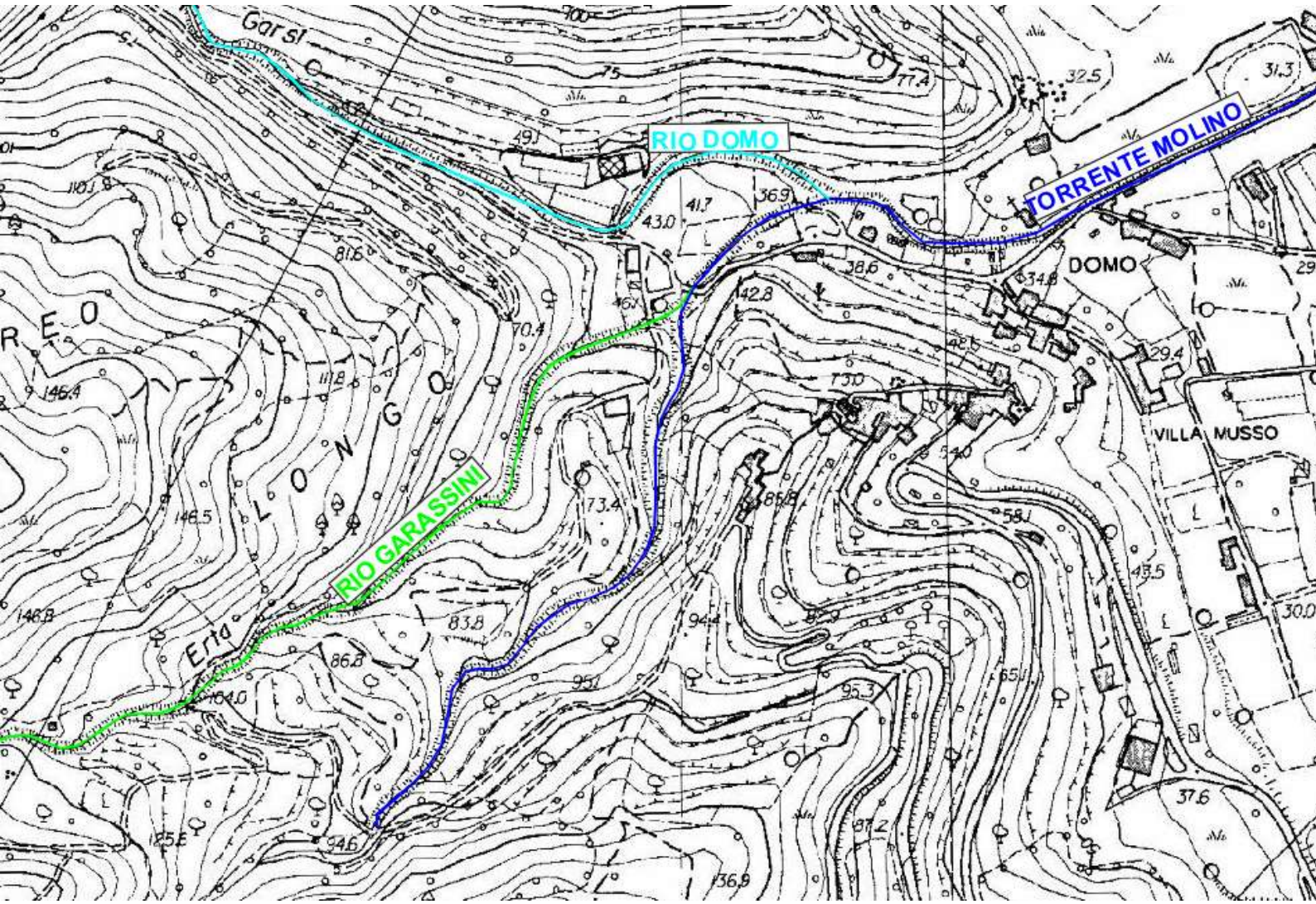
E' stato quindi effettuato un rilievo plano altimetrico del Torrente Molino dalla confluenza con il Torrente Merula fino all'affluente Rio Duomo per effettuare le verifiche idrauliche sia nello stato in cui si trova attualmente il rio sia nello stato di progetto proposto.

Il nuovo rilievo di dettaglio risulta coerente con le quote degli impalcati degli attraversamenti della modellazione idraulica di piano di bacino e quindi è stato possibile integrare le nuove sezioni al modello idraulico originario.



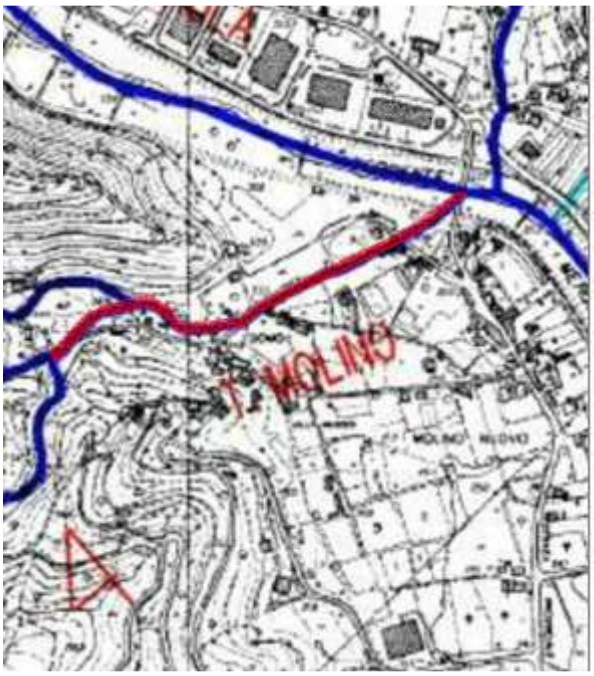
Vista del Torrente Molino nel tratto in oggetto

Al fine di rendere omogeneo e coerente con quanto indicato nella relazione del Piano di Bacino si riporta planimetria con la nomenclatura dei rii, si fa presente che non risulta del tutto coerente con la nomenclatura catastale.



PIANO DI BACINO “MERULA”

Il torrente Molino e i suoi affluenti, Rio Domo e Rio Garassini, sono stati indagati a livello di pianificazione di bacino e pertanto il presente studio di dettaglio prende le mosse dalla modellazione idraulica allegata al piano.



Stralcio da carta del reticolo idrografico

Dalla carta del reticolo idrografico il rio risulta iscritto nell'elenco delle acque pubbliche della provincia di Savona.

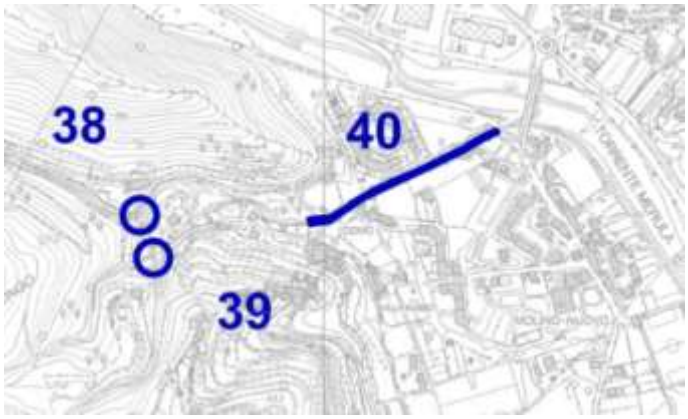
Il torrente Molino ha un bacino imbrifero di 2.57 km^2, risulta quindi individuato come reticolo di primo livello.



Stralcio da carta delle fasce di inondabilità



Stralcio da carta del rischio idraulico



Stralcio da carta degli interventi

R2-R3	40	Andora	Molino Nuovo	Rio Molino	Adeguamento delle sezioni, degli argini e degli attraversamenti

Nella carta degli interventi il tratto del torrente Molino viene individuato con l'intervento 40: adeguamento delle sezioni, degli argini e degli attraversamenti (attraversamenti 38 e 39)

Torrente Molino (giugno 2007)
Il calcolo del profilo di rigurgito evidenzia una modesta insufficienza dell'alveo e delle opere di attraversamento per lo smaltimento delle piene rilevanti, soprattutto in corrispondenza della confluenza con i rii Domo e Garassini e nel tratto terminale.
In particolare, l'esondazione, per tempi di ritorno di 50, 200 e 500 anni, interessa essenzialmente il sedime stradale in sponda destra, che collega la S.P. 13 e le Loc. Brigoleo e basso abitato di Fraz. Domo.

Rio Garassini (giugno 2007)
Il calcolo del profilo di rigurgito evidenzia una modesta insufficienza dell'alveo per lo smaltimento delle piene rilevanti localizzata in corrispondenza della tombinatura alla confluenza con il Torrente Molino.
Risulta infatti insufficiente per i tempi di ritorno di 50, 200 e 500 anni il collettore circolare di raccordo tra i due rii inserito nel terrapieno che forma la passerella carrabile ivi presente.

Rio Domo (giugno 2007)
Il calcolo del profilo di rigurgito evidenzia una modesta insufficienza dell'alveo e delle opere di attraversamento per lo smaltimento delle piene rilevanti, soprattutto in corrispondenza della confluenza con il Torrente Molino.
Si rilevano a monte alcuni tratti di insufficienza arginale e di esondazione, con particolare riguardo al tratto subito a monte e valle della passerella carrabile, che presenta inondazione per tutti e tre i tempi di ritorno.

Alla luce degli studi effettuati sul Rio Domo, Rio Garassini e Torrente Molino risulta necessario un adeguamento degli attraversamenti insufficienti allo smaltimento della portata cinquantennale ed in particolare dei ponticelli carrabili di cui alle sez. 0.15 e 106.5 (Rii Garassini e Domo).
Risulta opportuna la rimozione della passerella pedonale alla sezione 11.05 (T. Molino).
Risulta inoltre necessario un adeguamento della sezione della tombinatura alla confluenza tra il rio Garassini ed il Torrente Molino e in generale l'applicazione periodica di interventi di pulizia e rimozione del materiale litoide in eccesso in alveo e del materiale arbustivo-vegetativo ivi presente, in particolare in corrispondenza dei ponti.

Stralcio paragrafo 3.4 principali criticità dalla relazione di Piano di Bacino del Merula

NOTA: la passerella pedonale di cui alla sezione 11.05 (T. Molino) è stata rimossa.

VALUTAZIONE DELLE PORTATE DI PIENA

Per la portata del corso d'acqua sono stati assegnati i valori utilizzati nelle verifiche di Piano di Bacino pari a :

Flow Change Location				Profile Names		
	River	Reach	RS	T=50	T=200	T=500
1	RIO DOMO	DOMO	16	17	25	30
2	RIO GARASSINI	GARASSINI	0.3	7	10	12
3	RIO MOLINO	MOLINO MONTE	52	15	22	26
4	RIO MOLINO	MOLINO META	45	22	32	38
5	RIO MOLINO	MOLINO META	40	22	32	38
6	RIO MOLINO	MOLINO VALLE	38	39	57	68

Corso d'acqua	**Sezioni tratto indagato (carta aree inondabili)**	**Superficie bacino [Km.^{2}]**	**Classe bacino**	**Long. Gradi Sessagesimali**	**C_Q**	**Portata [$m^3 s^{-1}$]**		
						T=50 anni	**T=200 anni**	**T=500 anni**
Torrente Molino	1	2,53	D	8°07'30"	3,71	39	57	68

Valori delle portate al colmo di piena per il Torrente Molino (Piccoli bacini con dimensioni < 10 Kmq)

Corso d'acqua	**Sezioni tratto indagato (carta aree inondabili)**	**Superficie bacino [Km.^{2}]**	**Classe bacino**	**Long. Gradi Sessagesimali**	**$U_{A=2}$**	**Portata [$m^3 s^{-1}$]**		
						T=50 anni	**T=200 anni**	**T=500 anni**
Rio Domo	101	1,08	D	8°07'30"	4,64	17	25	30

Valori delle portate al colmo di piena per il Rio Domo (Piccoli bacini con dimensioni <2 Kmq)

Corso d'acqua	**Sezioni tratto indagato (carta aree inondabili)**	**Superficie bacino [Km.^{2}]**	**Classe bacino**	**Long. Gradi Sessagesimali**	**$U_{A=2}$**	**Portata [$m^3 s^{-1}$]**		
						T=50 anni	**T=200 anni**	**T=500 anni**
Rio Garassini	0.1	0,44	D	8°07'30"	4,64	7	10	12

Stralcio portate di piano di bacino

DESCRIZIONE DELLO STATO ATTUALE

Il Torrente Molino è affluente principale in sponda idrografica destra del Torrente Merula nel tratto transitante nell'abitato di Fraz. Molino e riceve i contributi di portata dal rio Garassini e dal rio Domo, suoi affluenti in sponda sinistra.

Lo studio di fattibilità eseguito dall'Amministrazione comunale per i lavori di messa in sicurezza individuava il Rio in oggetto come uno dei rii che ha subito maggiori danni nell'evento meterologico del 2018. Quindi, con lo scopo di mitigare il rischio idraulico e aumentare il livello di resilienza delle strutture, il Comune intendeva eseguire i lavori di messa in sicurezza.

La verifica idraulica sul Torrente Molino oggetto del presente intervento prende in considerazione il tratto tra il punto di innesco dell'affluente Rio Garassini e la confluenza nel Torrente Merula, per una lunghezza di circa 470 m, individuato nelle planimetrie allegate dalla sez 40 alla sez 1, realizzato unendo il rilievo planoaltimetrico effettuato adesso e le verifiche di Piano di Bacino.

Il corre per tutto il tratto a cielo aperto e in parte senza muri d'argine con una larghezza dell'alveo pari a circa 5 m.

Il tratto terminale invece, a partire dalla sezione 16 fino alla confluenza nel Merula, l'alveo ha larghezza di circa 10 m, perché il corso d'acqua è stato oggetto di allargamento in sponda sinistra tra la fine degli anni 90 e l'inizio del 2000 per un tratto di circa 230 metri, costruendo un nuovo muro d'argine e un ponte in prossimità della confluenza che consente di raggiungere la zona residenziale ivi realizzata.



Tratto del Torrente Molino in prossimità dell'abitato di Molino, poco prima della confluenza nel il Torrente Merula



Confluenza del Torrente Molino nel Torrente Merula

Nel tratto a monte delle nuove edificazioni il corso d'acqua che corre avendo in sponda destra la strada comunale non è stato oggetto di particolari interventi se non la ricostruzione di un tratto del muro che sorregge la strada realizzato in somma urgenza negli anni scorsi.



Vista verso monte del Torrente Molino nel tratto che costeggia la strada Comunale

Risalendo il corso d’acqua a monte del tratto lungo strada si rileva come l’argine destro sia ormai o crollato o in pessime condizioni di stabilità, spesso sotto scavato, mentre in sinistra è presente un argine a scarpata con un fitto canneto.



Rio Molino

Poco prima del primo nodo di confluenza è presente un ponte di attraversamento privato (prop. Mongiardini), risulta realizzato con una larghezza dell'impalcato di circa 10 metri ancorchè al di sotto sia necessario adeguare la larghezza dell'alveo rispetto alle arginature presenti in questo momento.



Vista del Ponte da valle



Vista del Ponte da monte si noti la maggiore larghezza dell'impalcato rispetto ai muri in pietra



Confluenza del Rio Duomo nel Torrente Molino



Rio Duomo

DESCRIZIONE DEGLI INTERVENTI PREVISTI

L'intervento di mitigazione del rischio idraulico in oggetto prevede un allargamento dell'alveo ad una sezione libera di scorrimento di circa 10 m con rifacimento dell'argine spondale, sia sinistro che destro, arretrandolo rispetto alla posizione attuale.

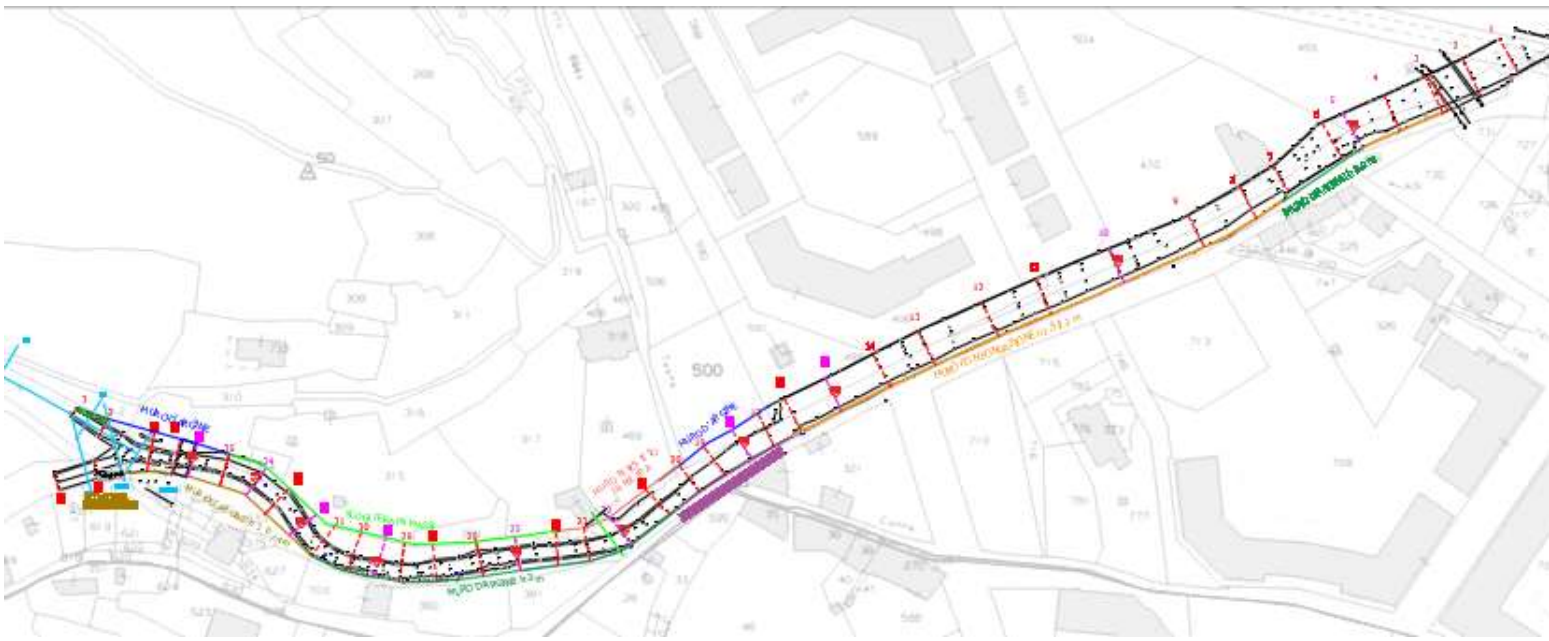
Il fondo alveo verrà riprofilato ad unica pendenza dal ponte fino alla confluenza con il Torrente Merula.

A tal fine, e compatibilmente con la morfologia dei luoghi e la geometria dell'alveo demaniale, si propone:

- in sponda destra la sopraelevazione ove possibile o ricostruzione nei tratti ammalorati del muro d'argine sul tratto in fregio alla strada Comunale ed a monte la ricostruzione del muro d'argine già esistente e in parte crollato sino alla confluenza con allargamento della sezione nel tratto del ponte privato esistente;
- in sponda sinistra la prosecuzione del muro d'argine già realizzato a valle per il tratto fino alla sez 24, poi a la realizzazione di una scogliera in massi naturali, con allargamento della sezione di deflusso in alcuni lembi anche di terreni privati da realizzare mediante esproprio o accordo bonario.

La realizzazione della nuova arginatura in sinistra va a ridurre la piccola area di sagrato della chiesetta ivi esistente, si propone quindi in tale punto la costruzione di un breve tratto di soletta a sbalzo sul torrente volta a conservare un piccolo sagrato davanti alla chiesetta.

. Il muro d'argine in corrispondenza della chiesa (dalla sez 24 alla sez 20) verrà rivestito in pietra a spacco.



OPERE IN SPONDA DESTRA: (OGGETTO LOTTO 1)

- **TRATTO ARANCIONE**

  Realizzazione muro a protezione della strada Comunale con altezza da 1.1 a 1.5 m dalla sez 3 alla sez 16 per una lunghezza del tratto di circa 185 m.

- **TRATTO VIOLA**

  Realizzazione di cordolo con fondazione, altezza 1.1 m dalla sez 17 alla sez 20, per una lunghezza del tratto pari a circa 40 m

- **TRATTO VERDE**

  Realizzazione di muro d'argine di altezza pari a 3 m, dalle sez 21 alla sez 31, per una lunghezza del tratto di circa 114 m. e per un tratto tra la sez 7 e 5 con lunghezza di circa 28 m.

- **TRATTO MARRONE**

  Rifacimento muro d'argine di altezza variabile tra 3 e 4 m, e sottomurazione delle spalle del ponte esistente, dalla sez 31 alla sez 38 per una lunghezza del tratto di circa 50 m.

OPERE IN SPONDA SINISTRA: (OGGETTO LOTTO 2)

- **TRATTO BLU**

  Realizzazione di nuovo muro d'argine arretrato rispetto al filo attuale, di altezza di circa 2.8/3.0 m dalla sez 17 alla 24 e dalla 35 alla confluenza con il rio Domo. In corrispondenza della Chiesa (dalla sez 24 alla 20) il muro verrà rivestito in pietra. **(TRATTO ROSA)**

- **TRATTO VERDE CHIARO**

  Realizzazione di scogliera in massi naturali dalla sez 35 alla 24 per una lunghezza di circa 102 m

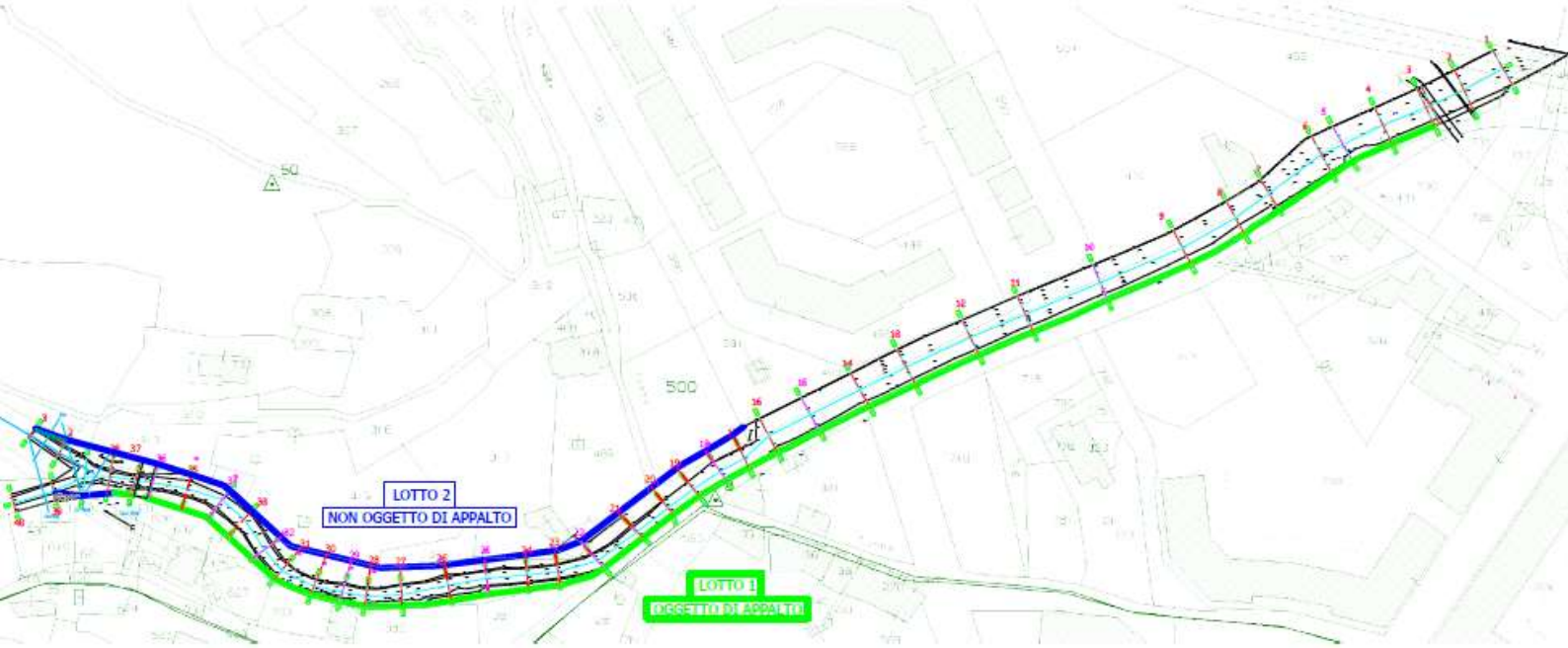
OPERE IN SPONDA DESTRA: (OGGETTO LOTTO 2)

- **TRATTO MARRONE**

  Rifacimento muro d'argine di altezza variabile tra 3 e 4 m dopo il ponte dalla sez 38 alla sez 39 per una lunghezza del tratto di circa 10 m.

In relazione alle disponibilità economiche del finanziamento si prevede un primo lotto di intervento che consisterà nella realizzazione delle opere di arginatura lungo la sponda idrografica destra. Questa scelta è dettata dalla necessità di mitigare innanzitutto i rischi di esondazione verso la zona urbana di Molino Nuovo, considerando che in sponda idrografica sinistra non sono presenti elementi a rischio significativi facilmente raggiungibili in fase di esondazione.

La suddivisione dei lotti di intervento è individuata negli elaborati progettuali con colori diversi:



Procedura di calcolo della verifica in moto permanente

La determinazione del profilo di moto permanente, nel tratto d'alveo in esame, è stata condotta mediante l'uso dello specifico codice di calcolo HEC-RAS (U.S. Army Corps of Engineers - Hydrologic Engineering Center; versione 3.1 – novembre 2002).

Il modello determina il profilo di moto permanente, per ogni tratto, scegliendo tra i possibili profili di corrente lenta o veloce quello cui corrisponde la spinta totale maggiore.

Il modello presuppone che siano fornite tutte le informazioni necessarie, ed in particolare la geometria di un numero sufficiente di sezioni trasversali. Il programma consente di inserire sezioni trasversali fittizie, interpolando quelle rilevate, in modo da assicurare che il passo di discretizzazione spaziale non ecceda un assegnato valore limite.

La procedura utilizzata dal codice citato è basata sulla risoluzione dell'equazione del moto delle correnti a pelo libero nella schematizzazione monodimensionale. Il calcolo delle perdite di carico è effettuato mediante l'equazione di Manning. Nella letteratura anglosassone la procedura in questione è indicata come Standard Step Method.

$$Y2 + Z2 + \alpha 2 \ \ V2\ 2 / 2g = Y1 + z1 + \alpha 1\ V1\ 2 / 2g + he$$

$$he = L\ Sf + C \mid \alpha 2V2\ \ 2 / 2g - \alpha 1\ V1\ 2 / 2g \mid$$

dove (con riferimento alla fig. 1):

Y1 , Y2 = profondità della corrente nelle sezioni agli estremi del tratto

Z1 , Z2 = quote del punto più basso del fondo alveo nelle sezioni agli estremi del tratto

V1, V2 = velocità medie (rapporto portata / sezione bagnata)

$\alpha 1$, $\alpha 2$ = coefficienti di ragguaglio dell'energia cinetica

g= accelerazione di gravità

he = perdita di carico

L = lunghezza del tratto (corretta secondo la distribuzione delle portate)

Sc = cadente del carico totale

C = coefficiente di perdita per contrazione - espansione.

Le equazioni fondamentali su cui essa si basa sono le seguenti:

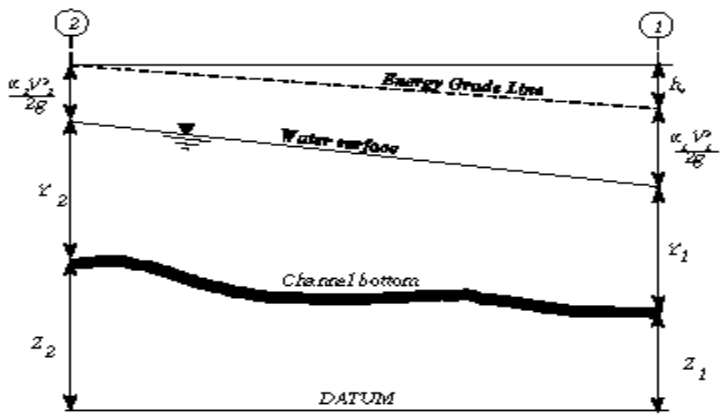


***Figura 1**: Schema di riferimento per il calcolo del deflusso della portata di progetto attraverso il programma di calcolo Hec-Ras.*

Il calcolo è eseguito iterativamente a partire da una condizione al contorno (all'estremo di monte o di valle del corso d'acqua in esame); la soluzione si propaga alla sezione successiva dopo aver bilanciato il carico fra due sezioni contigue con uno scarto assegnato, che nel caso in esame si è posto inferiore a 1 centimetro.
La procedura di calcolo delle coperture contenuta nel programma utilizzato è affidabile solo in caso di condotte chiuse di limitata lunghezza, come per esempio negli attraversamenti.
Per quanto riguarda i salti di fondo, l'equazione di bilancio dell'energia è risolta inserendo in corrispondenza di tali sezioni un termine addizionale di perdita di carico pari al dislivello fra la sezione in oggetto e quella immediatamente a valle, oltre alle perdite per attrito o per contrazione / espansione.

Per i dettagli computazionali si rimanda alla documentazione del codice di calcolo (U.S. Army Corps of Engineers - Hydrologic Engineering Center: HEC - RAS River Analysis System, HYDRAULIC REFERENCE MANUAL; Davis, 2002).
L'applicazione della procedura per la determinazione del profilo di moto permanente associato alla portata di progetto richiede di disporre dei seguenti dati fondamentali, necessari per una corretta modellazione del corso d'acqua e dei manufatti che interferiscono con il suo corso:

- rappresentazione geometrica delle sezioni trasversali e loro posizionamento plani - altimetrico;
- definizione del tipo di corrente (lenta o veloce) nel tronco d'alveo in esame;
- condizioni al contorno di valle o di monte, rispettivamente per correnti lente o veloci;
- caratterizzazione della resistenza dell'alveo mediante la definizione del coefficiente di scabrezza n (secondo Manning) e dei coefficienti di contrazione C_c e di espansione C_e;
- definizione geometrica ed idraulica di eventuali singolarità (coperture, salti di fondo, ponti, etc.).

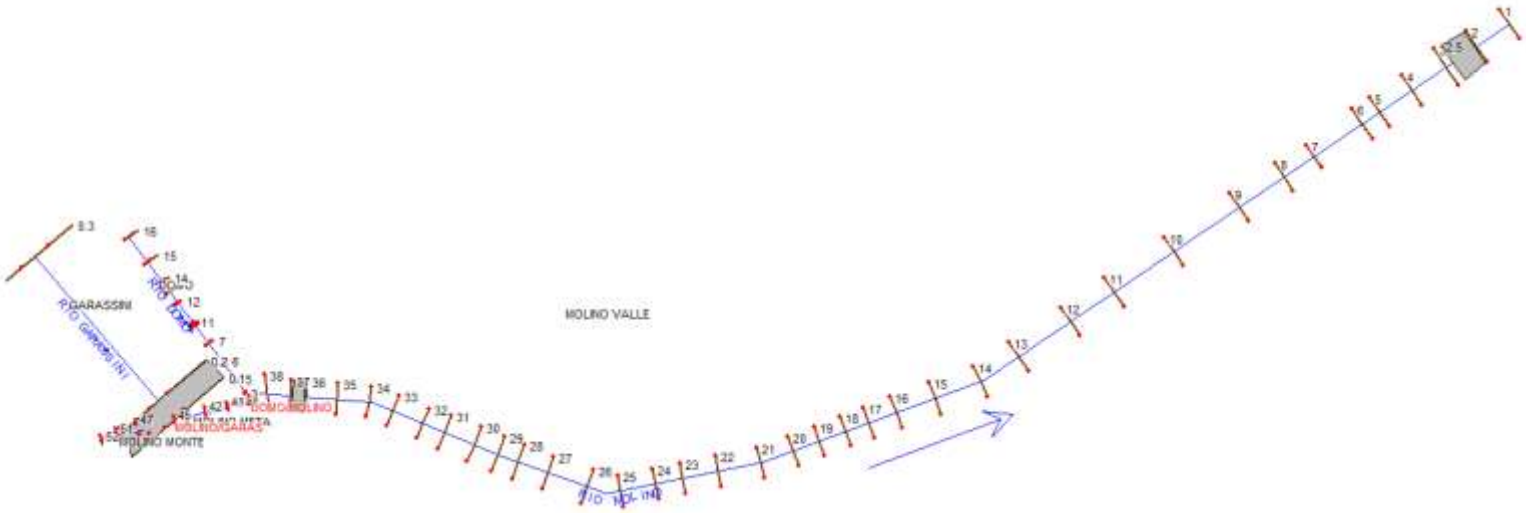
Verifica idraulica del tratto di corso d'acqua in esame

Applicando la metodologia illustrata nel paragrafo precedente, è stata effettuata la simulazione, in moto permanente, del deflusso del Torrente Molino e dei suoi affluenti Rio Duomo e rio Garassini fino alla confluenza nel torrente Merula per le portate relative ai diversi periodi di ritorno come richiesto dalla normativa vigente.

Le verifiche idrauliche sono state condotte sia nello stato attuale che nella situazione di progetto che assume il terreno nelle condizioni in cui esso verrà a trovarsi a seguito della realizzazione degli interventi.

Il calcolo dei profili di corrente è stato sviluppato mediante il noto codice HEC_RAS dell'USACE.

Negli allegati successivi sono riportate le sezioni trasversali più significative che descrivono le due situazioni, attuale e di progetto. I livelli idrici si riferiscono ai 3 tempi di ritorno sopra riportati.



Sezioni rilevate utilizzate

La schematizzazione di calcolo si basa sulla seguente assunzione: portata costante in ogni tratto considerato, anche nell'eventualità di superamento dei punti estremi delle sezioni; il procedimento consiste nell'immaginare che la sezione sia limitata da argini infinitamente alti.

Quest'ultima ipotesi è congruente con quanto indicato nelle raccomandazioni emanate dall'Autorità di Bacino di Rilievo Regionale, con particolare riferimento alla raccomandazione sulle fasce di inondabilità e alla nota "Rischio idraulico residuale nell'ambito della pianificazione di bacino regionale", al fine di tenere conto di sezioni che, interessate da opere, non possano assicurare capienza certa alla portata di massima piena.

Parametri di scabrezza

Per la caratterizzazione della resistenza degli alvei, da esprimere in termini del coefficiente n di Manning (in [$m^{-1/3}s$]), si è fatto ricorso ai valori riportati nelle tabelle del manuale di riferimento del modello di calcolo prima citato.

Per le sezioni del Torrente Molino e dei suoi affluenti il valore di tale parametro si è posto pari a 0.028[$m^{-1/3}s$], corrispondente al valore del coefficiente di Strickler K_S = 35 [$m^{1/3}/s$] valido per corsi d'acqua naturali con vegetazione e movimento di materiale sul fondo.

Tabella 1-2: Coefficienti di scabrezza di Gauckler-Strickler (Norme Tecniche di Attuazione – Allegato 3)

Descrizione corso d'acqua	**Scabrezza di Gauckler-Strickler K_s ($m^{1/3}$ s^{-1})**
tratti di corsi d'acqua naturali con salti, rocce o vegetazione anche arbustiva-arborea in alveo	25-30
corsi d'acqua naturali con vegetazione e movimento di materiale sul fondo	30-35
tratti urbanizzati di corsi d'acqua naturali con argini cementati (e/o platee) in buono stato	35-40
corsi d'acqua con fondo ed argini totalmente cementati in ottimo stato ed assenza di manufatti (tubi, cavi, ecc.) o discontinuità interferenti con le acque	40-45
tombinature perfettamente lisciate e dotate a monte di dispositivi atti ad assicurare la trattenuta di trasporto solido di fondo e in sospensione (briglie selettive, vasche di sedimentazioni, ecc.)	45-55

Per quanto riguarda i coefficienti di espansione e contrazione, il loro valore è stato assegnato, caso per caso, in funzione delle caratteristiche della coppia di sezioni contigue, rispettivamente nel campo 0.1 / 0.6 per C_c e 0.3 / 0.8 per C_e , con valori tanto più elevati dei coefficienti quanto più brusche sono le variazioni di forma e dimensione delle sezioni.

Condizioni al contorno

Il programma di calcolo richiede, come dati di input, oltre la portata di progetto, anche una condizione al contorno di monte, se il profilo di corrente è veloce o una condizione al contorno di valle, se il profilo di corrente è lento.

In questo caso, si è proceduto ipotizzando la presenza di una corrente mista, assegnando quindi due condizioni al contorno, una di monte e una di valle, per i vari Rii oggetto della verifica:

River	Reach	Profile	Upstream	Downstream
RIO DOMO	DOMO	all	Normal Depth S = 0.029	Junction=DOMO/MOLINO
RIO GARASSINI	GARASSINI	all	Normal Depth S = 0.0259	Junction=MOLINO/GARAS
RIO MOLINO	MOLINO MONTE	all	Normal Depth S = 0.02	Junction=MOLINO/GARAS
RIO MOLINO	MOLINO META	all	Junction=MOLINO/GARAS	Junction=DOMO/MOLINO
RIO MOLINO	MOLINO VALLE	all	Junction=DOMO/MOLINO	Known WS

<u>Rio Duomo:</u>

Condizione di valle: confluenza con il Torrente Molino

Condizione di monte: posta pari alla profondità di moto uniforme, quindi pari alla pendenza media del corso d'acqua.

<u>Rio Garassini:</u>

Condizione di valle: confluenza con il Torrente Molino

Condizione di monte: posta pari alla profondità di moto uniforme, quindi pari alla pendenza media del corso d'acqua.

<u>Torrente Molino:</u>

Condizione di valle: confluenza con il Torrente Merula

Condizione di monte: posta pari alla profondità di moto uniforme, quindi pari alla pendenza media del corso d'acqua.

Franchi di sicurezza

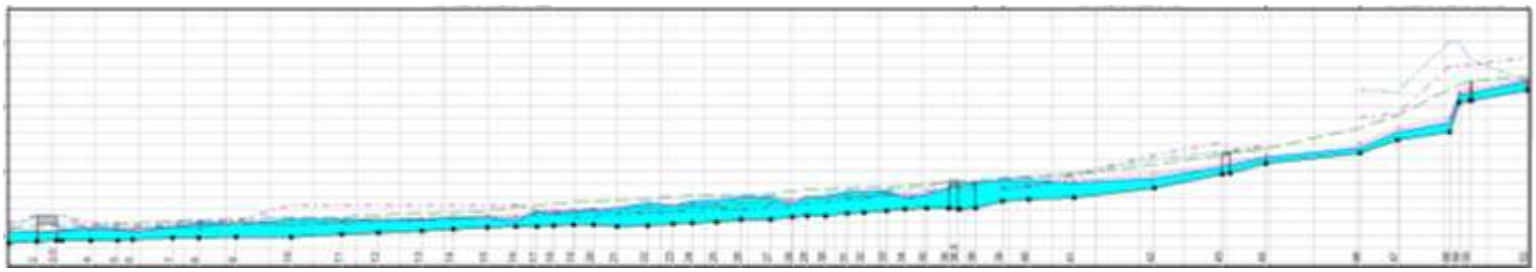
Nel calcolo del franco di sicurezza si è considerato, come indicato nel Regolamento Regionale 14 luglio 2011 n° 3 – *Regolamento recante disposizioni in materia di tutela delle aree di pertinenza dei corsi d'acqua* - Allegato 2, comma b, e Normativa di Piano Allegato 3 comma 5 (franchi idraulici), considerato il reticolo idrografico di 1° livello per ogni sezione il valore maggiore tra:

- o 0.5/1.0 m per gli argini e difese spondali
- o 1.0/1.5 m per i ponti
- o 1.5/2.0 m per coperture e tombini

e il carico cinetico della corrente calcolato per ogni sezione ($U^2/2g$) pari al valore denominato Velocity head nell'allegata tabella dei risultati di Hec Ras.

RISULTATI VERIFICHE HEC STATO ATTUALE

Sula base del rilievo plano altimetrico è stata effettuata la verifica dello stato attuale del Torrente Molino e dei suoi affluenti. Il calcolo del profilo di rigurgito evidenzia un'insufficienza dell'alveo e delle opere di attraversamento per lo smaltimento delle piene rilevanti del Torrente Molino.



Profilo stato attuale Torrente Molino per la portata duecentennale

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Vel Head
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)		(m)	(m)	(m)	(m)	(m)
MOLINO MONTE	52	T=200	22.00	52.57	53.84	54.10	54.70	0.020025	4.11	1.40	57.55	3.71	53.86	0.01	0.86
MOLINO MONTE	51	T=200	22.00	50.90	52.05	52.62	53.84	0.049365	5.93	2.04	56.40	4.35	57.19	5.13	1.79
MOLINO MONTE	50.5		Bridge												
MOLINO MONTE	50	T=200	22.00	50.90	52.07	52.62	53.79	0.046207	5.80	1.98	56.40	4.33	57.19	5.11	1.71
MOLINO MONTE	49	T=200	22.00	50.58	51.82	52.31	53.53	0.053531	5.79	2.26	56.36	4.53	60.15	8.33	1.71
MOLINO MONTE	48	T=200	22.00	46.01	47.46	48.35	52.70	0.338459	10.14	4.40	56.36	8.89	60.15	12.69	5.24
MOLINO MONTE	47	T=200	22.00	44.86	45.97	46.66	48.55	0.075506	7.12	2.69	48.87	2.90	52.20	6.23	2.58
MOLINO MONTE	46	T=200	22.00	42.70	43.62	44.26	46.74	0.147712	7.83	3.68	48.37	4.75	52.70	9.08	3.12
MOLINO META	45	T=200	32.00	41.11	42.10	42.48	43.39	0.042240	5.03	2.08	44.05	1.95	43.50	1.40	1.29
MOLINO META	44	T=200	32.00	39.66	40.90	41.44	42.69	0.038688	5.92	1.92	43.11	2.21	42.97	2.06	1.78
MOLINO META	43.5		Bridge												
MOLINO META	43	T=200	32.00	39.56	40.63	41.17	42.48	0.046115	6.04	2.09	44.36	3.74	43.05	2.42	1.86
MOLINO META	42	T=200	32.00	37.36	38.88	39.51	40.99	0.048060	6.43	2.22	42.55	3.67	41.79	2.91	2.11
MOLINO META	41	T=200	32.00	35.91	38.18	38.56	39.39	0.027812	4.88	1.55	39.42	1.24	39.63	1.45	1.21
MOLINO META	40	T=200	32.00	35.52	38.51	37.80	38.96	0.005306	2.98	0.62	37.42	-1.09	39.04	0.53	0.45
MOLINO META	39	T=200	32.00	35.33	38.54	37.46	38.87	0.003719	2.57	0.51	37.06	-1.48	38.94	0.40	0.34
MOLINO VALLE	38	T=200	57.00	34.24	38.09	37.17	38.44	0.002754	2.61	0.53	37.86	-0.23	37.78	-0.31	0.35
MOLINO VALLE	37	T=200	57.00	34.11	37.95	37.50	38.40	0.004827	2.96	0.70	38.50	0.55	38.50	0.55	0.45
MOLINO VALLE	36.5		Bridge												
MOLINO VALLE	36	T=200	57.00	34.24	37.38	37.38	38.31	0.011020	4.26	1.00	38.50	1.12	38.50	1.12	0.92
MOLINO VALLE	35	T=200	57.00	34.27	36.20	36.74	38.06	0.023930	6.03	1.52	36.42	0.22	37.42	1.22	1.85
MOLINO VALLE	34	T=200	57.00	34.04	35.90	36.46	37.80	0.025037	6.10	1.62	36.04	0.14	37.24	1.34	1.90
MOLINO VALLE	33	T=200	57.00	33.82	36.92	36.26	37.51	0.005046	3.39	0.67	36.59	-0.33	37.10	0.18	0.59
MOLINO VALLE	32	T=200	57.00	33.52	36.79	36.13	37.45	0.005713	3.58	0.67	35.72	-1.07	35.40	-1.39	0.65
MOLINO VALLE	31	T=200	57.00	33.45	36.84	35.95	37.37	0.004468	3.24	0.60	35.63	-1.21	36.51	-0.33	0.54
MOLINO VALLE	30	T=200	57.00	32.99	36.04	35.99	37.23	0.013067	4.85	0.97	35.23	-0.81	36.38	0.34	1.20
MOLINO VALLE	29	T=200	57.00	33.02	35.95	35.95	37.12	0.012625	4.79	1.00	35.04	-0.91	36.03	0.08	1.17
MOLINO VALLE	28	T=200	57.00	32.92	34.87	35.44	36.91	0.026810	6.33	1.53	34.51	-0.36	35.39	0.52	2.04
MOLINO VALLE	27	T=200	57.00	32.45	35.85	34.97	36.37	0.004241	3.20	0.60	34.39	-1.46	36.21	0.36	0.52
MOLINO VALLE	26	T=200	57.00	32.50	35.82	34.87	36.31	0.003853	3.10	0.57	33.93	-1.89	33.77	-2.05	0.49
MOLINO VALLE	25	T=200	57.00	32.08	35.40	34.82	36.21	0.008144	3.99	0.73	34.02	-1.38	34.44	-0.96	0.81
MOLINO VALLE	24	T=200	57.00	31.91	35.34	34.65	36.11	0.007478	3.88	0.69	33.64	-1.70	34.29	-1.05	0.77
MOLINO VALLE	23	T=200	57.00	31.80	34.67	34.67	35.97	0.014752	5.04	1.00	33.63	-1.04	33.85	-0.82	1.30
MOLINO VALLE	22	T=200	57.00	31.53	35.01	34.20	35.64	0.005640	3.53	0.64	33.38	-1.63	33.81	-1.20	0.63
MOLINO VALLE	21	T=200	57.00	31.43	34.26	34.26	35.47	0.012965	4.87	1.00	33.23	-1.03	33.53	-0.73	1.21
MOLINO VALLE	20	T=200	57.00	31.60	33.99	34.10	35.30	0.015663	5.07	1.07	32.83	-1.16	33.60	-0.39	1.31
MOLINO VALLE	19	T=200	57.00	31.60	33.75	33.97	35.15	0.017112	5.24	1.17	32.85	-0.90	33.40	-0.35	1.40
MOLINO VALLE	18	T=200	57.00	31.56	33.34	33.76	34.96	0.021465	5.62	1.42	33.90	0.56	33.30	-0.04	1.61
MOLINO VALLE	17	T=200	57.00	31.35	33.70	33.70	34.76	0.011963	4.55	1.01	33.84	0.14	33.18	-0.52	1.06
MOLINO VALLE	16	T=200	57.00	31.36	32.36	32.96	34.46	0.045200	6.41	2.20	34.70	2.34	32.78	0.42	2.09
MOLINO VALLE	15	T=200	57.00	31.22	32.73	32.98	33.80	0.017163	4.59	1.36	34.72	1.99	32.67	-0.06	1.07
MOLINO VALLE	14	T=200	57.00	30.99	32.83	32.83	33.55	0.009220	3.76	1.01	34.70	1.87	32.51	-0.32	0.72
MOLINO VALLE	13	T=200	57.00	30.71	32.44	32.62	33.36	0.014414	4.27	1.24	34.70	2.26	32.29	-0.15	0.93
MOLINO VALLE	12	T=200	57.00	30.45	32.40	32.40	33.11	0.009520	3.74	1.01	34.70	2.30	32.04	-0.36	0.71
MOLINO VALLE	11	T=200	57.00	30.19	32.43	32.03	32.85	0.004262	2.87	0.68	34.70	2.27	31.89	-0.54	0.42
MOLINO VALLE	10	T=200	57.00	29.70	32.44	31.66	32.74	0.002458	2.41	0.52	34.72	2.28	31.62	-0.82	0.30
MOLINO VALLE	9	T=200	57.00	29.75	31.83	31.83	32.59	0.008129	3.86	1.00	32.20	0.37	32.18	0.35	0.76
MOLINO VALLE	8	T=200	57.00	29.60	31.93	31.40	32.32	0.003427	2.75	0.63	32.21	0.28	31.01	-0.92	0.38
MOLINO VALLE	7	T=200	57.00	29.59	31.39	31.39	32.21	0.010064	4.00	1.01	31.93	0.54	31.34	-0.05	0.82
MOLINO VALLE	6	T=200	57.00	29.36	30.56	30.95	31.88	0.025213	5.08	1.65	31.04	0.48	31.36	0.80	1.32
MOLINO VALLE	5	T=200	57.00	29.25	31.07	30.99	31.68	0.007183	3.46	0.92	31.92	0.85	30.81	-0.26	0.61
MOLINO VALLE	4	T=200	57.00	29.23	31.05	30.85	31.57	0.005697	3.20	0.82	31.82	0.77	30.84	-0.21	0.52
MOLINO VALLE	3	T=200	57.00	29.26	30.99	30.75	31.48	0.006438	3.09	0.86	33.11	2.12	33.11	2.12	0.49
MOLINO VALLE	2.5		Bridge												
MOLINO VALLE	2	T=200	57.00	29.09	30.72	30.63	31.31	0.007048	3.40	0.91	33.11	2.39	33.11	2.39	0.59
MOLINO VALLE	1	T=200	57.00	28.85	30.50	30.50	31.20	0.009193	3.70	1.00	31.82	1.32	30.70	0.20	0.70

Tabella risultati verifica stato attuale hec-ras

RISULTATI VERIFICHE HEC STATO di PROGETTO

Come si evince dai risultati delle verifiche idrauliche il nuovo profilo di progetto consente di far defluire a valle la portata duecentennale con adeguato franco di sicurezza nel tratto considerato.



Profilo stato di progetto per la portata duecentennale

Dal raffronto dei profili di rigurgito per la portata duecentennale si evidenzia un notevole miglioramento del deflusso delle acque.

Nel tratto considerato l'alveo di progetto conferisce un adeguato livello di sicurezza: la piena del corso d'acqua rimane confinata all'interno dell'alveo rispettando il franco di sicurezza per gli argini pari a 50 cm e quello del carico cinetico della corrente.

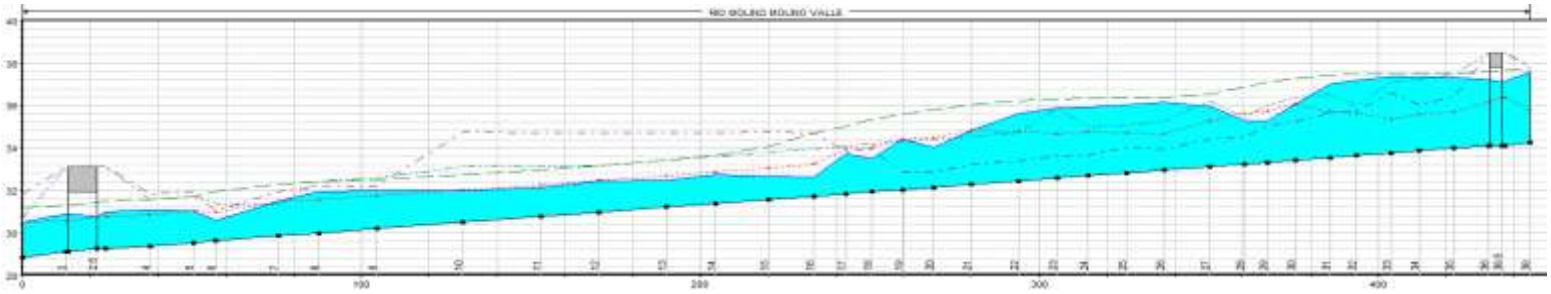
I due attraversamenti esistenti risultano anch'essi verificati.

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Vel Head
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)		(m)	(m)	(m)	(m)	(m)
MOLINO VALLE	38	T=200	57.00	34.24	36.28	35.53	36.54	0.002258	2.26	0.50	37.86	1.58	37.78	1.50	0.26
MOLINO VALLE	37	T=200	57.00	34.15	36.07	35.62	36.50	0.004294	2.92	0.67	38.50	2.43	38.50	2.43	0.43
MOLINO VALLE	36.5		Bridge												
MOLINO VALLE	36	T=200	57.00	34.09	36.06	35.56	36.47	0.003941	2.83	0.64	38.50	2.44	38.50	2.44	0.41
MOLINO VALLE	35	T=200	57.00	33.97	35.60	35.60	36.38	0.009202	3.90	1.00	36.42	0.82	37.42	1.82	0.78
MOLINO VALLE	34	T=200	57.00	33.85	35.04	35.34	36.21	0.018790	4.78	1.40	36.29	1.25	37.24	2.20	1.16
MOLINO VALLE	33	T=200	57.00	33.75	35.33	35.33	36.09	0.009256	3.87	1.00	36.59	1.26	37.10	1.77	0.76
MOLINO VALLE	32	T=200	57.00	33.63	34.88	35.12	35.94	0.016152	4.55	1.30	35.98	1.10	35.98	1.10	1.05
MOLINO VALLE	31	T=200	57.00	33.54	34.58	34.91	35.78	0.021957	4.85	1.52	35.81	1.23	36.51	1.93	1.20
MOLINO VALLE	30	T=200	57.00	33.42	34.52	34.76	35.53	0.017144	4.45	1.36	35.62	1.10	36.38	1.86	1.01
MOLINO VALLE	29	T=200	57.00	33.32	34.90	34.66	35.38	0.005499	3.07	0.78	35.47	0.57	36.03	1.13	0.48
MOLINO VALLE	28	T=200	57.00	33.23	34.86	34.60	35.34	0.005425	3.08	0.77	35.37	0.51	35.42	0.56	0.48
MOLINO VALLE	27	T=200	57.00	33.11	34.69	34.54	35.27	0.006837	3.38	0.86	35.29	0.60	36.21	1.52	0.58
MOLINO VALLE	26	T=200	57.00	32.95	34.72	34.34	35.15	0.004426	2.89	0.69	35.22	0.50	35.27	0.55	0.43
MOLINO VALLE	25	T=200	57.00	32.82	34.38	34.31	35.06	0.008376	3.66	0.94	35.06	0.68	35.06	0.68	0.68
MOLINO VALLE	24	T=200	57.00	32.68	34.19	34.19	34.95	0.009677	3.86	1.00	34.95	0.76	34.95	0.76	0.76
MOLINO VALLE	23	T=200	57.00	32.58	33.95	34.07	34.84	0.012332	4.17	1.14	34.84	0.89	35.88	1.93	0.89
MOLINO VALLE	22	T=200	57.00	32.44	33.85	33.95	34.71	0.011771	4.13	1.12	34.71	0.86	34.71	0.86	0.87
MOLINO VALLE	21	T=200	57.00	32.27	33.66	33.78	34.55	0.012243	4.18	1.14	34.54	0.88	34.54	0.88	0.89
MOLINO VALLE	20	T=200	57.00	32.14	33.48	33.63	34.40	0.013144	4.25	1.17	34.40	0.92	34.40	0.92	0.92
MOLINO VALLE	19	T=200	57.00	32.03	33.41	33.52	34.29	0.012283	4.17	1.14	34.29	0.88	34.29	0.88	0.88
MOLINO VALLE	18	T=200	57.00	31.93	33.31	33.43	34.19	0.012263	4.16	1.13	34.19	0.88	34.19	0.88	0.88
MOLINO VALLE	17	T=200	57.00	31.83	33.06	33.28	34.07	0.015633	4.45	1.28	34.07	1.01	34.07	1.01	1.01
MOLINO VALLE	16	T=200	57.00	31.72	33.21	33.21	33.93	0.008881	3.75	1.00	34.70	1.49	33.93	0.72	0.72
MOLINO VALLE	15	T=200	57.00	31.56	32.95	33.05	33.79	0.011315	4.06	1.13	34.72	1.77	33.79	0.84	0.84
MOLINO VALLE	14	T=200	57.00	31.37	32.82	32.88	33.61	0.010342	3.95	1.08	34.70	1.88	33.61	0.79	0.80
MOLINO VALLE	13	T=200	57.00	31.20	32.48	32.67	33.42	0.013963	4.30	1.26	34.70	2.22	33.42	0.94	0.94
MOLINO VALLE	12	T=200	57.00	30.96	32.42	32.45	33.16	0.009401	3.80	1.03	34.70	2.28	33.16	0.74	0.74
MOLINO VALLE	11	T=200	57.00	30.76	32.13	32.25	32.97	0.011623	4.06	1.15	34.70	2.57	33.13	1.00	0.84
MOLINO VALLE	10	T=200	57.00	30.48	31.98	32.00	32.71	0.009333	3.81	1.03	34.72	2.74	33.12	1.14	0.74
MOLINO VALLE	9	T=200	57.00	30.18	31.66	31.74	32.46	0.010395	3.96	1.09	32.20	0.54	32.58	0.92	0.80
MOLINO VALLE	8	T=200	57.00	29.98	31.50	31.56	32.28	0.010231	3.93	1.07	32.21	0.71	32.43	0.93	0.79
MOLINO VALLE	7	T=200	57.00	29.84	31.08	31.31	32.11	0.015995	4.51	1.30	31.93	0.85	32.28	1.20	1.03
MOLINO VALLE	6	T=200	57.00	29.61	31.48	30.91	31.79	0.003002	2.49	0.58	31.04	-0.44	31.93	0.45	0.31
MOLINO VALLE	5	T=200	57.00	29.53	31.03	31.03	31.72	0.008660	3.67	1.00	31.92	0.89	31.72	0.69	0.69
MOLINO VALLE	4	T=200	57.00	29.38	31.05	30.84	31.57	0.005651	3.19	0.81	31.82	0.77	31.57	0.52	0.52
MOLINO VALLE	3	T=200	57.00	29.26	31.00	30.75	31.48	0.006425	3.09	0.86	33.11	2.11	33.11	2.11	0.49
MOLINO VALLE	2.5		Bridge												
MOLINO VALLE	2	T=200	57.00	29.10	30.88	30.52	31.30	0.004230	2.86	0.71	33.11	2.23	33.11	2.23	0.42
MOLINO VALLE	1	T=200	57.00	28.85	30.49	30.49	31.20	0.009315	3.71	1.01	31.82	1.33	30.70	0.21	0.70

Tabella risultati verifiche hec ras stato di progetto nel tratto in oggetto

RISULTATI VERIFICHE HEC STATO INTERMEDIO (lotto 1)

E' stata effettuata anche la verifica dello stato intermedio, corrispondente alla realizzazione del solo lotto 1.



Profilo stato di progetto intermedio per la portata duecentennale

Dal raffronto dei profili di rigurgito per la portata duecentennale si evidenzia un miglioramento del deflusso delle acque, ma per conferire un adeguato livello di sicurezza rispettando il franco è necessario realizzare il progetto nella sua totalità, che comprende sia l'esecuzione del lotto 1 che del lotto 2.

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Vel Head
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)		(m)	(m)	(m)	(m)	(m)
MOLINO VALLE	38	T=200	57.00	34.24	37.57	35.79	37.71	0.000946	1.69	0.33	37.86	0.29	37.78	0.21	0.15
MOLINO VALLE	37	T=200	57.00	34.11	37.11	36.35	37.66	0.005436	3.29	0.69	38.50	1.39	38.50	1.39	0.55
MOLINO VALLE	36.5		Bridge												
MOLINO VALLE	36	T=200	57.00	34.09	37.21	36.18	37.58	0.003201	2.72	0.56	38.50	1.29	38.50	1.29	0.38
MOLINO VALLE	35	T=200	57.00	33.97	37.33	35.68	37.50	0.001054	1.85	0.34	36.42	-0.91	37.42	0.09	0.17
MOLINO VALLE	34	T=200	57.00	33.85	37.33	35.55	37.49	0.000925	1.76	0.31	36.04	-1.29	37.24	-0.09	0.16
MOLINO VALLE	33	T=200	57.00	33.75	37.34	35.34	37.48	0.000781	1.65	0.28	36.59	-0.75	37.10	-0.24	0.14
MOLINO VALLE	32	T=200	57.00	33.63	37.16	35.63	37.45	0.002060	2.38	0.41	35.72	-1.44	35.98	-1.18	0.29
MOLINO VALLE	31	T=200	57.00	33.54	37.02	35.70	37.42	0.003173	2.78	0.48	35.63	-1.39	36.51	-0.51	0.39
MOLINO VALLE	30	T=200	57.00	33.42	36.05	36.05	37.28	0.014020	4.90	1.00	35.23	-0.82	36.38	0.33	1.23
MOLINO VALLE	29	T=200	57.00	33.29	35.27	35.72	37.07	0.024075	5.94	1.38	35.04	-0.23	36.03	0.76	1.80
MOLINO VALLE	28	T=200	57.00	33.23	35.28	35.62	36.85	0.019553	5.55	1.27	34.51	-0.77	35.42	0.14	1.57
MOLINO VALLE	27	T=200	57.00	33.11	35.93	35.25	36.52	0.005290	3.39	0.66	34.39	-1.54	36.21	0.28	0.59
MOLINO VALLE	26	T=200	57.00	32.95	36.14	34.67	36.38	0.001625	2.17	0.39	33.93	-2.21	35.27	-0.87	0.24
MOLINO VALLE	25	T=200	57.00	32.82	36.04	34.69	36.35	0.002305	2.46	0.44	34.02	-2.02	35.06	-0.98	0.31
MOLINO VALLE	24	T=200	57.00	32.68	35.90	34.74	36.31	0.003317	2.83	0.51	33.64	-2.26	34.95	-0.95	0.41
MOLINO VALLE	23	T=200	57.00	32.58	35.87	34.66	36.28	0.003307	2.82	0.50	33.63	-2.24	35.88	0.01	0.41
MOLINO VALLE	22	T=200	57.00	32.44	35.60	34.78	36.21	0.005632	3.47	0.63	33.38	-2.22	34.71	-0.89	0.61
MOLINO VALLE	21	T=200	57.00	32.27	34.82	34.82	36.03	0.013672	4.88	1.00	33.23	-1.59	34.54	-0.28	1.21
MOLINO VALLE	20	T=200	57.00	32.14	34.03	34.46	35.79	0.023664	5.87	1.37	32.83	-1.20	34.40	0.37	1.76
MOLINO VALLE	19	T=200	57.00	32.03	34.41	34.41	35.58	0.013622	4.80	1.00	32.85	-1.56	34.29	-0.12	1.17
MOLINO VALLE	18	T=200	57.00	31.93	33.49	34.01	35.34	0.027053	6.03	1.55	33.90	0.41	34.19	0.70	1.85
MOLINO VALLE	17	T=200	57.00	31.83	33.73	33.93	35.01	0.015913	5.01	1.17	33.84	0.11	34.07	0.34	1.28
MOLINO VALLE	16	T=200	57.00	31.72	32.62	33.21	34.70	0.045457	6.38	2.20	34.70	2.08	33.93	1.31	2.07
MOLINO VALLE	15	T=200	57.00	31.56	32.64	33.05	34.06	0.025197	5.26	1.67	34.72	2.08	33.79	1.15	1.41
MOLINO VALLE	14	T=200	57.00	31.37	32.73	32.88	33.64	0.012583	4.21	1.19	34.70	1.97	33.61	0.88	0.90
MOLINO VALLE	13	T=200	57.00	31.20	32.46	32.67	33.43	0.014520	4.36	1.28	34.70	2.24	33.42	0.96	0.97
MOLINO VALLE	12	T=200	57.00	30.96	32.42	32.45	33.16	0.009441	3.81	1.04	34.70	2.28	33.16	0.74	0.74
MOLINO VALLE	11	T=200	57.00	30.76	32.13	32.25	32.97	0.011744	4.07	1.16	34.70	2.57	33.13	1.00	0.85
MOLINO VALLE	10	T=200	57.00	30.48	31.97	32.00	32.71	0.009383	3.81	1.03	34.72	2.75	33.12	1.15	0.74
MOLINO VALLE	9	T=200	57.00	30.18	31.96	31.74	32.50	0.005702	3.24	0.81	32.20	0.24	32.58	0.62	0.54
MOLINO VALLE	8	T=200	57.00	29.98	31.93	31.56	32.39	0.004434	2.98	0.71	32.21	0.28	32.43	0.50	0.45
MOLINO VALLE	7	T=200	57.00	29.84	31.46	31.46	32.28	0.009917	3.99	1.00	31.93	0.47	31.34	-0.12	0.81
MOLINO VALLE	6	T=200	57.00	29.61	30.56	30.96	31.93	0.027673	5.19	1.70	31.04	0.48	31.36	0.80	1.37
MOLINO VALLE	5	T=200	57.00	29.53	31.03	31.03	31.72	0.008712	3.68	1.00	31.92	0.89	31.72	0.69	0.69
MOLINO VALLE	4	T=200	57.00	29.38	31.05	30.84	31.57	0.005651	3.19	0.81	31.82	0.77	31.57	0.52	0.52
MOLINO VALLE	3	T=200	57.00	29.26	31.00	30.75	31.48	0.006425	3.09	0.86	33.11	2.11	33.11	2.11	0.49
MOLINO VALLE	2.5		Bridge												
MOLINO VALLE	2	T=200	57.00	29.10	30.88	30.52	31.30	0.004230	2.86	0.71	33.11	2.23	33.11	2.23	0.42
MOLINO VALLE	1	T=200	57.00	28.85	30.49	30.49	31.20	0.009314	3.71	1.01	31.82	1.33	30.70	0.21	0.70

CONSIDERAZIONI SUL TRASPORTO SOLIDO

Dall'esame dello stato dell'alveo nel tratto oggetto di analisi non pare caratterizzato da rilevanti apporti di materiale da monte.

Il tratto a monte, fino al primo nodo di confluenza, presenta un alveo attivo ristretto con evidenti fenomeni di escavazione del fondo e scalzamento delle sponde, mentre negli ultimi 200 metri l'importante allargamento della sezione comporta una sensibile riduzione della velocità della corrente e conseguente deposito dei materiali litoidi provenienti da monte.

PIANO DI MANUTENZIONE DELLE OPERE IDRAULICHE

Il presente paragrafo descrive le modalità da seguire per la corretta gestione e manutenzione delle opere previste nel progetto.

In particolare il piano di manutenzione costituisce lo strumento per garantire il corretto funzionamento delle opere stesse durante la loro vita al fine di mantenere nel tempo tale funzionalità oltre che le qualità, l'efficienta ed il valore economico delle opere, con il presente piano vengono individuati i necessari interventi di controllo, di manutenzione, di verifica e la loro periodicità.

Le modalità di conduzione e manutenzione di seguito riportate sono intese come minimali per l'esecuzione della conduzione e per i programmi dettagliati di manutenzione.

La gestione dei corsi d'acqua e la loro manutenzione è uno strumento per la buona conservazione dello stesso. Per manutenzione si intende la combinazione di tutte le azioni tecniche volte a mantenere o a riportare un'entità in uno stato in cui possa eseguire le funzioni richieste. Più precisamente questo comporta:

- il ripristino: recupero da parte dell'entità della propria attitudine ad eseguire una funzione richiesta;
- la riparazione: intervento rinnovo o sostituzione di uno o più componenti danneggiati;
- il miglioramento: insieme di azioni di miglioramento o di modifica.

La manutenzione dei corsi d'acqua deve ottimizzare la funzionalità degli stessi, valutando complessivamente gli aspetti idraulici ed ambientali.

La capacità di smaltire le portate di progetto delle sezioni dei corsi d'acqua ivi presenti si può raggiungere attraverso alcune misure di manutenzione da effettuare:

1. ispezione dopo ogni evento di piena significativa
2. pulizia annuale dalla vegetazione infestante
3. **pulizia periodica con eventuale rimozione del materiale depositato sul fondo, per mantenere la corretta** sezione **di deflusso.**

Ceva, giugno 2021 *Ing. Tatiana Quaglia*

VERIFICA IDRAULICA

TORRENTE MOLINO
RIO GARASSINI
RIO DOMO

Legenda tabella Allegato

River Sta = Sezioni dell'alveo studiato.

ofile = Profilo con assegnato periodo di ritorno.

Q total = Portata di progetto per assegnato periodo di ritorno.

Min Ch El = quota del fondo alveo.

W.S. Elev = quota del pelo libero.

LOB Elev = quota dell'argine in sponda sinistra.

ROB Elev = quota dell'argine in sponda destra.

L. Freeboard = Franco di sicurezza in sponda sinistra.

R. Freeboard = Franco di sicurezza in sponda destra.

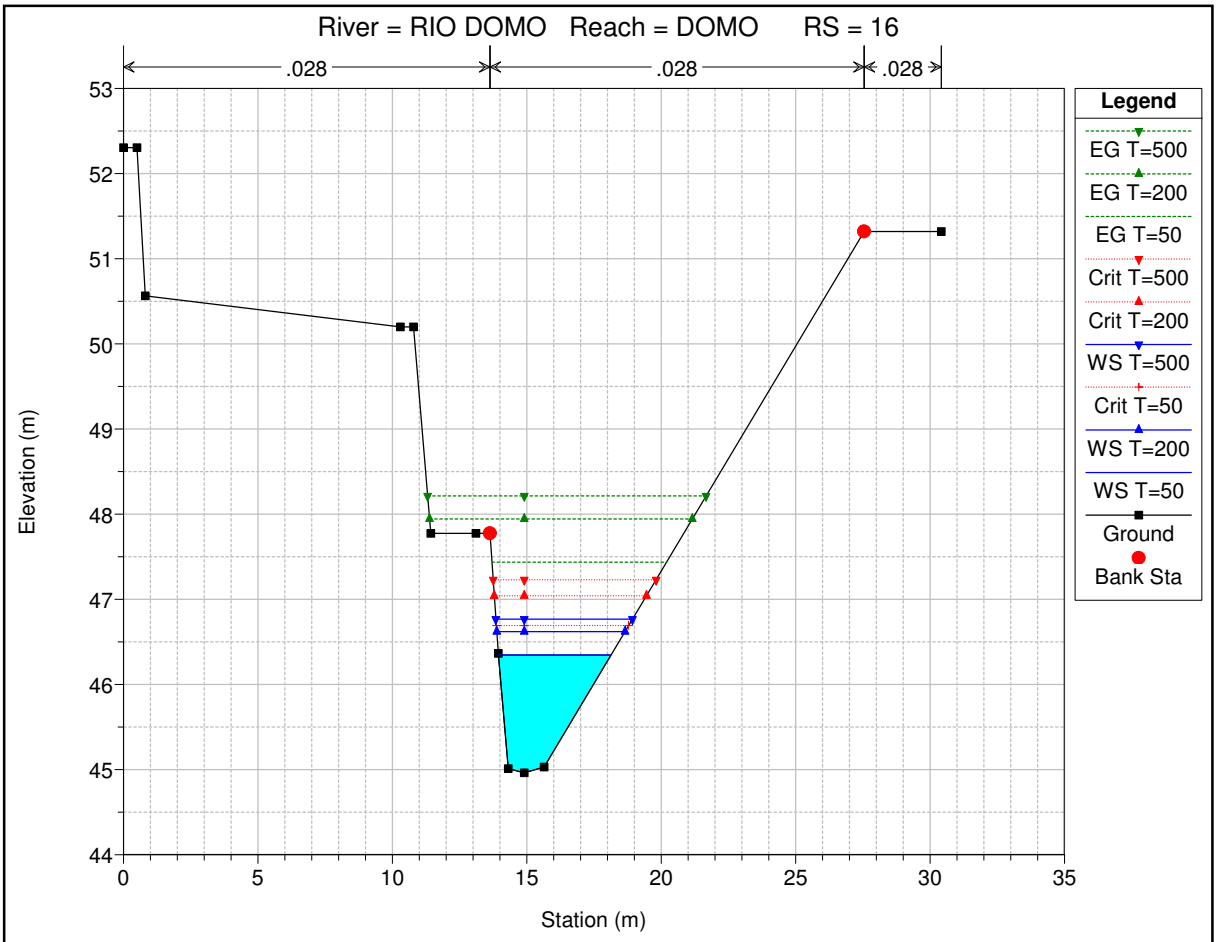
Crit. W.S. = profondità critica per assegnato periodo di ritorno.

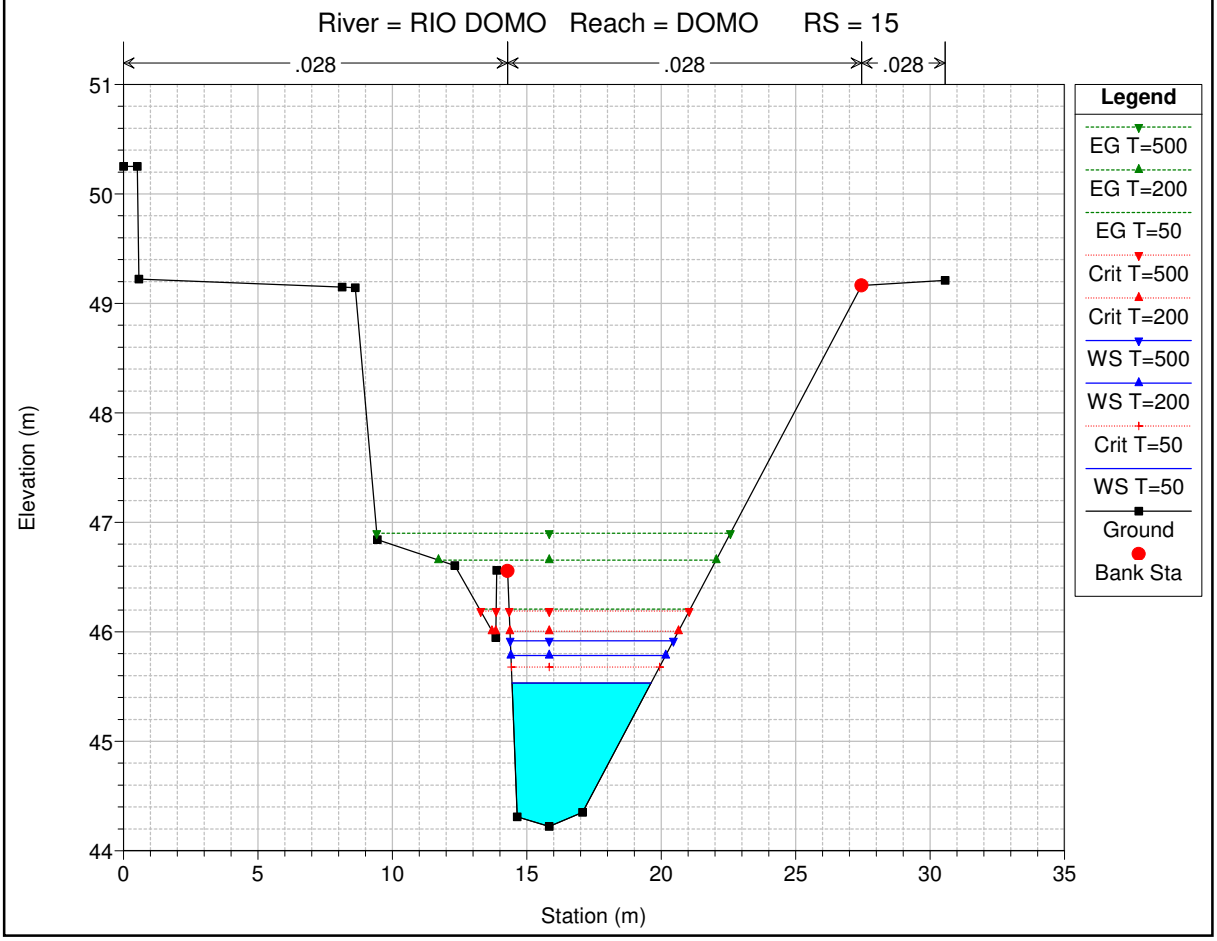
Vel Chnl = Velocità della corrente nel canale.

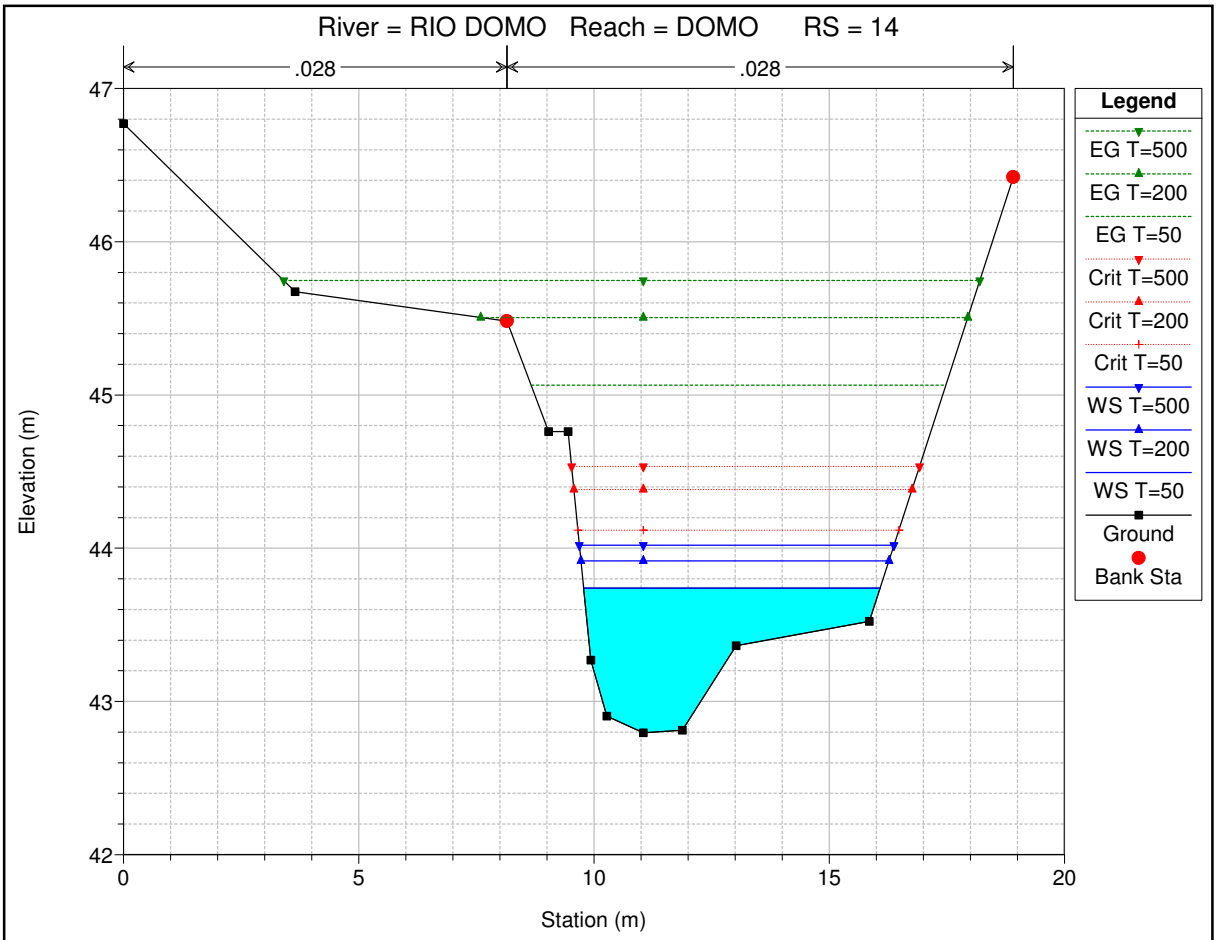
Froude = n° di froude della corrente

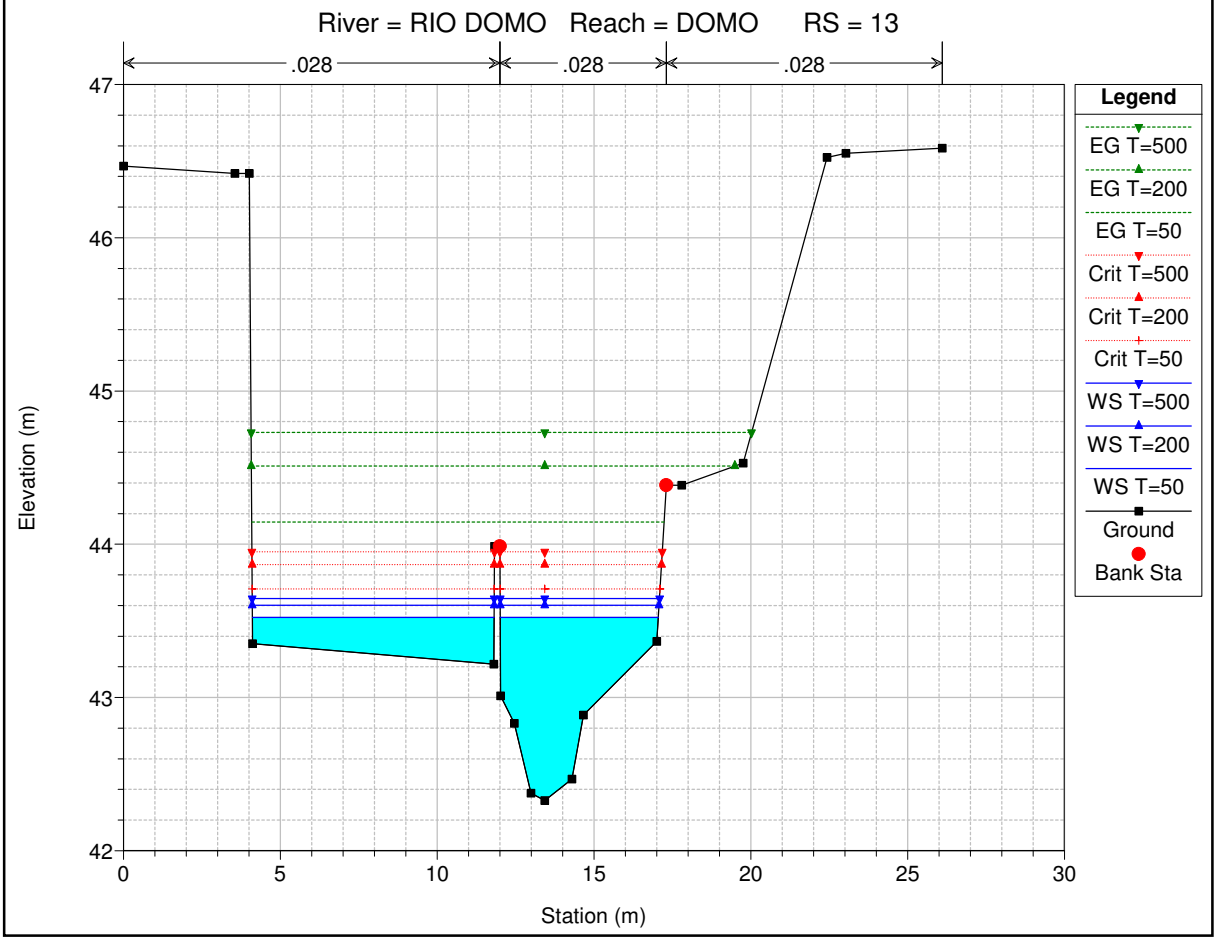
Vel. Head = $U^2/2g$.

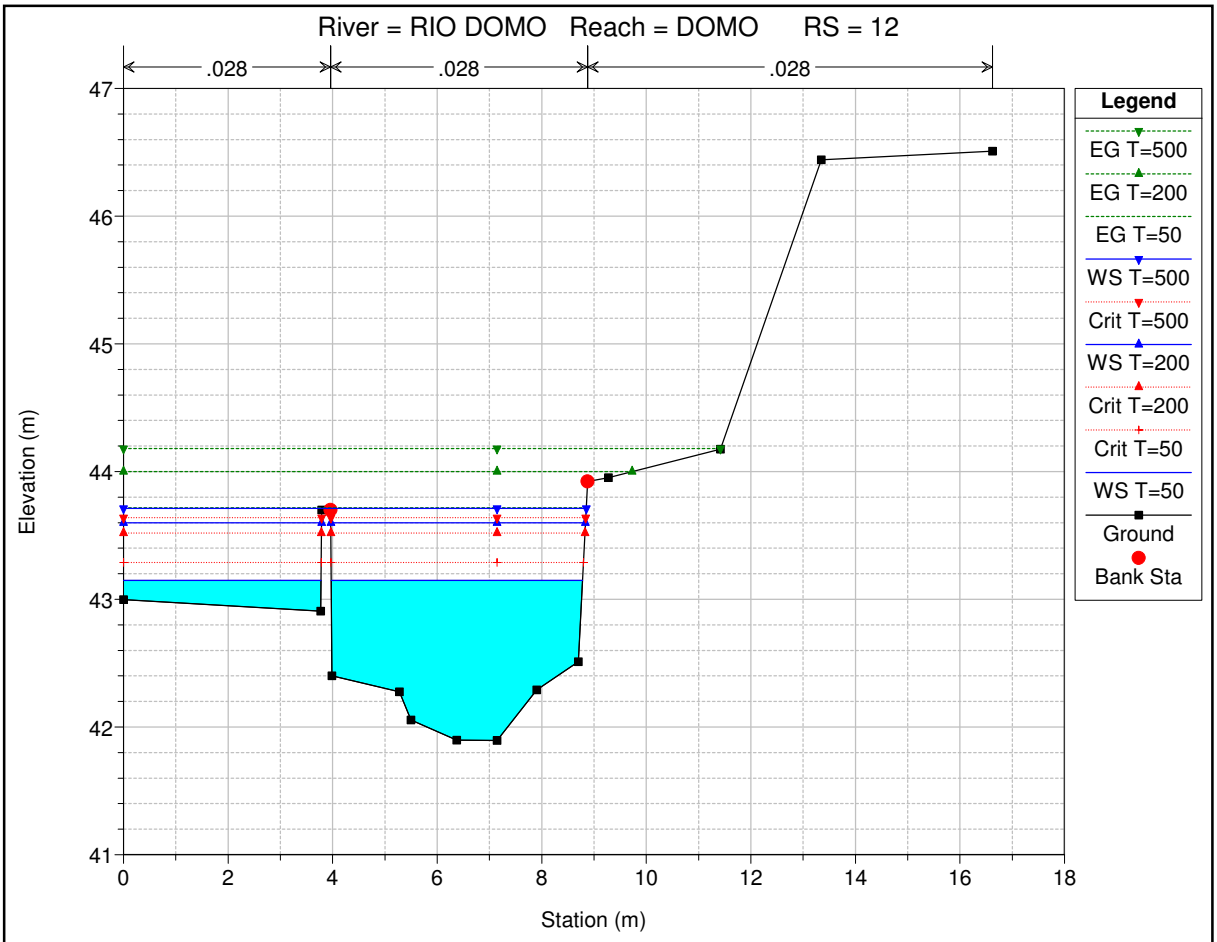
VERIFICA IDRAULICA
STATO ATTUALE

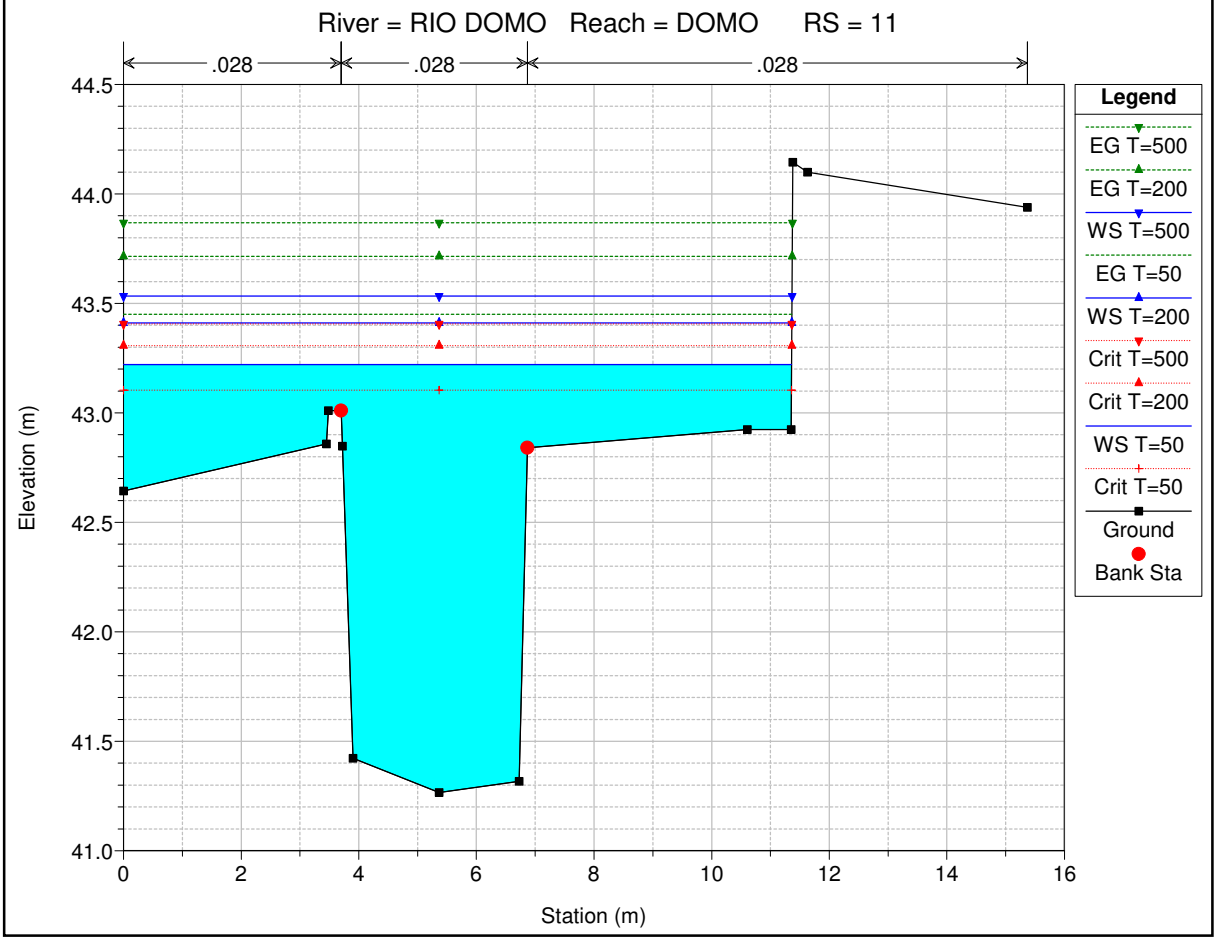

River = RIO DOMO Reach = DOMO RS = 16
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

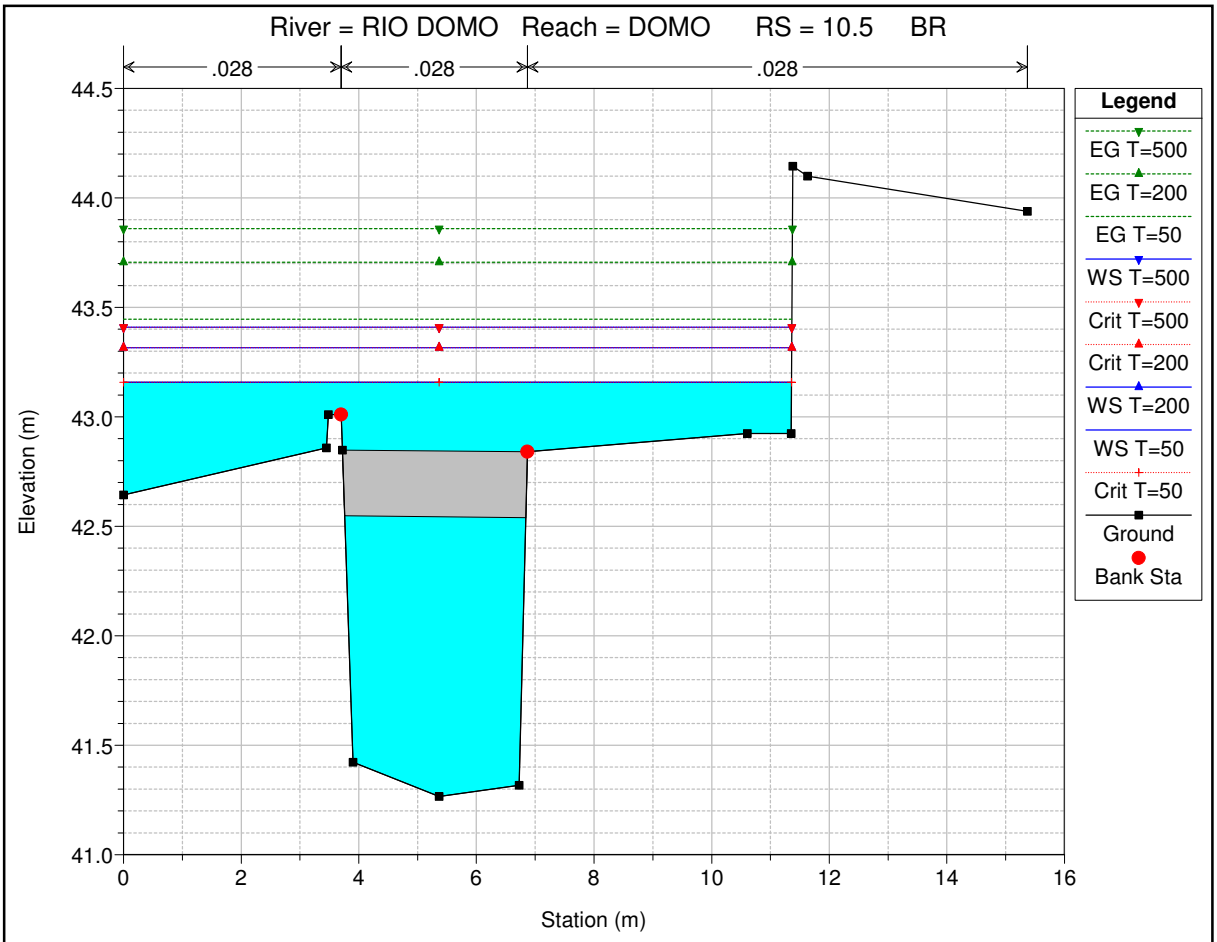

River = RIO DOMO Reach = DOMO RS = 15
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

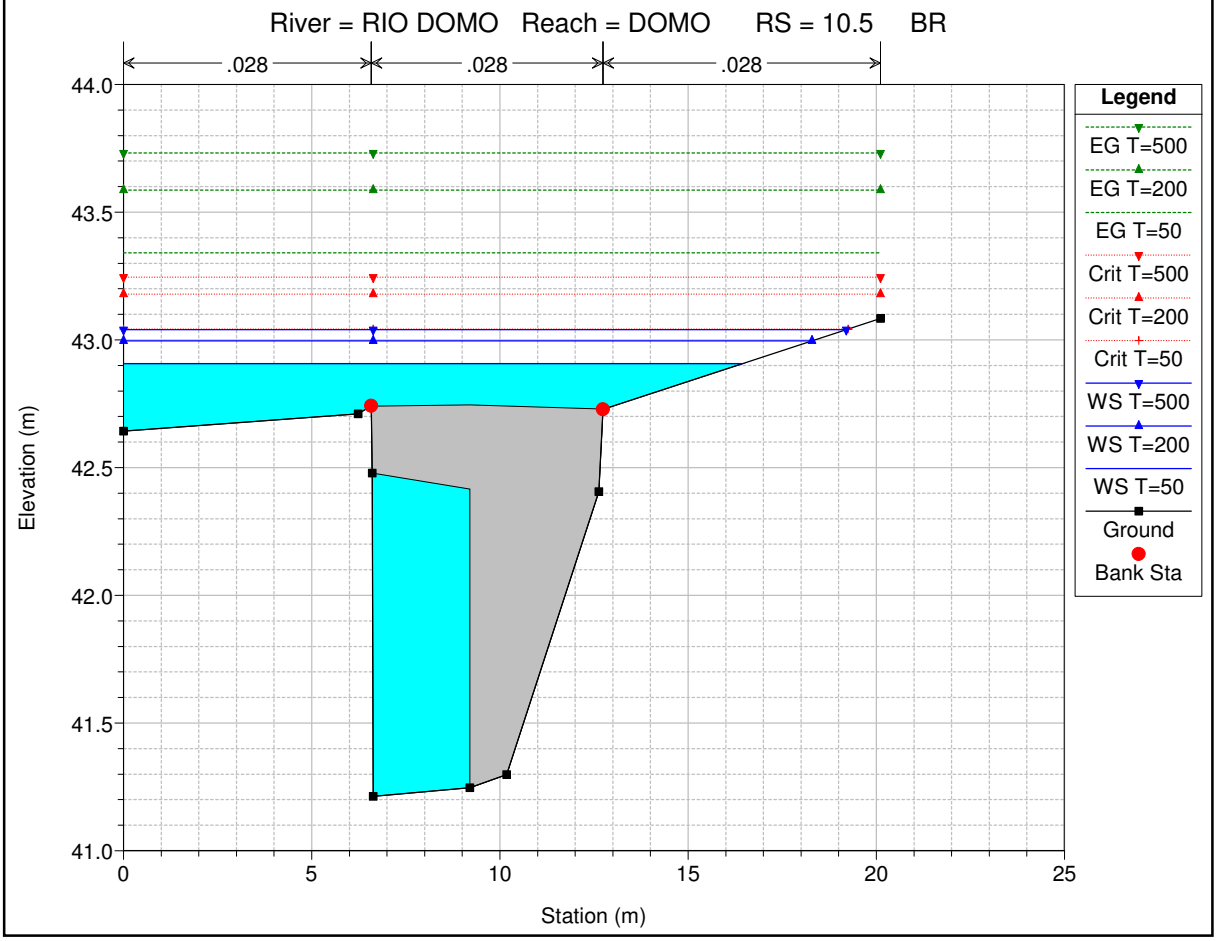

River = RIO DOMO Reach = DOMO RS = 14
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

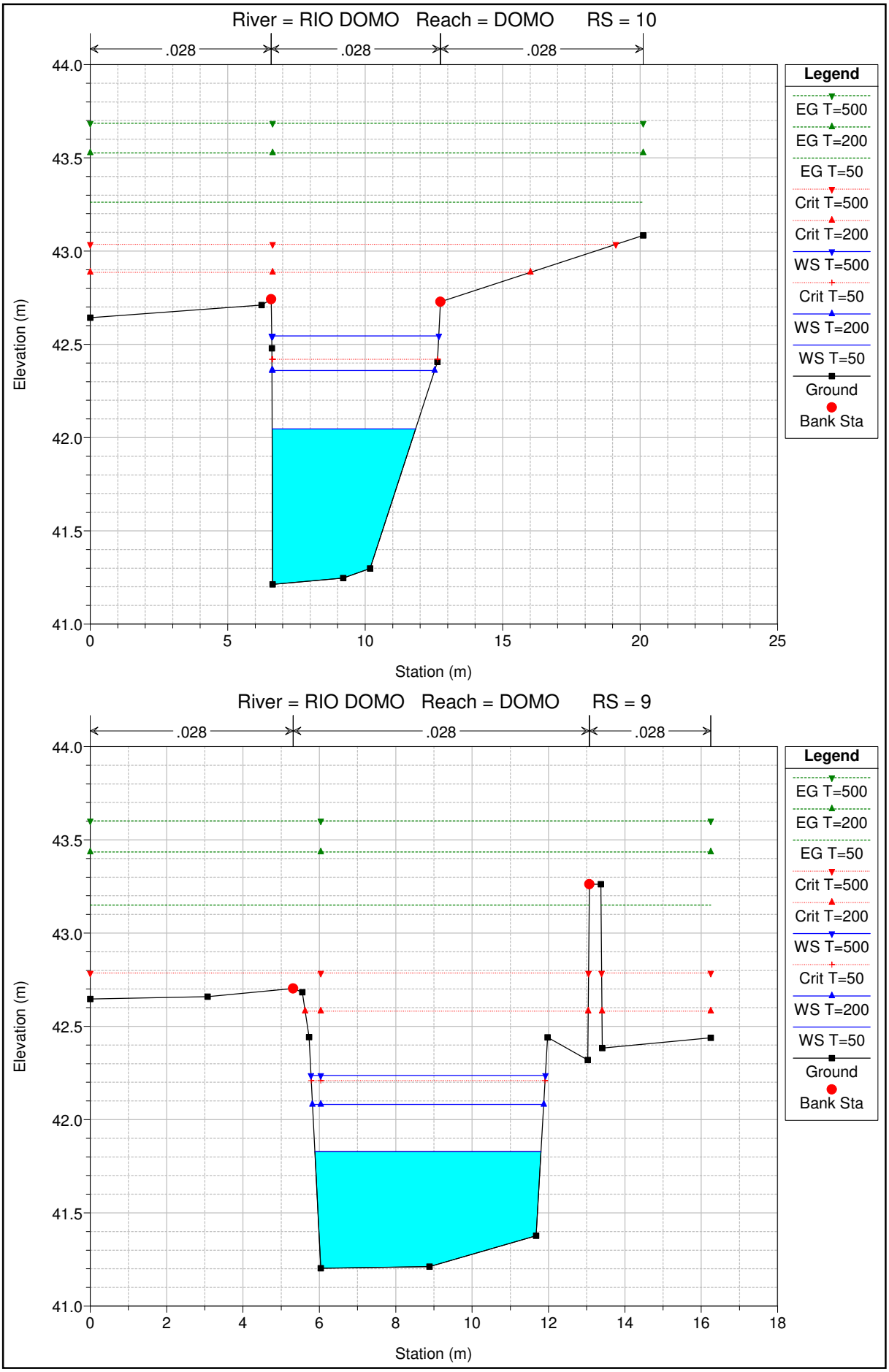

River = RIO DOMO Reach = DOMO RS = 13
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

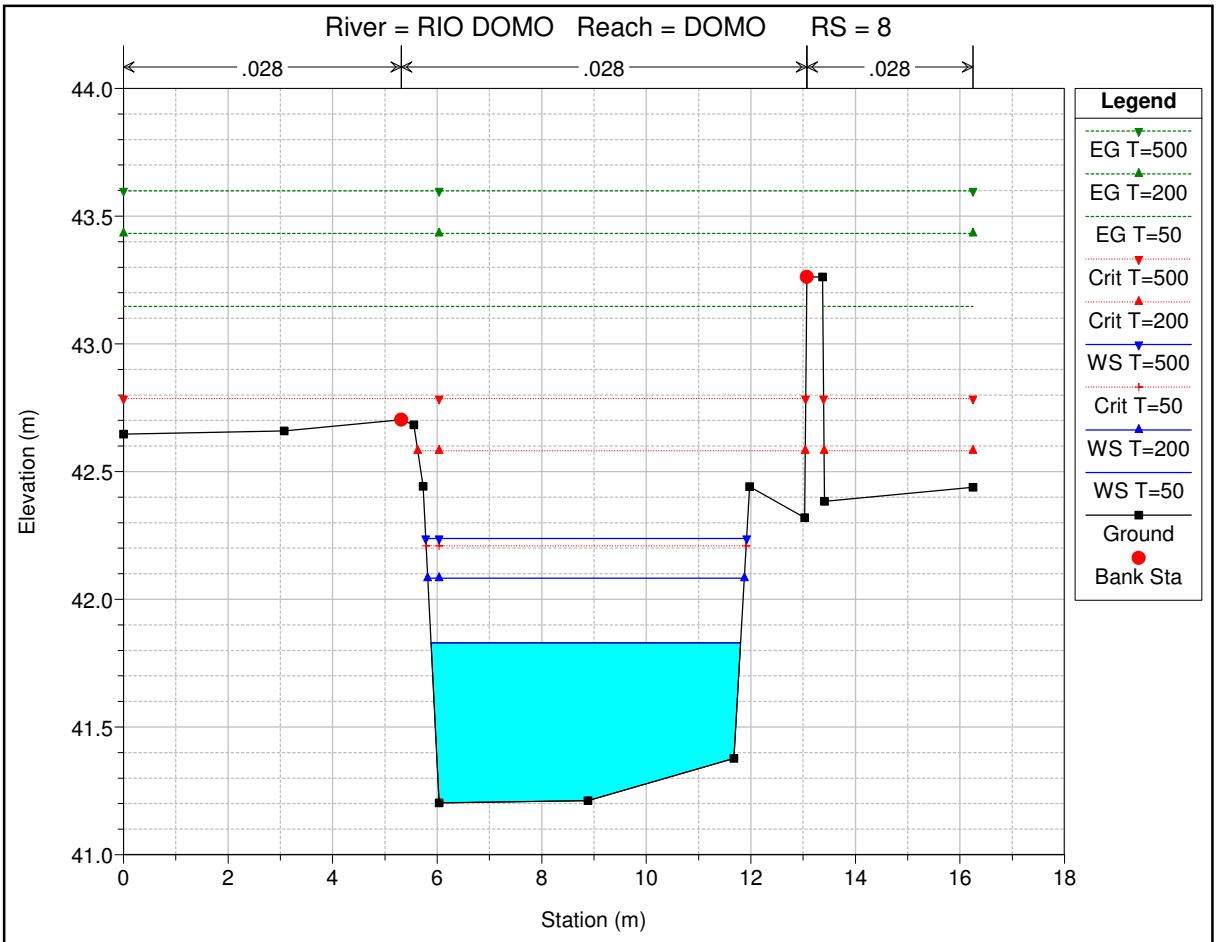

River = RIO DOMO Reach = DOMO RS = 12
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
WS T=200
Crit T=200
Crit T=50
WS T=50
Ground
Bank Sta

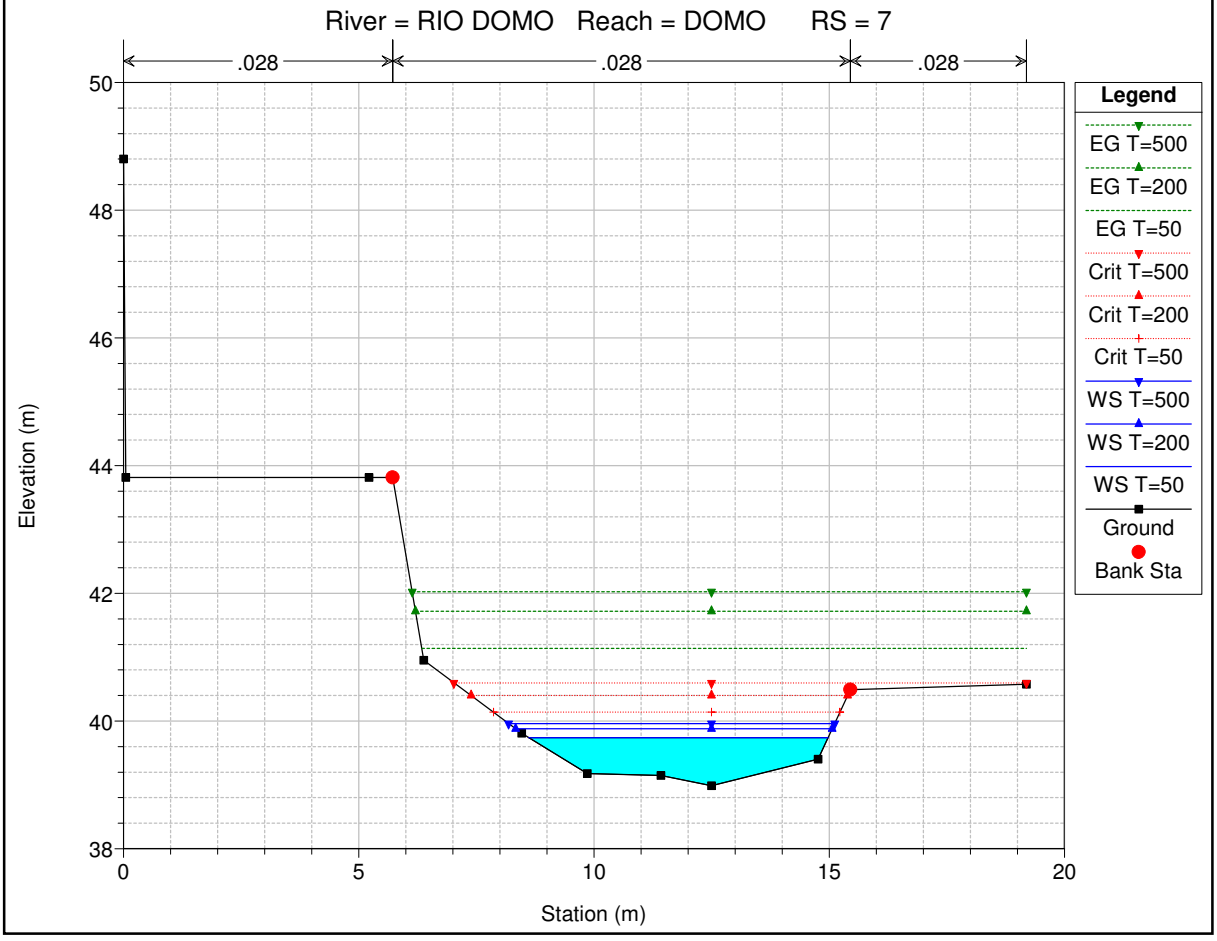

River = RIO DOMO Reach = DOMO RS = 11
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
WS T=200
Crit T=500
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

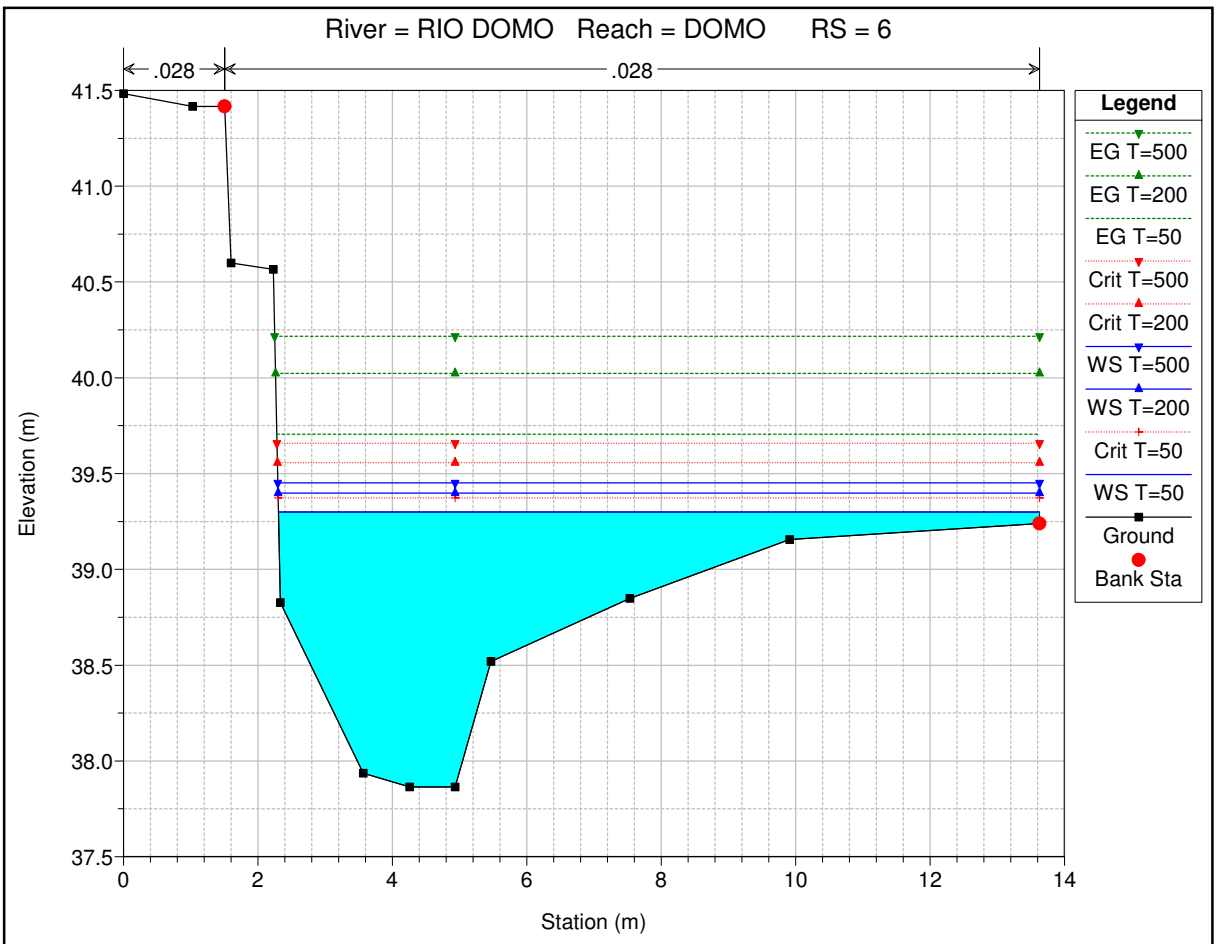

River = RIO DOMO Reach = DOMO RS = 10.5 BR
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

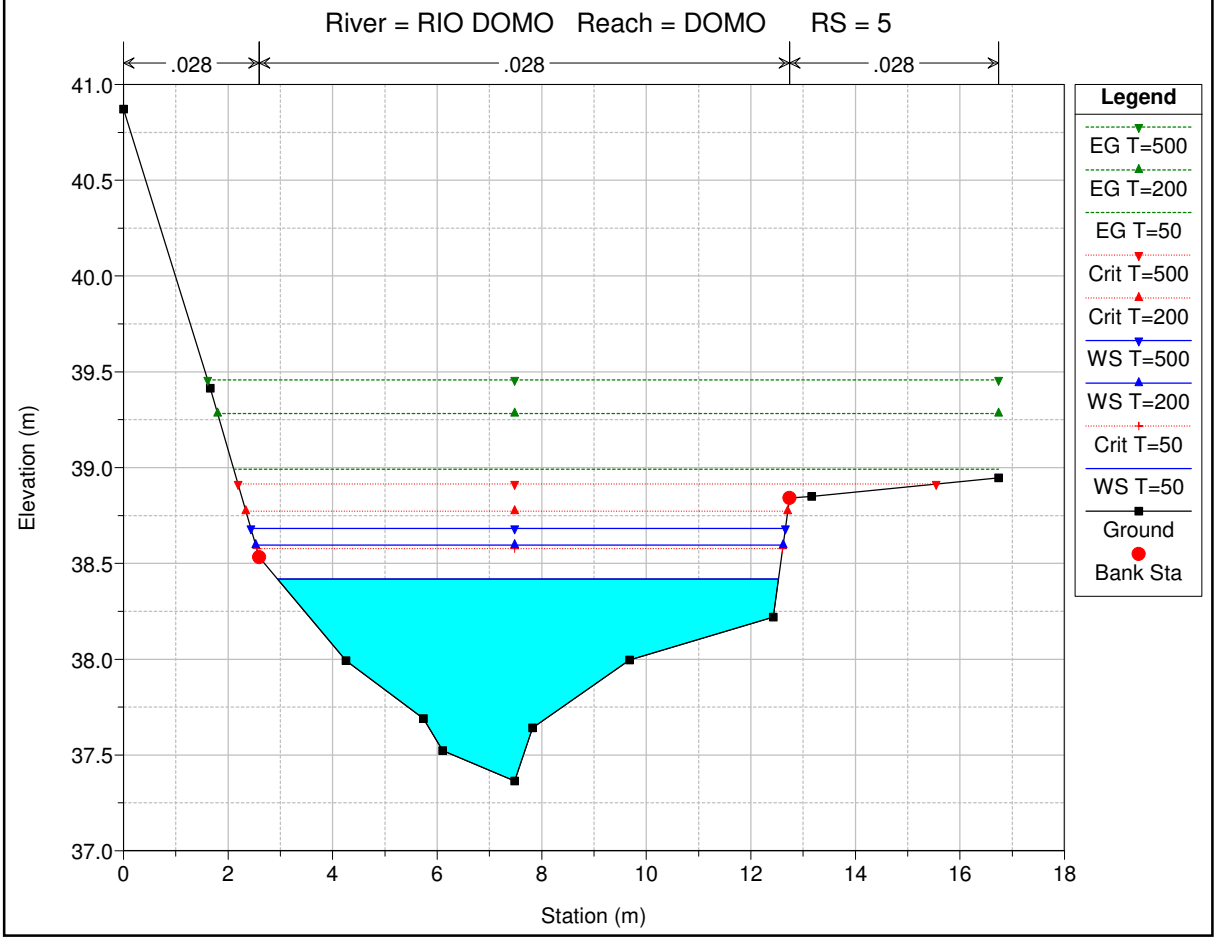

River = RIO DOMO Reach = DOMO RS = 10.5 BR
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

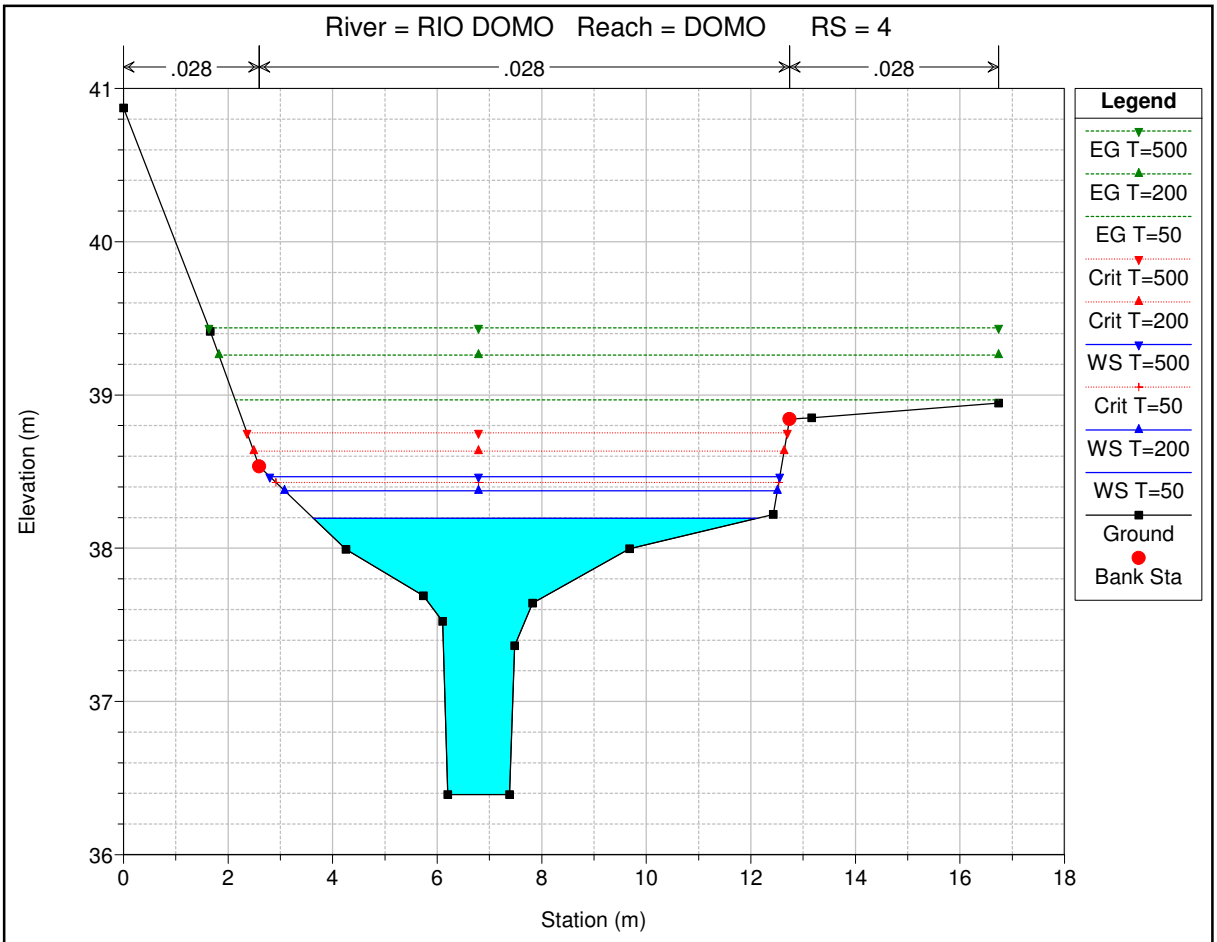

River = RIO DOMO Reach = DOMO RS = 10
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta
River = RIO DOMO Reach = DOMO RS = 9
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

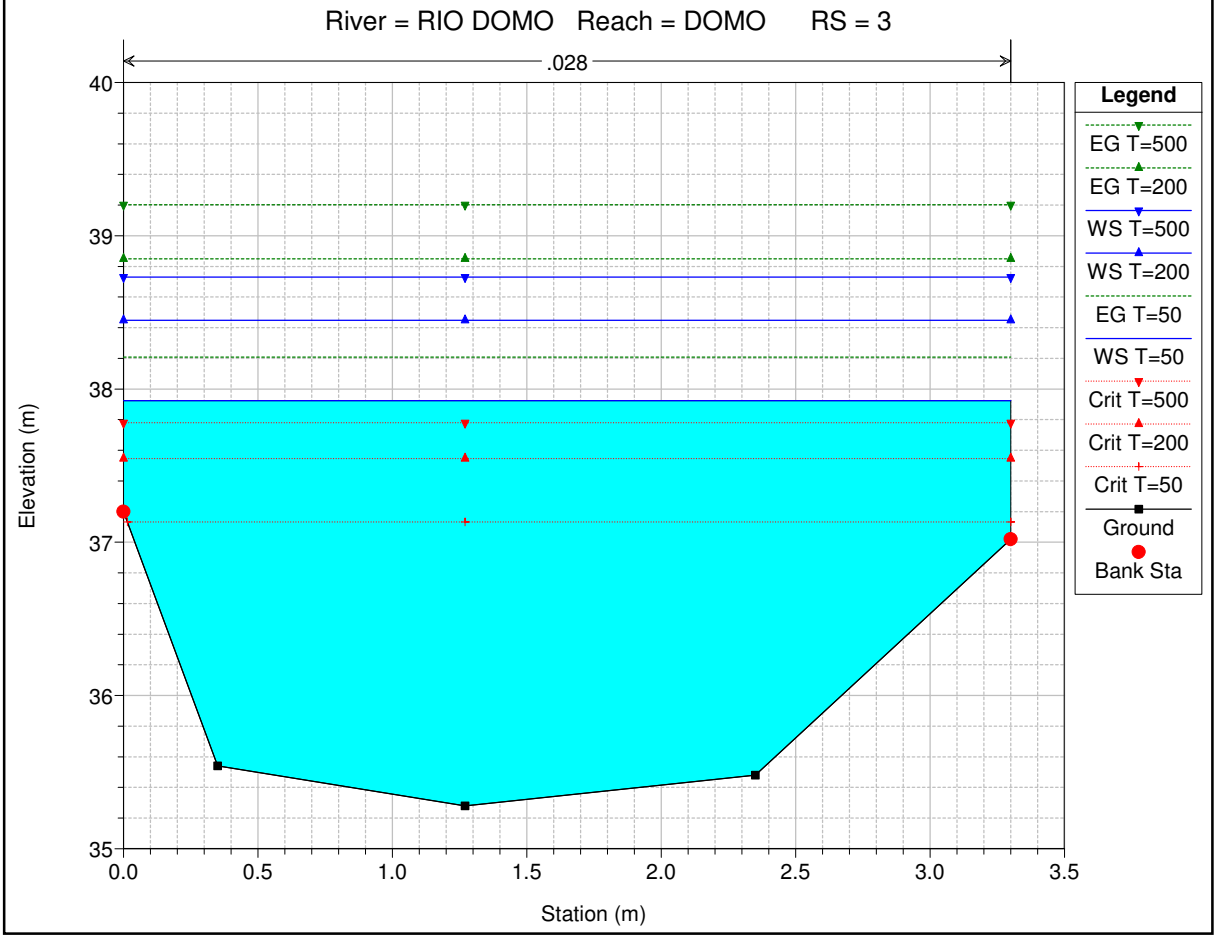

River = RIO DOMO Reach = DOMO RS = 8
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

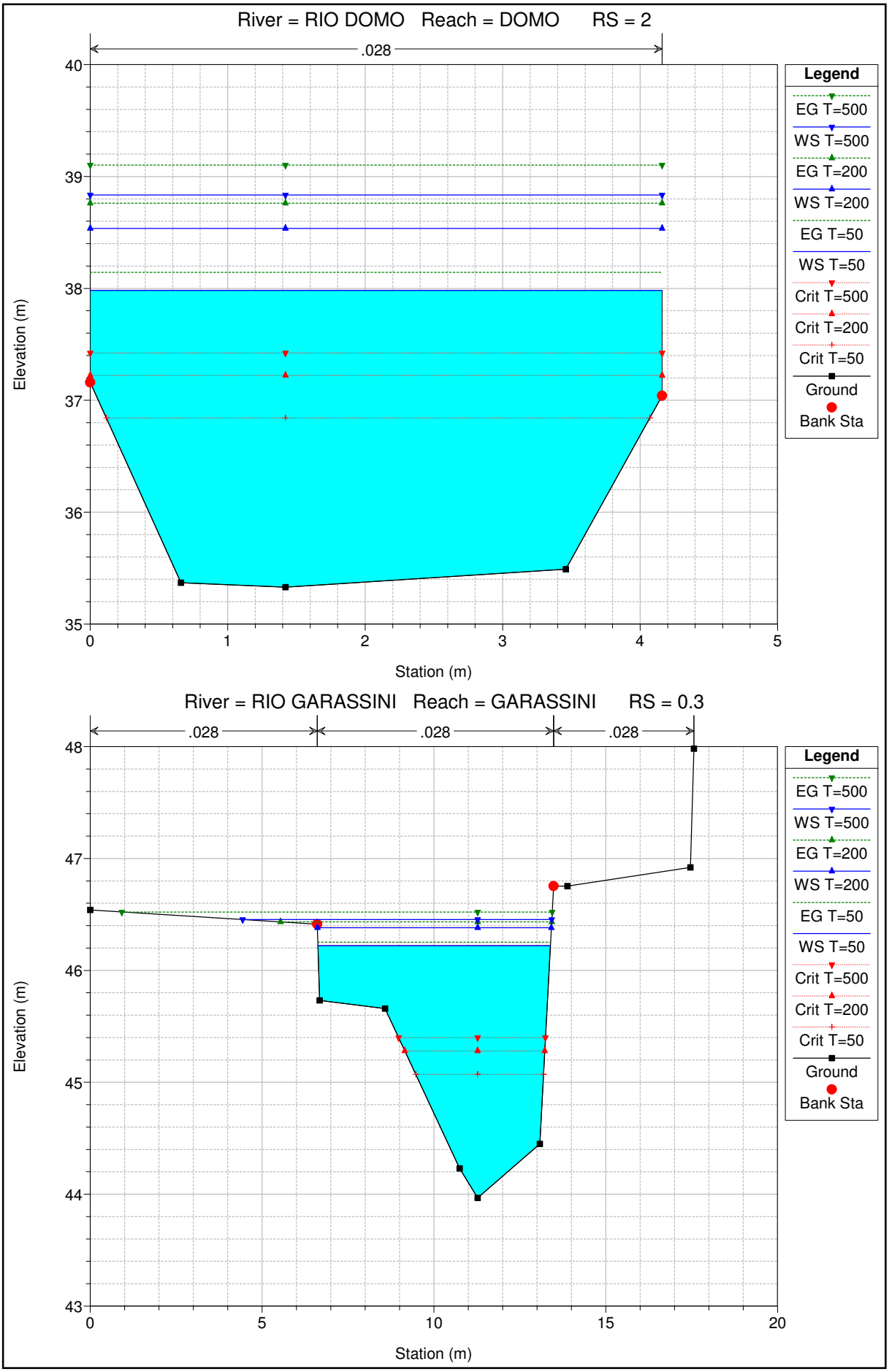

River = RIO DOMO Reach = DOMO RS = 7
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

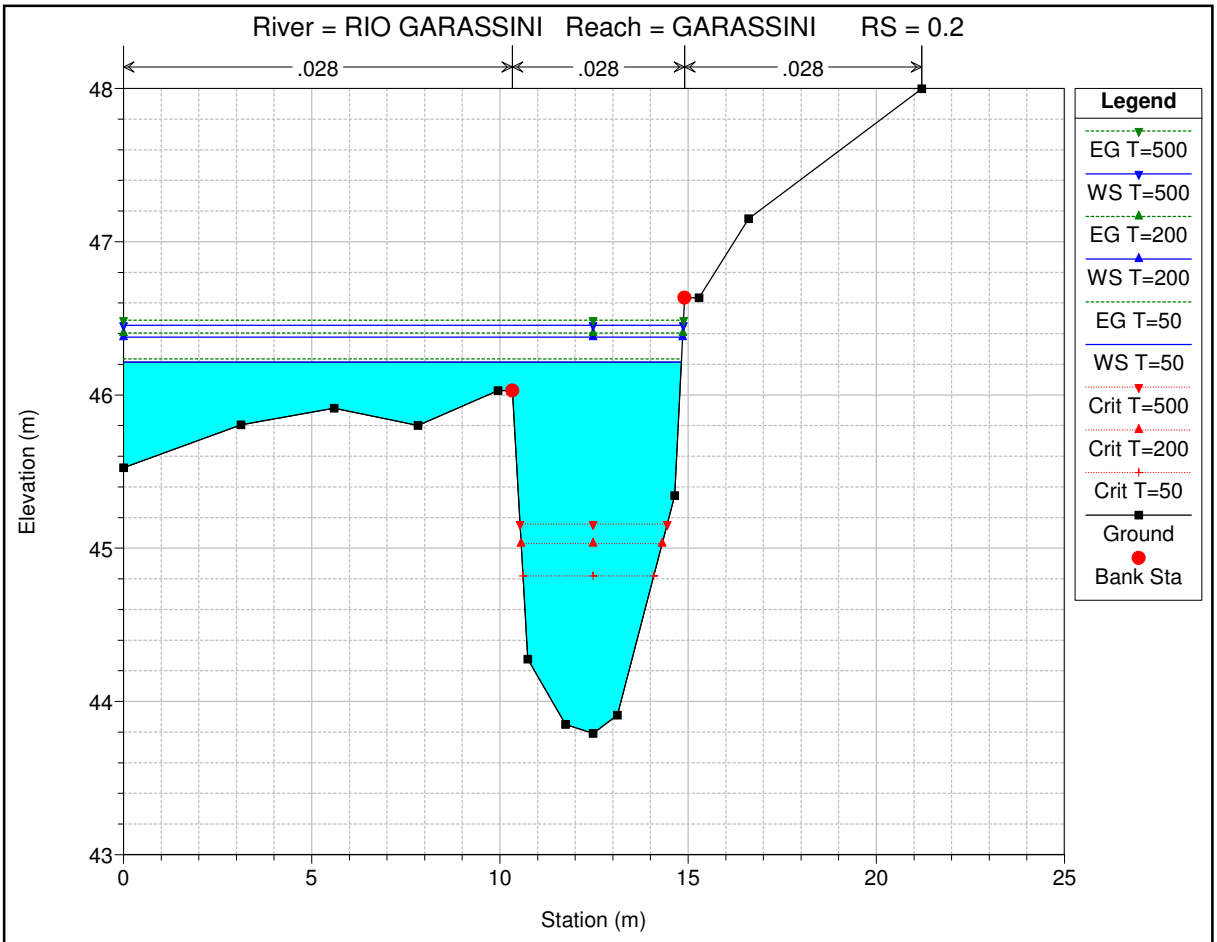

River = RIO DOMO Reach = DOMO RS = 6
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

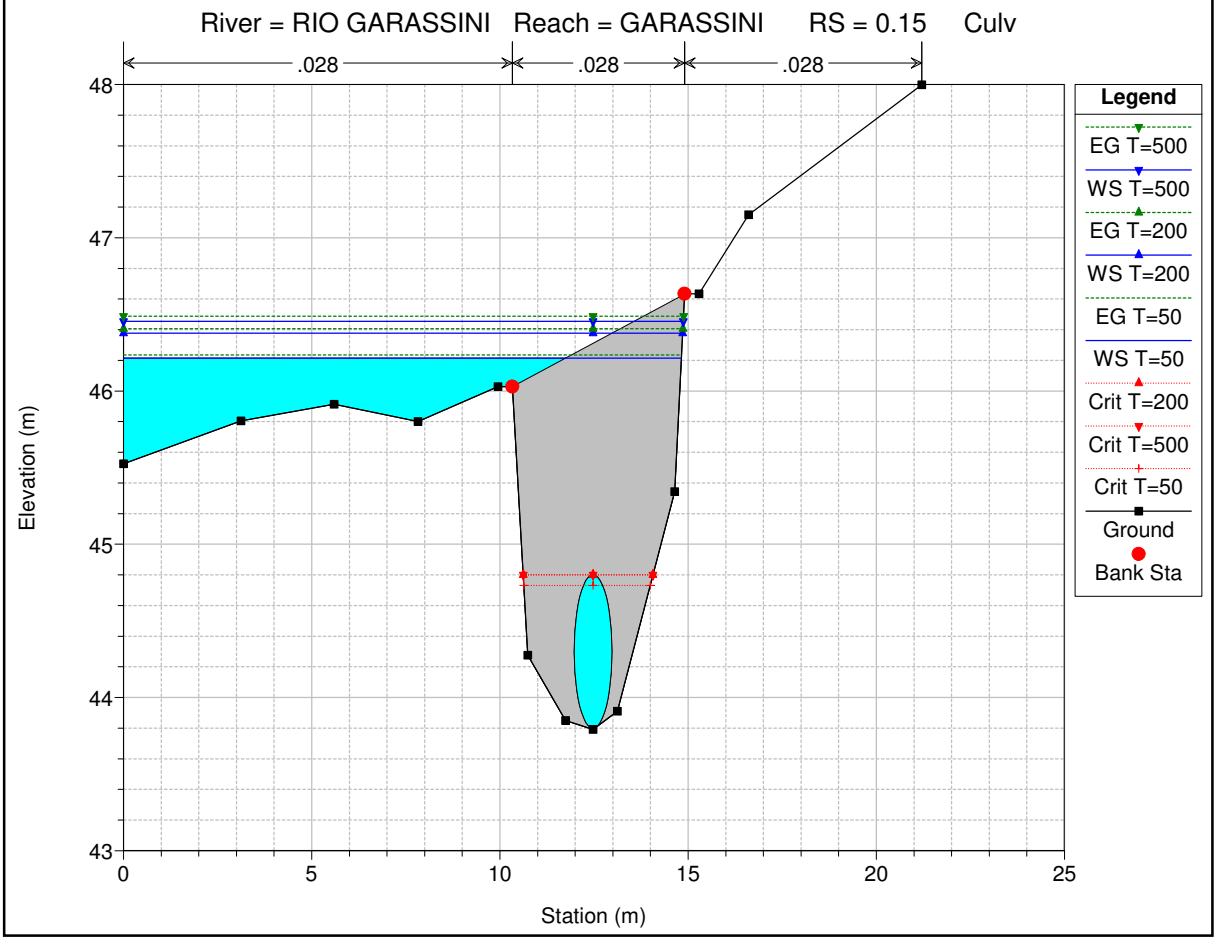

River = RIO DOMO Reach = DOMO RS = 5
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

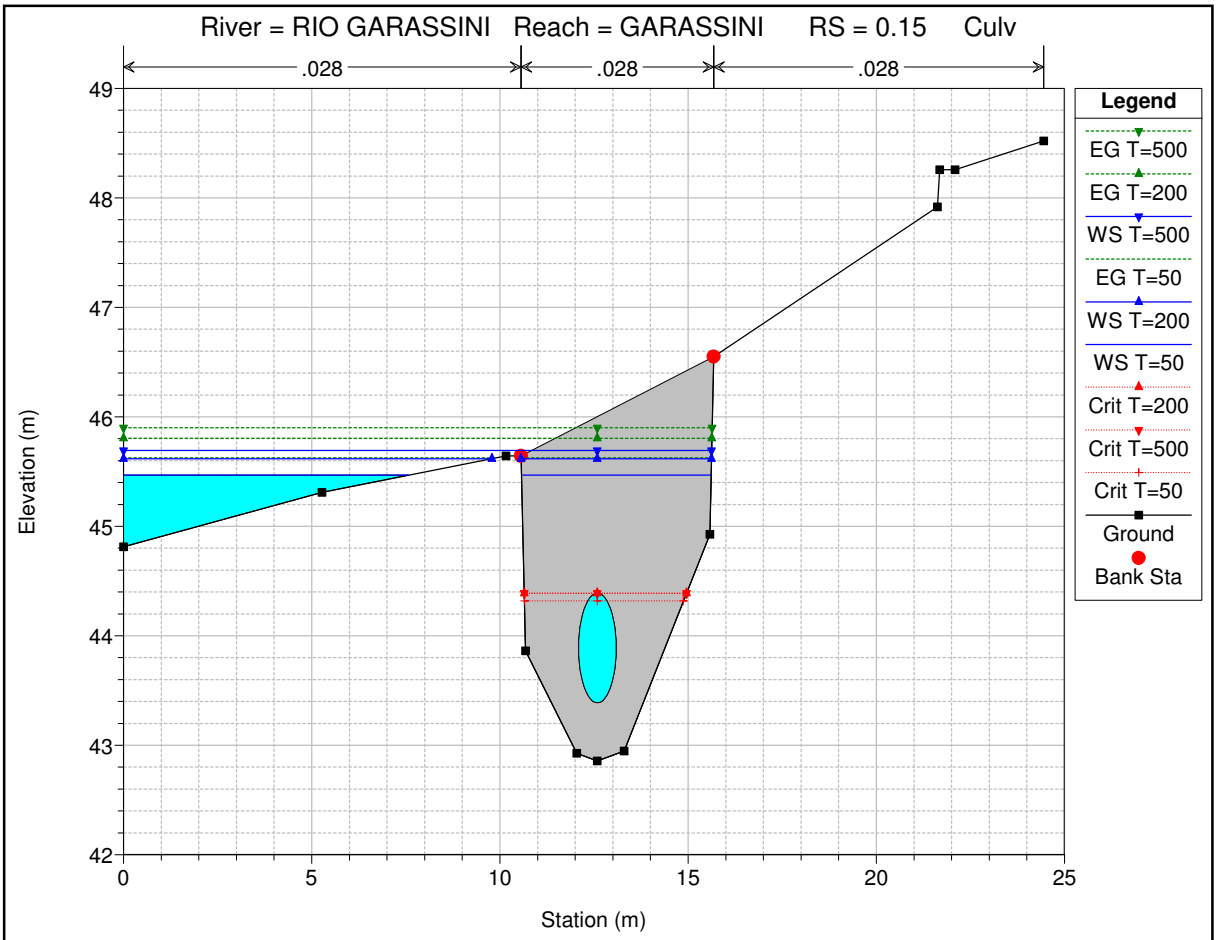

River = RIO DOMO Reach = DOMO RS = 4
.028
.028
.028
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta
Elevation (m)
Station (m)
41
40
39
38
37
36
0
2
4
6
8
10
12
14
16
18

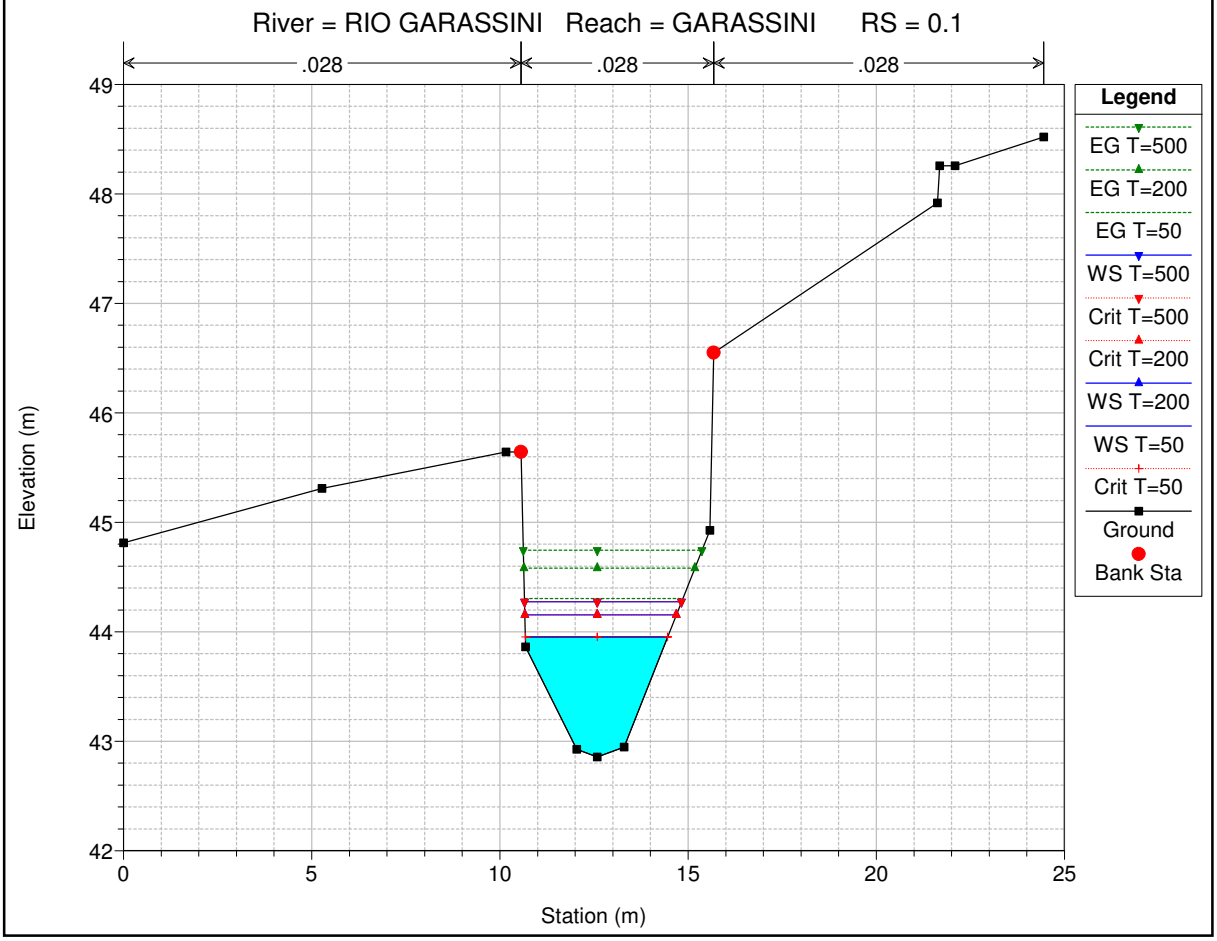

River = RIO DOMO Reach = DOMO RS = 3
.028
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
40
39
38
37
36
35
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

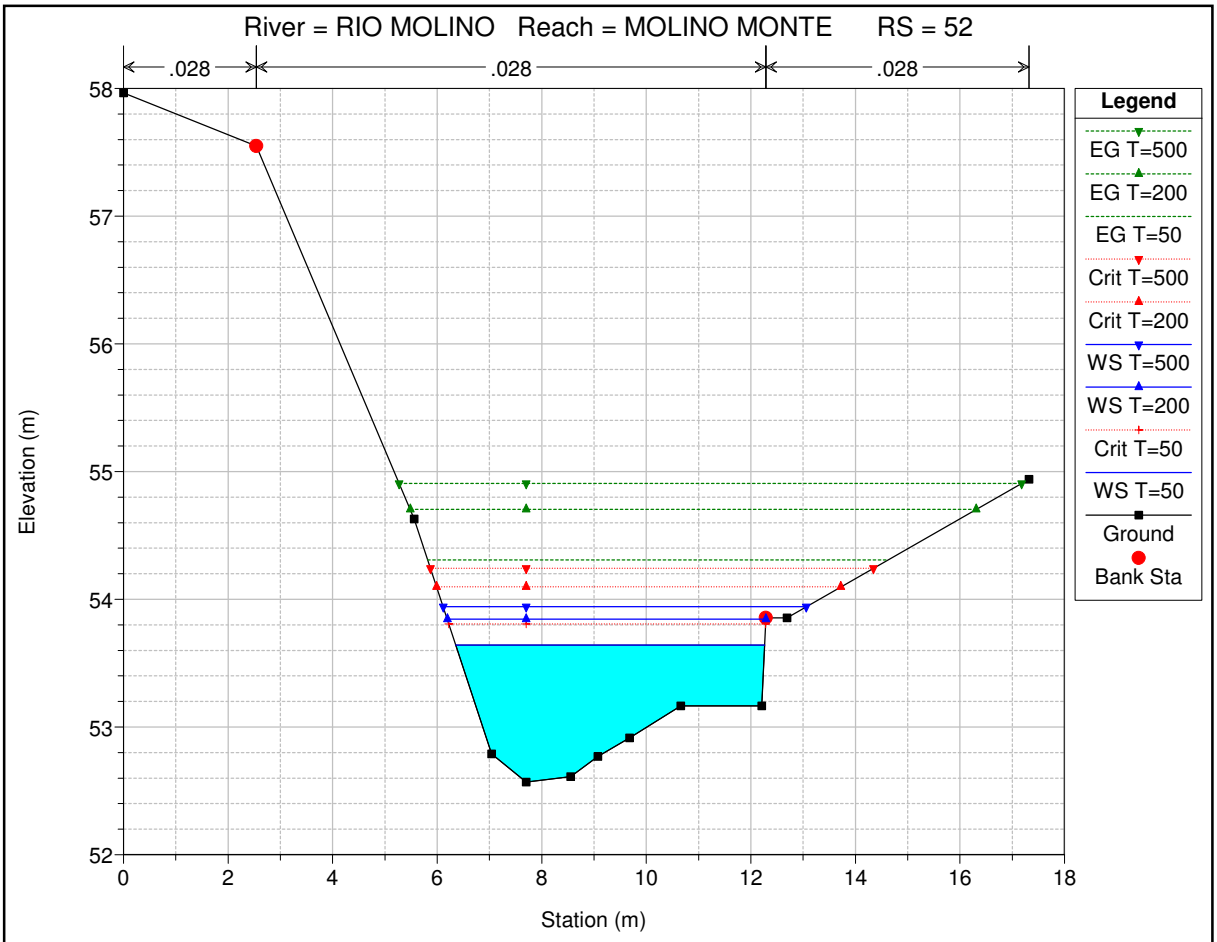

River = RIO DOMO Reach = DOMO RS = 2
.028
Elevation (m)
Station (m)
Legend
EG T=500
WS T=500
EG T=200
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta
River = RIO GARASSINI Reach = GARASSINI RS = 0.3
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
WS T=500
EG T=200
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta

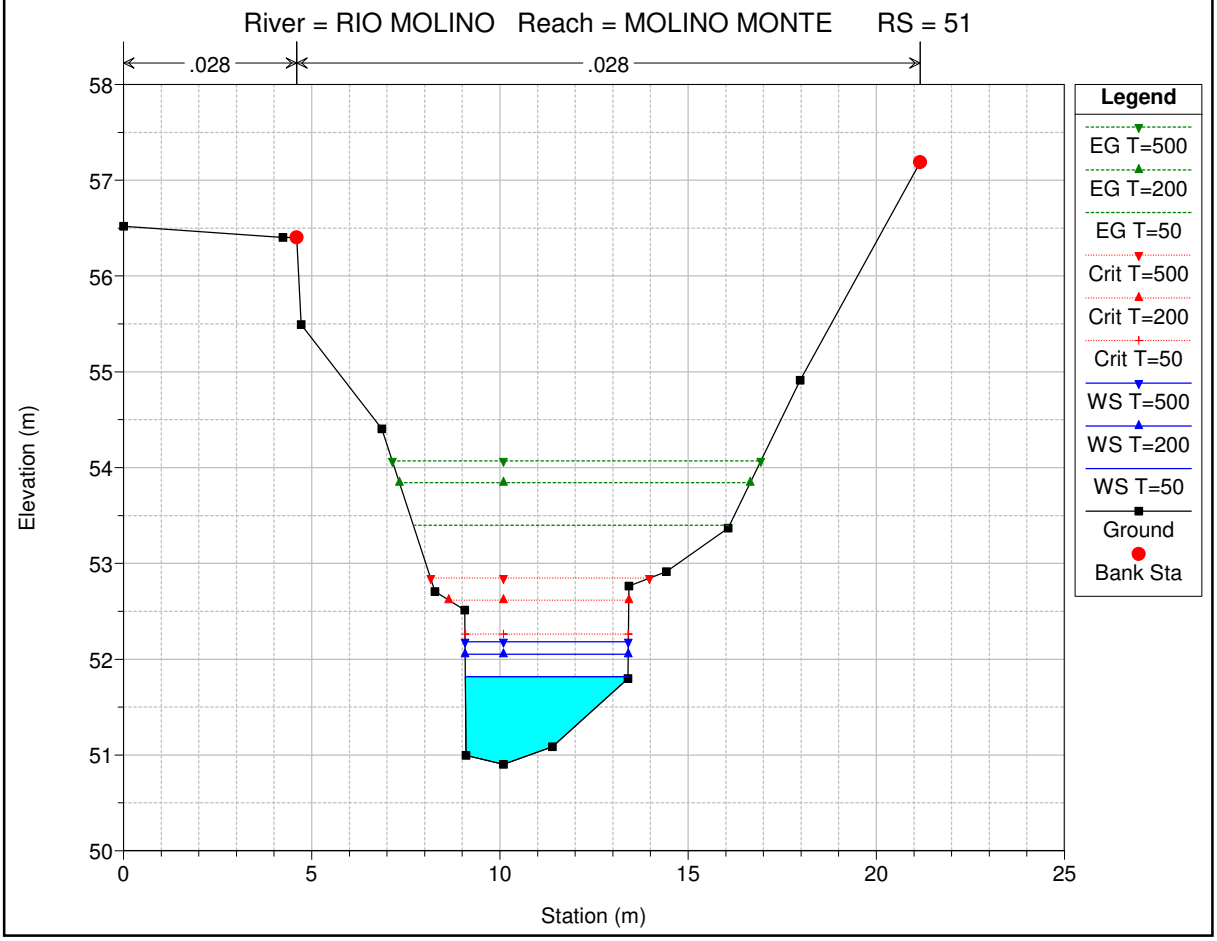

River = RIO GARASSINI Reach = GARASSINI RS = 0.2
.028
.028
.028
Legend
EG T=500
WS T=500
EG T=200
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

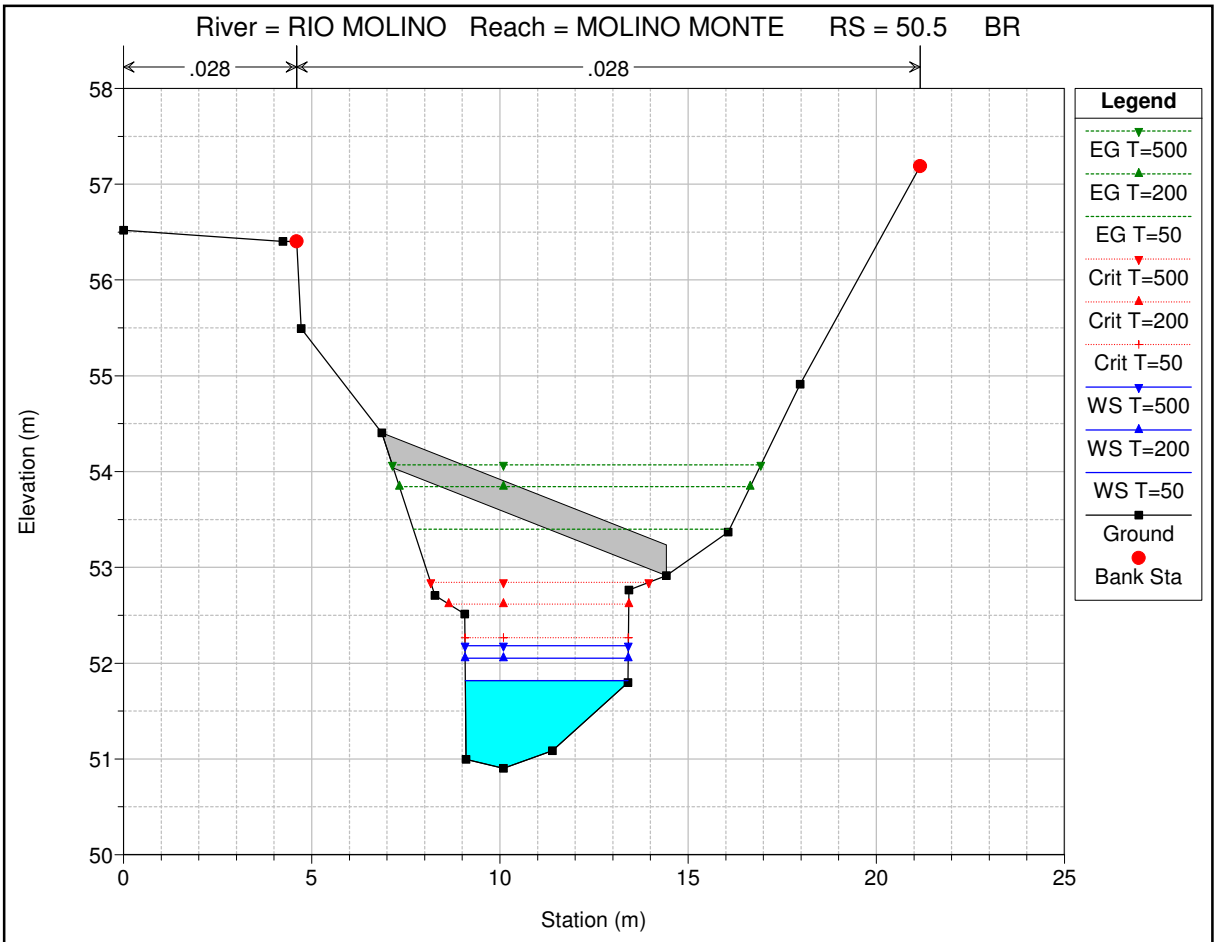

River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv
.028
.028
.028
Legend
EG T=500
WS T=500
EG T=200
WS T=200
EG T=50
WS T=50
Crit T=200
Crit T=500
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

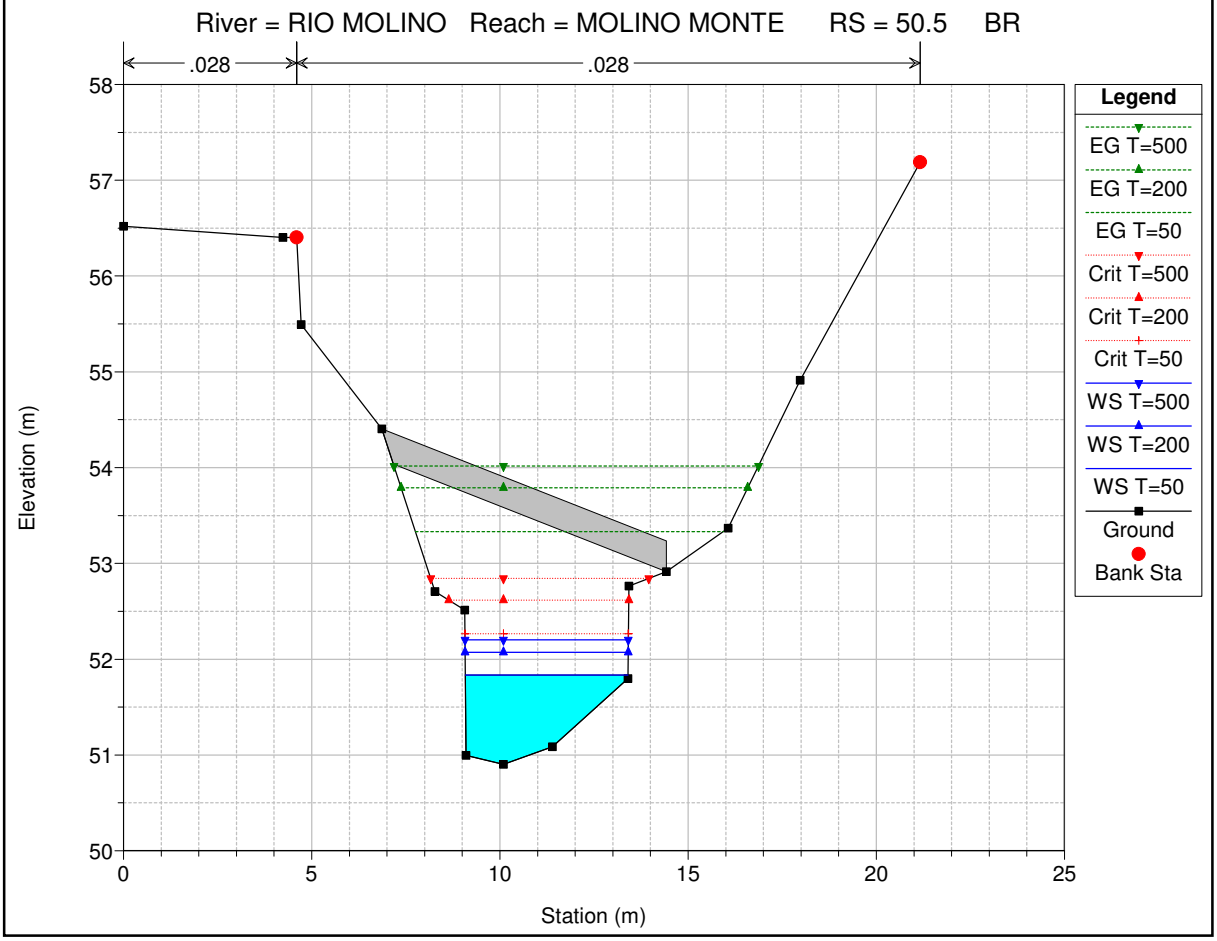

River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv
.028
.028
.028
Legend
EG T=500
EG T=200
WS T=500
EG T=50
WS T=200
WS T=50
Crit T=200
Crit T=500
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

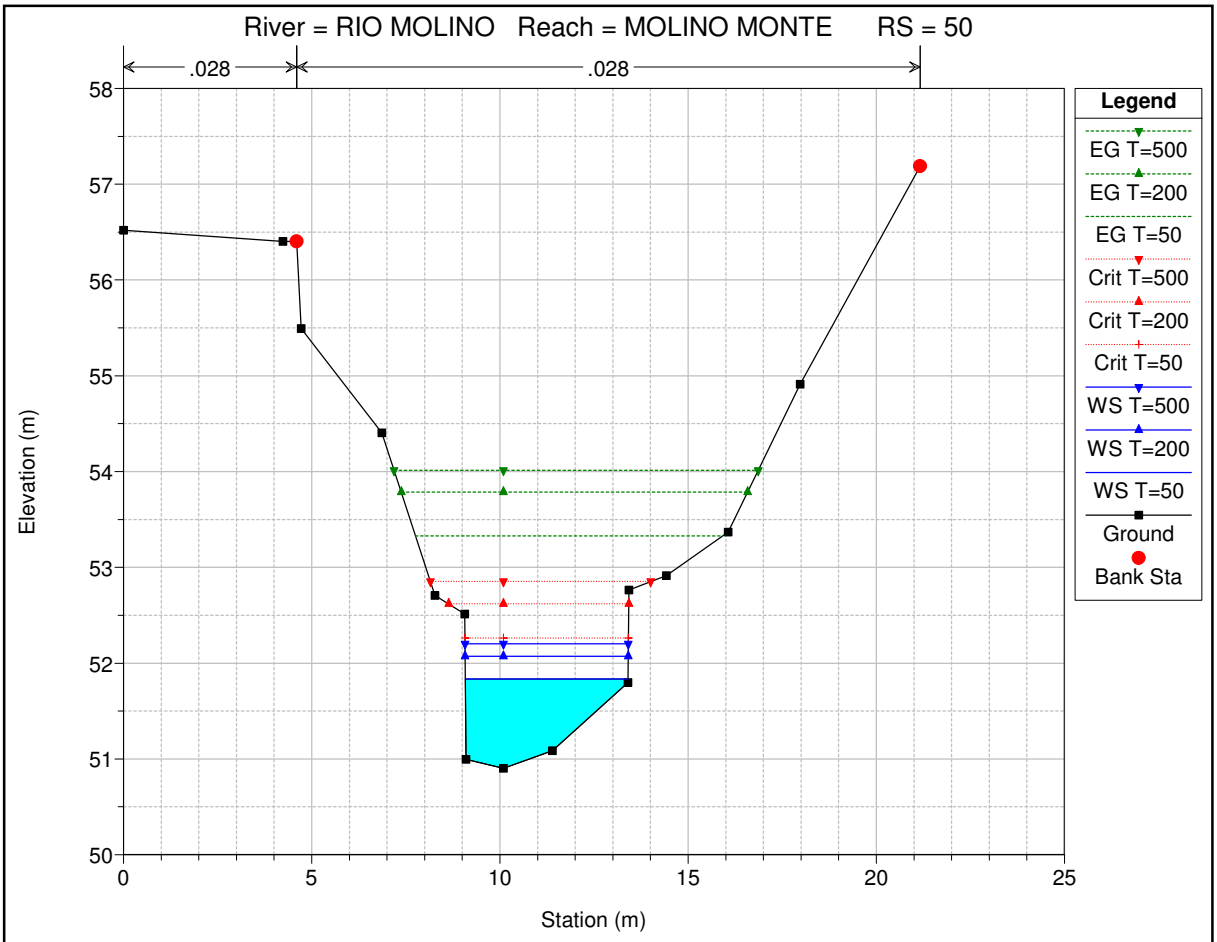

River = RIO GARASSINI Reach = GARASSINI RS = 0.1
.028
.028
.028
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

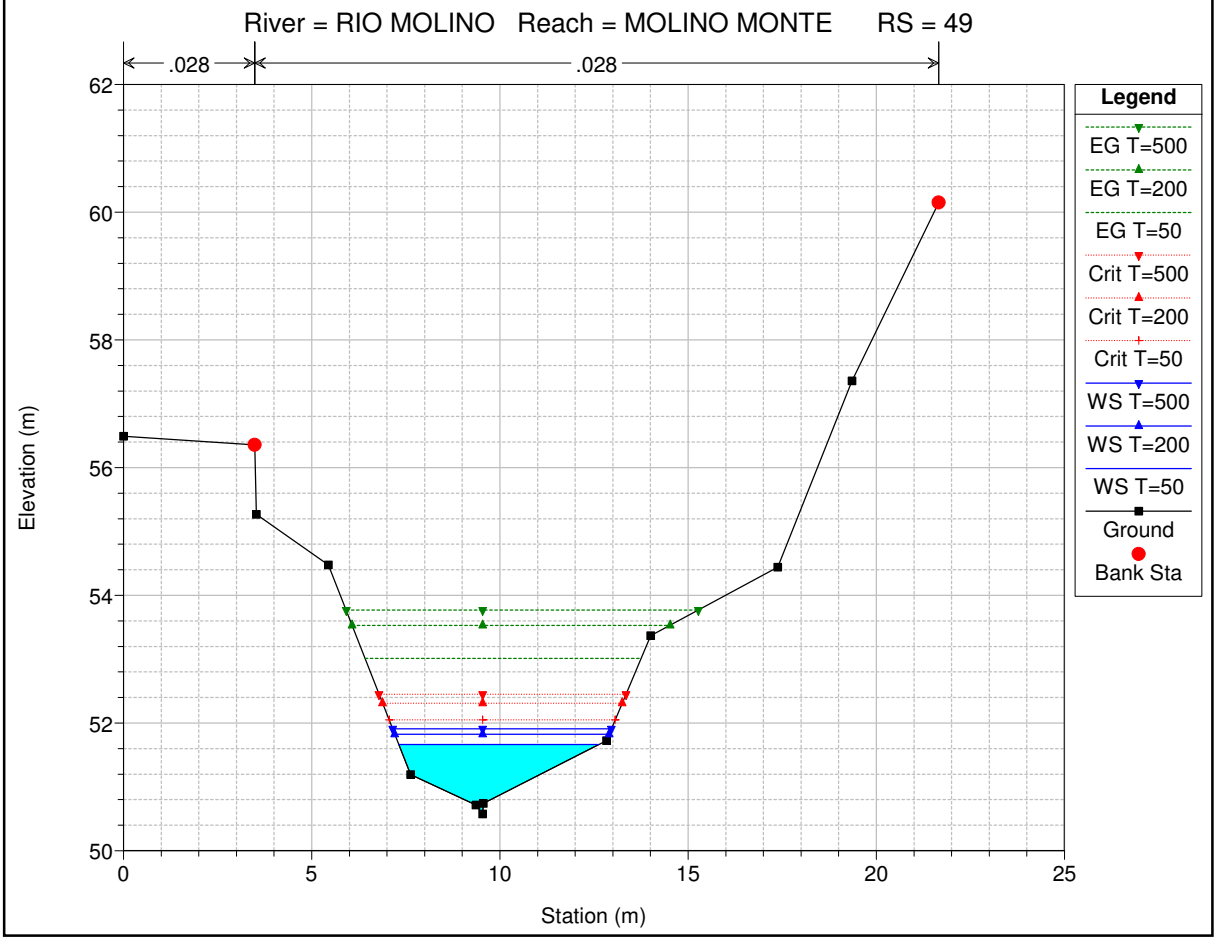

River = RIO MOLINO Reach = MOLINO MONTE RS = 52
.028
.028
.028
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
0
2
4
6
8
10
12
14
16
18

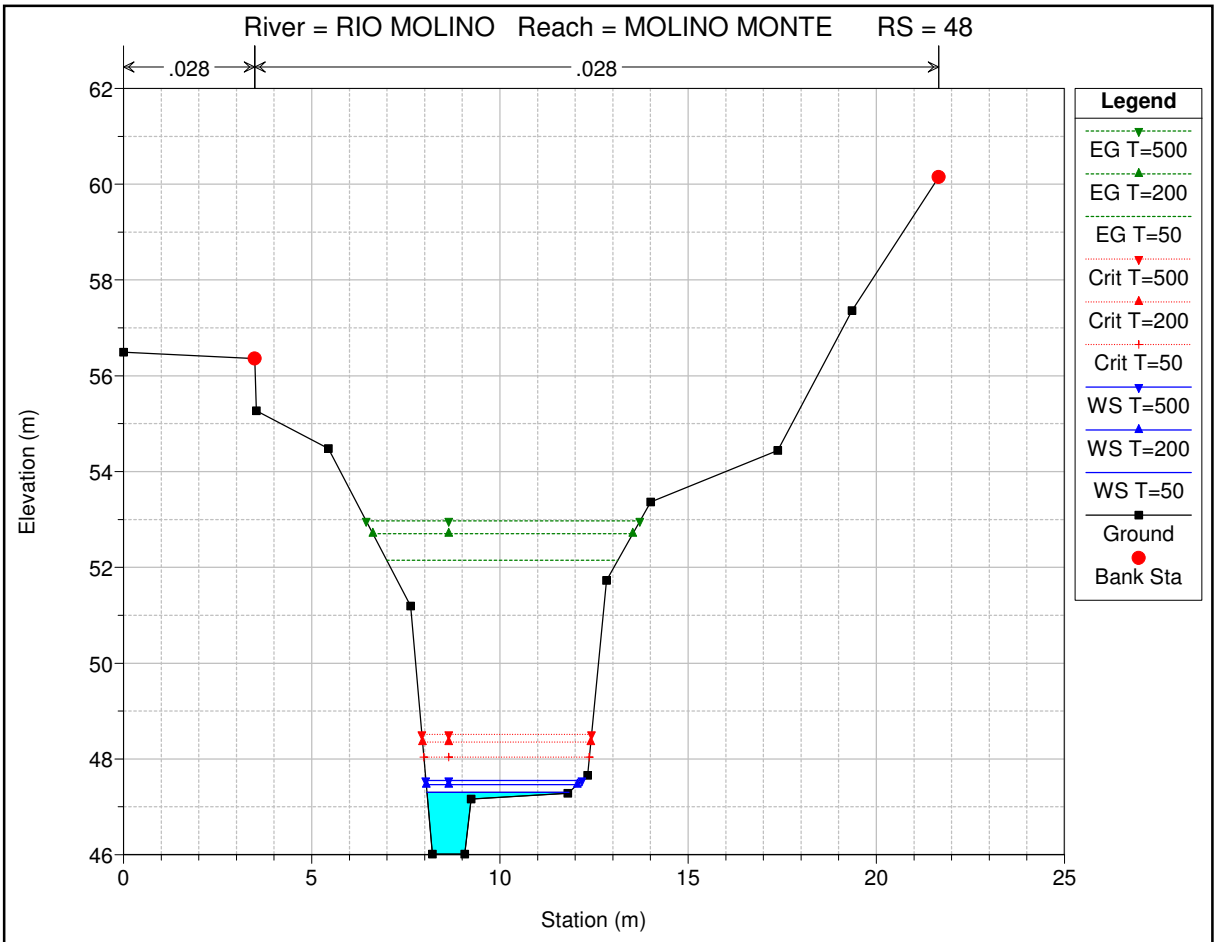

River = RIO MOLINO Reach = MOLINO MONTE RS = 51
.028
.028
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

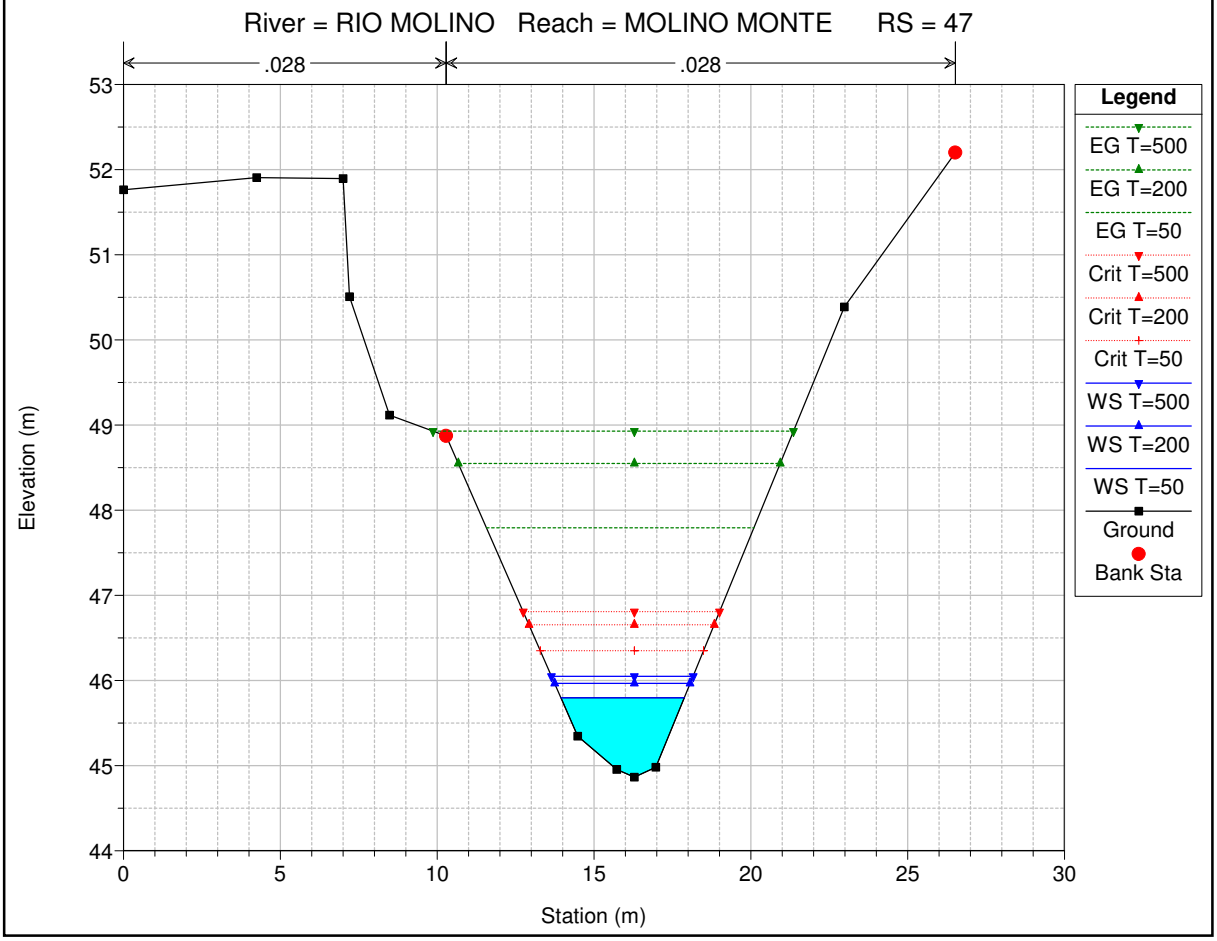

River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

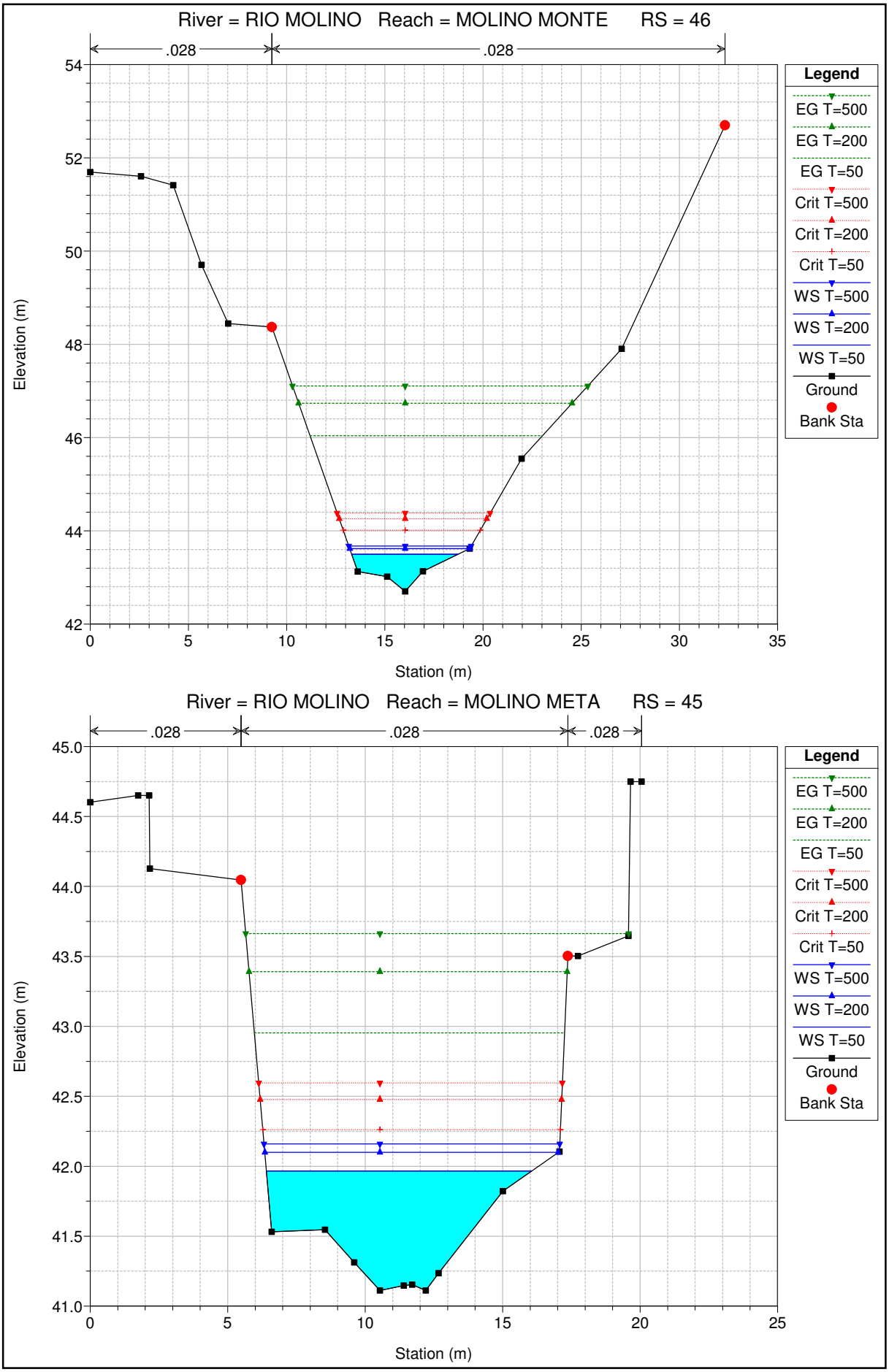

River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

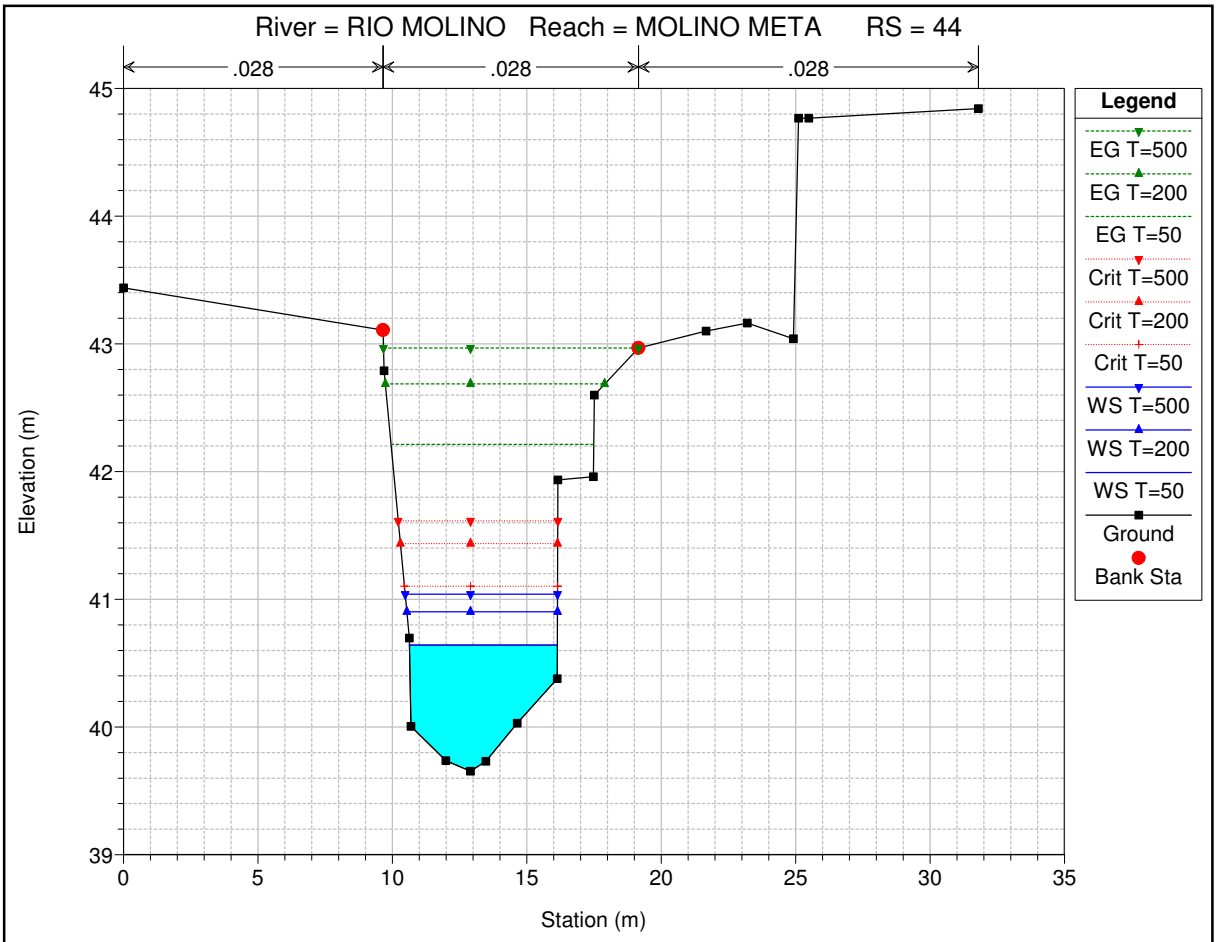

River = RIO MOLINO Reach = MOLINO MONTE RS = 50
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

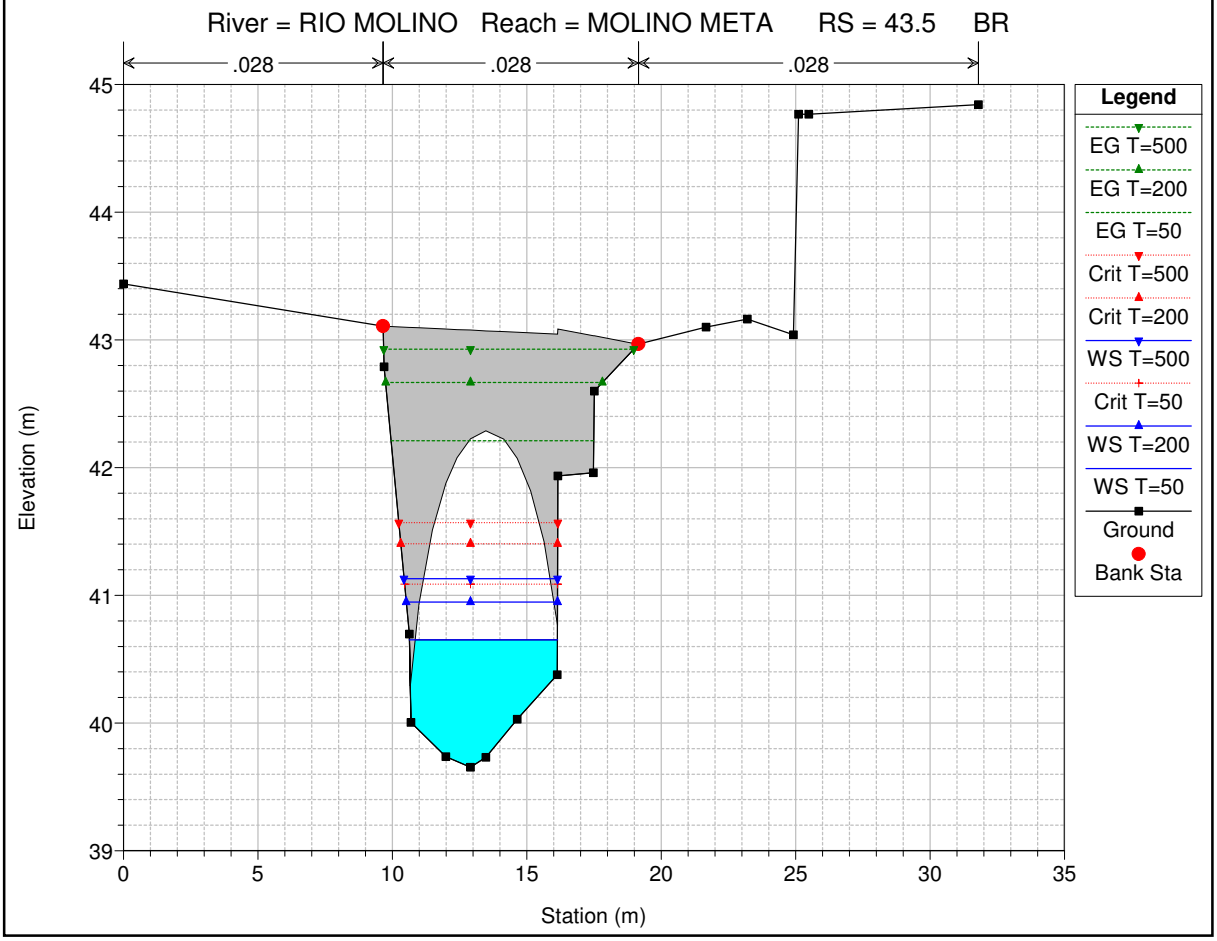

River = RIO MOLINO Reach = MOLINO MONTE RS = 49
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

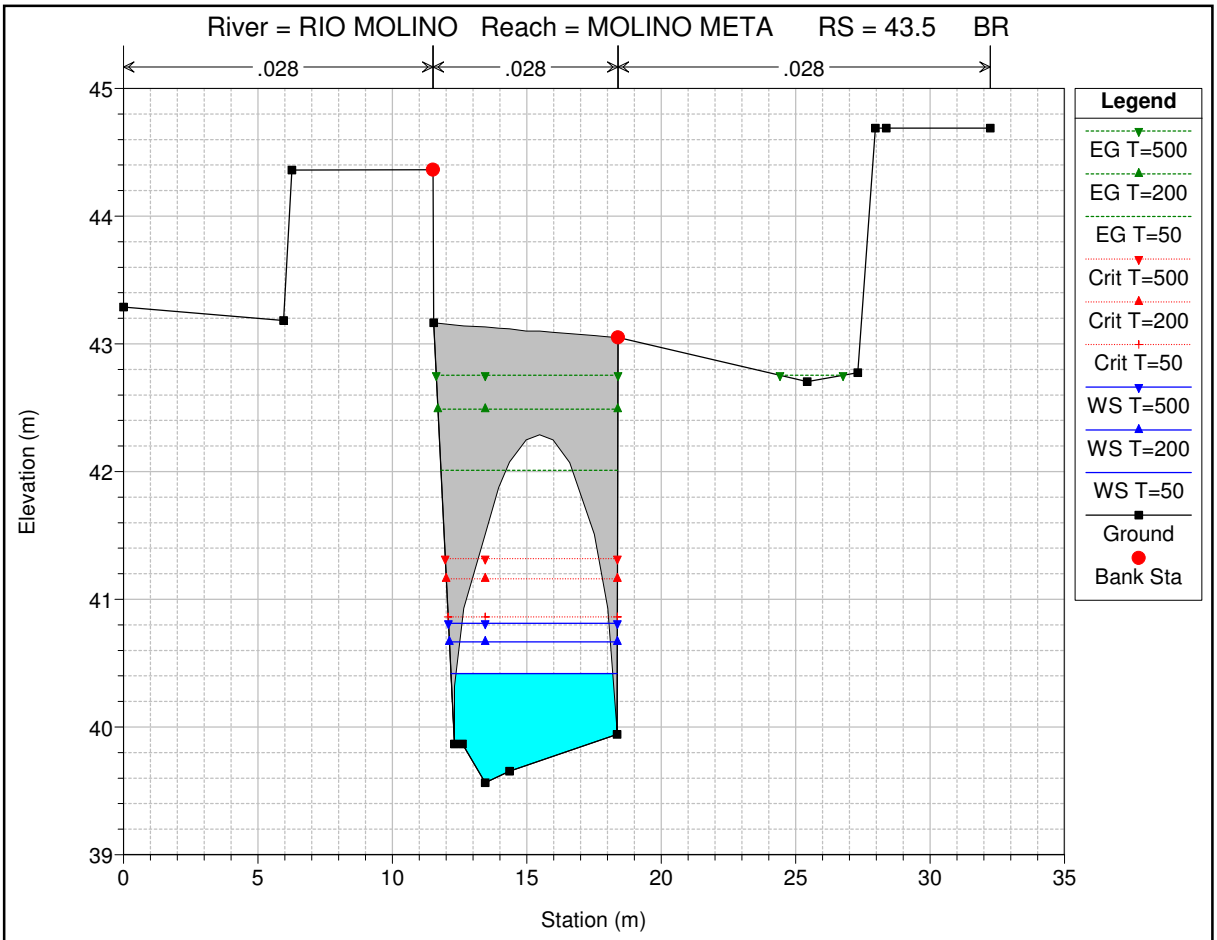

River = RIO MOLINO Reach = MOLINO MONTE RS = 48
.028
.028
Elevation (m)
Station (m)
62
60
58
56
54
52
50
48
46
0
5
10
15
20
25
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

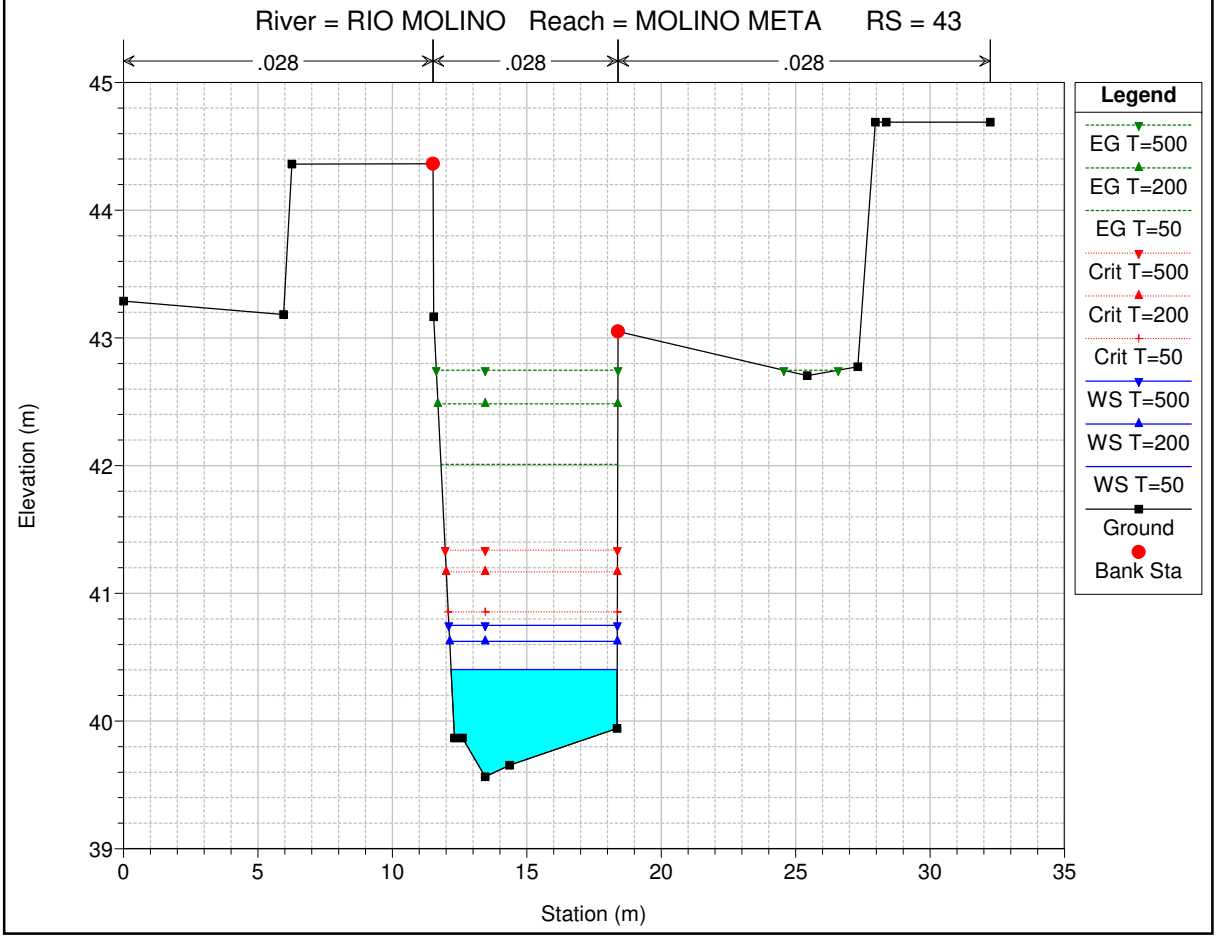

River = RIO MOLINO Reach = MOLINO MONTE RS = 47
.028
.028
Elevation (m)
Station (m)
53
52
51
50
49
48
47
46
45
44
0
5
10
15
20
25
30
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

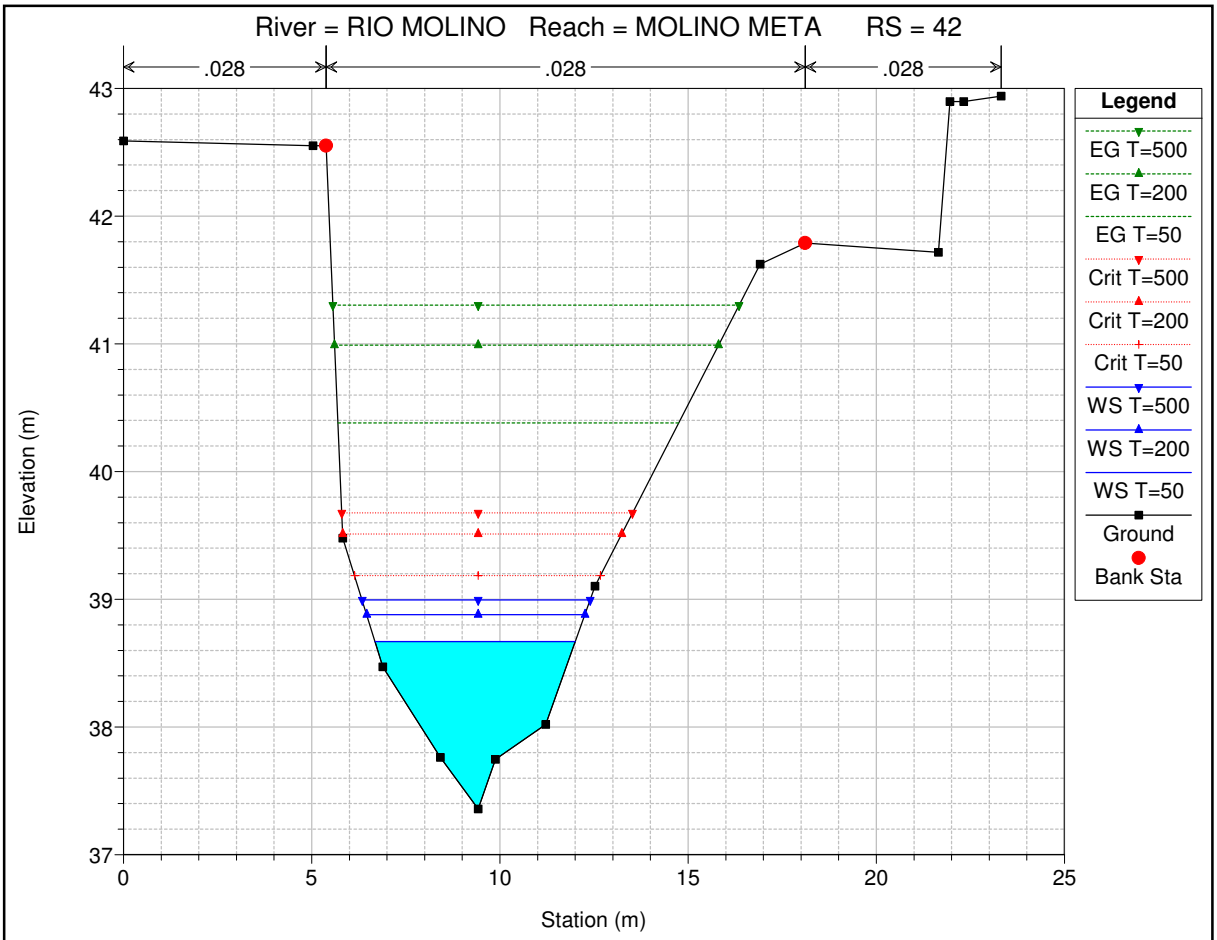

River = RIO MOLINO Reach = MOLINO MONTE RS = 46
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO META RS = 45
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

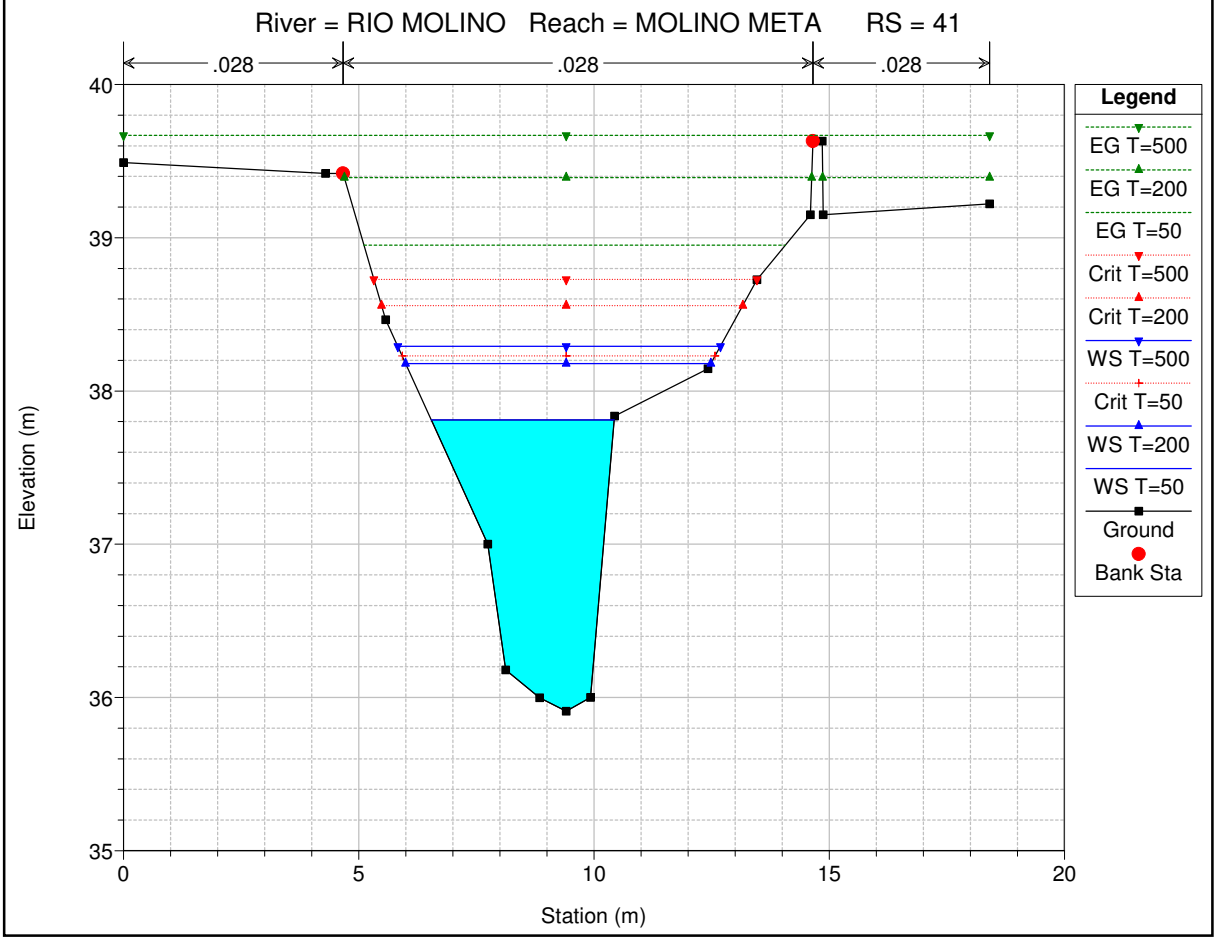

River = RIO MOLINO Reach = MOLINO META RS = 44
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

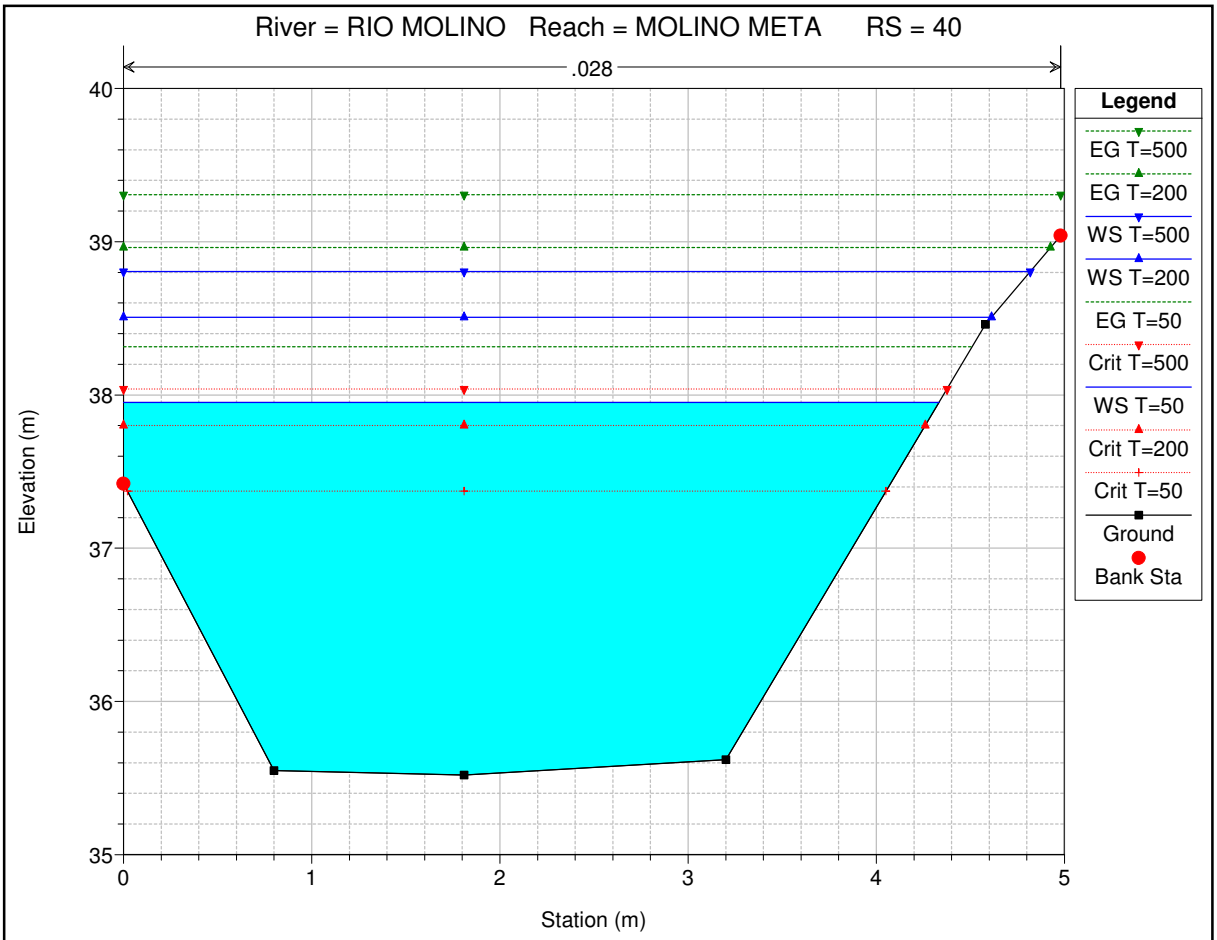

River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

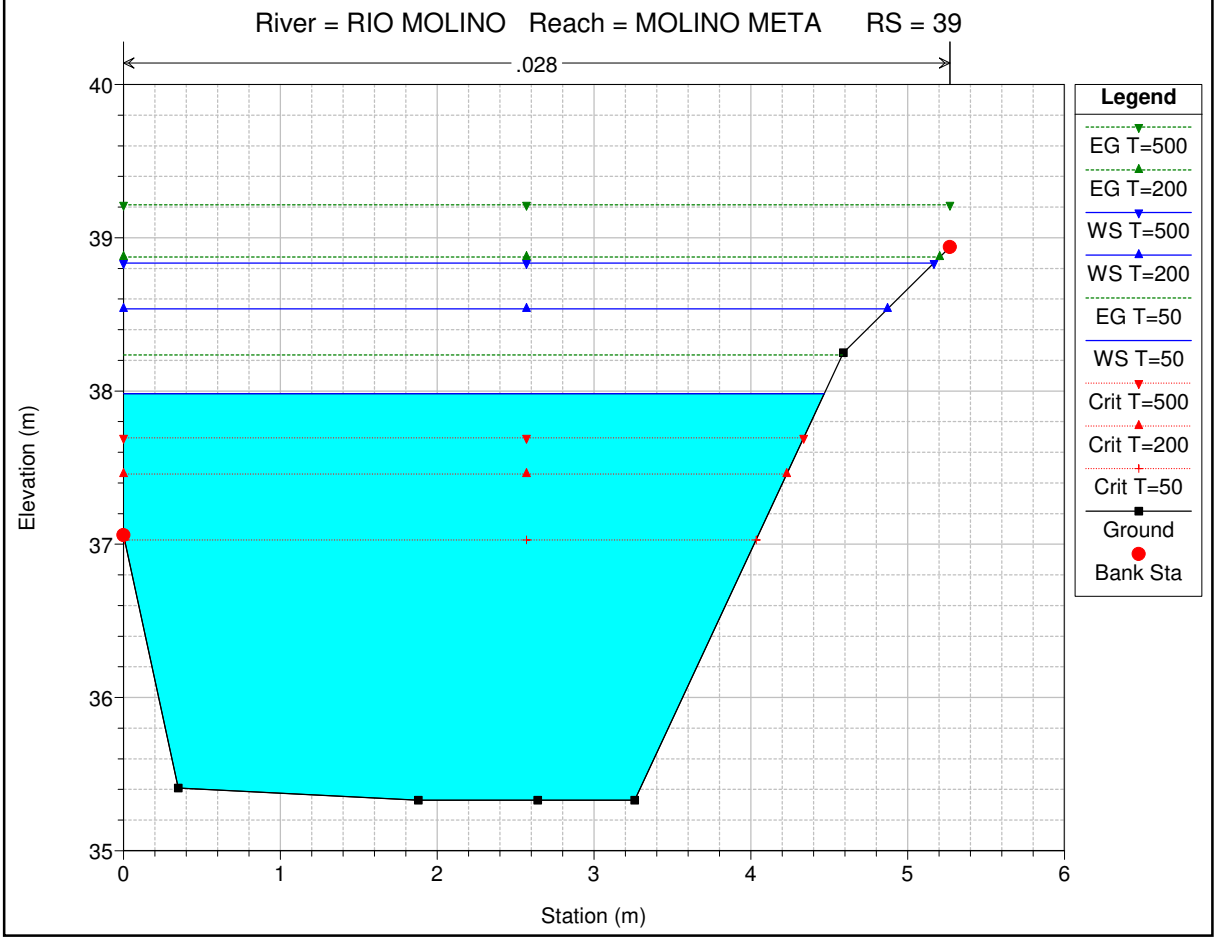

River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

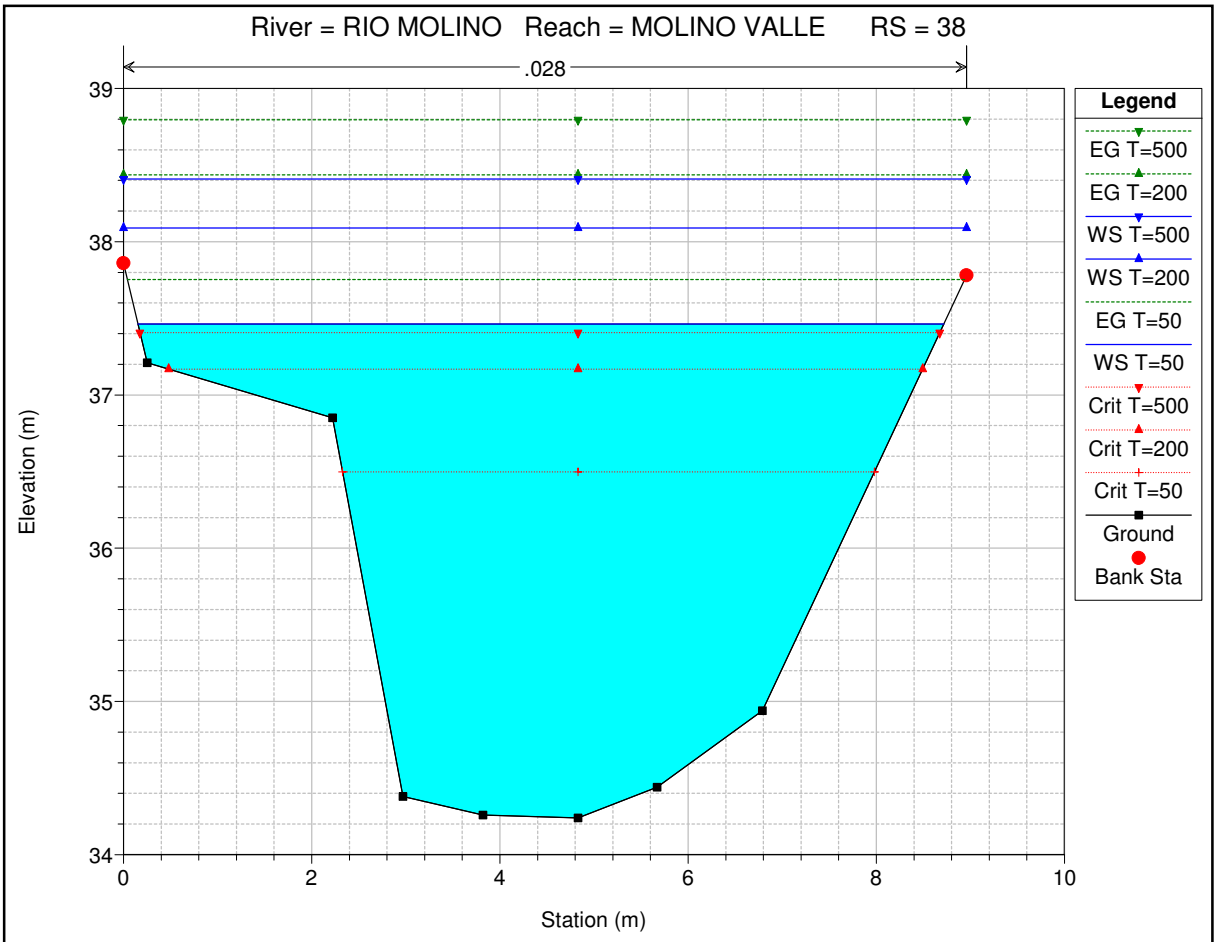

River = RIO MOLINO Reach = MOLINO META RS = 43
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

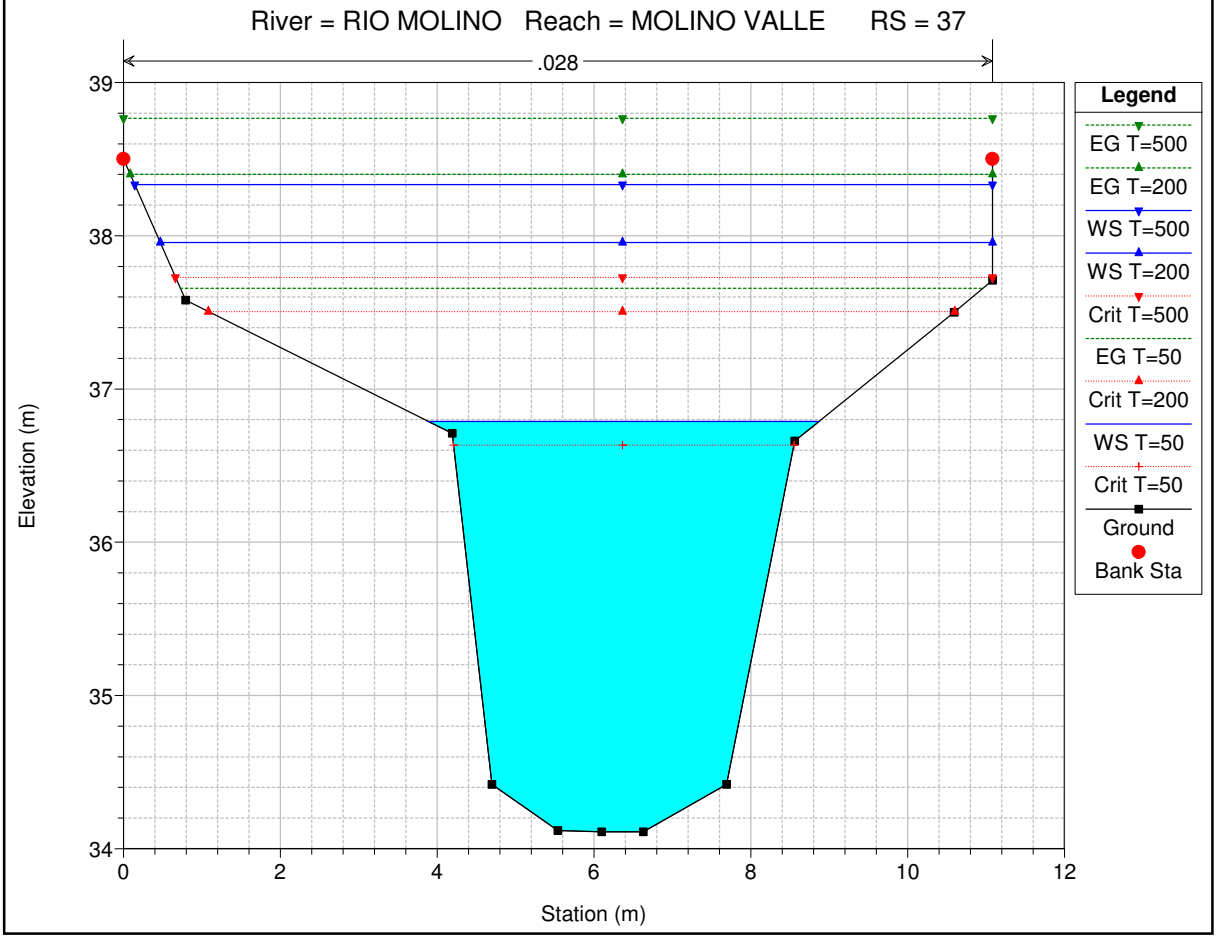

River = RIO MOLINO Reach = MOLINO META RS = 42
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

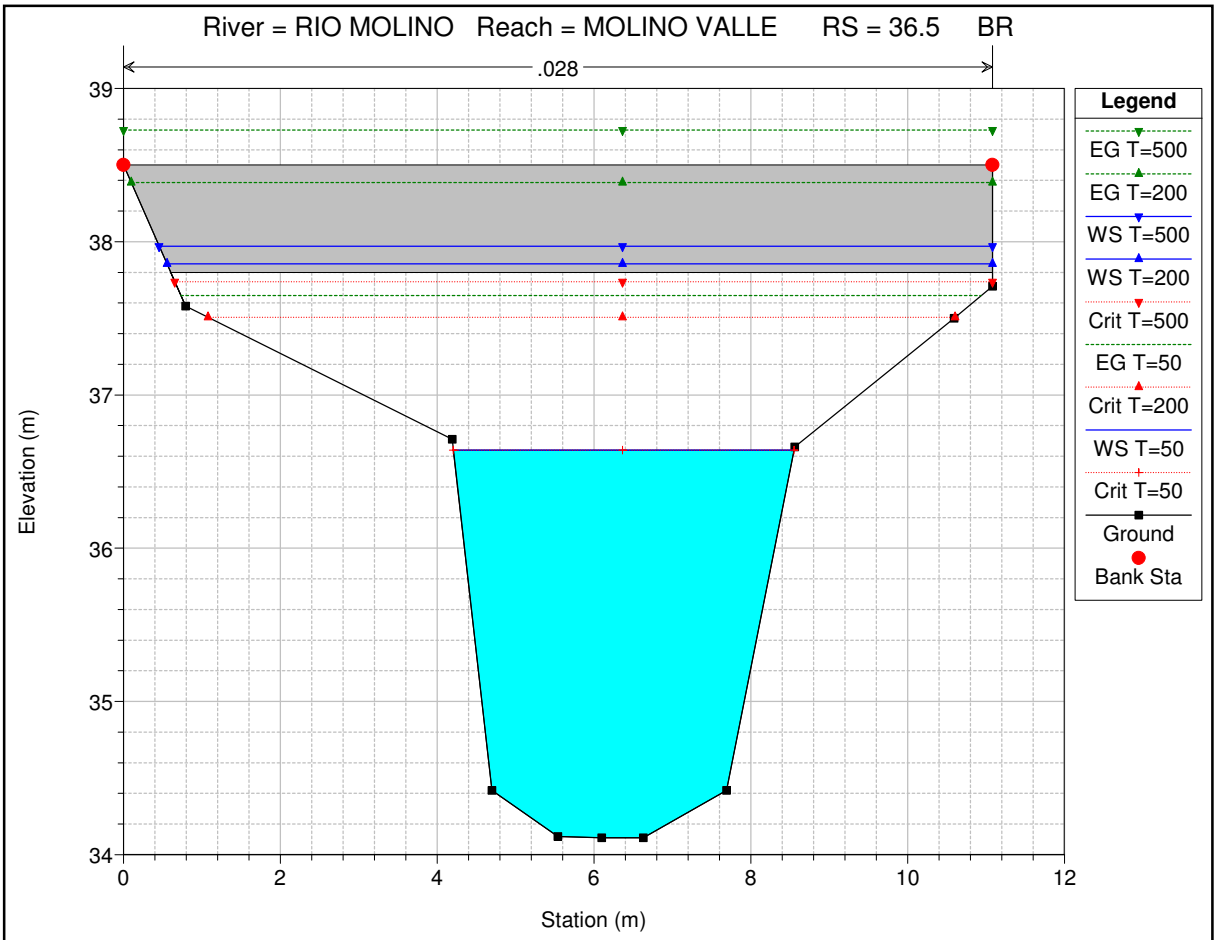

River = RIO MOLINO Reach = MOLINO META RS = 41
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

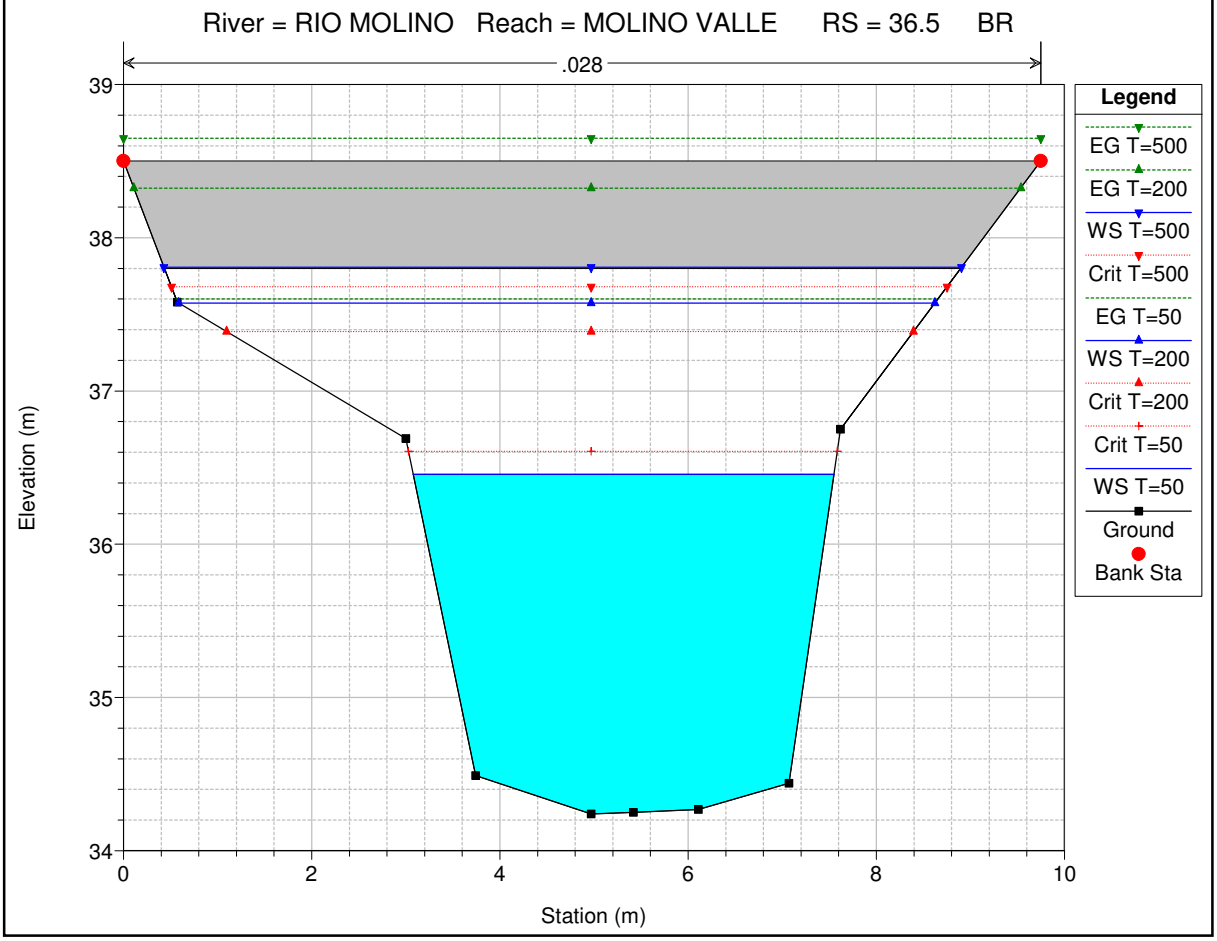

River = RIO MOLINO Reach = MOLINO META RS = 40
.028
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
WS T=50
Crit T=200
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
40
39
38
37
36
35
0
1
2
3
4
5

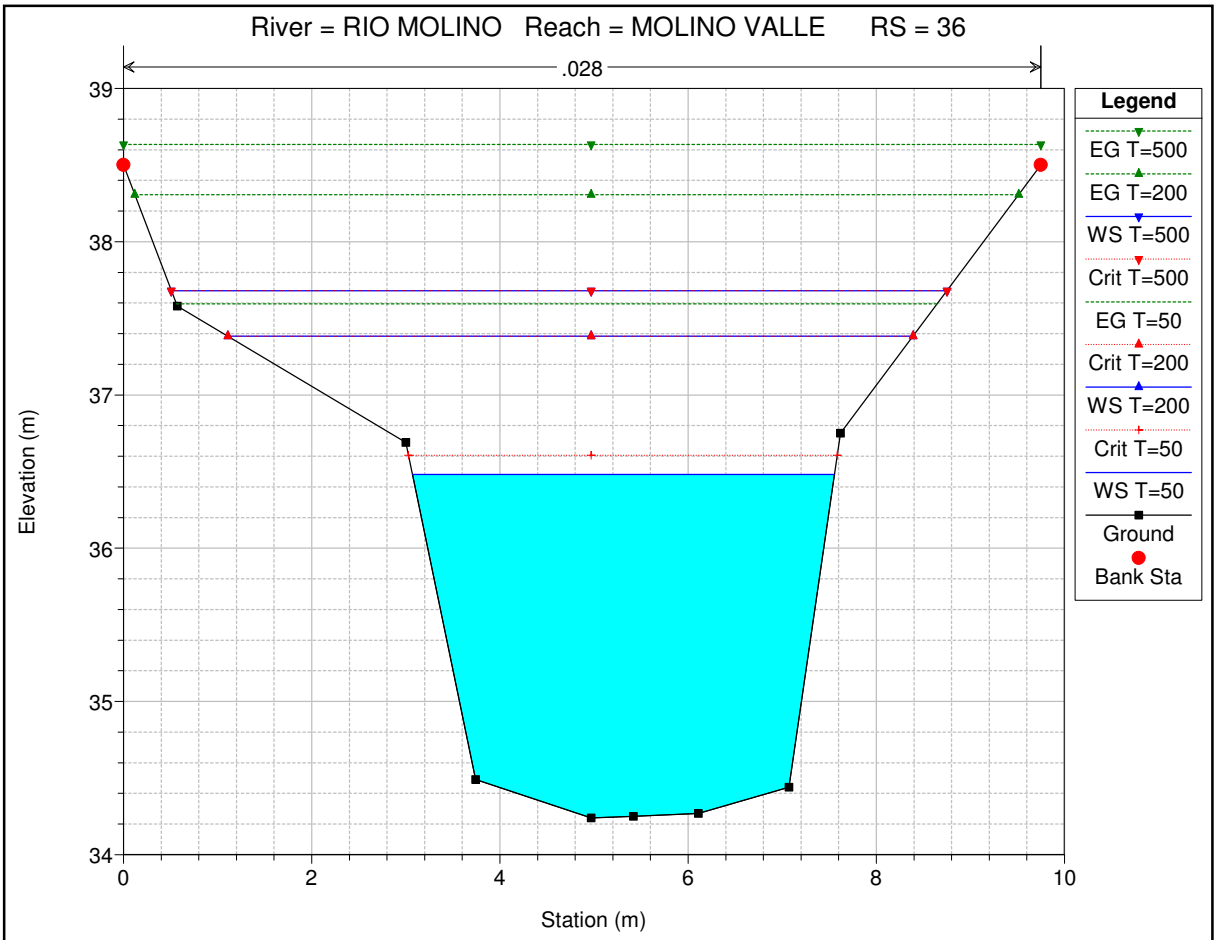

River = RIO MOLINO Reach = MOLINO META RS = 39
.028
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta
Elevation (m)
Station (m)
40
39
38
37
36
35
0
1
2
3
4
5
6

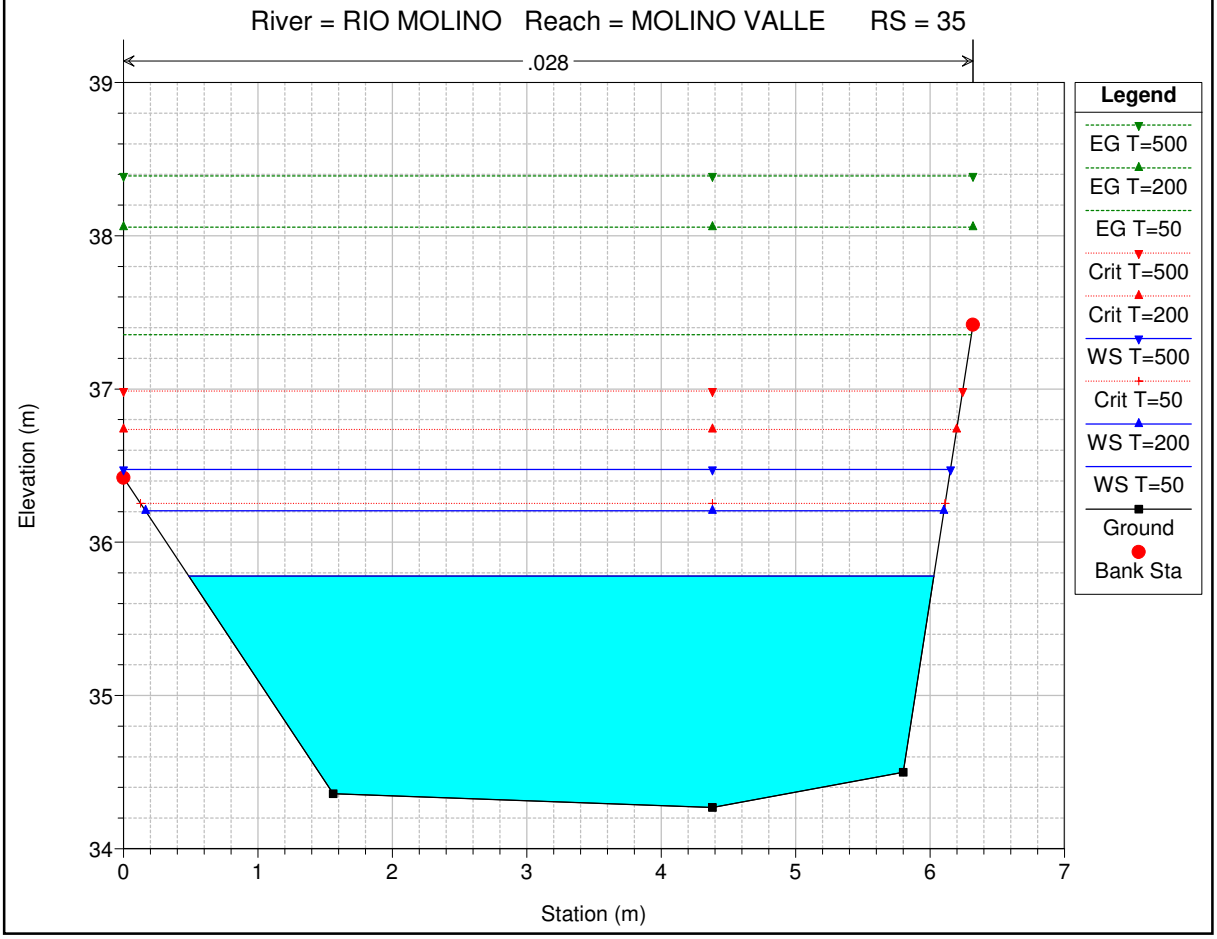

River = RIO MOLINO Reach = MOLINO VALLE RS = 38
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta

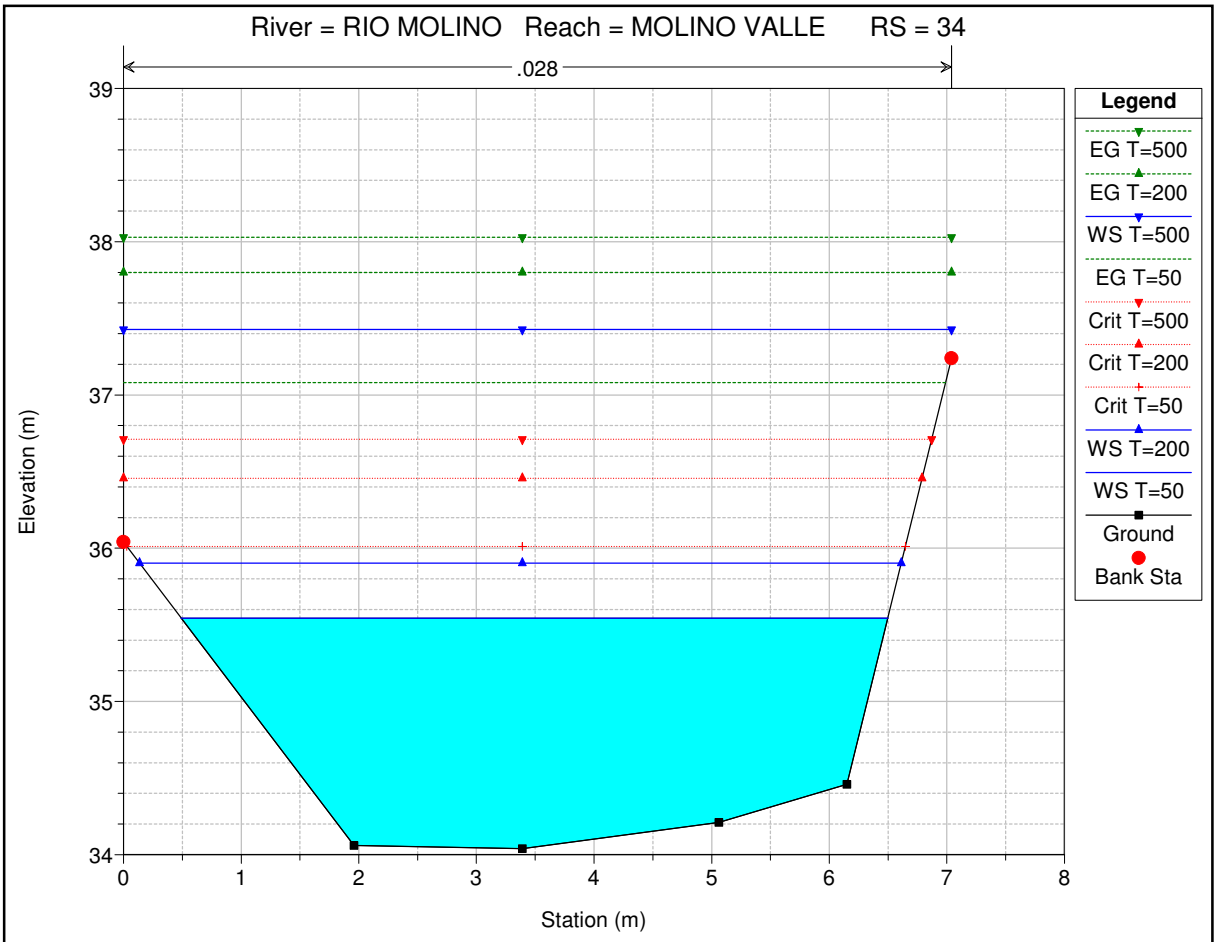

River = RIO MOLINO Reach = MOLINO VALLE RS = 37
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
Crit T=500
EG T=50
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

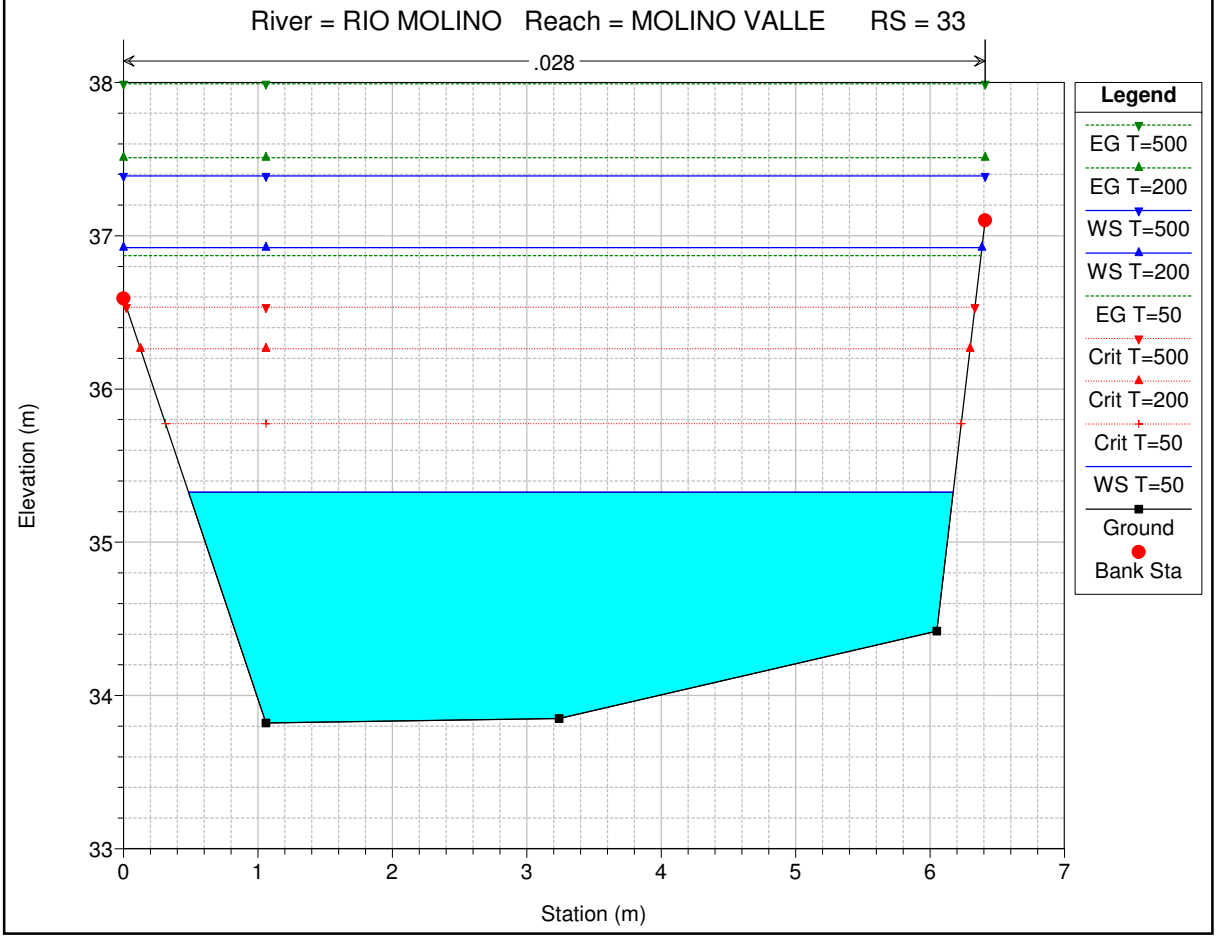

River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
Crit T=500
EG T=50
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

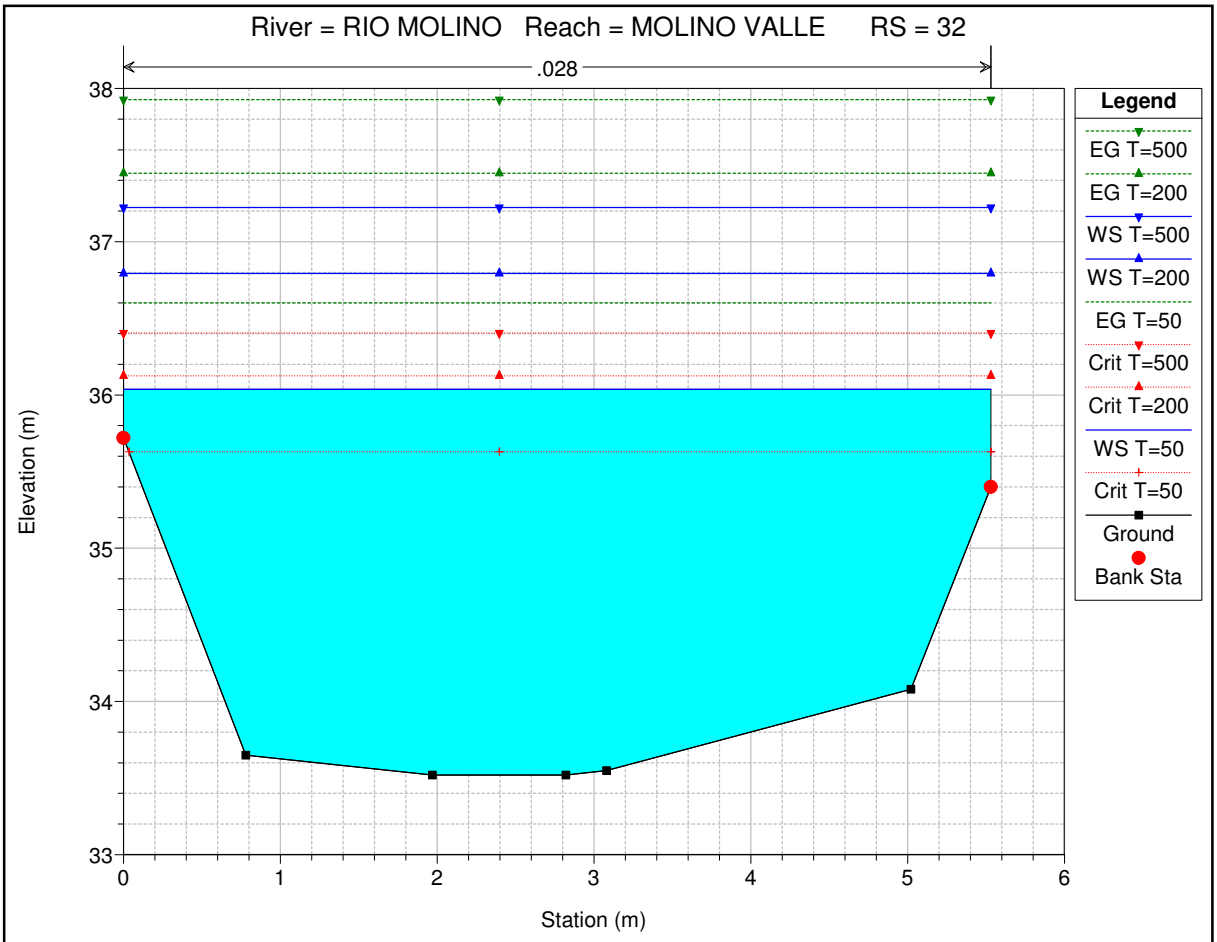

River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
Crit T=500
EG T=50
WS T=200
Crit T=200
Crit T=50
WS T=50
Ground
Bank Sta

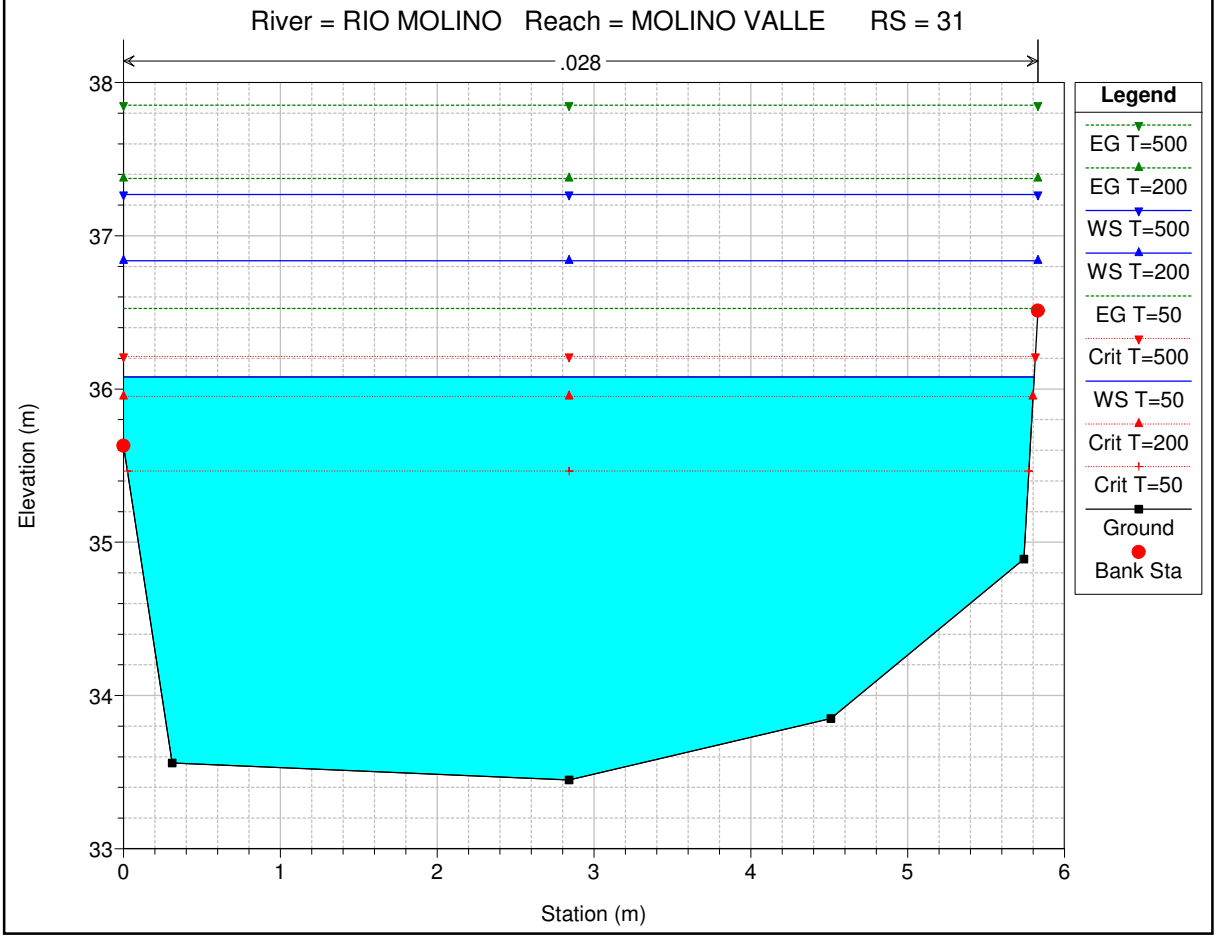

River = RIO MOLINO Reach = MOLINO VALLE RS = 36
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
Crit T=500
EG T=50
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

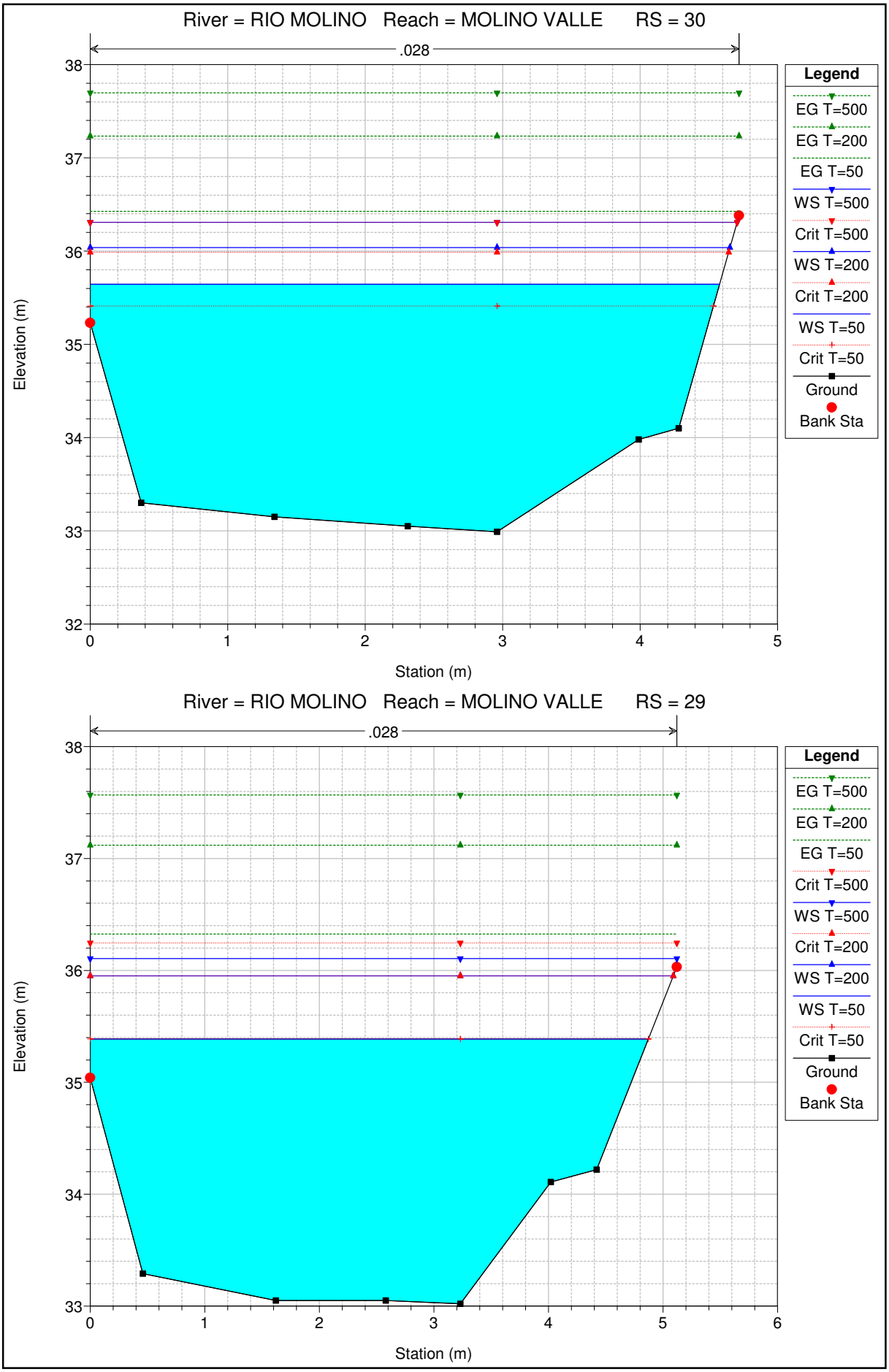

River = RIO MOLINO Reach = MOLINO VALLE RS = 35
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

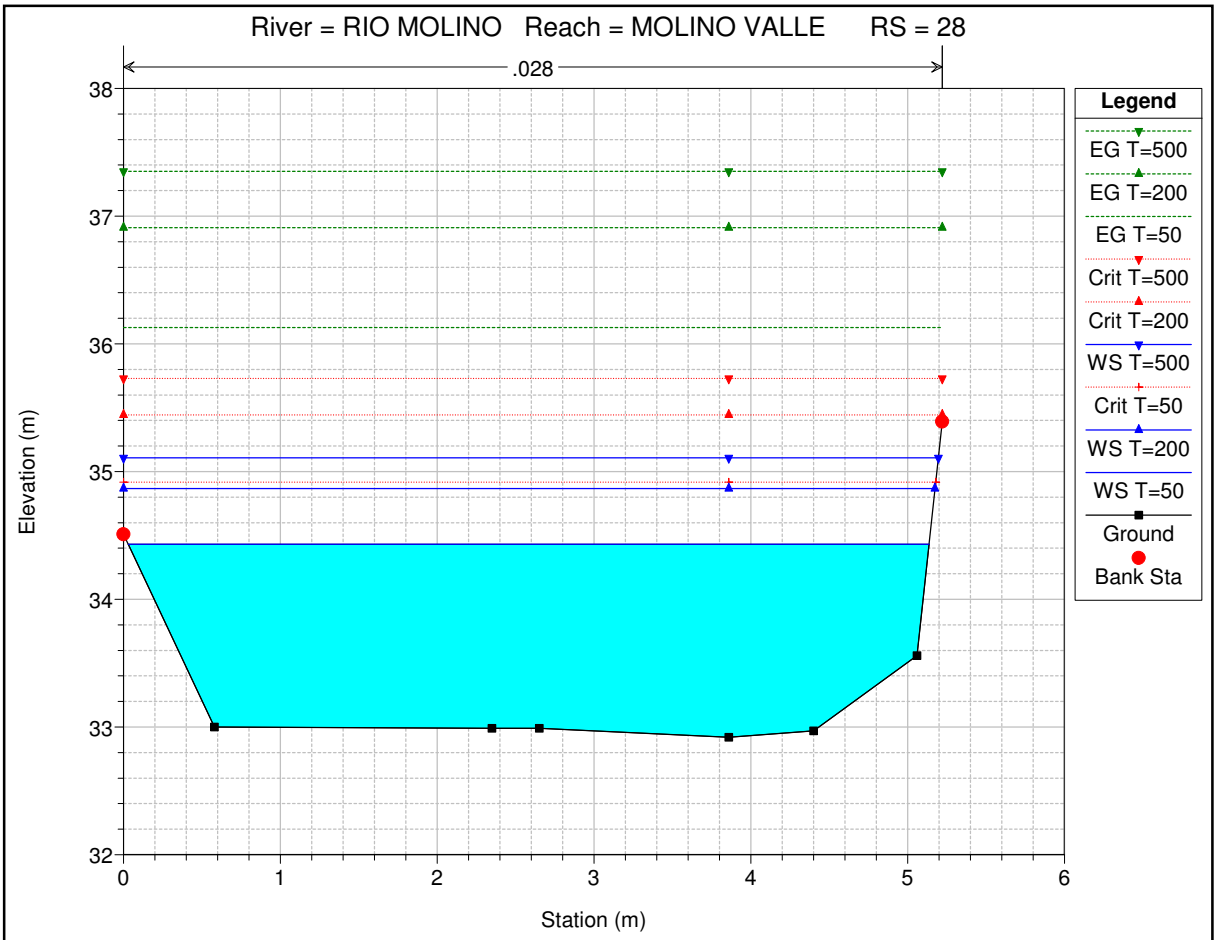

River = RIO MOLINO Reach = MOLINO VALLE RS = 34
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

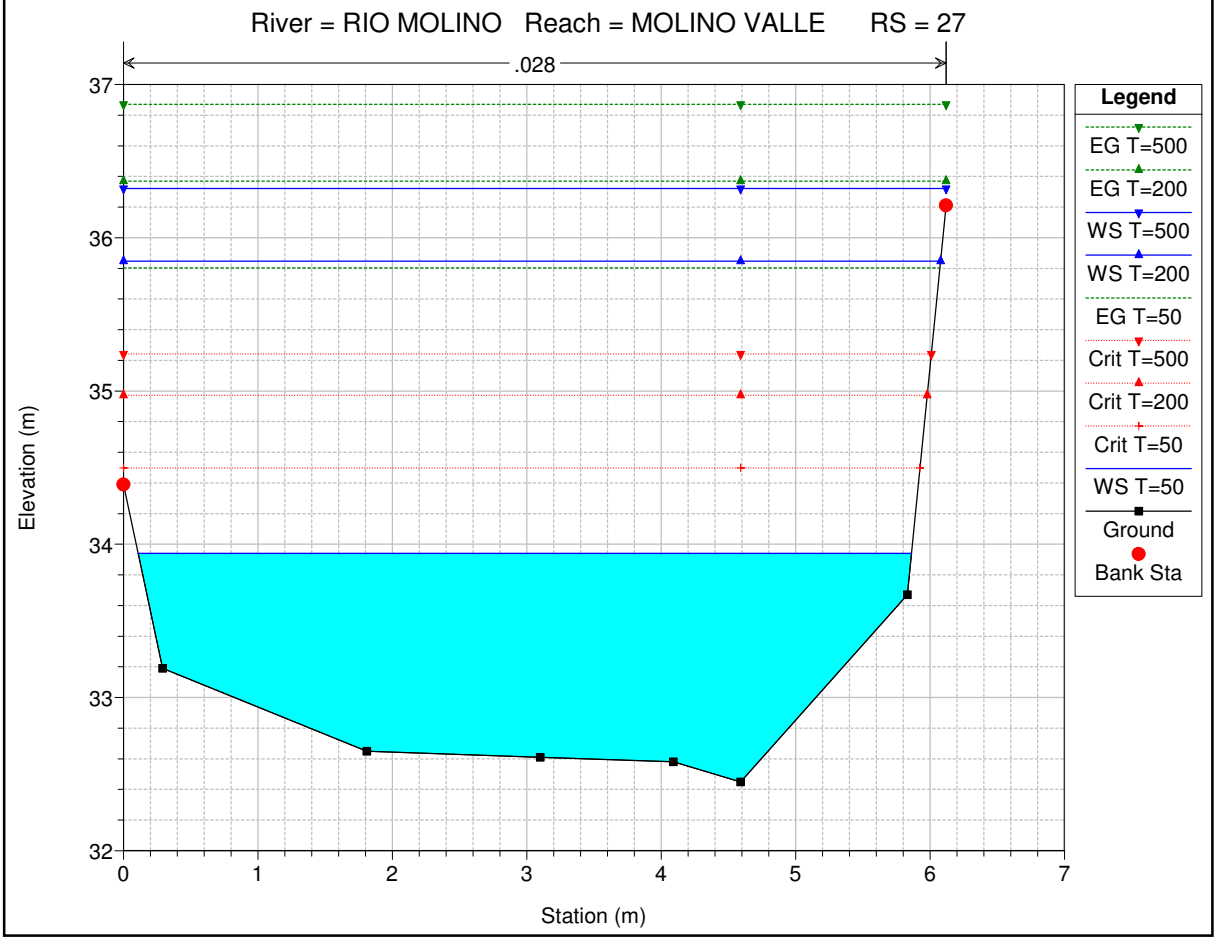

River = RIO MOLINO Reach = MOLINO VALLE RS = 33
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=50
Ground
Bank Sta

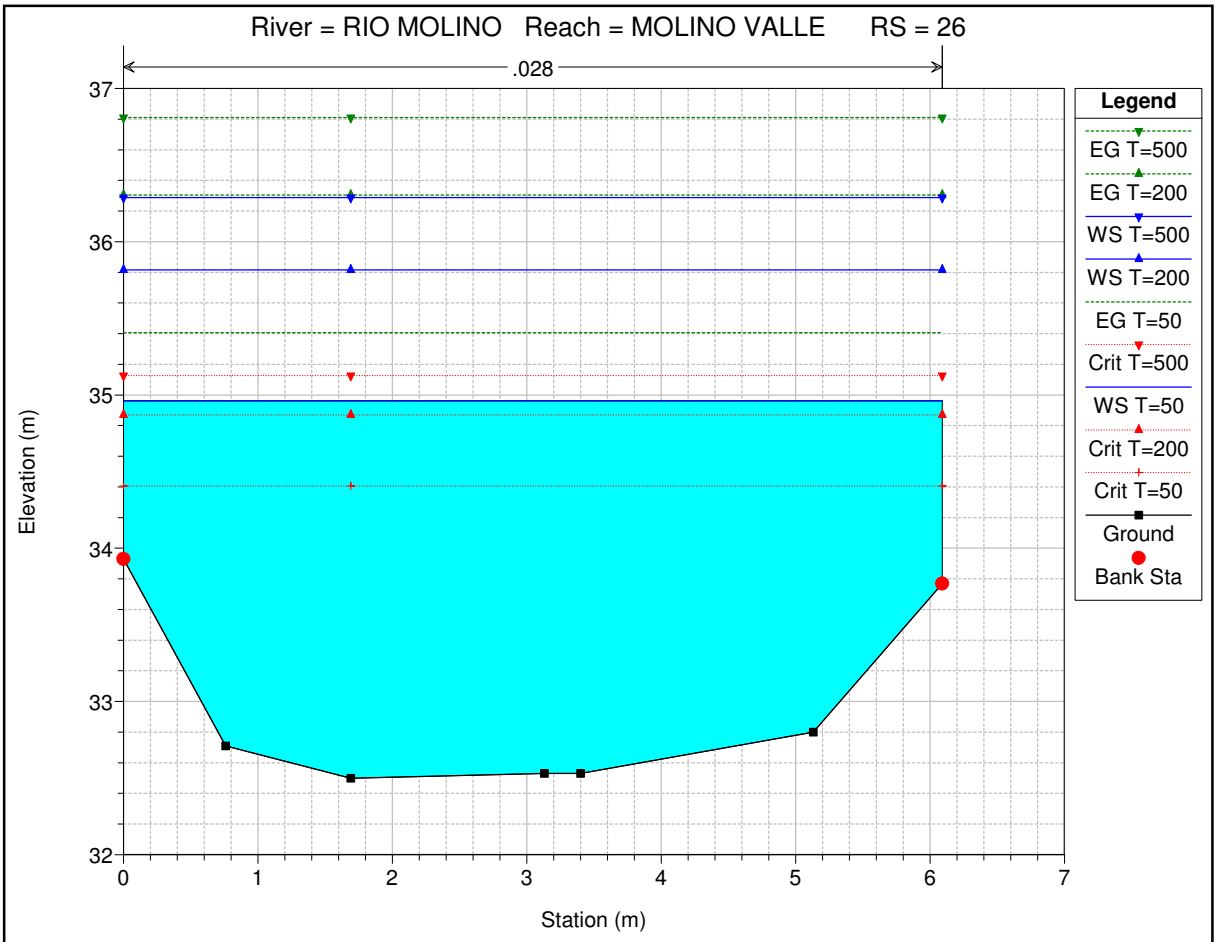

River = RIO MOLINO Reach = MOLINO VALLE RS = 32
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

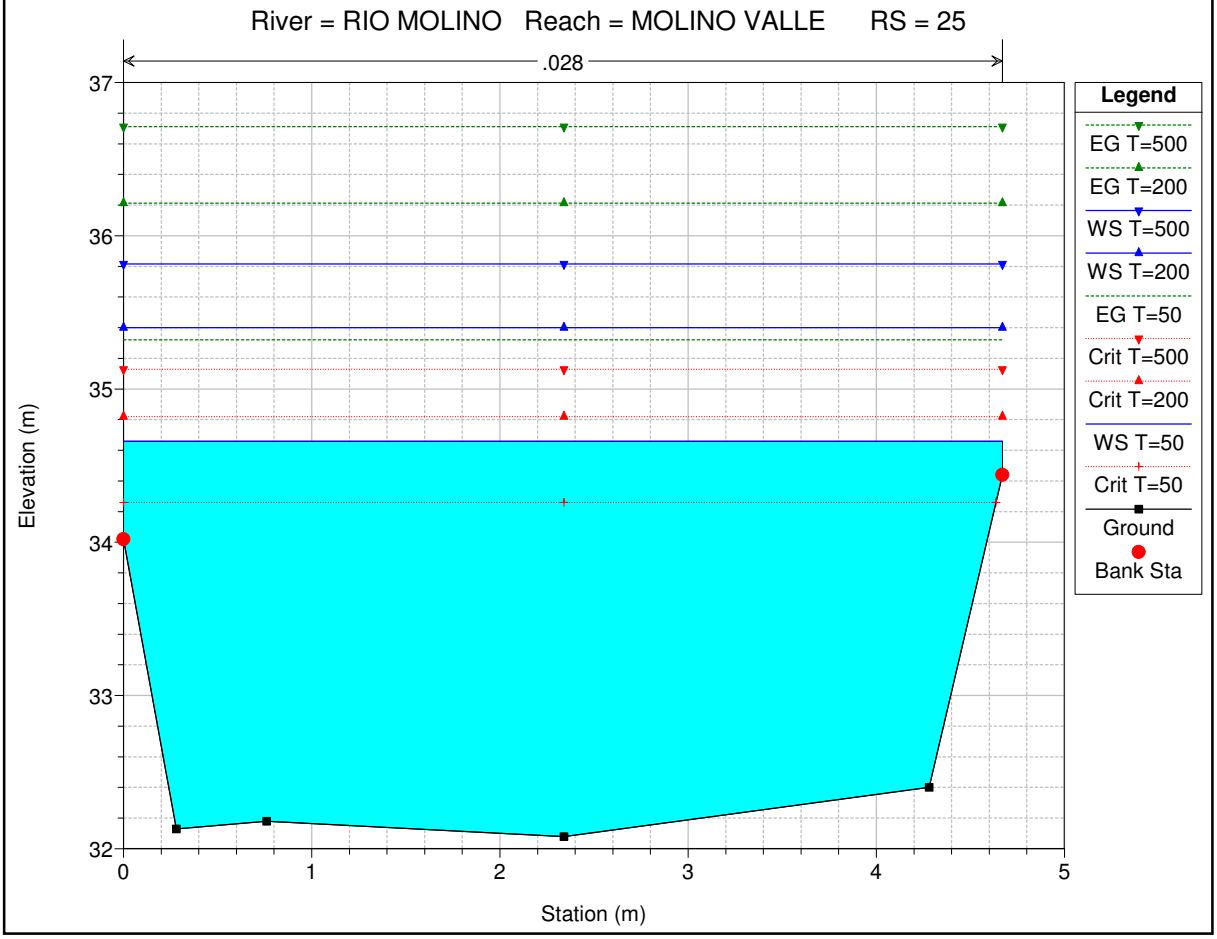

River = RIO MOLINO Reach = MOLINO VALLE RS = 31
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
WS T=50
Crit T=200
Crit T=50
Ground
Bank Sta

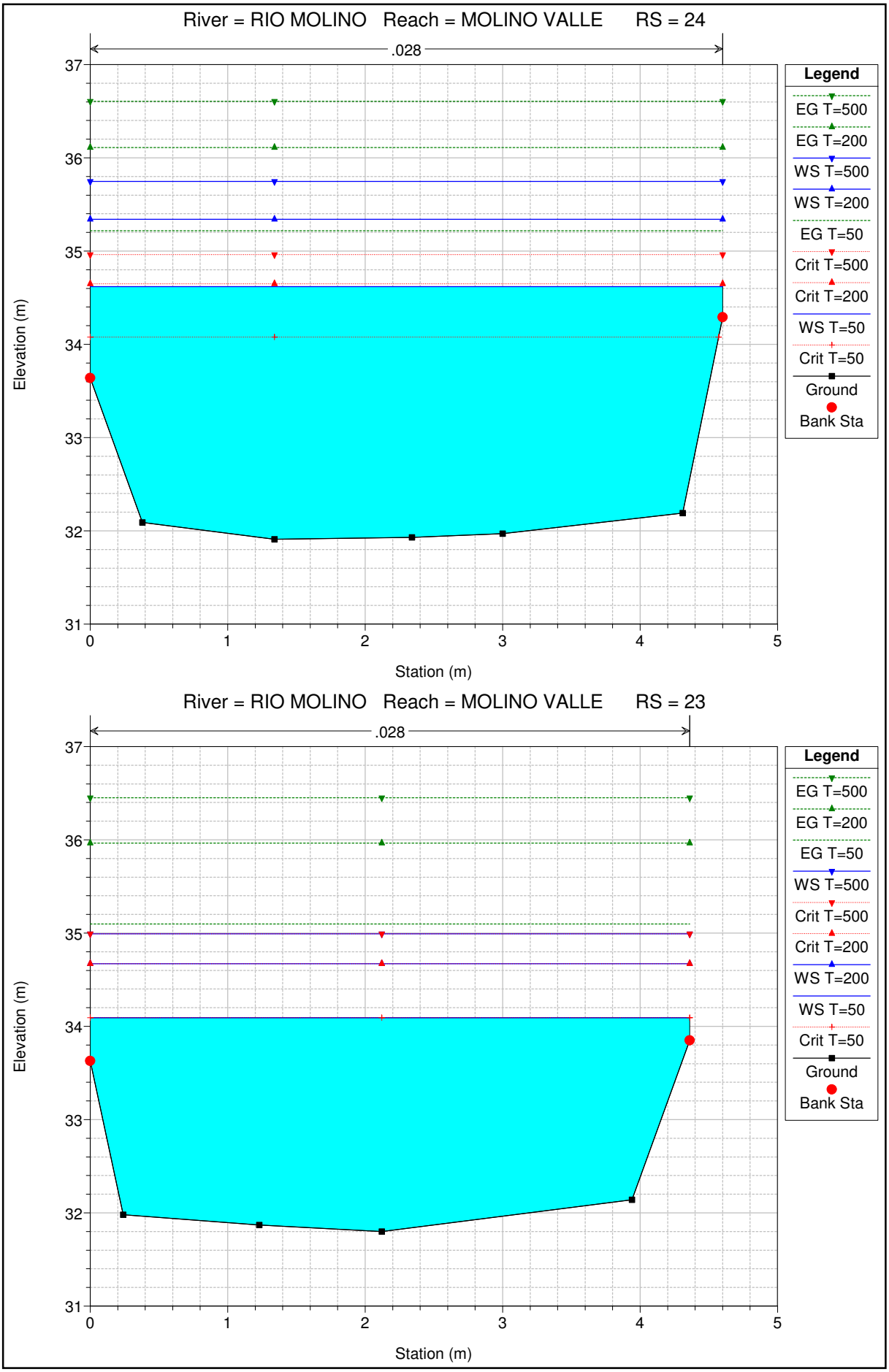

River = RIO MOLINO Reach = MOLINO VALLE RS = 30
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
WS T=200
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO VALLE RS = 29
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
WS T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

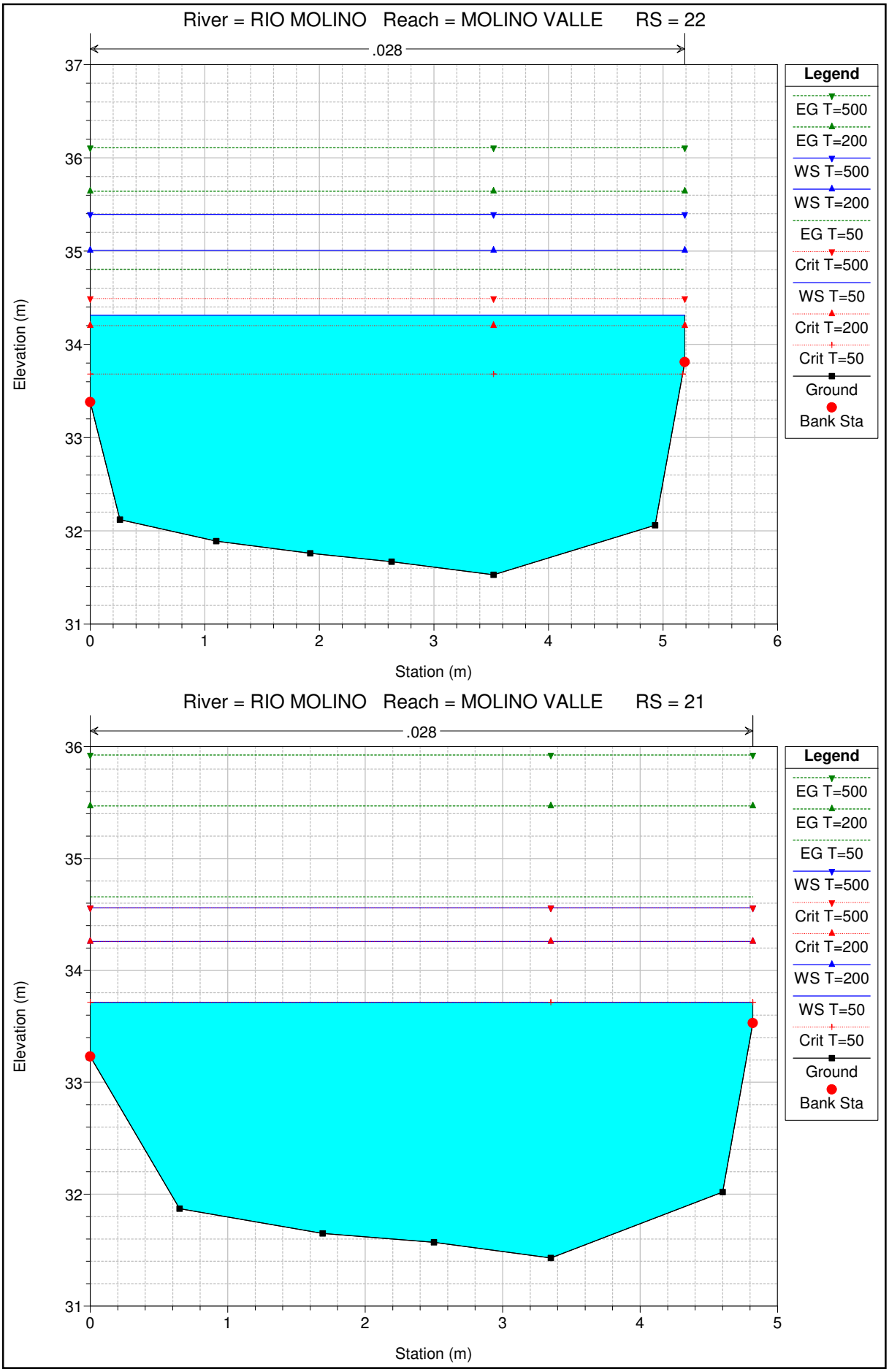

River = RIO MOLINO Reach = MOLINO VALLE RS = 28
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

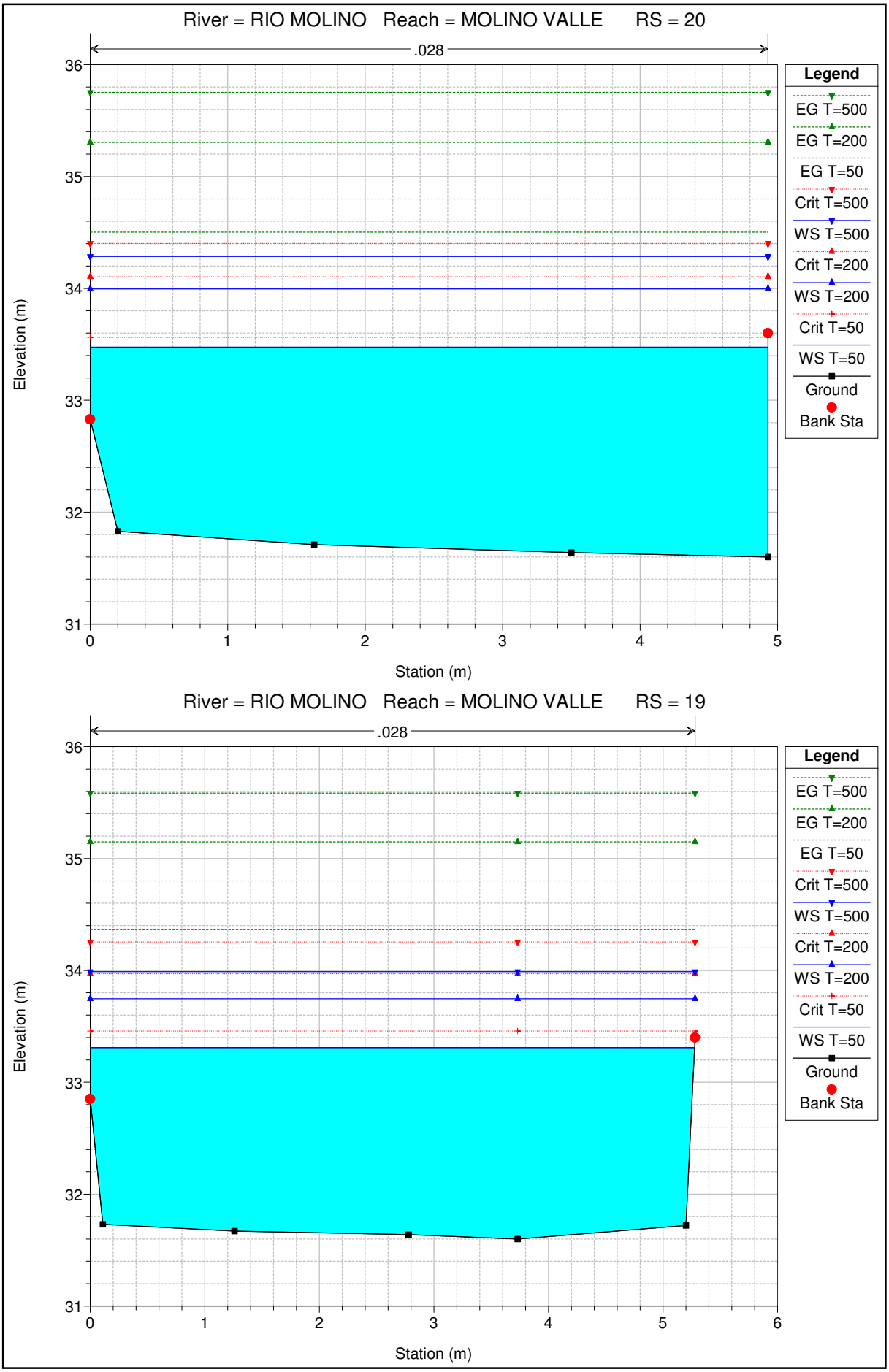

River = RIO MOLINO Reach = MOLINO VALLE RS = 27
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=50
Ground
Bank Sta

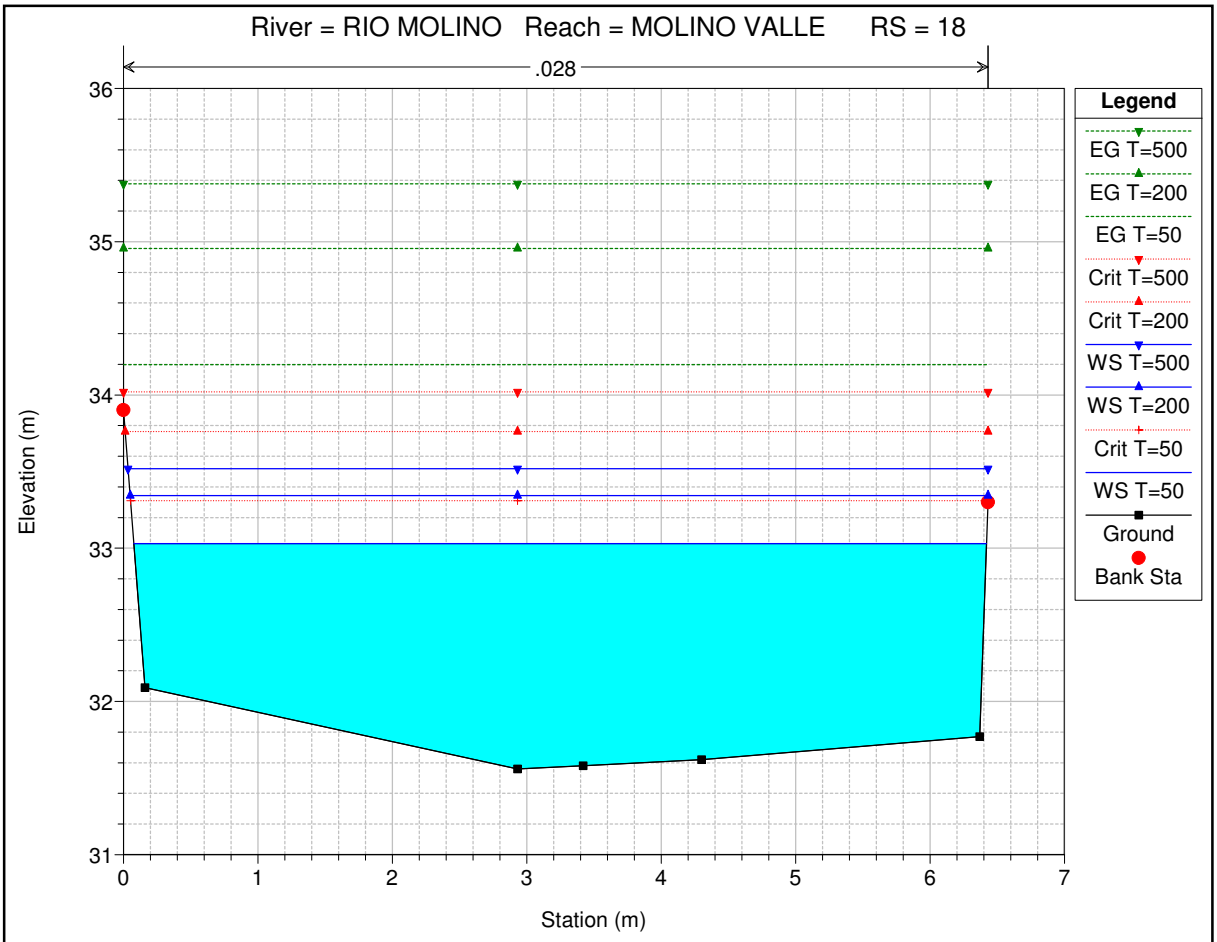

River = RIO MOLINO Reach = MOLINO VALLE RS = 26
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
WS T=50
Crit T=200
Crit T=50
Ground
Bank Sta

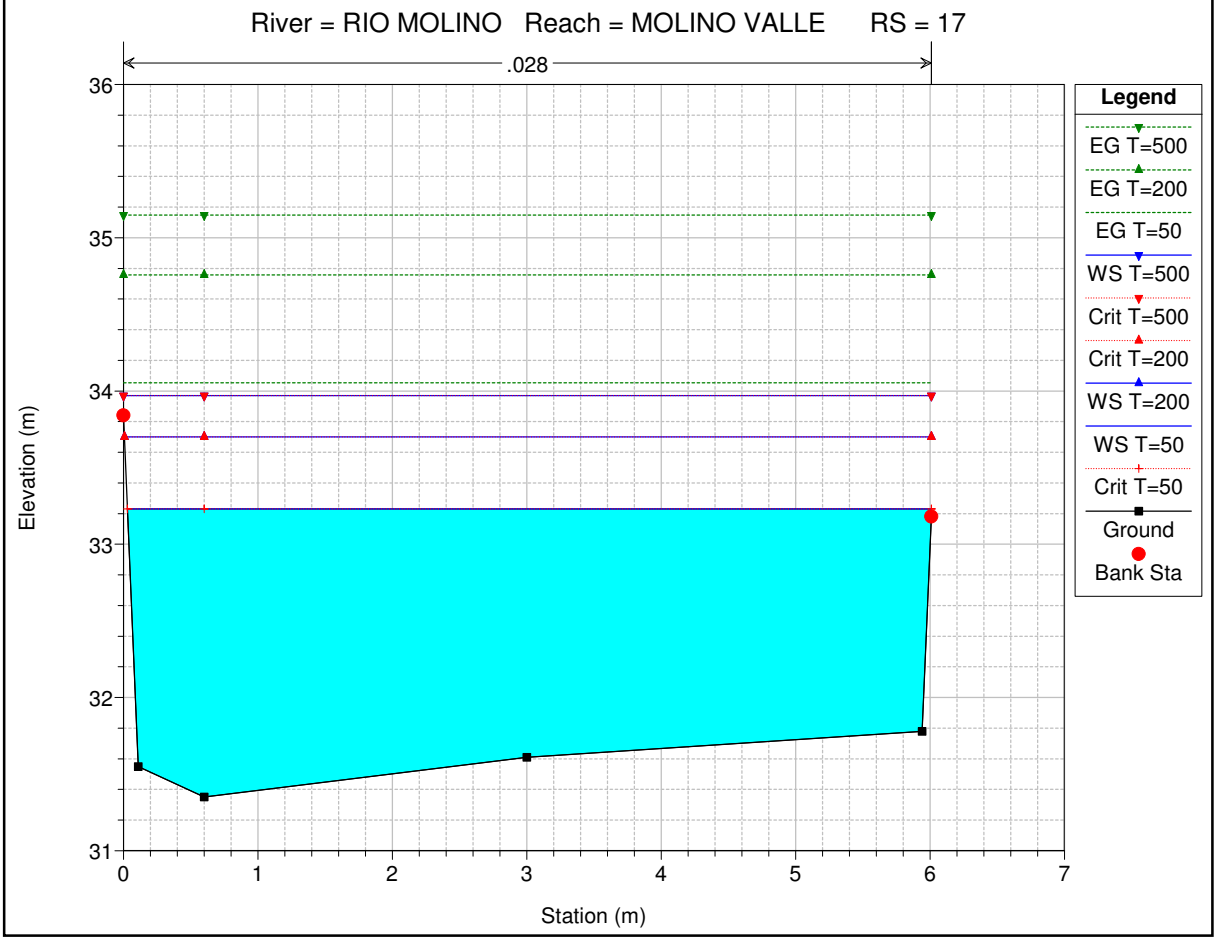

River = RIO MOLINO Reach = MOLINO VALLE RS = 25
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

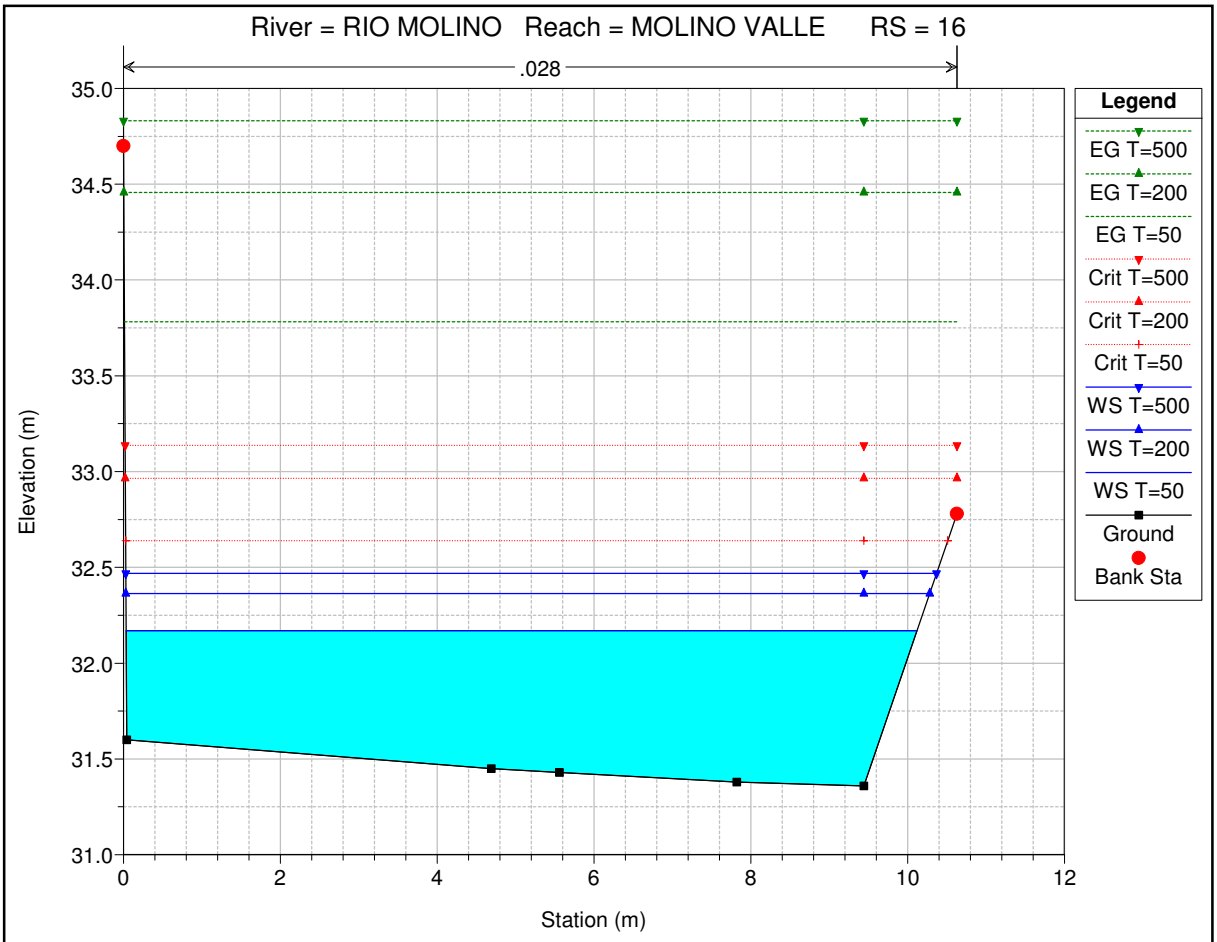

River = RIO MOLINO Reach = MOLINO VALLE RS = 24
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO VALLE RS = 23
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

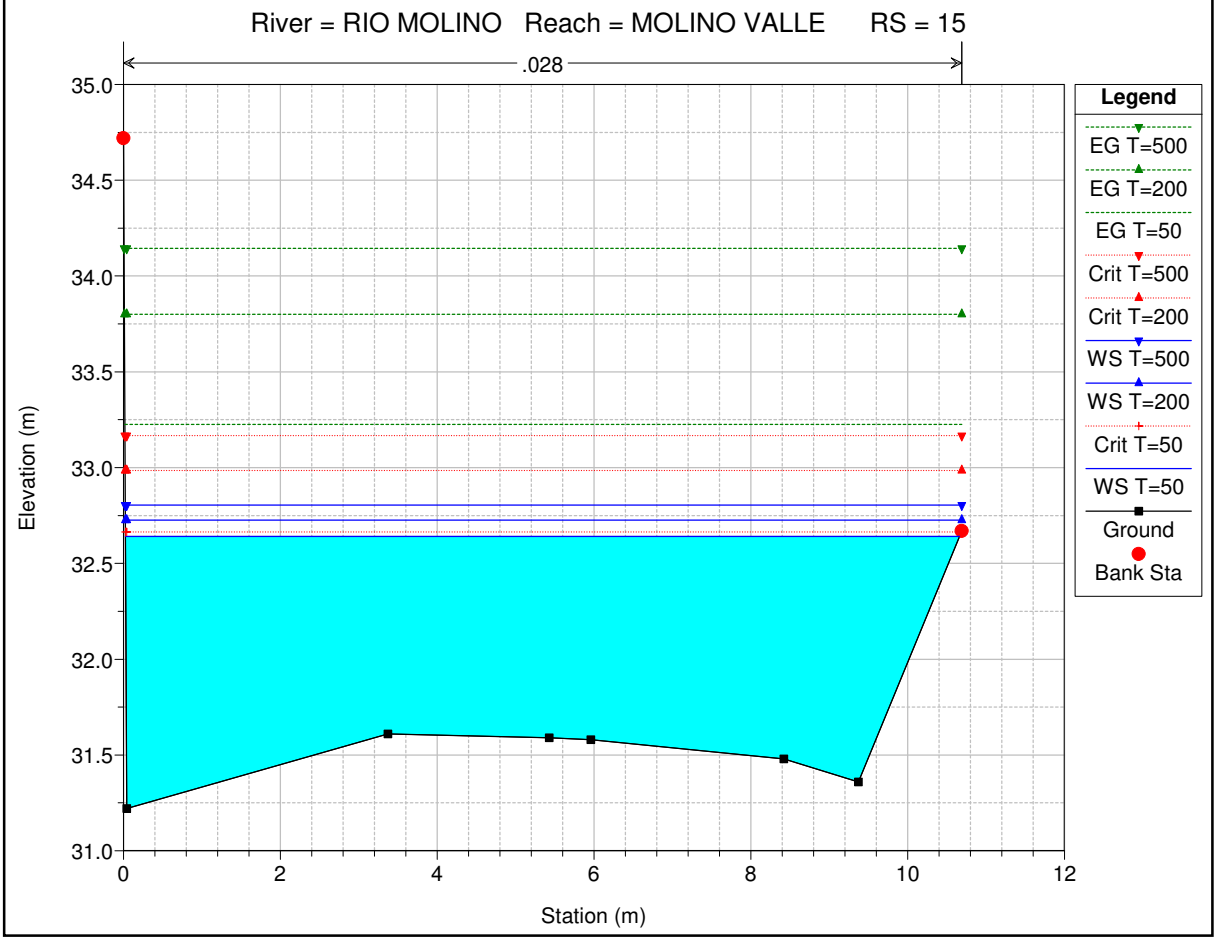

River = RIO MOLINO Reach = MOLINO VALLE RS = 22
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
WS T=50
Crit T=200
Crit T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO VALLE RS = 21
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

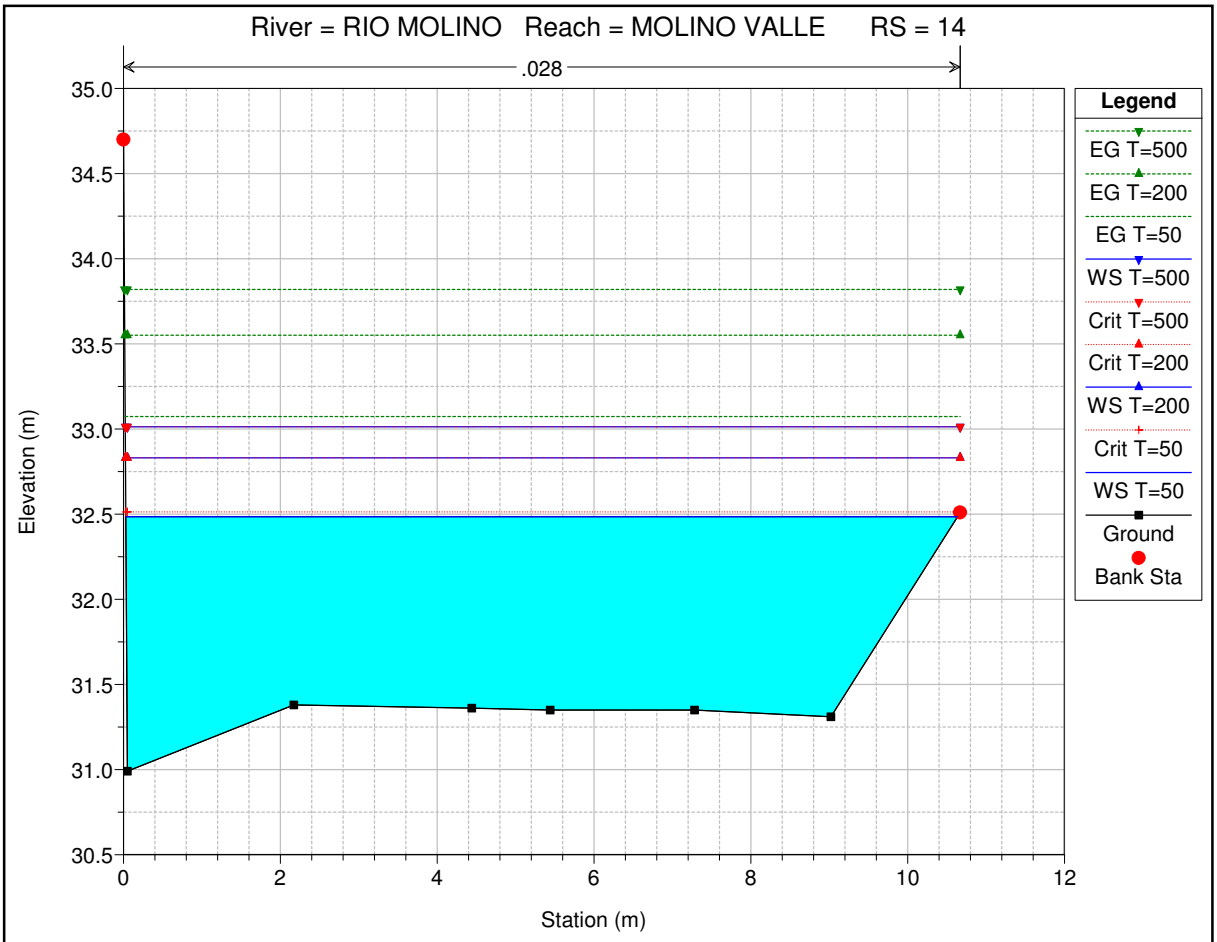

River = RIO MOLINO Reach = MOLINO VALLE RS = 20
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
WS T=500
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO VALLE RS = 19
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
WS T=500
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

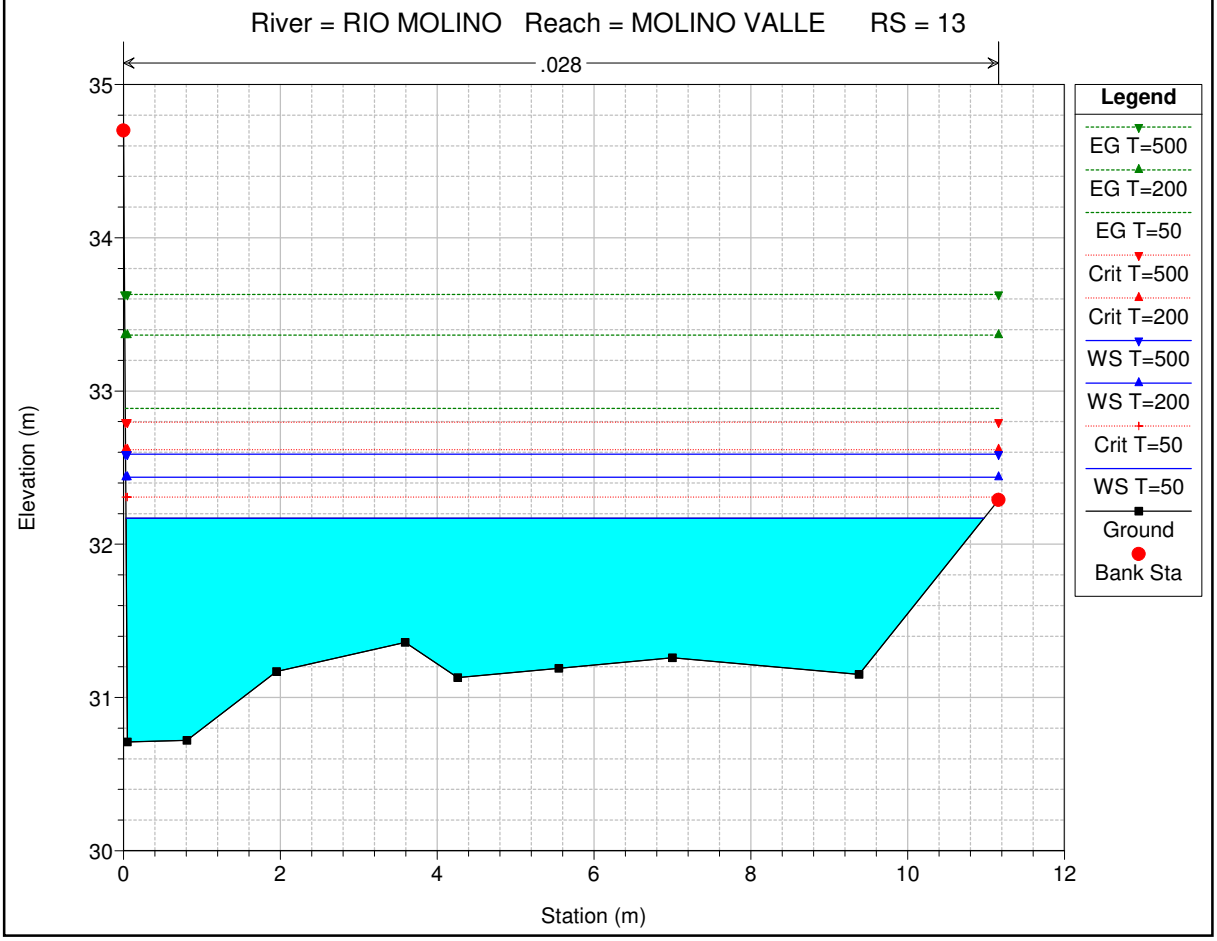

River = RIO MOLINO Reach = MOLINO VALLE RS = 18
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

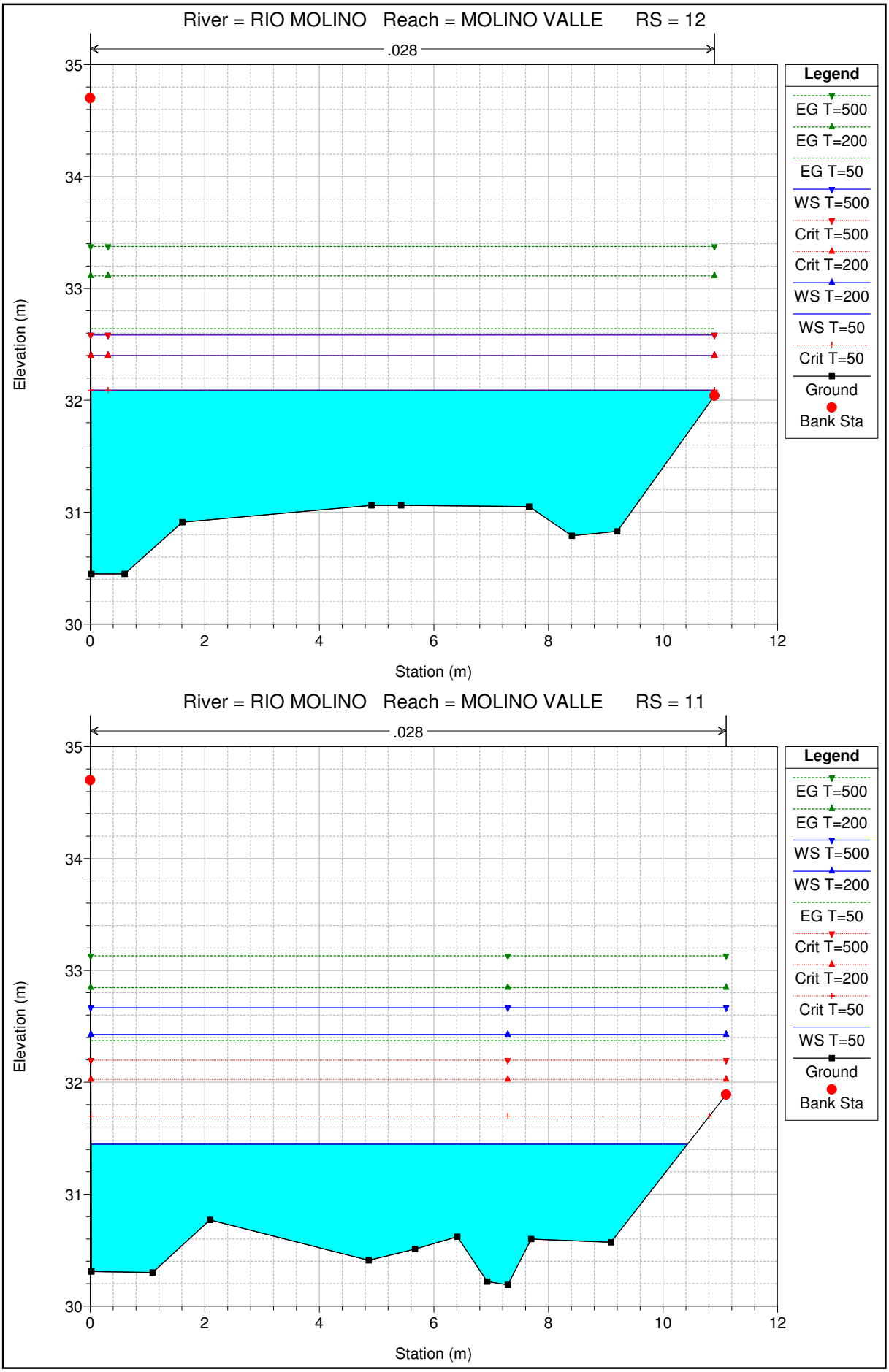

River = RIO MOLINO Reach = MOLINO VALLE RS = 17
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

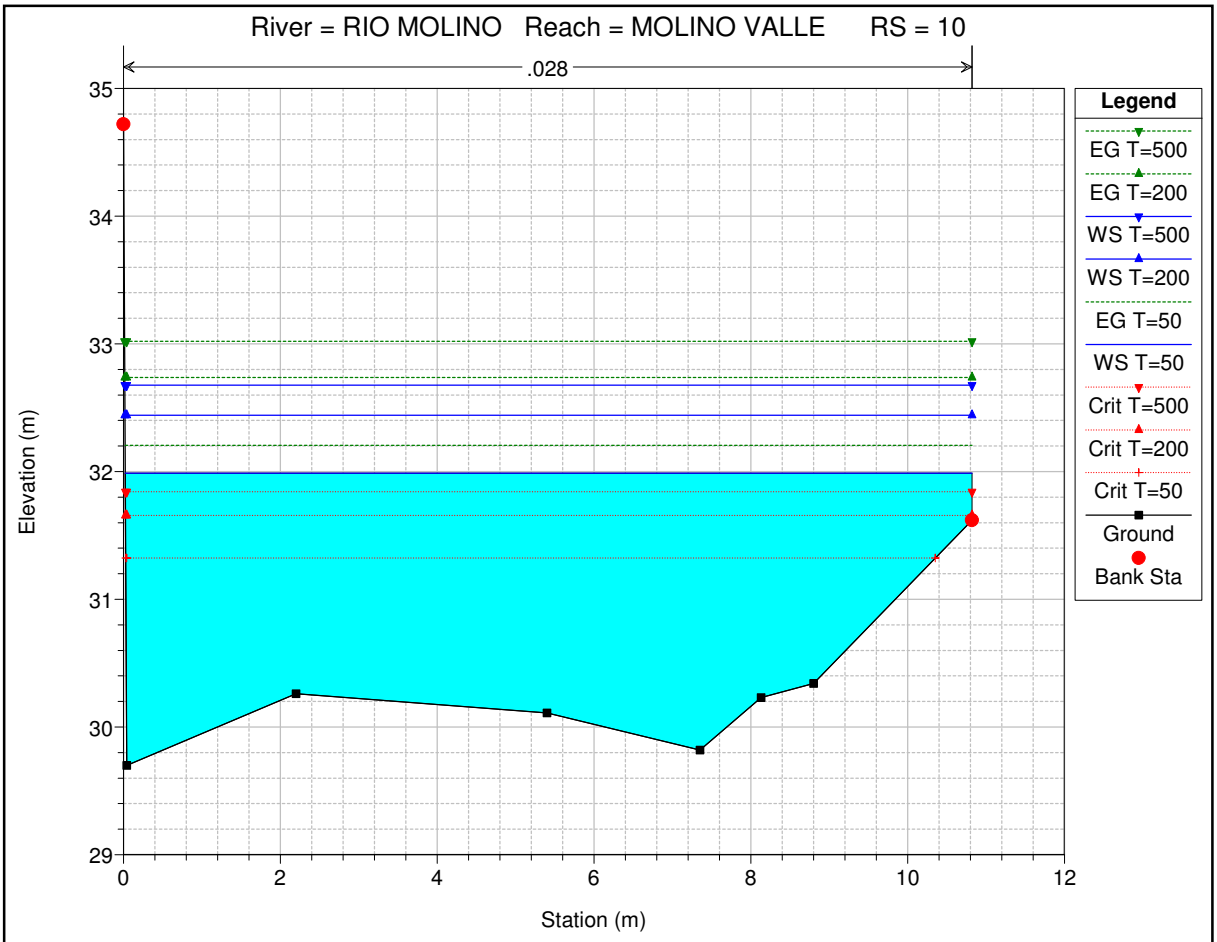

River = RIO MOLINO Reach = MOLINO VALLE RS = 16
.028
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=500
WS T=200
WS T=50
Ground
Bank Sta

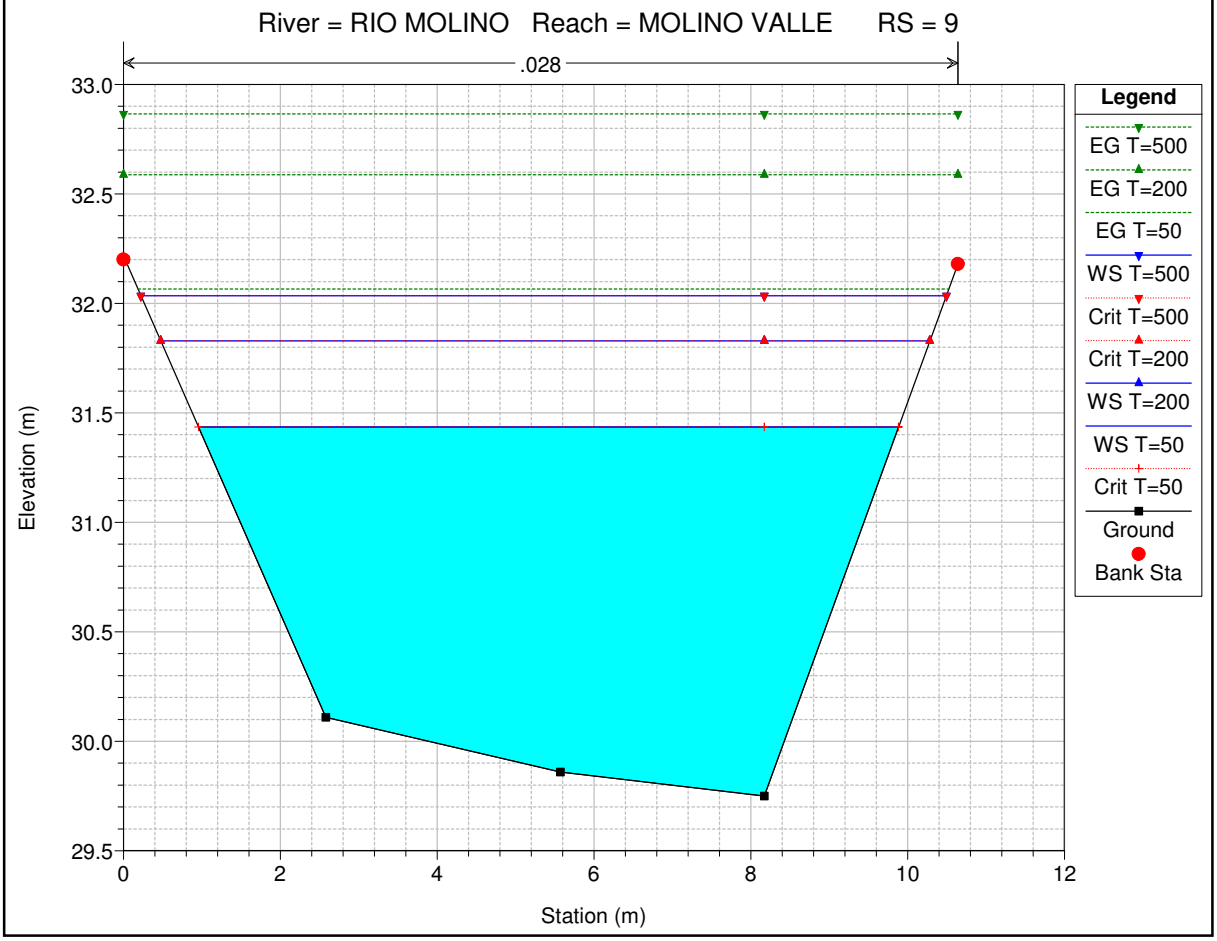

River = RIO MOLINO Reach = MOLINO VALLE RS = 15
.028
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

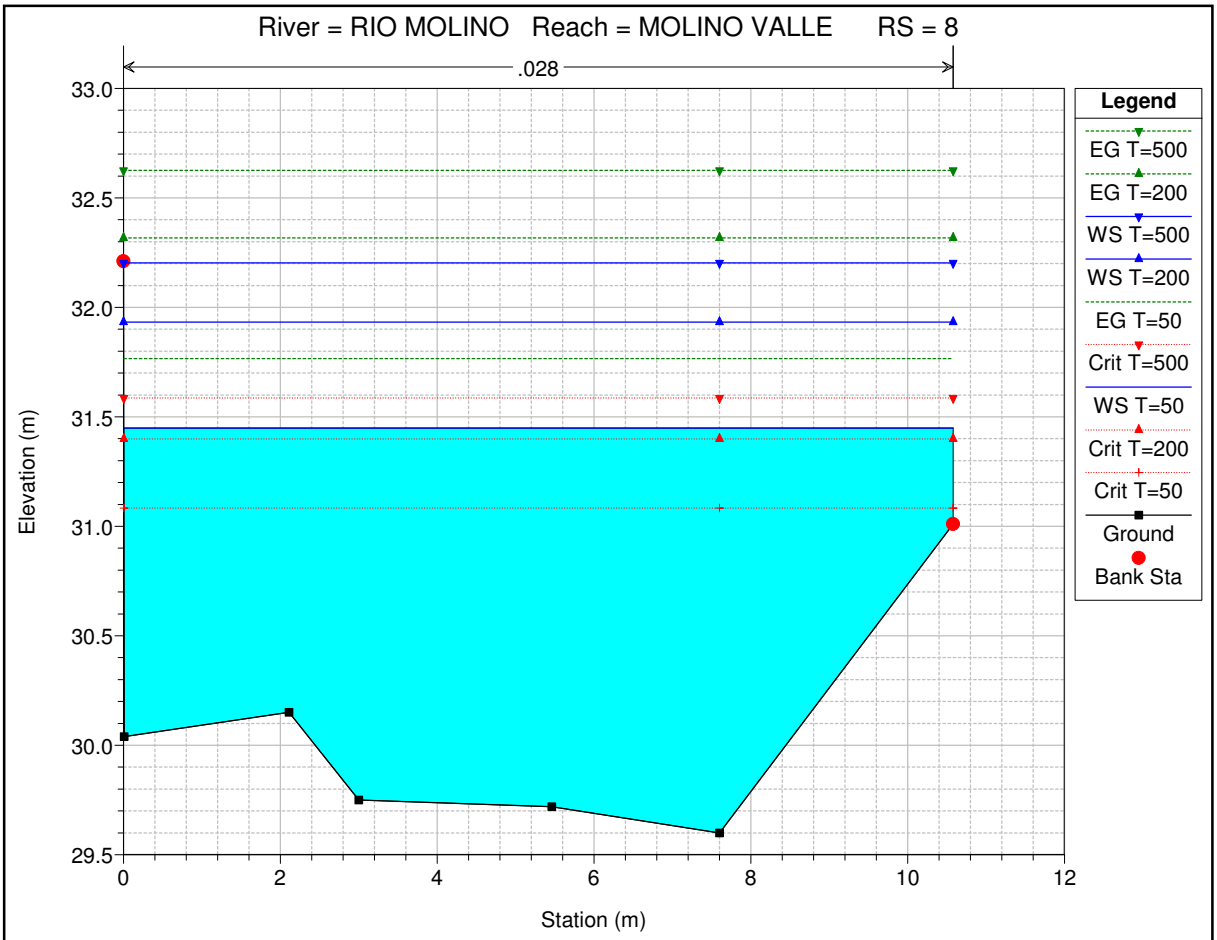

River = RIO MOLINO Reach = MOLINO VALLE RS = 14
.028
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
30.5
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

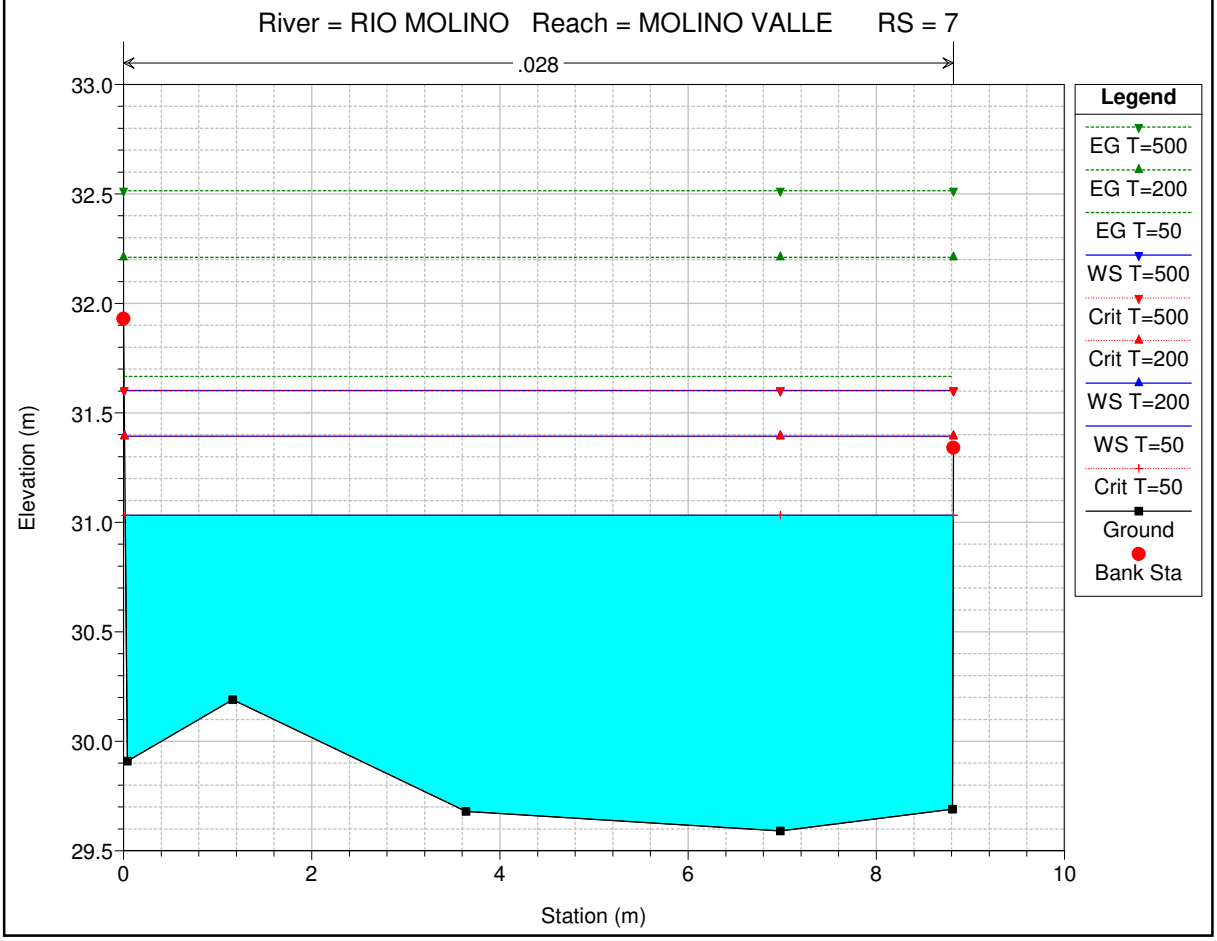

River = RIO MOLINO Reach = MOLINO VALLE RS = 13
.028
Elevation (m)
Station (m)
35
34
33
32
31
30
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

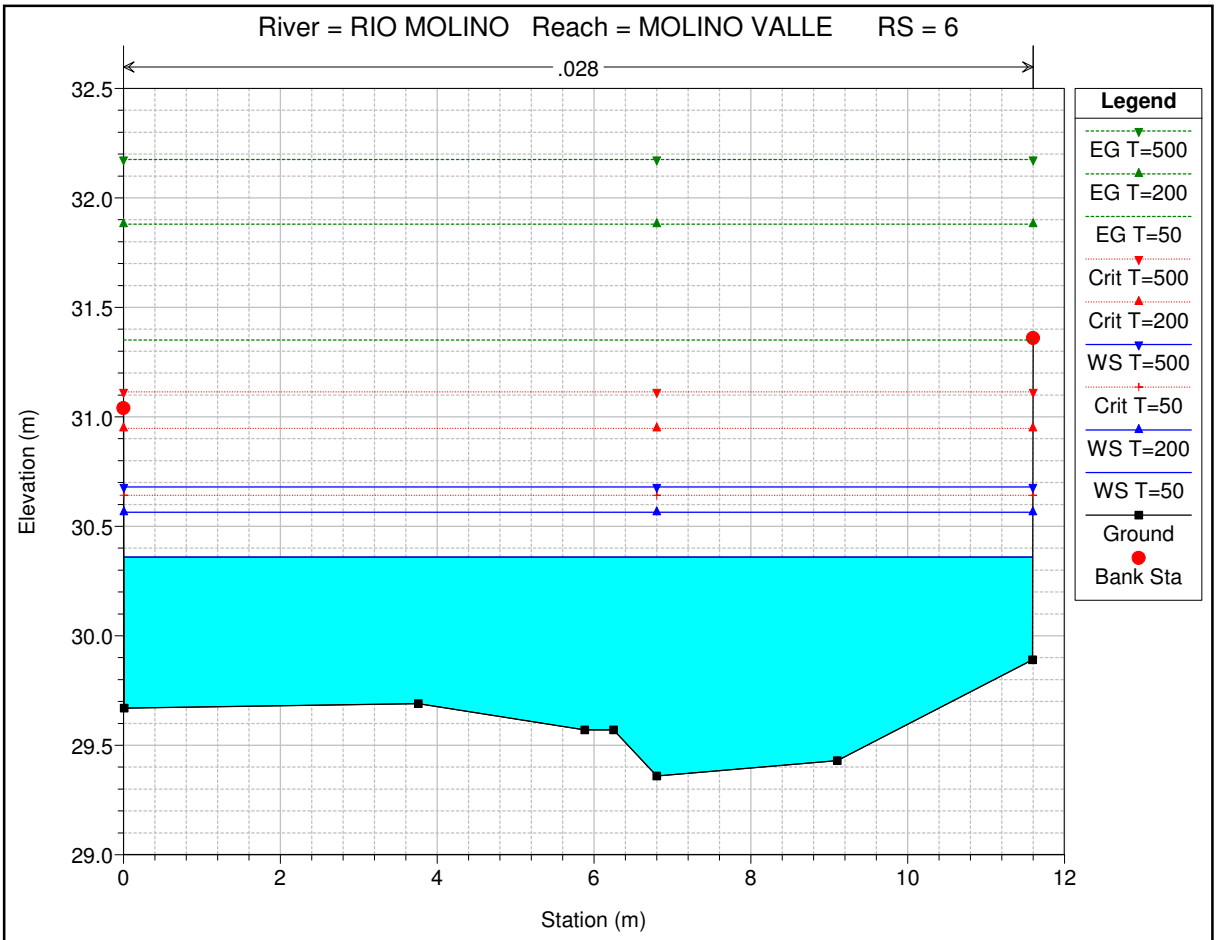

River = RIO MOLINO Reach = MOLINO VALLE RS = 12
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta
River = RIO MOLINO Reach = MOLINO VALLE RS = 11
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
Crit T=200
Crit T=50
WS T=50
Ground
Bank Sta

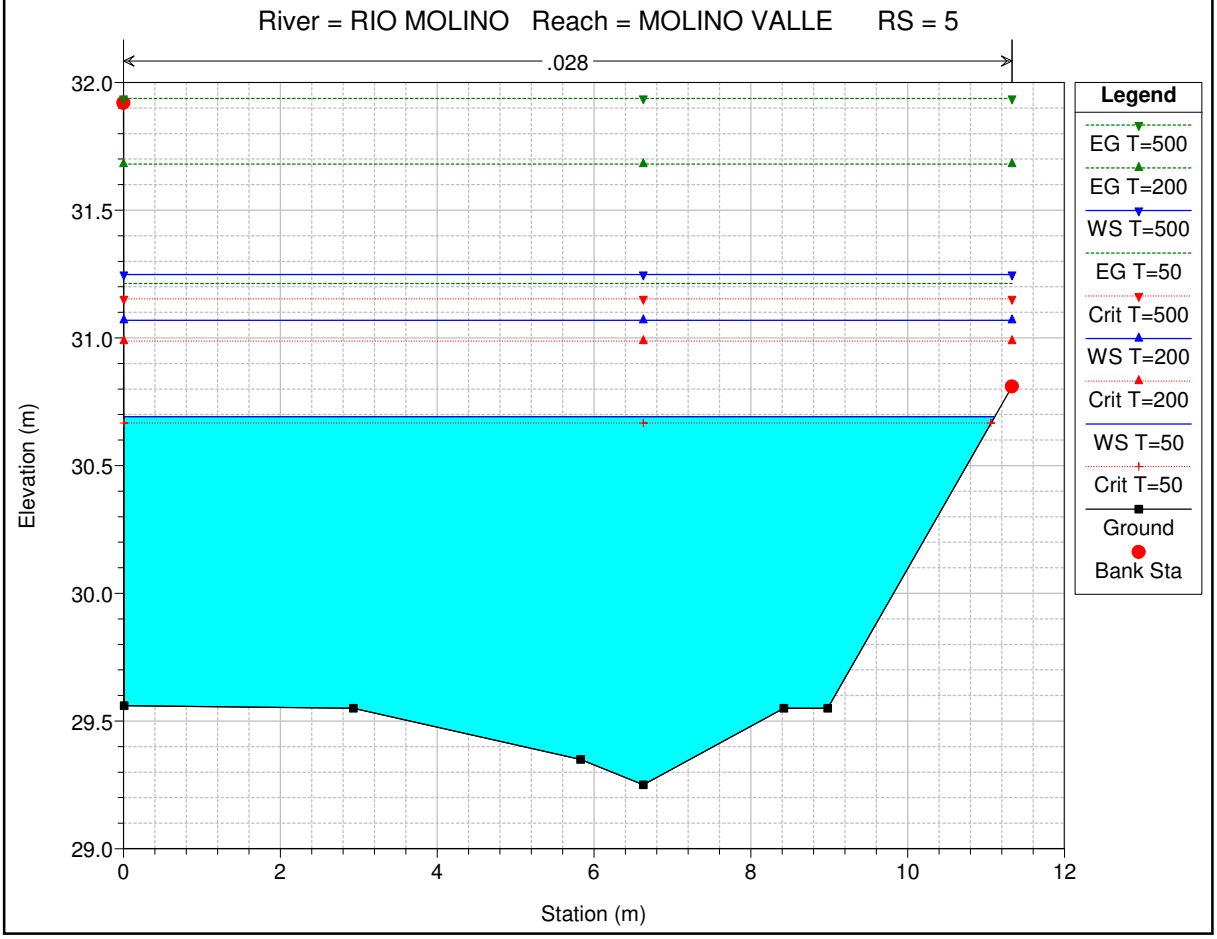

River = RIO MOLINO Reach = MOLINO VALLE RS = 10
.028
Elevation (m)
Station (m)
35
34
33
32
31
30
29
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
WS T=50
Crit T=500
Crit T=200
Crit T=50
Ground
Bank Sta

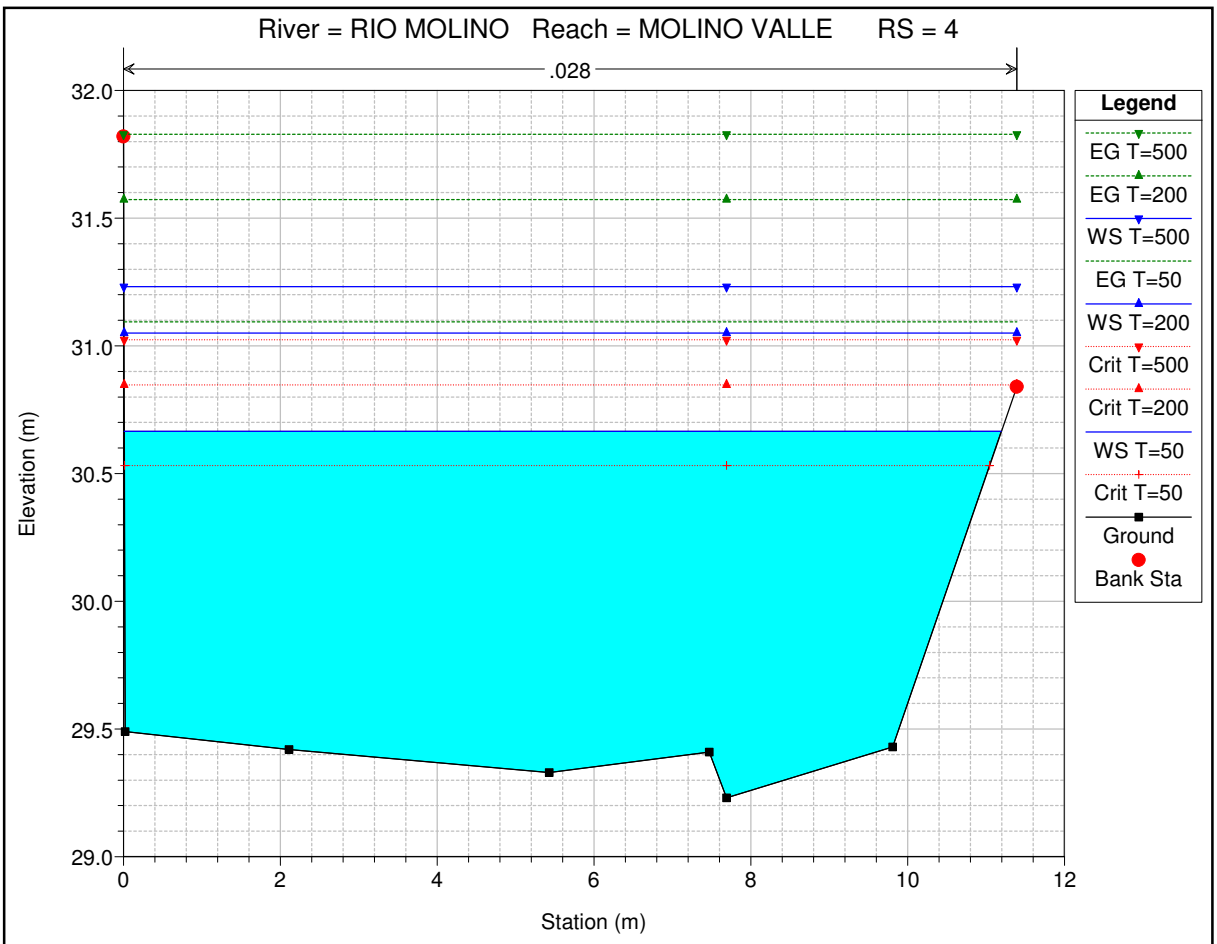

River = RIO MOLINO Reach = MOLINO VALLE RS = 9
.028
Elevation (m)
Station (m)
33.0
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

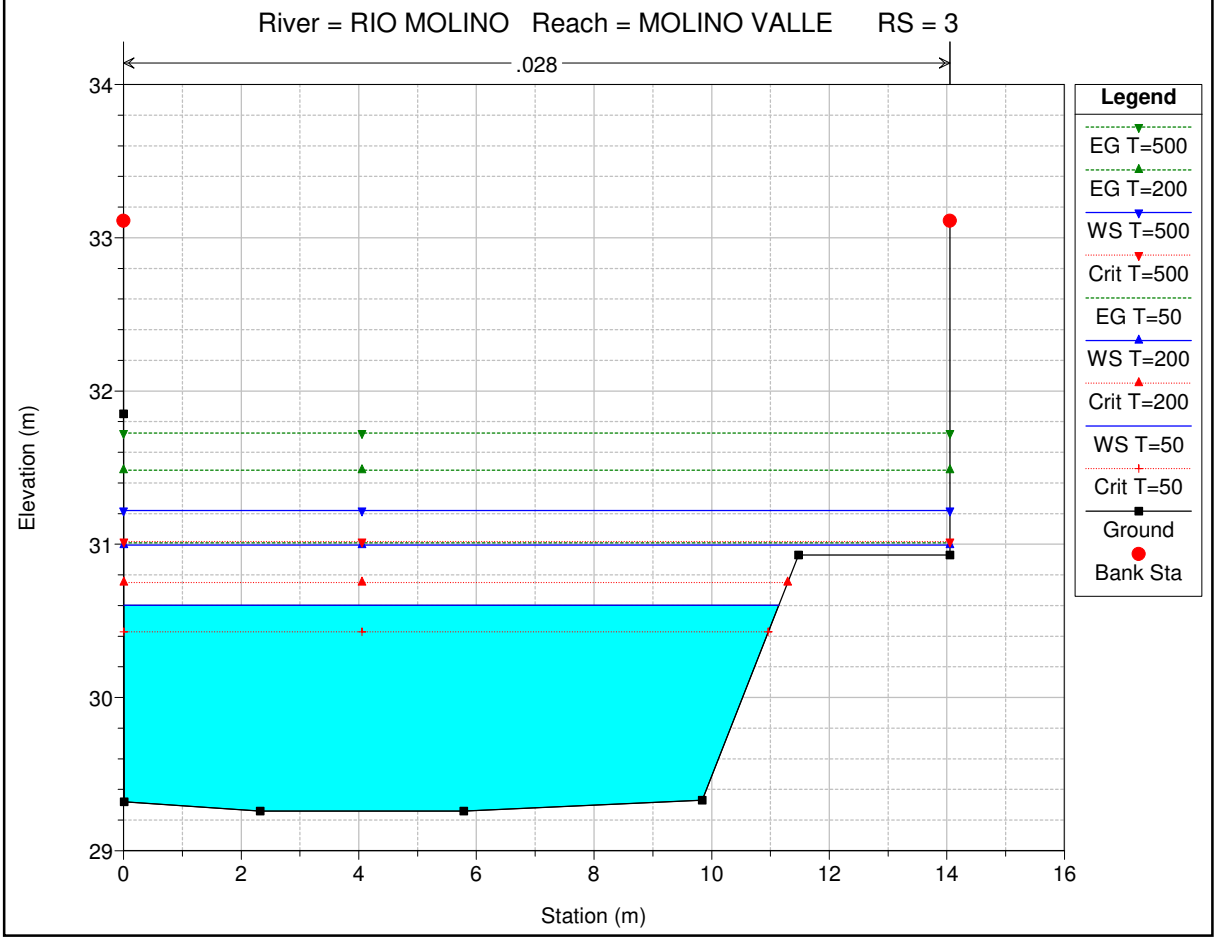

River = RIO MOLINO Reach = MOLINO VALLE RS = 8
.028
Elevation (m)
Station (m)
33.0
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
WS T=500
WS T=200
EG T=50
Crit T=500
WS T=50
Crit T=200
Crit T=50
Ground
Bank Sta

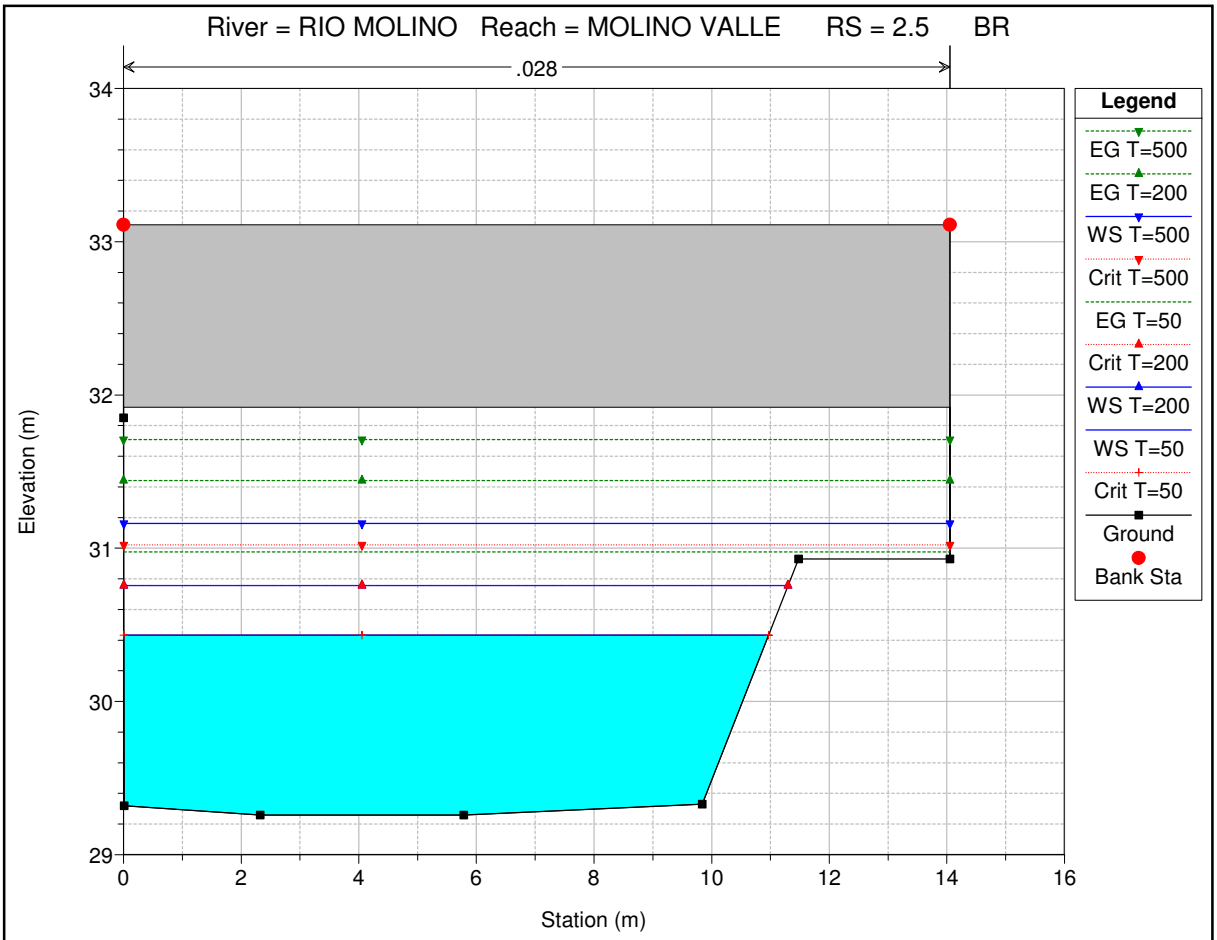

River = RIO MOLINO Reach = MOLINO VALLE RS = 7
.028
Elevation (m)
Station (m)
33.0
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
Legend
EG T=500
EG T=200
EG T=50
WS T=500
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta

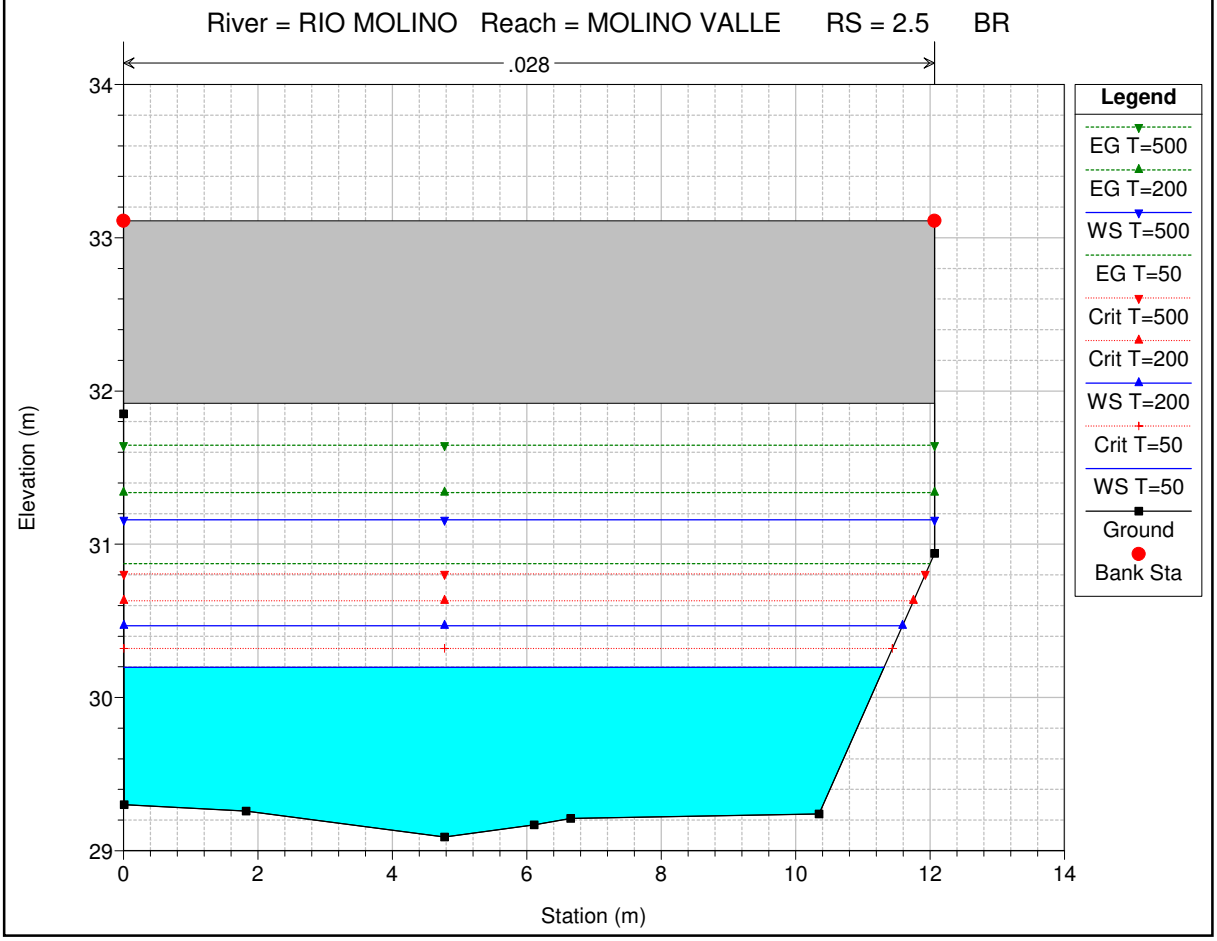

River = RIO MOLINO Reach = MOLINO VALLE RS = 6
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
EG T=50
Crit T=500
Crit T=200
WS T=500
Crit T=50
WS T=200
WS T=50
Ground
Bank Sta

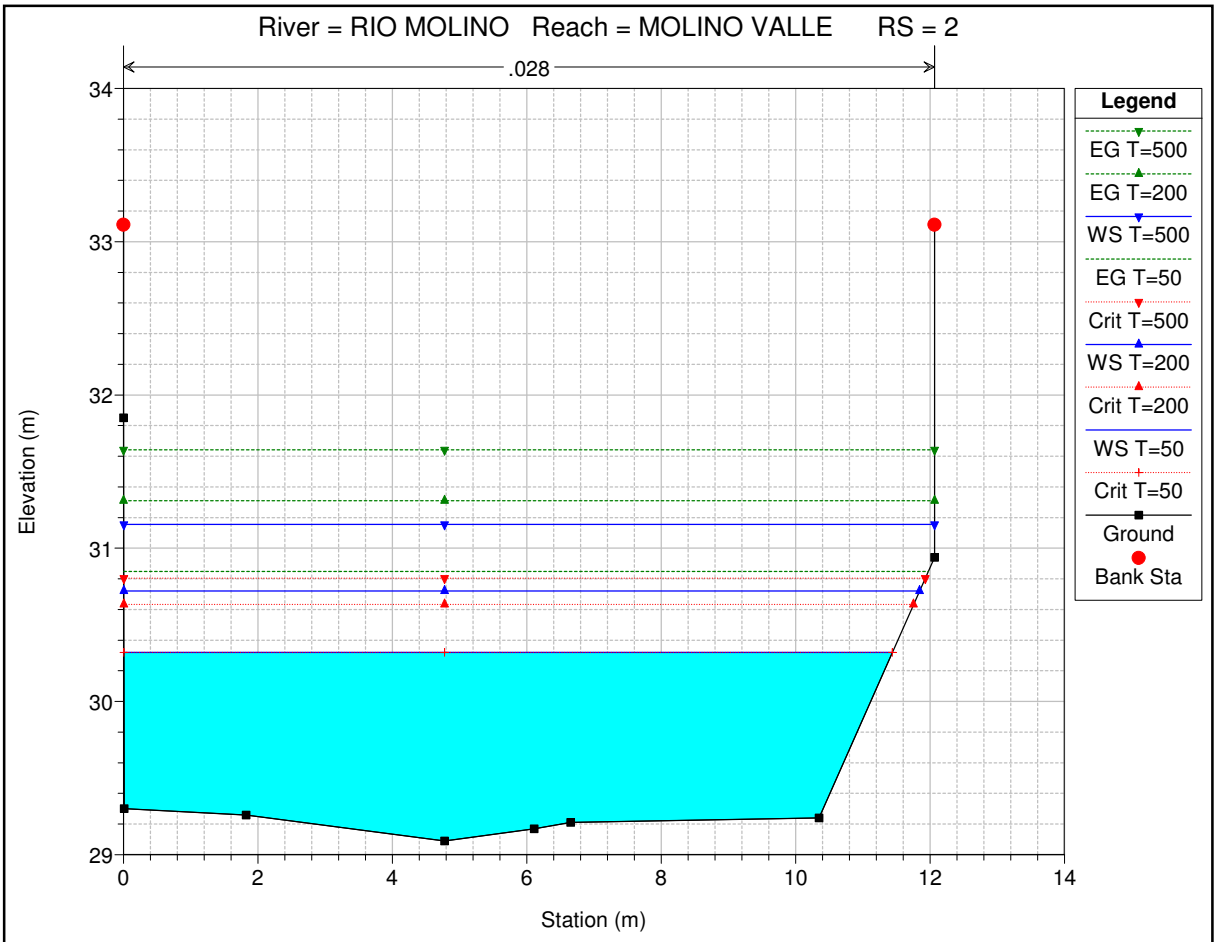

River = RIO MOLINO Reach = MOLINO VALLE RS = 5
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
WS T=200
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta

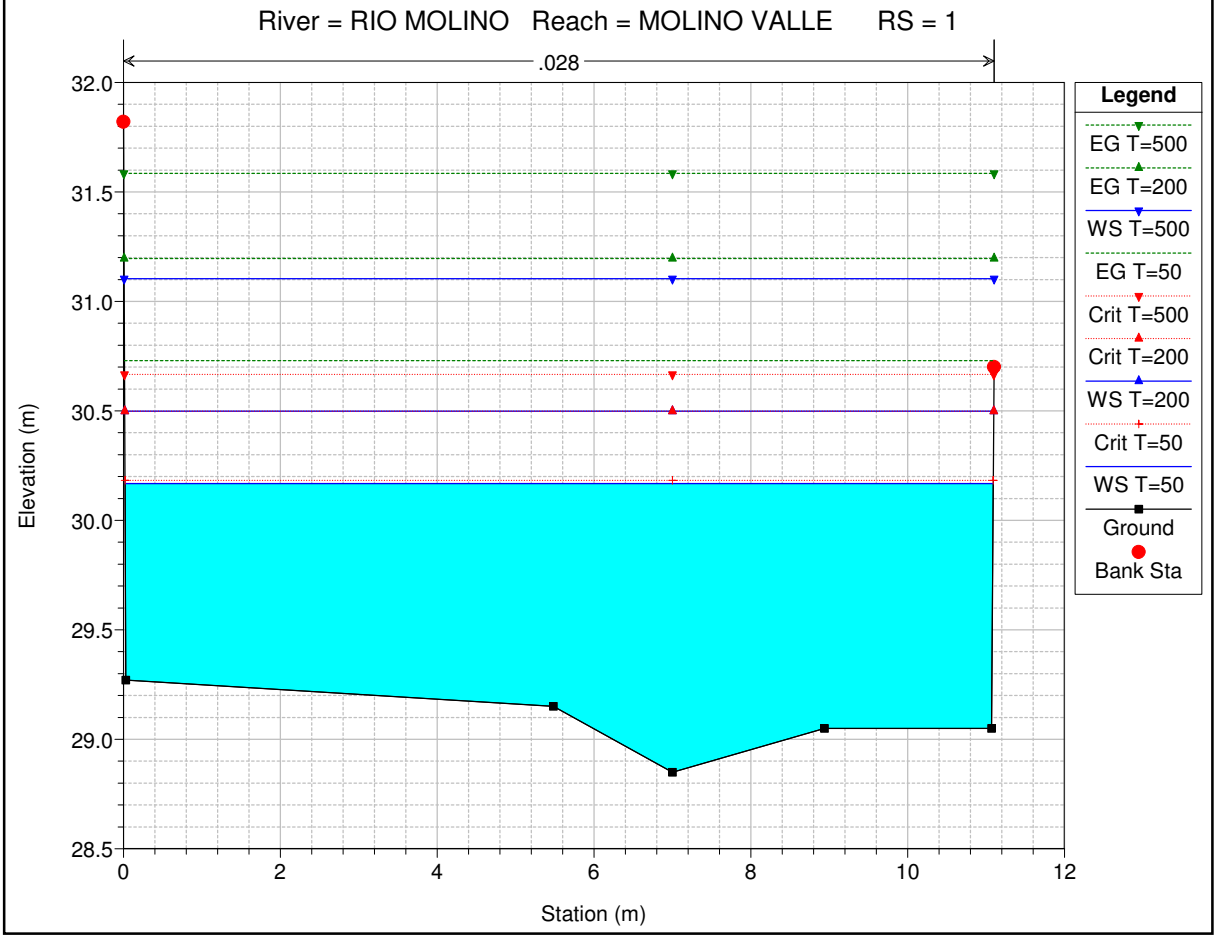

River = RIO MOLINO Reach = MOLINO VALLE RS = 4
.028
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
29.0
0
2
4
6
8
10
12
Legend
EG T=500
EG T=200
WS T=500
EG T=50
WS T=200
Crit T=500
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta


River = RIO MOLINO Reach = MOLINO VALLE RS = 3
.028
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14
16
Legend
EG T=500
EG T=200
WS T=500
Crit T=500
EG T=50
WS T=200
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta


River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
Crit T=500
EG T=50
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
Bank Sta


River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta


River = RIO MOLINO Reach = MOLINO VALLE RS = 2
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
WS T=200
Crit T=200
WS T=50
Crit T=50
Ground
Bank Sta


River = RIO MOLINO Reach = MOLINO VALLE RS = 1
.028
Elevation (m)
Station (m)
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
Crit T=200
WS T=200
Crit T=50
WS T=50
Ground
Bank Sta

RIO MOLINO MOLINO VALLE

RIO MOLINO MOLINO META

RIO MOLINO MONTE

Legend

- EG T=500
- EG T=200
- WS T=500
- EG T=50
- Crit T=500
- Crit T=200
- WS T=200
- Crit T=50
- WS T=50
- Ground
- LOB
- ROB

Elevation (m)

65
60
55
50
45
40
35
30
25

0 100 200 300 400 500 600 700

Main Channel Distance (m)

2 2.5 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 38 39 40 41 42 43 45 46 47 48 50 52

RIO DOMO DOMO

Legend

- EG T=500
- WS T=500
- EG T=200
- WS T=200
- EG T=50
- WS T=50
- Crit T=500
- Crit T=200
- Crit T=50
- Ground
- LOB
- ROB

Elevation (m)

52
50
48
46
44
42
40
38
36
34

3 4 6 7 8 10.5 12 13 14 15 16

0 50 100 150 200 250 300 350

Main Channel Distance (m)

RIO DOMO DOMO

Legend

- EG T=500
- WS T=500
- EG T=200
- WS T=200
- EG T=50
- WS T=50
- Crit T=500
- Crit T=200
- Crit T=50
- Ground
- LOB
- ROB

Elevation (m)

52
50
48
46
44
42
40
38
36
34

3 4 6 7 8 10.5 12 13 14 15 16

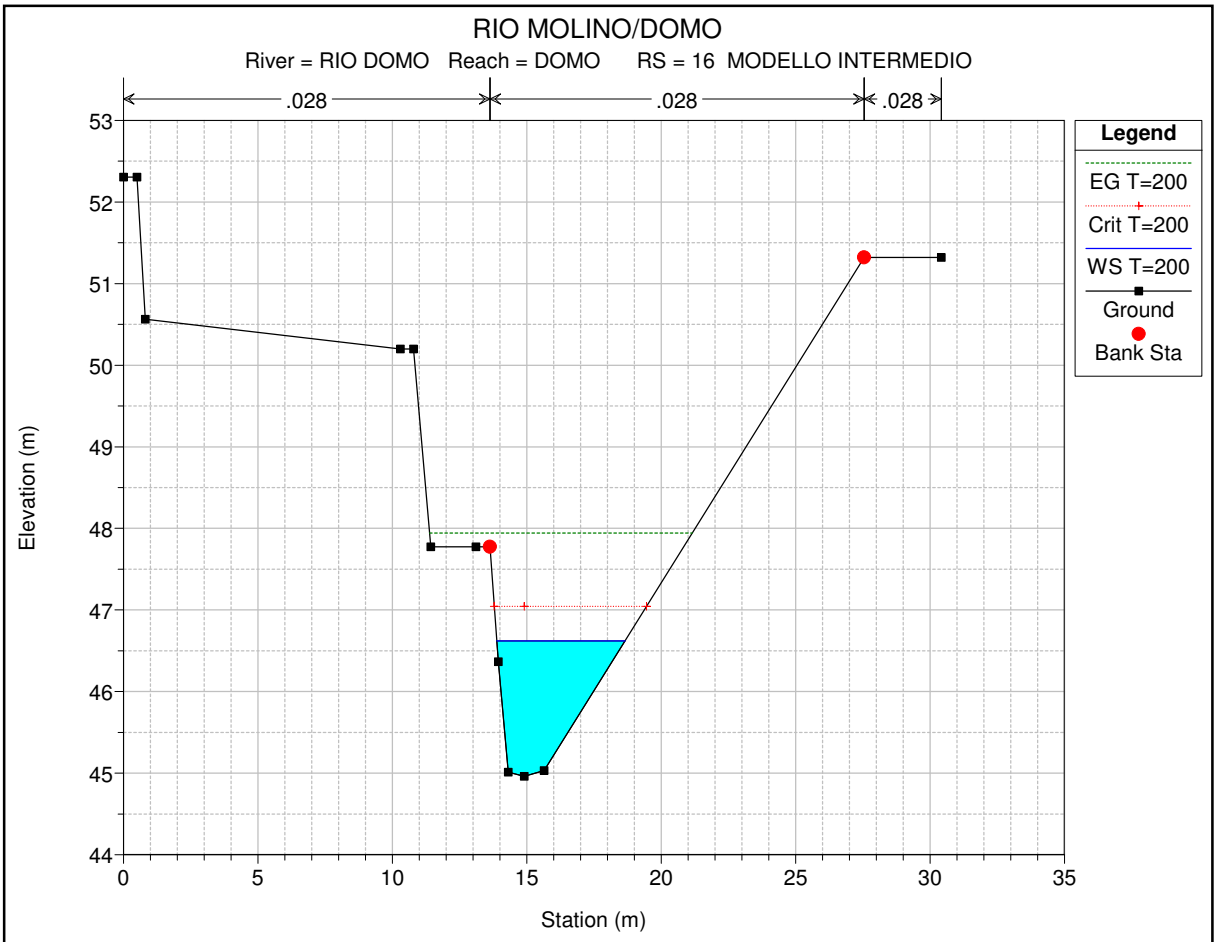
0 50 100 150 200 250 300 350

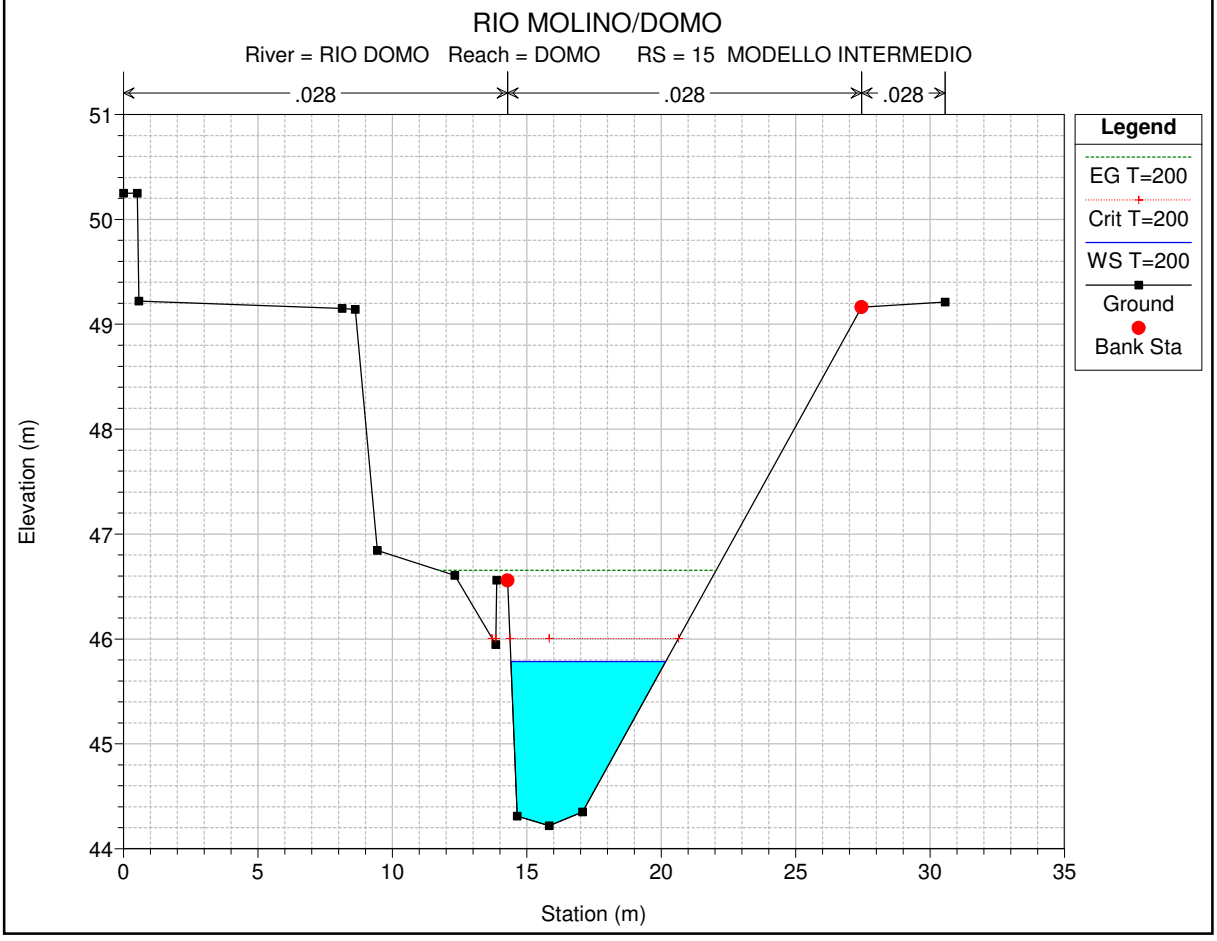
Main Channel Distance (m)

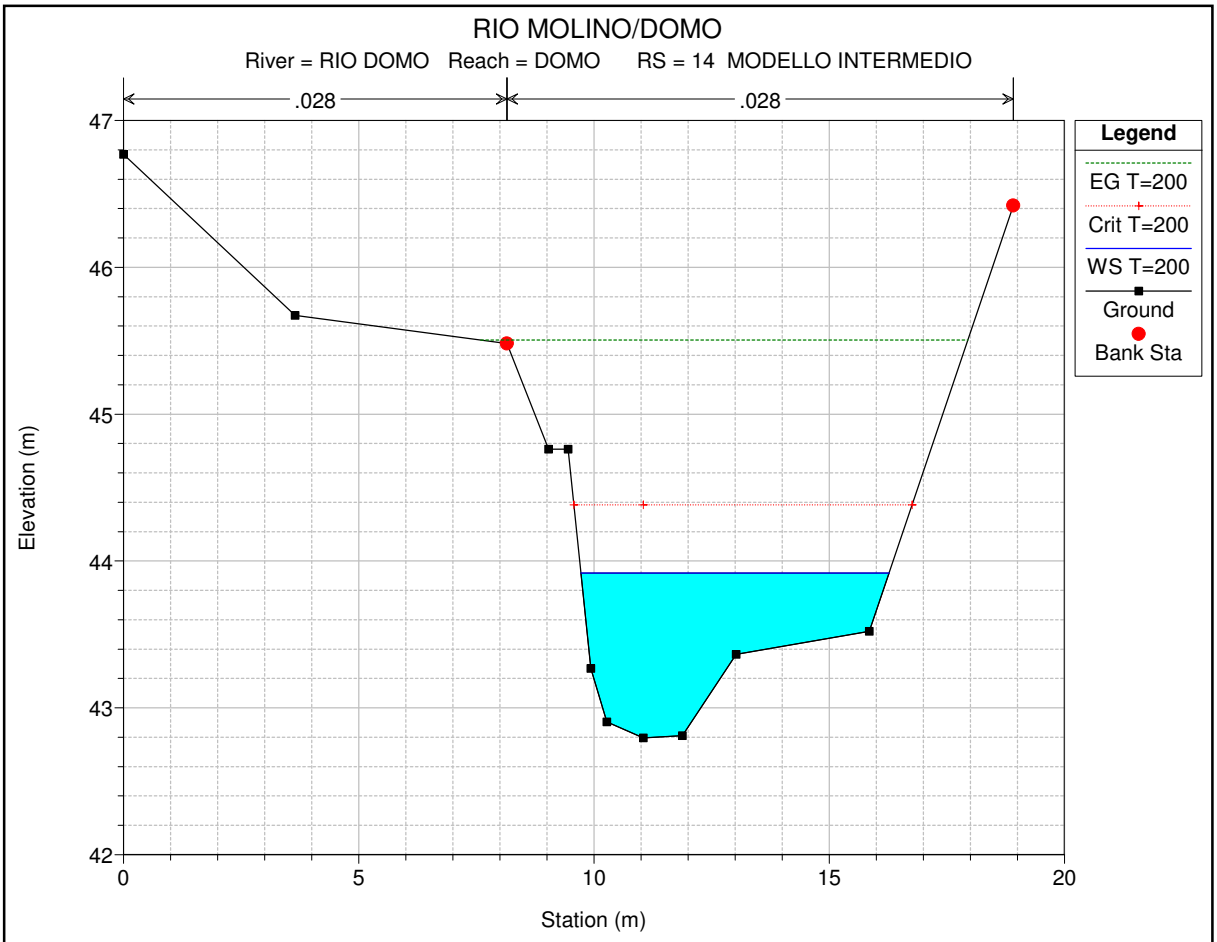
HEC-RAS Plan: Plan 01 River: RIO DOMO Reach: DOMO

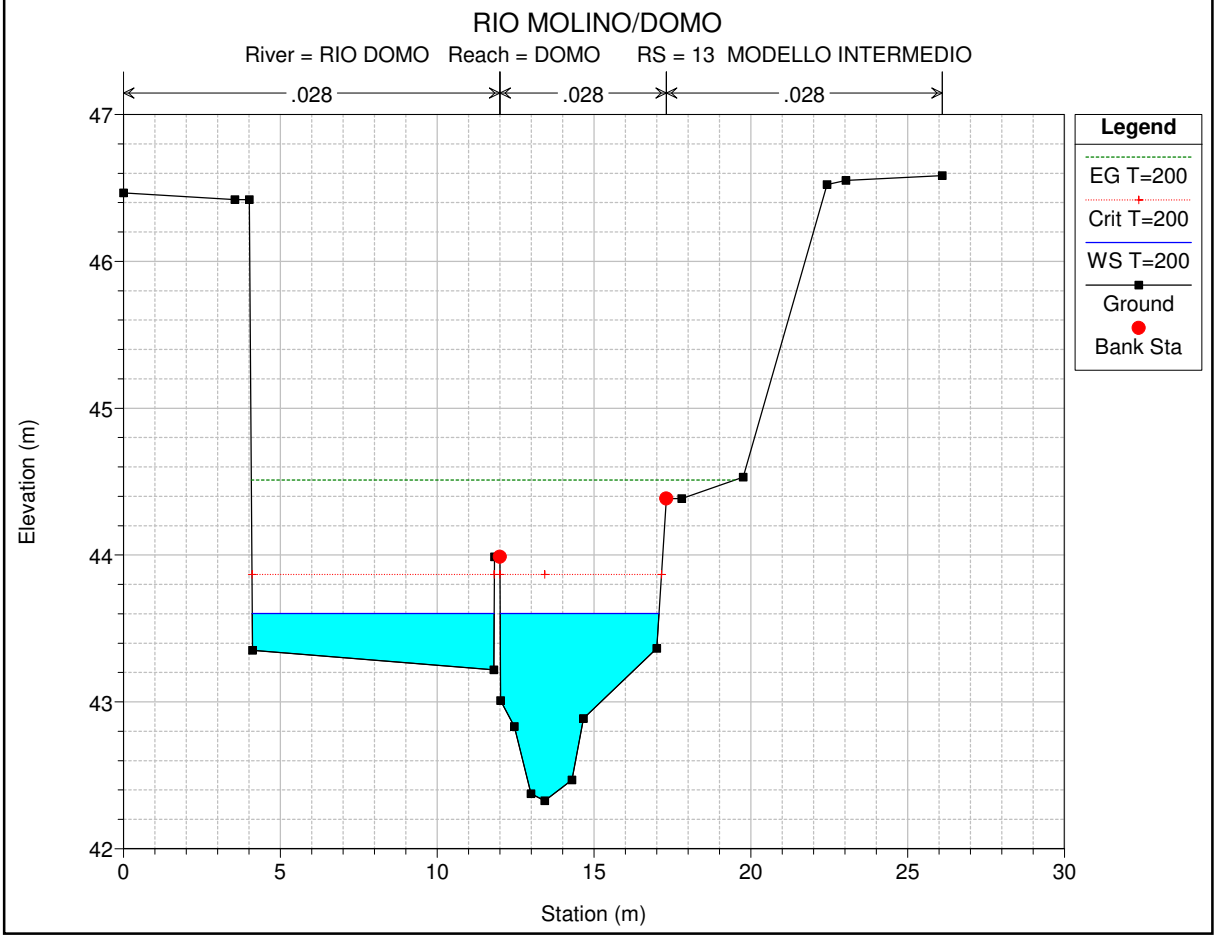
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
DOMO	16	T=50	17.00	44.96	46.34	46.69	47.44	0.029019	4.63	3.67	4.18	1.58
DOMO	16	T=200	25.00	44.96	46.62	47.04	47.94	0.029021	5.10	4.91	4.77	1.60
DOMO	16	T=500	30.00	44.96	46.77	47.23	48.22	0.029022	5.33	5.63	5.08	1.62
DOMO	15	T=50	17.00	44.22	45.53	45.68	46.21	0.016116	3.64	4.67	5.17	1.22
DOMO	15	T=200	25.00	44.22	45.78	46.00	46.66	0.017327	4.13	6.05	5.76	1.29
DOMO	15	T=500	30.00	44.22	45.92	46.19	46.90	0.017987	4.39	6.83	6.06	1.32
DOMO	14	T=50	17.00	42.80	43.74	44.12	45.06	0.055002	5.10	3.34	6.30	2.24
DOMO	14	T=200	25.00	42.80	43.92	44.38	45.51	0.048306	5.58	4.48	6.55	2.15
DOMO	14	T=500	30.00	42.80	44.02	44.53	45.75	0.045554	5.82	5.16	6.69	2.12
DOMO	13	T=50	17.00	42.33	43.52	43.71	44.14	0.024011	3.80	5.32	12.74	1.46
DOMO	13	T=200	25.00	42.33	43.60	43.87	44.51	0.032008	4.65	6.34	12.77	1.69
DOMO	13	T=500	30.00	42.33	43.65	43.95	44.73	0.036296	5.08	6.90	12.79	1.80
DOMO	12	T=50	17.00	41.90	43.15	43.29	43.72	0.013835	3.43	5.41	8.59	1.11
DOMO	12	T=200	25.00	41.90	43.60	43.52	44.00	0.007411	2.97	9.32	8.66	0.80
DOMO	12	T=500	30.00	41.90	43.71	43.64	44.18	0.008218	3.22	10.30	8.85	0.84
DOMO	11	T=50	17.00	41.27	43.22	43.10	43.45	0.004420	2.31	8.91	11.36	0.55
DOMO	11	T=200	25.00	41.27	43.41	43.31	43.71	0.005379	2.73	11.05	11.36	0.62
DOMO	11	T=500	30.00	41.27	43.53	43.41	43.87	0.005530	2.88	12.46	11.37	0.63
DOMO	10.5		Bridge									
DOMO	10	T=50	17.00	41.21	42.05	42.42	43.26	0.040338	4.88	3.48	5.22	1.91
DOMO	10	T=200	25.00	41.21	42.36	42.89	43.53	0.027916	4.78	5.22	5.92	1.63
DOMO	10	T=500	30.00	41.21	42.54	43.04	43.68	0.022773	4.73	6.34	6.07	1.48
DOMO	9	T=50	17.00	41.20	41.83	42.21	43.15	0.052024	5.09	3.34	5.92	2.17
DOMO	9	T=200	25.00	41.20	42.08	42.58	43.44	0.035740	5.15	4.85	6.06	1.84
DOMO	9	T=500	30.00	41.20	42.24	42.79	43.60	0.030122	5.17	5.80	6.14	1.70
DOMO	8	T=50	17.00	41.20	41.83	42.21	43.15	0.051673	5.08	3.35	5.92	2.16
DOMO	8	T=200	25.00	41.20	42.08	42.58	43.43	0.035564	5.14	4.86	6.06	1.83
DOMO	8	T=500	30.00	41.20	42.24	42.79	43.60	0.029991	5.17	5.81	6.14	1.70
DOMO	7	T=50	17.00	38.99	39.74	40.14	41.14	0.056737	5.24	3.25	6.36	2.34
DOMO	7	T=200	25.00	38.99	39.88	40.40	41.72	0.058706	6.01	4.16	6.73	2.44
DOMO	7	T=500	30.00	38.99	39.96	40.60	42.02	0.058484	6.36	4.72	6.93	2.46
DOMO	6	T=50	17.00	37.86	39.30	39.37	39.71	0.016526	2.82	6.02	11.32	1.24
DOMO	6	T=200	25.00	37.86	39.40	39.56	40.02	0.020698	3.50	7.14	11.33	1.41
DOMO	6	T=500	30.00	37.86	39.45	39.66	40.22	0.022970	3.88	7.74	11.33	1.50
DOMO	5	T=50	17.00	37.36	38.42	38.58	38.99	0.021723	3.35	5.07	9.58	1.47
DOMO	5	T=200	25.00	37.36	38.59	38.77	39.28	0.018977	3.67	6.81	10.09	1.42
DOMO	5	T=500	30.00	37.36	38.68	38.91	39.46	0.018397	3.90	7.70	10.23	1.42
DOMO	4	T=50	17.00	36.39	38.19	38.43	38.97	0.039047	3.90	4.36	8.48	1.73
DOMO	4	T=200	25.00	36.39	38.37	38.63	39.26	0.033269	4.17	5.99	9.42	1.67
DOMO	4	T=500	30.00	36.39	38.47	38.75	39.44	0.031752	4.37	6.87	9.75	1.66
DOMO	3	T=50	17.00	35.28	37.92	37.13	38.21	0.004377	2.36	7.19	3.30	0.51
DOMO	3	T=200	25.00	35.28	38.45	37.55	38.85	0.005524	2.80	8.93	3.30	0.54
DOMO	3	T=500	30.00	35.28	38.73	37.78	39.20	0.006247	3.04	9.86	3.30	0.56
DOMO	2	T=50	17.00	35.33	37.98	36.84	38.14	0.001998	1.77	9.58	4.16	0.37
DOMO	2	T=200	25.00	35.33	38.54	37.22	38.76	0.002496	2.10	11.89	4.16	0.40
DOMO	2	T=500	30.00	35.33	38.84	37.42	39.10	0.002802	2.28	13.13	4.16	0.41

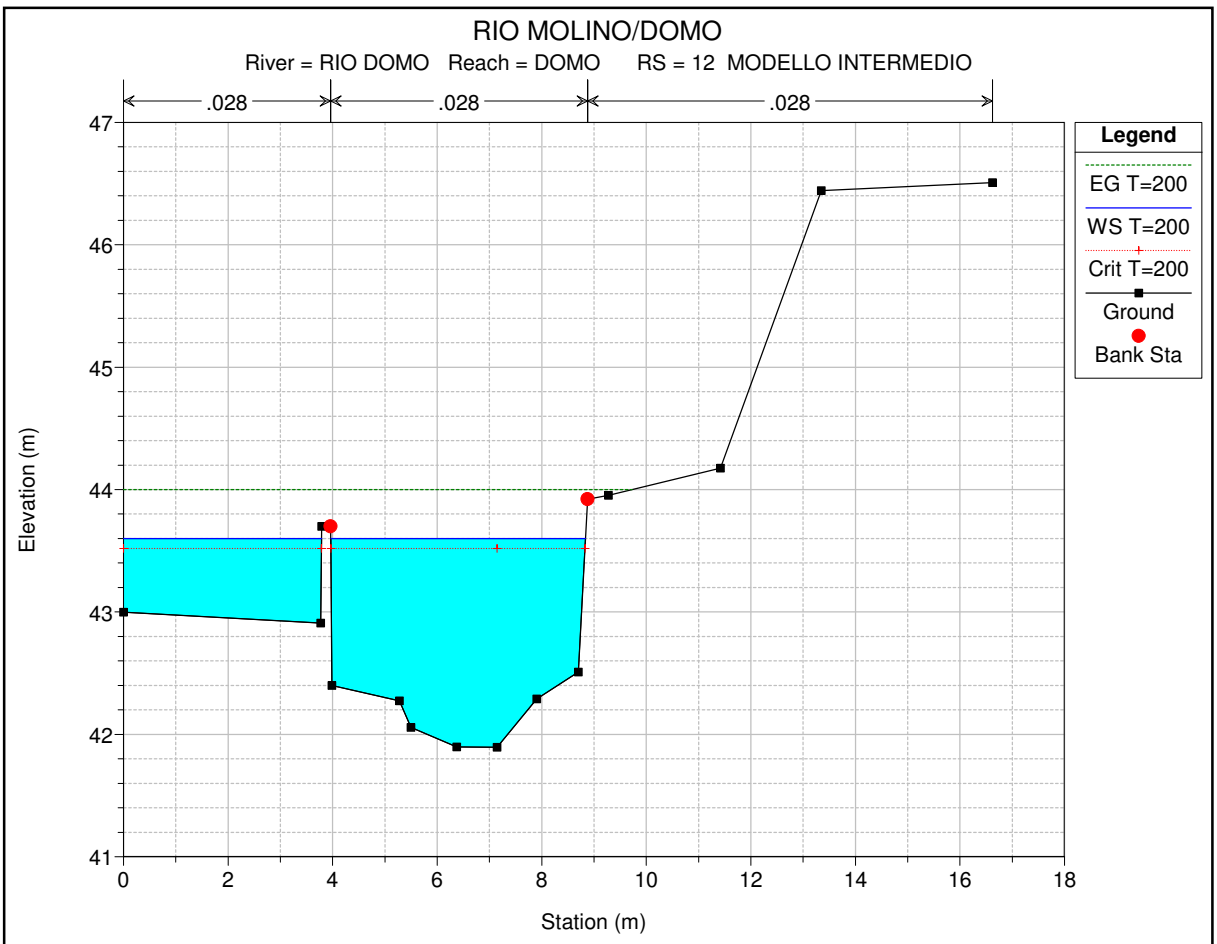
VERIFICA IDRAULICA
STATO di PROGETTO INTERMEDIO

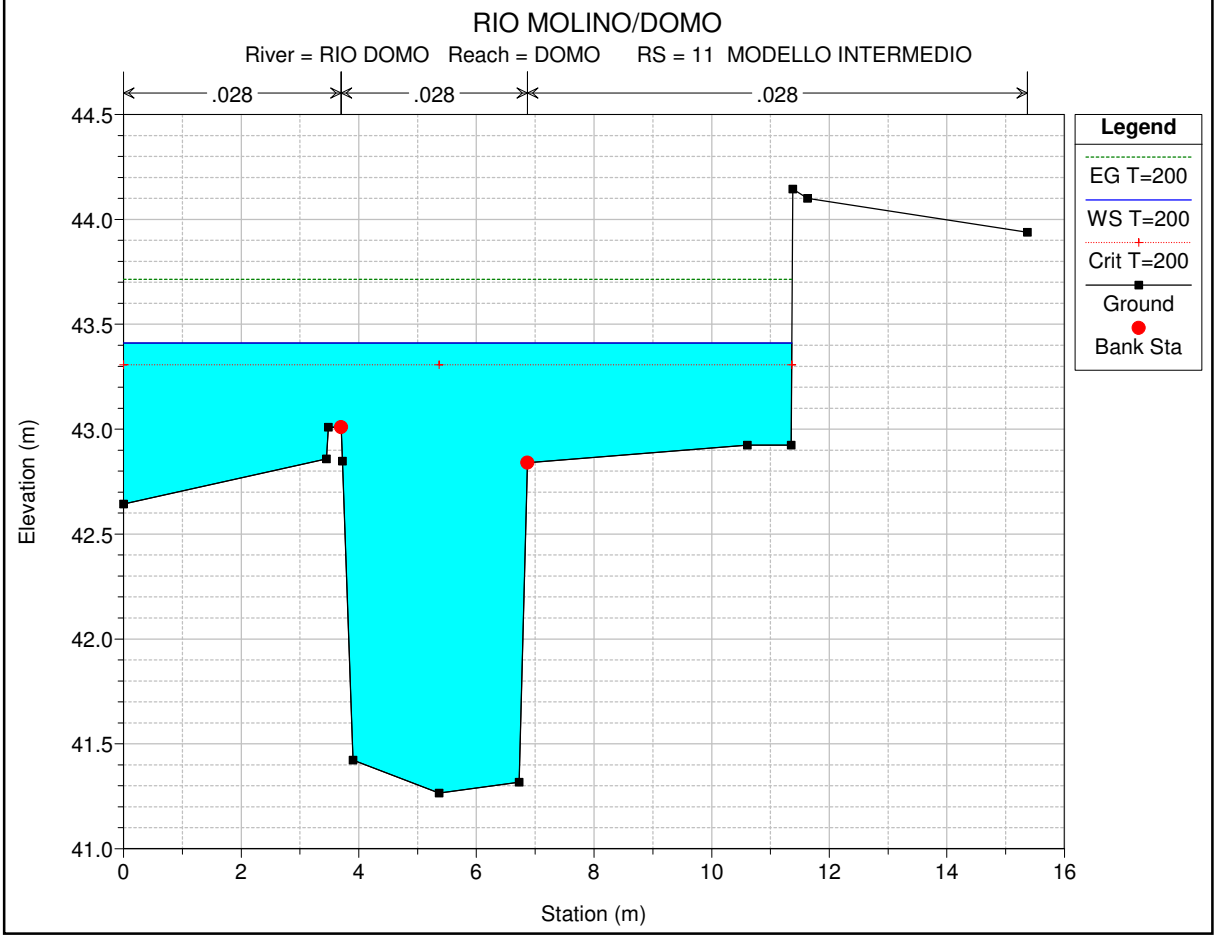

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 16 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
53
52
51
50
49
48
47
46
45
44
0
5
10
15
20
25
30
35

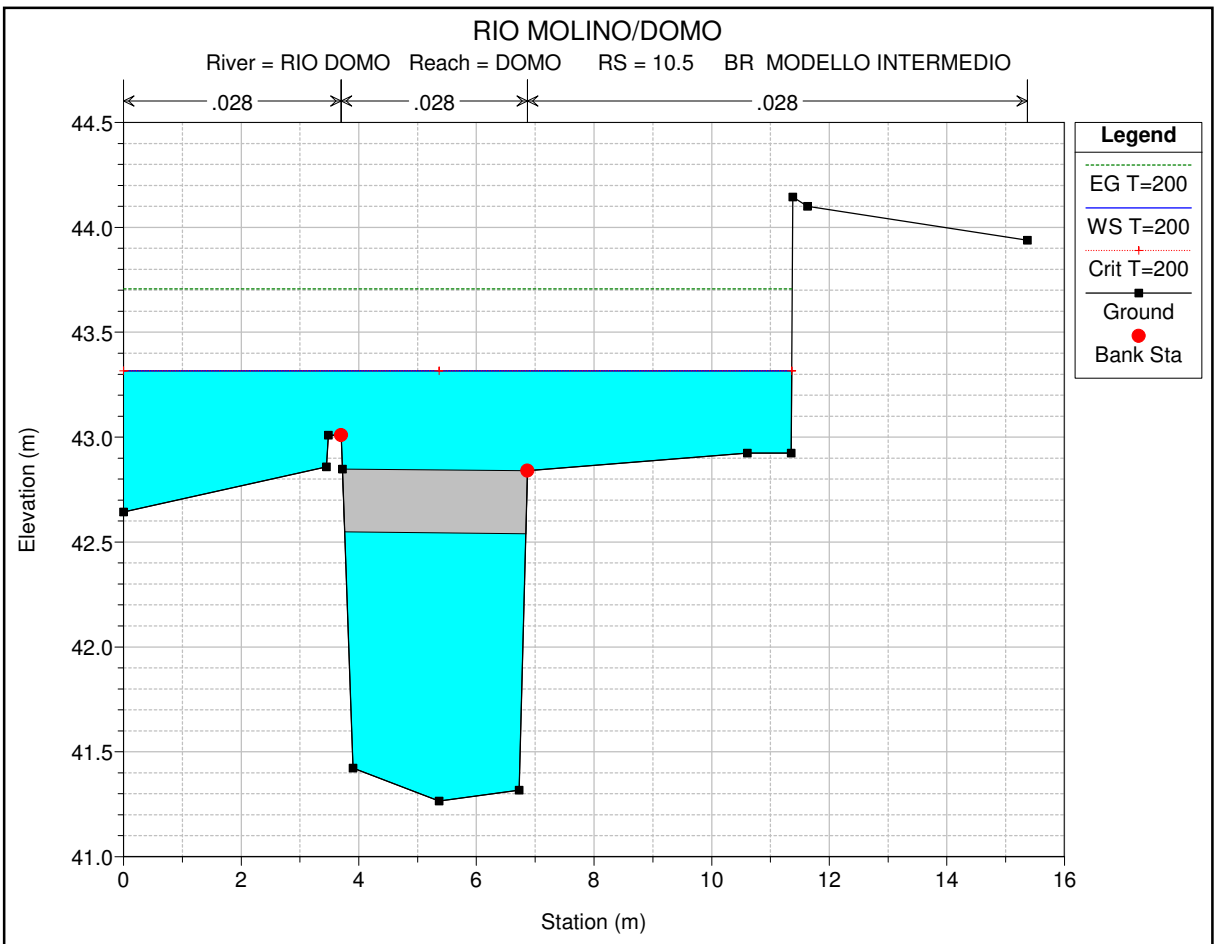

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 15 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
51
50
49
48
47
46
45
44
0
5
10
15
20
25
30
35

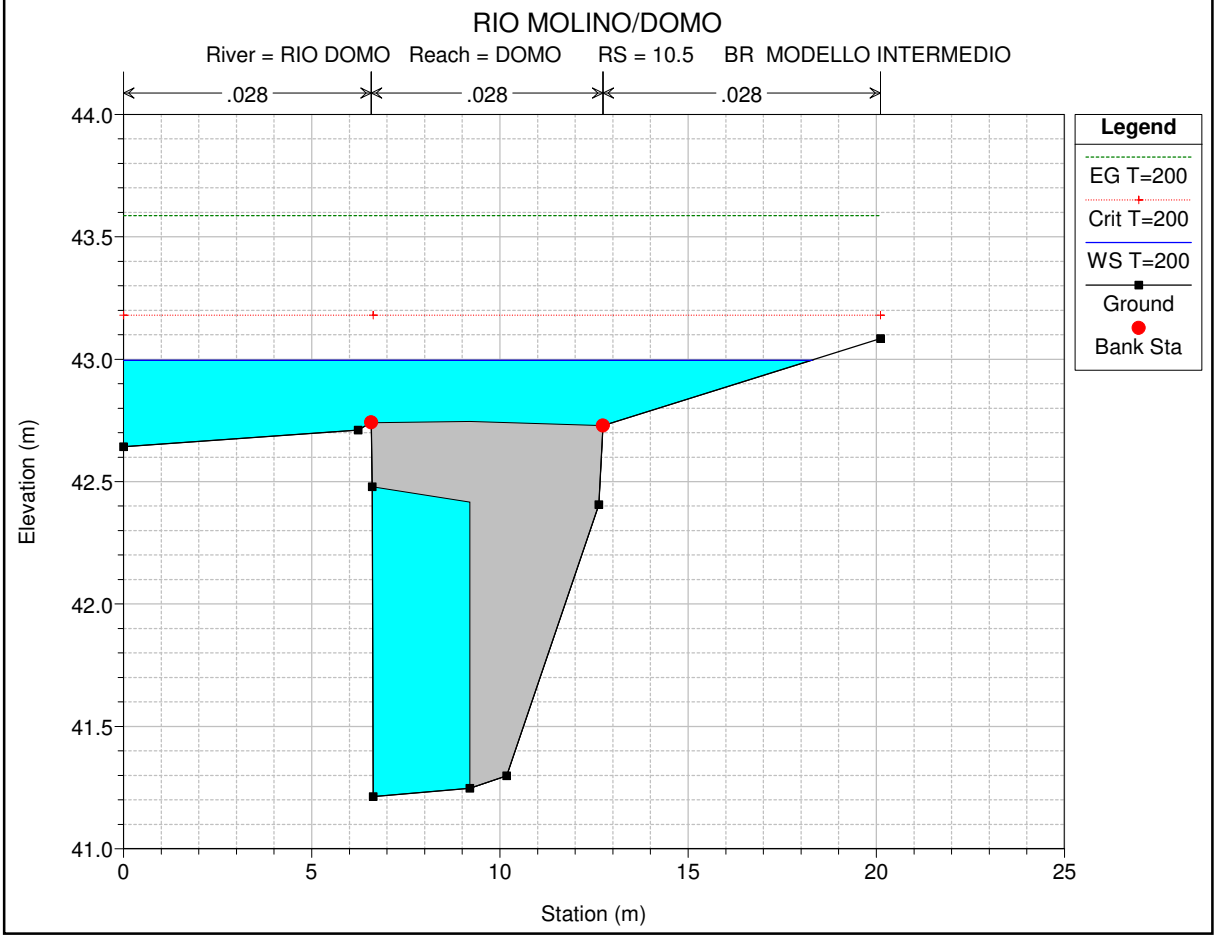

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 14 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
0
5
10
15
20

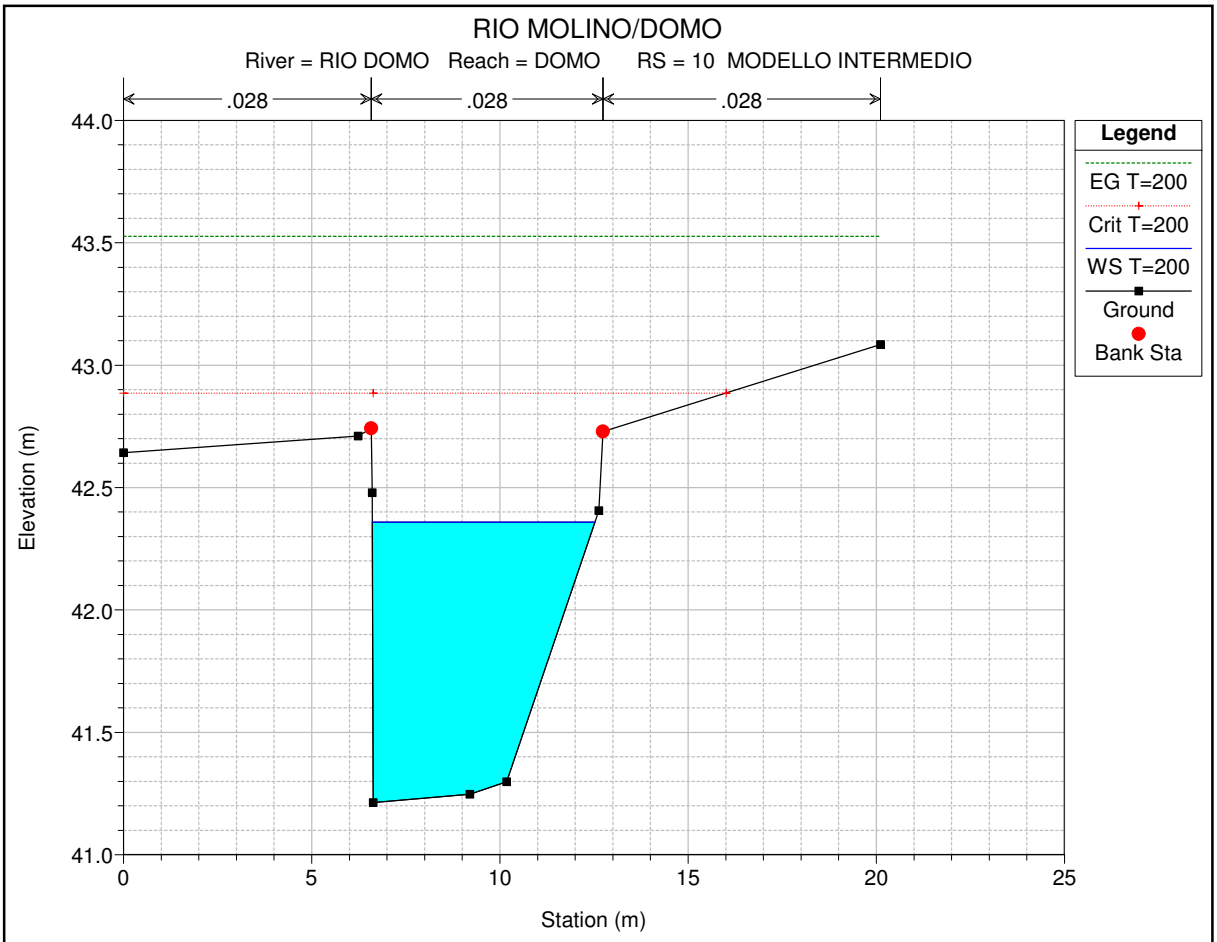

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 13 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
0
5
10
15
20
25
30

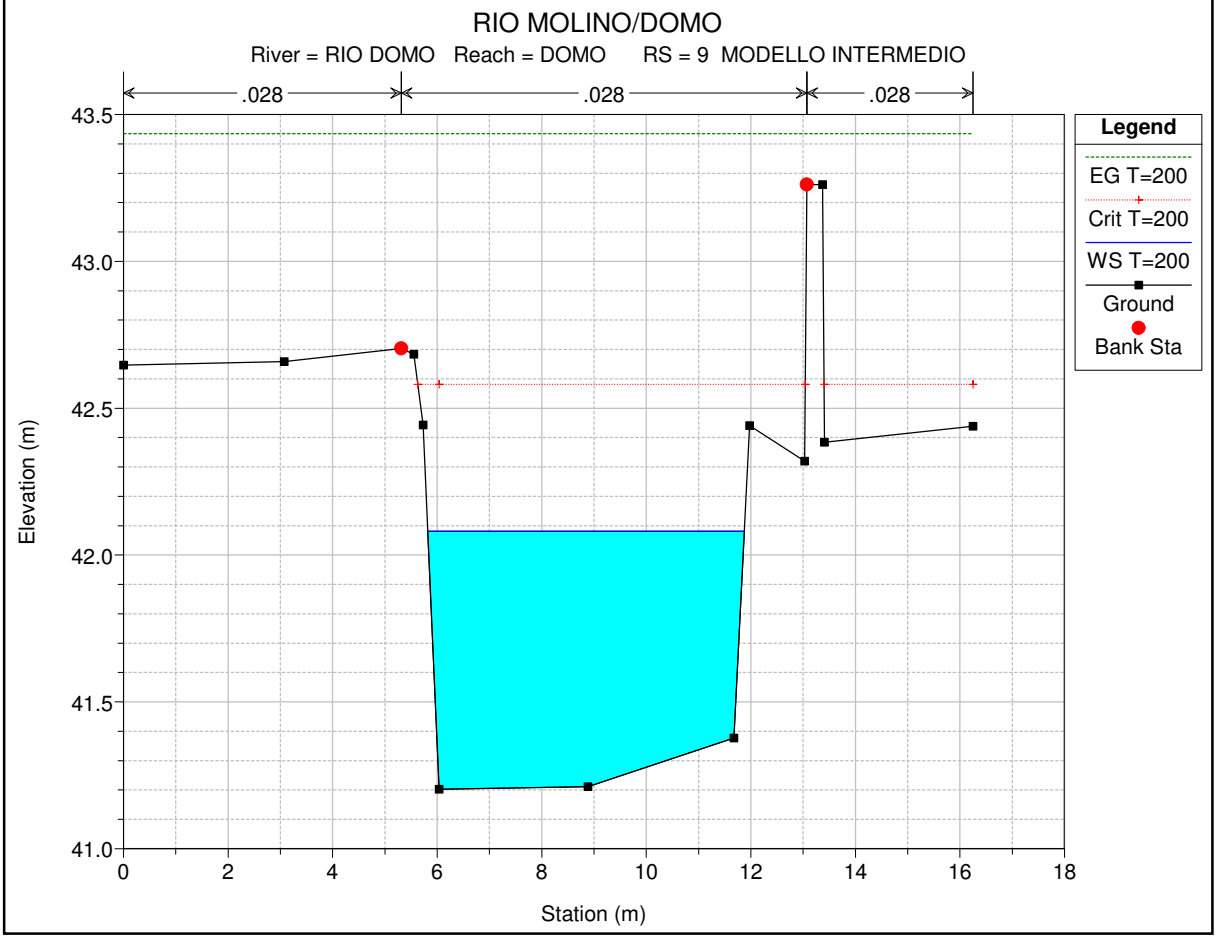

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 12 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
41
0
2
4
6
8
10
12
14
16
18

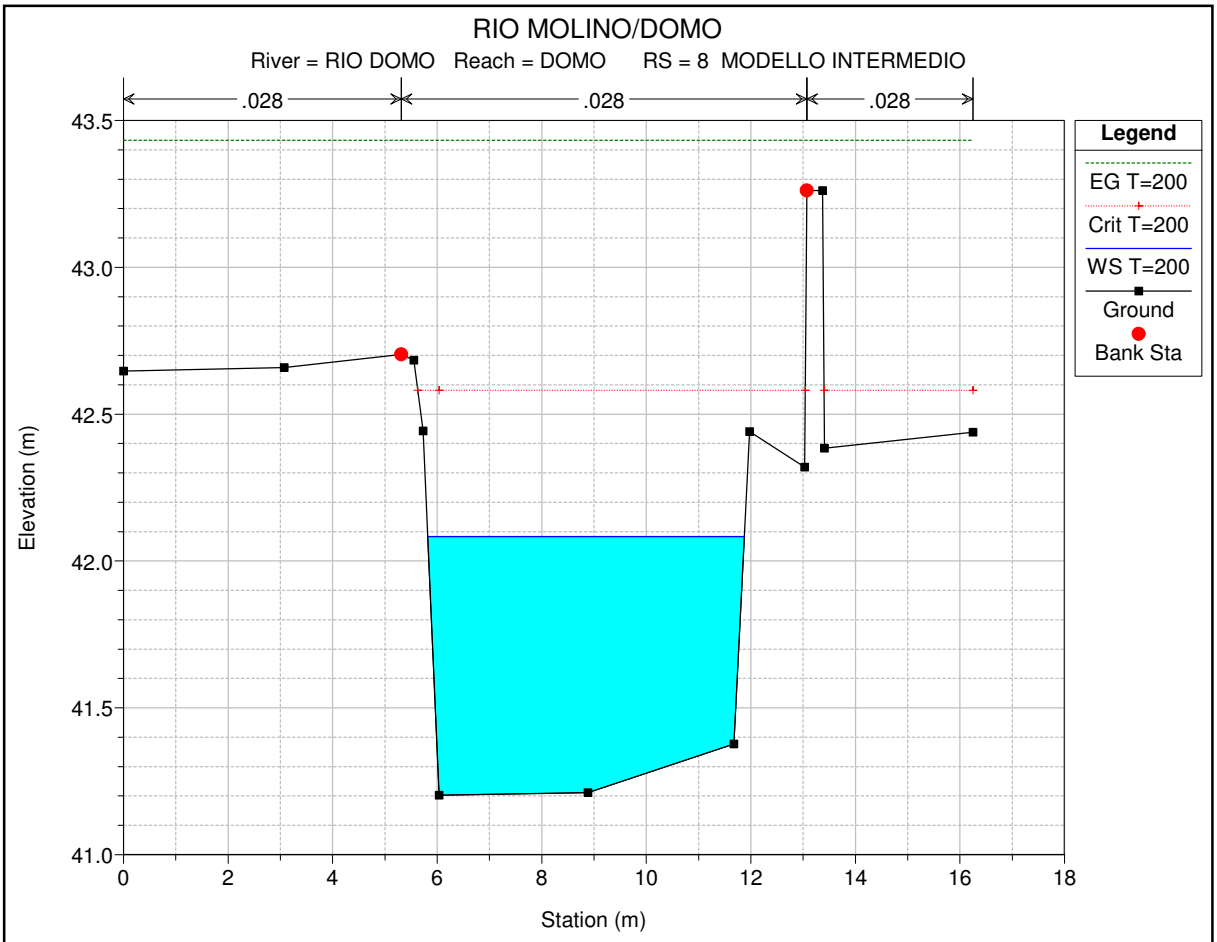

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 11 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.5
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16

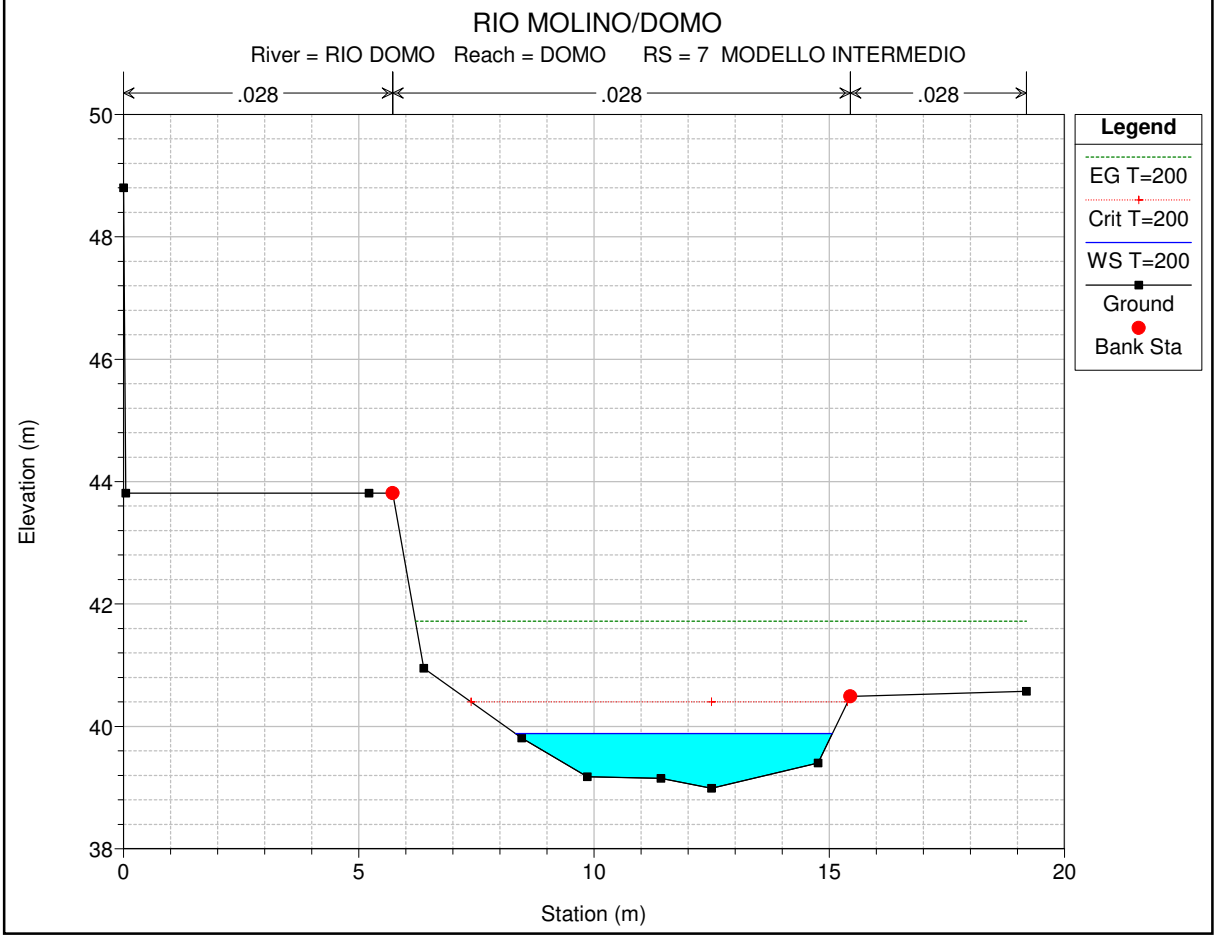

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10.5 BR MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.5
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16

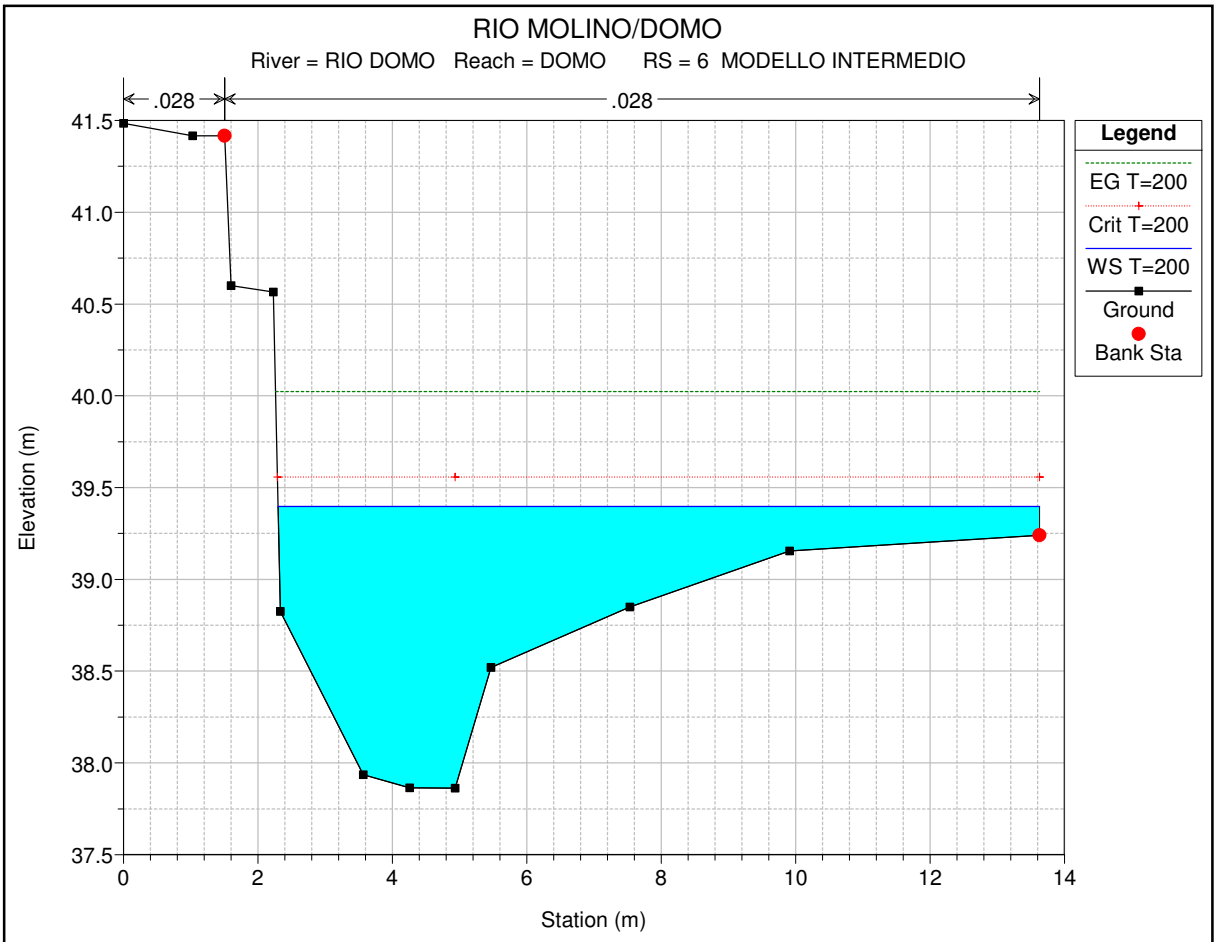

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10.5 BR MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
5
10
15
20
25

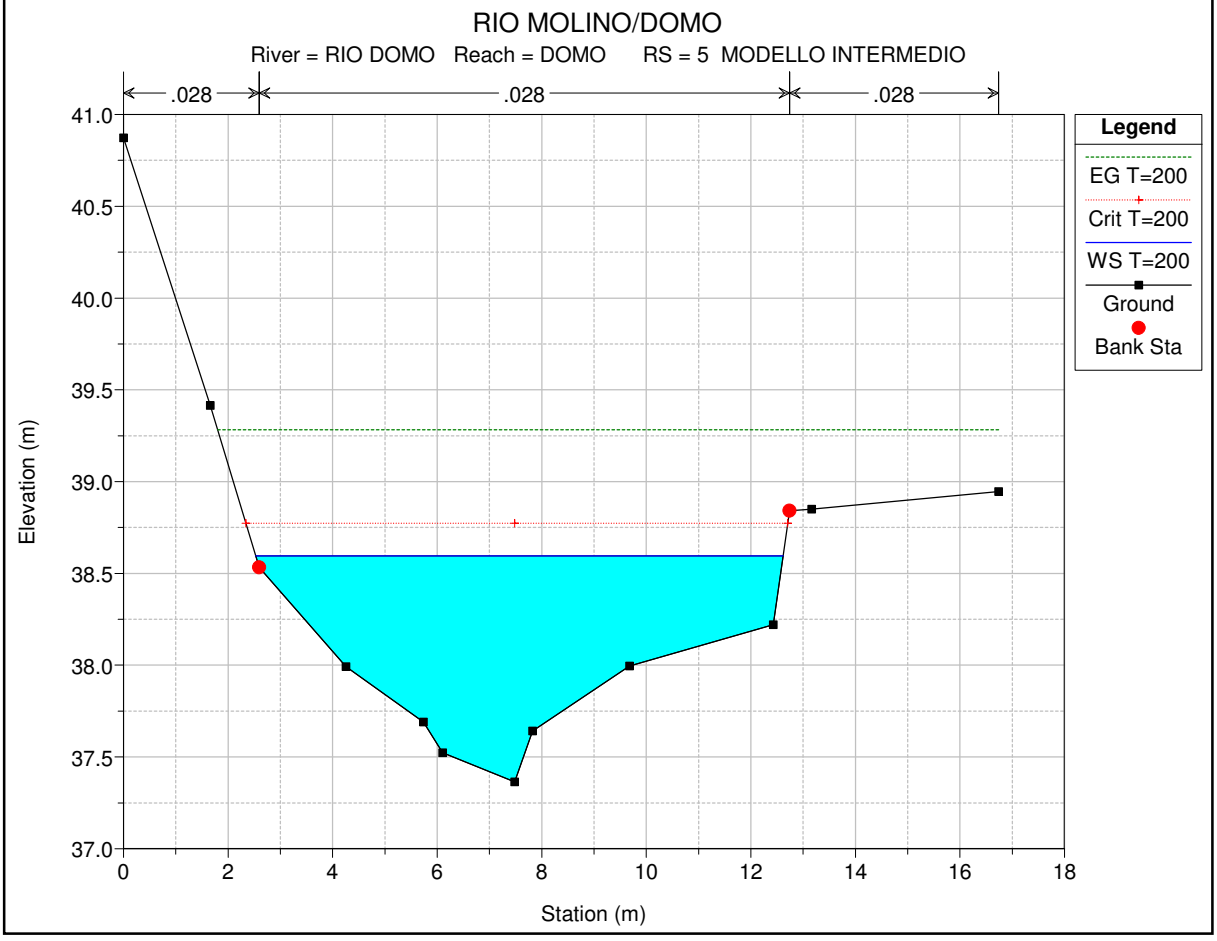

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
5
10
15
20
25

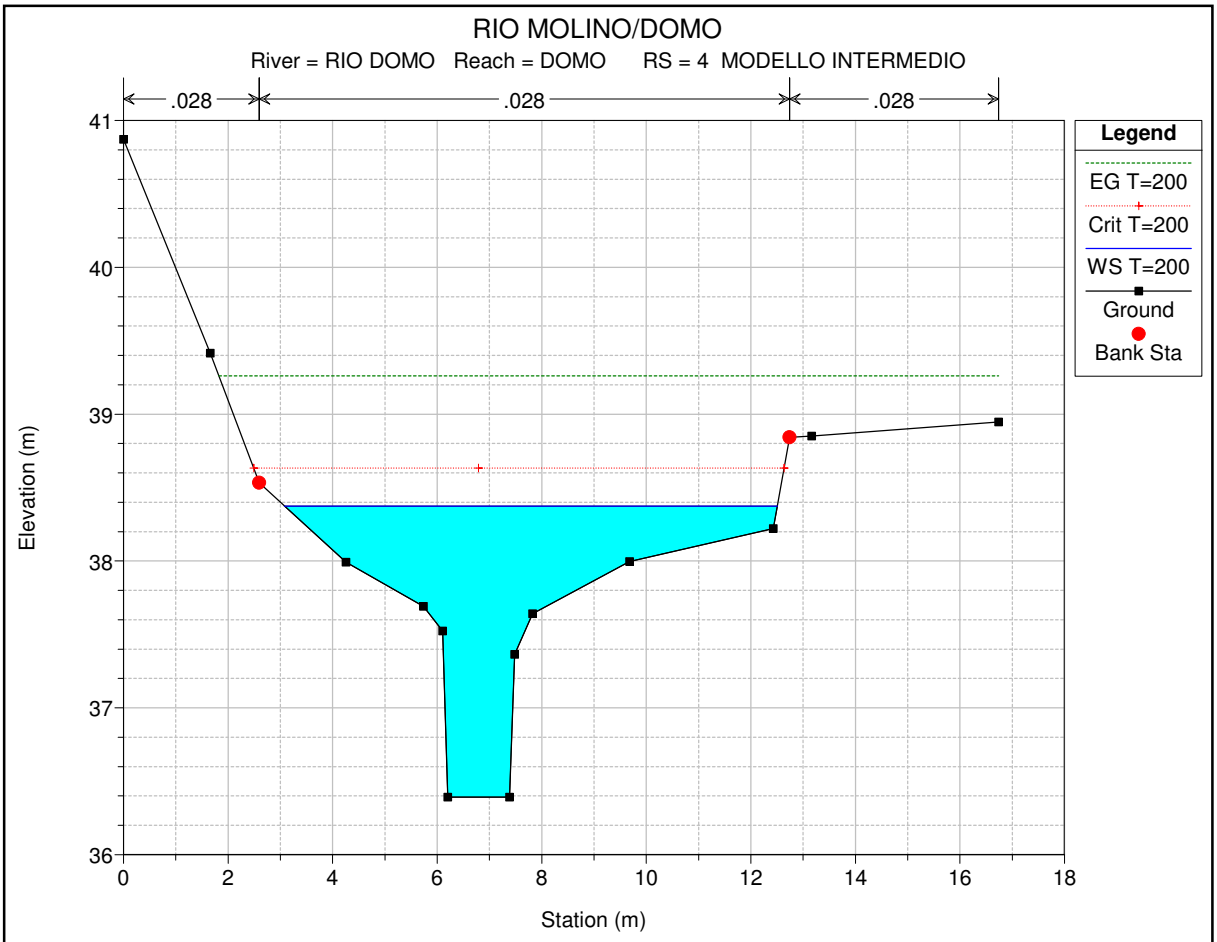

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 9 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16
18

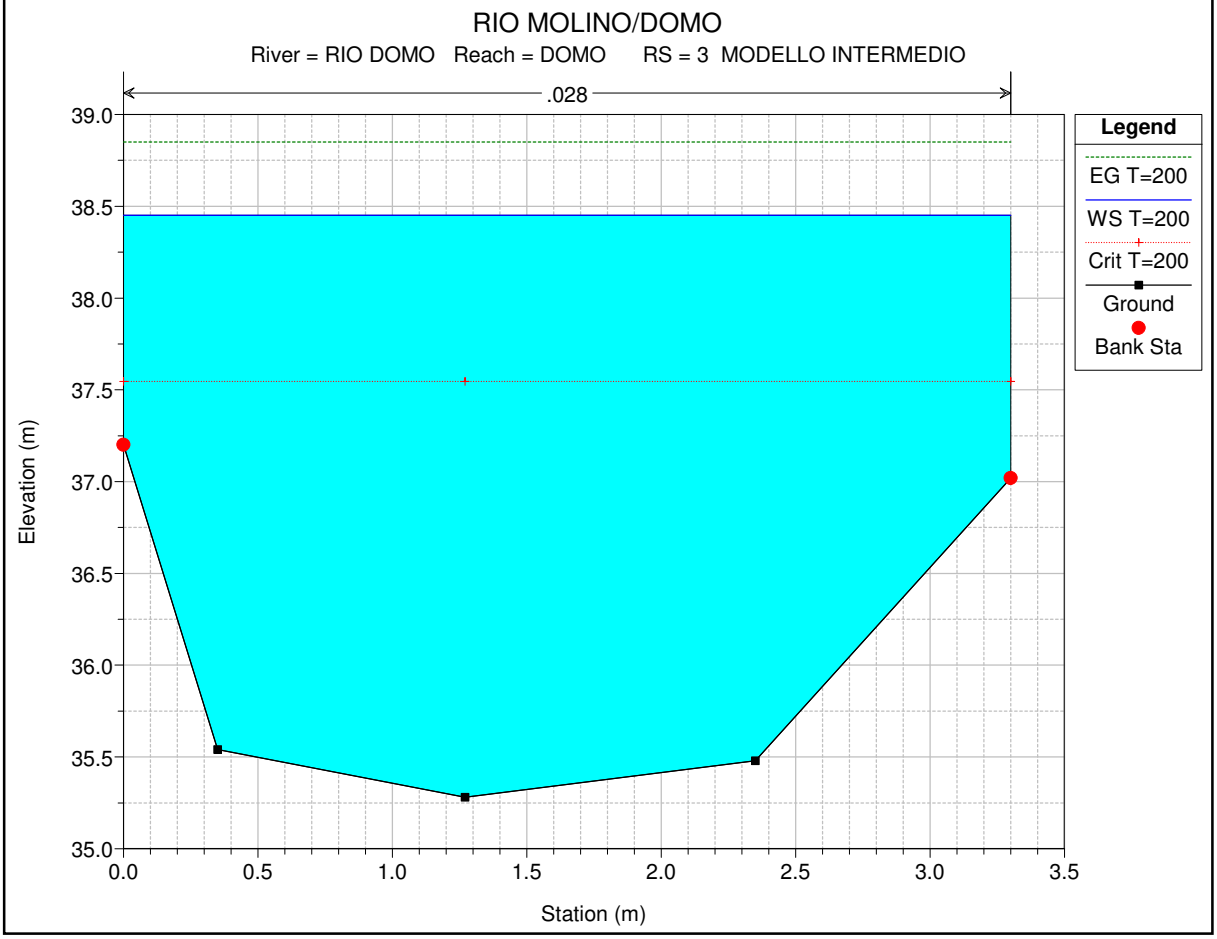

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 8 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16
18

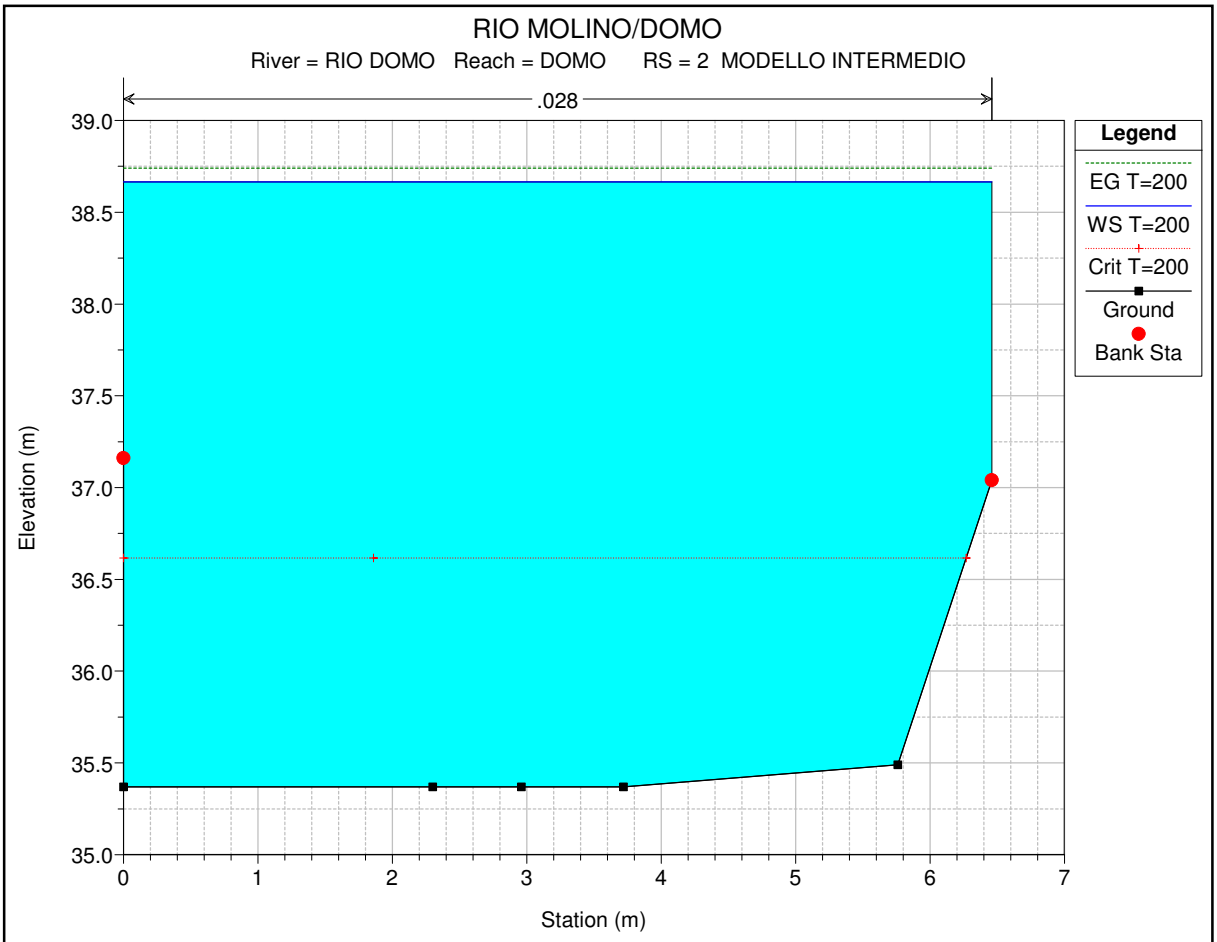

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 7 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
50
48
46
44
42
40
38
0
5
10
15
20

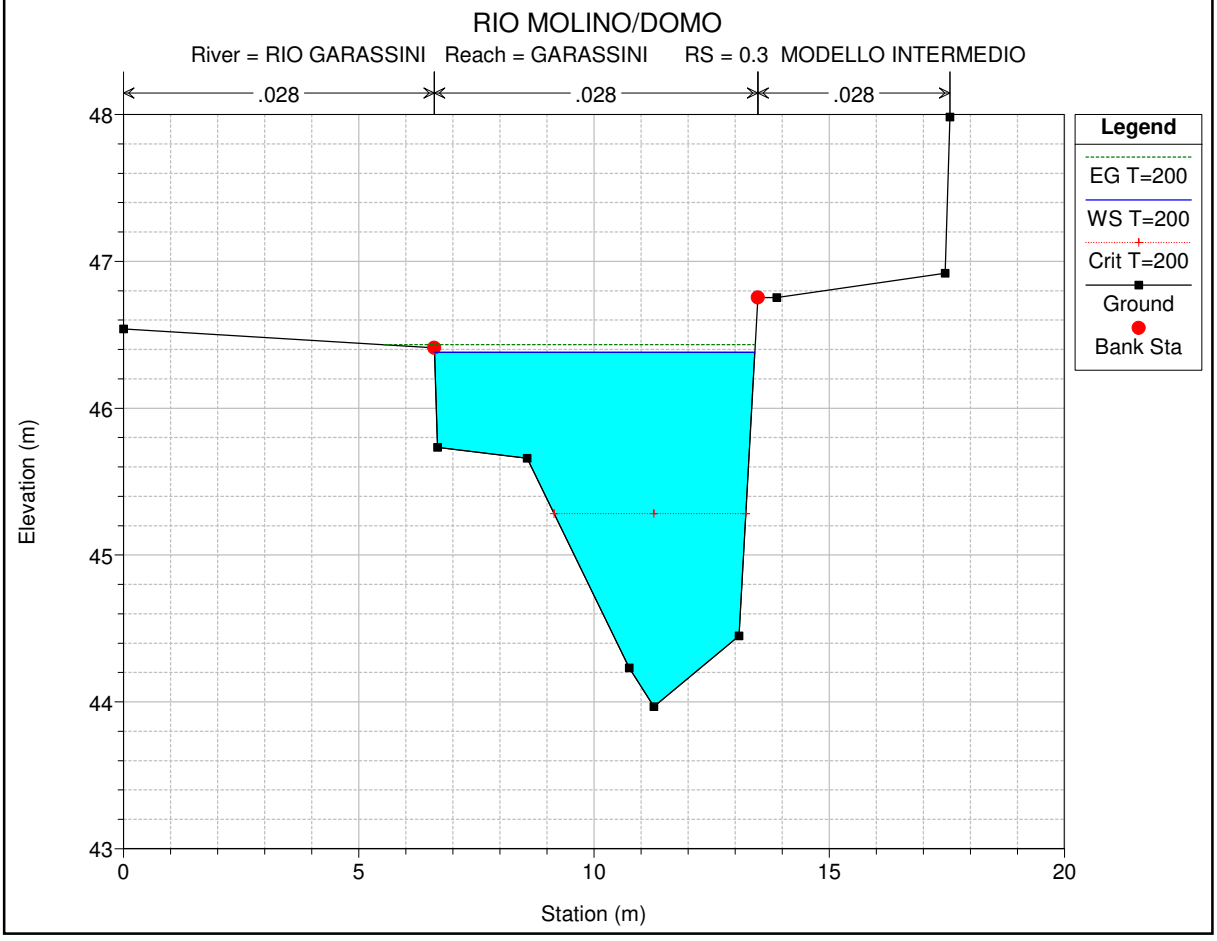

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 6 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41.5
41.0
40.5
40.0
39.5
39.0
38.5
38.0
37.5
0
2
4
6
8
10
12
14

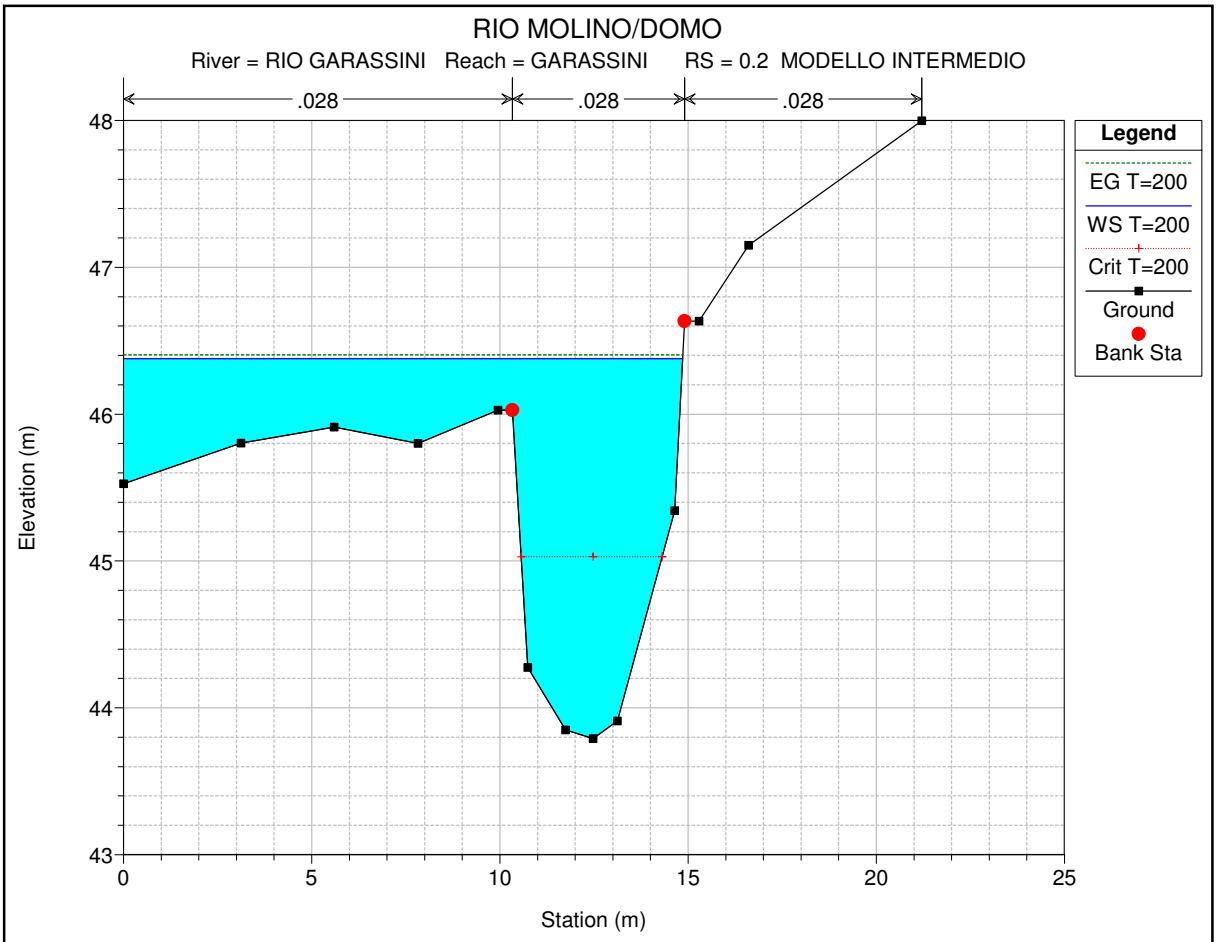

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 5 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41.0
40.5
40.0
39.5
39.0
38.5
38.0
37.5
37.0
0
2
4
6
8
10
12
14
16
18

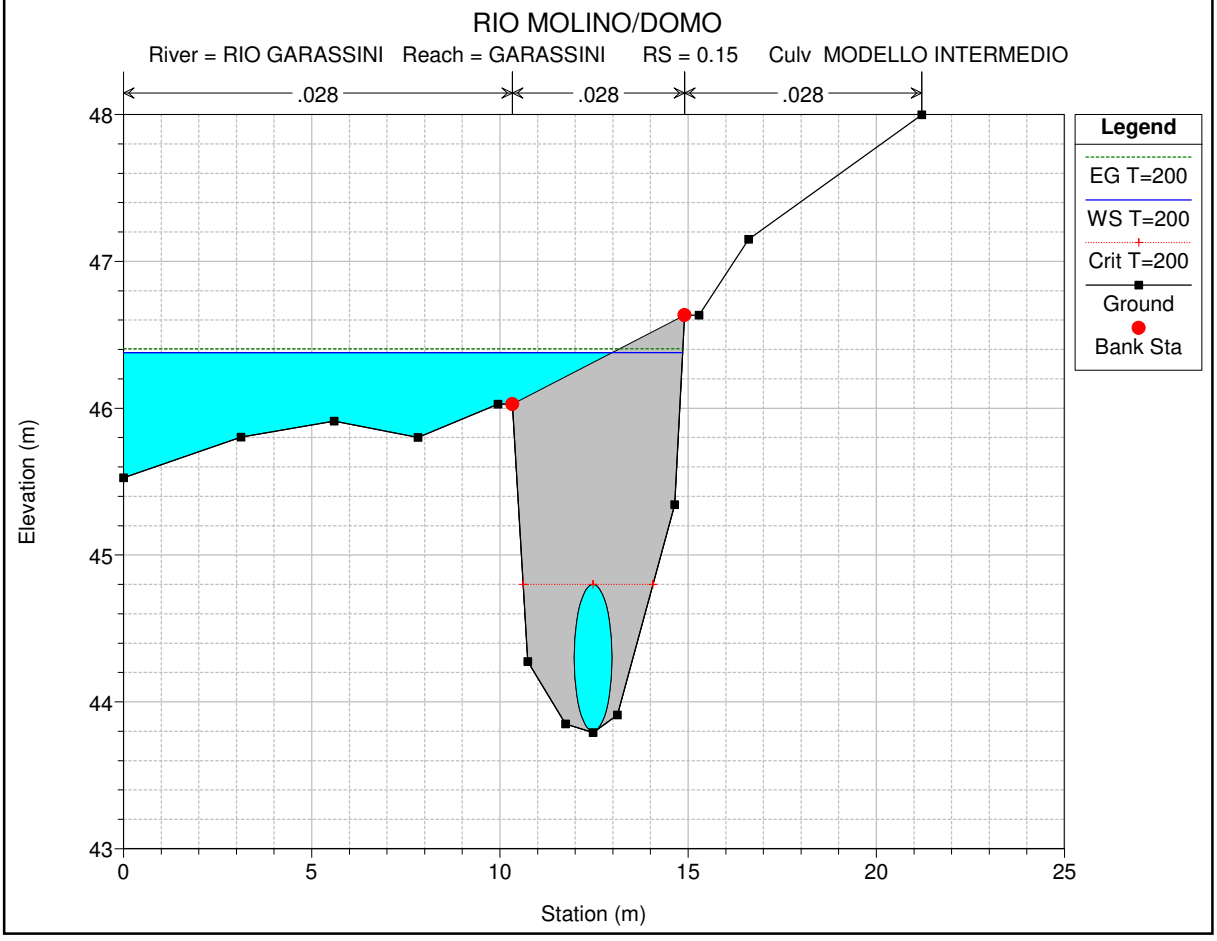

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 4 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41
40
39
38
37
36
0
2
4
6
8
10
12
14
16
18

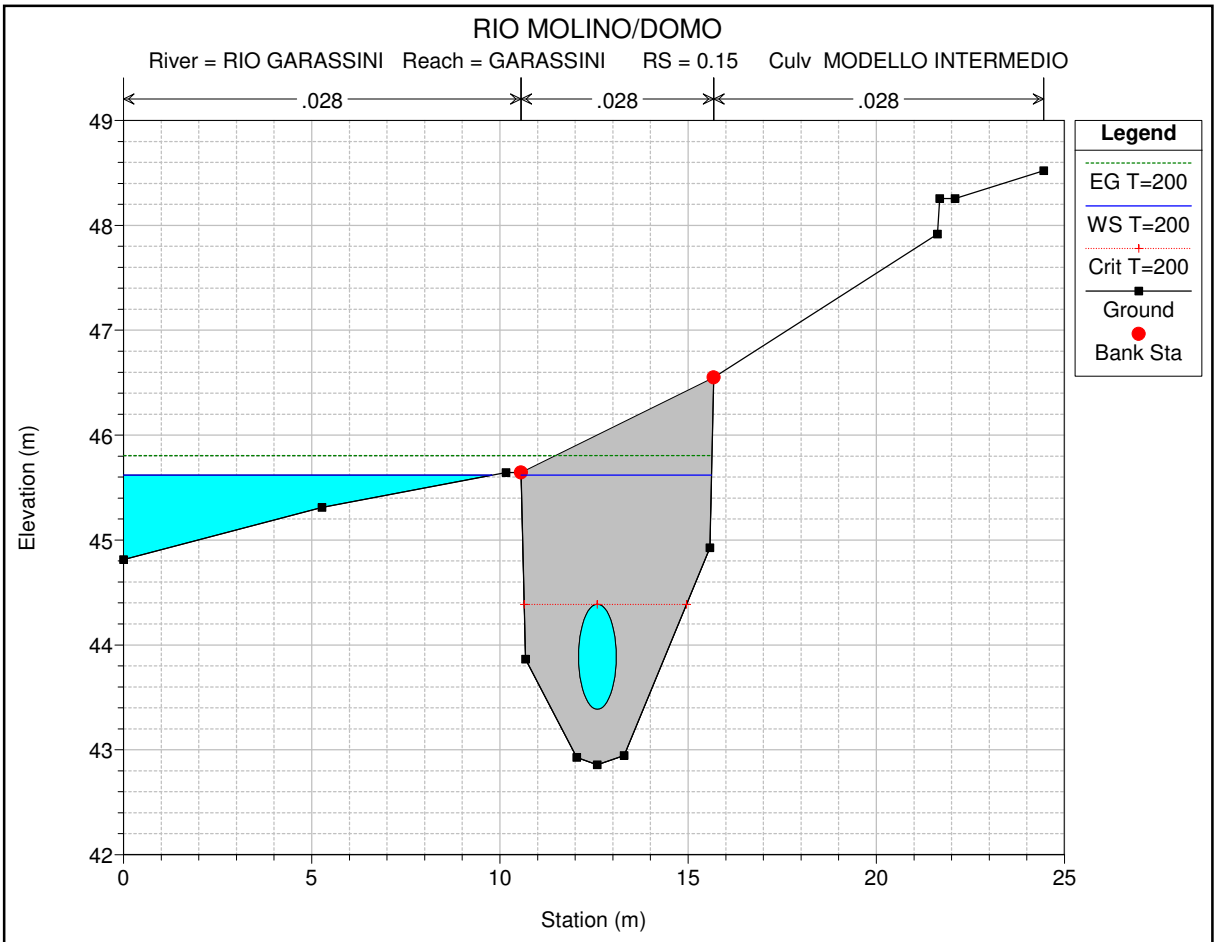

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 3 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
35.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

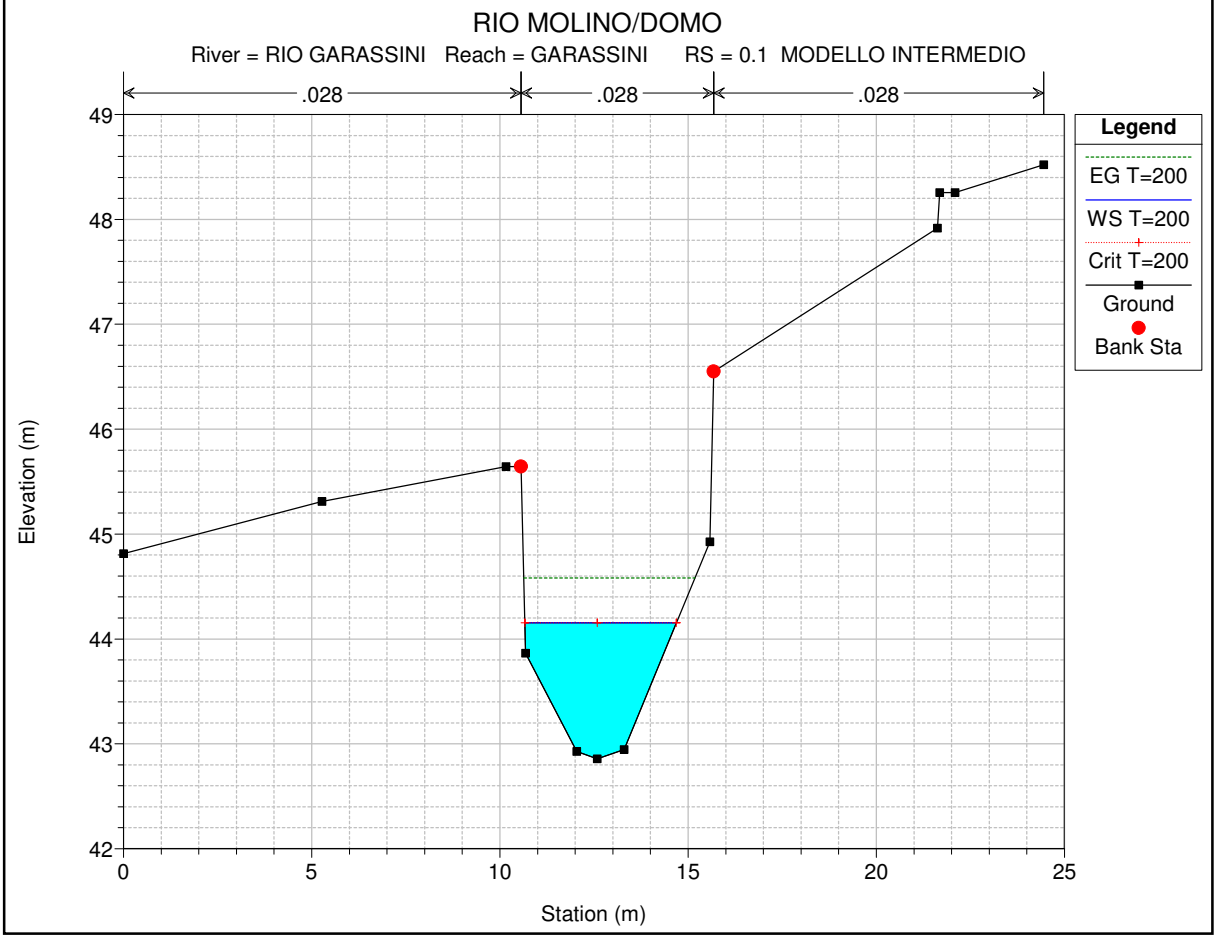

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 2 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
35.0
0
1
2
3
4
5
6
7

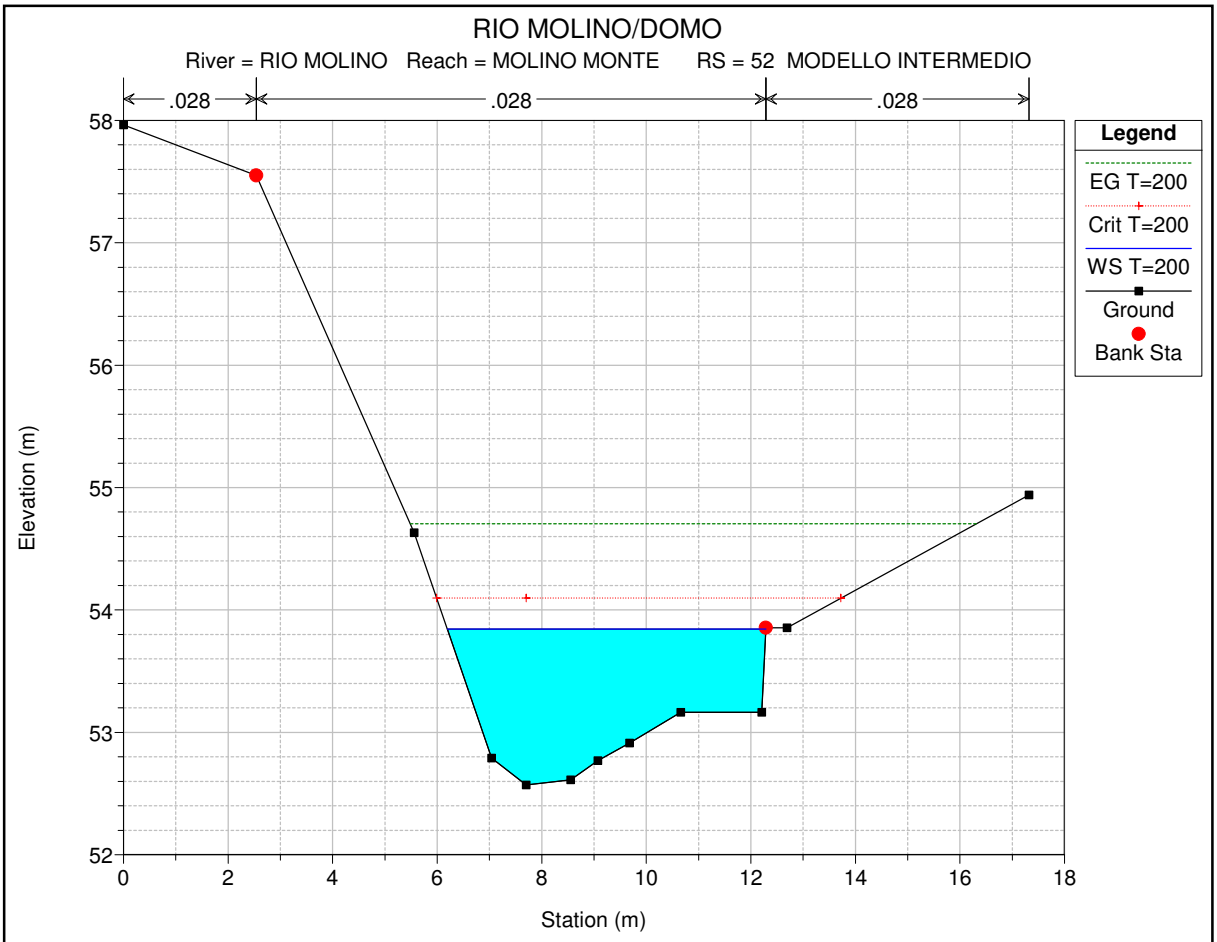

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.3 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20

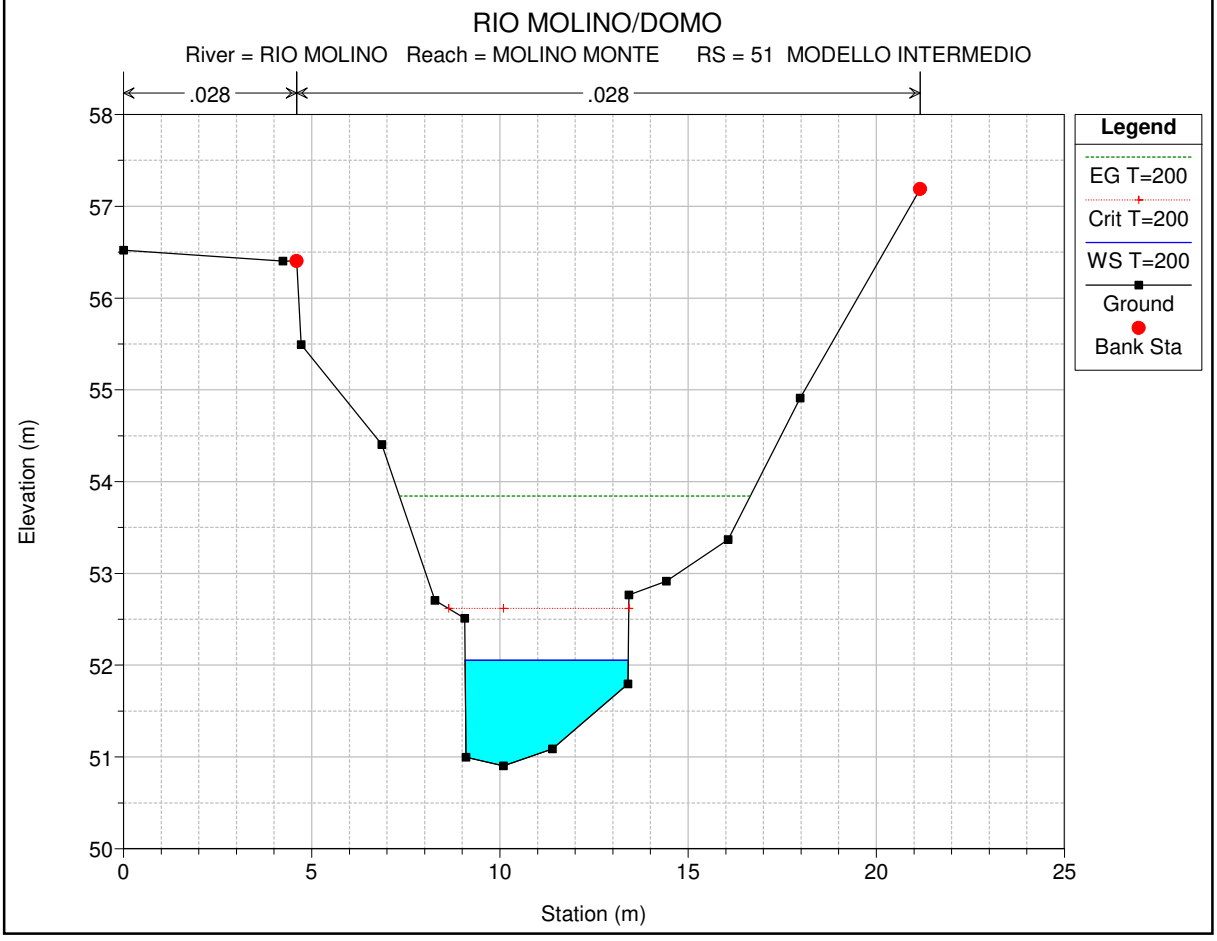

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.2 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

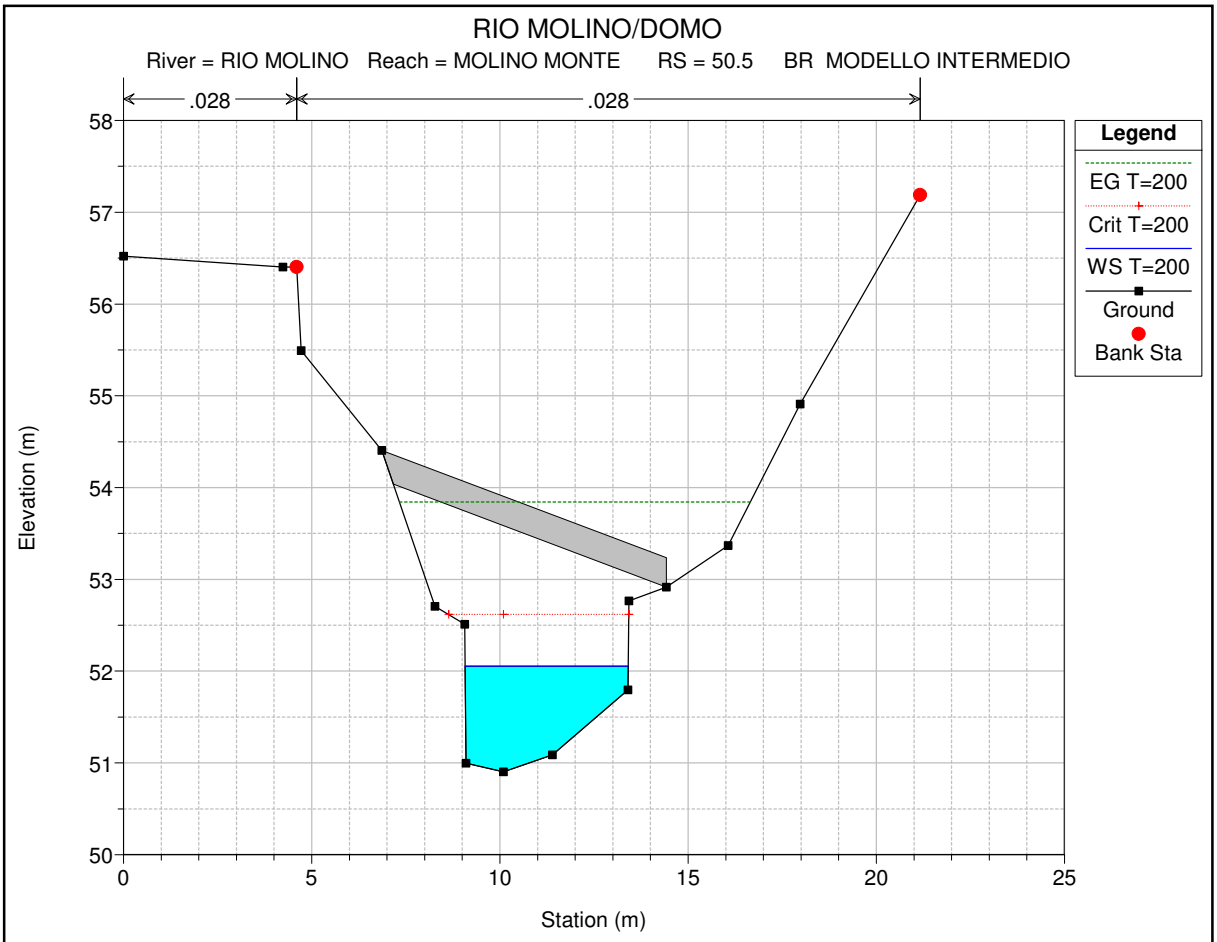

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

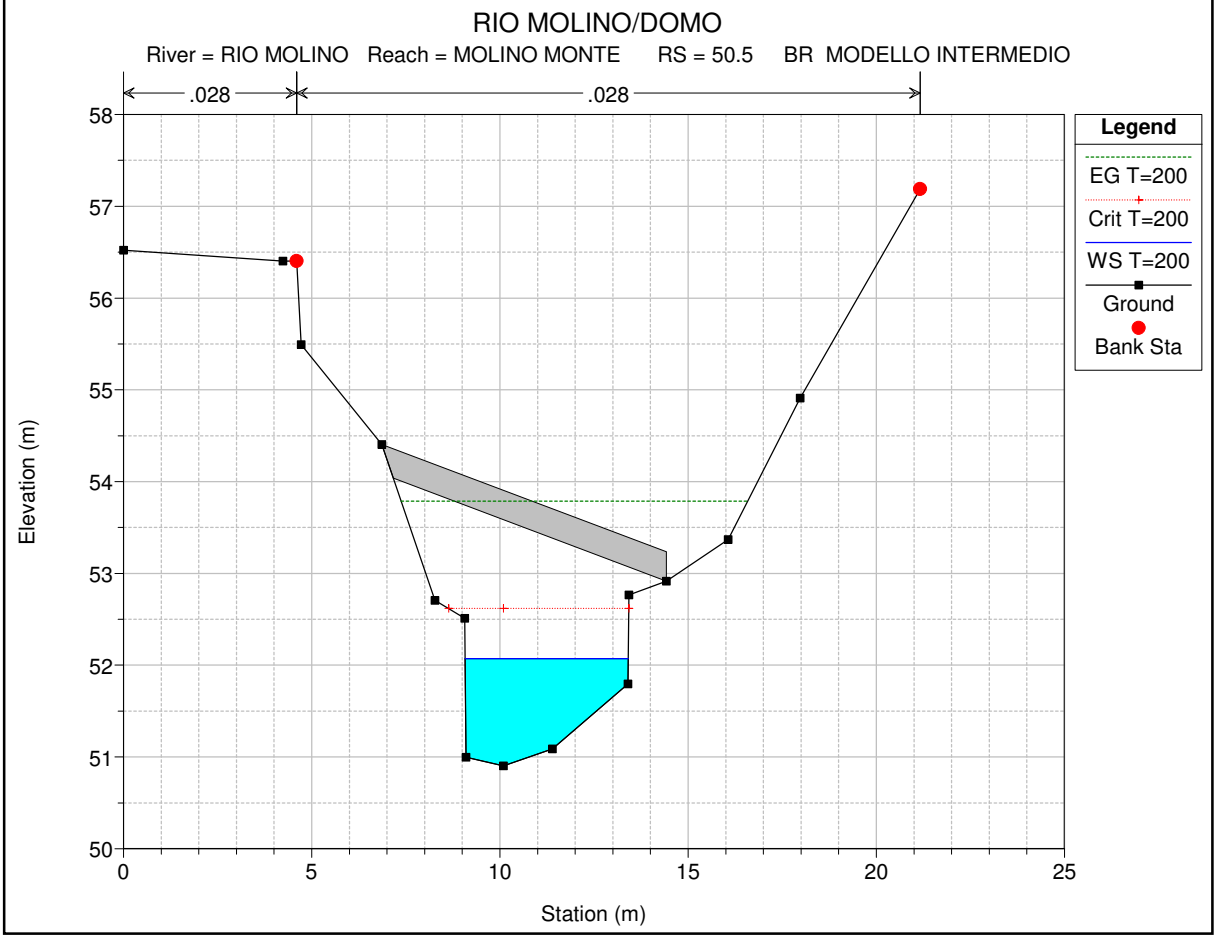

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

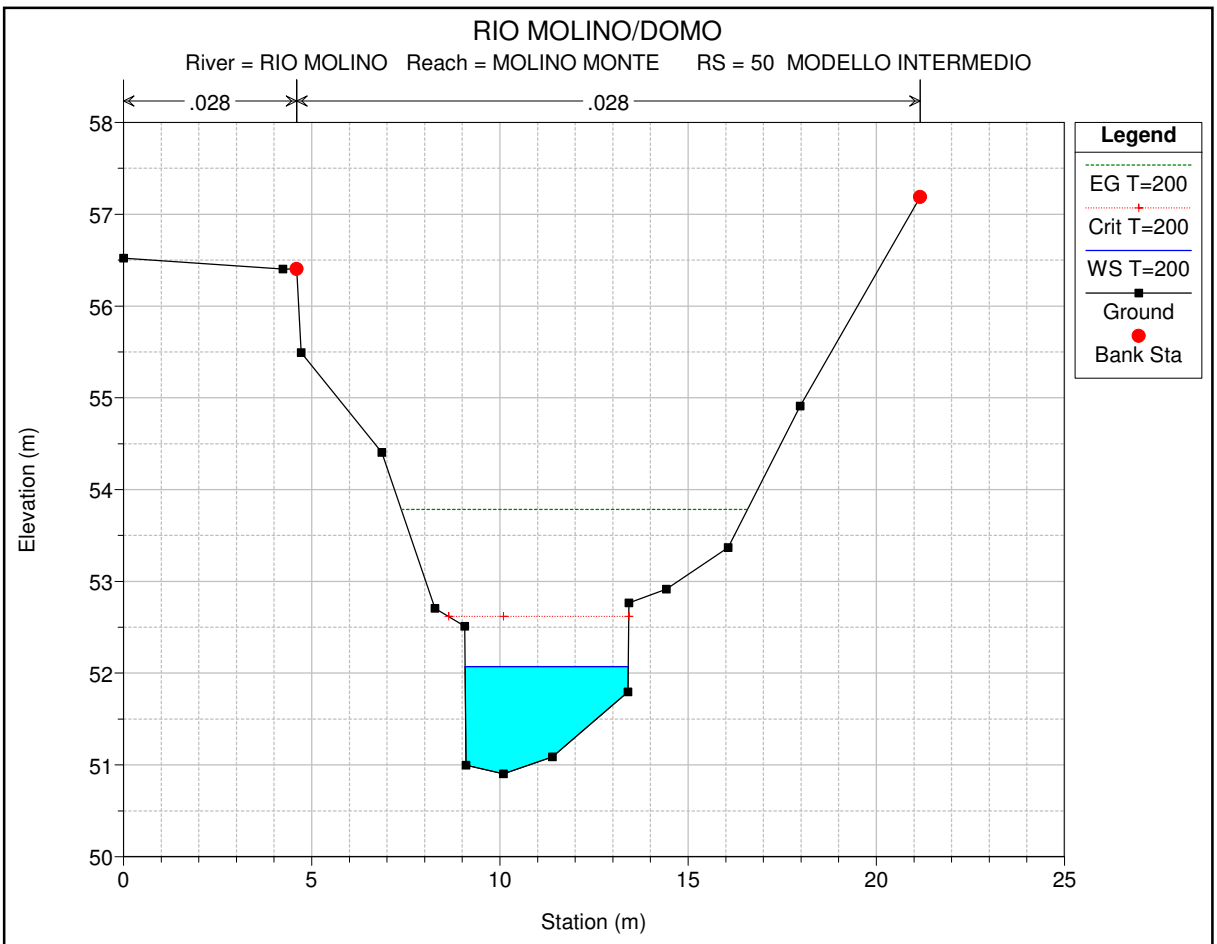

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.1 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

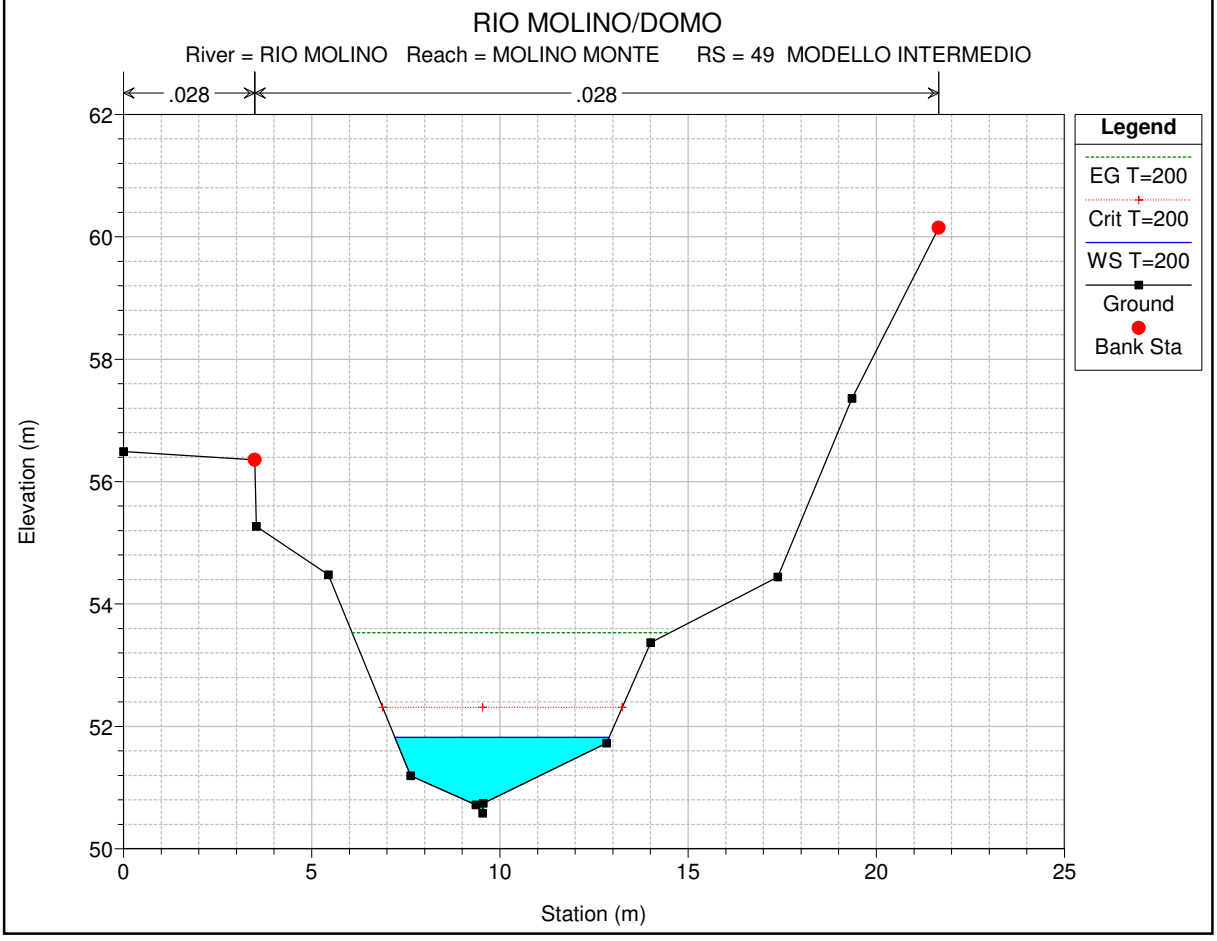

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 52 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
0
2
4
6
8
10
12
14
16
18

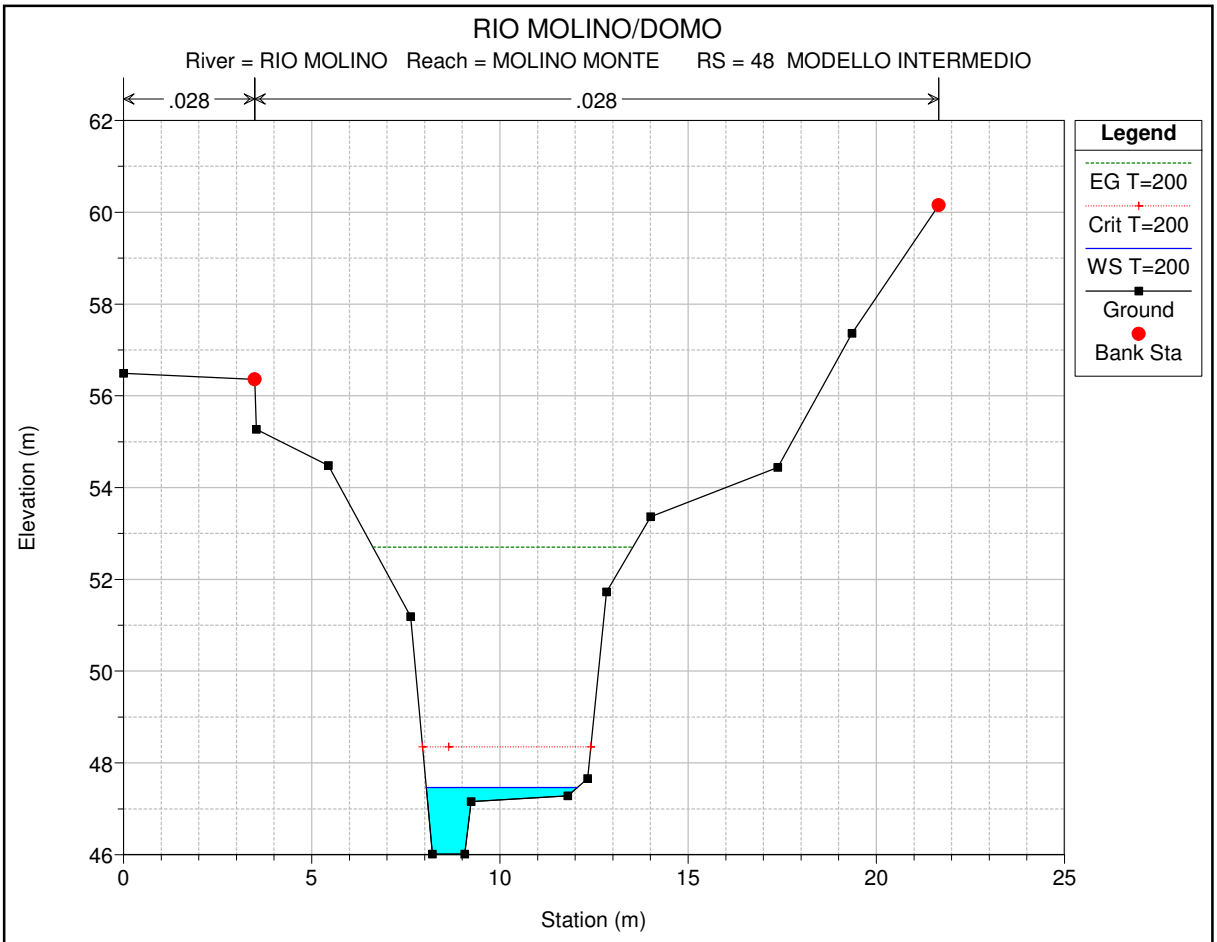

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 51 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

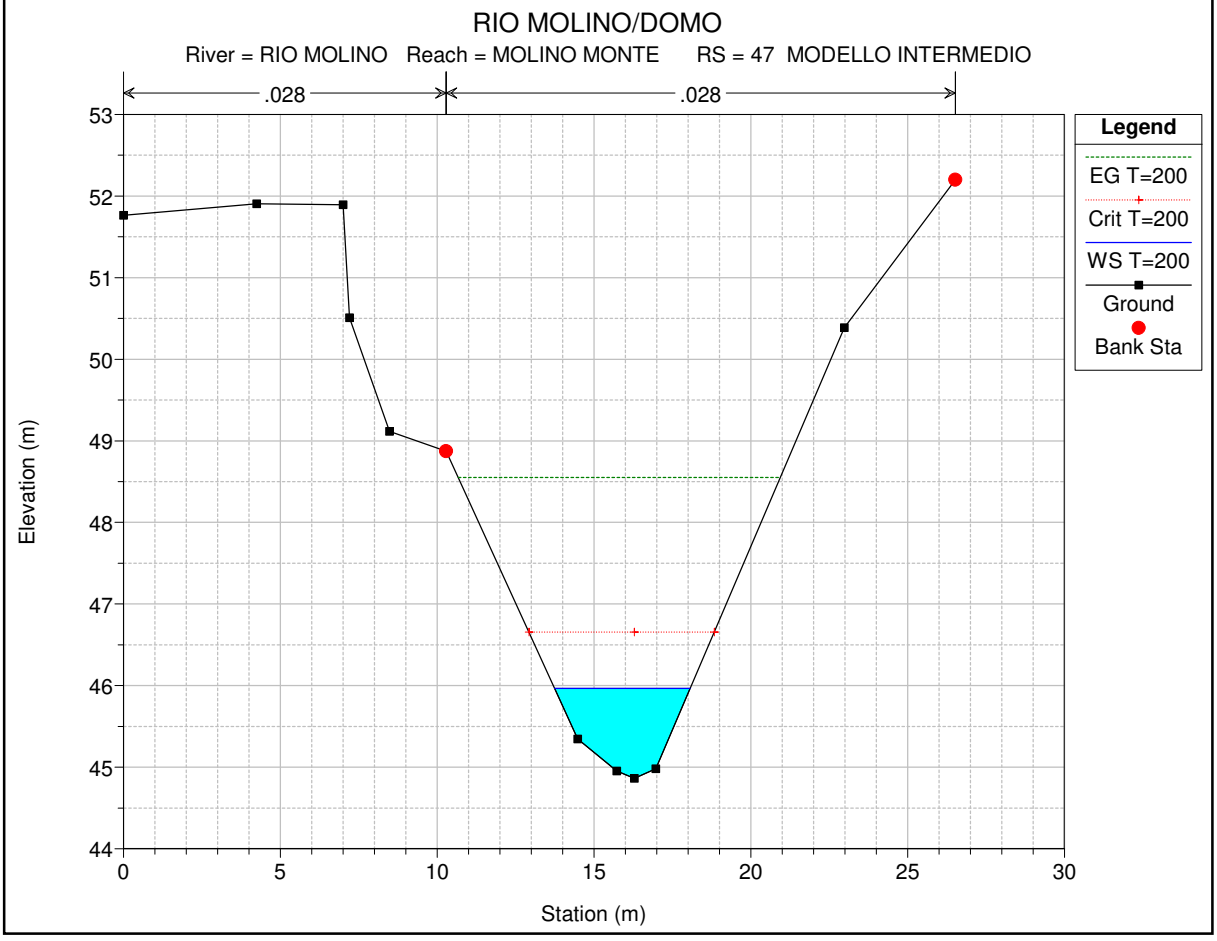

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

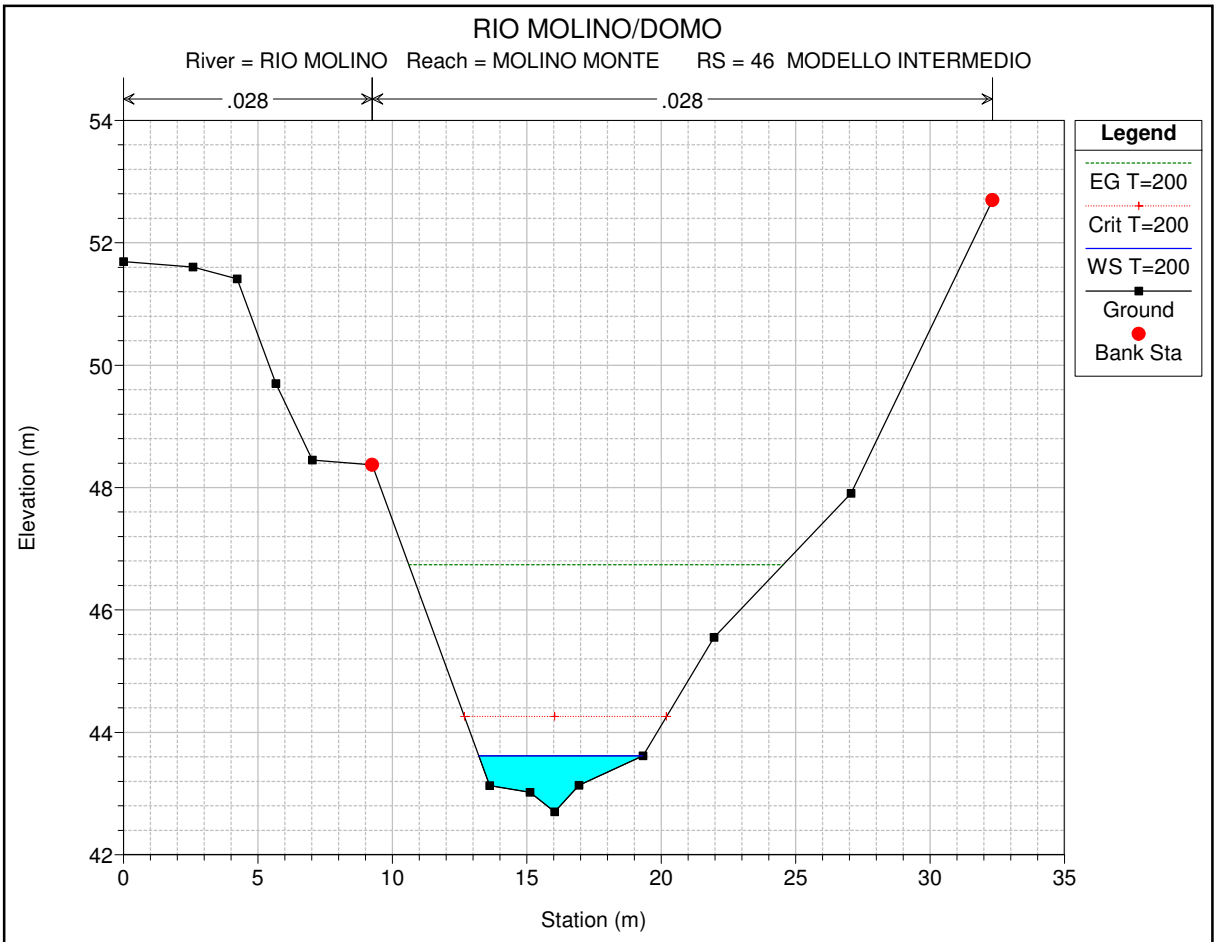

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

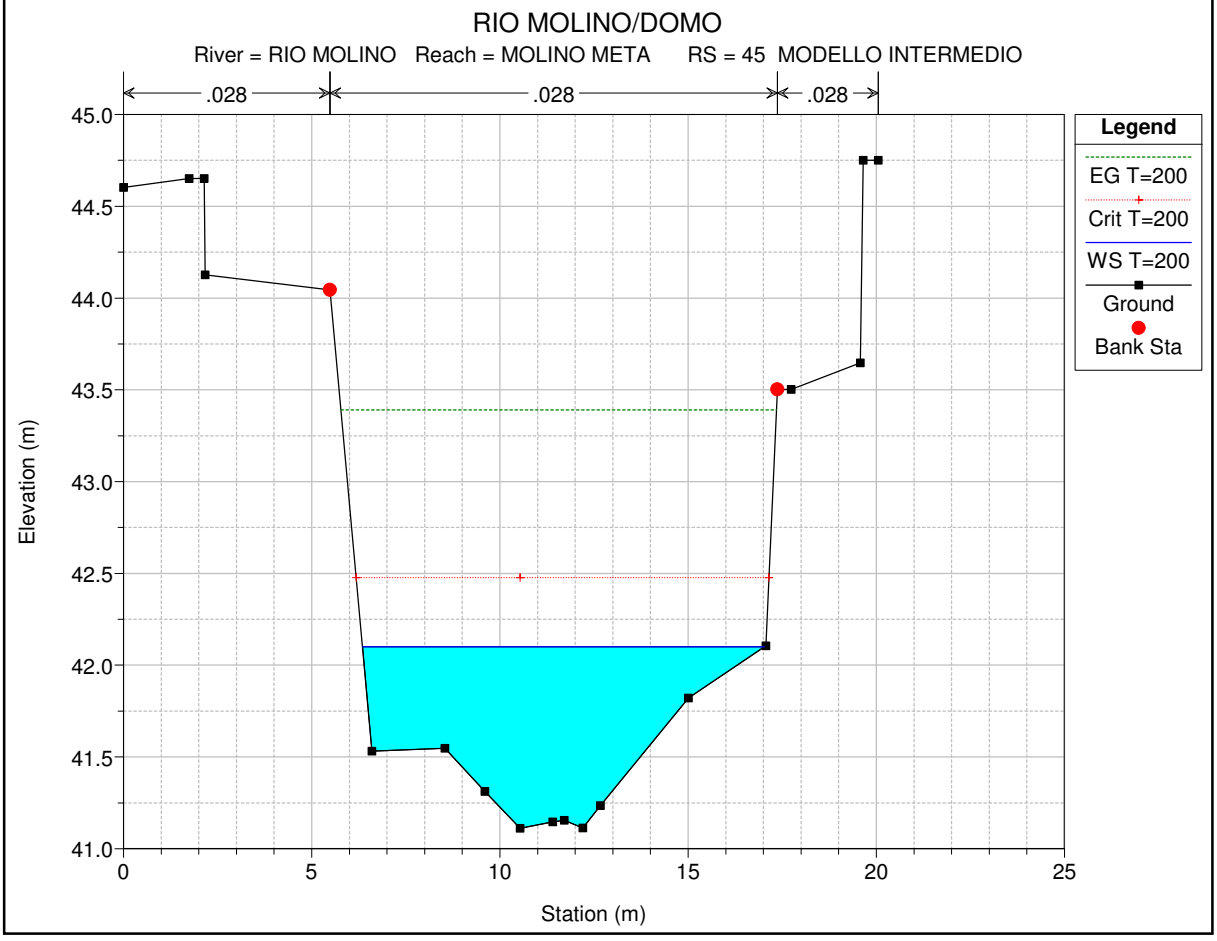

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

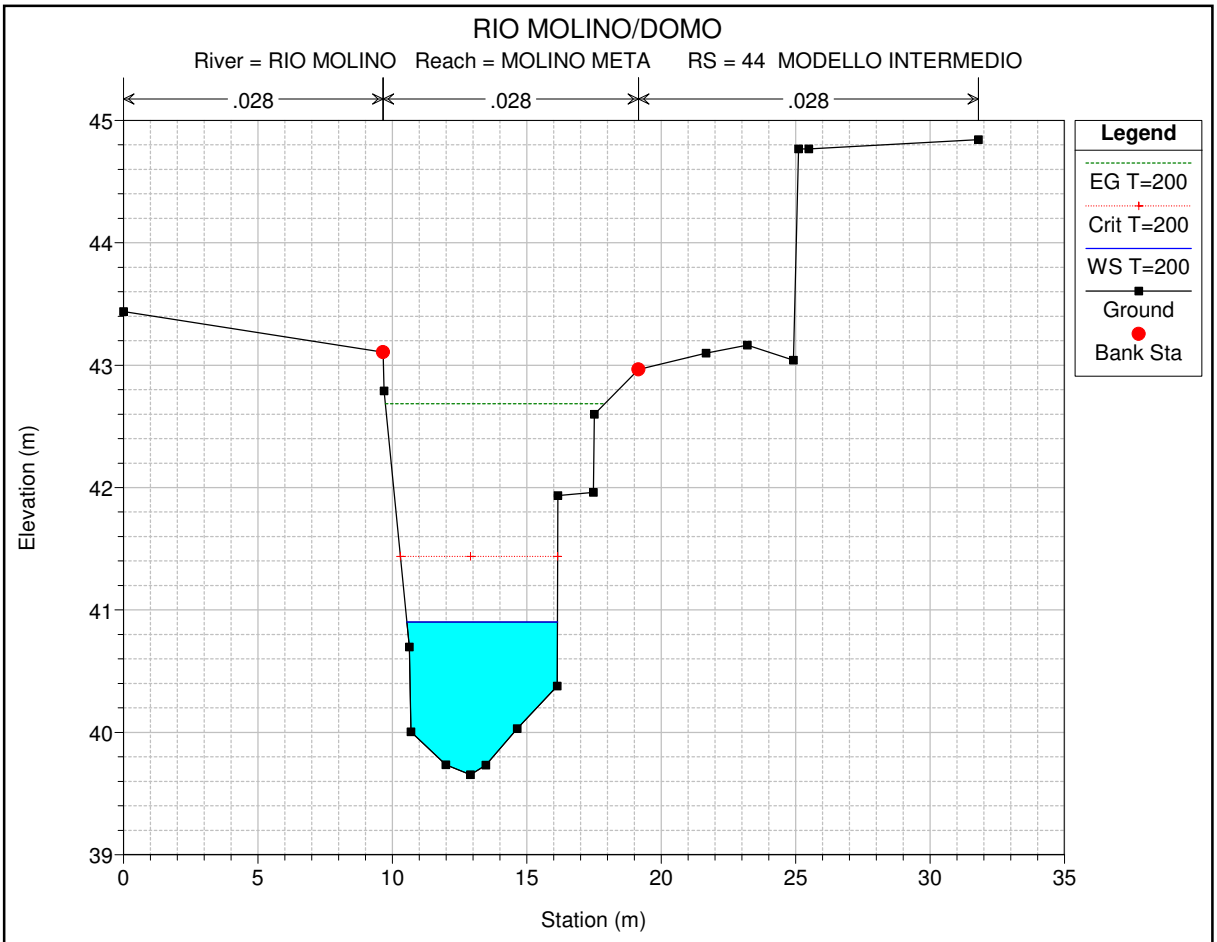

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 49 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
62
60
58
56
54
52
50
0
5
10
15
20
25

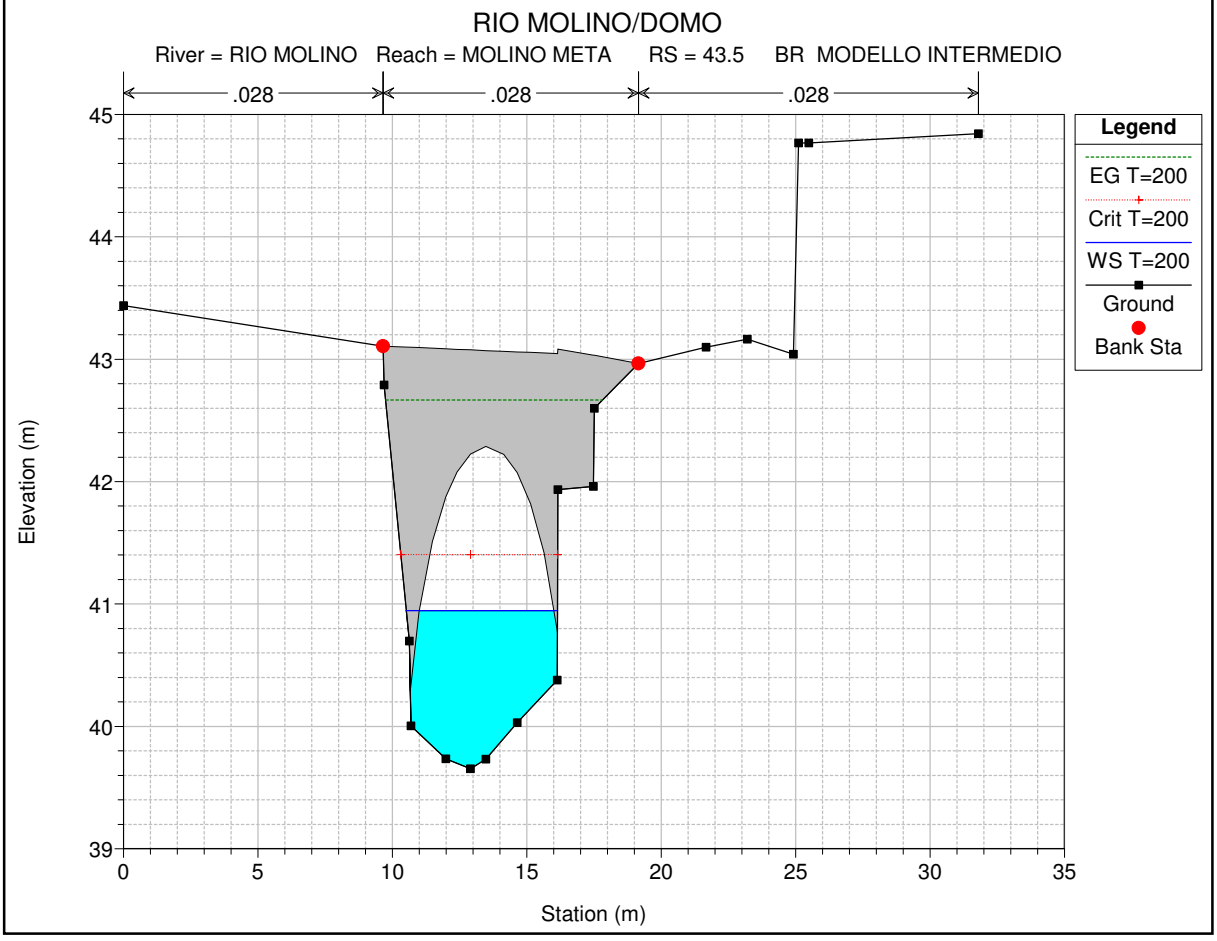

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 48 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
62
60
58
56
54
52
50
48
46
0
5
10
15
20
25

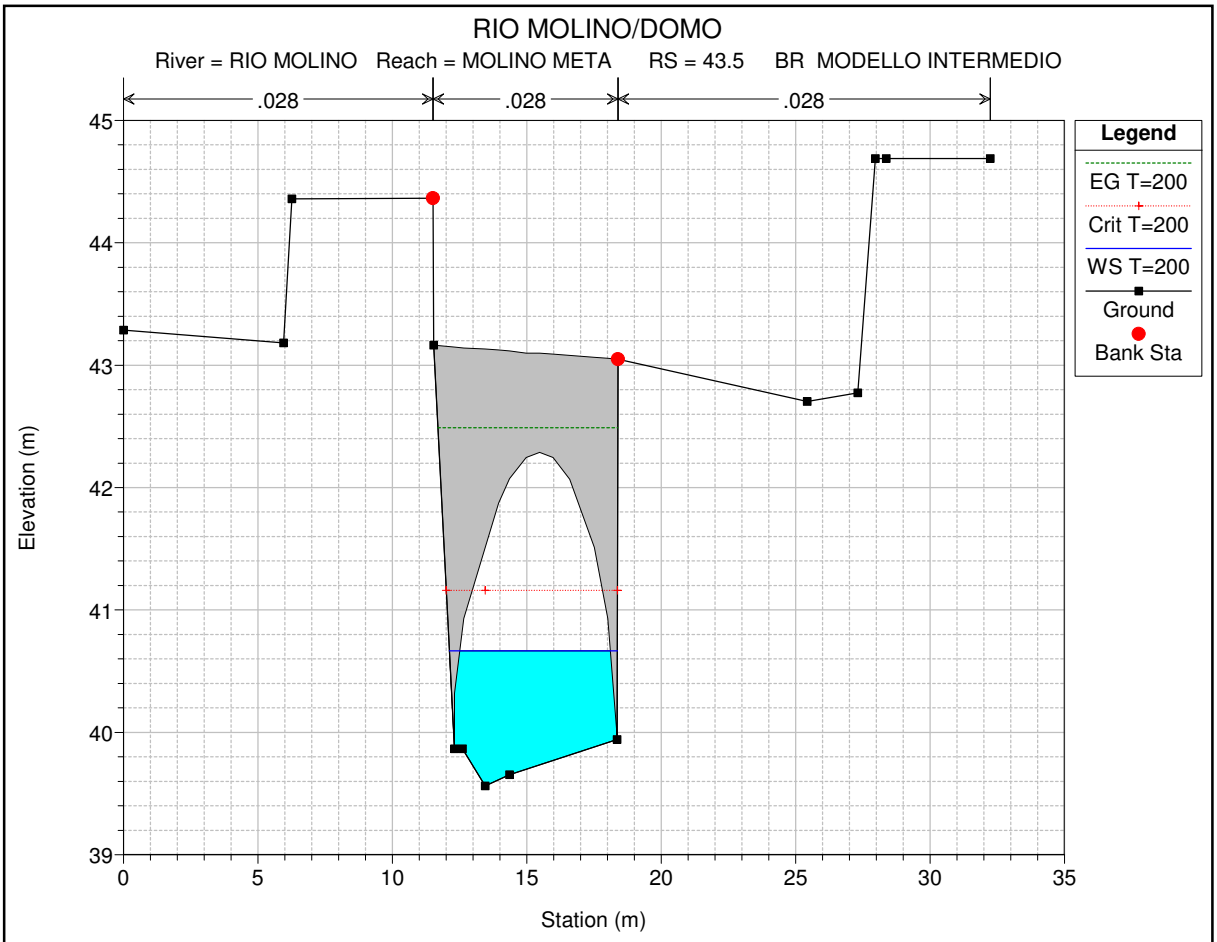

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 47 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
53
52
51
50
49
48
47
46
45
44
0
5
10
15
20
25
30

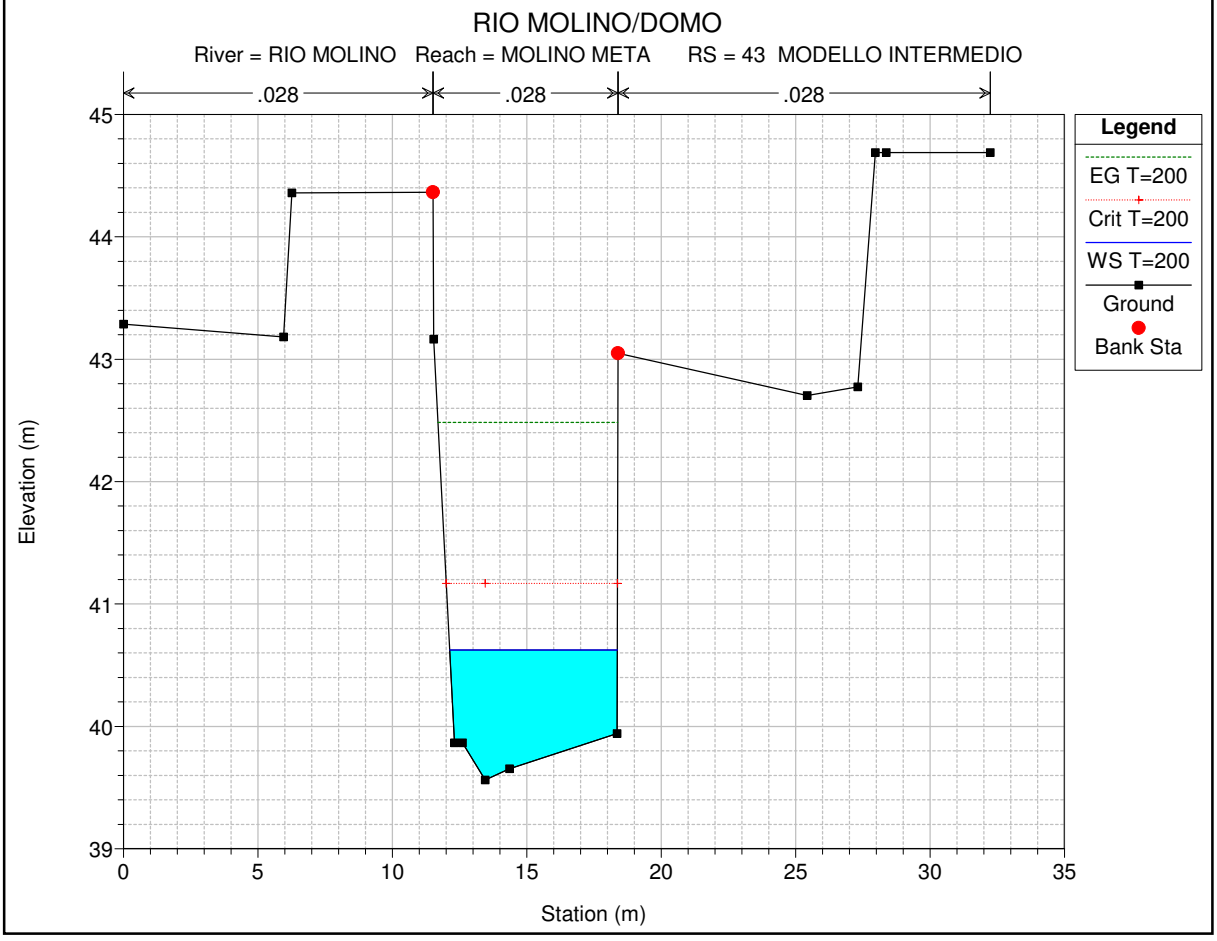

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 46 MODELLO INTERMEDIO
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
54
52
50
48
46
44
42
0
5
10
15
20
25
30
35

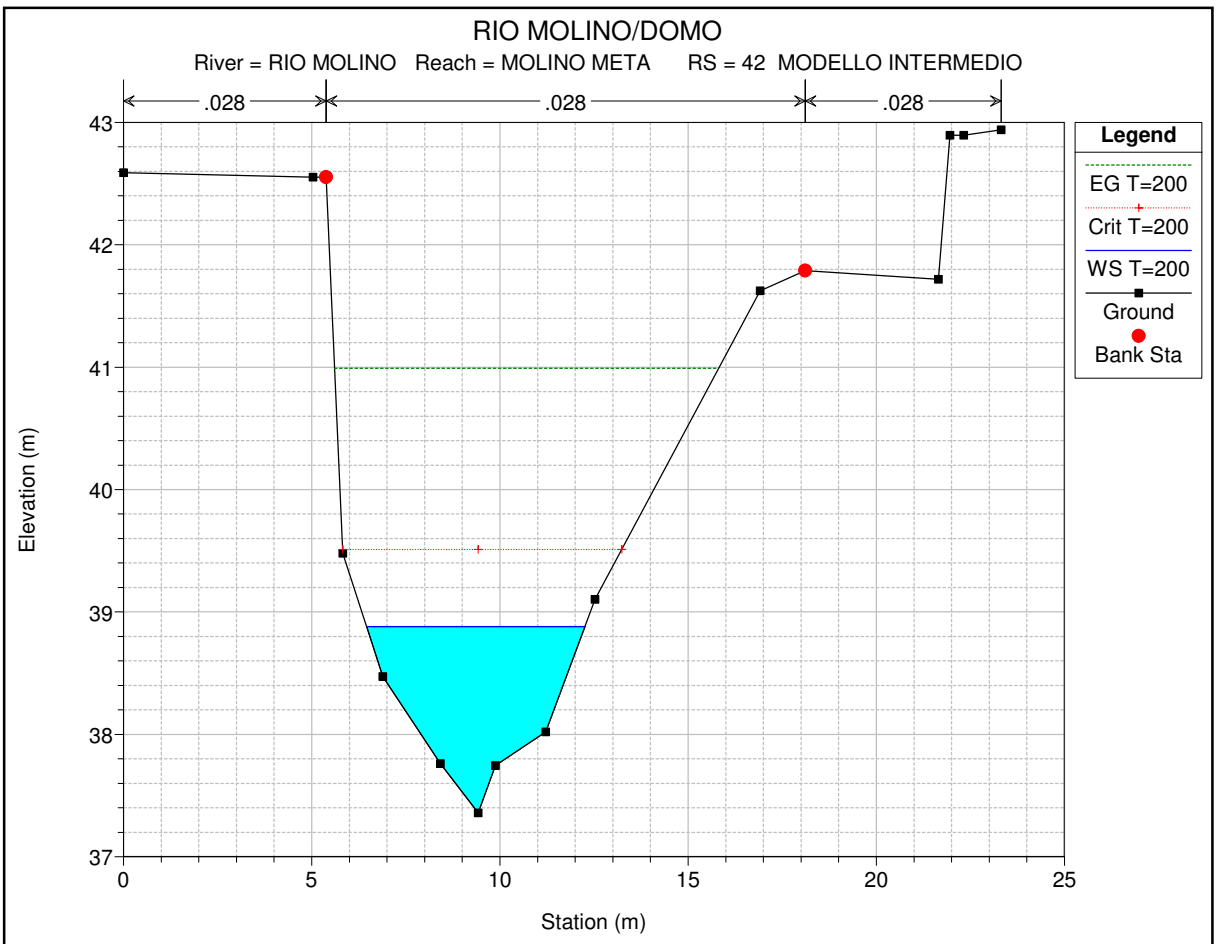

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 45 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45.0
44.5
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
5
10
15
20
25

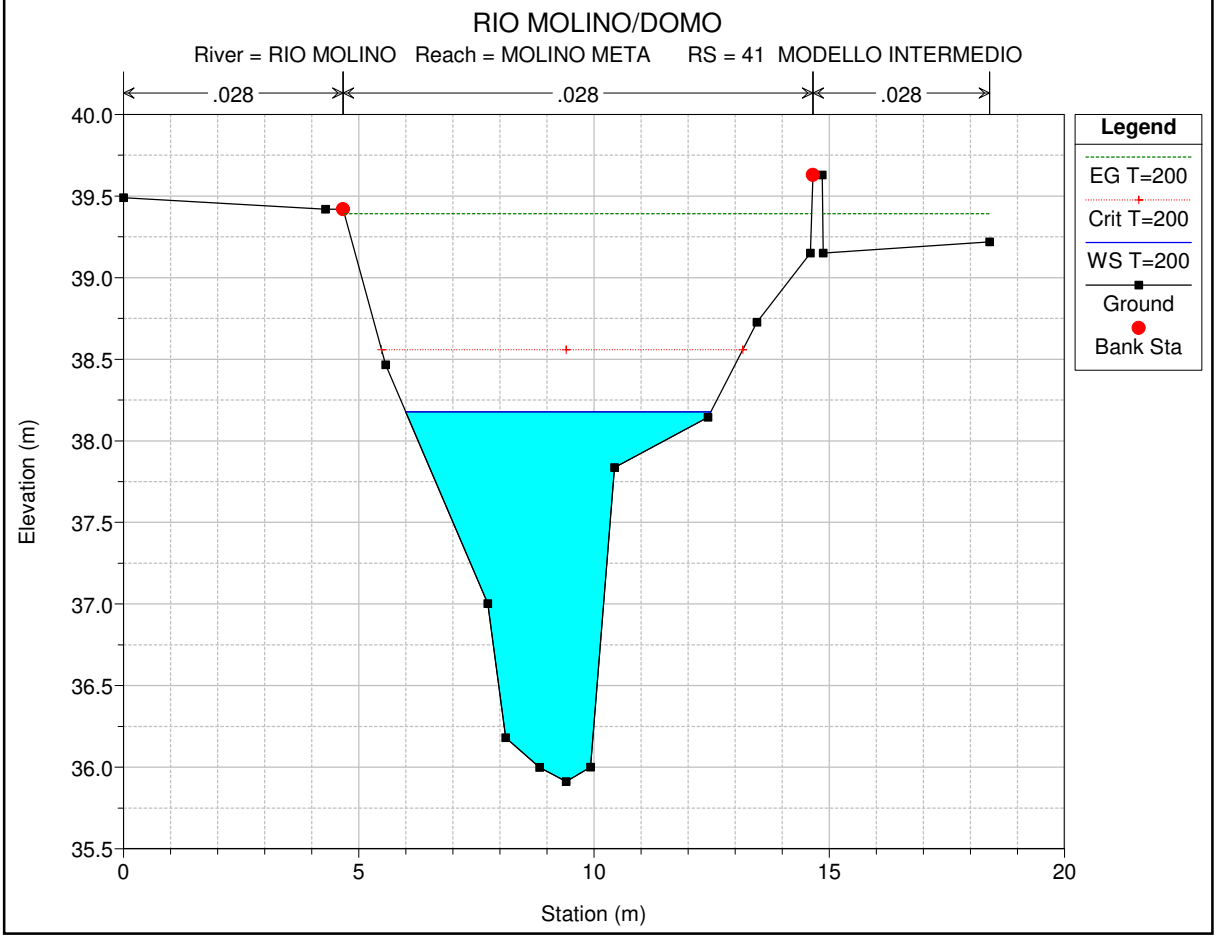

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 44 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

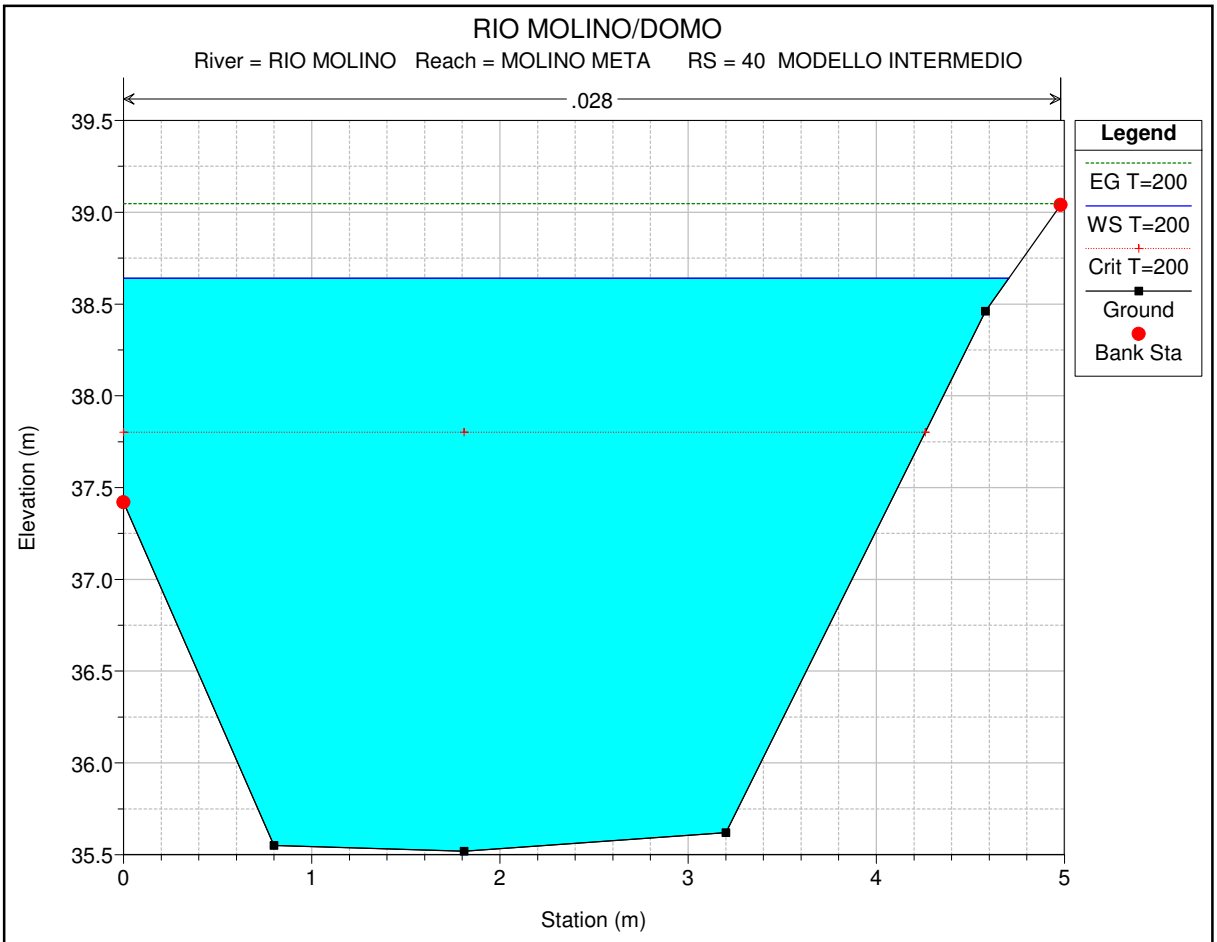

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

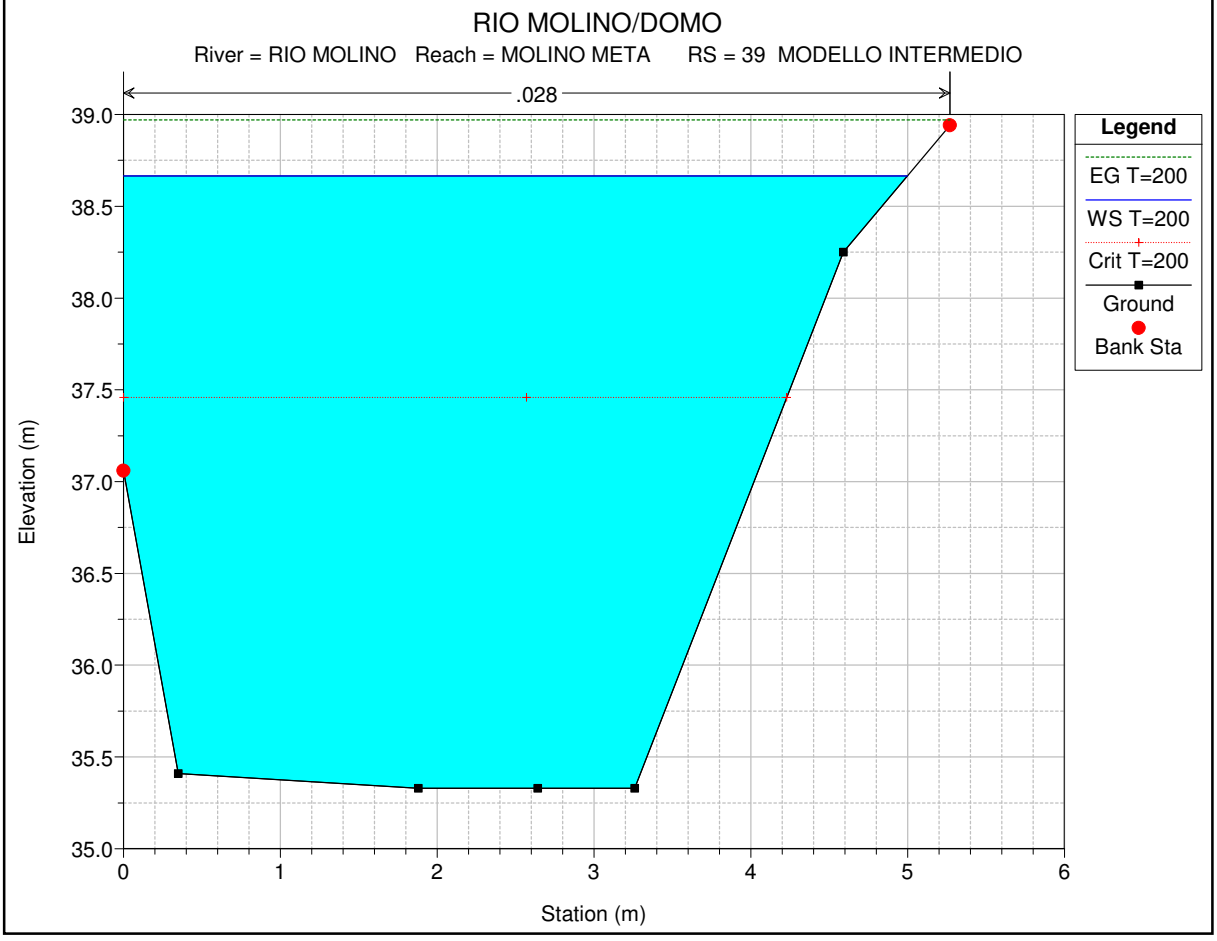

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

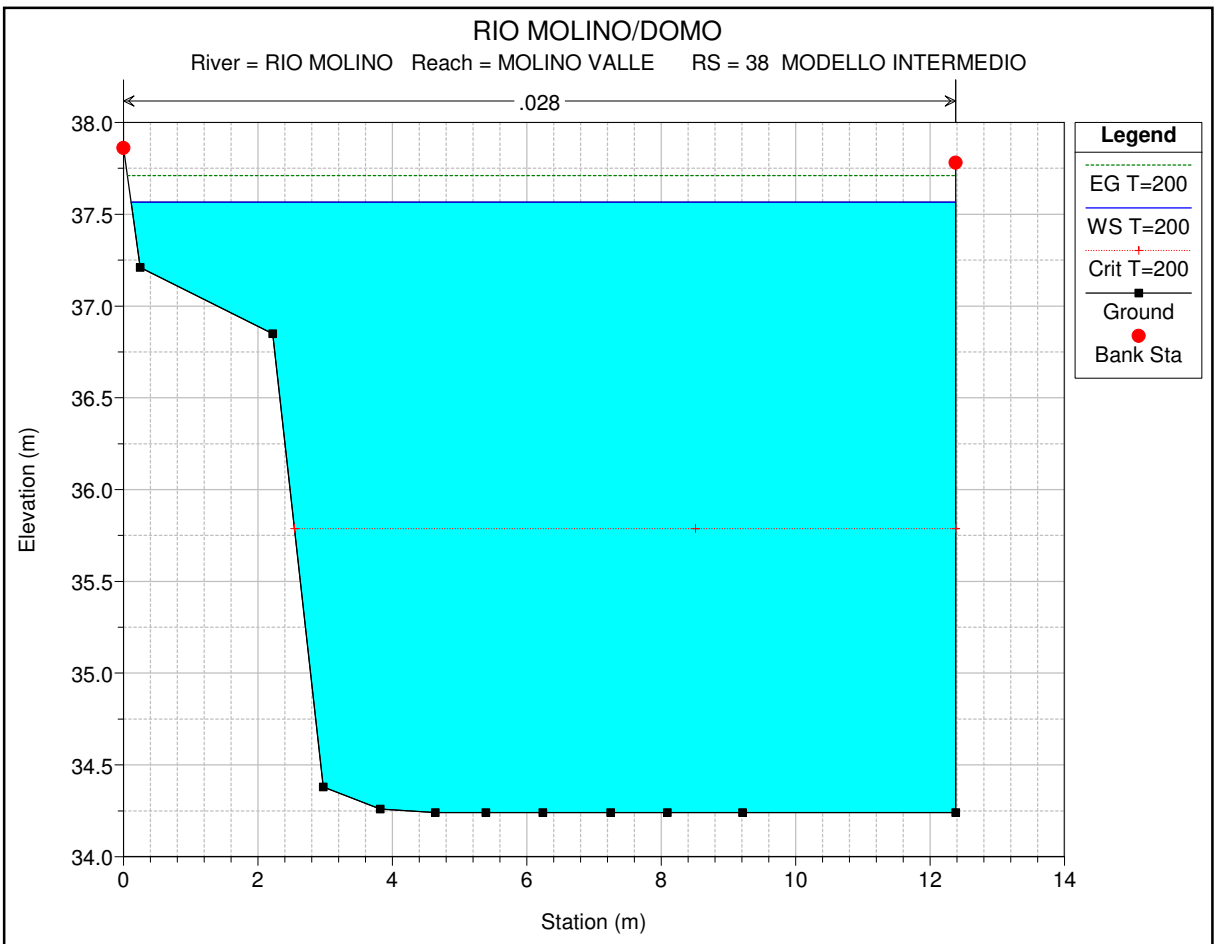

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

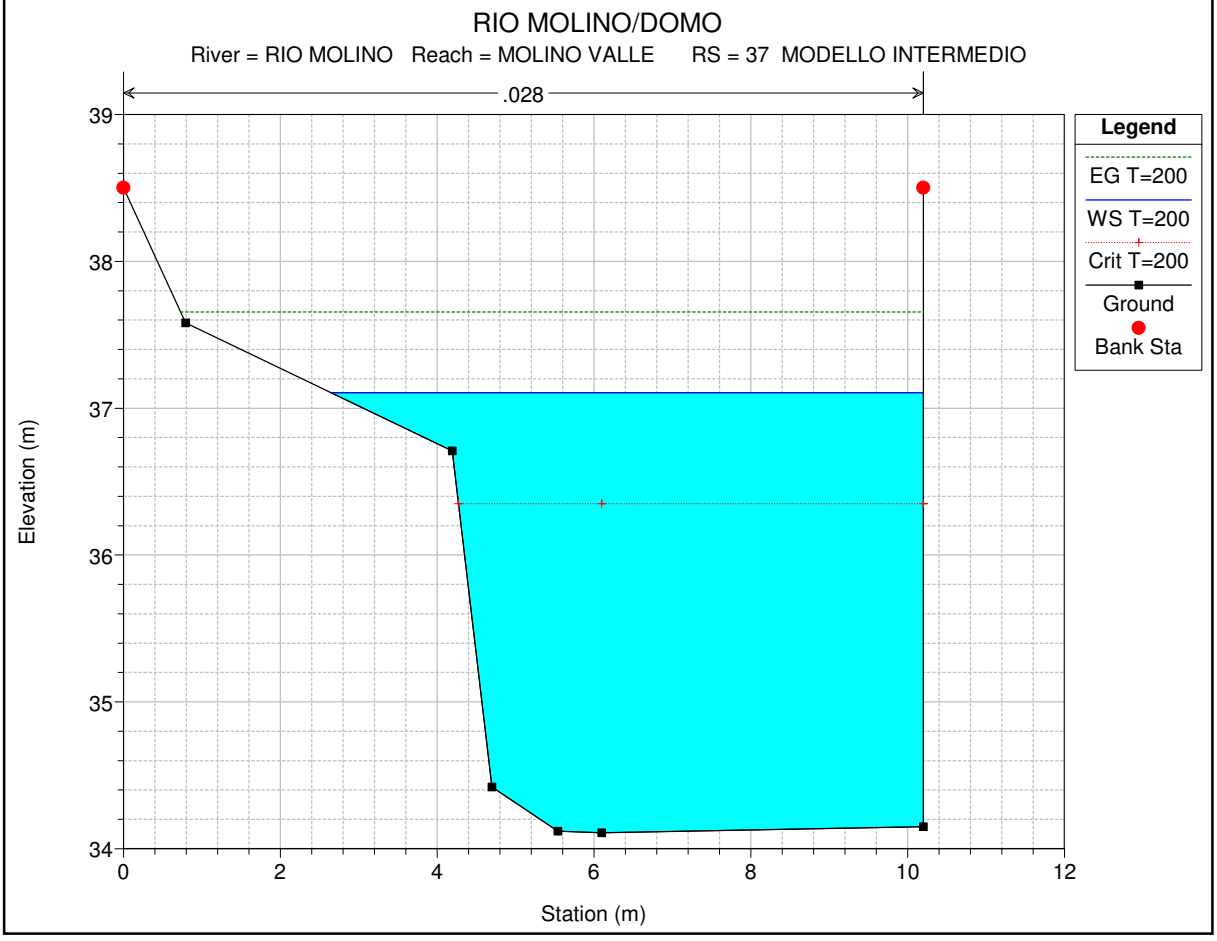

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 42 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43
42
41
40
39
38
37
0
5
10
15
20
25

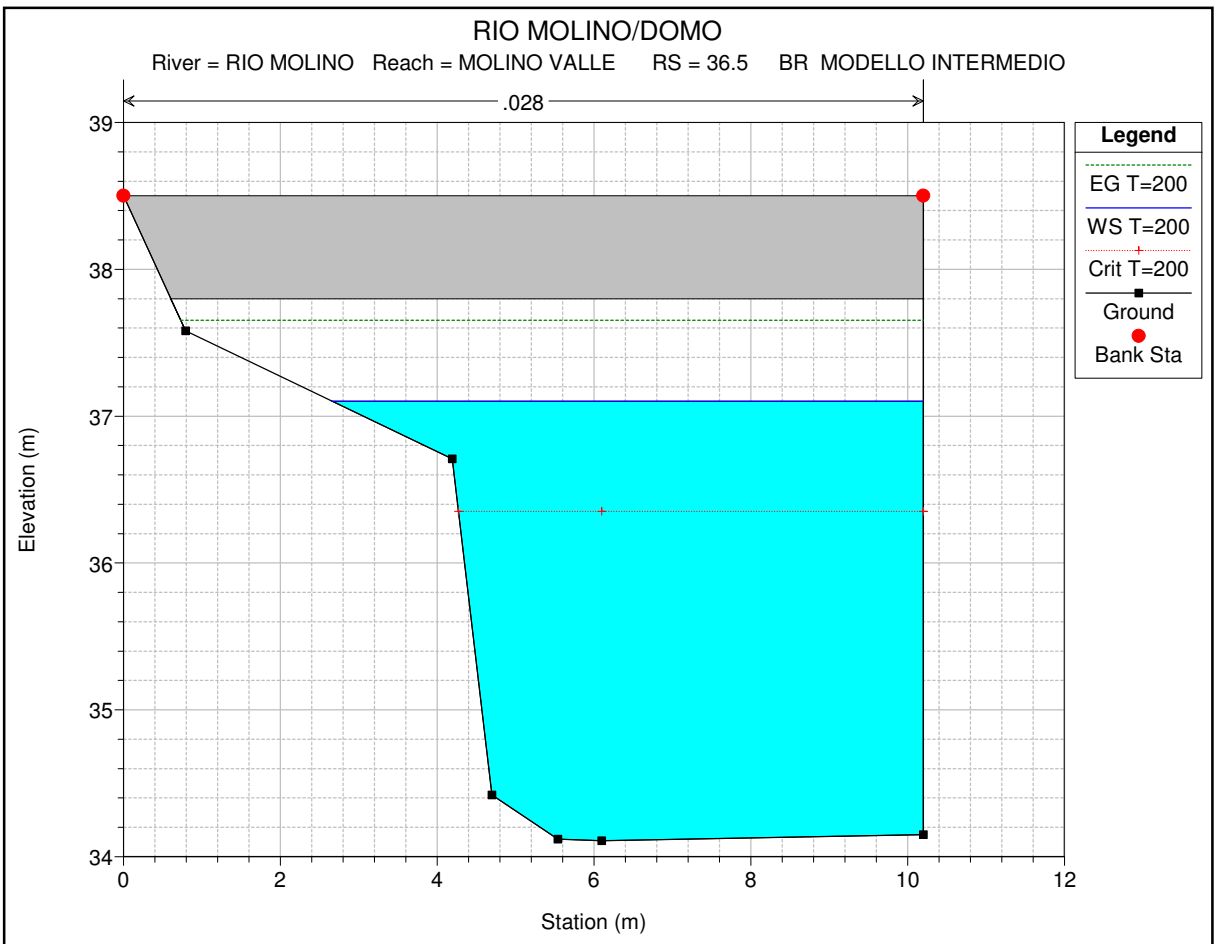

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 41 MODELLO INTERMEDIO
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
40.0
39.5
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
0
5
10
15
20

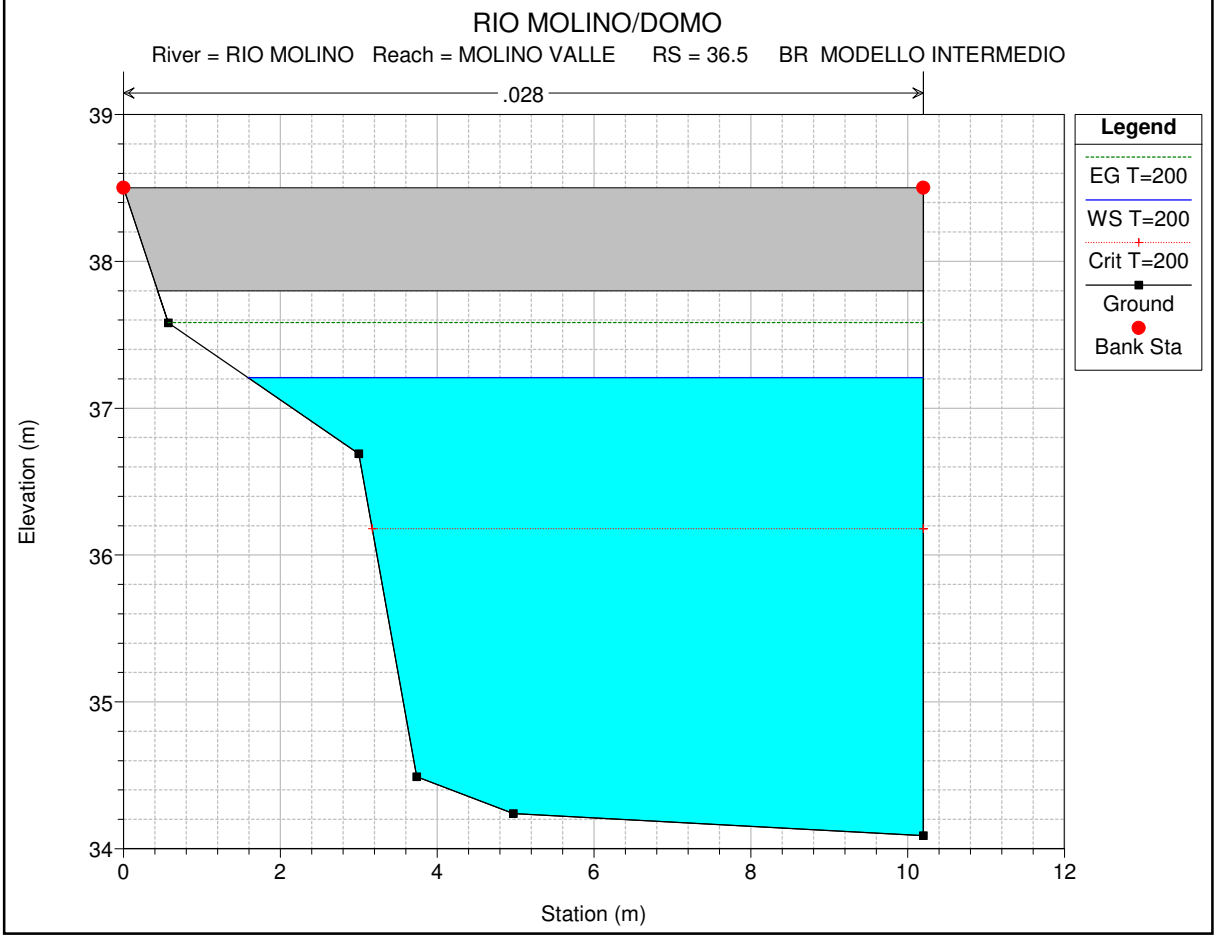

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 40 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.5
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
0
1
2
3
4
5


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 39 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
35.0
0
1
2
3
4
5
6


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 38 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
38.0
37.5
37.0
36.5
36.0
35.5
35.0
34.5
34.0
0
2
4
6
8
10
12
14

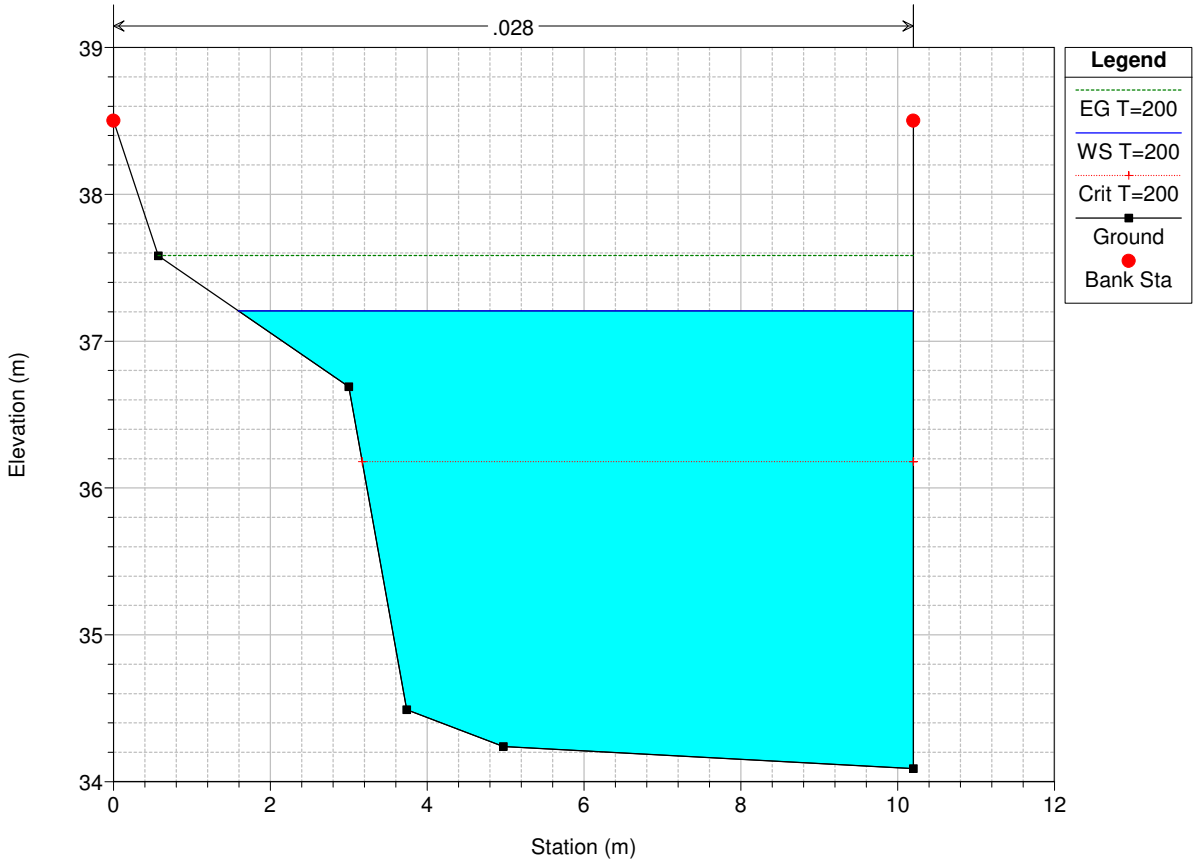

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 37 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12

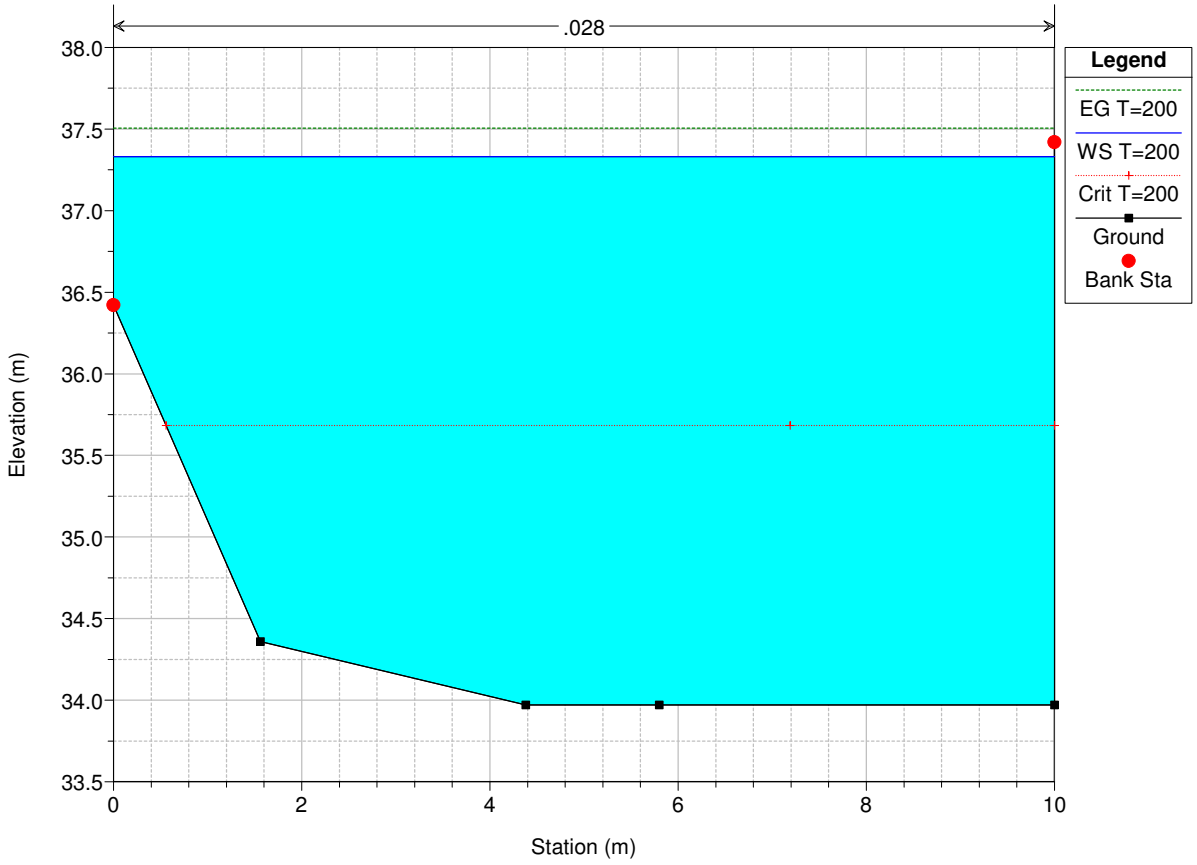
RIO MOLINO/DOMO

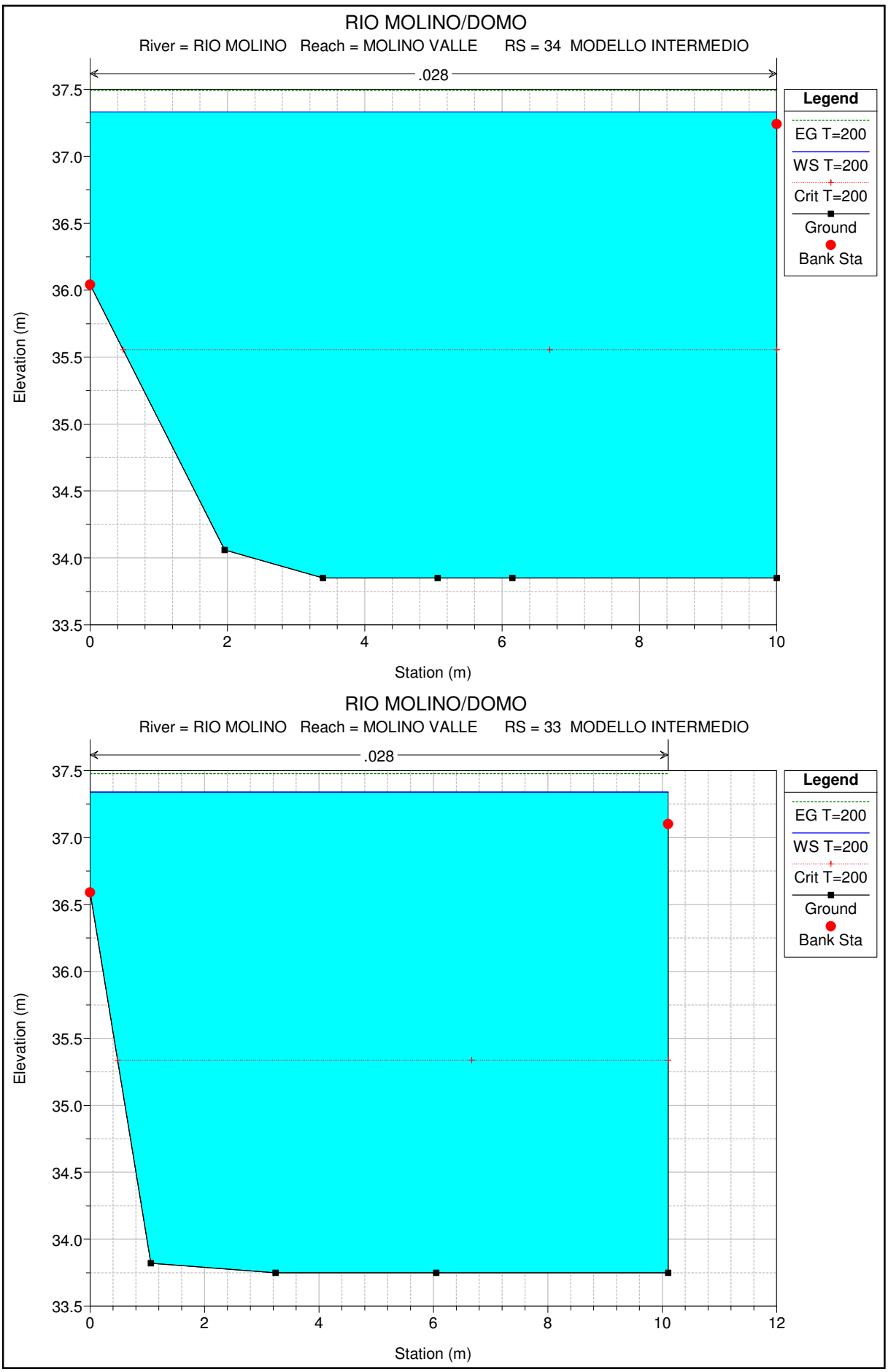
River = RIO MOLINO Reach = MOLINO VALLE RS = 36 MODELLO INTERMEDIO



RIO MOLINO/DOMO

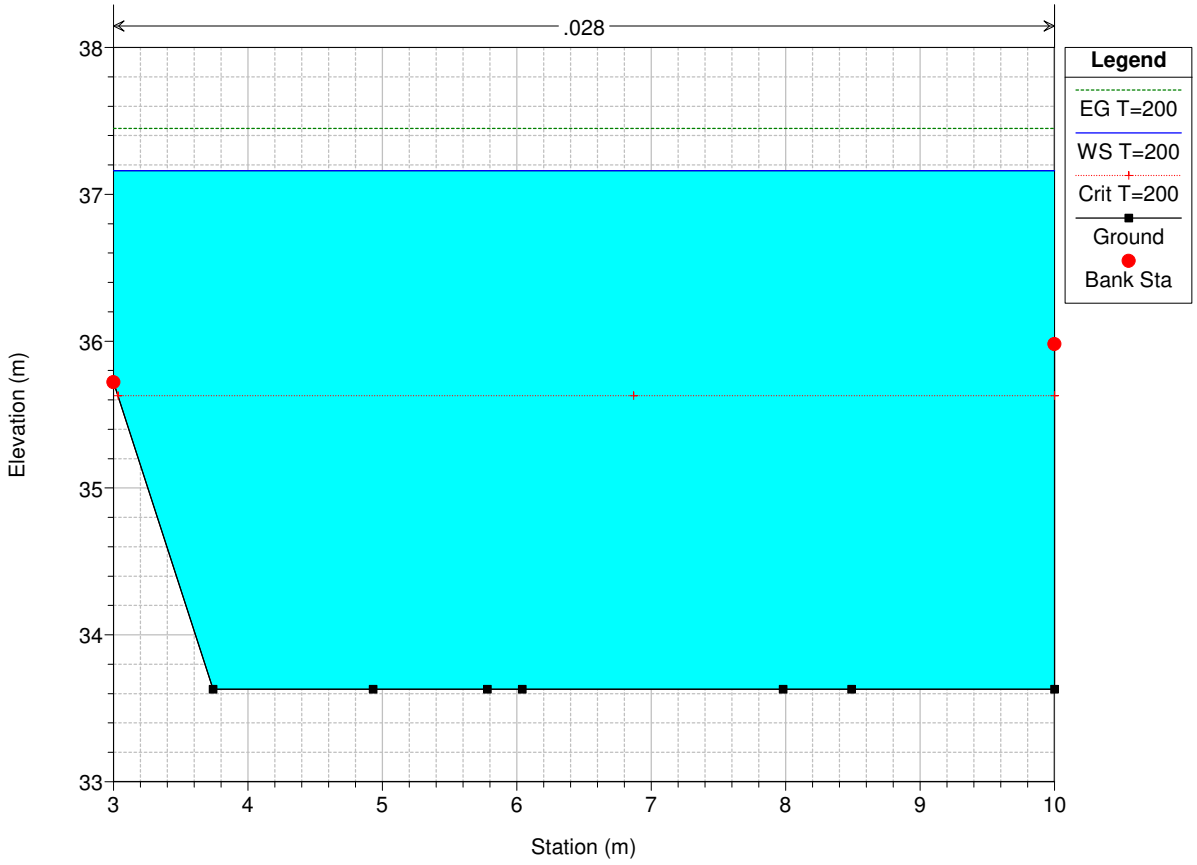
River = RIO MOLINO Reach = MOLINO VALLE RS = 35 MODELLO INTERMEDIO




RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 34 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 33 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)

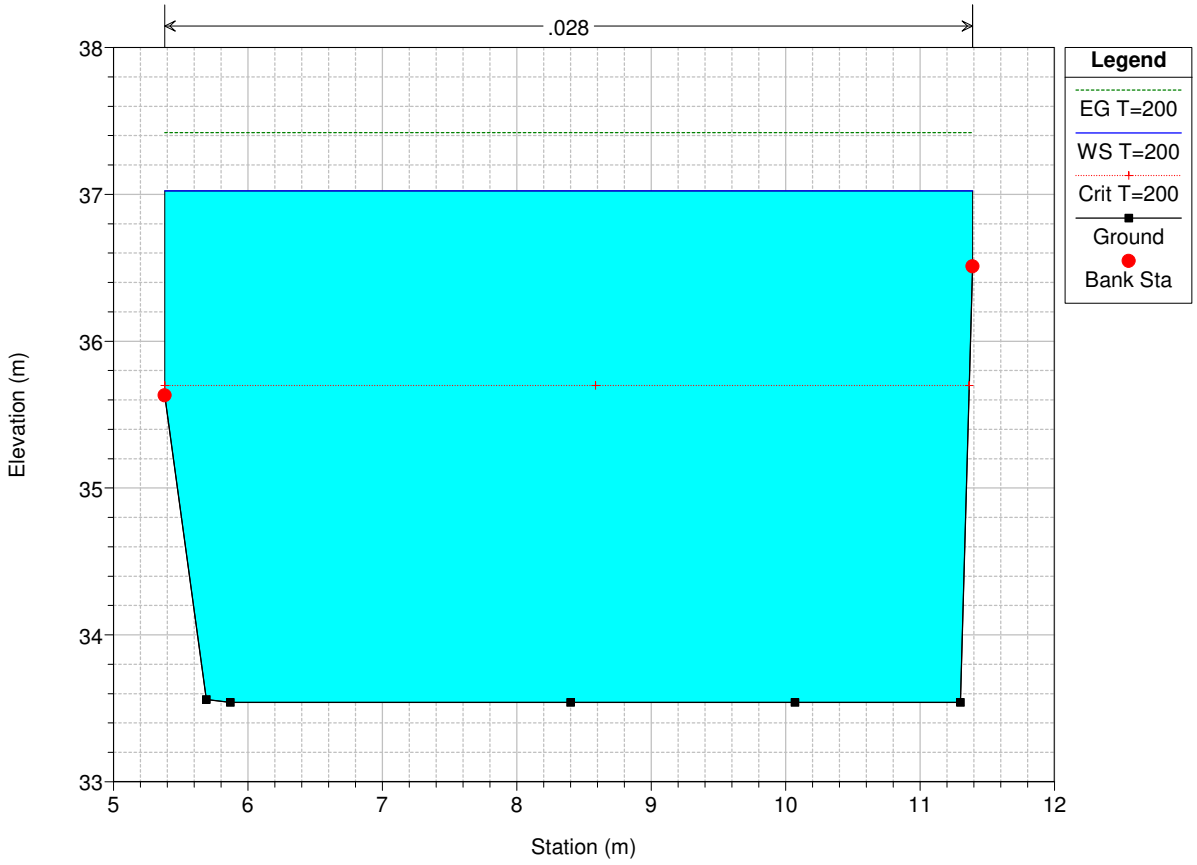
RIO MOLINO/DOMO

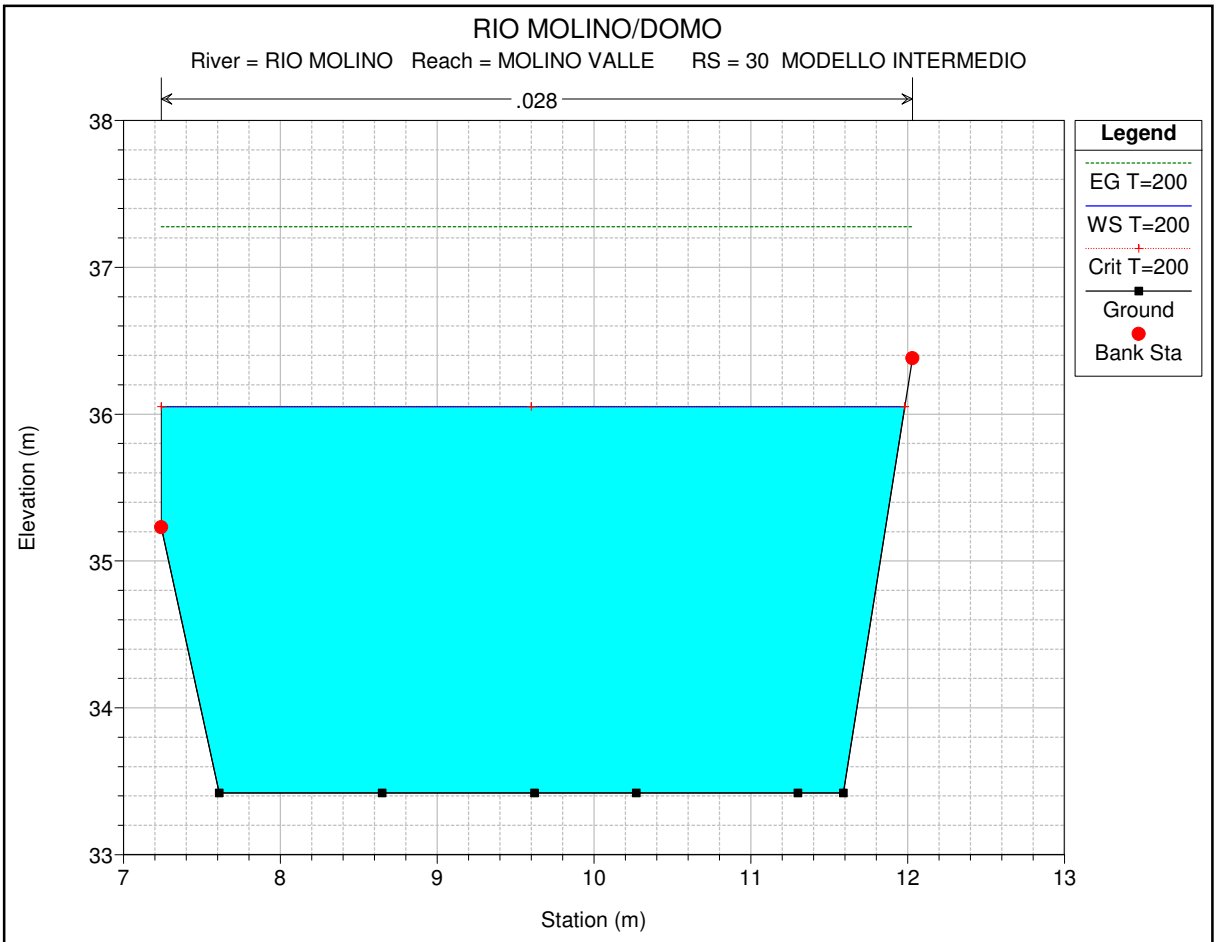
River = RIO MOLINO Reach = MOLINO VALLE RS = 32 MODELLO INTERMEDIO

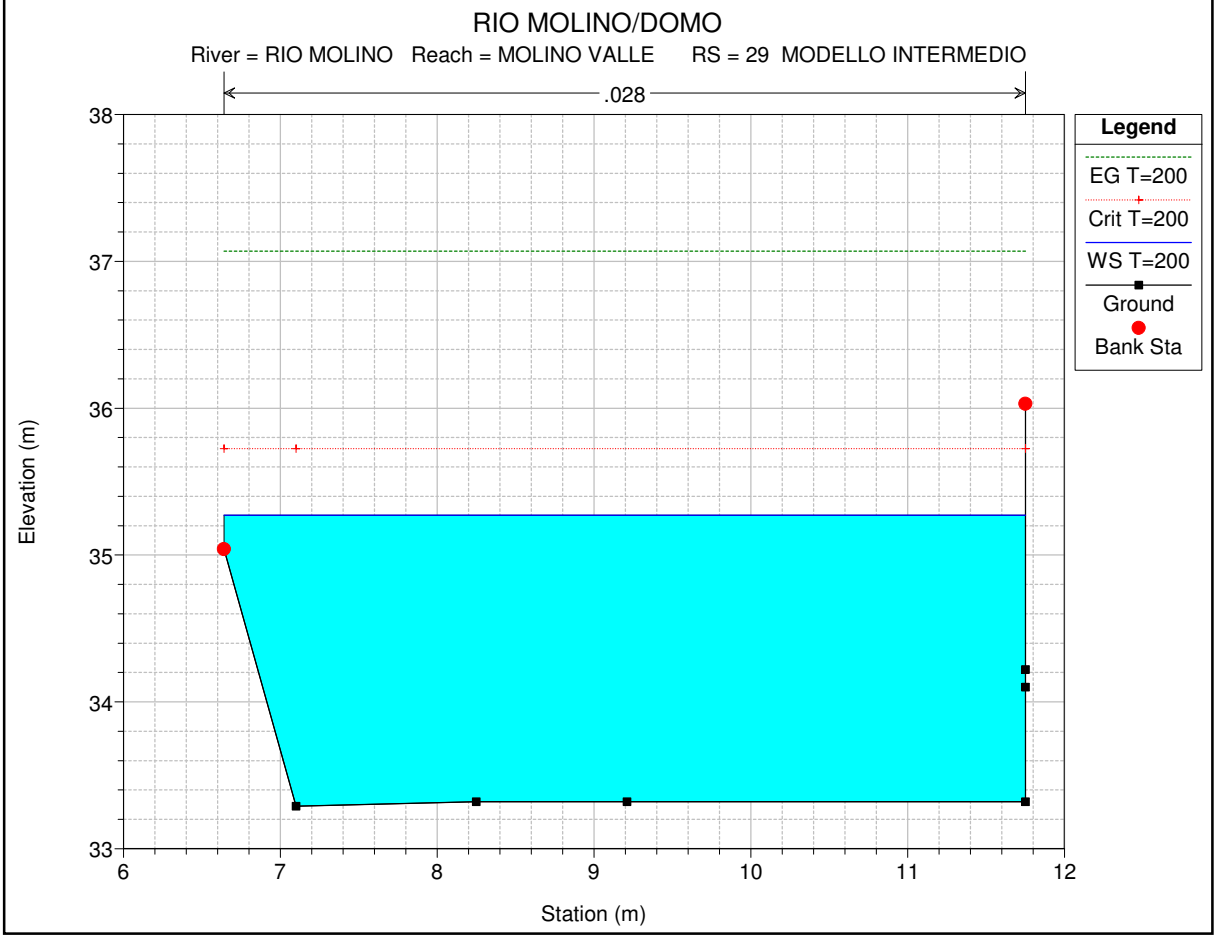


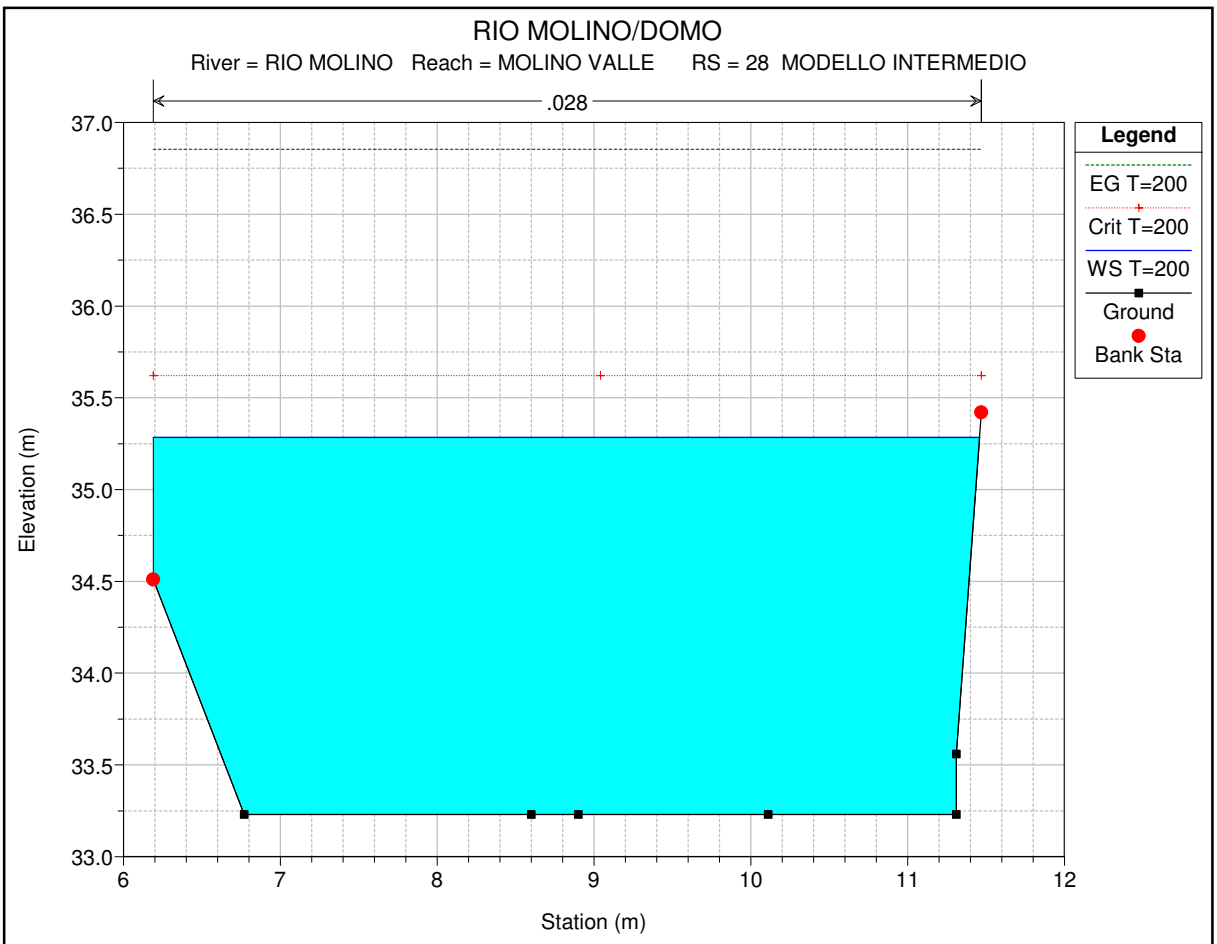
RIO MOLINO/DOMO

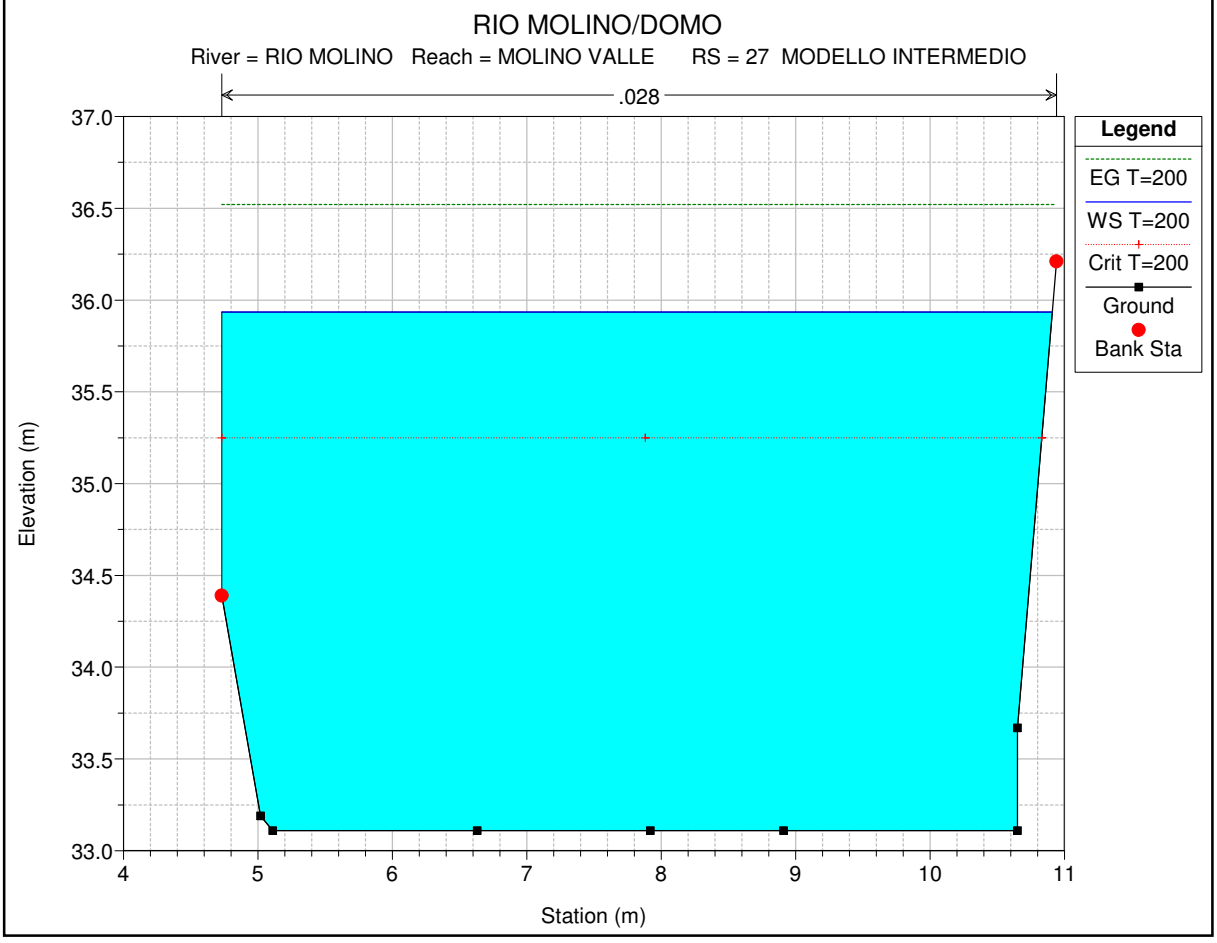
River = RIO MOLINO Reach = MOLINO VALLE RS = 31 MODELLO INTERMEDIO

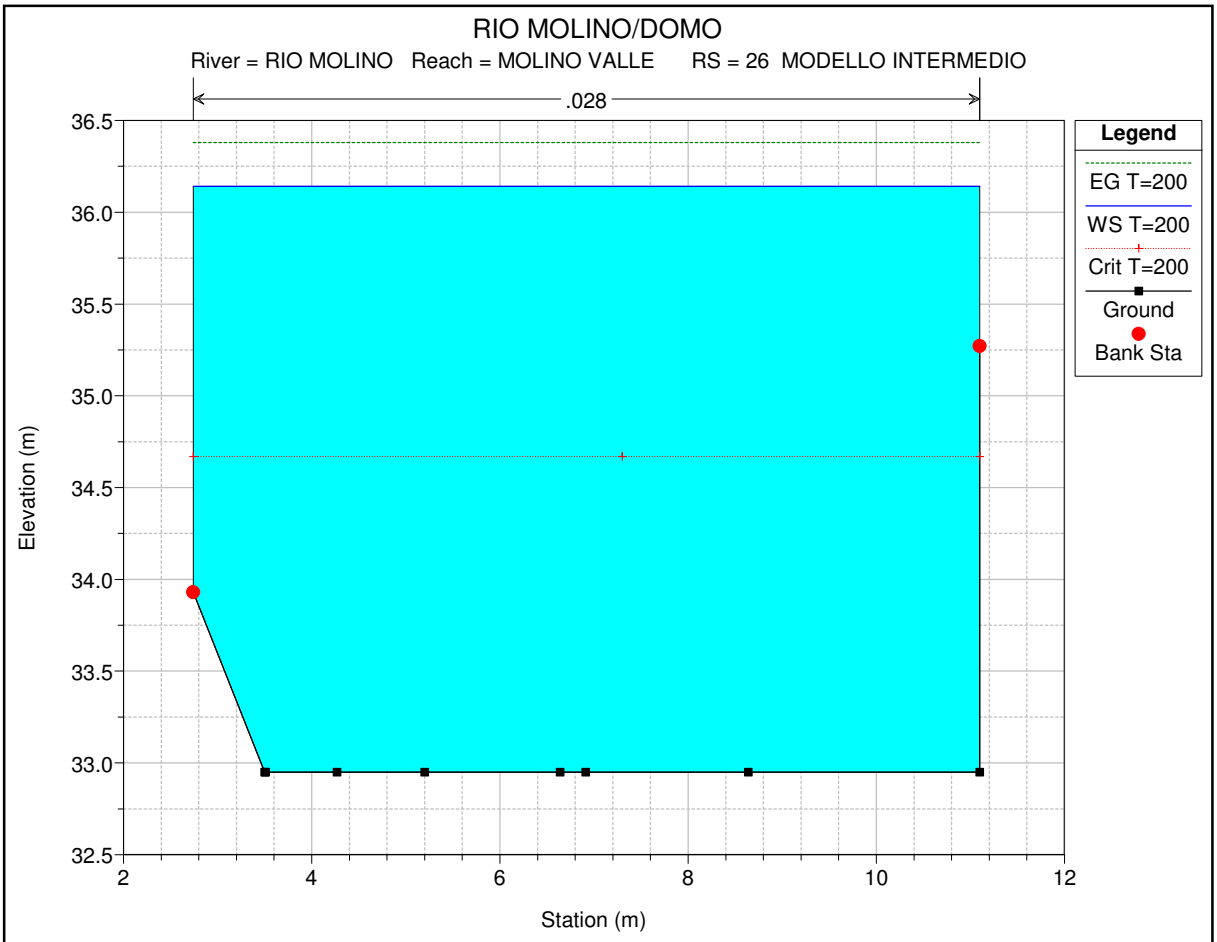


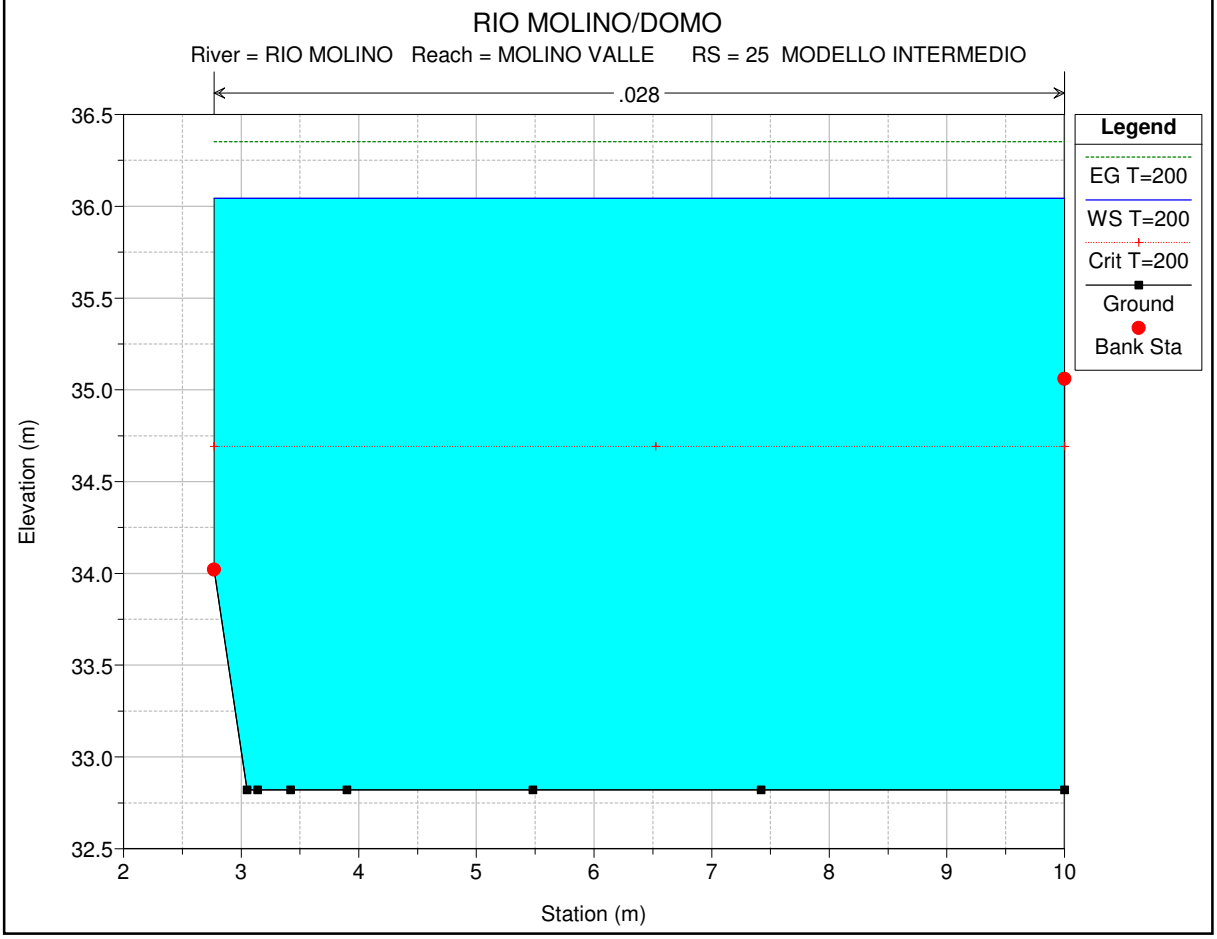

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 30 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
38
37
36
35
34
33
7
8
9
10
11
12
13

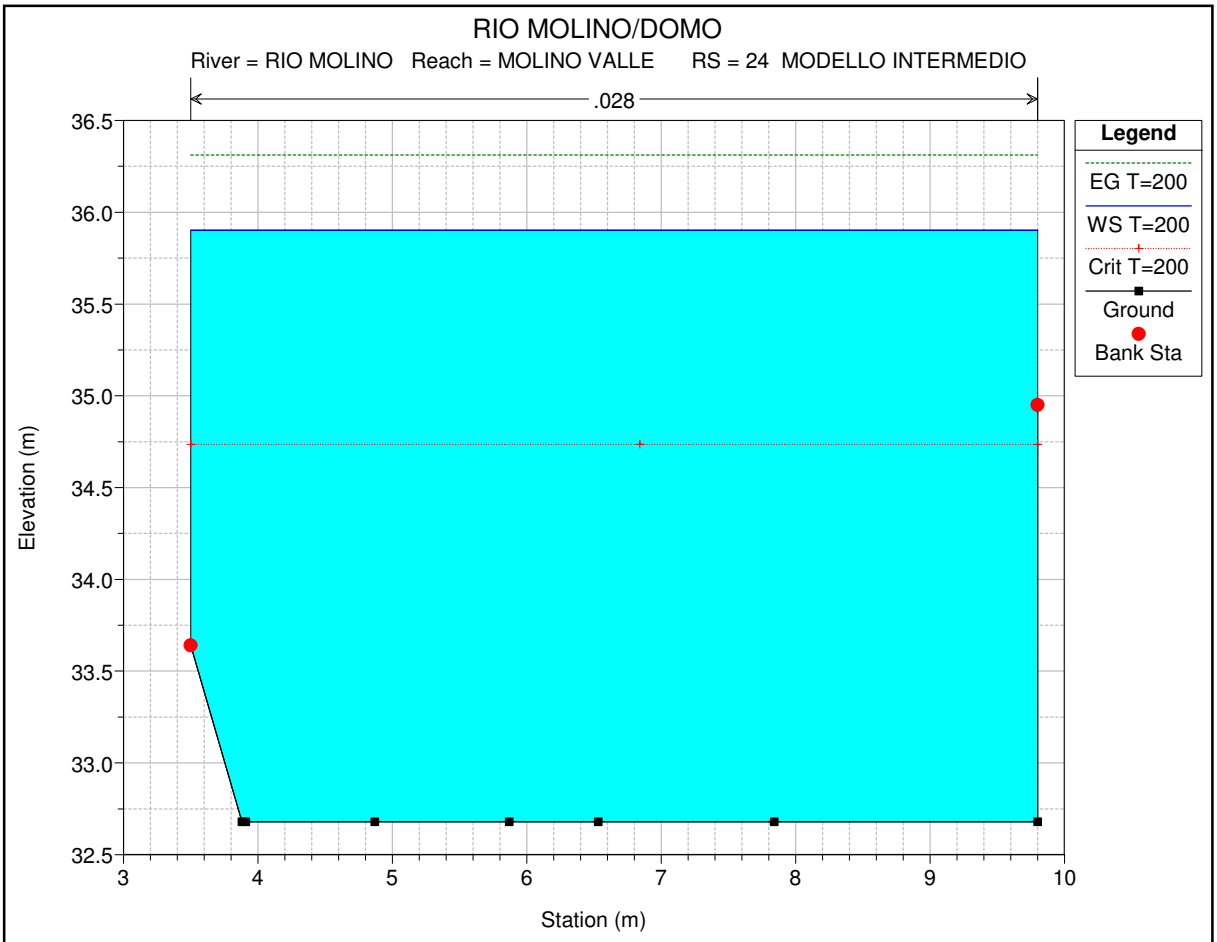

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 29 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
38
37
36
35
34
33
6
7
8
9
10
11
12

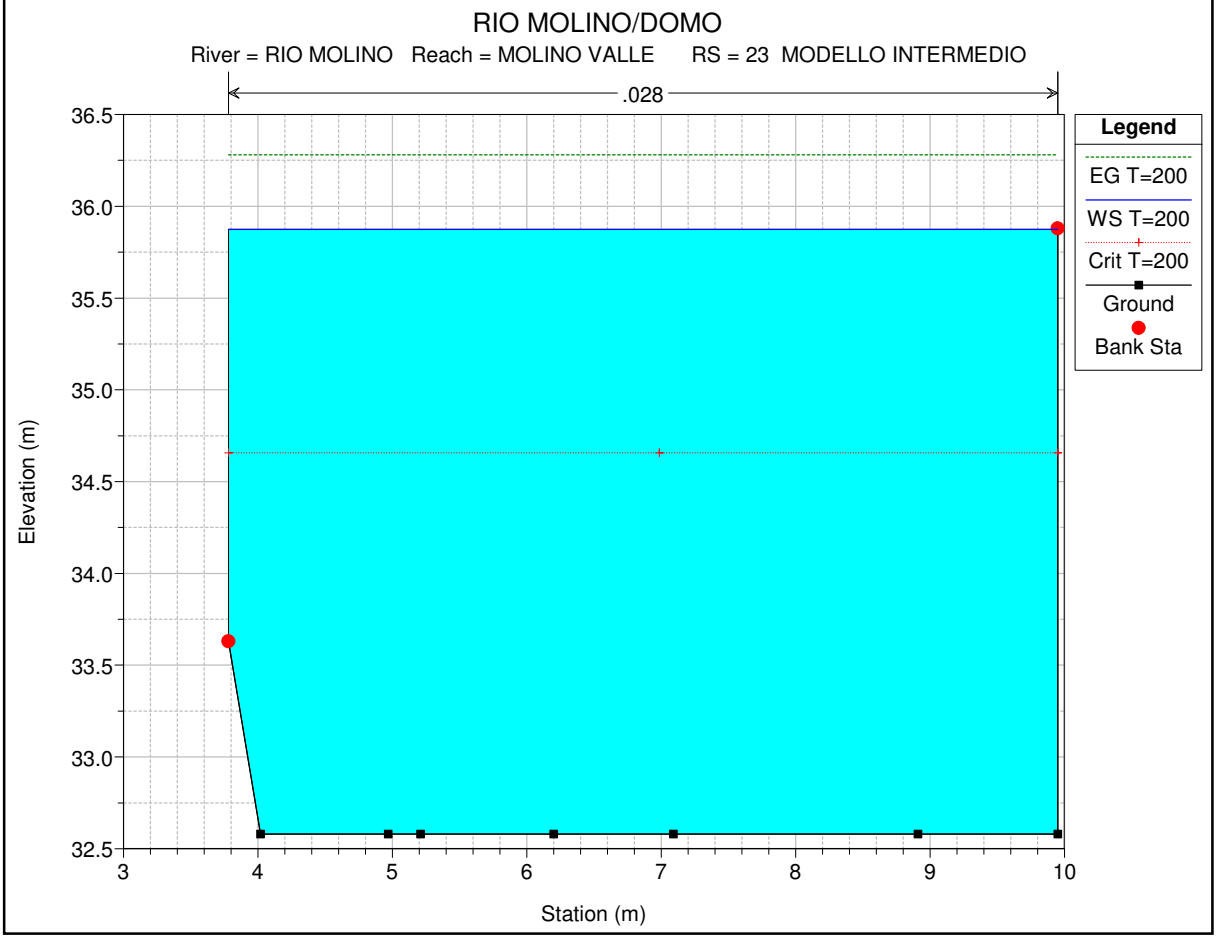

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 28 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
6
7
8
9
10
11
12

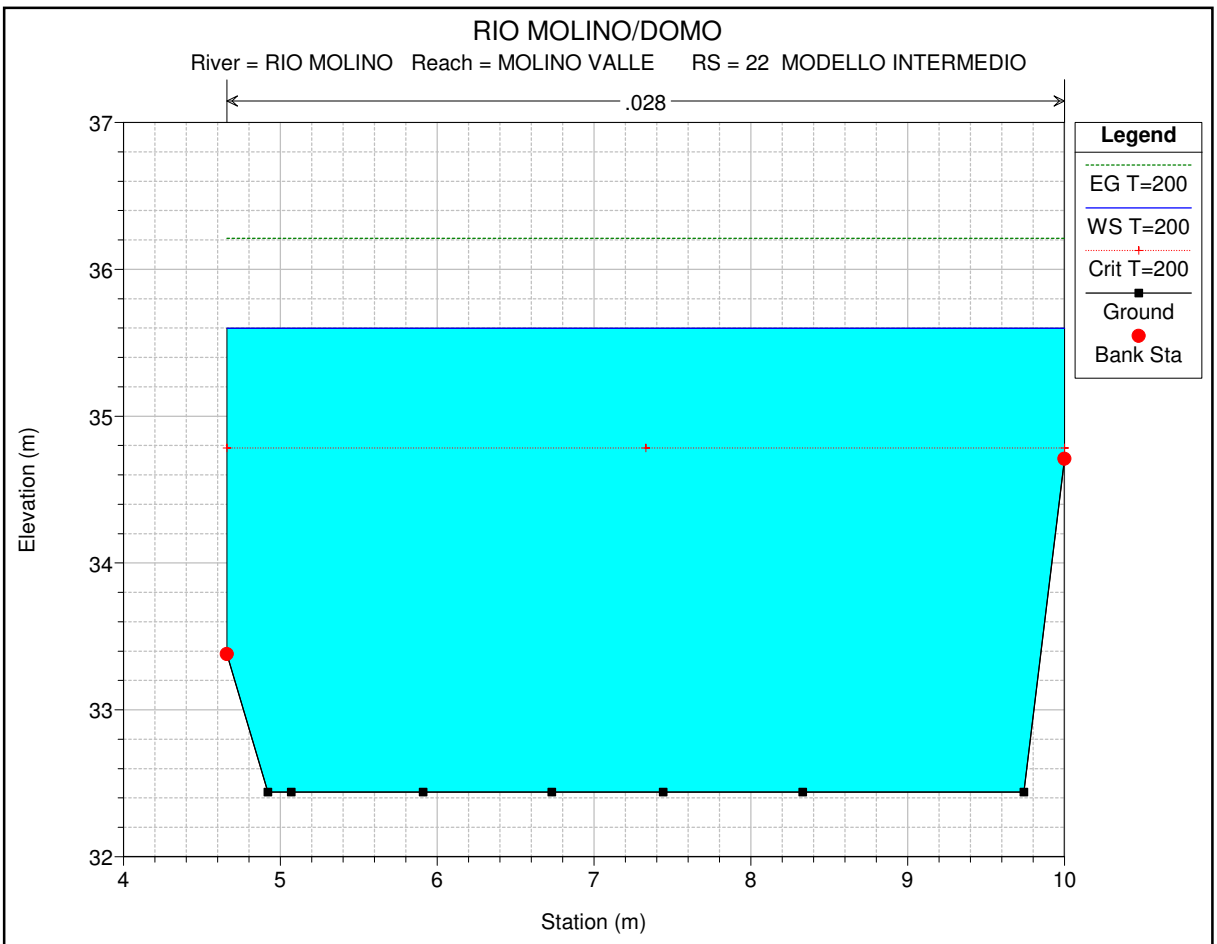

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 27 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
4
5
6
7
8
9
10
11

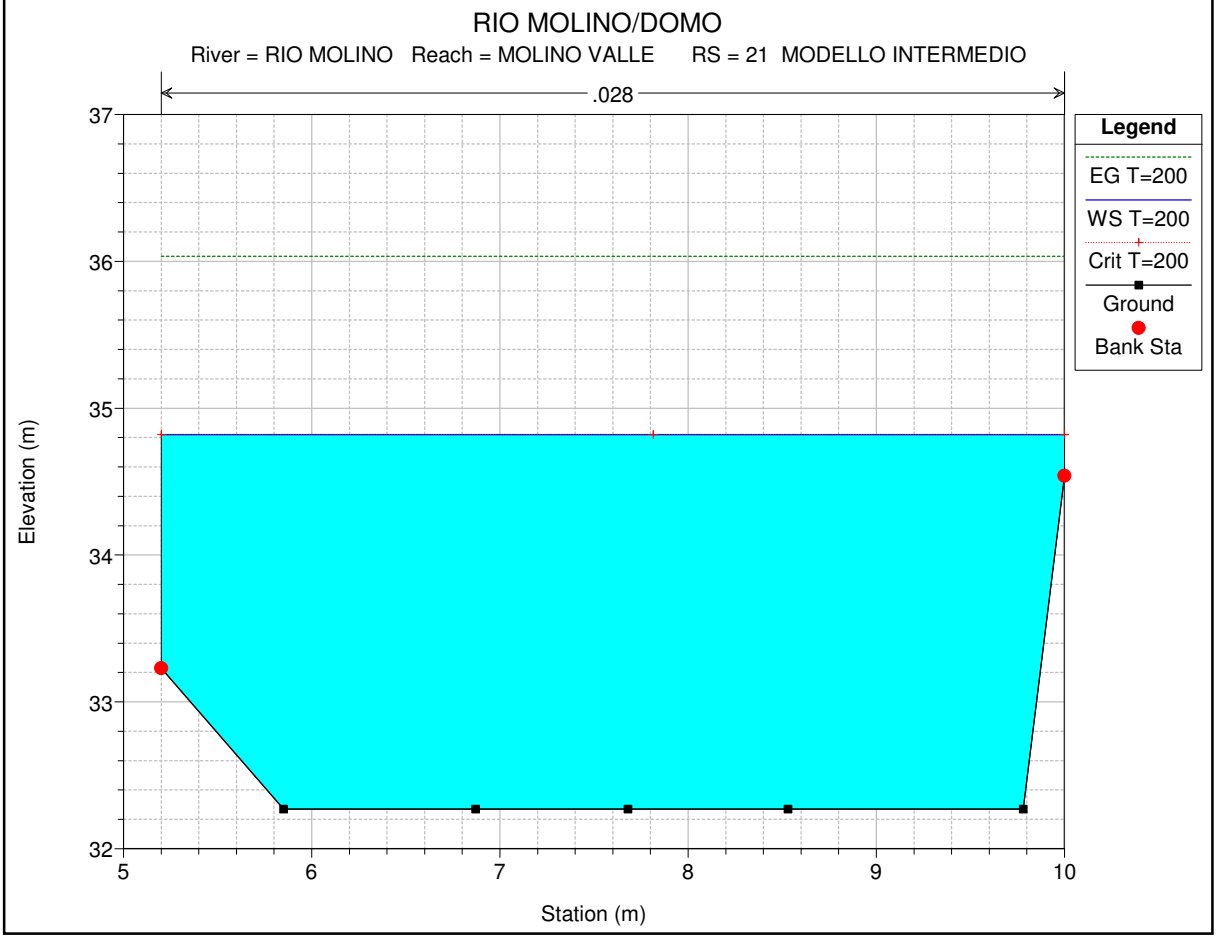

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 26 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
2
4
6
8
10
12

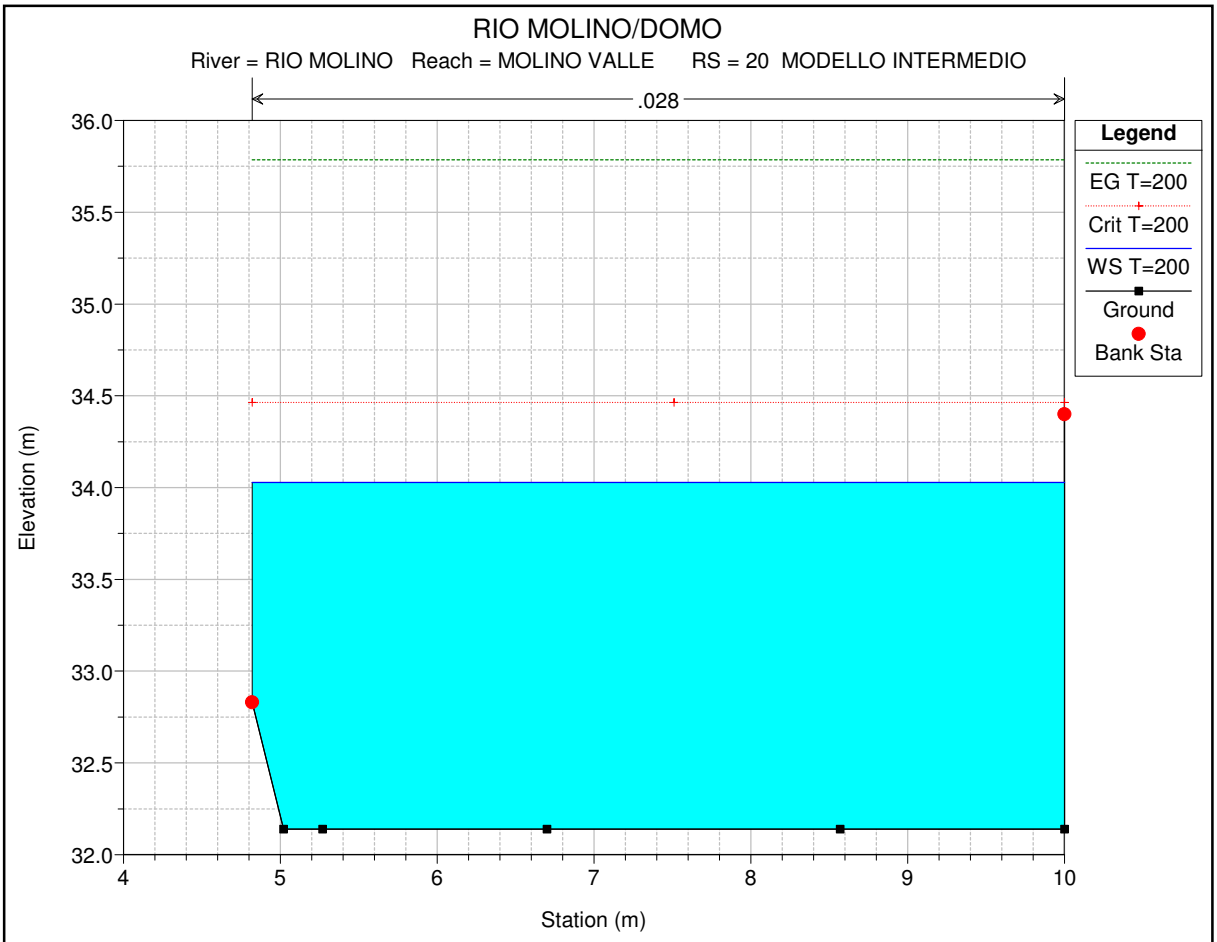

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 25 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
2
3
4
5
6
7
8
9
10

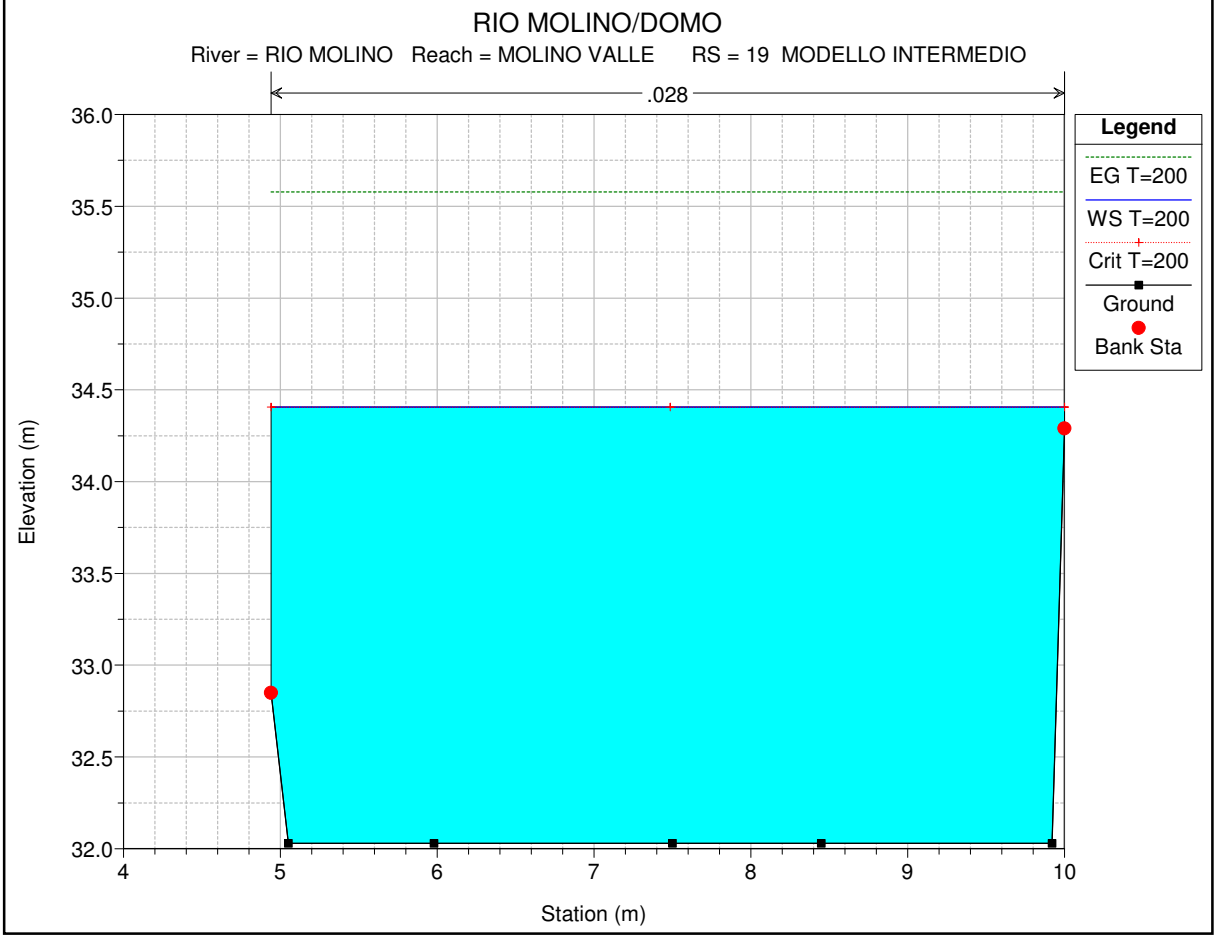

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 24 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
3
4
5
6
7
8
9
10

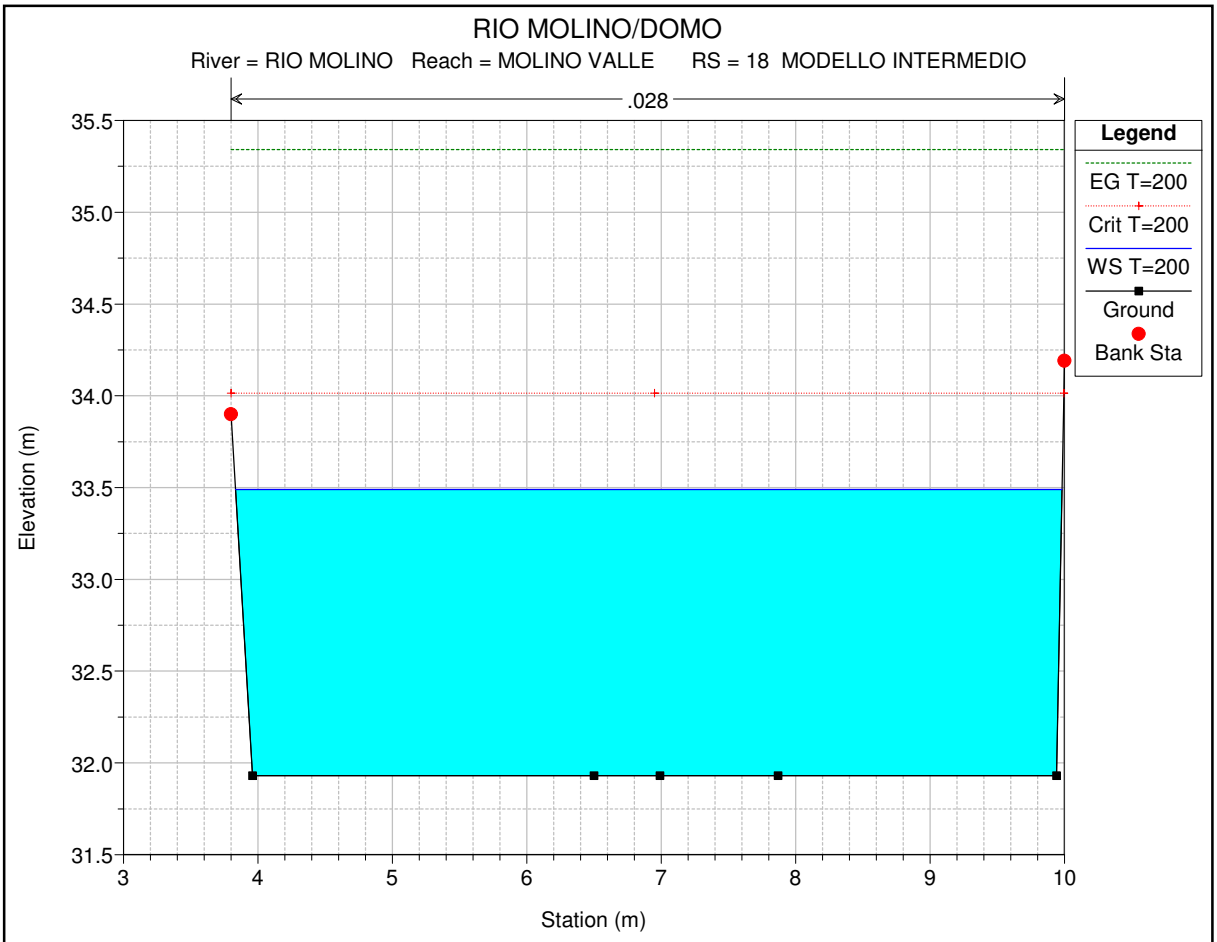

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 23 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
3
4
5
6
7
8
9
10

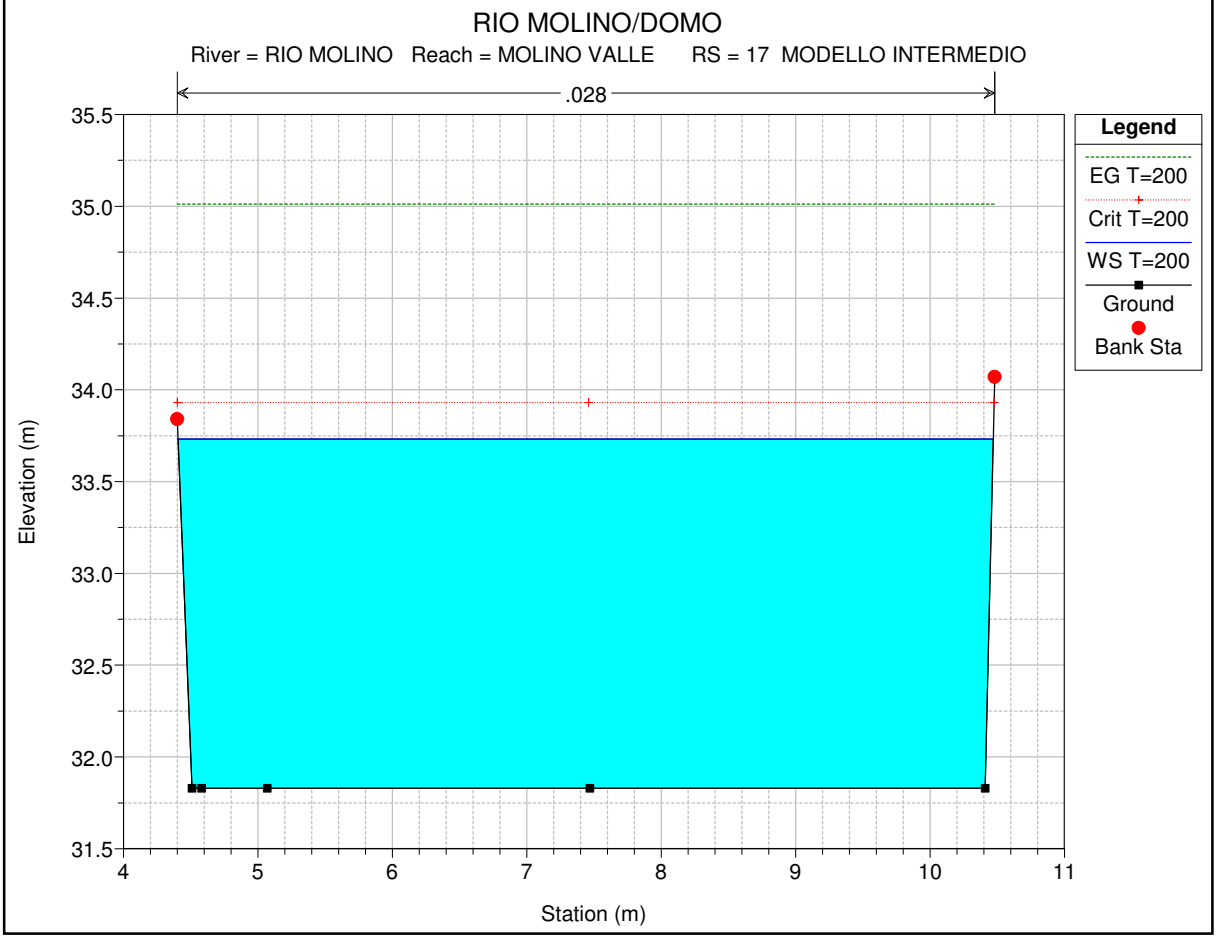

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 22 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37
36
35
34
33
32
4
5
6
7
8
9
10

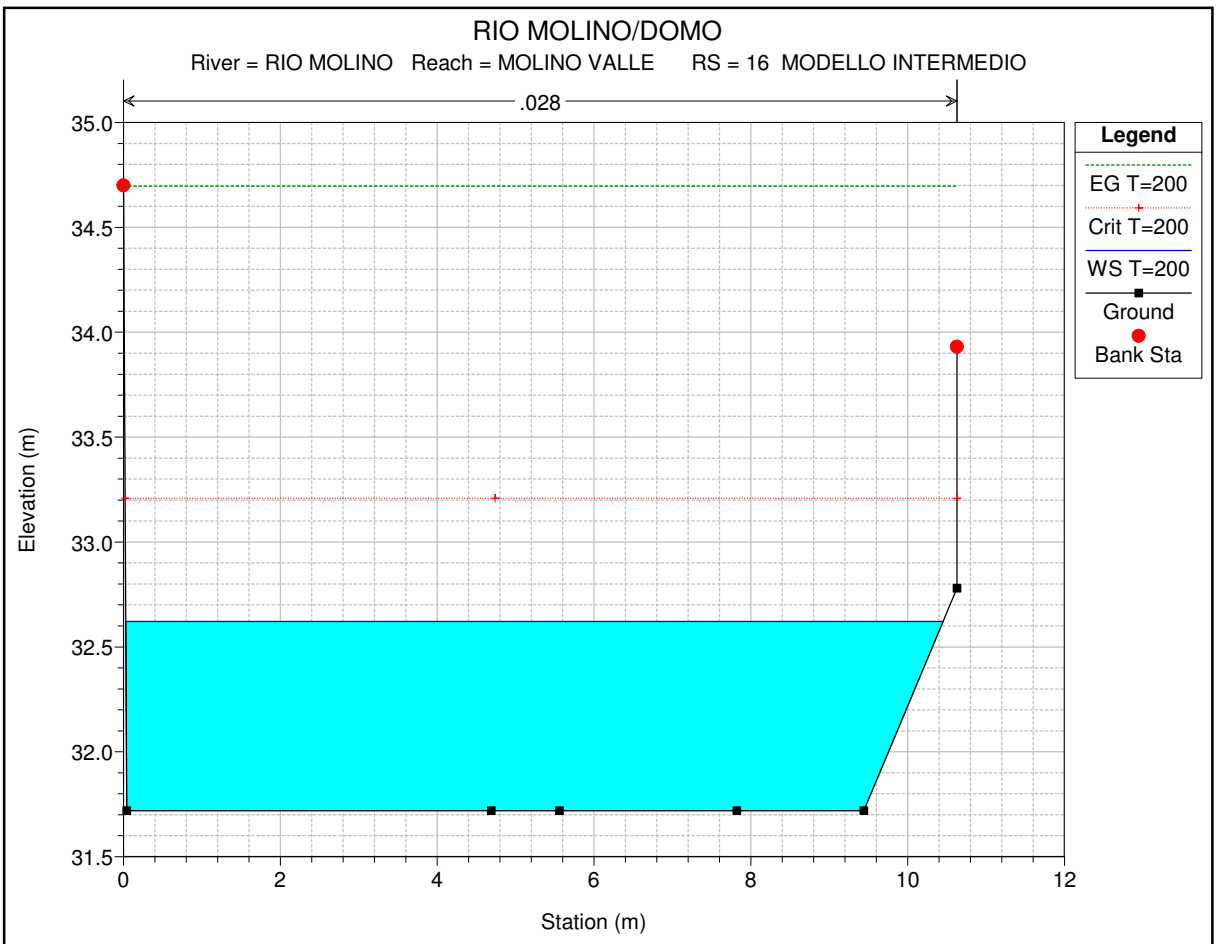

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 21 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37
36
35
34
33
32
5
6
7
8
9
10

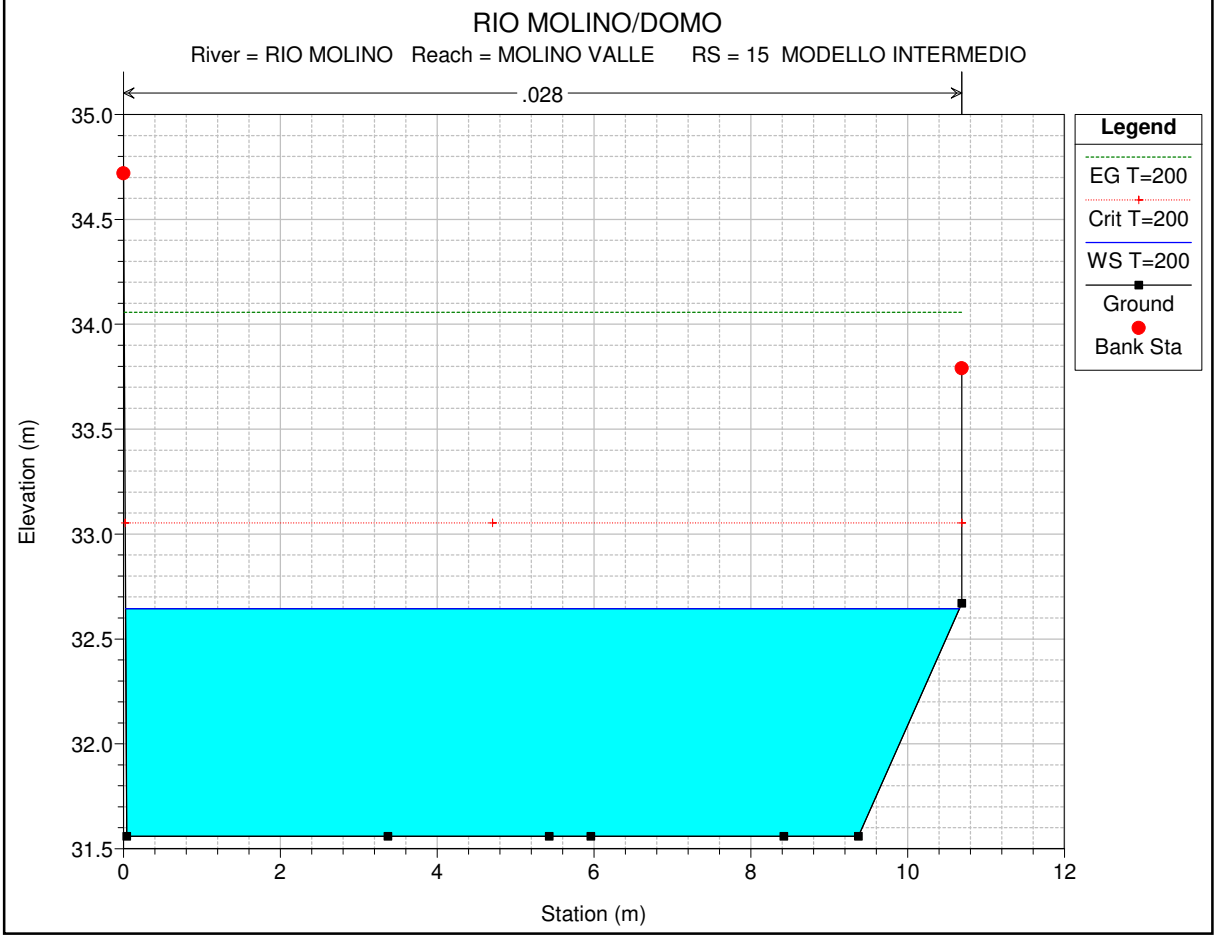

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 20 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
32.0
4
5
6
7
8
9
10

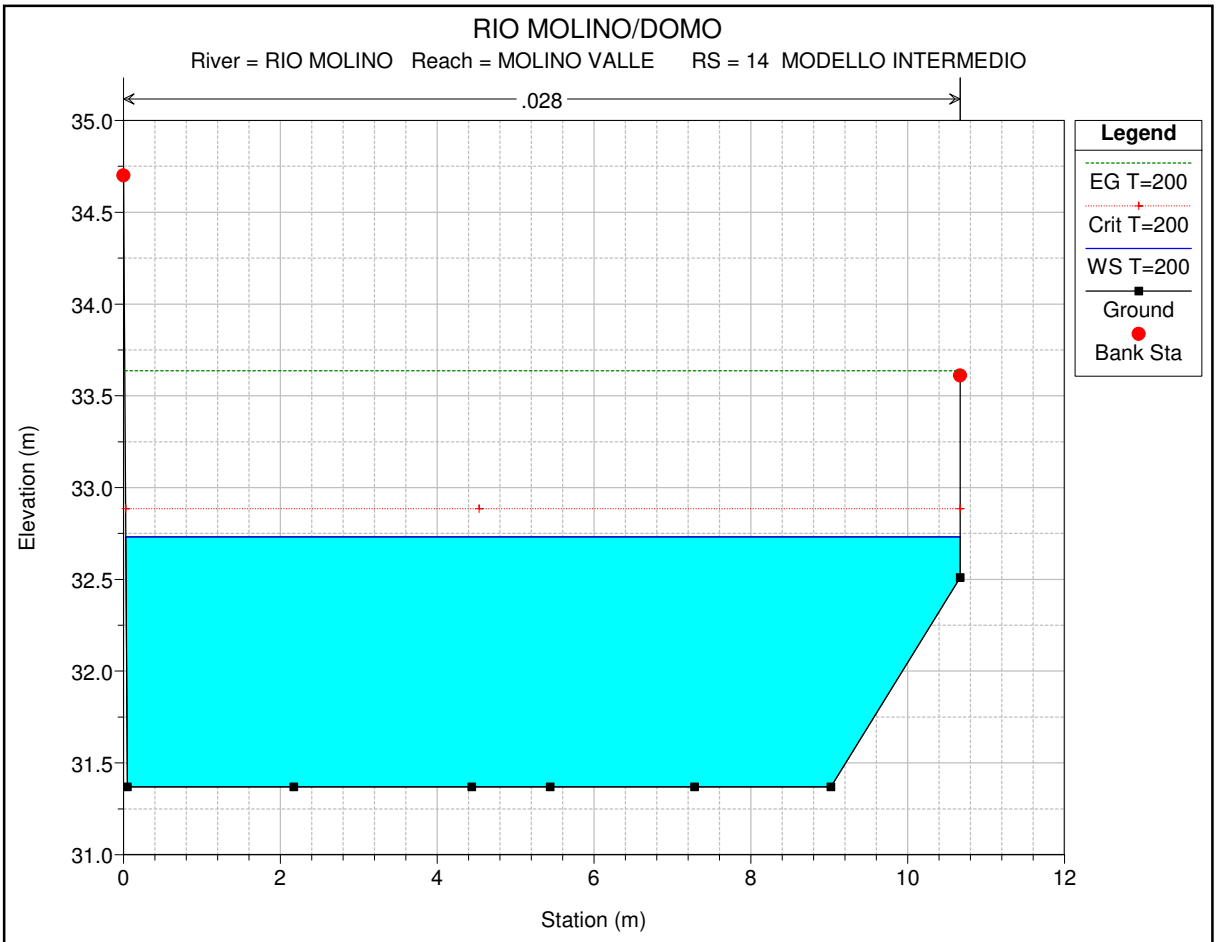

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 19 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
32.0
4
5
6
7
8
9
10

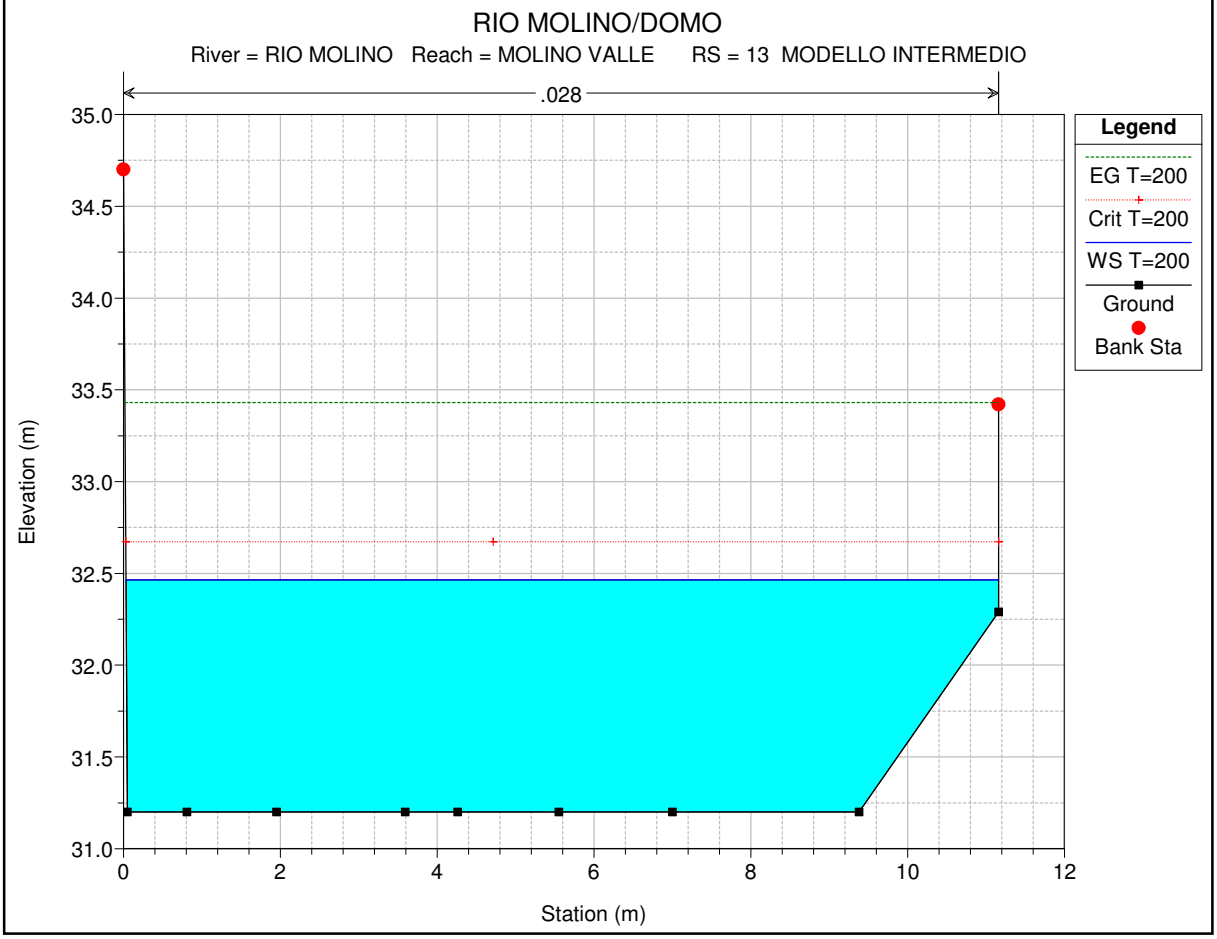

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 18 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.5
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
3
4
5
6
7
8
9
10

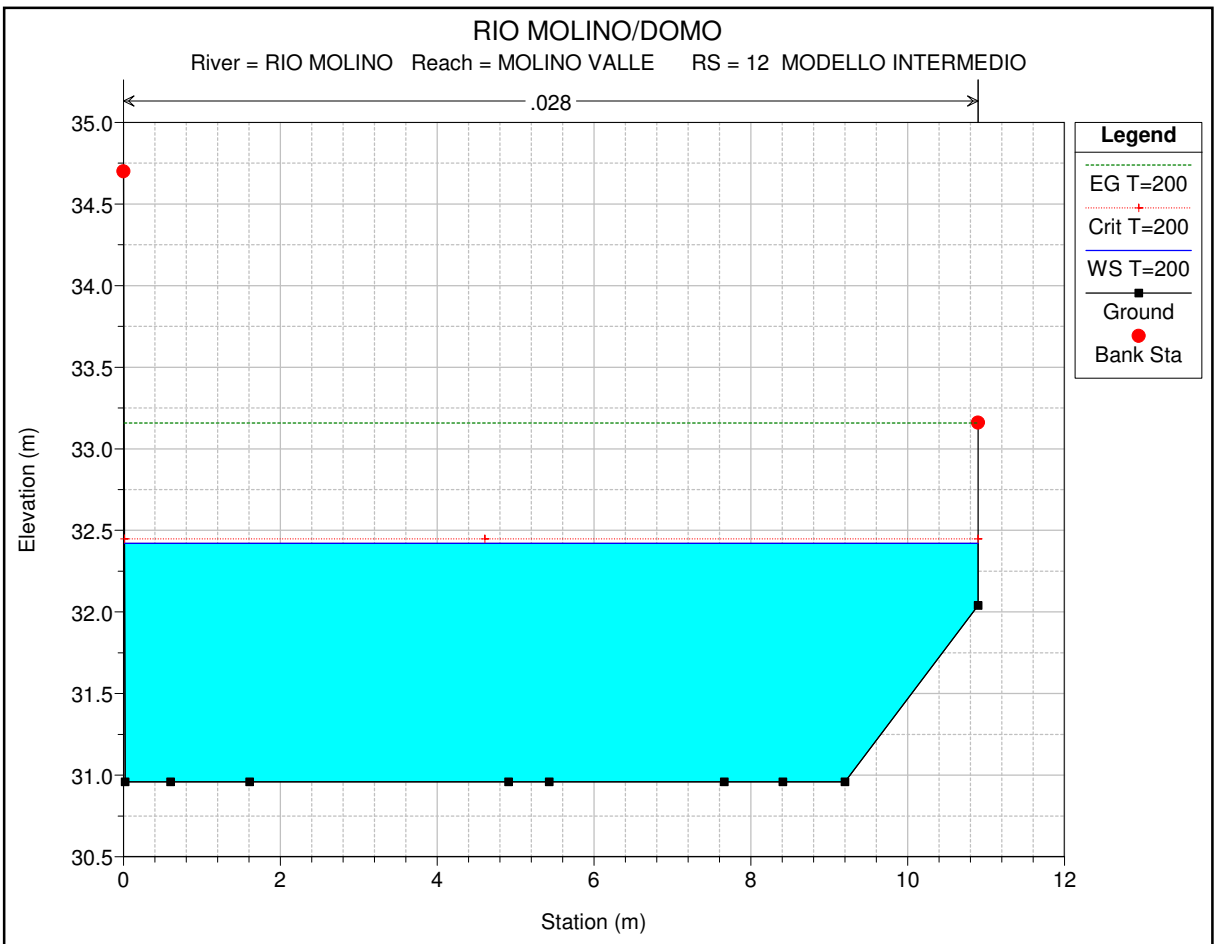

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 17 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.5
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
4
5
6
7
8
9
10
11

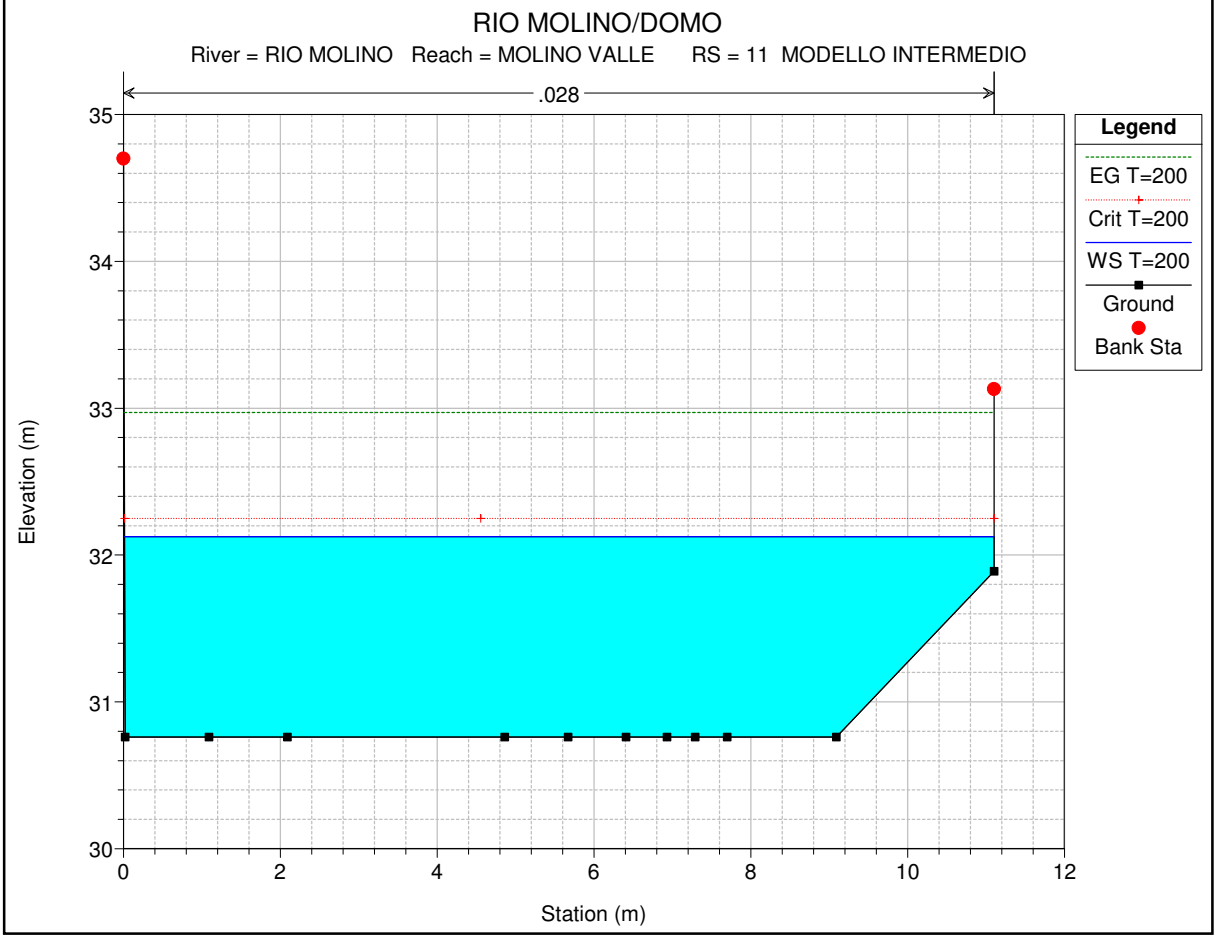

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 16 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
12

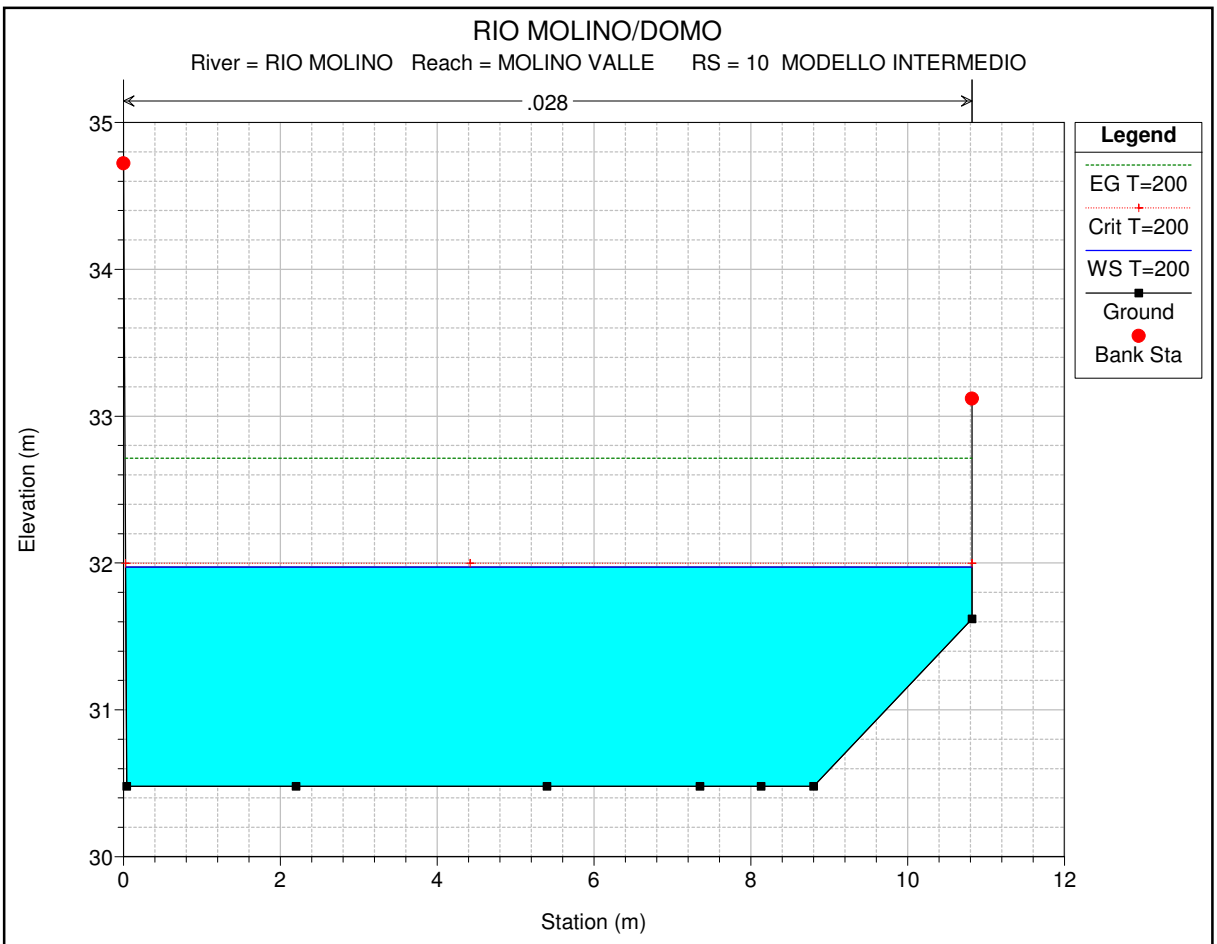

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 15 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
12

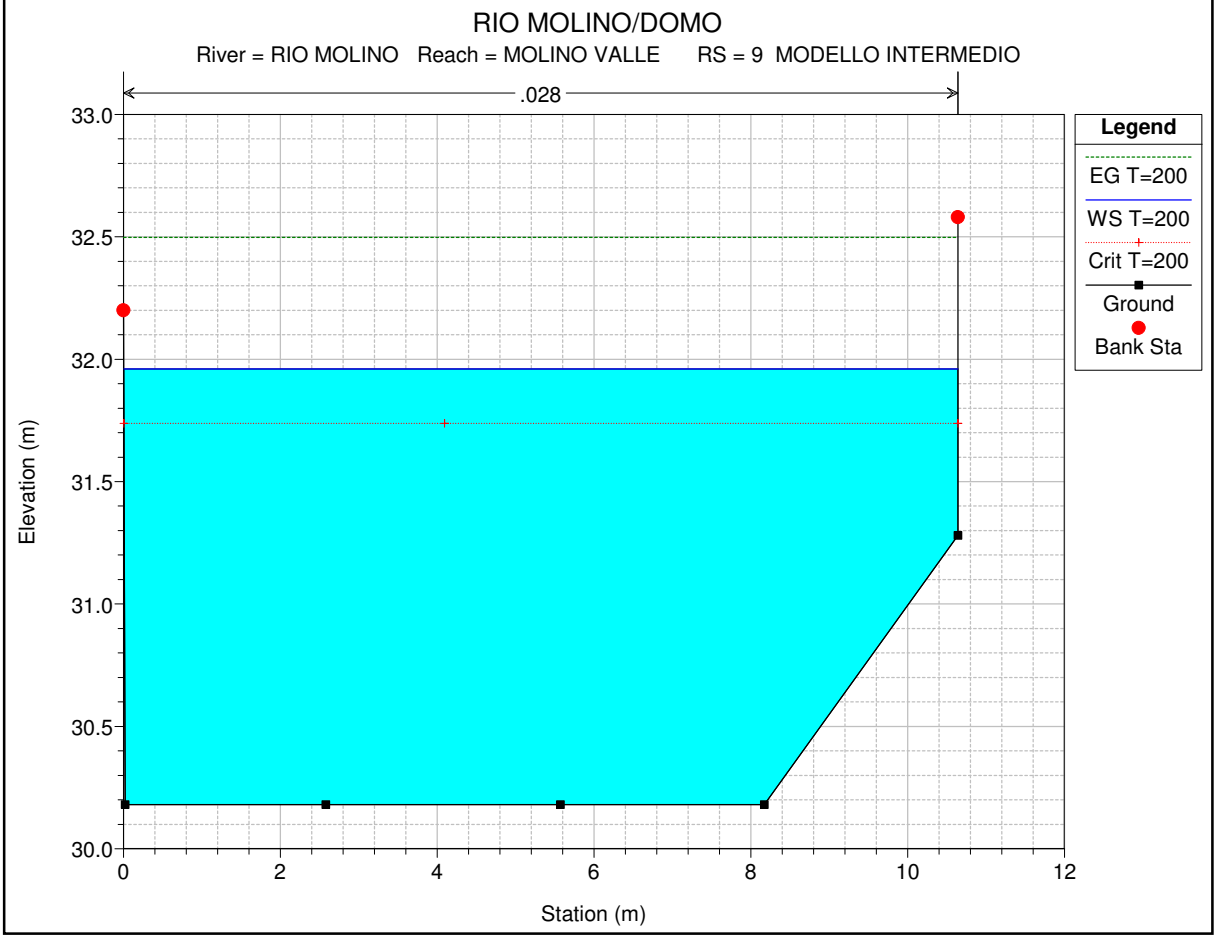

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 14 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12

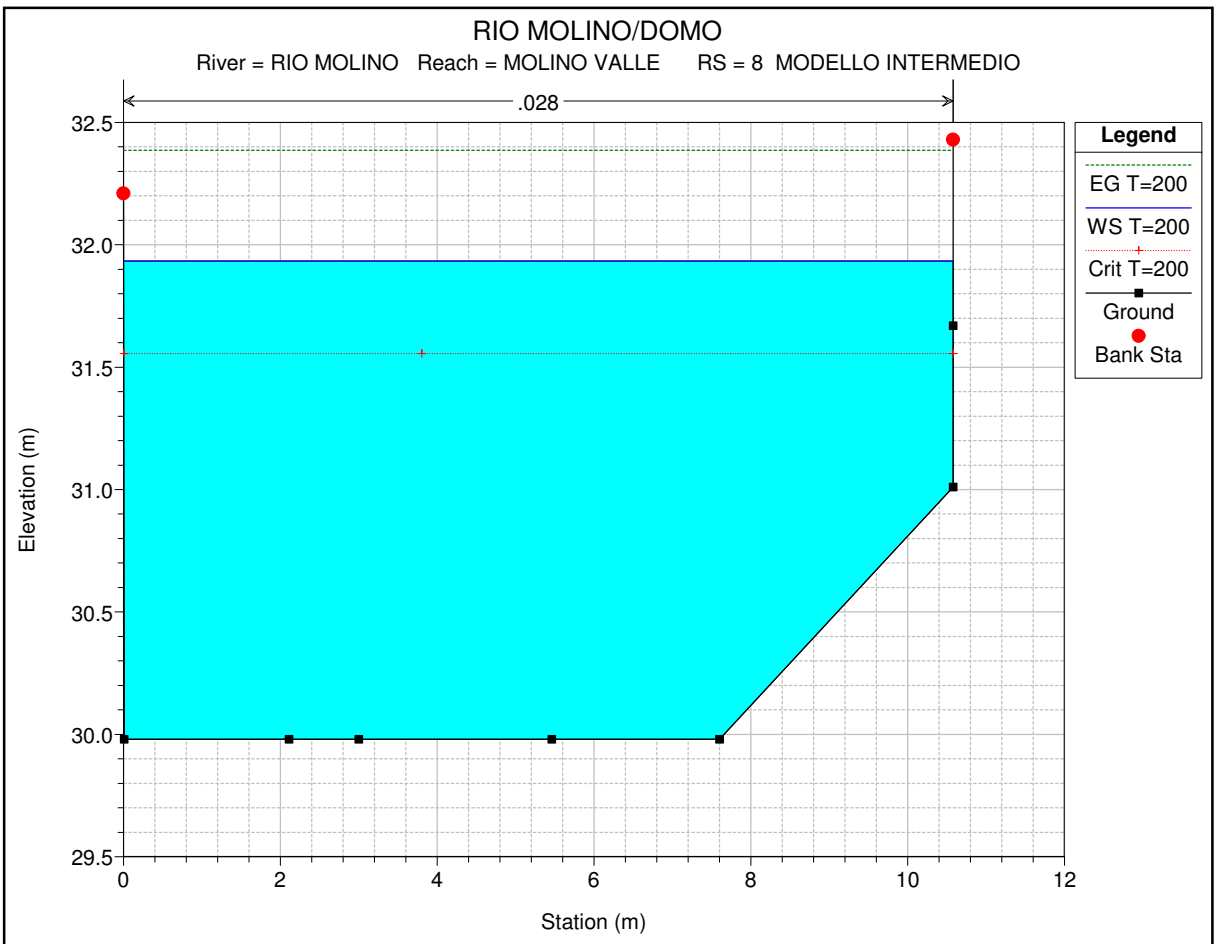

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 13 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12

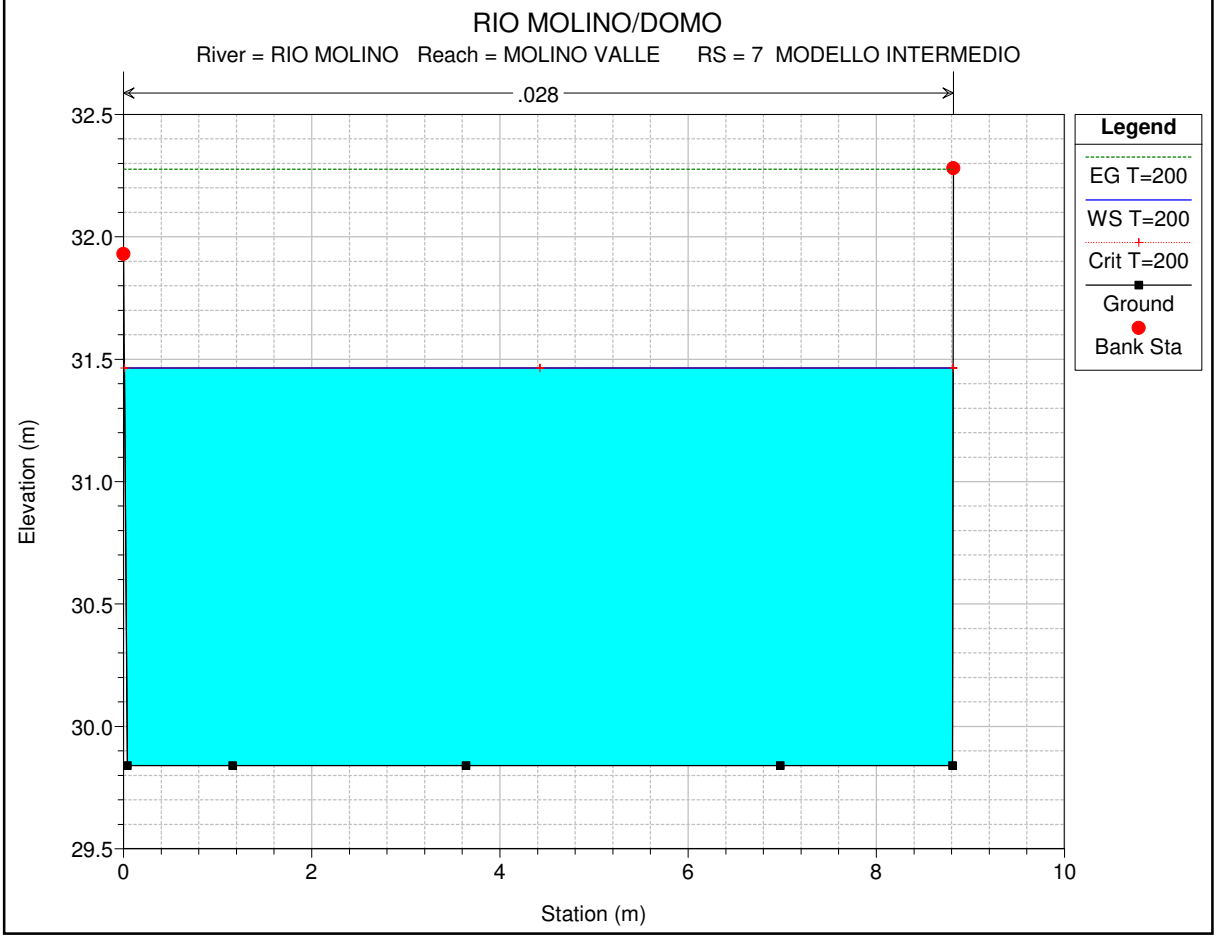

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 12 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
30.5
0
2
4
6
8
10
12

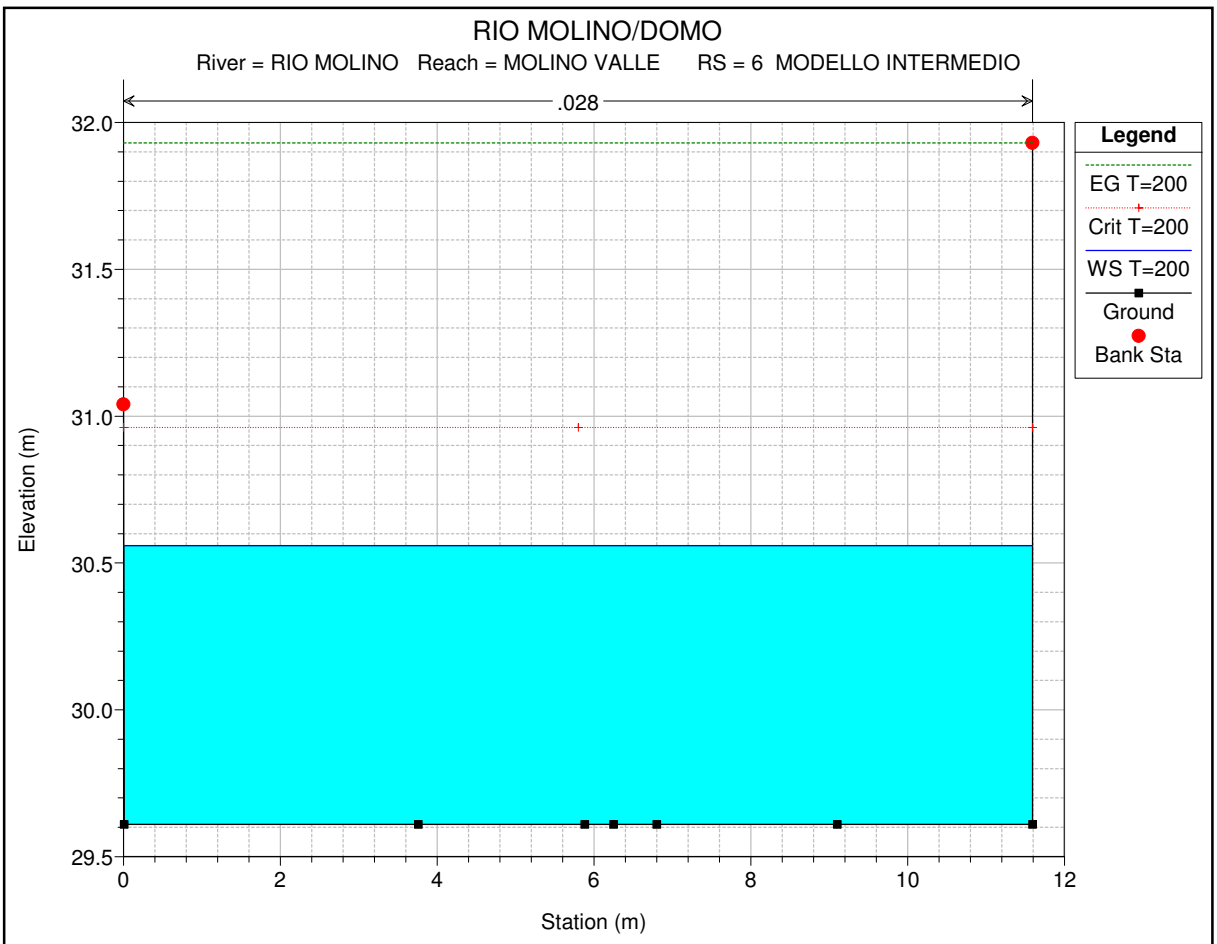

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 11 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35
34
33
32
31
30
0
2
4
6
8
10
12

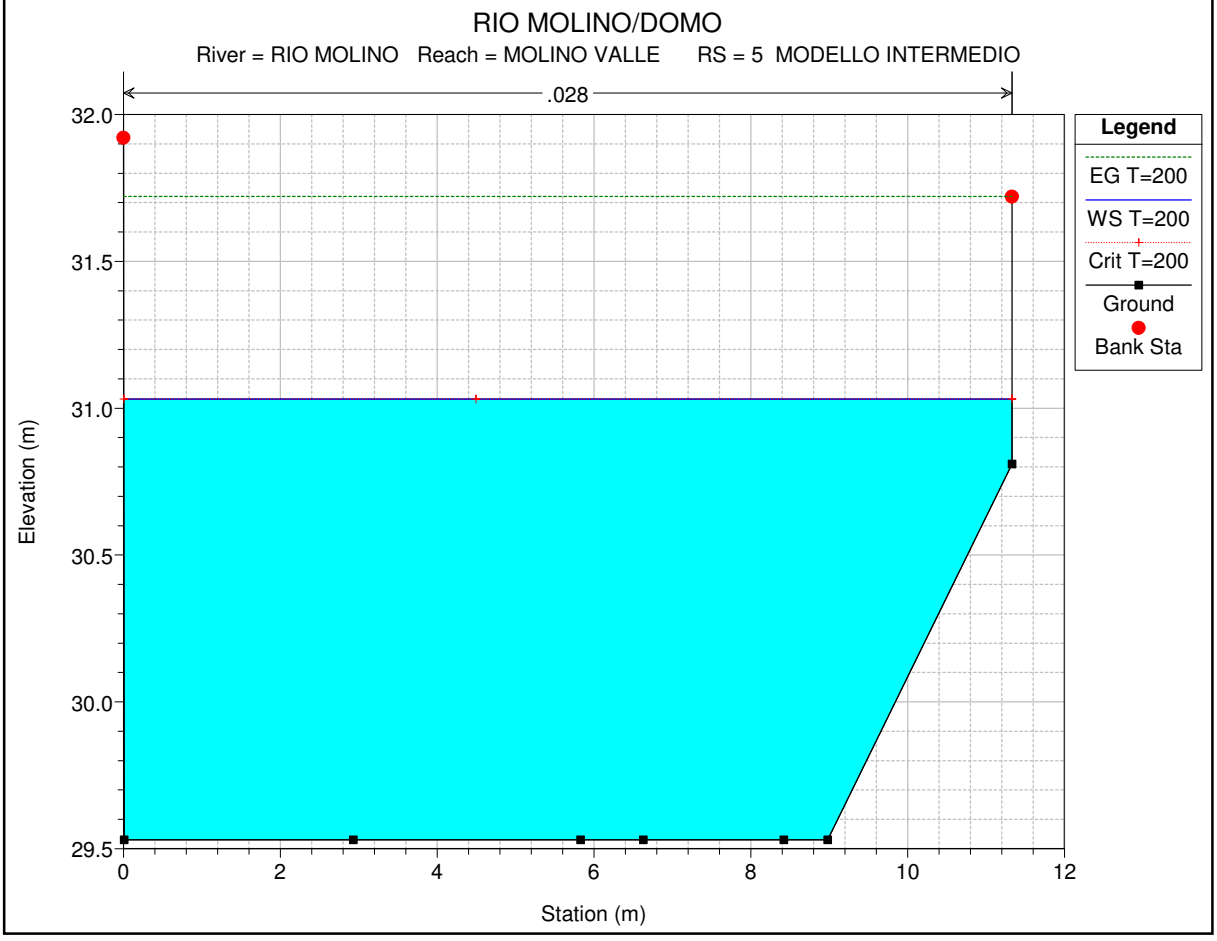

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 10 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35
34
33
32
31
30
0
2
4
6
8
10
12

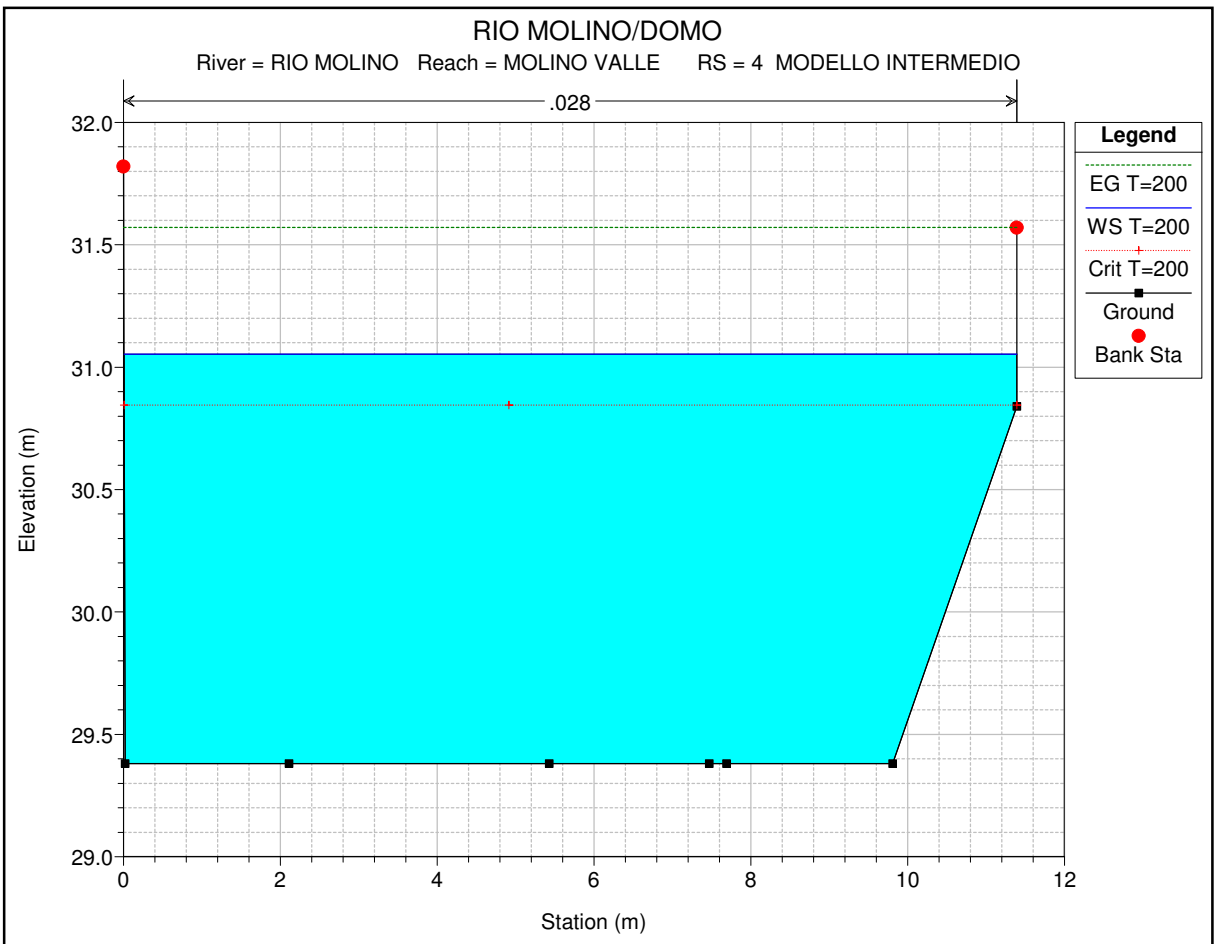

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 9 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
33.0
32.5
32.0
31.5
31.0
30.5
30.0
0
2
4
6
8
10
12

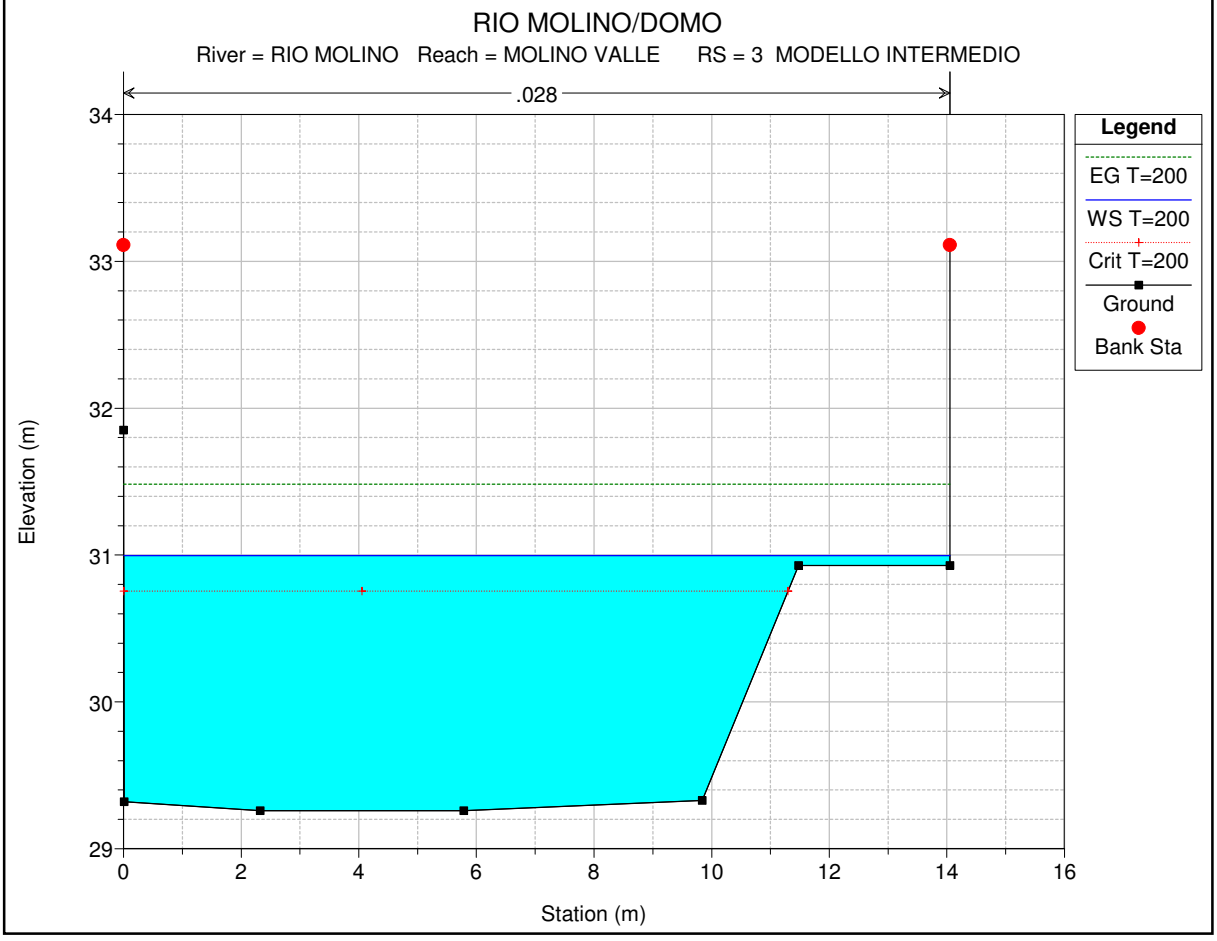

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 8 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12

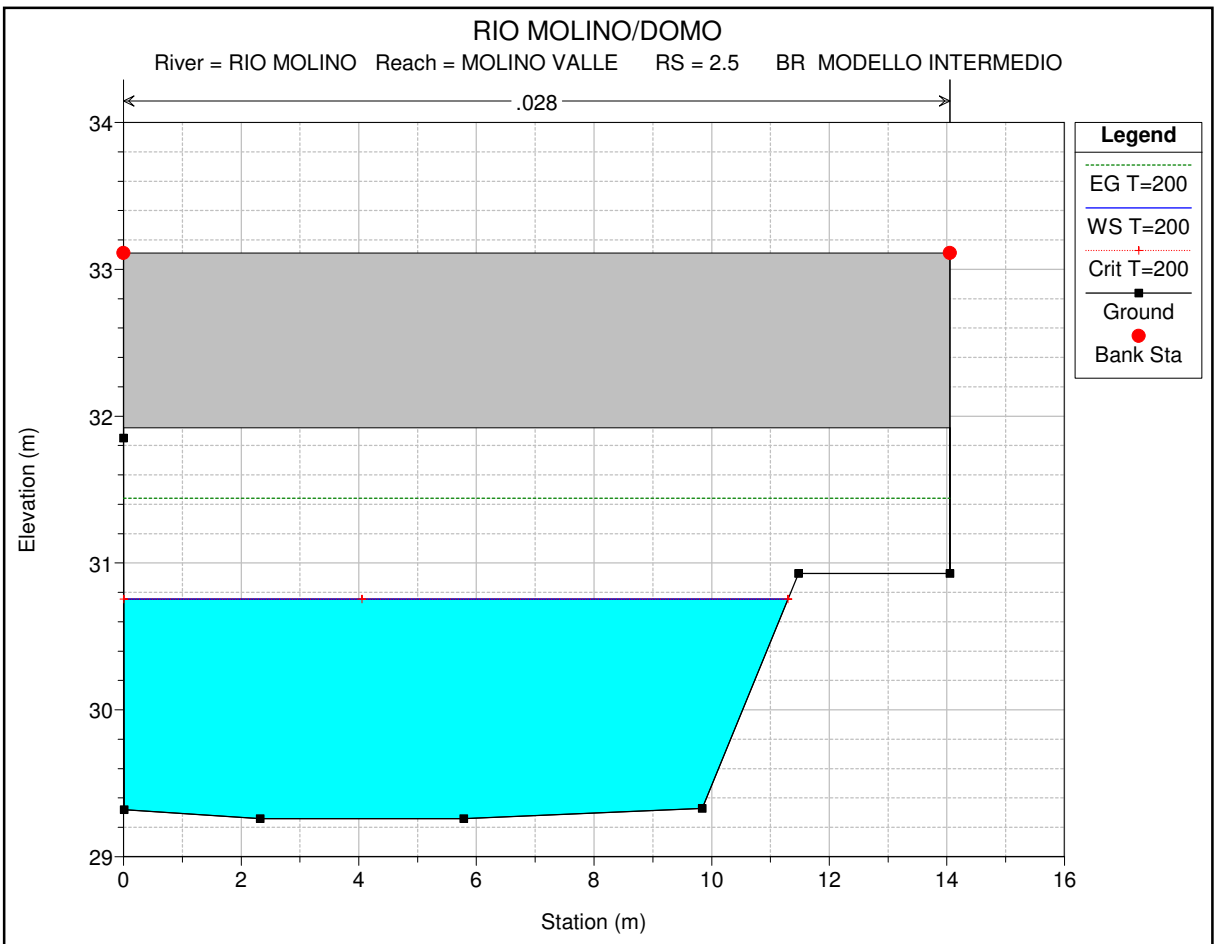

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 7 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10

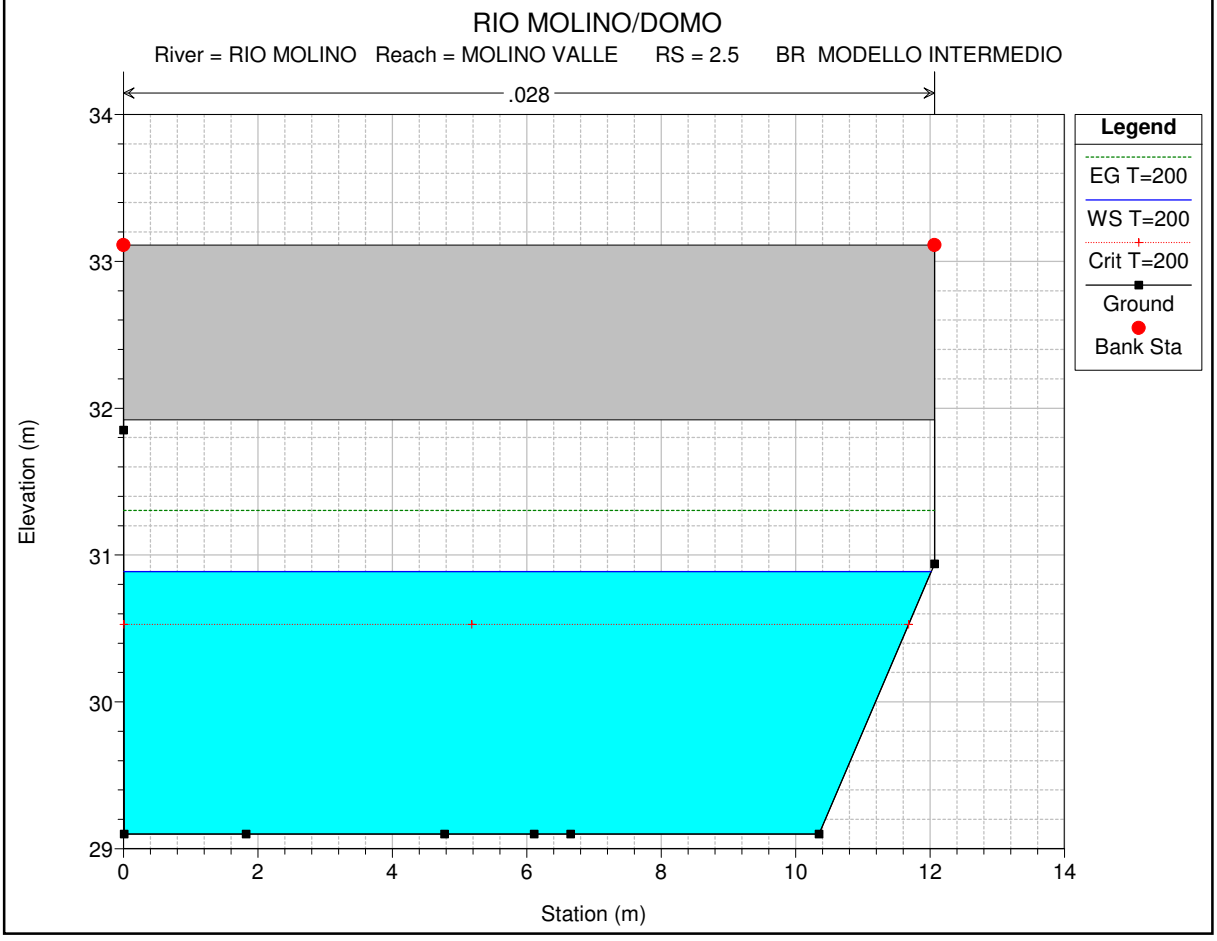

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 6 MODELLO INTERMEDIO
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 5 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 4 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
29.0
0
2
4
6
8
10
12

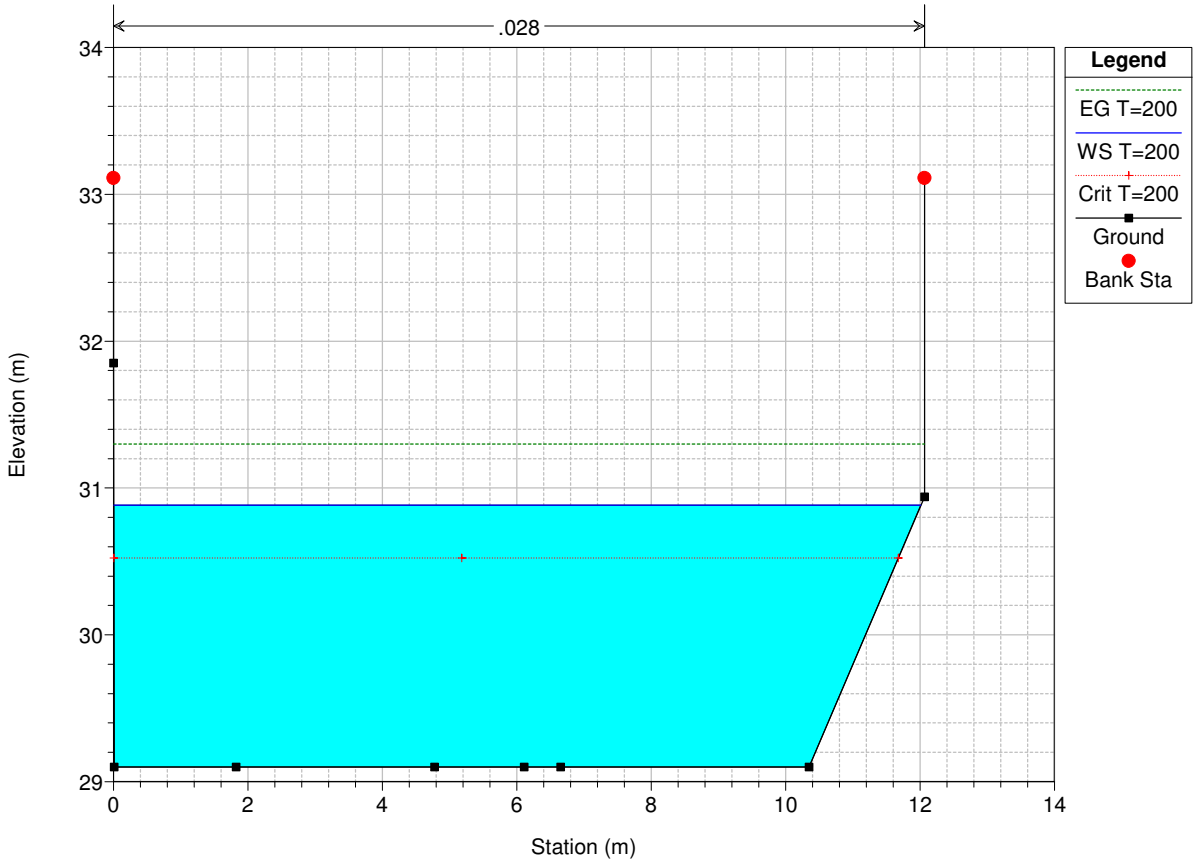

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 3 MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14
16


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14
16


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR MODELLO INTERMEDIO
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14

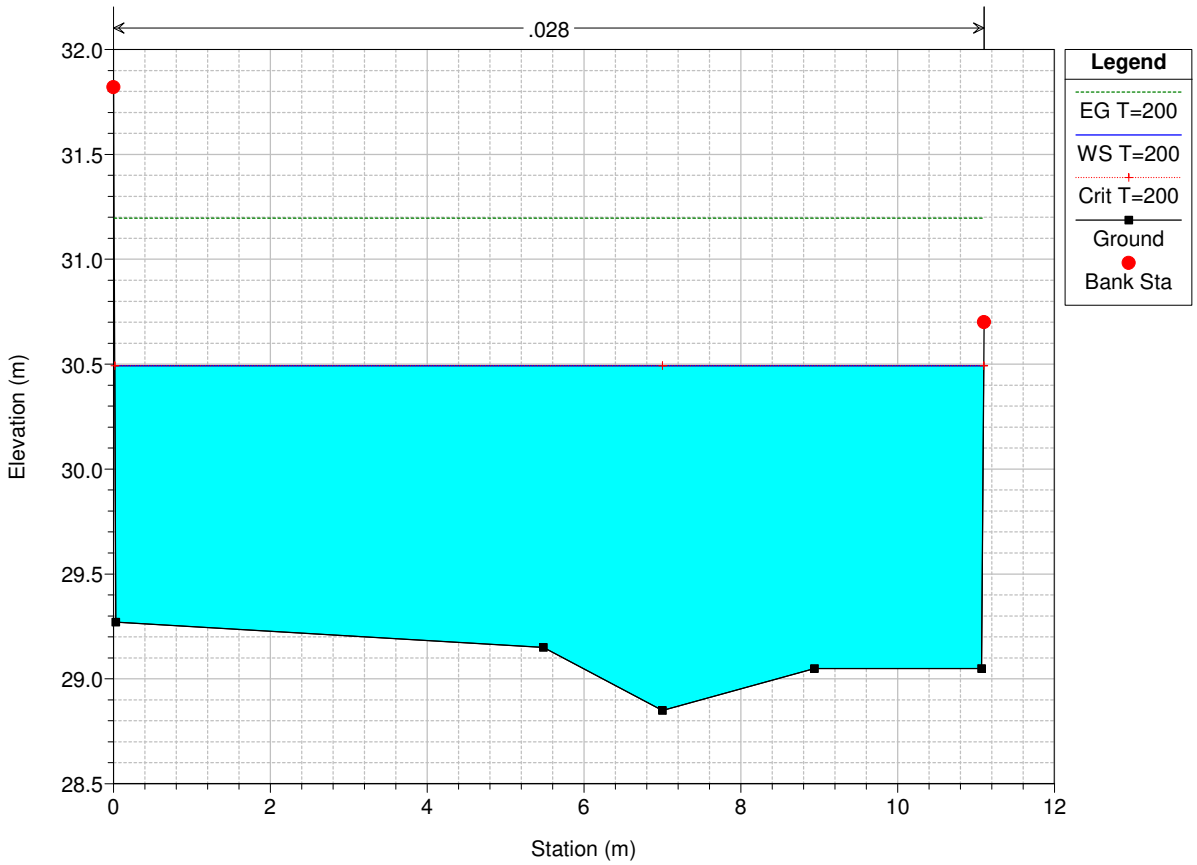
RIO MOLINO/DOMO

River = RIO MOLINO Reach = MOLINO VALLE RS = 2 MODELLO INTERMEDIO



RIO MOLINO/DOMO

River = RIO MOLINO Reach = MOLINO VALLE RS = 1 MODELLO INTERMEDIO



RIO MOLINO/DOMO

RIO DOMO DOMO

Legend

EG T=200

WS T=200

Crit T=200

Ground

LOB

ROB

Elevation (m)

52
50
48
46
44
42
40
38
36
34

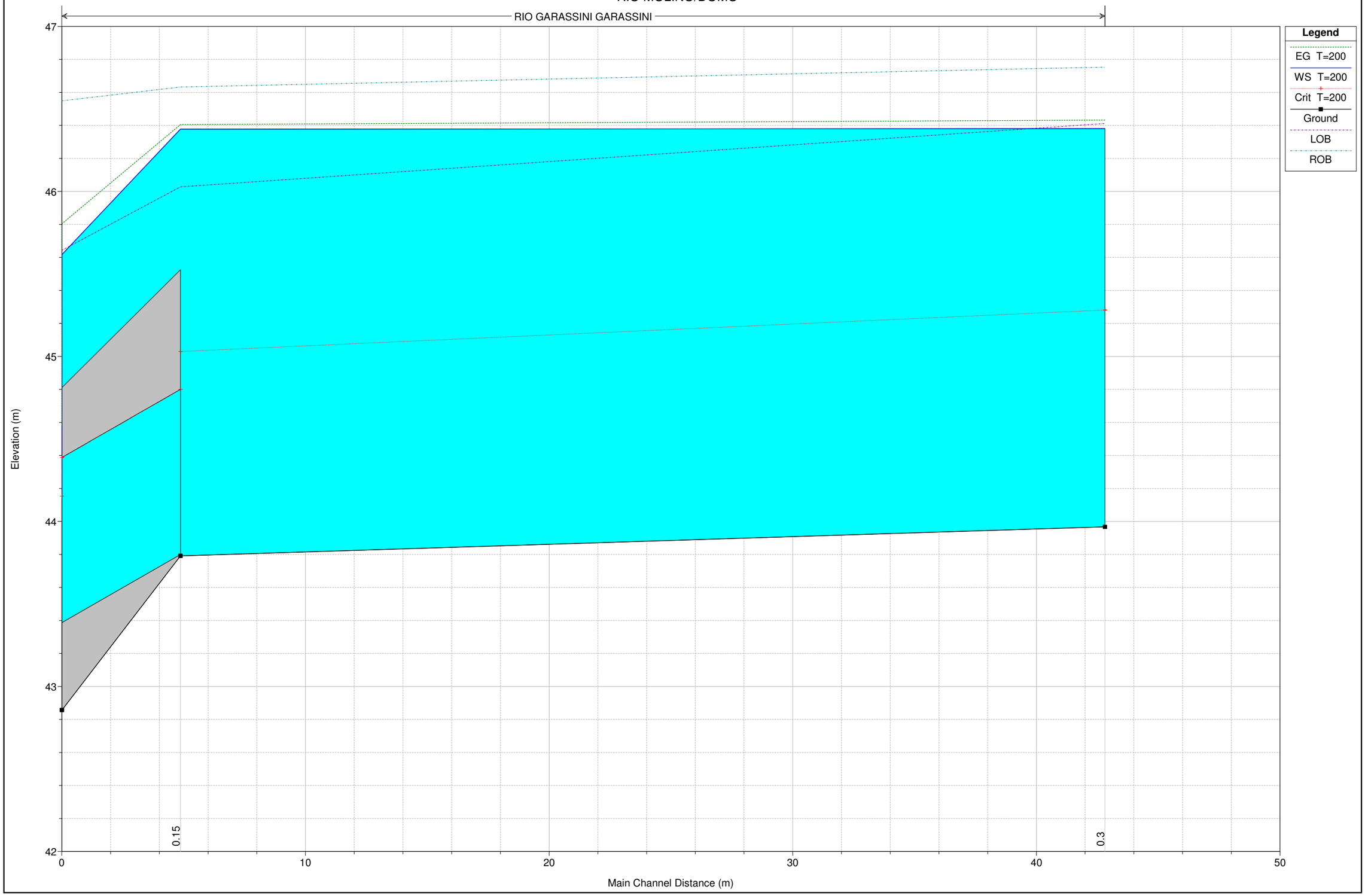
0
50
100
150
200
250
300
350

Main Channel Distance (m)

3
4
6
7
8
10.5
12
13
14
15
16

RIO MOLINO/DOMO

RIO GARASSINI GARASSINI



RIO MOLINO/DOMO

RIO MOLINO MOLINO VALLE

RIO MOLINO MOLINO META

RIO MOLINO MONTE

Legend

EG T=200

WS T=200

Crit T=200

Ground

LOB

ROB

Elevation (m)

65

60

55

50

45

40

35

30

25

0

100

200

300

400

500

600

700

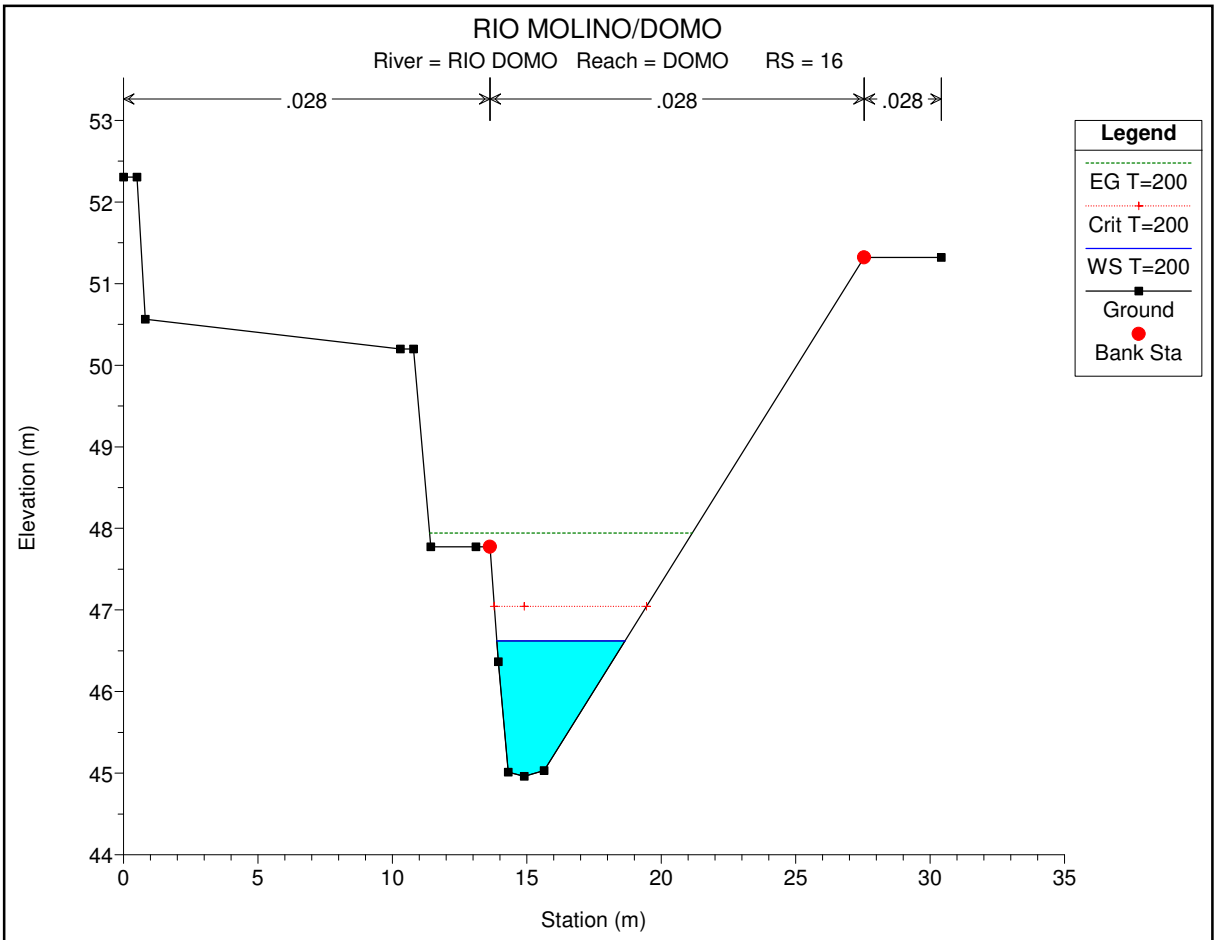
Main Channel Distance (m)

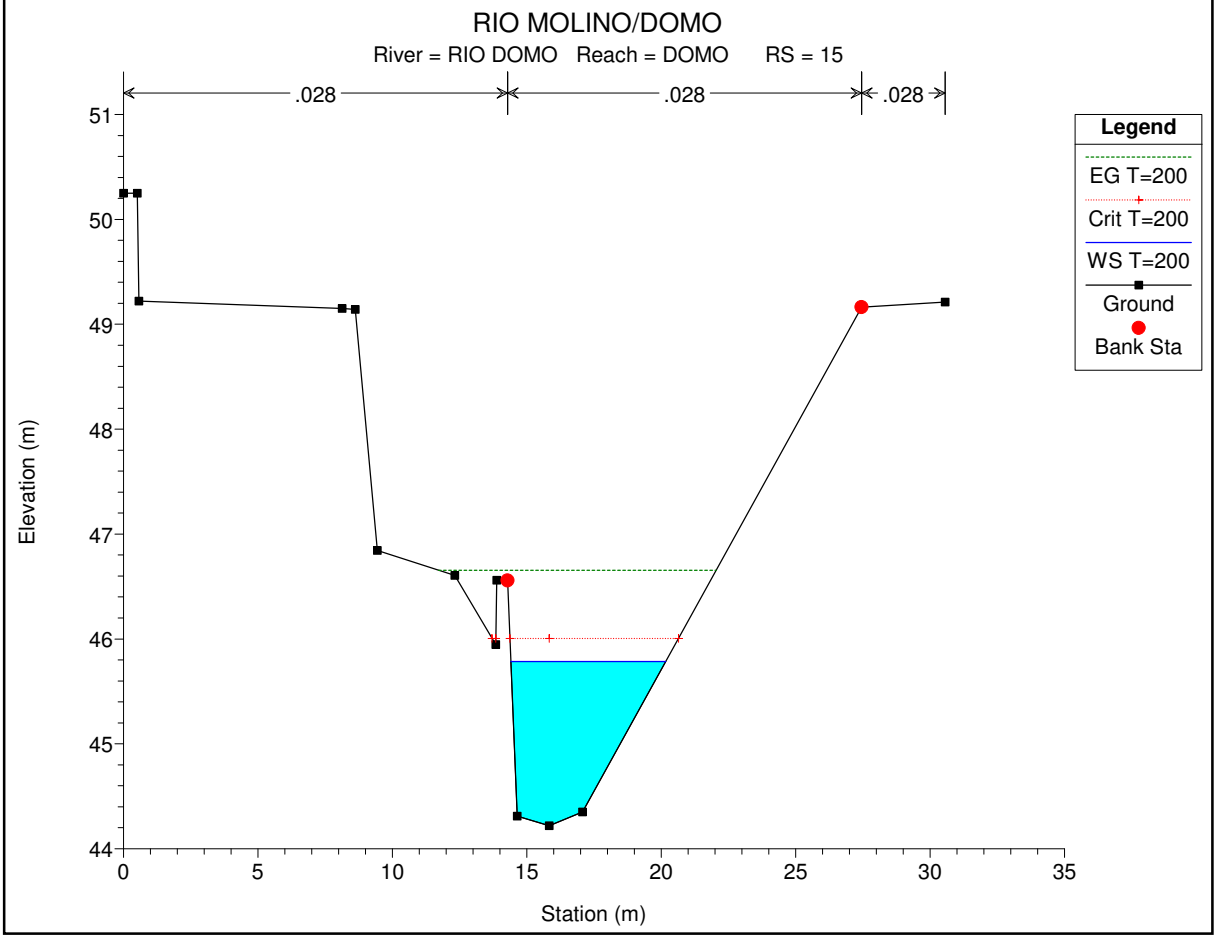
2 2.5 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 38 39 40 41 42 43 45 46 47 48 50 52

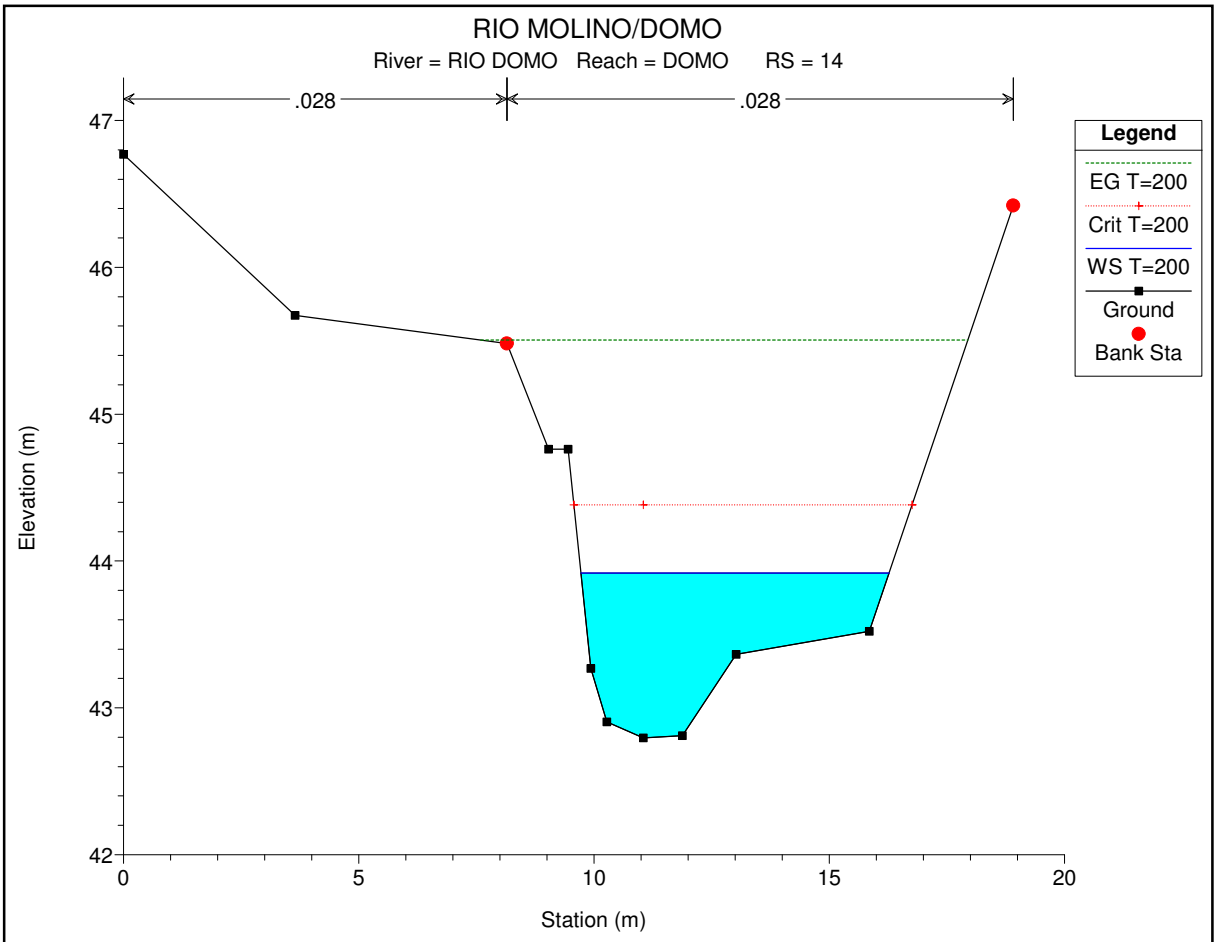
HEC-RAS Plan: Plan 01 Profile: T=200

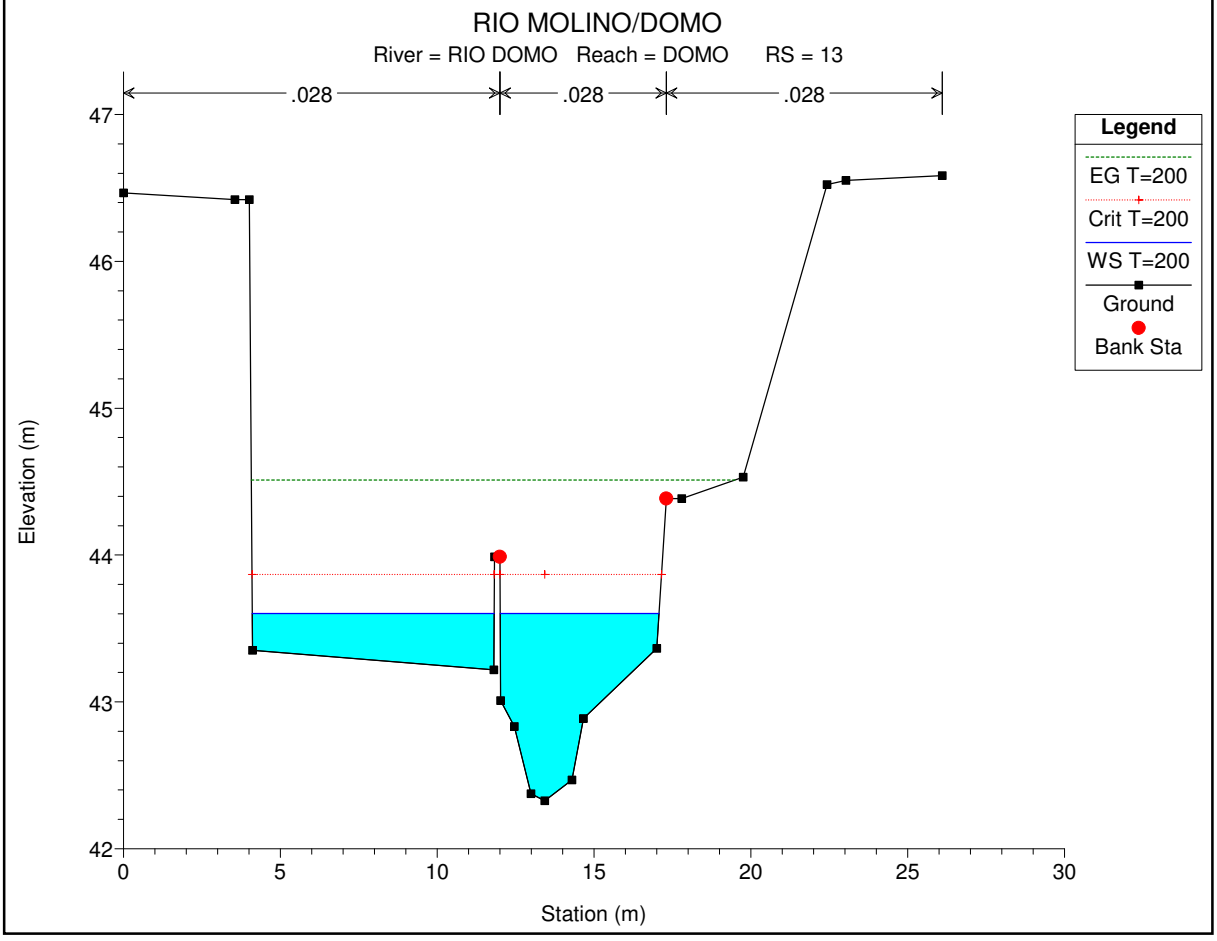
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
RIO MOLINO	MOLINO MONTE	52	T=200	22.00	52.57	53.84	54.10	54.70	0.020025	4.11	5.36	6.10	1.40
RIO MOLINO	MOLINO MONTE	51	T=200	22.00	50.90	52.05	52.62	53.84	0.049365	5.93	3.71	4.33	2.04
RIO MOLINO	MOLINO MONTE	50.5		Bridge									
RIO MOLINO	MOLINO MONTE	50	T=200	22.00	50.90	52.07	52.62	53.79	0.046207	5.80	3.80	4.33	1.98
RIO MOLINO	MOLINO MONTE	49	T=200	22.00	50.58	51.82	52.31	53.53	0.053531	5.79	3.80	5.69	2.26
RIO MOLINO	MOLINO MONTE	48	T=200	22.00	46.01	47.46	48.35	52.70	0.338459	10.14	2.17	4.02	4.40
RIO MOLINO	MOLINO MONTE	47	T=200	22.00	44.86	45.97	46.66	48.55	0.075506	7.12	3.09	4.32	2.69
RIO MOLINO	MOLINO MONTE	46	T=200	22.00	42.70	43.62	44.26	46.74	0.147712	7.83	2.81	6.10	3.68
RIO MOLINO	MOLINO META	45	T=200	32.00	41.11	42.10	42.48	43.39	0.042240	5.03	6.36	10.67	2.08
RIO MOLINO	MOLINO META	44	T=200	32.00	39.66	40.90	41.44	42.69	0.038688	5.92	5.41	5.61	1.92
RIO MOLINO	MOLINO META	43.5		Bridge									
RIO MOLINO	MOLINO META	43	T=200	32.00	39.56	40.63	41.17	42.48	0.046115	6.04	5.30	6.24	2.09
RIO MOLINO	MOLINO META	42	T=200	32.00	37.36	38.88	39.51	40.99	0.048060	6.43	4.97	5.80	2.22
RIO MOLINO	MOLINO META	41	T=200	32.00	35.91	38.18	38.56	39.39	0.027812	4.88	6.56	6.49	1.55
RIO MOLINO	MOLINO META	40	T=200	32.00	35.52	38.64	37.80	39.05	0.004598	2.82	11.35	4.70	0.58
RIO MOLINO	MOLINO META	39	T=200	32.00	35.33	38.66	37.46	38.97	0.003286	2.45	13.07	5.00	0.48
RIO MOLINO	MOLINO VALLE	38	T=200	57.00	34.24	37.57	35.79	37.71	0.000946	1.69	33.76	12.27	0.33
RIO MOLINO	MOLINO VALLE	37	T=200	57.00	34.11	37.11	36.35	37.66	0.005436	3.29	17.35	7.56	0.69
RIO MOLINO	MOLINO VALLE	36.5		Bridge									
RIO MOLINO	MOLINO VALLE	36	T=200	57.00	34.09	37.21	36.18	37.58	0.003201	2.72	20.96	8.61	0.56
RIO MOLINO	MOLINO VALLE	35	T=200	57.00	33.97	37.33	35.68	37.50	0.001054	1.85	30.84	10.00	0.34
RIO MOLINO	MOLINO VALLE	34	T=200	57.00	33.85	37.33	35.55	37.49	0.000925	1.76	32.31	10.00	0.31
RIO MOLINO	MOLINO VALLE	33	T=200	57.00	33.75	37.34	35.34	37.48	0.000781	1.65	34.63	10.10	0.28
RIO MOLINO	MOLINO VALLE	32	T=200	57.00	33.63	37.16	35.63	37.45	0.002060	2.38	23.94	7.00	0.41
RIO MOLINO	MOLINO VALLE	31	T=200	57.00	33.54	37.02	35.70	37.42	0.003173	2.78	20.48	6.01	0.48
RIO MOLINO	MOLINO VALLE	30	T=200	57.00	33.42	36.05	36.05	37.28	0.014020	4.90	11.62	4.74	1.00
RIO MOLINO	MOLINO VALLE	29	T=200	57.00	33.29	35.27	35.72	37.07	0.024075	5.94	9.59	5.11	1.38
RIO MOLINO	MOLINO VALLE	28	T=200	57.00	33.23	35.28	35.62	36.85	0.019553	5.55	10.28	5.27	1.27
RIO MOLINO	MOLINO VALLE	27	T=200	57.00	33.11	35.93	35.25	36.52	0.005290	3.39	16.81	6.18	0.66
RIO MOLINO	MOLINO VALLE	26	T=200	57.00	32.95	36.14	34.67	36.38	0.001625	2.17	26.30	8.36	0.39
RIO MOLINO	MOLINO VALLE	25	T=200	57.00	32.82	36.04	34.69	36.35	0.002305	2.46	23.13	7.23	0.44
RIO MOLINO	MOLINO VALLE	24	T=200	57.00	32.68	35.90	34.74	36.31	0.003317	2.83	20.11	6.30	0.51
RIO MOLINO	MOLINO VALLE	23	T=200	57.00	32.58	35.87	34.66	36.28	0.003307	2.82	20.20	6.17	0.50
RIO MOLINO	MOLINO VALLE	22	T=200	57.00	32.44	35.60	34.78	36.21	0.005632	3.47	16.45	5.34	0.63
RIO MOLINO	MOLINO VALLE	21	T=200	57.00	32.27	34.82	34.82	36.03	0.013672	4.88	11.68	4.80	1.00
RIO MOLINO	MOLINO VALLE	20	T=200	57.00	32.14	34.03	34.46	35.79	0.023664	5.87	9.71	5.18	1.37
RIO MOLINO	MOLINO VALLE	19	T=200	57.00	32.03	34.41	34.41	35.58	0.013622	4.80	11.89	5.06	1.00
RIO MOLINO	MOLINO VALLE	18	T=200	57.00	31.93	33.49	34.01	35.34	0.027053	6.03	9.46	6.15	1.55
RIO MOLINO	MOLINO VALLE	17	T=200	57.00	31.83	33.73	33.93	35.01	0.015913	5.01	11.38	6.06	1.17
RIO MOLINO	MOLINO VALLE	16	T=200	57.00	31.72	32.62	33.21	34.70	0.045457	6.38	8.94	10.42	2.20
RIO MOLINO	MOLINO VALLE	15	T=200	57.00	31.56	32.64	33.05	34.06	0.025197	5.26	10.83	10.63	1.67
RIO MOLINO	MOLINO VALLE	14	T=200	57.00	31.37	32.73	32.88	33.64	0.012583	4.21	13.54	10.64	1.19
RIO MOLINO	MOLINO VALLE	13	T=200	57.00	31.20	32.46	32.67	33.43	0.014520	4.36	13.09	11.13	1.28
RIO MOLINO	MOLINO VALLE	12	T=200	57.00	30.96	32.42	32.45	33.16	0.009441	3.81	14.97	10.89	1.04
RIO MOLINO	MOLINO VALLE	11	T=200	57.00	30.76	32.13	32.25	32.97	0.011744	4.07	14.00	11.09	1.16
RIO MOLINO	MOLINO VALLE	10	T=200	57.00	30.48	31.97	32.00	32.71	0.009383	3.81	14.95	10.79	1.03
RIO MOLINO	MOLINO VALLE	9	T=200	57.00	30.18	31.96	31.74	32.50	0.005702	3.24	17.57	10.64	0.81
RIO MOLINO	MOLINO VALLE	8	T=200	57.00	29.98	31.93	31.56	32.39	0.004434	2.98	19.12	10.58	0.71
RIO MOLINO	MOLINO VALLE	7	T=200	57.00	29.84	31.46	31.46	32.28	0.009917	3.99	14.28	8.81	1.00
RIO MOLINO	MOLINO VALLE	6	T=200	57.00	29.61	30.56	30.96	31.93	0.027673	5.19	10.99	11.59	1.70
RIO MOLINO	MOLINO VALLE	5	T=200	57.00	29.53	31.03	31.03	31.72	0.008712	3.68	15.50	11.33	1.00
RIO MOLINO	MOLINO VALLE	4	T=200	57.00	29.38	31.05	30.84	31.57	0.005651	3.19	17.89	11.38	0.81
RIO MOLINO	MOLINO VALLE	3	T=200	57.00	29.26	31.00	30.75	31.48	0.006425	3.09	18.44	14.05	0.86
RIO MOLINO	MOLINO VALLE	2.5		Bridge									
RIO MOLINO	MOLINO VALLE	2	T=200	57.00	29.10	30.88	30.52	31.30	0.004230	2.86	19.91	12.01	0.71
RIO MOLINO	MOLINO VALLE	1	T=200	57.00	28.85	30.49	30.49	31.20	0.009314	3.71	15.36	11.08	1.01
RIO GARASSINI	GARASSINI	0.3	T=200	10.00	43.97	46.38	45.28	46.43	0.000767	1.01	9.89	6.81	0.27
RIO GARASSINI	GARASSINI	0.2	T=200	10.00	43.79	46.38	45.03	46.40	0.000392	0.81	14.89	14.86	0.18
RIO GARASSINI	GARASSINI	0.15		Culvert									
RIO GARASSINI	GARASSINI	0.1	T=200	10.00	42.86	44.15	44.15	44.58	0.010957	2.90	3.45	4.02	1.00
RIO DOMO	DOMO	16	T=200	25.00	44.96	46.62	47.04	47.94	0.029021	5.10	4.91	4.77	1.60
RIO DOMO	DOMO	15	T=200	25.00	44.22	45.78	46.00	46.66	0.017327	4.13	6.05	5.76	1.29
RIO DOMO	DOMO	14	T=200	25.00	42.80	43.92	44.38	45.51	0.048306	5.58	4.48	6.55	2.15
RIO DOMO	DOMO	13	T=200	25.00	42.33	43.60	43.87	44.51	0.032008	4.65	6.34	12.77	1.69
RIO DOMO	DOMO	12	T=200	25.00	41.90	43.60	43.52	44.00	0.007411	2.97	9.32	8.66	0.80
RIO DOMO	DOMO	11	T=200	25.00	41.27	43.41	43.31	43.71	0.005379	2.73	11.05	11.36	0.62
RIO DOMO	DOMO	10.5		Bridge									
RIO DOMO	DOMO	10	T=200	25.00	41.21	42.36	42.89	43.53	0.027916	4.78	5.22	5.92	1.63
RIO DOMO	DOMO	9	T=200	25.00	41.20	42.08	42.58	43.44	0.035740	5.15	4.85	6.06	1.84
RIO DOMO	DOMO	8	T=200	25.00	41.20	42.08	42.58	43.43	0.035564	5.14	4.86	6.06	1.83
RIO DOMO	DOMO	7	T=200	25.00	38.99	39.88	40.40	41.72	0.058706	6.01	4.16	6.73	2.44
RIO DOMO	DOMO	6	T=200	25.00	37.86	39.40	39.56	40.02	0.020698	3.50	7.14	11.33	1.41
RIO DOMO	DOMO	5	T=200	25.00	37.36	38.59	38.77	39.28	0.018977	3.67	6.81	10.09	1.42
RIO DOMO	DOMO	4	T=200	25.00	36.39	38.37	38.63	39.26	0.033269	4.17	5.99	9.42	1.67
RIO DOMO	DOMO	3	T=200	25.00	35.28	38.45	37.55	38.85	0.005511	2.80	8.94	3.30	0.54
RIO DOMO	DOMO	2	T=200	25.00	35.37	38.66	36.62	38.74	0.000592	1.22	20.53	6.46	0.22

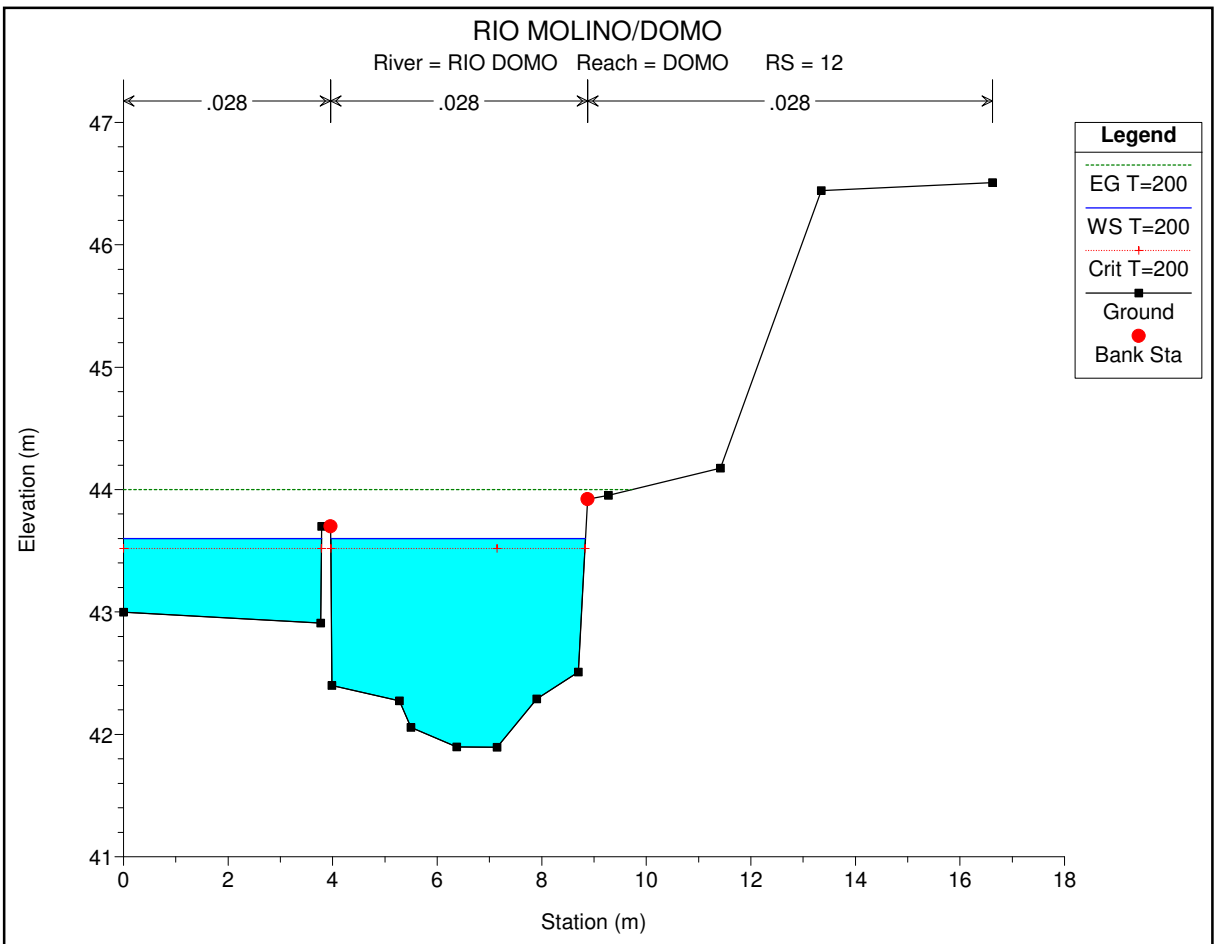
VERIFICA IDRAULICA
STATO di PROGETTO

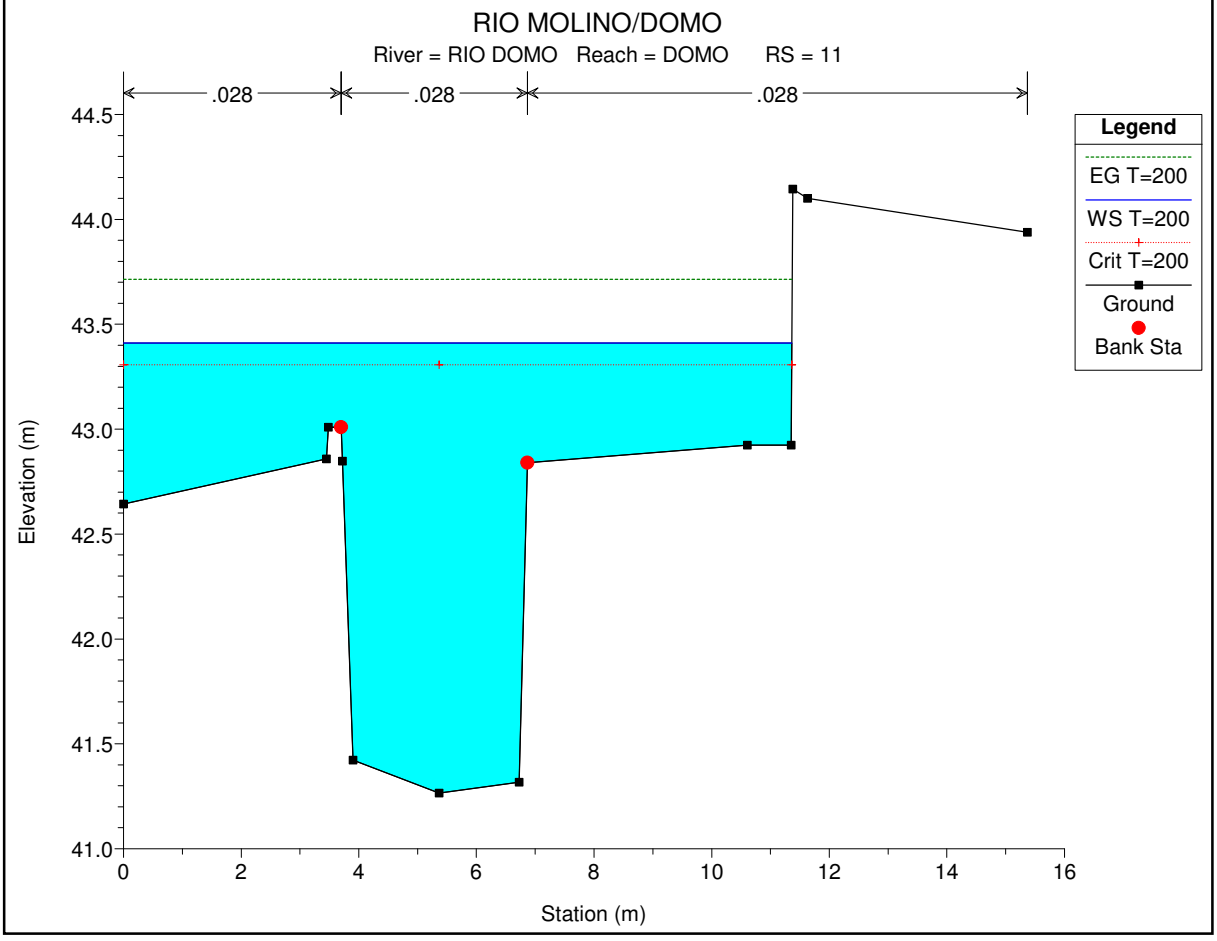

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 16
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)

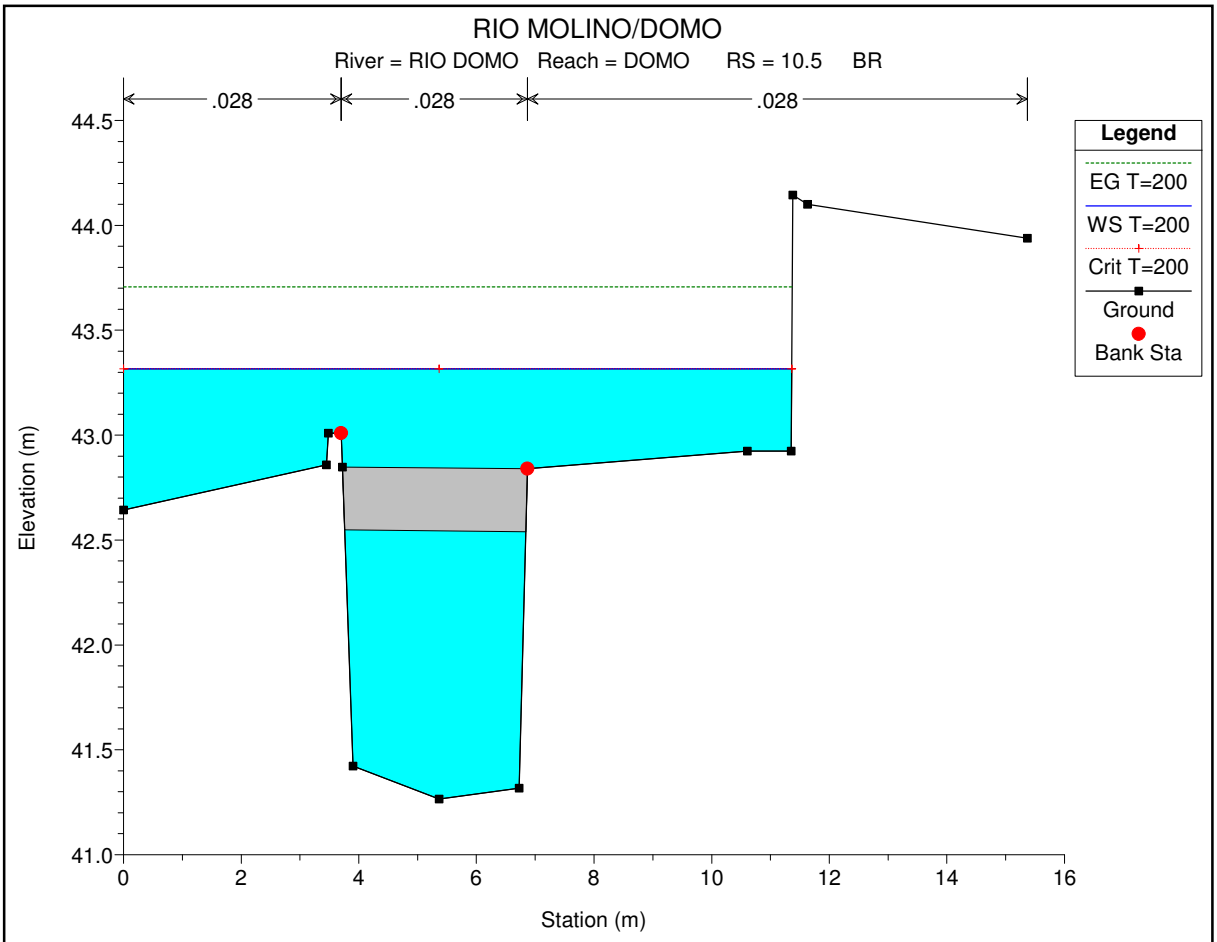

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 15
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)

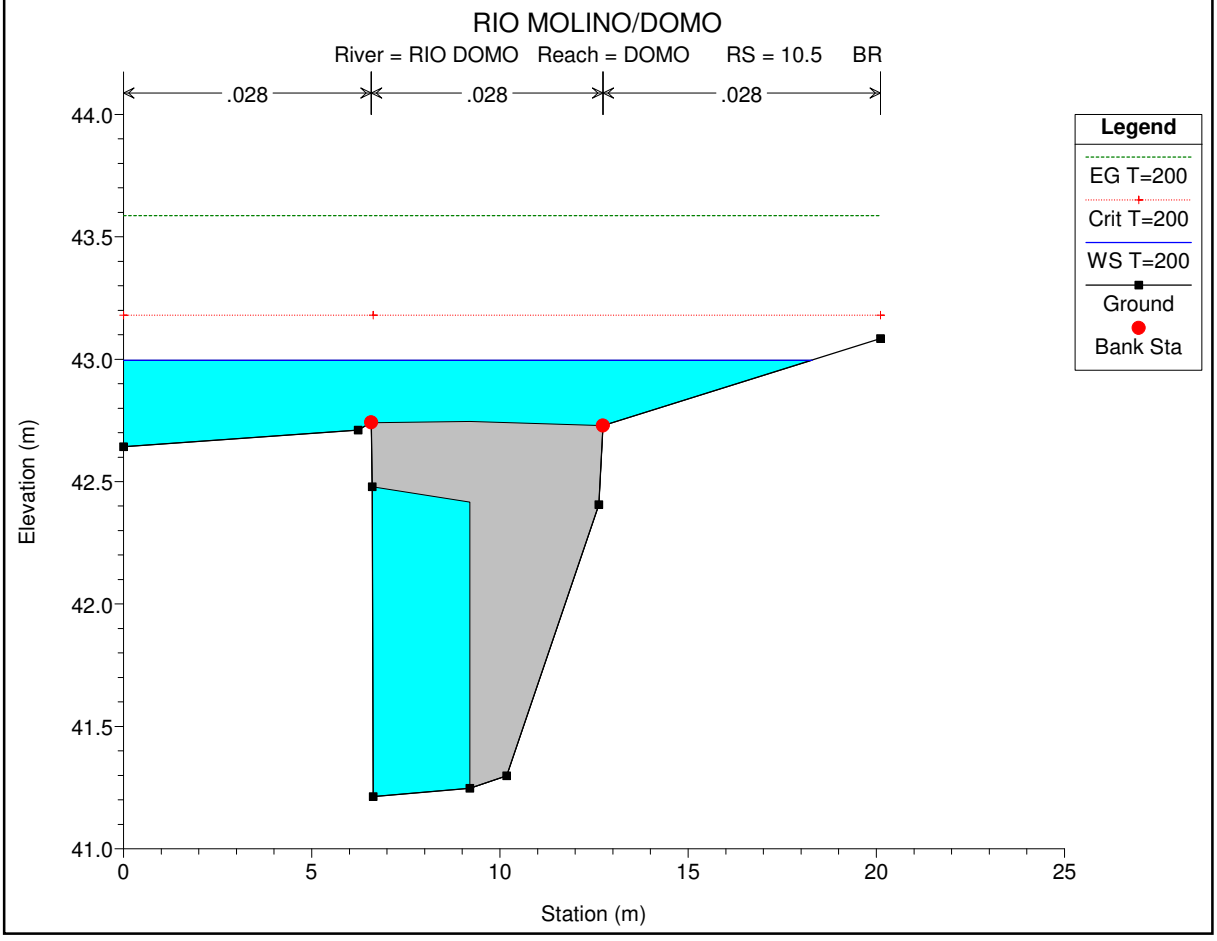

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 14
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
0
5
10
15
20

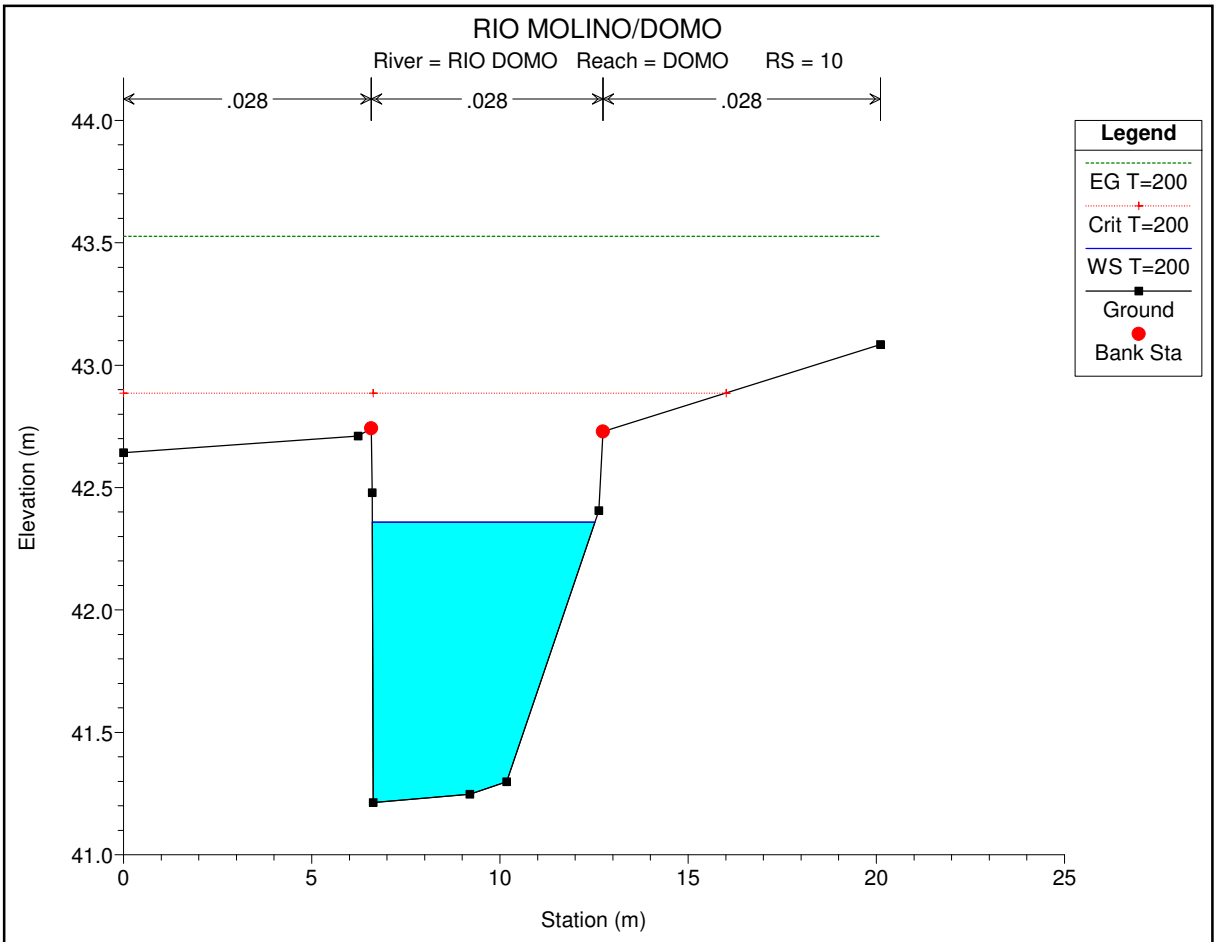

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 13
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
0
5
10
15
20
25
30

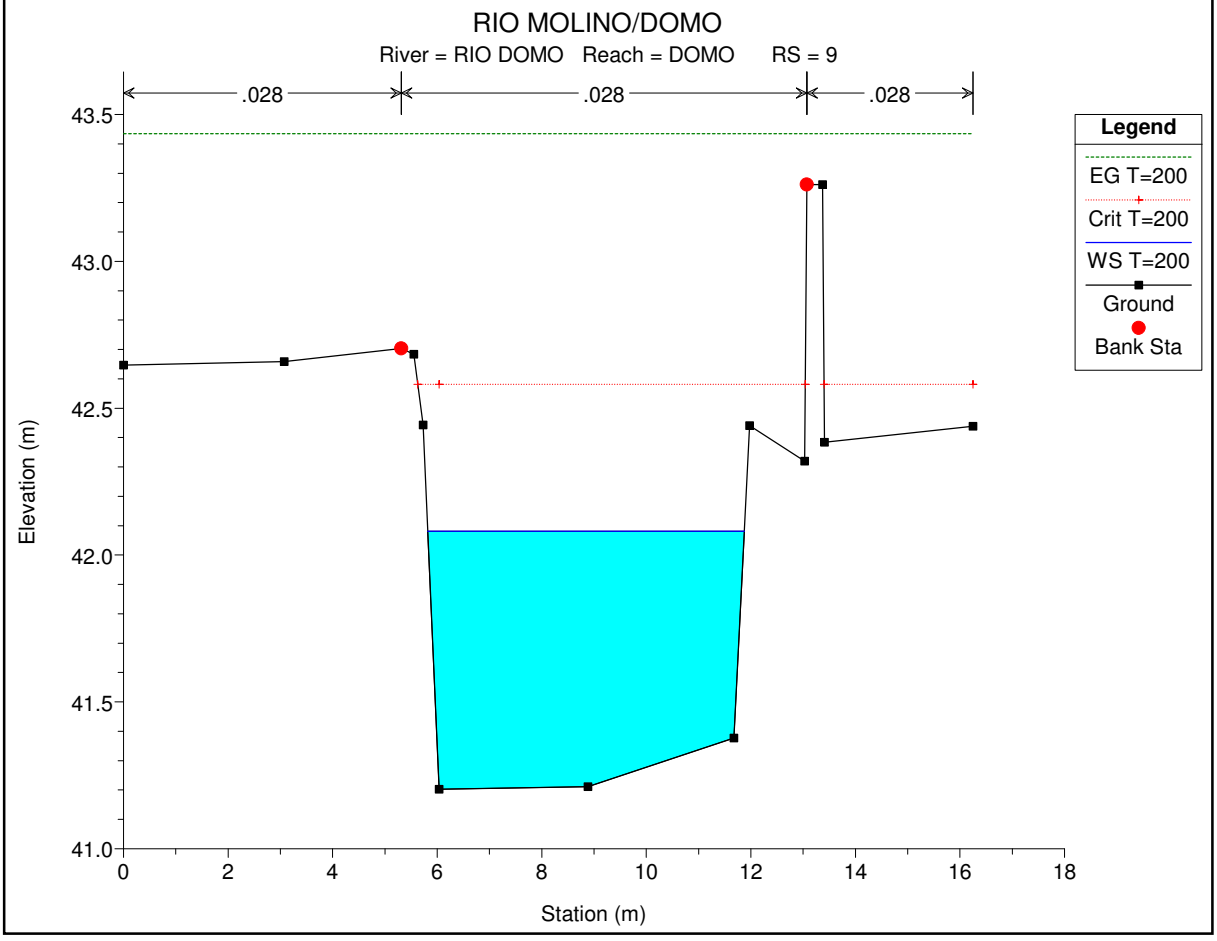

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 12
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
47
46
45
44
43
42
41
0
2
4
6
8
10
12
14
16
18

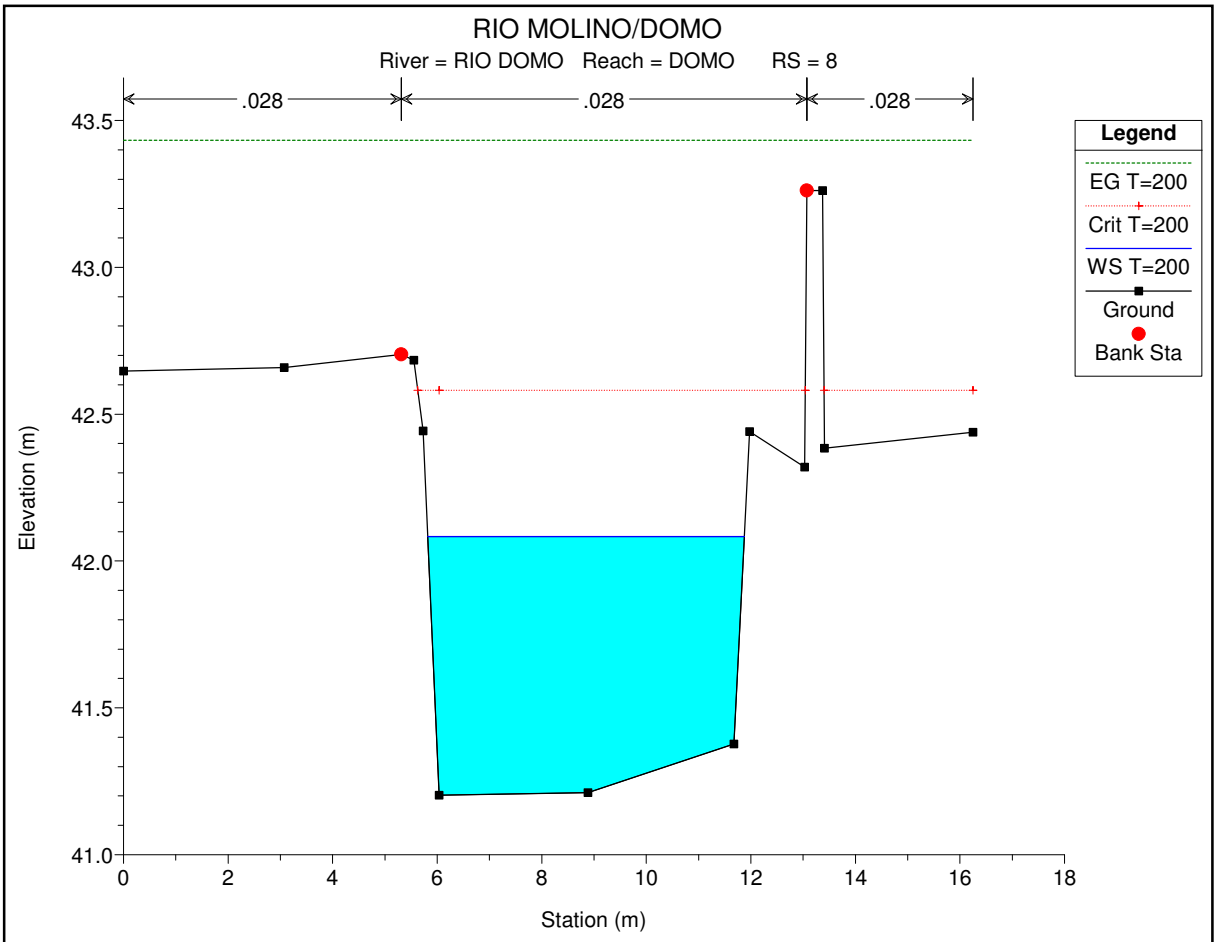

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 11
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.5
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16

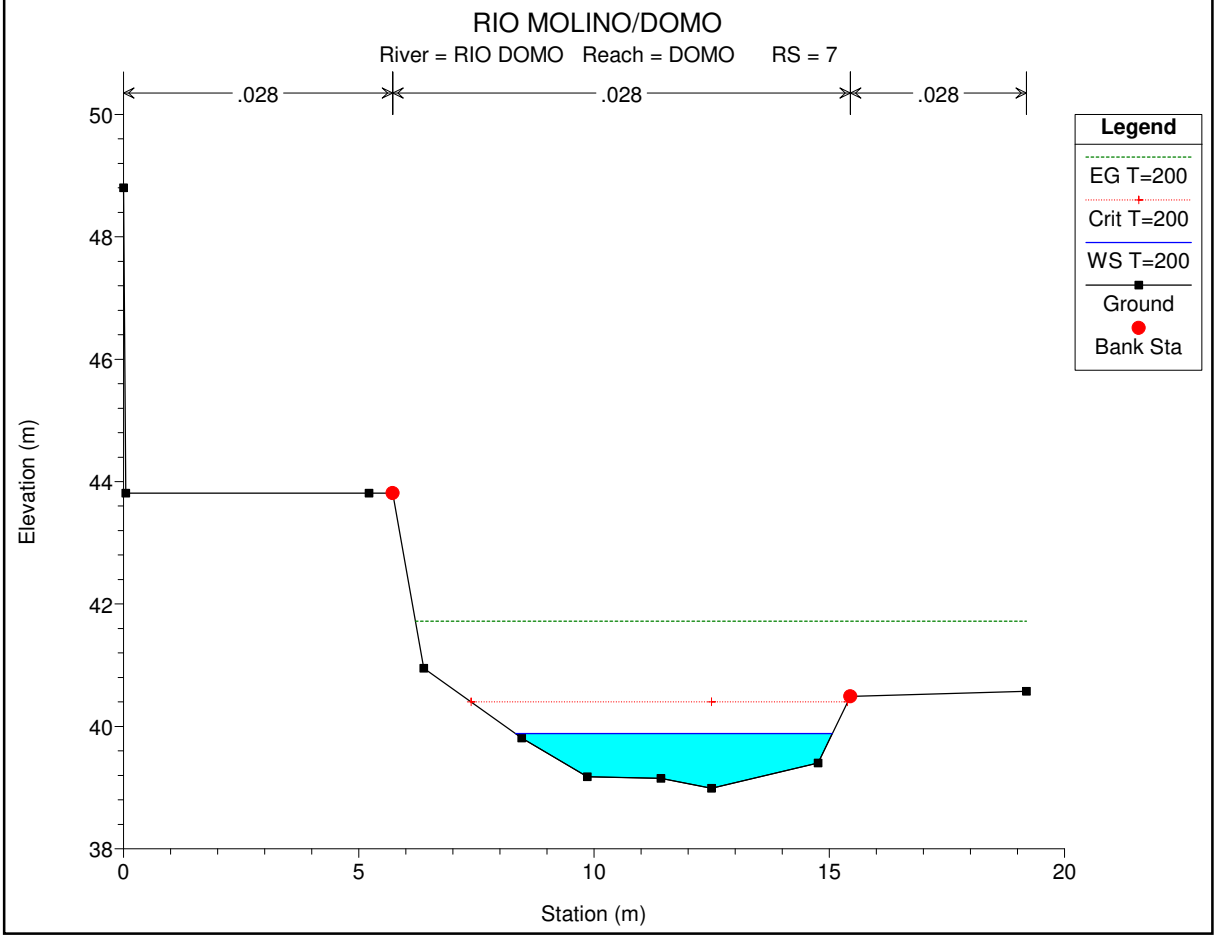

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10.5 BR
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)

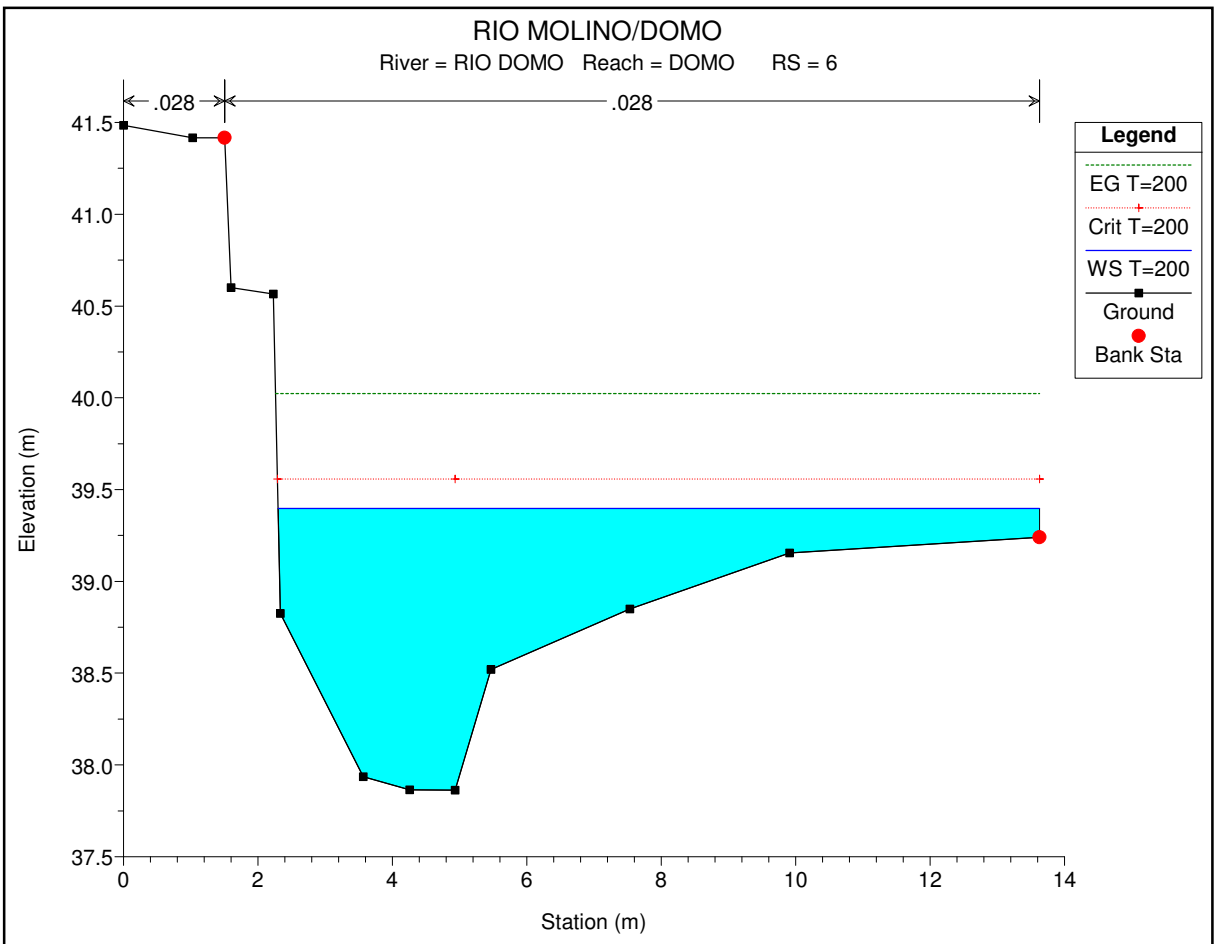

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10.5 BR
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)

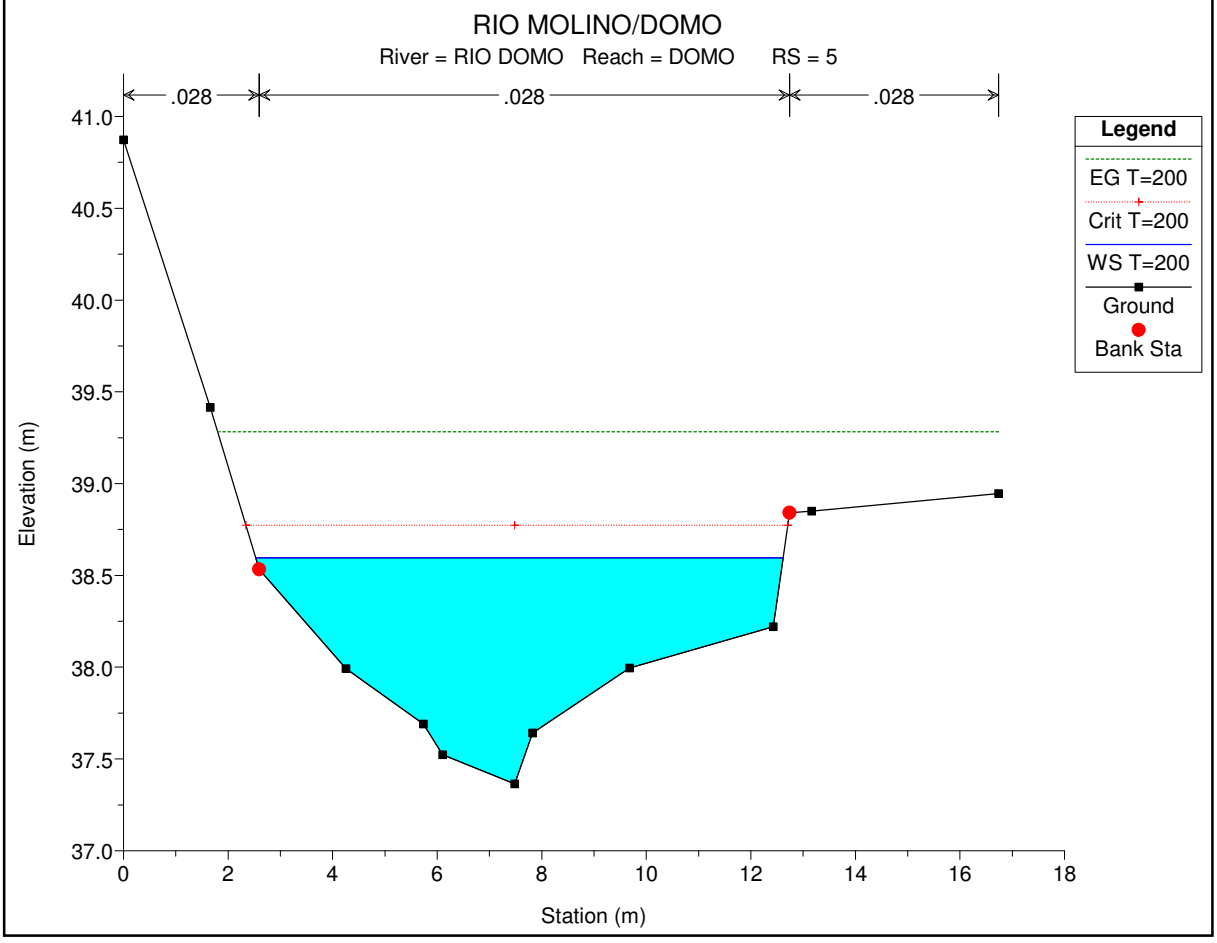

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 10
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
5
10
15
20
25

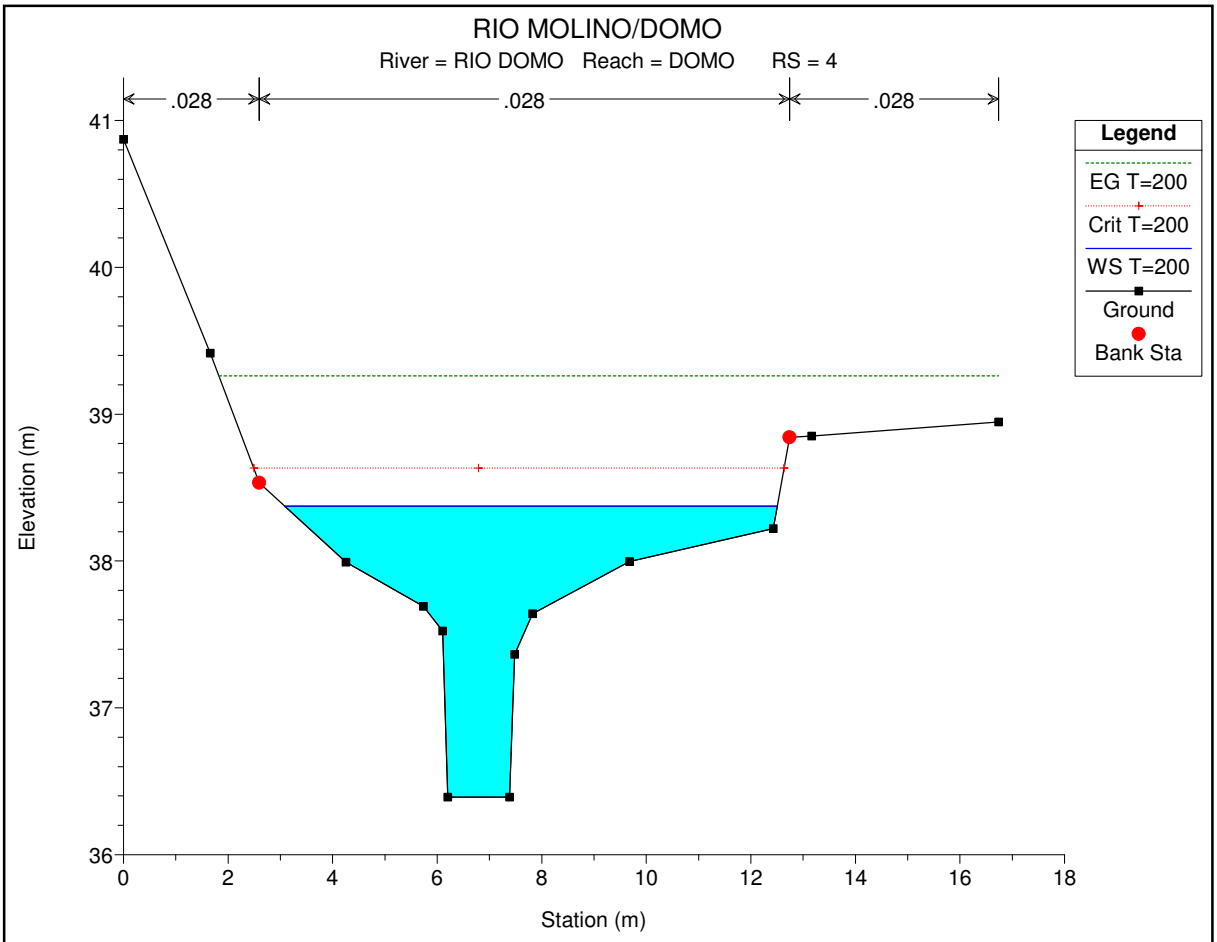

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 9
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16
18

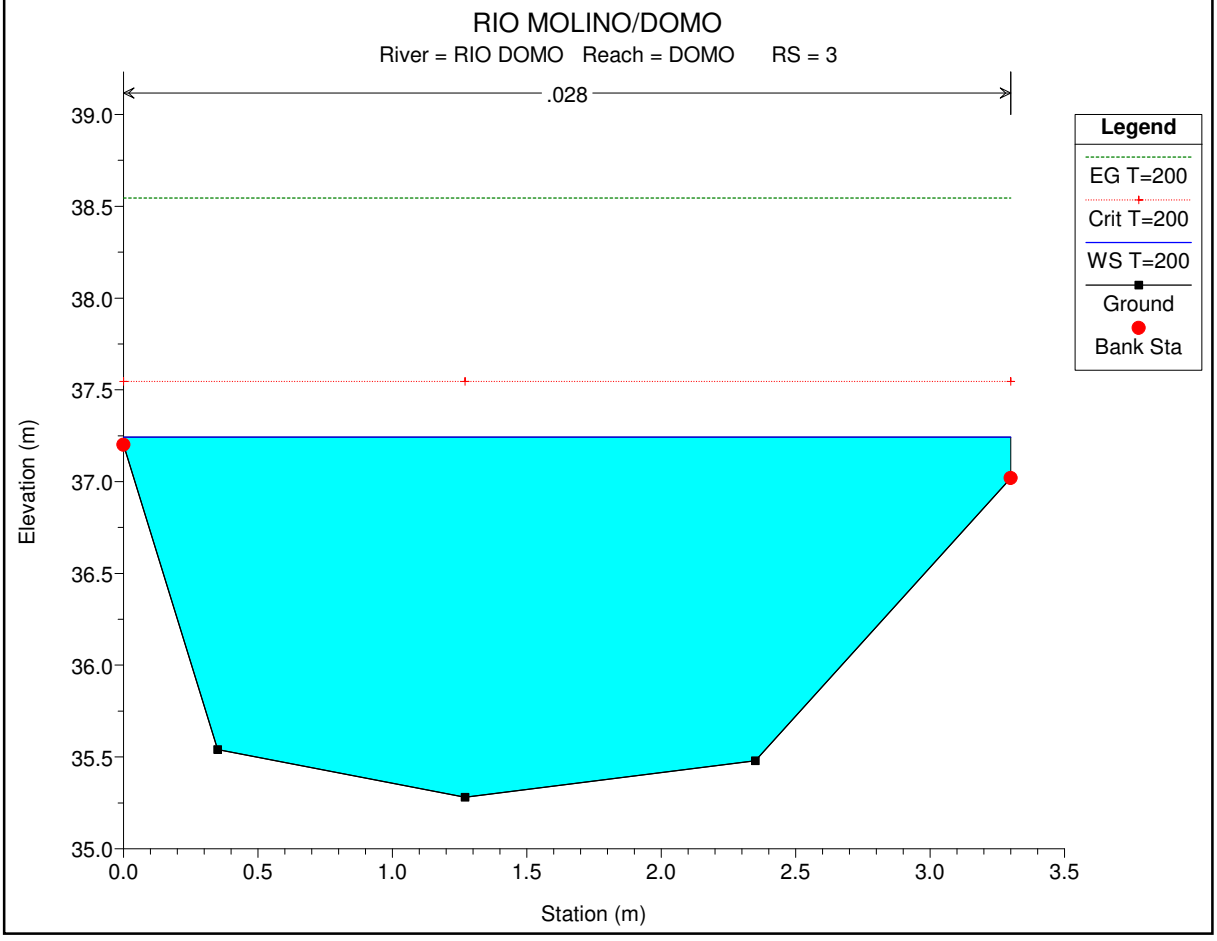

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 8
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43.5
43.0
42.5
42.0
41.5
41.0
0
2
4
6
8
10
12
14
16
18

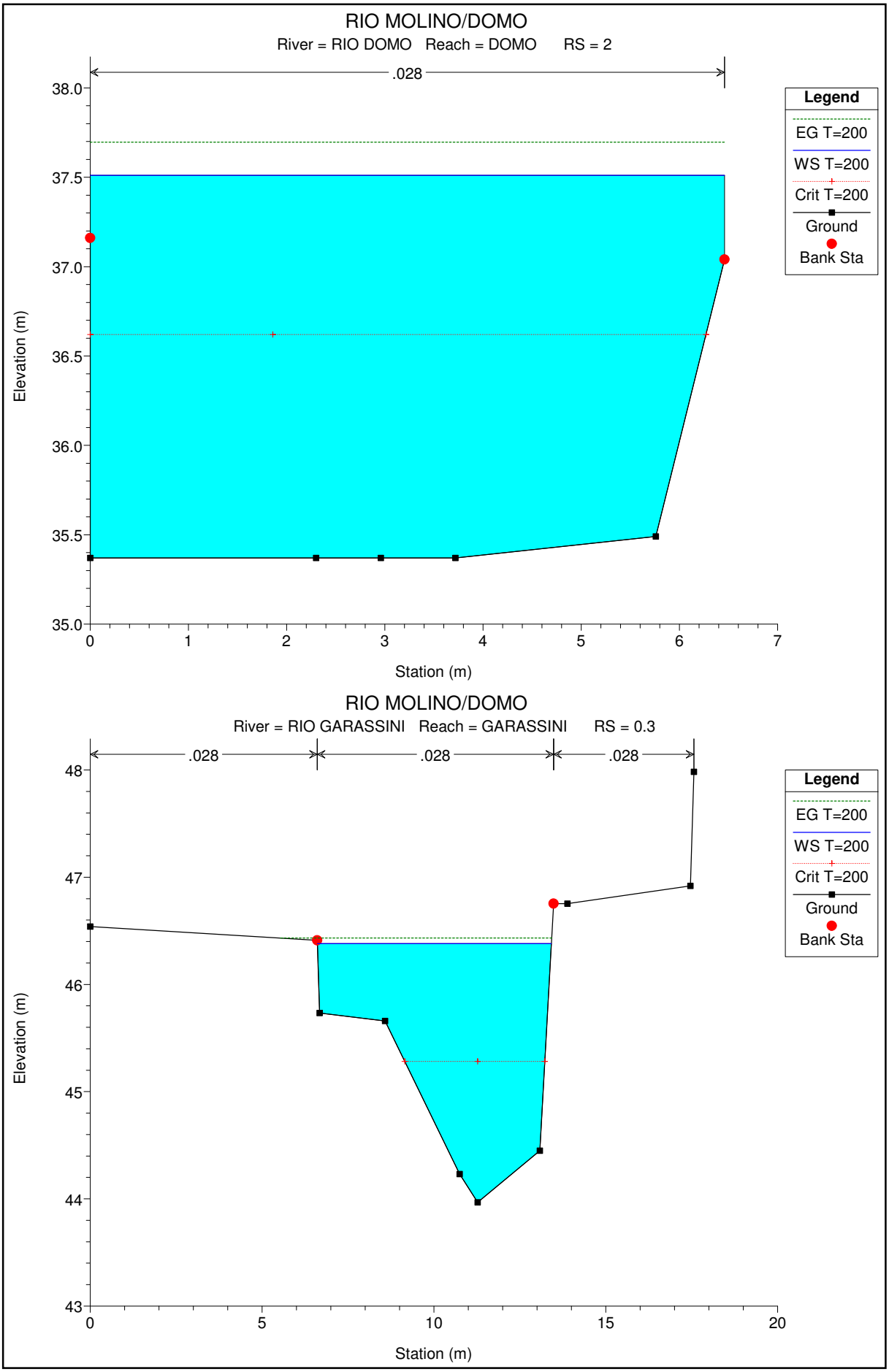

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 7
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
50
48
46
44
42
40
38
0
5
10
15
20

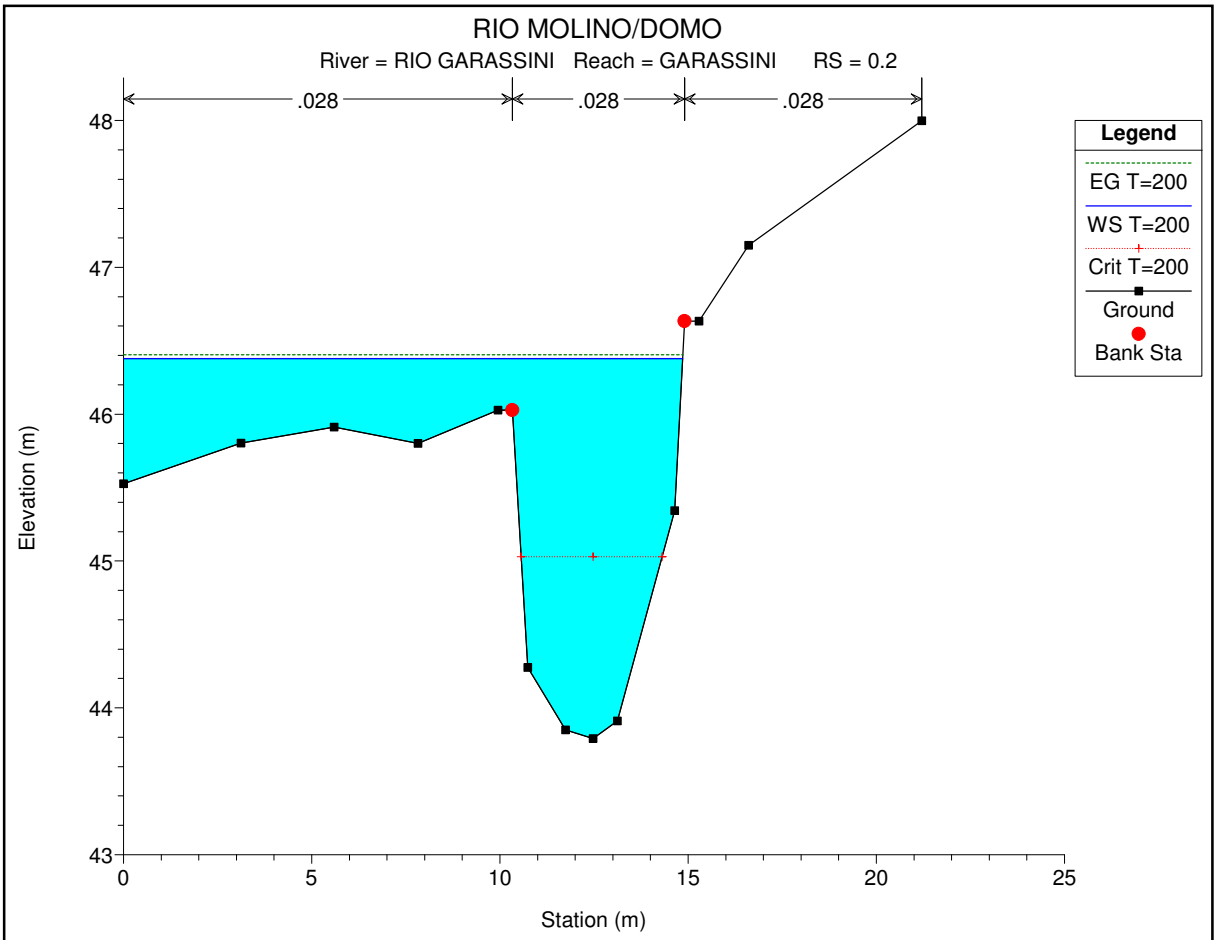

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 6
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41.5
41.0
40.5
40.0
39.5
39.0
38.5
38.0
37.5
0
2
4
6
8
10
12
14

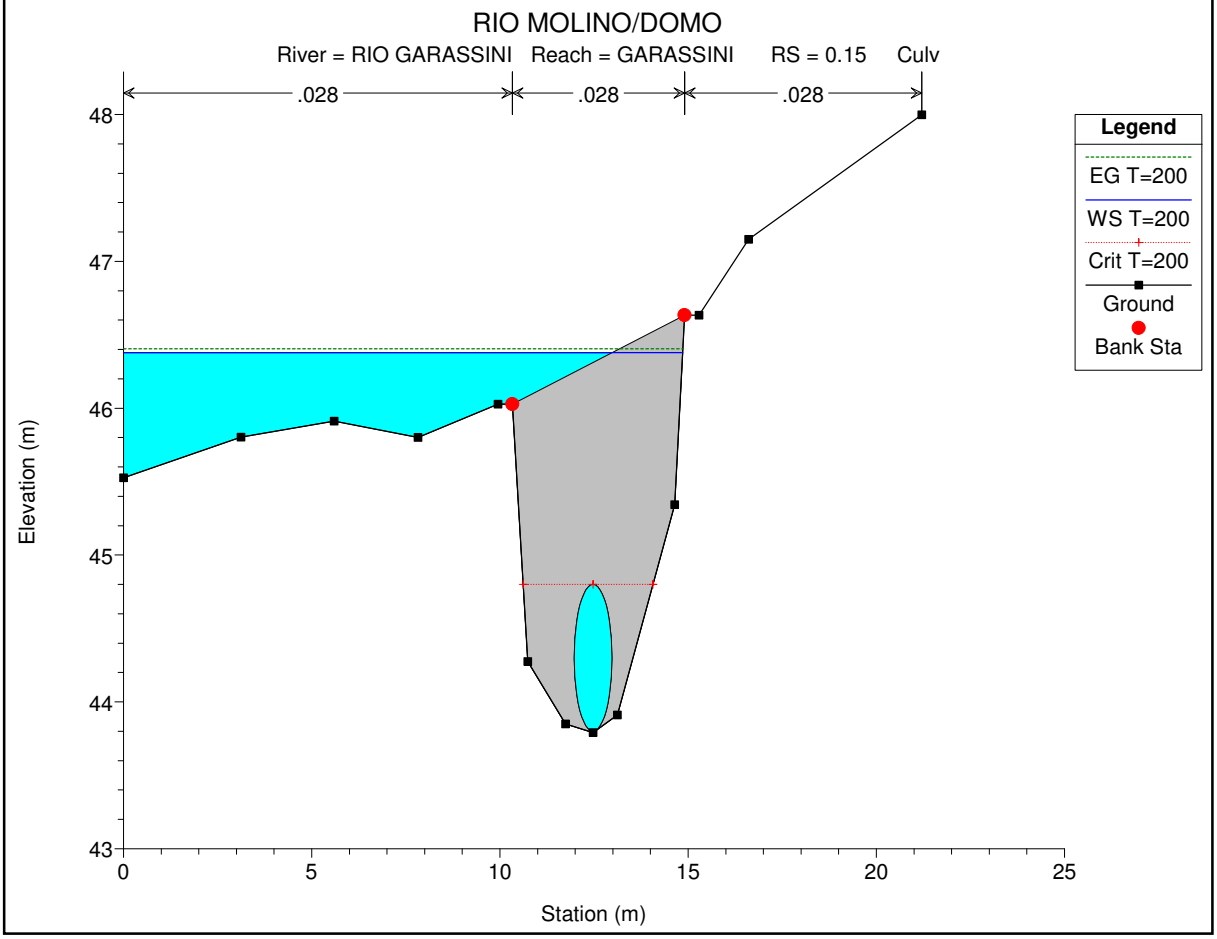

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 5
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41.0
40.5
40.0
39.5
39.0
38.5
38.0
37.5
37.0
0
2
4
6
8
10
12
14
16
18

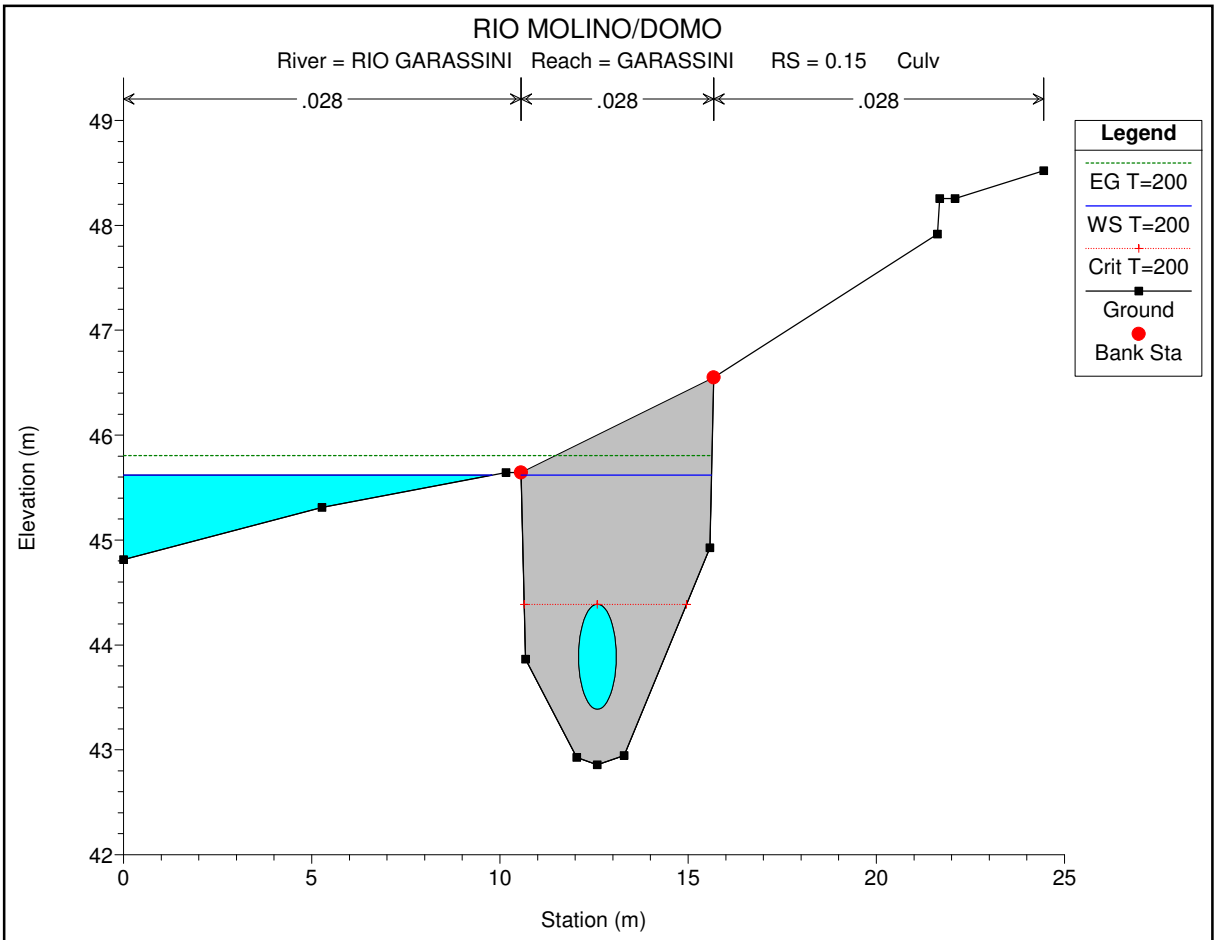

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 4
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
41
40
39
38
37
36
0
2
4
6
8
10
12
14
16
18

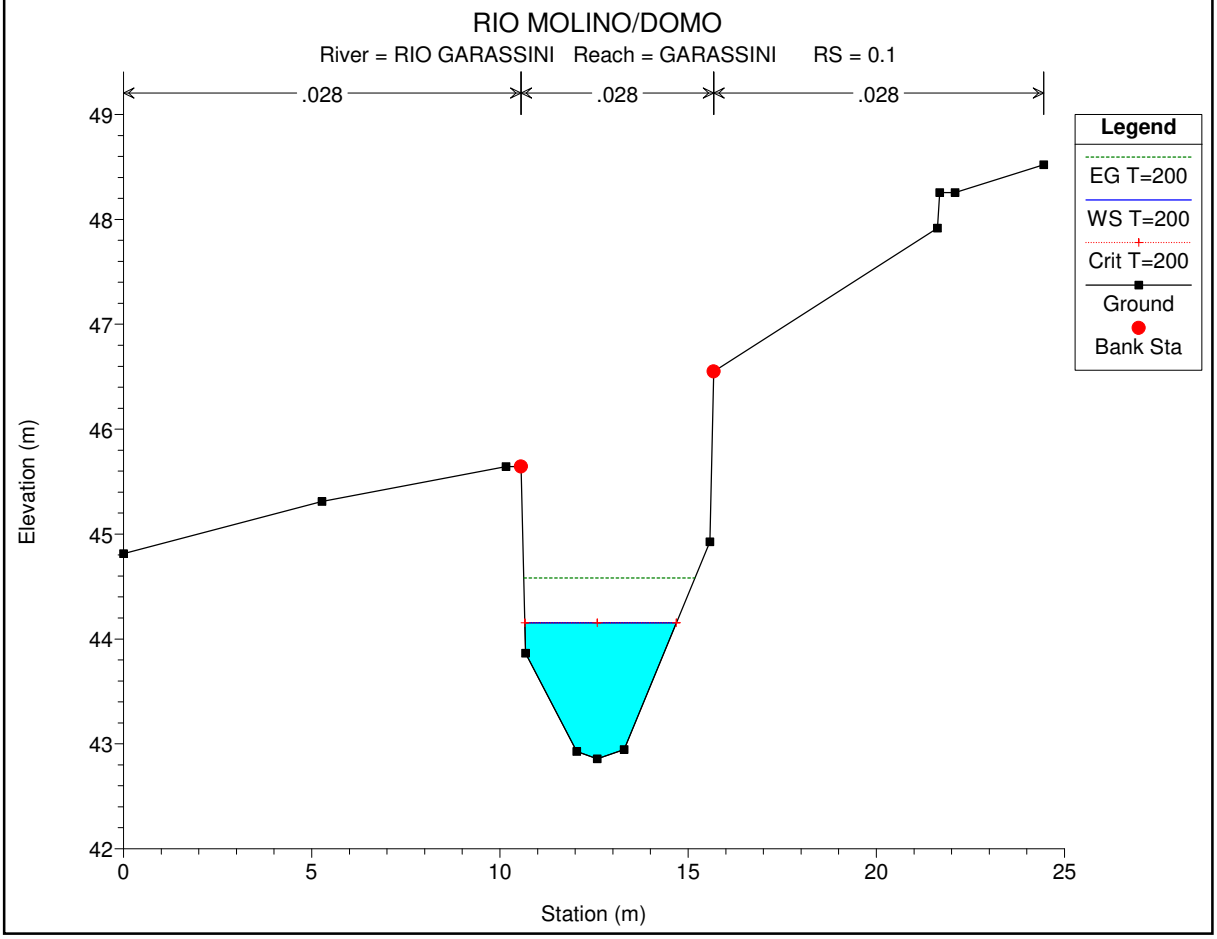

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 3
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
35.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

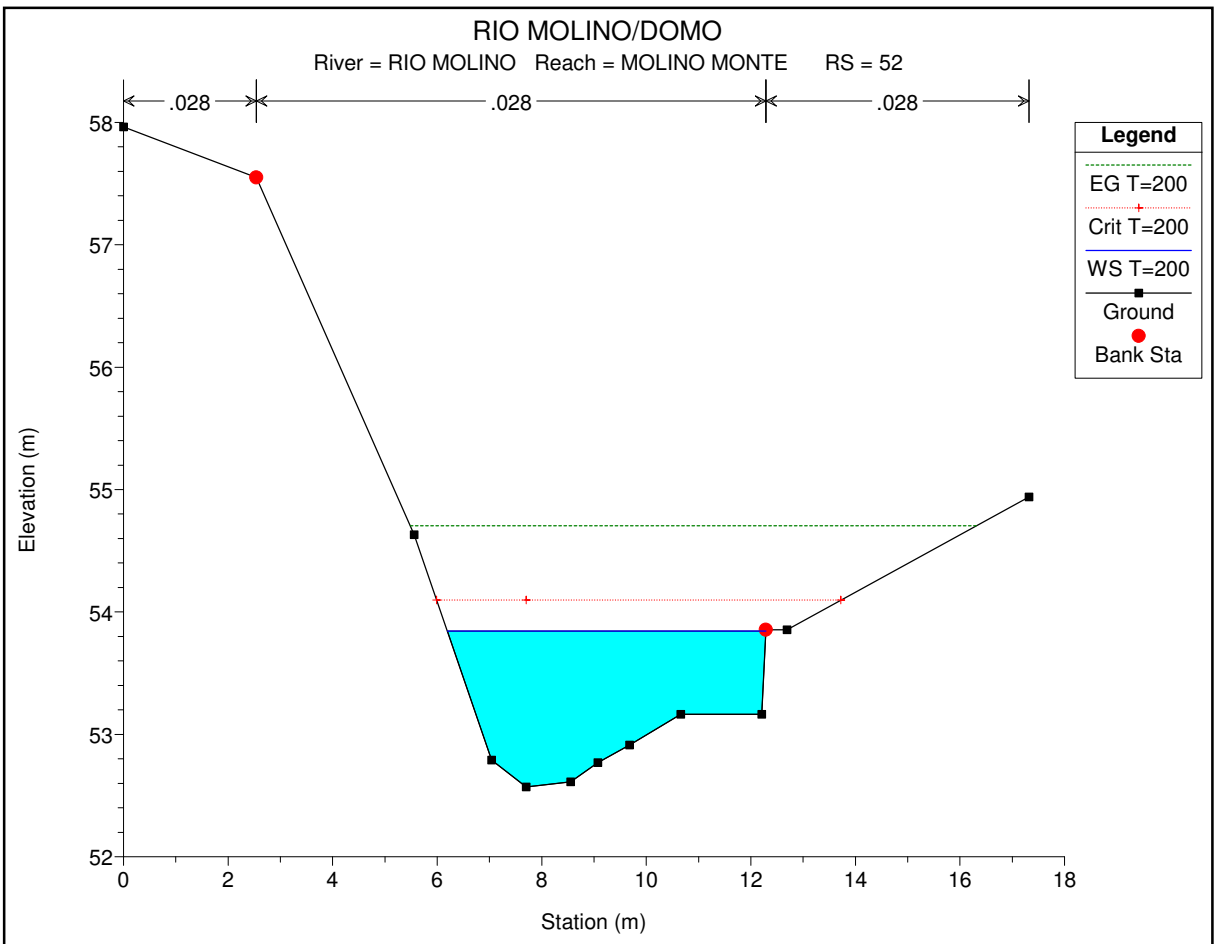

RIO MOLINO/DOMO
River = RIO DOMO Reach = DOMO RS = 2
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.3
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)

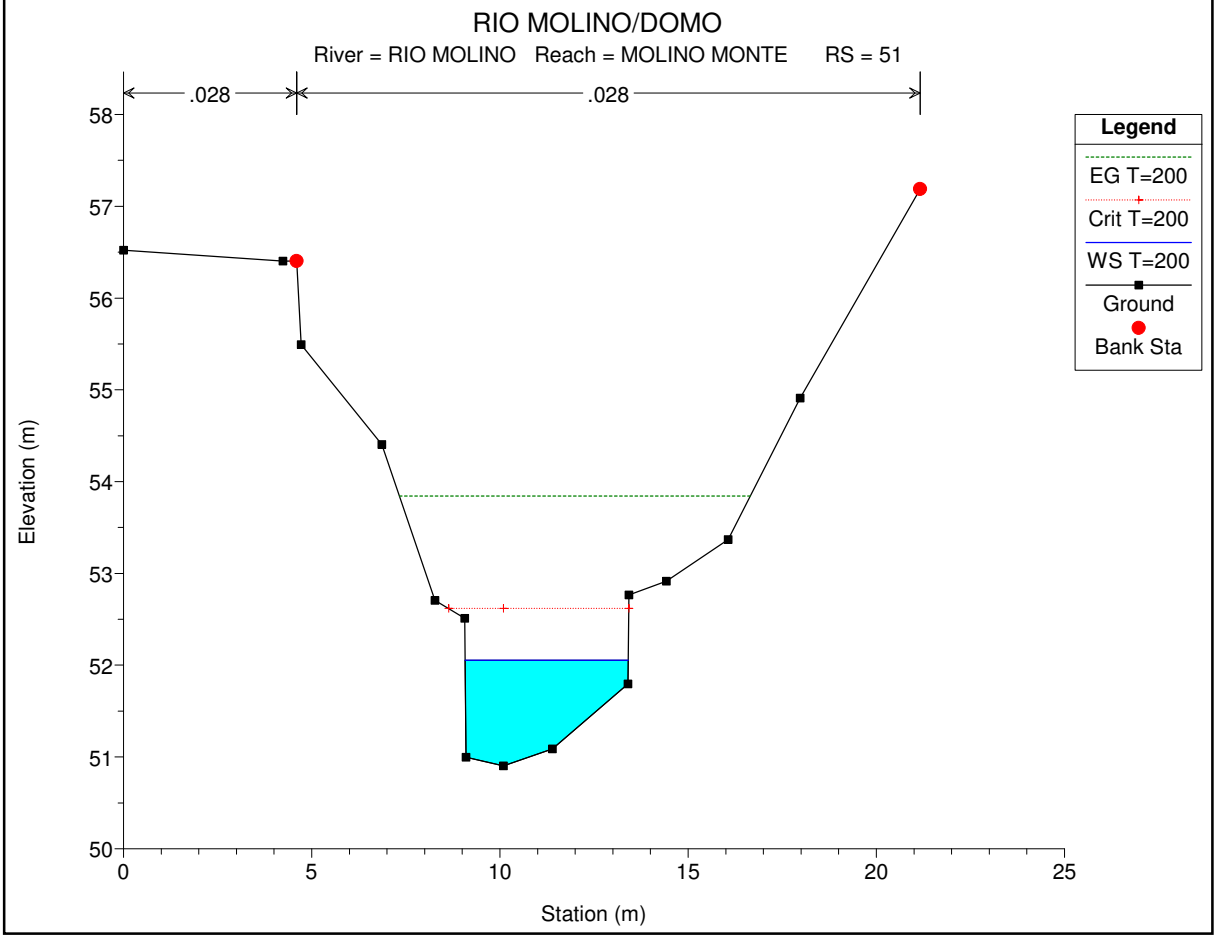

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.2
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

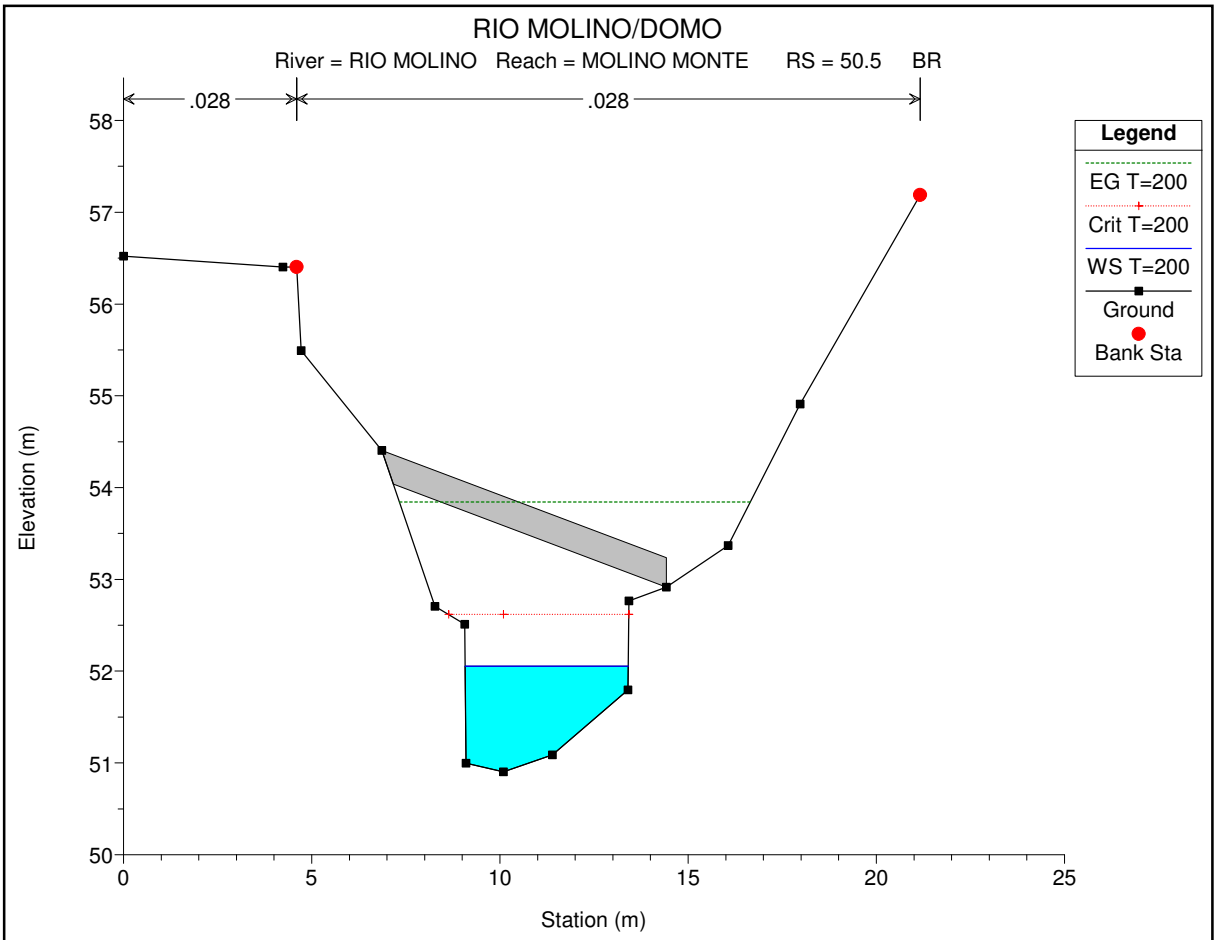

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
48
47
46
45
44
43
0
5
10
15
20
25

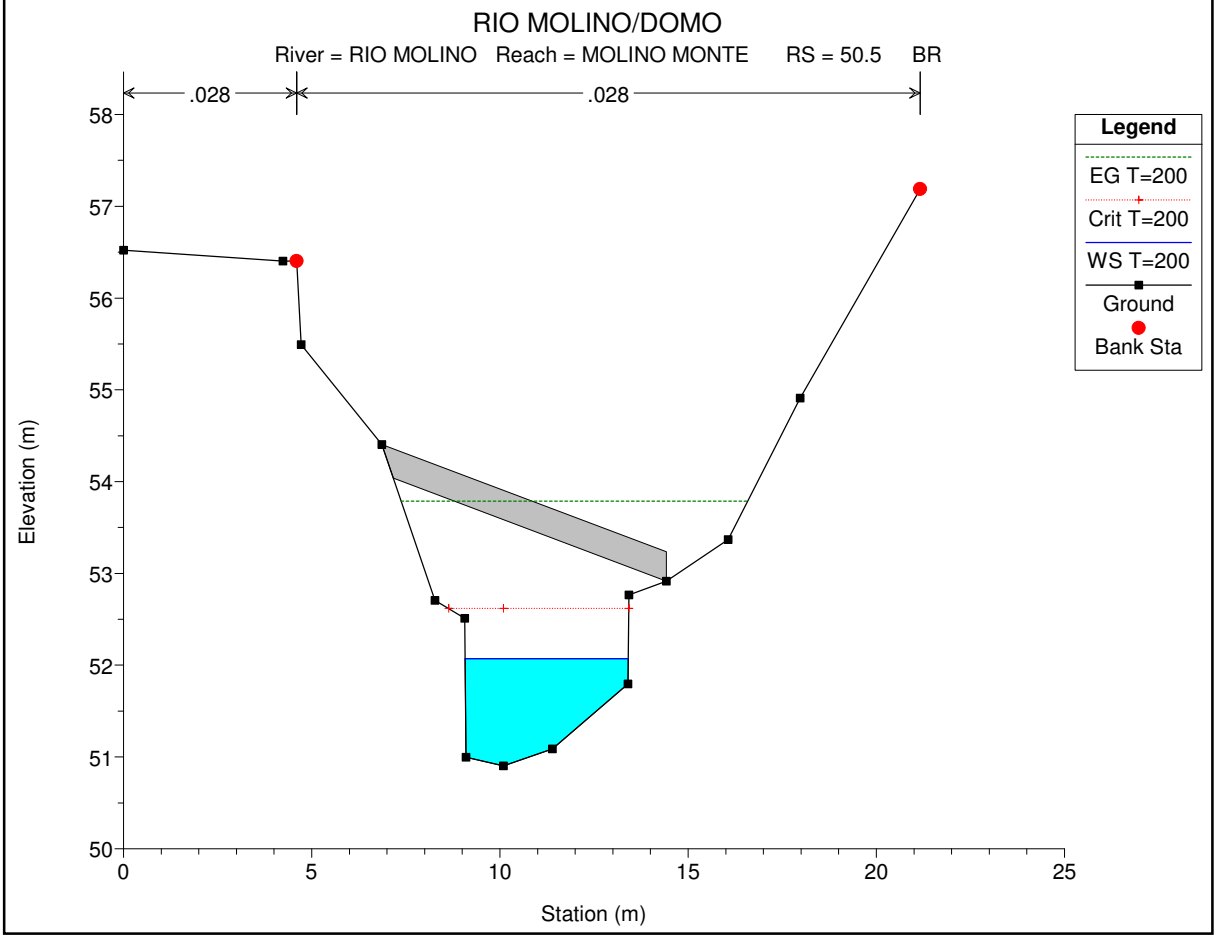

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.15 Culv
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

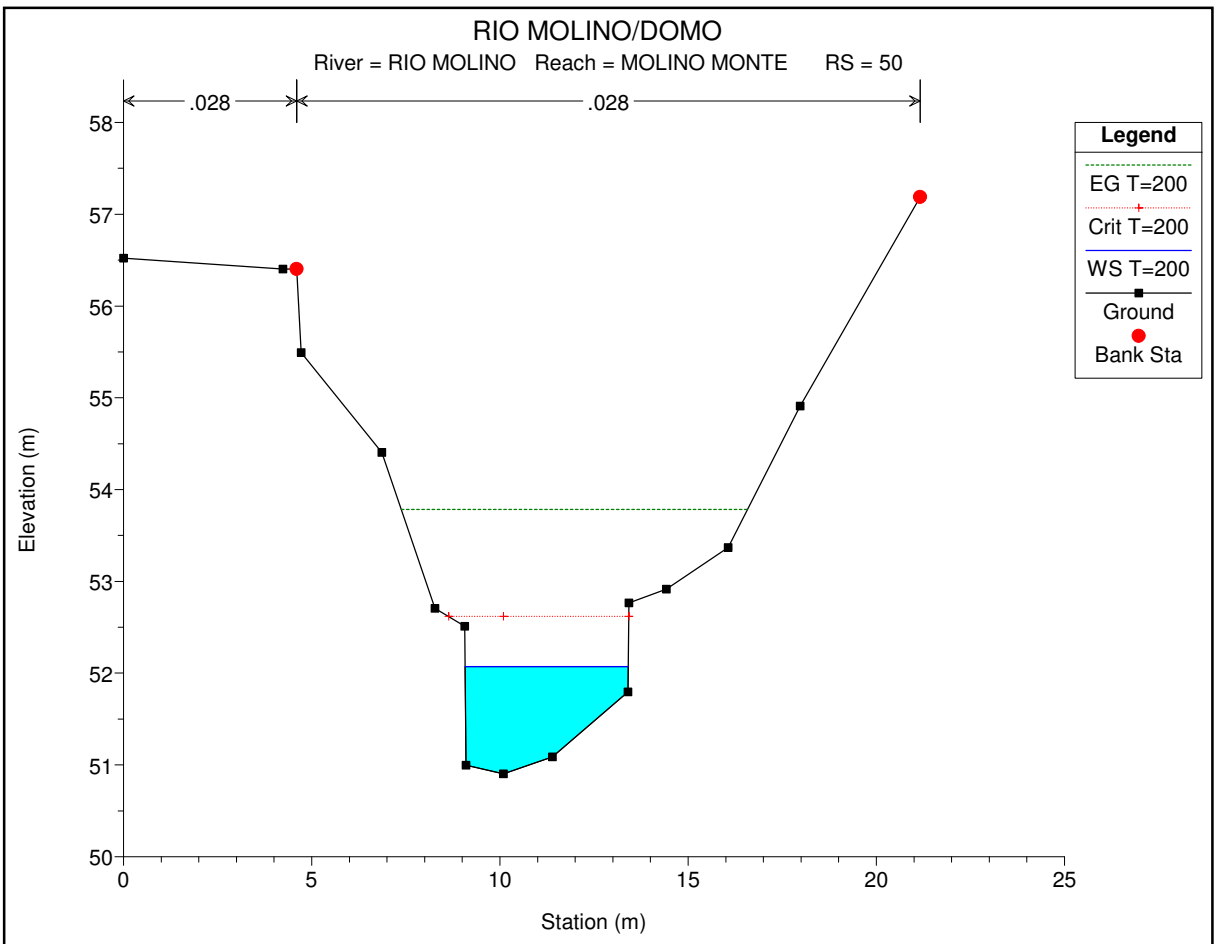

RIO MOLINO/DOMO
River = RIO GARASSINI Reach = GARASSINI RS = 0.1
.028
.028
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
49
48
47
46
45
44
43
42
0
5
10
15
20
25

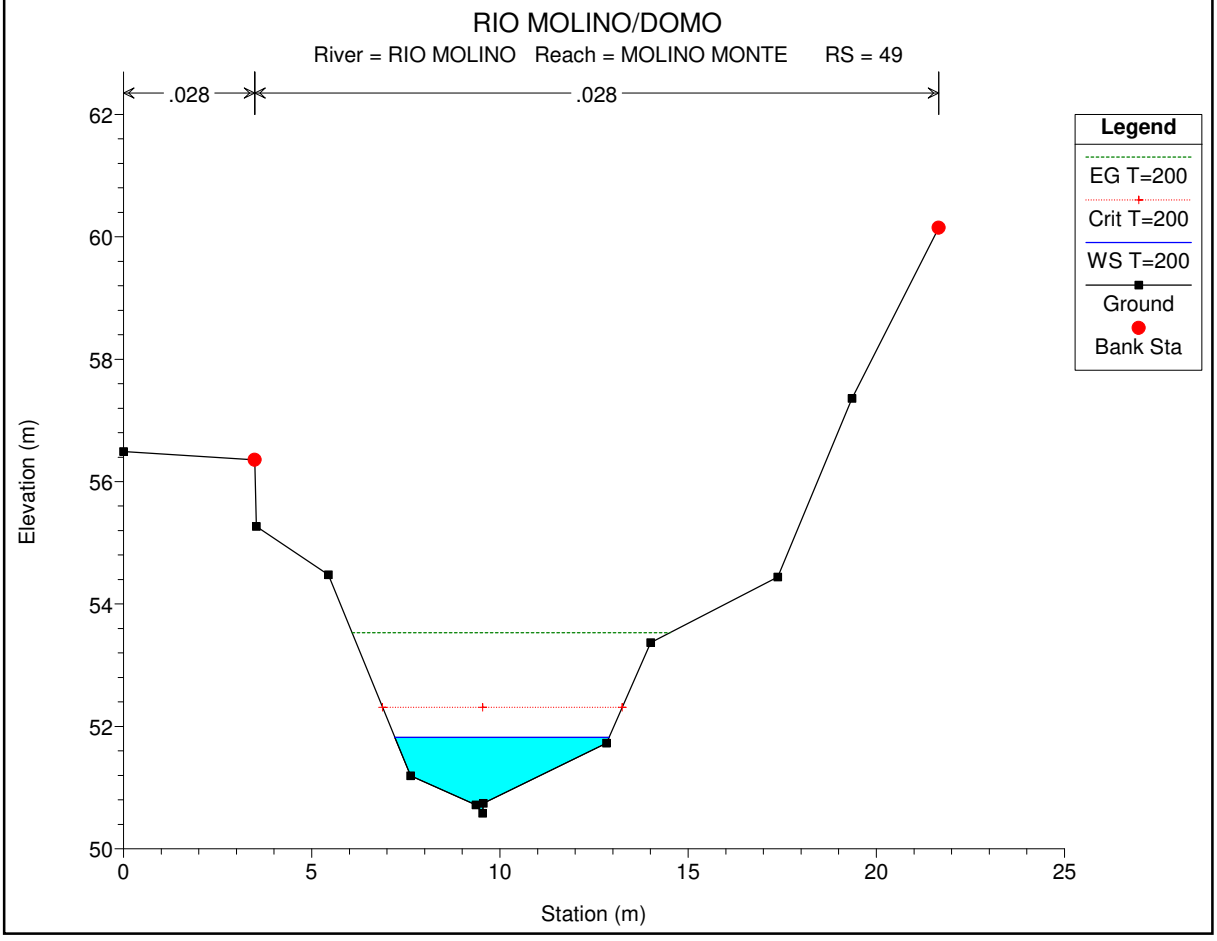

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 52
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
0
2
4
6
8
10
12
14
16
18

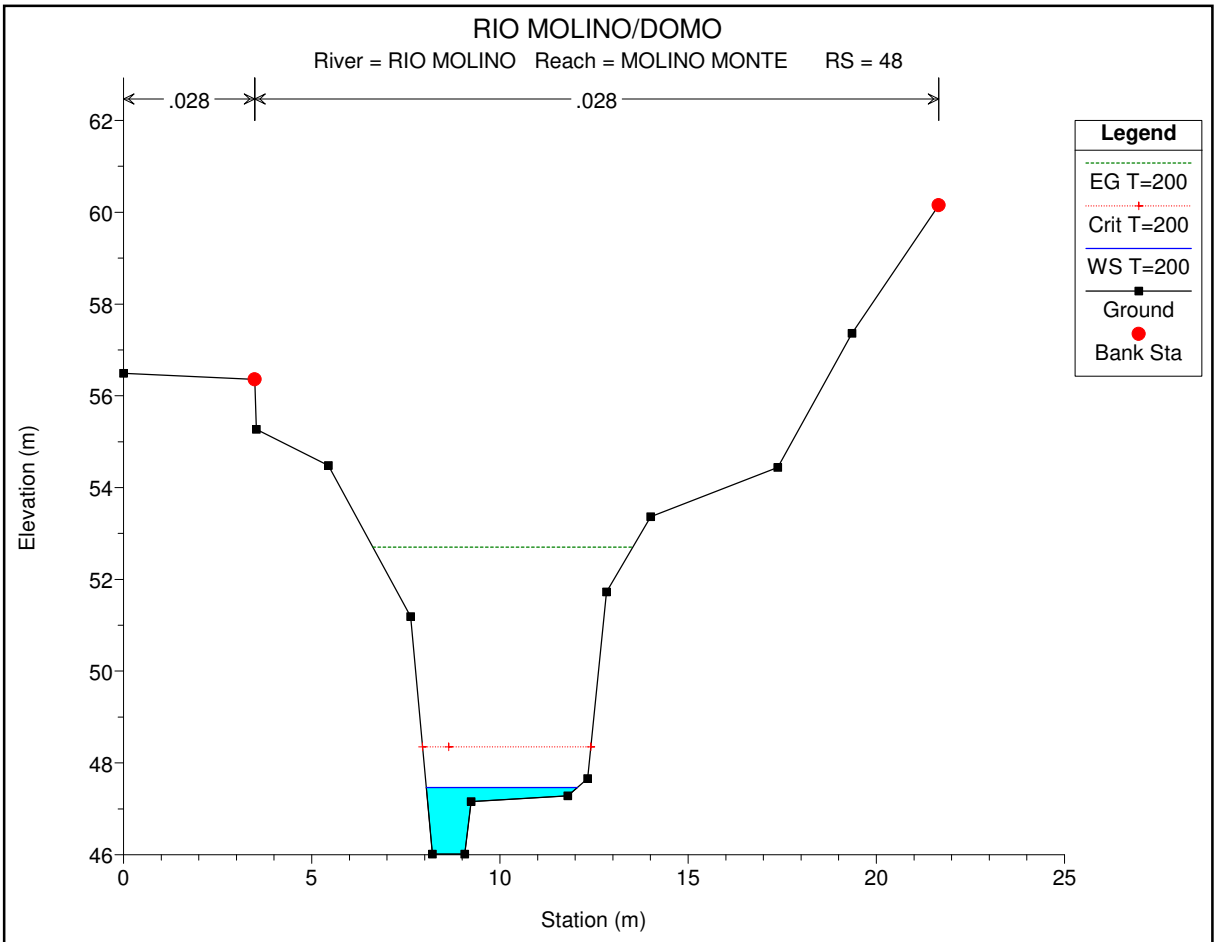

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 51
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

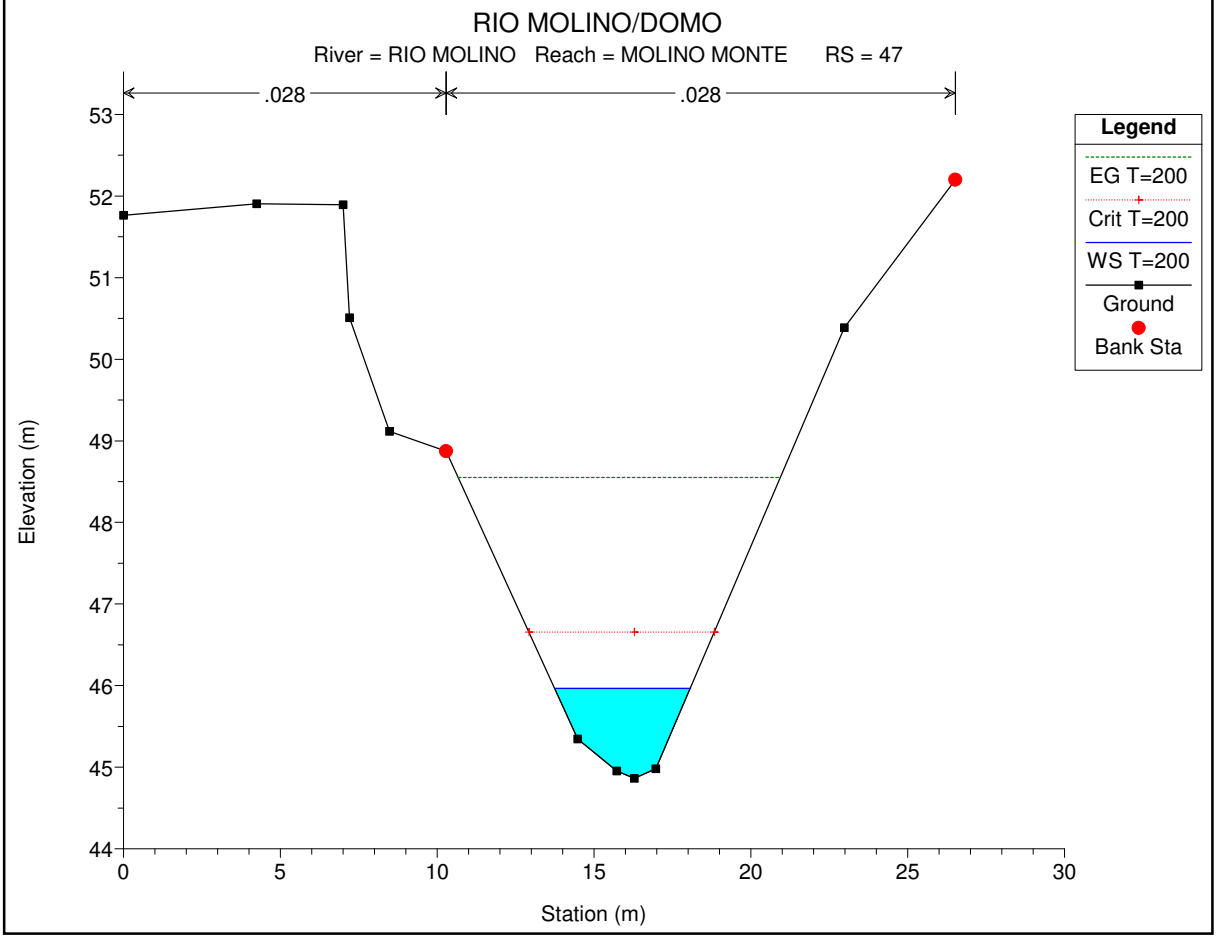

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

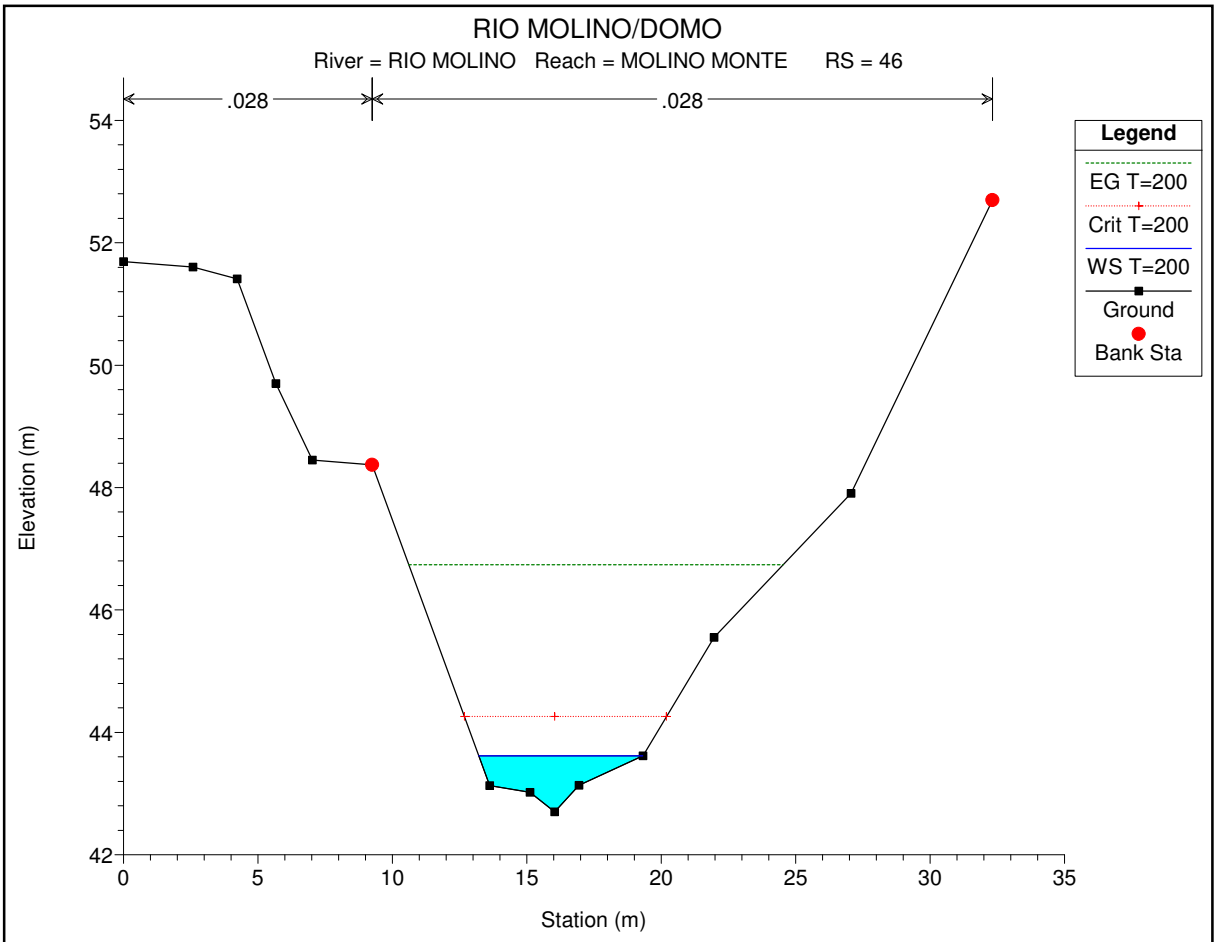

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50.5 BR
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

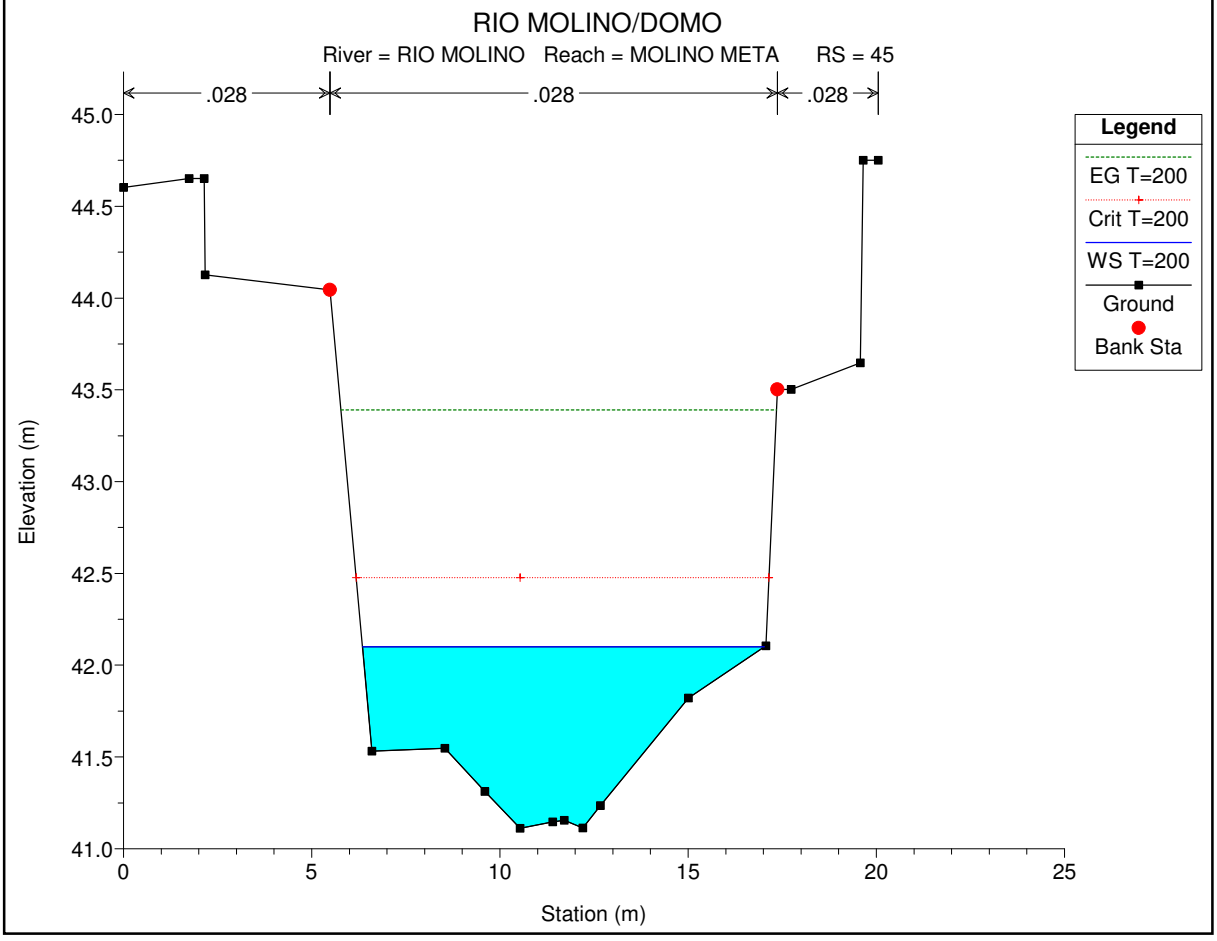

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 50
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
58
57
56
55
54
53
52
51
50
0
5
10
15
20
25

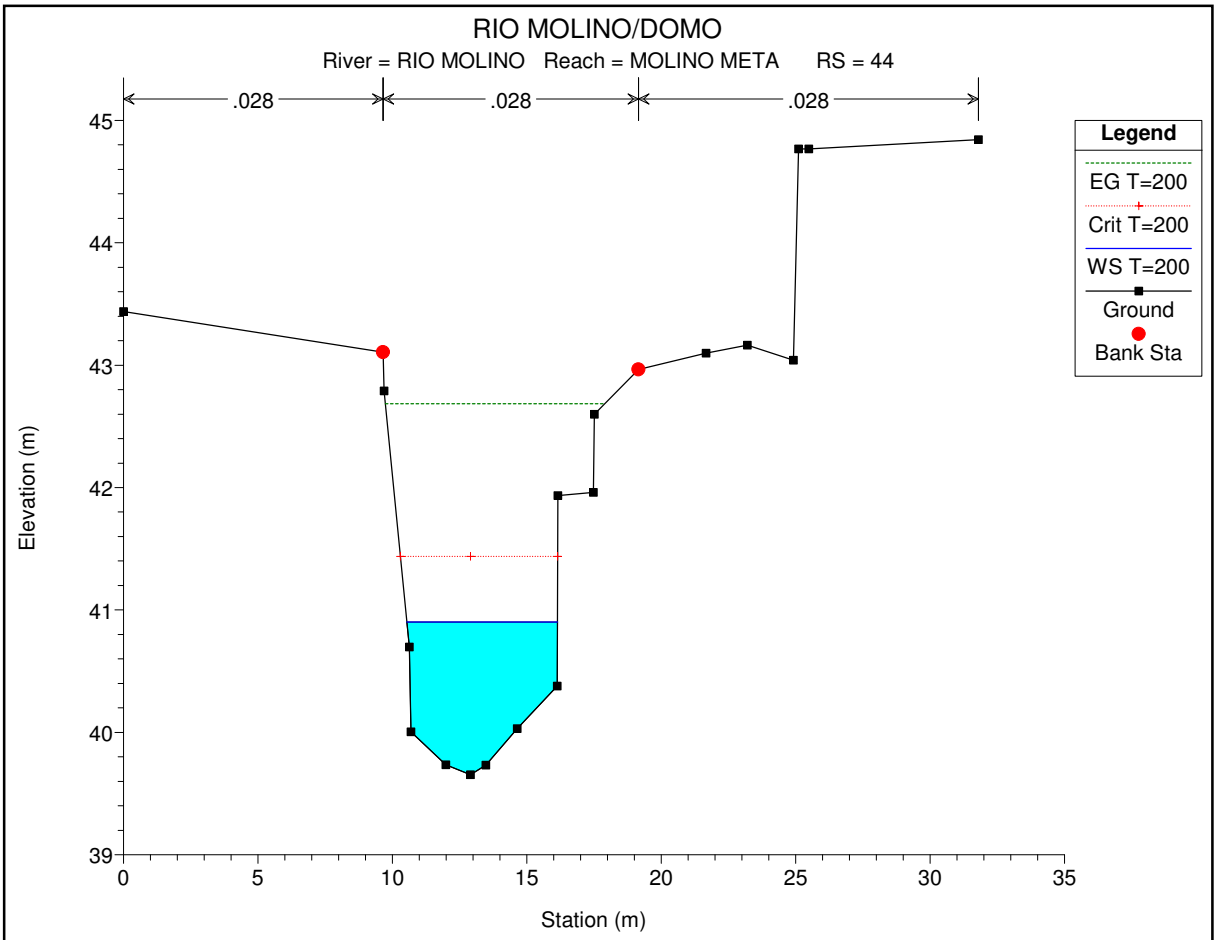

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 49
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
62
60
58
56
54
52
50
0
5
10
15
20
25

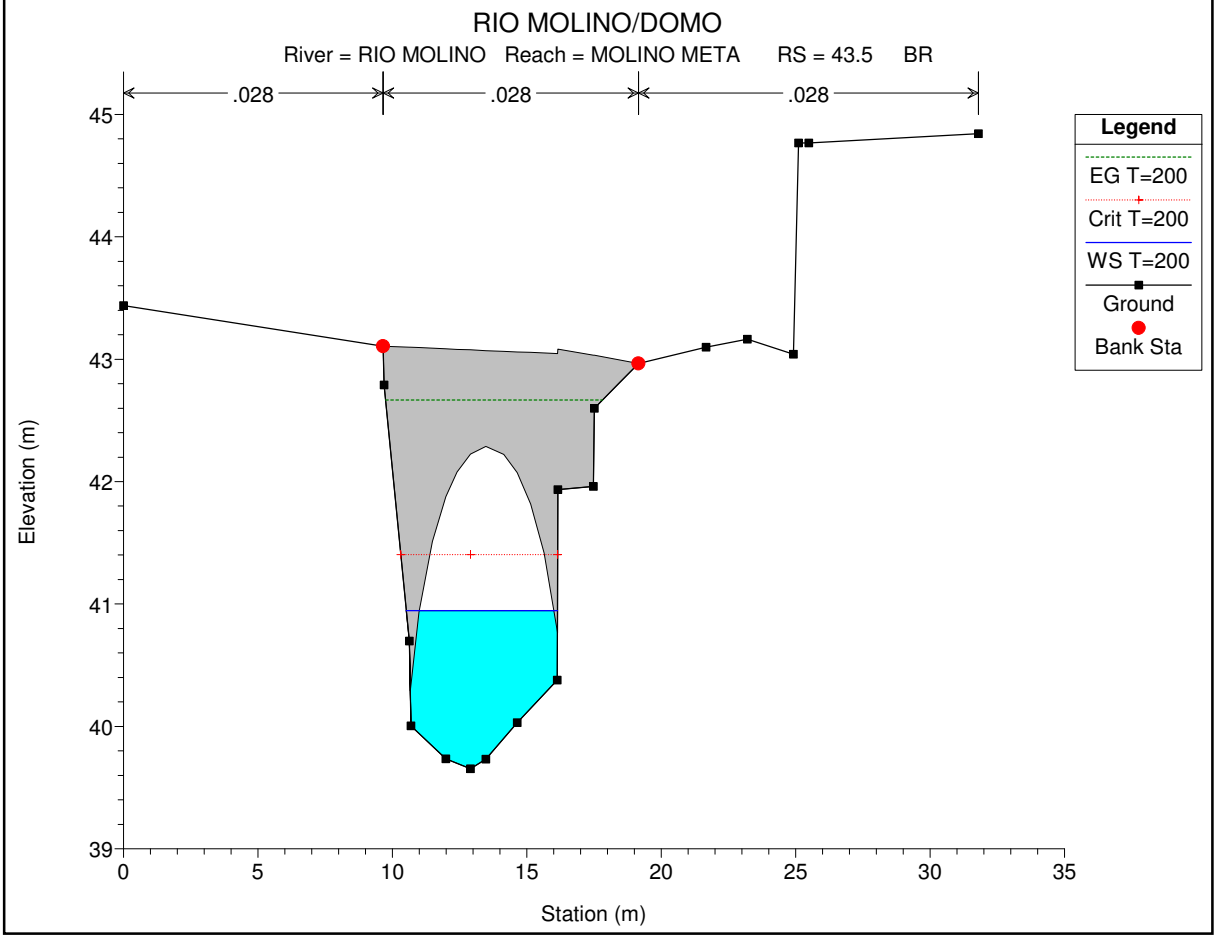

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 48
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
62
60
58
56
54
52
50
48
46
0
5
10
15
20
25

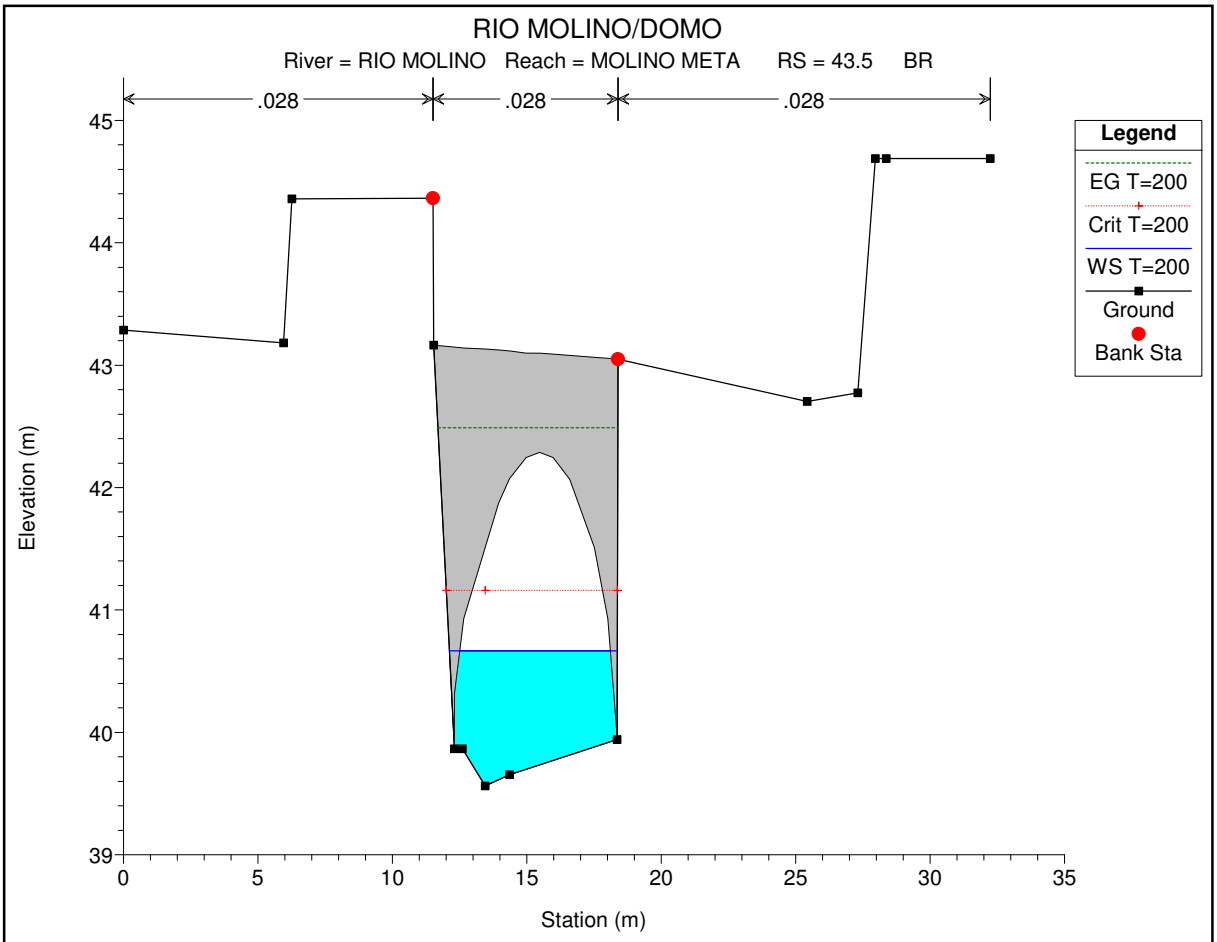

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 47
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
53
52
51
50
49
48
47
46
45
44
0
5
10
15
20
25
30

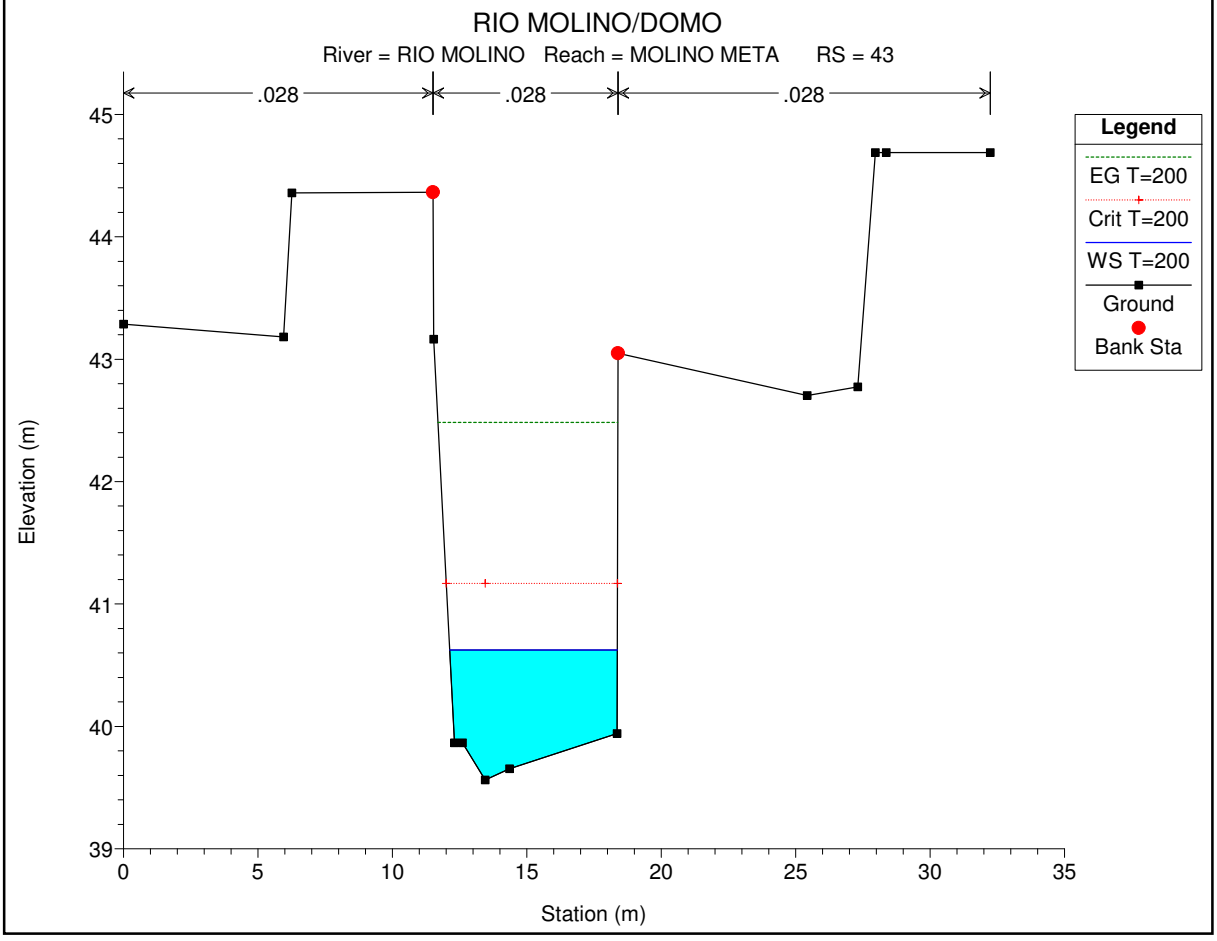

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO MONTE RS = 46
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
54
52
50
48
46
44
42
0
5
10
15
20
25
30
35

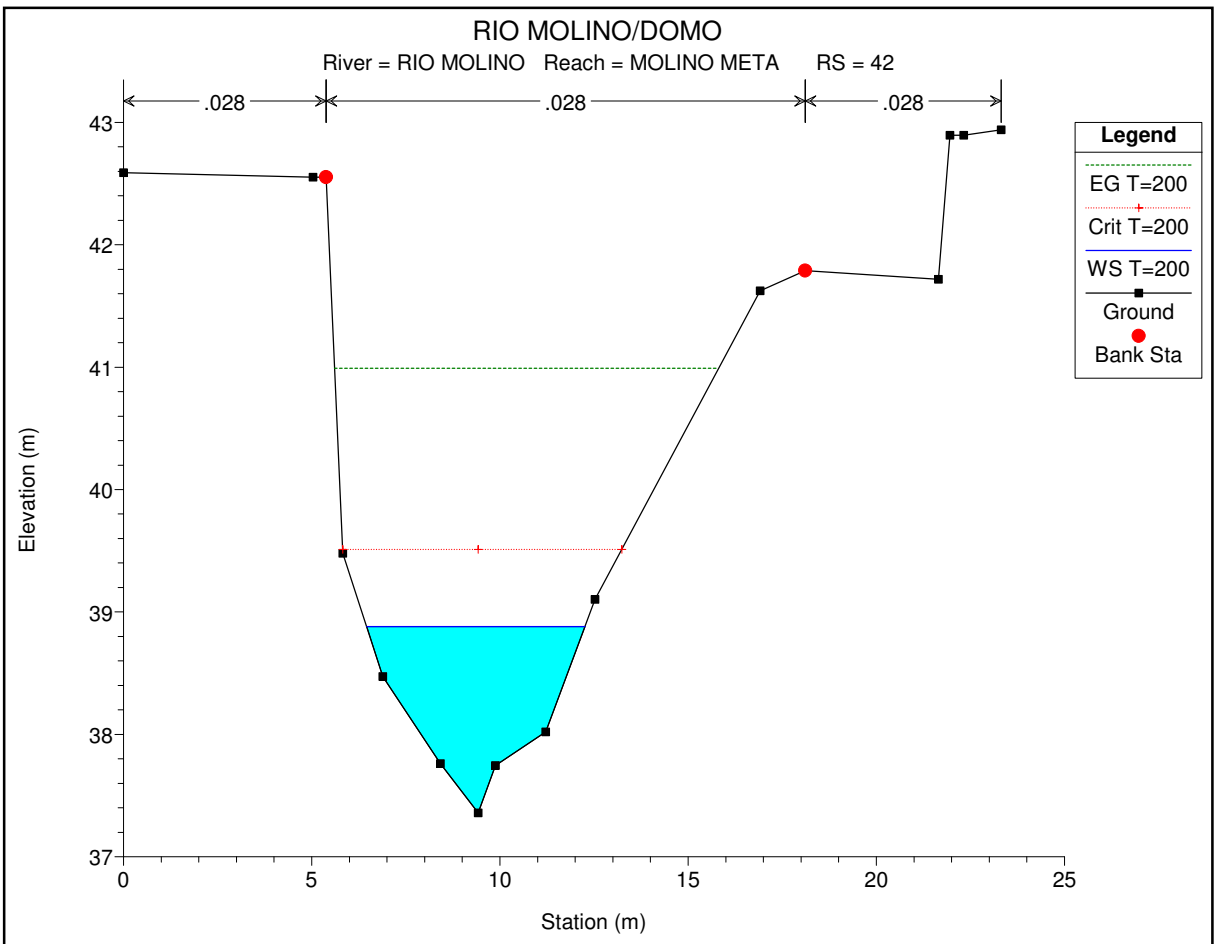

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 45
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45.0
44.5
44.0
43.5
43.0
42.5
42.0
41.5
41.0
0
5
10
15
20
25

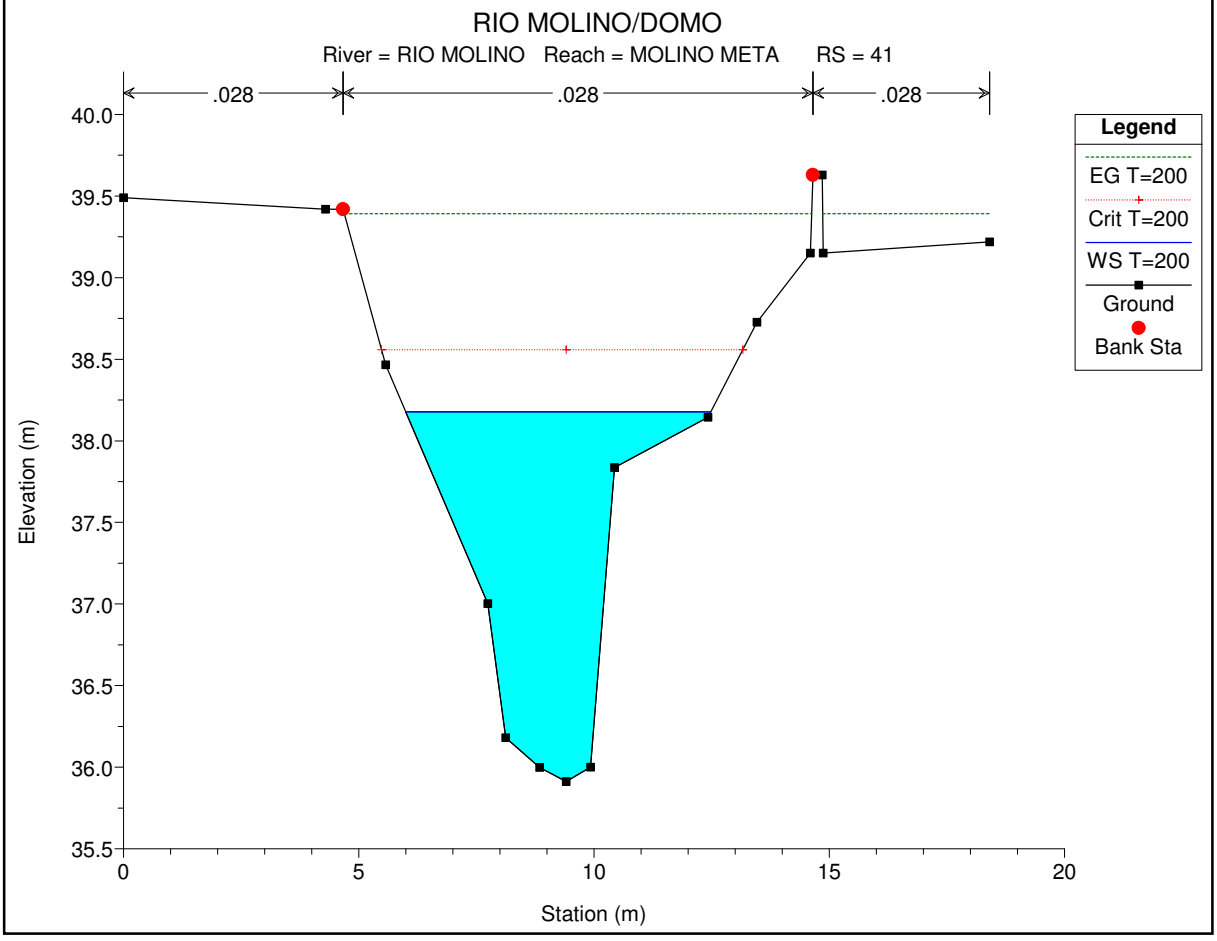

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 44
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

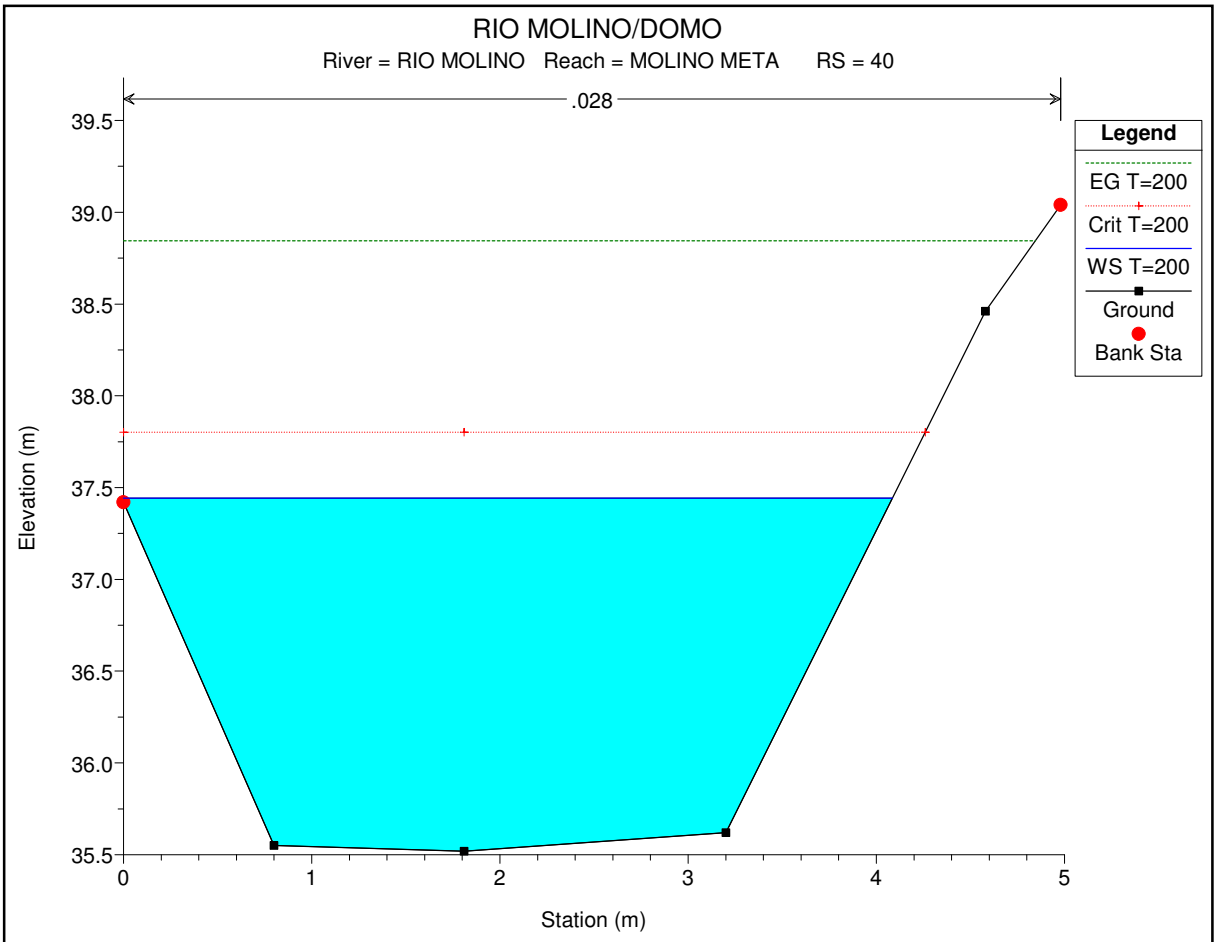

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

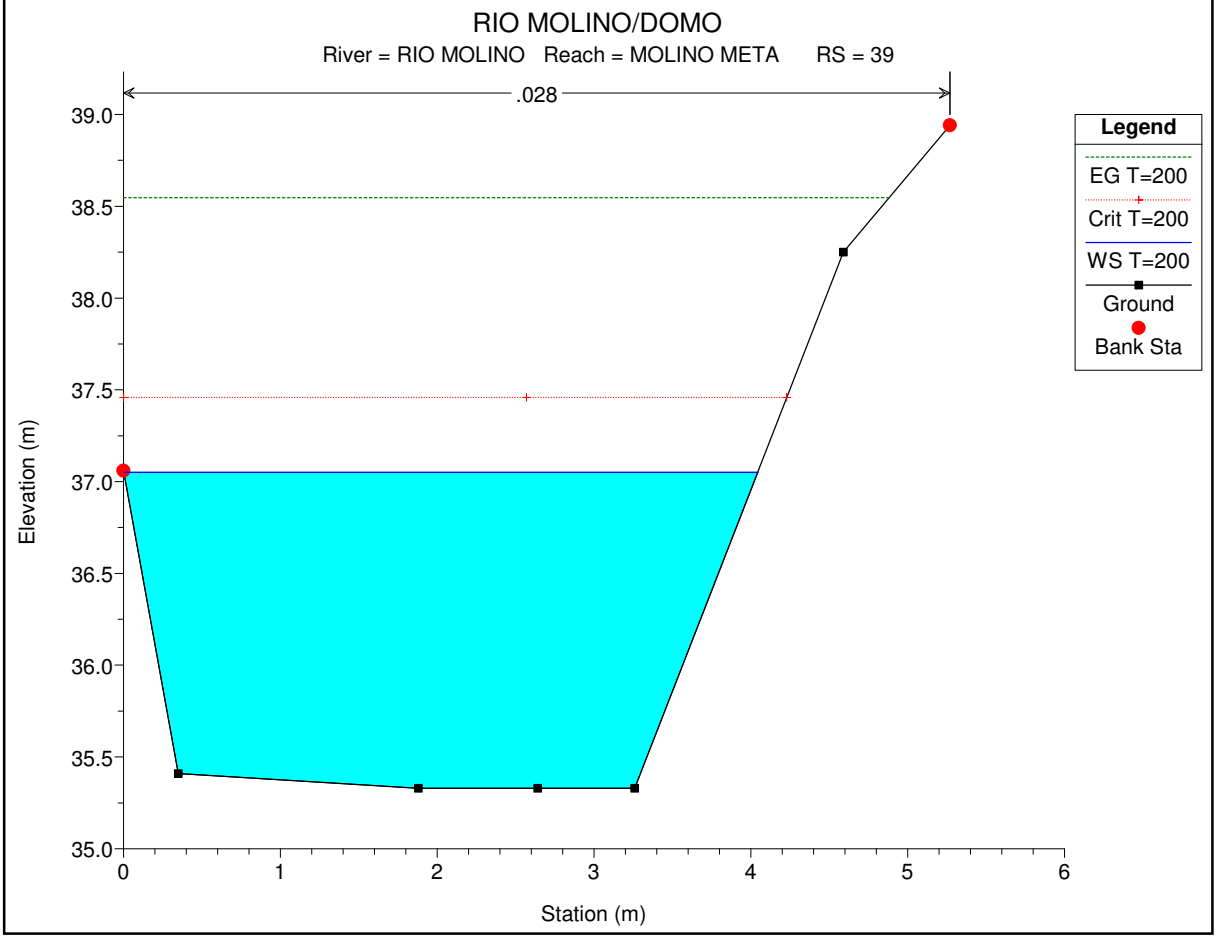

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43.5 BR
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

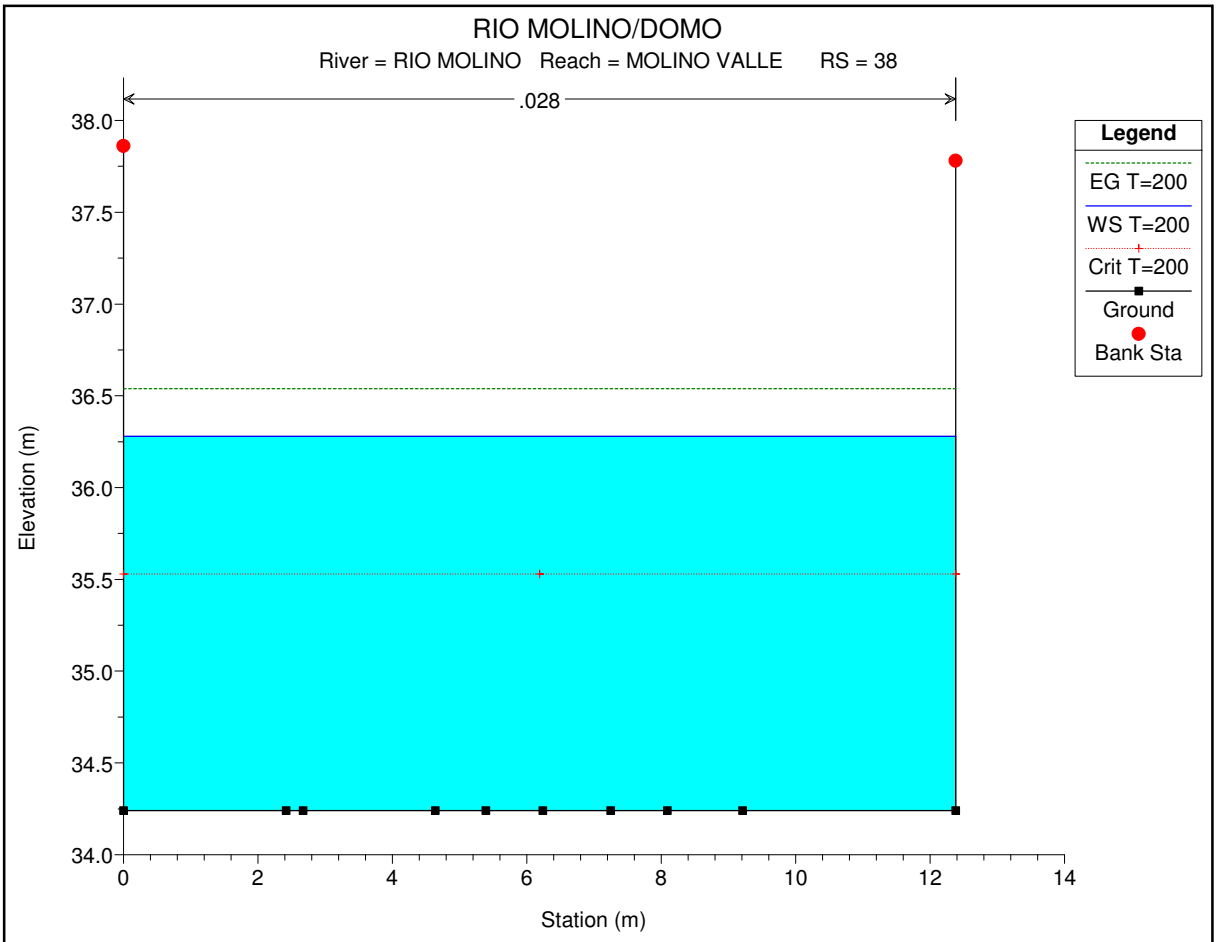

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 43
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
45
44
43
42
41
40
39
0
5
10
15
20
25
30
35

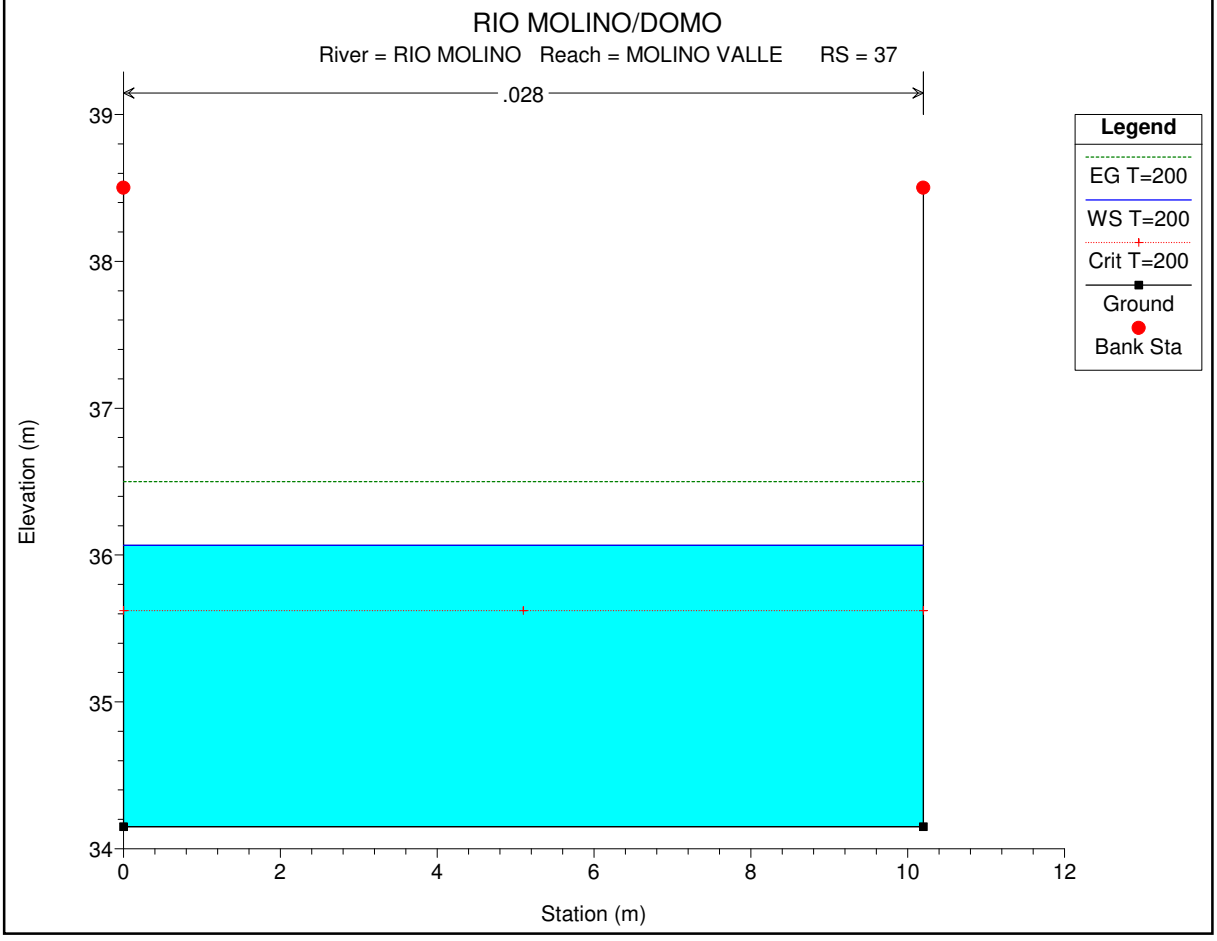

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 42
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
43
42
41
40
39
38
37
0
5
10
15
20
25

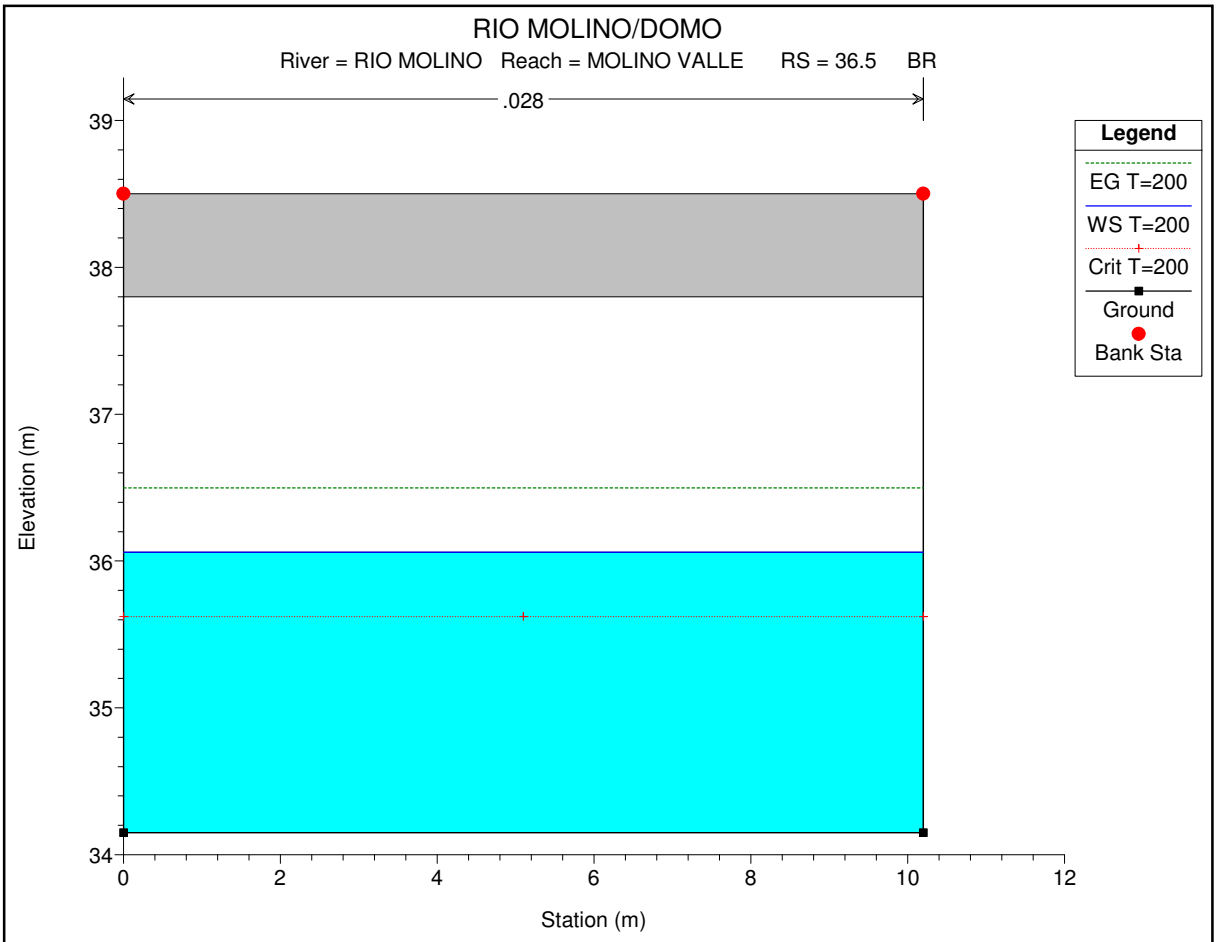

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 41
.028
.028
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
40.0
39.5
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
0
5
10
15
20

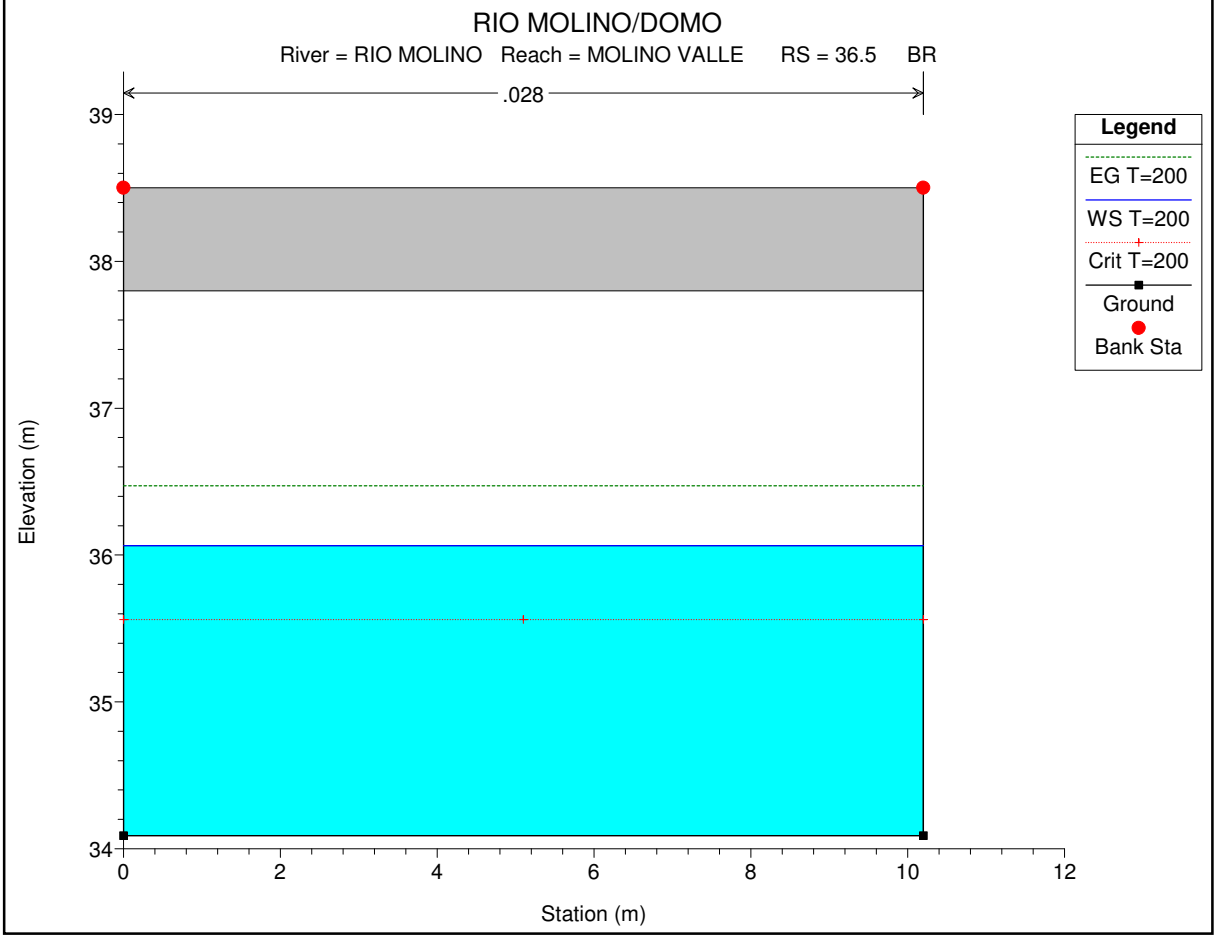

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 40
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.5
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
0
1
2
3
4
5

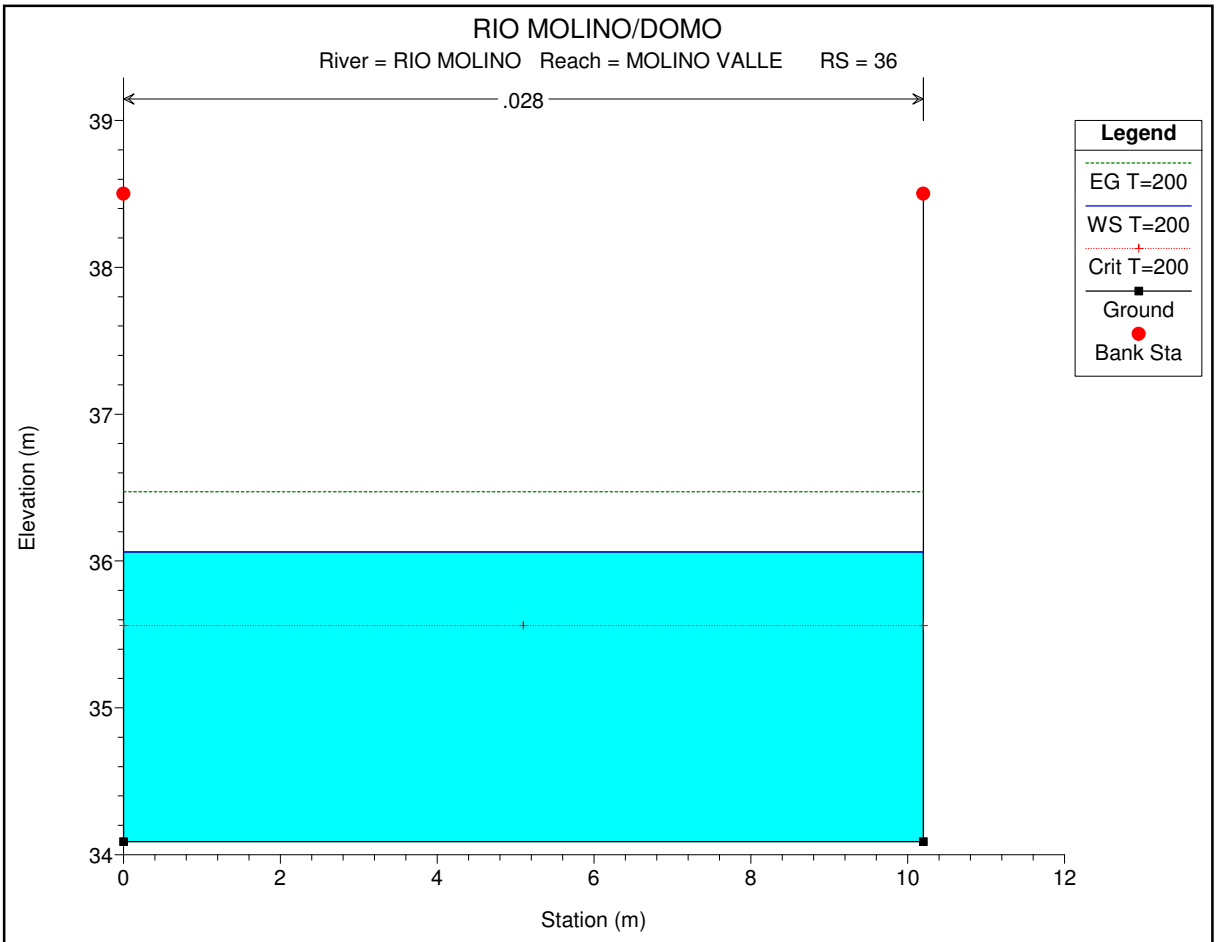

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO META RS = 39
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39.0
38.5
38.0
37.5
37.0
36.5
36.0
35.5
35.0
0
1
2
3
4
5
6

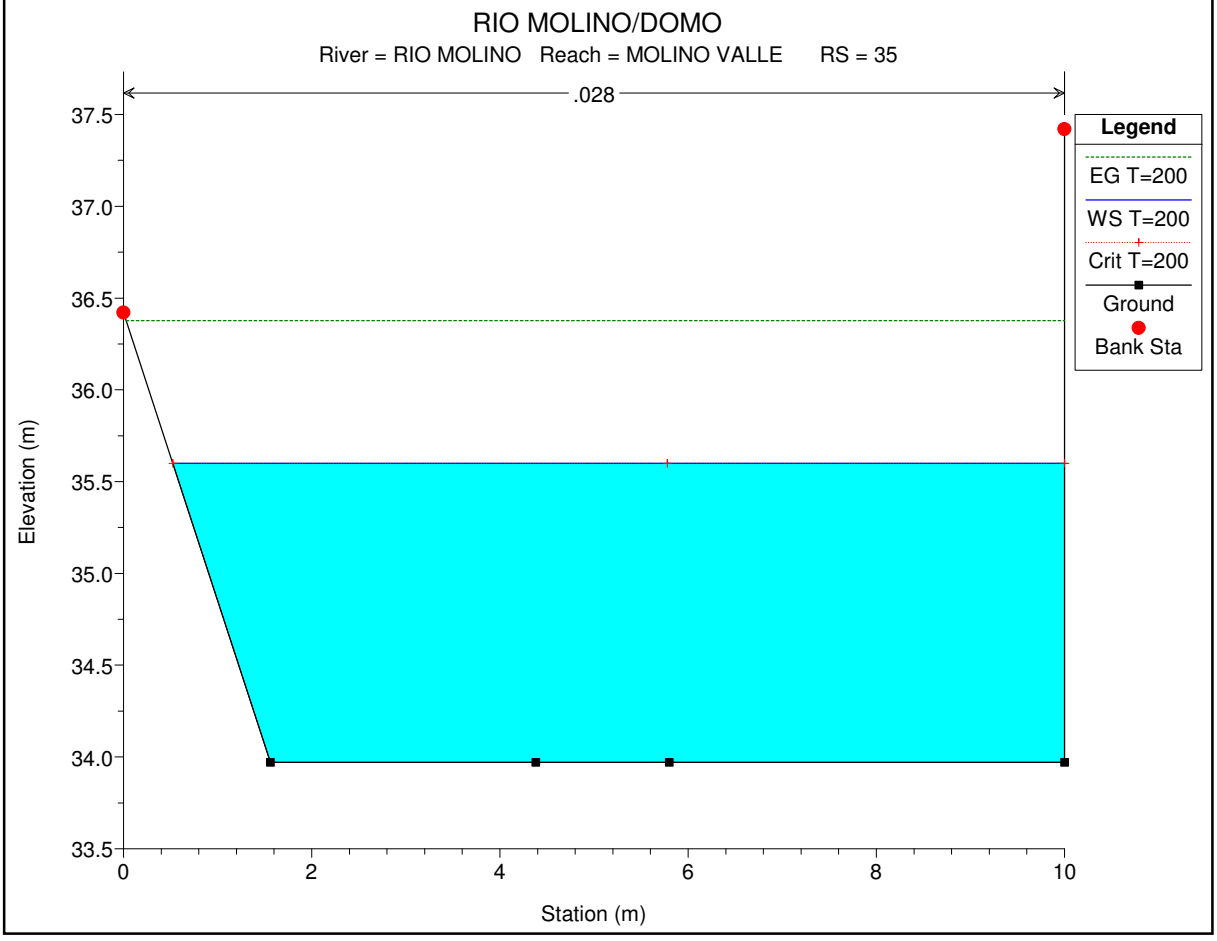

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 38
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
38.0
37.5
37.0
36.5
36.0
35.5
35.0
34.5
34.0
0
2
4
6
8
10
12
14
Station (m)

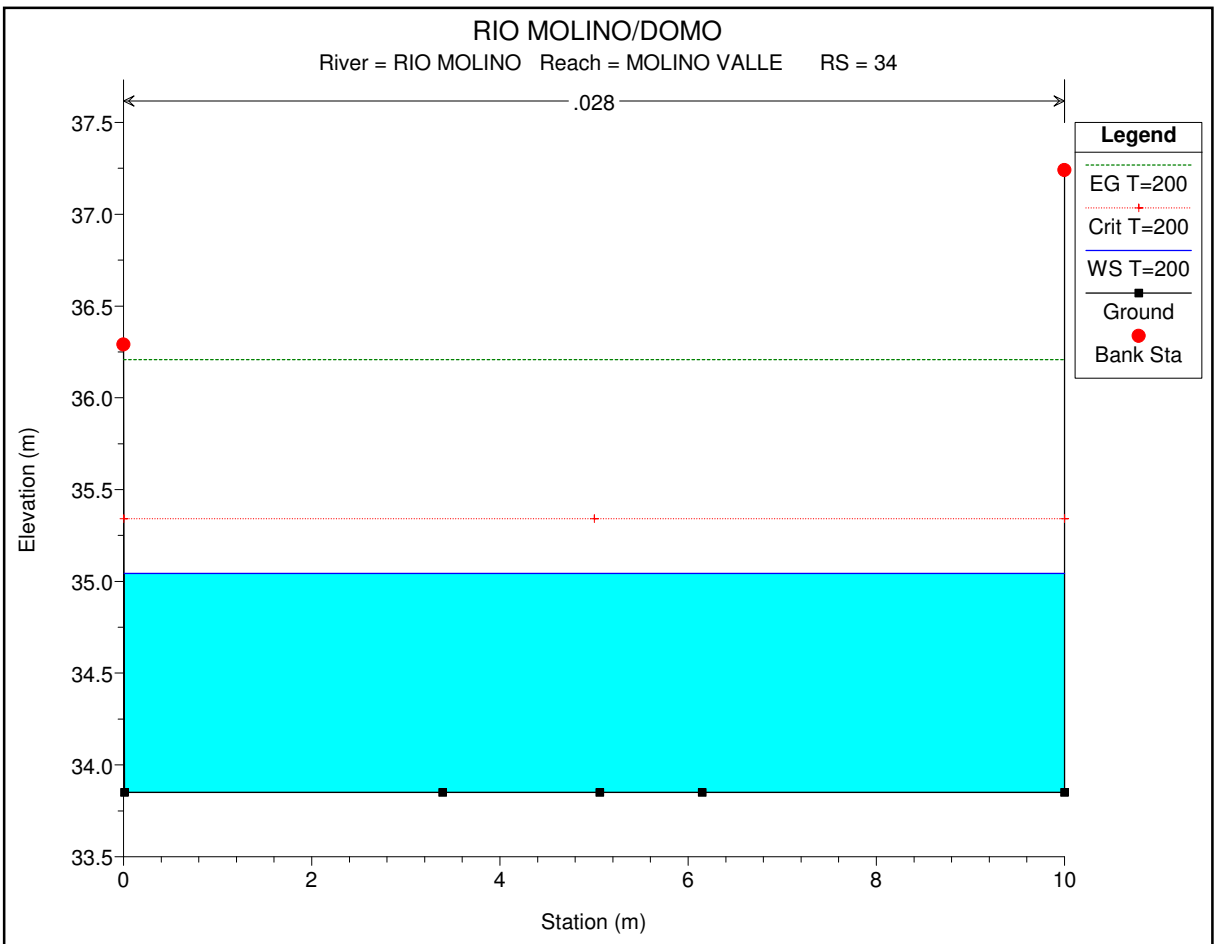

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 37
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
39
38
37
36
35
34
0
2
4
6
8
10
12
Station (m)

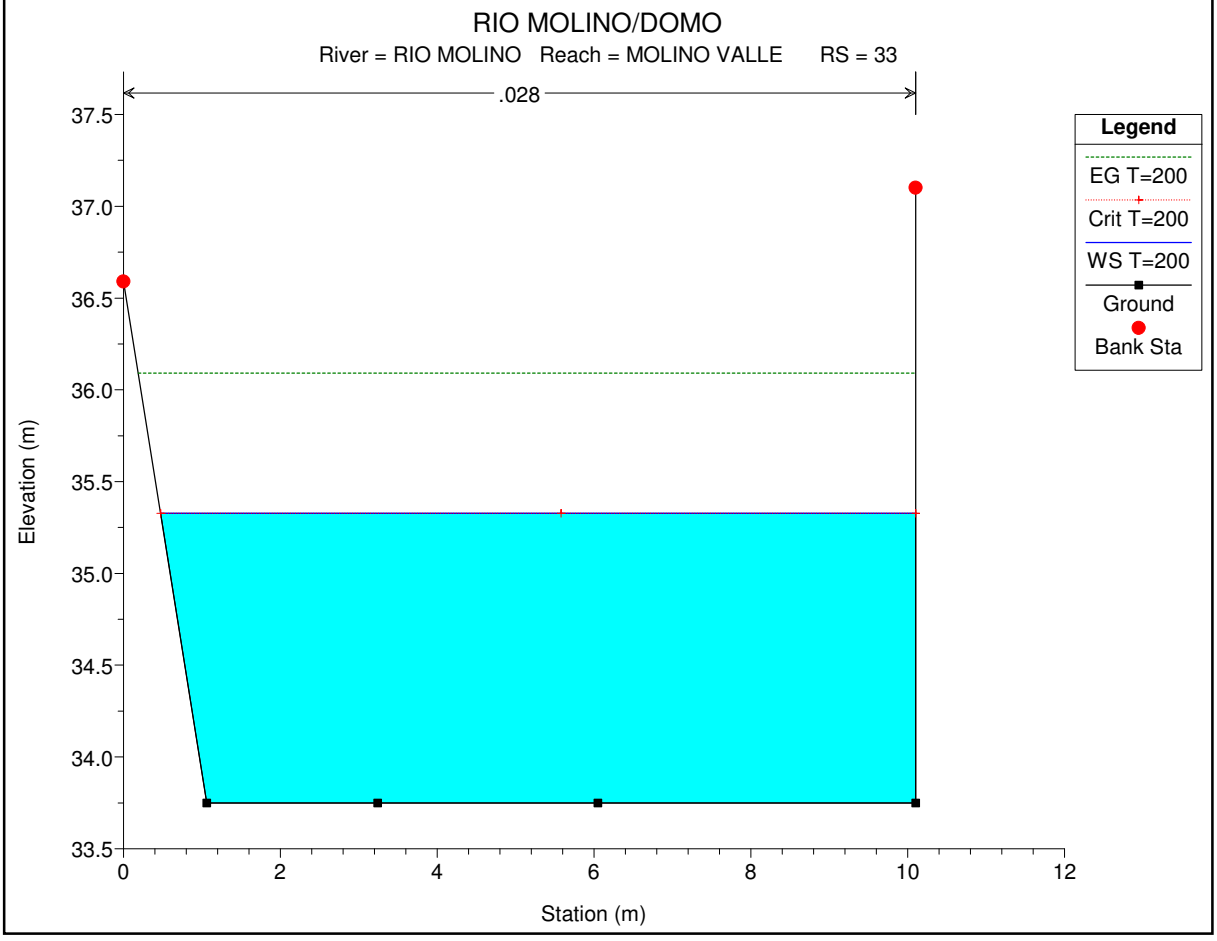

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12

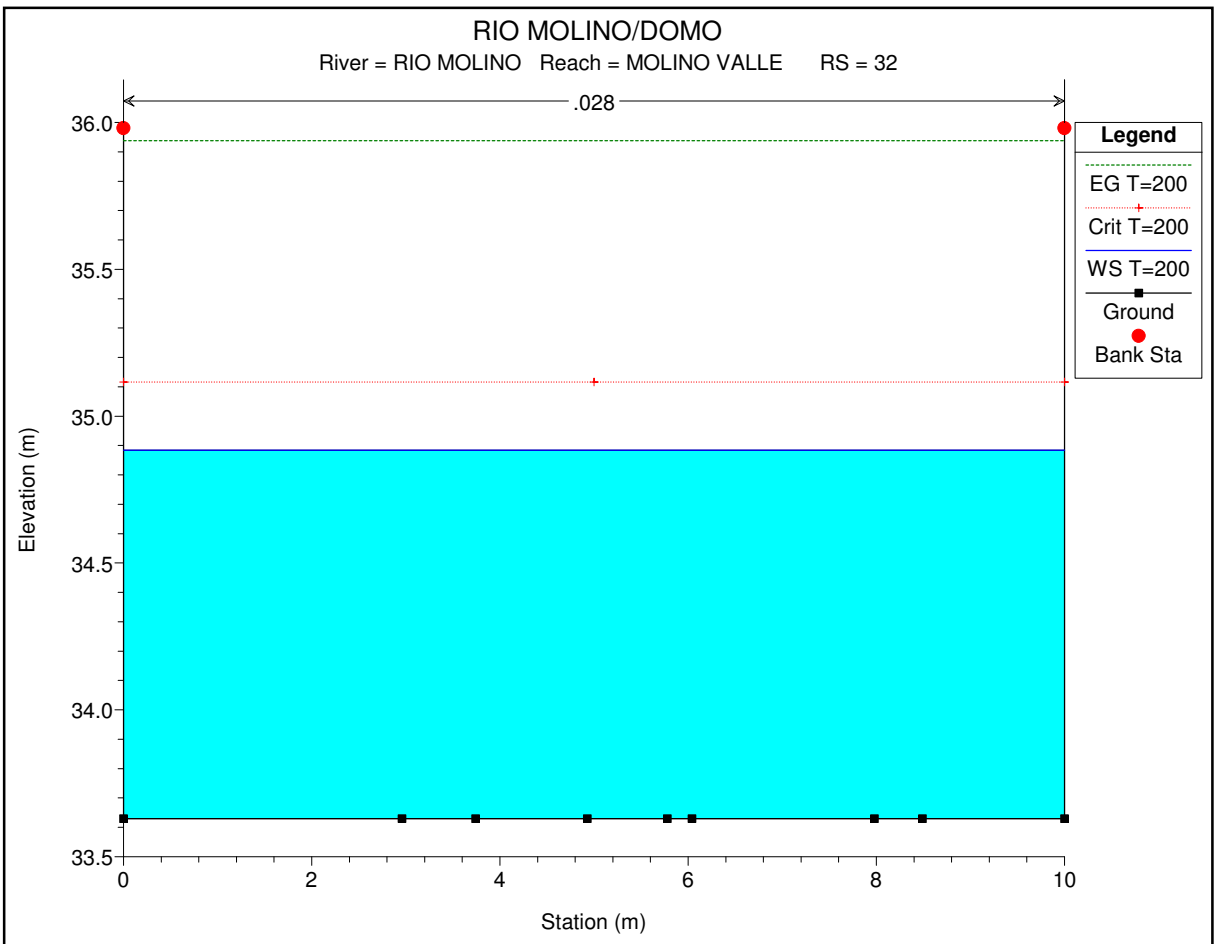

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 36.5 BR
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12

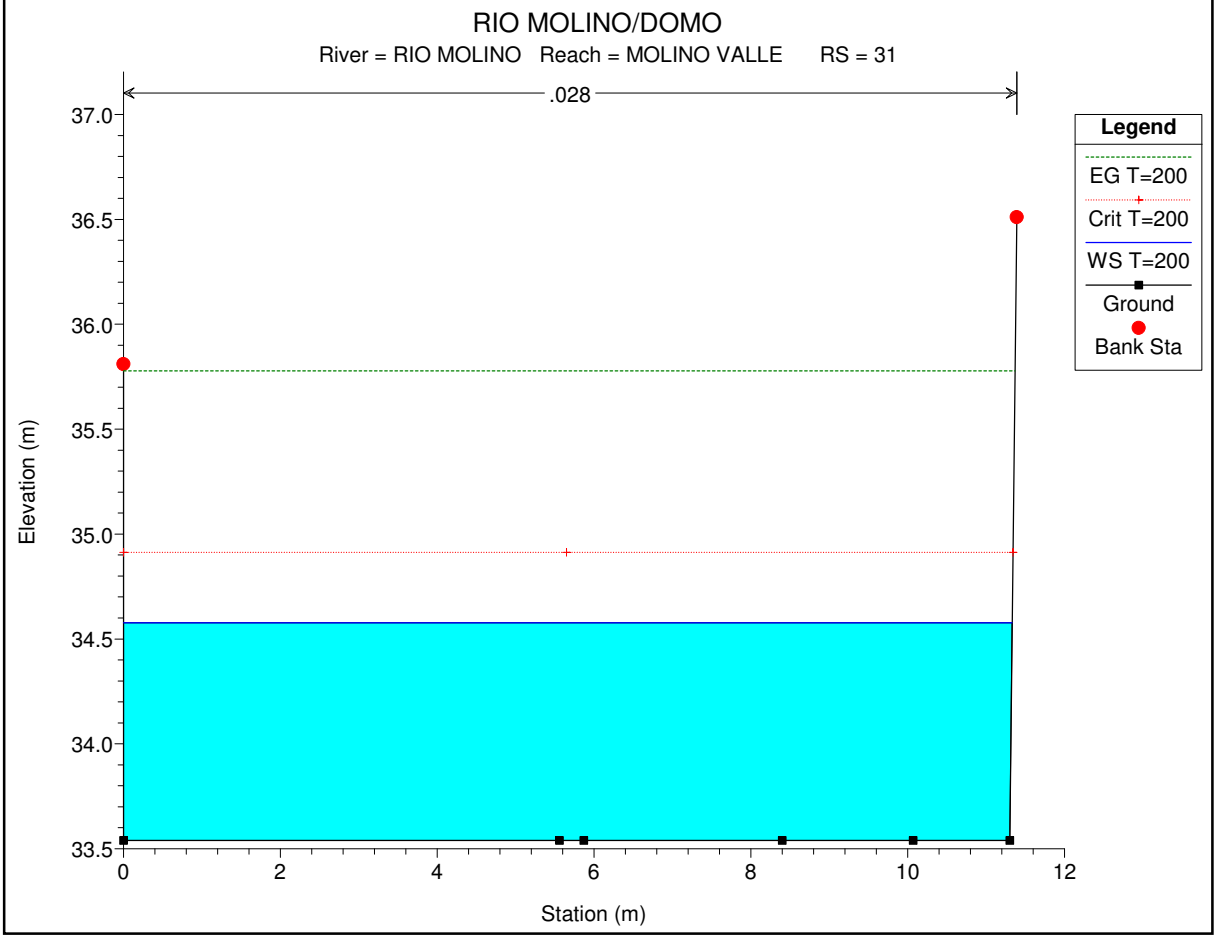

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 36
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
39
38
37
36
35
34
0
2
4
6
8
10
12

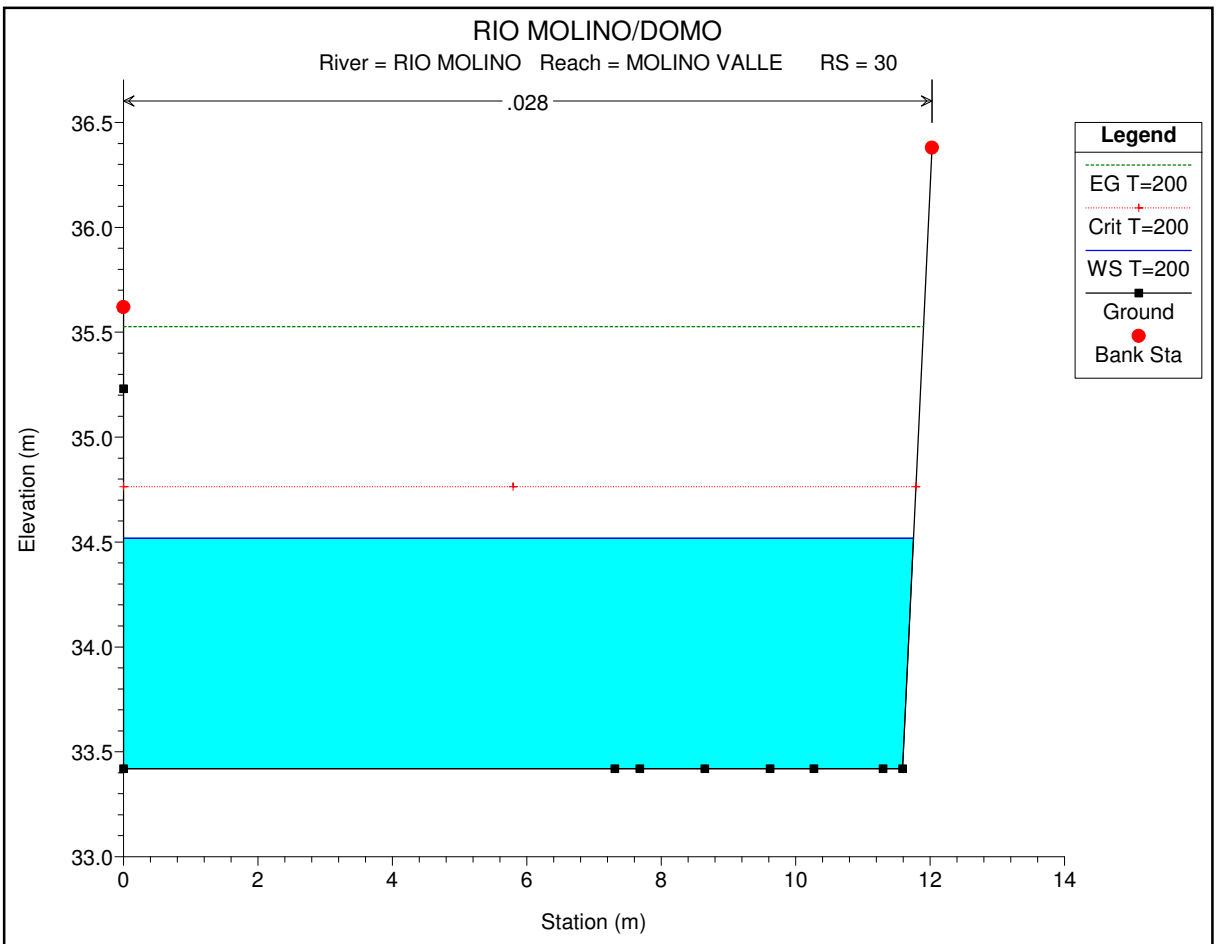

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 35
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.5
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
0
2
4
6
8
10

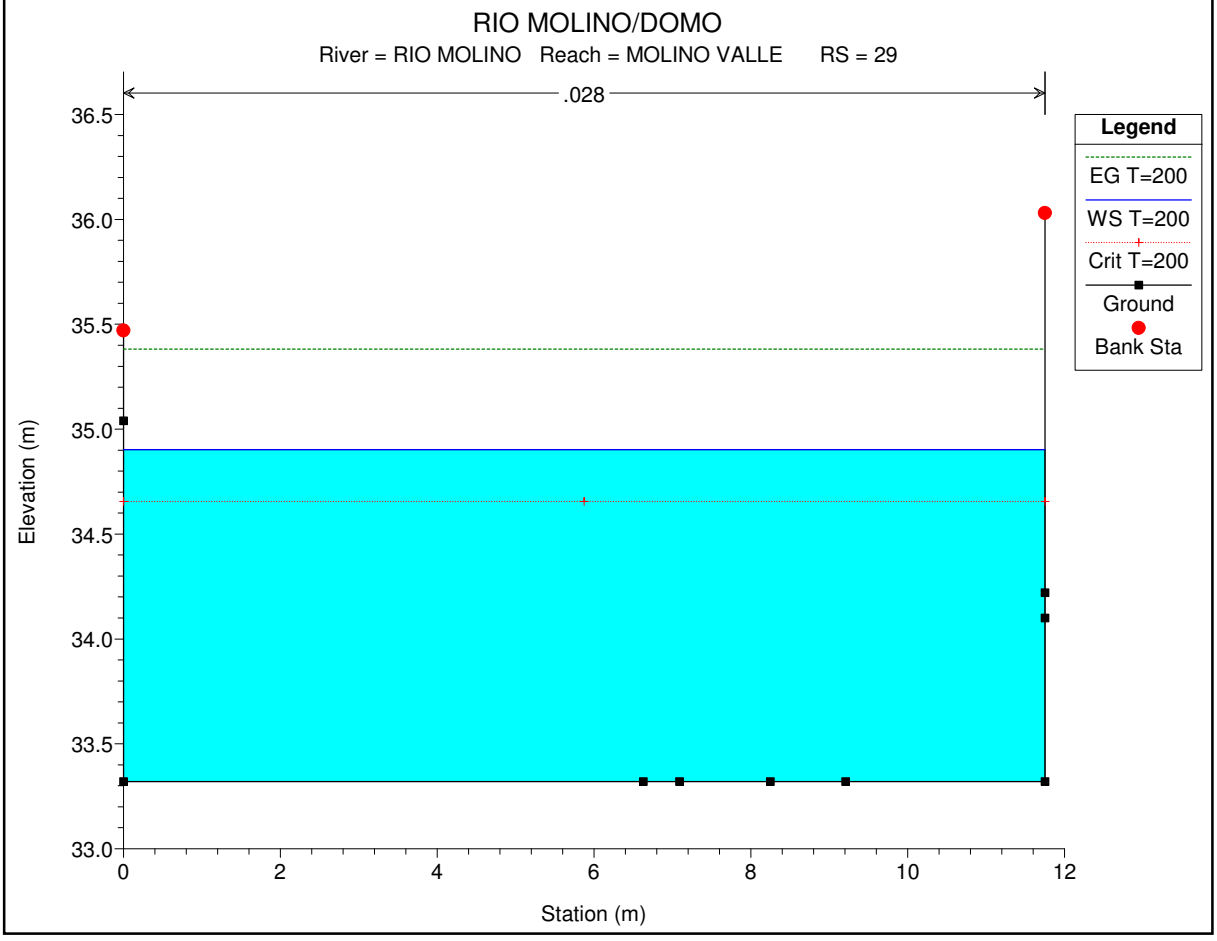

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 34
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.5
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
0
2
4
6
8
10

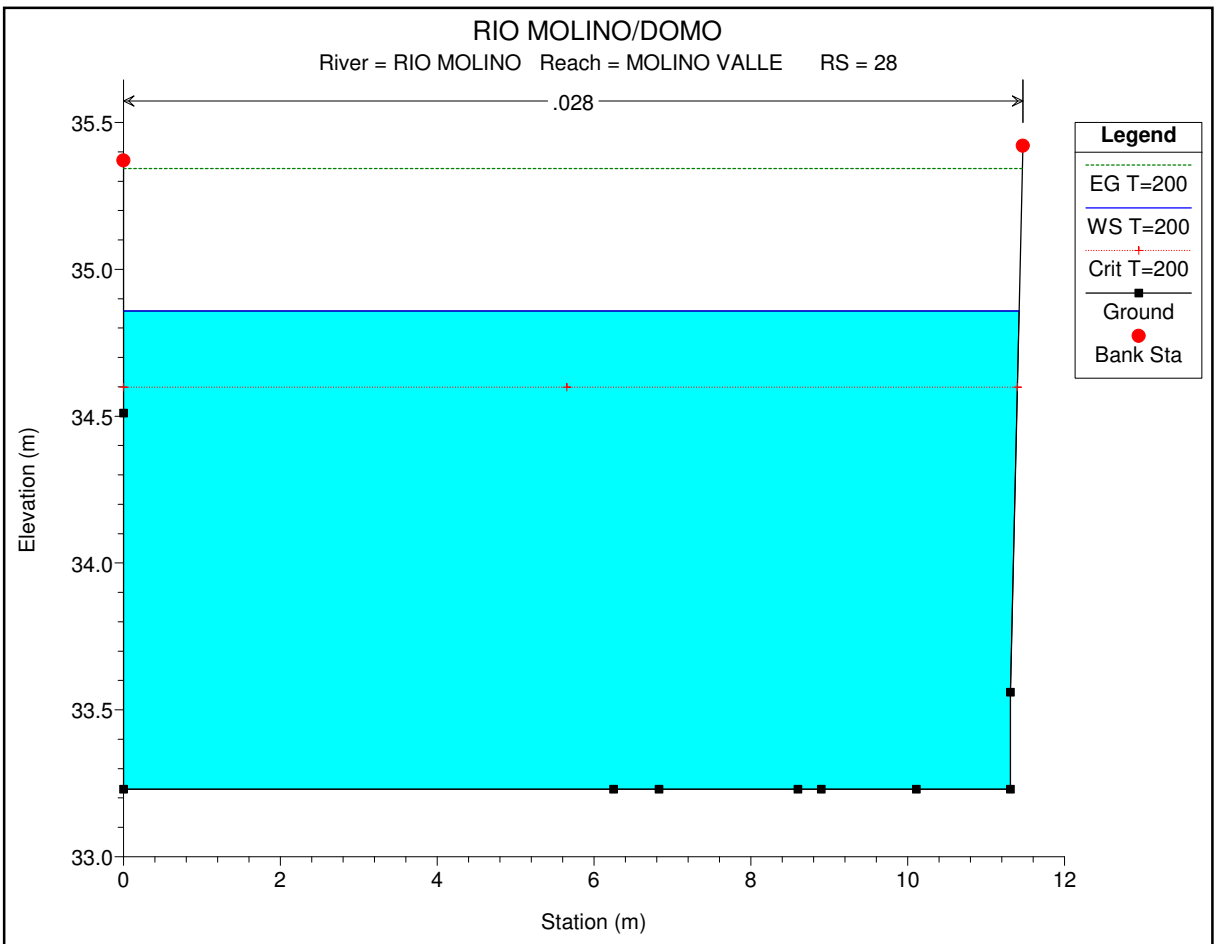

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 33
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.5
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
0
2
4
6
8
10
12

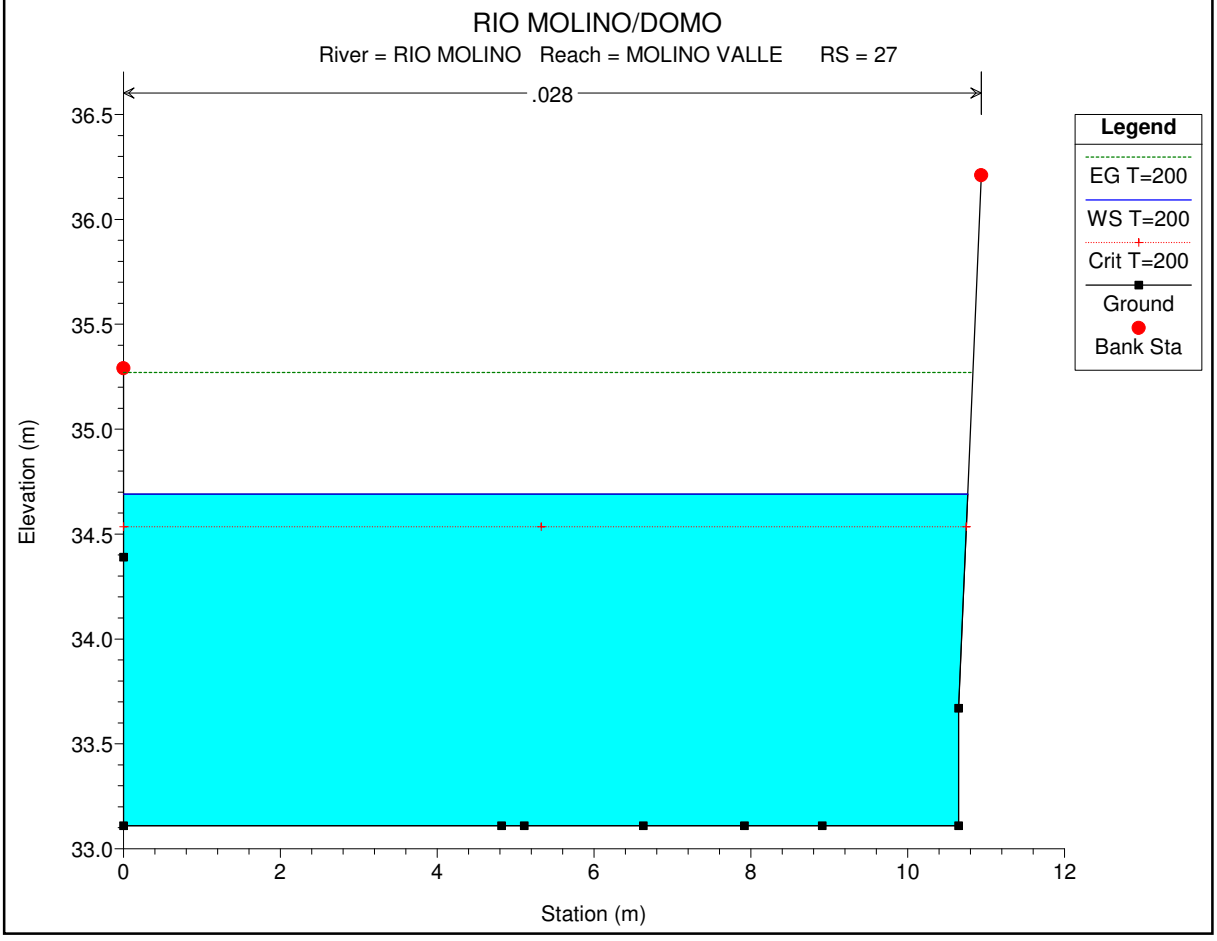

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 32
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.0
35.5
35.0
34.5
34.0
33.5
0
2
4
6
8
10

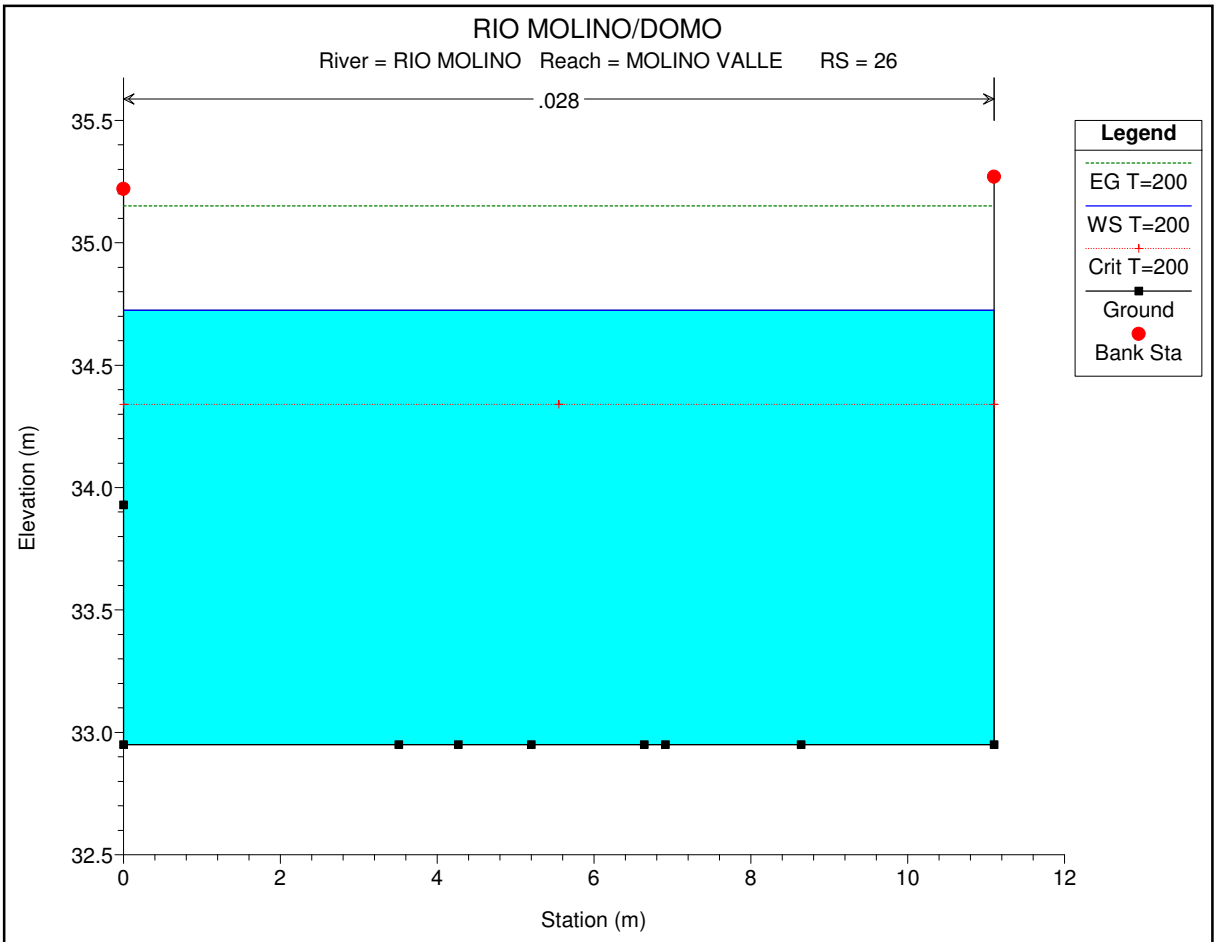

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 31
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
37.0
36.5
36.0
35.5
35.0
34.5
34.0
33.5
0
2
4
6
8
10
12

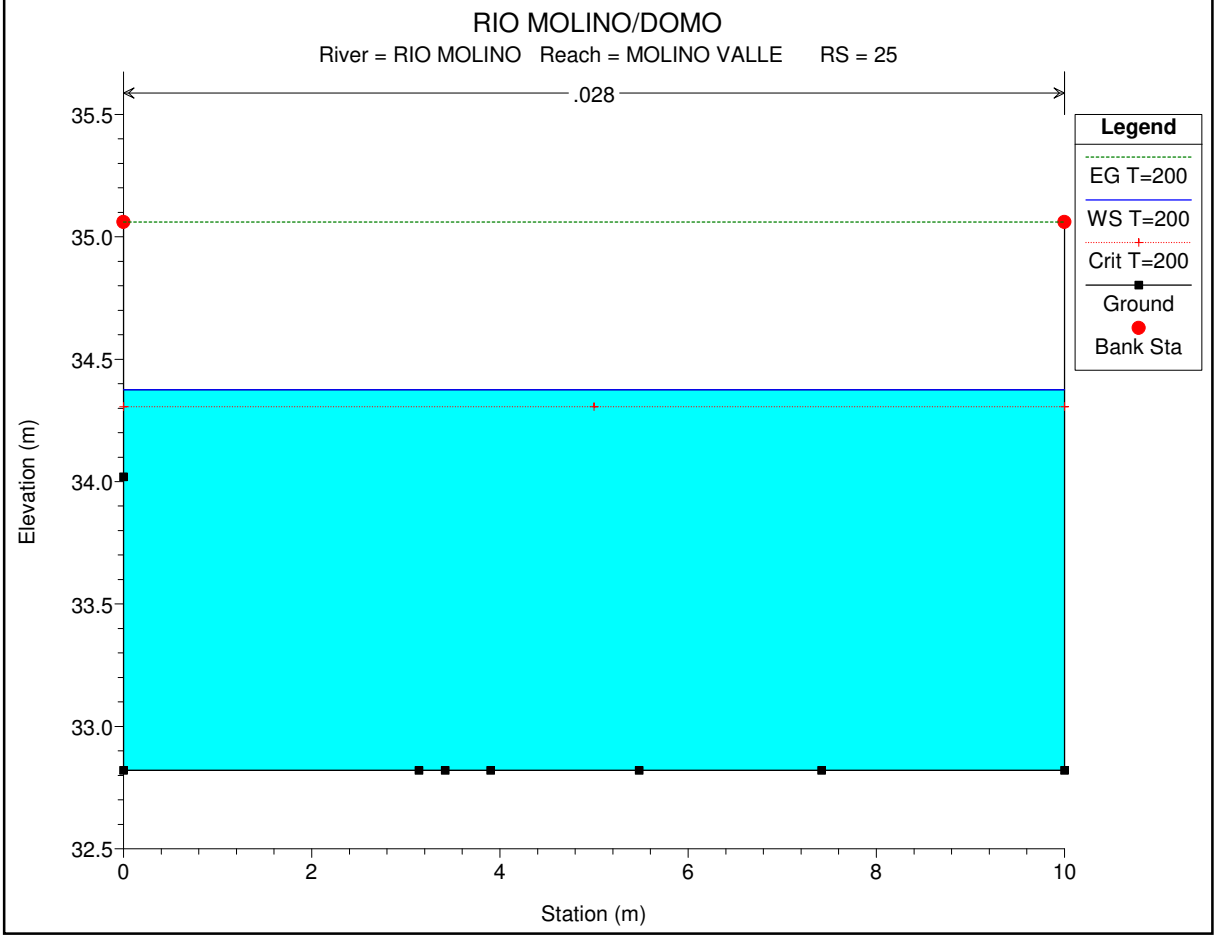

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 30
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
0
2
4
6
8
10
12
14

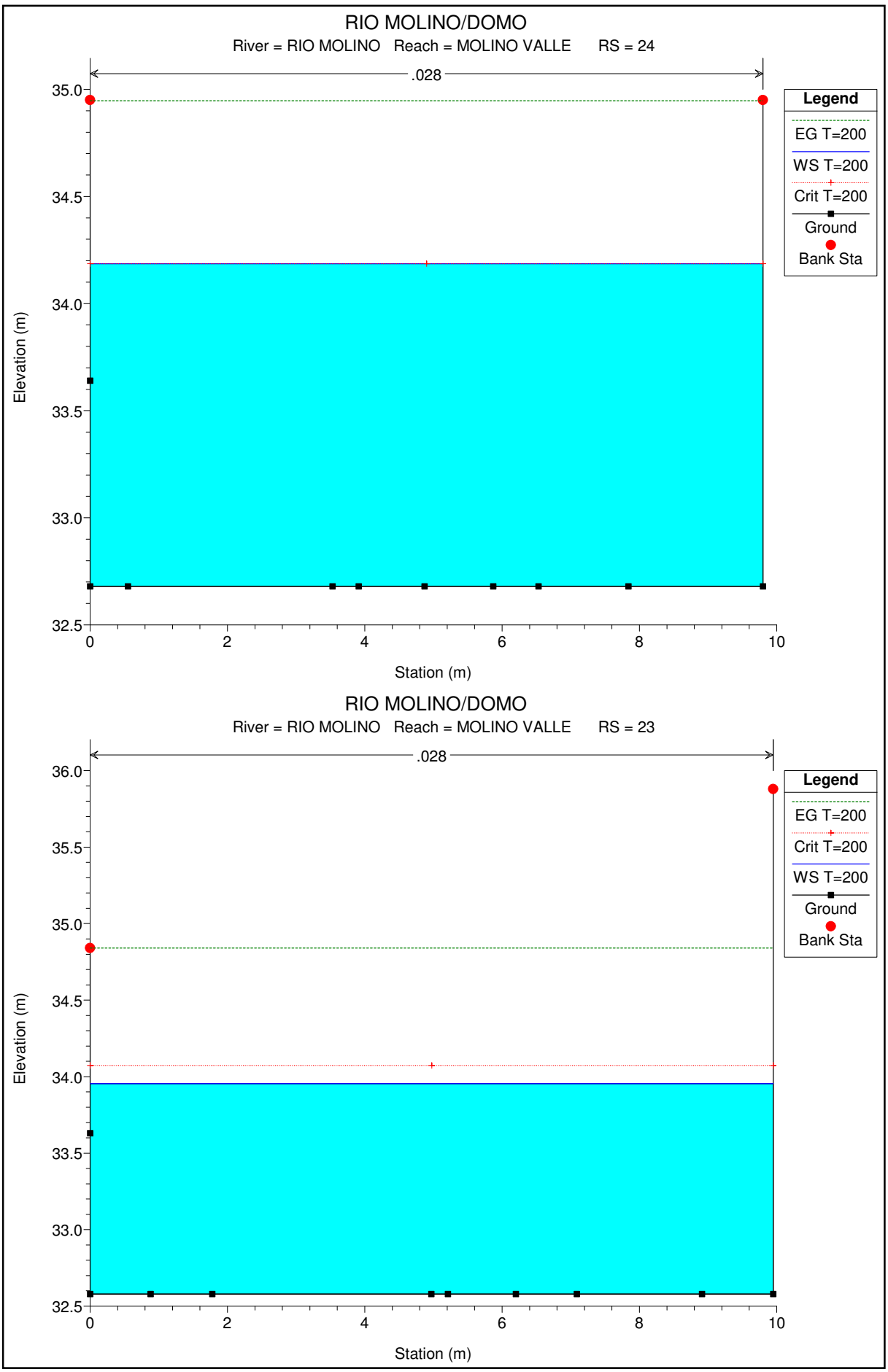

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 29
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
0
2
4
6
8
10
12

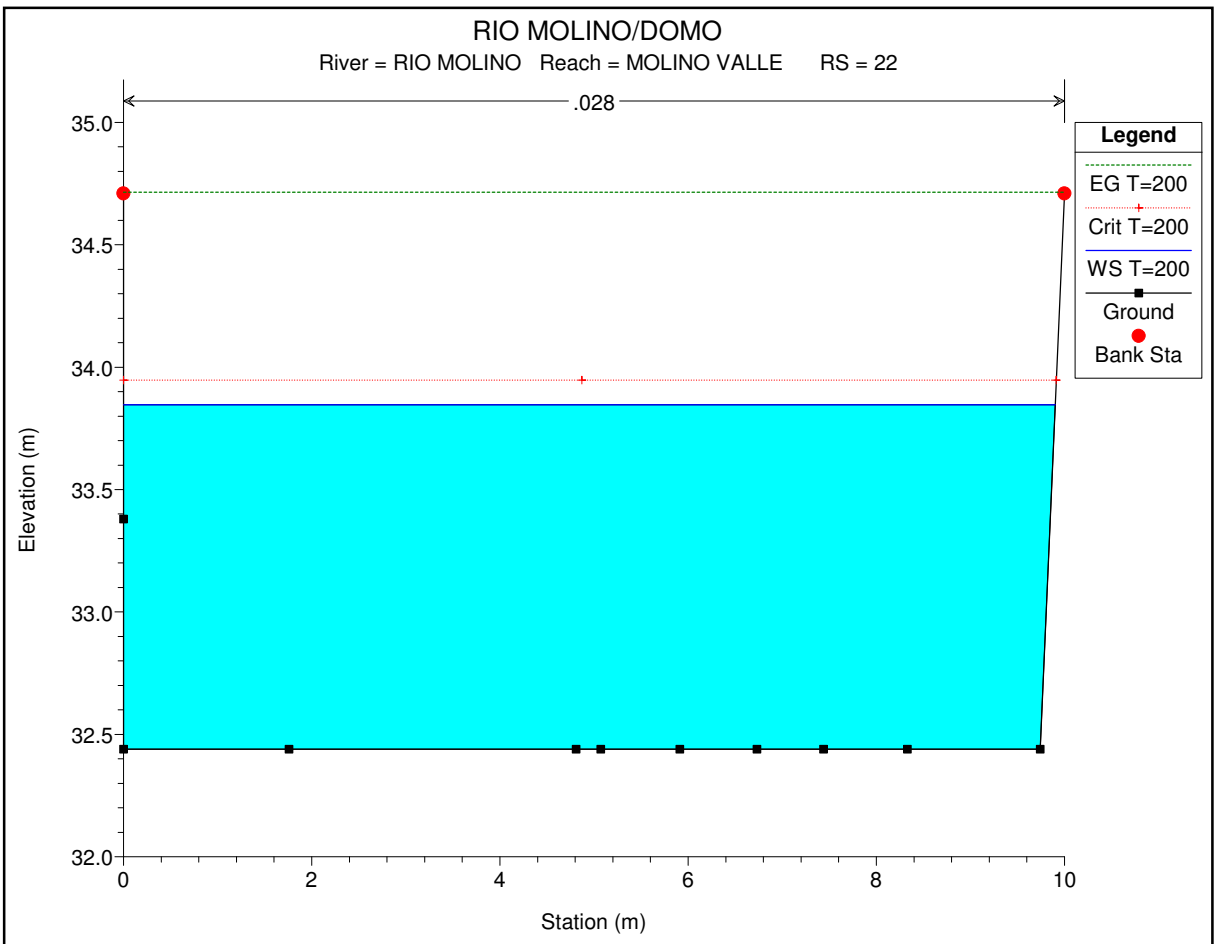

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 28
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.5
35.0
34.5
34.0
33.5
33.0
0
2
4
6
8
10
12

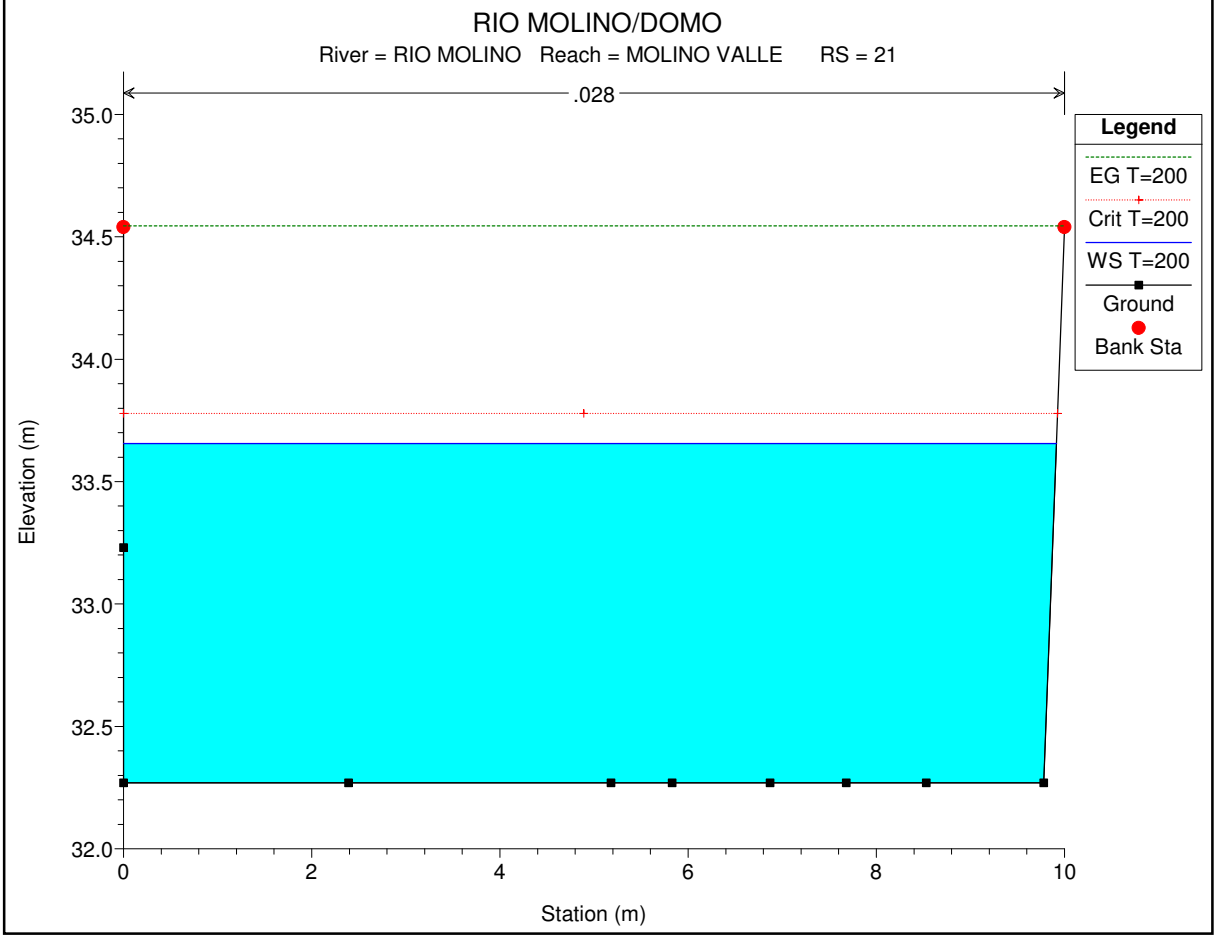

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 27
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
36.5
36.0
35.5
35.0
34.5
34.0
33.5
33.0
0
2
4
6
8
10
12

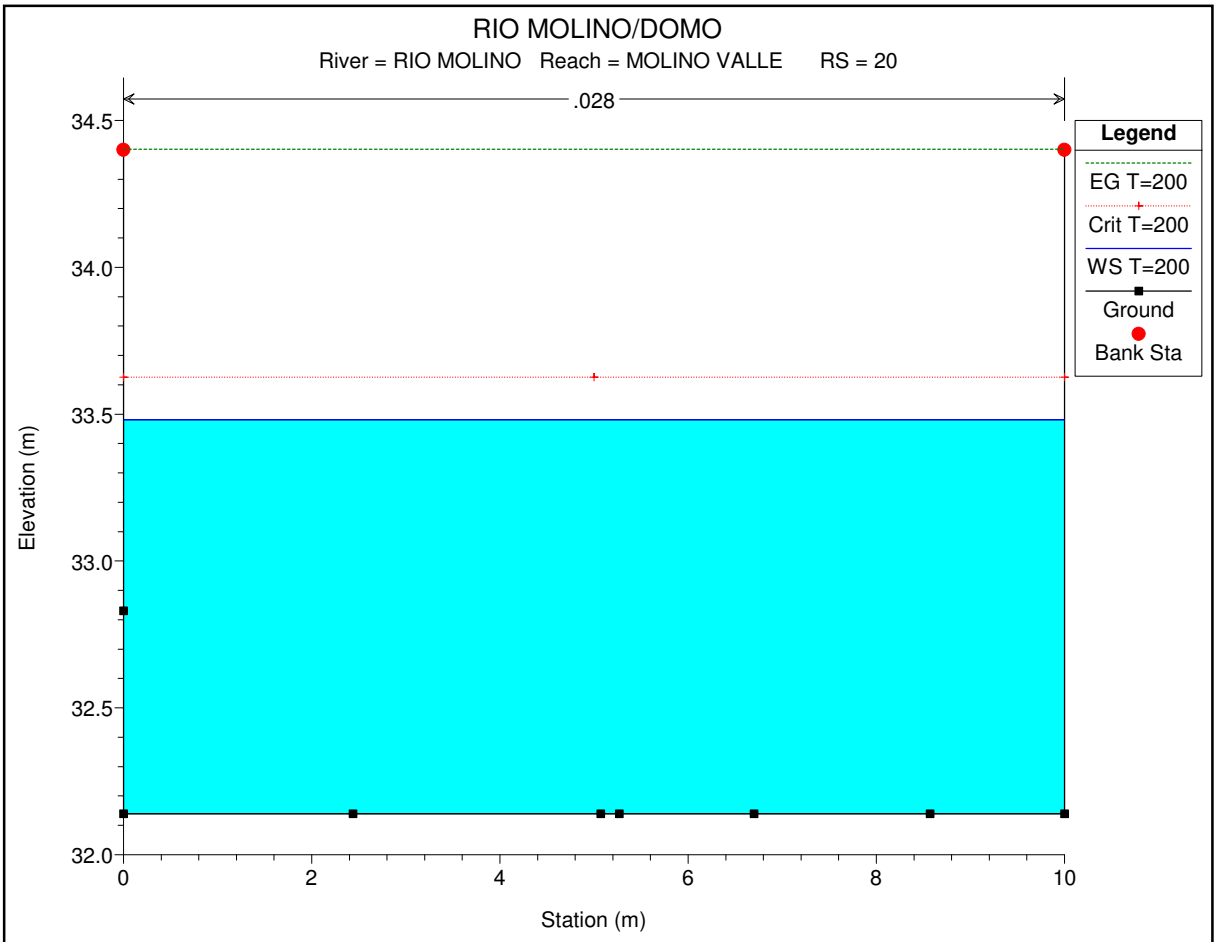

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 26
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
35.5
35.0
34.5
34.0
33.5
33.0
32.5
0
2
4
6
8
10
12
Station (m)

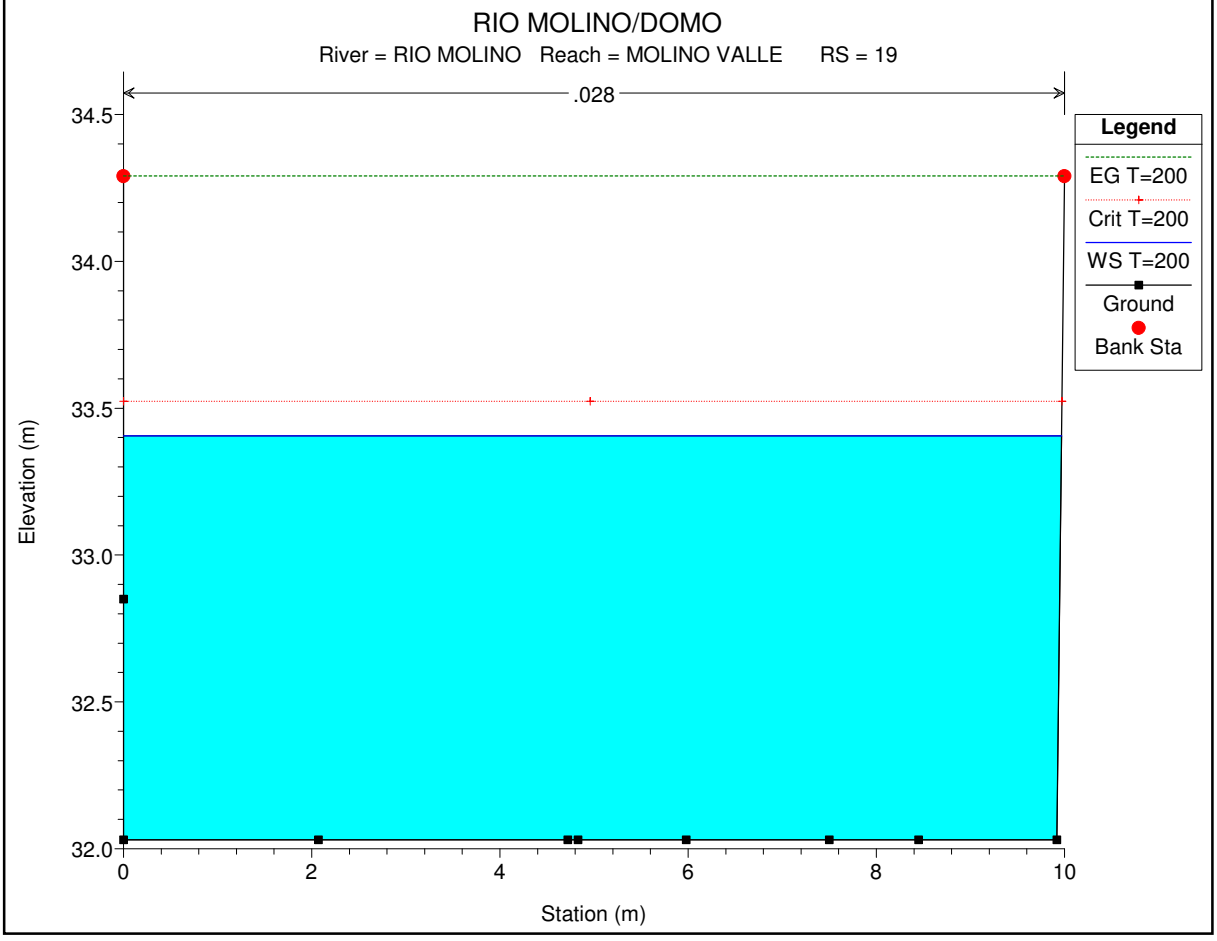

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 25
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
35.5
35.0
34.5
34.0
33.5
33.0
32.5
0
2
4
6
8
10
Station (m)

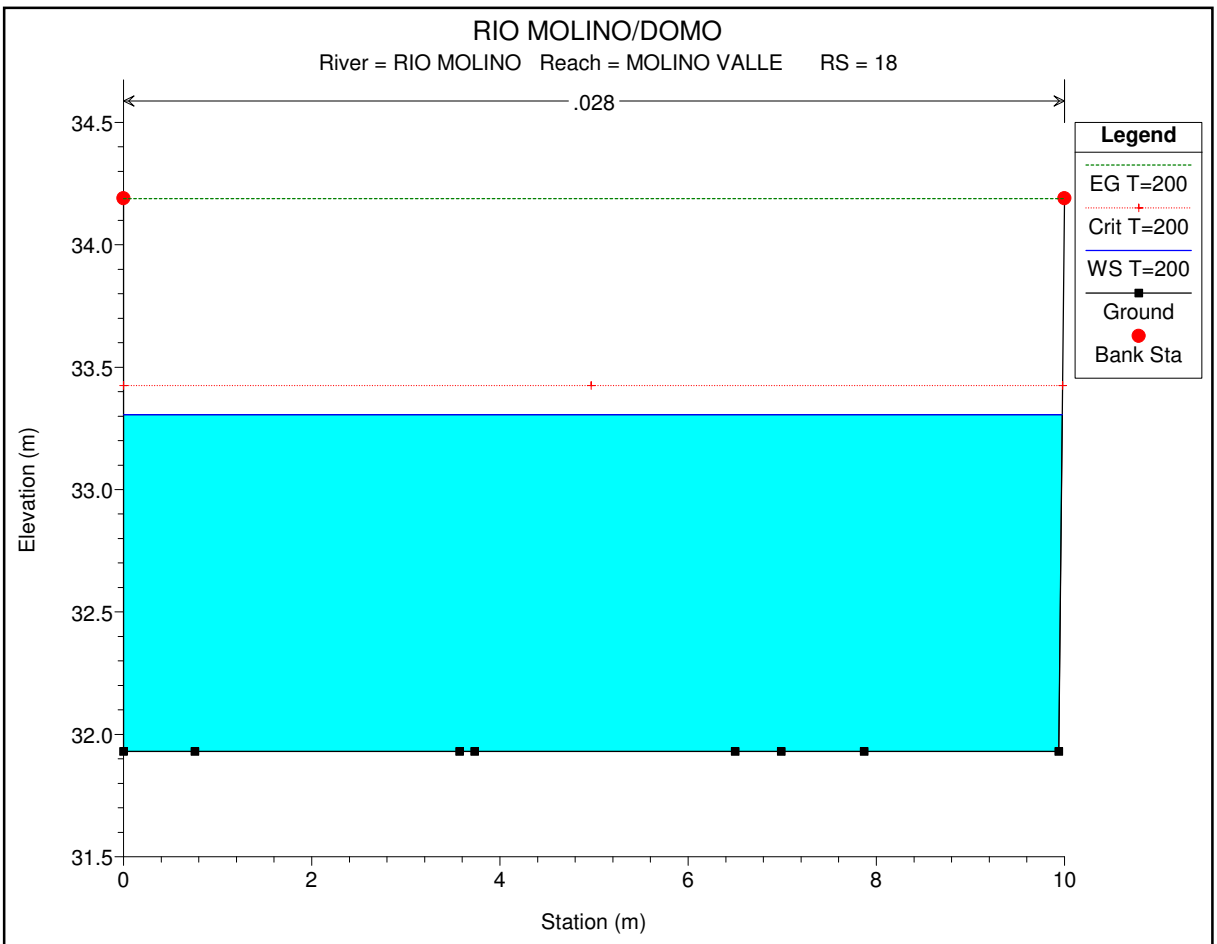

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 24
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 23
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)

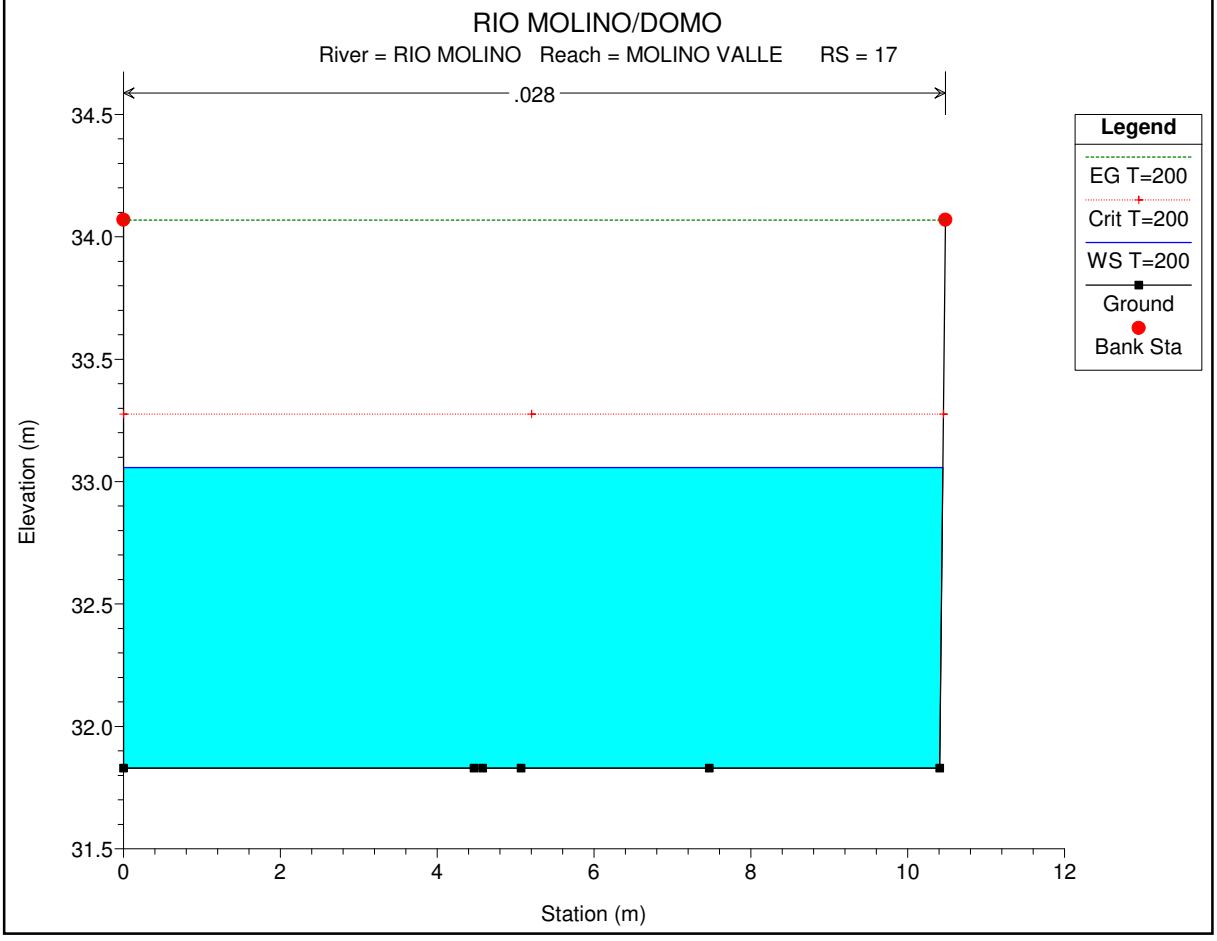

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 22
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
0
2
4
6
8
10

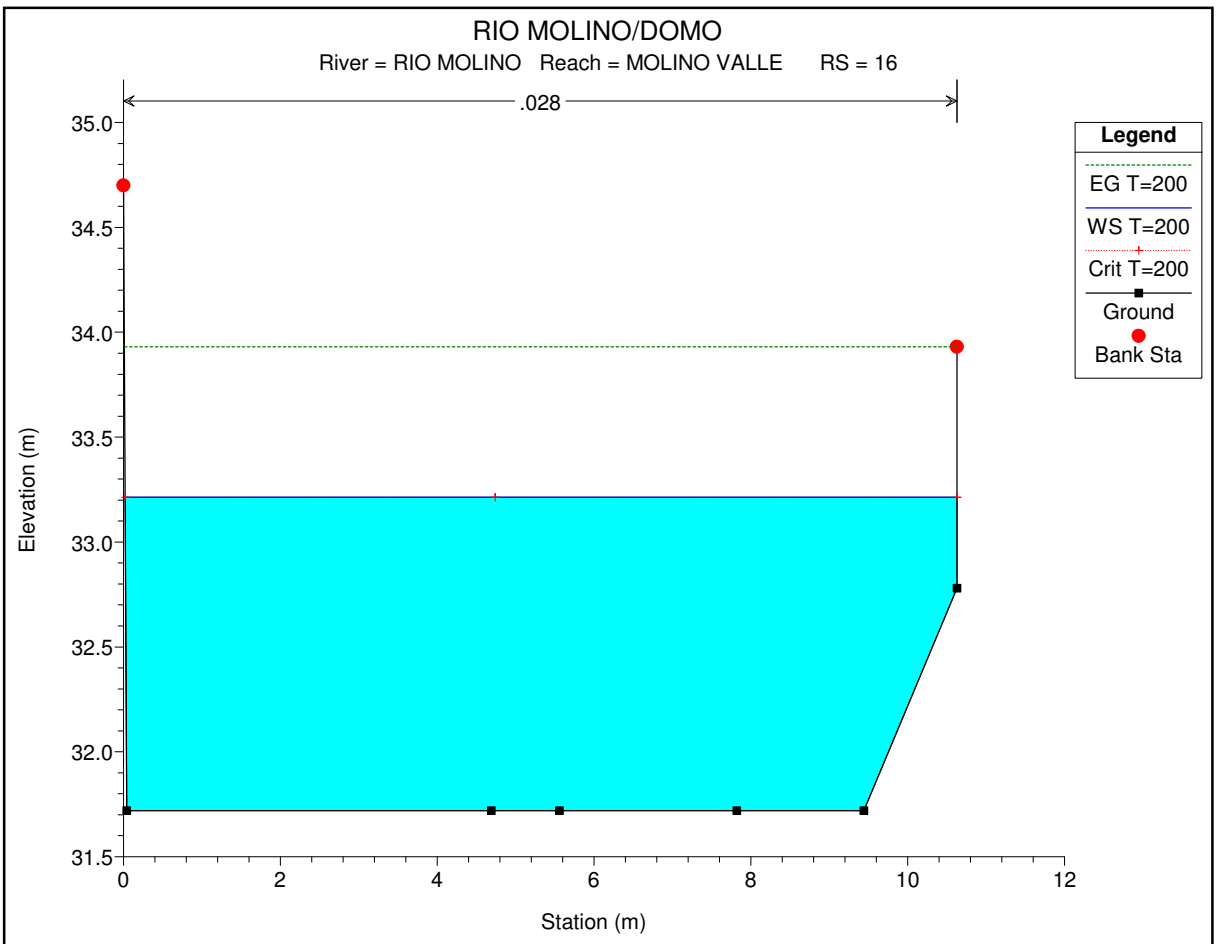

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 21
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
0
2
4
6
8
10

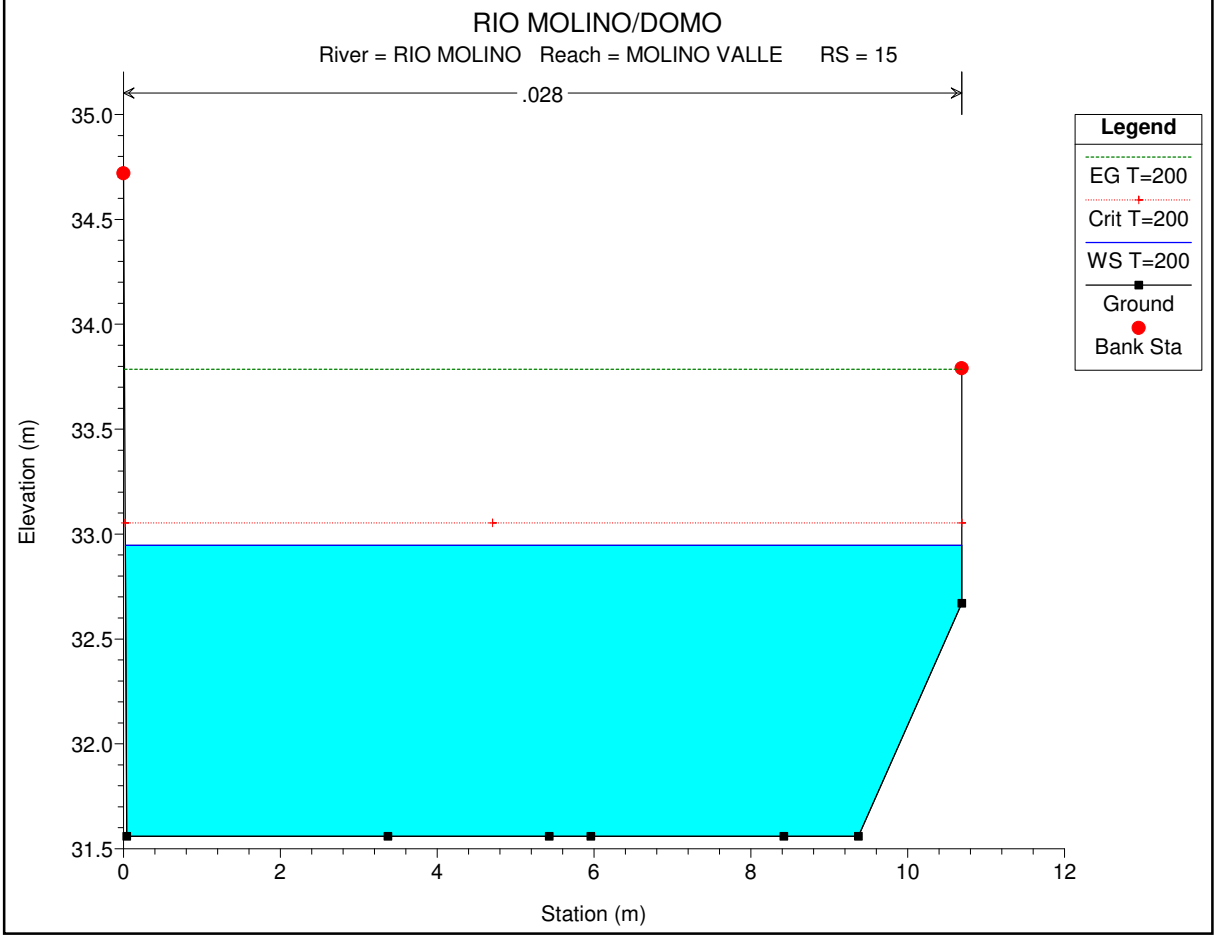

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 20
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
34.5
34.0
33.5
33.0
32.5
32.0
0
2
4
6
8
10
Station (m)

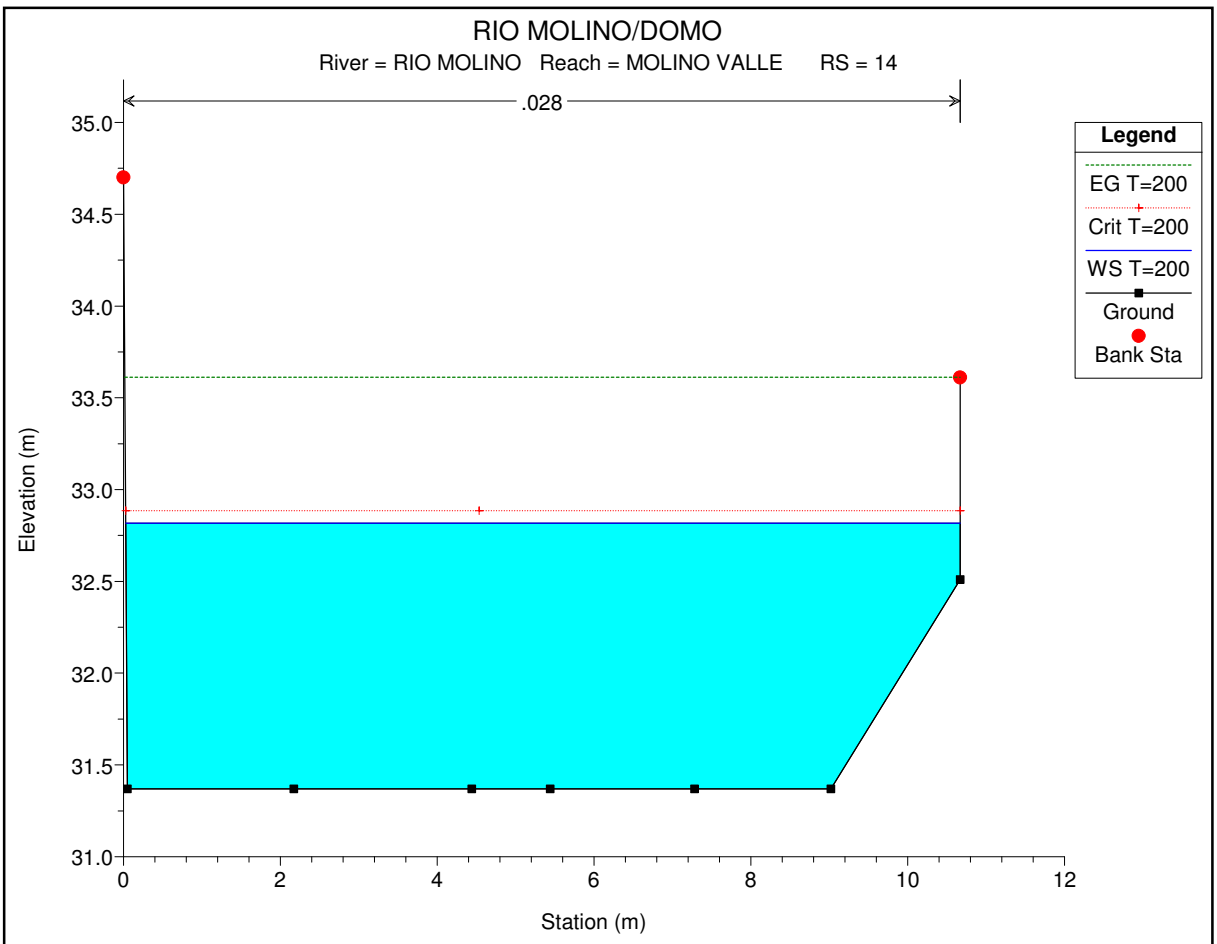

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 19
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
34.5
34.0
33.5
33.0
32.5
32.0
0
2
4
6
8
10
Station (m)

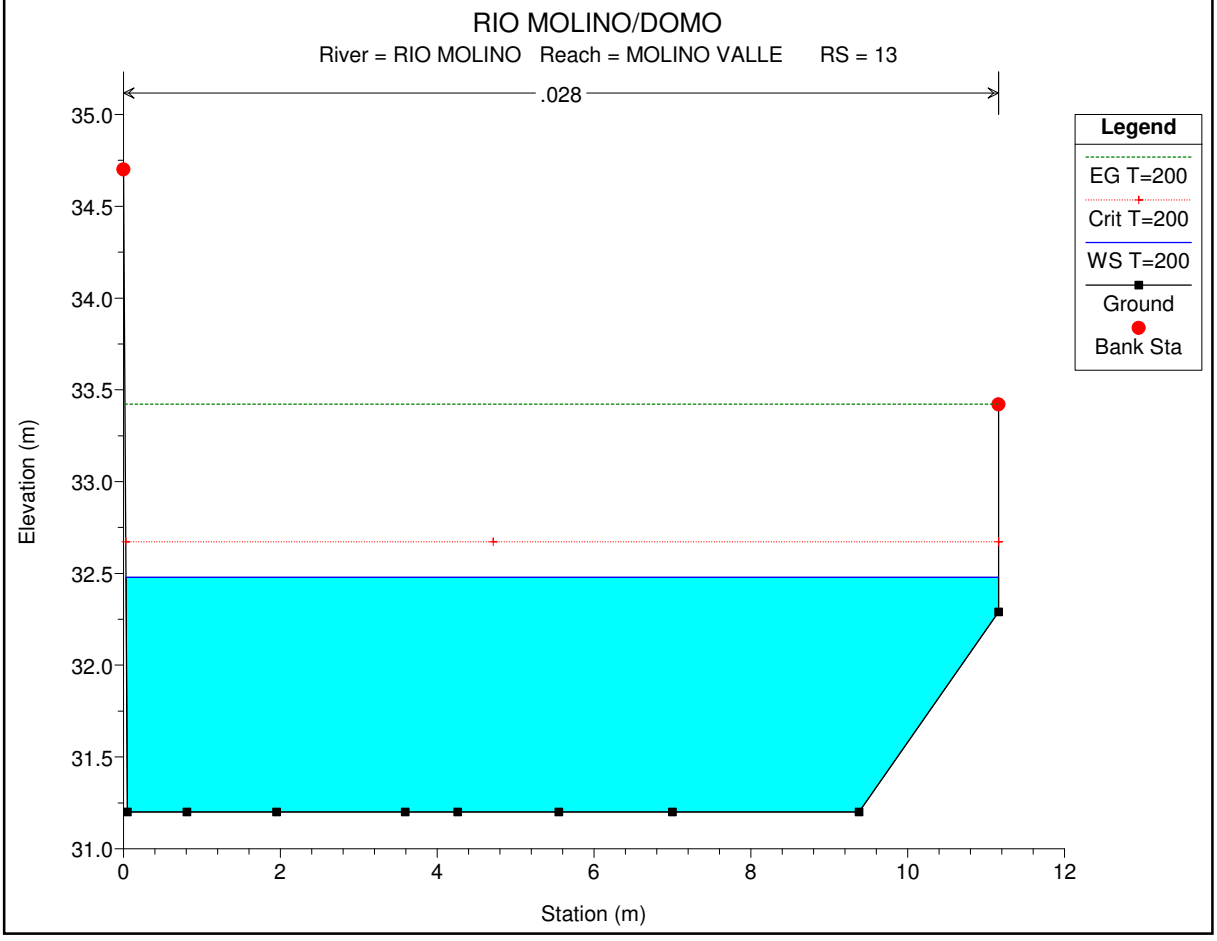

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 18
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
Station (m)

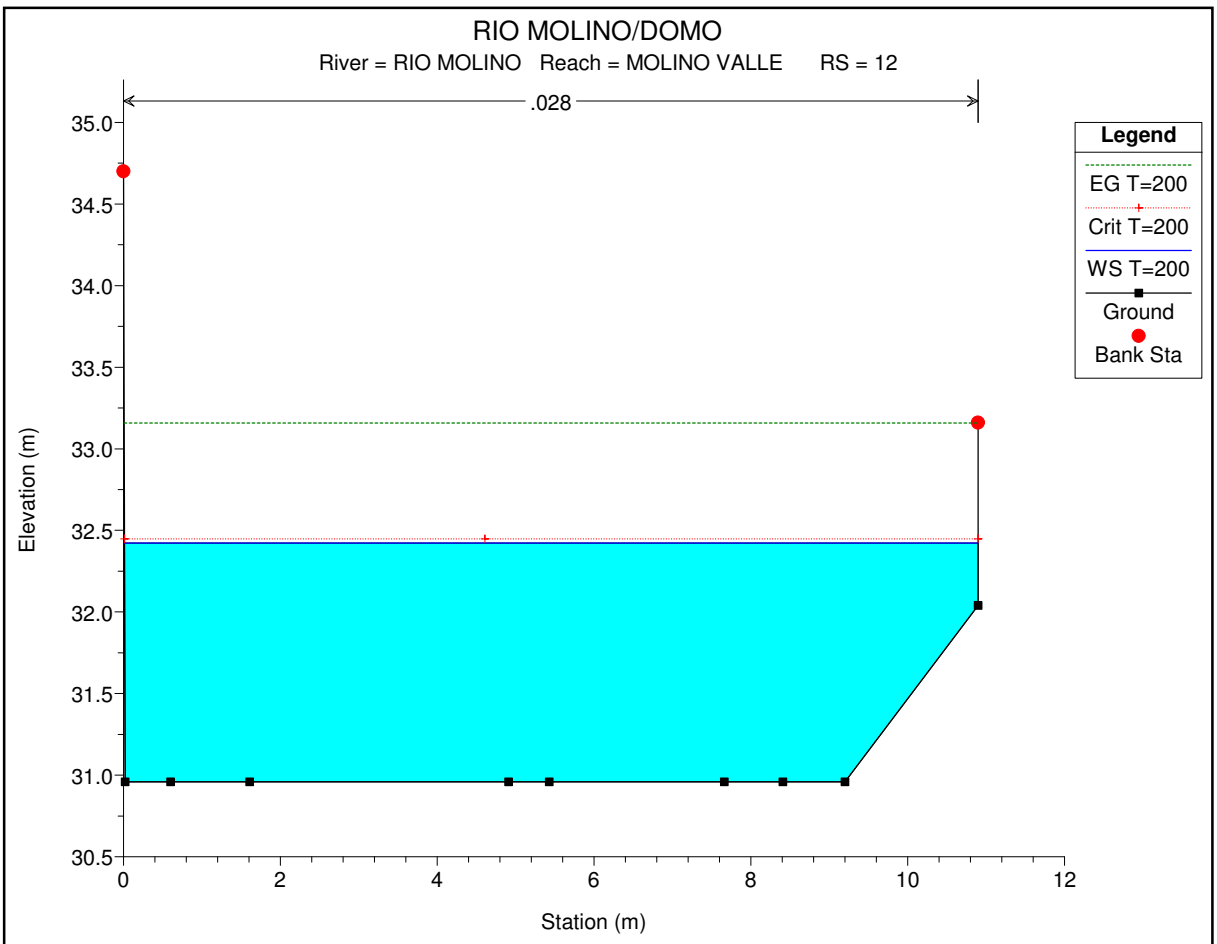

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 17
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
12
Station (m)

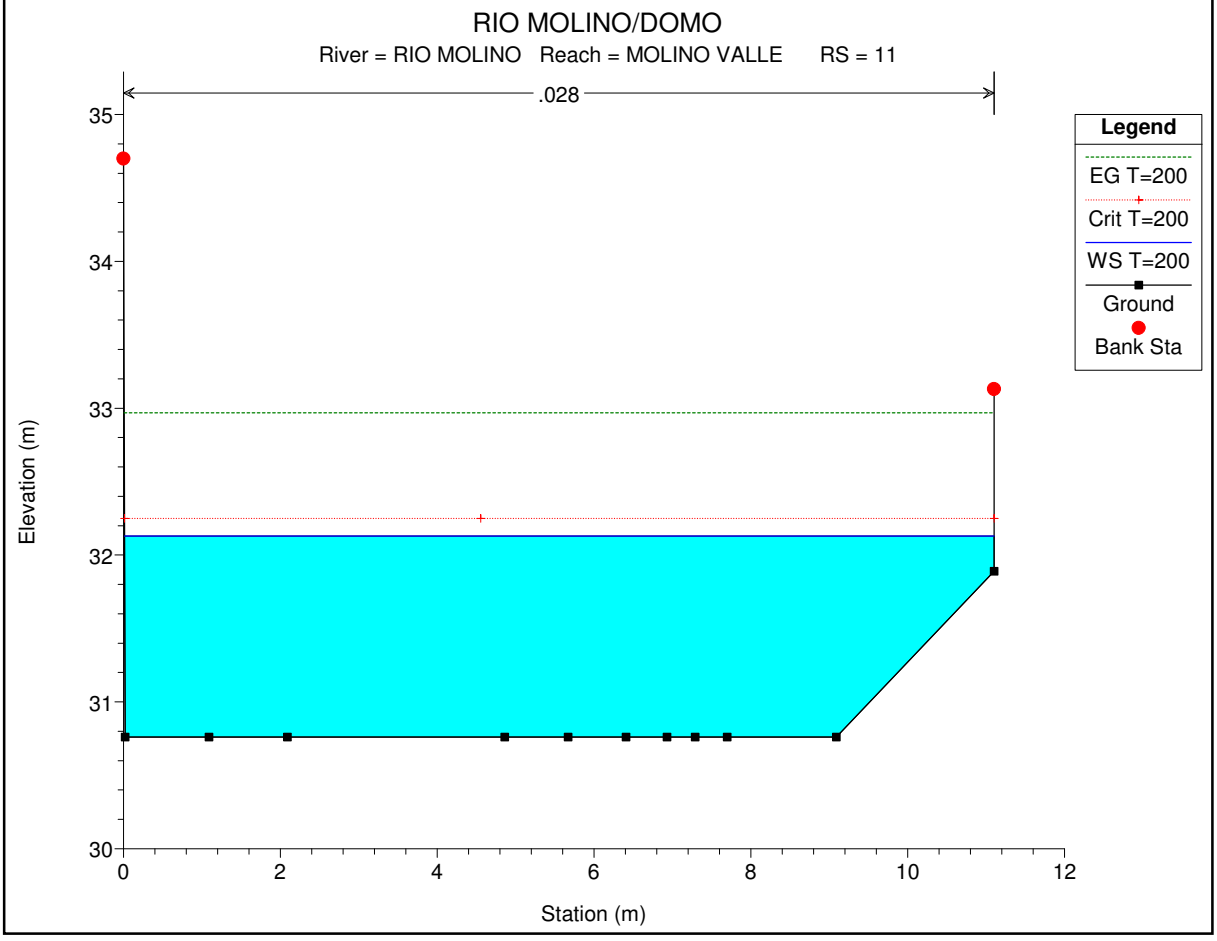

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 16
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
12

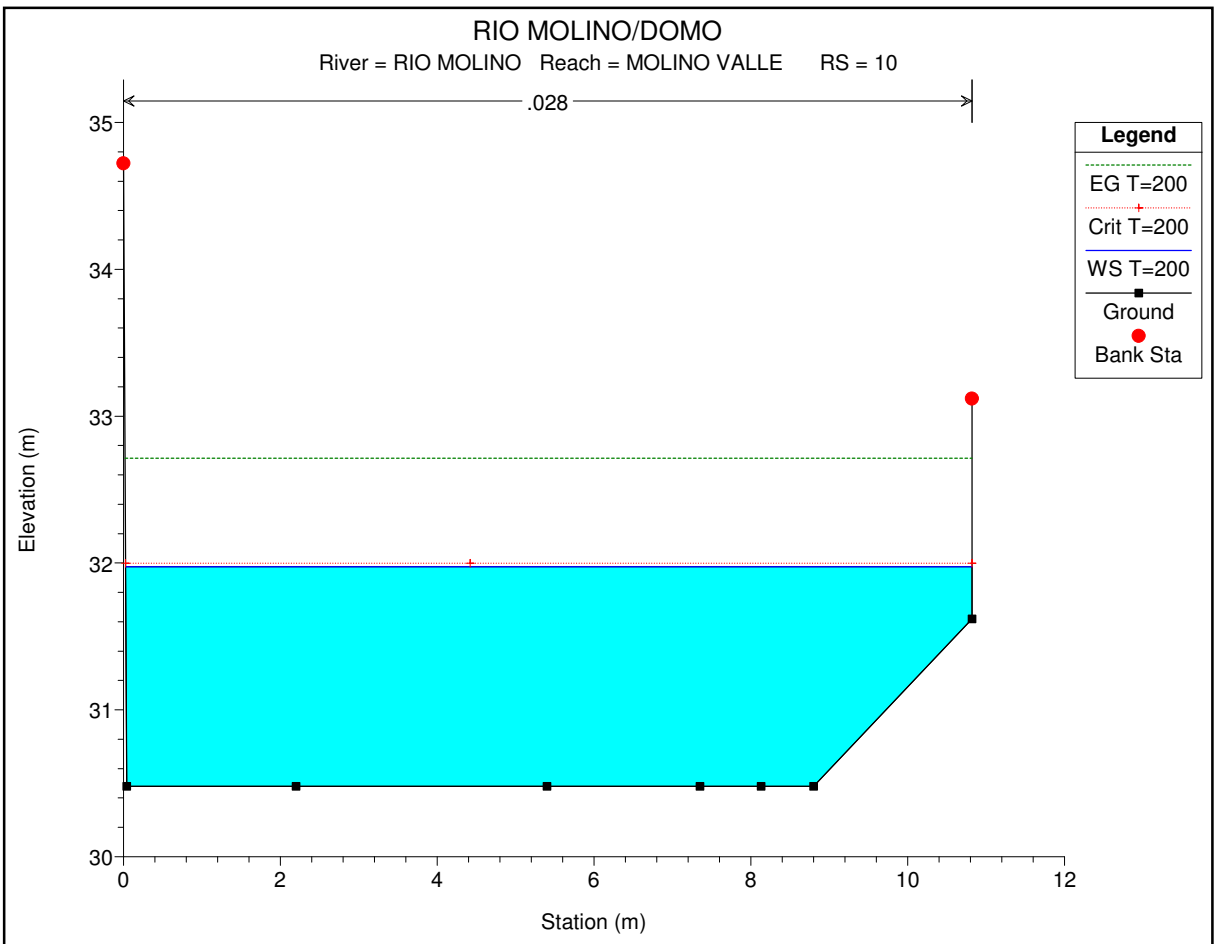

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 15
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
0
2
4
6
8
10
12

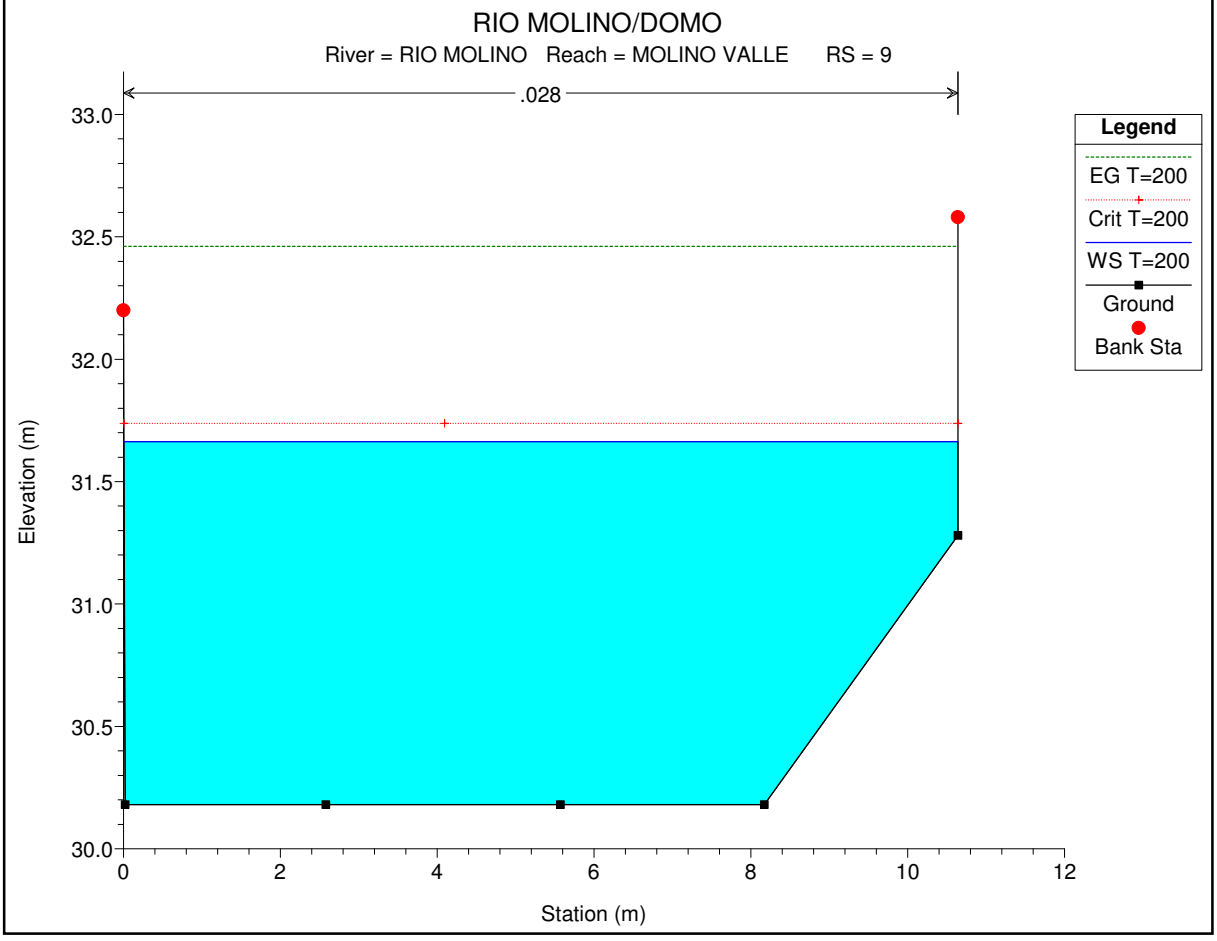

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 14
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12

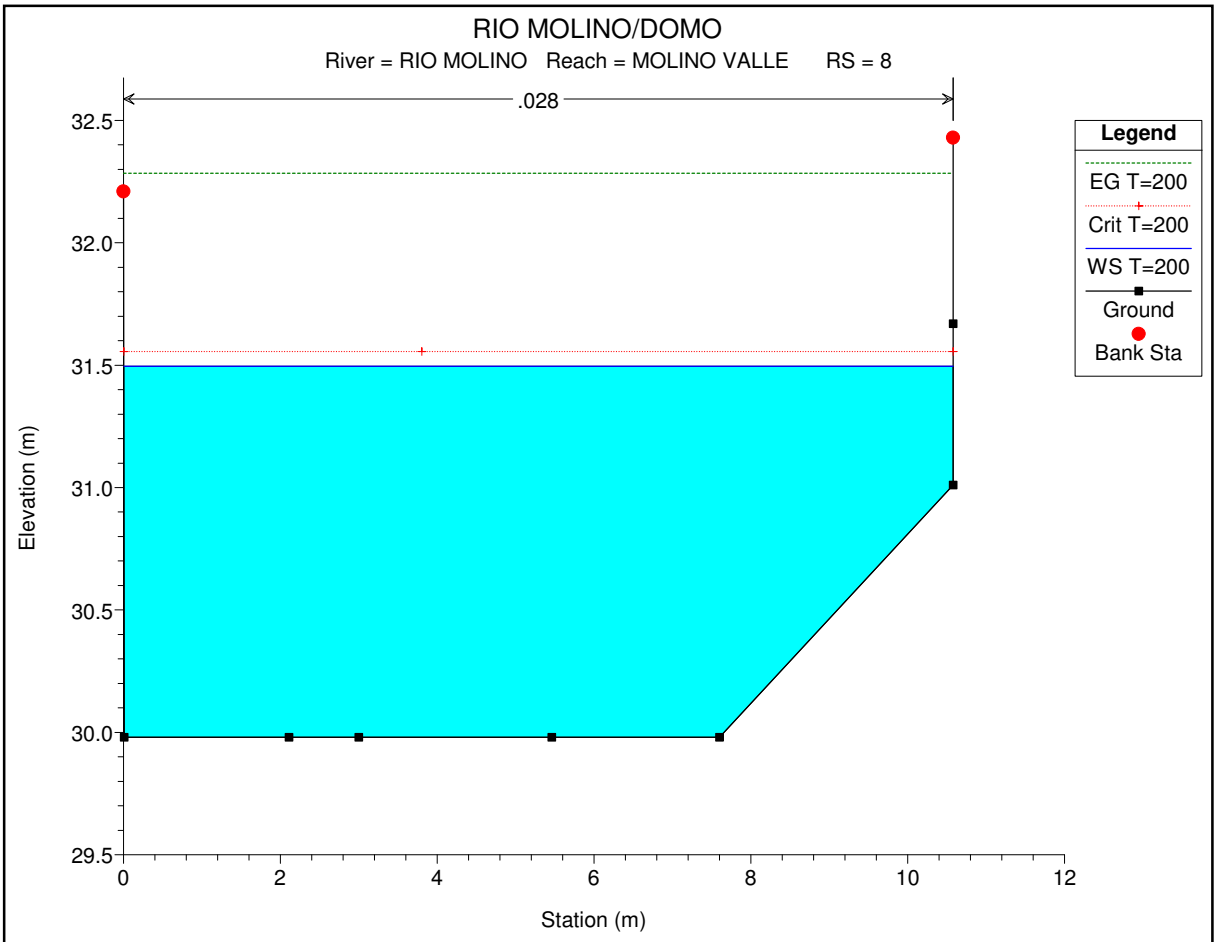

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 13
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
0
2
4
6
8
10
12

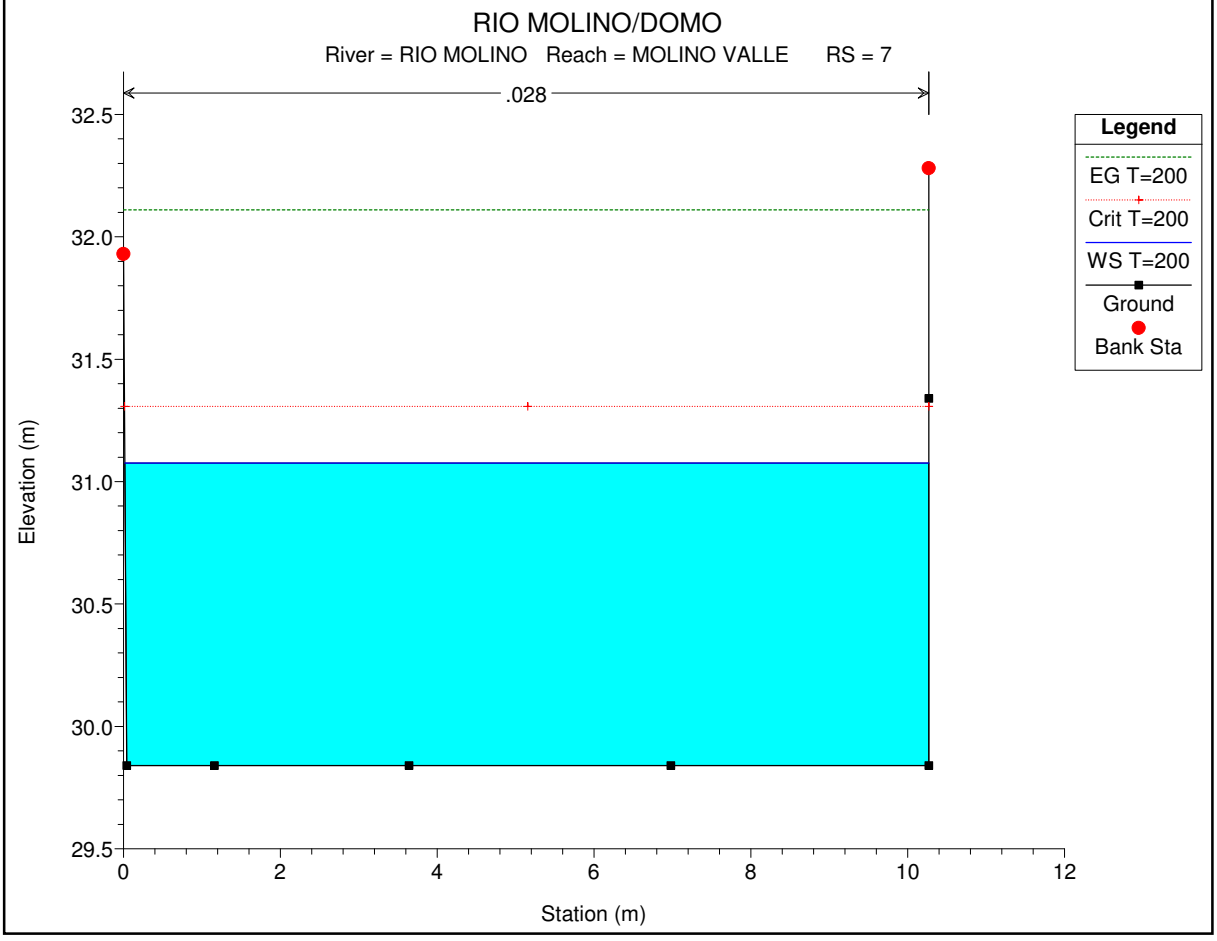

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 12
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0
30.5
0
2
4
6
8
10
12

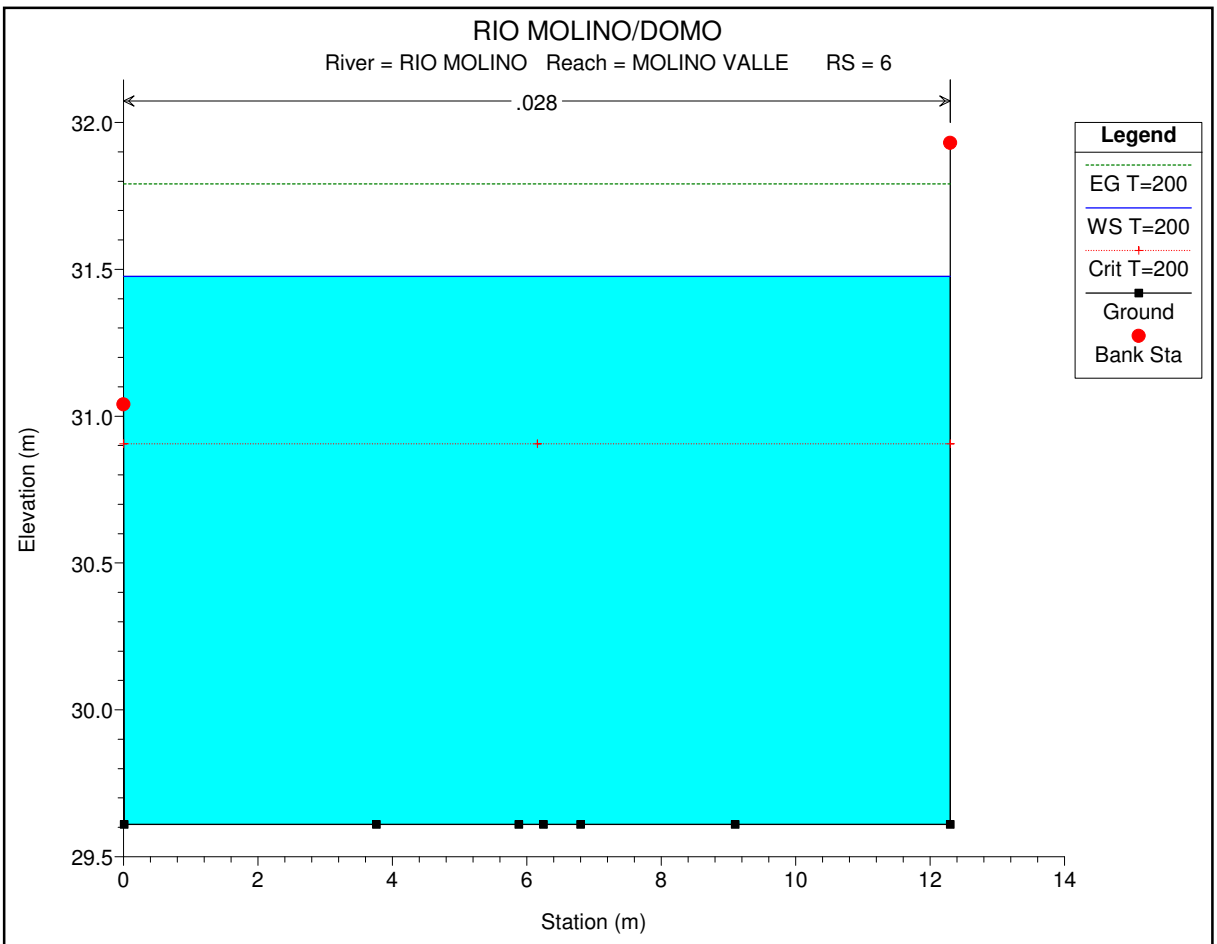

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 11
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35
34
33
32
31
30
0
2
4
6
8
10
12

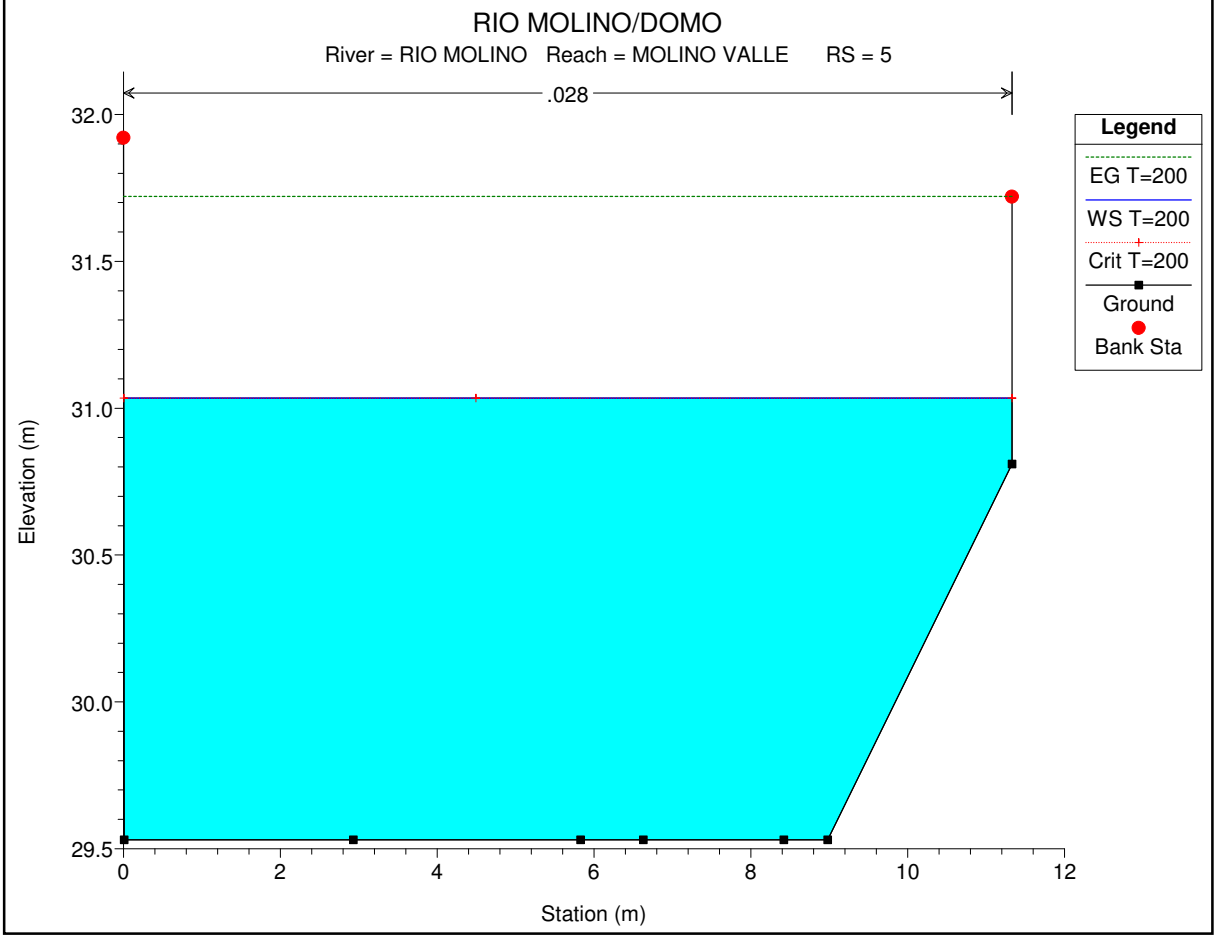

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 10
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
35
34
33
32
31
30
0
2
4
6
8
10
12

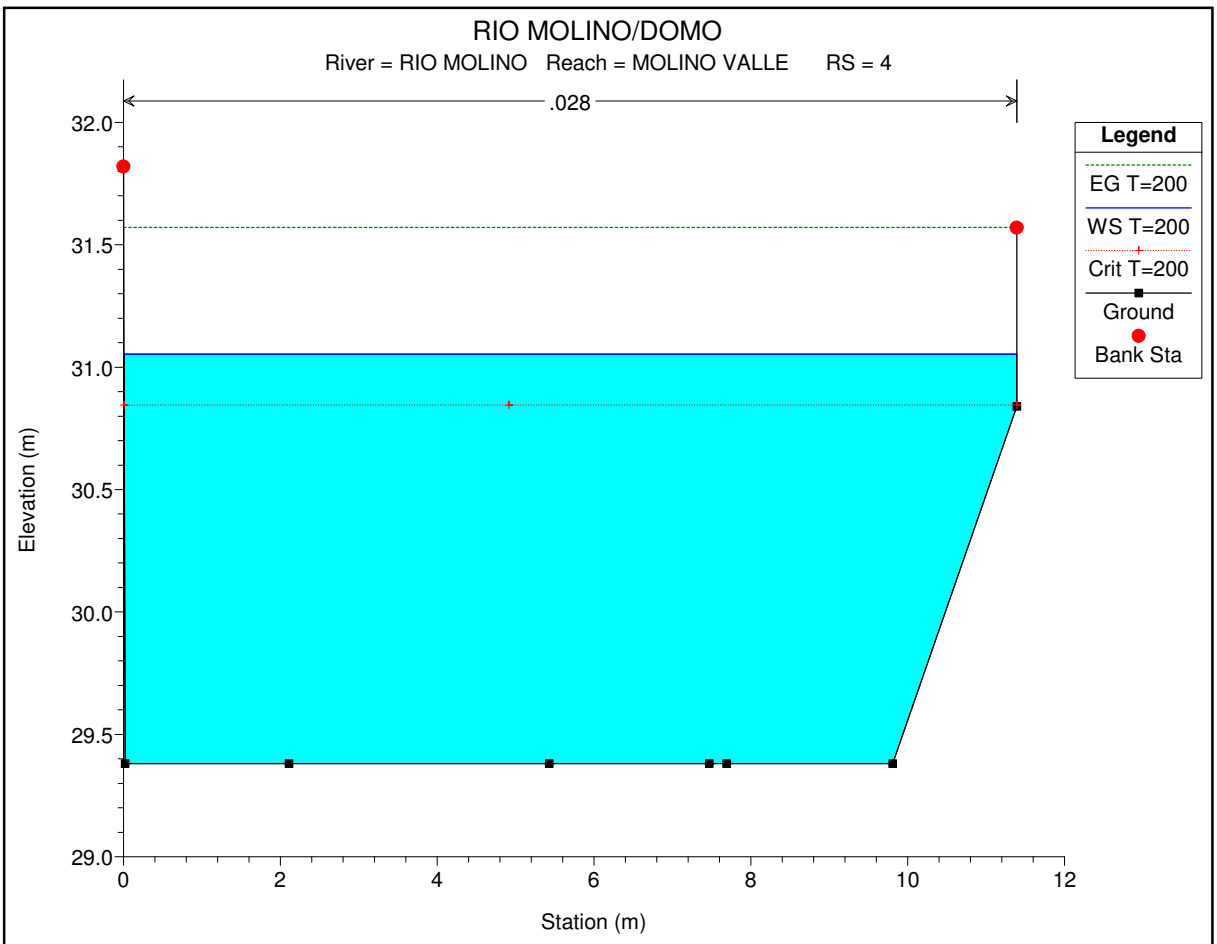

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 9
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
33.0
32.5
32.0
31.5
31.0
30.5
30.0
0
2
4
6
8
10
12

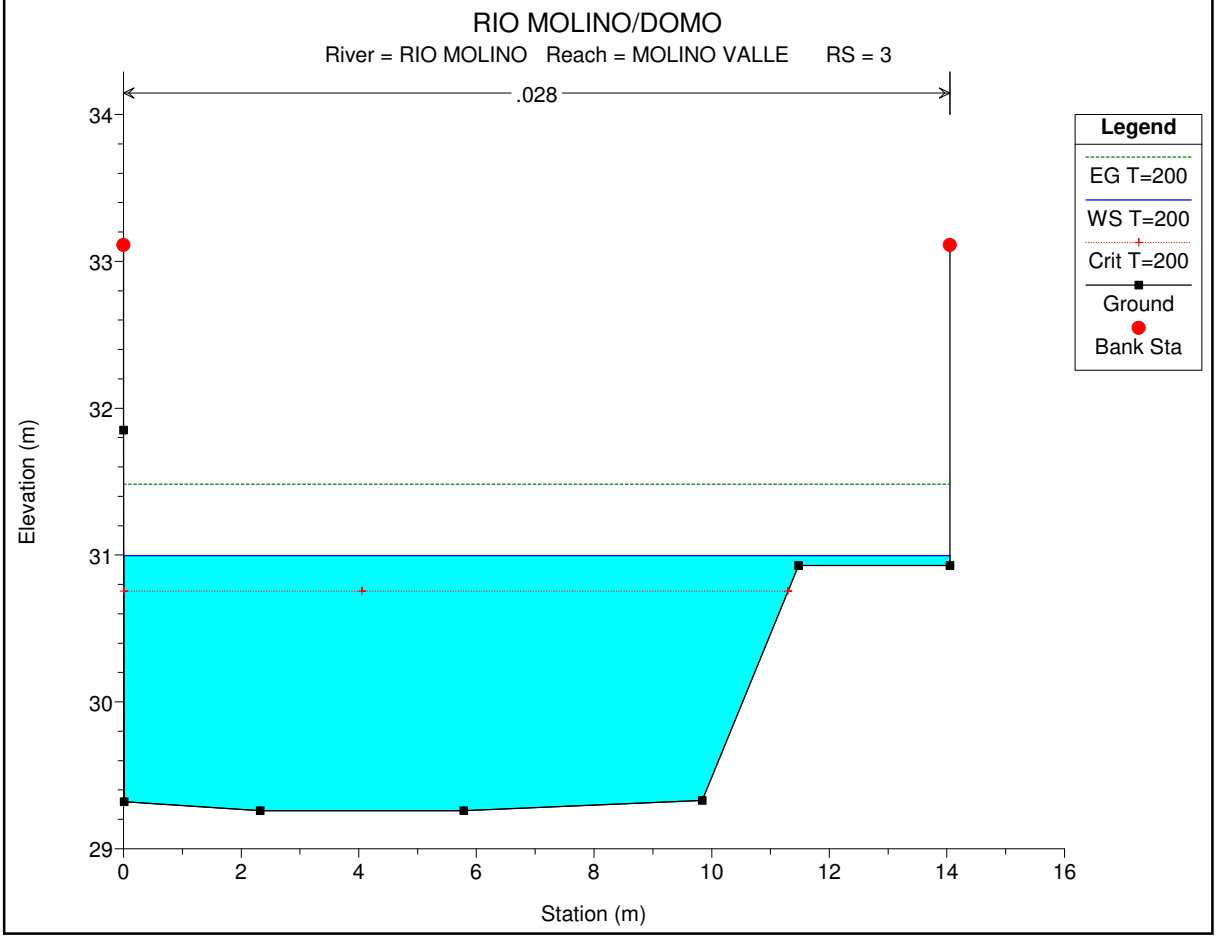

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 8
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12

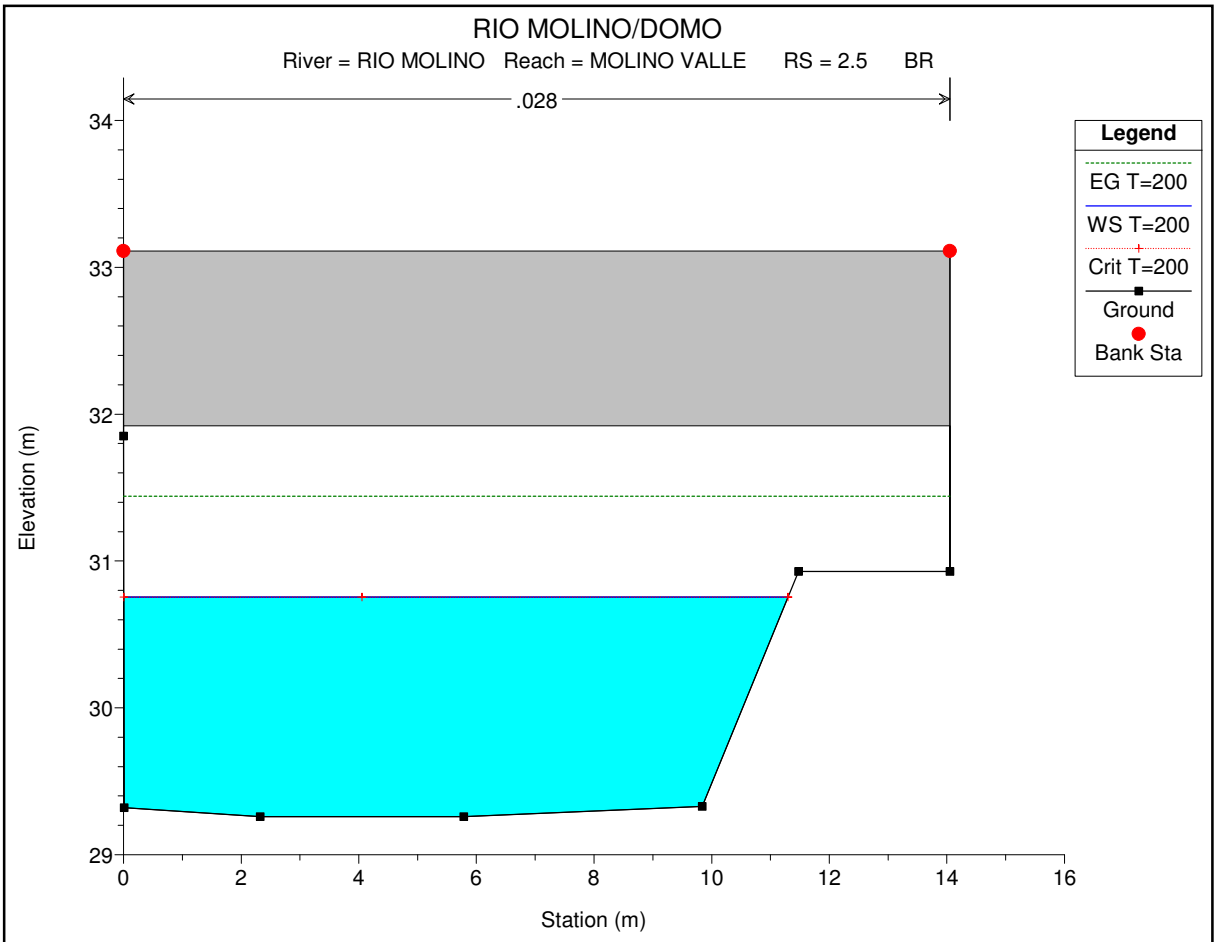

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 7
.028
Legend
EG T=200
Crit T=200
WS T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.5
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12

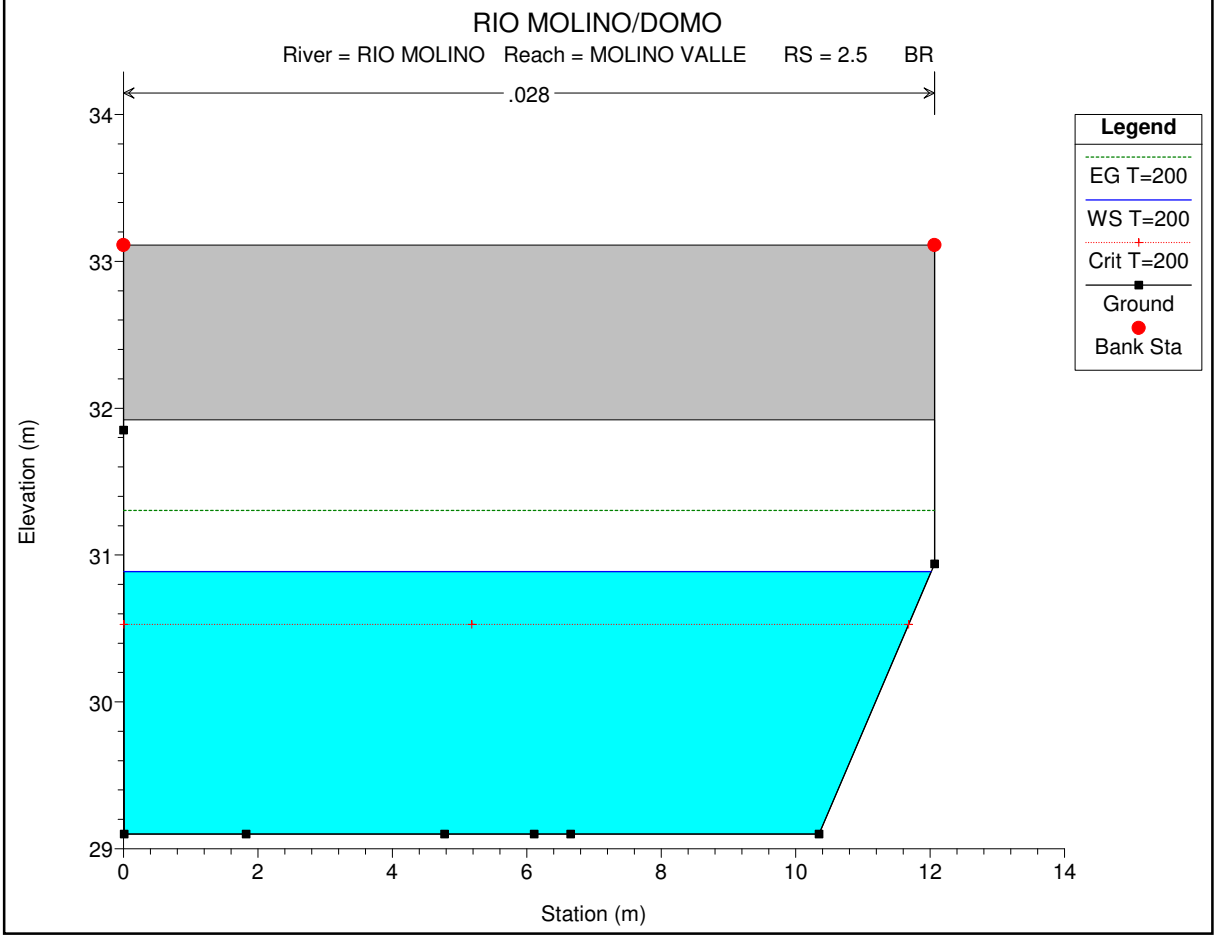

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 6
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12
14

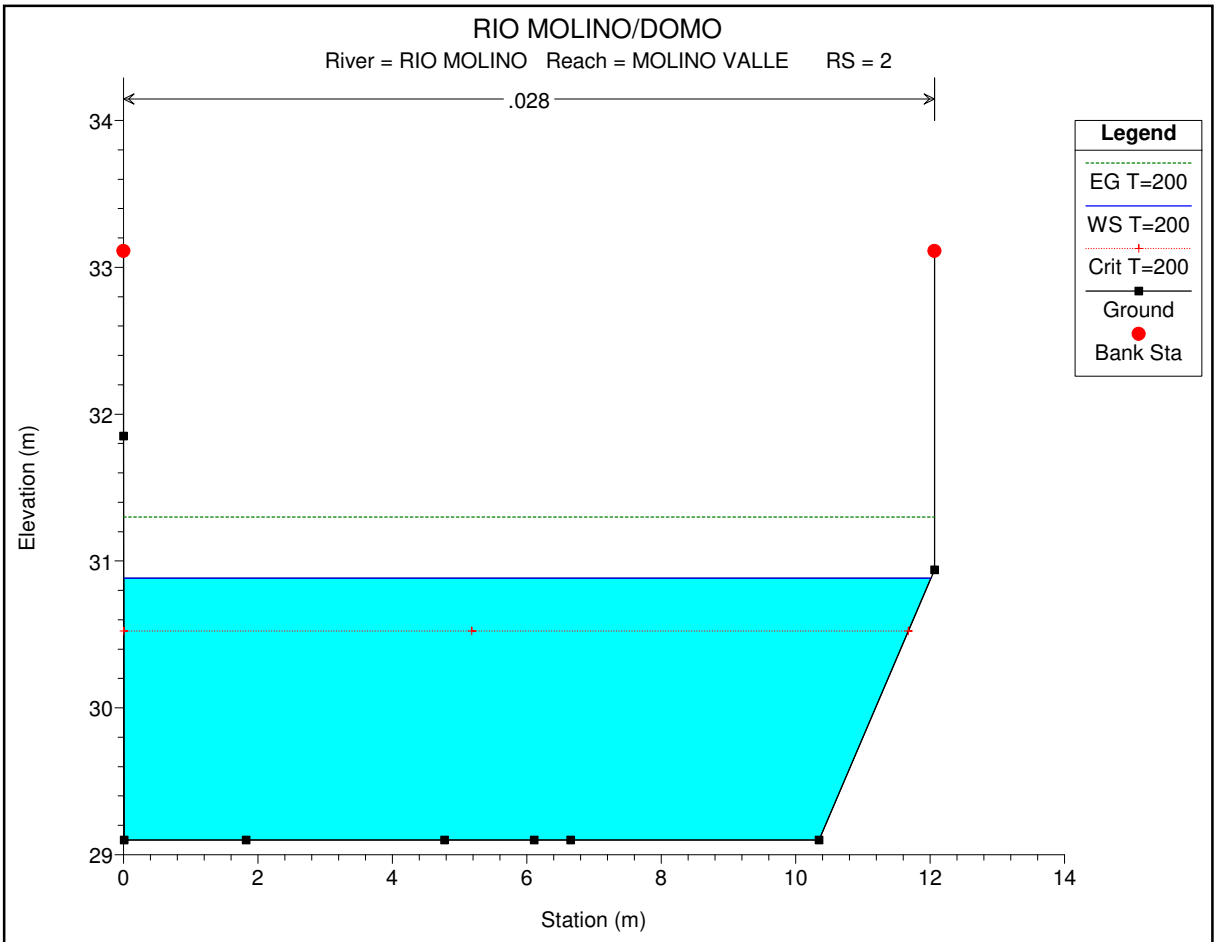

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 5
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
0
2
4
6
8
10
12

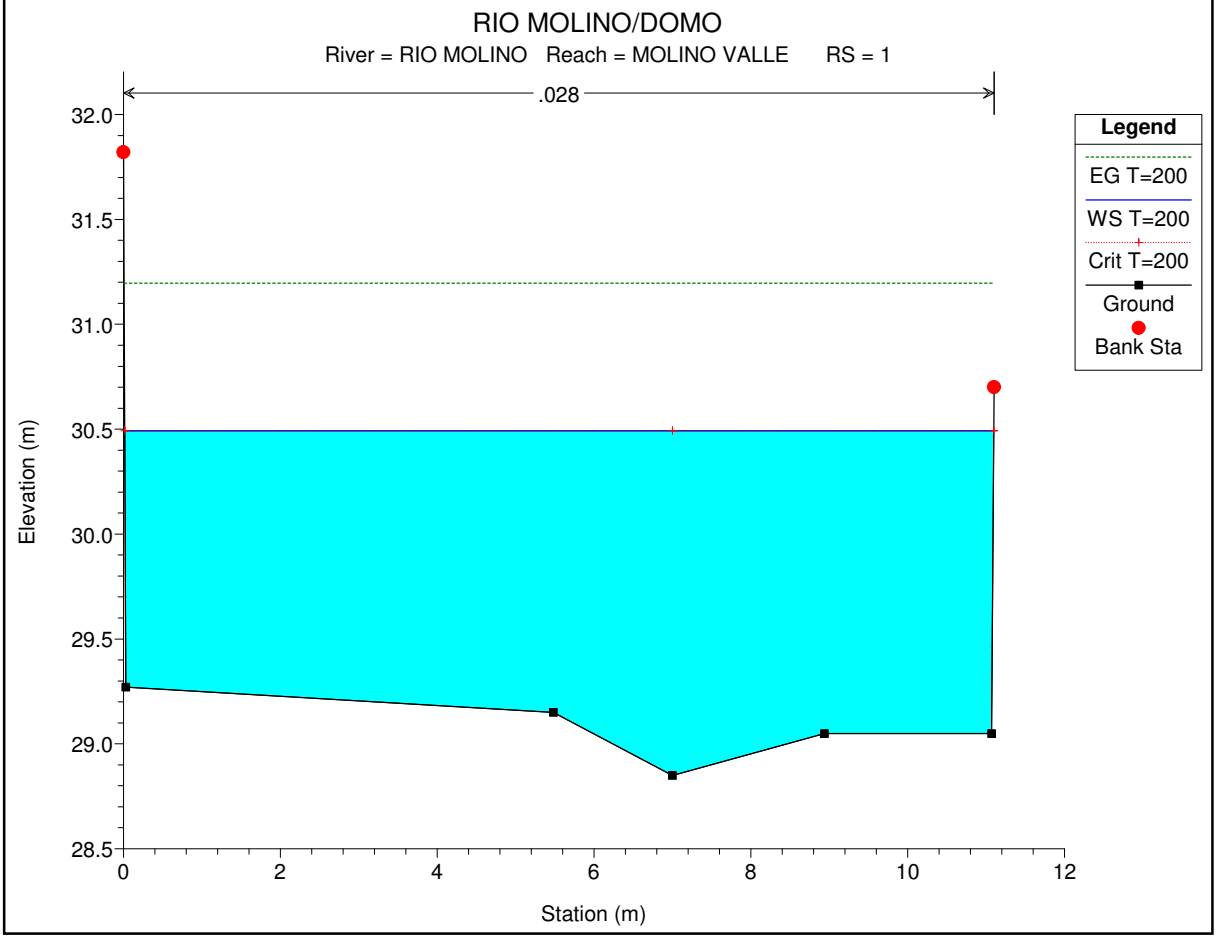

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 4
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
29.0
0
2
4
6
8
10
12

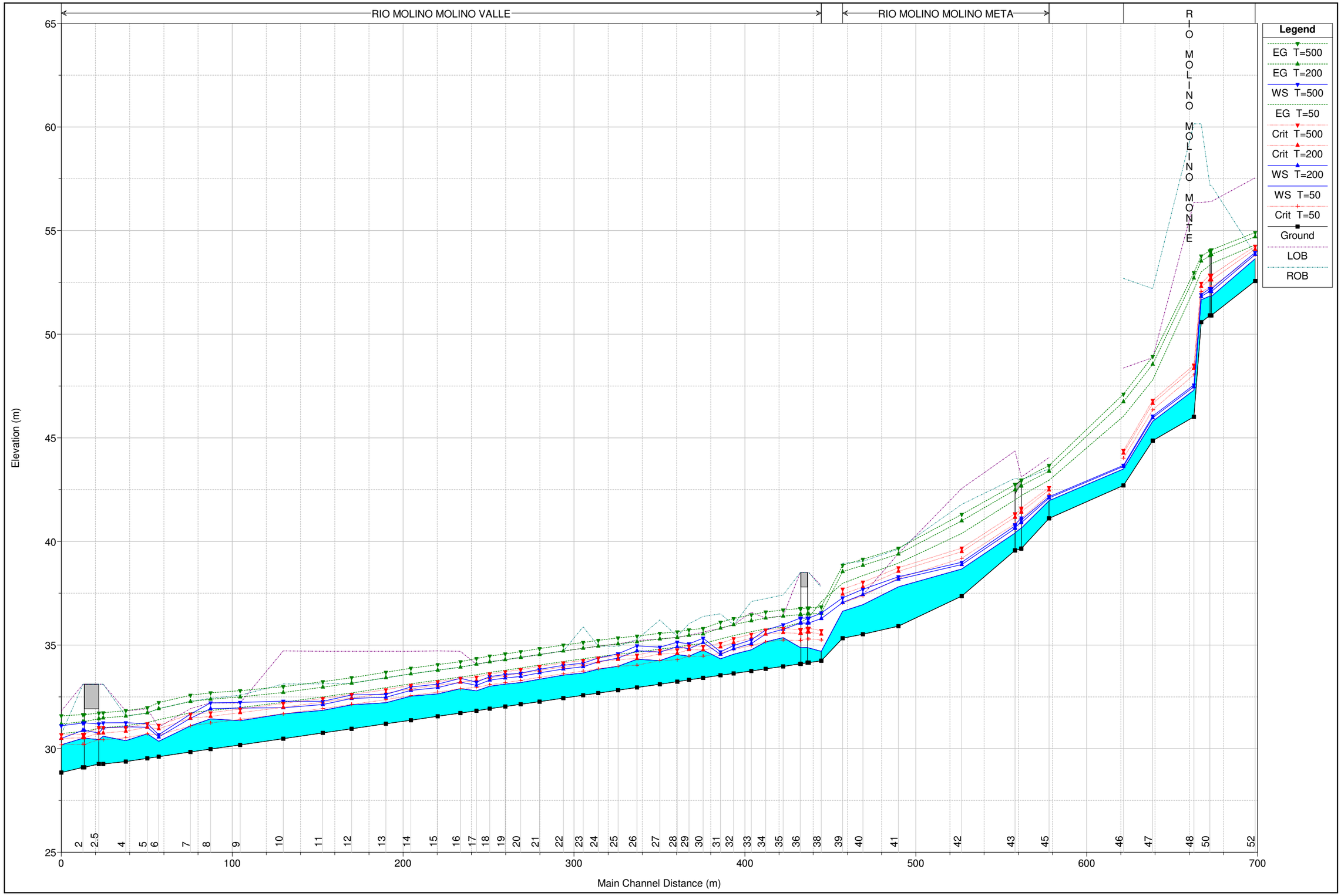

RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 3
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14
16


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14
16


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 2.5 BR
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 2
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
34
33
32
31
30
29
0
2
4
6
8
10
12
14


RIO MOLINO/DOMO
River = RIO MOLINO Reach = MOLINO VALLE RS = 1
.028
Legend
EG T=200
WS T=200
Crit T=200
Ground
Bank Sta
Elevation (m)
Station (m)
32.0
31.5
31.0
30.5
30.0
29.5
29.0
28.5
0
2
4
6
8
10
12


RIO MOLINO MOLINO VALLE
RIO MOLINO MOLINO META
RIO MOLINO MONTE
Legend
EG T=500
EG T=200
WS T=500
EG T=50
Crit T=500
Crit T=200
WS T=200
WS T=50
Crit T=50
Ground
LOB
ROB
Elevation (m)
65
60
55
50
45
40
35
30
25
0
100
200
300
400
500
600
700
Main Channel Distance (m)
2
2.5
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
38
39
40
41
42
43
45
46
47
48
50
52

RIO GARASSINI GARASSINI

Legend

- EG T=500
- EG T=200
- EG T=50
- WS T=500
- Crit T=500
- Crit T=200
- WS T=200
- WS T=50
- Crit T=50
- Ground
- LOB
- ROB

Elevation (m)

47
46
45
44
43
42

0.15
0.3

0
10
20
30
40
50

Main Channel Distance (m)

RIO DOMO DOMO

Legend

- EG T=500
- WS T=500
- EG T=200
- EG T=50
- WS T=200
- Crit T=500
- Crit T=200
- Crit T=50
- WS T=50
- Ground
- LOB
- ROB

Elevation (m)

52
50
48
46
44
42
40
38
36
34

3 4 6 7 8 10.5 12 13 14 15 16

0 50 100 150 200 250 300 350

Main Channel Distance (m)

HEC-RAS Plan: Plan 01 Profile: T=200

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Vel Head
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)		(m)	(m)	(m)	(m)	(m)
RIO MOLINO	MOLINO MONTE	52	T=200	22.00	52.57	53.84	54.10	54.70	0.020025	4.11	1.40	57.55	3.71	53.86	0.01	0.86
RIO MOLINO	MOLINO MONTE	51	T=200	22.00	50.90	52.05	52.62	53.84	0.049365	5.93	2.04	56.40	4.35	57.19	5.13	1.79
RIO MOLINO	MOLINO MONTE	50.5		Bridge												
RIO MOLINO	MOLINO MONTE	50	T=200	22.00	50.90	52.07	52.62	53.79	0.046207	5.80	1.98	56.40	4.33	57.19	5.11	1.71
RIO MOLINO	MOLINO MONTE	49	T=200	22.00	50.58	51.82	52.31	53.53	0.053531	5.79	2.26	56.36	4.53	60.15	8.33	1.71
RIO MOLINO	MOLINO MONTE	48	T=200	22.00	46.01	47.46	48.35	52.70	0.338459	10.14	4.40	56.36	8.89	60.15	12.69	5.24
RIO MOLINO	MOLINO MONTE	47	T=200	22.00	44.86	45.97	46.66	48.55	0.075506	7.12	2.69	48.87	2.90	52.20	6.23	2.58
RIO MOLINO	MOLINO MONTE	46	T=200	22.00	42.70	43.62	44.26	46.74	0.147712	7.83	3.68	48.37	4.75	52.70	9.08	3.12
RIO MOLINO	MOLINO META	45	T=200	32.00	41.11	42.10	42.48	43.39	0.042240	5.03	2.08	44.05	1.95	43.50	1.40	1.29
RIO MOLINO	MOLINO META	44	T=200	32.00	39.66	40.90	41.44	42.69	0.038688	5.92	1.92	43.11	2.21	42.97	2.06	1.78
RIO MOLINO	MOLINO META	43.5		Bridge												
RIO MOLINO	MOLINO META	43	T=200	32.00	39.56	40.63	41.17	42.48	0.046115	6.04	2.09	44.36	3.74	43.05	2.42	1.86
RIO MOLINO	MOLINO META	42	T=200	32.00	37.36	38.88	39.51	40.99	0.048060	6.43	2.22	42.55	3.67	41.79	2.91	2.11
RIO MOLINO	MOLINO META	41	T=200	32.00	35.91	38.18	38.56	39.39	0.027812	4.88	1.55	39.42	1.24	39.63	1.45	1.21
RIO MOLINO	MOLINO META	40	T=200	32.00	35.52	37.44	37.80	38.85	0.023419	5.25	1.37	37.42	-0.02	39.04	1.60	1.40
RIO MOLINO	MOLINO META	39	T=200	32.00	35.33	37.05	37.46	38.55	0.026027	5.42	1.43	37.06	0.01	38.94	1.89	1.50
RIO MOLINO	MOLINO VALLE	38	T=200	57.00	34.24	36.28	35.53	36.54	0.002258	2.26	0.50	37.86	1.58	37.78	1.50	0.26
RIO MOLINO	MOLINO VALLE	37	T=200	57.00	34.15	36.07	35.62	36.50	0.004294	2.92	0.67	38.50	2.43	38.50	2.43	0.43
RIO MOLINO	MOLINO VALLE	36.5		Bridge												
RIO MOLINO	MOLINO VALLE	36	T=200	57.00	34.09	36.06	35.56	36.47	0.003941	2.83	0.64	38.50	2.44	38.50	2.44	0.41
RIO MOLINO	MOLINO VALLE	35	T=200	57.00	33.97	35.60	35.60	36.38	0.009202	3.90	1.00	36.42	0.82	37.42	1.82	0.78
RIO MOLINO	MOLINO VALLE	34	T=200	57.00	33.85	35.04	35.34	36.21	0.018790	4.78	1.40	36.29	1.25	37.24	2.20	1.16
RIO MOLINO	MOLINO VALLE	33	T=200	57.00	33.75	35.33	35.33	36.09	0.009256	3.87	1.00	36.59	1.26	37.10	1.77	0.76
RIO MOLINO	MOLINO VALLE	32	T=200	57.00	33.63	34.88	35.12	35.94	0.016152	4.55	1.30	35.98	1.10	35.98	1.10	1.05
RIO MOLINO	MOLINO VALLE	31	T=200	57.00	33.54	34.58	34.91	35.78	0.021957	4.85	1.52	35.81	1.23	36.51	1.93	1.20
RIO MOLINO	MOLINO VALLE	30	T=200	57.00	33.42	34.52	34.76	35.53	0.017144	4.45	1.36	35.62	1.10	36.38	1.86	1.01
RIO MOLINO	MOLINO VALLE	29	T=200	57.00	33.32	34.90	34.66	35.38	0.005499	3.07	0.78	35.47	0.57	36.03	1.13	0.48
RIO MOLINO	MOLINO VALLE	28	T=200	57.00	33.23	34.86	34.60	35.34	0.005425	3.08	0.77	35.37	0.51	35.42	0.56	0.48
RIO MOLINO	MOLINO VALLE	27	T=200	57.00	33.11	34.69	34.54	35.27	0.006837	3.38	0.86	35.29	0.60	36.21	1.52	0.58
RIO MOLINO	MOLINO VALLE	26	T=200	57.00	32.95	34.72	34.34	35.15	0.004426	2.89	0.69	35.22	0.50	35.27	0.55	0.43
RIO MOLINO	MOLINO VALLE	25	T=200	57.00	32.82	34.38	34.31	35.06	0.008376	3.66	0.94	35.06	0.68	35.06	0.68	0.68
RIO MOLINO	MOLINO VALLE	24	T=200	57.00	32.68	34.19	34.19	34.95	0.009677	3.86	1.00	34.95	0.76	34.95	0.76	0.76
RIO MOLINO	MOLINO VALLE	23	T=200	57.00	32.58	33.95	34.07	34.84	0.012332	4.17	1.14	34.84	0.89	35.88	1.93	0.89
RIO MOLINO	MOLINO VALLE	22	T=200	57.00	32.44	33.85	33.95	34.71	0.011771	4.13	1.12	34.71	0.86	34.71	0.86	0.87
RIO MOLINO	MOLINO VALLE	21	T=200	57.00	32.27	33.66	33.78	34.55	0.012243	4.18	1.14	34.54	0.88	34.54	0.88	0.89
RIO MOLINO	MOLINO VALLE	20	T=200	57.00	32.14	33.48	33.63	34.40	0.013144	4.25	1.17	34.40	0.92	34.40	0.92	0.92
RIO MOLINO	MOLINO VALLE	19	T=200	57.00	32.03	33.41	33.52	34.29	0.012283	4.17	1.14	34.29	0.88	34.29	0.88	0.88
RIO MOLINO	MOLINO VALLE	18	T=200	57.00	31.93	33.31	33.43	34.19	0.012263	4.16	1.13	34.19	0.88	34.19	0.88	0.88
RIO MOLINO	MOLINO VALLE	17	T=200	57.00	31.83	33.06	33.28	34.07	0.015633	4.45	1.28	34.07	1.01	34.07	1.01	1.01
RIO MOLINO	MOLINO VALLE	16	T=200	57.00	31.72	33.21	33.21	33.93	0.008881	3.75	1.00	34.70	1.49	33.93	0.72	0.72
RIO MOLINO	MOLINO VALLE	15	T=200	57.00	31.56	32.95	33.05	33.79	0.011315	4.06	1.13	34.72	1.77	33.79	0.84	0.84
RIO MOLINO	MOLINO VALLE	14	T=200	57.00	31.37	32.82	32.88	33.61	0.010342	3.95	1.08	34.70	1.88	33.61	0.79	0.80
RIO MOLINO	MOLINO VALLE	13	T=200	57.00	31.20	32.48	32.67	33.42	0.013963	4.30	1.26	34.70	2.22	33.42	0.94	0.94
RIO MOLINO	MOLINO VALLE	12	T=200	57.00	30.96	32.42	32.45	33.16	0.009401	3.80	1.03	34.70	2.28	33.16	0.74	0.74
RIO MOLINO	MOLINO VALLE	11	T=200	57.00	30.76	32.13	32.25	32.97	0.011623	4.06	1.15	34.70	2.57	33.13	1.00	0.84
RIO MOLINO	MOLINO VALLE	10	T=200	57.00	30.48	31.98	32.00	32.71	0.009333	3.81	1.03	34.72	2.74	33.12	1.14	0.74
RIO MOLINO	MOLINO VALLE	9	T=200	57.00	30.18	31.66	31.74	32.46	0.010395	3.96	1.09	32.20	0.54	32.58	0.92	0.80
RIO MOLINO	MOLINO VALLE	8	T=200	57.00	29.98	31.50	31.56	32.28	0.010231	3.93	1.07	32.21	0.71	32.43	0.93	0.79

HEC-RAS Plan: Plan 01 Profile: T=200 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Vel Head
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)		(m)	(m)	(m)	(m)	(m)
RIO MOLINO	MOLINO VALLE	7	T=200	57.00	29.84	31.08	31.31	32.11	0.015995	4.51	1.30	31.93	0.85	32.28	1.20	1.03
RIO MOLINO	MOLINO VALLE	6	T=200	57.00	29.61	31.48	30.91	31.79	0.003002	2.49	0.58	31.04	-0.44	31.93	0.45	0.31
RIO MOLINO	MOLINO VALLE	5	T=200	57.00	29.53	31.03	31.03	31.72	0.008660	3.67	1.00	31.92	0.89	31.72	0.69	0.69
RIO MOLINO	MOLINO VALLE	4	T=200	57.00	29.38	31.05	30.84	31.57	0.005651	3.19	0.81	31.82	0.77	31.57	0.52	0.52
RIO MOLINO	MOLINO VALLE	3	T=200	57.00	29.26	31.00	30.75	31.48	0.006425	3.09	0.86	33.11	2.11	33.11	2.11	0.49
RIO MOLINO	MOLINO VALLE	2.5		Bridge												
RIO MOLINO	MOLINO VALLE	2	T=200	57.00	29.10	30.88	30.52	31.30	0.004230	2.86	0.71	33.11	2.23	33.11	2.23	0.42
RIO MOLINO	MOLINO VALLE	1	T=200	57.00	28.85	30.49	30.49	31.20	0.009315	3.71	1.01	31.82	1.33	30.70	0.21	0.70
RIO GARASSINI	GARASSINI	0.3	T=200	10.00	43.97	46.38	45.28	46.43	0.000767	1.01	0.27	46.41	0.03	46.75	0.37	0.05
RIO GARASSINI	GARASSINI	0.2	T=200	10.00	43.79	46.38	45.03	46.40	0.000392	0.81	0.18	46.03	-0.35	46.63	0.26	0.03
RIO GARASSINI	GARASSINI	0.15		Culvert												
RIO GARASSINI	GARASSINI	0.1	T=200	10.00	42.86	44.15	44.15	44.58	0.010957	2.90	1.00	45.64	1.49	46.55	2.40	0.43
RIO DOMO	DOMO	16	T=200	25.00	44.96	46.62	47.04	47.94	0.029021	5.10	1.60	47.77	1.15	51.32	4.70	1.32
RIO DOMO	DOMO	15	T=200	25.00	44.22	45.78	46.00	46.66	0.017327	4.13	1.29	46.56	0.77	49.16	3.38	0.87
RIO DOMO	DOMO	14	T=200	25.00	42.80	43.92	44.38	45.51	0.048306	5.58	2.15	45.48	1.56	46.42	2.50	1.59
RIO DOMO	DOMO	13	T=200	25.00	42.33	43.60	43.87	44.51	0.032008	4.65	1.69	43.99	0.38	44.38	0.78	0.91
RIO DOMO	DOMO	12	T=200	25.00	41.90	43.60	43.52	44.00	0.007411	2.97	0.80	43.70	0.10	43.92	0.32	0.40
RIO DOMO	DOMO	11	T=200	25.00	41.27	43.41	43.31	43.71	0.005379	2.73	0.62	43.01	-0.40	42.84	-0.57	0.30
RIO DOMO	DOMO	10.5		Bridge												
RIO DOMO	DOMO	10	T=200	25.00	41.21	42.36	42.89	43.53	0.027916	4.78	1.63	42.74	0.38	42.73	0.37	1.17
RIO DOMO	DOMO	9	T=200	25.00	41.20	42.08	42.58	43.44	0.035740	5.15	1.84	42.70	0.62	43.26	1.18	1.35
RIO DOMO	DOMO	8	T=200	25.00	41.20	42.08	42.58	43.43	0.035564	5.14	1.83	42.70	0.62	43.26	1.18	1.35
RIO DOMO	DOMO	7	T=200	25.00	38.99	39.88	40.40	41.72	0.058706	6.01	2.44	43.81	3.93	40.49	0.61	1.84
RIO DOMO	DOMO	6	T=200	25.00	37.86	39.40	39.56	40.02	0.020698	3.50	1.41	41.42	2.02	39.24	-0.16	0.63
RIO DOMO	DOMO	5	T=200	25.00	37.36	38.59	38.77	39.28	0.018977	3.67	1.42	38.53	-0.06	38.84	0.25	0.69
RIO DOMO	DOMO	4	T=200	25.00	36.39	38.37	38.63	39.26	0.033269	4.17	1.67	38.53	0.16	38.84	0.47	0.89
RIO DOMO	DOMO	3	T=200	25.00	35.28	37.24	37.55	38.55	0.024908	5.05	1.32	37.20	-0.04	37.02	-0.22	1.30
RIO DOMO	DOMO	2	T=200	25.00	35.37	37.51	36.62	37.70	0.002023	1.91	0.43	37.16	-0.35	37.04	-0.47	0.19